CORE LOG SHEET Ausgrid Client: **HOLE No. GHD-BH4** Scotland Island Energy Reliability Project Project: SHEET 7 OF 8 Pittwater, Church Point, NSW Location: 341145.3 E 6275801.8 N MGA94/56 AHD Angle from Horiz.: 90° Surface RL: -1.97m Processed: RCO Position: Rig Type: Contractor: Stratacore Driller: TR HydraP Trekker Mounting: Track Checked: JK **HWT** Bit: Surface set Bit Condition: New Casing Dia.: **Barrel (m):** 1.5m Date: 31/08/2018 Date Started: 30/7/2018 Date Logged: 01/8/2018 Note: * indicates signatures on origina issue of log or last revision of log Date Completed: 2/8/2018 Logged by: CT **DRILLING MATERIAL NATURAL FRACTURES** GP. Description **Estimated Additional Data Progress** Spacing 8 Depth / (RL) metres 2127425 SCOTLAND ISLAND ERP ROCK TYPE, colour, grain size, structure Strength (Core Loss / Run (mm) (joints, partings, seams, zones and (texture, mineral composition, hardness Is₍₅₀₎ MPa Drilling & Casir Drill Depth (m) veins) SCALE (m) alteration, cementation, etc. as applicable) Graphic Log Fracture type, orientation, infilling or Weathering coating, shape, roughness, other. RQD (%) SOIL TYPE, moisture, colour, 0.03 consistency, structure, minor components (origin) 100 300 1000 테킨剌剌니님늢 SANDSTONE, as previous. 25.15m, BP, 17°, CN, PLN, RF, CI 25.23m, BP, 10°, CLAY, UN, RF, Cl 25.27m, BP, 15°, CLAY, PLN, RF, Cl (20)(46)25.72m, SM, 0°, LP CLAY, 10mm GEO 25.79m, SM, 12°, LP CLAY, 3mm 25.92, SM, 0°, SANDY CLAY, 15mm 25.93-26.00m, DB's 26.00 26 CORE LOSS 300mm. 26.30 26.30 CORE LOSS 110mm. 26 41 SANDSTONE, as previous. From 26.41m, bedding at 5-10°. 26.59m, BP, 10°, CN, UN, RF, Cl 26.64m, BP, 5°, CN, UN, RF, Cl 26.89m, SM, 5°, 4mm, EW rock 26.93m, SM, 0°, SANDY CLAY, 8mm 26.99m, SM, 0°, 10mm, EW rock 27 (7) (74) Coring+HWT casing 27.16m, SM, 0°, SANDY CLAY, 15mm 27.27m, SM, 0°, SANDY CLAY, 25mm 27.52m, SM, 0°, LP CLAY, 10mm 27.53-27.56m, iron healed partings. MW 27.71m, BP, 5°, CN, PLN, RF, CI 27.80 27.78m, SM, 0°, LP CLAY, 5mm 27.90m, 5mm diameter void, possible removed clast. 28.02m, BP, 6°, CLAY, UN, RF, CI 28.05m, BP, 8°, CN, UN, RF, CI 28.16m, SM, 5°, LP CLAY, 4mm From 28.30m, becoming coarse grained. 28.39m, BP, 14° CN, PLN, RF, CI 28.42m, BP, 14° CN, PLN, RF, CI (30)(60)28.65m, BP, 10°, CN, UN, RF, CI 28.81m, JT, 75°, FE, UN, RF, CI 28.85 CORE LOSS 450mm. 20 100) 29.30 29.30 CLAYSTONE, grey/red, indistinctly bedded at 0°, local zones of soil strength material (high plasticity clay). (0)(100)29.61m, JT, 25°, CLAY VE, PLN, SO, CI HW 29.80 29.97m, JT, 45°, CLAY VE, UN, SO, CI

See standard sheets for details of abbreviations & basis of descriptions

CORE LOG SHEET Client: Ausgrid **HOLE No. GHD-BH4** Scotland Island Energy Reliability Project Project: SHEET 8 OF 8 Pittwater, Church Point, NSW Location: 341145.3 E 6275801.8 N MGA94/56 AHD Angle from Horiz.: 90° Position: Surface RL: -1.97m Processed: RCO HydraP TrekkerMounting: Track Contractor: Stratacore Driller: TR Rig Type: Checked: JK Bit Condition: New **HWT** Bit: Surface set Casing Dia.: **Barrel (m):** 1.5m Date: 31/08/2018 Date Started: 30/7/2018 Logged by: CT Date Logged: 01/8/2018 Note: * indicates signatures on origina issue of log or last revision of log Date Completed: 2/8/2018 GHD **DRILLING MATERIAL NATURAL FRACTURES** 2127425 SCOTLAND ISLAND ERP. GPJ Description **Estimated Additional Data Progress** Spacing 8 Depth / (RL) metres ROCK TYPE, colour, grain size, structure Strength (mm) (Core Loss / Run (joints, partings, seams, zones and (texture, mineral composition, hardness, Is₍₅₀₎ MPa Drilling & Casir Drill Depth (m) veins) SCALE (m) alteration, cementation, etc. as applicable) Graphic Log Fracture type, orientation, infilling or Weathering coating, shape, roughness, other. RQD (%) SOIL TYPE, moisture, colour, Water consistency, structure, minor components (origin) 20 100 300 1000 테킥剌뢰 0.02m, SM, 20°, HP CLAY, 30mr CLAYSTONE, as previous. 30.10m, JT, 60°, FE, PLN, RF, CI 30.18m, JT, 45°, CN, UN, SO, CI HW (30)(40)30.30-30.37m, FZ, possible DB 30.44m, SM, 0°, HP CLAY, 120mm 30.46m, JT, 30°, CLAY VE, UN, SO, CI 30.50 CORE LOSS 300mm. 30.55m, JT, 55°, CLAY VE, PLN, SO, CI 30.63m, SM, 10°, LP CLAY, 15mm casing 30.70m, JT, 45°, CLAY, PLN, SO, CI GEO 30.80 30.80 30.79m, JT, 25°, CLAY VE, UN, SO, CI CLAYSTONE, as previous. HQ Coring+HWT From 31.50m, becoming red. (0) (85) 32.16m, JT, 20°, CN, UN, SO, Cl 32.25m, SM, 25°, LP CLAY, 7mm 32.31 HW (0) (0)32.73 32.90m, JT, 85°, CN, UN, SO, DIS, CI .15m, SM, 15°, LP CLAY, 15mm .19m, SM, 5°, LP CLAY, 10mm 33.30m, JT, 40°, CLAY VE, PLN, SO, CI 33.40m, JT, 37°, CLAY VE, PLN, SO, CI (0) (88)33.95m, JT, 50°, CN, UN, SO, CI \$4.08 34.08 End of Borehole at 34.08 metres. **Target Depth GHD GEOTECHNICS** Job No.

See standard sheets for details of abbreviations & basis of descriptions

BOREHOLE LOG SHEET

& basis of descriptions

Client: Ausgrid **HOLE No. GHD-BH5** Scotland Island Energy Reliability Project Project: SHEET 1 OF 5 Location: Pittwater, Church Point, NSW TEMPLATE 341540.8 E 6275988.9 N MGA94/56 Surface RL: -1.29m AHD Angle from Horiz.: 90° Position: Processed: RCO HydraP TrekkerMounting: Track Contractor: Stratacore Driller: TR Rig Type: Checked: JK 10/7/2018 Date Started : Date Completed: 12/7/2018 Logged by: CT Date: 31/08/2018 GEO ote: * indicates signatures on origin issue of log or last revision of log **DRILLING MATERIAL** BOREHOLE 2127425 SCOTLAND ISLAND ERP. GPJ GHD Depth / (RL) metres Description Comments/ Moisture Condition Samples & Tests Observations **Drilling Method** SOIL TYPE, colour, structure, minor components (origin), Consistency / Density Index Hole Support \ Casing **JSC Symbol** Graphic Log and SCALE (m) ROCK TYPE, colour, grain size, structure, Water weathering, strength SAND, pale yellow, marine sediments, shells (alluvium). Note: 'TR' = W undisturbed sample for Thermal Resistivity testing *Denotes SPT SPT 0/0/0 N=0 terminated early due to difficulties GEO extracting sampler on floating barge. Inferred N value. 0.0m, no sample return SPT falling under rod weight 1.50 Sandy CLAY, grey/brown, low plasticity, fine to coarse grained sand (alluvium). CL w>PL F-St 1.60-2.05m, JAR+BAG PID=1.0ppm SPT 2/3/5 N=8 2 2.10-2.40m, TR SAMPLE **U75** HWT casing RW (m)-2.80-3.25m, JAR+BAG PID=1.1ppm 3 St 4/6/9 From 4.50m, iron staining and iron cementation. 4.50-4.95m, VSt JAR+BAG PID=1.0ppm SPT 5/7/11 N=18 **GHD GEOTECHNICS** Job No. See standard sheets for Level 2 29 Christie Street, St Leonards NSW 2065 Australia T: 61 2 9462 4700 F: 61 2 9462 4710 E: slnmail@ghd.com GHD details of abbreviations 21-27425

CONSULTING GEOTECHNICAL ENGINEERS AND GEOLOGISTS

BOREHOLE LOG SHEET

Client: Ausgrid **HOLE No. GHD-BH5** Scotland Island Energy Reliability Project Project: SHEET 2 OF 5 Location: Pittwater, Church Point, NSW TEMPLATE 341540.8 E 6275988.9 N MGA94/ 56 Surface RL: -1.29m AHD Angle from Horiz.: 90° Position: Processed: RCO HydraP TrekkerMounting: Track Contractor: Stratacore Driller: TR Rig Type: Checked: JK Date Started : 10/7/2018 Date Completed: 12/7/2018 Logged by: CT Date: 31/08/2018 ote: * indicates signatures on origin issue of log or last revision of log **DRILLING MATERIAL** BOREHOLE 2127425 SCOTLAND ISLAND ERP. GPJ GHD Depth / (RL) metres Description Comments/ Moisture Condition Samples & Tests Observations **Drilling Method** SOIL TYPE, colour, structure, minor components (origin), Hole Support \ Casing Consistency / Density Index Graphic Log **USC Symbol** and SCALE (m) ROCK TYPE, colour, grain size, structure, Water weathering, strength CL Sandy CLAY, as previous. w>PL St 5.10-5.40m, TR SAMPLE U75 GEO 6.00 6 CI CLAY, grey, medium plasticity, trace of silt, iron staining, w~PL 6.00-6.45m, BAG iron induration (alluvium). SPT 11/21/20 N=41 HWT casing RW (m) 7.50-7.85m, BAG SPT 18/28/ 8 for 50mm N~523 8.00m, soil too stiff for U75 (TR Sample) U75 9 SPT 11/5 for 9.20 10mm Start of coring at 9.2 metres. For cored interval, see Core Log Sheet. N=ref Job No. **GHD GEOTECHNICS** See standard sheets for

See standard sheets for details of abbreviations & basis of descriptions



CORE LOG SHEET

Ausgrid Client: **HOLE No. GHD-BH5** Project: Scotland Island Energy Reliability Project SHEET 3 OF 5 Pittwater, Church Point, NSW Location : TEMPLATE AHD Angle from Horiz.: 90° 341540.8 E 6275988.9 N MGA94/ 56 Surface RL: -1.29m Processed: RCO Position: Rig Type: Contractor: Stratacore Driller: TR HydraP Trekker Mounting: Track Checked: JK **HWT** Bit: Surface set Bit Condition: New Casing Dia.: **Barrel (m):** 1.5m Date: 31/08/2018 GEO Date Started: 10/7/2018 Date Logged: 11/7/2018 Note: * indicates signatures on origina issue of log or last revision of log Date Completed: 12/7/2018 Logged by: CT GHD **DRILLING MATERIAL NATURAL FRACTURES** 2127425 SCOTLAND ISLAND ERP. GPJ Description **Estimated Additional Data Progress** Spacing 8 Depth / (RL) metres ROCK TYPE, colour, grain size, structure Strength (mm) (Core Loss / Run (joints, partings, seams, zones and (texture, mineral composition, hardness, Is₍₅₀₎ MPa Drilling & Casir Drill Depth (m) veins) alteration, cementation, etc. as applicable) SCALE (m) Graphic Log Fracture type, orientation, infilling or Weathering coating, shape, roughness, other. RQD (%) SOIL TYPE, moisture, colour, 0.03 0.3 10 10 Water consistency, structure, minor components (origin) Visual 20 40 100 300 1000 COREHOLE VISUAL GEO 6 9 Start of coring at 9.2 metres. For Non Cored interval, see Borehole Log Sheet. 9.20 CORE LOSS 90mm. Coring+HWT casing 9.29 SILTSTONE, red brown, orange brown with 9.33m, SM, 65°, CLAY, 5mm, soft minor pale grey bands, distinctly laminated at 9.47M, SM, 0°, CLAY, 60mm, very stiff 9.52m, SM, 50°, CLAY, 3mm, soft 9.58m, BP, 0°, CLAY, PLN, RF, Cl 9.63m, JT, 66°, CLAY, UN, RF, Cl 9.68m, BP, 0°, CLAY VE, PLN, RF, Cl 9.73m, BP, 5°, CLAY, UN, RF, Cl 0-10°, iron staining, iron indurated zones. (18)(23)HW 욧 9.95m, SM, 0°, CLAY, 50mm, very stiff 10.00 **GHD GEOTECHNICS** Job No. See standard sheets for Level 2 29 Christie Street, St Leonards NSW 2065 Australia T: 61 2 9462 4700 F: 61 2 9462 4710 E: slnmail@ghd.com नाः details of abbreviations 21-27425 & basis of descriptions

CORE LOG SHEET Ausgrid Client: **HOLE No. GHD-BH5** Scotland Island Energy Reliability Project Project: SHEET 4 OF 5 Pittwater, Church Point, NSW Location: AHD Angle from Horiz.: 90° 341540.8 E 6275988.9 N MGA94/56 Surface RL: -1.29m Processed: RCO Position: Rig Type: Contractor: Stratacore Driller: TR HydraP Trekker Mounting: Track Checked: JK Bit Condition: New **HWT** Bit: Surface set Casing Dia.: **Barrel (m):** 1.5m Date: 31/08/2018 Date Logged: 11/7/2018 Note: * indicates signatures on origina issue of log or last revision of log Date Started: 10/7/2018 Date Completed: 12/7/2018 Logged by: CT GHD **DRILLING MATERIAL NATURAL FRACTURES** GPJ Description **Estimated Additional Data Progress** Spacing 8 Depth / (RL) metres 2127425 SCOTLAND ISLAND ERP ROCK TYPE, colour, grain size, structure Strength (Core Loss / Run (mm) (joints, partings, seams, zones and (texture, mineral composition, hardness Is₍₅₀₎ MPa Drilling & Casir Drill Depth (m) veins) SCALE (m) alteration, cementation, etc. as applicable) Graphic Log Fracture type, orientation, infilling or Weathering coating, shape, roughness, other. RQD (%) SOIL TYPE, moisture, colour, 0.03 Water consistency, structure, minor components (origin) 20 100 300 1000 CORE LOSS 140mm. 10.14 SILTSTONE, as above. 10.26m, SM, 65°, CLAY, 3mm, soft 10.33m, JT, 25°, CN, UN, SO, CI 10.41-10.49, FZ, possible DB From 10.60m, predominantly grey with minor (11)(47)red-brown and orange brown staining. HW GEO 10.73m, JT, 65°, FE, UN, RF, CI 10.74m, JT, 65°, FE, UN, RF, CI 10.77m, BP, 5°, CLAY, UN, SO, CI 10.81m, SM, 0°, CLAY, 20mm, soft 10.84-10.86m, JT's x4, 45°, FE, UN, SO, CI 11,21m, JT, 30°, CLAY VE, UN, SO, CI 11.30 11.30 CORE LOSS 180mm. 11.48 SILTSTONE, as above. 11.56m, JT, 65°, CN, UN, RF, CI From 11.48, interlaminated fine grained sandstone. 11.68m, BP, 0°, FE, UN, SO, Cl 11.69m, BP, 0°, FE, UN, SO, Cl 11.74m, BP, 0°, FE, UN, RF, Cl 11.82m, BP, 0°, CN, PLN, SO, Cl (15)(54)Coring+HWT casing 12.17m, JT, 40°, FE, PLN, RF, CI 12.38m, JT, 40°, FE, UN, RF, CI 12.50 12.58m, SM, 0°, CLAY, 40mm, soft 12.66m, JT, 75°, FE, UN, RF, CI (0) (0) 12.75m, JT, 35°, CLAY VE, PLN, SO, CI g 12.90 From 13.00m, sporadic iron oxide healed joints, dipping approx. 50-70°. 13.19m, JT, 45°, CLAY, UN, RF, CI 13.22m, BP, 0°, CLAY VE, UN, SO, CI 13.25m, BP, 0°, CLAY VE, UN, SO, CI HW 13.35m, EW SM, 70°, CLAY, 13mm, soft (0) (81) 13.69m, JT, 40°, FE, PLN, RF, CI 13.87m, BP, 5°, CLAY VE, UN, SO, CI 14.02m, JT, 45°, FE, UN, RF, CI 14.14m, BP, 5°, FE, PLN, RF, C 4.30 14.63m, BP, 0°, CN, PLN, SO, CI 14.68m, JT, 30°, FE, PLN, RF, CI 4.84m, JT, 45°, FE, PLN, RF, CI 14.94m, JT, 50°, CLAY VE, UN, RF, C

See standard sheets for details of abbreviations & basis of descriptions

GHD

GHD GEOTECHNICS

Level 2 29 Christie Street, St Leonards NSW 2065 Australia T: 61 2 9462 4700 F: 61 2 9462 4710 E: slnmail@ghd.com CONSULTING GEOTECHNICAL ENGINEERS AND GEOLOGISTS Job No.

21-27425

CORE LOG SHEET Client: Ausgrid **HOLE No. GHD-BH5** Scotland Island Energy Reliability Project Project: SHEET 5 OF 5 Pittwater, Church Point, NSW Location: TEMPLATE 341540.8 E 6275988.9 N MGA94/ 56 AHD Angle from Horiz.: 90° Position: Surface RL: -1.29m Processed: RCO HydraP TrekkerMounting: Track Contractor: Stratacore Driller: TR Rig Type: Checked: JK Bit Condition: New **HWT** Bit: Surface set Casing Dia.: **Barrel (m):** 1.5m Date: 31/08/2018 Date Started: 10/7/2018 Date Logged: 11/7/2018 Note: * indicates signatures on origina issue of log or last revision of log Date Completed: 12/7/2018 Logged by: CT GHD **DRILLING MATERIAL NATURAL FRACTURES** 2127425 SCOTLAND ISLAND ERP. GPJ **Progress** Description **Estimated Spacing Additional Data** % Depth / (RL) metres ROCK TYPE, colour, grain size, structure Strength (Core Loss / Run (mm) (joints, partings, seams, zones and Drilling & Casing (texture, mineral composition, hardness, Is₍₅₀₎ MPa Drill Depth (m) veins) SCALE (m) alteration, cementation, etc. as applicable) Graphic Log Fracture type, orientation, infilling or Weathering coating, shape, roughness, other. RQD (%) SOIL TYPE, moisture, colour, consistency, structure, minor components (origin) Water Visual 1 20 1 40 3 00 1 000 (0) (81) 4.96m, BP, 0°, CLAY VE, PLN, SO, CI SILTSTONE, as previous. 15.23m, BP, 0°, CLAY VE, UN, SO, CI HW 15.48m, BP, 0°, CN, PLN, SO, CI 15.57m, JT, 20°, FE, UN, RF, CI 15.67 15.67 End of Borehole at 15.67 metres. GEO **Target Depth**

See standard sheets for details of abbreviations & basis of descriptions



BOREHOLE LOG SHEET

Client: Ausgrid **HOLE No. GHD-BH6** Project: Scotland Island Energy Reliability Project SHEET 1 OF 1 Location: Harold Reserve, Scotland Island, NSW Position: 341616.5 E 6276042.4 N MGA94/56 Surface RL: 1.76m AHD Angle from Horiz.: 90° Processed: CT Rig Type: Hand auger Mounting: Hand auger Contractor: -Driller: CT/JV Checked: Date Started: 27/9/2018 Date Completed: 27/9/2018 Logged by: CT/JV Date: 2/10/2018 GEO_BOREHOLE 2127425 SCOTLAND ISLAND ERP.GPJ GHD_GEO_ ote: * indicates signatures on origin issue of log or last revision of log **DRILLING MATERIAL** Depth / (RL) metres Description Comments/ Moisture Condition Samples & Tests Observations **Drilling Method** SOIL TYPE, colour, structure, minor components (origin), Consistency / Density Index Hole Support \ Casing **JSC Symbol** Graphic Log and SCALE (m) ROCK TYPE, colour, grain size, structure, Water weathering, strength Silty SAND, dark brown, fine to coarse grain, some fine 0.00-0.10m, JAR, ■ Hand Auger w~PL gravels (fill). **BAG** $\overline{\mathsf{D}}$ Ē 0.40-0.50m, JAR, 0.50 BAG End of borehole at 0.5 metres. Refusal on Sandstone Refusal 2 3 Job No. **GHD GEOTECHNICS** See standard sheets for

See standard sheets for details of abbreviations & basis of descriptions



BOREHOLE LOG SHEET

Client: Ausgrid **HOLE No. GHD-BH7** Project: Scotland Island Energy Reliability Project SHEET 1 OF 1 Location: Harold Reserve, Scotland Island, NSW TEMPLATE.GDT Position: 341622.4 E 6276049.8 N MGA94/56 Surface RL: 3.43m Angle from Horiz.: 90° Processed: CT AHD Rig Type: Hand auger Mounting: Hand auger Contractor: -Driller: CT/JV Checked: **Date Started: 27/9/2018** Date Completed: 27/9/2018 Logged by: CT/JV Date: 2/10/2018 GEO ote: * indicates signatures on origin issue of log or last revision of log **DRILLING MATERIAL** BOREHOLE 2127425 SCOTLAND ISLAND ERP. GPJ GHD Depth / (RL) metres Description Comments/ Moisture Condition Samples & Tests Observations **Drilling Method** SOIL TYPE, colour, structure, minor components (origin), Consistency / Density Index Hole Support \ Casing **JSC Symbol** Graphic Log and SCALE (m) ROCK TYPE, colour, grain size, structure, weathering, strength CLAY, pale brown, medium plasticity, trace of fine to medium 0.00 - 0.10m, JAR, w<PL St BAG gravels (fill). 0.40-0.50m, JAR, VSt BAG GEO 0.80 Gravelly CLAY, pale brown, low plasticity, fine to coarse w<PL St Hand Auger gravels, gravels are quartz and sandstone, sub-rounded to 0.90-1.00m, JAR, $\overline{\mathsf{D}}$ Ħ angular (fill). **BAG** 1.20 CLAY, brown streaked red, high plasticity (fill). w<PL St 1.50-1.60m, JAR, **BAG** VSt 1.80 CLAY, pale grey streaked pale orange, high plascitity, trace of w~PL VSt 1.90-2.00m, JAR, fine to medium gravels (fill). BAG 2.00 2 End of borehole at 2 metres. Limit of investigation 3 **GHD GEOTECHNICS** Job No. See standard sheets for Level 2 29 Christie Street, St Leonards NSW 2065 Australia T: +61 2 9462 4700 F: +61 2 9462 4710 E: sInmail@ghd.com details of abbreviations

& basis of descriptions



Appendix C – Equipment Calibration Certificates



Instrument

PhoCheck Tiger

Serial No.

T-105859

Air-Met Scientific Pty Ltd 1300 137 067

| ltem | Test | Pass | | | Comments | <u> </u> |
|---------------|-------------------|----------|--|---|---|---|
| Battery | Charge Condition | ✓ | · | | | |
| | Fuses | ✓ | | | | |
| | Capacity | ✓ | | | | |
| | Recharge OK? | ✓ | | | | |
| Switch/keypad | Operation | ~ | | | | |
| Display | Intensity | ✓ | | | · · · · · · · · · · · · · · · · · · · | A - Charles and Annual |
| | Operation | ✓ | | | | |
| | (segments) | | | | | |
| Grill Filter | Condition | ✓ | | | | |
| | Seal | √ | | *************************************** | | |
| Pump | Operation | ✓ | and the same of th | | · | |
| | Filter | ✓ | | | | |
| | Flow | ✓ | | | · | |
| | Valves, Diaphragm | ✓ | | *************************************** | · | , |
| PCB | Condition | ✓ | | | *************************************** | |
| Connectors | Condition | ~ | | | | |
| Sensor | PID | | 10.6eV Lar | mp | | |
| Alarms | Beeper | · · · | Low | High | TWA | STEL |
| | Settings | ✓ | 50ppm | 100ppm | N/A | N/A |
| Software | Version | ✓ | | 1, | | |
| Data logger | Operation | ✓ | | | | · · · · · · · · · · · · · · · · · · · |
| Download | Operation | ✓ | | | *************************************** | |
| Other tests: | | | | | | |

Certificate of Calibration

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

| Sensor | Serial no | Calibration gas and | Certified | Gas bottle | Instrument Reading |
|----------|-----------|---------------------|-----------|------------|--------------------|
| | | concentration | | No | |
| PID Lamp | | 98ppm Isobutylene | NATA | SY137 | 98ppm |

| Calibrated by: | Sarablia | Sarah Lian |
|----------------|----------|------------|
| | | |

Calibration date:

6/07/2018

Next calibration due:

5/01/2019

Appendix D – Analytical Results Tables

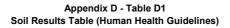
Table D1 - Soil Results Table - Human Health

Table D2 - Soil Results Table - Waste Classification

Table D3 – Groundwater Results Table

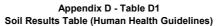
Table D4 - Soil Results QAQC RPD Table

Table D5 - Rinsate QAQC Results Table





| Part | | | | | | | | Field Parameters | Inore | ganics | | Major I | lons | Asbestos | | | | Me | etals | | | | Ι | | | BTEXN | | | | Ι | | TRH | - NEPM 2 |
|--|-------------------|---------------------|-----------------------------|-----------------|-----------------|---------------|--|--------------------|--|----------------------|----------------|----------|------|--------------------------|----------|---------|-------------------|--------------|----------|---------|------|--------|---------|---------|--------------|------------|----------|--------------|-------|---------------|-----------------|--------------------|-------------------|
| Part | | | | | | | | There i are meters | | Burnes | | | | 7.000000 | | | | | | | | | | | | | | | | | | | |
| Column C | | | | | | | Resistivity* | pH (Field) | Electrical conductivity (lab) Moisture Content (dried @ 103* | bH (agueous extract) | מלתפסתה בענושו | Chloride | | Asbestos Reported Result | Arsenic | Cadmium | Chromium (III+VI) | Copper | Lead | Mercury | | Zinc | Benzene | Toluene | Ethylbenzene | Xylene (o) | ine (m & | Xylene Total | alene | (C6-C10 minus | C6-C10 Fraction | (>C10-C16 minus Na | >C10-C16 Fraction |
| Column C | 501 | | | | | | _ | · · | | | _ | | | Comment | | | | | | | | | | | | | | | | | + | | |
| Control Cont | | ct Contact Intrucin | e Works | | | | 0.5 | U.1 | 5 1 | . 0. | 1 | 10 | 10 | | | 0.4 | 5 | 5 | 5 | U.I | 5 | 5 | | | | 0.1 | 0.2 | | | | 20 | | 50 |
| Control Cont | | | | | | | | | | | _ | | | | | | | | | | | | | | _ | | | | | | | | |
| Manual Part | | | | | | | + | | | | | | | | | | | | | | | | | _ | | | | | | | | | |
| Mary North Mary Nort | | | FORMS, Z to SHII, Saliu | | | | | | | | | | | | 3000 | 900 | 3600 | 240000 | 1500 | 730 | 6000 | 400000 | 100 | INL | INL | | | INL | INL | INL | | IVL | |
| Second S | | | Soil for Vapour Intrusion S | Sand | | | | | | | | | | | 3000 | 300 | 3300 | 243000 | 1300 | , 30 | 0000 | +00000 | | | | | | | | | | | |
| Second S | | 1102 5 6011111,1114 | on for tupour marusion, s | 74114 | | | | | | | | | | | | | | | | | | | 3 | NL | NL | | | 230 | NL | 260 | | NL | |
| Amount | | | | | | | 1 | | | | | | | | | | | | | | | | _ | _ | | | | | | | | | |
| Field B. Carcine Color Sumple Leght Into Mortin y Sumple Leght Into Mortin | | | | | | | 1 | | | | | | | | | | | | | | | | | _ | | | | | | | | | |
| Field_D | | | | | | | 1 | | | | | | | | | | | | | | | | _ | | | | | | | | | | |
| Sepontal 1.50 Sepontal | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DUMPS GHD-HH 0.5-06 SWR20138 OII Field D C C C C C C C C C | Field_ID | Location_Code | Sample_Depth_Range | Sampled_Date_Ti | ime Matrix_Type | e Sample_Type | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Separate 19-14 19-15 1 | GHD-BH1_0.5-0.6 | GHD-BH1 | 0.5-0.6 | 8/08/2018 | soil | Normal | - | 8.6 | - 11 | 1 - | - | - | - | No Asbestos Detected | 7.8 | <0.4 | 9.9 | <5 | <5 | <0.1 | <5 | 11 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 |
| Decompose 19-235 19-235 2407/2018 501 | DUP03 | GHD-BH1 | 0.5-0.6 | 8/08/2018 | soil | Field_D | - | - | - 11 | 1 - | | - | - | - | 8 | < 0.4 | 11 | 5.2 | <5 | <0.1 | <5 | 12 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 |
| Dignostical | GHD-BH1_2.0-2.1 | GHD-BH1 | 2-2.1 | 8/08/2018 | soil | Normal | - | 8.8 | - 21 | 1 - | - | - | - | - | 5.8 | <0.4 | 5.4 | <5 | 8.1 | <0.1 | <5 | 10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 |
| Sem | GHD_BH2_1.9-2.35 | GHD-BH2 | 1.9-2.35 | 23/07/2018 | soil | Normal | - | 7 | - 13 | 3 - | - | - | - | No Asbestos Detected | <2 | < 0.4 | <5 | <5 | <5 | <0.1 | <5 | <5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 |
| Dumpo Girb-Hard 3-5-195 24/07/2018 Soil Field D - - - - - - - - - | DUP01 | GHD-BH2 | 1.9-2.35 | 23/07/2018 | soil | Field_D | - | - | - 12 | 2 - | | - | - | - | <2 | <0.4 | 6.2 | <5 | <5 | <0.1 | <5 | <5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 |
| GHD-BH3_15-195 GHD- | GHD_BH2_3.5-3.95 | GHD-BH2 | 3.5-3.95 | 23/07/2018 | soil | Normal | - | 5.1 | - 14 | 4 - | | - | - | - | <2 | < 0.4 | 5.5 | <5 | <5 | <0.1 | <5 | <5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 |
| GRD-BH, 4.5.4-95 GRD-BH, 4.5.4 | DUP02 | | + | | | Field_D | - | | | _ | | - | - | - | <2 | <0.4 | | <5 | | _ | <5 | | _ | <0.1 | | _ | _ | <0.3 | | | _ | | _ |
| GRD-BHQ-15-0-6-4-5 GRD-BHQ-15-19-5 GRD-BHQ-15- | GHD-BH03_1.5-1.95 | | + | | | Normal | - | | | _ | | - | - | No Asbestos Detected | _ | <0.4 | | <5 | | _ | | | _ | <0.1 | | _ | _ | | | | _ | | _ |
| GHD-BH4_1_5_1_0_5_6_ GHD-BH4_4_1_5_1_0_5_5_6_ GHD-BH4_1_5_1_0_5_5_6_ GHD-BH4_1_5_1_0_5_6_ GHD- | | | + | | | Normal | ļ - | | | _ | - | - | - | - | - | _ | _ | _ | | _ | | | _ | _ | | _ | _ | _ | | | _ | | _ |
| GHD-BH4 15-0.5-4-5-5 GHD-BH4 15-0.5-5-5 GHD-BH4 15-0.5-5-5 GHD-BH5 16-2.05 GHD | | | + | | | Normal | - | 6.9 | | _ | - - | - | _ | | - | _ | _ | _ | | - | | | _ | _ | _ | _ | _ | _ | | _ | _ | | - |
| GHD-BH4_A 5.4.95 GHD-BH4 | | | + | | | Normal | - | | | _ | - - | - | - | No Asbestos Detected | _ | _ | _ | _ | | _ | | | _ | _ | _ | _ | _ | _ | | _ | _ | | _ |
| GHD-BHS 1.6-2.05 GHD-BHS 1.6-2.05 11/07/2018 Soil Normal Soil Norm | | | + | | | | _ | | | _ | - | _ | | - | _ | _ | _ | _ | _ | _ | | | _ | _ | _ | _ | _ | _ | | | _ | | _ |
| GHD-BH5_2.8-3.25 GHD-BH5 | | | + | | | | + | | | _ | - | - | | | - | _ | _ | _ | | _ | | | _ | _ | | _ | _ | _ | | | _ | | _ |
| GHD-BHG_4.54.95 GHD-BHG 0.4-0.5 GHD-BHG 0.4-0. | | | + | | | | _ | | | _ | _ | - | _ | No Asbestos Detected | - | _ | | _ | | _ | | | _ | _ | | _ | _ | _ | | | _ | | _ |
| GHD-BHG_04-0.5 GHD-BHG 0.4-0.5 GHD-BHG 0.4-0.5 GHD-BHG 0.0-1 C7/09/2018 S0II Normal 650 | | | + | | | | + | | | _ | _ | - | | - | _ | _ | | _ | | _ | | | _ | _ | | _ | _ | _ | | | _ | | _ |
| GHD-BHG_0.0-0.1 GHD-BHG 0-0.1 27/09/2018 soil Normal 650 | | | + | | | | _ | | | _ | _ | _ | _ | | - | _ | _ | _ | _ | - | | | | _ | _ | _ | _ | | | | _ | | _ |
| GHD-BH7_04-0.5 GHD-BH7 04-0.5 GHD-BH7 04-0.5 GHD-BH7 04-0.5 GHD-BH7 04-0.5 GHD-BH7 04-0.5 GHD-BH7_09-1.0 GHD-BH7 09-1 07/99/2018 soil Normal 940 - 53 11 5.4 27 36 No.Asbesto. Detected 5 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 | | | + | | | | _ | | | | - | _ | _ | | - | _ | _ | _ | _ | - | | | _ | _ | _ | _ | _ | _ | | | _ | | _ |
| GHD-BH7_0.9-1.0 GHD-BH7 0.9-1 27/09/2018 soil Normal 940 - 53 11 5.4 27 36 No Asbestos Detected | | | + | | | | _ | | | | _ | _ | _ | INO ASDESIOS DETECTED | - | _ | | _ | _ | - | | | _ | _ | | _ | _ | | | | _ | | _ |
| GHD-BH7_0.0-0.1 GHD-BH7 0-0.1 27/09/2018 soil Normal 530 - 94 11 5.4 77 13 No Asbestos Detected - 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. | | | + | | | | | | | _ | _ | | | No Achartar Datasta | | _ | _ | _ | | | | | | _ | | | | | | | | | - |
| GHD-BH7_1.5-1.6 GHD-BH7 H7_1.5-1.6 GHD-BH7 H7_1.5-1.6 GHD-BH7 H7_1.5-1.6 GHD-BH7 H7_1.5-1.6 GHD-BH7 H7_1.5-1.6 GHD-BH7_1.5-1.6 GHD-BH7 H7_1.5-1.6 | | | + | | | | _ | ļ | | _ | - | - | _ | | | _ | + | - | <u> </u> | - | | | | - | - | _ | | | | | - | | \vdash |
| GHD-BH7_1.9-2.0 GHD-BH7 | | | + | | | | _ | | | _ | _ | _ | _ | | | | | -5 | 16 | | | | | <0.1 | | _ | | | | | - | | <50 |
| GHD-SI01 GHD-SI01 27/09/2018 soil Normal No Asbestos Detected | | | | | | | | | | _ | _ | | | | _ | _ | _ | _ | _ | - | | | _ | - | | | | | | | - 1 | | |
| GHD-SI02 | | | 1.5 2 | | | | _ | | | _ | _ | _ | _ | No Ashestos Detected | | - | + | _ | - | | | | _ | _ | _ | | | | | _ | | | _ |
| GHD-SI03 GHD-SI03 27/09/2018 soil Normal No Asbestos Detected | | | | | | | + | | | | - | _ | _ | | H | - | + | _ | - | | | | - | _ | | | _ | | | _ | | | _ |
| GHD-SI04 GHD-SI04 27/09/2018 soil Normal No Asbestos Detected | | | | | | | _ | | | | _ | - | _ | | <u> </u> | - | + | - | - | | | | - | | _ | | | | | _ | | | _ |
| GHD-SI05 GHD-SI05 27/09/2018 soil Normal No Asbestos Detected | | | | | | | _ | | | _ | _ | - | _ | | | - | + | - | - | | | | - | | _ | _ | | | | _ | | | _ |
| | | | | | | | + | | | | _ | _ | _ | | _ | - | + | - | - | | | | - | | _ | | | | | _ | | | - |
| | GHD-SI06 | GHD-SI06 | | 27/09/2018 | soil | Normal | | - | | _ | _ | _ | _ | No Asbestos Detected | <u> </u> | - | - | - | - | - | - | _ | - | - | - | - | - | - | - | - | - | - | - |



