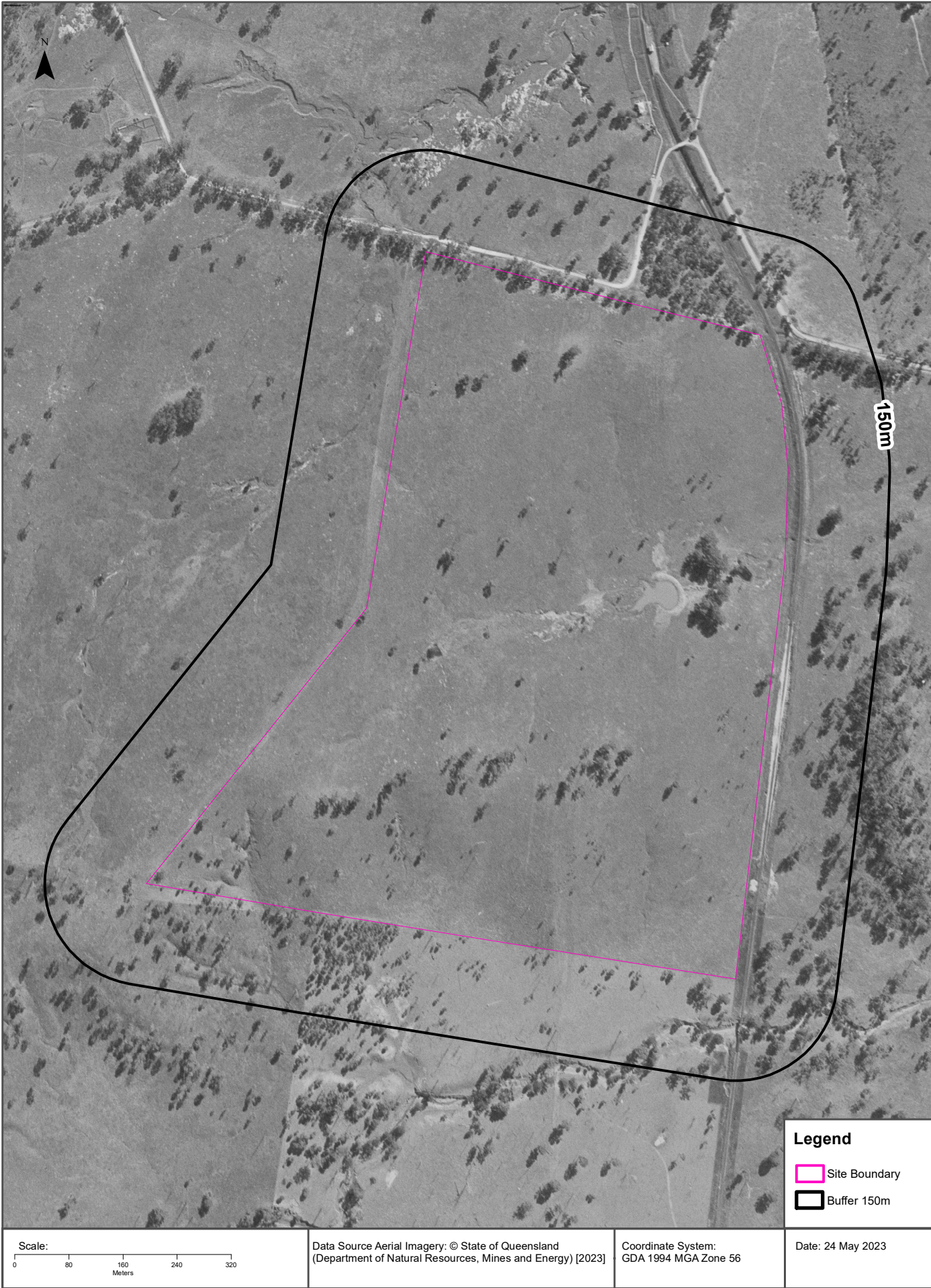


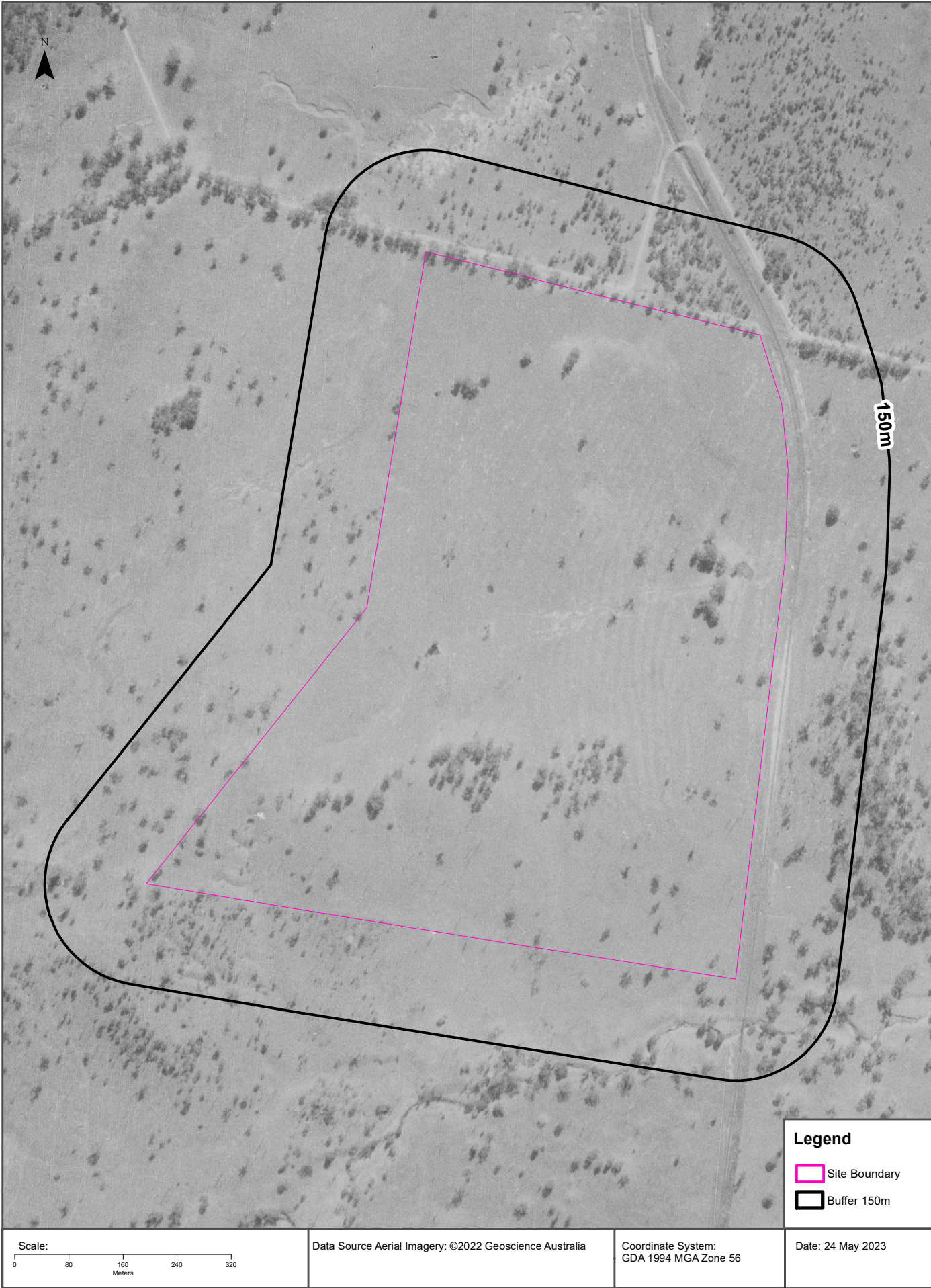
Aerial Imagery 1958

Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285

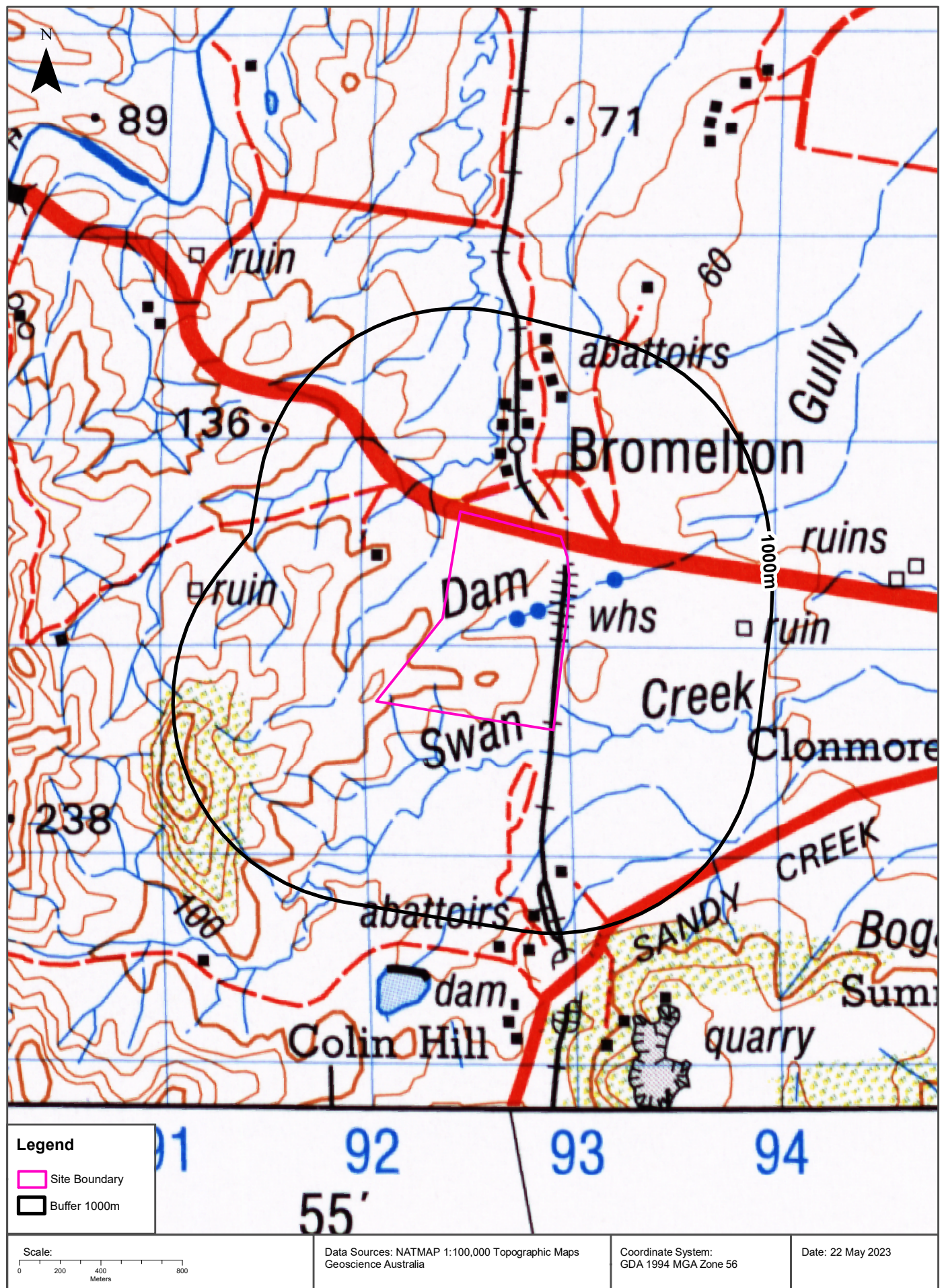


Aerial Imagery 1944

Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285

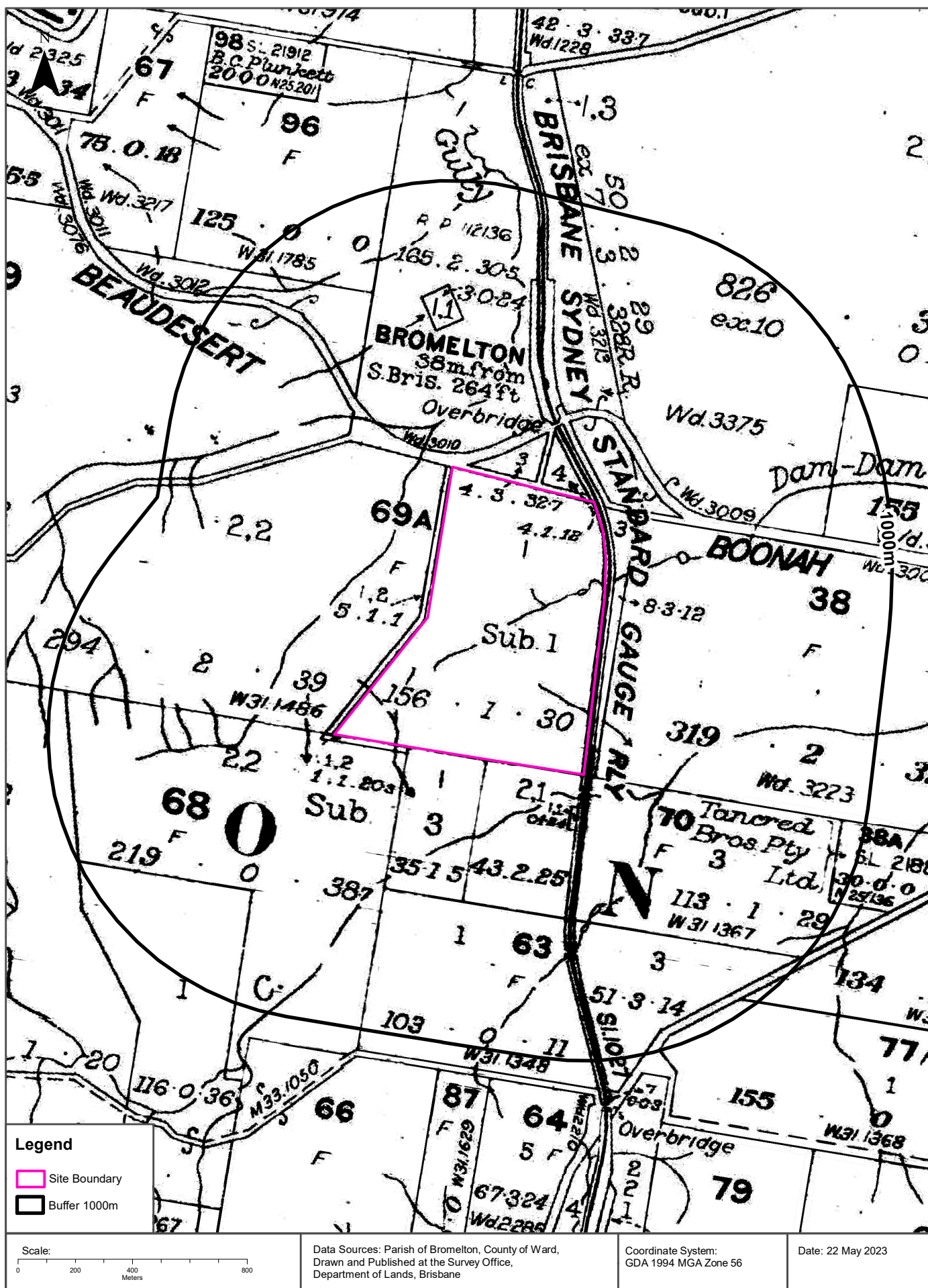


Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285



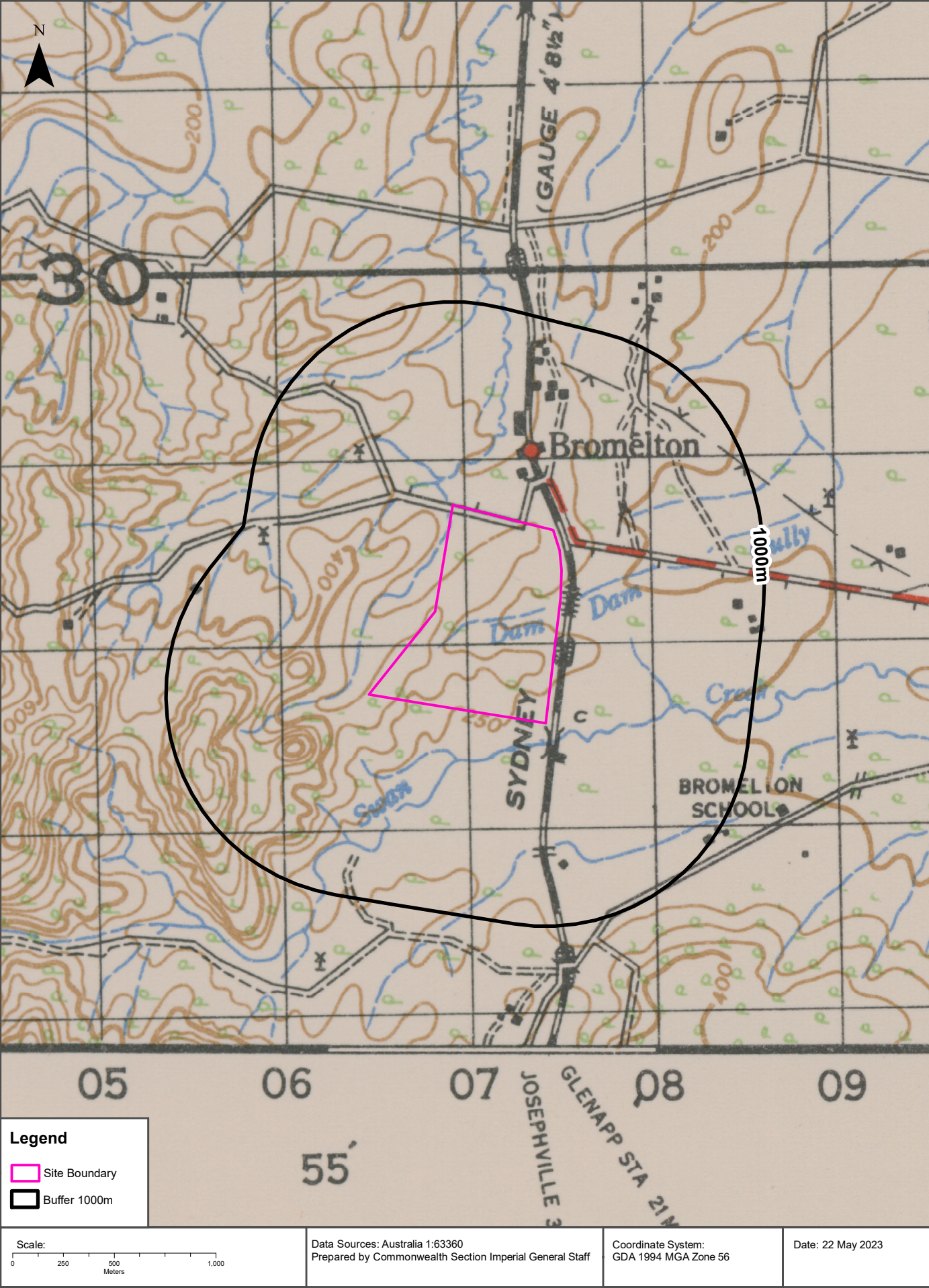
Historical Map 1972

Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285



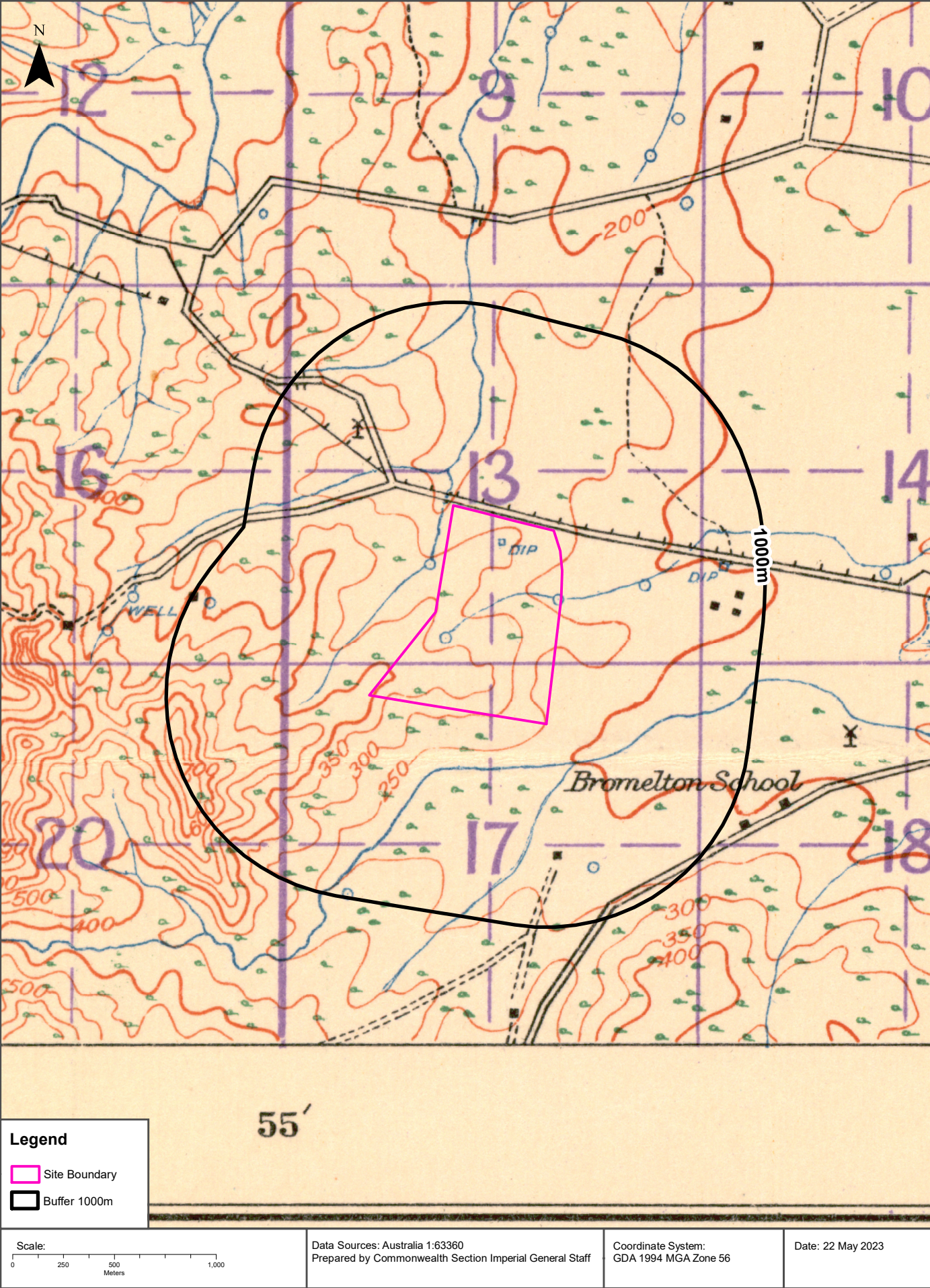
Historical Map c.1954

Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285



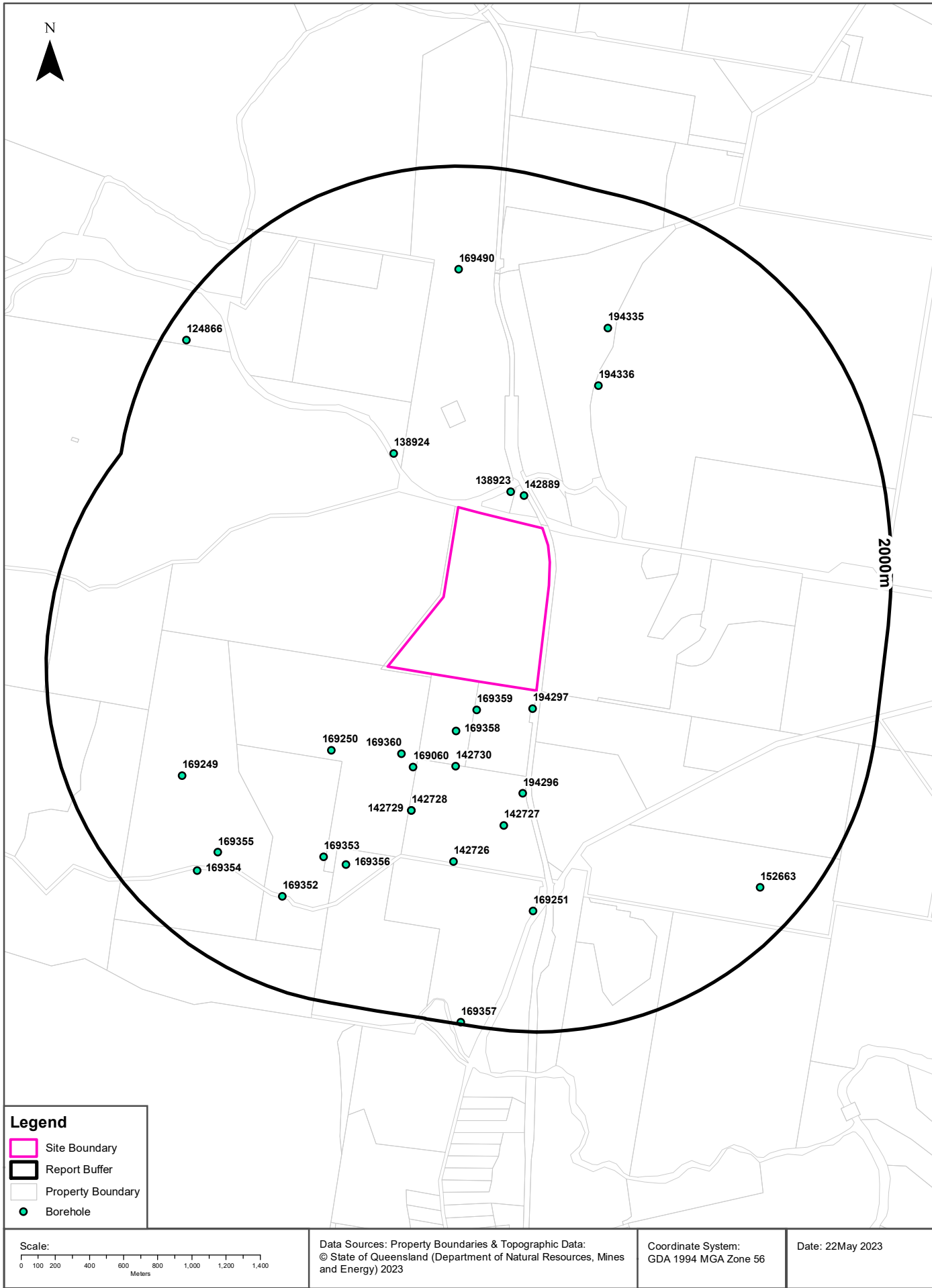
Historical Map c.1927

Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285



Groundwater Boreholes

Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285



Hydrogeology & Groundwater

Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285

Hydrogeology

Description of aquifers within the dataset buffer:

Description	Distance	Direction
Porous, extensive highly productive aquifers	0m	On-site
Porous, extensive aquifers of low to moderate productivity	751m	West

Hydrogeology Map of Australia : Commonwealth of Australia (Geoscience Australia)

Creative Commons 4.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/4.0>

Groundwater Boreholes

Boreholes within the dataset buffer:

Bore No	Facility Type	Facility Role	Status	Drillers Log	Aquifer	Drill Date	Dist	Direct'
194297	Sub-artesian Facility	Sub-Artesian Monitoring	Existing			2021-04-13	108m	South East
142889	Sub-artesian Facility	Water Supply	Existing	0.00m-6.00m SANDY LOAM 6.00m-20.00m HARD BROWN CLAY & SANDSTONE MIX 20.00m-25.00m BROWN SANDSTONE 25.00m-30.00m IRONSTONE 30.00m-45.00m GREY SANDSTONE WITH GREY CLAY BANDS 45.00m-55.00m GREY SANDSTONE 55.00m-64.00m GREY SANDSTONE WITH GREY CLAY BANDS	Aquifer Top-Bottom: 26.00m-30.00m. Fractured Condition. Formation is contributing water to the bore. Formation does not flow. Yield: 0.13 Aquifer Top-Bottom: 47.00m-55.00m. Fractured Condition. Formation is contributing water to the bore. Formation does not flow. Quality: 2300 PPM Yield: 1.13 SWL: -8.00	2011-11-15	157m	North
138923	Sub-artesian Facility		Abandoned and Destroyed	0.00m-0.50m FILL 0.50m-9.00m LIGHT BROWN CLAY 9.00m-19.00m BROWN CLAY 19.00m-30.00m BROWN & PURPLE CLAY 30.00m-32.00m COAL, CLAY & OILY SHALE 32.00m-33.00m DIRTY COAL 33.00m-40.00m GREY CLAY & OILY SHALE 40.00m-40.50m MUDSTONE & OILY SHALE 40.50m-55.00m GREY CLAY & OILY SHALE		2009-01-06	162m	North
169359	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-3.00m BROWN GREY SAND 3.00m-5.00m LIGHT BROWN SAND 5.00m-9.00m DARK BROWN MUDSTONE 9.00m-14.00m BROWN SANDSTONE		2015-10-21	167m	South

Bore No	Facility Type	Facility Role	Status	Drillers Log	Aquifer	Drill Date	Dist	Direct'
169358	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-1.00m GREY SILT 1.00m-5.00m BROWN GREY SANDSTONE 5.00m-12.00m DARK BROWN MUDSTONE 12.00m-13.00m GREY SANDSTONE 13.00m-14.00m GREY MUDSTONE		2015-10-20	308m	South
138924	Sub-artesian Facility	Water Supply	Existing	0.00m-1.50m HEAVY DARK BROWN CLAYEY SOIL 1.50m-2.50m LIGHT BROWN CLAY 2.50m-4.50m DARK BROWN CLAY 4.50m-9.00m LIGHT GREY SANDY CLAY 9.00m-12.00m GULLY WASH 12.00m-13.00m SANDY GREY CLAY 13.00m-23.00m CLAYEY GULLY WASH 23.00m-29.00m GREY SILTSTONE & OILY SHALE 29.00m-31.00m GREY SANDSTONE	Aquifer Top-Bottom: 12.00m-23.00m. Unconsolidated Condition. Formation is contributing water to the bore. Formation does not flow. Quality: 2100 US/CM Yield: 0.40 SWL: -6.00	2009-01-07	488m	North West
169360	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-2.00m BROWN SILTY CLAY 2.00m-5.50m BROWN GREY MUDSTONE 5.50m-8.00m BROWN SANDSTONE 8.00m-13.50m GREY SANDSTONE 13.50m-14.00m BROWN SANDSTONE		2015-10-21	491m	South West
142730	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-1.80m FINE TO MEDIUM SAND 1.80m-3.20m FINE TO MEDIUM SAND WITH FINE GRAVEL 3.20m-4.60m FINE TO COARSE SAND 4.60m-12.00m FINE TO MEDIUM SAND		2011-02-09	512m	South
169060	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-2.00m BLACK CLAY 2.00m-5.00m BROWN SANDY LOAM 5.00m-12.00m WHITE YELLOW CLAYS		2015-07-03	557m	South West
169250	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-6.00m ORANGE BROWN SILTY CLAY 6.00m-15.00m ORANGE BROWN SILTSTONE/SANDSTONE 15.00m-17.50m DARK GREY SILTSTONE		2015-08-18	591m	South West
194296	Sub-artesian Facility	Sub-Artesian Monitoring	Existing			2021-04-13	609m	South
142729	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-0.40m TOPSOIL 0.40m-2.00m FINE SAND. SOME GRAVEL 2.00m-3.40m FINE TO MEDIUM SAND 3.40m-4.80m FINE SAND 4.80m-15.00m FINE COARSE SAND		2011-02-10	809m	South
142728	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-1.80m FINE TO MEDIUM SAND 1.80m-3.20m FINE SAND 3.20m-4.60m FINE TO COARSE SAND 4.60m-15.00m FINE TO MEDIUM SAND		2011-02-09	809m	South
142727	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-1.20m FINE TO MEDIUM SAND 1.20m-3.50m FINE TO COARSE SAND 3.50m-15.00m SILTSTONE WITH FINE SAND		2011-02-11	811m	South

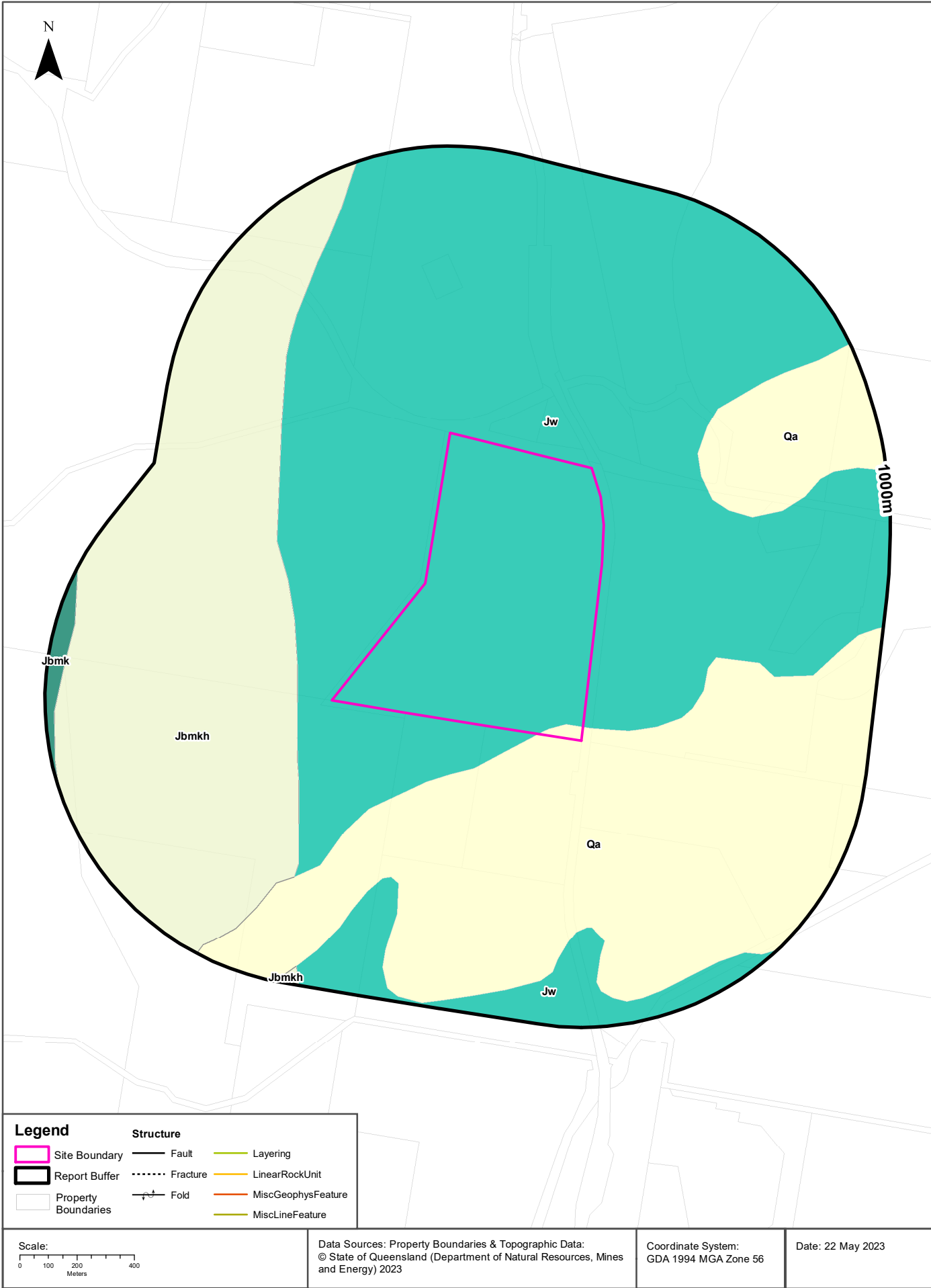
Bore No	Facility Type	Facility Role	Status	Drillers Log	Aquifer	Drill Date	Dist	Direct'
194336	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-1.00m GRAVELLY CLAY 1.00m-2.00m RED/BROWN CLAY 2.00m-8.00m SANDY CLAY 8.00m-25.00m SILTY CLAY 25.00m-33.50m FINE SANDY CLAY	Aquifer Top-Bottom: 28.00m-33.50m. Unconsolidated Condition. Formation is contributing water to the bore. Formation does not flow.	2021-05-05	896m	North East
142726	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-0.30m TOPSOIL 0.30m-4.80m COARSE SAND 4.80m-6.40m FINE SAND 6.40m-7.80m MEDIUM TO COARSE SAND 7.80m-12.00m FINE SAND		2011-02-10	1065m	South
169353	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-2.00m WHITE FINE SAND 2.00m-5.00m BROWN SILTY CLAY 5.00m-6.00m BROWN SAND 6.00m-8.00m BROWN SILTY CLAY 8.00m-14.00m CLAY, GREY SILT SAND 14.00m-15.00m COARSE GRAIN SANDSTONE	Aquifer Top-Bottom: 11.50m-14.00m. Unconsolidated Condition. Formation is contributing water to the bore. Formation does not flow. Yield: 0.06 SWL: -12.00	2015-10-19	1177m	South West
169356	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-1.00m GREY SILT 1.00m-3.00m RED BROWN SAND 3.00m-7.00m RED BROWN SANDY CLAY 7.00m-11.00m GREY SANDSTONE 11.00m-17.00m GREY MUDSTONE 17.00m-19.00m QUARTZOSE BROWN SANDSTONE 19.00m-20.00m BROWN SILTSTONE		2015-10-20	1188m	South West
194335	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-1.00m GRAVELLY CLAY 1.00m-7.00m SANDY CLAY 7.00m-43.00m GREY CLAY 43.00m-47.50m WEATHERED SANDSTONE		2021-05-05	1233m	North East
169251	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-2.00m ORANGE BROWN SILTY CLAY 2.00m-4.00m ORANGE BROWN SILTSTONE/SANDSTONE 4.00m-18.00m LIGHT GREY SILTSTONE/SANDSTONE 18.00m-38.00m DARK GREY SILTSTONE/SANDSTONE 38.00m-41.50m COAL SEAM		2015-08-18	1292m	South
169249	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-5.00m ORANGE BROWN SANDY CLAY 5.00m-11.00m DARK GREY SANDSTONE 11.00m-14.00m COARSE QUARTZ & SANDSTONE		2015-08-19	1361m	South West
169490	Sub-artesian Facility	Water Supply	Existing	0.00m-0.10m BROWN TOPSOIL 0.10m-1.50m BROWN CLAY 1.50m-8.00m BROWN CLAYEY LOAM 8.00m-10.50m STIFF BROWN & GREY CLAY 10.50m-12.00m BROWN SANDY CLAY 12.00m-13.50m SOFT BROWN SANDY CLAY 13.50m-16.00m BROWN SANDY CLAY & SMALL GRAVEL 16.00m-24.00m BROWN SANDY CLAY WITH LAYERS OF SAND & GRAVEL 24.00m-30.00m SANDY LIGHT GREY CLAY WITH THIN SEAMS OF SAND 30.00m-32.00m WALLOON COAL MEASURES		2016-03-02	1392m	North

Bore No	Facility Type	Facility Role	Status	Drillers Log	Aquifer	Drill Date	Dist	Direct'
169355	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-0.50m GREY CLAY 0.50m-2.50m BROWN SILTY SAND 2.50m-10.00m BROWN GRAVELLY SAND 10.00m-11.50m GREY BROWN SANDSTONE 11.50m-13.00m DARK GREY SANDSTONE		2015-10-20	1475m	South West
169352	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-2.00m WHITE FINE SAND 2.00m-5.50m GREY/BROWN SAND 5.50m-11.00m BROWN SILTY SAND 11.00m-11.40m BROWN SANDSTONE	Aquifer Top-Bottom: 10.50m-11.00m. Unconsolidated Condition. Formation is contributing water to the bore. Formation does not flow. SWL: -9.00	2015-10-19	1481m	South West
169354	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-6.00m BROWN CLAYEY SAND 6.00m-7.00m BROWN SANDSTONE 7.00m-11.00m GREY SANDSTONE		2015-10-20	1635m	South West
152663	Sub-artesian Facility		Abandoned and Destroyed	0.00m-1.00m FILL 1.00m-11.00m BROWN CLAY 11.00m-12.00m RED POWDERY ROCK 12.00m-27.00m BROWN CLAY 27.00m-30.00m HARD BASALT 30.00m-42.00m SOFT BASALT 42.00m-45.00m SOFT GREY & BROWN CLAY 45.00m-52.00m BROWN SANDY/SILTY CLAY 52.00m-64.00m GREY CLAY 64.00m-84.00m COAL, CLAY & MUDSTONE		2013-11-12	1747m	South East
124866	Sub-artesian Facility	Water Supply	Existing	0.00m-1.00m TOP SOIL 1.00m-6.00m SANDY LOAM 6.00m-9.00m SAND COARSE * 9.00m-11.00m GRAVEL * 11.00m-13.00m CLAY		2005-09-03	1866m	North West
169357	Sub-artesian Facility	Sub-Artesian Monitoring	Existing	0.00m-1.00m GREY BROWN SILTY CLAY 1.00m-5.00m FINE BROWN SAND 5.00m-7.50m COARSE BROWN SAND	Aquifer Top-Bottom: 7.00m-7.50m. Unconsolidated Condition. Formation is contributing water to the bore. Formation does not flow. SWL: -6.50	2015-10-21	1991m	South

Groundwater Borehole Data: © State of Queensland (Department of Natural Resources and Mines) [2016]
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Acknowledgment: In consideration of the State permitting use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, reliability, completeness, currency or suitability) and accepts no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws.

Groundwater Borehole Metadata: https://www.dnrm.qld.gov.au/__data/assets/pdf_file/0015/31317/bore-baseline-assessment-dictionary.pdf



Geology

Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285

Detailed Surface Geological Units

What are the Geological Units onsite?

Symbol	LithologySummary	Unit Name	Dominant Rock	Rock Type	Age
Jw	Shale, siltstone, sandstone, coal seams	Walloon Coal Measures	ARENITE-MUDROCK	STRATIFIED UNIT (INCLUDING VOLCANIC AND METAMORPHIC)	MIDDLE JURASSIC
Qa	Clay, silt, sand and gravel; flood-plain alluvium	Qa-QLD	ALLUVIUM	STRATIFIED UNIT (INCLUDING VOLCANIC AND METAMORPHIC)	QUATERNARY

What are the Geological Units within the dataset buffer?

Symbol	Lithology Summary	Unit Name	Dominant Rock	Rock Type	Age
Jbmk	Lithofeldspathic labile and sublabile to quartzose sandstone, siltstone, shale, minor coal, ferruginous oolite marker	Koukandowie Formation	ARENITE-MUDROCK	STRATIFIED UNIT (INCLUDING VOLCANIC AND METAMORPHIC)	EARLY JURASSIC - MIDDLE JURASSIC
Jbmkh	Sublabile to quartzose sandstone, siltstone, shale	Heifer Creek Sandstone Member	ARENITE	STRATIFIED UNIT (INCLUDING VOLCANIC AND METAMORPHIC)	MIDDLE JURASSIC
Jw	Shale, siltstone, sandstone, coal seams	Walloon Coal Measures	ARENITE-MUDROCK	STRATIFIED UNIT (INCLUDING VOLCANIC AND METAMORPHIC)	MIDDLE JURASSIC
Qa	Clay, silt, sand and gravel; flood-plain alluvium	Qa-QLD	ALLUVIUM	STRATIFIED UNIT (INCLUDING VOLCANIC AND METAMORPHIC)	QUATERNARY

Detailed Geological Structures

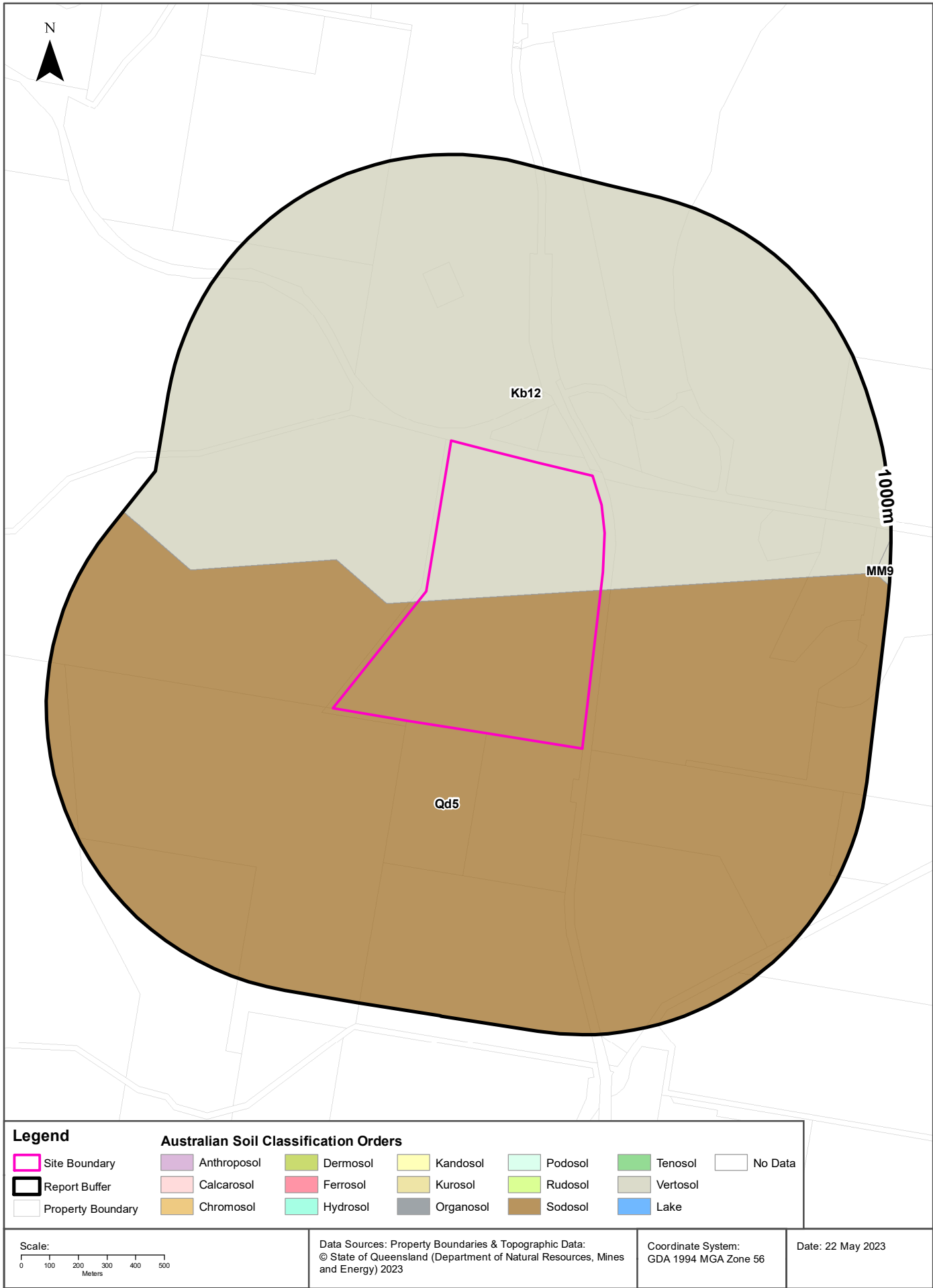
What are the Geological Structures onsite?

Feature	Name	Description	Source	Scale
-	No features onsite			

What are the Geological Structures within the dataset buffer?

Feature	Name	Description	Source	Scale
-	No features in report buffer			

Geological Data Source : Detailed Surface Geology & Detailed Geological Structures
© State of Queensland (Department of Natural Resources, Mines and Energy)



Soils

Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285

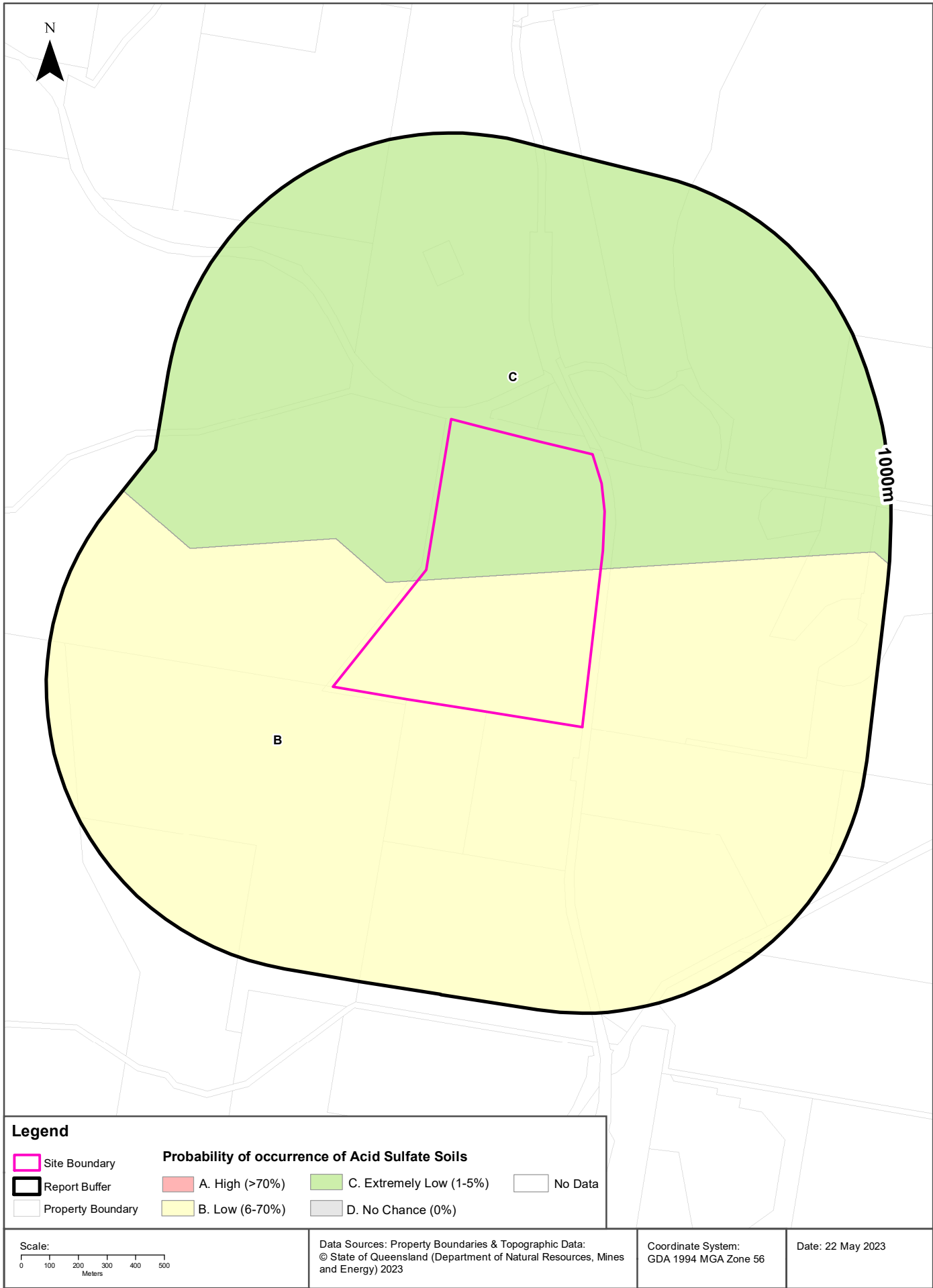
Atlas of Australian Soils

Australian soil types within the dataset buffer:

Symbol	Soil Order	Map Unit Description	Distance
Kb12	Vertosol	Gently rolling areas of the subcoastal lowland (less than 400 ft above sea level) on altered basic rocks; maximum relief is 50 ft between crests and valleys: chief soils are shallow dark cracking clays (Ug5.12) with hard neutral red and yellow soils (Dr2.12) and (Dy2.12). Associated soils are (Db3.12) and (Uf6.22) as found in unit Rh10.	0m
Qd5	Sodosol	Hilly: hill slopes of hard-setting loamy soils with red and red mottled clayey subsoils (Dr2.41 and Dr2.42). Associated are: (Um4.2) and (Dr2.21) soils and rock outcrops on upper slopes; (Dy3.2 and Dy3.4) and less commonly (Dy5.4 and Dy5.6) soils on mid and lower slopes; scattered areas of various friable soils, such as (Db3.12), (Dr4.12), (Um6.2), (Uf6), and (Ug5.12) soils on rounded hills and slopes; occasional pockets of red earths (Gn2.1); narrow stream valleys of soils of unit Kd6; and broader, undulating valleys of (Dy3.42) soils.	0m
MM9	Vertosol	Terraced valley plains: chief soils are brown and grey cracking clays (Ug5.34), (Ug5.39), and (Ug5.2) which occur on the third terrace with (Gn3.21), (Dy3.41), and (Dy3.13) soils. Associated are: (Gn3.42 and Gn3.43) soils on the second terrace, with (Ug5.15), (Ug5.16), and (Ug5.24) soils on back slopes, (Dy2.22) soils on sandy levees, and smaller areas of (Dd1.52), (Ug6.11), (Um6.22), (Db1.13), and (Db2.41); and (Uc) soils common on the first terrace and on lateral fans. Buried soils occur throughout. As mapped, small areas of adjoining units may be included.	945m

Atlas of Australian Soils: CSIRO

Creative Commons Attribution 4.0 International © Commonwealth of Australia <http://creativecommons.org/licenses/by/4.0/>



Acid Sulfate Soils

Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285

Atlas of Australian Acid Sulfate Soils

Atlas of Australian Acid Sulfate Soil categories within the dataset buffer:

PROBCLASS	Description	Distance
B	Low Probability of occurrence. 6-70% chance of occurrence.	0m
C	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	0m

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO

Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Heritage

Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285

Commonwealth Heritage List

What are the Commonwealth Heritage List Items located within the dataset buffer?

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
Creative Commons 3.0 © Commonwealth of Australia <https://creativecommons.org/licenses/by/3.0/au/deed.en>

National Heritage List

What are the National Heritage List Items located within the dataset buffer?

Note. Please click on Place Id to activate a hyperlink to online website.

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

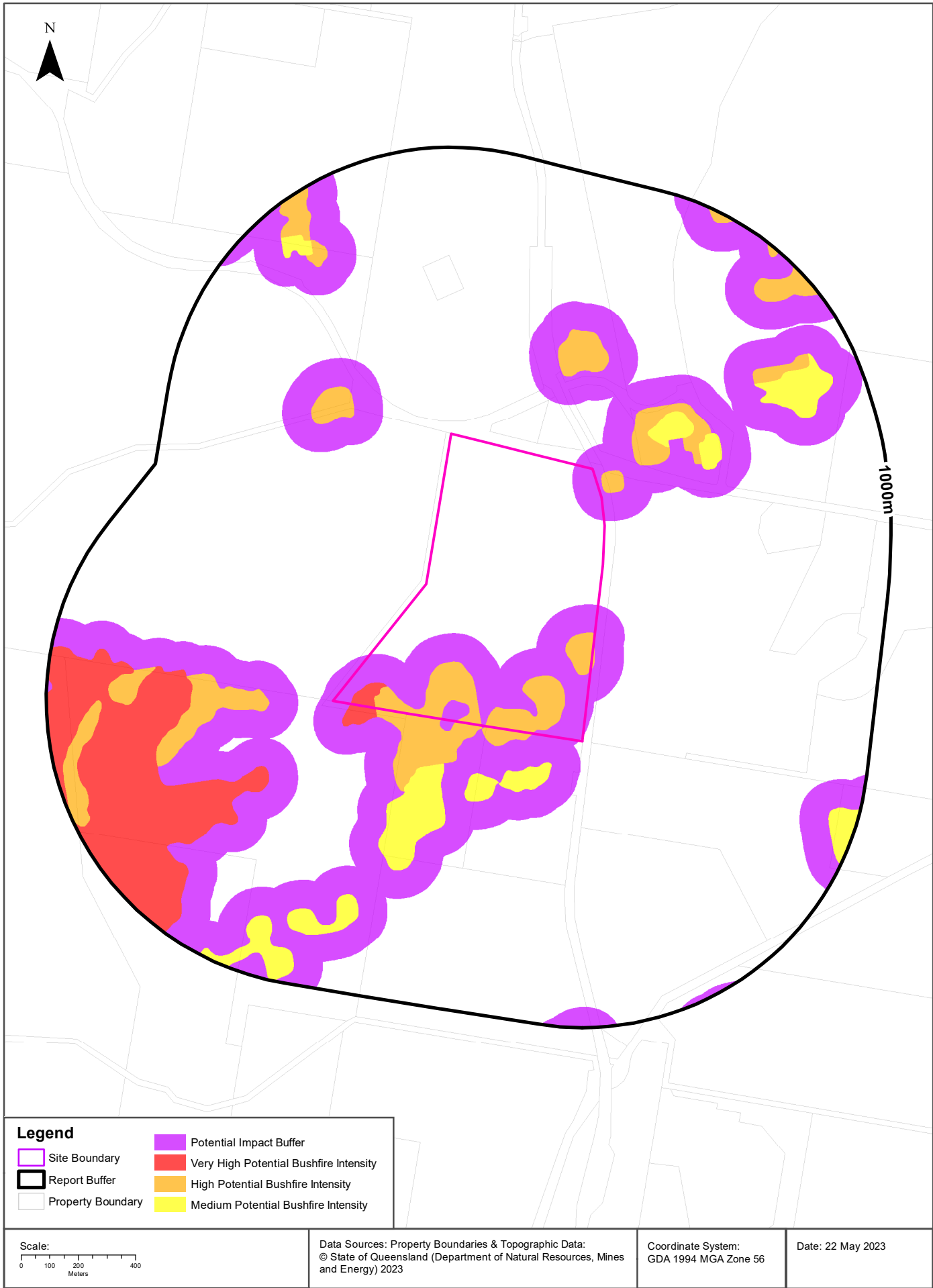
Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
Creative Commons 3.0 © Commonwealth of Australia <https://creativecommons.org/licenses/by/3.0/au/deed.en>

Heritage Register Boundaries

Heritage Register Boundaries within the dataset buffer:

Place ID	Name	Entry Date	Distance	Direction
N/A	No records within buffer			

Heritage Register Boundaries Data: © State of Queensland (Department of Environment and Heritage Protection)
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>



Natural Hazards

Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285

Statewide Bushfire Prone Areas

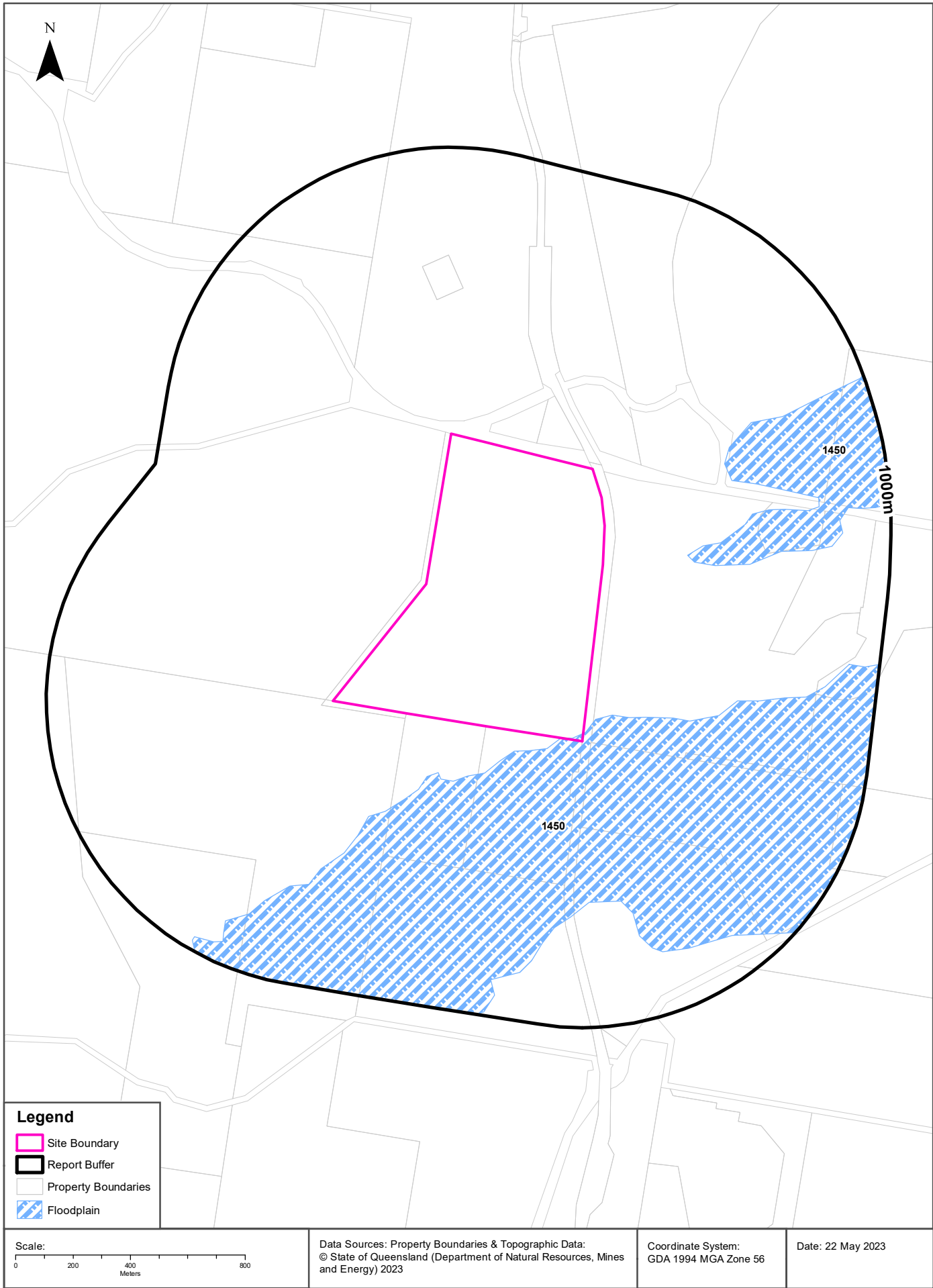
Bushfire Prone Areas within the dataset buffer:

Bushfire Prone Area Class	Version	Region	Distance	Direction
High Potential Bushfire Intensity	July 2017	South East Queensland	0m	Onsite
Potential Impact Buffer	July 2017	South East Queensland	0m	Onsite
Very High Potential Bushfire Intensity	July 2017	South East Queensland	0m	Onsite
Medium Potential Bushfire Intensity	July 2017	South East Queensland	90m	South

Bushfire Prone Areas Data: © State of Queensland (Department of Natural Resources and Mines)
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Natural Hazards - Queensland Floodplain Assessment Overlay

Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285



Natural Hazards

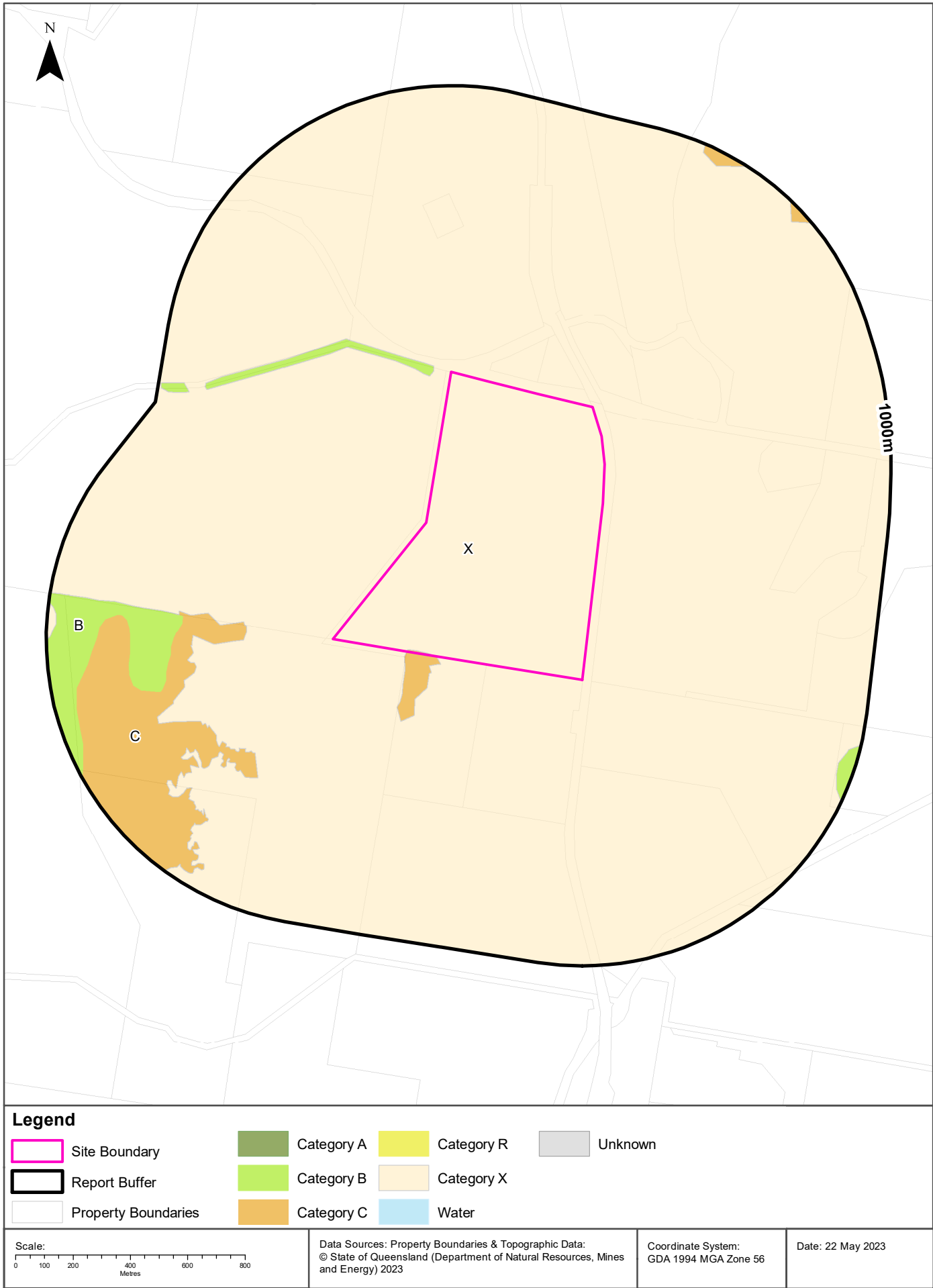
Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285

Queensland Floodplain Assessment Overlay

QFAO within the dataset buffer:

Number	Name	Distance	Direction
1450	Logan River	0m	Onsite

Queensland Floodplain Assessment Overlay Data: © State of Queensland (Department of Natural Resources and Mines)
Creative Commons 4.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/4.0/>



Ecological Constraints

Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285

Regulated Vegetation

Regulated Vegetation Areas within the dataset buffer:

Regulated Vegetation Category	Category Description	Distance	Direction
Category X	Category X areas are all other areas that are not designated as a Category A, B, C or R areas.	0m	On-site
Category C	Category C areas contain high-value regrowth vegetation.	0m	South West
Category B	Category B areas contain remnant native vegetation, or may contain an endangered regional ecosystem; an of concern regional ecosystem; or a least concern regional ecosystem if not covered by Category C.	61m	North West
Category C	Category C areas contain high-value regrowth vegetation.	301m	South West
Category B	Category B areas contain remnant native vegetation, or may contain an endangered regional ecosystem; an of concern regional ecosystem; or a least concern regional ecosystem if not covered by Category C.	529m	West
Category B	Category B areas contain remnant native vegetation, or may contain an endangered regional ecosystem; an of concern regional ecosystem; or a least concern regional ecosystem if not covered by Category C.	891m	North West
Category B	Category B areas contain remnant native vegetation, or may contain an endangered regional ecosystem; an of concern regional ecosystem; or a least concern regional ecosystem if not covered by Category C.	938m	South East
Category C	Category C areas contain high-value regrowth vegetation.	946m	North East
Category C	Category C areas contain high-value regrowth vegetation.	947m	North East
Category C	Category C areas contain high-value regrowth vegetation.	998m	North West

Regulated Vegetation Management Map Data Source: Queensland Government - Department of Resources
Creative Commons 4.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/4.0>

Ecological Constraints

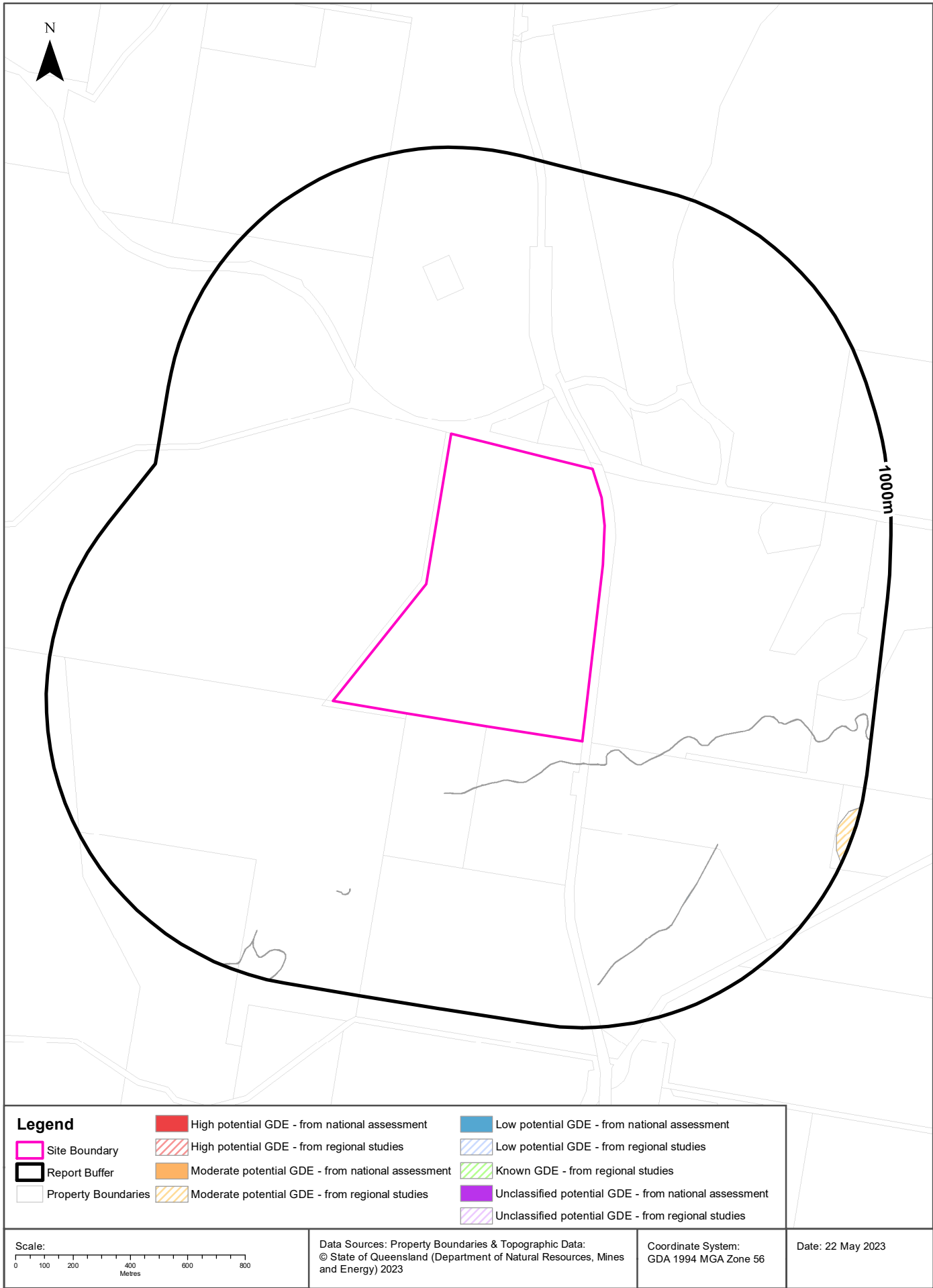
Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285

Wetland Protection Area

Wetland Protection Areas within the dataset buffer:

SPUNIT ID	Study Area	Wetland ID	Aqua Score	Sub-catchment Name	Sub-catchment ID	Distance	Direction
N/A	No records within buffer						

Wetland Protection Area Data Source: State of Queensland (Environment and Heritage Protection)
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>



Ecological Constraints

Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285

Groundwater Dependent Ecosystems Atlas

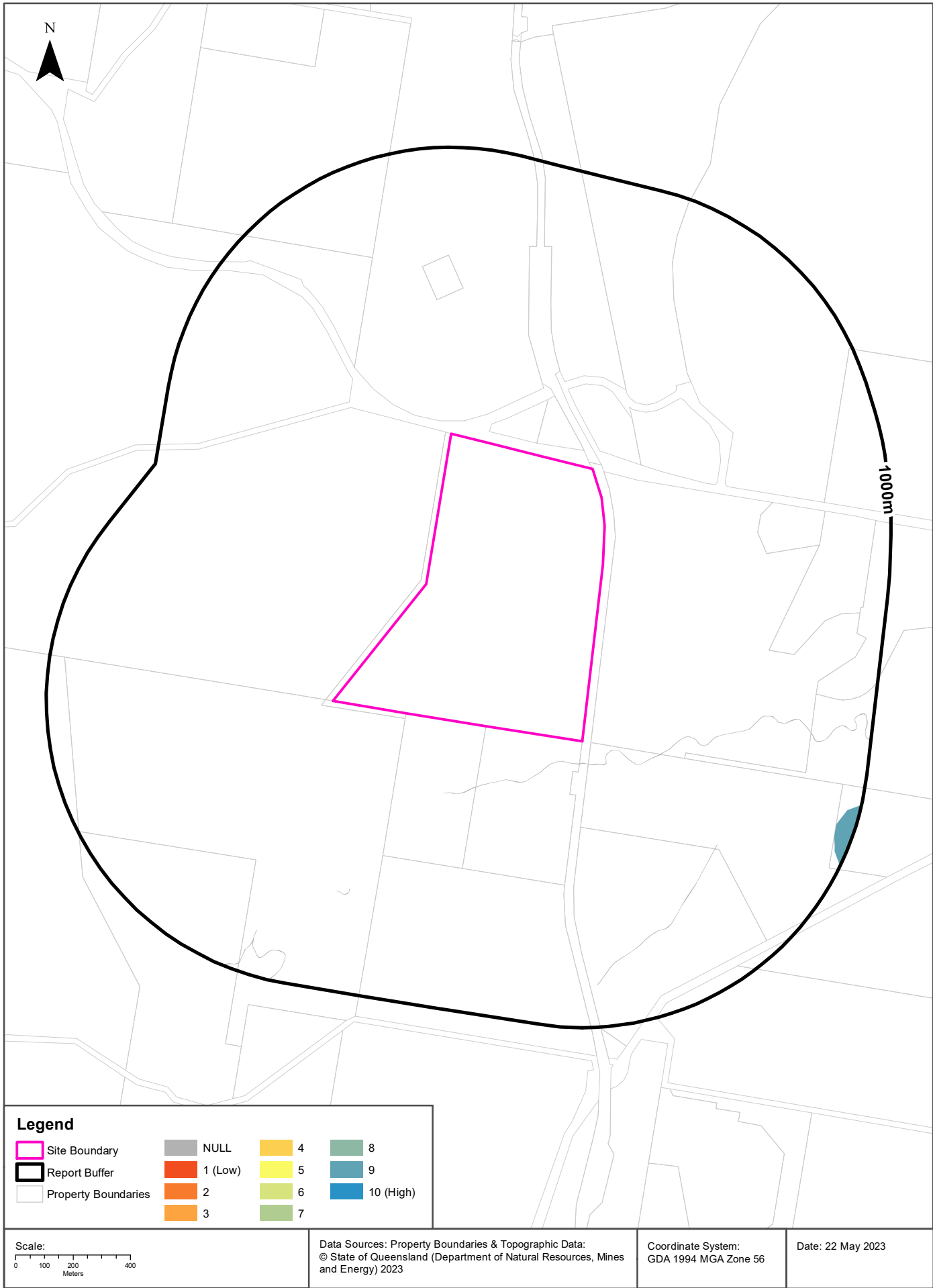
GDEs within the dataset buffer:

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Aquatic	Moderate potential GDE - from national assessment	West	GORDON RIVER		74m
Aquatic	Low potential GDE - from national assessment	Lucindale	MILLICENT COAST		592m
Aquatic	High potential GDE - from national assessment	Kingoonya	GAIRDNER		636m
Aquatic	Known GDE - from regional studies	Murnpeowie	LAKE EYRE		881m
Aquatic	Unclassified potential GDE - from regional studies	Victorian Riverina	GOULBURN RIVER		881m
Terrestrial	Moderate potential GDE - from regional studies	Mountain ranges, rugged and dissected on granitic and metamorphic rocks in east, broader uplands and upland basins, partly on sedimentary rocks, in west.	Vegetation	Unconsolidated sedimentary	937m

Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Ecological Constraints - Inflow Dependent Ecosystems Likelihood

Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285



Ecological Constraints

Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285

Inflow Dependent Ecosystems Likelihood

IDEs within the dataset buffer:

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Aquatic		West	GORDON RIVER		74m
Terrestrial	9	Mountain ranges, rugged and dissected on granitic and metamorphic rocks in east, broader uplands and upland basins, partly on sedimentary rocks, in west.	Vegetation	Unconsolidated sedimentary	937m

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology
Creative Commons 3.0 © Commonwealth of Australia <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Location Confidences

Where Lotsearch has had to georeference features from supplied addresses, a location confidence has been assigned to the data record. This indicates a confidence to the positional accuracy of the feature. Where applicable, a code is given under the field heading “LC” or “LocConf”. These codes lookup to the following location confidences:

LC Code	Location Confidence
Premise match	Georeferenced to the site location / premise or part of site
General area or suburb match	Georeferenced with the confidence of the general/approximate area
Road match	Georeferenced to the road or rail
Road intersection	Georeferenced to the road intersection
Feature is a buffered point	Feature is a buffered point
Land adjacent to geocoded site	Land adjacent to Georeferenced Site
Network of features	Georeferenced to a network of features

USE OF REPORT - APPLICABLE TERMS

The following terms apply to any person (End User) who is given the Report by the person who purchased the Report from Lotsearch Pty Ltd (ABN: 89 600 168 018) (Lotsearch) or who otherwise has access to the Report (Terms). The contract terms that apply between Lotsearch and the purchaser of the Report are specified in the order form pursuant to which the Report was ordered and the terms set out below are of no effect as between Lotsearch and the purchaser of the Report.

1. End User acknowledges and agrees that:
 - (a) the Report is compiled from or using content (**Third Party Content**) which is comprised of:
 - (i) content provided to Lotsearch by third party content suppliers with whom Lotsearch has contractual arrangements or content which is freely available or methodologies licensed to Lotsearch by third parties with whom Lotsearch has contractual arrangements (**Third Party Content Suppliers**); and
 - (ii) content which is derived from content described in paragraph (i);
 - (b) Neither Lotsearch nor Third Party Content Suppliers takes any responsibility for or give any warranty in relation to the accuracy or completeness of any Third Party Content included in the Report including any contaminated land assessment or other assessment included as part of a Report;
 - (c) the Third Party Content Suppliers do not constitute an exhaustive set of all repositories or sources of information available in relation to the property which is the subject of the Report (**Property**) and accordingly neither Lotsearch nor Third Party Content Suppliers gives any warranty in relation to the accuracy or completeness of the Third Party Content incorporated into the report including any contaminated land assessment or other assessment included as part of a Report;
 - (d) Reports are generated at a point in time (as specified by the date/time stamp appearing on the Report) and accordingly the Report is based on the information available at that point in time and Lotsearch is not obliged to undertake any additional reporting to take into consideration any information that may become available between the point in time specified by the date/time stamp and the date on which the Report was provided by Lotsearch to the purchaser of the Report;
 - (e) Reports must be used or reproduced in their entirety and End User must not reproduce or make available to other persons only parts of the Report;
 - (f) Lotsearch has not undertaken any physical inspection of the property;
 - (g) neither Lotsearch nor Third Party Content Suppliers warrants that all land uses or features whether past or current are identified in the Report;
 - (h) the Report does not include any information relating to the actual state or condition of the Property;
 - (i) the Report should not be used or taken to indicate or exclude actual fitness or unfitness of Land or Property for any particular purpose
 - (j) the Report should not be relied upon for determining saleability or value or making any other decisions in relation to the Property and in particular should not be taken to be a rating or assessment of the desirability or market value of the property or its features; and
 - (k) the End User should undertake its own inspections of the Land or Property to satisfy itself that there are no defects or failures
2. The End User may not make the Report or any copies or extracts of the report or any part of it available to any other person. If End User wishes to provide the Report to any other person or make extracts or copies of the Report, it must contact the purchaser of the Report before doing so to ensure the proposed use is consistent with the contract terms between Lotsearch and the purchaser.
3. Neither Lotsearch (nor any of its officers, employees or agents) nor any of its Third Party Content Suppliers will have any liability to End User or any person to whom End User provides the Report and End User must not represent that Lotsearch or any of its Third Party Content Suppliers accepts liability to any such person or make any other representation to any such person on behalf of Lotsearch or any Third Party Content Supplier.
4. The End User hereby to the maximum extent permitted by law:
 - (a) acknowledges that the Lotsearch (nor any of its officers, employees or agents), nor any of its Third Party Content Supplier have any liability to it under or in connection with the

Report or these Terms;

- (b) waives any right it may have to claim against Third Party Content Supplier in connection with the Report, or the negotiation of, entry into, performance of, or termination of these Terms; and
 - (c) releases each Third Party Content Supplier from any claim it may have otherwise had in connection with the Report, or the negotiation of, entry into, performance of, or termination of these Terms.
- 5. The End User acknowledges that any Third Party Supplier shall be entitled to plead the benefits conferred on it under clause 4, despite not being a party to these terms.
- 6. End User must not remove any copyright notices, trade marks, digital rights management information, other embedded information, disclaimers or limitations from the Report or authorise any person to do so.
- 7. End User acknowledges and agrees that Lotsearch and Third Party Content Suppliers retain ownership of all copyright, patent, design right (registered or unregistered), trade marks (registered or unregistered), database right or other data right, moral right or know how or any other intellectual property right in any Report or any other item, information or data included in or provided as part of a Report.
- 8. To the extent permitted by law and subject to paragraph 9, all implied terms, representations and warranties whether statutory or otherwise relating to the subject matter of these Terms other than as expressly set out in these Terms are excluded.
- 9. Subject to paragraph 6, Lotsearch excludes liability to End User for loss or damage of any kind, however caused, due to Lotsearch's negligence, breach of contract, breach of any law, in equity, under indemnities or otherwise, arising out of all acts, omissions and events whenever occurring.
- 10. Lotsearch acknowledges that if, under applicable State, Territory or Commonwealth law, End User is a consumer certain rights may be conferred on End User which cannot be excluded, restricted or modified. If so, and if that law applies to Lotsearch, then, Lotsearch's liability is limited to the greater of an amount equal to the cost of resupplying the Report and the maximum extent permitted under applicable laws.
- 11. Subject to paragraph 9, neither Lotsearch nor the End User is liable to the other for:
 - (a) any indirect, incidental, consequential, special or exemplary damages arising out of or in relation to the Report or these Terms; or
 - (b) any loss of profit, loss of revenue, loss of interest, loss of data, loss of goodwill or loss of business opportunities, business interruption arising directly or indirectly out of or in relation to the Report or these Terms,irrespective of how that liability arises including in contract or tort, liability under indemnity or for any other common law, equitable or statutory cause of action or otherwise.
- 12. These Terms are subject to New South Wales law.

Appendix F

Current and historical title records



ABN: 36 092 724 251
Ph: 02 9099 7400
(Ph: 0412 199 304)

Level 14, 135 King Street, Sydney
Sydney 2000
GPO Box 4103 Sydney NSW 2001
DX 967 Sydney

Summary of Owners Report

Address: - Lot 1 Beaudesert-Boonah Road, Bromelton, QLD 4285

Description: - Lot 1 R.P. 45234

<u>Date of Acquisition and term held</u>	<u>Registered Proprietor(s) & Occupations where available</u>	<u>Reference to Title at Acquisition and sale</u>
28.09.1917 (1917 to 1921)	Thomas Hutcheson Todd	Volume 1379 Folio 53
16.12.1921 (1921 to 1956)	Jane Isabel Todd (Widow) William Todd George Alexander Todd (Transmission Application not investigated)	Volume 1379 Folio 53 Now Volume 1775 Folio 67
02.08.1956 (1956 to 1958)	Stephen James Murray Thomas William Murray	Volume 1775 Folio 67 Now Volume 2994 Folios 41 & 42
12.12.1958 (1958 to 1960)	Stephen James Murray (Transmission Application not investigated)	Volume 2994 Folios 41 & 42
26.09.1960 (1960 to 1964)	Edward Joseph Yore	Volume 2994 Folios 41 & 42 Now Volume 3337 Folio 204
12.11.1964 (1964 to 1991)	Danby William Franklin	Volume 3337 Folio 204
11.02.1991 (1991 to 1995)	Donald John Franklin Stuart Franklin (Transmission Application not investigated)	Volume 3337 Folio 204 Now 13337204
14.08.1995 (1995 to 2011)	Consolidated Meat Holdings Pty Ltd	13337204
08.11.2011 (2011 to 2022)	Teys Investments Pty Ltd	13337204
20.12.2022 (2022 to Date)	# Queensland Energy and Resource Centre Pty (As Trustee)	13337204

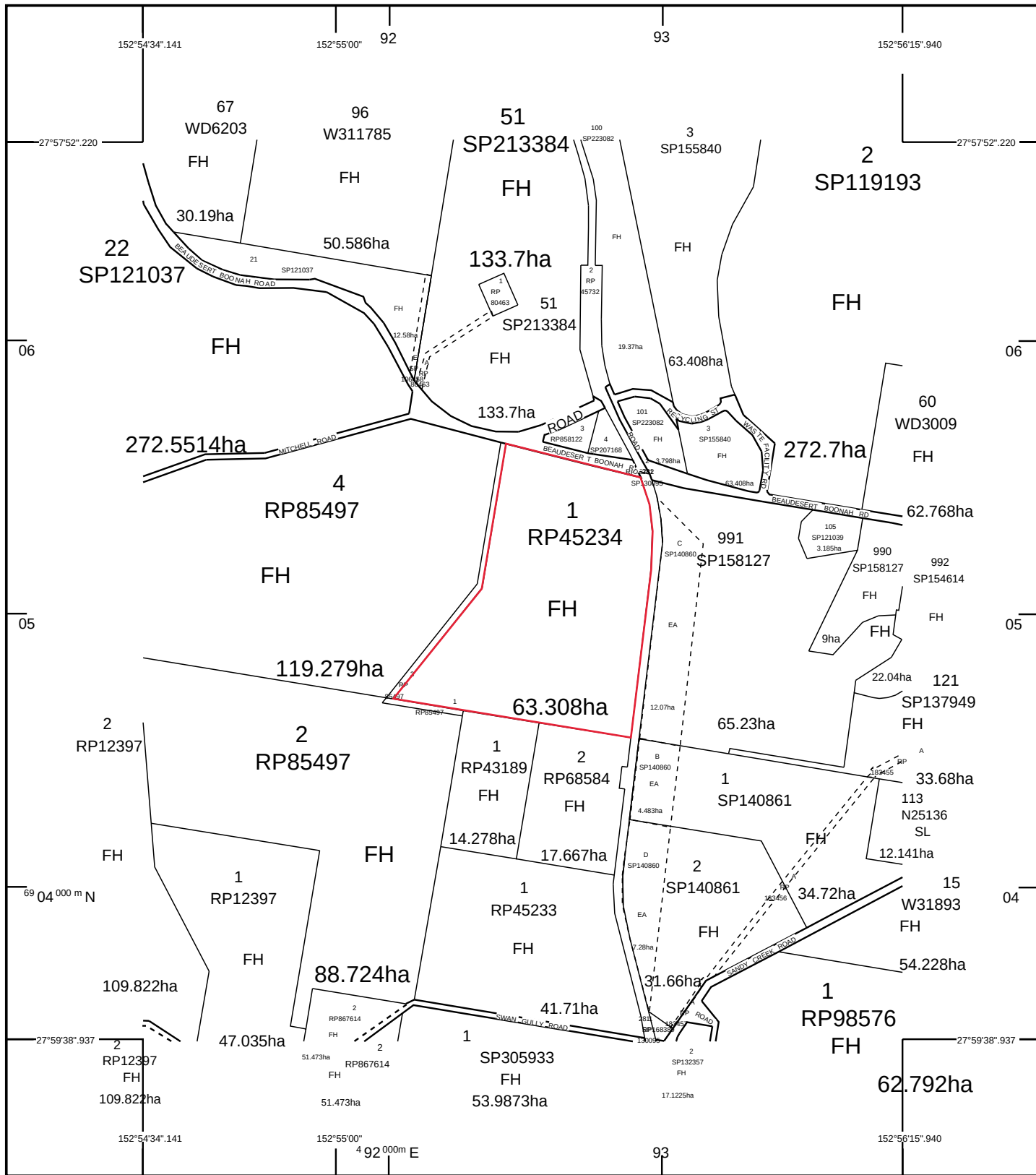
Denotes current registered proprietor

Leases: - NIL

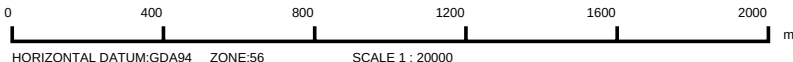
Easements: - NIL

Yours Sincerely
Taylor Wilson
30th May 2023

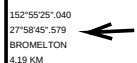
Email: mark.groll@infotrack.com.au
Email: taylor.wilson@infotrack.com.au



STANDARD MAP NUMBER
9442-22321



MAP WINDOW POSITION &
NEAREST LOCATION



SUBJECT PARCEL DESCRIPTION

DCDB	
Lot/Plan	1/RP45234
Area/Volume	63.308ha
Tenure	FREEHOLD
Local Government	SCENIC RIM REGIONAL
Locality	BROMELTON
Segment/Parcel	11233/1

CLIENT SERVICE STANDARDS

PRINTED 30/05/2023

DCDB 29/05/2023 (Lots with an area less than 3000m² are not shown)

Users of the information recorded in this document (the Information) accept all responsibility and risk associated with the use of the Information and should seek independent professional advice in relation to dealings with property.

Despite Department of Resources best efforts, RESOURCES makes no representations or warranties in relation to the Information, and, to the extent permitted by law, exclude or limit all warranties relating to correctness, accuracy, reliability, completeness or currency and all liability for any direct, indirect and consequential costs, losses, damages and expenses incurred in any way (including but not limited to that arising from negligence) in connection with any use of or reliance on the Information

For further information on SmartMap products visit
<https://www.qld.gov.au/housing/buying-owning-home/property-land-valuations/smartmaps>

SmartMap

An External Product of
SmartMap Information Services

Based upon an extraction from the
Digital Cadastral Data Base



**Queensland
Government**

(c) The State of Queensland,
(Department of Resources) 2023.



Certificate of Title.

VOL. S 1379 FOL. 53



11379053

No. 241563

(C)

QUEENSLAND.



REFERENCE TO PREVIOUS

VOL. 781 FOLIO 179

REGISTER BOOK, VOL. 1379 FOLIO 53

THOMAS HUTCHESON TODD

of Beaudesert pursuant to Memorandum of Conveyance No. 691226 produced the second day of August 1917, registered the seventeenth day of September 1917, is now seized of an Estate in Fee-simple, subject nevertheless to such encumbrances, liens, and interests as are by memorandum notified hereon, in All that piece of Land situated in the County of Ward Parish of Bromelton containing one hundred and seventy two acres and three rods more or less, as shown on the Plan hereon, and therein edged red, Being subdivision one of portion sixty nine A on Plan Cat No. 67-106 deposited in the office of the Registrar of Titles Brisbane

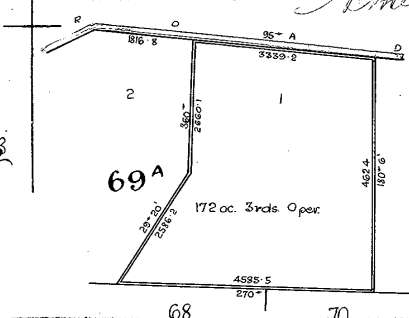
which said piece of Land is part of the portion marked 69A delineated in the Public Map of the said parish deposited in the Office of the Surveyor-General, originally granted by Deed of Grant No. 63265 to Edward Barrow Forrest

Saving Always to the Crown all the rights and interests reserved to it by the said Deed of Grant.

IN WITNESS whereof, I have hereunto signed my name and affixed my seal, this Twenty eighth day of September One thousand nine hundred and seventeen

Signed, Sealed, and Delivered, the 28 day of September 1917, in presence of

PARISH OF BROMELTON



REGISTRAR OF TITLES.

1379053 TRANSMISSION BY DEATH. In consequence of the death of the above named Thomas Hutchison Todd on the 8 June 1921 an estate in fee-simple in the within land bequeathed to Jane Isabel Todd, Widow William Todd and George Alexander Todd as devisees in trust as appears by Probate Copy of Will and documentary evidence. Produced 16 Dec 1921 at 12.46 p.m. Entered 31 May 1922

Dep. Registrar of Titles.

SUCCESSION DUTY NOT PAID on Transmission by Death No 824589 (due date of payment) 31 May 1922

No 691227 Bill of mortgage produced 2 Aug 1917 at 12.52 p.m. Registered 15 Sep 1917 from Thomas Hutchison Todd to Elizabeth Kelly Wife of Edward Patrick Kelly principal sum of Three hundred pounds interest at the rate of 5 per centum per annum, payable half yearly

Scale, 20 chains per inch.

No. A35871 REQUEST to issue Certificate of Title for
15 acres 1.0 30 fch Res 1
 Produced 20 Oct 1927 a.m. registered 25 May 1929
 Cancelled as above vide Vol. 1995 Fol. 67
Subject to Succession
Only Encumbrance
E. Prosperi
 REGISTRAR OF TITLES.

THE DESCRIPTION
TO LOT(S)
ON REGISTERED PLAN No.
1 APR 1986 *Hayne*  REGIS

K. 243
S. 1
P. 69A
BROMELTON

4 5 2 3 4

1379.53

VOL: S 1775 FOL: 67



11775067

Certificate of Title.

(C)

QUEENSLAND.

No. 331327

REFERENCE TO PREVIOUS

VOL. 1379 FOLIO 53



REGISTER BOOK, VOL. 1775 FOLIO 67

JANE ISABEL TODD Widow

WILLIAM TODD and GEORGE ALEXANDER TODD

of as devised under the Will of Thomas Todd deceased pursuant to Memorandum
of Request No. A35871 received the twentieth day of October 1927,
now seized of an Estate in Fee-simple, subject nevertheless to such encumbrances,
liens, and interests as are by memorandum notified hereon, in all that piece of Land situated in the County
of Ward Parish of Bromelton

containing one hundred and fiftysix acres one rood thirty perches

more or less, as shown on the Plan hereon, and therein edged red, Being resubdivision 1 of subdivision 1 of
portion 69A on plan Cat. No. 45234 deposited in the Office of the Registrar of Titles Brisbane

which said piece of Land is part of the portion marked 69A delineated in the Public Map
of the said parish deposited in the Office of the Surveyor-General, originally granted by Deed of Grant
No. 63265 to Edward Barrow Forrest

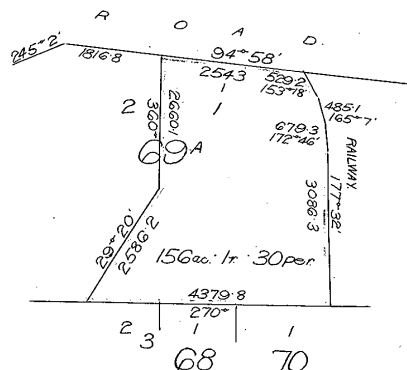
Saving Always to the CROWN all the rights and interests reserved to it by the said Deed of Grant.

IN WITNESS whereof, I have hereunto signed my name and affixed my seal, this eleventh
day of June One thousand nine hundred and twenty nine

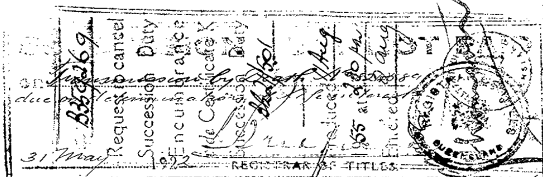
Signed, Sealed, and Delivered, the eleventh
day of June 1929, in presence of

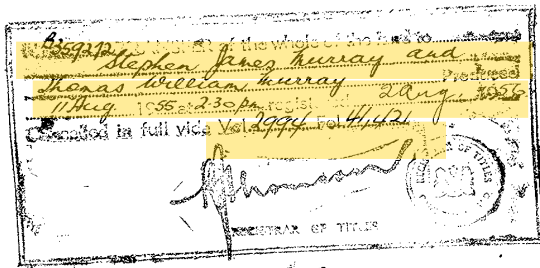


Parish of Bromelton.



Scale, 20 chains per inch.



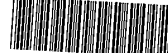


Request to
Reopen
135-9269
Reopen
135-9272
mgt
(135-9273)
alms
75-8-55

UNDIVIDED MOIETY

Certificate of Title.

VOL. S 2994 FOL. 42



12994042

FULLY PAID

LLED

(C)

QUEENSLAND.



No. 614052

Reference to Previous Volume	Folio
1775	67

Register Book, Vol. 2994 Folio 42

THOMAS WILLIAM MURRAY

of _____ pursuant to Memorandum
of Conveyance No. B359272 produced the eleventh day of August 1955,
registered the second day of August 1956, is now seized of an Estate in Fee-simple, as tenant
in common with another in one undivided half part or
share, subject nevertheless to such encumbrances, liens, and interests as are by memorandum notified hereon, in All that
piece of Land situated in the County of _____ Ward _____ Parish of Bromelton
City of _____ containing One hundred and fifty six acres one rood
thirty perches

more or less, as shown on the Plan hereon, and therein edged red,
Being Resubdivision 1 of subdivision 1 of Portion 69A

on Plan Cat. No. 45234 deposited in the Office of the Registrar of Titles, Brisbane,
which said piece of Land is part of the portion marked 69A delineated in the Public Map
of the said parish deposited in the Office of the Surveyor-General, originally granted by Deed of Grant
No. 63265

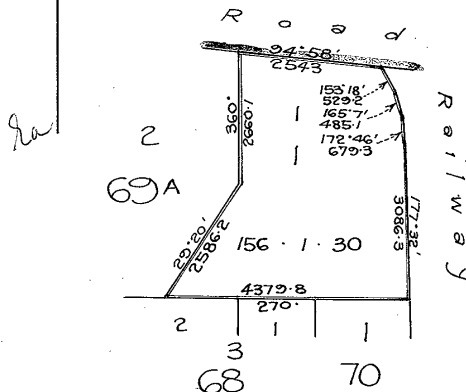
Saving Always to the Crown all the rights and interests reserved to it by the said Deed of Grant.

In Witness whereof, I have hereunto signed my name and affixed my seal, this twenty second
day of October One thousand nine hundred and fifty six

Signed, Sealed, and Delivered, the 22nd
day of October 1956 in presence of

Parish of Bromelton

REGISTRAR OF TITLES



Scale, 20 chains per inch.

RELEASE
Bill of
No. B359272
11 Aug
1956
10:30 P.M.
registered
1956
from
Thomas William Murray
and
George
Alexander
Murray
to secure
No. 63265
Mortgage
and interest
thereon
to
the
Crown
of
Queensland

No. 8612047 TRANSMISSION BY DEATH. In consequence of the death of the above-named Thomas William Murray on the 26 Jan 1956 an estate in fee simple in the within land became transmitted to Joseph Murray — as administrator as trustee

as appears by Letters of Administration and documentary evidence. Produced 13 Dec 1958 at 11.1 am Entered 29 Dec 1960 Subject to Bill of mortgage B 359775

R. M. Miller
ACTING REGISTRAR OF TITLES



No. 872601 TRANSFER of the whole of the land to Edward Joseph Gore Produced 13 Dec 1960 at 1.20 pm Registered 16 Dec 1960 Cancelled in full vide Vol 34777 Fol. 201a

R. M. Miller
REGISTRAR OF TITLES



FULLY CANCELLED

J. M.

B 612047

K. L.

B-715679

J. M.

B 773601

(200)

VOL: S 2994 FOL: 41



12994041

No. 614051

(C)

QUEENSLAND



Register Book, Vol. 2994 Folia 41

Reference to Previous
Volume | Folio:

1775	67
------	----

STEPHEN JAMES MURRAY

b No. 62324

of _____ pursuant to Memorandum
of Conveyance No. B359272 produced the eleventh day of August 1955,
registered the second day of August 1956, is now seized of an Estate in Fee-simple, as tenant
in common with another in one undivided half part or
share, subject nevertheless to such encumbrances, liens, and interests as are by memorandum notified hereon, in All that
piece of Land situated in the County of Ward Parish of Bromelton
City of _____ containing One hundred and fifty six acres one rood
thirty perches

_____ more or less, as shown on the Plan hereon, and therein edged red,
Being Resubdivision 1 of subdivision 1 of Portion 69A

On Plan Cat. No. 45234 deposited in the Office of the Registrar of Titles, Brisbane, which said piece of Land is part of the portion marked 69A delineated in the Public Map of the said parish deposited in the Office of the Surveyor-General, originally granted by Deed of Grant No. 63265

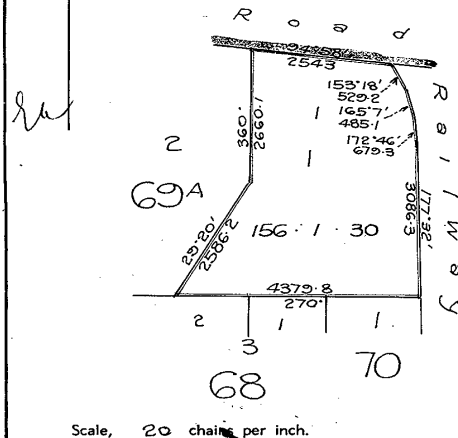
Saving Always to the Crown all the rights and interests reserved to it by the said Deed of Grant.

In Witness whereof, I have hereunto signed my name and affixed my seal, this twenty second
day of October One thousand nine hundred and fifty six

Signed, Sealed, and Delivered, the 22nd
day of October 19 56 in presence of

Parish of Bromelton

REGISTRAR OF TITLES



B359273

No. *B359273* Bill of Mortgage produced.

55-2-304, registered.

from *Jessie Mary Murray*

and *Thomas William Murray*

a *James Earl Smith, Widow*

to secure the purchase money and interest thereon advanced to

Alfred George Smith

REGISTRAR OF TITLES

No. 8773691 TRANSFER of the whole of the land to Edward Joseph Gore
13 Sep 1960 at 4.10 PM registered 76 1960 Produced
 Cancelled in full vide Vol. 1337 Fol. 206

 REGISTRAR OF TITLES


Rel
8773691

L
~~*8773691*~~
(w)

FULLY CANCELLED

Certificate of Title.



13337204

(C)

QUEENSLAND.

No. **697464**

Reference to Previous Volume	Folio
2994	41,42



Register Book, Vol.

3337 Folio **204**EDWARD JOSEPH YORE

pursuant to Memorandum of Conveyance No. B773601 produced the thirteenth day of September 1960, registered the twenty sixth day of September 1960, is now seized of an Estate in Fee-simple, subject nevertheless to such encumbrances, liens, and interests as are by memorandum notified hereon, in **All** that piece of Land situated in the County of Ward Parish of Bromelton City of Ward containing One hundred and fifty six acres one rood thirty perches more or less, as shown on the Plan hereon, and therein edged red, Being Resubdivision 1 of subdivision 1 of Portion 69A

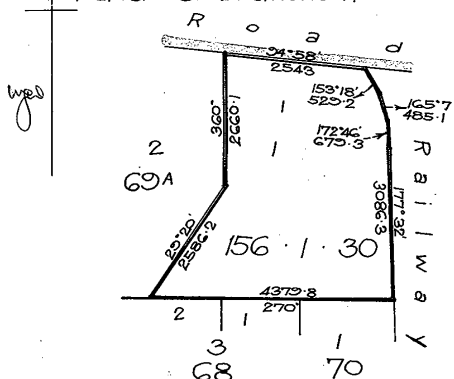
on Plan Cat. No. 45234 deposited in the Office of the Registrar of Titles, Brisbane, which said piece of Land is part of the portion marked 69A delineated in the Public Map of the said parish deposited in the Office of the Surveyor-General, originally granted by Deed of Grant No. 63265

Saving Always to the Crown all the rights and interests reserved to it by the said Deed of Grant.

In Witness whereof, I have hereunto signed my name and affixed my seal, this eleventh day of October One thousand nine hundred and sixty

Signed, Sealed, and Delivered, the 11th day of October 19 60, in presence of

Parish of Bromelton.



Scale, 20 chains per inch.

REGISTRAR OF TITLES

<u>Danby William Franklyn</u>	
now seized of an Estate in fee-simple in the within land.	
Transfer No. <u>2165286</u>	produced <u>4 Nov 1964</u> at <u>10.42 am</u>
Registered	<u>12 Nov 1964</u>
No. <u>2165287</u> Bill of Sale to The Commonwealth Bank of Australia Limited Produced <u>12 Nov 1964</u> Registered <u>12 Nov 1964</u> RELEASED <u>27 FEB 1964</u> 	

THE DESCRIPTION OF THE WITHIN LAND IS CONVERTED
TO LOT(S) 1

ON REGISTERED PLAN No. 45234

12 NOV 1986

Baker



ACTING REGISTRAR OF TITLES

CONRAD JOHN FRANKLIN AND

STUART FRANKLIN

AS PARTNERS REPRESENTATIVES

AS now registered proprietors in fee simple.