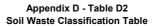


| GHD | | | | | | | | | | | Com | , toouit | Jiubi | c (mann | un nou | iai Gai | uciiiics | , | | | | | | | | | | | | | | | | | | | |
|------------------------|---------------------|----------------------------|-------------------|-------------|-------------|-----------------------|-----------------------|-------------------------|----------------|------------------|------------------|------------------|------------------------|-------------|---------------|------------|-------------------|-----------------|-----------------------|----------------------|---------------------|----------|-----------------------|-------------|---------|------------------------|-----------------|-------------|-------|-------------------------------|---|---|---|----------------------------------|--|---------|-------|
| | | | | | | :013 | | | | TRH | - NEPM | 1999 | | | | | | | | | | | PA | Hs | | | | | | | | | \Box | | | | |
| | | | | | | 3 (>C16-C34 Fraction) | 4 (>C34-C40 Fraction) | :C10-C40 (Sum of Total) | .6-C9 Fraction | :10-C14 Fraction | :15-C28 Fraction | :29-C36 Fraction | 210-C36 (Sum of Total) | cenaphthene | cenaphthylene | unthracene | ienz(a)anthracene | ienzo(a) pyrene | enzo[b+j]fluoranthene | ienzo(k)fluoranthene | enzo(g,h,i)perylene | .hrysene | oibenz(a,h)anthracene | luoranthene | luorene | ndeno(1,2,3-c,d)pyrene | laphthalene-PAH | henanthrene | yrene | AHs (Sum of total) - Lab calc | otal 8 PAHs (as BaP TEQ)(zero LOR) - Lab Calc | otal 8 PAHs (as BaP TEQ)(half LOR) - Lab Calc | otal 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc | organochlorine pesticides EPAVic | Other organochlorine pesticides EPAVic | .4-ррЕ | -внс |
| | | | | | | 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 | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg m | ng/kg |
| EQL | | | | | | 100 | 100 | 100 | 20 | 20 | 50 | 50 | 50 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.1 | 0.1 | 0.05 | ა.05 |
| CRC CARE 2011 Soil Dir | ect Contact Intrusi | ve Works | | | | 85000 | 120000 | | | | | | | | | | | | | | | | | | | | 29000 | | | | | | | | | | |
| CRC CARE 2011 Soil HS | L Vap.Int Intrusive | Works,0 to <2m,Sand | | | | | | | | | | | | | | | | | | | | | | | | | NL | | | | | | | | | | |
| CRC CARE 2011 Soil HS | L Vap.Int Intrusive | Works,2 to <4m,Sand | | | | | | | | | | | | | | | | | | | | | | | | | NL | | | | | | | | | | |
| NEPM 2013 Table 1A(1 |) HIL D Comm/Ind | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4000 | 40 | 40 | 40 | | | | |
| NEPM 2013 Table 1A(3 |) HSL D Comm/Ind | Soil for Vapour Intrusion, | Sand | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0-1m | | | | | | | | | | | | | | | | | | | | | | | | | | | NL | | | | | | | | | | |
| 1-2m | | | | | | | | | | | | | | | | | | | | | | | | | | | NL | | | | | | | | | | |
| 2-4m | | | | | | | | | | | | | | | | | | | | | | | | | | | NL | | | | | | | | | | |
| >4m | | | | | | | | | | | | | | | | | | | | | | | | | | | NL | | | | | | | | | | |
| Field_ID | Location_Code | Sample_Depth_Range | Sampled_Date_Time | Matrix_Type | Sample_Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GHD-BH1_0.5-0.6 | GHD-BH1 | 0.5-0.6 | 8/08/2018 | soil | Normal | <100 | <100 | <100 | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 1 | <0.5 | <0.5 | <0.5 | <0.5 | 0.9 | 1.9 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 < | 0.05 |
| DUP03 | GHD-BH1 | 0.5-0.6 | 8/08/2018 | soil | Field_D | <100 | <100 | <100 | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.8 | <0.5 | <0.5 | <0.5 | <0.5 | 0.7 | 1.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 < | <0.05 |
| GHD-BH1_2.0-2.1 | GHD-BH1 | 2-2.1 | 8/08/2018 | soil | Normal | <100 | <100 | <100 | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | - | - | - | - |
| GHD_BH2_1.9-2.35 | GHD-BH2 | 1.9-2.35 | 23/07/2018 | soil | Normal | <100 | <100 | - | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 < | 0.05 |
| DUP01 | GHD-BH2 | 1.9-2.35 | 23/07/2018 | soil | Field_D | <100 | <100 | - | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 < | 0.05 |
| GHD BH2 3.5-3.95 | GHD-BH2 | 3 5-3 95 | 23/07/2018 | soil | Normal | <100 | <100 | - T | <20 | <20 | <50 | <50 | <50 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | <0.5 | < 0.5 | <0.5 | < 0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | 0.6 | 12 | <0.1 | <0.1 | <0.05 < | :0.05 |

| Field_ID | Location_Code | Sample_Depth_Range | Sampled_Date_Time | Matrix_Type | Sample_Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|---------------|--------------------|-------------------|-------------|-------------|------|------|------|-----|-----|------|------|------|------|------|------|------|------|-------|------|------|-------|------|------|------|------|-------|------|------|------|------|-----|-----|------|------|-------|--------|
| GHD-BH1_0.5-0.6 | GHD-BH1 | 0.5-0.6 | 8/08/2018 | soil | Normal | <100 | <100 | <100 | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 1 | <0.5 | <0.5 | <0.5 | <0.5 | 0.9 | 1.9 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 |
| DUP03 | GHD-BH1 | 0.5-0.6 | 8/08/2018 | soil | Field_D | <100 | <100 | <100 | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | 0.8 | <0.5 | <0.5 | < 0.5 | <0.5 | 0.7 | 1.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 |
| GHD-BH1_2.0-2.1 | GHD-BH1 | 2-2.1 | 8/08/2018 | soil | Normal | <100 | <100 | <100 | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | - | - | - 1 | - |
| GHD_BH2_1.9-2.35 | GHD-BH2 | 1.9-2.35 | 23/07/2018 | soil | Normal | <100 | <100 | - | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 |
| DUP01 | GHD-BH2 | 1.9-2.35 | 23/07/2018 | soil | Field_D | <100 | <100 | - | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 |
| GHD_BH2_3.5-3.95 | GHD-BH2 | 3.5-3.95 | 23/07/2018 | soil | Normal | <100 | <100 | - | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 |
| DUP02 | GHD-BH2 | 3.5-3.95 | 23/07/2018 | soil | Field_D | <100 | <100 | - | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 |
| GHD-BH03_1.5-1.95 | GHD-BH3 | 1.5-1.95 | 13/07/2018 | soil | Normal | <100 | <100 | - | <20 | 24 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | < 0.05 |
| GHD-BH3_4.5-4.95 | GHD-BH3 | 4.5-4.95 | 13/07/2018 | soil | Normal | <100 | <100 | - | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 |
| GHD-BH3_6.0-6.45 | GHD-BH3 | 6-6.45 | 13/07/2018 | soil | Normal | <100 | <100 | - | <20 | 24 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | - | - | - 1 | - |
| GHD-BH4_1.5_1.95 | GHD-BH4 | 1.5-1.95 | 30/07/2018 | soil | Normal | <200 | <200 | <100 | <40 | <40 | <100 | <100 | <100 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.5 | 1.2 | 2.4 | <0.1 | <0.1 | <0.05 | <0.05 |
| GHD-BH4_15.0_15.45 | GHD-BH4 | 15-15.45 | 30/07/2018 | soil | Normal | 200 | <100 | 310 | <20 | 130 | 120 | 130 | 380 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | - | - | - | - |
| GHD-BH4_4.5_4.95 | GHD-BH4 | 4.5-4.95 | 30/07/2018 | soil | Normal | <100 | <100 | <100 | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 |
| GHD-BH5_1.6-2.05 | GHD-BH5 | 1.6-2.05 | 11/07/2018 | soil | Normal | <100 | <100 | - | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 |
| GHD-BH5_2.8-3.25 | GHD-BH5 | 2.8-3.25 | 11/07/2018 | soil | Normal | <100 | <100 | - | <20 | 28 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 |
| GHD-BH5_4.5-4.95 | GHD-BH5 | 4.5-4.95 | 11/07/2018 | soil | Normal | <100 | <100 | - | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | - | - | - | - |
| GHD-BH6_0.4-0.5 | GHD-BH6 | 0.4-0.5 | 27/09/2018 | soil | Normal | 110 | <100 | 110 | <20 | <20 | 65 | 73 | 138 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | - | - | - 1 | - |
| GHD-BH6_0.0-0.1 | GHD-BH6 | 0-0.1 | 27/09/2018 | soil | Normal | 150 | <100 | 150 | <20 | <20 | 82 | 110 | 192 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 |
| GHD-BH7_0.4-0.5 | GHD-BH7 | 0.4-0.5 | 27/09/2018 | soil | Normal | <100 | <100 | <100 | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | - | - | - 1 | - |
| GHD-BH7_0.9-1.0 | GHD-BH7 | 0.9-1 | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - 1 | - | - | - | - | - | - | - |
| GHD-BH7_0.0-0.1 | GHD-BH7 | 0-0.1 | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - 1 | - 1 | - | - | <0.1 | <0.1 | <0.05 | <0.05 |
| GHD-BH7_1.5-1.6 | GHD-BH7 | 1.5-1.6 | 27/09/2018 | soil | Normal | <100 | <100 | <100 | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | - | - | - 1 | - |
| GHD-BH7_1.9-2.0 | GHD-BH7 | 1.9-2 | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - 1 | - |
| GHD-SI01 | GHD-SI01 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - 1 | - | - | - | - | - | - 1 | - |
| GHD-SI02 | GHD-SI02 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - T | - |
| GHD-SI03 | GHD-SI03 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - 1 | - | - | - | - | - | - T | - |
| GHD-SI04 | GHD-SI04 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - 1 | - | - | - | - 1 | - | - 1 | |
| GHD-SI05 | GHD-SI05 | | 27/09/2018 | soil | Normal | - | - | - | - | - 1 | - | - 1 | - | - | - | - | - | - 1 | - | - | - | - | - | - 1 | - | - | - | - | - | - 1 | - | - | - | - 1 | - | - 1 | - |
| GHD-SI06 | GHD-SI06 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | [| - | - | - | - | - | - | - | - | - | | - | - | - | - | | - | - | - | - | - | - | - | | | - |



| | | | | | | | | | | | | | 0 | C Pesticio | les | | | | | | | | | | | | | | | PC | Bs | | | |
|------------------------------------|---------------------------------------|----------------------------|--------------------------|--------------|-------------------|---------|-------------------|---------|-----------|---------------|---------|---------|------------------------|----------------|----------------------|----------------------|-------------------|--------|-----------------|---------------|-----------------|------------|--------------------|------------------------|--------------|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|
| | | | | | | | | Π | | | | | | | | | | | | | | | | | | | | | | | | | | T |
| | | | | | | Adrin | Aldrin + Dieldrin | PBHC | Chlordane | д- ВИС | 4,4 DDD | 4,4 DDT | DDT+DDE+DDD - Lab Calc | Dieldrin | Endosulfan I (alpha) | Endosulfan II (beta) | ndosulfan Sulfate | indrin | Endrin aldehyde | Endrin ketone | ş-BHC (Lindane) | Heptachlor | Jeptachlor epoxide | - Hexachlorobenzene | Methoxychlor | Toxaphene | Arochlor 1016 | Arochlor 1221 | Arochlor 1232 | arochlor 1242 | arochior 1248 | Arochlor 1254 | Arochlor 1260 | PCBs (Total) |
| | | | | | | 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 |
| EQL | | | | | | 0.05 | 0.05 | _ | 0.1 | 0.05 | | 0.05 | | 0.05 | | | | 0.05 | 0.05 | | | | 0.05 | | 0.2 | 1 | 0.5 | 0.1 | 0.5 | | 0.5 | 0.5 | 0.5 | |
| CRC CARE 2011 Soil Dire | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CRC CARE 2011 Soil HSL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CRC CARE 2011 Soil HSL | | Works,2 to <4m,Sand | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NEPM 2013 Table 1A(1) | · · · · · · · · · · · · · · · · · · · | Soil for Vanous Interes's | Cand | | | | 45 | | 530 | | | | 3600 | | | | | 100 | | | | 50 | | 80 | 2500 | 160 | | | | | | | | 7 |
| 0-1m | HSL D COMM/IND | Soil for Vapour Intrusion, | Sand | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1-2m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | - |
| 2-4m | | | | | | _ | | | _ | | | | | | | | | | | | | | | | | | | | | | | | | \vdash |
| >4m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Field_ID | Location_Code | Sample_Depth_Range | Sampled_Date_Tim | e Matrix_Typ | e Sample_Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GHD-BH1_0.5-0.6 | GHD-BH1 | 0.5-0.6 | 8/08/2018 | soil | Normal | <0.05 | <0.05 | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | < 0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| DUP03 | GHD-BH1 | 0.5-0.6 | 8/08/2018 | soil | Field_D | <0.05 | <0.05 | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | < 0.05 | <0.05 | < 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | < 0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD-BH1_2.0-2.1 | GHD-BH1 | 2-2.1 | 8/08/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD_BH2_1.9-2.35 | GHD-BH2 | 1.9-2.35 | 23/07/2018 | soil | Normal | <0.05 | <0.05 | _ | <0.1 | <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 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| DUP01 | GHD-BH2 | 1.9-2.35 | 23/07/2018 | soil | Field_D | <0.05 | <0.05 | | <0.1 | <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 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD_BH2_3.5-3.95 DUP02 | GHD-BH2 GHD-BH2 | 3.5-3.95 3.5-3.95 | 23/07/2018 | soil | Normal Field D | <0.05 | <0.05 | _ | <0.1 | <0.05 | <0.05 | _ | <0.05 | <0.05 <0.05 | | <0.05 | <0.05 | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.2 | <1 | <0.5 <0.5 | <0.1 | <0.5 <0.5 | <0.5 <0.5 | <0.5 <0.5 | <0.5 <0.5 | <0.5 | <0.5 |
| GHD-BH03_1.5-1.95 | GHD-BH3 | 1.5-1.95 | 13/07/2018 | soil | Field_D Normal | <0.05 | <0.05 | _ | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | | <0.05 | <0.05 | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD-BH3_4.5-4.95 | GHD-BH3 | 4.5-4.95 | 13/07/2018 | soil | Normal | <0.05 | <0.05 | _ | <0.1 | <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 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD-BH3_6.0-6.45 | GHD-BH3 | 6-6.45 | 13/07/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-BH4_1.5_1.95 | GHD-BH4 | 1.5-1.95 | 30/07/2018 | soil | Normal | <0.05 | <0.05 | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | < 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD-BH4_15.0_15.45 | GHD-BH4 | 15-15.45 | 30/07/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - 1 | - | - | - | - | - |
| GHD-BH4_4.5_4.95 | GHD-BH4 | 4.5-4.95 | 30/07/2018 | soil | Normal | <0.05 | <0.05 | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | < 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | < 0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD-BH5_1.6-2.05 | GHD-BH5 | 1.6-2.05 | 11/07/2018 | soil | Normal | <0.05 | <0.05 | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD-BH5_2.8-3.25 | GHD-BH5 | 2.8-3.25 | 11/07/2018 | soil | Normal | <0.05 | <0.05 | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD-BH5_4.5-4.95 | GHD-BH5 | 4.5-4.95 | 11/07/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-BH6_0.4-0.5 | GHD-BH6 | 0.4-0.5 | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-BH6_0.0-0.1 | GHD-BH6 | 0-0.1 | 27/09/2018 | soil | Normal | <0.05 | <0.05 | <0.05 | <0.1 | <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 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD-BH7_0.4-0.5 | GHD-BH7 | 0.4-0.5 0.9-1 | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-BH7_0.9-1.0 GHD-BH7_0.0-0.1 | GHD-BH7 | 0.9-1 | 27/09/2018 27/09/2018 | soil | Normal | <0.05 | <0.05 | _ | - | <0.05 | | <0.05 | | | <0.05 | <0.05 | <0.05 | | <0.05 | | _ | | <0.05 | <0.05 | | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | |
| GHD-BH7_0.0-0.1 GHD-BH7_1.5-1.6 | GHD-BH7 | 1.5-1.6 | 27/09/2018 | soil | Normal | - 40.03 | - 0.03 | - 40.03 | - 0.1 | | | - 0.03 | - | - | - | - 0.03 | - | - 0.03 | | | - | | - | - | - 40.2 | - | - | | - | | | - | | - 0.5 |
| GHD-BH7_1.9-2.0 | GHD-BH7 | 1.9-2 | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | - | - | - | - | - | - | - | - | - | - |
| GHD-SI01 | GHD-SI01 | 1 | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-SI02 | GHD-SI02 | 1 | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-SI03 | GHD-SI03 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-SI04 | GHD-SI04 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-SI05 | GHD-SI05 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | GHD-SI06 | | 27/09/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |





| | | Field Parameters | Inc | organic | :s | Majo | r Ions | Asbestos | | | | Me | tals | | | | | | | BTEXN | 1 | | | | | TRH - I | NEPM 2 | 013 | |
|---|--------------|------------------|-------------------------------|----------------------------------|----------------------|----------|---------|--------------------------|---------|---------|-------------------|--------|-------|---------|--------|-------|---------|---------|--------------|------------|----------------|--------------|---------------------|------------------------|-----------------|---------------------------------|-------------------|------------------------|------------------------|
| | Resistivity* | pH (Field) | Electrical conductivity (lab) | Moisture Content (dried @ 103°C) | pH (aqueous extract) | Chloride | Sulfate | Asbestos Reported Result | Arsenic | Cadmium | Chromium (III+VI) | Copper | Lead | Mercury | Nickel | Zinc | Benzene | Toluene | Ethylbenzene | Xylene (o) | Xylene (m & p) | Xylene Total | Naphthalene (BTEXN) | F1 (C6-C10 minus BTEX) | C6-C10 Fraction | F2 (>C10-C16 minus Naphthalene) | >C10-C16 Fraction | F3 (>C16-C34 Fraction) | F4 (>C34-C40 Fraction) |
| | OHM.M | pH Units | μS/cm | % p | H Units | mg/kg | mg/kg | Comment | 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 n | ng/kg ı | mg/kg | mg/ |
| LL | 0.5 | 0.1 | 5 | 1 | 0.1 | 10 | 10 | | 2 | 0.4 | 5 | 5 | 5 | 0.1 | 5 | 5 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 0.5 | 20 | 20 | 50 | 50 | 100 | 100 |
| W EPA (2014) General Solid Waste CT1 (No Leaching) | | | | | | | | | 100 | 20 | 100 | | 100 | 4 | 40 | | 10 | 288 | 600 | | | 1000 | | | | | | | |
| V EPA (2014) Restricted Solid Waste CT2 (No Leaching) | | | | | | | | | 400 | 80 | 400 | | 400 | 16 | 160 | | 40 | 1152 | 2400 | | | 4000 | | | | | | | |

| Field_ID | Location_Code | Sample_Depth_Range | Sampled_Date_Time | Matrix_Type | Sample_Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|---------------|--------------------|-------------------|-------------|-------------|-----|-----|------|----|-----|----|-----|----------------------|-----|-------|-----|-----|-----|------|-----|-----|------|------|-------|------|------|------|------|-----|-----|------|------|------|------|
| GHD-BH1_0.5-0.6 | GHD-BH1 | 0.5-0.6 | 8/08/2018 | soil | Normal | - | 8.6 | - | 11 | - | - | - | No Asbestos Detected | 7.8 | <0.4 | 9.9 | <5 | <5 | <0.1 | <5 | 11 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 | <100 | <100 |
| DUP03 | GHD-BH1 | 0.5-0.6 | 8/08/2018 | soil | Field_D | - | - | - | 11 | - | - | - | - | 8 | <0.4 | 11 | 5.2 | <5 | <0.1 | <5 | 12 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 | <100 | <100 |
| GHD-BH1_2.0-2.1 | GHD-BH1 | 2-2.1 | 8/08/2018 | soil | Normal | - | 8.8 | - | 21 | - | - | - | - | 5.8 | <0.4 | 5.4 | <5 | 8.1 | <0.1 | <5 | 10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 | <100 | <100 |
| GHD_BH2_1.9-2.35 | GHD-BH2 | 1.9-2.35 | 23/07/2018 | soil | Normal | - | 7 | - | 13 | - | - | - | No Asbestos Detected | <2 | <0.4 | <5 | <5 | <5 | <0.1 | <5 | <5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 | <100 | <100 |
| DUP01 | GHD-BH2 | 1.9-2.35 | 23/07/2018 | soil | Field_D | - | - | - | 12 | - | - | - | - | <2 | <0.4 | 6.2 | <5 | <5 | <0.1 | <5 | <5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 | <100 | <100 |
| GHD_BH2_3.5-3.95 | GHD-BH2 | 3.5-3.95 | 23/07/2018 | soil | Normal | - | 5.1 | - | 14 | - | - | - | - | <2 | <0.4 | 5.5 | <5 | <5 | <0.1 | <5 | <5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 | <100 | <100 |
| DUP02 | GHD-BH2 | 3.5-3.95 | 23/07/2018 | soil | Field_D | - | - | - | 16 | - | - | - | - | <2 | <0.4 | 6.1 | <5 | <5 | <0.1 | <5 | <5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 | <100 | <100 |
| GHD-BH03_1.5-1.95 | GHD-BH3 | 1.5-1.95 | 13/07/2018 | soil | Normal | - | 6.8 | - | 12 | - | - | - | No Asbestos Detected | <2 | <0.4 | 5.3 | <5 | 12 | <0.1 | <5 | <5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 | <100 | <100 |
| GHD-BH3_4.5-4.95 | GHD-BH3 | 4.5-4.95 | 13/07/2018 | soil | Normal | - | 6.1 | - | 20 | - | - | - | - | 20 | <0.4 | 37 | <5 | 9.5 | <0.1 | 6.7 | 38 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 | <100 | <100 |
| GHD-BH3_6.0-6.45 | GHD-BH3 | 6-6.45 | 13/07/2018 | soil | Normal | - | 6.9 | - | 21 | - | - | - | - | <2 | < 0.4 | 27 | 6.3 | 15 | <0.1 | <5 | 15 | <0.1 | <0.1 | < 0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 | <100 | <100 |
| GHD-BH4_1.5_1.95 | GHD-BH4 | 1.5-1.95 | 30/07/2018 | soil | Normal | - | - | - | 43 | - | - | - | No Asbestos Detected | 18 | <0.4 | 18 | <5 | 5.7 | <0.1 | 7.6 | 16 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <1 | <40 | <40 | <100 | <100 | <200 | <200 |
| GHD-BH4_15.0_15.45 | GHD-BH4 | 15-15.45 | 30/07/2018 | soil | Normal | - | 4.9 | - | 16 | - | - | - | - | 3.8 | <0.4 | 30 | 11 | 12 | <0.1 | 5.2 | 10 | <0.1 | <0.1 | <0.1 | <0.1 | 0.2 | <0.3 | <0.5 | 29 | 29 | 110 | 110 | 200 | <100 |
| GHD-BH4_4.5_4.95 | GHD-BH4 | 4.5-4.95 | 30/07/2018 | soil | Normal | - | 4.7 | - | 10 | - | - | - | - | <2 | <0.4 | 6.7 | <5 | <5 | <0.1 | <5 | <5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 | <100 | <100 |
| GHD-BH5_1.6-2.05 | GHD-BH5 | 1.6-2.05 | 11/07/2018 | soil | Normal | - | 8.1 | - | 18 | - | - | - | No Asbestos Detected | <2 | 1 | 5.4 | <5 | 21 | <0.1 | <5 | 77 | <0.1 | <0.1 | < 0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 | <100 | <100 |
| GHD-BH5_2.8-3.25 | GHD-BH5 | 2.8-3.25 | 11/07/2018 | soil | Normal | - | 6.4 | - | 18 | - | - | - | - | 8.4 | <0.4 | 32 | <5 | 6.6 | <0.1 | <5 | 13 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 | <100 | <100 |
| GHD-BH5_4.5-4.95 | GHD-BH5 | 4.5-4.95 | 11/07/2018 | soil | Normal | - | 4.7 | - | 17 | - | - | - | - | 5.8 | < 0.4 | 13 | <5 | 8.7 | <0.1 | <5 | <5 | <0.1 | <0.1 | < 0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 | <100 | <100 |
| GHD-BH6_0.4-0.5 | GHD-BH6 | 0.4-0.5 | 27/09/2018 | soil | Normal | - | - | - | 11 | - | - | - | - | 4.7 | < 0.4 | 10 | <5 | 18 | <0.1 | <5 | 32 | <0.1 | <0.1 | < 0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 | 110 | <100 |
| GHD-BH6_0.0-0.1 | GHD-BH6 | 0-0.1 | 27/09/2018 | soil | Normal | 650 | - | 77 | 14 | 5.9 | 57 | 14 | No Asbestos Detected | 4.1 | < 0.4 | 8.3 | <5 | 23 | <0.1 | <5 | 39 | <0.1 | <0.1 | < 0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 | 150 | <100 |
| GHD-BH7_0.4-0.5 | GHD-BH7 | 0.4-0.5 | 27/09/2018 | soil | Normal | - | - | - | 11 | - | - | - | - | 4 | < 0.4 | 9.8 | <5 | 13 | <0.1 | <5 | 22 | <0.1 | <0.1 | < 0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 | <100 | <100 |
| GHD-BH7_0.9-1.0 | GHD-BH7 | 0.9-1 | 27/09/2018 | soil | Normal | 940 | - | 53 | 11 | 5.4 | 27 | 36 | No Asbestos Detected | - | - | - | - | - | - | - | - | - | - | - | - | - | - ! | - | - | - | - | - | - | - |
| GHD-BH7_0.0-0.1 | GHD-BH7 | 0-0.1 | 27/09/2018 | soil | Normal | 530 | - | 94 | 11 | 5.4 | 77 | 13 | No Asbestos Detected | - | - | - | - | - | - | - | - | - | - | - | - | - | - ! | - | - | - | - | - | - | - |
| GHD-BH7_1.5-1.6 | GHD-BH7 | 1.5-1.6 | 27/09/2018 | soil | Normal | - | - | - | 16 | - | - | - | - | 12 | < 0.4 | 25 | <5 | 16 | <0.1 | <5 | 5.8 | <0.1 | <0.1 | < 0.1 | <0.1 | <0.2 | <0.3 | <0.5 | <20 | <20 | <50 | <50 | <100 | <100 |
| GHD-BH7_1.9-2.0 | GHD-BH7 | 1.9-2 | 27/09/2018 | soil | Normal | 47 | - | 1100 | 18 | 4.8 | 42 | 140 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-SI01 | GHD-SI01 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | No Asbestos Detected | - | - | - | - | - | - | - | - | - | - | - | - | - | - ! | - | - | - | - | - | - | - |
| GHD-SI02 | GHD-SI02 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | No Asbestos Detected | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-SI03 | GHD-SI03 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | No Asbestos Detected | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-SI04 | GHD-SI04 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | No Asbestos Detected | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-SI05 | GHD-SI05 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | No Asbestos Detected | - | - | - | - | - | - | - | - | - | - | - | - | - | - 1 | -] | - | - | - | - | - | - |
| GHD-SI06 | GHD-SI06 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | No Asbestos Detected | - | - | - | - | - | - | - | - | - | - | - | - | - | - 1 | - | - | - | - | - | - | - |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



| | | | | | | | | TRH | - NEPM | 1999 | | | | | | | | | | | PAH | s | | | | | | | | | | | | | | |
|---------------------|-----------------------|--------------------|------------------|----------------|---------------|-------------------------|----------------|------------------|------------------|------------------|------------------------|--------------|----------------|------------|-------------------|-----------------|------------------------|----------------------|----------------------|----------|-----------------------|--------------|----------|-------------------------|-----------------|--------------|--------|--------------------------------|--|--|--|----------------------------------|--|---------|----------|---------|
| | | | | | | >C10-C40 (Sum of Total) | C6-C9 Fraction | C10-C14 Fraction | C15-C28 Fraction | C29-C36 Fraction | C10-C36 (Sum of Total) | Acenaphthene | Acenaphthylene | Anthracene | Benz(a)anthracene | Benzo(a) pyrene | Benzo[b+j]fluoranthene | Benzo(k)fluoranthene | Benzo(g,h,i)perylene | Chrysene | Dibenz(a,h)anthracene | Fluoranthene | Fluorene | Indeno(1,2,3-c,d)pyrene | Naphthalene-PAH | Phenanthrene | Pyrene | PAHs (Sum of total) - Lab calc | Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Calc | Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Calc | Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc | Organochlorine pesticides EPAVic | Other organochlorine pesticides EPAVic | 4,4-DDE | э-внс | Aldrin |
| | | | | | | 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 | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg m | ıg/kg r |
| EQL | | | | | | 100 | 20 | 20 | 50 | 50 | 50 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.1 | 0.1 | 0.05 | 0.05 | 0.05 |
| NSW EPA (2014) Gen | eral Solid Waste CT1 | (No Leaching) | | | | | 650 | | | | 10000 | | | | | 0.8 | | | | | | | | | | | | 200 | | | | | | | | |
| NSW EPA (2014) Rest | tricted Solid Waste C | T2 (No Leaching) | | | | | 2600 | | | | 40000 | | | | | 3.2 | | | | | | | | | | | | 800 | | | | | | | | |
| Field_ID | Location_Code | Sample_Depth_Range | Sampled_Date_Tin | ne Matrix_Type | e Sample_Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GHD-BH1_0.5-0.6 | GHD-BH1 | 0.5-0.6 | 8/08/2018 | soil | Normal | <100 | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 1 | <0.5 | <0.5 | <0.5 | <0.5 | 0.9 | 1.9 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 <0 | 0.05 < |
| DUP03 | GHD-BH1 | 0.5-0.6 | 8/08/2018 | soil | Field_D | <100 | | <20 | <50 | | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | <0.5 | 0.8 | <0.5 | <0.5 | <0.5 | <0.5 | 0.7 | | | | | <0.1 | <0.1 | <0.05 | <0.05 <0 | 0.05 |
| CUD BUIL 2 0 2 1 | CUD DUI | 2.2.1 | 0/00/2010 | aail | Managal | -100 | -20 | -20 | -50 | -50 | -50 | -0.5 | -0.5 | -0.5 | -0.5 | -0.5 | -0.5 | -0.5 | -0.5 | -0.5 | -0.5 | -0.5 | -0.5 | -0.5 | -O F | -0.5 | -O.F | -O.F | -O F | 0.6 | 4.2 | | | | | |

| Field_ID | Location_Code | Sample_Depth_Range | Sampled_Date_Time | Matrix_Type | Sample_Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|---------------|--------------------|-------------------|-------------|-------------|------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|------|-----|-----|------|-------|-------|-------|-------|-------|
| GHD-BH1_0.5-0.6 | GHD-BH1 | 0.5-0.6 | 8/08/2018 | soil | Normal | <100 | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 1 | <0.5 | <0.5 | <0.5 | <0.5 | 0.9 | 1.9 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 |
| DUP03 | GHD-BH1 | 0.5-0.6 | 8/08/2018 | soil | Field_D | <100 | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.8 | <0.5 | <0.5 | <0.5 | <0.5 | 0.7 | 1.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 |
| GHD-BH1_2.0-2.1 | GHD-BH1 | 2-2.1 | 8/08/2018 | soil | Normal | <100 | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | - | - | 1 - | - | - 1 | - |
| GHD_BH2_1.9-2.35 | GHD-BH2 | 1.9-2.35 | 23/07/2018 | soil | Normal | - | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 |
| DUP01 | GHD-BH2 | 1.9-2.35 | 23/07/2018 | soil | Field_D | - | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 |
| GHD_BH2_3.5-3.95 | GHD-BH2 | 3.5-3.95 | 23/07/2018 | soil | Normal | - | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 |
| DUP02 | GHD-BH2 | 3.5-3.95 | 23/07/2018 | soil | Field_D | - | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 |
| GHD-BH03_1.5-1.95 | GHD-BH3 | 1.5-1.95 | 13/07/2018 | soil | Normal | - | <20 | 24 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 |
| GHD-BH3_4.5-4.95 | GHD-BH3 | 4.5-4.95 | 13/07/2018 | soil | Normal | - | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 |
| GHD-BH3_6.0-6.45 | GHD-BH3 | 6-6.45 | 13/07/2018 | soil | Normal | - | <20 | 24 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | - | - | - | - 1 | - 1 | - |
| GHD-BH4_1.5_1.95 | GHD-BH4 | 1.5-1.95 | 30/07/2018 | soil | Normal | <100 | <40 | <40 | <100 | <100 | <100 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <0.5 | 1.2 | 2.4 | <0.1 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 |
| GHD-BH4_15.0_15.45 | GHD-BH4 | 15-15.45 | 30/07/2018 | soil | Normal | 310 | <20 | 130 | 120 | 130 | 380 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 | 1.2 | - | - | - | - 1 | - 1 | - |
| GHD-BH4_4.5_4.95 | GHD-BH4 | 4.5-4.95 | 30/07/2018 | soil | Normal | <100 | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 |
| GHD-BH5_1.6-2.05 | GHD-BH5 | 1.6-2.05 | 11/07/2018 | soil | Normal | - | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 |
| GHD-BH5_2.8-3.25 | GHD-BH5 | 2.8-3.25 | 11/07/2018 | soil | Normal | - | <20 | 28 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | < 0.1 | <0.05 | <0.05 | <0.05 | <0.05 |
| GHD-BH5_4.5-4.95 | GHD-BH5 | 4.5-4.95 | 11/07/2018 | soil | Normal | - | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | 0.6 | 1.2 | - | - | - | - | - | - |
| GHD-BH6_0.4-0.5 | GHD-BH6 | 0.4-0.5 | 27/09/2018 | soil | Normal | 110 | <20 | <20 | 65 | 73 | 138 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | 0.6 | 1.2 | - | - | - | - | - 1 | - |
| GHD-BH6_0.0-0.1 | GHD-BH6 | 0-0.1 | 27/09/2018 | soil | Normal | 150 | <20 | <20 | 82 | 110 | 192 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | 0.6 | 1.2 | <0.1 | < 0.1 | <0.05 | <0.05 | <0.05 | <0.05 |
| GHD-BH7_0.4-0.5 | GHD-BH7 | 0.4-0.5 | 27/09/2018 | soil | Normal | <100 | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | 0.6 | 1.2 | - | - | - | - | - 1 | - |
| GHD-BH7_0.9-1.0 | GHD-BH7 | 0.9-1 | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - 1 | - |
| GHD-BH7_0.0-0.1 | GHD-BH7 | 0-0.1 | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | <0.1 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 |
| GHD-BH7_1.5-1.6 | GHD-BH7 | 1.5-1.6 | 27/09/2018 | soil | Normal | <100 | <20 | <20 | <50 | <50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | < 0.5 | <0.5 | <0.5 | 0.6 | 1.2 | - | - | - | - | - | - |
| GHD-BH7_1.9-2.0 | GHD-BH7 | 1.9-2 | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | - |
| GHD-SI01 | GHD-SI01 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - 1 | - |
| GHD-SI02 | GHD-SI02 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - 1 | - |
| GHD-SI03 | GHD-SI03 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | - |
| GHD-SI04 | GHD-SI04 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | - |
| GHD-SI05 | GHD-SI05 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | - |
| GHD-SI06 | GHD-SI06 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - 7 | , -T | - |



| | | | | | | | | | | | 00 | C Pesticio | des | | | | | | | | | | | | | | | PC | Bs | | |
|-------------------------|-------------------|-------------------------------|-----------------|-----------------|-------------|-------|-----------|--------|--------|--------|------------------------|------------|---------------------|----------------------|-------------------|--------|-----------------|---------------|----------------|-----------|--------------------|------------------|--------------|----------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|
| | | | | | | . ВНС | Chlordane | -ВНС | ,4 DDD | ,4 ррт | DDT+DDE+DDD - Lab Calc | Dieldrin | ndosulfan I (alpha) | indosulfan II (beta) | ndosulfan Sulfate | ndrin | Endrin aldehyde | indrin ketone | -BHC (Lindane) | eptachlor | leptachlor epoxide | exachlorobenzene | nethoxychlor | oxaphene | rochlor 1016 | rochlor 1221 | rochlor 1232 | rochlor 1242 | rochlor 1248 | Arochior 1254 | rochlor 1260 |
| | | | | | | 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 |
| QL | | | | | | 0.05 | 0.1 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.2 | 1 | 0.5 | 0.1 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| ISW EPA (2014) General | | · • | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ISW EPA (2014) Restrict | ed Solid Waste CT | 2 (No Leaching) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Field_ID | Location Code | Sample Donth Page | Sampled Date Ti | imo Matrix Timo | Sample Time | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GHD-BH1 0.5-0.6 | GHD-BH1 | Sample_Depth_Range 0.5-0.6 | 8/08/2018 | soil | Normal | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| OUP03 | GHD-BH1 | 0.5-0.6 | 8/08/2018 | soil | Field D | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD-BH1 2.0-2.1 | GHD-BH1 | 2-2.1 | 8/08/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD BH2 1.9-2.35 | GHD-BH2 | 1.9-2.35 | 23/07/2018 | soil | Normal | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| DUP01 | GHD-BH2 | 1.9-2.35 | 23/07/2018 | soil | Field D | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | < 0.05 | <0.05 | <0.05 | <0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD BH2 3.5-3.95 | GHD-BH2 | 3.5-3.95 | 23/07/2018 | soil | Normal | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | < 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| DUP02 | GHD-BH2 | 3.5-3.95 | 23/07/2018 | soil | Field_D | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | < 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD-BH03_1.5-1.95 | GHD-BH3 | 1.5-1.95 | 13/07/2018 | soil | Normal | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | < 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD-BH3_4.5-4.95 | GHD-BH3 | 4.5-4.95 | 13/07/2018 | soil | Normal | <0.05 | <0.1 | < 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | < 0.05 | <0.05 | < 0.05 | <0.05 | <0.05 | < 0.05 | < 0.05 | < 0.05 | <0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD-BH3_6.0-6.45 | GHD-BH3 | 6-6.45 | 13/07/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-BH4_1.5_1.95 | GHD-BH4 | 1.5-1.95 | 30/07/2018 | soil | Normal | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | < 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD-BH4_15.0_15.45 | GHD-BH4 | 15-15.45 | 30/07/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - 1 | - | - | - | - | - | - 1 | - |
| GHD-BH4_4.5_4.95 | GHD-BH4 | 4.5-4.95 | 30/07/2018 | soil | Normal | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD-BH5_1.6-2.05 | GHD-BH5 | 1.6-2.05 | 11/07/2018 | soil | Normal | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD-BH5_2.8-3.25 | GHD-BH5 | 2.8-3.25 | 11/07/2018 | soil | Normal | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | < 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD-BH5_4.5-4.95 | GHD-BH5 | 4.5-4.95 | 11/07/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | -] | - | - | - | - | - | - | - |
| GHD-BH6_0.4-0.5 | GHD-BH6 | 0.4-0.5 | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-BH6_0.0-0.1 | GHD-BH6 | 0-0.1 | 27/09/2018 | soil | Normal | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD-BH7_0.4-0.5 | GHD-BH7 | 0.4-0.5 | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-BH7_0.9-1.0 | GHD-BH7 | 0.9-1 | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-BH7_0.0-0.1 | GHD-BH7 | 0-0.1 | 27/09/2018 | soil | Normal | <0.05 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.2 | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| GHD-BH7_1.5-1.6 | GHD-BH7 | 1.5-1.6 | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-BH7_1.9-2.0 | GHD-BH7 | 1.9-2 | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-SI01 | GHD-SI01 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-SI02 | GHD-SI02 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GHD-SI03 | GHD-SI03 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SHD-SI04 | GHD-SI04 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SHD-SI05 | GHD-SI05 | | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| SHD-SI06 | GHD-SI06 | 1 | 27/09/2018 | soil | Normal | - | - | - | - | - | - | - | - | - | - 1 | - 1 | | | - 1 | - 1 | - | - | - 1 | - | - | | - 1 | - 1 | | | - |