TRANSMISSION BY DEATH No. 155422678

PRODUCED 11 FEB 1991

RECORDED 27 FEB 1991

J. G. G. G.



REGISTRAR OF TITLES

Subj. to Mortgage

No. D165287

HISTORICAL TITLE SEARCH

QUEENSLAND TITLES REGISTRY PTY LTD

Request No: 44577037

Search Date: 30/05/2023 11:58

Title Reference: 13337204

Date Created: 11/10/1960

Previous Title: 12994041

12994042

REGISTERED OWNER

Dealing No: 722194302 20/12/2022

QUEENSLAND ENERGY AND RESOURCE CENTRE PTY

A.C.N. 661 737 999 TRUSTEE

UNDER INSTRUMENT 722194302

TRANSFER TO TRUSTEE No 722194302

QUEENSLAND ENERGY AND RESOURCE CENTRE PTY A.C.N. 661 737 999

TRUSTEE

UNDER INSTRUMENT 722194302

Lodged at 14:46 on 20/12/2022

TRANSFER No 714151317

TEYS INVESTMENTS PTY LTD A.B.N. 15 009 868 900

Lodged at 14:45 on 08/11/2011

TRANSFER No 700804175

to

CONSOLIDATED MEAT HOLDINGS PTY LTD

Lodged at 14:24 on 14/08/1995

ESTATE AND LAND

Estate in Fee Simple

LOT 1 REGISTERED PLAN 45234
Local Government: SCENIC RIM

EASEMENTS, ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by
Deed of Grant No. 10600025 (POR 69A)

ADMINISTRATIVE ADVICES

Dealing Type

714049265 SETTLMNT NTC

UNREGISTERED DEALINGS - NIL

Lodgement Date Status

07/09/2011 10:20 NOT CURRENT

** End of Historical Title Search **

COPYRIGHT QUEENSLAND TITLES REGISTRY PTY LTD [2023]

Requested By: D-ENQ INFOTRACK PTY LIMITED

CURRENT TITLE SEARCH

QUEENSLAND TITLES REGISTRY PTY LTD

Request No: 44577030

Search Date: 30/05/2023 11:58

Title Reference: 13337204

Date Created: 11/10/1960

Previous Title: 12994041
12994042

REGISTERED OWNER

Dealing No: 722194302 20/12/2022

QUEENSLAND ENERGY AND RESOURCE CENTRE PTY
A.C.N. 661 737 999 TRUSTEE
UNDER INSTRUMENT 722194302

ESTATE AND LAND

Estate in Fee Simple

LOT 1 REGISTERED PLAN 45234
Local Government: SCENIC RIM

EASEMENTS, ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by
Deed of Grant No. 10600025 (POR 69A)

ADMINISTRATIVE ADVICES - NIL
UNREGISTERED DEALINGS - NIL

** End of Current Title Search **

COPYRIGHT QUEENSLAND TITLES REGISTRY PTY LTD [2023]
Requested By: D-ENQ INFOTRACK PTY LIMITED

Appendix G

Site photographs



Photograph 1: View to the south-east from the central portion of the site



Photograph 2: View of cattle crush in north-western portion of the site

	Project No. 219361.01	Site Photographs	Plate No. 1 of 6
	Walkover Date: 3 July 2023	Preliminary Site Investigation Lot 1 Beaudesert-Boonah Road, Bromelton Client: Cleanaway Operations Pty Ltd	



Photograph 3: View of adjoining cattle pens



Photograph 4: View of adjoining cattle pen

 Douglas Partners Geotechnics Environment Groundwater	Project No. 219361.01	Site Photographs	Plate No. 2 of 6
	Walkover Date: 3 July 2023	Preliminary Site Investigation Lot 1 Beaudesert-Boonah Road, Bromelton Client: Cleanaway Operations Pty Ltd	



Photograph 5: View of cattle spray



Photograph 6: View of cattle spray

 Douglas Partners Geotechnics Environment Groundwater	Project No. 219361.01	Site Photographs	Plate No. 3 of 6
	Walkover Date: 3 July 2023	Preliminary Site Investigation Lot 1 Beaudesert-Boonah Road, Bromelton Client: Cleanaway Operations Pty Ltd	



Photograph 7: View of cattle spray



Photograph 8: View of sparse groundcover surrounding cattle spray

	Project No. 219361.01	Site Photographs	Plate No. 4 of 6
	Walkover Date: 3 July 2023	Preliminary Site Investigation Lot 1 Beaudesert-Boonah Road, Bromelton Client: Cleanaway Operations Pty Ltd	



Photograph 9: View of concrete slab



Photograph 10: View of concrete slab

 Douglas Partners Geotechnics Environment Groundwater	Project No. 219361.01	Site Photographs	Plate No. 5 of 6
	Walkover Date: 3 July 2023	Preliminary Site Investigation Lot 1 Beaudesert-Boonah Road, Bromelton Client: Cleanaway Operations Pty Ltd	



Photograph 11: View of one of the dams to the south of the site (SW1)



Photograph 12: View of second dam to the south of the site (SW2)

 Douglas Partners Geotechnics Environment Groundwater	Project No. 219361.01	Site Photographs	Plate No. 6 of 6
	Walkover Date: 3 July 2023	Preliminary Site Investigation Lot 1 Beaudesert-Boonah Road, Bromelton Client: Cleanaway Operations Pty Ltd	

Appendix H

Data quality assessment

Data Quality Assessment

QAQC1 Data Quality Objectives

The investigation was prepared with reference to the seven step data quality objective (DQO) process which is provided in Appendix B, Schedule B2 of the *National Environment Protection (Assessment of Site Contamination) Measure* 1999 as amended 2013 (the 'NEPM'). The DQO process is outlined as follows:

- Stating the Problem;
- Identifying the Decision;
- Identifying Inputs to the Decision;
- Defining the Boundary of the Assessment;
- Developing a Decision Rule;
- Specifying Acceptable Limits on Decision Errors; and
- Optimising the Design for Obtaining Data.

The DQOs have been addressed within the report as shown in QAQC Table 1 below.

QAQC Table 1: Data Quality Objectives

Data Quality Objective	Report Section where Addressed
State the Problem	S1 Introduction
Identify the Decision	S1 Introduction (objective) S10 Discussion of Results
Identify Inputs to the Decision	S1 Introduction S1.1 Scope of Works S2 Site Information S8 Site Assessment Criteria S10 Discussion of Results
Define the Boundary of the Assessment	S2 Site information Drawing 1
Develop a Decision Rule	S8 Site Assessment Criteria
Specify Acceptable Limits on Decision Errors	S7 Sampling and Analysis Quality Plan S8 Site Assessment Criteria QA/QC Procedures and Results – Sections QAQC2
Optimise the Design for Obtaining Data	S1.1 Scope of Works S7 Sampling and Analysis Quality Plan Procedures and Results – Section QAQC2

QAQC2 Field and Laboratory Quality Control

The field and laboratory quality control (QC) procedures and results are summarised in QAQC Table 2 and QAQC Table 3. Reference should be made to the field work and analysis procedures in Section 7 and the laboratory results certificates for further details.

QAQC Table 2: Field QC

Item	Frequency	Acceptance Criteria	Achievement
Trip blank	One per field batch	<LOR	Yes
Trip spike	One per field batch	Four times LOR	Yes
Rinsate sample taken from dip meter	One per field batch	<LOR	No ¹
Intra-laboratory replicates	5% primary samples	RPD <30% inorganics), <50% (organics)	Yes ²
Inter-laboratory replicates	5% primary samples	RPD <30% inorganics), <50% (organics)	Yes ²

Notes:

1 The trace exceedance that was detected for copper (0.002 mg/L) above the LOR (0.001 mg/L) is not considered to have an impact on the water results. Therefore, the decontamination procedure is considered to be acceptable.

2 Qualitative assessment of RPD results overall; refer Section QAQC2.1 and Section QAQC2.2

LOR Laboratory Limit of Reporting

RPD Relative Percentage Difference

QAQC Table 3: Laboratory QC

Item	Frequency	Acceptance Criteria	Achievement
Analytical laboratory used	-	National Association of Testing Authorities (NATA) accreditation	Yes
Holding times	-	In accordance with the NEPM which references various Australian and international standards	Yes
Laboratory/ Reagent Blank	One per lab batch	<LOR	Yes
Laboratory duplicate	10% primary samples	<10 x LOR Any RPD 10-20 x LOR 0 – 50% >20 x LOR 0 – 30%	Yes
Matrix Spike	One per lab batch	Variable Results, Refer to Interpretive Quality Control Report	Yes
Surrogate Spike	Organics by GC	Variable Results, Refer to Interpretive Quality Control Report	Yes
Control Sample	One per lab batch	Variable Results, Refer to Interpretive Quality Control Report	Yes

Laboratory QC data is considered to be of sufficient quality to be acceptable for the assessment.

QAQC2.1 Intra-Laboratory Replicate

Intra-laboratory replicates were analysed as an internal check of the reproducibility within the primary laboratory (Eurofins) and as a measure of consistency of sampling techniques. The comparative results of analysis between original and intra-laboratory replicate samples are summarised in Tables QA1 and QA2 within the attached results tables. Note that, where both samples are below the LOR the difference and RPD has been given as zero. Where one sample is reported below the LOR, but a concentration is reported for the other, the LOR value has been used for calculation of the RPD for the less than the LOR sample. Calculated RPD values were within the acceptable range of $\pm 30\%$ for inorganic analytes and $\pm 50\%$ for organics, except for chromium and lead within the groundwater replicate pair. However, this is not considered to be significant because:

- The typically low actual differences in the concentration for the replicate pairs. High RPD values reflect the small differences between two small numbers;
- Replicates, rather than homogenised duplicates, were used to minimise the risk of possible volatile loss, hence greater variability can be expected; and
- All other QA/QC parameters met the DQIs.

Overall, the intra-laboratory replicates comparisons indicate that the sampling techniques were generally consistent and repeatable.

QAQC2.2 Inter-Laboratory Analysis

Inter-laboratory replicates were conducted as a check of the reproducibility of results between the primary laboratory (Eurofins) and the secondary laboratory (ALS) and as a measure of consistency of sampling techniques. The comparative results of analysis between original and inter-laboratory replicate samples are summarised in Tables QA1 and QA2 within the attached results tables. Note that, where both samples are below the LOR the difference and RPD has been given as zero. Where one sample is reported below the LOR, but a concentration is reported for the other, the LOR value has been used for calculation of the RPD for the less than the LOR sample. Several calculated RPD values were outside the acceptable range of $\pm 30\%$ for inorganic analytes and $\pm 50\%$ for organics, as shown in Table QA1 and QA2. However, this is not considered to impact the interpretation of the data because:

- The typically low actual differences in the concentration for some replicate pairs. High RPD values reflect the small differences between two small numbers;
- Replicates, rather than homogenised duplicates, were used to minimise the risk of possible volatile loss, hence greater variability can be expected; and
- All other QA/QC parameters met the DQIs.

Overall, inter-laboratory replicates comparisons indicate that the sampling technique was generally consistent and repeatable, and the two laboratories sampling handling and analytical methods are comparable.

QAQC3 Data Quality Indicators

The reliability of field procedures and analytical results was assessed against the following DQIs:

- Completeness – a measure of the amount of usable data from a data collection activity;
- Comparability – the confidence (qualitative) that data may be considered to be equivalent for each sampling and analytical event;
- Representativeness – the confidence (qualitative) of data representativeness of media present on-site;
- Precision – a measure of variability or reproducibility of data; and
- Accuracy – a measure of closeness of the data to the ‘true’ value.

The DQIs were assessed as outlined in QAQC Table 4 below.

QAQC Table 4: Data Quality Indicators

Data Quality Indicator	Method(s) of Achievement
Completeness	Preparation of a sampling plan and chain of custody (CoC) records; Laboratory sample receipt information received confirming receipt of samples intact and appropriateness of the CoC form; Samples analysed for a range of contaminants of potential concern (CoPC); Completion of CoC documentation; NATA endorsed laboratory certificates provided by the laboratory; and

	Satisfactory frequency and results for field and laboratory QC samples as discussed in Section QAQC2.
Comparability	Using appropriate techniques for sample recovery, storage and transportation, which were the same for the duration of the project; Works conducted by appropriately experienced and trained DP environmental scientists; Use of NATA accredited laboratories, with test methods the same or similar between laboratories; and Satisfactory results for field and laboratory QC samples.
Representativeness	Target media sampled; Sample numbers recovered and analysed are considered to be representative of the target media and complying with DQOs; Samples were extracted and analysed within recommended holding times; and Samples were analysed in accordance with the analysis request.
Precision	Generally acceptable RPD between original samples and replicates; and Satisfactory results for all other field and laboratory QC samples.
Accuracy	Satisfactory results for all field and laboratory QC samples.

Based on the above, it is considered that the DQIs have been complied with. As such, it is concluded that the field and laboratory test data obtained are reliable and useable for this assessment.

Appendix I

Borehole logs and explanatory notes

Symbols & Abbreviations

Douglas Partners



Introduction

These notes summarise abbreviations commonly used on borehole logs and test pit reports.

Drilling or Excavation Methods

C	Core drilling
R	Rotary drilling
SFA	Spiral flight augers
NMLC	Diamond core - 52 mm dia
NQ	Diamond core - 47 mm dia
HQ	Diamond core - 63 mm dia
PQ	Diamond core - 81 mm dia

Water

▷	Water seep
▽	Water level

Sampling and Testing

A	Auger sample
B	Bulk sample
D	Disturbed sample
E	Environmental sample
U ₅₀	Undisturbed tube sample (50mm)
W	Water sample
pp	Pocket penetrometer (kPa)
PID	Photo ionisation detector
PL	Point load strength Is(50) MPa
S	Standard Penetration Test
V	Shear vane (kPa)

Description of Defects in Rock

The abbreviated descriptions of the defects should be in the following order: Depth, Type, Orientation, Coating, Shape, Roughness and Other. Drilling and handling breaks are not usually included on the logs.

Defect Type

B	Bedding plane
Cs	Clay seam
Cv	Cleavage
Cz	Crushed zone
Ds	Decomposed seam
F	Fault
J	Joint
Lam	Lamination
Pt	Parting
Sz	Sheared Zone
V	Vein

Orientation

The inclination of defects is always measured from the perpendicular to the core axis.

h	horizontal
v	vertical
sh	sub-horizontal
sv	sub-vertical

Coating or Infilling Term

cln	clean
co	coating
he	healed
inf	infilled
stn	stained
ti	tight
vn	veneer

Coating Descriptor

ca	calcite
cbs	carbonaceous
cly	clay
fe	iron oxide
mn	manganese
slt	silty

Shape

cu	curved
ir	irregular
pl	planar
st	stepped
un	undulating

Roughness

po	polished
ro	rough
sl	slickensided
sm	smooth
vr	very rough

Other

fg	fragmented
bnd	band
qtz	quartz

Symbols & Abbreviations

Graphic Symbols for Soil and Rock

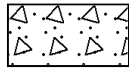
General



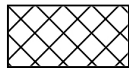
Asphalt



Road base



Concrete



Filling

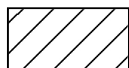
Soils



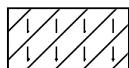
Topsoil



Peat



Clay



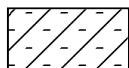
Silty clay



Sandy clay



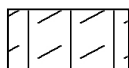
Gravelly clay



Shaly clay



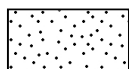
Silt



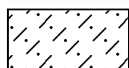
Clayey silt



Sandy silt



Sand



Clayey sand



Silty sand



Gravel



Sandy gravel



Cobbles, boulders



Talus

Sedimentary Rocks



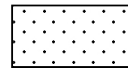
Boulder conglomerate



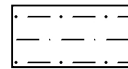
Conglomerate



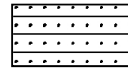
Conglomeratic sandstone



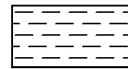
Sandstone



Siltstone



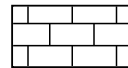
Laminite



Mudstone, claystone, shale

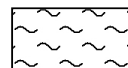


Coal

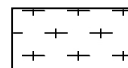


Limestone

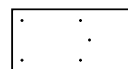
Metamorphic Rocks



Slate, phyllite, schist

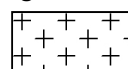


Gneiss

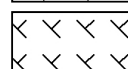


Quartzite

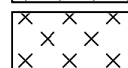
Igneous Rocks



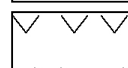
Granite



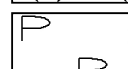
Dolerite, basalt, andesite



Dacite, epidote



Tuff, breccia



Porphyry



Sampling

Sampling is carried out during drilling or test pitting to allow engineering examination (and laboratory testing where required) of the soil or rock.

Disturbed samples taken during drilling provide information on colour, type, inclusions and, depending upon the degree of disturbance, some information on strength and structure.

Undisturbed samples are taken by pushing a thin-walled sample tube into the soil and withdrawing it to obtain a sample of the soil in a relatively undisturbed state. Such samples yield information on structure and strength, and are necessary for laboratory determination of shear strength and compressibility. Undisturbed sampling is generally effective only in cohesive soils.

Test Pits

Test pits are usually excavated with a backhoe or an excavator, allowing close examination of the in-situ soil if it is safe to enter into the pit. The depth of excavation is limited to about 3 m for a backhoe and up to 6 m for a large excavator. A potential disadvantage of this investigation method is the larger area of disturbance to the site.

Large Diameter Augers

Boreholes can be drilled using a rotating plate or short spiral auger, generally 300 mm or larger in diameter commonly mounted on a standard piling rig. The cuttings are returned to the surface at intervals (generally not more than 0.5 m) and are disturbed but usually unchanged in moisture content. Identification of soil strata is generally much more reliable than with continuous spiral flight augers, and is usually supplemented by occasional undisturbed tube samples.

Continuous Spiral Flight Augers

The borehole is advanced using 90-115 mm diameter continuous spiral flight augers which are withdrawn at intervals to allow sampling or in-situ testing. This is a relatively economical means of drilling in clays and sands above the water table. Samples are returned to the surface, or may be collected after withdrawal of the auger flights, but they are disturbed and may be mixed with soils from the sides of the hole. Information from the drilling (as distinct from specific sampling by SPTs or undisturbed samples) is of relatively low

reliability, due to the remoulding, possible mixing or softening of samples by groundwater.

Non-core Rotary Drilling

The borehole is advanced using a rotary bit, with water or drilling mud being pumped down the drill rods and returned up the annulus, carrying the drill cuttings. Only major changes in stratification can be determined from the cuttings, together with some information from the rate of penetration. Where drilling mud is used this can mask the cuttings and reliable identification is only possible from separate sampling such as SPTs.

Continuous Core Drilling

A continuous core sample can be obtained using a diamond tipped core barrel, usually with a 50 mm internal diameter. Provided full core recovery is achieved (which is not always possible in weak rocks and granular soils), this technique provides a very reliable method of investigation.

Standard Penetration Tests

Standard penetration tests (SPT) are used as a means of estimating the density or strength of soils and also of obtaining a relatively undisturbed sample. The test procedure is described in Australian Standard 1289, Methods of Testing Soils for Engineering Purposes - Test 6.3.1.

The test is carried out in a borehole by driving a 50 mm diameter split sample tube under the impact of a 63 kg hammer with a free fall of 760 mm. It is normal for the tube to be driven in three successive 150 mm increments and the 'N' value is taken as the number of blows for the last 300 mm. In dense sands, very hard clays or weak rock, the full 450 mm penetration may not be practicable and the test is discontinued.

The test results are reported in the following form.

- In the case where full penetration is obtained with successive blow counts for each 150 mm of, say, 4, 6 and 7 as:
4,6,7
N=13
- In the case where the test is discontinued before the full penetration depth, say after 15 blows for the first 150 mm and 30 blows for the next 40 mm as:
15, 30/40 mm

Sampling Methods

The results of the SPT tests can be related empirically to the engineering properties of the soils.

Dynamic Cone Penetrometer Tests / Perth Sand Penetrometer Tests

Dynamic penetrometer tests (DCP or PSP) are carried out by driving a steel rod into the ground using a standard weight of hammer falling a specified distance. As the rod penetrates the soil the number of blows required to penetrate each successive 150 mm depth are recorded. Normally there is a depth limitation of 1.2 m, but this may be extended in certain conditions by the use of extension rods. Two types of penetrometer are commonly used.

- Perth sand penetrometer - a 16 mm diameter flat ended rod is driven using a 9 kg hammer dropping 600 mm (AS 1289, Test 6.3.3). This test was developed for testing the density of sands and is mainly used in granular soils and filling.
- Cone penetrometer - a 16 mm diameter rod with a 20 mm diameter cone end is driven using a 9 kg hammer dropping 510 mm (AS 1289, Test 6.3.2). This test was developed initially for pavement subgrade investigations, and correlations of the test results with California Bearing Ratio have been published by various road authorities.



Description and Classification Methods

The methods of description and classification of soils and rocks used in this report are generally based on Australian Standard AS1726:2017, Geotechnical Site Investigations. In general, the descriptions include strength or density, colour, structure, soil or rock type and inclusions.

The soil group symbol classifications are given as follows based on two major soil divisions:

- Coarse-grained soils
- Fine-grained soils

Major Divisions				Description	
				Group Symbol*	Typical Name
COARSE-GRAINED SOILS	More than 65% by dry mass, (excluding that larger than 63 mm) is greater than 0.075 mm	GRAVEL	More than 50% of coarse grains are greater than 2.36 mm	GW	Well graded gravels and gravel-sand mixtures, little or no fines.
				GP	Poorly graded gravels and gravel-sand mixtures, little or no fines.
				GM	Silty gravels, gravel-sand-silt mixtures.
				GC	Clay gravels, gravel-sand-clay mixtures.
		GRAVELLY SOILS	More than 50% of coarse grains are greater than 2.36 mm	SW	Well graded sands and gravelly sands, little or no fines.
				SP	Poorly graded sands and gravelly sands, little or no fines.
		SAND	More than 50% of coarse grains are less than 2.36 mm	SM	Silty sand, sand-silt mixtures.
				SC	Clayey sands, sand-clay mixtures.

* For coarse grained soils where the fines content is between 5% and 12%, the soil shall be given a dual classification eg GP-GM.

FINE-GRAINED SOILS	More than 35% by dry mass, (excluding that larger than 63 mm) is less than 0.075 mm	Liquid Limit less than 35%	ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity
		35% <LL< 50%	CI	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
		Liquid Limit greater than 50%	MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity.
			Pt	Peat muck and other highly organic soils.

Soil Descriptions

Douglas Partners



Soil Types

Soil types are described according to the predominant particle size, qualified by the grading of other particles present:

Type	Particle size (mm)
Boulder	>200
Cobble	63 - 200
Gravel	2.36 - 63
Sand	0.075 - 2.36
Silt	0.002 - 0.075
Clay	<0.002

The sand and gravel sizes can be further subdivided as follows:

Type	Particle size (mm)
Coarse gravel	19 - 63
Medium gravel	6.7 - 19
Fine gravel	2.36 - 6.7
Coarse sand	0.6 - 2.36
Medium sand	0.21 - 0.6
Fine sand	0.075 - 0.21

Definitions of grading terms used are:

- Well graded - a good representation of all particle sizes
- Poorly graded - an excess or deficiency of particular sizes within the specified range
- Uniformly graded - an excess of a particular particle size
- Gap graded - a deficiency of a particular particle size with the range

The proportions of secondary constituents of soils are described as follows:

In fine grained soils (>35% fines)

Term	Proportion of sand or gravel	Example
And	Specify	Clay (60%) and Sand (40%)
Adjective	>30%	Sandy Clay
With	15 - 30%	Clay with sand
Trace	0 - 15%	Clay, trace sand

In coarse grained soils (>65% coarse)

- with clays or silts

Term	Proportion of fines	Example
And	Specify	Sand (70%) and Clay (30%)
Adjective	>12%	Clayey Sand
With	5 - 12%	Sand with clay
Trace	0 - 5%	Sand, trace clay

In coarse grained soils (>65% coarse)

- with coarser fraction

Term	Proportion of coarser fraction	Example
And	Specify	Sand (60%) and Gravel (40%)
Adjective	>30%	Gravelly Sand
With	15 - 30%	Sand with gravel
Trace	0 - 15%	Sand, trace gravel

The presence of cobbles and boulders shall be specifically noted by beginning the description with 'Mix of Soil and Cobbles/Boulders' with the word order indicating the dominant first and the proportion of cobbles and boulders described together.



Cohesive Soils

Cohesive soils, such as clays, are classified on the basis of undrained shear strength. The strength may be measured by laboratory testing, or estimated by field tests or engineering examination. The strength terms are defined as follows:

Description	Abbreviation	Undrained shear strength (kPa)
Very soft	VS	<12
Soft	S	12 - 25
Firm	F	25 - 50
Stiff	St	50 - 100
Very stiff	VSt	100 - 200
Hard	H	>200
Friable	Fr	-

Cohesionless Soils

Cohesionless soils, such as clean sands, are classified on the basis of relative density, generally from the results of standard penetration tests (SPT), cone penetration tests (CPT) or dynamic penetrometers (PSP). The relative density terms are given below:

Relative Density	Abbreviation	Density Index (%)
Very loose	VL	<15
Loose	L	15-35
Medium dense	MD	35-65
Dense	D	65-85
Very dense	VD	>85

Soil Origin

It is often difficult to accurately determine the origin of a soil. Soils can generally be classified as:

- Residual soil - derived from in-situ weathering of the underlying rock;
- Extremely weathered material – formed from in-situ weathering of geological formations. Has soil strength but retains the structure or fabric of the parent rock;
- Alluvial soil – deposited by streams and rivers;
- Estuarine soil – deposited in coastal estuaries;

- Marine soil – deposited in a marine environment;
- Lacustrine soil – deposited in freshwater lakes;
- Aeolian soil – carried and deposited by wind;
- Colluvial soil – soil and rock debris transported down slopes by gravity;
- Topsoil – mantle of surface soil, often with high levels of organic material.
- Fill – any material which has been moved by man.

Moisture Condition – Coarse Grained Soils

For coarse grained soils the moisture condition should be described by appearance and feel using the following terms:

- Dry (D) Non-cohesive and free-running.
- Moist (M) Soil feels cool, darkened in colour.
Soil tends to stick together.
Sand forms weak ball but breaks easily.
- Wet (W) Soil feels cool, darkened in colour.
Soil tends to stick together, free water forms when handling.

Moisture Condition – Fine Grained Soils

For fine grained soils the assessment of moisture content is relative to their plastic limit or liquid limit, as follows:

- 'Moist, dry of plastic limit' or 'w < PL' (i.e. hard and friable or powdery).
- 'Moist, near plastic limit' or 'w ≈ PL' (i.e. soil can be moulded at moisture content approximately equal to the plastic limit).
- 'Moist, wet of plastic limit' or 'w > PL' (i.e. soils usually weakened and free water forms on the hands when handling).
- 'Wet' or 'w ≈ LL' (i.e. near the liquid limit).
- 'Wet' or 'w > LL' (i.e. wet of the liquid limit).



Rock Strength

Rock strength is defined by the Unconfined Compressive Strength and it refers to the strength of the rock substance and not the strength of the overall rock mass, which may be considerably weaker due to defects.

The Point Load Strength Index $Is_{(50)}$ is commonly used to provide an estimate of the rock strength and site specific correlations should be developed to allow UCS values to be determined. The point load strength test procedure is described by Australian Standard AS4133.4.1-2007. The terms used to describe rock strength are as follows:

Strength Term	Abbreviation	Unconfined Compressive Strength MPa	Point Load Index * $Is_{(50)}$ MPa
Very low	VL	0.6 - 2	0.03 - 0.1
Low	L	2 - 6	0.1 - 0.3
Medium	M	6 - 20	0.3 - 1.0
High	H	20 - 60	1 - 3
Very high	VH	60 - 200	3 - 10
Extremely high	EH	>200	>10

* Assumes a ratio of 20:1 for UCS to $Is_{(50)}$. It should be noted that the UCS to $Is_{(50)}$ ratio varies significantly for different rock types and specific ratios should be determined for each site.

Degree of Weathering

The degree of weathering of rock is classified as follows:

Term	Abbreviation	Description
Residual Soil	RS	Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are no longer visible, but the soil has not been significantly transported.
Extremely weathered	XW	Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are still visible
Highly weathered	HW	The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable. Rock strength is significantly changed by weathering. Some primary minerals have weathered to clay minerals. Porosity may be increased by leaching, or may be decreased due to deposition of weathering products in pores.
Moderately weathered	MW	The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable, but shows little or no change of strength from fresh rock.
Slightly weathered	SW	Rock is partially discoloured with staining or bleaching along joints but shows little or no change of strength from fresh rock.
Fresh	FR	No signs of decomposition or staining.
<i>Note: If HW and MW cannot be differentiated use DW (see below)</i>		
Distinctly weathered	DW	Rock strength usually changed by weathering. The rock may be highly discoloured, usually by iron staining. Porosity may be increased by leaching or may be decreased due to deposition of weathered products in pores.

Rock Descriptions

Degree of Fracturing

The following classification applies to the spacing of natural fractures in diamond drill cores. It includes bedding plane partings, joints and other defects, but excludes drilling breaks.

Term	Description
Fragmented	Fragments of <20 mm
Highly Fractured	Core lengths of 20-40 mm with occasional fragments
Fractured	Core lengths of 30-100 mm with occasional shorter and longer sections
Slightly Fractured	Core lengths of 300 mm or longer with occasional sections of 100-300 mm
Unbroken	Core contains very few fractures

Rock Quality Designation

The quality of the cored rock can be measured using the Rock Quality Designation (RQD) index, defined as:

$$\text{RQD \%} = \frac{\text{cumulative length of 'sound' core sections} \geq 100 \text{ mm long}}{\text{total drilled length of section being assessed}}$$

where 'sound' rock is assessed to be rock of low strength or stronger. The RQD applies only to natural fractures. If the core is broken by drilling or handling (i.e. drilling breaks) then the broken pieces are fitted back together and are not included in the calculation of RQD.

Stratification Spacing

For sedimentary rocks the following terms may be used to describe the spacing of bedding partings:

Term	Separation of Stratification Planes
Thinly laminated	< 6 mm
Laminated	6 mm to 20 mm
Very thinly bedded	20 mm to 60 mm
Thinly bedded	60 mm to 0.2 m
Medium bedded	0.2 m to 0.6 m
Thickly bedded	0.6 m to 2 m
Very thickly bedded	> 2 m

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 89.0 AHD
EASTING: 492488
NORTHING: 6905509
DIP/AZIMUTH: 90°/--

BORE No: 1
PROJECT No: 219361.00
DATE: 29/11/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 100mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
89	0.1	TOPSOIL Sandy CLAY (CI): medium plasticity, brown, fine sand, w<PL, stiff, grass roots		D	0.0							
	0.1			D	0.1							
	0.5	Silty CLAY (CH): high plasticity, red-brown, trace fine sand, w~PL, stiff (residual)		D	0.4							
	0.5			D	0.5							
	0.6	- becoming brown mottled grey, grading to sandy clay		D	0.6							
	0.9	Sandy CLAY (CI): medium plasticity, brown with grey and orange-brown, fine sand, w~PL, stiff (residual)		U ₅₀	0.9							
	1.0	- becoming pale grey and orange-brown, stiff		D	1.0							
	1.45			S	1.45		5,8,6 N = 14					
	1.5	Silty CLAY (CH): high plasticity, pale grey-brown and orange-brown, trace fine sand, w>PL, very stiff (residual)		D	1.5							
	2.0			D	2.0							
88	2.5	- medium plasticity, w~PL		D	2.5							
	2.95			S	2.95		8,10,15 N = 25					
	3.0	Bore discontinued at 3.0m depth - Limit of investigation										
87												

RIG: Christie ute rig

DRILLER: Geo-Serve

LOGGED: NS

CASING: Uncased

TYPE OF BORING: 110mm solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U ₁	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 94.7 AHD
EASTING: 492730
NORTHING: 6905449
DIP/AZIMUTH: 90°/--

BORE No: 2
PROJECT No: 219361.00
DATE: 29/11/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 100mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
94 <												

CASING: Uncased

TYPE OF BORING: 110mm solid flight auger

WATER OBSERVATIONS: No free groundwater observed

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)



BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 81.3 AHD
EASTING: 492888
NORTHING: 6905379
DIP/AZIMUTH: 90°/--

BORE No: 3
PROJECT No: 219361.00
DATE: 29/11/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 100mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
81 78 77 76 74	0.1	TOPSOIL Sandy CLAY (CH): high plasticity, grey-brown, fine sand, w~PL, stiff, grass roots		D	0.0							
				D	0.1							
					0.3							
					0.4							
				D	0.6							
				U ₅₀	0.8							
				D	0.9							
					1.0							
					1.45							
					1.5							
1 2 3 4 5 6 7	0.9	Sandy CLAY (CI): medium plasticity, brown with pale red-brown grey and orange-brown, fine sand, w~PL, very stiff - becoming hard		S			9,13,17 N = 30					
					2.0							
					2.5							
				S			9,13,18 N = 31					
					2.95							
	2.8	Silty CLAY (CI-CH): medium to high plasticity, grey with dark grey and orange-brown, trace fine sand, w~PL, hard (residual)										
	3.0	Bore discontinued at 3.0m depth - Limit of investigation										

RIG: Christie ute rig

DRILLER: Geo-Serve

LOGGED: NS

CASING: Uncased

TYPE OF BORING: 110mm solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U ₁	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PLD	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 97.5 AHD
EASTING: 492545
NORTHING: 6905360
DIP/AZIMUTH: 90°/--

BORE No: 4
PROJECT No: 219361.00
DATE: 29/11/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 100mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
97.0 96.0 95.0 94.0 93.0 92.0 91.0 90.0	0.1	TOPSOIL Sandy CLAY (CI): medium plasticity, brown, fine sand, w<PL, firm, grass roots		D	0.0							
					0.1							
				D	0.3							
					0.5							
				D	0.8							
	1	- trace fine sand, w~PL			1.0							
				S	1.45		4,6,9 N = 15					
				D	1.5							
	2	Sandy CLAY (CI-CH): medium to high plasticity, brown with orange-brown, w~PL, very stiff (residual)			2.0							
		- becoming hard, trace fine gravel		D	2.3							
		- becoming pale grey, brown and orange-brown		S	2.5		8,15,19 N = 34					
3	3.0	Bore discontinued at 3.0m depth - Limit of investigation			2.95							
4												
5												
6												
7												

RIG: Christie ute rig

DRILLER: Geo-Serve

LOGGED: NS

CASING: Uncased

TYPE OF BORING: 110mm solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND					
A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	>	Water seep	sp	Standard penetration test
E	Environmental sample	≡	Water level	S	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 96.4 AHD
EASTING: 492425
NORTHING: 6905238
DIP/AZIMUTH: 90°/--

BORE No: 5
PROJECT No: 219361.00
DATE: 29/11/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 100mm)	
				Type	Depth	Sample	Results & Comments			
96 95 94 93 92 91 90 89	0.05	TOPSOIL Sandy CLAY (CL): low plasticity, brown, fine sand, w~PL, very stiff, grass roots		D	0.0		11, 18, 30/140mm		5	
	0.5	D		0.1	10					
		D		0.3	15					
		D		0.4	20					
		D		0.5						
	1	Sandy CLAY (CI): medium plasticity, brown with red-brown and pale grey, w~PL, very stiff (residual) - becoming hard		D	1.0					
				S	1.44					
				D	1.5					
				D	2.0					
	2	- becoming low plasticity, w<PL (extremely weathered sandstone)		D	2.1					
D			2.5							
S			2.92							
3.0	Bore discontinued at 3.0m depth - Limit of investigation									

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 84.7 AHD
EASTING: 492671
NORTHING: 6905263
DIP/AZIMUTH: 90°/--

BORE No: 6
PROJECT No: 219361.00
DATE: 29/11/2022
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 100mm)				
				Type	Depth	Sample	Results & Comments		5	10	15	20	
84 1 83 2 82 3 81 4 80 5 79 6 78 7 77	0.1	TOPSOIL Sandy CLAY (CI): medium plasticity, brown, fine sand, w<PL, firm, grass roots		D	0.1								
		Silty CLAY (CH): high plasticity, red-brown, trace fine sand, w>PL, stiff (residual) - becoming brown with orange-brown, trace fine sand		D	0.4								
				D	0.5								
													
	1.0	Sandy CLAY (CH): high plasticity, brown with orange-brown, fine sand, w~PL, stiff to very stiff (residual) - becoming brown with orange-brown and pale grey - becoming medium plasticity		S	1.0		5,6,10 N = 16	1					
					1.45								
				D	1.5								
				D	2.0			2					
				D	2.5								
				S	2.5		8,12,16 N = 28						
	2.95												
	3.0	Bore discontinued at 3.0m depth - Limit of investigation						3					
					</								

CASING: Uncased

TYPE OF BORING: 110mm solid flight auger

WATER OBSERVATIONS: No free groundwater observed

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)



BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 97.7 AHD
EASTING: 492509
NORTHING: 6905363
DIP/AZIMUTH: 90°/--

BORE No: 7
PROJECT No: 219361.00
DATE: 25/5/2023
SHEET 1 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)				Discontinuities		Sampling & In Situ Testing						
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium		High	Very High	Ex High	0.01	0.05	0.10	0.50	1.00	B - Bedding S - Shear	J - Joint F - Fault	Type	Core Rec. %	RQD %
97.7	0.2	Topsoil Sandy CLAY (CL): low plasticity, dark brown, fine to medium sand, w~PL, estimated stiff, grass roots																									
		Silty CLAY (CH): high plasticity, brown, w>PL, very stiff (residual)																									
	1	- brown mottled orange-brown and red-brown, with fine to medium sand, w<PL																									3,5,13 N = 18
		- pale brown-grey mottled orange-brown and red-brown																									
	2																										
		- hard																									17,30/140 refusal
	3																										
	4																										16,16,21 N = 37
	5																										
	5.8																										
	6	Silty CLAY (CI-CH): medium to high plasticity, pale grey mottled orange-brown, w~PL, hard (residual)																									
	7																										8,17,22 N = 39
	7.8																										

RIG: Hydrapower Scout 3 **DRILLER:** Ground Test **LOGGED:** NS **CASING:** HWT to 2.5m
TYPE OF BORING: 110mm solid flight auger to 2.5m, washboring to 12.62m, then NMLC to limit of investigation
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND			
A Auger sample	G Gas sample	PID Photo ionisation detector (ppm)	
B Bulk sample	P Piston sample	PL(A) Point load axial test Is(50) (MPa)	
BLK Block sample	U Tube sample (x mm dia.)	PL(D) Point load diametral test Is(50) (MPa)	
C Core drilling	W Water sample	pp Pocket penetrometer (kPa)	
D Disturbed sample	> Water seep	S Standard penetration test	
E Environmental sample	≡ Water level	V Shear vane (kPa)	

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 97.7 AHD
EASTING: 492509
NORTHING: 6905363
DIP/AZIMUTH: 90°/--

BORE No: 7
PROJECT No: 219361.00
DATE: 25/5/2023
SHEET 2 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding S - Shear	J - Joint F - Fault	Type
89.9		Silty CLAY (CH): high plasticity, dark red brown with pale grey and orange-brown, trace fine to coarse sand, w~PL, hard (residual) (from 7.8m depth)																S			8,14,19 N = 33
9.7		MUDSTONE: highly weathered, inferred very low strength, pale grey mottled dark red brown and orange-brown (Walloon Coal Measures)																S			28,30/75 refusal
11.1		- inferred carbonaceous interbed																S			12,20,30/120 refusal
12.62		MUDSTONE: pale grey and orange-brown, low strength, moderately weathered, fractured (Walloon Coal Measures)																S			30/120 refusal
13.84																		C	97	68	PL(A) = 0.25 PL(D) = 0.11 PL(A) = 0.15 PL(D) = 0.12 PL(A) = 0.19 PL(D) = 0.16
14.6		CORE LOSS (inferred silty clay)																			14.6m: CORE LOSS: 1250mm
15.85																		C	58	40	

RIG: Hydrapower Scout 3 **DRILLER:** Ground Test **LOGGED:** NS **CASING:** HWT to 2.5m
TYPE OF BORING: 110mm solid flight auger to 2.5m, washboring to 12.62m, then NMLC to limit of investigation
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 97.7 AHD
EASTING: 492509
NORTHING: 6905363
DIP/AZIMUTH: 90°/--

BORE No: 7
PROJECT No: 219361.00
DATE: 25/5/2023
SHEET 3 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering						Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
			EW	HW	MW	SW	FS	FR		Ex Low	Very Low	Low	Medium	High			Very High	Ex High	B - Bedding	J - Joint	Type	Core Rec. %	RQD %	Test Results & Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	81	MUDSTONE: brown, very low to low strength, highly to moderately weathered, highly fractured to fractured (Walloon Coal Measures) (from 15.85m depth)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							</

RIG: Hydrapower Scout 3 **DRILLER:** Ground Test **LOGGED:** NS **CASING:** HWT to 2.5m
TYPE OF BORING: 110mm solid flight auger to 2.5m, washboring to 12.62m, then NMLC to limit of investigation
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	>	Water seep
E	Environmental sample	≡	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 93.8 AHD
EASTING: 492531
NORTHING: 6905463
DIP/AZIMUTH: 90°/--

BORE No: 8
PROJECT No: 219361.00
DATE: 29/5/2023
SHEET 1 OF 3

[illegible]

RIG: Hydrapower Scout 3 **DRILLER:** Ground Test **LOGGED:** NS **CASING:** HWT to 2.5m

TYPE OF BORING: 110mm solid flight auger to 2.5m, washboring to 8.1m, then NMLC to limit of investigation

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test (s(50) (MPa)
		PL(D)	Point load diametral test (s(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)



BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 93.8 AHD
EASTING: 492531
NORTHING: 6905463
DIP/AZIMUTH: 90°/-

BORE No: 8
PROJECT No: 219361.00
DATE: 29/5/2023
SHEET 2 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering						Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	MW	SW	FS	FR		Ex Low	Very Low	Low	Medium	High			Very High	Ex High	B - Bedding S - Shear	J - Joint F - Fault	Type	Core Rec. %
	8.1	Core loss															8.1m: CORE LOSS: 200mm	S			30/100 refusal	
	8.3	MUDSTONE: highly weathered, very low to low strength, brown and orange-brown, highly fractured (Walloon Coal Measures) - moderately weathered zone to 9m															8.45m: J, 40°, pl, sm 8.52m: J, 30°, pl, sm 8.6m: J, 10°, pl, sm				PL(A) = 0.16 PL(D) = 0.09	
	9																	C	90	17	PL(A) = 0.12 PL(D) = 0.02	
	9.24	SANDSTONE: highly weathered, very low strength, grey-brown, fine to medium grained, fractured (Walloon Coal Measures)																				
	9.55	MUDSTONE: highly weathered, very low strength, brown, highly fractured (Walloon Coal Measures) - highly to moderately weathered, low strength zone to 10m																				
	10																					
	10.26	SANDSTONE: moderately weathered, very low strength, grey-brown and orange-brown, fractured (Walloon Coal Measures)															10.24m: J, 30°, pl, sm 10.35m: J, 30°, pl, ro 10.59m: J, 30°, pl, ro 10.7m: J, 30°, pl, ro				PL(A) = 0.04 PL(D) = 0.09	
	11																10.92m: J, 25°, pl, ro 10.95m: J, 40°, pl, ro 11.04m: J, 40°, pl, ro 11.09m: J, 40°, pl, ro 11.17m: J, 40°, pl, ro 11.27m: J, 40°, pl, ro 11.43m: J, 40°, pl, ro 11.53m: J, 30°, pl, ro 11.74m: J, 20°, pl, ro 11.79m: J, 0°, pl, ro	C	100	0		
	11.7	MUDSTONE: moderately weathered, low strength, brown, fractured (Walloon Coal Measures) - highly to moderately weathered																			PL(A) = 0.16 PL(D) = 0.18	
	12																12.33m: J, 20°, pl, ro 12.38m: J, 30°, pl, ro				PL(A) = 0.23 PL(D) = 0.29	
	13	- dark brown, highly weathered, very low to low strength to 13m															12.62m: J, 5°, pl, ro 12.65m: J, 10°, pl, ro 12.7m: J, 60°, pl, ro					
	13.6	CORE LOSS															13.08m: J, 40°, ir, sm	C	87	31	PL(A) = 0.11 PL(D) = 0.01	
	14																13.48m: J, 10°, pl, sm 13.6m: CORE LOSS: 400mm					
	14.0	MUDSTONE: highly to moderately weathered, very low strength, brown, highly fractured (Walloon Coal Measures)															14.1m: J, 40°, pl, sm 14.15m: B, 0°, pl, sm 14.36m: J, 0°, un, sm 14.4m: J, 40°, pl, sm 14.47m: J, 0°, pl, sm 14.5m: J, 25°, cu, sm 14.54m: J, 0°, pl, sm 14.58m: J, 30°, pl, sm 14.7m: CORE LOSS: 530mm				PL(A) = 0.08 PL(D) = 0.08	
	14.7	CORE LOSS																				
	15																					
	15.23	MUDSTONE: highly weathered, very low strength, brown and orange-brown, highly fractured (Walloon Coal Measures) - dark brown															15.61m: J, 30°, pl, sm	C	82	47		
	16.0																					

RIG: Hydrapower Scout 3 **DRILLER:** Ground Test **LOGGED:** NS **CASING:** HWT to 2.5m
TYPE OF BORING: 110mm solid flight auger to 2.5m, washboring to 8.1m, then NMLC to limit of investigation
WATER OBSERVATIONS: No free groundwater observed
REMARKS:

SAMPLING & IN SITU TESTING LEGEND			
A Auger sample	G Gas sample	PID Photo ionisation detector (ppm)	
B Bulk sample	P Piston sample	PL(A) Point load axial test Is(50) (MPa)	
BLK Block sample	U Tube sample (x mm dia.)	PL(D) Point load diametral test Is(50) (MPa)	
C Core drilling	W Water sample	pp Pocket penetrometer (kPa)	
D Disturbed sample	> Water seep	S Standard penetration test	
E Environmental sample	≡ Water level	V Shear vane (kPa)	

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 93.8 AHD
EASTING: 492531
NORTHING: 6905463
DIP/AZIMUTH: 90°/-

BORE No: 8
PROJECT No: 219361.00
DATE: 29/5/2023
SHEET 3 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding S - Shear	J - Joint F - Fault	Type
77	17	META-MUDSTONE: highly to moderately weathered, very low strenght, grey mottled pale grey and orange-brown, fractured (Walloon Coal Measures) - yellow-brown														16.09m: J, 0°, un, sm 16.19m: J, 30°, pl, sm 16.27m: J, 30°, pl, sm 16.29m: J, 30°, pl, sm 16.32m: J, 30°, pl, sm 16.39m: J, 30°, pl, sm 16.52m: J, 35°, pl, sm 16.62m: J, 30°, pl, sm 16.78m: J, 20°, pl, sm 16.84m: J, 20°, pl, sm 16.94m: J, 0°, pl, sm 17.03m: J, 40°, un, sm 17.07m: J, 0°, pl, sm	C	82	47	PL(A) = 0.02 PL(D) = 0.06 PL(A) = 1.19 PL(D) = 1.47 PL(A) = 0.17 PL(D) = 0.09	
76	18	- high strength, slightly weathered - highly to moderately weathered, very low to low strength																			
75	18.0	CORE LOSS (inferred silty clay)														17.84m: J, 0°, un, ro 18m: CORE LOSS: 2000mm	C	13	13		
74	19																				
73	20	Bore discontinued at 20.0m depth - Limit of investigation																			
72	21																				
71	22																				
70	23																				

RIG: Hydrapower Scout 3 **DRILLER:** Ground Test **LOGGED:** NS **CASING:** HWT to 2.5m

TYPE OF BORING: 110mm solid flight auger to 2.5m, washboring to 8.1m, then NMLC to limit of investigation

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
BB	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 95.5 AHD
EASTING: 492657
NORTHING: 6905430
DIP/AZIMUTH: 90°/--

BORE No: 9
PROJECT No: 219361.00
DATE: 24/5/2023
SHEET 1 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)				Discontinuities		Sampling & In Situ Testing									
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium		High	Very High	Ex High	0.01	0.05	0.10	0.50	1.00	B - Bedding S - Shear	J - Joint F - Fault	Type	Core Rec. %	RQD %	Test Results & Comments		
	0.1	TOPSOIL Silty CLAY (CL): low plasticity, dark brown, fine to medium sand, w~PL, estimated stiff Silty CLAY (CI-CH): medium to high plasticity, brown and dark brown, fine to medium sand, trace fine to medium gravel, estimated stiff (probably fill) Sandy CLAY (CL-CI): low to medium plasticity, brown mottled orange-brown and pale grey, fine to medium sand, w<PL, very stiff (residual)																												
96																														
	0.7																													
1																														
94																														
	2																													
		- hard, inferred extremely weathered sandstone																												
93																														
	3																													
92																														
	4																													
91																														
	5																													
	5.0	SANDSTONE: highly weathered, inferred very low strength, brown mottled orange-brown and pale grey-brown, fine to medium grained (Walloon Coal Measures)																												
90																														
	6																													
89																														
	7																													
88																														

RIG: Hydrapower Scout 3 **DRILLER:** Ground Test **LOGGED:** NS **CASING:** HWT to 2.5m

TYPE OF BORING: 110mm solid flight auger to 2.5m, washboring to 9.5m, then NMLC to limit of investigation

WATER OBSERVATIONS: No free groundwater observed during augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test (s(50) (MPa)
		PL(D)	Point load diametral test (s(50) (MPa)
		pp	Penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)



BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 95.5 AHD
EASTING: 492657
NORTHING: 6905430
DIP/AZIMUTH: 90°/--

BORE No: 9
PROJECT No: 219361.00
DATE: 24/5/2023
SHEET 2 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)				Discontinuities		Sampling & In Situ Testing				
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium		High	Very High	Ex High	0.01	0.05	0.10	0.50	1.00	B - Bedding S - Shear	J - Joint F - Fault	Type
	87	SANDSTONE (Walloon Coal Measures) (continued)																				S			24, 30/110mm
	9																								
	86																								
	9.5	SANDSTONE: moderately weathered, medium strength, pale grey and orange-brown, fine to medium grained, slightly fractured (Walloon Coal Measure)																				S			30/90mm PL(A) = 0.41 PL(D) = 0.36
	10	- highly weathered zone, low to medium strength to 10.12m																				C	100	81	PL(A) = 1.44 PL(D) = 1.56
	85	- moderately weathered, high strength																							
	11	- moderately weathered, very low to low strength, orange-brown mottled black and pale grey, fine to medium grained																							PL(A) = 0.1 PL(D) = 0.08
	84																								
	12	- highly weathered zone from 11.82m																				C	100	74	PL(A) = 0.09 PL(D) = 0.12
	83																								
	13																								
	82																								
	14	- grey brown with orange-brown, fine grained																							PL(A) = 0.22 PL(D) = 0.22
	81																								
	14.5	META-MUDSTONE: moderately weathered, medium to high strength, brown, highly fractured (Walloon Coal Measure)																				C	100	64	PL(A) = 0.09 PL(D) = 0.25
	15																								
	80																								PL(A) = 1.59 PL(D) = 1.88

RIG: Hydrapower Scout 3 **DRILLER:** Ground Test **LOGGED:** NS **CASING:** HWT to 2.5m
TYPE OF BORING: 110mm solid flight auger to 2.5m, washboring to 9.5m, then NMLC to limit of investigation
WATER OBSERVATIONS: No free groundwater observed during augering
REMARKS:

SAMPLING & IN SITU TESTING LEGEND			
A Auger sample	G Gas sample	PID Photo ionisation detector (ppm)	
B Bulk sample	P Piston sample	PL(A) Point load axial test Is(50) (MPa)	
BLK Block sample	U Tube sample (x mm dia.)	PL(D) Point load diametral test Is(50) (MPa)	
C Core drilling	W Water sample	pp Pocket penetrometer (kPa)	
D Disturbed sample	> Water seep	S Standard penetration test	
E Environmental sample	≡ Water level	V Shear vane (kPa)	

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 95.5 AHD
EASTING: 492657
NORTHING: 6905430
DIP/AZIMUTH: 90°/--

BORE No: 9
PROJECT No: 219361.00
DATE: 24/5/2023
SHEET 3 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	MW	SW	FS	FR	Ex Low	Very Low	Low	Medium	High	Very High	Ex High			Type	Core Rec. %	RQD %	Test Results & Comments
		META-MUDSTONE (Walloon Coal Measure) (continued)															B - Bedding J - Joint S - Shear F - Fault				PL(A) = 0.24 PL(D) = 0.35
		= low to medium strength, fractured																			
	17.1	SANDSTONE: moderately weathered, low to medium strength, grey-brown mottled orange-brown, fine grained, slightly fractured (Walloon Coal Measure)																C	100	77	PL(A) = 0.2 PL(D) = 0.44
	18																				PL(A) = 0.25 PL(D) = 0.26
	19	- moderately to slightly weathered, medium strength, pale grey mottled orange-brown																			PL(A) = 0.72 PL(D) = 0.84
	20.0	Bore discontinued at 20.0m depth - Limit of investigation																			
	21																				
	22																				
	23																				

RIG: Hydrapower Scout 3 **DRILLER:** Ground Test **LOGGED:** NS **CASING:** HWT to 2.5m
TYPE OF BORING: 110mm solid flight auger to 2.5m, washboring to 9.5m, then NMLC to limit of investigation
WATER OBSERVATIONS: No free groundwater observed during augering
REMARKS:

SAMPLING & IN SITU TESTING LEGEND					
A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	>	Water seep	S	Standard penetration test
E	Environmental sample	≡	Water level	V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 85.4 AHD
EASTING: 492473
NORTHING: 6905556
DIP/AZIMUTH: 90°/--

BORE No: 10
PROJECT No: 219361.00
DATE: 29/5/2023
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 100mm)
				Type	Depth	Sample	Results & Comments		
85.4	0.2	TOPSOIL Sandy CLAY (Cl): medium plasticity, brown, fine sand, w~PL, very stiff, grass roots		D	0.5				
		Silty CLAY (CH): high plasticity, brown and grey-brown, fine to medium sand, w>PL, hard (residual) - very stiff		D	1.0				
		- brown, trace fine sand, w~PL, hard		S	1.45		9,16,27 N = 43		
				S	2.3		30/110mm		
83.0	2.41	Bore discontinued at 2.41m depth - Auger refusal, inferred very low to low strength			2.41				
82.0									
81.0									
80.0									
79.0									
78.0									
77.0									
76.0									
75.0									
74.0									
73.0									
72.0									
71.0									
70.0									
69.0									
68.0									
67.0									
66.0									
65.0									
64.0									
63.0									
62.0									
61.0									
60.0									
59.0									
58.0									
57.0									
56.0									
55.0									
54.0									
53.0									
52.0									
51.0									
50.0									
49.0									
48.0									
47.0									
46.0									
45.0									
44.0									
43.0									
42.0									
41.0									
40.0									
39.0									
38.0									
37.0									
36.0									
35.0									
34.0									
33.0									
32.0									
31.0									
30.0									
29.0									
28.0									
27.0									
26.0									
25.0									
24.0									
23.0									
22.0									
21.0									
20.0									
19.0									
18.0									
17.0									
16.0									
15.0									
14.0									
13.0									
12.0									
11.0									
10.0									
9.0									
8.0									
7.0									
6.0									
5.0									
4.0									
3.0									
2.0									
1.0									
0.0									

RIG: Zenith ute rig

DRILLER: Ground Test

LOGGED: NS

CASING: NIL

TYPE OF BORING: 110mm solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U ₁	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W ₂	Water seep
E	Environmental sample	W ₃	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 94.0 AHD
EASTING: 492649
NORTHING: 6905497
DIP/AZIMUTH: 90°/--

BORE No: 11
PROJECT No: 219361.00
DATE: 29 - 30/5/2023
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 100mm)
				Type	Depth	Sample	Results & Comments		
	0.3	TOPSOIL Sandy CLAY (Cl): low plasticity, dark brown, fine sand, w~PL, very stiff, grass roots							
	0.6	Silty CLAY (Cl-CH): medium to high plasticity, red-brown, w<PL, very stiff (residual)							
	1.0	Sandy CLAY (CL): low plasticity, pale brown, fine sand, trace gravel, w<PL, very stiff to hard (residual)							
	1.3	SANDSTONE: highly weathered, inferred very low strength, grey-brown (Walloon Coal Measures)		S	1.0		25, 24, 30/70mm		
	1.45				1.45				
	1.6			S	1.6		30/130mm		
	1.73	Bore discontinued at 1.73m depth - Auger refusal, inferred low strength			1.73				
	2								
	3								
	4								
	5								
	6								
	7								

RIG: Zenith ute rig

DRILLER: Ground Test

LOGGED: YB/NS

CASING: NIL

TYPE OF BORING: 110mm solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

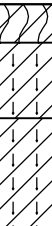
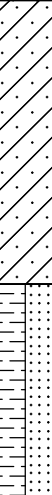
A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U _s	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 95.1 AHD
EASTING: 492767
NORTHING: 6905456
DIP/AZIMUTH: 90°/--

BORE No: 12
PROJECT No: 219361.00
DATE: 29/5/2023
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 100mm)
				Type	Depth	Sample	Results & Comments		
95.0	0.2	TOPSOIL Sandy CLAY (CI): medium plasticity, brown and grey-brown, fine to medium sand, w~PL, stiff, grass roots							
	0.6	Silty CLAY (CH): high plasticity, grey-brown, w>PL, stiff (residual) - very stiff							
1.0	1.0	Silty CLAY (CI-CH): medium to high plasticity, dark brown mottled orange-brown, w<PL, hard (residual) - very stiff		S	1.0		6,11,11 N = 22		
	1.45			D	1.45				
	1.5								
2.0	2.0			D	2.0				
	2.5								
	2.5	Sandy CLAY (CI): medium plasticity, grey-brown mottled orange-brown, fine sand, w<PL, very stiff		S	2.5		6,10,11 N = 21		
	2.95				2.95				
3.0	3.0								
4.0	4.0	MUDSTONE/SANDSTONE: highly weathered, inferred very low strength, brown mottled orange-brown (Walloon Coal Measures)		S	4.0		30/140mm		
	4.14				4.14				
	5.0			S	5.0		30/130mm		
5.13	5.13	Bore discontinued at 5.13m depth - Auger refusal							
	6.0								
	7.0								

RIG: Zenith ute rig

DRILLER: Ground Test

LOGGED: NS

CASING: NIL

TYPE OF BORING: 110mm solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 89.4 AHD
EASTING: 492445
NORTHING: 6905428
DIP/AZIMUTH: 90°/--

BORE No: 13
PROJECT No: 219361.00
DATE: 29/5/2023
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 100mm)
				Type	Depth	Sample	Results & Comments		
89.0	0.2	TOPSOIL Sandy CLAY (CI): medium plasticity, brown, fine to medium sand, w~PL, stiff, grass roots		D	0.5		10, 14, 18 N = 32		
88.5		Silty CLAY (CH): high plasticity, brown, w>PL, firm (residual) - very stiff		D	1.0			1	
88.0	1	- trace fine to medium sand and gravel - hard		S	1.45				
87.5	2.0	SILTSTONE: brown and orange-brown, inferred very low strength, highly weathered (Walloon Coal Measures)		S	2.0		30/100mm		
87.0	2.1	Bore discontinued at 2.1m depth - Auger refusal		S	2.1			2	
86.5	3							3	
86.0	4							4	
85.5	5							5	
85.0	6							6	
84.5	7							7	
84.0									
83.5									
83.0									

RIG: Zenith ute rig

DRILLER: Ground Test

LOGGED: NS

CASING: NIL

TYPE OF BORING: 110mm solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	>	Water seep	S	Standard penetration test
E	Environmental sample	≡	Water level	V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 94.9 AHD
EASTING: 492619
NORTHING: 6905359
DIP/AZIMUTH: 90°/--

BORE No: 14
PROJECT No: 219361.00
DATE: 31/5/2023
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 100mm)
				Type	Depth	Sample	Results & Comments		
	0.3	TOPSOIL Sandy CLAY (Cl): medium plasticity, brown, fine to coarse sand, w~PL, very stiff, grass roots							
		Silty CLAY (Cl): medium plasticity, grey-brown and grey, trace fine sand, w~PL, very stiff (residual) - hard		D	0.5				
	1	- very stiff		D	1.0		5,9,12 N = 21		
				S	1.45				
	2	- brown-grey mottled orange-brown							
				S	2.5		5,7,16 N = 23		
	3	- grey-brown mottled black, grey and orange-brown, w<PL		D	2.95				
				D	3.1				
	4	- hard		S	4.0		10,13,27 N = 40		
				S	4.45				
	5			D	5.0				
	5.2	SILTSTONE: grey-brown mottled orange-brown, inferred very low strength, highly weathered (Walloon Coal Measures)		S	5.5		12, 28, 30/40mm		
				S	5.64				
	6								
	7			S	7.0		15, 30/60mm		
	7.21	Bore discontinued at 7.21m depth - Limit of investigation			7.21				

RIG: Zenith ute rig

DRILLER: Ground Test

LOGGED: NS

CASING: NIL

TYPE OF BORING: 110mm solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 89.1 AHD
EASTING: 492771
NORTHING: 6905358
DIP/AZIMUTH: 90°/-

BORE No: 15
PROJECT No: 219361.00
DATE: 30/5/2023
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 100mm)
				Type	Depth	Sample	Results & Comments		
88	0.1	TOPSOIL Sandy CLAY (Cl): medium plasticity, dark brown, fine to medium sand, w~PL, soft, grass roots		E	0.0		Asbestos sample		
					0.1				
				E	0.4				
		Silty CLAY (CH): high plasticity, brown mottled grey-brown, grey and orange-brown, with fine to medium sand, w<PL, stiff (residual)		D	0.5				
		- w~PL, very stiff							
1				E	0.9				
					1.0		6,7,13 N = 20		
				S	1.4				
		- grey-brown mottled orange-brown		E	1.45				
					1.5				
2				E	1.9				
					2.0				
				S	2.5		9,10,17 N = 27		
3	2.95	Bore discontinued at 2.95m depth - Limit of investigation		D	2.95				
4									
5									
6									
7									

RIG: Zenith ute rig

DRILLER: Ground Test

LOGGED: YB/NS

CASING: NIL

TYPE OF BORING: 110mm solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

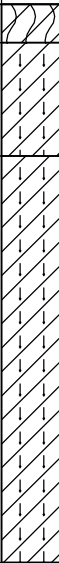
SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 76.6 AHD
EASTING: 492879
NORTHING: 6905283
DIP/AZIMUTH: 90°/-

BORE No: 16
PROJECT No: 219361.00
DATE: 31/5/2023
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 100mm)
				Type	Depth	Sample	Results & Comments		
	0.2	TOPSOIL Sandy CLAY (Cl): medium plasticity, brown, fine to coarse sand, w>PL, firm, grass roots		D	0.5				
	0.8	Silty CLAY (CH): high plasticity, brown and grey-brown, fine to coarse sand, w>PL, very stiff (residual)		D	1.0				
		Silty CLAY (Cl): medium plasticity, brown mottled grey-brown and orange-brown, w~PL, hard (residual) - stiff		S	1.45		5,6,6 N = 12		
				S	2.5		3,4,6 N = 10		
	2.95	Bore discontinued at 2.95m depth - Limit of investigation			2.95				

RIG: Zenith ute rig

DRILLER: Ground Test

LOGGED: NS

CASING: NIL

TYPE OF BORING: 110mm solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 95.0 AHD
EASTING: 492442
NORTHING: 6905328
DIP/AZIMUTH: 90°/--

BORE No: 17
PROJECT No: 219361.00
DATE: 30/5/2023
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 100mm)
				Type	Depth	Sample	Results & Comments		
95.0	0.2	TOPSOIL Sandy CLAY (CL): low plasticity, brown, fine sand, w~PL, stiff, grass roots		D	0.3				
	0.5	Silty CLAY (CI): medium plasticity, red-brown, trace fine sand, w>PL, soft to firm (residual) - w~PL		D	0.5				
94.0	1.0	Sandy CLAY (CI): medium plasticity, brown, fine to medium sand, w<PL, stiff (residual) - very stiff - hard		S	1.0		11,12,25 N = 37		
	1.45				1.45				
93.0	2.3	Silty CLAY (CI-CH): medium to high plasticity, grey mottled orange-brown and pale grey, trace fine to medium sand, w~PL, hard (residual) - grey-brown, w<PL		D	2.5		16, 30/150mm		
				S	2.8				
92.0	3.1			D	3.1				
91.0	4.0			S	4.0		6,9,17 N = 26		
	4.45				4.45				
90.0	5.5	SILTSTONE: highly weathered, inferred very low strength, brown and grey-brown (Walloon Coal Measures)		S	5.5		30/20mm		
	5.52				5.52				
	5.8			S	5.8		30/100mm		
89.0	5.9	Bore discontinued at 5.9m depth - Auger refusal			5.9				
88.0									
87.0									

RIG: Zenith ute rig

DRILLER: Ground Test

LOGGED: NS

CASING: NIL

TYPE OF BORING: 110mm solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PLD	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 94.5 AHD
EASTING: 492555
NORTHING: 6905292
DIP/AZIMUTH: 90°/-

BORE No: 18
PROJECT No: 219361.00
DATE: 31/5/2023
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 100mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
94.5 94 93.5 93 92.5 92 91.5 91 90.5 90 89.5 89 88.5 88 87.5 87	0.3	TOPSOIL Sandy CLAY (Cl): medium plasticity, brown, fine to coarse sand, w>PL, very stiff, grass roots		B	0.3							
	0.5	Silty CLAY (CH): high plasticity, brown, with fine to coarse sand, w>PL, very stiff (residual) - hard			0.5							
	1.0	- very stiff		S	1.0		5,7,11 N = 18					
	1.45				1.45							
	1.8	Sandy CLAY (Cl): medium plasticity, brown mottled red-brown, fine to medium sand, w<PL, hard (residual)		S	2.5		12, 27, 30/90mm					
	2.6				2.79							
	3.0	SILTSTONE: highly weathered, inferred very low strength, brown mottled grey and orange-brown (Walloon Coal Measures)		S	4.0		5,12,19 N = 31					
	4.0	- inferred silty clay zone to 4.45m depth			4.45							
	5.0	- inferred very low to low strength		S	5.5		30/130mm					
	6.0				6.0		30/20mm					
	6.02	Bore discontinued at 6.02m depth - Auger refusal, inferred low strength										
	7.0											

RIG: Zenith ute rig

DRILLER: Ground Test

LOGGED: NS

CASING: NIL

TYPE OF BORING: 110mm solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U _i	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 92.4 AHD
EASTING: 492532
NORTHING: 6905216
DIP/AZIMUTH: 90°/--

BORE No: 19
PROJECT No: 219361.00
DATE: 30/5/2023
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 100mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
92.0 91.0 90.0 89.0 88.0 87.0 86.0 85.0 84.0 83.0	0.2	TOPSOIL Sandy CLAY (CI): medium plasticity, brown, fine to coarse sand, w>PL, very stiff		E	0.0 0.1		Asbestos sample					
	0.6	Silty CLAY (CH): high plasticity, red-brown mottled brown, with fine to medium sand, trace fine gravel, w<PL, very stiff (residual)		E D	0.4 0.5							
	1.0	Silty CLAY (CI): medium plasticity, brown, with fine sand, w~PL, very stiff (residual)		E D	0.9 1.0							
		- w>PL		S	1.4		7,9,13 N = 22					
				E D	1.45 1.5							
	2.0			E	1.9 2.0							
		- hard		S	2.5		17, 25, 30/110mm					
	2.95	Bore discontinued at 2.95m depth - Limit of investigation			2.82							

RIG: Zenith ute rig

DRILLER: Ground Test

LOGGED: YB/NS

CASING: NIL

TYPE OF BORING: 110mm solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	>	Water seep	S	Standard penetration test
E	Environmental sample	≡	Water level	V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Cleanaway Operations Pty Ltd
PROJECT: Bromelton Energy & Resources Centre (BERC)
LOCATION: Lot 1 Beaudesert-Boonah Road, Bromelton

SURFACE LEVEL: 73.7 AHD
EASTING: 492862
NORTHING: 6905191
DIP/AZIMUTH: 90°/--

BORE No: 20
PROJECT No: 219361.00
DATE: 29/5/2023
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 100mm)
				Type	Depth	Sample	Results & Comments		
	0.2	TOPSOIL Sandy CLAY (Cl): medium plasticity, brown, fine sand, w~PL, very stiff							
		Silty CLAY (CH): high plasticity, brown and grey-brown, with fine to coarse sand, w<PL, firm (residual) - stiff		D	0.5				
	0.7			U ₅₀	0.65				
		Silty CLAY (CH): high plasticity, grey, with fine to medium sand, w~PL, very stiff (residual) - stiff		D	1.0				
				S			5,6,6 N = 12		
				D	1.45 1.5				
					2.5		3,4,6 N = 10		
	2.95	Bore discontinued at 2.95m depth - Limit of investigation		D	2.95 3.0				

RIG: Zenith ute rig

DRILLER: Ground Test

LOGGED: NS

CASING: NIL

TYPE OF BORING: 110mm solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U ₅₀	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	>	Water seep
E	Environmental sample	≡	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

Appendix J

Laboratory notes and chain of custody documents



CHAIN OF CUSTODY RECORD

Eurofins | mgt ABN 50 005 085 521

☐ Sydney LaboratoryUnit F3 Bld F 16 Mars Road Lane Cove West NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com☒ Brisbane LaboratoryUnit 1 21 Smallwood Place Murame QLD 4172
07 3902 4800 EnviroSampleQLD@eurofins.com☐ Perth LaboratoryUnit 2 91 Leach Highway Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com☐ Melbourne Laboratory6 Montmorey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company		Douglas Partner Pty Ltd		Project No		219361.01		Project Manager		Rob Muller		Sampler(s)		N.Sumonta, Y.Barr, C.Jones							
Address		439 Montague Road, West End Qld 4101		Project Name		Bromelton		EDD Format		ESdat, EQUIS etc		Sddat		Handed over by		Rob Muller					
Contact Name		Rob Muller		Analyses Where metals are requested, please specify "Total" or "Filtered" SUITE code must be used to attach SUITE pricing		Suite B7A (TRH, BTEXN, PAH, phenols, metals)		Suite B15 (OCP, OPP, PCB)		PFAS Extended Suite (standard LOQ)		Asbestos in soil (AS 4984)		Suite R21 (NEPM Screen for Soil Classification)		Suite M6 (metals)		TRH C6-C10 + BTEX		Hold	
Phone No		0417 544 122				500mL Plastic		250mL Plastic		125mL Plastic		200mL Amber Glass		40mL VOA vial		500mL PFAS Bottle		Jar (Glass or HDPE)		Other (Asbestos AS4984, WA Guidelines)	
Special Directions																					
Purchase Order																					
Quote ID No																					
No		Client Sample ID		Sampled Date/Time dd/mm/yy hh:mm		Matrix Solid (S) Water (W)														Sample Comments / Dangerous Goods Hazard Warning	
1		7/0.1		25/05/23		S		X		X		X		X							
2		7/0.5		25/05/23		S										X					
3		7/1.0		25/05/23		S										X					
4		7/1.5		25/05/23		S										X					
5		7/2.0		25/05/23		S										X					
6		8/0.1		29/05/23		S		X		X		X		X							
7		8/0.5		29/05/23		S										X					
8		8/1.0		29/05/23		S										X					
9		8/1.5		29/05/23		S										X					
10		8/2.0		29/5/23		S										X					
Total Counts								2		2		2		2				8			
Method of Shipment		☒ Courier (#)		☐ Hand Delivered		☐ Postal		Name		Rob Muller		Signature				Date		1st June 2023		Time	
Eurofins mgt Laboratory Use Only		Received By				SYD BNE MEL PER ADL NTL DRW		Signature				Date				Time				Temperature	
		Received By				SYD BNE MEL PER ADL NTL DRW		Signature				Date				Time				Report No	

Eurofins Environment Testing Australia Pty Ltd trading as Eurofins | mgt

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.



☐ **Melbourne Laboratory**
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

CHAIN OF CUSTODY RECORD

Eurofins | mgt ABN 50 005 085 521

 Sydney Laboratory
Unit F3 Bld F 16 Mars Road Lane Cove West NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

☒ **Brisbane Laboratory**
Unit 1 21 Smallwood Place Murarie QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com

 Perth Laboratory
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com

 **Melbourne Laboratory**
6 Monterey Road Dandenong South VIC 3175
03 8554 5000 EnviroSampleVic@eurofins.com

[illegible]

Eurofins Environment Testing Australia Pty Ltd trading as Eurofins | mgt



02 9900 8400 EnviroSampleNSW@eurofins.com

07 3902 4600 EnviroSampleO.L.D@eurofins.com

03 8564 5000 EnviroSampleVic@eurofins.com



 **Melbourne Laboratory**
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 enviroSampleVic@eurofins.com

CHAIN OF CUSTODY RECORD

Eurofins | mgt ABN 50 005 085 521

 **Sydney Laboratory**
Unit F3 Bld F 16 Mars Road Lane Cove West NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

 **Brisbane Laboratory**
Unit 1 21 Smallwood Place Murarrie QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com

 **Perth Laboratory**
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com

 **Melbourne Laboratory**
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company		Douglas Partner Pty Ltd	Project No		219361.01		Project Manager		Rob Muller		Sampler(s)		N.Sumonta, Y.Barr, C.Jones									
Address		439 Montague Road, West End Qld 4101	Project Name		Bromelton		EDD Format ESdat, EQutS etc.		Sddat		Handed over by		Rob Muller									
Contact Name		Rob Muller	Analyses When analyses are requested, please specify "Total" or "Filtered" SUITE code must be used to avoid SUITE pricing										Email for Invoice		apinvoices@douglaspartners.com.au							
Phone No		0417 544 122											Email for Results		rob.muller@douglaspartners.com.au							
Special Directions													Containers		Required Turnaround Time (TAT)							
Purchase Order													Change container type & size if necessary		Default will be 5 days if not ticked							
Quote ID No					Suite B7A (TRH, BTEXN, PAH, phenols, metals)	Suite B15 (OCP, OPP, PCB)	PFAS Extended Suite (standard LOR)	Asbestos in soil (AS 4364)	Suite R21 (NEPM Screen for Soil Classification)	Suite M8 (metals)	TRH C6-C10 +BTEX	Hold	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Lar (Glass or HDPE)	Other (Asbestos AS4364, WA Guidelines)	♦ Surcharge will apply ☐ Overnight (reporting by Sam) ♦ ☐ Same day ♦ ☐ 1 day ♦ ☐ 2 days ♦ ☐ 3 days ♦ ☒ 5 days (Standard) ☐ Other()	
No	Client Sample ID	Sampled Date/Time dd/mm/yyyy hh:mm	Matrix Solid (S) Water (W)	Sample Comments / Dangerous Goods Hazard Warning																		
1	17/0.1	30/05/23	S	X	X	X	X													2	1	
2	17/0.5	30/05/23	S								X									2		
3	17/1.0	30/05/23	S								X									1		
4	17/1.5	30/05/23	S								X									1		
5	17/2.0	30/05/23	S								X									1		
6	18/0.1	31/05/23	S	X	X	X	X													2	1	
7	18/0.5	31/05/23	S								X									2		
8	18/1.0	31/05/23	S								X									1		
9	18/1.5	31/05/23	S								X									1		
10	18/2.0	31/5/23	S								X									1		
Total Counts				2	2	2	2				8									14	2	
Method of Shipment		☒ Courier (#) ☐ Hand Delivered		☐ Postal		Name		Rob Muller		Signature		Date		1st June 2023		Time						
Eurofins mgt Laboratory Use Only		Received By		SYD BNE MEL PER ADL NTL DRW				Signature		Date		Time		Temperature								
		Received By		SYD BNE MEL PER ADL NTL DRW				Signature		Date		Time		Report No								



 **Melbourne Laboratory**
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVio@eurofins.com



 **Melbourne Laboratory**
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgf Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgf Standard Terms and Conditions is available on request.

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarrie QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site# 20794	1/2 Frost Drive Mayfield West NSW 2304 Tel: +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road Welshpool WA 6106 Tel: +61 8 6253 4444 NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Christchurch
35 O'Rourke Road Penrose, Auckland 1061 Tel: +64 9 526 4551 IANZ# 1327	43 Detroit Drive Rolleston, Christchurch 7675 Tel: +64 3 343 5201 IANZ# 1290

Sample Receipt Advice

Company name:	Douglas Partners (Qld) Pty Ltd
Contact name:	- Brisbane @ DouglasPartners
Project name:	BROMELTON
Project ID:	219361.01
Turnaround time:	5 Day
Date/Time received	Jun 1, 2023 3:15 PM
Eurofins reference	995325

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- ✓ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Zoe Flynn on phone : or by email: ZoeFlynn@eurofins.com

Results will be delivered electronically via email to - Brisbane @ DouglasPartners - Brisbane@douglaspartners.com.au.

Note: A copy of these results will also be delivered to the general Douglas Partners (Qld) Pty Ltd email address.



Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 25403

Sydney
179 Magowar Road
Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

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

Newcastle
1/2 Frost Drive
Mayfield West NSW 2304
Tel: +61 2 4968 8448
NATA# 1261
Site# 25079 & 25289

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
Tel: +64 9 526 4551
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: +64 3 343 5201
IANZ# 1290

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X		X				
Sydney Laboratory - NATA # 1261 Site # 18217						X									
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X
External Laboratory															
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID										
1	7/0.1	May 25, 2023		Soil	B23-Jn0003484	X			X	X		X		X	
2	8/0.1	May 29, 2023		Soil	B23-Jn0003485	X			X	X		X		X	
3	9/0.5	May 24, 2023		Soil	B23-Jn0003486	X			X	X		X		X	
4	10/0.1	May 29, 2023		Soil	B23-Jn0003487	X			X	X		X		X	
5	11/0.1	May 29, 2023		Soil	B23-Jn0003488	X			X	X		X		X	
6	12/0.1	May 29, 2023		Soil	B23-Jn0003489	X			X	X		X		X	
7	13/0.1	May 29, 2023		Soil	B23-Jn0003490	X			X	X		X		X	
8	13/0.5	May 29, 2023		Soil	B23-Jn0003491					X	X				
9	14/0.1	May 31, 2023		Soil	B23-Jn0003492	X			X	X		X		X	
10	15/0.1	May 30, 2023		Soil	B23-Jn0003493	X			X	X		X		X	
11	16/0.1	May 29, 2023		Soil	B23-Jn0003494	X			X	X		X		X	



Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 25403

Sydney
179 Magowar Road
Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

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

Newcastle
1/2 Frost Drive
Mayfield West NSW 2304
Tel: +61 2 4968 8448
NATA# 1261
Site# 25079 & 25289

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
Tel: +64 9 526 4551
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: +64 3 343 5201
IANZ# 1290

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101

Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X		X				
Sydney Laboratory - NATA # 1261 Site # 18217						X									
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X
12	17/0.1	May 30, 2023		Soil	B23-Jn0003495	X			X	X		X		X	
13	18/0.1	May 31, 2023		Soil	B23-Jn0003496	X			X	X		X		X	
14	19/0.1	May 30, 2023		Soil	B23-Jn0003497	X			X	X		X		X	
15	19/0.5	May 30, 2023		Soil	B23-Jn0003498					X	X				
16	20/0.1	May 29, 2023		Soil	B23-Jn0003499	X			X	X		X		X	
17	20/0.5	May 29, 2023		Soil	B23-Jn0003500			X		X					
18	S1	May 24, 2023		Soil	B23-Jn0003501				X	X		X		X	
19	R1	May 25, 2023		Soil	B23-Jn0003502				X	X		X		X	
20	7/0.5	May 25, 2023		Soil	B23-Jn0003503		X								
21	7/1.0	May 25, 2023		Soil	B23-Jn0003504		X								
22	7/1.5	May 25, 2023		Soil	B23-Jn0003505		X								
23	7/2	May 25, 2023		Soil	B23-Jn0003506		X								
24	8/0.5	May 29, 2023		Soil	B23-Jn0003507		X								
25	8/1.0	May 29, 2023		Soil	B23-Jn0003508		X								



Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 25403

Sydney
179 Magowar Road
Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

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

Newcastle
1/2 Frost Drive
Mayfield West NSW 2304
Tel: +61 2 4968 8448
NATA# 1261
Site# 25079 & 25289

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
Tel: +64 9 526 4551
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: +64 3 343 5201
IANZ# 1290

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X		X				
Sydney Laboratory - NATA # 1261 Site # 18217						X									
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X
26	8/1.5	May 29, 2023		Soil	B23-Jn0003509		X								
27	8/2	May 29, 2023		Soil	B23-Jn0003510		X								
28	9/0.1	May 24, 2023		Soil	B23-Jn0003511		X								
29	9/1.0	May 24, 2023		Soil	B23-Jn0003512		X								
30	9/1.5	May 24, 2023		Soil	B23-Jn0003513		X								
31	9/2	May 24, 2023		Soil	B23-Jn0003514		X								
32	10/0.5	May 29, 2023		Soil	B23-Jn0003515		X								
33	10/1.0	May 29, 2023		Soil	B23-Jn0003516		X								
34	10/1.5	May 29, 2023		Soil	B23-Jn0003517		X								
35	10/2	May 29, 2023		Soil	B23-Jn0003518		X								
36	11/0.5	May 29, 2023		Soil	B23-Jn0003519		X								
37	11/1.0	May 29, 2023		Soil	B23-Jn0003520		X								
38	11/1.5	May 29, 2023		Soil	B23-Jn0003521		X								
39	11/2	May 29, 2023		Soil	B23-Jn0003522		X								



Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 25403

Sydney
179 Magowar Road
Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

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

Newcastle
1/2 Frost Drive
Mayfield West NSW 2304
Tel: +61 2 4968 8448
NATA# 1261
Site# 25079 & 25289

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
Tel: +64 9 526 4551
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: +64 3 343 5201
IANZ# 1290

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X		X				
Sydney Laboratory - NATA # 1261 Site # 18217						X									
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X
40	12/0.5	May 29, 2023		Soil	B23-Jn0003523		X								
41	12/1.0	May 29, 2023		Soil	B23-Jn0003524		X								
42	12/1.5	May 29, 2023		Soil	B23-Jn0003525		X								
43	12/2	May 29, 2023		Soil	B23-Jn0003526		X								
44	13/1.0	May 29, 2023		Soil	B23-Jn0003527		X								
45	13/1.5	May 29, 2023		Soil	B23-Jn0003528		X								
46	13/2	May 29, 2023		Soil	B23-Jn0003529		X								
47	14/0.5	May 31, 2023		Soil	B23-Jn0003530		X								
48	14/1.0	May 31, 2023		Soil	B23-Jn0003531		X								
49	14/1.5	May 31, 2023		Soil	B23-Jn0003532		X								
50	14/2	May 31, 2023		Soil	B23-Jn0003533		X								
51	15/0.5	May 30, 2023		Soil	B23-Jn0003534		X								
52	15/1.0	May 30, 2023		Soil	B23-Jn0003535		X								
53	15/1.5	May 30, 2023		Soil	B23-Jn0003536		X								



Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 25403

Sydney
179 Magowar Road
Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

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

Newcastle
1/2 Frost Drive
Mayfield West NSW 2304
Tel: +61 2 4968 8448
NATA# 1261
Site# 25079 & 25289

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
Tel: +64 9 526 4551
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: +64 3 343 5201
IANZ# 1290

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X		X				
Sydney Laboratory - NATA # 1261 Site # 18217						X									
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X
54	15/2	May 30, 2023		Soil	B23-Jn0003537		X								
55	16/0.5	May 29, 2023		Soil	B23-Jn0003538		X								
56	16/1.0	May 29, 2023		Soil	B23-Jn0003539		X								
57	16/1.5	May 29, 2023		Soil	B23-Jn0003540		X								
58	16/2	May 29, 2023		Soil	B23-Jn0003541		X								
59	17/0.5	May 30, 2023		Soil	B23-Jn0003542		X								
60	17/1.0	May 30, 2023		Soil	B23-Jn0003543		X								
61	17/1.5	May 30, 2023		Soil	B23-Jn0003544		X								
62	17/2	May 30, 2023		Soil	B23-Jn0003545		X								
63	18/0.5	May 31, 2023		Soil	B23-Jn0003546		X								
64	18/1.0	May 31, 2023		Soil	B23-Jn0003547		X								
65	18/1.5	May 31, 2023		Soil	B23-Jn0003548		X								
66	18/2	May 31, 2023		Soil	B23-Jn0003549		X								
67	19/1.0	May 30, 2023		Soil	B23-Jn0003550		X								



Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 25403

Sydney
179 Magowar Road
Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

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

Newcastle
1/2 Frost Drive
Mayfield West NSW 2304
Tel: +61 2 4968 8448
NATA# 1261
Site# 25079 & 25289

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
Tel: +64 9 526 4551
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: +64 3 343 5201
IANZ# 1290

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X		X				
Sydney Laboratory - NATA # 1261 Site # 18217						X									
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X
68	19/1.5	May 30, 2023		Soil	B23-Jn0003551		X								
69	19/2	May 30, 2023		Soil	B23-Jn0003552		X								
70	20/1.0	May 29, 2023		Soil	B23-Jn0003553		X								
71	20/1.5	May 29, 2023		Soil	B23-Jn0003554		X								
72	20/2	May 29, 2023		Soil	B23-Jn0003555		X								
73	TRIP BLANK	May 26, 2023		Trip Blank (solid)	B23-Jn0003556								X		
74	TRIP SPIKE	May 27, 2023		Trip Spike (liquid)	B23-Jn0003557										X
Test Counts						14	53	1	16	19	2	16	1	16	1

Douglas Partners Pty Ltd
439 Montague Road
West End
QLD 4101



NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: - Brisbane @ DouglasPartners

Report 995325-S
Project name BROMELTON
Project ID 219361.01
Received Date Jun 01, 2023

Client Sample ID			7/0.1 Soil	8/0.1 Soil	9/0.5 Soil	10/0.1 Soil
Sample Matrix						
Eurofins Sample No.			B23-Jn0003484	B23-Jn0003485	B23-Jn0003486	B23-Jn0003487
Date Sampled			May 25, 2023	May 29, 2023	May 24, 2023	May 29, 2023
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	77	78	80	85
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	55	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	80	< 50	51
TRH C10-C36 (Total)	50	mg/kg	< 50	135	< 50	51
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			7/0.1 Soil	8/0.1 Soil	9/0.5 Soil	10/0.1 Soil
Sample Matrix						
Eurofins Sample No.			B23-Jn0003484	B23-Jn0003485	B23-Jn0003486	B23-Jn0003487
Date Sampled			May 25, 2023	May 29, 2023	May 24, 2023	May 29, 2023
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	90	89	80	91
p-Terphenyl-d14 (surr.)	1	%	89	86	72	84
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
α-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
β-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
δ-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
γ-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	79	141	128	62
Tetrachloro-m-xylene (surr.)	1	%	70	70	64	71
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			7/0.1 Soil B23-Jn0003484 May 25, 2023	8/0.1 Soil B23-Jn0003485 May 29, 2023	9/0.5 Soil B23-Jn0003486 May 24, 2023	10/0.1 Soil B23-Jn0003487 May 29, 2023
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	111	131	131	138
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	79	141	128	62
Tetrachloro-m-xylene (surr.)	1	%	70	70	64	71
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2,4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2,4,5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2,4,6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2,6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4,6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4,6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1.0	mg/kg	< 1	< 1	< 1	< 1
2,4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2,4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5

Client Sample ID			7/0.1 Soil	8/0.1 Soil	9/0.5 Soil	10/0.1 Soil
Sample Matrix						
Eurofins Sample No.			B23-Jn0003484	B23-Jn0003485	B23-Jn0003486	B23-Jn0003487
Date Sampled			May 25, 2023	May 29, 2023	May 24, 2023	May 29, 2023
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	67	65	65	65
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	110	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	110	< 100	< 100
Heavy Metals						
Arsenic	2	mg/kg	7.3	6.4	6.8	6.1
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	10	8.2	17	7.3
Copper	5	mg/kg	51	28	27	11
Lead	5	mg/kg	25	23	12	15
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	10.0	7.6	15	5.7
Zinc	5	mg/kg	83	54	54	33
Sample Properties						
% Moisture	1	%	20	17	20	17
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropentanoic acid (PFPeA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorohexanoic acid (PFHxA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroheptanoic acid (PFHpA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorooctanoic acid (PFOA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorononanoic acid (PFNA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorodecanoic acid (PFDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroundecanoic acid (PFUnDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorododecanoic acid (PFDoDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorotridecanoic acid (PFTeDA) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
13C4-PFBA (surr.)	1	%	118	111	108	111
13C5-PFPeA (surr.)	1	%	104	102	94	107
13C5-PFHxA (surr.)	1	%	130	125	122	125
13C4-PFHpA (surr.)	1	%	107	126	108	115
13C8-PFOA (surr.)	1	%	131	130	112	117
13C5-PFNA (surr.)	1	%	109	128	111	109
13C6-PFDA (surr.)	1	%	116	124	113	113
13C2-PFUnDA (surr.)	1	%	116	127	90	116
13C2-PFDoDA (surr.)	1	%	114	129	101	114
13C2-PFTeDA (surr.)	1	%	129	133	120	138

Client Sample ID			7/0.1 Soil B23-Jn0003484 May 25, 2023	8/0.1 Soil B23-Jn0003485 May 29, 2023	9/0.5 Soil B23-Jn0003486 May 24, 2023	10/0.1 Soil B23-Jn0003487 May 29, 2023
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-ethylperfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
13C8-FOSA (surr.)	1	%	84	87	85	88
D3-N-MeFOSA (surr.)	1	%	108	102	104	112
D5-N-EtFOSA (surr.)	1	%	107	104	105	109
D7-N-MeFOSE (surr.)	1	%	94	90	98	100
D9-N-EtFOSE (surr.)	1	%	98	99	108	113
D5-N-EtFOSAA (surr.)	1	%	90	104	78	97
D3-N-MeFOSAA (surr.)	1	%	84	103	75	94
Perfluoroalkyl sulfonic acids (PFSA)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorononanesulfonic acid (PFNS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorooctanesulfonic acid (PFOS) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorodecanesulfonic acid (PFDS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
13C3-PFBS (surr.)	1	%	141	151	135	141
18O2-PFHxS (surr.)	1	%	135	137	120	129
13C8-PFOS (surr.)	1	%	119	120	114	112
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
13C2-4:2 FTSA (surr.)	1	%	111	125	96	97
13C2-6:2 FTSA (surr.)	1	%	120	180	105	95
13C2-8:2 FTSA (surr.)	1	%	98	116	76	85
13C2-10:2 FTSA (surr.)	1	%	117	157	103	115
PFASs Summations						
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of WA DWER PFAS (n=10)*	10	ug/kg	< 10	< 10	< 10	< 10
Sum of PFASs (n=30)*	50	ug/kg	< 50	< 50	< 50	< 50

Client Sample ID			11/0.1 Soil B23-Jn0003488 May 29, 2023	12/0.1 Soil B23-Jn0003489 May 29, 2023	13/0.1 Soil B23-Jn0003490 May 29, 2023	13/0.5 Soil B23-Jn0003491 May 29, 2023
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	86	85	89	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	-
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	-
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	-
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	-
TRH C15-C28	50	mg/kg	140	91	72	-
TRH C29-C36	50	mg/kg	240	220	130	-
TRH C10-C36 (Total)	50	mg/kg	380	311	202	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	88	92	103	-
p-Terphenyl-d14 (surr.)	1	%	84	89	98	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-

Client Sample ID			11/0.1 Soil B23-Jn0003488 May 29, 2023	12/0.1 Soil B23-Jn0003489 May 29, 2023	13/0.1 Soil B23-Jn0003490 May 29, 2023	13/0.5 Soil B23-Jn0003491 May 29, 2023
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Dibutylchloroendate (surr.)	1	%	64	55	56	-
Tetrachloro-m-xylene (surr.)	1	%	82	82	75	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Coumaphos	2	mg/kg	< 2	< 2	< 2	-
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Monocrotophos	2	mg/kg	< 2	< 2	< 2	-
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Omethoate	2	mg/kg	< 2	< 2	< 2	-
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-

Client Sample ID			11/0.1 Soil B23-Jn0003488 May 29, 2023	12/0.1 Soil B23-Jn0003489 May 29, 2023	13/0.1 Soil B23-Jn0003490 May 29, 2023	13/0.5 Soil B23-Jn0003491 May 29, 2023
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
Triphenylphosphate (surr.)	1	%	163	159	159	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Dibutylchloredate (surr.)	1	%	64	55	56	-
Tetrachloro-m-xylene (surr.)	1	%	82	82	75	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
2,4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
2,4,5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	-
2,4,6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	-
2,6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	-
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	-
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	-
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4,6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	-
2-Methyl-4,6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	-
2-Nitrophenol	1.0	mg/kg	< 1	< 1	< 1	-
2,4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
2,4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	-
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	-
Dinoseb	20	mg/kg	< 20	< 20	< 20	-
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Phenol-d6 (surr.)	1	%	67	77	78	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	-
TRH >C16-C34	100	mg/kg	300	240	160	-
TRH >C34-C40	100	mg/kg	150	130	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	450	370	160	-

Client Sample ID			11/0.1 Soil B23-Jn0003488 May 29, 2023	12/0.1 Soil B23-Jn0003489 May 29, 2023	13/0.1 Soil B23-Jn0003490 May 29, 2023	13/0.5 Soil B23-Jn0003491 May 29, 2023
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	7.5	10	4.8	-
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Chromium	5	mg/kg	15	12	6.9	-
Copper	5	mg/kg	25	35	14	-
Iron	20	mg/kg	-	-	-	32000
Lead	5	mg/kg	15	68	13	-
Mercury	0.1	mg/kg	< 0.1	0.1	< 0.1	-
Nickel	5	mg/kg	14	9.9	5.6	-
Zinc	5	mg/kg	95	150	39	-
Sample Properties						
% Moisture	1	%	18	18	16	19
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
Perfluoropentanoic acid (PFPeA) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
Perfluorohexanoic acid (PFHxA) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
Perfluoroheptanoic acid (PFHpA) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
Perfluorooctanoic acid (PFOA) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
Perfluorononanoic acid (PFNA) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
Perfluorodecanoic acid (PFDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
Perfluoroundecanoic acid (PFUnDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
Perfluorododecanoic acid (PFDoDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
Perfluorotridecanoic acid (PFTeDA) ^{N15}	5	ug/kg	< 5	< 5	< 5	-
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
13C4-PFBA (surr.)	1	%	104	111	111	-
13C5-PFPeA (surr.)	1	%	90	97	100	-
13C5-PFHxA (surr.)	1	%	106	119	133	-
13C4-PFHpA (surr.)	1	%	109	116	121	-
13C8-PFOA (surr.)	1	%	114	130	122	-
13C5-PFNA (surr.)	1	%	96	121	116	-
13C6-PFDA (surr.)	1	%	101	123	122	-
13C2-PFUnDA (surr.)	1	%	83	116	121	-
13C2-PFDoDA (surr.)	1	%	91	114	111	-
13C2-PFTeDA (surr.)	1	%	54	127	144	-
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10	-
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10	-
13C8-FOSA (surr.)	1	%	57	83	90	-
D3-N-MeFOSA (surr.)	1	%	66	81	107	-
D5-N-EtFOSA (surr.)	1	%	64	83	99	-
D7-N-MeFOSE (surr.)	1	%	66	82	95	-
D9-N-EtFOSE (surr.)	1	%	58	78	94	-

Client Sample ID			11/0.1	12/0.1	13/0.1	13/0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			B23-Jn0003488	B23-Jn0003489	B23-Jn0003490	B23-Jn0003491
Date Sampled			May 29, 2023	May 29, 2023	May 29, 2023	May 29, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances						
D5-N-EtFOSAA (surr.)	1	%	61	106	104	-
D3-N-MeFOSAA (surr.)	1	%	64	102	94	-
Perfluoroalkyl sulfonic acids (PFSA's)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
Perfluorononanesulfonic acid (PFNS) ^{N15}	5	ug/kg	< 5	< 5	< 5	-
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	5	ug/kg	< 5	< 5	< 5	-
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	5	ug/kg	< 5	< 5	< 5	-
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	5	ug/kg	< 5	< 5	< 5	-
Perfluorooctanesulfonic acid (PFOS) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
Perfluorodecanesulfonic acid (PFDS) ^{N15}	5	ug/kg	< 5	< 5	< 5	-
13C3-PFBS (surr.)	1	%	129	142	153	-
18O2-PFHxS (surr.)	1	%	130	132	134	-
13C8-PFOS (surr.)	1	%	107	116	116	-
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	10	ug/kg	< 10	< 10	< 10	-
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	-
13C2-4:2 FTSA (surr.)	1	%	107	185	144	-
13C2-6:2 FTSA (surr.)	1	%	171	INT	160	-
13C2-8:2 FTSA (surr.)	1	%	82	171	106	-
13C2-10:2 FTSA (surr.)	1	%	115	186	137	-
PFASs Summations						
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	< 5	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	-
Sum of WA DWER PFAS (n=10)*	10	ug/kg	< 10	< 10	< 10	-
Sum of PFASs (n=30)*	50	ug/kg	< 50	< 50	< 50	-
% Clay	1	%	-	-	-	19
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	-	-	-	140
pH (units)(1:5 soil:CaCl2 extract at 25 °C as rec.)	0.1	pH Units	-	-	-	7.5
Total Organic Carbon	0.1	%	-	-	-	0.5
Heavy Metals						
Iron (%)	0.01	%	-	-	-	3.2
Cation Exchange Capacity						
Cation Exchange Capacity	0.5	meq/100g	-	-	-	47

Client Sample ID			14/0.1 Soil	15/0.1 Soil	16/0.1 Soil	17/0.1 Soil
Sample Matrix						
Eurofins Sample No.			B23-Jn0003492	B23-Jn0003493	B23-Jn0003494	B23-Jn0003495
Date Sampled			May 31, 2023	May 30, 2023	May 29, 2023	May 30, 2023
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	75	80	79	79
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	65	84	60	54
TRH C29-C36	50	mg/kg	100	160	97	92
TRH C10-C36 (Total)	50	mg/kg	165	244	157	146
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	88	107	90	96
p-Terphenyl-d14 (surr.)	1	%	84	101	88	91
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			14/0.1 Soil B23-Jn0003492 May 31, 2023	15/0.1 Soil B23-Jn0003493 May 30, 2023	16/0.1 Soil B23-Jn0003494 May 29, 2023	17/0.1 Soil B23-Jn0003495 May 30, 2023
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	76	66	64	57
Tetrachloro-m-xylene (surr.)	1	%	88	59	83	85
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			14/0.1 Soil	15/0.1 Soil	16/0.1 Soil	17/0.1 Soil
Sample Matrix						
Eurofins Sample No.			B23-Jn0003492	B23-Jn0003493	B23-Jn0003494	B23-Jn0003495
Date Sampled			May 31, 2023	May 30, 2023	May 29, 2023	May 30, 2023
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	143	176	161	150
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	76	66	64	57
Tetrachloro-m-xylene (surr.)	1	%	88	59	83	85
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2,4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2,4,5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2,4,6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
2,6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4,6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	< 20
2-Methyl-4,6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Nitrophenol	1.0	mg/kg	< 1	< 1	< 1	< 1
2,4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2,4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Dinoseb	20	mg/kg	< 20	< 20	< 20	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	65	84	73	73
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	130	190	130	120
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	130	190	130	120

Client Sample ID			14/0.1 Soil	15/0.1 Soil	16/0.1 Soil	17/0.1 Soil
Sample Matrix			B23-Jn0003492	B23-Jn0003493	B23-Jn0003494	B23-Jn0003495
Eurofins Sample No.			May 31, 2023	May 30, 2023	May 29, 2023	May 30, 2023
Date Sampled						
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	3.6	5.7	4.6	10
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	6.0	12	8.8	8.0
Copper	5	mg/kg	9.0	23	10	14
Lead	5	mg/kg	10	20	12	18
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	8.6	7.8	6.9
Zinc	5	mg/kg	29	55	36	46
Sample Properties						
% Moisture	1	%	14	17	17	16
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropentanoic acid (PFPeA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorohexanoic acid (PFHxA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroheptanoic acid (PFHpA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorooctanoic acid (PFOA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorononanoic acid (PFNA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorodecanoic acid (PFDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroundecanoic acid (PFUnDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorododecanoic acid (PFDoDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorotridecanoic acid (PFTeDA) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
13C4-PFBA (surr.)	1	%	113	115	74	114
13C5-PFPeA (surr.)	1	%	100	103	59	104
13C5-PFHxA (surr.)	1	%	129	117	77	126
13C4-PFHpA (surr.)	1	%	110	122	67	118
13C8-PFOA (surr.)	1	%	119	133	77	126
13C5-PFNA (surr.)	1	%	117	131	89	115
13C6-PFDA (surr.)	1	%	118	135	103	115
13C2-PFUnDA (surr.)	1	%	116	116	112	114
13C2-PFDoDA (surr.)	1	%	117	137	111	118
13C2-PFTeDA (surr.)	1	%	133	150	108	141
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
13C8-FOSA (surr.)	1	%	86	94	78	89
D3-N-MeFOSA (surr.)	1	%	104	108	82	105
D5-N-EtFOSA (surr.)	1	%	106	107	84	103
D7-N-MeFOSE (surr.)	1	%	99	97	86	99
D9-N-EtFOSE (surr.)	1	%	99	106	95	104
D5-N-EtFOSAA (surr.)	1	%	100	115	78	105
D3-N-MeFOSAA (surr.)	1	%	83	101	76	97

Client Sample ID			14/0.1 Soil	15/0.1 Soil	16/0.1 Soil	17/0.1 Soil
Sample Matrix			B23-Jn0003492	B23-Jn0003493	B23-Jn0003494	B23-Jn0003495
Eurofins Sample No.			May 31, 2023	May 30, 2023	May 29, 2023	May 30, 2023
Date Sampled						
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonic acids (PFASs)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorononanesulfonic acid (PFNS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorooctanesulfonic acid (PFOS) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorodecanesulfonic acid (PFDS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
13C3-PFBS (surr.)	1	%	146	142	66	145
18O2-PFHxS (surr.)	1	%	123	142	76	135
13C8-PFOS (surr.)	1	%	116	124	96	108
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
13C2-4:2 FTSA (surr.)	1	%	101	132	98	136
13C2-6:2 FTSA (surr.)	1	%	155	INT	95	164
13C2-8:2 FTSA (surr.)	1	%	92	137	88	101
13C2-10:2 FTSA (surr.)	1	%	125	160	95	116
PFASs Summations						
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	< 5	< 5
Sum of WA DWER PFAS (n=10)*	10	ug/kg	< 10	< 10	< 10	< 10
Sum of PFASs (n=30)*	50	ug/kg	< 50	< 50	< 50	< 50

Client Sample ID			18/0.1 Soil	19/0.1 Soil	19/0.5 Soil	20/0.1 Soil
Sample Matrix			B23-Jn0003496	B23-Jn0003497	B23-Jn0003498	B23-Jn0003499
Eurofins Sample No.			May 31, 2023	May 30, 2023	May 30, 2023	May 29, 2023
Date Sampled						
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	75	88	-	78
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	-	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	-	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	-	< 20

Client Sample ID			18/0.1 Soil B23-Jn0003496 May 31, 2023	19/0.1 Soil B23-Jn0003497 May 30, 2023	19/0.5 Soil B23-Jn0003498 May 30, 2023	20/0.1 Soil B23-Jn0003499 May 29, 2023
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	-	< 20
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C10-C14	20	mg/kg	< 20	< 20	-	< 20
TRH C15-C28	50	mg/kg	54	< 50	-	52
TRH C29-C36	50	mg/kg	80	57	-	84
TRH C10-C36 (Total)	50	mg/kg	134	57	-	136
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	-	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	93	98	-	118
p-Terphenyl-d14 (surr.)	1	%	89	94	-	109
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05

Client Sample ID			18/0.1 Soil B23-Jn0003496 May 31, 2023	19/0.1 Soil B23-Jn0003497 May 30, 2023	19/0.5 Soil B23-Jn0003498 May 30, 2023	20/0.1 Soil B23-Jn0003499 May 29, 2023
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Dibutylchlorodate (surr.)	1	%	56	51	-	96
Tetrachloro-m-xylene (surr.)	1	%	96	76	-	80
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	-	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	-	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Omethoate	2	mg/kg	< 2	< 2	-	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Triphenylphosphate (surr.)	1	%	145	136	-	58
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1

Client Sample ID			18/0.1 Soil B23-Jn0003496 May 31, 2023	19/0.1 Soil B23-Jn0003497 May 30, 2023	19/0.5 Soil B23-Jn0003498 May 30, 2023	20/0.1 Soil B23-Jn0003499 May 29, 2023
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Dibutylchlorendate (surr.)	1	%	56	51	-	96
Tetrachloro-m-xylene (surr.)	1	%	96	76	-	80
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2,4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2,4,5-Trichlorophenol	1	mg/kg	< 1	< 1	-	< 1
2,4,6-Trichlorophenol	1	mg/kg	< 1	< 1	-	< 1
2,6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	-	< 1
Pentachlorophenol	1	mg/kg	< 1	< 1	-	< 1
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	-	< 10
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4,6-dinitrophenol	20	mg/kg	< 20	< 20	-	< 20
2-Methyl-4,6-dinitrophenol	5	mg/kg	< 5	< 5	-	< 5
2-Nitrophenol	1.0	mg/kg	< 1	< 1	-	< 1
2,4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
2,4-Dinitrophenol	5	mg/kg	< 5	< 5	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	-	< 0.4
Total cresols*	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	-	< 5
Dinoseb	20	mg/kg	< 20	< 20	-	< 20
Phenol	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Phenol-d6 (surr.)	1	%	67	68	-	93
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	-	< 20
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	-	< 50
TRH >C16-C34	100	mg/kg	110	< 100	-	110
TRH >C34-C40	100	mg/kg	< 100	< 100	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	110	< 100	-	110
Heavy Metals						
Arsenic	2	mg/kg	6.8	5.8	-	5.3
Cadmium	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Chromium	5	mg/kg	7.8	8.2	-	9.0
Copper	5	mg/kg	19	21	-	19
Iron	20	mg/kg	-	-	37000	-
Lead	5	mg/kg	24	19	-	17
Mercury	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Nickel	5	mg/kg	5.4	7.6	-	8.8
Zinc	5	mg/kg	41	47	-	71
Sample Properties						
% Moisture	1	%	20	19	22	17