| | | | | Me | etals | | | | | | | BTEXN | ı | | | | | TRH - N | EPM 20 | 13 | | | T | RH - N | EPM 19 | 99 | | | | | | | PAH |
|--|--------------------|--------------------|------------------------------|-------------------|-----------------|--------------------|-------------------|-----------------|---------|---------|--------------|------------|----------------|--------------|---------------------|------------------------|-----------------|---------------------------------|-------------------|------------------------|------------------------|-------------------------|---------|------------------|--------|------------------------|--------------|----------------|---------------------------------|-----------------|------------------------|----------------------|-----------|
| | Arsenic (Filtered) | Cadmium (Filtered) | Chromium (III+VI) (Filtered) | Copper (Filtered) | Lead (Filtered) | Mercury (Filtered) | Nickel (Filtered) | Zinc (Filtered) | Benzene | Toluene | Ethylbenzene | Xylene (o) | Xylene (m & p) | Xylene Total | Naphthalene (BTEXN) | F1 (C6-C10 minus BTEX) | C6-C10 Fraction | F2 (>C10-C16 minus Naphthalene) | >C10-C16 Fraction | F3 (>C16-C34 Fraction) | F4 (>C34-C40 Fraction) | >C10-C40 (Sum of Total) | tion | C10-C14 Fraction | 827-6 | C.CC.36 (Sum of Total) | Acenaphthene | Acenaphthylene | Anthracene Benz(a)anthracene | Benzo(a) pyrene | Benzo[b+j]fluoranthene | benzo(g,h,i)perylene | |
| | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/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 μ | ιg/L με | g/L με | g/L με | g/L μg/ | L μg/L | μg/L μ | g/L μg/l | _ μg/L | μg/L μ | g/L μg/ | ′L μg/L μ |
| EQL | 0.001 | 0.0002 | 0.001 | 0.001 | 0.001 | 0.0001 | | | | 1 | 1 | 1 | 2 | 3 | 10 | 20 | 20 | 50 | 50 | 100 | 100 | 100 | 20 5 | 50 1 | 00 1 | 00 100 | | 1 | 1 1 | 1 | 1 | 1 1 | 1 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2-4m | | | | | | | | | 5000 | NL | NL | | | NL | NL | 6000 | | NL | | | | | | | | | | | | | | | |
| 4-8m | | | | | | | | | 5000 | NL | NL | | | NL | NL | 6000 | | NL | | | | | | | | | | | | | | | |
| >8m | | | | | | | | | 5000 | NL | NL | | | NL | NL | 7000 | | NL | | | | | | | | | | | | | | | |
| NEPM 2013 Table 1C GILs, Marine Waters | | 0.0007 | 0.0044 | 0.0013 | 0.0044 | 0.0001 | 0.007 | 0.015 | 500 | | | | | | 50 | | | | | | | | | | | | | | | | | | |
| Field_ID Location_Code Sampled_Date_Time Sample_Type Location_Tyj | oe . | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GHD-BH1-GW GHD-BH1 27/09/2018 Normal BH | 0.002 | <0.0002 | 0.004 | 0.009 | 0.003 | < 0.0001 | 0.02 | 0.044 | <1 | <1 | <1 | <1 | <2 | <3 | <10 | <20 | <20 | <50 | <50 | <100 | <100 | <100 | <20 < | 50 <1 | .00 <1 | .00 <10 | 0 <1 | <1 | <1 <1 | <1 | <1 < | 1 <1 | <1 |



| | | | | | | | | | | | | | | | | | | | 00 | C Pestic | ides | | | | | | | | | | | | | | | PCB | s | | |
|--|--------------|----------|-------------------------|-----------------|--------------|--------|--------------------------------|----------------------------------|--|---------|-------|--------|-------------------|-------|-----------|--------------|---------|---------|------------------------|----------|----------------------|----------------------|--------------------|--------|-----------------|---------------|-----------------|------------|--------------------|-------------------|--------------|-----------|---------------|---------------|---------------|-----|---------------|---------------|--------------|
| | Fluoranthene | Fluorene | Indeno(1,2,3-c,d)pyrene | Naphthalene-PAH | Phenanthrene | Pyrene | PAHs (Sum of total) - Lab calc | Organochlorine pesticides EPAVic | Other organochlorine pesticides EPAVic | 4,4-DDE | а-ВНС | Aldrin | Aldrin + Dieldrin | ь-внс | Chlordane | д-ВНС | 4,4 DDD | 4,4 DDT | DDT+DDE+DDD - Lab Calc | Dieldrin | Endosulfan I (alpha) | Endosulfan II (beta) | Endosulfan Sulfate | Endrin | Endrin aldehyde | Endrin ketone | g-BHC (Lindane) | Heptachlor | Heptachlor epoxide | Hexachlorobenzene | Methoxychlor | Toxaphene | Arochlor 1016 | Arochlor 1221 | Arochlor 1232 | ñ | Arochlor 1248 | Arochlor 1260 | PCBs (Total) |
| | 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 | μg/L | | дg/L µg | | /L μg/ |
| EQL | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 10 | 5 | 1 | 5 | 5 | 5 5 | 5 دُ | 1 |
| NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2-4m | | | | NL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4-8m | | | | NL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| >8m | | | | NL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NEPM 2013 Table 1C GILs, Marine Waters | | | | 50 | | | | | | | | | | | | | | | | | | | | 0.004 | | | | | | | | | | | | | | | |

| Field_ID | Location_Code | Sampled_Date_Time | e Sample_Typ | e Location_T | ype | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|---------------|-------------------|--------------|--------------|----------|----|---------|------|---------|---------|---------|---------|--------|--------|---------|---------|---------|---------|------|--------|---------|--------|--------|---------|-------|-------|----|-------|------|------|
| GHD-BH1-GW | GHD-BH1 | 27/09/2018 | Normal | BH | <1 <1 <1 | <1 | <1 <1 < | 1 <1 | <1 <0.1 | <0.1 <0 | .1 <0.1 | <0.1 <1 | 1 <0.1 | <0.1 < | <0.1 <0 | .1 <0.1 | <0.1 <0 | .1 <0.1 | <0.1 | <0.1 < | 0.1 <0. | l <0.1 | <0.1 < | 0.1 <0. | 1 <10 | <5 <1 | <5 | <5 <5 | <5 < | 5 <1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



| Field Duplicates (soil Filter: ALL | 1) | | SDG Field ID Sampled Date/Time | 9-Aug-18 GHD-BH1_0.5-0.6 8/08/2018 | 9-Aug-18 DUP03 8/08/2018 | RPD | 25-Jul-18 GHD_BH2_1.9-2.35 23/07/2018 | 25-Jul-18 DUP01 23/07/2018 | RPD | 25-Jul-18 GHD_BH2_3.5-3.95 23/07/2018 | 25-Jul-18 DUP02 23/07/2018 | RPD |
|---------------------------------------|---|-------------------------|--------------------------------------|--|--------------------------------|---------|---|----------------------------------|-----|---|----------------------------------|-----|
| Chem_Group | ChemName | Units | EQL | | | | | - 10 | | ļ.,, | - 10 | 10 |
| Inorganics | Moisture Content (dried @ 103°C) | % | 1 | 11 | 11 | 0 | 13 | 12 | 8 | 14 | 16 | 13 |
| Metals | Arsenic | mg/kg | 2 | 7.8 | 8 | 3 | <2 | <2 | 0 | <2 | <2 | 0 |
| | Cadmium | mg/kg | 0.4 | <0.4 | <0.4 | 0 | <0.4 | <0.4 | 0 | <0.4 | <0.4 | 0 |
| | Chromium (III+VI) | mg/kg | 5 | 9.9 | 11 | 11 | <5 | 6.2 | 21 | 5.5 | 6.1 | 10 |
| | Copper | mg/kg | | <5 | 5.2 | 4 | <5 | <5 | 0 | <5 | <5 | 0 |
| | Lead | mg/kg | | <5 | <5 | 0 | <5 | <5 | 0 | <5 | <5 | 0 |
| | Mercury Nickel | mg/kg mg/kg | 0.1 | <0.1 <5 | <0.1 <5 | 0 | <0.1 <5 | <0.1 <5 | 0 | <0.1 <5 | <0.1 <5 | 0 |
| | Zinc | mg/kg | | 11 | 12 | 9 | <5 | <5 | 0 | <5 | <5 | 0 |
| DTE:AL | | | | | | | | | | | | |
| BTEXN | Benzene Toluene | mg/kg mg/kg | 0.1 | <0.1 <0.1 | <0.1 <0.1 | 0 | <0.1 <0.1 | <0.1 <0.1 | 0 | <0.1 <0.1 | <0.1 <0.1 | 0 |
| | Ethylbenzene | mg/kg | 0.1 | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 |
| | Xylene (o) | mg/kg | | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 |
| | Xylene (m & p) | mg/kg | | <0.2 | <0.2 | 0 | <0.2 | <0.2 | 0 | <0.2 | <0.2 | 0 |
| | Xylene Total Naphthalene (BTEXN) | mg/kg | | <0.3 | <0.3 | 0 | <0.3 | <0.3 | 0 | <0.3 | <0.3 | 0 |
| | Naphthalene (BTEXN) | mg/kg | 0.5 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| TRH - NEPM 2013 | F1 (C6-C10 minus BTEX) | mg/kg | 20 | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 |
| | C6-C10 Fraction | mg/kg | 20 | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 |
| | F2 (>C10-C16 minus Naphthalene) >C10-C16 Fraction | mg/kg | 50 | <50 <50 | <50 <50 | 0 | <50 <50 | <50 <50 | 0 | <50 <50 | <50 <50 | 0 |
| | F3 (>C16-C34 Fraction) | mg/kg mg/kg | | <100 | <100 | 0 | <100 | <100 | 0 | <100 | <100 | 0 |
| | F4 (>C34-C40 Fraction) | mg/kg | 100 | <100 | <100 | 0 | <100 | <100 | 0 | <100 | <100 | 0 |
| | >C10-C40 (Sum of Total) | mg/kg | 100 | <100 | <100 | 0 | | | Ē | | | Ė |
| TRH - NEPM 1999 | C6-C9 Fraction | | | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 |
| 1101 - INFLIN 1999 | C10-C14 Fraction | mg/kg mg/kg | 20 | <20 | <20 | 0 | <20 | <20 | 0 | <20 | <20 | 0 |
| | C15-C28 Fraction | mg/kg | 50 | <50 | <50 | 0 | <50 | <50 | 0 | <50 | <50 | 0 |
| | C29-C36 Fraction | mg/kg | 50 | <50 | <50 | 0 | <50 | <50 | 0 | <50 | <50 | 0 |
| | C10-C36 (Sum of Total) | mg/kg | 50 | <50 | <50 | 0 | <50 | <50 | 0 | <50 | <50 | 0 |
| PAHs | Acenaphthene | mg/kg | 0.5 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| | Acenaphthylene | mg/kg | 0.5 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| | Anthracene | mg/kg | 0.5 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| | Benz(a)anthracene | mg/kg | | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| | Benzo(a) pyrene | mg/kg | | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| | Benzo[b+j]fluoranthene | mg/kg | | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| | Benzo(k)fluoranthene Benzo(g,h,i)perylene | mg/kg mg/kg | | <0.5 <0.5 | <0.5 <0.5 | 0 | <0.5 <0.5 | <0.5 <0.5 | 0 | <0.5 <0.5 | <0.5 <0.5 | 0 |
| | Chrysene | mg/kg | | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| | Dibenz(a,h)anthracene | mg/kg | 0.5 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| | Fluoranthene | mg/kg | 0.5 | 1 | 0.8 | 22 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| | Fluorene | mg/kg | 0.5 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| | Indeno(1,2,3-c,d)pyrene | mg/kg | 0.5 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| | Naphthalene-PAH | mg/kg | 0.5 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| | Phenanthrene Pyrene | mg/kg mg/kg | | <0.5 0.9 | <0.5 0.7 | 0 25 | <0.5 <0.5 | <0.5 <0.5 | 0 | <0.5 <0.5 | <0.5 <0.5 | 0 |
| | PAHs (Sum of total) - Lab calc | mg/kg | 0.5 | 1.9 | 1.5 | 24 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| | Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Calc | mg/kg | 0.5 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| | Total 8 PAHs (as BaP TEQ)(half LOR) - Lab Calc | mg/kg | 0.5 | 0.6 | 0.6 | 0 | 0.6 | 0.6 | 0 | 0.6 | 0.6 | 0 |
| | Total 8 PAHs (as BaP TEQ)(full LOR) - Lab Calc | mg/kg | 0.5 | 1.2 | 1.2 | 0 | 1.2 | 1.2 | 0 | 1.2 | 1.2 | 0 |
| OC Pesticides | Organochlorine pesticides EPAVic | mg/kg | 0.1 | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 |
| | Other organochlorine pesticides EPAVic | mg/kg | 0.1 | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 |
| | 4,4-DDE | mg/kg | | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 |
| | a-BHC Aldrin | mg/kg | | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 |
| | Aldrin Aldrin + Dieldrin | mg/kg mg/kg | 0.05 | <0.05 <0.05 | <0.05 <0.05 | 0 | <0.05 <0.05 | <0.05 <0.05 | 0 | <0.05 <0.05 | <0.05 <0.05 | 0 |
| | b-BHC | mg/kg | | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 |
| | Chlordane | mg/kg | 0.1 | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 |
| | d-BHC | mg/kg | 0.05 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 |
| | 4,4 DDD | mg/kg | | <0.05 | <0.05 | 0 | <0.05 | < 0.05 | 0 | <0.05 | <0.05 | 0 |
| | 4,4 DDT DDT+DDE+DDD - Lab Calc | mg/kg mg/kg | | <0.05 <0.05 | <0.05 <0.05 | 0 | <0.05 <0.05 | <0.05 <0.05 | 0 | <0.05 <0.05 | <0.05 <0.05 | 0 |
| | Dieldrin | mg/kg mg/kg | | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 |
| | Endosulfan I (alpha) | mg/kg | 0.05 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 |
| | Endosulfan II (beta) | mg/kg | 0.05 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 |
| | Endosulfan Sulfate | mg/kg | 0.05 | < 0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 |
| | Endrin | mg/kg | 0.05 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 |
| | Endrin aldehyde | mg/kg | | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 |
| | Endrin ketone | mg/kg | 0.05 | <0.05 <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 |
| | g-BHC (Lindane) Heptachlor | mg/kg mg/kg | | <0.05 | <0.05 <0.05 | 0 | <0.05 <0.05 | <0.05 <0.05 | 0 | <0.05 <0.05 | <0.05 <0.05 | 0 |
| | Heptachlor epoxide | mg/kg | 0.05 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 |
| | Hexachlorobenzene | mg/kg | 0.05 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 |
| | Methoxychlor | mg/kg | 0.2 | <0.2 | <0.2 | 0 | <0.2 | <0.2 | 0 | <0.2 | <0.2 | 0 |
| | Toxaphene | mg/kg | 1 | <1 | <1 | 0 | <1 | <1 | 0 | <1 | <1 | 0 |
| | Arochlor 1016 | mg/kg | 0.5 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| PCBs | Arochlor 1221 | mg/kg | | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 |
| PCBs | | | | | | | <0.5 | -0 E | 0 | <0.5 | <0.5 | |
| PCBs | Arochlor 1232 | mg/kg | 0.5 | <0.5 | <0.5 | 0 | | <0.5 | | | ~0.5 | 0 |
| PCBs | Arochlor 1232 Arochlor 1242 | mg/kg mg/kg | 0.5 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| PCBs | Arochlor 1232 Arochlor 1242 Arochlor 1248 | mg/kg mg/kg mg/kg | 0.5 0.5 | <0.5 <0.5 | <0.5 <0.5 | 0 | <0.5 <0.5 | <0.5 <0.5 | 0 | <0.5 <0.5 | <0.5 <0.5 | 0 |
| PCBs | Arochlor 1232 Arochlor 1242 | mg/kg mg/kg | 0.5 0.5 0.5 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |

[|] PrDs (10tal) | PrDs

GHD

Appendix D - Table D5 QAQC Rinsate Results Table

Field Blanks (water) Filter: ALL

| SDG | 2-Oct-18 |
|-------------------|------------|
| Field ID | SI-RIN01 |
| Sampled_Date/Time | 27/09/2018 |
| Sample Type | Rinsate |

| Chem_Group | ChemName | Units | EQL | |
|------------|--------------------------------|-------|-----|----|
| PAHs | Acenaphthene | μg/l | 1 | <1 |
| | Acenaphthylene | μg/l | 1 | <1 |
| | Anthracene | µg/l | 1 | <1 |
| | Benz(a)anthracene | μg/l | 1 | <1 |
| | Benzo(a) pyrene | µg/l | 1 | <1 |
| | Benzo[b+j]fluoranthene | μg/l | 1 | <1 |
| | Benzo(k)fluoranthene | μg/l | 1 | <1 |
| | Benzo(g,h,i)perylene | μg/l | 1 | <1 |
| | Chrysene | μg/l | 1 | <1 |
| | Dibenz(a,h)anthracene | μg/l | 1 | <1 |
| | Fluoranthene | μg/l | 1 | <1 |
| | Fluorene | μg/l | 1 | <1 |
| | Indeno(1,2,3-c,d)pyrene | μg/l | 1 | <1 |
| | Naphthalene-PAH | μg/l | 1 | <1 |
| | Phenanthrene | μg/l | 1 | <1 |
| | Pyrene | µg/l | 1 | <1 |
| | PAHs (Sum of total) - Lab calc | μg/l | 1 | <1 |

Appendix E – Laboratory Certificates

| 9 | | g n | |
|---|----|------|----|
| • | eu | rofi | ns |

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|----|---------|

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| | | | 11.14 | | | | | | | | (| 34/ | AIN | OF | CU | Śī | OD. | Y F | E (0 | O: | रा | | | | | | | | i i | | | |
|----------|---------------------------------|---|--------------|---------------|------------------|--------------------|---------------------|--------|----------|----------|-----------------|---|----------|---|--------|--------|----------|--------|-------------|----------|---|-----------------|---------------|---------------|----------|-----------------------------|-----------|---------------|-----------------|-----------|-----------------|------------|
| CLIEN. | T DETAILS | NAME OF STREET OF STREET | 0. 1 | | | age was consistent | 14(1) | | | | | CONTRACTOR OF THE PARTY OF THE | | 110000000000000000000000000000000000000 | | | | | | | | | | | | | | Pa | ge1 | of1_ | | |
| Compa | ny Name : GHD Pty Ltd | | | Coi | ntact l | Name : (| Clifton | Thom | psoo | n | | | | | | | Purchas | se Ord | er : 2 | 12742 | 5 | | | | | | COC Nun | iber : 1 | | | | |
| Office | Address : | | | Pro | ject N | lanager | : Just | in Kab | at | | | | | | | - | PROJEC | CT Nu | mber : | 2127 | 425 | | | | | | Eurofins | mgt quot | e ID : 170 | 808GHDN | | |
| L | evel 15, 133 Castlereagh Stree | t, Sydney NS | W 2000 | Em | ail for | results | : clifte | on.tho | mpsc | n@gh | d.com | | | | | _ | PROJEC | CT Na | ne : S | cotiar | nd Is | sland Ene | rgy Reliab | lity Projec | t | | Data outp | out format: | Esdat, P | DF | | |
| | | | | \vdash | | | | | | | | Anal | ytes | | | | | | | | | | | Sor | ne comm | on holding or further in | times (wi | th correct | preserva lab | ion). | | |
| Specia | Directions & Comments : | | | 400 | metals) | | | | | | Ú | | | | | | | | | | | | | Waters | | | | | s | oils | | |
| | | | | 64-2 | net | | | | | | 11.1 | X | | | | | | | | | | BTEX | , MAH, VO | С | | 14 days | BTEX | , MAH, VO | С | | 14 (| days |
| Special | Directions & Comments : | | | S49 | /8 n | | - | | | | 玉 | pHfox) | | | | | Ì | | | | | TRH, | PAH, Pher | ols, Pestic | ides | 7 days | TRH, | PAH, Phen | iols, Pesti | cides | | days |
| Zin loci | bag samples frozen overnight | and been on | ice all othe | - Y | (TRH/PAH/BTEXN/8 | 1 | | | | 1 | Suite (pH, | and p | | - | | | | | | | | Heavy | Metals | | | 6 months | Heavy | / Metals | | | 6 m | onths |
| | Please freeze zip lock bags for | | | | 빝 | | | | | | Su | far | | | | | | | | | | Mercu | ıry, CrVI | | | 28 days | Mercu | ıry, CrVI | | | 28 c | days |
| testing. | Thanks | | | /abs | 皇 | PCB | - | 1 | 6 | | € € | (pHf | | | | | | | | | 1 | Micro | oiological te | esting | | 24 hours | Microl | biological te | sting | | 72 h | hours |
| | | | | nce. | PA | 1 ~ 1 | | | 62-92 | | SSi/ | en | | İ | 1 | | | | | | | BOD, | Nitrate, Ni | rite, Total I | ۷ | 2 days | Anion | S | | | 28 c | days |
| | | | | ese | 품 | OCP | | | ő | | Aggressivity (| Screen | | | | | | | | | | Solids | - TSS, TD | S etc | | 7 days | SPOC | CAS, pH Fie | eld and FC |)X, CrS | 24 h | hours |
| Furofin | s mgt DI water batch number: | | | <u>a</u> □ | E | 9 | | | TPH | | Ag | Sp | | | | | | | | | | Ferro | ıs iron | | | 7 days | ASLP | , TCLP | | | 7 da | ays |
| Luiomi | a mgc Di water batter number. | I Was Min and | W | _ so | B | B13 | as | | - | | L2 | Field | | İ | 1 | | | | | | | | | | | | | | | | | |
| | Sample ID | Date | Matrix | Asbest | O) | Suite | 8 metals | BTEX | BTEX | TCLP | Suite Cl. Re | PH-F | | | | | | | | | | Containe 1LP | 250P | 125P | 1LA | 40mL vial | 125mL A | Jar | bag | Samp | ole comments | ; : |
| - 1 | GHD-BH03 1.5 1.95 | 13/07/2018 | soil | 4 | 10) | 0) | 100 | += | ш. | | 0,0 | X | \vdash | - | + | | _ | ┿ | + | - | _ | 121 | 2001 | 1201 | 167 | 40IIIE VIAI | 120ME A | 1 | 1 | | | |
| - 1 | GHD-BH03 2.9 3.35 | 13/07/2018 | soil | + | + | | \dashv | + | - | | _ | X | | | - | | | + | | \vdash | | | | | | | | 1 | 1 | | | |
| 3 | GHD-BH3 4.5 4.95 | 13/07/2018 | soil | + | +- | \vdash | + | + | \vdash | \vdash | | X | | \dashv | 1 | | \dashv | +- | | \vdash | _ | | | | | | | 1 | 1 | | | |
| 4 | GHD-BH3 6.0 6.45 | 13/07/2018 | soil | | +- | \vdash | \dashv | - | | | + | X | | \top | | | | | \top | | | | · | | | 1 | | | 1 | | | |
| 5 | GHD-BH3 7.5 7.95 | 13/07/2018 | soil | \top | 1 | | + | + | | | | X | | \neg | _ | | | 1 | | | | | | | | | | | 1 | | | |
| 6 | GHD-BH5 1.6 2.05 | 11/07/2018 | soil | _ | | \vdash | _ | 1 | | | _ | X | | | | | | + | \Box | \Box | | | | | | | | 1 | 1 | | | |
| 7 | GHD-BH5 2.8 3.25 | 11/07/2018 | soil | | \top | | | | | | | Х | | | | | | \top | | | | | | - | | | | 1 | 1 | | | |
| 8 | GHD-BH5_4.5_4.95 | 11/07/2018 | soil | 1 | | | | | | | | X | | | | | | | | | | | | | | | | 1 | 1 | | | |
| 9 | GHD-BH5_6.0_6.45 | 11/07/2018 | soil | \top | \top | | | | | | | Х | | | | | | | | | | | | | | | | 1 | 1 | | | |
| 10 | GHD-BH5_7.5_7.95 | 11/07/2018 | soil | | | | | | | | | X | | | | | | | | | | | | | | | | 1 | 1 | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | RIN1 | 13/07/2018 | soil | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | TRIP1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | BLANK1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | Ш | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | War - A - A - A - A - A - A - A - A - A - | | | | ! Lab | orator | y Staf | f | | | L | | | Tur | n arou | and time | e | | | | | | | Method C | of Shipmen | ıt | | | Temperatu | ure on arrival: | : |
| Relinq | uished By: Clifton Thompson | | Rece | ived E | By: | lile | ·W | , | | | | | | | = | 1 | | ~-7 | | | | □ с | ourier | | | | | | | | | |
| Date & | Time: 18:00, 13/07/2018 | , | Date | & Tim | ie: | 3/07 | 2/19 | 3 | 8: | 371 | Avi | 1 DA | Υ 🗌 | 2 D/ | \Y [_] | ! | 3 DAY | | | | | | | ered | | | | | | Report nu | mber: | : |
| Signat | ure: | | Sign | ature: | 1/2 | 11/ | $\frac{11^{3}}{11}$ | | | ij | | 5 DA | Y 🗸 | 10 0 | YAY | | Other: | | | | ☑ Hand Delivered☑ PostalCourier Consignment # : | | | | | | | | #6 | 04671 | | |

Signature:



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2 Kingston Town Close, Oakleigh, VIC 3166 Phone: +613 8564 5000 Fax: +613 8564 5090 Email: enquiries.melb@mgtlabmark.com.au

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|---|---|------------------------------------|-----------------|----------|--|---------------------|------------------|------------|----------|---|-----------------------------------|--------------------------|------|---------|----------|--------------------------------|------------|--------------|--------------------------------------|--------------|-------------|--------------|-----------|---------------|--------------------------------------|------------|------------|-----------|-----------|---------|
| | T DETAILS | | | | | | | | | | | | | | | | | | | | | | | | | P | age1_ | of1_ | | |
| Comp | any Name : GHD Pty Ltd | | | Con | tact I | Name : | Clifton | Thon | psoor | n | | | | | | Purch | nase Or | der : 21 | 27425 | | | | | | COC Number : 1 | | | | | |
| Office | Address: | | | Pro | ject M | lanager | : Justi | n Kal | oat | | | PROJECT Number : 2127425 | | | | | | | Eurofins mgt quote ID : 170808GHDN | | | | | | | | | | | |
| L | evel 15, 133 Castlereagh Stree | et, Sydney NS | W 2000 | Ema | all for results : clifton.thompson@ghd.com | | | | | PROJECT Name : Scotland Island Energy Reliability Project | | | | | | Data output format: Esdat, PDF | | | | | | | | | | | | | | |
| | | | | | _ | | | _ | | | | Analyte | ne. | | | | _ | | _ | Т | | So | me comm | on holding | g times (with correct preservation). | | | | - | |
| Specia | al Directions & Comments : | | | - | | | _ | | | _ | | Allalyte | 75 | | - | | _ | | _ | - | | | F | or further in | formation c | ontact the | lab | | | |
| орсск | a birodons a comments . | | | 2007 | metals) | | | | | | EC, | | | | | 11 | | | | | | Waters | | | | | Sc | oils | | |
| | | | | 964- | me | | | | 1 1 | | , E | pHfox) | | | | | | | | BTEX | , MAH, VC | C | | 14 days | BTEX, | MAH, VO | C | | 14 | 4 days |
| Specia | pecial Directions & Comments : Ip lock bag samples frozen overnight and been on ice all other mes. Please freeze zip lock bags for possible future SPOCAS sisting. Thanks Policy Policy Policy Policy | | | | | | | Suite (pH, | 됩 | 1 | | | | | | | TRH, | PAH, Pher | nols, Pesti | cides | 7 days | TRH, | PAH, Pher | nols, Pestic | ides | | 4 days | | | |
| Zip lock bag samples frozen overnight and been on ice all other | | | | (e) | X | | | | | | i e | P | | | | 1 1 | | 1 1 | | Heav | y Metals | | | 6 months | Heavy | Metals | | | 6 | months |
| times. Please freeze zip lock bags for possible future SPOCAS | | | e SPOCAS | sen | 318 | m | | | | | S | (pHf and | | | | | | 1 1 | | Mercu | ıry, CrVI | | | 28 days | Mercu | ry, CrVI | | | 28 | 3 days |
| testing. Thanks | | | a/ab | Ī | PCB | | | 60 | | 4 kity | <u>a</u> | | | | 1 1 | | 1 1 | | Micro | biological t | esting | | 24 hours | Microb | oiological te | esting | | 72 | 2 hours | |
| | | | | ence | /P/ | _ | | | 0-90 | | SSS | e l | | | | 1 1 | | | | BOD, | Nitrate, Ni | trite, Total | N | 2 days | Anions | 3 | | | 28 | 3 days |
| | | | | pres | F | OCP | | | 일 | | ity, | Screen | | | | 1 1 | | | | | - TSS, TE | OS etc | | 7 days | SPOC | AS, pH Fi | eld and FO | X, CrS | 24 | 4 hours |
| Eurofin | s mgt DI water batch number: | | | 0 (0 | B7 (T | B13 (| <u>s</u> | | TPH | | L2 Aggressivity (esistivity, S04) | Field S | | | | | | | | Ferro | us iron | | | 7 days | ASLP, | TCLP | | | 7 | days |
| | Sample ID | Date | Matrix | estos | Suite B | Suite B | 8 metals | BTEX | BTEX/ | TCLP | Suite L Cl, Res | - 1 | | | | | | | | Containe | rs: | | | | _ | - | | | | |
| | | | mauix | Ask | | | 8 | BT | B | 입 | Su Ci, | 표 | | | | | | | | 1LP | 250P | 125P | 1LA | 40mL vial | 125mL A | Jar | bag | Samp | le commen | is: |
| 1 | GHD-BH03_1.5_1.95 | 13/07/2018 | soil | X | X | X | | | | | | X | | | | | | | | | | | | | | 1 | 1 | | | |
| 2 | GHD-BH03_2.9_3.35 | 13/07/2018 | soil | | | | - | | | | | X | | | | | | | | | | | | | | 1 | 1 | | | - 1 |
| 3 | GHD-BH3_4.5_4.95 | 13/07/2018 | soil | | | X | | | | | | X | | | | | | | | | - | - | | | | 1 | 1 | | | |
| 4 | GHD-BH3_6.0_6.45 | 13/07/2018 | soil | \vdash | X | | | | | | | X | | | | | | | | | | | | | | | 1 | | | |
| 5 | GHD-BH3_7.5_7.95 | 13/07/2018 | soil | \perp | | | | | | | | X | | | | | | | | | | | | | | | 1 | | | |
| 6 | GHD-BH5_1.6_2.05 | 11/07/2018 | soil | Х | | X | | | | | | X | | | | | | | | | | | | | | 1 | 1 | | | |
| 7 | GHD-BH5_2.8_3.25 | 11/07/2018 | soil | | X | X | | | | | | X | | | | | | | | | | | | | | 1 | 1 | | | |
| 8 | GHD-BH5_4.5_4.95 | 11/07/2018 | soil | | X | | | | | | | X | | | | | | | | | | | | | | 1 | 1 | | | |
| 9 | GHD-BH5_6.0_6.45 | 11/07/2018 | soil | | | | | | | | | X | | | | | | | | | | | | | | 1 | 1 | | | |
| 10 | GHD-BH5_7.5_7.95 | 11/07/2018 | soil | | | | - | | | _ | | X | _ | \perp | | | _ | | | | | | | | | 1 | 1 | | | |
| 11 | DINA | | 20.41 | | | | + | | | - | | - | - | + | - | | - | \vdash | _ | | | | | | | | | | | |
| 12 | RIN1 TRIP1 | 13/07/2018 | soil | - | | | + | - | \vdash | + | | - | - | ++ | - | | - | \vdash | - | - | | | | - | | | | | | |
| 13 | BLANK1 | | | \vdash | | | + | - | \vdash | - | - | + | + | ++ | - | | - | | - | | | | | - | | | | | | |
| 14 | BLANKT | | | \vdash | | - | + | | - | - | | - | - | + | + | | - | | - | - | | | | | | | | | | |
| 15 | | | | | | | - | | - | - | | - | - | + | - | - | + | - | _ | - | | | | | | | | | | |
| 10 | | | | _ | | 1.0 | | C4-6 | | | | _ | | | Turn are | ound tir | me | | _ | - | | | | | | | | Tomporetu | | |
| Relinquished By: Clifton Thompson Received | | Laboratory Staff Ved By: Q.TIMBA | | | | | Turn around time | | | | Method Of Shipment Courier | | | | | | remperatui | re on arriva | | | | | | | | | | | | |
| Date & Time : 18:00, 13/07/2018 Date & | | | 16/7/18 11:06AM | | | | | | | 2 DAY | | 3 DAY | | | | ✓ Hand Delivered □ Postal | | | | | | Report num | nber: | 2/ | | | | | | |
| Signature: Signature: | | | | | | 5 DAY 10 DAY Other: | | | | | Courier Consignment #: | | | | | 60+6+1 | | | | | | | | | | | | | | |



Melbourne Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone: +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

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ABN - 50 005 085 521

e.mail: EnviroSales@eurofins.com

web: www.eurofins.com.au

Sample Receipt Advice

Company name: **GHD Pty Ltd NSW**

Contact name: Clifton Thompson

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT Project name:

Project ID: 2127425 COC number: Not provided

Turn around time: 5 Day

Jul 13, 2018 8:37 PM Date/Time received:

Eurofins | mgt reference: 607671

Sample information

- \mathbf{V} A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- \mathbf{V} Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt: 4.4 degrees Celsius.
- \mathbf{V} All samples have been received as described on the above COC.
- \square COC has been completed correctly.
- \square Attempt to chill was evident.
- \mathbf{V} Appropriately preserved sample containers have been used.
- \mathbf{V} All samples were received in good condition.
- \mathbf{V} Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- \mathbf{V} Appropriate sample containers have been used.
- \mathbf{V} Sample containers for volatile analysis received with zero headspace.
- \boxtimes Split sample sent to requested external lab.
- \boxtimes Some samples have been subcontracted.
- Custody Seals intact (if used). Notes^{N/A}

GHD-BH5 9.0-9.15 Sample received extra (sample bag), sample placed on hold.|totals21| met13t|

Contact notes

If you have any questions with respect to these samples please contact:

Nibha Vaidya on Phone: +61 (2) 9900 8400 or by e.mail: NibhaVaidya@eurofins.com

Results will be delivered electronically via e.mail to Clifton Thompson - Clifton.Thompson@ghd.com.



Environmental Laboratory Soil Contamination Analysis

NATA Accreditation Stack Emission Sampling & Analysis Trade Waste Sampling & Analysis Groundwater Sampling & Analysis







Certificate of Analysis





NATA Accredited Accreditation Number 1261 Site Number 18217

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

GHD Pty Ltd NSW Level 15, 133 Castlereagh Street Sydney **NSW 2000**

Clifton Thompson Attention: Report 607671-AID

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT **Project Name**

Project ID 2127425 **Received Date** Jul 13, 2018 **Date Reported** Jul 23, 2018

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 subsampling 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 subsampled for trace analysis, in accordance with AS 4964-2004.

Bonded asbestoscontaining 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 AS4964 method for inhomogeneous samples is around 0.1 g/kg (0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis where required, this is considered to be at the nominal reporting limit of 0.01 % (w / w). The examination of large sample sizes(500 mL is recommended) may improve the likelihood of identifying ACM in the > 2mm fraction. The NEPM screening level of 0.001 % (w / w) asbestos in soil for FA(friable asbestos) and AF(asbestos fines) then applies where they are able to be quantified by gravimetric procedures. This quantitative screening is not generally applicable to FF(free fibres) and results of Trace Analysis are referred.

NOTE: NATA News March 2014, p.7, states in relation to AS4964: "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". Accordingly, NATA Accreditation does not cover the performance of this service (indicated with an asterisk). This report is consistent with the analytical procedures and reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended) and the Western Australia Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia, 2009, including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil, June 2011.

Report Number: 607671-AID







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

Project Name SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID 2127425

Date Reported: Jul 23, 2018

Date Sampled Jul 11, 2018 to Jul 13, 2018

Report 607671-AID

| Client Sample ID | Eurofins mgt Sample No. | Date Sampled | Sample Description | Result |
|-------------------|--|--------------|--|--|
| GHD-BH03_1.5-1.95 | 18-JI16677 | Jul 13, 2018 | Sample consisted of: Grey coarse grain soil and rocks | No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No respirable fibres detected. |
| GHD-BH5_1.6-2.05 | GHD-BH5_1.6-2.05 18-JI16682 Jul 11, 2018 | | Sample consisted of: Beide coarse grain soil and rocks | No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No respirable fibres detected. |

Page 2 of 8 ABN: 50 005 085 521 Telephone: +61 2 9900 8400 Report Number: 607671-AID



Sample History

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

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.