Client Sample ID			18/0.1 Soil B23-Jn0003496 May 31, 2023	19/0.1 Soil B23-Jn0003497 May 30, 2023	19/0.5 Soil B23-Jn0003498 May 30, 2023	20/0.1 Soil B23-Jn0003499 May 29, 2023
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
Perfluoropentanoic acid (PFPeA) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
Perfluorohexanoic acid (PFHxA) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
Perfluoroheptanoic acid (PFHpA) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
Perfluorooctanoic acid (PFOA) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
Perfluorononanoic acid (PFNA) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
Perfluorodecanoic acid (PFDA) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
Perfluoroundecanoic acid (PFUnDA) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
Perfluorododecanoic acid (PFDoDA) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
Perfluorotridecanoic acid (PFTrDA) ^{N15}	5	ug/kg	< 5	< 5	-	< 5
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
13C4-PFBA (surr.)	1	%	106	111	-	112
13C5-PFPeA (surr.)	1	%	95	111	-	94
13C5-PFHxA (surr.)	1	%	118	127	-	146
13C4-PFHpA (surr.)	1	%	122	116	-	140
13C8-PFOA (surr.)	1	%	118	124	-	140
13C5-PFNA (surr.)	1	%	111	112	-	111
13C6-PFDA (surr.)	1	%	113	116	-	86
13C2-PFUnDA (surr.)	1	%	114	116	-	84
13C2-PFDoDA (surr.)	1	%	112	117	-	84
13C2-PFTeDA (surr.)	1	%	120	145	-	47
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	10	ug/kg	< 10	< 10	-	< 10
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	10	ug/kg	< 10	< 10	-	< 10
13C8-FOSA (surr.)	1	%	79	82	-	47
D3-N-MeFOSA (surr.)	1	%	99	103	-	98
D5-N-EtFOSA (surr.)	1	%	96	99	-	120
D7-N-MeFOSE (surr.)	1	%	88	97	-	< 1
D9-N-EtFOSE (surr.)	1	%	88	97	-	89
D5-N-EtFOSAA (surr.)	1	%	95	100	-	45
D3-N-MeFOSAA (surr.)	1	%	88	94	-	59
Perfluoroalkyl sulfonic acids (PFSAs)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
Perfluorononanesulfonic acid (PFNS) ^{N15}	5	ug/kg	< 5	< 5	-	< 5
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	5	ug/kg	< 5	< 5	-	< 5
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	5	ug/kg	< 5	< 5	-	< 5
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	5	ug/kg	< 5	< 5	-	< 5
Perfluorooctanesulfonic acid (PFOS) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
Perfluorodecanesulfonic acid (PFDS) ^{N15}	5	ug/kg	< 5	< 5	-	< 5
13C3-PFBS (surr.)	1	%	139	143	-	143

Client Sample ID			18/0.1 Soil B23-Jn0003496 May 31, 2023	19/0.1 Soil B23-Jn0003497 May 30, 2023	19/0.5 Soil B23-Jn0003498 May 30, 2023	20/0.1 Soil B23-Jn0003499 May 29, 2023
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonic acids (PFASs)						
18O2-PFHxS (surr.)	1	%	139	128	-	122
13C8-PFOS (surr.)	1	%	110	117	-	81
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	10	ug/kg	< 10	< 10	-	< 10
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	-	< 5
13C2-4:2 FTSA (surr.)	1	%	161	121	-	64
13C2-6:2 FTSA (surr.)	1	%	173	152	-	134
13C2-8:2 FTSA (surr.)	1	%	INT	102	-	44
13C2-10:2 FTSA (surr.)	1	%	128	128	-	65
PFASs Summations						
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	-	< 5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	-	< 5
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	-	< 5
Sum of WA DWER PFAS (n=10)*	10	ug/kg	< 10	< 10	-	< 10
Sum of PFASs (n=30)*	50	ug/kg	< 50	< 50	-	< 50
% Clay	1	%	-	-	10	-
Conductivity (1:5 aqueous extract at 25 °C as rec.)	10	uS/cm	-	-	220	-
pH (units)(1:5 soil:CaCl2 extract at 25 °C as rec.)	0.1	pH Units	-	-	5.7	-
Total Organic Carbon	0.1	%	-	-	0.4	-
Heavy Metals						
Iron (%)	0.01	%	-	-	3.7	-
Cation Exchange Capacity						
Cation Exchange Capacity	0.5	meq/100g	-	-	51	-

Client Sample ID			20/0.5 Soil B23-Jn0003500 May 29, 2023	S1 Soil B23-Jn0003501 May 24, 2023	TRIP BLANK Trip Blank (solid) B23-Jn0003556 May 26, 2023
Sample Matrix					
Eurofins Sample No.					
Date Sampled					
Test/Reference	LOR	Unit			
BTEX					
Benzene	0.1	mg/kg	-	< 0.1	< 0.1
Toluene	0.1	mg/kg	-	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	-	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	-	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	-	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	-	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	86	114
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene ^{N02}	0.5	mg/kg	-	< 0.5	-
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	-	< 50	-
TRH C6-C10	20	mg/kg	-	< 20	-
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	-	< 20	-

Client Sample ID			20/0.5	S1	TRIP BLANK
Sample Matrix			Soil	Soil	Trip Blank (solid)
Eurofins Sample No.			B23-Jn0003500	B23-Jn0003501	B23-Jn0003556
Date Sampled			May 29, 2023	May 24, 2023	May 26, 2023
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons					
TRH C6-C9	20	mg/kg	-	< 20	< 20
TRH C6-C10	20	mg/kg	-	-	< 20
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C10-C14	20	mg/kg	-	< 20	-
TRH C15-C28	50	mg/kg	-	< 50	-
TRH C29-C36	50	mg/kg	-	< 50	-
TRH C10-C36 (Total)	50	mg/kg	-	< 50	-
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-
Acenaphthene	0.5	mg/kg	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	-
Anthracene	0.5	mg/kg	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	-	< 0.5	-
Benzo(g,h,i)perylene	0.5	mg/kg	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-
Chrysene	0.5	mg/kg	-	< 0.5	-
Dibenz(a,h)anthracene	0.5	mg/kg	-	< 0.5	-
Fluoranthene	0.5	mg/kg	-	< 0.5	-
Fluorene	0.5	mg/kg	-	< 0.5	-
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	-	< 0.5	-
Naphthalene	0.5	mg/kg	-	< 0.5	-
Phenanthrene	0.5	mg/kg	-	< 0.5	-
Pyrene	0.5	mg/kg	-	< 0.5	-
Total PAH*	0.5	mg/kg	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	145	-
p-Terphenyl-d14 (surr.)	1	%	-	133	-
Organochlorine Pesticides					
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-
4,4'-DDD	0.05	mg/kg	-	< 0.05	-
4,4'-DDE	0.05	mg/kg	-	< 0.05	-
4,4'-DDT	0.05	mg/kg	-	< 0.05	-
a-HCH	0.05	mg/kg	-	< 0.05	-
Aldrin	0.05	mg/kg	-	< 0.05	-
b-HCH	0.05	mg/kg	-	< 0.05	-
d-HCH	0.05	mg/kg	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-
Endrin	0.05	mg/kg	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	< 0.05	-

Client Sample ID			20/0.5	S1	TRIP BLANK
Sample Matrix			Soil	Soil	Trip Blank (solid)
Eurofins Sample No.			B23-Jn0003500	B23-Jn0003501	B23-Jn0003556
Date Sampled			May 29, 2023	May 24, 2023	May 26, 2023
Test/Reference	LOR	Unit			
Organochlorine Pesticides					
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	94	-
Tetrachloro-m-xylene (surr.)	1	%	-	73	-
Organophosphorus Pesticides					
Azinphos-methyl	0.2	mg/kg	-	< 0.2	-
Bolstar	0.2	mg/kg	-	< 0.2	-
Chlorfenvinphos	0.2	mg/kg	-	< 0.2	-
Chlorpyrifos	0.2	mg/kg	-	< 0.2	-
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	-
Coumaphos	2	mg/kg	-	< 2	-
Demeton-S	0.2	mg/kg	-	< 0.2	-
Demeton-O	0.2	mg/kg	-	< 0.2	-
Diazinon	0.2	mg/kg	-	< 0.2	-
Dichlorvos	0.2	mg/kg	-	< 0.2	-
Dimethoate	0.2	mg/kg	-	< 0.2	-
Disulfoton	0.2	mg/kg	-	< 0.2	-
EPN	0.2	mg/kg	-	< 0.2	-
Ethion	0.2	mg/kg	-	< 0.2	-
Ethoprop	0.2	mg/kg	-	< 0.2	-
Ethyl parathion	0.2	mg/kg	-	< 0.2	-
Fenitrothion	0.2	mg/kg	-	< 0.2	-
Fensulfothion	0.2	mg/kg	-	< 0.2	-
Fenthion	0.2	mg/kg	-	< 0.2	-
Malathion	0.2	mg/kg	-	< 0.2	-
Merphos	0.2	mg/kg	-	< 0.2	-
Methyl parathion	0.2	mg/kg	-	< 0.2	-
Mevinphos	0.2	mg/kg	-	< 0.2	-
Monocrotophos	2	mg/kg	-	< 2	-
Naled	0.2	mg/kg	-	< 0.2	-
Omethoate	2	mg/kg	-	< 2	-
Phorate	0.2	mg/kg	-	< 0.2	-
Pirimiphos-methyl	0.2	mg/kg	-	< 0.2	-
Pyrazophos	0.2	mg/kg	-	< 0.2	-
Ronnel	0.2	mg/kg	-	< 0.2	-
Terbufos	0.2	mg/kg	-	< 0.2	-
Tetrachlorvinphos	0.2	mg/kg	-	< 0.2	-
Tokuthion	0.2	mg/kg	-	< 0.2	-
Trichloronate	0.2	mg/kg	-	< 0.2	-
Triphenylphosphate (surr.)	1	%	-	61	-

Client Sample ID			20/0.5	S1	TRIP BLANK
Sample Matrix			Soil	Soil	Trip Blank (solid)
Eurofins Sample No.			B23-Jn0003500	B23-Jn0003501	B23-Jn0003556
Date Sampled			May 29, 2023	May 24, 2023	May 26, 2023
Test/Reference	LOR	Unit			
Polychlorinated Biphenyls					
Aroclor-1016	0.1	mg/kg	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	94	-
Tetrachloro-m-xylene (surr.)	1	%	-	73	-
Phenols (Halogenated)					
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-
2,4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-
2,4,5-Trichlorophenol	1	mg/kg	-	< 1	-
2,4,6-Trichlorophenol	1	mg/kg	-	< 1	-
2,6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	-
Pentachlorophenol	1	mg/kg	-	< 1	-
Tetrachlorophenols - Total	10	mg/kg	-	< 10	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-
Phenols (non-Halogenated)					
2-Cyclohexyl-4,6-dinitrophenol	20	mg/kg	-	< 20	-
2-Methyl-4,6-dinitrophenol	5	mg/kg	-	< 5	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-
2,4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-
2,4-Dinitrophenol	5	mg/kg	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-
Total cresols*	0.5	mg/kg	-	< 0.5	-
4-Nitrophenol	5	mg/kg	-	< 5	-
Dinoseb	20	mg/kg	-	< 20	-
Phenol	0.5	mg/kg	-	< 0.5	-
Phenol-d6 (surr.)	1	%	-	117	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
TRH >C10-C16	50	mg/kg	-	< 50	-
TRH >C16-C34	100	mg/kg	-	< 100	-
TRH >C34-C40	100	mg/kg	-	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	-	< 100	-
Heavy Metals					
Arsenic	2	mg/kg	3.6	6.4	-
Cadmium	0.5	mg/kg	< 0.5	< 0.5	-
Chromium	5	mg/kg	9.3	15	-
Copper	5	mg/kg	18	26	-
Lead	5	mg/kg	16	11	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	-
Nickel	5	mg/kg	13	20	-
Zinc	5	mg/kg	31	53	-

Client Sample ID			20/0.5	S1	TRIP BLANK
Sample Matrix			Soil	Soil	Trip Blank (solid)
Eurofins Sample No.			B23-Jn0003500	B23-Jn0003501	B23-Jn0003556
Date Sampled			May 29, 2023	May 24, 2023	May 26, 2023
Test/Reference	LOR	Unit			
Sample Properties					
% Moisture	1	%	19	20	-
Perfluoroalkyl carboxylic acids (PFCAs)					
Perfluorobutanoic acid (PFBA) ^{N11}	5	ug/kg	-	< 5	-
Perfluoropentanoic acid (PFPeA) ^{N11}	5	ug/kg	-	< 5	-
Perfluorohexanoic acid (PFHxA) ^{N11}	5	ug/kg	-	< 5	-
Perfluoroheptanoic acid (PFHpA) ^{N11}	5	ug/kg	-	< 5	-
Perfluorooctanoic acid (PFOA) ^{N11}	5	ug/kg	-	< 5	-
Perfluorononanoic acid (PFNA) ^{N11}	5	ug/kg	-	< 5	-
Perfluorodecanoic acid (PFDA) ^{N11}	5	ug/kg	-	< 5	-
Perfluoroundecanoic acid (PFUnDA) ^{N11}	5	ug/kg	-	< 5	-
Perfluorododecanoic acid (PFDoDA) ^{N11}	5	ug/kg	-	< 5	-
Perfluorotridecanoic acid (PFTeDA) ^{N15}	5	ug/kg	-	< 5	-
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	5	ug/kg	-	< 5	-
13C4-PFBA (surr.)	1	%	-	88	-
13C5-PFPeA (surr.)	1	%	-	64	-
13C5-PFHxA (surr.)	1	%	-	159	-
13C4-PFHpA (surr.)	1	%	-	154	-
13C8-PFOA (surr.)	1	%	-	96	-
13C5-PFNA (surr.)	1	%	-	104	-
13C6-PFDA (surr.)	1	%	-	100	-
13C2-PFUnDA (surr.)	1	%	-	98	-
13C2-PFDoDA (surr.)	1	%	-	89	-
13C2-PFTeDA (surr.)	1	%	-	88	-
Perfluoroalkyl sulfonamido substances					
Perfluorooctane sulfonamide (FOSA) ^{N11}	5	ug/kg	-	< 5	-
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	5	ug/kg	-	< 5	-
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	5	ug/kg	-	< 5	-
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	5	ug/kg	-	< 5	-
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	5	ug/kg	-	< 5	-
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	10	ug/kg	-	< 10	-
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	10	ug/kg	-	< 10	-
13C8-FOSA (surr.)	1	%	-	38	-
D3-N-MeFOSA (surr.)	1	%	-	101	-
D5-N-EtFOSA (surr.)	1	%	-	88	-
D7-N-MeFOSE (surr.)	1	%	-	82	-
D9-N-EtFOSE (surr.)	1	%	-	97	-
D5-N-EtFOSAA (surr.)	1	%	-	93	-
D3-N-MeFOSAA (surr.)	1	%	-	125	-
Perfluoroalkyl sulfonic acids (PFSA)					
Perfluorobutanesulfonic acid (PFBS) ^{N11}	5	ug/kg	-	< 5	-
Perfluorononanesulfonic acid (PFNS) ^{N15}	5	ug/kg	-	< 5	-
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	5	ug/kg	-	< 5	-
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	5	ug/kg	-	< 5	-
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	5	ug/kg	-	< 5	-
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	5	ug/kg	-	< 5	-

Client Sample ID			20/0.5	S1	TRIP BLANK
Sample Matrix			Soil	Soil	Trip Blank (solid)
Eurofins Sample No.			B23-Jn0003500	B23-Jn0003501	B23-Jn0003556
Date Sampled			May 29, 2023	May 24, 2023	May 26, 2023
Test/Reference	LOR	Unit			
Perfluoroalkyl sulfonic acids (PFASs)					
Perfluorooctanesulfonic acid (PFOS) ^{N11}	5	ug/kg	-	< 5	-
Perfluorodecanesulfonic acid (PFDS) ^{N15}	5	ug/kg	-	< 5	-
13C3-PFBS (surr.)	1	%	-	116	-
18O2-PFHxS (surr.)	1	%	-	97	-
13C8-PFOS (surr.)	1	%	-	105	-
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	5	ug/kg	-	< 5	-
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	10	ug/kg	-	< 10	-
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	5	ug/kg	-	< 5	-
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	5	ug/kg	-	< 5	-
13C2-4:2 FTSA (surr.)	1	%	-	105	-
13C2-6:2 FTSA (surr.)	1	%	-	71	-
13C2-8:2 FTSA (surr.)	1	%	-	86	-
13C2-10:2 FTSA (surr.)	1	%	-	170	-
PFASs Summations					
Sum (PFHxS + PFOS)*	5	ug/kg	-	< 5	-
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	-	< 5	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	-	< 5	-
Sum of WA DWER PFAS (n=10)*	10	ug/kg	-	< 10	-
Sum of PFASs (n=30)*	50	ug/kg	-	< 50	-
Naphthalene ^{N02}	0.5	mg/kg	-	-	< 0.5
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	-	-	< 20

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
BTEX	Brisbane	Jun 20, 2023	14 Days
- Method: USEPA SW846 8260			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Brisbane	Jun 19, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Brisbane	Jun 20, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Naphthalene	Brisbane	Jun 20, 2023	14 Days
- Method: USEPA 8260B - MGT 350A Volatile Organics by GCMS			
Eurofins Suite B7A			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Brisbane	Jun 20, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Brisbane	Jun 19, 2023	14 Days
- Method: USEPA M 8270 (LTM-ORG-2130 PAH & Phenols in Soil & Water by GC-MS)			
Phenols (Halogenated)	Brisbane	Jun 19, 2023	14 Days
- Method: USEPA M 8270 (LTM-ORG-2130 PAH & Phenols in Soil & Water by GC-MS)			
Phenols (non-Halogenated)	Brisbane	Jun 19, 2023	14 Days
- Method: USEPA M 8270 (LTM-ORG-2130 PAH & Phenols in Soil & Water by GC-MS)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Brisbane	Jun 19, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Metals M8	Brisbane	Jun 19, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Organochlorine Pesticides	Brisbane	Jun 19, 2023	14 Days
- Method: LTM-ORG-2220 OCP and PCB in Soil and Water (USEPA 8270)			
Organophosphorus Pesticides	Brisbane	Jun 19, 2023	14 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8270)			
Polychlorinated Biphenyls	Melbourne	Jun 06, 2023	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)			
NEPM Screen for Soil Classification			
Heavy Metals	Brisbane	Jun 02, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Clay	Brisbane	Jun 02, 2023	14 Days
- Method: LTM-GEN-7040			
Conductivity (1:5 aqueous extract at 25 °C as rec.)	Brisbane	Jun 05, 2023	7 Days
- Method: LTM-INO-4030 Conductivity			
pH (units)(1:5 soil:CaCl2 extract at 25 °C as rec.)	Brisbane	Jun 05, 2023	7 Day
- Method: LTM-GEN-7090 pH in soil by ISE			
Total Organic Carbon	Melbourne	Jun 08, 2023	28 Days
- Method: LTM-INO-4060 Total Organic Carbon in water and soil			
Cation Exchange Capacity	Melbourne	Jun 05, 2023	28 Days
- Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage			
% Moisture	Brisbane	Jun 01, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs)	Brisbane	Jun 19, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonamido substances	Brisbane	Jun 19, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonic acids (PFSAAs)	Brisbane	Jun 19, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)	Brisbane	Jun 19, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101

Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X		X				
Sydney Laboratory - NATA # 1261 Site # 18217						X									
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X
External Laboratory															
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID										
1	7/0.1	May 25, 2023		Soil	B23-Jn0003484	X			X	X		X		X	
2	8/0.1	May 29, 2023		Soil	B23-Jn0003485	X			X	X		X		X	
3	9/0.5	May 24, 2023		Soil	B23-Jn0003486	X			X	X		X		X	
4	10/0.1	May 29, 2023		Soil	B23-Jn0003487	X			X	X		X		X	
5	11/0.1	May 29, 2023		Soil	B23-Jn0003488	X			X	X		X		X	
6	12/0.1	May 29, 2023		Soil	B23-Jn0003489	X			X	X		X		X	
7	13/0.1	May 29, 2023		Soil	B23-Jn0003490	X			X	X		X		X	
8	13/0.5	May 29, 2023		Soil	B23-Jn0003491					X	X				
9	14/0.1	May 31, 2023		Soil	B23-Jn0003492	X			X	X		X		X	
10	15/0.1	May 30, 2023		Soil	B23-Jn0003493	X			X	X		X		X	
11	16/0.1	May 29, 2023		Soil	B23-Jn0003494	X			X	X		X		X	

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X		X				
Sydney Laboratory - NATA # 1261 Site # 18217						X									
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X
12	17/0.1	May 30, 2023		Soil	B23-Jn0003495	X			X	X		X		X	
13	18/0.1	May 31, 2023		Soil	B23-Jn0003496	X			X	X		X		X	
14	19/0.1	May 30, 2023		Soil	B23-Jn0003497	X			X	X		X		X	
15	19/0.5	May 30, 2023		Soil	B23-Jn0003498					X	X				
16	20/0.1	May 29, 2023		Soil	B23-Jn0003499	X			X	X		X		X	
17	20/0.5	May 29, 2023		Soil	B23-Jn0003500			X		X					
18	S1	May 24, 2023		Soil	B23-Jn0003501				X	X		X		X	
19	R1	May 25, 2023		Soil	B23-Jn0003502				X	X		X		X	
20	7/0.5	May 25, 2023		Soil	B23-Jn0003503		X								
21	7/1.0	May 25, 2023		Soil	B23-Jn0003504		X								
22	7/1.5	May 25, 2023		Soil	B23-Jn0003505		X								
23	7/2	May 25, 2023		Soil	B23-Jn0003506		X								
24	8/0.5	May 29, 2023		Soil	B23-Jn0003507		X								
25	8/1.0	May 29, 2023		Soil	B23-Jn0003508		X								

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X		X				
Sydney Laboratory - NATA # 1261 Site # 18217						X									
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X
26	8/1.5	May 29, 2023		Soil	B23-Jn0003509		X								
27	8/2	May 29, 2023		Soil	B23-Jn0003510		X								
28	9/0.1	May 24, 2023		Soil	B23-Jn0003511		X								
29	9/1.0	May 24, 2023		Soil	B23-Jn0003512		X								
30	9/1.5	May 24, 2023		Soil	B23-Jn0003513		X								
31	9/2	May 24, 2023		Soil	B23-Jn0003514		X								
32	10/0.5	May 29, 2023		Soil	B23-Jn0003515		X								
33	10/1.0	May 29, 2023		Soil	B23-Jn0003516		X								
34	10/1.5	May 29, 2023		Soil	B23-Jn0003517		X								
35	10/2	May 29, 2023		Soil	B23-Jn0003518		X								
36	11/0.5	May 29, 2023		Soil	B23-Jn0003519		X								
37	11/1.0	May 29, 2023		Soil	B23-Jn0003520		X								
38	11/1.5	May 29, 2023		Soil	B23-Jn0003521		X								
39	11/2	May 29, 2023		Soil	B23-Jn0003522		X								

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X		X				
Sydney Laboratory - NATA # 1261 Site # 18217						X									
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X
40	12/0.5	May 29, 2023		Soil	B23-Jn0003523		X								
41	12/1.0	May 29, 2023		Soil	B23-Jn0003524		X								
42	12/1.5	May 29, 2023		Soil	B23-Jn0003525		X								
43	12/2	May 29, 2023		Soil	B23-Jn0003526		X								
44	13/1.0	May 29, 2023		Soil	B23-Jn0003527		X								
45	13/1.5	May 29, 2023		Soil	B23-Jn0003528		X								
46	13/2	May 29, 2023		Soil	B23-Jn0003529		X								
47	14/0.5	May 31, 2023		Soil	B23-Jn0003530		X								
48	14/1.0	May 31, 2023		Soil	B23-Jn0003531		X								
49	14/1.5	May 31, 2023		Soil	B23-Jn0003532		X								
50	14/2	May 31, 2023		Soil	B23-Jn0003533		X								
51	15/0.5	May 30, 2023		Soil	B23-Jn0003534		X								
52	15/1.0	May 30, 2023		Soil	B23-Jn0003535		X								
53	15/1.5	May 30, 2023		Soil	B23-Jn0003536		X								

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X		X				
Sydney Laboratory - NATA # 1261 Site # 18217						X									
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X
54	15/2	May 30, 2023		Soil	B23-Jn0003537		X								
55	16/0.5	May 29, 2023		Soil	B23-Jn0003538		X								
56	16/1.0	May 29, 2023		Soil	B23-Jn0003539		X								
57	16/1.5	May 29, 2023		Soil	B23-Jn0003540		X								
58	16/2	May 29, 2023		Soil	B23-Jn0003541		X								
59	17/0.5	May 30, 2023		Soil	B23-Jn0003542		X								
60	17/1.0	May 30, 2023		Soil	B23-Jn0003543		X								
61	17/1.5	May 30, 2023		Soil	B23-Jn0003544		X								
62	17/2	May 30, 2023		Soil	B23-Jn0003545		X								
63	18/0.5	May 31, 2023		Soil	B23-Jn0003546		X								
64	18/1.0	May 31, 2023		Soil	B23-Jn0003547		X								
65	18/1.5	May 31, 2023		Soil	B23-Jn0003548		X								
66	18/2	May 31, 2023		Soil	B23-Jn0003549		X								
67	19/1.0	May 30, 2023		Soil	B23-Jn0003550		X								

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X		X				
Sydney Laboratory - NATA # 1261 Site # 18217						X									
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X
68	19/1.5	May 30, 2023		Soil	B23-Jn0003551		X								
69	19/2	May 30, 2023		Soil	B23-Jn0003552		X								
70	20/1.0	May 29, 2023		Soil	B23-Jn0003553		X								
71	20/1.5	May 29, 2023		Soil	B23-Jn0003554		X								
72	20/2	May 29, 2023		Soil	B23-Jn0003555		X								
73	TRIP BLANK	May 26, 2023		Trip Blank (solid)	B23-Jn0003556								X		
74	TRIP SPIKE	May 27, 2023		Trip Spike (liquid)	B23-Jn0003557										X
Test Counts						14	53	1	16	19	2	16	1	16	1

Internal Quality Control Review and Glossary

General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
- This report replaces any interim results previously issued.

Holding Times

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

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

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

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

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	µg/L: micrograms per litre
ppm: parts per million	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit		

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

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

Results <10 times the LOR: No Limit

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

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

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

- Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

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

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2,4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2,4,5-Trichlorophenol	mg/kg	< 1			1	Pass	
2,4,6-Trichlorophenol	mg/kg	< 1			1	Pass	
2,6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4,6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2,4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2,4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Total Non-Halogenated Phenol*	mg/kg	< 0			20	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.5			0.5	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Iron	mg/kg	< 20			20	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	ug/kg	< 5			5	Pass	
Perfluoropentanoic acid (PFPeA)	ug/kg	< 5			5	Pass	
Perfluorohexanoic acid (PFHxA)	ug/kg	< 5			5	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/kg	< 5			5	Pass	
Perfluorooctanoic acid (PFOA)	ug/kg	< 5			5	Pass	
Perfluorononanoic acid (PFNA)	ug/kg	< 5			5	Pass	
Perfluorodecanoic acid (PFDA)	ug/kg	< 5			5	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/kg	< 5			5	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/kg	< 5			5	Pass	
Perfluorotridecanoic acid (PFTTrDA)	ug/kg	< 5			5	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	ug/kg	< 5			5	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/kg	< 5			5	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/kg	< 5			5	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/kg	< 5			5	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/kg	< 5			5	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/kg	< 10			10	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/kg	< 10			10	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSA's)							
Perfluorobutanesulfonic acid (PFBS)	ug/kg	< 5			5	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/kg	< 5			5	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/kg	< 5			5	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/kg	< 5			5	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/kg	< 5			5	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/kg	< 5			5	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/kg	< 5			5	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/kg	< 5			5	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/kg	< 5			5	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/kg	< 10			10	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/kg	< 5			5	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/kg	< 5			5	Pass	
Method Blank							
Total Organic Carbon	%	< 0.1			0.1	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Iron (%)	%	< 0.01			0.01	Pass	
Method Blank							
Cation Exchange Capacity							
Cation Exchange Capacity	meq/100g	< 0.5			0.5	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	89			70-130	Pass	
Toluene	%	118			70-130	Pass	
Ethylbenzene	%	116			70-130	Pass	
m&p-Xylenes	%	95			70-130	Pass	
Xylenes - Total*	%	94			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH C6-C10	%	88			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	94			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C10-C14	%	75			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	74			70-130	Pass	
Acenaphthylene	%	84			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Anthracene	%	82			70-130	Pass	
Benz(a)anthracene	%	79			70-130	Pass	
Benzo(a)pyrene	%	82			70-130	Pass	
Benzo(b&j)fluoranthene	%	76			70-130	Pass	
Benzo(g,h,i)perylene	%	85			70-130	Pass	
Benzo(k)fluoranthene	%	87			70-130	Pass	
Chrysene	%	72			70-130	Pass	
Dibenz(a,h)anthracene	%	78			70-130	Pass	
Fluoranthene	%	76			70-130	Pass	
Fluorene	%	80			70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	74			70-130	Pass	
Naphthalene	%	85			70-130	Pass	
Phenanthrene	%	71			70-130	Pass	
Pyrene	%	79			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	73			70-130	Pass	
4,4'-DDD	%	78			70-130	Pass	
4,4'-DDE	%	70			70-130	Pass	
4,4'-DDT	%	83			70-130	Pass	
a-HCH	%	73			70-130	Pass	
Aldrin	%	81			70-130	Pass	
b-HCH	%	71			70-130	Pass	
d-HCH	%	83			70-130	Pass	
Dieldrin	%	74			70-130	Pass	
Endosulfan I	%	72			70-130	Pass	
Endosulfan II	%	81			70-130	Pass	
Endosulfan sulphate	%	73			70-130	Pass	
Endrin	%	95			70-130	Pass	
Endrin aldehyde	%	72			70-130	Pass	
Endrin ketone	%	72			70-130	Pass	
g-HCH (Lindane)	%	80			70-130	Pass	
Heptachlor	%	82			70-130	Pass	
Heptachlor epoxide	%	79			70-130	Pass	
Hexachlorobenzene	%	78			70-130	Pass	
Methoxychlor	%	88			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Azinphos-methyl	%	76			70-130	Pass	
Bolstar	%	81			70-130	Pass	
Chlorfenvinphos	%	105			70-130	Pass	
Chlorpyrifos	%	74			70-130	Pass	
Chlorpyrifos-methyl	%	76			70-130	Pass	
Coumaphos	%	75			70-130	Pass	
Demeton-S	%	80			70-130	Pass	
Demeton-O	%	95			70-130	Pass	
Diazinon	%	72			70-130	Pass	
Dichlorvos	%	89			70-130	Pass	
Dimethoate	%	90			70-130	Pass	
Disulfoton	%	93			70-130	Pass	
EPN	%	72			70-130	Pass	
Ethion	%	86			70-130	Pass	
Ethoprop	%	81			70-130	Pass	
Ethyl parathion	%	77			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Fenitrothion	%	80			70-130	Pass	
Fensulfothion	%	74			70-130	Pass	
Fenthion	%	74			70-130	Pass	
Malathion	%	81			70-130	Pass	
Methyl parathion	%	90			75-125	Pass	
Mevinphos	%	87			70-130	Pass	
Monocrotophos	%	104			70-130	Pass	
Naled	%	108			70-130	Pass	
Omethoate	%	128			70-130	Pass	
Phorate	%	85			70-130	Pass	
Pirimiphos-methyl	%	83			70-130	Pass	
Pyrazophos	%	72			70-130	Pass	
Ronnel	%	76			70-130	Pass	
Terbufos	%	88			70-130	Pass	
Tetrachlorvinphos	%	88			70-130	Pass	
Tokuthion	%	79			70-130	Pass	
Trichloronate	%	73			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	91			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	82			25-140	Pass	
2,4-Dichlorophenol	%	84			25-140	Pass	
2,4,5-Trichlorophenol	%	79			25-140	Pass	
2,4,6-Trichlorophenol	%	86			25-140	Pass	
2,6-Dichlorophenol	%	82			25-140	Pass	
4-Chloro-3-methylphenol	%	80			25-140	Pass	
Pentachlorophenol	%	77			25-140	Pass	
Tetrachlorophenols - Total	%	94			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4,6-dinitrophenol	%	91			25-140	Pass	
2-Methyl-4,6-dinitrophenol	%	77			25-140	Pass	
2-Nitrophenol	%	81			25-140	Pass	
2,4-Dimethylphenol	%	76			25-140	Pass	
2,4-Dinitrophenol	%	85			25-140	Pass	
2-Methylphenol (o-Cresol)	%	100			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	88			25-140	Pass	
4-Nitrophenol	%	80			25-140	Pass	
Dinoseb	%	78			25-140	Pass	
Phenol	%	75			25-140	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	73			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	96			80-120	Pass	
Cadmium	%	99			80-120	Pass	
Chromium	%	96			80-120	Pass	
Copper	%	98			80-120	Pass	
Iron	%	96			80-120	Pass	
Lead	%	97			80-120	Pass	
Mercury	%	93			80-120	Pass	

Test			Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Nickel			%	97		80-120	Pass	
Zinc			%	98		80-120	Pass	
LCS - % Recovery								
Perfluoroalkyl carboxylic acids (PFCAs)								
Perfluorobutanoic acid (PFBA)			%	85		50-150	Pass	
Perfluoropentanoic acid (PFPeA)			%	72		50-150	Pass	
Perfluorohexanoic acid (PFHxA)			%	86		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)			%	91		50-150	Pass	
Perfluorooctanoic acid (PFOA)			%	94		50-150	Pass	
Perfluorononanoic acid (PFNA)			%	90		50-150	Pass	
Perfluorodecanoic acid (PFDA)			%	90		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)			%	92		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)			%	93		50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)			%	97		50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)			%	90		50-150	Pass	
LCS - % Recovery								
Perfluoroalkyl sulfonamido substances								
Perfluorooctane sulfonamide (FOSA)			%	87		50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)			%	87		50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)			%	89		50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)			%	84		50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)			%	81		50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)			%	84		50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)			%	95		50-150	Pass	
LCS - % Recovery								
Perfluoroalkyl sulfonic acids (PFSA's)								
Perfluorobutanesulfonic acid (PFBS)			%	91		50-150	Pass	
Perfluorononanesulfonic acid (PFNS)			%	100		50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)			%	53		50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)			%	80		50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)			%	78		50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)			%	78		50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)			%	98		50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)			%	93		50-150	Pass	
LCS - % Recovery								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)								
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)			%	101		50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)			%	105		50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)			%	78		50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)			%	87		50-150	Pass	
LCS - % Recovery								
% Clay			%	123		70-130	Pass	
Total Organic Carbon			%	99		70-130	Pass	
LCS - % Recovery								
Heavy Metals								
Iron (%)			%	96		80-120	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Polycyclic Aromatic Hydrocarbons				Result 1				
Acenaphthene	B23-My0075188	NCP	%	86		70-130	Pass	
Acenaphthylene	B23-My0075188	NCP	%	102		70-130	Pass	
Anthracene	B23-My0075188	NCP	%	92		70-130	Pass	
Benz(a)anthracene	B23-My0075188	NCP	%	86		70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(a)pyrene	B23-My0075188	NCP	%	104			70-130	Pass	
Benzo(b&j)fluoranthene	B23-My0075188	NCP	%	89			70-130	Pass	
Benzo(g,h,i)perylene	B23-My0075188	NCP	%	129			70-130	Pass	
Benzo(k)fluoranthene	B23-My0075188	NCP	%	94			70-130	Pass	
Chrysene	B23-My0075188	NCP	%	79			70-130	Pass	
Dibenz(a,h)anthracene	B23-My0075188	NCP	%	122			70-130	Pass	
Fluoranthene	B23-My0075188	NCP	%	84			70-130	Pass	
Fluorene	B23-My0075188	NCP	%	96			70-130	Pass	
Indeno(1,2,3-cd)pyrene	B23-My0075188	NCP	%	109			70-130	Pass	
Naphthalene	B23-My0075188	NCP	%	81			70-130	Pass	
Phenanthrene	B23-My0075188	NCP	%	78			70-130	Pass	
Pyrene	B23-My0075188	NCP	%	91			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	B23-My0075188	NCP	%	80			70-130	Pass	
4,4'-DDD	B23-My0075188	NCP	%	111			70-130	Pass	
4,4'-DDE	B23-My0075188	NCP	%	78			70-130	Pass	
4,4'-DDT	B23-My0075188	NCP	%	96			70-130	Pass	
a-HCH	B23-My0075188	NCP	%	79			70-130	Pass	
Aldrin	B23-My0075188	NCP	%	74			70-130	Pass	
b-HCH	B23-My0075188	NCP	%	80			70-130	Pass	
d-HCH	B23-My0075188	NCP	%	90			70-130	Pass	
Dieldrin	B23-My0075188	NCP	%	88			70-130	Pass	
Endosulfan I	B23-My0075188	NCP	%	89			70-130	Pass	
Endosulfan II	B23-My0075188	NCP	%	89			70-130	Pass	
Endosulfan sulphate	B23-My0075188	NCP	%	93			70-130	Pass	
Endrin	B23-My0075188	NCP	%	127			70-130	Pass	
Endrin aldehyde	B23-Jn0009586	NCP	%	74			70-130	Pass	
Endrin ketone	B23-My0075188	NCP	%	97			70-130	Pass	
g-HCH (Lindane)	B23-My0075188	NCP	%	88			70-130	Pass	
Heptachlor	B23-My0075188	NCP	%	104			70-130	Pass	
Heptachlor epoxide	B23-My0075188	NCP	%	78			70-130	Pass	
Hexachlorobenzene	B23-My0075188	NCP	%	73			70-130	Pass	
Methoxychlor	B23-My0075188	NCP	%	107			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Azinphos-methyl	B23-My0075188	NCP	%	88			70-130	Pass	
Bolstar	B23-My0075188	NCP	%	77			70-130	Pass	
Chlorfenvinphos	B23-My0075188	NCP	%	114			70-130	Pass	
Chlorpyrifos	B23-My0075188	NCP	%	75			70-130	Pass	
Chlorpyrifos-methyl	B23-Jn0013280	NCP	%	74			70-130	Pass	
Coumaphos	B23-My0075188	NCP	%	105			70-130	Pass	
Demeton-S	B23-My0075188	NCP	%	84			70-130	Pass	
Demeton-O	B23-Jn0009586	NCP	%	129			70-130	Pass	
Diazinon	B23-My0075188	NCP	%	81			70-130	Pass	
Dichlorvos	B23-My0075188	NCP	%	91			70-130	Pass	
Dimethoate	B23-My0075188	NCP	%	83			70-130	Pass	
Disulfoton	B23-My0075188	NCP	%	73			70-130	Pass	
EPN	B23-My0075188	NCP	%	89			70-130	Pass	
Ethion	B23-My0075188	NCP	%	93			70-130	Pass	
Ethoprop	B23-My0075188	NCP	%	80			70-130	Pass	
Ethyl parathion	B23-My0075188	NCP	%	101			70-130	Pass	
Fenitrothion	B23-My0075188	NCP	%	99			70-130	Pass	
Fensulfothion	B23-My0075188	NCP	%	111			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Fenthion	B23-My0075188	NCP	%	81			70-130	Pass	
Malathion	B23-My0075188	NCP	%	122			70-130	Pass	
Methyl parathion	B23-Jn0013280	NCP	%	72			70-130	Pass	
Mevinphos	B23-My0079205	NCP	%	117			70-130	Pass	
Monocrotophos	B23-Jn0015431	NCP	%	130			70-130	Pass	
Naled	B23-My0075188	NCP	%	113			70-130	Pass	
Omethoate	B23-Jn0016973	NCP	%	90			70-130	Pass	
Phorate	B23-My0075188	NCP	%	84			70-130	Pass	
Pirimiphos-methyl	B23-My0075188	NCP	%	81			70-130	Pass	
Pyrazophos	B23-My0075185	NCP	%	130			70-130	Pass	
Ronnel	B23-My0075188	NCP	%	78			70-130	Pass	
Terbufos	B23-My0075188	NCP	%	85			70-130	Pass	
Tetrachlorvinphos	B23-My0075188	NCP	%	103			70-130	Pass	
Tokuthion	B23-My0075188	NCP	%	79			70-130	Pass	
Trichloronate	B23-My0075188	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	M23-Jn0007779	NCP	%	74			70-130	Pass	
Aroclor-1260	M23-Jn0007779	NCP	%	86			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	B23-My0075188	NCP	%	113			30-130	Pass	
2,4-Dichlorophenol	B23-My0075188	NCP	%	130			30-130	Pass	
2,4,5-Trichlorophenol	B23-My0075188	NCP	%	111			30-130	Pass	
2,4,6-Trichlorophenol	B23-My0075188	NCP	%	105			30-130	Pass	
2,6-Dichlorophenol	B23-My0075188	NCP	%	118			30-130	Pass	
4-Chloro-3-methylphenol	B23-My0075188	NCP	%	97			30-130	Pass	
Pentachlorophenol	B23-My0075188	NCP	%	110			30-130	Pass	
Tetrachlorophenols - Total	B23-My0075188	NCP	%	105			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4,6-dinitrophenol	B23-Jn0016973	NCP	%	87			30-130	Pass	
2-Methyl-4,6-dinitrophenol	M23-Jn0015127	NCP	%	98			30-130	Pass	
2-Nitrophenol	B23-My0075188	NCP	%	130			30-130	Pass	
2,4-Dimethylphenol	B23-My0075188	NCP	%	112			30-130	Pass	
2,4-Dinitrophenol	M23-Jn0015127	NCP	%	127			30-130	Pass	
2-Methylphenol (o-Cresol)	B23-My0075188	NCP	%	117			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	B23-My0075188	NCP	%	121			30-130	Pass	
4-Nitrophenol	B23-My0075188	NCP	%	121			30-130	Pass	
Dinoseb	B23-My0075188	NCP	%	116			30-130	Pass	
Phenol	B23-My0075188	NCP	%	104			30-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	B23-Jn0003485	CP	%	74			70-130	Pass	
Toluene	B23-Jn0003485	CP	%	82			70-130	Pass	
Ethylbenzene	B23-Jn0003485	CP	%	89			70-130	Pass	
m&p-Xylenes	B23-Jn0003485	CP	%	93			70-130	Pass	
o-Xylene	B23-Jn0003485	CP	%	93			70-130	Pass	
Xylenes - Total*	B23-Jn0003485	CP	%	93			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH C6-C10	B23-Jn0003485	CP	%	91			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
TRH C6-C9	B23-Jn0003485	CP	%	84		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1				
TRH C10-C14	B23-Jn0003485	CP	%	83		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1				
TRH >C10-C16	B23-Jn0003485	CP	%	82		70-130	Pass	
Spike - % Recovery								
Heavy Metals				Result 1				
Arsenic	B23-Jn0003485	CP	%	123		75-125	Pass	
Chromium	B23-Jn0003485	CP	%	123		75-125	Pass	
Copper	B23-Jn0003485	CP	%	118		75-125	Pass	
Lead	B23-Jn0003485	CP	%	123		75-125	Pass	
Nickel	B23-Jn0003485	CP	%	123		75-125	Pass	
Zinc	B23-Jn0003485	CP	%	121		75-125	Pass	
Spike - % Recovery								
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1				
Perfluorobutanoic acid (PFBA)	B23-Jn0003485	CP	%	81		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	B23-Jn0003485	CP	%	88		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	B23-Jn0003485	CP	%	88		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	B23-Jn0003485	CP	%	84		50-150	Pass	
Perfluorooctanoic acid (PFOA)	B23-Jn0003485	CP	%	87		50-150	Pass	
Perfluorononanoic acid (PFNA)	B23-Jn0003485	CP	%	98		50-150	Pass	
Perfluorodecanoic acid (PFDA)	B23-Jn0003485	CP	%	93		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	B23-Jn0003485	CP	%	95		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	B23-Jn0003485	CP	%	95		50-150	Pass	
Perfluorotridecanoic acid (PFTeDA)	B23-Jn0003485	CP	%	110		50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	B23-Jn0003485	CP	%	101		50-150	Pass	
Spike - % Recovery								
Perfluoroalkyl sulfonamido substances				Result 1				
Perfluorooctane sulfonamide (FOSA)	B23-Jn0003485	CP	%	87		50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B23-Jn0003485	CP	%	90		50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B23-Jn0003485	CP	%	84		50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B23-Jn0003485	CP	%	79		50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B23-Jn0003485	CP	%	80		50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B23-Jn0003485	CP	%	90		50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B23-Jn0003485	CP	%	89		50-150	Pass	
Spike - % Recovery								
Perfluoroalkyl sulfonic acids (PFSA's)				Result 1				
Perfluorobutanesulfonic acid (PFBS)	B23-Jn0003485	CP	%	80		50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	B23-Jn0003485	CP	%	96		50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	B23-Jn0003485	CP	%	69		50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	B23-Jn0003485	CP	%	71		50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluorohexanesulfonic acid (PFHxS)	B23-Jn0003485	CP	%	77			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	B23-Jn0003485	CP	%	68			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	B23-Jn0003485	CP	%	87			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	B23-Jn0003485	CP	%	81			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	B23-Jn0003485	CP	%	91			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA)	B23-Jn0003485	CP	%	79			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	B23-Jn0003485	CP	%	80			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	B23-Jn0003485	CP	%	110			50-150	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Iron	B23-Jn0037330	NCP	%	104			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Iron (%)	B23-Jn0037330	NCP	%	104			75-125	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	B23-Jn0003499	CP	%	93			70-130	Pass	
Toluene	B23-Jn0003499	CP	%	99			70-130	Pass	
Ethylbenzene	B23-Jn0003499	CP	%	101			70-130	Pass	
m&p-Xylenes	B23-Jn0003499	CP	%	103			70-130	Pass	
o-Xylene	B23-Jn0003499	CP	%	101			70-130	Pass	
Xylenes - Total*	B23-Jn0003499	CP	%	103			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH C6-C10	B23-Jn0003499	CP	%	113			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	B23-Jn0003499	CP	%	110			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	B23-Jn0003499	CP	%	96			75-125	Pass	
Cadmium	B23-Jn0003499	CP	%	101			75-125	Pass	
Chromium	B23-Jn0003499	CP	%	98			75-125	Pass	
Copper	B23-Jn0003499	CP	%	97			75-125	Pass	
Lead	B23-Jn0003499	CP	%	95			75-125	Pass	
Mercury	B23-Jn0003499	CP	%	98			75-125	Pass	
Nickel	B23-Jn0003499	CP	%	96			75-125	Pass	
Zinc	B23-Jn0003499	CP	%	96			75-125	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	B23-Jn0003484	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	B23-Jn0003484	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	B23-Jn0003484	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
BTEX				Result 1	Result 2	RPD			
m&p-Xylenes	B23-Jn0003484	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	B23-Jn0003484	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	B23-Jn0003484	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	B23-Jn0003484	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	B23-Jn0003484	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	B23-Jn0003484	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	B23-Jn0003484	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	B23-Jn0003484	CP	mg/kg	< 50	52	8.0	30%	Pass	
TRH C29-C36	B23-Jn0003484	CP	mg/kg	< 50	53	9.5	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g,h,i)perylene	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a,h)anthracene	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1,2,3-cd)pyrene	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	B23-My0075186	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4,4'-DDD	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDE	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDT	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Heptachlor epoxide	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	B23-My0075186	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Azinphos-methyl	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Bolstar	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorfenvinphos	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Chlorpyrifos-methyl	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Coumaphos	B23-My0075186	NCP	mg/kg	< 2	< 2	<1	30%	Pass
Demeton-S	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Demeton-O	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Diazinon	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Dichlorvos	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Dimethoate	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Disulfoton	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
EPN	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethion	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethoprop	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ethyl parathion	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fenitrothion	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fensulfthion	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Fenthion	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Malathion	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Merphos	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Methyl parathion	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Mevinphos	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Monocrotophos	B23-My0075186	NCP	mg/kg	< 2	< 2	<1	30%	Pass
Naled	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Omethoate	B23-My0075186	NCP	mg/kg	< 2	< 2	<1	30%	Pass
Phorate	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Pirimiphos-methyl	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Pyrazophos	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Ronnel	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Terbufos	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tetrachlorvinphos	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Tokuthion	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Trichloronate	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Duplicate								
Polychlorinated Biphenyls				Result 1	Result 2	RPD		
Aroclor-1016	M23-Jn0014535	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1221	M23-Jn0014535	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1232	M23-Jn0014535	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1242	M23-Jn0014535	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1248	M23-Jn0014535	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1254	M23-Jn0014535	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1260	M23-Jn0014535	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Total PCB*	M23-Jn0014535	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass

Duplicate								
Phenols (Halogenated)				Result 1	Result 2	RPD		
2-Chlorophenol	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2,4-Dichlorophenol	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2,4,5-Trichlorophenol	B23-My0075186	NCP	mg/kg	< 1	< 1	<1	30%	Pass
2,4,6-Trichlorophenol	B23-My0075186	NCP	mg/kg	< 1	< 1	<1	30%	Pass
2,6-Dichlorophenol	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
4-Chloro-3-methylphenol	B23-My0075186	NCP	mg/kg	< 1	< 1	<1	30%	Pass
Pentachlorophenol	B23-My0075186	NCP	mg/kg	< 1	< 1	<1	30%	Pass
Tetrachlorophenols - Total	B23-My0075186	NCP	mg/kg	< 10	< 10	<1	30%	Pass
Duplicate								
Phenols (non-Halogenated)				Result 1	Result 2	RPD		
2-Cyclohexyl-4,6-dinitrophenol	B23-My0075186	NCP	mg/kg	< 20	< 20	<1	30%	Pass
2-Methyl-4,6-dinitrophenol	B23-My0075186	NCP	mg/kg	< 5	< 5	<1	30%	Pass
2-Nitrophenol	B23-My0075186	NCP	mg/kg	< 1	< 1	<1	30%	Pass
2,4-Dimethylphenol	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2,4-Dinitrophenol	B23-My0075186	NCP	mg/kg	< 5	< 5	<1	30%	Pass
2-Methylphenol (o-Cresol)	B23-My0075186	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
3&4-Methylphenol (m&p-Cresol)	B23-My0075186	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
4-Nitrophenol	B23-My0075186	NCP	mg/kg	< 5	< 5	<1	30%	Pass
Dinoseb	B23-My0075186	NCP	mg/kg	< 20	< 20	<1	30%	Pass
Phenol	B23-My0075186	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
TRH >C10-C16	B23-Jn0003484	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	B23-Jn0003484	CP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	B23-Jn0003484	CP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	B23-Jn0003484	CP	mg/kg	7.3	6.8	6.6	30%	Pass
Cadmium	B23-Jn0003484	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chromium	B23-Jn0003484	CP	mg/kg	10	9.6	8.0	30%	Pass
Copper	B23-Jn0003484	CP	mg/kg	51	47	8.2	30%	Pass
Iron	B23-Jn0003484	CP	mg/kg	56000	49000	14	30%	Pass
Lead	B23-Jn0003484	CP	mg/kg	25	23	9.3	30%	Pass
Mercury	B23-My0075193	NCP	mg/kg	0.1	0.1	5.1	30%	Pass
Nickel	B23-Jn0003484	CP	mg/kg	10.0	9.2	7.8	30%	Pass
Zinc	B23-Jn0003484	CP	mg/kg	83	73	13	30%	Pass
Duplicate								
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD		
Perfluorobutanoic acid (PFBA)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoropentanoic acid (PFPeA)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorohexanoic acid (PFHxA)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoroheptanoic acid (PFHpA)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorooctanoic acid (PFOA)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorononanoic acid (PFNA)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorodecanoic acid (PFDA)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoroundecanoic acid (PFUnDA)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorododecanoic acid (PFDoDA)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorotridecanoic acid (PFTrDA)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorotetradecanoic acid (PFTeDA)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass

Duplicate								
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD		
Perfluorooctane sulfonamide (FOSA)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B23-Jn0003484	CP	ug/kg	< 10	< 10	<1	30%	Pass
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B23-Jn0003484	CP	ug/kg	< 10	< 10	<1	30%	Pass
Duplicate								
Perfluoroalkyl sulfonic acids (PFASs)				Result 1	Result 2	RPD		
Perfluorobutanesulfonic acid (PFBS)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorononanesulfonic acid (PFNS)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoropropanesulfonic acid (PFPrS)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoropentanesulfonic acid (PFPeS)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorohexanesulfonic acid (PFHxS)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoroheptanesulfonic acid (PFHpS)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorooctanesulfonic acid (PFOS)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorodecanesulfonic acid (PFDS)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Duplicate								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1	Result 2	RPD		
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	B23-Jn0003484	CP	ug/kg	< 10	< 10	<1	30%	Pass
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	B23-Jn0003484	CP	ug/kg	< 5	< 5	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Iron (%)	B23-Jn0003484	CP	%	5.6	4.9	14	30%	Pass
Duplicate								
Sample Properties				Result 1	Result 2	RPD		
% Moisture	B23-Jn0003489	CP	%	18	18	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
pH (units)(1:5 soil:CaCl2 extract at 25 °C as rec.)	B23-Jn0020580	NCP	pH Units	4.1	4.1	<1	30%	Pass
Total Organic Carbon	W23-My0077211	NCP	%	4.4	5.4	20	30%	Pass
Duplicate								
Cation Exchange Capacity				Result 1	Result 2	RPD		
Cation Exchange Capacity	M23-Jn0004265	NCP	meq/100g	51	52	2.2	30%	Pass

Duplicate								
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD		
Perfluorobutanoic acid (PFBA)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoropentanoic acid (PFPeA)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorohexanoic acid (PFHxA)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoroheptanoic acid (PFHpA)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorooctanoic acid (PFOA)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorononanoic acid (PFNA)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorodecanoic acid (PFDA)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoroundecanoic acid (PFUnDA)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorododecanoic acid (PFDoDA)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorotridecanoic acid (PFTrDA)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorotetradecanoic acid (PFTeDA)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Duplicate								
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD		
Perfluorooctane sulfonamide (FOSA)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B23-Jn0003496	CP	ug/kg	< 10	< 10	<1	30%	Pass
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B23-Jn0003496	CP	ug/kg	< 10	< 10	<1	30%	Pass
Duplicate								
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1	Result 2	RPD		
Perfluorobutanesulfonic acid (PFBS)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorononanesulfonic acid (PFNS)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoropropanesulfonic acid (PFPrS)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoropentanesulfonic acid (PFPeS)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorohexanesulfonic acid (PFHxS)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoroheptanesulfonic acid (PFHpS)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorooctanesulfonic acid (PFOS)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorodecanesulfonic acid (PFDS)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
Duplicate								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1	Result 2	RPD		
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	B23-Jn0003496	CP	ug/kg	< 10	< 10	<1	30%	Pass
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	B23-Jn0003496	CP	ug/kg	< 5	< 5	<1	30%	Pass

Duplicate								
Sample Properties				Result 1	Result 2	RPD		
% Moisture	B23-Jn0003499	CP	%	17	17	1.4	30%	Pass
Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	B23-Jn0003501	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Toluene	B23-Jn0003501	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Ethylbenzene	B23-Jn0003501	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
m&p-Xylenes	B23-Jn0003501	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
o-Xylene	B23-Jn0003501	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Xylenes - Total*	B23-Jn0003501	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	B23-Jn0003501	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	B23-Jn0003501	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD		
TRH C6-C9	B23-Jn0003501	CP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C10-C14	B23-Jn0003501	CP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C15-C28	B23-Jn0003501	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH C29-C36	B23-Jn0003501	CP	mg/kg	< 50	< 50	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
TRH >C10-C16	B23-Jn0003501	CP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	B23-Jn0003501	CP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	B23-Jn0003501	CP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	B23-Jn0003501	CP	mg/kg	6.4	6.3	1.4	30%	Pass
Chromium	B23-Jn0003501	CP	mg/kg	15	13	19	30%	Pass
Copper	B23-Jn0003501	CP	mg/kg	26	22	17	30%	Pass
Iron	B23-Jn0003501	CP	mg/kg	34000	36000	6.2	30%	Pass
Lead	B23-Jn0003501	CP	mg/kg	11	9.9	6.1	30%	Pass
Nickel	B23-Jn0003501	CP	mg/kg	20	20	2.9	30%	Pass
Zinc	B23-Jn0003501	CP	mg/kg	53	46	14	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Iron (%)	B23-Jn0003501	CP	%	3.4	3.6	6.0	30%	Pass

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:

Paige Howarth	Analytical Services Manager
Angelique Lang-Frey	Senior Analyst-Metal
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Jonathon Angell	Senior Analyst-Inorganic
Jonathon Angell	Senior Analyst-Metal
Jonathon Angell	Senior Analyst-Organic
Jonathon Angell	Senior Analyst-PFAS
Jonathon Angell	Senior Analyst-Sample Properties
Jonathon Angell	Senior Analyst-Volatile
Joseph Edouard	Senior Analyst-Organic
Laxman Dias	Senior Analyst-Asbestos
Mary Makarios	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Metal
Sarah McCallion	Senior Analyst-PFAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Douglas Partners Pty Ltd
439 Montague Road
West End
QLD 4101



NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025—Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: - Brisbane @ DouglasPartners
Report 995325-AID
Project Name **BROMELTON**
Project ID **219361.01**
Received Date Jun 01, 2023
Date Reported Jun 27, 2023

Methodology:

Asbestos Fibre
 Identification

Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques.

NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.

Unknown Mineral
 Fibres

Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity.

NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.

Subsampling Soil
 Samples

The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed.

NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.

Bonded asbestos-
 containing material
 (ACM)

The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination. The resultant material is then further examined in accordance with AS 4964 - 2004.

NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.

Limit of Reporting

The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w).

The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk).

NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos". This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.

Project Name BROMELTON
Project ID 219361.01
Date Sampled May 24, 2023 to May 31, 2023
Report 995325-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
7/0.1	23-Jn0003484	May 25, 2023	Approximate Sample 117g Sample consisted of: Brown coarse-grained clayey sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
8/0.1	23-Jn0003485	May 29, 2023	Approximate Sample 154g Sample consisted of: Brown coarse-grained clayey sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
9/0.5	23-Jn0003486	May 24, 2023	Approximate Sample 43g Sample consisted of: Brown fine-grained clayey sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
10/0.1	23-Jn0003487	May 29, 2023	Approximate Sample 82g Sample consisted of: Brown fine-grained clayey sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
11/0.1	23-Jn0003488	May 29, 2023	Approximate Sample 103g Sample consisted of: Brown fine-grained clayey sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
12/0.1	23-Jn0003489	May 29, 2023	Approximate Sample 76g Sample consisted of: Brown fine-grained clayey sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
13/0.1	23-Jn0003490	May 29, 2023	Approximate Sample 53g Sample consisted of: Brown fine-grained clayey sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
14/0.1	23-Jn0003492	May 31, 2023	Approximate Sample 142g Sample consisted of: Brown fine-grained clayey sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
15/0.1	23-Jn0003493	May 30, 2023	Approximate Sample 75g Sample consisted of: Brown fine-grained clayey sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
16/0.1	23-Jn0003494	May 29, 2023	Approximate Sample 58g Sample consisted of: Brown fine-grained clayey sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
17/0.1	23-Jn0003495	May 30, 2023	Approximate Sample 79g Sample consisted of: Brown fine-grained clayey sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
18/0.1	23-Jn0003496	May 31, 2023	Approximate Sample 113g Sample consisted of: Brown fine-grained clayey sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
19/0.1	23-Jn0003497	May 30, 2023	Approximate Sample 100g Sample consisted of: Brown fine-grained clayey sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
20/0.1	23-Jn0003499	May 29, 2023	Approximate Sample 65g Sample consisted of: Brown fine-grained clayey sandy soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Jun 01, 2023	Indefinite

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101

Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254										X		X	X			
Sydney Laboratory - NATA # 1261 Site # 18217						X										
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X	X
External Laboratory																
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID											
1	7/0.1	May 25, 2023		Soil	B23-Jn0003484	X				X	X		X		X	
2	8/0.1	May 29, 2023		Soil	B23-Jn0003485	X				X	X		X		X	
3	9/0.5	May 24, 2023		Soil	B23-Jn0003486	X				X	X		X		X	
4	10/0.1	May 29, 2023		Soil	B23-Jn0003487	X				X	X		X		X	
5	11/0.1	May 29, 2023		Soil	B23-Jn0003488	X				X	X		X		X	
6	12/0.1	May 29, 2023		Soil	B23-Jn0003489	X				X	X		X		X	
7	13/0.1	May 29, 2023		Soil	B23-Jn0003490	X				X	X		X		X	
8	13/0.5	May 29, 2023		Soil	B23-Jn0003491						X	X				
9	14/0.1	May 31, 2023		Soil	B23-Jn0003492	X				X	X		X		X	
10	15/0.1	May 30, 2023		Soil	B23-Jn0003493	X				X	X		X		X	
11	16/0.1	May 29, 2023		Soil	B23-Jn0003494	X				X	X		X		X	

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254										X		X	X			
Sydney Laboratory - NATA # 1261 Site # 18217						X										
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X	X
12	17/0.1	May 30, 2023		Soil	B23-Jn0003495	X				X	X		X		X	
13	18/0.1	May 31, 2023		Soil	B23-Jn0003496	X				X	X		X		X	
14	19/0.1	May 30, 2023		Soil	B23-Jn0003497	X				X	X		X		X	
15	19/0.5	May 30, 2023		Soil	B23-Jn0003498						X	X				
16	20/0.1	May 29, 2023		Soil	B23-Jn0003499	X				X	X		X		X	
17	20/0.5	May 29, 2023		Soil	B23-Jn0003500				X		X					
18	S1	May 24, 2023		Soil	B23-Jn0003501					X	X		X		X	
19	R1	May 25, 2023		Soil	B23-Jn0003502		X									
20	7/0.5	May 25, 2023		Soil	B23-Jn0003503			X								
21	7/1.0	May 25, 2023		Soil	B23-Jn0003504			X								
22	7/1.5	May 25, 2023		Soil	B23-Jn0003505			X								
23	7/2	May 25, 2023		Soil	B23-Jn0003506			X								
24	8/0.5	May 29, 2023		Soil	B23-Jn0003507			X								
25	8/1.0	May 29, 2023		Soil	B23-Jn0003508			X								

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254										X		X	X			
Sydney Laboratory - NATA # 1261 Site # 18217						X										
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X	X
26	8/1.5	May 29, 2023		Soil	B23-Jn0003509			X								
27	8/2	May 29, 2023		Soil	B23-Jn0003510			X								
28	9/0.1	May 24, 2023		Soil	B23-Jn0003511			X								
29	9/1.0	May 24, 2023		Soil	B23-Jn0003512			X								
30	9/1.5	May 24, 2023		Soil	B23-Jn0003513			X								
31	9/2	May 24, 2023		Soil	B23-Jn0003514			X								
32	10/0.5	May 29, 2023		Soil	B23-Jn0003515			X								
33	10/1.0	May 29, 2023		Soil	B23-Jn0003516			X								
34	10/1.5	May 29, 2023		Soil	B23-Jn0003517			X								
35	10/2	May 29, 2023		Soil	B23-Jn0003518			X								
36	11/0.5	May 29, 2023		Soil	B23-Jn0003519			X								
37	11/1.0	May 29, 2023		Soil	B23-Jn0003520			X								
38	11/1.5	May 29, 2023		Soil	B23-Jn0003521			X								
39	11/2	May 29, 2023		Soil	B23-Jn0003522			X								

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254										X		X	X			
Sydney Laboratory - NATA # 1261 Site # 18217						X										
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X	X
40	12/0.5	May 29, 2023		Soil	B23-Jn0003523			X								
41	12/1.0	May 29, 2023		Soil	B23-Jn0003524			X								
42	12/1.5	May 29, 2023		Soil	B23-Jn0003525			X								
43	12/2	May 29, 2023		Soil	B23-Jn0003526			X								
44	13/1.0	May 29, 2023		Soil	B23-Jn0003527			X								
45	13/1.5	May 29, 2023		Soil	B23-Jn0003528			X								
46	13/2	May 29, 2023		Soil	B23-Jn0003529			X								
47	14/0.5	May 31, 2023		Soil	B23-Jn0003530			X								
48	14/1.0	May 31, 2023		Soil	B23-Jn0003531			X								
49	14/1.5	May 31, 2023		Soil	B23-Jn0003532			X								
50	14/2	May 31, 2023		Soil	B23-Jn0003533			X								
51	15/0.5	May 30, 2023		Soil	B23-Jn0003534			X								
52	15/1.0	May 30, 2023		Soil	B23-Jn0003535			X								
53	15/1.5	May 30, 2023		Soil	B23-Jn0003536			X								

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254										X		X	X			
Sydney Laboratory - NATA # 1261 Site # 18217						X										
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X	X
54	15/2	May 30, 2023		Soil	B23-Jn0003537			X								
55	16/0.5	May 29, 2023		Soil	B23-Jn0003538			X								
56	16/1.0	May 29, 2023		Soil	B23-Jn0003539			X								
57	16/1.5	May 29, 2023		Soil	B23-Jn0003540			X								
58	16/2	May 29, 2023		Soil	B23-Jn0003541			X								
59	17/0.5	May 30, 2023		Soil	B23-Jn0003542			X								
60	17/1.0	May 30, 2023		Soil	B23-Jn0003543			X								
61	17/1.5	May 30, 2023		Soil	B23-Jn0003544			X								
62	17/2	May 30, 2023		Soil	B23-Jn0003545			X								
63	18/0.5	May 31, 2023		Soil	B23-Jn0003546			X								
64	18/1.0	May 31, 2023		Soil	B23-Jn0003547			X								
65	18/1.5	May 31, 2023		Soil	B23-Jn0003548			X								
66	18/2	May 31, 2023		Soil	B23-Jn0003549			X								
67	19/1.0	May 30, 2023		Soil	B23-Jn0003550			X								

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	CANCELLED	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254										X		X	X			
Sydney Laboratory - NATA # 1261 Site # 18217						X										
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X	X
68	19/1.5	May 30, 2023		Soil	B23-Jn0003551			X								
69	19/2	May 30, 2023		Soil	B23-Jn0003552			X								
70	20/1.0	May 29, 2023		Soil	B23-Jn0003553			X								
71	20/1.5	May 29, 2023		Soil	B23-Jn0003554			X								
72	20/2	May 29, 2023		Soil	B23-Jn0003555			X								
73	TRIP BLANK	May 26, 2023		Trip Blank (solid)	B23-Jn0003556									X		
74	TRIP SPIKE	May 27, 2023		Trip Spike (liquid)	B23-Jn0003557											X
Test Counts						14	1	53	1	15	18	2	15	1	15	1

Internal Quality Control Review and Glossary General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with the colour **blue** indicates data provided by customer that may have an impact on the results.
5. This report replaces any interim results previously issued.

Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported. Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w:	Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (% w/w)
F/fld	Airborne fibre filter loading as Fibres (N) per Fields counted (n)
F/mL	Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (C)
g, kg	Mass, e.g. of whole sample (M) or asbestos-containing find within the sample (m)
g/kg	Concentration in grams per kilogram
L, mL	Volume, e.g. of air as measured in AFM (V = r x t)
L/min	Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (r)
min	Time (t), e.g. of air sample collection period

Calculations

Airborne Fibre Concentration: $C = \left(\frac{A}{a}\right) \times \left(\frac{N}{n}\right) \times \left(\frac{1}{r}\right) \times \left(\frac{1}{t}\right) = K \times \left(\frac{N}{n}\right) \times \left(\frac{1}{r}\right)$

Asbestos Content (as asbestos): $\% w/w = \frac{(m \times P_A)}{M}$

Weighted Average (of asbestos): $\%_{WA} = \sum \frac{(m \times P_A) \times x}{x}$

Terms

%asbestos	Estimated percentage of asbestos in a given matrix. May be derived from knowledge or experience of the material, informed by HSG264 <i>Appendix 2</i> , else assumed to be 15% in accordance with WA DOH <i>Appendix 2 (PA)</i> .
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm.
AF	Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to "non-bonded / friable".
AFM	Airborne Fibre Monitoring, e.g. by the MFM.
Amosite	Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004.
AS	Australian Standard.
Asbestos Content (as asbestos)	Total % w/w asbestos content in asbestos-containing finds in a soil sample (% w/w).
Chrysotile	Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004.
COC	Chain of Custody.
Crocidolite	Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004.
Dry	Sample is dried by heating prior to analysis.
DS	Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM.
FA	Fibrous Asbestos. Asbestos containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF.
Fibre Count	Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003
Fibre ID	Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory's remit to assess degree of friability.
HSG248	UK HSE HSG248, <i>Asbestos: The Analysts Guide</i> , 2nd Edition (2021).
HSG264	UK HSE HSG264, <i>Asbestos: The Survey Guide</i> (2012).
ISO (also ISO/IEC)	International Organization for Standardization / International Electrotechnical Commission.
K Factor	Microscope constant (K) as derived from the effective filter area of the given AFM membrane used for collecting the sample (A) and the projected eyepiece graticule area of the specific microscope used for the analysis (a).
LOR	Limit of Reporting.
MFM (also NOHSC:3003)	Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres</i> , 2nd Edition [NOHSC:3003(2005)].
NEPM (also ASC NEPM)	National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended).
Organic	Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004.
PCM	Phase Contrast Microscopy. As used for Fibre Counting according to the MFM.
PLM	Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004.
Sampling	Unless otherwise stated Eurofins are not responsible for sampling equipment or the sampling process.
SMF	Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004.
SRA	Sample Receipt Advice.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix.
UK HSE HSG	United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication.
UMF	Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004. May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos.
WA DOH	Reference document for the NEPM. Government of Western Australia, <i>Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia</i> (updated 2021), including Appendix Four: <i>Laboratory analysis</i>
Weighted Average	Combined average % w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (%_{WA}).

Comments

Sample Integrity

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

Asbestos Counter/Identifier:

Sayeed Abu Senior Analyst-Asbestos

Authorised by:

Laxman Dias Senior Analyst-Asbestos



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Douglas Partners Pty Ltd
439 Montague Road
West End
QLD 4101



NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: - **Brisbane @ DouglasPartners**

Report **995325-W**
Project name **BROMELTON**
Project ID **219361.01**
Received Date **Jun 01, 2023**

Client Sample ID			R20 TRIP SPIKE
Sample Matrix			Trip Spike (liquid)
Eurofins Sample No.			B23-Jn0003557
Date Sampled			May 27, 2023
Test/Reference	LOR	Unit	
Naphthalene	1	%	110
TRH C6-C10	1	%	44
TRH C6-C9	1	%	47
BTEX			
Benzene	1	%	87
Ethylbenzene	1	%	68
m&p-Xylenes	1	%	79
o-Xylene	1	%	69
Toluene	1	%	76
Xylenes - Total	1	%	73
4-Bromofluorobenzene (surr.)	1	%	83

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
-------------	--------------	-----------	--------------

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X		X				
Sydney Laboratory - NATA # 1261 Site # 18217						X									
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X
External Laboratory															
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID										
1	7/0.1	May 25, 2023		Soil	B23-Jn0003484	X			X	X		X		X	
2	8/0.1	May 29, 2023		Soil	B23-Jn0003485	X			X	X		X		X	
3	9/0.5	May 24, 2023		Soil	B23-Jn0003486	X			X	X		X		X	
4	10/0.1	May 29, 2023		Soil	B23-Jn0003487	X			X	X		X		X	
5	11/0.1	May 29, 2023		Soil	B23-Jn0003488	X			X	X		X		X	
6	12/0.1	May 29, 2023		Soil	B23-Jn0003489	X			X	X		X		X	
7	13/0.1	May 29, 2023		Soil	B23-Jn0003490	X			X	X		X		X	
8	13/0.5	May 29, 2023		Soil	B23-Jn0003491					X	X				
9	14/0.1	May 31, 2023		Soil	B23-Jn0003492	X			X	X		X		X	
10	15/0.1	May 30, 2023		Soil	B23-Jn0003493	X			X	X		X		X	
11	16/0.1	May 29, 2023		Soil	B23-Jn0003494	X			X	X		X		X	

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X		X				
Sydney Laboratory - NATA # 1261 Site # 18217						X									
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X
12	17/0.1	May 30, 2023		Soil	B23-Jn0003495	X			X	X		X		X	
13	18/0.1	May 31, 2023		Soil	B23-Jn0003496	X			X	X		X		X	
14	19/0.1	May 30, 2023		Soil	B23-Jn0003497	X			X	X		X		X	
15	19/0.5	May 30, 2023		Soil	B23-Jn0003498					X	X				
16	20/0.1	May 29, 2023		Soil	B23-Jn0003499	X			X	X		X		X	
17	20/0.5	May 29, 2023		Soil	B23-Jn0003500			X		X					
18	S1	May 24, 2023		Soil	B23-Jn0003501				X	X		X		X	
19	R1	May 25, 2023		Soil	B23-Jn0003502				X	X		X		X	
20	7/0.5	May 25, 2023		Soil	B23-Jn0003503		X								
21	7/1.0	May 25, 2023		Soil	B23-Jn0003504		X								
22	7/1.5	May 25, 2023		Soil	B23-Jn0003505		X								
23	7/2	May 25, 2023		Soil	B23-Jn0003506		X								
24	8/0.5	May 29, 2023		Soil	B23-Jn0003507		X								
25	8/1.0	May 29, 2023		Soil	B23-Jn0003508		X								

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X		X				
Sydney Laboratory - NATA # 1261 Site # 18217						X									
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X
26	8/1.5	May 29, 2023		Soil	B23-Jn0003509		X								
27	8/2	May 29, 2023		Soil	B23-Jn0003510		X								
28	9/0.1	May 24, 2023		Soil	B23-Jn0003511		X								
29	9/1.0	May 24, 2023		Soil	B23-Jn0003512		X								
30	9/1.5	May 24, 2023		Soil	B23-Jn0003513		X								
31	9/2	May 24, 2023		Soil	B23-Jn0003514		X								
32	10/0.5	May 29, 2023		Soil	B23-Jn0003515		X								
33	10/1.0	May 29, 2023		Soil	B23-Jn0003516		X								
34	10/1.5	May 29, 2023		Soil	B23-Jn0003517		X								
35	10/2	May 29, 2023		Soil	B23-Jn0003518		X								
36	11/0.5	May 29, 2023		Soil	B23-Jn0003519		X								
37	11/1.0	May 29, 2023		Soil	B23-Jn0003520		X								
38	11/1.5	May 29, 2023		Soil	B23-Jn0003521		X								
39	11/2	May 29, 2023		Soil	B23-Jn0003522		X								

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X		X				
Sydney Laboratory - NATA # 1261 Site # 18217						X									
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X
40	12/0.5	May 29, 2023		Soil	B23-Jn0003523		X								
41	12/1.0	May 29, 2023		Soil	B23-Jn0003524		X								
42	12/1.5	May 29, 2023		Soil	B23-Jn0003525		X								
43	12/2	May 29, 2023		Soil	B23-Jn0003526		X								
44	13/1.0	May 29, 2023		Soil	B23-Jn0003527		X								
45	13/1.5	May 29, 2023		Soil	B23-Jn0003528		X								
46	13/2	May 29, 2023		Soil	B23-Jn0003529		X								
47	14/0.5	May 31, 2023		Soil	B23-Jn0003530		X								
48	14/1.0	May 31, 2023		Soil	B23-Jn0003531		X								
49	14/1.5	May 31, 2023		Soil	B23-Jn0003532		X								
50	14/2	May 31, 2023		Soil	B23-Jn0003533		X								
51	15/0.5	May 30, 2023		Soil	B23-Jn0003534		X								
52	15/1.0	May 30, 2023		Soil	B23-Jn0003535		X								
53	15/1.5	May 30, 2023		Soil	B23-Jn0003536		X								

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X		X				
Sydney Laboratory - NATA # 1261 Site # 18217						X									
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X
54	15/2	May 30, 2023		Soil	B23-Jn0003537		X								
55	16/0.5	May 29, 2023		Soil	B23-Jn0003538		X								
56	16/1.0	May 29, 2023		Soil	B23-Jn0003539		X								
57	16/1.5	May 29, 2023		Soil	B23-Jn0003540		X								
58	16/2	May 29, 2023		Soil	B23-Jn0003541		X								
59	17/0.5	May 30, 2023		Soil	B23-Jn0003542		X								
60	17/1.0	May 30, 2023		Soil	B23-Jn0003543		X								
61	17/1.5	May 30, 2023		Soil	B23-Jn0003544		X								
62	17/2	May 30, 2023		Soil	B23-Jn0003545		X								
63	18/0.5	May 31, 2023		Soil	B23-Jn0003546		X								
64	18/1.0	May 31, 2023		Soil	B23-Jn0003547		X								
65	18/1.5	May 31, 2023		Soil	B23-Jn0003548		X								
66	18/2	May 31, 2023		Soil	B23-Jn0003549		X								
67	19/1.0	May 30, 2023		Soil	B23-Jn0003550		X								

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 995325
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 1, 2023 3:15 PM
Due: Jun 8, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Asbestos - AS4964	HOLD	Metals M8	Eurofins Suite B15	Moisture Set	NEPM Screen for Soil Classification	Eurofins Suite B7A	BTEXN and Volatile TRH	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254									X		X				
Sydney Laboratory - NATA # 1261 Site # 18217						X									
Brisbane Laboratory - NATA # 1261 Site # 20794							X	X	X	X	X	X	X	X	X
68	19/1.5	May 30, 2023		Soil	B23-Jn0003551		X								
69	19/2	May 30, 2023		Soil	B23-Jn0003552		X								
70	20/1.0	May 29, 2023		Soil	B23-Jn0003553		X								
71	20/1.5	May 29, 2023		Soil	B23-Jn0003554		X								
72	20/2	May 29, 2023		Soil	B23-Jn0003555		X								
73	TRIP BLANK	May 26, 2023		Trip Blank (solid)	B23-Jn0003556								X		
74	TRIP SPIKE	May 27, 2023		Trip Spike (liquid)	B23-Jn0003557										X
Test Counts						14	53	1	16	19	2	16	1	16	1

Internal Quality Control Review and Glossary

General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with **blue** colour, indicates data provided by customer that may have an impact on the results.
- This report replaces any interim results previously issued.

Holding Times

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

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

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

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

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	µg/L: micrograms per litre
ppm: parts per million	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit		

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

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

Results <10 times the LOR: No Limit

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

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

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

- Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
R20	This sample is a Trip Spike and therefore all results are reported as a percentage

Authorised by:

Paige Howarth	Analytical Services Manager
Jonathon Angell	Senior Analyst-Volatile



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

CHAIN OF CUSTODY RECORD

Sydney Laboratory

Brisbane Laboratory

Perth Laboratory

Melbourne Laboratory

Company Douglas Partner Pty Ltd

Address 439 Montague Road, West End Qld 4101

Contact Name Rob Muller

Phone No 0417 544 122

Project No 219381.01

Project Name Bromelton

Project Manager Rob Muller

EDD Format ES&S, EQ&S etc.

Sampler(s) N.Sumonta, Y.Barr, C.Jones

Handed over by Rob Muller

Email for Invoice apinvoices@douglaspartners.com.au

Email for Results rob.muller@douglaspartners.com.au

Special Directions

Purchase Order

Quote ID No

Analyses
When making any requests, please specify "Lab" or "Eurofins"
S/NTE code may be used to assist S/NTE pricing

Suite B7A (TRH, BTEXN, PAH, phenols, metals)

Suite B15 (OCP, OPP, PCB)

PFAS Extended Suite (standard LOR)

Asbestos in soil (AS 4564)

Suite R21 (NEPM Screen for Soil Classification)

Suite M8 (metals)

TRH C6-C10 + BTEX

Hold

Containers
(Change container type & size if necessary)

Required Turnaround Time (TAT)
Default will be 5 days if not noted

500mL Plastic
250mL Plastic
125mL Plastic
200mL Amber Glass
40mL VOA vial
500mL PFAS Bottle
Jar (Glass or HDPE)

Other (Asbestos AS4564, WA Guidelines)

☐ Overnight (Reported by 9am)
☐ Same day* ☐ day in
☐ 2 days** ☐ 3 days**
☒ 5 days (Standard)
☐ Other

Sample Comments
/ Dangerous Goods Hazard Warning

No	Client Sample ID	Sampled Date/Time (hh:mm:ss)	Matrix Solid (S) Water (W)
1	S1	24/05/23	S
2	R1	24/05/23	S
3	Trip blank	24/05/23	S
4	Trip spike	24/05/23	W

× × ×
× × ×

×
×

2
2

Please forward to ALS for analysis

Environmental Division
Brisbane
Work Order Reference
EB2318156



Telephone : + 61-7-3243 7222

Total Counts

Method of Shipment

Rob Muller

1st June 2023

Eurofins | mgt Laboratory
Use Only

Received By **EH**

Received By

SYD | BNE | MEL | PER | ADL | NTL | DRW

Signature

Date

15/6/23

Time

1557

Temperature

SYD | BNE | MEL | PER | ADL | NTL | DRW

Signature

Date

Time

Report No



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EB2318156**

Client	: DOUGLAS PARTNERS PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Contact	: John Pickering
Address	: 439 MONTAGUE ROAD WEST END QLD, AUSTRALIA 4101	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: rob.muller@douglaspartners.com.au	E-mail	: john.pickering@alsglobal.com
Telephone	: ----	Telephone	: +61 7 3552 8634
Facsimile	: ----	Facsimile	: +61-7-3243 7218
Project	: 219361.01	Page	: 1 of 3
Order number	: ----	Quote number	: EM2017DOUPAR0002 (EN/222)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	:		

Dates

Date Samples Received	: 15-Jun-2023 15:51	Issue Date	: 15-Jun-2023
Client Requested Due Date	: 21-Jun-2023	Scheduled Reporting Date	: 21-Jun-2023

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 1.9°C - Ice Bricks present
Receipt Detail	: MEDIUM ESKY	No. of samples received / analysed	: 1 / 1

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
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) 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.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**



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	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)	SOIL - S-19 TRH/BTEX/PAH/Ph/OC/OP/PCB/8 metals
EB2318156-001	24-May-2023 00:00	R1	✓	✓	✓

Proactive Holding Time Report

The following table summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.

Matrix: **SOIL**

Evaluation: ✗ = Holding time breach ; ✓ = Within holding time.

Method		Due for extraction	Due for analysis	Samples Received		Instructions Received	
				Date	Evaluation	Date	Evaluation
Client Sample ID(s)		Container					
EA055: Moisture Content							
R1	Soil Glass Jar - Unpreserved	----	07-Jun-2023	15-Jun-2023	✗	----	----
EP066: Polychlorinated Biphenyls (PCB)							
R1	Soil Glass Jar - Unpreserved	07-Jun-2023	17-Jul-2023	15-Jun-2023	✗	----	----
EP068: Pesticides by GCMS							
R1	Soil Glass Jar - Unpreserved	07-Jun-2023	17-Jul-2023	15-Jun-2023	✗	----	----
EP071: TRH - Semivolatile Fraction							
R1	Soil Glass Jar - Unpreserved	07-Jun-2023	17-Jul-2023	15-Jun-2023	✗	----	----
EP075(SIM): PAH/Phenols (SIM)							
R1	Soil Glass Jar - Unpreserved	07-Jun-2023	17-Jul-2023	15-Jun-2023	✗	----	----
EP080: TRH Volatiles/BTEX							
R1	Soil Glass Jar - Unpreserved	07-Jun-2023	07-Jun-2023	15-Jun-2023	✗	----	----



Requested Deliverables

ACCOUNTS PAYABLE INVOICES

- A4 - AU Tax Invoice (INV)

Email apinvoices@douglaspartners.com.au

ESDAT ESDAT

- EDI Format - ESDAT (ESDAT)

Email ESdat_AU+douglaspartners@ESdatLabSync.net

ROB MULLER

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

Email rob.muller@douglaspartners.com.au

Email rob.muller@douglaspartners.com.au

Email rob.muller@douglaspartners.com.au

Email rob.muller@douglaspartners.com.au

Email rob.muller@douglaspartners.com.au

Email rob.muller@douglaspartners.com.au

Email rob.muller@douglaspartners.com.au



CERTIFICATE OF ANALYSIS

Work Order : **EB2318156**
Client : **DOUGLAS PARTNERS PTY LTD**
Contact : **ROB MULLER**
Address : **439 MONTAGUE ROAD**
WEST END QLD, AUSTRALIA 4101
Telephone : **----**
Project : **219361.01**
Order number : **----**
C-O-C number : **----**
Sampler : **----**
Site : **----**
Quote number : **EN/222**
No. of samples received : **1**
No. of samples analysed : **1**

Page : 1 of 9
Laboratory : Environmental Division Brisbane
Contact : John Pickering
Address : 2 Byth Street Stafford QLD Australia 4053
Telephone : +61 7 3552 8634
Date Samples Received : 15-Jun-2023 15:51
Date Analysis Commenced : 16-Jun-2023
Issue Date : 21-Jun-2023 10:39



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, unless the sampling was conducted by ALS. 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	Position	Accreditation Category
Keegan Mullane	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
Timothy Creagh	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
Vincent Muller		Brisbane Inorganics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the 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 Contract 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.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) 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.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG005T (Total Metals by ICP-AES): EB2314987-003 shows poor duplicate results due to sample heterogeneity. This has been confirmed by visual inspection.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. 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. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	R1	----	----	----	----
Sampling date / time					24-May-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2318156-001	-----	-----	-----	-----
					Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		20.7	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		6	----	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg		8	----	----	----	----
Copper	7440-50-8	5	mg/kg		19	----	----	----	----
Lead	7439-92-1	5	mg/kg		7	----	----	----	----
Nickel	7440-02-0	2	mg/kg		16	----	----	----	----
Zinc	7440-66-6	5	mg/kg		33	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg		<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg		<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg		<0.05	----	----	----	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	----	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	----	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	----	----	----	----
4,4'-DDE	72-55-9	0.05	mg/kg		<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg		<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	----	----	----	----
4,4'-DDD	72-54-8	0.05	mg/kg		<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	R1	----	----	----	----
Sampling date / time					24-May-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2318156-001	-----	-----	-----	-----
					Result	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
4,4'-DDT	50-29-3	0.2	mg/kg		<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.05	mg/kg		<0.05	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	----	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	----	----	----	----
Malathion	121-75-5	0.05	mg/kg		<0.05	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg		<0.05	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	----	----	----	----
Parathion	56-38-2	0.2	mg/kg		<0.2	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	----	----	----	----
Ethion	563-12-2	0.05	mg/kg		<0.05	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	----	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	----	----	----	----
2,4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	----	----	----	----
2,4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	R1	----	----	----	----
Sampling date / time					24-May-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2318156-001	-----	-----	-----	-----
					Result	----	----	----	----
EP075(SIM)A: Phenolic Compounds - Continued									
2,6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	----	----	----	----
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	----	----	----
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		<2	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	----	----	----	----
Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	R1	----	----	----	----
Sampling date / time					24-May-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2318156-001	-----	-----	-----	-----
					Result	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg		<0.001	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	----	----	----	----



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

Sample ID

				R1	----	----	----	----
Sampling date / time				24-May-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2318156-001	-----	-----	-----	-----
				Result	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids - Continued								
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<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	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	R1	----	----	----	----
Sampling date / time					24-May-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2318156-001	-----	-----	-----	-----
					Result	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg		<0.0005	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg		<0.0002	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg		<0.0002	----	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg		<0.0002	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		87.7	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		121	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		114	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		87.9	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		75.6	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		115	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		124	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		121	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		128	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		92.4	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		84.9	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		114	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%		128	----	----	----	----
13C8-PFOA	----	0.0002	%		130	----	----	----	----



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	16	134
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	138
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	23	134
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	35	154
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	156
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	----	76	136
13C8-PFOA	----	78	131



QUALITY CONTROL REPORT

Work Order	: EB2318156	Page	: 1 of 14
Client	: DOUGLAS PARTNERS PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Contact	: John Pickering
Address	: 439 MONTAGUE ROAD WEST END QLD, AUSTRALIA 4101	Address	: 2 Byth Street Stafford QLD Australia 4053
Telephone	: ----	Telephone	: +61 7 3552 8634
Project	: 219361.01	Date Samples Received	: 15-Jun-2023
Order number	: ----	Date Analysis Commenced	: 16-Jun-2023
C-O-C number	: ----	Issue Date	: 21-Jun-2023
Sampler	: ----		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 1		
No. of samples analysed	: 1		



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. 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
Keegan Mullane	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
Timothy Creagh	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
Vincent Muller		Brisbane Inorganics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the 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.

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				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 5115370)									
EB2318067-010	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	5	6	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	13	10	23.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	5	7	40.1	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	9	11	25.4	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	42	47	11.1	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	444	490	9.7	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	1880	2090	10.5	0% - 20%
EB2314987-003	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	3	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	1440	# 1890	27.1	0% - 20%
		EG005T: Copper	7440-50-8	5	mg/kg	18	41	79.6	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	2250	2460	8.9	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	10	15	37.3	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5114947)									
EB2318088-006	Anonymous	EA055: Moisture Content	----	0.1	%	14.9	16.4	9.8	0% - 50%
EB2318159-001	Anonymous	EA055: Moisture Content	----	0.1	%	10.8	9.7	10.6	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 5115371)									
EB2314987-003	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.2	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 5115326)									
EB2318156-001	R1	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 5115325)									
EB2318156-001	R1	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 5115325) - continued									
EB2318156-001	R1	EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 5115325)									
EB2318156-001	R1	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 5115325) - continued											
EB2318156-001	R1	EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit		
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit		
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit		
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
EP075(SIM)A: Phenolic Compounds (QC Lot: 5115324)											
EB2318156-001	R1	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit		
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit		
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 5115324)											
EB2318156-001	R1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
			205-82-3								
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5114946)									
		EB2318088-006	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EB2318159-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit		

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5115323)									
EB2317704-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5114946)									
EB2318088-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EB2318159-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5115323)									
EB2317704-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 5114946)									
EB2318088-006	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EB2318159-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5115314)									
EB2317973-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EB2318159-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0004	<0.0002	70.9	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5115314)									



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5115314) - continued									
EB2317973-001	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EB2318159-002	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5115314)									
EB2317973-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EB2318159-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5115314) - continued									
EB2318159-002	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5115314)									
EB2317973-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EB2318159-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (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 Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5115370)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	67.5924 mg/kg	93.5	84.0	123
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
EG005T: Chromium	7440-47-3	2	mg/kg	<2	15 mg/kg	108	83.0	125
EG005T: Copper	7440-50-8	5	mg/kg	<5	39.8567 mg/kg	104	86.0	122
EG005T: Lead	7439-92-1	5	mg/kg	<5	46.2564 mg/kg	107	84.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	13 mg/kg	107	81.5	118
EG005T: Zinc	7440-66-6	5	mg/kg	<5	167.7014 mg/kg	100	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5115371)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.13051 mg/kg	91.2	70.0	125
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 5115326)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	111	71.6	155
EP068A: Organochlorine Pesticides (OC) (QCLot: 5115325)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	103	72.8	127
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	97.8	71.0	127
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	106	67.5	126
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	105	72.7	127
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	101	70.6	122
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	102	64.8	127
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	99.5	72.4	122
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	94.0	67.4	125
EP068: Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	----	----	----
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	95.1	65.6	124
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	102	70.4	122
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.2	65.6	125
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	93.9	69.1	124
EP068: 4,4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	100	72.4	125
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.9	63.2	127
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	69.7	120
EP068: Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	----	----	----
EP068: 4,4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	103	61.2	124



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP068A: Organochlorine Pesticides (OC) (QCLot: 5115325) - continued								
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	96.6	55.5	125
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	95.1	57.1	117
EP068: 4,4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	112	51.9	125
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	91.6	46.5	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	84.2	34.0	130
EP068: Sum of DDD + DDE + DDT	72-54-8/72-5 5-9/50-2	0.05	mg/kg	<0.05	----	----	----	----
EP068: Sum of Aldrin + Dieldrin	309-00-2/60- 57-1	0.05	mg/kg	<0.05	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) (QCLot: 5115325)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	108	55.8	126
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	106	45.9	136
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	86.2	20.0	147
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.9	44.1	125
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	96.1	70.3	125
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	99.5	63.2	124
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	117	44.2	129
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	89.7	52.3	133
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	62.9	126
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	102	69.2	123
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	104	37.6	138
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	97.9	59.6	131
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	103	46.4	144
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	94.0	56.8	128
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	89.5	24.4	135
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	98.8	55.9	123
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	102	45.0	138
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	101	41.6	141
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	69.7	20.0	145
EP075(SIM)A: Phenolic Compounds (QCLot: 5115324)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	1.5 mg/kg	92.1	78.0	134
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	1.5 mg/kg	97.9	78.0	132
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	1.5 mg/kg	95.1	78.0	132
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	3 mg/kg	102	77.2	135
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	1.5 mg/kg	120	42.9	156

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result		LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 5115324) - continued								
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	1.5 mg/kg	105	70.3	141
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	1.5 mg/kg	105	69.9	135
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	1.5 mg/kg	99.0	72.9	136
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	1.5 mg/kg	91.3	53.3	138
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	1.5 mg/kg	118	50.9	140
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	1.5 mg/kg	112	45.5	140
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	3 mg/kg	61.1	20.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5115324)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.5 mg/kg	110	72.6	133
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.5 mg/kg	106	63.2	144
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5 mg/kg	108	66.0	132
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	1.5 mg/kg	108	76.2	134
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.5 mg/kg	115	71.8	137
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	1.5 mg/kg	96.9	77.1	143
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.5 mg/kg	115	74.1	140
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	1.5 mg/kg	111	72.0	139
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.5 mg/kg	91.0	58.0	145
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5 mg/kg	99.3	63.0	147
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	1.5 mg/kg	94.7	70.5	142
	205-82-3							
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.5 mg/kg	110	75.5	138
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	1.5 mg/kg	102	68.5	140
EP075(SIM): Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5 mg/kg	85.7	58.4	143
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.5 mg/kg	99.1	52.1	149
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	1.5 mg/kg	86.6	64.6	140
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5114946)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	18 mg/kg	110	64.0	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5115323)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	378 mg/kg	103	79.4	125
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	407 mg/kg	100	78.8	122
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5114946)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	22.5 mg/kg	114	58.1	124
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5115323)								



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5115323) - continued								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	502 mg/kg	102	81.0	132
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	268 mg/kg	101	67.2	130
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
EP080: BTEXN (QCLot: 5114946)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	90.3	68.0	107
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	92.6	69.0	108
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	91.5	68.0	109
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	103	70.0	114
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	110	74.0	116
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	92.9	74.0	109
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5115314)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	113	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	123	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	107	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	126	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	122	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	114	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5115314)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	102	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	114	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	124	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	125	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	119	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	113	69.0	135
EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	110	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	93.4	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5115314)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	124	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	128	59.6	143
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	106	62.8	140



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: <i>Compound</i>	CAS Number	LOR	Unit	Result				
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5115314) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	121	61.5	139
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	113	61.9	137
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	107	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	116	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5115314)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	111	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	118	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	129	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	124	54.8	124

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	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 5115370)							
EB2318067-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	91.2	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.1	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	103	70.0	130
		EG005T: Copper	7440-50-8	250 mg/kg	96.4	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	113	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	105	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	84.0	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 5115371)							
EB2318156-001	R1	EG035T: Mercury	7439-97-6	0.5 mg/kg	78.9	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 5115326)							
EB2318159-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	103	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 5115325)							
EB2317973-002	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	103	70.0	136
		EP068: Heptachlor	76-44-8	0.5 mg/kg	99.7	65.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	96.8	70.0	130

Page : 13 of 14
 Work Order : EB2318156
 Client : DOUGLAS PARTNERS PTY LTD
 Project : 219361.01



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 5115325) - continued							
EB2317973-002	Anonymous	EP068: Dieldrin	60-57-1	0.5 mg/kg	90.6	67.0	129
		EP068: Endrin	72-20-8	0.5 mg/kg	89.5	60.0	137
		EP068: 4,4'-DDT	50-29-3	0.5 mg/kg	105	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 5115325)							
EB2317973-002	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	93.9	70.0	131
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	97.7	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	94.6	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	94.0	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	97.6	70.0	134
EP075(SIM)A: Phenolic Compounds (QCLot: 5115324)							
EB2317973-002	Anonymous	EP075(SIM): Phenol	108-95-2	1.5 mg/kg	91.8	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	1.5 mg/kg	97.2	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	1.5 mg/kg	119	42.9	156
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1.5 mg/kg	89.9	53.3	138
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	79.9	20.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5115324)							
EB2317973-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	1.5 mg/kg	107	66.0	132
		EP075(SIM): Pyrene	129-00-0	1.5 mg/kg	110	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5114946)							
EB2318088-007	Anonymous	EP080: C6 - C9 Fraction	----	8 mg/kg	98.0	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5115323)							
EB2317973-001	Anonymous	EP071: C10 - C14 Fraction	----	379 mg/kg	101	70.0	130
		EP071: C15 - C28 Fraction	----	407 mg/kg	99.0	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5114946)							
EB2318088-007	Anonymous	EP080: C6 - C10 Fraction	C6_C10	8 mg/kg	96.6	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5115323)							
EB2317973-001	Anonymous	EP071: >C10 - C16 Fraction	----	502 mg/kg	101	70.0	130
		EP071: >C16 - C34 Fraction	----	268 mg/kg	99.5	70.0	130
EP080: BTEXN (QCLot: 5114946)							
EB2318088-007	Anonymous	EP080: Benzene	71-43-2	2 mg/kg	96.4	70.0	130
		EP080: Toluene	108-88-3	2 mg/kg	94.5	70.0	130
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5115314)							
EB2317973-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	100	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	115	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	101	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	112	70.0	132



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5115314) - continued							
EB2317973-002	Anonymous	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	105	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	93.3	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5115314)							
EB2317973-002	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	93.8	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	101	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	101	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	105	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	100	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	114	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	104	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	105	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	106	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	98.8	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	85.7	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5115314)							
EB2317973-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	120	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	121	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	98.9	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	114	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	100	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	107	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	106	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5115314)							
EB2317973-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	105	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	104	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	130	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	130	70.0	130



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2318156	Page	: 1 of 8
Client	: DOUGLAS PARTNERS PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Telephone	: +61 7 3552 8634
Project	: 219361.01	Date Samples Received	: 15-Jun-2023
Site	: ----	Issue Date	: 21-Jun-2023
Sampler	: ----	No. of samples received	: 1
Order number	: ----	No. of samples analysed	: 1

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** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- Duplicate outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



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
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EB2314987--003	Anonymous	Arsenic	7440-38-2	27.1 %	0% - 20%	RPD exceeds LOR based limits

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA055: Moisture Content (Dried @ 105-110°C)						
Soil Glass Jar - Unpreserved R1	----	----	----	16-Jun-2023	07-Jun-2023	9
EP066: Polychlorinated Biphenyls (PCB)						
Soil Glass Jar - Unpreserved R1	16-Jun-2023	07-Jun-2023	9	----	----	----
EP068A: Organochlorine Pesticides (OC)						
Soil Glass Jar - Unpreserved R1	16-Jun-2023	07-Jun-2023	9	----	----	----
EP068B: Organophosphorus Pesticides (OP)						
Soil Glass Jar - Unpreserved R1	16-Jun-2023	07-Jun-2023	9	----	----	----
EP075(SIM)A: Phenolic Compounds						
Soil Glass Jar - Unpreserved R1	16-Jun-2023	07-Jun-2023	9	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons						
Soil Glass Jar - Unpreserved R1	16-Jun-2023	07-Jun-2023	9	----	----	----
EP080/071: Total Petroleum Hydrocarbons						
Soil Glass Jar - Unpreserved R1	16-Jun-2023	07-Jun-2023	9	16-Jun-2023	07-Jun-2023	9
Soil Glass Jar - Unpreserved R1	16-Jun-2023	07-Jun-2023	9	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions						
Soil Glass Jar - Unpreserved R1	16-Jun-2023	07-Jun-2023	9	16-Jun-2023	07-Jun-2023	9
Soil Glass Jar - Unpreserved R1	16-Jun-2023	07-Jun-2023	9	----	----	----
EP080: BTEXN						
Soil Glass Jar - Unpreserved R1	16-Jun-2023	07-Jun-2023	9	16-Jun-2023	07-Jun-2023	9



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	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) R1	24-May-2023	----	----	----	16-Jun-2023	07-Jun-2023	✖
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) R1	24-May-2023	17-Jun-2023	20-Nov-2023	✓	19-Jun-2023	20-Nov-2023	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) R1	24-May-2023	17-Jun-2023	21-Jun-2023	✓	19-Jun-2023	21-Jun-2023	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066) R1	24-May-2023	16-Jun-2023	07-Jun-2023	✖	20-Jun-2023	26-Jul-2023	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) R1	24-May-2023	16-Jun-2023	07-Jun-2023	✖	19-Jun-2023	26-Jul-2023	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP068) R1	24-May-2023	16-Jun-2023	07-Jun-2023	✖	19-Jun-2023	26-Jul-2023	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM)) R1	24-May-2023	16-Jun-2023	07-Jun-2023	✖	19-Jun-2023	26-Jul-2023	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) R1	24-May-2023	16-Jun-2023	07-Jun-2023	✖	19-Jun-2023	26-Jul-2023	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP071) R1	24-May-2023	16-Jun-2023	07-Jun-2023	✖	19-Jun-2023	26-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP080) R1	24-May-2023	16-Jun-2023	07-Jun-2023	✖	16-Jun-2023	07-Jun-2023	✖



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 (EP071) R1	24-May-2023	16-Jun-2023	07-Jun-2023	✖	19-Jun-2023	26-Jul-2023	✓
Soil Glass Jar - Unpreserved (EP080) R1	24-May-2023	16-Jun-2023	07-Jun-2023	✖	16-Jun-2023	07-Jun-2023	✖
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) R1	24-May-2023	16-Jun-2023	07-Jun-2023	✖	16-Jun-2023	07-Jun-2023	✖
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE Soil Jar (EP231X) R1	24-May-2023	16-Jun-2023	20-Nov-2023	✓	20-Jun-2023	26-Jul-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE Soil Jar (EP231X) R1	24-May-2023	16-Jun-2023	20-Nov-2023	✓	20-Jun-2023	26-Jul-2023	✓
EP231C: Perfluoroalkyl Sulfonamides							
HDPE Soil Jar (EP231X) R1	24-May-2023	16-Jun-2023	20-Nov-2023	✓	20-Jun-2023	26-Jul-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE Soil Jar (EP231X) R1	24-May-2023	16-Jun-2023	20-Nov-2023	✓	20-Jun-2023	26-Jul-2023	✓
EP231P: PFAS Sums							
HDPE Soil Jar (EP231X) R1	24-May-2023	16-Jun-2023	20-Nov-2023	✓	20-Jun-2023	26-Jul-2023	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	10	20.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	9	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	5	20.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	6	16.67	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	10	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	10	20.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	9	11.11	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	11.11	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	6	16.67	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	10	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	10	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	9	11.11	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	11.11	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	6	16.67	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	10	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	10	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	9	11.11	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	9	11.11	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	6	16.67	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	10	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	10	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification .

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	



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 Schedule B(3).
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 Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to 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 Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. 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 Schedule B(3)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).



Preparation Methods	Method	Matrix	Method Descriptions
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.



CHAIN OF CUSTODY RECORD

Eurofins | mgt ABN 50 005 085 521

☐ Sydney LaboratoryUnit F3 Bld F 16 Mars Road Lane Cove West NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com☒ Brisbane LaboratoryUnit 1 21 Shalwood Place Murarie QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com☐ Perth LaboratoryUnit 2 91 Leach Highway Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com☐ Melbourne Laboratory6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company		Douglas Partner Pty Ltd		Project No		219361.02		Project Manager		Rob Muller		Sampler(s)		Chloe Jones					
Address		439 Montague Road, West End Qld 4101		Project Name		Bromelton		EDD Format		ESdat		Handed over by		Chloe Jones					
Contact Name		Rob Muller		Analyses Where metals are requested, please specify "Total" or "Filtered" SUITE code must be used to attract SUITE pricing		TRH06-C10BTEX										Email for Invoice		apinvoices@douglaspartners.com.au	
Phone No																Email for Results		rob.muller@douglaspartners.com.au	
Special Directions																Containers		Required Turnaround Time (TAT)	
Purchase Order																Change container type & size if necessary.		Default will be 5 days if not ticked.	
Quote ID No																			
No		Client Sample ID		Sampled Date/Time dd/mm/yyyy hh:mm		Matrix Solid (S) Water (W)		BIO suite		PFAS		BIOE							
1		MW9		2/6/23		W		X		X									
2		MW8				W		X		X									
3		SW1				W		X		X		X							
4		SW2				W		X		X		X							
5		MWR1				W		X		X									
6		MWS1				W													
7		Rinsate				W		X											
8		Trip Blank				W													
9		Trip Spike				W													
10																			
Total Counts																			
Method of Shipment		☒ Courier (#)		☐ Hand Delivered		☐ Postal		Name		Chloe Jones		Signature		Date					
Eurofins mgt Laboratory Use Only		Received By		SYD BNE MEL PER ADL NTL DRW		Signature		Date		Time		Temperature							
		Received By		SYD BNE MEL PER ADL NTL DRW		Signature		Date		Time		Report No		996741					

Eurofins Environment Testing Australia Pty Ltd trading as Eurofins | mgt

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarrie QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site# 20794	1/2 Frost Drive Mayfield West NSW 2304 Tel: +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road Welshpool WA 6106 Tel: +61 8 6253 4444 NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Christchurch
35 O'Rourke Road Penrose, Auckland 1061 Tel: +64 9 526 4551 IANZ# 1327	43 Detroit Drive Rolleston, Christchurch 7675 Tel: +64 3 343 5201 IANZ# 1290

Sample Receipt Advice

Company name:	Douglas Partners (Qld) Pty Ltd
Contact name:	- Brisbane @ DouglasPartners
Project name:	BROMELTON
Project ID:	219361.01
Turnaround time:	5 Day
Date/Time received	Jun 2, 2023 4:40 PM
Eurofins reference	996741

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- ✓ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Zoe Flynn on phone : or by email: ZoeFlynn@eurofins.com

Results will be delivered electronically via email to - Brisbane @ DouglasPartners - Brisbane@douglaspartners.com.au.