DescriptionTesting SiteExtractedHolding TimeAsbestos - LTM-ASB-8020SydneyJul 16, 2018Indefinite

Report Number: 607671-AID



ABN - 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Order No.:

Report #:

Melbourne 3-5 Kingston Town Close

Sydney Unit F3, Building F Oakleigh VIC 3166 16 Mars Road Phone: +61 3 8564 5000 Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 1254 & 14271 NATA # 1261 Site # 18217

Brisbane

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Perth 2/91 Leach Highway Kewdale WA 6105 Phone: +61 8 9251 9600 NATA # 1261 Site # 23736

Company Name: GHD Pty Ltd NSW

Address: Level 15, 133 Castlereagh Street

Sydney

Phone: Fax:

607671 02 9239 7100

02 9239 7199

Received: Jul 13, 2018 8:37 PM Due: Jul 23, 2018

Priority: 5 Day

Contact Name: Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

NSW 2000

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project Name: Project ID: 2127425

| | | Sa | | Asbestos - AS4964 | HOLD | HOLD | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 | | |
|------|-----------------------|--------------|------------------|-------------------|-------------|------|----------------------------------|--------------------------|--------------|-------------------------|---|---|
| Melb | ourne Laborato | | | | | | | | | | | |
| | ney Laboratory | | Х | | Х | | Х | Х | Х | | | |
| | bane Laboratory | | | | | | Х | | Х | | | |
| | h Laboratory - N | | 36 | | | | | | | | | |
| | rnal Laboratory | | | | 1 | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | | |
| 1 | GHD- BH03_1.5-1.95 | Jul 13, 2018 | | Soil | S18-JI16677 | х | | | Х | Х | Х | х |
| 2 | GHD- BH03_2.9-3.35 | Jul 13, 2018 | | Soil | S18-JI16678 | | | | Х | | | |
| 3 | GHD- BH3_4.5-4.95 | Jul 13, 2018 | _ | Soil | S18-JI16679 | | | | Х | Х | Х | х |
| 4 | GHD- BH3_6.0-6.45 | Jul 13, 2018 | | Soil | S18-JI16680 | | | | Х | | Х | х |
| 5 | GHD- BH3_7.5-7.95 | Jul 13, 2018 | | Soil | S18-JI16681 | | | | Х | | | |
| 6 | GHD- | Jul 11, 2018 | | Soil | S18-JI16682 | Х | | | Х | Х | Х | Х |

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 ABN: 50 005 085 521 Telephone: +61 2 9900 8400

Report Number: 607671-AID

Page 4 of 8



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Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217

Brisbane 1/21 Smallwood Place

Perth 2/91 Leach Highway Kewdale WA 6105 Murarrie QLD 4172 Phone: +61 7 3902 4600 NATA # 1261 Site # 20794 NATA # 1261

Phone: +61 8 9251 9600 Site # 23736

Company Name:

GHD Pty Ltd NSW

Address:

Level 15, 133 Castlereagh Street

Sydney

NSW 2000

Project Name:

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID: 2127425

Order No.: Received: Jul 13, 2018 8:37 PM

Report #: 607671 Due: Jul 23, 2018 Phone: 02 9239 7100 Priority: 5 Day

02 9239 7199 **Contact Name:** Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| | | | mple Detail | | | Asbestos - AS4964 | HOLD | HOLD | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 |
|------|----------------------|-----------------|-------------|-------|-------------|-------------------|------|------|----------------------------------|--------------------------|--------------|-------------------------|
| | bourne Laborate | | | 271 | | | | | | | | |
| | ney Laboratory | | | | | Х | | Х | | Х | Х | Х |
| | bane Laborator | | | | | | Х | | Х | | | |
| Pert | h Laboratory - N | NATA Site # 237 | 36 | 1 | | | | | | | | |
| | BH5_1.6-2.05 | | | | | | | | | | | |
| 7 | GHD- BH5_2.8-3.25 | Jul 11, 2018 | | Soil | S18-JI16683 | | | | х | х | х | Х |
| 8 | GHD- BH5_4.5-4.95 | Jul 11, 2018 | | Soil | S18-JI16684 | | | | х | | х | Х |
| 9 | GHD- BH5_6.0-6.45 | Jul 11, 2018 | | Soil | S18-JI16685 | | | | Х | | | |
| 10 | GHD- BH5_7.5-7.95 | Jul 11, 2018 | | Soil | S18-JI16686 | | | | Х | | | |
| 11 | RIN1 | Jul 13, 2018 | | Water | S18-JI16687 | | | Х | | | | |
| 12 | TRIP1 | Jul 11, 2018 | | Soil | S18-JI16688 | | | Х | | | | |
| 13 | BLANK1 | Jul 11, 2018 | | Soil | S18-JI16689 | | | Х | | | | |
| 14 | TRIP SPIKE LAB | Jul 11, 2018 | | Soil | S18-JI16690 | | | Х | | | | |

Page 5 of 8



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Perth 2/91 Leach Highway Kewdale WA 6105 Phone: +61 8 9251 9600 NATA # 1261 Site # 23736

Company Name: GHI

GHD Pty Ltd NSW

Address:

Level 15, 133 Castlereagh Street

Sydney

NSW 2000

Project Name: Project ID: SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

2127425

 Order No.:
 Received:
 Jul 13, 2018 8:37 PM

 Report #:
 607671
 Due:
 Jul 23, 2018

 Due:
 Jul 23, 2018

 Priority:
 5 Day

Contact Name: Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| | | Sa | mple Detail | | | Asbestos - AS4964 | HOLD | HOLD | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 |
|------|----------------------|-----------------|--------------|------|-------------|-------------------|------|------|----------------------------------|--------------------------|--------------|-------------------------|
| Melk | ourne Laborato | ory - NATA Site | # 1254 & 142 | 271 | | | | | | | | |
| Syd | ney Laboratory | - NATA Site # 1 | 8217 | | | Х | | Х | | Х | Х | Х |
| Bris | bane Laboratory | y - NATA Site # | 20794 | | | | Х | | Х | | | |
| Pert | h Laboratory - N | IATA Site # 237 | 36 | | | | | | | | | |
| 15 | GHD- BH5_9.0-9.15 | Jul 11, 2018 | | Soil | S18-JI16691 | | Х | | | | | |
| Test | Counts | | | | | 2 | 5 | 5 | 10 | 4 | 6 | 6 |

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 ABN: 50 005 085 521 Telephone: +61 2 9900 8400 Page 6 of 8



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. This report replaces any interim results previously issued.

Holding Times

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

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

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: weight for weight basis grams per kilogram
Filter loading: fibres/100 graticule areas

Reported Concentration: fibres/mL Flowrate: L/min

Terms

ΑF

Date Reported: Jul 23, 2018

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis

LOR Limit of Reporting
COC Chain of Custody
SRA Sample Receipt Advice

ISO International Standards Organisation

AS Australian Standards

WA DOH Western Australia Department of Health

NOHSC National Occupational Health and Safety Commission

ACM Bonded asbestos-containing material means any material containing more than 1% asbestos and comprises asbestos-containing-material which is in sound condition,

although possibly broken or fragmented, and where the asbestos is bound in a matrix such as cement or resin. Common examples of ACM include but are not limited to: pipe and boiler insulation, sprayed-on fireproofing, troweled-on acoustical plaster, floor tile and mastic, floor linoleum, transite shingles, roofing materials, wall and ceiling plaster, ceiling tiles, and gasket materials. This term is restricted to material that cannot pass a 7 mm x 7 mm sieve. This sieve size is selected because it approximates the thickness of common asbestos cement sheeting and for fragments to be smaller than this would imply a high degree of damage and hence potential

for fibre release

FA FA comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. This type of friable asbestos

is defined here as asbestos material that is in a degraded condition such that it can be broken or crumbled by hand pressure. This material is typically unbonded or

was previously bonded and is now significantly degraded (crumbling).

PACM Presumed Asbestos-Containing Material means thermal system insulation and surfacing material found in buildings, vessels, and vessel sections constructed no later

than 1980 that are assumed to contain greater than one percent asbestos but have not been sampled or analyzed to verify or negate the presence of asbestos.

Asbestos fines (AF) are defined as free fibres, or fibre bundles, smaller than 7mm. It is the free fibres which present the greatest risk to human health, although very small fibres (< 5 microns in length) are not considered to be such a risk. AF also includes small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve.

(Note that for bonded ACM fragments to pass through a 7 mm x 7 mm sieve implies a substantial degree of damage which increases the potential for fibre release.)

AC Asbestos cement means a mixture of cement and asbestos fibres (typically 90:10 ratios).

Report Number: 607671-AID



Comments

The samples received were not collected in an approved asbestos bag and was therefore sub-sampled from the 250mL glass jar. Valid sub-sampling procedures were applied so as to ensure that the sub-samples to be analysed accurately represented the samples received.

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 N/A Not applicable

Asbestos Counter/Identifier:

Sayeed Abu Senior Analyst-Asbestos (NSW)

Authorised by:

Laxman Dias Senior Analyst-Asbestos (NSW)

Glenn Jackson

National Operations Manager

Final Report - this report replaces any previously issued Report

Date Reported: Jul 23, 2018

Measurement uncertainty of test data is available on request or please $\underline{\text{click here.}}$

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Report Number: 607671-AID

⁻ Indicates Not Requested

 $^{^{\}star}$ Indicates NATA accreditation does not cover the performance of this service





Certificate of Analysis

ilac-MRA



NATA Accredited Accreditation Number 1261 Site Number 18217

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

GHD Pty Ltd NSW Level 15, 133 Castlereagh Street Sydney NSW 2000

Attention: Clifton Thompson

Report 607671-S

Project name SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID 2127425 Received Date Jul 13, 2018

| Client Sample ID | | | GHD- BH03_1.5-1.95 | GHD- BH03_2.9-3.35 | GHD-BH3_4.5- 4.95 | GHD-BH3_6.0- 6.45 |
|--|-----------|-------|-----------------------|-----------------------|----------------------|----------------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-JI16677 | S18-JI16678 | S18-JI16679 | S18-JI16680 |
| Date Sampled | | | Jul 13, 2018 | Jul 13, 2018 | Jul 13, 2018 | Jul 13, 2018 |
| Test/Reference | LOR | Unit | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM | Fractions | | | | | |
| TRH C6-C9 | 20 | mg/kg | < 20 | - | < 20 | < 20 |
| TRH C10-C14 | 20 | mg/kg | 24 | - | < 20 | 24 |
| TRH C15-C28 | 50 | mg/kg | < 50 | - | < 50 | < 50 |
| TRH C29-C36 | 50 | mg/kg | < 50 | - | < 50 | < 50 |
| TRH C10-36 (Total) | 50 | mg/kg | < 50 | - | < 50 | < 50 |
| ВТЕХ | | | | | | |
| 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 | % | 79 | - | 67 | 56 |
| Total Recoverable Hydrocarbons - 2013 NEPM | Fractions | • | | | | |
| Naphthalene ^{N02} | 0.5 | mg/kg | < 0.5 | - | < 0.5 | < 0.5 |
| TRH C6-C10 | 20 | mg/kg | < 20 | - | < 20 | < 20 |
| TRH C6-C10 less BTEX (F1)N04 | 20 | mg/kg | < 20 | - | < 20 | < 20 |
| TRH >C10-C16 | 50 | mg/kg | < 50 | - | < 50 | < 50 |
| TRH >C10-C16 less Naphthalene (F2)N01 | 50 | mg/kg | < 50 | - | < 50 | < 50 |
| TRH >C16-C34 | 100 | mg/kg | < 100 | - | < 100 | < 100 |
| TRH >C34-C40 | 100 | mg/kg | < 100 | - | < 100 | < 100 |
| 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 |



| Client Sample ID | | | GHD- BH03_1.5-1.95 | GHD- BH03_2.9-3.35 | GHD-BH3_4.5- 4.95 | GHD-BH3_6.0- 6.45 |
|-------------------------------------|------|----------|-----------------------|-----------------------|----------------------|----------------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-JI16677 | S18-JI16678 | S18-JI16679 | S18-JI16680 |
| Date Sampled | | | Jul 13, 2018 | Jul 13, 2018 | Jul 13, 2018 | Jul 13, 2018 |
| Test/Reference | LOR | Unit | | | · | , |
| Polycyclic Aromatic Hydrocarbons | | | | | | |
| 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 | % | 99 | - | 100 | 100 |
| p-Terphenyl-d14 (surr.) | 1 | % | 104 | - | 105 | 105 |
| Organochlorine Pesticides | ' | | | | | |
| Chlordanes - Total | 0.1 | mg/kg | < 0.1 | - | < 0.1 | - |
| 4.4'-DDD | 0.05 | mg/kg | < 0.05 | _ | < 0.05 | _ |
| 4.4'-DDE | 0.05 | mg/kg | < 0.05 | _ | < 0.05 | _ |
| 4.4'-DDT | 0.05 | mg/kg | < 0.05 | _ | < 0.05 | _ |
| a-BHC | 0.05 | mg/kg | < 0.05 | _ | < 0.05 | _ |
| Aldrin | 0.05 | mg/kg | < 0.05 | _ | < 0.05 | _ |
| b-BHC | 0.05 | mg/kg | < 0.05 | _ | < 0.05 | _ |
| d-BHC | 0.05 | mg/kg | < 0.05 | _ | < 0.05 | _ |
| Dieldrin | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Endosulfan I | 0.05 | mg/kg | < 0.05 | _ | < 0.05 | - |
| Endosulfan II | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Endosulfan sulphate | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Endrin | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Endrin aldehyde | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Endrin ketone | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| g-BHC (Lindane) | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Heptachlor | 0.05 | mg/kg | < 0.05 | - | < 0.05 | = |
| Heptachlor epoxide | 0.05 | mg/kg | < 0.05 | - | < 0.05 | = |
| Hexachlorobenzene | 0.05 | mg/kg | < 0.05 | - | < 0.05 | = |
| Methoxychlor | 0.2 | mg/kg | < 0.2 | - | < 0.2 | = |
| Toxaphene | 1 | mg/kg | < 1 | - | < 1 | - |
| Aldrin and Dieldrin (Total)* | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| DDT + DDE + DDD (Total)* | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Vic EPA IWRG 621 OCP (Total)* | 0.1 | mg/kg | < 0.1 | - | < 0.1 | - |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.1 | mg/kg | < 0.1 | - | < 0.1 | - |
| Dibutylchlorendate (surr.) | 1 | % | 104 | - | 90 | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 114 | - | 100 | - |
| Polychlorinated Biphenyls | · | <u> </u> | | | | |
| Aroclor-1016 | 0.5 | mg/kg | < 0.5 | - | < 0.5 | - |
| Aroclor-1221 | 0.1 | mg/kg | < 0.1 | - | < 0.1 | - |
| Aroclor-1232 | 0.5 | mg/kg | < 0.5 | - | < 0.5 | - |
| Aroclor-1242 | 0.5 | mg/kg | < 0.5 | - | < 0.5 | - |
| Aroclor-1248 | 0.5 | mg/kg | < 0.5 | - | < 0.5 | - |
| Aroclor-1254 | 0.5 | mg/kg | < 0.5 | - | < 0.5 | - |
| Aroclor-1260 | 0.5 | mg/kg | < 0.5 | - | < 0.5 | - |
| Total PCB* | 0.5 | mg/kg | < 0.5 | - | < 0.5 | - |
| Dibutylchlorendate (surr.) | 1 | % | 104 | - | 90 | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 114 | - | 100 | - |



| Client Sample ID | | | GHD- BH03_1.5-1.95 | GHD- BH03_2.9-3.35 | GHD-BH3_4.5- 4.95 | GHD-BH3_6.0- 6.45 |
|----------------------------------|-----|----------|-----------------------|-----------------------|----------------------|----------------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-JI16677 | S18-JI16678 | S18-JI16679 | S18-JI16680 |
| Date Sampled | | | Jul 13, 2018 | Jul 13, 2018 | Jul 13, 2018 | Jul 13, 2018 |
| Test/Reference | LOR | Unit | | | | |
| Heavy Metals | | | | | | |
| Arsenic | 2 | mg/kg | < 2 | - | 20 | < 2 |
| Cadmium | 0.4 | mg/kg | < 0.4 | - | < 0.4 | < 0.4 |
| Chromium | 5 | mg/kg | 5.3 | - | 37 | 27 |
| Copper | 5 | mg/kg | < 5 | - | < 5 | 6.3 |
| Lead | 5 | mg/kg | 12 | - | 9.5 | 15 |
| Mercury | 0.1 | mg/kg | < 0.1 | - | < 0.1 | < 0.1 |
| Nickel | 5 | mg/kg | < 5 | - | 6.7 | < 5 |
| Zinc | 5 | mg/kg | < 5 | - | 38 | 15 |
| Acid Sulfate Soils Field pH Test | | | | | | |
| pH-F (Field pH test)* | 0.1 | pH Units | 6.8 | 6.8 | 6.1 | 6.9 |
| pH-FOX (Field pH Peroxide test)* | 0.1 | pH Units | 6.5 | 6.0 | 6.0 | 7.1 |
| Reaction Ratings*S05 | | comment | 4.0 | 4.0 | 4.0 | 4.0 |
| · | | | | | | |
| % Moisture | 1 | % | 12 | - | 20 | 21 |

| Client Sample ID | | | GHD-BH3_7.5- 7.95 | GHD-BH5_1.6- 2.05 | GHD-BH5_2.8- 3.25 | GHD-BH5_4.5- 4.95 |
|--|--------|-------|----------------------|----------------------|----------------------|----------------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-JI16681 | S18-JI16682 | S18-JI16683 | S18-JI16684 |
| Date Sampled | | | Jul 13, 2018 | Jul 11, 2018 | Jul 11, 2018 | Jul 11, 2018 |
| Test/Reference | LOR | Unit | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fra | ctions | | | | | |
| TRH C6-C9 | 20 | mg/kg | - | < 20 | < 20 | < 20 |
| TRH C10-C14 | 20 | mg/kg | - | < 20 | 28 | < 20 |
| TRH C15-C28 | 50 | mg/kg | - | < 50 | < 50 | < 50 |
| TRH C29-C36 | 50 | mg/kg | - | < 50 | < 50 | < 50 |
| TRH C10-36 (Total) | 50 | mg/kg | - | < 50 | < 50 | < 50 |
| втех | | | | | | |
| 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 | % | - | 79 | 59 | 70 |
| Total Recoverable Hydrocarbons - 2013 NEPM Fra | ctions | | | | | |
| Naphthalene ^{N02} | 0.5 | mg/kg | - | < 0.5 | < 0.5 | < 0.5 |
| TRH C6-C10 | 20 | mg/kg | - | < 20 | < 20 | < 20 |
| TRH C6-C10 less BTEX (F1)N04 | 20 | mg/kg | - | < 20 | < 20 | < 20 |
| TRH >C10-C16 | 50 | mg/kg | - | < 50 | < 50 | < 50 |
| TRH >C10-C16 less Naphthalene (F2)N01 | 50 | mg/kg | - | < 50 | < 50 | < 50 |
| TRH >C16-C34 | 100 | mg/kg | - | < 100 | < 100 | < 100 |
| TRH >C34-C40 | 100 | mg/kg | - | < 100 | < 100 | < 100 |



| Client Sample ID | | | GHD-BH3_7.5- 7.95 | GHD-BH5_1.6- 2.05 | GHD-BH5_2.8- 3.25 | GHD-BH5_4.5- 4.95 |
|---------------------------------------|----------|----------------|----------------------|----------------------|----------------------|----------------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-JI16681 | S18-JI16682 | S18-JI16683 | S18-JI16684 |
| Date Sampled | | | Jul 13, 2018 | Jul 11, 2018 | Jul 11, 2018 | Jul 11, 2018 |
| Test/Reference | LOR | Unit | 001 10, 2010 | 041 11, 2010 | our 11, 2010 | 001 11, 2010 |
| Polycyclic Aromatic Hydrocarbons | LOR | Unit | | | | |
| Benzo(a)pyrene TEQ (lower bound) * | 0.5 | ma/ka | - | < 0.5 | < 0.5 | < 0.5 |
| Benzo(a)pyrene TEQ (nedium bound) * | 0.5 | mg/kg mg/kg | | 0.6 | 0.6 | 0.6 |
| Benzo(a)pyrene TEQ (medium bound) * | 0.5 | | - | 1.2 | 1.2 | 1.2 |
| Acenaphthene | 0.5 | mg/kg | - | < 0.5 | < 0.5 | < 0.5 |
| Acenaphthylene | 0.5 | mg/kg 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 | | - | < 0.5 | < 0.5 | < 0.5 |
| Benzo(b&j)fluoranthene ^{N07} | 0.5 | mg/kg mg/kg | - | < 0.5 | < 0.5 | < 0.5 |
| Benzo(g.h.i)perylene | 0.5 | | - | < 0.5 | < 0.5 | < 0.5 |
| Benzo(k)fluoranthene | 0.5 | mg/kg | | < 0.5 | < 0.5 | < 0.5 |
| | | mg/kg | - | | | |
| 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 | % | - | 101 | 99 | 100 |
| p-Terphenyl-d14 (surr.) | 1 | % | - | 107 | 103 | 104 |
| Organochlorine Pesticides | <u> </u> | 1 | | | | |
| Chlordanes - Total | 0.1 | mg/kg | - | < 0.1 | < 0.1 | - |
| 4.4'-DDD | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| 4.4'-DDE | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| 4.4'-DDT | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| а-ВНС | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| Aldrin | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| b-BHC | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| d-BHC | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| Dieldrin | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| Endosulfan I | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| Endosulfan II | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| Endosulfan sulphate | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| Endrin | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| Endrin aldehyde | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| Endrin ketone | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| g-BHC (Lindane) | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| Heptachlor | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| Heptachlor epoxide | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| Hexachlorobenzene | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| Methoxychlor | 0.2 | mg/kg | - | < 0.2 | < 0.2 | - |
| Toxaphene | 1 | mg/kg | - | < 1 | < 1 | - |
| Aldrin and Dieldrin (Total)* | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| DDT + DDE + DDD (Total)* | 0.05 | mg/kg | - | < 0.05 | < 0.05 | - |
| Vic EPA IWRG 621 OCP (Total)* | 0.1 | mg/kg | - | < 0.1 | < 0.1 | - |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.1 | mg/kg | - | < 0.1 | < 0.1 | - |
| Dibutylchlorendate (surr.) | 1 | % | - | 105 | 101 | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | - | 108 | 103 | - |



| Client Sample ID | | | GHD-BH3_7.5- 7.95 | GHD-BH5_1.6- 2.05 | GHD-BH5_2.8- 3.25 | GHD-BH5_4.5- 4.95 |
|----------------------------------|-----|----------|----------------------|----------------------|----------------------|----------------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-JI16681 | S18-JI16682 | S18-JI16683 | S18-JI16684 |
| Date Sampled | | | Jul 13, 2018 | Jul 11, 2018 | Jul 11, 2018 | Jul 11, 2018 |
| Test/Reference | LOR | Unit | | | | |
| Polychlorinated Biphenyls | · | | | | | |
| Aroclor-1016 | 0.5 | mg/kg | - | < 0.5 | < 0.5 | - |
| Aroclor-1221 | 0.1 | mg/kg | - | < 0.1 | < 0.1 | - |
| Aroclor-1232 | 0.5 | mg/kg | - | < 0.5 | < 0.5 | - |
| Aroclor-1242 | 0.5 | mg/kg | - | < 0.5 | < 0.5 | - |
| Aroclor-1248 | 0.5 | mg/kg | - | < 0.5 | < 0.5 | - |
| Aroclor-1254 | 0.5 | mg/kg | - | < 0.5 | < 0.5 | = |
| Aroclor-1260 | 0.5 | mg/kg | - | < 0.5 | < 0.5 | = |
| Total PCB* | 0.5 | mg/kg | - | < 0.5 | < 0.5 | = |
| Dibutylchlorendate (surr.) | 1 | % | - | 105 | 101 | = |
| Tetrachloro-m-xylene (surr.) | 1 | % | - | 108 | 103 | = |
| Heavy Metals | | | | | | |
| Arsenic | 2 | mg/kg | - | < 2 | 8.4 | 5.8 |
| Cadmium | 0.4 | mg/kg | - | 1.0 | < 0.4 | < 0.4 |
| Chromium | 5 | mg/kg | - | 5.4 | 32 | 13 |
| Copper | 5 | mg/kg | - | < 5 | < 5 | < 5 |
| Lead | 5 | mg/kg | - | 21 | 6.6 | 8.7 |
| Mercury | 0.1 | mg/kg | - | < 0.1 | < 0.1 | < 0.1 |
| Nickel | 5 | mg/kg | - | < 5 | < 5 | < 5 |
| Zinc | 5 | mg/kg | - | 77 | 13 | < 5 |
| Acid Sulfate Soils Field pH Test | | | | | | |
| pH-F (Field pH test)* | 0.1 | pH Units | 5.9 | 8.1 | 6.4 | 4.7 |
| pH-FOX (Field pH Peroxide test)* | 0.1 | pH Units | 4.2 | 8.0 | 4.5 | 3.6 |
| Reaction Ratings*S05 | | comment | 2.0 | 4.0 | 2.0 | 2.0 |
| | | | | | | |
| % Moisture | 1 | % | - | 18 | 18 | 17 |

| Client Sample ID Sample Matrix Eurofins mgt Sample No. Date Sampled | | | GHD-BH5_6.0- 6.45 Soil S18-JI16685 Jul 11, 2018 | GHD-BH5_7.5- 7.95 Soil S18-JI16686 Jul 11, 2018 |
|---|-----|----------|---|---|
| Test/Reference | LOR | Unit | | |
| Acid Sulfate Soils Field pH Test | | | | |
| pH-F (Field pH test)* | 0.1 | pH Units | 4.4 | 4.3 |
| pH-FOX (Field pH Peroxide test)* | 0.1 | pH Units | 3.5 | 3.3 |
| Reaction Ratings*S05 | | comment | 2.0 | 1.0 |

Report Number: 607671-S



Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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 Total Recoverable Hydrocarbons - 1999 NEPM Fractions | Testing Site Sydney | Extracted Jul 16, 2018 | Holding Time 14 Day |
|--|-------------------------------|---------------------------|-------------------------------|
| - Method: TRH C6-C36 - LTM-ORG-2010 BTEX - Method: TRH C6-C40 - LTM-ORG-2010 | Sydney | Jul 16, 2018 | 14 Day |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: TRH C6-C40 - LTM-ORG-2010 | Sydney | Jul 16, 2018 | 14 Day |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: TRH C6-C40 - LTM-ORG-2010 | Sydney | Jul 16, 2018 | 14 Day |
| Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | Sydney | Jul 16, 2018 | 14 Days |
| Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | Sydney | Jul 16, 2018 | 28 Day |
| Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water | Sydney | Jul 16, 2018 | 14 Day |
| Polychlorinated Biphenyls - Method: LTM-ORG-2220 OCP & PCB in Soil and Water | Sydney | Jul 16, 2018 | 28 Days |
| Acid Sulfate Soils Field pH Test | Brisbane | Jul 19, 2018 | 7 Days |
| Method: LTM-GEN-7060 Determination of field pH (pHF) and field pH peroxide (pHFOX) tests Moisture | Sydney | Jul 16, 2018 | 14 Day |

Report Number: 607671-S



Melbourne 2-5 Kingston Town Close Oakleigh VIC 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271

607671

Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217 Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 4600 NATA # 1261 Site # 20794

Received:

Priority:

Due:

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone: +61 8 9251 9600
NATA # 1261
Site # 23736

Jul 13, 2018 8:37 PM

Jul 23, 2018 5 Day

Company Name: GHD Pty Ltd NSW

Address: Level 15, 133 Castlereagh Street

Sydney

NSW 2000

Project Name: SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID: 2127425

Phone: 02 9239 7100 **Fax:** 02 9239 7199

Order No.:

Report #:

Contact Name: Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| | | | mple Detail | | | Asbestos - AS4964 | HOLD | HOLD | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 |
|------|-----------------------|-----------------|------------------|--------|-------------|-------------------|------|------|----------------------------------|--------------------------|--------------|-------------------------|
| Melb | ourne Laborato | ory - NATA Site | # 1254 & 142 | 271 | | | | | | | | |
| | ney Laboratory | | | | | Х | | Х | | Х | Х | Х |
| | bane Laboratory | | | | | | Х | | Х | | | |
| | h Laboratory - N | | 36 | | | | | | | | | |
| | rnal Laboratory | | | | 1 | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | | |
| 1 | GHD- BH03_1.5-1.95 | Jul 13, 2018 | | Soil | S18-JI16677 | х | | | Х | Х | Х | х |
| 2 | GHD- BH03_2.9-3.35 | Jul 13, 2018 | | Soil | S18-JI16678 | | | | Х | | | |
| 3 | GHD- BH3_4.5-4.95 | Jul 13, 2018 | _ | Soil | S18-JI16679 | | | | Х | Х | Х | х |
| 4 | GHD- BH3_6.0-6.45 | Jul 13, 2018 | | Soil | S18-JI16680 | | | | Х | | Х | х |
| 5 | GHD- BH3_7.5-7.95 | Jul 13, 2018 | | Soil | S18-JI16681 | | | | Х | | | |
| 6 | GHD- | Jul 11, 2018 | | Soil | S18-JI16682 | Х | | | Х | Х | Х | Х |

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 ABN: 50 005 085 521 Telephone: +61 2 9900 8400 Page 7 of 17

Date Reported:Jul 23, 2018



Order No.:

Report #:

Phone:

Fax:

Melbourne 2-5 Kingston Town Close Oakleigh VIC 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271

607671

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2/91 Leach Highway
Kewdale WA 6105
Phone: +61 8 9251 9600
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Site # 23736

Company Name: GHD Pty Ltd NSW

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Project Name: SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID: 2127425

Received: Jul 13, 2018 8:37 PM **Due:** Jul 23, 2018

Priority: 5 Day

Contact Name: Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| Mell | oourne Laborato | | mple Detail # 1254 & 142 | 271 | | Asbestos - AS4964 | HOLD | HOLD | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 |
|------|----------------------|-----------------|-----------------------------|-------|-------------|-------------------|------|------|----------------------------------|--------------------------|--------------|-------------------------|
| Syd | ney Laboratory | - NATA Site # 1 | 8217 | | | Х | | Х | | Х | Х | Х |
| Bris | bane Laborator | y - NATA Site# | 20794 | | | | Х | | Х | | | |
| Pert | h Laboratory - N | NATA Site # 23 | 736 | | | | | | | | | |
| | BH5_1.6-2.05 | | | | | | | | | | | |
| 7 | GHD- BH5_2.8-3.25 | Jul 11, 2018 | | Soil | S18-JI16683 | | | | Х | Х | Х | Х |
| 8 | GHD- BH5_4.5-4.95 | Jul 11, 2018 | | Soil | S18-JI16684 | | | | х | | х | х |
| 9 | GHD- BH5_6.0-6.45 | Jul 11, 2018 | | Soil | S18-JI16685 | | | | Х | | | |
| 10 | GHD- BH5_7.5-7.95 | Jul 11, 2018 | | Soil | S18-JI16686 | | | | Х | | | |
| 11 | RIN1 | Jul 13, 2018 | | Water | S18-JI16687 | | | Х | | | | |
| 12 | TRIP1 | Jul 11, 2018 | | Soil | S18-JI16688 | | | Х | | | | |
| 13 | BLANK1 | Jul 11, 2018 | | Soil | S18-JI16689 | <u> </u> | | Х | | | | |
| 14 | TRIP SPIKE LAB | Jul 11, 2018 | | Soil | S18-JI16690 | | | Х | | | | |



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 607671
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 5 Day

Contact Name: Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| | Sa | mple Detail | | | Asbestos - AS4964 | HOLD | HOLD | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 |
|-------------------------|-----------------|--------------|------|-------------|-------------------|------|------|----------------------------------|--------------------------|--------------|-------------------------|
| Melbourne Laborato | ory - NATA Site | # 1254 & 142 | 271 | | | | | | | | |
| Sydney Laboratory | - NATA Site # 1 | 8217 | | | Х | | Х | | Х | Х | Х |
| Brisbane Laborator | y - NATA Site # | 20794 | | | | Х | | Х | | | |
| Perth Laboratory - N | NATA Site # 237 | 36 | | | | | | | | | |
| 15 GHD- BH5_9.0-9.15 | Jul 11, 2018 | _ | Soil | S18-JI16691 | | х | | | | | |
| Test Counts | | | | | 2 | 5 | 5 | 10 | 4 | 6 | 6 |



Internal Quality Control Review and Glossary

General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- 4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- 5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds
- 6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 7. Samples were analysed on an 'as received' basis
- 8. 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.

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

Units

mg/kg: milligrams per kilogram mg/L: milligrams per litre ug/L: micrograms per litre

ppm: Parts per million **ppb:** Parts per billion
%: Percentage

org/100mL: Organisms per 100 millilitres NTU: Nephelometric Turbidity Units MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery.

CRM Certified Reference Material - reported as percent recovery.

Method Blank In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.

Surr - Surrogate The addition of a like compound to the analyte target and reported as percentage recovery

Duplicate A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

USEPA United States Environmental Protection Agency

APHA American Public Health Association
TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

QSM Quality Systems Manual ver 5.1 US Department of Defense
CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.