Note: A copy of these results will also be delivered to the general Douglas Partners (Qld) Pty Ltd email address.



Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 25403

Sydney
179 Magowar Road
Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

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

Newcastle
1/2 Frost Drive
Mayfield West NSW 2304
Tel: +61 2 4968 8448
NATA# 1261
Site# 25079 & 25289

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
Tel: +64 9 526 4551
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: +64 3 343 5201
IANZ# 1290

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 996741
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 2, 2023 4:40 PM
Due: Jun 9, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail						Eurofins Suite B10: BTEX/TRH/PAH/OPP	BTEXN and Volatile TRH	Eurofins Suite B19E: Total N, TKN, NOx, NO2, NO3, NH3, Total P, Reactive P	Per- and Polyfluoroalkyl Substances (PFASs)	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254						X		X		
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X		X	X
External Laboratory										
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID					
1	MW9	Jun 02, 2023		Water	B23-Jn0016349	X			X	
2	MW8	Jun 02, 2023		Water	B23-Jn0016350	X			X	
3	SW1	Jun 02, 2023		Water	B23-Jn0016351	X		X	X	
4	SW2	Jun 02, 2023		Water	B23-Jn0016352	X		X	X	
5	MWR1	Jun 02, 2023		Water	B23-Jn0016353	X			X	
6	RINSATE	Jun 02, 2023		Water	B23-Jn0016354	X				
7	TRIP BLANK	Jun 02, 2023		Trip Blank (liquid)	B23-Jn0016355		X			
8	TRIP SPIKE	Jun 02, 2023		Trip Spike (liquid)	B23-Jn0016356		X			X
Test Counts						6	2	2	5	1

Douglas Partners Pty Ltd
439 Montague Road
West End
QLD 4101



NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: **Rob Muller**

Report **996741-W**
 Project name **BROMELTON**
 Project ID **219361.01**
 Received Date **Jun 02, 2023**

Client Sample ID			MW9	MW8	SW1	SW2
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			B23-Jn0016349	B23-Jn0016350	B23-Jn0016351	B23-Jn0016352
Date Sampled			Jun 02, 2023	Jun 02, 2023	Jun 02, 2023	Jun 02, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	0.11	G01 < 0.2	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	0.28	2.7	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	1.6	6.1	0.1	0.3
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	0.4
TRH C10-C36 (Total)	0.1	mg/L	1.88	8.8	0.1	0.7
BTEX						
Comments				G01		
Benzene	0.001	mg/L	< 0.001	< 0.01	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.01	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.01	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.02	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.01	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.03	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	99	102	110	108
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH >C10-C16 less Naphthalene (F2) ^{N01}	0.05	mg/L	0.29	2.5	< 0.05	< 0.05
TRH C6-C10	0.02	mg/L	0.16	< 0.2	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1) ^{N04}	0.02	mg/L	0.16	< 0.2	< 0.02	< 0.02
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Indeno(1,2,3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			MW9	MW8	SW1	SW2
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			B23-Jn0016349	B23-Jn0016350	B23-Jn0016351	B23-Jn0016352
Date Sampled			Jun 02, 2023	Jun 02, 2023	Jun 02, 2023	Jun 02, 2023
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	75	77	76	60
p-Terphenyl-d14 (surr.)	1	%	77	126	81	80
Organochlorine Pesticides						
Chlordanes - Total	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
4,4'-DDD	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDE	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDT	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
a-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Aldrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
b-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
d-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Dieldrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan I	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan II	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan sulphate	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin aldehyde	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin ketone	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
g-HCH (Lindane)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Heptachlor	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Heptachlor epoxide	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Hexachlorobenzene	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Methoxychlor	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Toxaphene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aldrin and Dieldrin (Total)*	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
DDT + DDE + DDD (Total)*	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Vic EPA IWRG 621 OCP (Total)*	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Vic EPA IWRG 621 Other OCP (Total)*	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dibutylchloroendate (surr.)	1	%	77	66	63	62
Tetrachloro-m-xylene (surr.)	1	%	59	85	88	96
Organophosphorus Pesticides						
Azinphos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Bolstar	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Chlorfenvinphos	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Chlorpyrifos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Chlorpyrifos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Coumaphos	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Demeton-S	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Demeton-O	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Diazinon	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dichlorvos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dimethoate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Disulfoton	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
EPN	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethoprop	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002

Client Sample ID			MW9	MW8	SW1	SW2
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			B23-Jn0016349	B23-Jn0016350	B23-Jn0016351	B23-Jn0016352
Date Sampled			Jun 02, 2023	Jun 02, 2023	Jun 02, 2023	Jun 02, 2023
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Fenitrothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fensulfothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fenthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Malathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Merphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Methyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Mevinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Monocrotophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Naled	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Omethoate	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Phorate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Pirimiphos-methyl	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Pyrazophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ronnel	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Terbufos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Tetrachlorvinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Tokuthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Trichloronate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Triphenylphosphate (surr.)	1	%	72	88	61	58
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	0.05	mg/L	0.29	2.5	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	1.6	6.0	0.2	0.7
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	1.89	8.5	0.2	0.7
Heavy Metals						
Arsenic	0.001	mg/L	0.001	0.002	0.002	0.016
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium	0.001	mg/L	0.003	0.002	< 0.001	0.020
Copper	0.001	mg/L	0.005	0.029	0.002	0.064
Lead	0.001	mg/L	0.002	0.009	0.001	0.057
Mercury	0.0001	mg/L	0.0001	0.0003	< 0.0001	0.0001
Nickel	0.001	mg/L	0.007	0.010	0.001	0.029
Zinc	0.005	mg/L	0.015	0.043	0.008	0.13
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTeDA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	103	111	64	49
13C5-PFPeA (surr.)	1	%	113	77	56	45
13C5-PFHxA (surr.)	1	%	112	86	65	57
13C4-PFHpA (surr.)	1	%	106	70	60	59

Client Sample ID			MW9	MW8	SW1	SW2
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			B23-Jn0016349	B23-Jn0016350	B23-Jn0016351	B23-Jn0016352
Date Sampled			Jun 02, 2023	Jun 02, 2023	Jun 02, 2023	Jun 02, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
13C8-PFOA (surr.)	1	%	108	64	63	56
13C5-PFNA (surr.)	1	%	96	72	63	59
13C6-PFDA (surr.)	1	%	99	69	61	58
13C2-PFUnDA (surr.)	1	%	59	73	56	56
13C2-PFDoDA (surr.)	1	%	104	59	51	49
13C2-PFTEdA (surr.)	1	%	128	48	50	44
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	111	17	87	95
D3-N-MeFOSA (surr.)	1	%	80	15	42	61
D5-N-EtFOSA (surr.)	1	%	62	11	40	64
D7-N-MeFOSE (surr.)	1	%	42	INT	55	48
D9-N-EtFOSE (surr.)	1	%	114	18	64	57
D5-N-EtFOSAA (surr.)	1	%	164	36	60	66
D3-N-MeFOSAA (surr.)	1	%	193	59	66	66
Perfluoroalkyl sulfonic acids (PFSA)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	144	87	65	62
18O2-PFHxS (surr.)	1	%	136	67	68	61
13C8-PFOS (surr.)	1	%	104	96	78	67
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	147	INT	43	38
13C2-6:2 FTSA (surr.)	1	%	144	192	64	56
13C2-8:2 FTSA (surr.)	1	%	96	INT	73	77
13C2-10:2 FTSA (surr.)	1	%	153	INT	67	70

Client Sample ID			MW9	MW8	SW1	SW2
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			B23-Jn0016349	B23-Jn0016350	B23-Jn0016351	B23-Jn0016352
Date Sampled			Jun 02, 2023	Jun 02, 2023	Jun 02, 2023	Jun 02, 2023
Test/Reference	LOR	Unit				
PFASs Summations						
Sum (PFHxS + PFOS)*	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
Sum of PFASs (n=30)*	0.1	ug/L	< 0.1	< 0.1	< 0.1	< 0.1
Ammonia (as N)	0.01	mg/L	-	-	0.30	2.2
Nitrate & Nitrite (as N)	0.05	mg/L	-	-	0.06	< 0.05
Nitrate (as N)	0.02	mg/L	-	-	0.05	< 0.02
Nitrite (as N)	0.02	mg/L	-	-	< 0.02	< 0.02
Organic Nitrogen (as N)*	0.2	mg/L	-	-	1.6	7
Phosphate total (as P)	0.01	mg/L	-	-	0.06	0.70
Phosphorus reactive (as P)	0.01	mg/L	-	-	0.01	0.58
Total Kjeldahl Nitrogen (as N)	0.2	mg/L	-	-	1.9	9.2
Total Nitrogen (as N)*	0.2	mg/L	-	-	1.96	9.2

Client Sample ID			MWR1	RINSATE	TRIP BLANK	R20 ¹ TRIP SPIKE
Sample Matrix			Water	Water	Trip Blank (liquid)	Trip Spike (liquid)
Eurofins Sample No.			B23-Jn0016353	B23-Jn0016354	B23-Jn0016355	B23-Jn0016356
Date Sampled			Jun 02, 2023	Jun 02, 2023	Jun 02, 2023	Jun 02, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	0.10	< 0.02	< 0.02	-
TRH C10-C14	0.05	mg/L	0.26	< 0.05	-	-
TRH C15-C28	0.1	mg/L	1.3	< 0.1	-	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	-	-
TRH C10-C36 (Total)	0.1	mg/L	1.56	< 0.1	-	-
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
4-Bromofluorobenzene (surr.)	1	%	99	106	115	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.01	mg/L	< 0.01	< 0.01	-	-
TRH >C10-C16 less Naphthalene (F2) ^{N01}	0.05	mg/L	0.27	< 0.05	-	-
TRH C6-C10	0.02	mg/L	0.14	< 0.02	-	-
TRH C6-C10 less BTEX (F1) ^{N04}	0.02	mg/L	0.14	< 0.02	-	-
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	-	-
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	-	-
Anthracene	0.001	mg/L	< 0.001	< 0.001	-	-
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	< 0.001	-	-

Client Sample ID			MWR1	RINSATE	TRIP BLANK	R20 TRIP SPIKE
Sample Matrix			Water	Water	Trip Blank (liquid)	Trip Spike (liquid)
Eurofins Sample No.			B23-Jn0016353	B23-Jn0016354	B23-Jn0016355	B23-Jn0016356
Date Sampled			Jun 02, 2023	Jun 02, 2023	Jun 02, 2023	Jun 02, 2023
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	-	-
Chrysene	0.001	mg/L	< 0.001	< 0.001	-	-
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001	-	-
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	-	-
Fluorene	0.001	mg/L	< 0.001	< 0.001	-	-
Indeno(1,2,3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	-	-
Naphthalene	0.001	mg/L	< 0.001	< 0.001	-	-
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	-	-
Pyrene	0.001	mg/L	< 0.001	< 0.001	-	-
Total PAH*	0.001	mg/L	< 0.001	< 0.001	-	-
2-Fluorobiphenyl (surr.)	1	%	70	64	-	-
p-Terphenyl-d14 (surr.)	1	%	64	122	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.002	mg/L	< 0.002	< 0.002	-	-
4,4'-DDD	0.0002	mg/L	< 0.0002	< 0.0002	-	-
4,4'-DDE	0.0002	mg/L	< 0.0002	< 0.0002	-	-
4,4'-DDT	0.0002	mg/L	< 0.0002	< 0.0002	-	-
a-HCH	0.0002	mg/L	< 0.0002	< 0.0002	-	-
Aldrin	0.0002	mg/L	< 0.0002	< 0.0002	-	-
b-HCH	0.0002	mg/L	< 0.0002	< 0.0002	-	-
d-HCH	0.0002	mg/L	< 0.0002	< 0.0002	-	-
Dieldrin	0.0002	mg/L	< 0.0002	< 0.0002	-	-
Endosulfan I	0.0002	mg/L	< 0.0002	< 0.0002	-	-
Endosulfan II	0.0002	mg/L	< 0.0002	< 0.0002	-	-
Endosulfan sulphate	0.0002	mg/L	< 0.0002	< 0.0002	-	-
Endrin	0.0002	mg/L	< 0.0002	< 0.0002	-	-
Endrin aldehyde	0.0002	mg/L	< 0.0002	< 0.0002	-	-
Endrin ketone	0.0002	mg/L	< 0.0002	< 0.0002	-	-
g-HCH (Lindane)	0.0002	mg/L	< 0.0002	< 0.0002	-	-
Heptachlor	0.0002	mg/L	< 0.0002	< 0.0002	-	-
Heptachlor epoxide	0.0002	mg/L	< 0.0002	< 0.0002	-	-
Hexachlorobenzene	0.0002	mg/L	< 0.0002	< 0.0002	-	-
Methoxychlor	0.0002	mg/L	< 0.0002	< 0.0002	-	-
Toxaphene	0.005	mg/L	< 0.005	< 0.005	-	-
Aldrin and Dieldrin (Total)*	0.0002	mg/L	< 0.0002	< 0.0002	-	-
DDT + DDE + DDD (Total)*	0.0002	mg/L	< 0.0002	< 0.0002	-	-
Vic EPA IWRG 621 OCP (Total)*	0.002	mg/L	< 0.002	< 0.002	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.002	mg/L	< 0.002	< 0.002	-	-
Dibutylchloroendate (surr.)	1	%	66	91	-	-
Tetrachloro-m-xylene (surr.)	1	%	55	94	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.002	mg/L	< 0.002	< 0.002	-	-
Bolstar	0.002	mg/L	< 0.002	< 0.002	-	-
Chlorfenvinphos	0.02	mg/L	< 0.02	< 0.02	-	-
Chlorpyrifos	0.002	mg/L	< 0.002	< 0.002	-	-
Chlorpyrifos-methyl	0.002	mg/L	< 0.002	< 0.002	-	-
Coumaphos	0.02	mg/L	< 0.02	< 0.02	-	-

Client Sample ID			MWR1	RINSATE	TRIP BLANK	R20 TRIP SPIKE
Sample Matrix			Water	Water	Trip Blank (liquid)	Trip Spike (liquid)
Eurofins Sample No.			B23-Jn0016353	B23-Jn0016354	B23-Jn0016355	B23-Jn0016356
Date Sampled			Jun 02, 2023	Jun 02, 2023	Jun 02, 2023	Jun 02, 2023
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Demeton-S	0.002	mg/L	< 0.002	< 0.002	-	-
Demeton-O	0.002	mg/L	< 0.002	< 0.002	-	-
Diazinon	0.002	mg/L	< 0.002	< 0.002	-	-
Dichlorvos	0.002	mg/L	< 0.002	< 0.002	-	-
Dimethoate	0.002	mg/L	< 0.002	< 0.002	-	-
Disulfoton	0.002	mg/L	< 0.002	< 0.002	-	-
EPN	0.002	mg/L	< 0.002	< 0.002	-	-
Ethion	0.002	mg/L	< 0.002	< 0.002	-	-
Ethoprop	0.002	mg/L	< 0.002	< 0.002	-	-
Ethyl parathion	0.002	mg/L	< 0.002	< 0.002	-	-
Fenitrothion	0.002	mg/L	< 0.002	< 0.002	-	-
Fensulfotthion	0.002	mg/L	< 0.002	< 0.002	-	-
Fenthion	0.002	mg/L	< 0.002	< 0.002	-	-
Malathion	0.002	mg/L	< 0.002	< 0.002	-	-
Merphos	0.002	mg/L	< 0.002	< 0.002	-	-
Methyl parathion	0.002	mg/L	< 0.002	< 0.002	-	-
Mevinphos	0.002	mg/L	< 0.002	< 0.002	-	-
Monocrotophos	0.002	mg/L	< 0.002	< 0.002	-	-
Naled	0.002	mg/L	< 0.002	< 0.002	-	-
Omethoate	0.02	mg/L	< 0.02	< 0.02	-	-
Phorate	0.002	mg/L	< 0.002	< 0.002	-	-
Pirimiphos-methyl	0.02	mg/L	< 0.02	< 0.02	-	-
Pyrazophos	0.002	mg/L	< 0.002	< 0.002	-	-
Ronnel	0.002	mg/L	< 0.002	< 0.002	-	-
Terbufos	0.002	mg/L	< 0.002	< 0.002	-	-
Tetrachlorvinphos	0.002	mg/L	< 0.002	< 0.002	-	-
Tokuthion	0.002	mg/L	< 0.002	< 0.002	-	-
Trichloronate	0.002	mg/L	< 0.002	< 0.002	-	-
Triphenylphosphate (surr.)	1	%	66	103	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	0.05	mg/L	0.27	< 0.05	-	-
TRH >C16-C34	0.1	mg/L	1.3	< 0.1	-	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	-	-
TRH >C10-C40 (total)*	0.1	mg/L	1.57	< 0.1	-	-
Heavy Metals						
Arsenic	0.001	mg/L	< 0.001	< 0.001	-	-
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002	-	-
Chromium	0.001	mg/L	0.002	< 0.001	-	-
Copper	0.001	mg/L	0.005	0.002	-	-
Lead	0.001	mg/L	0.003	< 0.001	-	-
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	-	-
Nickel	0.001	mg/L	0.007	< 0.001	-	-
Zinc	0.005	mg/L	0.016	< 0.005	-	-
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	< 0.05	-	-	-
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	< 0.01	-	-	-
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	< 0.01	-	-	-
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	< 0.01	-	-	-

Client Sample ID			MWR1	RINSATE	TRIP BLANK	R20 TRIP SPIKE
Sample Matrix			Water	Water	Trip Blank (liquid)	Trip Spike (liquid)
Eurofins Sample No.			B23-Jn0016353	B23-Jn0016354	B23-Jn0016355	B23-Jn0016356
Date Sampled			Jun 02, 2023	Jun 02, 2023	Jun 02, 2023	Jun 02, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	< 0.01	-	-	-
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	< 0.01	-	-	-
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.01	-	-	-
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	-	-	-
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	-	-	-
Perfluorotridecanoic acid (PFTeDA) ^{N15}	0.01	ug/L	< 0.01	-	-	-
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	0.01	ug/L	< 0.01	-	-	-
13C4-PFBA (surr.)	1	%	78	-	-	-
13C5-PFPeA (surr.)	1	%	58	-	-	-
13C5-PFHxA (surr.)	1	%	79	-	-	-
13C4-PFHpA (surr.)	1	%	88	-	-	-
13C8-PFOA (surr.)	1	%	72	-	-	-
13C5-PFNA (surr.)	1	%	105	-	-	-
13C6-PFDA (surr.)	1	%	99	-	-	-
13C2-PFUnDA (surr.)	1	%	62	-	-	-
13C2-PFDoDA (surr.)	1	%	121	-	-	-
13C2-PFTeDA (surr.)	1	%	81	-	-	-
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	< 0.05	-	-	-
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.05	-	-	-
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.05	-	-	-
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	0.05	ug/L	< 0.05	-	-	-
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	0.05	ug/L	< 0.05	-	-	-
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.05	-	-	-
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.05	-	-	-
13C8-FOSA (surr.)	1	%	53	-	-	-
D3-N-MeFOSA (surr.)	1	%	59	-	-	-
D5-N-EtFOSA (surr.)	1	%	72	-	-	-
D7-N-MeFOSE (surr.)	1	%	65	-	-	-
D9-N-EtFOSE (surr.)	1	%	122	-	-	-
D5-N-EtFOSAA (surr.)	1	%	INT	-	-	-
D3-N-MeFOSAA (surr.)	1	%	INT	-	-	-
Perfluoroalkyl sulfonic acids (PFSAs)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	< 0.01	-	-	-
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	< 0.01	-	-	-
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	< 0.01	-	-	-
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	< 0.01	-	-	-
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	< 0.01	-	-	-
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	< 0.01	-	-	-
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	< 0.01	-	-	-
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.01	-	-	-
13C3-PFBS (surr.)	1	%	150	-	-	-
18O2-PFHxS (surr.)	1	%	142	-	-	-
13C8-PFOS (surr.)	1	%	111	-	-	-

Client Sample ID			MWR1	RINSATE	TRIP BLANK	R20 TRIP SPIKE
Sample Matrix			Water	Water	Trip Blank (liquid)	Trip Spike (liquid)
Eurofins Sample No.			B23-Jn0016353	B23-Jn0016354	B23-Jn0016355	B23-Jn0016356
Date Sampled			Jun 02, 2023	Jun 02, 2023	Jun 02, 2023	Jun 02, 2023
Test/Reference	LOR	Unit				
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	-	-	-
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	0.05	ug/L	< 0.05	-	-	-
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	-	-	-
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	-	-	-
13C2-4:2 FTSA (surr.)	1	%	118	-	-	-
13C2-6:2 FTSA (surr.)	1	%	137	-	-	-
13C2-8:2 FTSA (surr.)	1	%	113	-	-	-
13C2-10:2 FTSA (surr.)	1	%	175	-	-	-
PFASs Summations						
Sum (PFHxS + PFOS)*	0.01	ug/L	< 0.01	-	-	-
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	< 0.01	-	-	-
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	< 0.01	-	-	-
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	< 0.05	-	-	-
Sum of PFASs (n=30)*	0.1	ug/L	< 0.1	-	-	-
Naphthalene ^{N02}	0.01	mg/L	-	-	< 0.01	-
TRH C6-C10 less BTEX (F1) ^{N04}	0.02	mg/L	-	-	< 0.02	-
Naphthalene	1	%	-	-	-	89
TRH C6-C10	1	%	-	-	-	48
TRH C6-C9	1	%	-	-	-	48
Total Recoverable Hydrocarbons						
TRH C6-C10	0.02	mg/L	-	-	< 0.02	-
BTEX						
Benzene	1	%	-	-	-	89
Ethylbenzene	1	%	-	-	-	83
m&p-Xylenes	1	%	-	-	-	90
o-Xylene	1	%	-	-	-	77
Toluene	1	%	-	-	-	82
Xylenes - Total	1	%	-	-	-	81
4-Bromofluorobenzene (surr.)	1	%	-	-	-	103

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Brisbane	Jun 08, 2023	7 Days
BTEX - Method: USEPA SW846 8260	Brisbane	Jun 08, 2023	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Brisbane	Jun 08, 2023	7 Days
Naphthalene - Method: USEPA 8260B - MGT 350A Volatile Organics by GCMS	Brisbane	Jun 08, 2023	14 Days
Total Recoverable Hydrocarbons - Method: LTM-ORG-2010 TRH C6-C40	Brisbane	Jun 08, 2023	7 Days
Polycyclic Aromatic Hydrocarbons - Method: USEPA M 8270 (LTM-ORG-2130 PAH & Phenols in Soil & Water by GC-MS) - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Melbourne	Jun 09, 2023	7 Days
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)	Melbourne	Jun 08, 2023	7 Days
Organophosphorus Pesticides - Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8270)	Melbourne	Jun 08, 2023	7 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Jun 08, 2023	7 Days
Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Brisbane	Jun 08, 2023	28 Days
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Jun 08, 2023	28 Days
Perfluoroalkyl sulfonamido substances - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Jun 08, 2023	28 Days
Perfluoroalkyl sulfonic acids (PFSAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Jun 08, 2023	28 Days
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	Jun 08, 2023	28 Days
Eurofins Suite B19E: Total N, TKN, NOx, NO2, NO3, NH3, Total P, Reactive P			
Ammonia (as N) - Method: LTM-INO-4450 Determination of Nitrogen Species by Discrete Analyser	Melbourne	Jun 08, 2023	28 Days
Nitrate & Nitrite (as N) - Method: LTM-INO-4450 Determination of Nitrogen Species by Discrete Analyser	Melbourne	Jun 08, 2023	28 Days
Nitrate (as N) - Method: LTM-INO-4450 Determination of Nitrogen Species by Discrete Analyser	Melbourne	Jun 08, 2023	28 Days
Nitrite (as N) - Method: LTM-INO-4450 Determination of Nitrogen Species by Discrete Analyser	Melbourne	Jun 08, 2023	2 Days
Organic Nitrogen (as N)* - Method: APHA 4500 Organic Nitrogen (N)	Melbourne	Jun 07, 2023	7 Days
Phosphate total (as P) - Method: LTM-INO-4040 Phosphate by CFA	Melbourne	Jun 08, 2023	28 Days
Phosphorus reactive (as P) - Method: APHA 4500-P	Melbourne	Jun 08, 2023	2 Days
Total Kjeldahl Nitrogen (as N) - Method: APHA 4500-Norg B,D Total Kjeldahl Nitrogen by FIA	Melbourne	Jun 08, 2023	28 Days

Company Name: Douglas Partners (Qld) Pty Ltd
Address: 439 Montague Road
West End
QLD 4101
Project Name: BROMELTON
Project ID: 219361.01

Order No.:
Report #: 996741
Phone: 07 3237 8900
Fax: 07 3237 8999

Received: Jun 2, 2023 4:40 PM
Due: Jun 9, 2023
Priority: 5 Day
Contact Name: - Brisbane @ DouglasPartners

Eurofins Analytical Services Manager : Zoe Flynn

Sample Detail

Eurofins Suite B10:
BTEX/TRH/PAH/OP/OPP

BTEXN and Volatile TRH

Eurofins Suite B19E: Total N, TKN, NOx,
NO2, NO3, NH3, Total P, Reactive P

Per- and Polyfluoroalkyl Substances (PFASs)

BTEXN and Volatile TRH

Melbourne Laboratory - NATA # 1261 Site # 1254

Brisbane Laboratory - NATA # 1261 Site # 20794

External Laboratory

No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID					
1	MW9	Jun 02, 2023		Water	B23-Jn0016349	X			X	
2	MW8	Jun 02, 2023		Water	B23-Jn0016350	X			X	
3	SW1	Jun 02, 2023		Water	B23-Jn0016351	X		X	X	
4	SW2	Jun 02, 2023		Water	B23-Jn0016352	X		X	X	
5	MWR1	Jun 02, 2023		Water	B23-Jn0016353	X			X	
6	RINSATE	Jun 02, 2023		Water	B23-Jn0016354	X				
7	TRIP BLANK	Jun 02, 2023		Trip Blank (liquid)	B23-Jn0016355		X			
8	TRIP SPIKE	Jun 02, 2023		Trip Spike (liquid)	B23-Jn0016356		X			X
Test Counts						6	2	2	5	1

Internal Quality Control Review and Glossary

General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with **blue** colour, indicates data provided by customer that may have an impact on the results.
- This report replaces any interim results previously issued.

Holding Times

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

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

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

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

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	µg/L: micrograms per litre
ppm: parts per million	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit		

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

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

Results <10 times the LOR: No Limit

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

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

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

- Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g,h,i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a,h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1,2,3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.002			0.002	Pass	
4,4'-DDD	mg/L	< 0.0002			0.0002	Pass	
4,4'-DDE	mg/L	< 0.0002			0.0002	Pass	
4,4'-DDT	mg/L	< 0.0002			0.0002	Pass	
a-HCH	mg/L	< 0.0002			0.0002	Pass	
Aldrin	mg/L	< 0.0002			0.0002	Pass	
b-HCH	mg/L	< 0.0002			0.0002	Pass	
d-HCH	mg/L	< 0.0002			0.0002	Pass	
Dieldrin	mg/L	< 0.0002			0.0002	Pass	
Endosulfan II	mg/L	< 0.0002			0.0002	Pass	
Endosulfan sulphate	mg/L	< 0.0002			0.0002	Pass	
Endrin	mg/L	< 0.0002			0.0002	Pass	
Endrin aldehyde	mg/L	< 0.0002			0.0002	Pass	
Endrin ketone	mg/L	< 0.0002			0.0002	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
g-HCH (Lindane)	mg/L	< 0.0002			0.0002	Pass	
Heptachlor	mg/L	< 0.0002			0.0002	Pass	
Heptachlor epoxide	mg/L	< 0.0002			0.0002	Pass	
Hexachlorobenzene	mg/L	< 0.0002			0.0002	Pass	
Methoxychlor	mg/L	< 0.0002			0.0002	Pass	
Toxaphene	mg/L	< 0.005			0.005	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/L	< 0.002			0.002	Pass	
Bolstar	mg/L	< 0.002			0.002	Pass	
Chlorfenvinphos	mg/L	< 0.02			0.02	Pass	
Chlorpyrifos	mg/L	< 0.002			0.002	Pass	
Chlorpyrifos-methyl	mg/L	< 0.002			0.002	Pass	
Coumaphos	mg/L	< 0.02			0.02	Pass	
Demeton-S	mg/L	< 0.002			0.002	Pass	
Demeton-O	mg/L	< 0.002			0.002	Pass	
Diazinon	mg/L	< 0.002			0.002	Pass	
Dichlorvos	mg/L	< 0.002			0.002	Pass	
Dimethoate	mg/L	< 0.002			0.002	Pass	
Disulfoton	mg/L	< 0.002			0.002	Pass	
EPN	mg/L	< 0.002			0.002	Pass	
Ethion	mg/L	< 0.002			0.002	Pass	
Ethoprop	mg/L	< 0.002			0.002	Pass	
Ethyl parathion	mg/L	< 0.002			0.002	Pass	
Fenitrothion	mg/L	< 0.002			0.002	Pass	
Fensulfothion	mg/L	< 0.002			0.002	Pass	
Fenthion	mg/L	< 0.002			0.002	Pass	
Malathion	mg/L	< 0.002			0.002	Pass	
Merphos	mg/L	< 0.002			0.002	Pass	
Methyl parathion	mg/L	< 0.002			0.002	Pass	
Mevinphos	mg/L	< 0.002			0.002	Pass	
Monocrotophos	mg/L	< 0.002			0.002	Pass	
Naled	mg/L	< 0.002			0.002	Pass	
Omethoate	mg/L	< 0.02			0.02	Pass	
Phorate	mg/L	< 0.002			0.002	Pass	
Pirimiphos-methyl	mg/L	< 0.02			0.02	Pass	
Pyrazophos	mg/L	< 0.002			0.002	Pass	
Ronnel	mg/L	< 0.002			0.002	Pass	
Terbufos	mg/L	< 0.002			0.002	Pass	
Tetrachlorvinphos	mg/L	< 0.002			0.002	Pass	
Tokuthion	mg/L	< 0.002			0.002	Pass	
Trichloronate	mg/L	< 0.002			0.002	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Mercury	mg/L	< 0.0001			0.0001	Pass	
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	ug/L	< 0.05			0.05	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.01			0.01	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.01			0.01	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.01			0.01	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.01			0.01	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.01			0.01	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.01			0.01	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.01			0.01	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.01			0.01	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/L	< 0.01			0.01	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.01			0.01	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.05			0.05	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.05			0.05	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.05			0.05	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.05			0.05	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.05			0.05	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.05			0.05	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.05			0.05	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.01			0.01	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.01			0.01	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.01			0.01	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.01			0.01	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.01			0.01	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.01			0.01	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.01			0.01	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.01			0.01	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.01			0.01	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.05			0.05	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.01			0.01	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.01			0.01	Pass	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Nitrate & Nitrite (as N)	mg/L	< 0.05			0.05	Pass	
Nitrite (as N)	mg/L	< 0.02			0.02	Pass	
Phosphate total (as P)	mg/L	< 0.01			0.01	Pass	
Phosphorus reactive (as P)	mg/L	0.01			0.01	Pass	
Total Kjeldahl Nitrogen (as N)	mg/L	< 0.2			0.2	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	95			70-130	Pass	
TRH C10-C14	%	109			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	102			70-130	Pass	
Toluene	%	98			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Ethylbenzene	%	99			70-130	Pass	
m&p-Xylenes	%	103			70-130	Pass	
Xylenes - Total*	%	102			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH C6-C10	%	97			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	91			70-130	Pass	
Acenaphthylene	%	74			70-130	Pass	
Anthracene	%	77			70-130	Pass	
Benz(a)anthracene	%	119			70-130	Pass	
Benzo(a)pyrene	%	75			70-130	Pass	
Benzo(b&j)fluoranthene	%	73			70-130	Pass	
Benzo(g,h,i)perylene	%	87			70-130	Pass	
Benzo(k)fluoranthene	%	124			70-130	Pass	
Chrysene	%	117			70-130	Pass	
Dibenz(a,h)anthracene	%	71			70-130	Pass	
Fluoranthene	%	99			70-130	Pass	
Fluorene	%	85			70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	79			70-130	Pass	
Naphthalene	%	93			70-130	Pass	
Phenanthrene	%	79			70-130	Pass	
Pyrene	%	94			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	78			70-130	Pass	
4,4'-DDD	%	73			70-130	Pass	
4,4'-DDE	%	78			70-130	Pass	
4,4'-DDT	%	70			70-130	Pass	
a-HCH	%	87			70-130	Pass	
Aldrin	%	75			70-130	Pass	
b-HCH	%	102			70-130	Pass	
d-HCH	%	88			70-130	Pass	
Dieldrin	%	84			70-130	Pass	
Endosulfan I	%	86			70-130	Pass	
Endosulfan II	%	106			70-130	Pass	
Endosulfan sulphate	%	72			70-130	Pass	
Endrin	%	81			70-130	Pass	
Endrin aldehyde	%	86			70-130	Pass	
Endrin ketone	%	95			70-130	Pass	
g-HCH (Lindane)	%	80			70-130	Pass	
Heptachlor	%	88			70-130	Pass	
Heptachlor epoxide	%	85			70-130	Pass	
Hexachlorobenzene	%	83			70-130	Pass	
Methoxychlor	%	71			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	122			70-130	Pass	
Dimethoate	%	86			70-130	Pass	
Ethion	%	87			70-130	Pass	
Fenitrothion	%	77			70-130	Pass	
Methyl parathion	%	76			70-130	Pass	
Mevinphos	%	82			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	105			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	96			80-120	Pass	
Cadmium	%	94			80-120	Pass	
Chromium	%	103			80-120	Pass	
Copper	%	100			80-120	Pass	
Lead	%	105			80-120	Pass	
Mercury	%	98			80-120	Pass	
Nickel	%	101			80-120	Pass	
Zinc	%	94			80-120	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	%	84			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	80			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	87			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	82			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	80			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	80			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	79			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	94			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	84			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	132			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	82			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	%	92			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	82			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	85			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	79			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	84			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	86			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	103			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSA's)							
Perfluorobutanesulfonic acid (PFBS)	%	76			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	82			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	80			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	77			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	91			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	%	86			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	%	114			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	%	84			50-150	Pass	
LCS - % Recovery							
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	85			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	75			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	81			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	100			50-150	Pass	
LCS - % Recovery							
Ammonia (as N)	%	119			70-130	Pass	
Nitrate & Nitrite (as N)	%	120			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nitrite (as N)			%	110			70-130	Pass	
Phosphate total (as P)			%	98			70-130	Pass	
Phosphorus reactive (as P)			%	119			70-130	Pass	
Total Kjeldahl Nitrogen (as N)			%	95			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	B23-Jn0018205	NCP	%	96			70-130	Pass	
TRH C10-C14	M23-Jn0021049	NCP	%	124			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	B23-Jn0018205	NCP	%	94			70-130	Pass	
Toluene	B23-Jn0018205	NCP	%	91			70-130	Pass	
Ethylbenzene	B23-Jn0018205	NCP	%	89			70-130	Pass	
m&p-Xylenes	B23-Jn0018205	NCP	%	93			70-130	Pass	
o-Xylene	B23-Jn0018205	NCP	%	91			70-130	Pass	
Xylenes - Total*	B23-Jn0018205	NCP	%	93			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH C6-C10	B23-Jn0018205	NCP	%	99			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S23-Jn0014853	NCP	%	80			70-130	Pass	
4,4'-DDD	S23-Jn0014853	NCP	%	74			70-130	Pass	
4,4'-DDE	S23-Jn0014853	NCP	%	75			70-130	Pass	
4,4'-DDT	S23-Jn0014853	NCP	%	78			70-130	Pass	
a-HCH	S23-Jn0014853	NCP	%	77			70-130	Pass	
Aldrin	M23-Jn0024183	NCP	%	108			70-130	Pass	
b-HCH	S23-Jn0014853	NCP	%	86			70-130	Pass	
d-HCH	S23-Jn0014853	NCP	%	79			70-130	Pass	
Dieldrin	S23-Jn0014853	NCP	%	72			70-130	Pass	
Endosulfan I	S23-Jn0014853	NCP	%	76			70-130	Pass	
Endosulfan II	S23-Jn0014853	NCP	%	84			70-130	Pass	
Endosulfan sulphate	S23-Jn0014853	NCP	%	78			70-130	Pass	
Endrin	S23-Jn0014853	NCP	%	94			70-130	Pass	
Endrin aldehyde	S23-Jn0014853	NCP	%	77			70-130	Pass	
Endrin ketone	S23-Jn0014853	NCP	%	74			70-130	Pass	
g-HCH (Lindane)	S23-Jn0014853	NCP	%	73			70-130	Pass	
Heptachlor	S23-Jn0014853	NCP	%	77			70-130	Pass	
Heptachlor epoxide	S23-Jn0014853	NCP	%	59			70-130	Fail	Q08
Hexachlorobenzene	S23-Jn0014853	NCP	%	88			70-130	Pass	
Methoxychlor	S23-Jn0014853	NCP	%	79			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	S23-Jn0014853	NCP	%	106			70-130	Pass	
Dimethoate	S23-Jn0014853	NCP	%	89			70-130	Pass	
Ethion	S23-Jn0014853	NCP	%	83			70-130	Pass	
Fenitrothion	S23-Jn0014853	NCP	%	88			70-130	Pass	
Methyl parathion	S23-Jn0014853	NCP	%	87			70-130	Pass	
Mevinphos	S23-Jn0014853	NCP	%	89			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M23-Jn0021049	NCP	%	124			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heavy Metals				Result 1					
Arsenic	B23-Jn0021073	NCP	%	124			75-125	Pass	
Cadmium	B23-Jn0021073	NCP	%	96			75-125	Pass	
Chromium	B23-Jn0021073	NCP	%	87			75-125	Pass	
Copper	B23-Jn0016191	NCP	%	99			75-125	Pass	
Lead	B23-Jn0021073	NCP	%	78			75-125	Pass	
Mercury	B23-Jn0021073	NCP	%	79			75-125	Pass	
Nickel	B23-Jn0021073	NCP	%	76			75-125	Pass	
Zinc	B23-Jn0021073	NCP	%	76			75-125	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Benz(a)anthracene	S23-Jn0014853	NCP	%	76			70-130	Pass	
Benzo(b&i)fluoranthene	S23-Jn0014853	NCP	%	101			70-130	Pass	
Benzo(g,h,i)perylene	S23-Jn0014853	NCP	%	83			70-130	Pass	
Benzo(k)fluoranthene	S23-Jn0014853	NCP	%	93			70-130	Pass	
Chrysene	S23-Jn0014853	NCP	%	84			70-130	Pass	
Dibenz(a,h)anthracene	S23-Jn0014853	NCP	%	93			70-130	Pass	
Indeno(1,2,3-cd)pyrene	S23-Jn0014853	NCP	%	101			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	B23-Jn0016351	CP	%	98			70-130	Pass	
Acenaphthylene	B23-Jn0016351	CP	%	81			70-130	Pass	
Anthracene	B23-Jn0016351	CP	%	83			70-130	Pass	
Benzo(a)pyrene	B23-Jn0016351	CP	%	77			70-130	Pass	
Fluoranthene	B23-Jn0016351	CP	%	100			70-130	Pass	
Fluorene	B23-Jn0016351	CP	%	92			70-130	Pass	
Naphthalene	B23-Jn0016351	CP	%	95			70-130	Pass	
Phenanthrene	B23-Jn0016351	CP	%	82			70-130	Pass	
Pyrene	B23-Jn0016351	CP	%	103			70-130	Pass	
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1					
Perfluorobutanoic acid (PFBA)	B23-Jn0016351	CP	%	83			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	B23-Jn0016351	CP	%	90			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	B23-Jn0016351	CP	%	75			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	B23-Jn0016351	CP	%	90			50-150	Pass	
Perfluorooctanoic acid (PFOA)	B23-Jn0016351	CP	%	88			50-150	Pass	
Perfluorononanoic acid (PFNA)	B23-Jn0016351	CP	%	110			50-150	Pass	
Perfluorodecanoic acid (PFDA)	B23-Jn0016351	CP	%	81			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	B23-Jn0016351	CP	%	87			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	B23-Jn0016351	CP	%	82			50-150	Pass	
Perfluorotridecanoic acid (PFTTrDA)	B23-Jn0016351	CP	%	84			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	B23-Jn0016351	CP	%	90			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances				Result 1					
Perfluorooctane sulfonamide (FOSA)	B23-Jn0016351	CP	%	92			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B23-Jn0016351	CP	%	96			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B23-Jn0016351	CP	%	89			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B23-Jn0016351	CP	%	86			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B23-Jn0016351	CP	%	87			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B23-Jn0016351	CP	%	86			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B23-Jn0016351	CP	%	82			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSA's)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	B23-Jn0016351	CP	%	73			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	B23-Jn0016351	CP	%	97			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	B23-Jn0016351	CP	%	66			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	B23-Jn0016351	CP	%	88			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	B23-Jn0016351	CP	%	87			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	B23-Jn0016351	CP	%	88			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	B23-Jn0016351	CP	%	93			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	B23-Jn0016351	CP	%	80			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	B23-Jn0016351	CP	%	79			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	B23-Jn0016351	CP	%	79			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	B23-Jn0016351	CP	%	90			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	B23-Jn0016351	CP	%	88			50-150	Pass	
Spike - % Recovery									
				Result 1					
Phosphate total (as P)	M23-Jn0023591	NCP	%	120			70-130	Pass	
Total Kjeldahl Nitrogen (as N)	M23-Jn0016916	NCP	%	97			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	B23-Jn0016349	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	B23-Jn0016349	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	B23-Jn0016349	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	B23-Jn0016349	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	B23-Jn0016349	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	B23-Jn0016349	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g,h,i)perylene	B23-Jn0016349	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	B23-Jn0016349	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	B23-Jn0016349	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a,h)anthracene	B23-Jn0016349	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	B23-Jn0016349	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	B23-Jn0016349	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1,2,3-cd)pyrene	B23-Jn0016349	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	B23-Jn0016349	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Phenanthrene	B23-Jn0016349	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	B23-Jn0016349	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	B23-Jn0019116	NCP	mg/L	0.002	0.002	<1	30%	Pass	
Cadmium	B23-Jn0019116	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	B23-Jn0019116	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	B23-Jn0019116	NCP	mg/L	0.003	0.003	1.7	30%	Pass	
Lead	B23-Jn0019116	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	B23-Jn0016190	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	B23-Jn0019116	NCP	mg/L	0.004	0.004	9.8	30%	Pass	
Zinc	B23-Jn0019116	NCP	mg/L	0.38	0.39	<1	30%	Pass	
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	B23-Jn0016350	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotridecanoic acid (PFTeDA)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	B23-Jn0016350	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B23-Jn0016350	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B23-Jn0016350	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B23-Jn0016350	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B23-Jn0016350	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B23-Jn0016350	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B23-Jn0016350	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSA's)				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	

Duplicate								
Perfluoroalkyl sulfonic acids (PFASs)				Result 1	Result 2	RPD		
Perfluorohexanesulfonic acid (PFHxS)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoroheptanesulfonic acid (PFHpS)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorooctanesulfonic acid (PFOS)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorodecanesulfonic acid (PFDS)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1	Result 2	RPD		
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	B23-Jn0016350	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	B23-Jn0016350	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
Ammonia (as N)	M23-Jn0021358	NCP	mg/L	0.15	0.19	20	30%	Pass
Nitrate & Nitrite (as N)	M23-Jn0021358	NCP	mg/L	1.1	1.1	<1	30%	Pass
Nitrite (as N)	M23-Jn0021358	NCP	mg/L	0.37	0.37	<1	30%	Pass
Phosphate total (as P)	R23-Jn0015002	NCP	mg/L	0.02	0.02	4.1	30%	Pass
Duplicate								
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD		
Perfluorobutanoic acid (PFBA)	B23-Jn0016352	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
Perfluoropentanoic acid (PFPeA)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorohexanoic acid (PFHxA)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoroheptanoic acid (PFHpA)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorooctanoic acid (PFOA)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorononanoic acid (PFNA)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorodecanoic acid (PFDA)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoroundecanoic acid (PFUnDA)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorododecanoic acid (PFDoDA)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorotridecanoic acid (PFTrDA)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorotetradecanoic acid (PFTeDA)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD		
Perfluorooctane sulfonamide (FOSA)	B23-Jn0016352	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B23-Jn0016352	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B23-Jn0016352	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B23-Jn0016352	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B23-Jn0016352	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B23-Jn0016352	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B23-Jn0016352	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass

Duplicate								
Perfluoroalkyl sulfonic acids (PFASs)				Result 1	Result 2	RPD		
Perfluorobutanesulfonic acid (PFBS)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorononanesulfonic acid (PFNS)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoropropanesulfonic acid (PFPrS)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoropentanesulfonic acid (PFPeS)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorohexanesulfonic acid (PFHxS)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoroheptanesulfonic acid (PFHpS)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorooctanesulfonic acid (PFOS)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorodecanesulfonic acid (PFDS)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1	Result 2	RPD		
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA)	B23-Jn0016352	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	B23-Jn0016352	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
Total Kjeldahl Nitrogen (as N)	B23-Jn0016352	CP	mg/L	9.2	10	11	30%	Pass
Duplicate								
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD		
Perfluorobutanoic acid (PFBA)	B23-Jn0016353	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
Perfluoropentanoic acid (PFPeA)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorohexanoic acid (PFHxA)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoroheptanoic acid (PFHpA)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorooctanoic acid (PFOA)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorononanoic acid (PFNA)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorodecanoic acid (PFDA)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoroundecanoic acid (PFUnDA)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorododecanoic acid (PFDoDA)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorotridecanoic acid (PFTTrDA)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorotetradecanoic acid (PFTeDA)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD		
Perfluorooctane sulfonamide (FOSA)	B23-Jn0016353	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B23-Jn0016353	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B23-Jn0016353	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B23-Jn0016353	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B23-Jn0016353	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass

Duplicate								
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD		
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B23-Jn0016353	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B23-Jn0016353	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Perfluoroalkyl sulfonic acids (PFASs)				Result 1	Result 2	RPD		
Perfluorobutanesulfonic acid (PFBS)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorononanesulfonic acid (PFNS)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoropropanesulfonic acid (PFPrS)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoropentanesulfonic acid (PFPeS)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorohexanesulfonic acid (PFHxS)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluoroheptanesulfonic acid (PFHpS)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorooctanesulfonic acid (PFOS)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Perfluorodecanesulfonic acid (PFDS)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1	Result 2	RPD		
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA)	B23-Jn0016353	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	B23-Jn0016353	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD		
TRH C6-C9	B23-Jn0016354	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass
TRH C10-C14	B23-Jn0016354	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass
TRH C15-C28	B23-Jn0016354	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass
TRH C29-C36	B23-Jn0016354	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass
Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Toluene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Ethylbenzene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
m&p-Xylenes	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
o-Xylene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Xylenes - Total*	B23-Jn0016354	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	B23-Jn0016354	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass
TRH C6-C10	B23-Jn0016354	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass

Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Acenaphthylene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Anthracene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benz(a)anthracene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(a)pyrene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(b&j)fluoranthene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(g,h,i)perylene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(k)fluoranthene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chrysene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Dibenz(a,h)anthracene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluoranthene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluorene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Naphthalene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Phenanthrene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Pyrene	B23-Jn0016354	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
4,4'-DDD	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
4,4'-DDE	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
4,4'-DDT	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
a-HCH	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Aldrin	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
b-HCH	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
d-HCH	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Dieldrin	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Endosulfan I	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Endosulfan II	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Endosulfan sulphate	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Endrin	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Endrin aldehyde	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Endrin ketone	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
g-HCH (Lindane)	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Heptachlor	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Heptachlor epoxide	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Hexachlorobenzene	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Methoxychlor	B23-Jn0016354	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Toxaphene	B23-Jn0016354	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Azinphos-methyl	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Bolstar	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Chlorfenvinphos	B23-Jn0016354	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass
Chlorpyrifos	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Chlorpyrifos-methyl	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Coumaphos	B23-Jn0016354	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass
Demeton-S	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Demeton-O	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Diazinon	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Dichlorvos	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Dimethoate	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Disulfoton	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
EPN	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass

Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Ethion	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Ethoprop	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Ethyl parathion	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Fenitrothion	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Fensulfothion	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Fenthion	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Malathion	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Merphos	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Methyl parathion	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Mevinphos	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Monocrotophos	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Naled	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Omethoate	B23-Jn0016354	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass
Phorate	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Pirimiphos-methyl	B23-Jn0016354	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass
Pyrazophos	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Ronnel	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Terbufos	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Tetrachlorvinphos	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Tokuthion	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Trichloronate	B23-Jn0016354	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
TRH >C10-C16	B23-Jn0016354	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass
TRH >C16-C34	B23-Jn0016354	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass
TRH >C34-C40	B23-Jn0016354	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
G01	The LORs have been raised due to matrix interference
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.
R20	This sample is a Trip Spike and therefore all results are reported as a percentage

Authorised by:

Paige Howarth	Analytical Services Manager
Edward Lee	Senior Analyst-Organic
Jonathon Angell	Senior Analyst-Metal
Jonathon Angell	Senior Analyst-Organic
Jonathon Angell	Senior Analyst-PFAS
Jonathon Angell	Senior Analyst-Volatile
Joseph Edouard	Senior Analyst-Organic
Mary Makarios	Senior Analyst-Inorganic
Sarah McCallion	Senior Analyst-PFAS



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.





CERTIFICATE OF ANALYSIS

Work Order : **EB2317397**
Client : **DOUGLAS PARTNERS PTY LTD**
Contact : **ROB MULLER**
Address : **439 MONTAGUE ROAD**
WEST END QLD, AUSTRALIA 4101
Telephone : **----**
Project : **219361.01**
Order number : **----**
C-O-C number : **----**
Sampler : **CHLOE JONES**
Site : **----**
Quote number : **EN/222**
No. of samples received : **1**
No. of samples analysed : **1**

Page : 1 of 9
Laboratory : Environmental Division Brisbane
Contact : John Pickering
Address : 2 Byth Street Stafford QLD Australia 4053
Telephone : +61 7 3552 8634
Date Samples Received : 08-Jun-2023 17:51
Date Analysis Commenced : 08-Jun-2023
Issue Date : 14-Jun-2023 17:41



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, unless the sampling was conducted by ALS. 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	Position	Accreditation Category
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
Timothy Creagh	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the 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 Contract 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.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenzo(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. 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. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID

				MW51	----	----	----	----
Sampling date / time				02-Jun-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2317397-001	-----	-----	-----	-----
				Result	----	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L	0.002	----	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L	0.006	----	----	----	----
Zinc	7440-66-6	0.005	mg/L	0.017	----	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.5	µg/L	<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L	<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L	<0.5	----	----	----	----
delta-BHC	319-86-8	0.5	µg/L	<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L	<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L	<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L	<0.5	----	----	----	----
4,4'-DDE	72-55-9	0.5	µg/L	<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L	<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	----	----	----	----
4,4'-DDD	72-54-8	0.5	µg/L	<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	----	----	----	----
4,4'-DDT	50-29-3	2.0	µg/L	<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L	<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L	<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.5	µg/L	<0.5	----	----	----	----



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID

				MW51	----	----	----	----
Sampling date / time				02-Jun-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2317397-001	-----	-----	-----	-----
				Result	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued								
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.5	µg/L	<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L	<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L	<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L	<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L	<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L	<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L	<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L	<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	----	----	----	----
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW51	----	----	----	----
Sampling date / time					02-Jun-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2317397-001	-----	-----	-----	-----
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		140	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		320	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		1370	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		110	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		1800	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		110	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		110	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L		380	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		1400	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		1780	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		380	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ Total Xylenes	----	2	µg/L		<2	----	----	----	----
^ Sum of BTEX	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW51	----	----	----	----
Sampling date / time					02-Jun-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2317397-001	-----	-----	-----	-----
					Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L		<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L		<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L		<0.05	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW51	----	----	----	----
Sampling date / time					02-Jun-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2317397-001	-----	-----	-----	-----
				Result	----	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L		<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L		<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L		<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L		<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L		<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L		<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L		<0.05	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L		<0.01	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L		<0.01	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L		<0.01	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		77.7	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		87.6	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		26.6	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		67.5	----	----	----	----
2,4,6-Tribromophenol	118-79-6	1.0	%		63.1	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		64.5	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%		75.4	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		66.7	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MW51	----	----	----	----
				Sampling date / time	02-Jun-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2317397-001	-----	-----	-----	-----
				Result		----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%		104	----	----	----	----
Toluene-D8	2037-26-5	2	%		96.9	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		101	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	-----	0.02	%		101	----	----	----	----
13C8-PFOA	-----	0.02	%		104	----	----	----	----



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	45	139
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	45	139
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	72
2-Chlorophenol-D4	93951-73-6	27	130
2,4,6-Tribromophenol	118-79-6	19	181
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	14	146
Anthracene-d10	1719-06-8	35	137
4-Terphenyl-d14	1718-51-0	36	154
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	66	138
Toluene-D8	2037-26-5	79	120
4-Bromofluorobenzene	460-00-4	74	118
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133



QUALITY CONTROL REPORT

Work Order	: EB2317397	Page	: 1 of 11
Client	: DOUGLAS PARTNERS PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Contact	: John Pickering
Address	: 439 MONTAGUE ROAD WEST END QLD, AUSTRALIA 4101	Address	: 2 Byth Street Stafford QLD Australia 4053
Telephone	: ----	Telephone	: +61 7 3552 8634
Project	: 219361.01	Date Samples Received	: 08-Jun-2023
Order number	: ----	Date Analysis Commenced	: 08-Jun-2023
C-O-C number	: ----	Issue Date	: 14-Jun-2023
Sampler	: CHLOE JONES		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 1		
No. of samples analysed	: 1		



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. 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
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
Timothy Creagh	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the 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.

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: **WATER**

Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 5102965)									
EB2316962-008	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.1 µg/L	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<1 µg/L	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<1 µg/L	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<1 µg/L	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<1 µg/L	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	2 µg/L	0.002	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<5 µg/L	0.006	0.0	No Limit
EB2317195-033	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.070	0.072	2.3	0% - 20%
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.023	0.023	0.0	0% - 20%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 5102974)									
EB2317227-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EB2317371-009	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 5102106)									
EB2317103-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EB2317105-009	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 5102106)									
EB2317103-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EB2317105-009	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 5102106)									
EB2317103-002	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EB2317105-009	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5103916)									
EB2317397-001	MW51	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2317371-011	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.22	<0.22	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.27	0.29	7.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5103916)									
EB2317397-001	MW51	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.29	0.30	4.2	0% - 20%
EB2317371-011	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.29	0.30	4.2	0% - 20%



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5103916) - continued									
EB2317371-011	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5103916)									
EB2317397-001	MW51	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2317371-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	0.05	0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5103916)									
EB2317397-001	MW51	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5103916) - continued									
EB2317397-001	MW51	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2317371-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5103916)									
EB2317397-001	MW51	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EB2317371-011	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.61	0.64	4.8	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.27	0.29	7.1	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.56	0.59	5.2	0% - 20%



Method Blank (MB) and Laboratory Control Sample (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 Sample (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: **WATER**

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result		LCS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 5102965)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	99.7	88.0	116
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	96.7	88.0	108
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	98.2	87.0	113
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	97.8	88.0	114
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	96.9	89.0	110
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	96.9	89.0	113
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	99.6	87.0	113
EG035F: Dissolved Mercury by FIMS (QCLot: 5102974)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	99.6	84.0	118
EP068A: Organochlorine Pesticides (OC) (QCLot: 5101604)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	74.0	60.3	131
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	67.6	45.1	126
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	75.6	63.1	128
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	74.6	60.2	130
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	74.4	58.6	120
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	67.0	53.8	118
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	65.6	53.7	120
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	67.0	57.0	122
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	66.6	56.3	121
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	66.9	56.5	123
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	67.5	55.8	122
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	66.6	55.3	124
EP068: 4,4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	67.5	52.8	122
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	76.3	48.9	131
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	72.2	50.0	121
EP068: 4,4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	69.1	46.5	123
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	73.0	42.0	122
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	67.1	49.8	130
EP068: 4,4`-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	72.2	39.4	134
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	68.4	51.4	129



Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result			Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 5101604) - continued								
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	71.5	45.7	139
EP068: Total Chlordane (sum)	----	0.5	µg/L	<0.5	----	----	----	----
EP068: Sum of DDD + DDE + DDT	72-54-8/72-5 5-9/50-2	0.5	µg/L	<0.5	----	----	----	----
EP068: Sum of Aldrin + Dieldrin	309-00-2/60- 57-1	0.5	µg/L	<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) (QCLot: 5101604)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	69.0	53.2	133
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	72.3	44.2	158
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	5 µg/L	# 1.8	10.0	32.6
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	65.9	27.6	153
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	75.9	73.0	123
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	70.2	51.6	122
EP068: Parathion-methyl	298-00-0	2	µg/L	<2.0	5 µg/L	75.2	45.2	139
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	74.6	47.5	135
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	74.0	53.4	133
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	70.9	56.3	125
EP068: Parathion	56-38-2	2	µg/L	<2.0	5 µg/L	83.6	37.1	144
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	72.9	49.8	131
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	67.4	37.0	131
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	68.5	47.3	127
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	69.4	16.0	150
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	64.1	45.5	128
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	70.6	39.1	129
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	67.8	38.4	134
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	84.6	27.5	146
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5101603)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	10 µg/L	64.7	50.0	110
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	10 µg/L	71.0	49.0	124
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	10 µg/L	72.4	55.0	114
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	10 µg/L	73.9	55.0	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	10 µg/L	74.5	51.0	127
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	10 µg/L	79.1	55.0	127
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	10 µg/L	74.5	55.0	127
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	10 µg/L	73.8	54.0	126



Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result			Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 5101603) - continued								
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	10 µg/L	75.4	47.0	136
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	10 µg/L	75.5	51.0	129
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	1	µg/L	<1.0	10 µg/L	83.2	55.0	132
	205-82-3							
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	10 µg/L	79.0	58.0	128
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	10 µg/L	75.5	55.0	131
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	10 µg/L	82.5	52.0	133
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	1	µg/L	<1.0	10 µg/L	83.8	48.0	137
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	1	µg/L	<1.0	10 µg/L	80.4	53.0	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5101605)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	1192 µg/L	95.1	51.9	126
EP071: C15 - C28 Fraction	----	100	µg/L	<100	1390 µg/L	87.5	51.4	124
EP071: C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5102106)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	180 µg/L	98.3	77.0	122
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5101605)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	1592 µg/L	92.8	51.0	133
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	932 µg/L	92.8	49.5	123
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5102106)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	225 µg/L	104	76.0	121
EP080: C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTE	20	µg/L	<20	----	----	----	----
	X							
EP080: BTEXN (QCLot: 5102106)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	102	79.8	115
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	100	78.6	116
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	102	77.3	115
EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	20 µg/L	105	82.0	118
	106-42-3							
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	109	86.0	119
EP080: Total Xylenes	----	2	µg/L	<2	----	----	----	----
EP080: Sum of BTEX	----	1	µg/L	<1	----	----	----	----
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	89.3	77.8	116
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5103916)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	120	72.0	130

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result		LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5103916) - continued								
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	126	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	117	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	104	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	115	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	108	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5103916)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	117	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	115	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	109	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	110	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	108	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	119	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	124	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	124	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	125	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	125	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5103916)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	129	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	118	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	114	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	121	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	130	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	133	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	124	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5103916)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	116	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	112	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	126	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	125	64.2	133
EP231P: PFAS Sums (QCLot: 5103916)								

Matrix Spike (MS) Report

Sub-Matrix: WATER

Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 5102965)							
EB2316840-001	Anonymous	EG020A-F: Arsenic	7440-38-2	1 mg/L	98.8	70.0	130
		EG020A-F: Cadmium	7440-43-9	0.25 mg/L	96.2	70.0	130
		EG020A-F: Chromium	7440-47-3	1 mg/L	99.2	70.0	130
		EG020A-F: Copper	7440-50-8	1 mg/L	97.4	70.0	130
		EG020A-F: Lead	7439-92-1	1 mg/L	80.2	70.0	130
		EG020A-F: Nickel	7440-02-0	1 mg/L	95.7	70.0	130
		EG020A-F: Zinc	7440-66-6	1 mg/L	96.8	70.0	130
EG035F: Dissolved Mercury by FIMS (QCLot: 5102974)							
EB2317227-002	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	90.9	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 5102106)							
EB2317104-001	Anonymous	EP080: C6 - C9 Fraction	----	40 µg/L	90.8	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 5102106)							
EB2317104-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	40 µg/L	96.5	70.0	130
EP080: BTEXN (QCLot: 5102106)							
EB2317104-001	Anonymous	EP080: Benzene	71-43-2	10 µg/L	100	70.0	130
		EP080: Toluene	108-88-3	10 µg/L	97.0	70.0	130
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5103916)							
EB2317371-012	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	127	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	119	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	111	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	110	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	97.3	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.9	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5103916)							



Sub-Matrix: **WATER**

Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5103916) - continued							
EB2317371-012	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	115	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	116	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	114	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	108	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	90.5	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	105	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	96.4	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	95.8	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	93.2	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	103	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	102	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5103916)							
EB2317371-012	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	104	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	97.2	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	101	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	114	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	110	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	101	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	95.1	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5103916)							
EB2317371-012	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	100.0	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	124	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	101	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	97.9	70.0	130



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2317397	Page	: 1 of 6
Client	: DOUGLAS PARTNERS PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: ROB MULLER	Telephone	: +61 7 3552 8634
Project	: 219361.01	Date Samples Received	: 08-Jun-2023
Site	: ----	Issue Date	: 14-Jun-2023
Sampler	: CHLOE JONES	No. of samples received	: 1
Order number	: ----	No. of samples analysed	: 1

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** Matrix Spike outliers occur.
- Laboratory Control outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

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

Outliers : Frequency of Quality Control Samples

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

Page : 2 of 6
 Work Order : EB2317397
 Client : DOUGLAS PARTNERS PTY LTD
 Project : 219361.01



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP068B: Organophosphorus Pesticides (OP)	QC-5101604-002	----	Monocrotophos	6923-22-4	1.8 %	10.0-32.6%	Recovery less than lower control limit

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	14	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	5	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	14	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	5	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: **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
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F) MW51	02-Jun-2023	----	----	----	10-Jun-2023	29-Nov-2023	✔
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F) MW51	02-Jun-2023	----	----	----	09-Jun-2023	30-Jun-2023	✔
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068) MW51	02-Jun-2023	09-Jun-2023	09-Jun-2023	✔	09-Jun-2023	19-Jul-2023	✔
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068) MW51	02-Jun-2023	09-Jun-2023	09-Jun-2023	✔	09-Jun-2023	19-Jul-2023	✔



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)) MW51	02-Jun-2023	09-Jun-2023	09-Jun-2023	✔	10-Jun-2023	19-Jul-2023	✔
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) MW51	02-Jun-2023	09-Jun-2023	09-Jun-2023	✔	10-Jun-2023	19-Jul-2023	✔
Clear glass VOC vial - HCl (EP080) MW51	02-Jun-2023	09-Jun-2023	16-Jun-2023	✔	09-Jun-2023	16-Jun-2023	✔
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) MW51	02-Jun-2023	09-Jun-2023	09-Jun-2023	✔	10-Jun-2023	19-Jul-2023	✔
Clear glass VOC vial - HCl (EP080) MW51	02-Jun-2023	09-Jun-2023	16-Jun-2023	✔	09-Jun-2023	16-Jun-2023	✔
EP080: BTEXN							
Clear glass VOC vial - HCl (EP080) MW51	02-Jun-2023	09-Jun-2023	16-Jun-2023	✔	09-Jun-2023	16-Jun-2023	✔
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) MW51	02-Jun-2023	10-Jun-2023	29-Nov-2023	✔	14-Jun-2023	29-Nov-2023	✔
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) MW51	02-Jun-2023	10-Jun-2023	29-Nov-2023	✔	14-Jun-2023	29-Nov-2023	✔
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) MW51	02-Jun-2023	10-Jun-2023	29-Nov-2023	✔	14-Jun-2023	29-Nov-2023	✔
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) MW51	02-Jun-2023	10-Jun-2023	29-Nov-2023	✔	14-Jun-2023	29-Nov-2023	✔
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) MW51	02-Jun-2023	10-Jun-2023	29-Nov-2023	✔	14-Jun-2023	29-Nov-2023	✔



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: **WATER**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)		Evaluation	Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected		
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	14	0.00	10.00	✗	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	2	0.00	10.00	✗	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	5	0.00	10.00	✗	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	14	7.14	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	14	0.00	5.00	✗	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	2	0.00	5.00	✗	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	5	0.00	5.00	✗	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The 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 Schedule B(3).
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.



Preparation Methods	Method	Matrix	Method Descriptions
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

Appendix K

Summary of Results

Table K1: Summary of Laboratory Results – Metals, TRH, BTEX, PAH

			Metals								TRH						BTEX				PAH		
			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	F1 (C6-C10)- BTEX	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene ^b	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ
		PQL	2	0.5	5	5	5	0.1	5	5	20	50	20	50	100	100	0.1	0.1	0.1	0.1	0.5	0.5	0.5
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
7/0.1	0 - 0.1 m	25 May 2023	7.3	<0.5	10	51	25	<0.1	10	83	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 760	240000 200	1500 1800	730 -	6000 840	400000 1100	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
8/0.1	0 - 0.1 m	29 May 2023	6.4	<0.5	8.2	28	23	<0.1	7.6	54	<20	<50	<20	<50	110	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 760	240000 200	1500 1800	730 -	6000 840	400000 1100	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
9/0.5	0.4 - 0.5 m	24 May 2023	6.8	<0.5	17	27	12	<0.1	15	54	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 760	240000 200	1500 1800	730 -	6000 840	400000 1100	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
S1	0.4 - 0.5 m	24 May 2023	6.4	<0.5	15	26	11	<0.1	20	53	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 760	240000 200	1500 1800	730 -	6000 840	400000 1100	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
R1	0.4 - 0.5 m	24 May 2023	6	<1	8	19	7	<0.1	16	33	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
			3000 160	900 -	3600 760	240000 200	1500 1800	730 -	6000 840	400000 1100	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
10/0.1	0 - 0.1 m	29 May 2023	6.1	<0.5	7.3	11	15	<0.1	5.7	33	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 760	240000 200	1500 1800	730 -	6000 840	400000 1100	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
11/0.1	0 - 0.1 m	29 May 2023	7.5	<0.5	15	25	15	<0.1	14	95	<20	<50	<20	<50	300	150	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 760	240000 200	1500 1800	730 -	6000 840	400000 1100	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
12/0.1	0 - 0.1 m	29 May 2023	10	<0.5	12	35	68	0.1	9.9	150	<20	<50	<20	<50	240	130	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 760	240000 200	1500 1800	730 -	6000 840	400000 1100	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
13/0.1	0 - 0.1 m	29 May 2023	4.8	<0.5	6.9	14	13	<0.1	5.6	39	<20	<50	<20	<50	160	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 760	240000 200	1500 1800	730 -	6000 840	400000 1100	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
14/0.1	0 - 0.1 m	31 May 2023	3.6	<0.5	6	9	10	<0.1	<5	29	<20	<50	<20	<50	130	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 760	240000 200	1500 1800	730 -	6000 840	400000 1100	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
15/0.1	0 - 0.1 m	30 May 2023	5.7	<0.5	12	23	20	<0.1	8.6	55	<20	<50	<20	<50	190	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 760	240000 200	1500 1800	730 -	6000 840	400000 1100	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
16/0.1	0 - 0.1 m	29 May 2023	4.6	<0.5	8.8	10	12	<0.1	7.8	36	<20	<50	<20	<50	130	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 760	240000 200	1500 1800	730 -	6000 840	400000 1100	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
17/0.1	0 - 0.1 m	30 May 2023	10	<0.5	8	14	18	<0.1	6.9	46	<20	<50	<20	<50	120	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 760	240000 200	1500 1800	730 -	6000 840	400000 1100	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
18/0.1	0 - 0.1 m	31 May 2023	6.8	<0.5	7.8	19	24	<0.1	5.4	41	<20	<50	<20	<50	110	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 760	240000 200	1500 1800	730 -	6000 840	400000 1100	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
19/0.1	0 - 0.1 m	30 May 2023	5.8	<0.5	8.2	21	19	<0.1	7.6	47	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 760	240000 200	1500 1800	730 -	6000 840	400000 1100	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
20/0.1	0 - 0.1 m	29 May 2023	5.3	<0.5	9	19	17	<0.1	8.8	71	<20	<50	<20	<50	110	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
			3000 160	900 -	3600 760	240000 200	1500 1800	730 -	6000 840	400000 1100	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -
20/0.5	0.4 - 0.5 m	29 May 2023	3.6	<0.5	9.3	18	16	<0.1	13	31	-	-	-	-	-	-	-	-	-	-	-	-	-
			3000 160	900 -	3600 760	240000 200	1500 1800	730 -	6000 840	400000 1100	- -	- 170	260 215	NL -	- 1700	- 3300	3 75	NL 135	NL 165	230 180	NL 370	- 1.4	40 -

Lab result

HIL/HSL valueEIL/ESL value

HIL/HSL exceedance

EIL/ESL exceedance

HIL/HSL and EIL/ESL exceedance

ML exceedance

ML and HIL/HSL or EIL/ESL exceedance

Indicates that asbestos has been detected by the lab, refer to the lab report

Blue = DC exceedance

HSL 0<1 Exceedance

Bold = Lab detections

- = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable

NL = Non limiting

AD = Asbestos detected

NAD = No Asbestos detected

HIL = Health investigation level

HSL = Health screening level (excluding DC)

EIL = Ecological investigation level

ESL = Ecological screening level

ML = Management Limit

DC = Direct Contact HSL

Notes:

- a QA/QC replicate of sample listed directly below the primary sample
- b Reported naphthalene laboratory result obtained from BTEXN suite
- c Criteria applies to DDT only

Site Assessment Criteria (SAC):

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

SAC based on generic land use thresholds for Commercial/ industrial D	
HIL D	Commercial / Industrial (NEPC, 2013)
HSL D	Commercial / Industrial (vapour intrusion) (NEPC, 2013)
DC HSL D	Direct contact HSL D Commercial/Industrial (direct contact) (CRC CARE, 2011)
EIL/ESL C/Ind	Commercial and Industrial (NEPC, 2013)
ML C/Ind	Commercial and Industrial (NEPC, 2013)

Preliminary Site Investigation for Contamination

Lot 1 Beaudesert-Boonah Road, Bromelton

219361.01

June 2023

Table K2: Summary of Laboratory Results – OCP, OPP, PCB

			OCP												OPP	PCB									
			DDD	DDT+DDE+DDD ^c	DDE	DDT	Aldrin & Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulphate	Endrin	Heptachlor	Hexachlorobenzene	Methoxychlor	Chlorpyrifos	Arochlor 1016	Total PCB	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260		
		PQL	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
7/0.1	0 - 0.1 m	25-May-23	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
			- - 3600 640	- - 640 45	- - 640	- - 640	- - 45	- - 640	- - 45	- - 100	- - 50	- - 80	- - 2500	- - 2000	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7		
8/0.1	0 - 0.1 m	29 May 2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
			- - 3600 640	- - 640 45	- - 640	- - 640	- - 45	- - 640	- - 45	- - 100	- - 50	- - 80	- - 2500	- - 2000	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7		
9/0.5	0.4 - 0.5 m	24 May 2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
			- - 3600 640	- - 640 45	- - 640	- - 640	- - 45	- - 640	- - 45	- - 100	- - 50	- - 80	- - 2500	- - 2000	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7		
S1	0.4 - 0.5 m	24 May 2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
			- - 3600 640	- - 640 45	- - 640	- - 640	- - 45	- - 640	- - 45	- - 100	- - 50	- - 80	- - 2500	- - 2000	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7		
R1	0.4 - 0.5 m	24 May 2023	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	NT	<0.1	NT	NT	NT	NT	NT	NT		
			- - 3600 640	- - 640 45	- - 640	- - 640	- - 45	- - 640	- - 45	- - 100	- - 50	- - 80	- - 2500	- - 2000	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7		
10/0.1	0 - 0.1 m	29 May 2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
			- - 3600 640	- - 640 45	- - 640	- - 640	- - 45	- - 640	- - 45	- - 100	- - 50	- - 80	- - 2500	- - 2000	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7		
11/0.1	0 - 0.1 m	29 May 2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
			- - 3600 640	- - 640 45	- - 640	- - 640	- - 45	- - 640	- - 45	- - 100	- - 50	- - 80	- - 2500	- - 2000	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7		
12/0.1	0 - 0.1 m	29 May 2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
			- - 3600 640	- - 640 45	- - 640	- - 640	- - 45	- - 640	- - 45	- - 100	- - 50	- - 80	- - 2500	- - 2000	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7		
13/0.1	0 - 0.1 m	29 May 2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
			- - 3600 640	- - 640 45	- - 640	- - 640	- - 45	- - 640	- - 45	- - 100	- - 50	- - 80	- - 2500	- - 2000	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7		
14/0.1	0 - 0.1 m	31 May 2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
			- - 3600 640	- - 640 45	- - 640	- - 640	- - 45	- - 640	- - 45	- - 100	- - 50	- - 80	- - 2500	- - 2000	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7		
15/0.1	0 - 0.1 m	30 May 2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
			- - 3600 640	- - 640 45	- - 640	- - 640	- - 45	- - 640	- - 45	- - 100	- - 50	- - 80	- - 2500	- - 2000	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7		
16/0.1	0 - 0.1 m	29 May 2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
			- - 3600 640	- - 640 45	- - 640	- - 640	- - 45	- - 640	- - 45	- - 100	- - 50	- - 80	- - 2500	- - 2000	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7		
17/0.1	0 - 0.1 m	30 May 2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
			- - 3600 640	- - 640 45	- - 640	- - 640	- - 45	- - 640	- - 45	- - 100	- - 50	- - 80	- - 2500	- - 2000	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7		
18/0.1	0 - 0.1 m	31 May 2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
			- - 3600 640	- - 640 45	- - 640	- - 640	- - 45	- - 640	- - 45	- - 100	- - 50	- - 80	- - 2500	- - 2000	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7		
19/0.1	0 - 0.1 m	30 May 2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
			- - 3600 640	- - 640 45	- - 640	- - 640	- - 45	- - 640	- - 45	- - 100	- - 50	- - 80	- - 2500	- - 2000	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7		
20/0.1	0 - 0.1 m	29 May 2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
			- - 3600 640	- - 640 45	- - 640	- - 640	- - 45	- - 640	- - 45	- - 100	- - 50	- - 80	- - 2500	- - 2000	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7	- - 7		

Lab result

HIL/HSL valueEIL/ESL value

HIL/HSL exceedance

EIL/ESL exceedance

HIL/HSL and EIL/ESL exceedance

ML exceedance

ML and HIL/HSL or EIL/ESL exceedance

Indicates that asbestos has been detected by the lab, refer to the lab report

Blue = DC exceedance

HSL 0-<1 Exceedance

Bold = Lab detections

- = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable

NL = Non limiting

AD = Asbestos detected

NAD = No Asbestos detected

HIL = Health investigation levelHSL = Health screening level (excluding DC)EIL = Ecological investigation levelESL = Ecological screening levelML = Management LimitDC = Direct Contact HSL

Notes:

- a QA/QC replicate of sample listed directly below the primary sample
- b Reported naphthalene laboratory result obtained from BTEXN suite
- c Criteria applies to DDT only

Site Assessment Criteria (SAC):

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

SAC based on generic land use thresholds for Commercial/ industrial D	
HIL D	Commercial / Industrial (NEPC, 2013)
HSL D	Commercial / Industrial (vapour intrusion) (NEPC, 2013)
DC HSL D	Direct contact HSL D Commercial/Industrial (direct contact) (CRC CARE, 2011)
EIL/ESL C/Ind	Commercial and Industrial (NEPC, 2013)
ML C/Ind	Commercial and Industrial (NEPC, 2013)

Preliminary Site Investigation for Contamination
Lot 1 Beaudesert-Boonah Road, Bromelton

Table K3: Summary of Laboratory Results – Phenols

			Phenols												
			Phenol	2-Chlorophenol	2-Methylphenol	3- & 4-Methylphenol	2-Nitrophenol	2,4-Dimethylphenol	2,4-Dichlorophenol	2,6-Dichlorophenol	4-Chloro-3-Methylphenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol	Pentachlorophenol	Cresols
		LOR	0.5	0.5	0.2	0.4	1	0.5	0.5	0.5	1	1	1	1	0.5
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
7/0.1	0 - 0.1 m	25 May 2023	<0.5	<0.5	<0.2	<0.4	<1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5
			240,000	-	-	-	-	-	-	-	-	-	-	660	25,000
8/0.1	0 - 0.1 m	29 May 2023	<0.5	<0.5	<0.2	<0.4	<1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5
			240,000	-	-	-	-	-	-	-	-	-	-	660	25,000
9/0.5	0.4 - 0.5 m	24 May 2023	<0.5	<0.5	<0.2	<0.4	<1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5
			240,000	-	-	-	-	-	-	-	-	-	-	660	25,000
S1	0.4 - 0.5 m	24 May 2023	<0.5	<0.5	<0.2	<0.4	<1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5
			240,000	-	-	-	-	-	-	-	-	-	-	660	25,000
R1	0.4 - 0.5 m	24 May 2023	<0.5	<0.5	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-
			240,000	-	-	-	-	-	-	-	-	-	-	660	25,000
10/0.1	0 - 0.1 m	29 May 2023	<0.5	<0.5	<0.2	<0.4	<1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5
			240,000	-	-	-	-	-	-	-	-	-	-	660	25,000
11/0.1	0 - 0.1 m	29 May 2023	<0.5	<0.5	<0.2	<0.4	<1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5
			240,000	-	-	-	-	-	-	-	-	-	-	660	25,000
12/0.1	0 - 0.1 m	29 May 2023	<0.5	<0.5	<0.2	<0.4	<1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5
			240,000	-	-	-	-	-	-	-	-	-	-	660	25,000
13/0.1	0 - 0.1 m	29 May 2023	<0.5	<0.5	<0.2	<0.4	<1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5
			240,000	-	-	-	-	-	-	-	-	-	-	660	25,000
14/0.1	0 - 0.1 m	31 May 2023	<0.5	<0.5	<0.2	<0.4	<1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5
			240,000	-	-	-	-	-	-	-	-	-	-	660	25,000
15/0.1	0 - 0.1 m	30 May 2023	<0.5	<0.5	<0.2	<0.4	<1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5
			240,000	-	-	-	-	-	-	-	-	-	-	660	25,000
16/0.1	0 - 0.1 m	29 May 2023	<0.5	<0.5	<0.2	<0.4	<1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5
			240,000	-	-	-	-	-	-	-	-	-	-	660	25,000
17/0.1	0 - 0.1 m	30 May 2023	<0.5	<0.5	<0.2	<0.4	<1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5
			240,000	-	-	-	-	-	-	-	-	-	-	660	25,000
18/0.1	0 - 0.1 m	31 May 2023	<0.5	<0.5	<0.2	<0.4	<1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5
			240,000	-	-	-	-	-	-	-	-	-	-	660	25,000
19/0.1	0 - 0.1 m	30 May 2023	<0.5	<0.5	<0.2	<0.4	<1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5
			240,000	-	-	-	-	-	-	-	-	-	-	660	25,000
20/0.1	0 - 0.1 m	29 May 2023	<0.5	<0.5	<0.2	<0.4	<1	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5
			240,000	-	-	-	-	-	-	-	-	-	-	660	25,000

Lab result
HIL/HSL value EIL/ESL value

■ HIL/HSL exceedance ■ EIL/ESL exceedance ■ HIL/HSL and EIL/ESL exceedance ■ ML exceedance ■ ML and HIL/HSL or EIL/ESL exceedance

■ Indicates that asbestos has been detected by the lab, refer to the lab report ■ DC exceedance ■ HSL 0<1 Exceedance

Bold = Lab detections - = Not tested or No HIL/HSL/EIL/ESL (as applicable) or Not applicable NL = Non limiting AD = Asbestos detected NAD = No Asbestos detected

HIL = Health investigation level HSL = Health screening level (excluding DC) EIL = Ecological investigation level ESL = Ecological screening level ML = Management Limit DC = Direct Contact HSL

Notes:

- a QA/QC replicate of sample listed directly below the primary sample
- b Reported naphthalene laboratory result obtained from BTEXN suite
- c Criteria applies to DDT only

Site Assessment Criteria (SAC):

Refer to the SAC section of report for information of SAC sources and rationale. Summary information as follows:

SAC based on generic land use thresholds for Commercial/ industrial D	
HIL D	Commercial / Industrial (NEPC, 2013)
HSL D	Commercial / Industrial (vapour intrusion) (NEPC, 2013)
DC HSL D	Direct contact HSL D Commercial/Industrial (direct contact) (CRC CARE, 2011)
EIL/ESL C/Ind	Commercial and Industrial (NEPC, 2013)
ML C/Ind	Commercial and Industrial (NEPC, 2013)

Table K4: Summary of Laboratory Results - PFAS (ug/kg)

			Perfluoroalkyl Sulfonic Acids						Perfluoroalkyl Carboxylic Acids										
			PFBS	PFPeS	PFHxS	PFHpS	PFOS	PFDS	PFBA	PFPeA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFUnDA	PFDODA	PFTTrDA	PFTeDA
		LOR	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Sample ID	Depth	Sample Date	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
7/0.1	0.0-0.1 m	25/05/2023	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
8/0.1	0.0-0.1 m	29/05/2023	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
9/0.5	0.0-0.1 m	24/05/2023	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
S1	0.0-0.1 m	24/05/2023	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
R1	0.0-0.1 m	24/05/2023	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5
10/0.1	0.0-0.1 m	29/05/2023	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
11/0.1	0.0-0.1 m	29/05/2023	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
12/0.1	0.0-0.1 m	29/05/2023	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
13/0.1	0.0-0.1 m	29/05/2023	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
14/0.1	0.0-0.1 m	31/05/2023	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
15/0.1	0.0-0.1 m	30/05/2023	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
16/0.1	0.0-0.1 m	29/05/2023	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
17/0.1	0.0-0.1 m	30/05/2023	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
18/0.1	0.0-0.1 m	31/05/2023	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
19/0.1	0.0-0.1 m	30/05/2023	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
20/0.1	0.0-0.1 m	29/05/2023	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Site Assessment Criteria																			
HIL-D ⁴			~	~	~	~	~	~	~	~	~	~	50,000	~	~	~	~	~	~
EGV - Ecological direct exposure ⁵			~	~	~	~	1,000	~	~	~	~	~	10,000	~	~	~	~	~	~
EGV - Ecological indirect exposure ⁶			~	~	~	~	3	~	~	~	~	~	3	~	~	~	~	~	~

Notes

4

NEMP (2025) Table 5: Human health investigation levels (HIL) for industrial/commercial land use.

5

NEMP (2025) Table 6: Ecological guideline value (EGV) for ecological direct exposure in all land use scenarios.

6

NEMP (2025) Table 6: Ecological guideline value (EGV) for ecological indirect exposure in all land use scenarios.

Bold

Indicates detection of an analyte

~

No guideline available at time of investigation

<LOR

Less than the laboratory's limit of reporting

Green

Analyte concentrations greater than adopted IEDEV

Yellow

Analyte concentrations greater than adopted HHSV

This table has been produced in colour to indicate exceedences of relevant criteria. Reproduction should be carried out in colour.

Table K4: Summary of Laboratory Results - PFAS (continued) (ug/kg)

			Perfluoroalkyl Sulfonamides							(n:2) Fluorotelomer Sulfonic Acids				PFAS Sums	
			FOSA	MeFOSA	EtFOSA	MeFOSE	EtFOSE	MeFOSAA	EtFOSAA	4:2 FTSA	6:2 FTSA	8:2 FTSA	10:2 FTSA	Sum of PFAS	Sum of PFHxS and PFOS
		LOR	5	5	5	5	5	10	10	5	10	5	5	50	5
Sample ID	Depth	Sample Date	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
7/0.1	0.0-0.1 m	25/05/2023	<5	<5	<5	<5	<5	<10	<10	<5	<10	<5	<5	<50	<5
8/0.1	0.0-0.1 m	29/05/2023	<5	<5	<5	<5	<5	<10	<10	<5	<10	<5	<5	<50	<5
9/0.5	0.0-0.1 m	24/05/2023	<5	<5	<5	<5	<5	<10	<10	<5	<10	<5	<5	<50	<5
S1	0.0-0.1 m	24/05/2023	<5	<5	<5	<5	<5	<10	<10	<5	<10	<5	<5	<50	<5
R1	0.0-0.1 m	24/05/2023	<0.2	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2
10/0.1	0.0-0.1 m	29/05/2023	<5	<5	<5	<5	<5	<10	<10	<5	<10	<5	<5	<50	<5
11/0.1	0.0-0.1 m	29/05/2023	<5	<5	<5	<5	<5	<10	<10	<5	<10	<5	<5	<50	<5
12/0.1	0.0-0.1 m	29/05/2023	<5	<5	<5	<5	<5	<10	<10	<5	<10	<5	<5	<50	<5
13/0.1	0.0-0.1 m	29/05/2023	<5	<5	<5	<5	<5	<10	<10	<5	<10	<5	<5	<50	<5
14/0.1	0.0-0.1 m	31/05/2023	<5	<5	<5	<5	<5	<10	<10	<5	<10	<5	<5	<50	<5
15/0.1	0.0-0.1 m	30/05/2023	<5	<5	<5	<5	<5	<10	<10	<5	<10	<5	<5	<50	<5
16/0.1	0.0-0.1 m	29/05/2023	<5	<5	<5	<5	<5	<10	<10	<5	<10	<5	<5	<50	<5
17/0.1	0.0-0.1 m	30/05/2023	<5	<5	<5	<5	<5	<10	<10	<5	<10	<5	<5	<50	<5
18/0.1	0.0-0.1 m	31/05/2023	<5	<5	<5	<5	<5	<10	<10	<5	<10	<5	<5	<50	<5
19/0.1	0.0-0.1 m	30/05/2023	<5	<5	<5	<5	<5	<10	<10	<5	<10	<5	<5	<50	<5
20/0.1	0.0-0.1 m	29/05/2023	<5	<5	<5	<5	<5	<10	<10	<5	<10	<5	<5	<50	<5
Site Assessment Criteria															
HIL-D ⁴			~	~	~	~	~	~	~	~	~	~	~	~	20,000
EGV - Ecological direct exposure ⁵			~	~	~	~	~	~	~	~	~	~	~	~	~
EGV - Ecological indirect exposure ⁶			~	~	~	~	~	~	~	~	~	~	~	~	~

Notes

4

NEMP (2025) Table 5: Human health investigation levels (HIL) for industrial/commercial land use.

5

NEMP (2025) Table 6: Ecological guideline value (EGV) for ecological direct exposure in all land use scenarios.

6

NEMP (2025) Table 6: Ecological guideline value (EGV) for ecological indirect exposure in all land use scenarios.

Bold

Indicates detection of an analyte

~

No guideline available at time of investigation

<LOR

Less than the laboratory's limit of reporting

Green

Analyte concentrations greater than adopted IEDEV

Yellow

Analyte concentrations greater than adopted HHSV

This table has been produced in colour to indicate exceedences of relevant criteria. Reproduction should be carried out in colour.

Table K5: Summary of Groundwater and Surface Water Field Parameters

Sample ID	Date Sampled				Field Parameters			
		Total Bore Depth (mbGL)	SWL (mbGL)	Temp. (°C)	pH		EC (µS/cm)	Turbidity (NTU)
					Lower Limit	Upper Limit		
MW8	2/06/2023	12.75	11.37	17	8.4		2,310	728
MW9	2/06/2023	20.03	15.36	17	6.7		4,640	50
SW1	2/06/2023	-	-	14.4	8.1		390	98
SW2	2/06/2023	-	-	18.7	8.6		690	154
Site Assessment Criteria								
DES ¹					6.5	8.0	940	7
ADWG ²					6.5	8.5	~	5
ANZECC ³					6.5	8	125-2200	6-50

Notes

- 1 DES (2022) Environmental Protection (Water and Wetland Biodiversity) Policy 2019 - Logan River Environmental \
- 2 ADWG (2011), v 3.8, updated 2022, Table 10.6, guideline values for physical and chemical characteristics
- 3 ANZECC (2000) Tables 3.3.2 and 3.3.3 Default trigger values for slightly disturbed ecosystems for south-east Aust

SWL Standing water level

mbGL metres below ground level

maGL metres above ground level

N/A Not applicable

- Not measured

~ No guideline available at time of investigation

Purple cells contain levels of an analyte greater than DES (2022) (or lower than lower limits)

Blue cells contain levels of an analyte greater than ADWG (2011)

Green cells contain levels of an analyte outside ANZECC (2000) criteria

This table has been produced in colour to indicate exceedences of relevant criteria. Reproduction should be carried out in black and white.

Table K6: Summary of Laboratory Results (Water) – Metals/Metalloids

Sample ID	Sample Date	Analyte (µg/L)							
		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
Laboratory Limit of Reporting		1	0.2	1	1	1	0.1	1	5
MW8	2/06/2023	2	<0.2	2	29	9	0.3	10	43
MW9	2/06/2023	1	<0.2	3	5	2	0.1	7	15
MWR1	2/06/2023	<1	<0.2	2	5	3	<0.1	7	16
MWS1	2/06/2023	<1	<0.1	<1	2	<1	<0.1	6	17
SW1	2/06/2023	2	<0.2	<1	2	1	<0.1	1	8
SW2	2/06/2023	16	<0.2	20	64	57	0.1	29	130
Site Assessment Criteria									
GIL ¹		24*/ 13'	0.2	1***	1.4	3.4	0.06	11	8
ADWG ²		10	2	50***	2000	10	1	20	~
ADWG ³		~	~	~	1000	~	~	~	3000
ANZG 95% ⁴		24*#	0.2#	1***#	1.4#	3.4#	0.6^	11#	8#

Notes/Legend

1	NEPM Schedule B1 Table 1C Groundwater Investigation Levels (GILs), Fresh waters
2	ADWG (2011), v 3.8, updated September 2022, Part 5, health considerations for drinking water
3	ADWG (2011), v 3.8, updated September 2022, Part 5, aesthetic considerations for drinking water
4	ANZG (2018) - Trigger values for freshwaters, 95% level of protection
<LOR	Less than the laboratory's limit of reporting
#	Based on pH > 6.5
*	Value for As(III)
'	Value for As(V)
**	Value relates to Cr(III)
***	Value for Cr (VI), hexavalent chromium
^	Inorganic Mercury
-	Not tested
~	No guideline available at time of investigation
#	Recommended for application for slightly to moderately disturbed ecosystems.
~	DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species).
,	Chemical for which possible bioaccumulation and secondary poisoning effects should be considered. To account for the bioaccumulating nature of this toxicant, it is recommended that the 99% species protection level DGV is used for slightly to moderately
+	disturbed systems. Also see general comments.
Orange	cells contain levels of an analyte greater than GIL
Light orange	concentration was below laboratory LOR, however LOR exceeded GIL
Blue	cells contain analytes greater than ADWG (2011)
Green	cells contain levels of an analyte greater than ANZG (2018)

This table has been produced in colour to indicate exceedences of relevant criteria. Reproduction should be carried out in colour.

Table K7: Summary of Laboratory Results (Water) – TRH, BTEXN

Sample ID	Sample Date	Analyte (µg/L)													
		Naphthalene	F1	C ₆ -C ₁₀	F2	>C ₁₀ -C ₁₆	>C ₁₆ -C ₃₄	>C ₃₄ -C ₄₀	Sum >C ₁₀ -C ₄₀	Benzene	Toluene	Ethyl- benzene	m&p - Xylenes	o-Xylene	Total xylenes
Laboratory Limit of Reporting		10	20	20	50	50	100	100	100	1	1	1	2	1	3
MW8	2/06/2023	<10	<200	<200	2,500	2,500	6,000	<100	8,500	<10	<10	<10	<20	<10	<30
MW9	2/06/2023	<10	160	160	290	290	1,600	<100	1,890	<1	<1	<1	<2	<1	<3
MWR1	2/06/2023	<10	140	140	270	270	1,300	<100	1,570	<1	<1	<1	<2	<1	<3
MWS1	2/06/2023	<5	110	110	380	380	1,400	<100	1,780	<1	<2	<2	<2	<2	<2
SW1	2/06/2023	<10	<20	<20	<50	<50	200	<100	200	<1	<1	<1	<2	<1	<3
SW2	2/06/2023	<10	<20	<20	<50	<50	700	<100	700	<1	<1	<1	<2	<1	<3
Site Assessment Criteria															
GIL ¹		16	~	~	~	~	~	~	~	950	~	~	200*	350	~
ADWG ²		~	~	~	~	~	~	~	~	1	800	300	~	~	600
ADWG ³		~	~	~	~	~	~	~	~	~	25	3	~	~	20
ANZG ⁴		16#	~	~	~	~	~	~	~	950#	180#	80#	75**	350#	~
HSL-D ⁵ (2 m to <4 m) Sand		NL	6,000	~	6,000	~	~	~	~	5,000	NL	NL	NL	NL	NL
HSL-D ⁵ (4 m to <8 m) Sand		NL	6,000	~	6,000	~	~	~	~	5,000	NL	NL	NL	NL	NL
HSL-D ¹⁶ (8 m+) Sand		NL	7,000	~	NL	~	~	~	~	5,000	NL	NL	NL	NL	NL

Notes	
1	NEPM Schedule B1 Table 1C Groundwater Investigation Levels (GILs), Fresh waters
2	ADWG (2011), v 3.8, updated September 2022, Part 5, health considerations for drinking water
3	ADWG (2011), v 3.8, updated September 2022, Part 5, aesthetic considerations for drinking water
4	ANZG (2018) - Trigger values for freshwaters, 95% level of protection
5	NEPM Schedule B1 Table 1A(4) Groundwater HSLs for vapour intrusion for commercial industrial premises
<LOR	Less than the laboratory's limit of reporting
-	Not tested
~	No guideline available at time of investigation
~	Figure may not protect key test species from chronic toxicity.
*	Value for p-xylene
**	Value for m-xylene
#	Recommended for application for slightly to moderately disturbed ecosystems.
Orange	cells contain levels of an analyte greater than GIL
Blue	cells contain levels of an analyte greater than ADWG (2011)
Green	cells contain levels of an analyte greater than ANZG (2018)
Pink	cells contain levels of an analyte greater than the HSL-D
This table has been produced in colour to indicate exceedences of relevant criteria. Reproduction should be carried out in colour.	

Table K8: Summary of Laboratory Results (Water) – PAH

Sample ID	Sample Date	Analyte (µg/L)																
		Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3,cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAH
Laboratory Limit of Reporting		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
MW8	2/06/2023	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MW9	2/06/2023	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MWR1	2/06/2023	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
MWS1	2/06/2023	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW1	2/06/2023	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW2	2/06/2023	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Site Assessment Criteria																		
GIL ¹		~	~	~	~	~	~	~	~	~	~	~	~	~	16	~	~	~
ADWG ²		~	~	~	~	0.01	~	~	~	~	~	~	~	~	~	~	~	~
ADWG ³		~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
ANZG ⁴		~	~	0.4	~	0.2	~	~	~	~	~	1.4	~	~	16	2	~	~

Notes

- 1 NEPM Schedule B1 Table 1C Groundwater Investigation Levels (GILs), Fresh waters
 - 2 ADWG (2011), v 3.8, updated September 2022, Part 5, health considerations for drinking water
 - 3 ADWG (2011), v 3.8, updated September 2022, Part 5, health considerations for aesthetic water
 - 4 ANZG (2018) - Trigger values for freshwaters, 95% level of protection
- <LOR Less than the laboratory's limit of reporting
- Not tested
- ~ No guideline available at time of investigation
- + To account for the bioaccumulating nature of this toxicant, it is recommended that the 99% species protection level DGV is used for slightly to moderately disturbed systems. Also see General comm
- Orange** cells contain levels of an analyte greater than GIL
- Blue** cells contain levels of an analyte greater than ADWG (2011)
- Light blue** concentration was below laboratory LOR, however LOR exceeded ADWG
- Green** cells contain levels of an analyte greater than ANZG (2018)
- Light green** concentration was below laboratory LOR, however LOR exceeded ANZG guideline

Table K9: Summary of Laboratory Results (Water) – OCP

Sample ID	Sample Date	Analyte (µg/L)																					
		Aldrin	a-HCH	b-HCH	d-HCH	g-HCH	Total Chlordane (sum)	Dieldrin	Aldrin & Dieldrin (sum)	4,4`-DDE	4,4`-DDD	4,4`-DDT	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endosulfan (sum)	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenze ne (HCB)	Methoxychlor
Laboratory Limit of Reporting		0.2	0.2	0.2	0.2	0.2	2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
MW8	2/06/2023	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MW9	2/06/2023	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MWR1	2/06/2023	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MWS1	2/06/2023	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2
SW1	2/06/2023	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
SW2	2/06/2023	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Site Assessment Criteria																							
GIL ¹		~	~	~	~	~	0.03	~	~	~	~	0.006	~	~	~	0.03	0.01	~	~	0.01	~	~	~
ADWG ²		~	~	~	~	~	2	~	3	~	~	9	~	~	~	20	~	~	~	0.3	~	~	~
ANZG ³		~	~	~	~	~	0.08	~	~	~	~	0.01	~	~	~	0.2	0.02	~	~	0.09	~	~	~

Notes

1

NEPM Schedule B1 Table 1C Groundwater Investigation Levels (GILs), Fresh waters

2

ADWG (2011), v 3.5, updated August 2018, Part 5, health considerations for drinking water

3

ANZG (2018) - Trigger values for freshwaters, 95% level of protection

<LOR

Less than the laboratory's limit of reporting

-

Not tested

~

No guideline available at time of investigation

Orange

cells contain levels of an analyte greater than GIL

Blue

cells contain levels of an analyte greater than ADWG (2011)

Green

cells contain levels of an analyte greater than ANZG (2018)

Table K10: Summary of Laboratory Results (Water) – OPP

Sample ID	Sample Date	Analyte (µg/L)												
		Azinphos Methyl	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion	Monocrotophos	Pirimphos-methyl
Laboratory Limit of Reporting		2	20	2	2	2	2	2	2	2	2	2	2	20
MW8	2/06/2023	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20
MW9	2/06/2023	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20
MWR1	2/06/2023	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20
MWS1	2/06/2023	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5
SW1	2/06/2023	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20
SW2	2/06/2023	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<20
Site Assessment Criteria														
GIL ¹		~	~	0.01	~	~	0.01	~	0.15	~	~	0.05	~	~
ADWG ²		30	2	10	~	~	4	5	7	4	7	70	2	90
ANZG ³		0.02	~	0.01	~	~	0.01	~	0.15	~	~	0.05	~	~

Notes

1

NEPM Schedule B1 Table 1C Groundwater Investigation Levels (GILs), Fresh waters

2

ADWG (2011), v 3.5, updated August 2018, Part 5, health considerations for drinking water

3

ANZG (2018) - Trigger values for freshwaters, 95% level of protection

<LOR

Less than the laboratory's limit of reporting

-

Not tested

~

No guideline available at time of investigation

Orange

cells contain levels of an analyte greater than GIL

Blue

cells contain levels of an analyte greater than ADWG (2011)

Green

cells contain levels of an analyte greater than ANZG (2018)

Table K11: Summary of Laboratory Results (Water) – Nutrients

Sample ID	Date Sampled	Analyte (mg/L)							
		Ammonia (as N)	Nitrate & Nitrite (as N)	Nitrate (as N)	Nitrite (as N)	Organic Nitrogen (as N)	Total Kjeldahl Nitrogen (as N)	Total Nitrogen	Total Phosphorus
Laboratory Limit of Reporting		0.01	0.05	0.02	0.02	0.2	0.2	0.2	0.01
SW1	2/06/2023	0.3	0.06	0.05	<0.02	1.6	1.9	1.96	0.06
SW2	2/06/2023	2.2	<0.05	<0.02	<0.02	7	9.2	9.2	0.7
Site Assessment Criteria									
DES ¹		0.01	~	~	~	~	~	0.45	0.035

Notes

1

DES (2022) Environmental Protection (Water and Wetland Biodiversity) Policy 2019 - Lower Creeks - Logan River Basin

~

No guideline available at time of investigation

Purple

cells contain levels of an analyte greater than DES (2022)

This table has been produced in colour to indicate exceedences of relevant criteria. Reproduction should be carried out in colour.

Table K12: Summary of Laboratory Results (Water) - PFAS

Sample ID	Sample Date	Perfluoroalkyl Sulfonic Acids (µg/L)						Perfluoroalkyl Carboxylic Acids (µg/L)										Perfluoroalkyl Sulfonamides (µg/L)						(n:2) Fluorotelomer Sulfonic Acids (µg/L)				PFAS Sums (µg/L)			
		PFBS	PFPeS	PFHxS	PFHpS	PFOS	PFDS	PFBA	PFPeA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFUnDA	PFDODA	PFTrDA	PFTeDA	FOSA	MeFOSA	EtFOSA	MeFOSE	EtFOSE	MeFOSAA	EtFOSAA	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	Sum of PFAS	Sum of PFHxS and PFOS
Laboratory Limit of Reporting		0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.01	0.05	0.01	0.01	0.1	0.01
MW8	2/06/2023	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01
MW9	2/06/2023	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01
MWR1	2/06/2023	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01
MWS1	2/06/2023	<0.02	<0.02	<0.01	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01
SW1	2/06/2023	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01
SW2	2/06/2023	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.1	<0.01
Site Assessment Criteria																															
NEMP Freshwater - 95% species protection ²		~	~	~	~	0.13	~	~	~	~	~	~	220	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~

Notes

2

Bold

~

<LOR

Yellow

NEMP (2025) Table 8: Ecological water quality guideline value for freshwater - 90% species protection - slightly to moderately disturbed systems

Indicates detection of an analyte

No guideline available at time of investigation

Less than the laboratory's limit of reporting

Analyte concentrations greater than adopted freshwater guideline

Table QA1: Relative Percentage Difference Results – Intra and Inter-laboratory Replicates

			Metals								TRH						BTEX				PAH		
			Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	TRH C6 - C10	TRH >C10-C16	F1 ((C6-C10)-BTEX)	F2 (>C10-C16 less Naphthalene)	F3 (>C16-C34)	F4 (>C34-C40)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene ^b	Benzo(a)pyrene (BaP)	Benzo(a)pyrene TEQ
Sample ID	Depth	Sample Date	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
S1	0.4 - 0.5 m	24 May 2023	6.4	<0.5	15	26	11	<0.1	20	53	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
9/0.5	0.4 - 0.5 m	24 May 2023	6.8	<0.5	17	27	12	<0.1	15	54	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
		Difference	0.4	0	2	1	1	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0
		RPD	6%	0%	13%	4%	9%	0%	29%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

R1	0.4 - 0.5 m	24-May-23 20:47	6	<1	8	19	7	<0.1	16	33	<10	<50	<10	<50	<100	<100	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
9/0.5	0.4 - 0.5 m	24 May 2023	6.8	<0.5	17	27	12	<0.1	15	54	<20	<50	<20	<50	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
		Difference	0.8	0	9	8	5	0	1	21	0	0	0	0	0	0	0	0	0	0	0	0	0
		RPD	12%	0%	72%	35%	53%	0%	6%	48%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Key:

Exceedance of RPD acceptance criteria

Table QA2: Relative Percentage Difference Results – Water Intra-laboratory and Inter-laboratory Replicates

		Metals								TRH							BTEX					
		Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury (inorganic)	Nickel	Zinc	F1	C6-C10	F2	>C10-C16	>C16-C34	>C34-C40	Sum >C34-C40	Benzene	Toluene	Ethy-benzene	m&p -Xylenes	o-Xylene	Total xylenes
Sample ID	Sample Date	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW9	2-Jun-23	1	<0.2	3	5	2	0.1	7	15	<10	160	290	290	1,600	<100	1,890	<1	<1	<1	<2	<1	<3
MWR1	2-Jun-23	<1	<0.2	2	5	3	<0.1	7	16	<10	140	270	270	1,300	<100	1,570	<1	<1	<1	<2	<1	<3
	Difference	0	0	1	0	1	0	0	1	0	20	20	20	300	0	320	0	0	0	0	0	0
	RPD	0%	0%	40%	0%	40%	0%	0%	6%	0%	13%	7%	7%	21%	0%	18%	0%	0%	0%	0%	0%	0%
MW9	2-Jun-23	1	<0.2	3	5	2	0.1	7	15	<10	160	290	290	1,600	<100	1,890	<1	<1	<1	<2	<1	<3
MWS1	2-Jun-23	<1	<0.1	<1	2	<1	<0.1	6	17	<10	110	380	380	1,400	<100	1,780	<1	<2	<2	<2	<2	<2
	Difference	0	0	2	3	1	0	1	2	0	50	90	90	200	0	110	0	0	0	0	0	0
	RPD	0%	0%	67%	86%	50%	0%	15%	13%	0%	37%	27%	27%	13%	0%	6%	0%	0%	0%	0%	0%	0%

Key:

Exceedance of RPD acceptance criteria