TEQ Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data. Toxaphene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxaphene is not added to the Spike.
- 5. Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

 Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- 8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Report Number: 607671-S



Quality Control Results

| Test | Units | Result 1 | Acceptance Limits | Pass Limits | Qualifying Code |
|--|----------|----------|----------------------|----------------|--------------------|
| Method Blank | <u> </u> | • | ' | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | | |
| TRH C6-C9 | mg/kg | < 20 | 20 | Pass | |
| TRH C10-C14 | mg/kg | < 20 | 20 | Pass | |
| TRH C15-C28 | mg/kg | < 50 | 50 | Pass | |
| TRH C29-C36 | mg/kg | < 50 | 50 | Pass | |
| Method Blank | | | | | |
| BTEX | | | | | |
| 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 | |
| Xvlenes - Total | mg/kg | < 0.3 | 0.3 | Pass | |
| Method Blank | 1 | | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | | |
| Naphthalene | mg/kg | < 0.5 | 0.5 | Pass | |
| TRH C6-C10 | mg/kg | < 20 | 20 | Pass | |
| TRH >C10-C16 | mg/kg | < 50 | 50 | Pass | |
| TRH >C16-C34 | mg/kg | < 100 | 100 | Pass | |
| TRH >C34-C40 | mg/kg | < 100 | 100 | Pass | |
| Method Blank | IIIg/Rg | 100 | 100 | 1 455 | |
| 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&i)fluoranthene | mg/kg | < 0.5 | 0.5 | Pass | |
| Benzo(g.h.i)perylene | mg/kg | < 0.5 | 0.5 | Pass | |
| Benzo(k)fluoranthene | | < 0.5 | 0.5 | Pass | |
| Chrysene | mg/kg | < 0.5 | 0.5 | Pass | |
| Dibenz(a.h)anthracene | mg/kg | < 0.5 | 0.5 | Pass | |
| | mg/kg | < 0.5 | 0.5 | Pass | |
| Fluorene Fluorene | mg/kg | 1 | | | |
| Indeno(1.2.3-cd)pyrene | mg/kg | < 0.5 | 0.5 0.5 | Pass Pass | |
| \ | mg/kg | < 0.5 | | | |
| Naphthalene | mg/kg | < 0.5 | 0.5 | Pass | |
| Phenanthrene | mg/kg | < 0.5 | 0.5 | Pass | |
| Pyrene Math ad Blank | mg/kg | < 0.5 | 0.5 | Pass | |
| Method Blank | | | | | |
| Organochlorine Pesticides | | .04 | 0.4 | Dana | |
| Chlordanes - Total 4.4'-DDD | mg/kg | < 0.1 | 0.1 | Pass | |
| | mg/kg | < 0.05 | 0.05 | Pass | |
| 4.4'-DDE | mg/kg | < 0.05 | 0.05 | Pass | |
| 4.4'-DDT | mg/kg | < 0.05 | 0.05 | Pass | |
| a-BHC | mg/kg | < 0.05 | 0.05 | Pass | |
| Aldrin | mg/kg | < 0.05 | 0.05 | Pass | |
| b-BHC | mg/kg | < 0.05 | 0.05 | Pass | |
| d-BHC | mg/kg | < 0.05 | 0.05 | Pass | |
| Dieldrin | mg/kg | < 0.05 | 0.05 | Pass | |
| Endosulfan I | mg/kg | < 0.05 | 0.05 | Pass | |
| 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-BHC (Lindane) | mg/kg | < 0.05 | 0.05 | Pass | |
| Heptachlor | mg/kg | < 0.05 | 0.05 | Pass | |
| Heptachlor epoxide | mg/kg | < 0.05 | 0.05 | Pass | |
| Hexachlorobenzene | mg/kg | < 0.05 | 0.05 | Pass | |
| Methoxychlor | mg/kg | < 0.2 | 0.2 | Pass | |
| Toxaphene | mg/kg | < 1 | 1 | Pass | |
| Method Blank | | | · · | | |
| Polychlorinated Biphenyls | | | | | |
| Aroclor-1016 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1221 | mg/kg | < 0.1 | 0.1 | Pass | |
| Aroclor-1232 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1242 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1242 Aroclor-1248 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1254 | | < 0.5 | 0.5 | Pass | |
| Aroclor-1254 Aroclor-1260 | mg/kg | < 0.5 | 0.5 | Pass | |
| | mg/kg | | | | |
| Total PCB* | mg/kg | < 0.5 | 0.5 | Pass | |
| Method Blank | | | | T | |
| Heavy Metals | Τ , | | | <u> </u> | |
| Arsenic | mg/kg | < 2 | 2 | Pass | |
| Cadmium | mg/kg | < 0.4 | 0.4 | Pass | |
| Chromium | mg/kg | < 5 | 5 | Pass | |
| Copper | mg/kg | < 5 | 5 | Pass | |
| Lead | mg/kg | < 5 | 5 | Pass | |
| Mercury | mg/kg | < 0.1 | 0.1 | Pass | |
| Nickel | mg/kg | < 5 | 5 | Pass | |
| Zinc | mg/kg | < 5 | 5 | Pass | |
| LCS - % Recovery | | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | , | | | | |
| TRH C6-C9 | % | 95 | 70-130 | Pass | |
| TRH C10-C14 | % | 79 | 70-130 | Pass | |
| LCS - % Recovery | | | | | |
| BTEX | | | | | |
| Benzene | % | 89 | 70-130 | Pass | |
| Toluene | % | 96 | 70-130 | Pass | |
| Ethylbenzene | % | 96 | 70-130 | Pass | |
| m&p-Xylenes | % | 101 | 70-130 | Pass | |
| o-Xylene | % | 100 | 70-130 | Pass | |
| Xylenes - Total | % | 101 | 70-130 | Pass | |
| LCS - % Recovery | | · | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | | |
| Naphthalene | % | 121 | 70-130 | Pass | |
| TRH C6-C10 | % | 96 | 70-130 | Pass | |
| TRH >C10-C16 | % | 81 | 70-130 | Pass | |
| LCS - % Recovery | , ,, | , , , , , , , , , , , , , , , , , , , | 10.100 | , . 400 | |
| Polycyclic Aromatic Hydrocarbons | | | | I | |
| Acenaphthene | % | 93 | 70-130 | Pass | |
| Acenaphthylene | % | 98 | 70-130 | Pass | |
| | % | 99 | 70-130 | Pass | |
| Anthracene | 1 | | | | |
| Benz(a)anthracene | % | 99 | 70-130 | Pass | |
| Benzo(a)pyrene | % | 93 | 70-130 | Pass | <u> </u> |



| Test | | | Units | Result 1 | | Acceptance Limits | Pass Limits | Qualifying Code |
|----------------------------------|-----------------|--------------|-------|-------------|---|----------------------|----------------|--------------------|
| Benzo(b&j)fluoranthene | | | % | 92 | | 70-130 | Pass | |
| Benzo(g.h.i)perylene | | | % | 112 | | 70-130 | Pass | |
| Benzo(k)fluoranthene | | | % | 89 | | 70-130 | Pass | |
| Chrysene | | | % | 96 | | 70-130 | Pass | |
| Dibenz(a.h)anthracene | | | % | 105 | | 70-130 | Pass | |
| Fluoranthene | | | % | 101 | | 70-130 | Pass | |
| Fluorene | | | % | 96 | | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | | | % | 106 | | 70-130 | Pass | |
| Naphthalene | | | % | 94 | | 70-130 | Pass | |
| Phenanthrene | | | % | 96 | | 70-130 | Pass | |
| Pyrene | | | % | 100 | | 70-130 | Pass | |
| LCS - % Recovery | | | 70 | 100 | | 70-130 | 1 033 | |
| Organochlorine Pesticides | | | | | | | | |
| 4.4'-DDD | | | % | 100 | | 70.120 | Door | |
| | | | | 102 | | 70-130 | Pass | |
| 4.4'-DDE | | | % | 102 | | 70-130 | Pass | |
| 4.4'-DDT | | | % | 91 | | 70-130 | Pass | |
| a-BHC | | | % | 107 | | 70-130 | Pass | |
| Aldrin | | | % | 105 | | 70-130 | Pass | |
| b-BHC | | | % | 102 | | 70-130 | Pass | |
| d-BHC | | | % | 102 | | 70-130 | Pass | |
| Dieldrin | | | % | 102 | | 70-130 | Pass | |
| Endosulfan I | | | % | 102 | | 70-130 | Pass | |
| Endosulfan II | | | % | 100 | | 70-130 | Pass | |
| Endosulfan sulphate | | | % | 97 | | 70-130 | Pass | |
| Endrin | | | % | 99 | | 70-130 | Pass | |
| Endrin aldehyde | | | % | 98 | | 70-130 | Pass | |
| Endrin ketone | | | % | 97 | | 70-130 | Pass | |
| g-BHC (Lindane) | | | % | 105 | | 70-130 | Pass | |
| Heptachlor | | | % | 104 | | 70-130 | Pass | |
| Heptachlor epoxide | | | % | 103 | | 70-130 | Pass | |
| Hexachlorobenzene | | | % | 107 | | 70-130 | Pass | |
| Methoxychlor | | | % | 85 | | 70-130 | Pass | |
| LCS - % Recovery | | | | | | | | |
| Polychlorinated Biphenyls | | | | | | | | |
| Aroclor-1260 | | | % | 86 | | 70-130 | Pass | |
| LCS - % Recovery | | | | | | | | |
| Heavy Metals | | | | | | | | |
| Arsenic | | | % | 108 | | 70-130 | Pass | |
| Cadmium | | | % | 109 | | 70-130 | Pass | |
| Chromium | | | % | 107 | | 70-130 | Pass | |
| Copper | | | % | 110 | | 70-130 | Pass | |
| Lead | | | % | 112 | | 70-130 | Pass | |
| | | | | 1 | | | | |
| Mercury | | | % | 106 | | 70-130 | Pass | |
| Nickel | | | % | 105 | | 70-130 | Pass | |
| Zinc | | | % | 110 | | 70-130 | Pass | 0 |
| Test | Lab Sample ID | QA Source | Units | Result 1 | | Acceptance Limits | Pass Limits | Qualifying Code |
| Spike - % Recovery | | | | | | | | |
| Total Recoverable Hydrocarbons - | 1999 NEPM Fract | ions | | Result 1 | | | | |
| TRH C6-C9 | S18-JI16081 | NCP | % | 105 | | 70-130 | Pass | |
| TRH C10-C14 | S18-JI14018 | NCP | % | 82 | | 70-130 | Pass | |
| Spike - % Recovery | | | | | · | | | |
| - | | | | Result 1 | | | | |
| BTEX | | | | , recoult i | | | i | 1 |
| BTEX Benzene | S18-JI16081 | NCP | % | 91 | | 70-130 | Pass | |



| Test | Lab Sample ID | QA Source | Units | Result 1 | Acceptance Limits | Pass Limits | Qualifying Code |
|---------------------------------|-------------------|--------------|-------|----------|----------------------|----------------|--------------------|
| Ethylbenzene | S18-JI16081 | NCP | % | 95 | 70-130 | Pass | |
| m&p-Xylenes | S18-JI16081 | NCP | % | 100 | 70-130 | Pass | |
| o-Xylene | S18-JI16081 | NCP | % | 98 | 70-130 | Pass | |
| Xylenes - Total | S18-JI16081 | NCP | % | 99 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| Total Recoverable Hydrocarbons | - 2013 NEPM Fract | ions | | Result 1 | | | |
| Naphthalene | S18-JI16081 | NCP | % | 117 | 70-130 | Pass | |
| TRH C6-C10 | S18-JI16081 | NCP | % | 112 | 70-130 | Pass | |
| TRH >C10-C16 | S18-JI14018 | NCP | % | 86 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| Polycyclic Aromatic Hydrocarboi | ns | | | Result 1 | | | |
| Acenaphthene | S18-JI14696 | NCP | % | 95 | 70-130 | Pass | |
| Acenaphthylene | S18-JI14696 | NCP | % | 99 | 70-130 | Pass | |
| Anthracene | S18-JI14696 | NCP | % | 99 | 70-130 | Pass | |
| Benz(a)anthracene | S18-JI14696 | NCP | % | 103 | 70-130 | Pass | |
| Benzo(a)pyrene | S18-JI14696 | NCP | % | 87 | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | S18-JI14696 | NCP | % | 88 | 70-130 | Pass | |
| Benzo(g.h.i)perylene | S18-JI14696 | NCP | % | 106 | 70-130 | Pass | |
| Benzo(k)fluoranthene | S18-JI14696 | NCP | % | 85 | 70-130 | Pass | |
| Chrysene | S18-JI14696 | NCP | % | 97 | 70-130 | Pass | |
| Dibenz(a.h)anthracene | S18-JI14696 | NCP | % | 99 | 70-130 | Pass | |
| Fluoranthene | S18-JI14696 | NCP | % | 100 | 70-130 | Pass | |
| Fluorene | S18-JI14696 | NCP | % | 97 | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | S18-JI14696 | NCP | % | 101 | 70-130 | Pass | |
| Naphthalene | S18-JI14696 | NCP | % | 96 | 70-130 | Pass | |
| Phenanthrene | S18-JI14696 | NCP | % | 97 | 70-130 | Pass | |
| Pyrene | S18-JI14696 | NCP | % | 99 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| Organochlorine Pesticides | | | | Result 1 | | | |
| 4.4'-DDD | S18-JI21625 | NCP | % | 96 | 70-130 | Pass | |
| 4.4'-DDE | S18-JI21625 | NCP | % | 87 | 70-130 | Pass | |
| 4.4'-DDT | S18-JI21671 | NCP | % | 79 | 70-130 | Pass | |
| a-BHC | S18-JI21625 | NCP | % | 82 | 70-130 | Pass | |
| Aldrin | S18-JI21625 | NCP | % | 88 | 70-130 | Pass | |
| b-BHC | S18-JI21625 | NCP | % | 80 | 70-130 | Pass | |
| d-BHC | S18-JI21625 | NCP | % | 83 | 70-130 | Pass | |
| Dieldrin | S18-JI21625 | NCP | % | 86 | 70-130 | Pass | |
| Endosulfan I | S18-JI21625 | NCP | % | 82 | 70-130 | Pass | |
| Endosulfan II | S18-JI21625 | NCP | % | 82 | 70-130 | Pass | |
| Endosulfan sulphate | S18-JI21625 | NCP | % | 80 | 70-130 | Pass | |
| Endrin | S18-JI21625 | NCP | % | 81 | 70-130 | Pass | |
| Endrin aldehyde | S18-JI21625 | NCP | % | 74 | 70-130 | Pass | |
| Endrin ketone | S18-JI21625 | NCP | % | 79 | 70-130 | Pass | |
| g-BHC (Lindane) | S18-JI21625 | NCP | % | 82 | 70-130 | Pass | |
| Heptachlor | S18-JI21625 | NCP | % | 88 | 70-130 | Pass | |
| Heptachlor epoxide | S18-JI21625 | NCP | % | 86 | 70-130 | Pass | |
| Hexachlorobenzene | S18-JI20060 | NCP | % | 102 | 70-130 | Pass | |
| Methoxychlor | S18-JI21671 | NCP | % | 80 | 70-130 | Pass | |
| Toxaphene | S18-JI19047 | NCP | % | 86 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| Polychlorinated Biphenyls | | | | Result 1 | | | |
| Aroclor-1260 | S18-Jl22584 | NCP | % | 101 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| Heavy Metals | | | | Result 1 | | | |

Report Number: 607671-S



| Test | Lab Sample ID | QA | Units | Result 1 | | | Acceptance | Pass | Qualifying |
|----------------------------------|----------------------------|--------------|----------------|------------------|------------------|--------------------|----------------------|----------------|--------------------|
| | • | Source | | | | | Limits | Limits | Code |
| Arsenic | S18-JI17324 | NCP | % | 95 | | | 70-130 | Pass | |
| Cadmium | S18-JI17324 | NCP | % | 97 | | | 70-130 | Pass | |
| Chromium | S18-JI17324 | NCP | % | 98 | | | 70-130 | Pass | |
| Copper | S18-JI17324 | NCP | % | 100 | | | 70-130 | Pass | |
| Lead | S18-JI17324 | NCP | % | 100 | | | 70-130 | Pass | |
| Mercury | S18-JI17324 | NCP | % | 97 | | | 70-130 | Pass | |
| Nickel | S18-JI17324 | NCP | % | 96 | | | 70-130 | Pass | |
| Zinc | S18-JI17324 | NCP | % | 100 | | | 70-130 | Pass | |
| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
| Duplicate | | | | ı | | | | | |
| Total Recoverable Hydrocarbons - | | | | Result 1 | Result 2 | RPD | | | |
| TRH C10-C14 | S18-JI17314 | NCP | mg/kg | 25 | 24 | <1 | 30% | Pass | |
| TRH C15-C28 | S18-JI17314 | NCP | mg/kg | < 50 | < 50 | <1 | 30% | Pass | |
| TRH C29-C36 | S18-JI17314 | NCP | mg/kg | < 50 | < 50 | <1 | 30% | Pass | |
| Duplicate | | | | , | | | | | |
| Total Recoverable Hydrocarbons - | 2013 NEPM Fract | ions | | Result 1 | Result 2 | RPD | | | |
| TRH >C10-C16 | S18-JI17314 | NCP | mg/kg | < 50 | < 50 | <1 | 30% | Pass | |
| TRH >C16-C34 | S18-JI17314 | NCP | mg/kg | < 100 | < 100 | <1 | 30% | Pass | |
| TRH >C34-C40 | S18-JI17314 | NCP | mg/kg | < 100 | < 100 | <1 | 30% | Pass | |
| Duplicate | | | | | | | | | |
| Polycyclic Aromatic Hydrocarbons | 3 | | | Result 1 | Result 2 | RPD | | | |
| Acenaphthene | S18-JI14694 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Acenaphthylene | S18-JI14694 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Anthracene | S18-JI14694 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Benz(a)anthracene | S18-JI14694 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Benzo(a)pyrene | S18-JI14694 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Benzo(b&j)fluoranthene | S18-JI14694 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Benzo(g.h.i)perylene | S18-JI14694 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Benzo(k)fluoranthene | S18-JI14694 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Chrysene | S18-JI14694 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Dibenz(a.h)anthracene | S18-JI14694 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Fluoranthene | S18-JI14694 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Fluorene | S18-JI14694 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Indeno(1.2.3-cd)pyrene | S18-JI14694 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Naphthalene | S18-JI14694 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Phenanthrene | S18-JI14694 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Pyrene | S18-JI14694 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Duplicate | | | | | | | | 1 2122 | |
| Organochlorine Pesticides | | | | Result 1 | Result 2 | RPD | | | |
| Chlordanes - Total | S18-JI20057 | NCP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| 4.4'-DDD | S18-JI20057 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| 4.4'-DDE | S18-JI20057 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| 4.4'-DDT | S18-JI20057 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| a-BHC | S18-JI20057 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Aldrin | S18-JI20057 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| b-BHC | S18-JI20057 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| d-BHC | S18-JI20057 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Dieldrin | S18-JI20057 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endosulfan I | S18-JI20057 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endosulfan II | S18-JI20057 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endosulfan sulphate | S18-JI20057 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| . Enacoditati calbiiate | 0100120001 | | | | | | | | |
| • | S18II20057 | l NCP i | ma/ka | < 0.05 | < 0.05 | -1 | 311% | | |
| Endrin Endrin aldehyde | S18-JI20057 S18-JI20057 | NCP NCP | mg/kg mg/kg | < 0.05 < 0.05 | < 0.05 < 0.05 | <u><1</u> <1 | 30% | Pass Pass | |



| Duplicate | | | | | | | | | |
|---|-----------------|----------|-----------|-----------------|----------|--------------------|------|-------|--|
| • | | | | Describ 4 | D | DDD | l | | |
| Organochlorine Pesticides | 040 1100057 | NOD | | Result 1 | Result 2 | RPD | 000/ | D | |
| g-BHC (Lindane) | S18-JI20057 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Heptachlor | S18-JI20057 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Heptachlor epoxide | S18-JI20057 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Hexachlorobenzene | S18-JI20057 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Methoxychlor | S18-JI20057 | NCP | mg/kg | < 0.2 | < 0.2 | <1 | 30% | Pass | |
| Toxaphene | S18-JI20057 | NCP | mg/kg | < 1 | < 1 | <1 | 30% | Pass | |
| Duplicate Delivebleringted Binhands | | | | Result 1 | Result 2 | RPD | | | |
| Polychlorinated Biphenyls Aroclor-1016 | S18-JI22583 | NCP | m a/lea | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| | | NCP | mg/kg | | | <u><1</u> | | | |
| Aroclor 1221 | S18-JI22583 | NCP | mg/kg | < 0.1 | < 0.1 | <u><1</u> <1 | 30% | Pass | |
| Aroclor 1232 | S18-JI22583 | NCP | mg/kg | < 0.5 | < 0.5 | <u><1</u> <1 | 30% | Pass | |
| Aroclor-1242 | S18-JI22583 | | mg/kg | < 0.5 | < 0.5 | | 30% | Pass | |
| Aroclor-1248 | S18-JI22583 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Arcelor-1254 | S18-JI22583 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Aroclor-1260 | S18-JI22583 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Duplicate User Matela | | | | Describ 4 | D | DDD | | | |
| Heavy Metals | C40 II47222 | NOD | | Result 1 | Result 2 | RPD | 200/ | Dana | |
| Arsenic | S18-JI17323 | NCP | mg/kg | < 2 | < 2 | <1 | 30% | Pass | |
| Cadmium | S18-JI15899 | NCP | mg/kg | < 0.4 | < 0.4 | <1 | 30% | Pass | |
| Chromium | S18-JI17323 | NCP | mg/kg | < 5 | < 5 | <1 | 30% | Pass | |
| Copper | S18-JI17323 | NCP | mg/kg | < 5 | < 5 | <1 | 30% | Pass | |
| Lead | S18-JI17323 | NCP | mg/kg | < 5 | < 5 | <1 | 30% | Pass | |
| Mercury | S18-JI17323 | NCP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Nickel | S18-JI17323 | NCP | mg/kg | < 5 | < 5 | <1 | 30% | Pass | |
| Zinc | S18-JI17323 | NCP | mg/kg | < 5 | < 5 | <1 | 30% | Pass | |
| Duplicate | | | | D 11.4 | | DDD | T | T | |
| Acid Sulfate Soils Field pH Test | 040 1140000 | 00 | 1 | Result 1 | Result 2 | RPD | 000/ | + | |
| pH-F (Field pH test)* | S18-JI16680 | CP | pH Units | 6.9 | 7.1 | pass | 30% | Pass | |
| Reaction Ratings* | S18-JI16680 | CP | comment | 4.0 | 4.0 | pass | 30% | Pass | |
| Duplicate | | | | D. a. di 4 | D 11 0 | DDD | Ī | I | |
| 0, 11 : . | 040 1140000 | 00 | T 0/ | Result 1 | Result 2 | RPD | 000/ | + | |
| % Moisture | S18-JI16680 | СР | % | 21 | 21 | 1.0 | 30% | Pass | |
| Duplicate Total Recoverable Hydrocarbons - | 1000 NEDM Fract | ione | | Pocult 1 | Result 2 | RPD | | | |
| TRH C6-C9 | S18-JI16682 | CP | ma/ka | Result 1 < 20 | < 20 | <1 | 30% | Pass | |
| Duplicate | 310-3110002 | l CF | mg/kg | < 20 | < 20 | <1 | 30% | Fass | |
| BTEX | | | | Result 1 | Result 2 | RPD | | | |
| Benzene | S18-JI16682 | СР | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Toluene | S18-JI16682 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Ethylbenzene | S18-JI16682 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| m&p-Xylenes | S18-JI16682 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| o-Xylene | S18-JI16682 | CP | mg/kg | < 0.2 | < 0.1 | <1 | 30% | Pass | |
| Xylenes - Total | S18-JI16682 | CP | mg/kg | < 0.3 | < 0.1 | <1 | 30% | Pass | |
| Duplicate | 1 010 0110002 | <u> </u> | , 111g/Ng | | , 0.0 | | 0070 | 1 433 | |
| Total Recoverable Hydrocarbons - | 2013 NEPM Fract | ions | | Result 1 | Result 2 | RPD | | | |
| Naphthalene | S18-JI16682 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| TRH C6-C10 | S18-JI16682 | CP | mg/kg | < 20 | < 20 | <u><1</u> | 30% | Pass | |
| 11/11/00-010 | 310-3110002 | LOF | i iiig/kg | <u> </u> | < 20 | <u> </u> | 3070 | F 455 | |



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 |
|------|-------------|
| | |

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).

N01

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.

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. N04

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 N07

Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction.

Authorised By

N02

S05

Nibha Vaidya Analytical Services Manager Nibha Vaidya Senior Analyst-Asbestos (NSW)



Glenn Jackson

National Operations Manager

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.

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Report Number: 607671-S

| eurofins | |
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| | /dr | |
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| | | | | | | | | | | | C | ;H/ | AIN | OF | CU | ST | יםס | r R | EC | OR | RD | | - E | | | | 2.5 | | | | |
|--------|---|----------------|----------|------------|------------------|----------|----------|---------|-------|-------|--|------------|------|---------|------|------|---------|-------|---------|--------|-------|-----------|---------------------|---------------|----------|-----------|-------------|---------------|---------------|-------------|---------------|
| LIEN | T DETAILS | | | | | | | | | | | | | | | | | | | | | | | | | | | | age1_ | _ of1_ | |
| compa | any Name : GHD Pty Ltd | | | Con | tact N | Name : | Clifton | Thom | psoo | n | | | | | | P | urchas | e Ord | r : 21 | 27425 | 5 | | | | | | COC Nun | iber: 3 | | | |
| Office | Address : | | | Proj | ject M | lanager | : Just | in Kab | oat | | | | | | | P | ROJEC | T Nur | ber: | 21274 | 425 | | | | | | Eurofins | mgt quot | te ID : 170 | 308GHDN | |
| L | evel 15, 133 Castlereagh Stree | t, Sydney NS | W 2000 | Ema | ail for | results | : clifte | on.tho | mpsc | n@ghd | l.com | | | | | P | ROJEC | T Nan | ne : So | cotlan | nd Is | land Ener | gy Reliabi | lity Projec | t | | Data out | out format: | Esdat, P |)F | |
| | | | | | | | | | | | | Analy | /tes | | | | | | | | | | | Sor | | | g times (wi | | | ion). | |
| pecia | al Directions & Comments : | | | 40 | (S) | П | Т | Т | | | 1.2 | П | T | | | Т | | Т | | | | | | Waters | | 7 1010101 | | 0111001 010 | | oils | |
| | | | | 84964-2004 | metals) | | | | | | Aggressivity Suite (pH, EC trivity, S04) | (×) | | | | | | 1 | | | | BTEX. | MAH. VO | С | | 14 days | BTEX | , MAH, VO | C | | 14 days |
| pecia | al Directions & Comments : | | | 496 | 8 | | | | | | F, | and pHfox) | | | | | | | | | | TRH, F | PAH, Phen | ols, Pestic | ides | 7 days | | PAH, Phen | | ehir | 14 days |
| | | | | -AS | Ž | | | | | | 9 | a p | | | | | | | | | | Heavy | | | | 6 months | | Metals | 1013, 1 63110 | 1063 | 6 months |
| | k bag samples frozen overnight Please freeze zip lock bags for | | | loo loo | I A | | | | | | ij | a | | | | | | | | | | | ry, CrVI | | | 28 days | 110011 | ry, CrVI | | | 28 days |
| | . Thanks | possible lutur | e SPOCAS | pse | /B1 | 贸 | | | | | ≥ _ | (pHf | | | | | | | | | | | iological te | estina | | 24 hours | | biological te | natina | | 72 hours |
| | | | | ce/a | A. | PCB | | | 65 | | ok) | 2 | | | | | | | | | | | | rite, Total I | V | 2 days | Anion | _ | sung | | 28 days |
| | | | | sen | 15 | <u>a</u> | | | 62-92 | | es. | ee | | | | | | | | | | | - TSS, TD | | | 7 days | | CAS, pH Fie | old and EC | Y Crs | 24 hours |
| | | | | ed) | (TRH/PAH/BTEXN/8 | OCP | | | Ī | | vity | Screen | | | | | | | | | | Ferrou | _ | 0.00 | | 7 days | | , TCLP | na ana i | 7, 010 | |
| urofin | ns mgt DI water batch number: | | | 9 | B7 (| B13 | <u>0</u> | | / TPH | | L2 A | Field | | | | | | | | | | 1 01100 | 0 11 011 | | | r days | ASLP | TCLP | | | 7 days |
| | | | | estos | te B | e E | 8 metals | X | BTEX | م | te L Re | Œ, | | | ΙI | | | | | | | Container | s: | | | | | | | | Translation . |
| | Sample ID | Date | Matrix | Asbest | Suite | Suite | 8 | BTEX | BTI | TCLP | Suite CI, Re | 표 | | | | | | | | | | 1LP | 250P | 125P | 1LA | 40mL via | 1 125mL A | Jar | bag | Sample | comments: |
| 1 | GHD-BH3_16_16.45 | 17/07/2018 | soil | | | | | | | | | Х | | | | | | | | | | | | | | | | | 1 | | |
| 2 | GHD-BH3_17.5_17.77 | 17/07/2018 | soil | - | | | | | | | | Х | | | | | | | | | | | | | | | | | 1 | | |
| 3 | GHD-BH3 19 19.45 | 17/07/2018 | soil | \vdash | | | | | | | | Х | | | | | 1 | | | | | | | | | | | | 1 | | |
| 4 | GHD-BH3_22_22.45 | 17/07/2018 | soil | | | | | | | | | Х | | | | | | | | | | | | | | | | 1 | 1 | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | 1 | | | | | | | | | | | | | - 1 | 1 5 | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | - | 5 | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | 4 | dk | | | | | | | | | | | | | - |
| 10 | | | | | | 9 | | | | | | | | -1 | | | | | A62 - | | | | | | | | | | | | |
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| | | | | | | Lal | borato | ry Stat | ff | | | | | | Turr | arou | nd time | | | | | | | | Method C | f Shipme | nt | | | Temperature | on arrival: |
| Relino | quished By: Clifton Thompson | 1 | Receiv | ved B | 3y: / | ade | e. | 6 | , | | | | | | Υ 🗆 | | DAY [| 1 | | | | □ c | ourier | | | | | | | 5-2 | 26°C |
| Date 8 | & Time : 18:00, 24/07/2018 | | Date 8 | & Tim | 24 | | 1/18 | | 7 | 35 | My | | Y 🗆 | | | | _ | 4 | | | | | and Delive estal | red | | | | | | Report numb | er: |
| Signa | ture: | | Signa | ture: | | 1 | 1 | 5 | _ | - | V | 5 DA | Y | 10 D | AY L |] 0 | ther: | | | | | Courier C | onsignme | ent#: | | | | | | 600 | 1184 |

QS3009_R0

Issue Date: 25 February 2013

Page 1 of 1



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Site # 1254 & 14271

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ABN - 50 005 085 521

e.mail: EnviroSales@eurofins.com web: www.eurofins.com.au

Sample Receipt Advice

Company name: **GHD Pty Ltd NSW**

Contact name: Clifton Thompson

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT Project name:

Project ID: 2127425 COC number: Not provided

Turn around time: 5 Day

Jul 24, 2018 7:35 PM Date/Time received:

Eurofins | mgt reference: 609184

Sample information

- \mathbf{V} A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- \mathbf{V} Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt: 5.3 degrees Celsius.
- \mathbf{V} All samples have been received as described on the above COC.
- \square COC has been completed correctly.
- \square Attempt to chill was evident.
- \mathbf{V} Appropriately preserved sample containers have been used.
- \mathbf{V} All samples were received in good condition.
- \square Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- \mathbf{V} Appropriate sample containers have been used.
- \boxtimes Split sample sent to requested external lab.
- \boxtimes Some samples have been subcontracted.
- Custody Seals intact (if used). N/A

Contact notes

If you have any questions with respect to these samples please contact:

Nibha Vaidya on Phone: +61 (2) 9900 8415 or by e.mail: NibhaVaidya@eurofins.com

Results will be delivered electronically via e.mail to Clifton Thompson - Clifton.Thompson@ghd.com.









Certificate of Analysis

lac MRA



NATA Accredited Accreditation Number 1261 Site Number 18217

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

GHD Pty Ltd NSW Level 15, 133 Castlereagh Street Sydney NSW 2000

Attention: Clifton Thompson

Report 609184-S

Project name SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID 2127425 Received Date Jul 24, 2018

| Client Sample ID Sample Matrix | | | GHD-BH3_16- 16.45 Soil | GHD- BH3_17.5- 17.77 Soil | GHD-BH3_19- 19.45 Soil | GHD-BH3_22- 22.45 Soil |
|----------------------------------|-----|----------|------------------------------|------------------------------------|------------------------------|------------------------------|
| Eurofins mgt Sample No. | | | S18-JI28182 | S18-JI28183 | S18-JI28184 | S18-JI28185 |
| Date Sampled | | | Jul 17, 2018 | Jul 17, 2018 | Jul 17, 2018 | Jul 17, 2018 |
| Test/Reference | LOR | Unit | | | | |
| Acid Sulfate Soils Field pH Test | · | • | | | | |
| pH-F (Field pH test)* | 0.1 | pH Units | 5.9 | 5.4 | 5.2 | 5.1 |
| pH-FOX (Field pH Peroxide test)* | 0.1 | pH Units | 2.3 | 2.6 | 2.8 | 1.6 |
| Reaction Ratings*S05 | | comment | 4.0 | 1.0 | 1.0 | 4.0 |



Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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.

DescriptionTesting SiteExtractedHolding TimeAcid Sulfate Soils Field pH TestBrisbaneJul 26, 20187 Days

- Method: LTM-GEN-7060 Determination of field pH (pHF) and field pH peroxide (pHFOX) tests

Report Number: 609184-S



Acid Sulfate Soils Field

pH Test

Phone:

Fax:

Melbourne 2-5 Kingston Town Close Oakleigh VIC 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271

02 9239 7100

02 9239 7199

Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217 Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 4600 NATA # 1261 Site # 20794

Perth 2/91 Leach Highway Kewdale WA 6105 Phone: +61 8 9251 9600 NATA # 1261 Site # 23736

Company Name: GHD Pty Ltd NSW

Address: Level 15, 133 Castlereagh Street

Sydney NSW 2000

Project Name: SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID: 2127425

 Order No.:
 2127425
 Received:
 Jul 24, 2018 7:35 PM

 Report #:
 609184
 Due:
 Aug 1, 2018

Priority: 5 Day

Contact Name: Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Sample Detail

Melbourne Laboratory - NATA Site # 1254 & 14271 Sydney Laboratory - NATA Site # 18217 Brisbane Laboratory - NATA Site # 20794 X Perth Laboratory - NATA Site # 23736

External Laboratory

| | iliai Eaboratory | | | | | |
|------|----------------------------|--------------|------------------|--------|-------------|---|
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | |
| 1 | GHD-BH3_16- 16.45 | Jul 17, 2018 | | Soil | S18-Jl28182 | х |
| 2 | GHD- BH3_17.5- 17.77 | Jul 17, 2018 | | Soil | S18-Jl28183 | Х |
| 3 | GHD-BH3_19- 19.45 | Jul 17, 2018 | | Soil | S18-JI28184 | х |
| 4 | GHD-BH3_22- 22.45 | Jul 17, 2018 | | Soil | S18-JI28185 | Х |
| Test | Counts | | | | | 4 |

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 ABN: 50 005 085 521 Telephone: +61 2 9900 8400 Page 3 of 6

Report Number: 609184-S



Internal Quality Control Review and Glossary

General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- 4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- 5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds
- 6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 7. Samples were analysed on an 'as received' basis
- 8. 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.

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

Units

mg/kg: milligrams per kilogram mg/L: milligrams per litre ug/L: micrograms per litre

ppm: Parts per million **ppb:** Parts per billion
%: Percentage

org/100mL: Organisms per 100 millilitres NTU: Nephelometric Turbidity Units MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery.

CRM Certified Reference Material - reported as percent recovery.

Method Blank In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.

Surr - Surrogate The addition of a like compound to the analyte target and reported as percentage recovery

Duplicate A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

USEPA United States Environmental Protection Agency

APHA American Public Health Association
TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

QSM Quality Systems Manual ver 5.1 US Department of Defense

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.

TEQ Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data. Toxaphene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxaphene is not added to the Spike.
- 5. Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

 Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- 8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.



Quality Control Results

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|----------------------------------|---------------|--------------|----------|----------|----------|------|----------------------|----------------|--------------------|
| Duplicate | | | | | | | | | |
| Acid Sulfate Soils Field pH Test | | | | Result 1 | Result 2 | RPD | | | |
| pH-F (Field pH test)* | S18-Jl28182 | CP | pH Units | 5.9 | 5.9 | pass | 30% | Pass | |
| Reaction Ratings* | S18-Jl28182 | CP | comment | 4.0 | 4.0 | pass | 30% | Pass | |

Report Number: 609184-S



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

Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction. S05

Authorised By

Nibha Vaidya Analytical Services Manager

Glenn Jackson

National Operations Manager

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 | mgt 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 | mgt 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.

Report Number: 609184-S

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| CLIEN | T DETAILS | | | | | | | | | | | | | | | | | | | | | | | | | Pa | ige1_ | of1_ | | |
| Compa | any Name : GHD Pty Ltd | | | Cont | act Na | ame : C | lifton | Thom | psoor | n | | | | | | Purch | ase Ord | ler : 21 | 27425 | | | | | | COC Num | ber:1 | | | | |
| Office | Address : | | | Proje | ect Ma | anager : | : Justin | n Kab | at | | | | | | | PROJ | ECT Nu | mber : | 212742 | 5 | | | | | Eurofins | mgt quot | e ID: 1708 | 08GHDN | | |
| L | evel 15, 133 Castlereagh Stree | t, Sydney NSV | V 2000 | Emai | il for r | results | : clifto | n.tho | mpso | n@ghd. | .com | | | | | PROJ | ECT Na | me : S | cotland | Island Ene | rgy Reliab | gy Reliability Project Data output format: Esdat, | | | | | Esdat, PD | , PDF | | |
| _ | | | | | _ | | | _ | _ | | | Analyt | tes | | _ | _ | | | | T | | So | me comm | on holding | times (wit formation c | th correct | preservati | on). | | |
| Specia | al Directions & Comments : | | | 40 | (s) | | _ | | | | | Ť | | ТТ | | П | | П | | | | Waters | | or turtifier in | Tormation c | Ontact the | So | ils | | |
| | | | | 4-2004 | metals) | | | | | | EC, | $\widehat{\mathbf{x}}$ | | 11 | | | | | | BTEX | MAH, VC | | | 14 days | BTEV | MAH, VO | | | 14 days | |
| Specia | I Directions & Comments : | | | 496 | | | | | | | Ä, | pHfox) | | | | 1 1 | | 1 1 | | - | | nols, Pestic | ides | 7 days | | PAH, Phen | | ides | 14 days | |
| | | | | -AS | Ž | | | | | | Suite (pH, | d p | | | | | | | | Heavy | Metals | | | 6 months | | Metals | 0.01 1 00.00 | | 6 months | |
| Zip lock bag samples frozen overnight and been on ice all of times. Please freeze zip lock bags for possible future SPOC | | | ip lock bag samples frozen overnight and been on ice all other | | | | | | | | Suit | and | | | | 1 1 | | | | Mercu | ry, CrVI | | | 28 days | - | ry, CrVI | | | 28 days | |
| | . Thanks | possible fatore | 0.00.00 | apse | ₩ | PCB | 10 | | | | £ _ | (pHf | | | | 1 1 | | 1 1 | | Micro | biological t | esting | | 24 hours | | piological te | sting | | 72 hours | |
| | | | | ce/s | A | P. | | | 62-92 | | sivi 304 | - L | | | | 1 1 | | Ш | | BOD, | Nitrate, N | itrite, Total | N | 2 days | Anions | | | | 28 days | |
| | | | 79.00 | sen | 불 | OCP/ | 1 | | 8 | | y, S | Screen | | | | 1 1 | | | | Solids | - TSS, TI | OS etc | | 7 days | SPOC | AS, pH Fie | eld and FO | X, CrS | 24 hours | |
| | i i a de Riamata de de la comptanta | | | (pre | B7 (TRH/PAH/BTEXN/8 | 00 | | | TPH | | 2 Aggressivity (stivity, S04) | Sc | | | | | | | | Ferro | us iron | | | 7 days | | TCLP | | | 7 days | |
| uroiin | s mgt Di water batch number: | | | Ol so: | B7 | B13 | tals | | _ | | L'S | Field | | | -1 | | | | | | | | | | | | | | | |
| | Sample ID | Date | Matrix | Asbest | Suite | Suite | 8 metals | BTEX | BTEX | TCLP | Suite CI, Re | - Hd | | | | | | | | Containe 1LP | rs: 250P | 125P | 1LA | 40mL vial | 125mL A | Jar | bag | Sample of | omments: | |
| 1 | GHD-BH3 9.0 9.45 | 17/07/2018 | soil | 4 | 0) | 0) | - 8 | ш | Ш | | 0,0 | X | + | | | \vdash | + | | \perp | 101 | 2001 | 1201 | 101 | 40IIIE VIGI | 120me A | Octi | 1 | | | |
| 2 | | | | | \neg | | | | \Box | | | X | \neg | | | | | \Box | | | | | | | | | 1 | | | |
| 3 | | | soil | | \vdash | | | | | | | X | | \top | | T | \top | \Box | | | - | | | | | | 1 | | | |
| 4 | | 17/07/2018 | soil | | | | + | | | | | Х | | \top | | \Box | \top | \Box | \neg | | | | | | | | 1 | | | |
| 5 | GHD-BH2 1.9 2.35 | 23/07/2018 | soil | Х | Х | Х | | | | | | Х | | | | | | | | | | | | | | 1 | 1 | | | |
| 6 | GHD-BH2 3.5 3.95 | 23/07/2018 | soil | | Х | Х | | | | | | Х | | | | | | | | | | | | | | 1 | 1 | | | |
| 7 | GHD-BH2 5 5.45 | 23/07/2018 | soil | | | | | | | | | Х | | | | | | | | | | | | | | 1 | 1 | | | |
| 8 | GHD-BH2 8 8.45 | 23/07/2018 | soil | | | | | | | | | Х | | | | | | | | | | | | | | 1 | 1 | | | |
| 9 | GHD-BH2_11.0 | 23/07/2018 | soil | | Х | | | | | | | Х | | | | | | | | | | | | | | 1 | 1 | | | |
| 10 | GHD-BH2_11_11.23 | 23/07/2018 | soil | | | | | | | | | Х | | | | | | | | | | | | | | 1 | 1 | | | |
| 11 | GHD-BH2_14_14.45 | 23/07/2018 | soil | | | | | | | | | Х | | | | | | | | | | | | | | 1 | 1 | | | |
| 12 | Dup01 | 23/07/2018 | soil | | Х | X | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | Dup02 | 23/07/2018 | soil | | Х | X | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | Labo | oratory | Staff | £ | | | | | | Turn ar | ound ti | me | | | | | | Method C | f Shipmer | nt | | | Temperature | on arrival: | |
| Relinq | uished By: Clifton Thompsor | 1 | Receiv | ed By | " (| 14 | di | | 9 | | | | | 24.0 | | | | | | □ c | ourier | | | | | | | 7.4 | 3°C | |
| Date & | k Time : 18:00, 23/07/2018 & 1 | 8:00 19/07/20 | 18 Date & | Time | j. J. | 5a | n | | 1 | 25 | /7. | 1 DAY | | 2 DAY | | 3 DAY | | | | | and Deliv | ered | | | | | | Report number | | |
| 1 GHD-BH3_9.0_9.45 17/07/2018 soil 2 GHD-BH3_10.5_10.6 17/07/2018 soil 3 GHD-BH3_15_15.45 17/07/2018 soil 4 GHD-BH3_18_18.2 17/07/2018 soil 5 GHD-BH2_1.9_2.35 23/07/2018 soil 6 GHD-BH2_3.5_3.95 23/07/2018 soil 7 GHD-BH2_5_5.45 23/07/2018 soil 8 GHD-BH2_8_8.45 23/07/2018 soil 9 GHD-BH2_11.0 23/07/2018 soil 10 GHD-BH2_11_11.23 23/07/2018 soil 11 GHD-BH2_11_11.23 23/07/2018 soil 12 Dup01 23/07/2018 soil 13 Dup02 23/07/2018 soil 14 15 16 Relinquished By: Clifton Thompson Reco | | Signati | ure: | | | _ | _ | | | 5 | DAY | | 10 DA | | Other: | | | | Courier (| Consignm | ent#: | | | | | | 6092 | 40 | | |



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ABN - 50 005 085 521

e.mail: EnviroSales@eurofins.com

web: www.eurofins.com.au

Sample Receipt Advice

GHD Pty Ltd NSW Company name:

Contact name: Clifton Thompson

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT Project name:

Project ID: 2127425 COC number: Not provided

Turn around time: 5 Day

Jul 25, 2018 11:15 AM Date/Time received:

Eurofins | mgt reference: 609240

Sample information

- \mathbf{V} A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- \mathbf{V} Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt: 7.4 degrees Celsius.
- \mathbf{V} All samples have been received as described on the above COC.
- \square COC has been completed correctly.
- **7** Attempt to chill was evident.
- \mathbf{V} Appropriately preserved sample containers have been used.
- **7** All samples were received in good condition.
- \mathbf{V} Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- \mathbf{V} Appropriate sample containers have been used.
- \boxtimes Split sample sent to requested external lab.
- \boxtimes Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

GHD_BH2_11.0 not received; analysis cancelled. GHD_BH3_9.0-9.45, GHD_BH3_10.5-10.6, GHD BH3 15-15.45 & GHD BH3 18-18.2 not frozen as received in Asbestos bags without prior instructions. Additional sample GHD_BH2_10.60-10.75(Unfrozen Asbestos bag) placed on hold.

Contact notes

If you have any questions with respect to these samples please contact:

Nibha Vaidya on Phone: +61 (2) 9900 8415 or by e.mail: Nibha Vaidya@eurofins.com

Results will be delivered electronically via e.mail to Clifton Thompson - Clifton.Thompson@ghd.com.



Environmental Laboratory Soil Contamination Analysis

NATA Accreditation Stack Emission Sampling & Analysis Trade Waste Sampling & Analysis Groundwater Sampling & Analysis







Certificate of Analysis





NATA Accredited
Accreditation Number 1261
Site Number 18217

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

GHD Pty Ltd NSW Level 15, 133 Castlereagh Street Sydney NSW 2000

Attention: Clifton Thompson Report 609240-AID

Project Name SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

 Project ID
 2127425

 Received Date
 Jul 25, 2018

 Date Reported
 Aug 01, 2018

Methodology:

Asbestos Fibre

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 subsampling 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 asbestoscontaining 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 AS4964 method for inhomogeneous samples is around 0.1 g/kg (0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis where required, this is considered to be at the nominal reporting limit of 0.01 % (w / w). The examination of large sample sizes(500 mL is recommended) may improve the likelihood of identifying ACM in the > 2mm fraction. The NEPM screening level of 0.001 % (w / w) asbestos in soil for FA(friable asbestos) and AF(asbestos fines) then applies where they are able to be quantified by gravimetric procedures. This quantitative screening is not generally applicable to FF(free fibres) and results of Trace Analysis are referred.

NOTE: NATA News March 2014, p.7, states in relation to AS4964: "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". Accordingly, NATA Accreditation does not cover the performance of this service (indicated with an asterisk). This report is consistent with the analytical procedures and reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended) and the Western Australia Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia, 2009, including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil, June 2011.







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

Project Name SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

 Project ID
 2127425

 Date Sampled
 Jul 23, 2018

 Report
 609240-AID

| Client Sample ID | Eurofins mgt Sample No. | Date Sampled | Sample Description | Result |
|------------------|------------------------------|--------------|---|--|
| GHD_BH2_1.9-2.35 | 18-Jl28506 | Jul 23, 2018 | Sample consisted of: Light grey fine grain soil and rocks | No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No respirable fibres detected. |

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 ABN: 50 005 085 521 Telephone: +61 2 9900 8400 Page 2 of 8



Sample History

Date Reported: Aug 01, 2018

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

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.

DescriptionTesting SiteExtractedHolding TimeAsbestos - LTM-ASB-8020SydneyJul 25, 2018Indefinite

Page 3 of 8

Report Number: 609240-AID



Order No.:

Report #:

Phone:

Fax:

Melbourne
3-5 Kingston Town Cl

2127425

02 9239 7100

02 9239 7199

609240

3-5 Kingston Town Close Oakleigh VIC 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271 Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone: +61 2 9900 8400
NATA # 1261 Site # 18217

Received:

Priority:

Contact Name:

Due:

Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone: +61 7 3902 4600 NATA # 1261 Site # 20794 Perth 2/91 Leach Highway Kewdale WA 6105 Phone: +61 8 9251 9600 NATA # 1261 Site # 23736

Jul 25, 2018 11:15 AM

Aug 1, 2018

Clifton Thompson

5 Day

Company Name: GHD Pty Ltd NSW

Address:

Level 15, 133 Castlereagh Street

Sydney

NSW 2000

Project Name:

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID: 2127425

7 2000

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| | | | mple Detail | | | Asbestos - AS4964 | CANCELLED | HOLD | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 |
|----|---------------------------------|--------------|------------------|--------|-------------|-------------------|-----------|------|----------------------------------|--------------------------|--------------|-------------------------|
| | ourne Laborato | | | 271 | | Х | Х | | | Х | Х | Х |
| | ney Laboratory obane Laboratory | | | | | ^ | ^ | Х | Х | ^ | ^ | ^ |
| | h Laboratory - N | | | | | | | | | | | |
| | rnal Laboratory | | | | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | | |
| 1 | GHD_BH3_9.0 -9.45 | Jul 17, 2018 | | Soil | S18-JI28502 | | | | Х | | | |
| 2 | GHD_BH3_10. 5-10.6 | Jul 17, 2018 | | Soil | S18-JI28503 | | | | Х | | | |
| 3 | GHD_BH3_15- 15.45 | Jul 17, 2018 | | Soil | S18-JI28504 | | | | Х | | | |
| 4 | GHD_BH3_18- 18.2 | Jul 17, 2018 | | Soil | S18-JI28505 | | | | Х | | | |
| 5 | GHD_BH2_1.9 -2.35 | Jul 23, 2018 | | Soil | S18-JI28506 | х | | | Х | Х | Х | х |
| 6 | GHD_BH2_3.5 | Jul 23, 2018 | | Soil | S18-Jl28507 | | | | Х | Х | Х | х |

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Order No.:

Report #:

Phone:

Fax:

Melbourne

2127425

02 9239 7100

02 9239 7199

609240

3-5 Kingston Town Close Oakleigh VIC 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271

Sydney Unit F3, Building F Brisbane

Received:

Priority:

Contact Name:

Due:

16 Mars Road

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NATA # 1261 Site # 18217

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

Perth 2/91 Leach Highway Kewdale WA 6105 Phone: +61 8 9251 9600 NATA # 1261 Site # 23736

Jul 25, 2018 11:15 AM

Aug 1, 2018

Clifton Thompson

5 Day

Company Name: GHD Pty Ltd NSW

Address:

Level 15, 133 Castlereagh Street

Sydney

NSW 2000

Project Name: Project ID:

2127425

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| | | | mple Detail | | | Asbestos - AS4964 | CANCELLED | HOLD | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 |
|----|--------------------------------|--------------|-------------|------|-------------|-------------------|-----------|------|----------------------------------|--------------------------|---------------------------------------|-------------------------|
| | bourne Laborato | _ | | 271 | | | | | | X | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | |
| | ney Laboratory bane Laboratory | | | | | Х | Х | Х | Х | _ ^ | Х | Х |
| | h Laboratory - N | | | | | | | | | | | |
| | -3.95 | | | | | | | | | | | |
| 7 | GHD_BH2_11. 0 | Jul 23, 2018 | | Soil | S18-Jl28508 | | Х | | | | | |
| 8 | DUP01 | Jul 23, 2018 | | Soil | S18-JI28509 | | | | | Х | Х | Х |
| 9 | DUP02 | Jul 23, 2018 | | Soil | S18-Jl28510 | | | | | Х | Х | Х |
| 10 | GHD_BH2_5- 5.45 | Jul 23, 2018 | | Soil | S18-JI28511 | | | | Х | | | |
| 11 | GHD_BH2_8- 8.45 | Jul 23, 2018 | | Soil | S18-JI28512 | | | | х | | | |
| 12 | GHD_BH2_11- 11.23 | Jul 23, 2018 | | Soil | S18-Jl28513 | | | | Х | | | |
| 13 | GHD_BH2_14- 14.45 | Jul 23, 2018 | | Soil | S18-Jl28514 | | | | Х | | | |
| 14 | GHD_BH3_10. | Jul 16, 2018 | | Soil | S18-Jl28546 | | | Х | | | | |

Page 5 of 8



Address:

Project Name:

ABN - 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au **Melbourne** 3-5 Kingston Town Close

Oakleigh VIC 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271 Sydney Brisbane
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NATA # 1261 Site # 18217

1/21 Smallwood Place Murarrie QLD 4172 Phone: +61 7 3902 4600 NATA # 1261 Site # 20794 Perth 2/91 Leach Highway Kewdale WA 6105 Phone: +61 8 9251 9600 NATA # 1261 Site # 23736

 Company Name:
 GHD Pty Ltd NSW
 Order No.:
 2127425
 Received:
 Jul 25, 2018 11:15 AM

 Level 15, 133 Castlereagh Street
 Report #:
 609240
 Due:
 Aug 1, 2018

 Sydney
 Phone:
 02 9239 7100
 Priority:
 5 Day

NSW 2000 Fax: 02 9239 7199 Contact Name: Clifton Thompson

Now 2000 Tax. 02 0200 7100 Contact Name. Contact Name.

Project ID: 2127425

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| Sample Detail | Asbestos - AS4964 | CANCELLED | HOLD | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 | |
|---|-------------------|-----------|------|----------------------------------|--------------------------|--------------|-------------------------|--|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | Х | Х | | | Х | Х | Х | |
| Brisbane Laboratory - NATA Site # 20794 | | | Х | Х | | | | |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | |
| 60-10.75 | | | | | | | | |
| Test Counts | 1 | 1 | 1 | 10 | 4 | 4 | 4 | |

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT



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. This report replaces any interim results previously issued.

Holding Times

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

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

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: weight for weight basis grams per kilogram
Filter loading: fibres/100 graticule areas

Reported Concentration: fibres/mL Flowrate: L/min

Terms

ΑF

Date Reported: Aug 01, 2018

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis

LOR Limit of Reporting
COC Chain of Custody
SRA Sample Receipt Advice

ISO International Standards Organisation

AS Australian Standards

WA DOH Western Australia Department of Health

NOHSC National Occupational Health and Safety Commission

ACM Bonded asbestos-containing material means any material containing more than 1% asbestos and comprises asbestos-containing-material which is in sound condition,

although possibly broken or fragmented, and where the asbestos is bound in a matrix such as cement or resin. Common examples of ACM include but are not limited to: pipe and boiler insulation, sprayed-on fireproofing, troweled-on acoustical plaster, floor tile and mastic, floor linoleum, transite shingles, roofing materials, wall and ceiling plaster, ceiling tiles, and gasket materials. This term is restricted to material that cannot pass a 7 mm x 7 mm sieve. This sieve size is selected because it approximates the thickness of common asbestos cement sheeting and for fragments to be smaller than this would imply a high degree of damage and hence potential

for fibre release

FA FA comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. This type of friable asbestos

is defined here as asbestos material that is in a degraded condition such that it can be broken or crumbled by hand pressure. This material is typically unbonded or

was previously bonded and is now significantly degraded (crumbling).

PACM Presumed Asbestos-Containing Material means thermal system insulation and surfacing material found in buildings, vessels, and vessel sections constructed no later

than 1980 that are assumed to contain greater than one percent asbestos but have not been sampled or analyzed to verify or negate the presence of asbestos.

Asbestos fines (AF) are defined as free fibres, or fibre bundles, smaller than 7mm. It is the free fibres which present the greatest risk to human health, although very

small fibres (< 5 microns in length) are not considered to be such a risk. AF also includes small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve.

(Note that for bonded ACM fragments to pass through a 7 mm x 7 mm sieve implies a substantial degree of damage which increases the potential for fibre release.)

AC Asbestos cement means a mixture of cement and asbestos fibres (typically 90:10 ratios).

Report Number: 609240-AID



Comments

The sample received was not collected in an approved asbestos bag and was therefore sub-sampled from the 250mL glass jar. Valid sub-sampling procedures were applied so as to ensure that the sub-sample to be analysed accurately represented the sample received.

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 N/A Not applicable

Asbestos Counter/Identifier:

Sayeed Abu Senior Analyst-Asbestos (NSW)

Authorised by:

Laxman Dias Senior Analyst-Asbestos (NSW)

Glenn Jackson

National Operations Manager

Final Report - this report replaces any previously issued Report

Date Reported: Aug 01, 2018

Measurement uncertainty of test data is available on request or please $\underline{\text{click here.}}$

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Report Number: 609240-AID

⁻ Indicates Not Requested

 $^{^{\}star}$ Indicates NATA accreditation does not cover the performance of this service





Certificate of Analysis

GHD Pty Ltd NSW Level 15, 133 Castlereagh Street Sydney NSW 2000





NATA Accredited Accreditation Number 1261 Site Number 18217

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

Attention: Clifton Thompson

Report 609240-S

Project name SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID 2127425 Received Date Jul 25, 2018

| Client Sample ID | | | GHD_BH3_9.0- 9.45 | 5-10.6 | GHD_BH3_15- 15.45 | GHD_BH3_18- 18.2 |
|----------------------------------|-----|----------|----------------------|--------------|----------------------|---------------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-JI28502 | S18-JI28503 | S18-JI28504 | S18-JI28505 |
| Date Sampled | | | Jul 17, 2018 | Jul 17, 2018 | Jul 17, 2018 | Jul 17, 2018 |
| Test/Reference | LOR | Unit | | | | |
| Acid Sulfate Soils Field pH Test | | | | | | |
| pH-F (Field pH test)* | 0.1 | pH Units | 6.8 | 6.2 | 7.2 | 7.4 |
| pH-FOX (Field pH Peroxide test)* | 0.1 | pH Units | 4.4 | 3.1 | 4.5 | 2.6 |
| Reaction Ratings*S05 | | comment | 1.0 | 1.0 | 1.0 | 1.0 |

| Client Sample ID | | | GHD_BH2_1.9- 2.35 | GHD_BH2_3.5- 3.95 | DUP01 | DUP02 |
|--|-----------|-------|----------------------|----------------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-JI28506 | S18-JI28507 | S18-JI28509 | S18-JI28510 |
| Date Sampled | | | Jul 23, 2018 | Jul 23, 2018 | Jul 23, 2018 | Jul 23, 2018 |
| Test/Reference | LOR | Unit | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM | Fractions | | | | | |
| TRH C6-C9 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C10-C14 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C15-C28 | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH C29-C36 | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH C10-36 (Total) | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| ВТЕХ | | | | | | |
| 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 | % | 91 | 79 | 72 | 68 |
| Total Recoverable Hydrocarbons - 2013 NEPM | Fractions | | | | | |
| Naphthalene ^{N02} | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| TRH C6-C10 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C6-C10 less BTEX (F1)N04 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH >C10-C16 | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH >C10-C16 less Naphthalene (F2)N01 | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH >C16-C34 | 100 | mg/kg | < 100 | < 100 | < 100 | < 100 |
| TRH >C34-C40 | 100 | mg/kg | < 100 | < 100 | < 100 | < 100 |



| Client Sample ID | | | GHD_BH2_1.9- 2.35 | GHD_BH2_3.5- 3.95 | DUP01 | DUP02 |
|---------------------------------------|------|-------|----------------------|----------------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-JI28506 | S18-JI28507 | S18-JI28509 | S18-JI28510 |
| Date Sampled | | | Jul 23, 2018 | Jul 23, 2018 | Jul 23, 2018 | Jul 23, 2018 |
| Test/Reference | LOR | Unit | , , , | , | , , , | , |
| Polycyclic Aromatic Hydrocarbons | LOIX | Onit | | | | |
| 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 |
| ndeno(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 | % | 133 | 95 | 105 | 83 |
| p-Terphenyl-d14 (surr.) | 1 | % | 123 | 86 | 93 | 83 |
| 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-BHC | 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 |
| o-BHC | 0.05 | mg/kg | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| d-BHC | 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-BHC (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 | 0.2 | mg/kg | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| Toxaphene | 1 | mg/kg | < 1 | < 1 | < 1 | < 1 |
| 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 | % | 83 | 86 | 86 | 80 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 83 | 90 | 96 | 89 |

Report Number: 609240-S



| Client Sample ID | | | GHD_BH2_1.9- | GHD_BH2_3.5- | DUDO4 | DUP02 |
|----------------------------------|-----|----------|--------------|--------------|---------------|--------------|
| • | | | 2.35 Soil | 3.95 Soil | DUP01 Soil | Soil |
| Sample Matrix | | | | | | 1 |
| Eurofins mgt Sample No. | | | S18-JI28506 | S18-JI28507 | S18-JI28509 | S18-JI28510 |
| Date Sampled | | | Jul 23, 2018 | Jul 23, 2018 | Jul 23, 2018 | Jul 23, 2018 |
| Test/Reference | LOR | Unit | | | | |
| Polychlorinated Biphenyls | | | | | | |
| Aroclor-1016 | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Aroclor-1221 | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Aroclor-1232 | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Aroclor-1242 | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Aroclor-1248 | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Aroclor-1254 | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Aroclor-1260 | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Total PCB* | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dibutylchlorendate (surr.) | 1 | % | 83 | 86 | 86 | 80 |
| Tetrachloro-m-xylene (surr.) | 1 | % | 83 | 90 | 96 | 89 |
| Heavy Metals | | | | | | |
| Arsenic | 2 | mg/kg | < 2 | < 2 | < 2 | < 2 |
| Cadmium | 0.4 | mg/kg | < 0.4 | < 0.4 | < 0.4 | < 0.4 |
| Chromium | 5 | mg/kg | < 5 | 5.5 | 6.2 | 6.1 |
| Copper | 5 | mg/kg | < 5 | < 5 | < 5 | < 5 |
| Lead | 5 | mg/kg | < 5 | < 5 | < 5 | < 5 |
| Mercury | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Nickel | 5 | mg/kg | < 5 | < 5 | < 5 | < 5 |
| Zinc | 5 | mg/kg | < 5 | < 5 | < 5 | < 5 |
| Acid Sulfate Soils Field pH Test | | | | | | |
| pH-F (Field pH test)* | 0.1 | pH Units | 7.0 | 5.1 | - | - |
| pH-FOX (Field pH Peroxide test)* | 0.1 | pH Units | 5.6 | 4.4 | - | - |
| Reaction Ratings*S05 | | comment | 1.0 | 1.0 | - | - |
| | | | | | | |
| % Moisture | 1 | % | 13 | 14 | 12 | 16 |

| Client Sample ID | | | GHD_BH2_5- 5.45 | GHD_BH2_8- 8.45 | GHD_BH2_11- 11.23 | GHD_BH2_14- 14.45 |
|----------------------------------|-----|----------|--------------------|--------------------|----------------------|----------------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-JI28511 | S18-JI28512 | S18-JI28513 | S18-JI28514 |
| Date Sampled | | | Jul 23, 2018 | Jul 23, 2018 | Jul 23, 2018 | Jul 23, 2018 |
| Test/Reference | LOR | Unit | | | | |
| Acid Sulfate Soils Field pH Test | | | | | | |
| pH-F (Field pH test)* | 0.1 | pH Units | 5.1 | 6.3 | 5.4 | 5.2 |
| pH-FOX (Field pH Peroxide test)* | 0.1 | pH Units | 4.3 | 4.8 | 4.2 | 1.6 |
| Reaction Ratings*S05 | | comment | 1.0 | 1.0 | 1.0 | 4.0 |

Report Number: 609240-S



Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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 Total Recoverable Hydrocarbons - 1999 NEPM Fractions | Testing Site Sydney | Extracted Jul 27, 2018 | Holding Time 14 Day |
|--|------------------------|------------------------|------------------------|
| - Method: TRH C6-C36 - LTM-ORG-2010 | Cy a.r.cy | 00. 2. , 20.0 | 2 4, |
| BTEX | Sydney | Jul 27, 2018 | 14 Day |
| - Method: TRH C6-C40 - LTM-ORG-2010 | , , | | • |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Sydney | Jul 27, 2018 | 14 Day |
| - Method: TRH C6-C40 - LTM-ORG-2010 | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Sydney | Jul 27, 2018 | 14 Day |
| - Method: TRH C6-C40 - LTM-ORG-2010 | | | |
| Polycyclic Aromatic Hydrocarbons | Sydney | Jul 27, 2018 | 14 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| Metals M8 | Sydney | Jul 27, 2018 | 28 Day |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |
| Organochlorine Pesticides | Sydney | Jul 27, 2018 | 14 Day |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water | | | |
| Polychlorinated Biphenyls | Sydney | Jul 27, 2018 | 28 Days |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water | | | |
| Acid Sulfate Soils Field pH Test | Brisbane | Jul 26, 2018 | 7 Days |
| - Method: LTM-GEN-7060 Determination of field pH (pHF) and field pH peroxide (pHFOX) tests | | | |
| % Moisture | Sydney | Jul 25, 2018 | 14 Day |
| | | | |



Fax:

Melbourne 2-5 Kingston Town Close Oakleigh VIC 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271

Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217

Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone: +61 7 3902 4600 NATA # 1261 Site # 20794 Perth 2/91 Leach Highway Kewdale WA 6105 Phone: +61 8 9251 9600 NATA # 1261 Site # 23736

Company Name: GHD Pty Ltd NSW

Address: Level 15, 133 Castlereagh Street

Sydney

NSW 2000

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT **Project Name:**

Project ID: 2127425 Order No.: 2127425 Received: Jul 25, 2018 11:15 AM Report #: 609240 Due: Aug 1, 2018

Phone: 02 9239 7100 Priority: 5 Day 02 9239 7199 **Contact Name:** Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| | | Asbestos - AS4964 | CANCELLED | HOLD | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 | | | | |
|----|---|-------------------|------------------|--------|----------------------------------|--------------------------|--------------|-------------------------|---|---|---|---|
| | ourne Laborato | | Х | Х | | | Х | Х | X | | | |
| | ney Laboratory bane Laboratory | | | | | ^ | ^ | Х | Х | ^ | ^ | ^ |
| | h Laboratory - N | | | | | | | | | | | |
| | rnal Laboratory | | | | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | | |
| 1 | GHD_BH3_9.0 -9.45 | Jul 17, 2018 | | Soil | S18-JI28502 | | | | Χ | | | |
| 2 | GHD_BH3_10. 5-10.6 | Jul 17, 2018 | | Soil | S18-JI28503 | | | | Х | | | |
| 3 | | | | | | | | | Х | | | |
| 4 | 4 GHD_BH3_18- Jul 17, 2018 Soil S18-Jl28505 | | | | | | | | Х | | | |
| 5 | 5 GHD_BH2_1.9 Jul 23, 2018 Soil S18-JI28506 | | | | | | | | Х | Х | х | Х |
| 6 | GHD_BH2_3.5 | Jul 23, 2018 | | Soil | S18-JI28507 | | | | Х | Х | х | Х |

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 ABN: 50 005 085 521 Telephone: +61 2 9900 8400

Page 5 of 15

Date Reported:Aug 01, 2018



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Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 4600 NATA # 1261 Site # 20794 Perth
2/91 Leach Highway
Kewdale WA 6105
Phone: +61 8 9251 9600
NATA # 1261
Site # 23736

Company Name: GHD Pty Ltd NSW

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Sydney

NSW 2000

Project Name: SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

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 2127425
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 609240
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 Aug 1, 2018

 Phone:
 02 9239 7100
 Priority:
 5 Day

Contact Name: Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| | | Asbestos - AS4964 | CANCELLED | HOLD | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 | | | | |
|------|----------------------|-------------------|--------------|------|----------------------------------|--------------------------|--------------|-------------------------|---|---|---|---|
| Mel | bourne Laborato | ory - NATA Site | # 1254 & 142 | 271 | | | | | | | | |
| Syd | ney Laboratory | - NATA Site # 1 | 8217 | | | Х | Х | | | Х | Х | Х |
| | bane Laboratory | • | | | | | | Х | Х | | | |
| Pert | th Laboratory - N | IATA Site # 237 | 736 | 1 | | | | | | | | |
| | -3.95 | | | | | | | | | | | |
| 7 | GHD_BH2_11. 0 | Jul 23, 2018 | | Soil | S18-Jl28508 | | Х | | | | | |
| 8 | DUP01 | Jul 23, 2018 | | Soil | S18-JI28509 | | | | | Х | Х | Х |
| 9 | DUP02 | Jul 23, 2018 | | Soil | S18-Jl28510 | | | | | Х | Х | Х |
| 10 | GHD_BH2_5- 5.45 | Jul 23, 2018 | | Soil | S18-Jl28511 | | | | Х | | | |
| 11 | GHD_BH2_8- 8.45 | Jul 23, 2018 | | Soil | S18-Jl28512 | | | | Х | | | |
| 12 | GHD_BH2_11- 11.23 | Jul 23, 2018 | | Soil | S18-Jl28513 | | | | Х | | | |
| 13 | GHD_BH2_14- 14.45 | Jul 23, 2018 | | Soil | S18-Jl28514 | | | | Х | | | |
| 14 | GHD_BH3_10. | Jul 16, 2018 | | Soil | S18-Jl28546 | | | Х | | | | |



Melbourne 2-5 Kingston Town Close Oakleigh VIC 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271 Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217

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

Received:

Due:

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone: +61 8 9251 9600
NATA # 1261
Site # 23736

Jul 25, 2018 11:15 AM

Aug 1, 2018

Company Name: GHD Pty Ltd NSW

Address: Level 15, 133 Castlereagh Street

Sydney

NSW 2000

Project Name: SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID: 2127425

 Order No.:
 2127425

 Report #:
 609240

 Phone:
 02 9239 7100

 Fax:
 02 9239 7199

Priority: 5 Day
Contact Name: Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Eurofir

Eurofir

Acid S

Acid S

| Sample Detail | stos - AS4964 | SELLED | | Sulfate Soils Field pH Test | ns mgt Suite B13 | ure Set | ns mgt Suite B7 |
|---|---------------|--------|---|-----------------------------|--------------------|---------|-------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | Х | Х | | | Х | Х | Х |
| Brisbane Laboratory - NATA Site # 20794 | | | Х | Х | | | |
| Perth Laboratory - NATA Site # 23736 | | | | | | | |
| 60-10.75 | | | | | | | |
| Test Counts | 1 | 1 | 1 | 10 | 4 | 4 | 4 |



Internal Quality Control Review and Glossary

General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- 4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- 5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds
- 6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 7. Samples were analysed on an 'as received' basis
- 8. 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.

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

Units

mg/kg: milligrams per kilogram mg/L: milligrams per litre ug/L: micrograms per litre

ppm: Parts per million **ppb:** Parts per billion
%: Percentage

org/100mL: Organisms per 100 millilitres NTU: Nephelometric Turbidity Units MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery.

RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery.

CRM Certified Reference Material - reported as percent recovery.

Method Blank In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.

Surr - Surrogate The addition of a like compound to the analyte target and reported as percentage recovery.

Duplicate A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

USEPA United States Environmental Protection Agency

APHA American Public Health Association
TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

QSM Quality Systems Manual ver 5.1 US Department of Defense
CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.

TEQ Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data. Toxaphene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxaphene is not added to the Spike.
- 5. Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

 Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- 8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate 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 | <u> </u> | • | ' | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | | |
| TRH C6-C9 | mg/kg | < 20 | 20 | Pass | |
| TRH C10-C14 | mg/kg | < 20 | 20 | Pass | |
| TRH C15-C28 | mg/kg | < 50 | 50 | Pass | |
| TRH C29-C36 | mg/kg | < 50 | 50 | Pass | |
| Method Blank | | | | | |
| BTEX | | | | | |
| 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 | |
| Xvlenes - Total | mg/kg | < 0.3 | 0.3 | Pass | |
| Method Blank | 1 | | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | | |
| Naphthalene | mg/kg | < 0.5 | 0.5 | Pass | |
| TRH C6-C10 | mg/kg | < 20 | 20 | Pass | |
| TRH >C10-C16 | mg/kg | < 50 | 50 | Pass | |
| TRH >C16-C34 | mg/kg | < 100 | 100 | Pass | |
| TRH >C34-C40 | mg/kg | < 100 | 100 | Pass | |
| Method Blank | IIIg/Rg | 100 | 100 | 1 455 | |
| 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&i)fluoranthene | mg/kg | < 0.5 | 0.5 | Pass | |
| Benzo(g.h.i)perylene | mg/kg | < 0.5 | 0.5 | Pass | |
| Benzo(k)fluoranthene | | < 0.5 | 0.5 | Pass | |
| Chrysene | mg/kg | < 0.5 | 0.5 | Pass | |
| Dibenz(a.h)anthracene | mg/kg | < 0.5 | 0.5 | Pass | |
| | mg/kg | < 0.5 | 0.5 | Pass | |
| Fluorene Fluorene | mg/kg | 1 | | | |
| Indeno(1.2.3-cd)pyrene | mg/kg | < 0.5 | 0.5 0.5 | Pass Pass | |
| \ | mg/kg | < 0.5 | | | |
| Naphthalene | mg/kg | < 0.5 | 0.5 | Pass | |
| Phenanthrene | mg/kg | < 0.5 | 0.5 | Pass | |
| Pyrene Math ad Blank | mg/kg | < 0.5 | 0.5 | Pass | |
| Method Blank | | | | | |
| Organochlorine Pesticides | | .04 | 0.4 | Dana | |
| Chlordanes - Total 4.4'-DDD | mg/kg | < 0.1 | 0.1 | Pass | |
| | mg/kg | < 0.05 | 0.05 | Pass | |
| 4.4'-DDE | mg/kg | < 0.05 | 0.05 | Pass | |
| 4.4'-DDT | mg/kg | < 0.05 | 0.05 | Pass | |
| a-BHC | mg/kg | < 0.05 | 0.05 | Pass | |
| Aldrin | mg/kg | < 0.05 | 0.05 | Pass | |
| b-BHC | mg/kg | < 0.05 | 0.05 | Pass | |
| d-BHC | mg/kg | < 0.05 | 0.05 | Pass | |
| Dieldrin | mg/kg | < 0.05 | 0.05 | Pass | |
| Endosulfan I | mg/kg | < 0.05 | 0.05 | Pass | |
| 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-BHC (Lindane) | mg/kg | < 0.05 | 0.05 | Pass | |
| Heptachlor | mg/kg | < 0.05 | 0.05 | Pass | |
| Heptachlor epoxide | mg/kg | < 0.05 | 0.05 | Pass | |
| Hexachlorobenzene | mg/kg | < 0.05 | 0.05 | Pass | |
| Methoxychlor | mg/kg | < 0.2 | 0.2 | Pass | |
| Toxaphene | mg/kg | <1 | 1 | Pass | |
| Method Blank | | | | 1 400 | |
| Polychlorinated Biphenyls | | | | | |
| Aroclor-1016 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1221 | mg/kg | < 0.1 | 0.5 | Pass | |
| | | | | | |
| Arcelor 1242 | mg/kg | < 0.5 | 0.5 | Pass | |
| Arcelor 1242 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1248 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1254 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1260 | mg/kg | < 0.5 | 0.5 | Pass | |
| Total PCB* | mg/kg | < 0.5 | 0.5 | Pass | |
| Method Blank | | T T | T | | |
| Heavy Metals | | | | | |
| Arsenic | mg/kg | < 2 | 2 | Pass | |
| Cadmium | mg/kg | < 0.4 | 0.4 | Pass | |
| Chromium | mg/kg | < 5 | 5 | Pass | |
| Copper | mg/kg | < 5 | 5 | Pass | |
| Lead | mg/kg | < 5 | 5 | Pass | |
| Mercury | mg/kg | < 0.1 | 0.1 | Pass | |
| Nickel | mg/kg | < 5 | 5 | Pass | |
| Zinc | mg/kg | < 5 | 5 | Pass | |
| LCS - % Recovery | | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fracti | ions | | | | |
| TRH C6-C9 | % | 96 | 70-130 | Pass | |
| TRH C10-C14 | % | 79 | 70-130 | Pass | |
| LCS - % Recovery | 70 | 10 | 70 100 | 1 400 | |
| BTEX | | | | | |
| Benzene | % | 96 | 70-130 | Pass | |
| Toluene | % | 103 | 70-130 | Pass | |
| | % | 100 | 70-130 | | |
| Ethylbenzene | | 104 | | Pass | |
| m&p-Xylenes | % | | 70-130 | Pass | |
| o-Xylene | % | 102 | 70-130 | Pass | |
| Xylenes - Total | % | 103 | 70-130 | Pass | |
| LCS - % Recovery | | | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fract | | | | _ | |
| Naphthalene | % | 98 | 70-130 | Pass | |
| TRH C6-C10 | % | 94 | 70-130 | Pass | |
| TRH >C10-C16 | % | 85 | 70-130 | Pass | |
| LCS - % Recovery | | | | | |
| Polycyclic Aromatic Hydrocarbons | 1 | | | | |
| Acenaphthene | % | 89 | 70-130 | Pass | |
| Acenaphthylene | % | 88 | 70-130 | Pass | |
| Anthracene | % | 79 | 70-130 | Pass | |
| Benz(a)anthracene | % | 86 | 70-130 | Pass | |
| Benzo(a)pyrene | % | 86 | 70-130 | Pass | |



| Test | | | Units | Result 1 | | Acceptance Limits | Pass Limits | Qualifying Code |
|--------------------------------|----------------------------|--------|----------|----------|---|----------------------|----------------|--------------------|
| Benzo(b&j)fluoranthene | | | % | 83 | | 70-130 | Pass | |
| Benzo(g.h.i)perylene | | | % | 86 | | 70-130 | Pass | |
| Benzo(k)fluoranthene | | | % | 84 | | 70-130 | Pass | |
| Chrysene | | | % | 88 | | 70-130 | Pass | |
| Dibenz(a.h)anthracene | | | % | 90 | | 70-130 | Pass | |
| Fluoranthene | | | % | 74 | | 70-130 | Pass | |
| Fluorene | | | % | 88 | | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | | | % | 91 | | 70-130 | Pass | |
| Naphthalene | | | % | 86 | | 70-130 | Pass | |
| Phenanthrene | | | % | 77 | | 70-130 | Pass | |
| Pyrene | | | % | 77 | | 70-130 | Pass | |
| LCS - % Recovery | | | | | | | | |
| Organochlorine Pesticides | | | | | | | | |
| 4.4'-DDD | | | % | 91 | | 70-130 | Pass | |
| 4.4'-DDE | | | % | 89 | | 70-130 | Pass | |
| 4.4'-DDT | | | % | 86 | | 70-130 | Pass | |
| a-BHC | | | % | 91 | | 70-130 | Pass | |
| Aldrin | | | % | 90 | | 70-130 | Pass | |
| b-BHC | | | % | 88 | | 70-130 | Pass | |
| d-BHC | | | % | 90 | | 70-130 | Pass | |
| Dieldrin | | | % | 89 | | 70-130 | Pass | |
| Endosulfan I | | | % | 89 | | 70-130 | Pass | |
| Endosulfan II | | | % | 90 | | 70-130 | Pass | |
| Endosulfan sulphate | | | % | 90 | | 70-130 | Pass | |
| Endrin | | | % | 95 | | 70-130 | Pass | |
| Endrin aldehyde | | | % | 86 | | 70-130 | Pass | |
| Endrin ketone | | | % | 87 | | 70-130 | Pass | |
| g-BHC (Lindane) | | | % | 91 | | 70-130 | Pass | |
| Heptachlor | | | % | 91 | | 70-130 | Pass | |
| Heptachlor epoxide | | | % | 89 | | 70-130 | Pass | |
| Hexachlorobenzene | | | % | 92 | | 70-130 | Pass | |
| Methoxychlor | | | % | 85 | | 70-130 | Pass | |
| LCS - % Recovery | | | ,,, | | | 70.00 | | |
| Polychlorinated Biphenyls | | | | | | | | |
| Aroclor-1260 | | | % | 85 | | 70-130 | Pass | |
| LCS - % Recovery | | | ,,, | | | 70.00 | | |
| Heavy Metals | | | | | | | | |
| Arsenic | | | % | 115 | | 70-130 | Pass | |
| Cadmium | | | % | 108 | | 70-130 | Pass | |
| Chromium | | | % | 117 | | 70-130 | Pass | |
| Copper | | | % | 115 | | 70-130 | Pass | |
| Lead | | | % | 116 | | 70-130 | Pass | |
| Mercury | | | % | 105 | | 70-130 | Pass | |
| Nickel | | | % | 115 | | 70-130 | Pass | |
| Zinc | | | % | 117 | | 70-130 | Pass | |
| Test | Lab Sample ID | QA | Units | Result 1 | | Acceptance | Pass | Qualifying |
| Spike - % Recovery | | Source | | | | Limits | Limits | Code |
| Total Recoverable Hydrocarbons | - 1999 NEPM Fract | tions | | Result 1 | | | | |
| • | S18-Jl30022 | NCP | % | 82 | | 70-130 | Pass | |
| TRH C6-C9 | | | | 80 | | | Pass | |
| TRH C6-C9 TRH C10-C14 | S18-JI33205 | NCP | % | 60 | l | 70-130 | Газэ | |
| TRH C10-C14 | S18-Jl33205 | NCP | <u>%</u> | | | 70-130 | F 455 | |
| | S18-Jl33205 | NCP | % | Result 1 | | 70-130 | rass | |
| TRH C10-C14 Spike - % Recovery | S18-JI33205 S18-JI30022 | NCP | % | | | 70-130 | Pass | |



| Test | Lab Sample ID | QA Source | Units | Result 1 | 4 | Acceptance Limits | Pass Limits | Qualifying Code |
|--------------------------------|-------------------|--------------|-------|----------|-------------|----------------------|----------------|--------------------|
| Ethylbenzene | S18-JI30022 | NCP | % | 90 | | 70-130 | Pass | |
| m&p-Xylenes | S18-JI30022 | NCP | % | 93 | | 70-130 | Pass | |
| o-Xylene | S18-JI30022 | NCP | % | 93 | | 70-130 | Pass | |
| Xylenes - Total | S18-JI30022 | NCP | % | 93 | | 70-130 | Pass | |
| Spike - % Recovery | | | | | · · · · · · | | | |
| Total Recoverable Hydrocarbons | - 2013 NEPM Fract | ions | | Result 1 | | | | |
| Naphthalene | S18-Jl30022 | NCP | % | 80 | | 70-130 | Pass | |
| TRH C6-C10 | S18-JI30022 | NCP | % | 80 | | 70-130 | Pass | |
| TRH >C10-C16 | S18-JI33205 | NCP | % | 78 | | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | | |
| Organochlorine Pesticides | | | | Result 1 | | | | |
| 4.4'-DDD | S18-JI31124 | NCP | % | 113 | | 70-130 | Pass | |
| 4.4'-DDE | S18-Jl31124 | NCP | % | 108 | | 70-130 | Pass | |
| 4.4'-DDT | S18-JI31124 | NCP | % | 99 | | 70-130 | Pass | |
| a-BHC | S18-JI31124 | NCP | % | 107 | | 70-130 | Pass | |
| Aldrin | S18-JI31124 | NCP | % | 107 | | 70-130 | Pass | |
| b-BHC | S18-JI31124 | NCP | % | 105 | | 70-130 | Pass | |
| d-BHC | S18-JI31124 | NCP | % | 107 | | 70-130 | Pass | |
| Dieldrin | S18-JI31124 | NCP | % | 109 | | 70-130 | Pass | |
| Endosulfan I | S18-JI31124 | NCP | % | 107 | | 70-130 | Pass | |
| Endosulfan II | S18-JI31124 | NCP | % | 108 | | 70-130 | Pass | |
| Endosulfan sulphate | S18-JI31124 | NCP | % | 108 | | 70-130 | Pass | |
| Endrin | S18-JI31124 | NCP | % | 113 | | 70-130 | Pass | |
| Endrin aldehyde | S18-JI31124 | NCP | % | 99 | | 70-130 | Pass | |
| Endrin ketone | S18-JI31124 | NCP | % | 106 | | 70-130 | Pass | |
| g-BHC (Lindane) | S18-JI31124 | NCP | % | 107 | | 70-130 | Pass | |
| Heptachlor | S18-JI31124 | NCP | % | 106 | | 70-130 | Pass | |
| Heptachlor epoxide | S18-JI31124 | NCP | % | 107 | | 70-130 | Pass | |
| Hexachlorobenzene | S18-JI31124 | NCP | % | 109 | | 70-130 | Pass | |
| Methoxychlor | S18-JI31124 | NCP | % | 97 | | 70-130 | Pass | |
| Spike - % Recovery | 1 0.0 0.0 | | ,,, | , J. | | 10 100 | | |
| Polychlorinated Biphenyls | | | | Result 1 | | | | |
| Aroclor-1260 | S18-Jl31124 | NCP | % | 98 | | 70-130 | Pass | |
| Spike - % Recovery | | | ,,, | 10 | | 10 100 | 7 3.00 | |
| Polycyclic Aromatic Hydrocarbo | ns | | | Result 1 | | | | |
| Acenaphthene | S18-Jl28507 | СР | % | 112 | | 70-130 | Pass | |
| Acenaphthylene | S18-JI28507 | CP | % | 113 | | 70-130 | Pass | |
| Anthracene | S18-JI28507 | CP | % | 102 | | 70-130 | Pass | |
| Benz(a)anthracene | S18-Jl28507 | СР | % | 114 | | 70-130 | Pass | |
| Benzo(a)pyrene | S18-JI28507 | CP | % | 112 | | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | S18-JI28507 | CP | % | 107 | | 70-130 | Pass | |
| Benzo(g.h.i)perylene | S18-JI28507 | CP | % | 102 | | 70-130 | Pass | |
| Benzo(k)fluoranthene | S18-JI28507 | CP | % | 111 | | 70-130 | Pass | |
| Chrysene | S18-JI28507 | CP | % | 115 | | 70-130 | Pass | |
| Dibenz(a.h)anthracene | S18-JI28507 | CP | % | 110 | | 70-130 | Pass | |
| Fluoranthene | S18-JI28507 | CP | % | 99 | | 70-130 | Pass | |
| Fluorene | S18-JI28507 | CP | % | 114 | | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | S18-JI28507 | CP | % | 110 | | 70-130 | Pass | |
| Naphthalene | S18-JI28507 | CP | % | 111 | | 70-130 | Pass | |
| Phenanthrene | S18-JI28507 | CP | % | 101 | | 70-130 | Pass | |
| Pyrene | S18-JI28507 | CP | % | 102 | | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | | |
| Heavy Metals | | | | Result 1 | | | | |
| Arsenic | S18-Jl28507 | СР | % | 93 | | 70-130 | Pass | |



| | | | | | | | , | | |
|-------------------------------|----------------------|--------------|---------|----------|----------|-----|----------------------|----------------|--------------------|
| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
| Cadmium | S18-Jl28507 | CP | % | 93 | | | 70-130 | Pass | |
| Chromium | S18-Jl28507 | CP | % | 96 | | | 70-130 | Pass | |
| Copper | S18-Jl28507 | CP | % | 93 | | | 70-130 | Pass | |
| Lead | S18-Jl28507 | CP | % | 94 | | | 70-130 | Pass | |
| Mercury | S18-Jl28507 | CP | % | 91 | | | 70-130 | Pass | |
| Nickel | S18-Jl28507 | СР | % | 95 | | | 70-130 | Pass | |
| Zinc | S18-Jl28507 | СР | % | 93 | | | 70-130 | Pass | |
| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
| Duplicate | | Oource | | | | | Limits | Lillito | Oode |
| Total Recoverable Hydrocarbor | ns - 1999 NEPM Fract | ions | | Result 1 | Result 2 | RPD | | | |
| TRH C6-C9 | S18-Jl28506 | CP | mg/kg | < 20 | < 20 | <1 | 30% | Pass | |
| TRH C10-C14 | S18-Jl28506 | CP | mg/kg | < 20 | 30 | <1 | 30% | Pass | |
| TRH C15-C28 | S18-JI28506 | СР | mg/kg | < 50 | 70 | <1 | 30% | Pass | |
| TRH C29-C36 | S18-JI28506 | СР | mg/kg | < 50 | < 50 | <1 | 30% | Pass | |
| Duplicate | | | | | | | | | |
| BTEX | | | | Result 1 | Result 2 | RPD | | | |
| Benzene | S18-Jl28506 | СР | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Toluene | S18-JI28506 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Ethylbenzene | S18-JI28506 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| m&p-Xylenes | S18-JI28506 | CP | mg/kg | < 0.2 | < 0.2 | <1 | 30% | Pass | |
| o-Xylene | S18-JI28506 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Xylenes - Total | S18-JI28506 | CP | mg/kg | < 0.3 | < 0.3 | <1 | 30% | Pass | |
| Duplicate | 310-3120300 | Ci | IIIg/kg | \ 0.5 | V 0.5 | | 3078 | 1 033 | |
| | 2012 NEDM Eroot | ione | | Popult 1 | Popult 2 | RPD | T | | |
| Total Recoverable Hydrocarbor | | | | Result 1 | Result 2 | | 200/ | Dana | |
| Naphthalene | S18-JI28506 | CP CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| TRH C6-C10 | S18-JI28506 | NCP | mg/kg | < 20 | < 20 | <1 | 30% | Pass | |
| TRH >C10-C16 | S18-JI33147 | | mg/kg | < 50 | < 50 | <1 | 30% | Pass | |
| TRH >C16-C34 | S18-JI28506 | CP | mg/kg | < 100 | 110 | <1 | 30% | Pass | |
| TRH >C34-C40 | S18-Jl28506 | СР | mg/kg | < 100 | < 100 | <1 | 30% | Pass | |
| Duplicate | | | | D 11.4 | D # 0 | DDD | T | | |
| Polycyclic Aromatic Hydrocarb | | | ,, | Result 1 | Result 2 | RPD | 0001 | | |
| Acenaphthene | S18-Jl28506 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Acenaphthylene | S18-Jl28506 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Anthracene | S18-JI28506 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Benz(a)anthracene | S18-JI28506 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Benzo(a)pyrene | S18-Jl28506 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Benzo(b&j)fluoranthene | S18-Jl28506 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Benzo(g.h.i)perylene | S18-Jl28506 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Benzo(k)fluoranthene | S18-Jl28506 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Chrysene | S18-Jl28506 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Dibenz(a.h)anthracene | S18-Jl28506 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Fluoranthene | S18-Jl28506 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Fluorene | S18-Jl28506 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Indeno(1.2.3-cd)pyrene | S18-Jl28506 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Naphthalene | S18-Jl28506 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Phenanthrene | S18-Jl28506 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Pyrene | S18-Jl28506 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Duplicate | | | | | | | | | |
| Organochlorine Pesticides | | | | Result 1 | Result 2 | RPD | | | |
| Chlordanes - Total | S18-Jl31123 | NCP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| 4.4'-DDD | S18-JI31123 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| 4.4'-DDE | S18-JI31123 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| 4.4'-DDT | S18-JI31123 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| | | | | | | | | | |



| Duplicate | | | | | | | | | |
|----------------------------------|-------------|-----|----------|----------|----------|------|-----|------|--|
| Organochlorine Pesticides | | | | Result 1 | Result 2 | RPD | | | |
| Aldrin | S18-JI31123 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| b-BHC | S18-JI31123 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| d-BHC | S18-JI31123 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Dieldrin | S18-JI31123 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endosulfan I | S18-JI31123 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endosulfan II | S18-JI31123 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endosulfan sulphate | S18-JI31123 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endrin | S18-JI31123 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endrin aldehyde | S18-Jl31123 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endrin ketone | S18-Jl31123 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| g-BHC (Lindane) | S18-Jl31123 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Heptachlor | S18-Jl31123 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Heptachlor epoxide | S18-Jl31123 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Hexachlorobenzene | S18-Jl31123 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Methoxychlor | S18-Jl31123 | NCP | mg/kg | < 0.2 | < 0.2 | <1 | 30% | Pass | |
| Toxaphene | S18-Jl31123 | NCP | mg/kg | < 1 | < 1 | <1 | 30% | Pass | |
| Duplicate | | | | | | | | | |
| Polychlorinated Biphenyls | | | | Result 1 | Result 2 | RPD | | | |
| Aroclor-1016 | S18-Jl31123 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Aroclor-1221 | S18-Jl31123 | NCP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Aroclor-1232 | S18-Jl31123 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Aroclor-1242 | S18-Jl31123 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Aroclor-1248 | S18-Jl31123 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Aroclor-1254 | S18-Jl31123 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Aroclor-1260 | S18-Jl31123 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Duplicate | | | | | | | | | |
| Heavy Metals | | , | | Result 1 | Result 2 | RPD | | | |
| Arsenic | S18-Jl30212 | NCP | mg/kg | < 2 | < 2 | <1 | 30% | Pass | |
| Cadmium | S18-Jl30212 | NCP | mg/kg | < 0.4 | < 0.4 | <1 | 30% | Pass | |
| Chromium | S18-Jl30212 | NCP | mg/kg | 6.0 | 6.0 | <1 | 30% | Pass | |
| Copper | S18-Jl30212 | NCP | mg/kg | 5.5 | 5.6 | 2.0 | 30% | Pass | |
| Lead | S18-Jl30212 | NCP | mg/kg | 6.8 | 7.2 | 6.0 | 30% | Pass | |
| Mercury | S18-Jl30212 | NCP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Nickel | S18-Jl30212 | NCP | mg/kg | < 5 | < 5 | <1 | 30% | Pass | |
| Zinc | S18-JI30212 | NCP | mg/kg | 26 | 28 | 8.0 | 30% | Pass | |
| Duplicate | | | | | | | | | |
| | 1 | 1 | | Result 1 | Result 2 | RPD | | | |
| % Moisture | S18-JI28506 | CP | % | 13 | 14 | 3.0 | 30% | Pass | |
| Duplicate | | | | | 1 | | | | |
| Acid Sulfate Soils Field pH Test | 1 | 1 | 1 | Result 1 | Result 2 | RPD | | | |
| pH-F (Field pH test)* | S18-Jl28511 | CP | pH Units | 5.1 | 5.2 | pass | 30% | Pass | |
| Reaction Ratings* | S18-Jl28511 | CP | comment | 1.0 | 1.0 | pass | 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

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).

N01

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.

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. N04

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 N07

Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction. S05

Authorised By

N02

Nibha Vaidya Analytical Services Manager Senior Analyst-Asbestos (NSW) Nibha Vaidya



Glenn Jackson

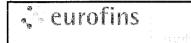
National Operations Manager

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.

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2 Kingston Town Close, Oakleigh, VIC 3166 Phone: +613 8564 5000 Fax: +613 8564 5090 Email; enquiries.melb@mgtlabmark.com.au

| | | | | | | | | | | | C |) H/2 | NN. | OF | CUS | $\mathfrak{I}^{\mathfrak{C}}$ |)DY | RE | CO | RE | כ | | | | | | | | | | |
|----------|---------------------------------|--------------|---------------|---------------------|-----------------------------|--------------|----------|---------------|------------|-------|----------------------------|-------------|--------|------|------|-------------------------------|---------|-------|---------|------|----------|---------|------------|---------------|----------|----------------|---|---|------------|----------------|----------|
| CLIENT | T DETAILS | | | | | | | | | **** | | | | | | | | | | | | | | | | | | Pa | ige1_ | _ of1 | |
| Compa | my Name : GHD Pty Ltd | | | Con | tact I | Name : | Clifton | Thon | npsoc | n | | | | | | Pu | rchase | Order | : 21274 | 425 | | | | | | | COC Num | ber : 4 | | | |
| Office | Address : | | | Proj | ect M | lanagei | : Justi | in Kal | bat | | | | | | " | PR | OJECT | Numb | er : 21 | 2742 | 5 | | | | | | Eurofins | mgt quot | e ID : 170 | 308GHDN | |
| L | evel 15, 133 Castlereagh Stree | t, Sydney NS | W 2000 | Ema | ail for | results | : clifte | on.the | mpsc | on@gh | d.com | | | | | PR | OJECT | Name | : Scot | land | İsland | Energy | Reliabi | lity Projec | :t | | Data output format: Esdat, PDF | | | | |
| | | | | | | | | | ********** | •••• | | Analy | tes | | | | | | | | T | | | Sor | | | g times (with correct preservation nformation contact the lab | | | ion). | |
| Specia | Directions & Comments : | | | 40 | s) | | | 1 | | П | | | | | | | T | | | Т | + | | | Waters | | or turation in | TO: MICHOLIC O | ontact the | | ils | |
| | | | | 4964-2004 | etal | | | | | | EC | (× | | | | | | | | | В | TEX, N | IAH, VO | c | | 14 days | BTEX | , MAH, VO | | | 14 days |
| Special | Directions & Comments : | | | S496 | /8 m | | | | | | Suite (pH, EC | pHfox) | | | | | | | - | | T | RH, PA | H, Phen | ols, Pestic | ides | 7 days | | PAH, Phen | | ides | 14 days |
| 7in (1 | k bag samples frozen overnight | and boon on | ing all other | 4-(a | Z | | | İ | | | a | and p | | | | | | | 1 | | Н | eavy N | letais | | | 6 months | Heavy | Metals | | | 6 months |
| | Please freeze zip lock bags for | | | ence | 世 | | | | | | Sui | far | | | | | | | | | М | ercury | CrVI | | | 28 days | Mercu | ry, CrVI | | | 28 days |
| testing. | Thanks | | | (presence/absence)- | 1 4 | PCB | | | | | | Screen (pHf | 1 | | | | | | | | М | icrobio | logical te | sting | | 24 hours | Microb | oiological te | sting | | 72 hours |
| | | | | /eor | Įξ | A | | | 60-90 | | ssiv S04 | 5 | | | | | | | | | В | OD, Ni | trate, Nit | rite, Total I | N | 2 days | Anions | s | | | 28 days |
| | | | | esei | 臣 | 0CP / | | 1 | 8 | | S S | ě | | | | | | | | | S | olids - | TSS, TD | S etc | | 7 days | SPOC | AS, pH Fie | ld and FO | X, CrS | 24 hours |
| Eurofins | s mgt DI water batch number: | | | [bi. | B7 (TRH/PAH/BTEXN/8 metals) | 30 | | | TPH | | Aggressivity stivity. S04) | 101 | | | | | | | | | F | errous | iron | | | 7 days | ASLP | , TCLP | | | 7 days |
| 1 | 13 | | | tos l | B7 | B13 | tals | $ _{\times}$ | × | | s L2 Resis | Field | | | | | | | | | Cont | ainers | | | | | | <u> </u> | | | |
| | Sample ID | Date | Matrix | Asbestos | Suite | Suite | 8 metals | BTEX | BTEX / | TCLP | Suite L2 Cl. Resis | Ha | | | | | | | | | 1L | -, | 250P | 125P | 1LA | 40mL vial | 125mL A | Jar | bag | - Sample co | mments: |
| 1 | GHD-BH4 1.5 1.95 | 30/07/2018 | soil | Ť | | | | += | | | | х | | | | | | | | 1 | | | | | | | | 1 | | | |
| 2 | GHD-BH4 3.0 3.45 | 30/07/2018 | soil | 1 | T | | | _ | | | _ | х | | | | 一 | \top | | | | | | | | | | | 1 | 1 | | |
| 3 | GHD-BH4 4.5 4.95 | 30/07/2018 | şoil | 1 | | | | | 1 | | _ | х | | | | | | *** | | T | 1 | | | | | | | 1 | 1 | | |
| 4 | GHD-BH4 6.0 6.45 | 30/07/2018 | soil | 1 | | | | | 1 | | | Х | | | | | | | | | 1 | | | | | | | 1 | 1 | | |
| 5 | GHD-BH4 7.5 7.95 | 30/07/2018 | soil | 1 | | | | | | | | Х | | | | \top | | | | | | | | | | | | 1 | 1 | | |
| 6 | GHD-BH4 9.0 9.45 | 30/07/2018 | soil | 1 | | | | | T | | | X | | | | | | | | | | | | | | | | 1 | 1 | | |
| 7 | GHD-BH4 10.5 10.95 | 30/07/2018 | soil | 1 | | | | | | | | Х | | | | | | | | | | | | | | | | 1 | 1 | | |
| 8 | GHD-BH4 12.0 12.45 | 30/07/2018 | soil | 1 | | | | | 1 | | | Х | | | | | | | | | | | | | | | | 1 | 1 | | |
| 9 | GHD-BH4 13.5 13.81 | 30/07/2018 | soil | 7 | | | | | | | | Х | | | | | | | | | T | | | | | | | 1 | 1 | | |
| 10 | GHD-BH4 15.0 15.45 | 30/07/2018 | soil | | | | | | 1 | | | Х | | | | | | | | | | | | | | | | 1 | 1 | | |
| 11 | GHD-BH4 16.5 16.8 | 31/07/2018 | soil | | ĺ | | | | | | | Х | | | | | | | | | | | | | | | | 1 | 1 | | |
| 12 | GHD-BH4 18.0 18.45 | 31/07/2018 | soil | 1 | | | | | | | | X | | | | | | | | | T | | | | | | | 1 | 1 | | |
| 13 | GHD-BH4 20.4_20.85 | 31/07/2018 | soil | | 1 | | | | | | | Х | | | | | | | | | | | | | | | | 1 | 1 | | |
| 14 | GHD-BH4 22.0 22.45 | 31/07/2018 | soil | 7 | | | | | | | | Х | | | | | | | | | | | | | | | | 1 | 1 | | |
| 15 | | | | | 1 | | | | | ПТ | | | | | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | Lai | borator | ry Sta | ff | | | | | | Turn | aroun | d time | | | | | | | | Method C | of Shipmer | nt | *************************************** | | Temperature or | arrival: |
| Relinq | uished By: Clifton Thompsor | n | Receiv | ved B | y; | 1/~c | N | a | | | | | | | | . , , , , , | | | | | | Cou | rior | | | | | | | | |
| Date & | Time: 18:00, 31/07/2018 | | Date 8 | & Tim | <u> </u> | / | ا | <u> </u> | | 4 | 201 | 1 DAY | Υ 🗌 | 2 DA | (Y [| 3 🛭 | PAY [| | | | | | d Delive | red | | | | | | Report number | |
| Signat | Signature: Sign: | | ture: | | <u> </u> | | | | . , | | 5 DAY 10 DAY 1 | | Other: | | 1 | | nsignme | ent#: | | | | | - of | \$G103 | 390 | | | | | | |

Enviro Sample NSW

From: Alena Bounkeua

Sent:Friday, 3 August 2018 2:32 PMTo:Enviro Sample NSW; COC NSWSubject:*update* GHD 2127425 COC4

Attachments: Copy of COC4 2127425_Eurofins_Chain Of Custody 1

_contamination_updated3Aug.xls

Follow Up Flag: Follow up Flag Status: Flagged

Hi All,

Updated COC for report 610390

Cheers!

Warm Regards,

Alena Bounkeua **Eurofins | mgt**

Phone: (02) 9900 8414

Email: AlenaBounkeua@eurofins.com

From: Jacqui Hallchurch [mailto:Jacqui.Hallchurch@ghd.com]

Sent: Friday, 3 August 2018 2:25 PM **To:** Alena Bounkeua; Clifton Thompson

Cc: Nibha Vaidya

Subject: RE: GHD 2127425 COC4

EXTERNAL EMAIL*

Good afternoon

Apologies for the delay. Please find attached updated COC with contamination analyses requested for these samples

Kind regards

jacqui

From: AlenaBounkeua@eurofins.com <AlenaBounkeua@eurofins.com>

Sent: Thursday, 2 August 2018 10:33 AM

To: Clifton Thompson < <u>Clifton.Thompson@ghd.com</u>>

Cc: Jacqui Hallchurch <Jacqui.Hallchurch@ghd.com>; Nibha Vaidya <NibhaVaidya@eurofins.com>

Subject: RE: GHD 2127425 COC4

Hi Clifton,

Thanks for the COC.

No worries, send through the updated COC when ready.

Let me know if there is anything else I can help you with.

Warm Regards,

Alena Bounkeua **Eurofins | mgt**

Phone: (02) 9900 8414

Email: AlenaBounkeua@eurofins.com

From: Clifton Thompson [mailto:Clifton.Thompson@qhd.com]

Sent: Wednesday, 1 August 2018 10:24 PM

To: Enviro Sample NSW **Cc:** Jacqui Hallchurch

Subject: GHD 2127425 COC4

Hi guys,

Please find the attached COC for samples delivered yesterday evening. Jacqui Hallchurch will update the COC for additional testing and send it through.

Regards,

Clifton Thompson

Geotechnical Engineer

GHD

Proudly employee owned

T: +61 2 8898 8812 | M: +61 431 470 139 | E: clifton.thompson@qhd.com Level 2, 20 Smith Street Parramatta NSW 2150 Australia | www.ghd.com

Connect







WATER | ENERGY & RESOURCES | ENVIRONMENT | PROPERTY& BUILDINGS | TRANSPORTATION

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☑ Sydney

Unit F3 - 6 Building F, 16 Mars Road, Lane Cove Phone: +612 9900 8400 Email: enviro.syd@mgtlabmark.com.au Ünit 1-21 Smallwood Place, Murrarie Phone: +617 3902 4600 Email: enviro.bris@mgtlabmark.com.au

☐ Brisbane

☐ Melbourne

2 Kingston Town Close, Oakleigh, VIC 3166 Phone: +613 8564 5000 Fax: +613 8564 5090 Email: enquiries.melb@mgtlabmark.com.au

CHAIN OF CUSTODY RECORD CLIENT DETAILS Page ___1_ of ___1_ Company Name : GHD Pty Ltd Contact Name : Clifton Thompsoon Purchase Order: 2127425 COC Number : 4 PROJECT Number : 2127425 Eurofins | mgt quote ID : 170808GHDN Office Address : Project Manager : Justin Kabat Level 15, 133 Castlereagh Street, Sydney NSW 2000 PROJECT Name : Scotland Island Energy Reliability Project Email for results : clifton.thompson@ghd.com Data output format: Esdat, PDF Some common holding times (with correct preservation). Analytes For further information contact the lab Special Directions & Comments : Soils Waters (pH, EC, CI metals) ID (presence/absence)-AS4964-2004 BTEX, MAH, VOC BTEX. MAH. VOC 14 days pHfox) Special Directions & Comments: TRH, PAH, Phenols, Pesticides 7 days 14 days TRH, PAH, Phenols, Pesticides (TRH/PAH/BTEXN/8 Heavy Metals 6 months Heavy Metals 6 month Zip lock bag samples frozen overnight and been on ice all and other times. Please freeze zip lock bags for possible future Mercury, CrVI 28 days 28 days Mercury, CrVI SPOCAS testing. Thanks pH_d Microbiological testing 24 hours B13 OCP / PCB Microbiological testing 72 hours BOD, Nitrate, Nitrite, Total N 2 days 28 days Anions Screen Solids - TSS, TDS etc 7 days SPOCAS, pH Field and FOX, CrS 24 hours TPH (Ferrous iron days ASLP, TCLP 7 days Eurofins | mgt DI water batch number: Field (B7 BTEX/ TCLP Suite F Suite I Containers: 뷴 Sample ID Date Matrix Sample comments: 1LP 250P 125P 40mL vial 125mL A bag 1LA Jar Χ GHD-BH4 1.5 1.95 30/07/201 soil Х х Х 1 Х GHD-BH4 3.0 3.45 30/07/201 soil 1 1 Х 1 GHD-BH4 4.5 4.95 30/07/2018 soil Х Х GHD-BH4 6.0 6.45 30/07/201 soil 1 Х GHD-BH4 7.5 7.95 1 30/07/2018 soil GHD-BH4 9.0 9.45 30/07/201 soil Χ 1 1 GHD-BH4 10.5 10.95 30/07/2018 soil Х 1 Х 1 GHD-BH4_12.0_12.45 30/07/2018 soil 1 Х GHD-BH4 13.5 13.81 30/07/201 soil 1 Х 1 GHD-BH4_15.0_15.45 30/07/201 soil х 1 11 GHD-BH4 16.5 16.8 31/07/201 soil Х 1 GHD-BH4_18.0_18.45 31/07/2018 Х 12 soil 1 Х 1 13 GHD-BH4_20.4_20.85 31/07/2018 soil GHD-BH4 22.0 22.45 Х 1 14 31/07/201 soil 15 16 Turn around time Temperature on arrival: Laboratory Staff Method Of Shipment Relinquished By: Clifton Thompson Received By: ☐ Courier 1 DAY 2 DAY 3 DAY Date & Time: 18:00, 31/07/2018 Date & Time : $\overline{}$ Hand Delivered Report number: Postal 10 DAY 5 DAY 🗸 Other: Signature: Signature: Courier Consignment #:



Melbourne Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone: +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Unit F3, Building F 1/21 Smallwood Place 1/21 Smallwood Place Murarrie QLD 4172 Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217

Perth Z/91 Leach Highway Kewdale WA 6105 Phone: +61 8 9251 9600 NATA # 1261 Site # 23736

ABN - 50 005 085 521

e.mail: EnviroSales@eurofins.com

web: www.eurofins.com.au

Sample Receipt Advice

GHD Pty Ltd NSW Company name:

Contact name: Clifton Thompson

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT Project name:

Project ID: 2127425 COC number: Not provided

Turn around time: 5 Day

Aug 1, 2018 10:24 PM Date/Time received:

Eurofins | mgt reference: 610390

Sample information

- \mathbf{V} A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- \mathbf{V} Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt : 6.1 degrees Celsius.
- \mathbf{V} All samples have been received as described on the above COC.
- \square COC has been completed correctly.
- **7** Attempt to chill was evident.
- \mathbf{V} Appropriately preserved sample containers have been used.
- **7** All samples were received in good condition.
- \square Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- \mathbf{V} Appropriate sample containers have been used.
- \boxtimes Split sample sent to requested external lab.
- \boxtimes Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

No Jar or bag received for sample GHD-BH4 12.0 12.45 analysis cancelled. No bag received for sample GHD-BH4 1.5 1.95 analysis cancelled.

Contact notes

If you have any questions with respect to these samples please contact:

Nibha Vaidya on Phone: +61 (2) 9900 8415 or by e.mail: NibhaVaidya@eurofins.com

Results will be delivered electronically via e.mail to Clifton Thompson - Clifton.Thompson@ghd.com.



Environmental Laboratory Soil Contamination Analysis

NATA Accreditation Stack Emission Sampling & Analysis Trade Waste Sampling & Analysis Groundwater Sampling & Analysis







Certificate of Analysis





NATA Accredited Accreditation Number 1261 Site Number 18217

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

GHD Pty Ltd NSW Level 15, 133 Castlereagh Street Sydney NSW 2000

Attention: Clifton Thompson

Report 610390-AID

Project Name SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

 Project ID
 2127425

 Received Date
 Aug 01, 2018

 Date Reported
 Aug 09, 2018

Methodology:

Asbestos Fibre

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 subsampling 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 asbestoscontaining 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 AS4964 method for inhomogeneous samples is around 0.1 g/kg (0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis where required, this is considered to be at the nominal reporting limit of 0.01 % (w / w). The examination of large sample sizes(500 mL is recommended) may improve the likelihood of identifying ACM in the > 2mm fraction. The NEPM screening level of 0.001 % (w / w) asbestos in soil for FA(friable asbestos) and AF(asbestos fines) then applies where they are able to be quantified by gravimetric procedures. This quantitative screening is not generally applicable to FF(free fibres) and results of Trace Analysis are referred.

NOTE: NATA News March 2014, p.7, states in relation to AS4964: "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". Accordingly, NATA Accreditation does not cover the performance of this service (indicated with an asterisk). This report is consistent with the analytical procedures and reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended) and the Western Australia Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia, 2009, including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil, June 2011.







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

Project Name SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

 Project ID
 2127425

 Date Sampled
 Jul 30, 2018

 Report
 610390-AID

| Client Sample ID | Eurofins mgt Sample No. | Date Sampled | Sample Description | Result |
|------------------|------------------------------|--------------|---|--|
| GHD-BH4_1.5_1.95 | 18-Au02475 | Jul 30, 2018 | Sample consisted of: Dark Grey fine grain soil and organic debris | No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No respirable fibres detected. |

Page 2 of 8



Sample History

Date Reported: Aug 09, 2018

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

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.

DescriptionTesting SiteExtractedHolding TimeAsbestos - LTM-ASB-8020SydneyAug 03, 2018Indefinite

Page 3 of 8



Melbourne

3-5 Kingston Town Close Oakleigh VIC 3166 Phone: +61 3 8564 5000 NATA # 1261

Site # 1254 & 14271

16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217

Received:

Priority:

Contact Name:

Due:

Sydney Unit F3, Building F Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone: +61 7 3902 4600 NATA # 1261 Site # 20794 Perth 2/91 Leach Highway Kewdale WA 6105 Phone: +61 8 9251 9600 NATA # 1261 Site # 23736

Aug 1, 2018 10:24 PM

Aug 9, 2018

Clifton Thompson

5 Day

Company Name: GHD Pty Ltd NSW

Address:

Level 15, 133 Castlereagh Street

Sydney

NSW 2000

Project Name: Project ID: SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

2127425

Order No.: 2127425 Report #: 610390

Phone: 02 9239 7100 **Fax:** 02 9239 7199

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| Mall | | | mple Detail | | | Asbestos - AS4964 | CANCELLED | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 |
|------|-----------------------------------|--------------|------------------|--------|-------------|-------------------|-----------|----------------------------------|--------------------------|--------------|-------------------------|
| | ourne Laborato | | | 271 | | Х | | | X | Х | X |
| | ney Laboratory bane Laboratory | | | | | | Х | Х | | ^ | |
| | h Laboratory - N | | | | | | | | | | |
| | rnal Laboratory | | | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | |
| 1 | GHD- BH4_1.5_1.95 | Jul 30, 2018 | | Soil | S18-Au02475 | Х | | | х | Х | Х |
| 2 | GHD- BH4_3.0_3.45 | Jul 30, 2018 | | Soil | S18-Au02476 | | | Х | | | |
| 3 | GHD- BH4_4.5_4.95 | Jul 30, 2018 | | Soil | S18-Au02477 | | | Х | Х | Х | х |
| 4 | GHD- BH4_6.0_6.45 | Jul 30, 2018 | | Soil | S18-Au02478 | | | Х | | | |
| 5 | GHD- BH4_7.5_7.95 | Jul 30, 2018 | | Soil | S18-Au02479 | | | Х | | | |
| 6 | GHD- | Jul 30, 2018 | | Soil | S18-Au02480 | | | Х | | | |

Page 4 of 8



Report #:

Phone:

Fax:

Melbourne 3-5 Kingston Town Close Oakleigh VIC 3166

Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271

610390

02 9239 7100

02 9239 7199

Sydney Unit F3, Building F Brisbane

Received:

Priority:

Contact Name:

Due:

16 Mars Road

Lane Cove West NSW 2066

Phone: +61 2 9900 8400

NATA # 1261 Site # 18217

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

Perth 2/91 Leach Highway Kewdale WA 6105 Phone: +61 8 9251 9600 NATA # 1261 Site # 23736

Aug 1, 2018 10:24 PM

Aug 9, 2018

Clifton Thompson

5 Day

Company Name: GHD Pty Ltd NSW Order No.: 2127425

Level 15, 133 Castlereagh Street

Sydney

NSW 2000

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT **Project Name:**

Address:

Project ID: 2127425

| | | Sa | mple Detail | | | Asbestos - AS4964 | CANCELLED | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 |
|------|----------------------------|-----------------|--------------|------|-------------|-------------------|-----------|----------------------------------|--------------------------|--------------|-------------------------|
| Melk | ourne Laborato | ory - NATA Site | # 1254 & 142 | 271 | | | | | | | |
| Syd | ney Laboratory | - NATA Site # 1 | 8217 | | | Х | | | Х | Х | Х |
| Bris | bane Laboratory | y - NATA Site # | 20794 | | | | Х | Х | | | |
| Pert | h Laboratory - N | NATA Site # 237 | 36 | 1 | | | | | | | |
| | BH4_9.0_9.45 | | | | | | | | | | |
| 7 | GHD- BH4_10.5_10. 95 | Jul 30, 2018 | | Soil | S18-Au02481 | | | Х | | | |
| 8 | GHD- BH4_12.0_12. 45 | Jul 30, 2018 | | Soil | S18-Au02482 | | х | | | | |
| 9 | GHD- BH4_13.5_13. 81 | Jul 30, 2018 | | Soil | S18-Au02483 | | | Х | | | |
| 10 | GHD- BH4_15.0_15. 45 | Jul 30, 2018 | | Soil | S18-Au02484 | | | Х | | Х | х |
| 11 | GHD- BH4_16.5_16. | Jul 31, 2018 | | Soil | S18-Au02485 | | | х | | | |

Eurofins | mgt Analytical Services Manager : Nibha Vaidya



Order No.:

Report #:

Phone:

Fax:

Melbourne

2127425

02 9239 7100

02 9239 7199

610390

3-5 Kingston Town Close Oakleigh VIC 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271 Sydney
Unit F3, Building F
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Lane Cove West NSW 2066
Phone: +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone: +61 7 3902 4600 NATA # 1261 Site # 20794 Perth 2/91 Leach Highway Kewdale WA 6105 Phone: +61 8 9251 9600 NATA # 1261 Site # 23736

Company Name: GHD Pty Ltd NSW

Address: Level 15, 133 Castlereagh Street

Sydney

NSW 2000

Project Name: SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID: 2127425

Received: Aug 1, 2018 10:24 PM

Due: Aug 9, 2018
Priority: 5 Day

Contact Name: Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| | | Sa | mple Detail | | | Asbestos - AS4964 | CANCELLED | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 |
|------|---------------------------------|-----------------|-------------|------|-------------|-------------------|-----------|----------------------------------|--------------------------|--------------|-------------------------|
| | oourne Laborato | | | 71 | | | | | | | |
| | ney Laboratory | | | | | Х | | ., | Х | Х | Х |
| | bane Laboratory | | | | | | Х | Х | | | |
| Pert | <mark>h Laboratory - N</mark> | IATA Site # 237 | 736 | | | | | | | | |
| 12 | 8 GHD- BH4_18.0_18. 45 | Jul 31, 2018 | | Soil | S18-Au02486 | | | х | | | |
| 13 | GHD- BH4_20.4_20. 85 | Jul 31, 2018 | | Soil | S18-Au02487 | _ | | Х | _ | | |
| 14 | GHD- BH4_22.0_22. 45 | Jul 31, 2018 | | Soil | S18-Au02488 | | | Х | | | |
| Test | Counts | | | | | 1 | 1 | 12 | 2 | 3 | 3 |

Page 6 of 8



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. This report replaces any interim results previously issued.

Holding Times

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

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

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: weight for weight basis grams per kilogram
Filter loading: fibres/100 graticule areas

Reported Concentration: fibres/mL Flowrate: L/min

Terms

ΑF

Date Reported: Aug 09, 2018

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis

LOR Limit of Reporting
COC Chain of Custody
SRA Sample Receipt Advice

ISO International Standards Organisation

AS Australian Standards

WA DOH Western Australia Department of Health

NOHSC National Occupational Health and Safety Commission

ACM Bonded asbestos-containing material means any material containing more than 1% asbestos and comprises asbestos-containing-material which is in sound condition,

although possibly broken or fragmented, and where the asbestos is bound in a matrix such as cement or resin. Common examples of ACM include but are not limited to: pipe and boiler insulation, sprayed-on fireproofing, troweled-on acoustical plaster, floor tile and mastic, floor linoleum, transite shingles, roofing materials, wall and ceiling plaster, ceiling tiles, and gasket materials. This term is restricted to material that cannot pass a 7 mm x 7 mm sieve. This sieve size is selected because it approximates the thickness of common asbestos cement sheeting and for fragments to be smaller than this would imply a high degree of damage and hence potential

for fibre release

FA FA comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. This type of friable asbestos

is defined here as asbestos material that is in a degraded condition such that it can be broken or crumbled by hand pressure. This material is typically unbonded or

was previously bonded and is now significantly degraded (crumbling).

PACM Presumed Asbestos-Containing Material means thermal system insulation and surfacing material found in buildings, vessels, and vessel sections constructed no later

than 1980 that are assumed to contain greater than one percent asbestos but have not been sampled or analyzed to verify or negate the presence of asbestos.

Asbestos fines (AF) are defined as free fibres, or fibre bundles, smaller than 7mm. It is the free fibres which present the greatest risk to human health, although very

small fibres (< 5 microns in length) are not considered to be such a risk. AF also includes small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve.

(Note that for bonded ACM fragments to pass through a 7 mm x 7 mm sieve implies a substantial degree of damage which increases the potential for fibre release.)

AC Asbestos cement means a mixture of cement and asbestos fibres (typically 90:10 ratios).



Comments

The sample received was not collected in an approved asbestos bag and was therefore sub-sampled from the 250mL glass jar. Valid sub-sampling procedures were applied so as to ensure that the sub-sample to be analysed accurately represented the sample received.

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 N/A Not applicable

Asbestos Counter/Identifier:

Sayeed Abu Senior Analyst-Asbestos (NSW)

Authorised by:

Laxman Dias Senior Analyst-Asbestos (NSW)

Glenn Jackson

National Operations Manager

Final Report - this report replaces any previously issued Report

Date Reported: Aug 09, 2018

Measurement uncertainty of test data is available on request or please $\underline{\text{click here.}}$

Eurofins | mgt 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 on case shall Eurofins | mgt be liable for consequential damages including, but not limited to, lost profits, damages for relative to meet decidines and lost production arising from this report. This document shall not be reproduced everyein full and are fetted sonly to the identities storied, to the fetter steated. Unless indicated otherwise, the tests were performed on the samples as received.

⁻ Indicates Not Requested

 $^{^{\}star}$ Indicates NATA accreditation does not cover the performance of this service





Certificate of Analysis

NATA Accredited Accreditation Number 1261 Site Number 18217

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

GHD Pty Ltd NSW Level 15, 133 Castlereagh Street Sydney NSW 2000





Attention: Clifton Thompson

Report 610390-S

Project name SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID 2127425 Received Date Aug 01, 2018

| Client Sample ID | | | ^{G01} GHD- BH4_1.5_1.95 | GHD- BH4_3.0_3.45 | GHD- BH4_4.5_4.95 | GHD- BH4_6.0_6.45 |
|---|--------|-------|-------------------------------------|----------------------|----------------------|----------------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-Au02475 | S18-Au02476 | S18-Au02477 | S18-Au02478 |
| Date Sampled | | | Jul 30, 2018 | Jul 30, 2018 | Jul 30, 2018 | Jul 30, 2018 |
| Test/Reference | LOR | Unit | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fra | ctions | • | | | | |
| TRH C6-C9 | 20 | mg/kg | < 40 | - | < 20 | - |
| TRH C10-C14 | 20 | mg/kg | < 40 | - | < 20 | - |
| TRH C15-C28 | 50 | mg/kg | < 100 | - | < 50 | - |
| TRH C29-C36 | 50 | mg/kg | < 100 | - | < 50 | - |
| TRH C10-36 (Total) | 50 | mg/kg | < 100 | - | < 50 | - |
| 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 | % | 72 | - | 77 | - |
| Total Recoverable Hydrocarbons - 2013 NEPM Fra | ctions | | | | | |
| Naphthalene ^{N02} | 0.5 | mg/kg | < 1 | - | < 0.5 | - |
| TRH C6-C10 | 20 | mg/kg | < 40 | - | < 20 | - |
| TRH C6-C10 less BTEX (F1)N04 | 20 | mg/kg | < 40 | - | < 20 | - |
| TRH >C10-C16 | 50 | mg/kg | < 100 | - | < 50 | - |
| TRH >C10-C16 less Naphthalene (F2) ^{N01} | 50 | mg/kg | < 100 | - | < 50 | - |
| TRH >C16-C34 | 100 | mg/kg | < 200 | - | < 100 | - |
| TRH >C34-C40 | 100 | mg/kg | < 200 | - | < 100 | - |
| TRH >C10-C40 (total)* | 100 | mg/kg | < 100 | - | < 100 | - |
| Polycyclic Aromatic Hydrocarbons | | | | | | |
| Benzo(a)pyrene TEQ (lower bound) * | 0.5 | mg/kg | < 0.5 | - | < 0.5 | - |
| Benzo(a)pyrene TEQ (medium bound) * | 0.5 | mg/kg | 1.2 | - | 0.6 | - |
| Benzo(a)pyrene TEQ (upper bound) * | 0.5 | mg/kg | 2.4 | - | 1.2 | - |
| Acenaphthene | 0.5 | mg/kg | < 1 | - | < 0.5 | - |
| Acenaphthylene | 0.5 | mg/kg | < 1 | - | < 0.5 | - |
| Anthracene | 0.5 | mg/kg | < 1 | - | < 0.5 | - |
| Benz(a)anthracene | 0.5 | mg/kg | < 1 | - | < 0.5 | - |
| Benzo(a)pyrene | 0.5 | mg/kg | < 1 | - | < 0.5 | - |
| Benzo(b&j)fluorantheneN07 | 0.5 | mg/kg | < 1 | - | < 0.5 | - |
| Benzo(g.h.i)perylene | 0.5 | mg/kg | < 1 | - | < 0.5 | - |
| Benzo(k)fluoranthene | 0.5 | mg/kg | < 1 | - | < 0.5 | - |
| Chrysene | 0.5 | mg/kg | < 1 | - | < 0.5 | - |



| Client Sample ID | | | ^{G01} GHD- BH4_1.5_1.95 | GHD- BH4_3.0_3.45 | GHD- BH4_4.5_4.95 | GHD- BH4_6.0_6.45 |
|---|--------|----------|-------------------------------------|----------------------|----------------------|----------------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-Au02475 | S18-Au02476 | S18-Au02477 | S18-Au02478 |
| Date Sampled | | | Jul 30, 2018 | Jul 30, 2018 | Jul 30, 2018 | Jul 30, 2018 |
| Test/Reference | LOR | Unit | | July 20, 2010 | 0.00, 2010 | Cui Co, 2010 |
| Polycyclic Aromatic Hydrocarbons | LOR | Offic | | | | |
| Dibenz(a.h)anthracene | 0.5 | ma/ka | - 1 | | < 0.5 | |
| Fluoranthene | 0.5 | mg/kg | <1 | - | < 0.5 | - |
| Fluorene | 0.5 | mg/kg | <1 | | < 0.5 | - |
| Indeno(1.2.3-cd)pyrene | 0.5 | mg/kg | <1 | | < 0.5 | - |
| Naphthalene | 0.5 | mg/kg | <1 | - | < 0.5 | - |
| Phenanthrene | 0.5 | mg/kg | <1 | - | < 0.5 | |
| | 0.5 | mg/kg | <1 | - | < 0.5 | - |
| Pyrene Total PAH* | | mg/kg | | - | | - |
| 2-Fluorobiphenyl (surr.) | 0.5 | mg/kg | < 1 | - | < 0.5 | - |
| | 1 | % | 104 | - | 105 | - |
| p-Terphenyl-d14 (surr.) Organochlorine Pesticides | 1 | 70 | 112 | - | 111 | - |
| | 0.4 | | .0.4 | | .0.1 | |
| Chlordanes - Total | 0.1 | mg/kg | < 0.1 | - | < 0.1 | - |
| 4.4'-DDD | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| 4.4'-DDE | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| 4.4'-DDT | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| a-BHC | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Aldrin | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| b-BHC | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| d-BHC | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Dieldrin | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Endosulfan I | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Endosulfan II | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Endosulfan sulphate | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Endrin | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Endrin aldehyde | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Endrin ketone | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| g-BHC (Lindane) | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Heptachlor | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Heptachlor epoxide | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Hexachlorobenzene | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Methoxychlor | 0.2 | mg/kg | < 0.2 | - | < 0.2 | - |
| Toxaphene | 1 0.05 | mg/kg | < 1 | - | < 1 | - |
| Aldrin and Dieldrin (Total)* DDT + DDE + DDD (Total)* | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Vic EPA IWRG 621 OCP (Total)* | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.1 | mg/kg | < 0.1 | - | < 0.1 | - |
| ` ' | 0.1 | mg/kg | < 0.1 99 | - | < 0.1 | - |
| Dibutylchlorendate (surr.) | 1 1 | % | 102 | - | 96 97 | - |
| Tetrachloro-m-xylene (surr.) | I | 70 | 102 | - | 97 | - |
| Polychlorinated Biphenyls | 0.5 | ma =: /1 | .0.5 | | .0.5 | |
| Arcelor 1331 | 0.5 | mg/kg | < 0.5 | - | < 0.5 | - |
| Arcelor 1333 | 0.1 | mg/kg | < 0.1 | - | < 0.1 | - |
| Arcelor 1343 | 0.5 | mg/kg | < 0.5 | - | < 0.5 | - |
| Arcelor 1242 | 0.5 | mg/kg | < 0.5 | - | < 0.5 | - |
| Arcelor 1254 | 0.5 | mg/kg | < 0.5 | - | < 0.5 | - |
| Arcelor 1254 | 0.5 | mg/kg | < 0.5 | - | < 0.5 | - |
| Aroclor-1260 | 0.5 | mg/kg | < 0.5 | - | < 0.5 | - |
| Total PCB* | 0.5 | mg/kg | < 0.5 | - | < 0.5 | - |
| Dibutylchlorendate (surr.) | 1 | % | 99 | - | 96 | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 102 | - | 97 | |



| Client Sample ID Sample Matrix | | | G01GHD- BH4_1.5_1.95 Soil | GHD- BH4_3.0_3.45 Soil | GHD- BH4_4.5_4.95 Soil | GHD- BH4_6.0_6.45 Soil |
|----------------------------------|-----|----------|---------------------------------|------------------------------|------------------------------|------------------------------|
| Eurofins mgt Sample No. | | | S18-Au02475 | S18-Au02476 | S18-Au02477 | S18-Au02478 |
| Date Sampled | | | Jul 30, 2018 | Jul 30, 2018 | Jul 30, 2018 | Jul 30, 2018 |
| Test/Reference | LOR | Unit | | | | |
| Heavy Metals | • | | | | | |
| Arsenic | 2 | mg/kg | 18 | - | < 2 | - |
| Cadmium | 0.4 | mg/kg | < 0.4 | - | < 0.4 | - |
| Chromium | 5 | mg/kg | 18 | - | 6.7 | - |
| Copper | 5 | mg/kg | < 5 | - | < 5 | - |
| Lead | 5 | mg/kg | 5.7 | - | < 5 | - |
| Mercury | 0.1 | mg/kg | < 0.1 | - | < 0.1 | - |
| Nickel | 5 | mg/kg | 7.6 | - | < 5 | - |
| Zinc | 5 | mg/kg | 16 | - | < 5 | - |
| Acid Sulfate Soils Field pH Test | | | | | | |
| pH-F (Field pH test)* | 0.1 | pH Units | - | 5.0 | 4.7 | 5.0 |
| pH-FOX (Field pH Peroxide test)* | 0.1 | pH Units | - | 3.6 | 3.9 | 3.7 |
| Reaction Ratings*S05 | | comment | - | 4.0 | 2.0 | 2.0 |
| % Moisture | 1 | % | 43 | - | 10 | - |

| Client Sample ID Sample Matrix Eurofins mgt Sample No. Date Sampled | | | GHD- BH4_7.5_7.95 Soil S18-Au02479 Jul 30, 2018 | GHD- BH4_9.0_9.45 Soil S18-Au02480 Jul 30, 2018 | GHD- BH4_10.5_10.9 5 Soil S18-Au02481 Jul 30, 2018 | GHD- BH4_13.5_13.8 1 Soil S18-Au02483 Jul 30, 2018 |
|--|-----|----------|---|---|---|---|
| Test/Reference | LOR | Unit | | | | |
| Acid Sulfate Soils Field pH Test | | | | | | |
| pH-F (Field pH test)* | 0.1 | pH Units | 4.4 | 4.4 | 4.8 | 5.1 |
| pH-FOX (Field pH Peroxide test)* | 0.1 | pH Units | 3.4 | 3.5 | 3.7 | 4.1 |
| Reaction Ratings*S05 | | comment | 2.0 | 1.0 | 2.0 | 2.0 |

| Client Sample ID | | | GHD- BH4_15.0_15.4 5 | GHD- BH4_16.5_16.8 | GHD- BH4_18.0_18.4 5 | GHD- BH4_20.4_20.8 5 |
|---|-------|-------|----------------------------|-----------------------|----------------------------|----------------------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-Au02484 | S18-Au02485 | S18-Au02486 | S18-Au02487 |
| Date Sampled | | | Jul 30, 2018 | Jul 31, 2018 | Jul 31, 2018 | Jul 31, 2018 |
| Test/Reference | LOR | Unit | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Frac | tions | | | | | |
| TRH C6-C9 | 20 | mg/kg | < 20 | - | - | - |
| TRH C10-C14 | 20 | mg/kg | 130 | - | - | - |
| TRH C15-C28 | 50 | mg/kg | 120 | - | - | - |
| TRH C29-C36 | 50 | mg/kg | 130 | - | - | - |
| TRH C10-36 (Total) | 50 | mg/kg | 380 | - | - | - |
| BTEX | | | | | | |
| Benzene | 0.1 | mg/kg | < 0.1 | - | - | - |
| Toluene | 0.1 | mg/kg | < 0.1 | - | - | - |
| Ethylbenzene | 0.1 | mg/kg | < 0.1 | - | - | - |
| m&p-Xylenes | 0.2 | mg/kg | 0.2 | - | - | - |
| o-Xylene | 0.1 | mg/kg | < 0.1 | - | - | - |
| Xylenes - Total | 0.3 | mg/kg | < 0.3 | - | - | - |
| 4-Bromofluorobenzene (surr.) | 1 | % | 82 | - | - | - |



| Client Sample ID | | | GHD- BH4_15.0_15.4 5 | GHD- BH4_16.5_16.8 | GHD- BH4_18.0_18.4 5 | GHD- BH4_20.4_20.8 5 |
|---|-----|----------------|----------------------------|-----------------------|----------------------------|----------------------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-Au02484 | S18-Au02485 | S18-Au02486 | S18-Au02487 |
| Date Sampled | | | Jul 30, 2018 | Jul 31, 2018 | Jul 31, 2018 | Jul 31, 2018 |
| Test/Reference | LOR | Unit | | , | , | , |
| Total Recoverable Hydrocarbons - 2013 NEPM F | | Offic | | | | |
| Naphthalene ^{N02} | 0.5 | mg/kg | < 0.5 | _ | _ | |
| TRH C6-C10 | 20 | mg/kg | 29 | | - | |
| TRH C6-C10 less BTEX (F1) ^{N04} | 20 | | 29 | | _ | - |
| TRH >C10-C10 less BTEX (FT) | 50 | mg/kg mg/kg | 110 | _ | _ | - |
| TRH >C10-C16 less Naphthalene (F2) ^{N01} | 50 | mg/kg | 110 | _ | _ | - |
| TRH >C16-C34 | 100 | | 200 | _ | _ | - |
| TRH >C10-C34 | 100 | mg/kg | < 100 | _ | - | - |
| TRH >C10-C40 (total)* | 100 | mg/kg | 310 | _ | - | - |
| , , , | 100 | mg/kg | 310 | - | - | - |
| Polycyclic Aromatic Hydrocarbons | 0.5 | | .0.5 | | | |
| Benzo(a)pyrene TEQ (lower bound) * | 0.5 | mg/kg | < 0.5 0.6 | - | - | - |
| Benzo(a)pyrene TEQ (medium bound) * | 0.5 | mg/kg | | - | | - |
| Benzo(a)pyrene TEQ (upper bound) * | 0.5 | mg/kg | 1.2 < 0.5 | - | - | - |
| Acenaphthulana | 0.5 | mg/kg | | - | - | - |
| Actor | 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 < 0.5 | - | - | |
| Benzo(g.h.i)perylene Benzo(k)fluoranthene | 0.5 | mg/kg | < 0.5 | - | - | - |
| | 0.5 | mg/kg | < 0.5 | | - | |
| Chrysene Dibonz/o b)onthrocono | 0.5 | mg/kg | < 0.5 | - | - | - |
| Dibenz(a.h)anthracene | 0.5 | mg/kg | | - | - | - |
| Fluorene Fluorene | 0.5 | mg/kg | < 0.5 < 0.5 | - | - | - |
| | 0.5 | mg/kg | < 0.5 | _ | - | - |
| Indeno(1.2.3-cd)pyrene Naphthalene | 0.5 | mg/kg | < 0.5 | _ | - | _ |
| Phenanthrene | 0.5 | mg/kg mg/kg | < 0.5 | _ | - | _ |
| Pyrene | 0.5 | mg/kg | < 0.5 | | - | - |
| | | | | | | |
| Total PAH* 2-Fluorobiphenyl (surr.) | 0.5 | mg/kg % | < 0.5 102 | - | - | - |
| p-Terphenyl-d14 (surr.) | 1 | % | 103 | - | - | - |
| Heavy Metals | | /0 | 103 | _ | _ | - |
| Arsenic | 2 | mg/kg | 3.8 | _ | - | |
| Cadmium | 0.4 | mg/kg | < 0.4 | | - | - |
| Chromium | 5 | mg/kg | 30 | - | - | - |
| Copper | 5 | mg/kg | 11 | - | - | - |
| Lead | 5 | mg/kg | 12 | - | - | - |
| Mercury | 0.1 | mg/kg | < 0.1 | - | - | - |
| Nickel | 5 | mg/kg | 5.2 | - | - | - |
| Zinc | 5 | mg/kg | 10 | - | - | - |
| Acid Sulfate Soils Field pH Test | | i iiig/kg | 10 | - | - | <u> </u> |
| pH-F (Field pH test)* | 0.1 | pH Units | 4.9 | 4.7 | 4.7 | 4.9 |
| pH-FOX (Field pH Peroxide test)* | 0.1 | pH Units | | 3.6 | 3.8 | 4.9 |
| Reaction Ratings*S05 | 0.1 | | | 2.0 | 2.0 | 2.0 |
| reaction realings | | comment | 4.0 | 2.0 | 2.0 | 2.0 |
| 0/ Majotura | | 0/ | 10 | | | |
| % Moisture | 1 | % | 16 | - | - | _ |



| Client Sample ID | | | GHD- BH4_22.0_22.4 5 |
|----------------------------------|-----|----------|----------------------------|
| Sample Matrix | | | Soil |
| Eurofins mgt Sample No. | | | S18-Au02488 |
| Date Sampled | | | Jul 31, 2018 |
| Test/Reference | LOR | Unit | |
| Acid Sulfate Soils Field pH Test | | | |
| pH-F (Field pH test)* | 0.1 | pH Units | 4.8 |
| pH-FOX (Field pH Peroxide test)* | 0.1 | pH Units | 3.5 |
| Reaction Ratings*S05 | | comment | 2.0 |



Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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 Total Recoverable Hydrocarbons - 1999 NEPM Fractions | Testing Site Sydney | Extracted Aug 08, 2018 | Holding Time 14 Day |
|---|-------------------------------|---------------------------|-------------------------------|
| - Method: TRH C6-C36 - LTM-ORG-2010 BTEX | Sydney | Aug 08, 2018 | 14 Day |
| - Method: TRH C6-C40 - LTM-ORG-2010 Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Sydney | Aug 08, 2018 | 14 Day |
| - Method: TRH C6-C40 - LTM-ORG-2010 Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Sydney | Aug 08, 2018 | 14 Day |
| - Method: TRH C6-C40 - LTM-ORG-2010 Polycyclic Aromatic Hydrocarbons | Sydney | Aug 08, 2018 | 14 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water Metals M8 | Sydney | Aug 08, 2018 | 28 Day |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS Organochlorine Pesticides | Sydney | Aug 08, 2018 | 14 Day |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water Polychlorinated Biphenyls | Sydney | Aug 08, 2018 | 28 Days |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water Acid Sulfate Soils Field pH Test | Brisbane | Aug 06, 2018 | 7 Days |
| - Method: LTM-GEN-7060 Determination of field pH (pHF) and field pH peroxide (pHFOX) tests % Moisture | Sydney | Aug 08, 2018 | 14 Day |



Melbourne 2-5 Kingston Town Close Oakleigh VIC 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271 Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217 Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 4600 NATA # 1261 Site # 20794 Perth
2/91 Leach Highway
Kewdale WA 6105
Phone: +61 8 9251 9600
NATA # 1261
Site # 23736

Company Name: GHD Pty Ltd NSW

Address: Level 15, 133 Castlereagh Street

Sydney

NSW 2000

Project Name: SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID: 2127425

Order No.: 2127425 Received: Aug 1, 2018 10:24 PM Report #: 610390 Due: Aug 9, 2018 Phone: 02 9239 7100 Priority: 5 Day Fax: 02 9239 7199 **Contact Name:** Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| Mall | | | | | | Asbestos - AS4964 | CANCELLED | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 |
|---------------------|--|--|------------------|-------------|-------------|-------------------|-----------|----------------------------------|--------------------------|--------------|-------------------------|
| | | | | 271 | | Х | | | X | Х | Х |
| | | | | | | | Х | Х | | | |
| | Perth Laboratory - NATA Site # 20794 | | | | | | | | | | |
| External Laboratory | | | | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | |
| 1 | GHD- BH4_1.5_1.95 | Jul 30, 2018 | | Soil | S18-Au02475 | Х | | | х | Х | х |
| 2 | GHD- BH4_3.0_3.45 | Jul 30, 2018 | | Soil | S18-Au02476 | | | х | | | |
| 3 | GHD- BH4_4.5_4.95 | Jul 30, 2018 | | Soil | S18-Au02477 | | | Х | х | Х | х |
| 4 | GHD- BH4_6.0_6.45 | Py Laboratory - NATA Site # 18217 Anne Laboratory - NATA Site # 20794 Laboratory - NATA Site # 23736 Pal Laboratory Sample ID Sample Date Sampling Time Soil S18-Au02 | | S18-Au02478 | | | Х | | | | |
| 5 | Sample ID Sample Date Sampling Sile Auco | | | | | | | Х | | | |
| 6 | GHD- | Jul 30, 2018 | | Soil | S18-Au02480 | | | х | | | |

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 ABN: 50 005 085 521 Telephone: +61 2 9900 8400 Page 7 of 17



Fax:

Melbourne 2-5 Kingston Town Close Oakleigh VIC 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271

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Contact Name: Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| | | | | | | Asbestos - AS4964 | CANCELLED | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 |
|------|---|--------------|--|------|-------------|-------------------|-----------|----------------------------------|--------------------------|--------------|-------------------------|
| | | | | 271 | | | | | | | |
| _ | | | | | | Х | | | Х | Х | Х |
| | | | | | | | Х | Х | | | |
| Pert | ey Laboratory - NATA Site # 18217 pane Laboratory - NATA Site # 20794 Laboratory - NATA Site # 23736 BH4_9.0_9.45 | | | | | | | | | | |
| | BH4_10.5_10. 95 GHD- BH4_12.0_12. 45 GHD- BH4_13.5_13. 81 GHD- BH4_13.5_15. 45 Jul 30, 2018 Soil S18-Au02 S18-Au02 S18-Au02 S18-Au02 | | | | | | | | | | |
| 7 | BH4_10.5_10. | Jul 30, 2018 | | Soil | S18-Au02481 | | | х | | | |
| 8 | BH4_12.0_12. | Jul 30, 2018 | | Soil | S18-Au02482 | | Х | | | | |
| 9 | BH4_13.5_13. | Jul 30, 2018 | | Soil | S18-Au02483 | | | Х | | | |
| 10 | BH4_15.0_15. | Jul 30, 2018 | | Soil | S18-Au02484 | | | Х | | Х | х |
| 11 | | Jul 31, 2018 | | Soil | S18-Au02485 | | | Х | | | |



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Project ID: 2127425

Order No.: 2127425 Received: Aug 1, 2018 10:24 PM Report #: 610390 Due: Aug 9, 2018 Phone: 02 9239 7100 Priority: 5 Day **Contact Name:** Clifton Thompson Fax: 02 9239 7199

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| Sample Detail | | | | | | Asbestos - AS4964 | CANCELLED | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 |
|---------------|---|--------------|--|------|-------------|-------------------|-----------|----------------------------------|--------------------------|--------------|-------------------------|
| Melk | Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | |
| | Sydney Laboratory - NATA Site # 18217 | | | | | | | | Х | Х | Х |
| | Brisbane Laboratory - NATA Site # 20794 | | | | | | Х | Х | | | |
| Pert | | | | | | | | | | | |
| | | | | | | | | | | | |
| 12 | GHD- BH4_18.0_18. 45 | Jul 31, 2018 | | Soil | S18-Au02486 | | | х | | | |
| 13 | ydney Laboratory - NATA Site # 18217 risbane Laboratory - NATA Site # 20794 erth Laboratory - NATA Site # 23736 | | | | | | | х | | | |
| 14 | GHD- BH4_22.0_22. 45 | Jul 31, 2018 | | Soil | S18-Au02488 | | | х | | | |
| Test | Counts | | | | | 1 | 1 | 12 | 2 | 3 | 3 |



Internal Quality Control Review and Glossary

General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- 4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- 5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds
- 6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 7. Samples were analysed on an 'as received' basis
- 8. 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.

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

Units

mg/kg: milligrams per kilogram mg/L: milligrams per litre ug/L: micrograms per litre

ppm: Parts per million **ppb:** Parts per billion
%: Percentage

org/100mL: Organisms per 100 millilitres NTU: Nephelometric Turbidity Units MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery.

CRM Certified Reference Material - reported as percent recovery.

Method Blank In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.

Surr - Surrogate The addition of a like compound to the analyte target and reported as percentage recovery

Duplicate A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

USEPA United States Environmental Protection Agency

APHA American Public Health Association
TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

QSM Quality Systems Manual ver 5.1 US Department of Defense

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.

TEQ Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data. Toxaphene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxaphene is not added to the Spike.
- 5. Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

 Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- 8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate 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 | <u> </u> | • | ' | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | | |
| TRH C6-C9 | mg/kg | < 20 | 20 | Pass | |
| TRH C10-C14 | mg/kg | < 20 | 20 | Pass | |
| TRH C15-C28 | mg/kg | < 50 | 50 | Pass | |
| TRH C29-C36 | mg/kg | < 50 | 50 | Pass | |
| Method Blank | | | | | |
| BTEX | | | | | |
| 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 | |
| Xvlenes - Total | mg/kg | < 0.3 | 0.3 | Pass | |
| Method Blank | 1 | | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | | |
| Naphthalene | mg/kg | < 0.5 | 0.5 | Pass | |
| TRH C6-C10 | mg/kg | < 20 | 20 | Pass | |
| TRH >C10-C16 | mg/kg | < 50 | 50 | Pass | |
| TRH >C16-C34 | mg/kg | < 100 | 100 | Pass | |
| TRH >C34-C40 | mg/kg | < 100 | 100 | Pass | |
| Method Blank | IIIg/Rg | 100 | 100 | 1 455 | |
| 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&i)fluoranthene | mg/kg | < 0.5 | 0.5 | Pass | |
| Benzo(g.h.i)perylene | mg/kg | < 0.5 | 0.5 | Pass | |
| Benzo(k)fluoranthene | | < 0.5 | 0.5 | Pass | |
| Chrysene | mg/kg | < 0.5 | 0.5 | Pass | |
| Dibenz(a.h)anthracene | mg/kg | < 0.5 | 0.5 | Pass | |
| | mg/kg | < 0.5 | 0.5 | Pass | |
| Fluorene Fluorene | mg/kg | 1 | | | |
| Indeno(1.2.3-cd)pyrene | mg/kg | < 0.5 | 0.5 0.5 | Pass Pass | |
| \ | mg/kg | < 0.5 | | | |
| Naphthalene | mg/kg | < 0.5 | 0.5 | Pass | |
| Phenanthrene | mg/kg | < 0.5 | 0.5 | Pass | |
| Pyrene Math ad Blank | mg/kg | < 0.5 | 0.5 | Pass | |
| Method Blank | | | | | |
| Organochlorine Pesticides | | .04 | 0.4 | Dana | |
| Chlordanes - Total 4.4'-DDD | mg/kg | < 0.1 | 0.1 | Pass | |
| | mg/kg | < 0.05 | 0.05 | Pass | |
| 4.4'-DDE | mg/kg | < 0.05 | 0.05 | Pass | |
| 4.4'-DDT | mg/kg | < 0.05 | 0.05 | Pass | |
| a-BHC | mg/kg | < 0.05 | 0.05 | Pass | |
| Aldrin | mg/kg | < 0.05 | 0.05 | Pass | |
| b-BHC | mg/kg | < 0.05 | 0.05 | Pass | |
| d-BHC | mg/kg | < 0.05 | 0.05 | Pass | |
| Dieldrin | mg/kg | < 0.05 | 0.05 | Pass | |
| Endosulfan I | mg/kg | < 0.05 | 0.05 | Pass | |
| 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-BHC (Lindane) | mg/kg | < 0.05 | 0.05 | Pass | |
| Heptachlor | mg/kg | < 0.05 | 0.05 | Pass | |
| Heptachlor epoxide | mg/kg | < 0.05 | 0.05 | Pass | |
| Hexachlorobenzene | mg/kg | < 0.05 | 0.05 | Pass | |
| Methoxychlor | mg/kg | < 0.2 | 0.2 | Pass | |
| Toxaphene | mg/kg | <1 | 1 | Pass | |
| Method Blank | ı ıııg/ı.g | | | 1 400 | |
| Polychlorinated Biphenyls | | | | | |
| Aroclor-1016 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1010 | mg/kg | < 0.1 | 0.5 | Pass | |
| | | | | | |
| Arcelor 1242 | mg/kg | < 0.5 | 0.5 | Pass | |
| Arcelor 1242 | mg/kg | < 0.5 | 0.5 | Pass | |
| Arcelor 4054 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1254 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1260 | mg/kg | < 0.5 | 0.5 | Pass | |
| Total PCB* | mg/kg | < 0.5 | 0.5 | Pass | |
| Method Blank | | 1 | T | | |
| Heavy Metals | | | | | |
| Arsenic | mg/kg | < 2 | 2 | Pass | |
| Cadmium | mg/kg | < 0.4 | 0.4 | Pass | |
| Chromium | mg/kg | < 5 | 5 | Pass | |
| Copper | mg/kg | < 5 | 5 | Pass | |
| Lead | mg/kg | < 5 | 5 | Pass | |
| Mercury | mg/kg | < 0.1 | 0.1 | Pass | |
| Nickel | mg/kg | < 5 | 5 | Pass | |
| Zinc | mg/kg | < 5 | 5 | Pass | |
| LCS - % Recovery | | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fracti | ons | | | | |
| TRH C6-C9 | % | 78 | 70-130 | Pass | |
| TRH C10-C14 | % | 73 | 70-130 | Pass | |
| LCS - % Recovery | | | | | |
| BTEX | | | | | |
| Benzene | % | 81 | 70-130 | Pass | |
| Toluene | % | 81 | 70-130 | Pass | |
| Ethylbenzene | % | 79 | 70-130 | Pass | |
| m&p-Xylenes | % | 83 | 70-130 | Pass | |
| | | | | | |
| o-Xylene | % | 83 | 70-130 | Pass | |
| Xylenes - Total | % | 83 | 70-130 | Pass | |
| LCS - % Recovery | | T T | T T | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fracti | | 140 | | | |
| Naphthalene | % | 110 | 70-130 | Pass | |
| TRH C6-C10 | % | 73 | 70-130 | Pass | |
| TRH >C10-C16 | % | 70 | 70-130 | Pass | |
| LCS - % Recovery | | | | | |
| Polycyclic Aromatic Hydrocarbons | T | | | | |
| Acenaphthene | % | 89 | 70-130 | Pass | |
| Acenaphthylene | % | 92 | 70-130 | Pass | |
| Anthracene | % | 89 | 70-130 | Pass | |
| Benz(a)anthracene | % | 92 | 70-130 | Pass | |
| Benzo(a)pyrene | % | 93 | 70-130 | Pass | |



| Test | | | Units | Result 1 | | Acceptance Limits | Pass Limits | Qualifying Code |
|----------------------------------|-----------------|--------------|-------|----------|-----|----------------------|----------------|--------------------|
| Benzo(b&j)fluoranthene | | | % | 89 | | 70-130 | Pass | |
| Benzo(g.h.i)perylene | | | % | 99 | | 70-130 | Pass | |
| Benzo(k)fluoranthene | | | % | 95 | | 70-130 | Pass | |
| Chrysene | | | % | 95 | | 70-130 | Pass | |
| Dibenz(a.h)anthracene | | | % | 105 | | 70-130 | Pass | |
| Fluoranthene | | | % | 94 | | 70-130 | Pass | |
| Fluorene | | | % | 90 | | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | | | % | 93 | | 70-130 | Pass | |
| Naphthalene | | | % | 93 | | 70-130 | Pass | |
| Phenanthrene | | | % | 88 | | 70-130 | Pass | |
| Pyrene | | | % | 96 | | 70-130 | Pass | |
| LCS - % Recovery | | | 7.5 | | | | 1 0.00 | |
| Organochlorine Pesticides | | | | | | | | |
| 4.4'-DDD | | | % | 106 | | 70-130 | Pass | |
| 4.4'-DDE | | | % | 96 | | 70-130 | Pass | |
| 4.4'-DDT | | | % | 86 | | 70-130 | Pass | |
| a-BHC | | | % | 96 | | 70-130 | Pass | |
| Aldrin | | | % | 100 | | 70-130 | Pass | |
| b-BHC | | | % | 93 | | 70-130 | Pass | |
| d-BHC | | | % | 95 | | 70-130 | Pass | |
| Dieldrin | | | % | 95 | | 70-130 | Pass | |
| | | | % | i | | | Pass | |
| Endosulfan I | | | % | 96 | | 70-130 | Pass | |
| Endosulfan II | | | | 95 | | 70-130 | | |
| Endosulfan sulphate | | | % | 94 | | 70-130 | Pass | |
| Endrin | | | % | 82 | | 70-130 | Pass | |
| Endrin aldehyde | | | % | 100 | | 70-130 | Pass | |
| Endrin ketone | | | % | 95 | | 70-130 | Pass | |
| g-BHC (Lindane) | | | % | 96 | | 70-130 | Pass | |
| Heptachlor | | | % | 96 | | 70-130 | Pass | |
| Heptachlor epoxide | | | % | 96 | | 70-130 | Pass | |
| Hexachlorobenzene | | | % | 98 | | 70-130 | Pass | |
| Methoxychlor | | | % | 75 | | 70-130 | Pass | |
| LCS - % Recovery | | | | T | | | Γ | |
| Polychlorinated Biphenyls | | | | | | | | |
| Aroclor-1260 | | | % | 96 | | 70-130 | Pass | |
| LCS - % Recovery | | | | T | T T | | Г | |
| Heavy Metals | | | | | | | | |
| Arsenic | | | % | 100 | | 70-130 | Pass | |
| Cadmium | | | % | 99 | | 70-130 | Pass | |
| Chromium | | | % | 100 | | 70-130 | Pass | |
| Copper | | | % | 101 | | 70-130 | Pass | |
| Lead | | | % | 101 | | 70-130 | Pass | |
| Mercury | | | % | 97 | | 70-130 | Pass | |
| Nickel | | | % | 101 | | 70-130 | Pass | |
| Zinc | | | % | 102 | | 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 Fract | ions | | Result 1 | | | | |
| TRH C6-C9 | S18-Au06818 | NCP | % | 73 | | 70-130 | Pass | |
| TRH C10-C14 | S18-Au06808 | NCP | % | 74 | | 70-130 | Pass | |
| Spike - % Recovery | | | 1. | | | | | |
| BTEX | | | | Result 1 | | | | |
| | | | | 1 | 1 1 | | | |
| Benzene | S18-Au06864 | NCP | % | 79 | | 70-130 | Pass | |



| Test | Lab Sample ID | QA Source | Units | Result 1 | | Acceptance Limits | Pass Limits | Qualifying Code |
|--------------------------------|---------------------|--------------|--------------|----------|---|----------------------|----------------|--------------------|
| Ethylbenzene | S18-Au06864 | NCP | % | 76 | | 70-130 | Pass | |
| m&p-Xylenes | S18-Au06864 | NCP | % | 79 | | 70-130 | Pass | |
| o-Xylene | S18-Au06864 | NCP | % | 81 | | 70-130 | Pass | |
| Xylenes - Total | S18-Au06864 | NCP | % | 80 | | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | | |
| Total Recoverable Hydrocarbon | s - 2013 NEPM Fract | ions | | Result 1 | | | | |
| Naphthalene | S18-Au06864 | NCP | % | 95 | | 70-130 | Pass | |
| TRH C6-C10 | S18-Au06818 | NCP | % | 71 | | 70-130 | Pass | |
| TRH >C10-C16 | S18-Au06808 | NCP | % | 70 | | 70-130 | Pass | |
| Spike - % Recovery | | | | • | | | | |
| Polycyclic Aromatic Hydrocarbo | ons | | | Result 1 | | | | |
| Acenaphthene | S18-Au06159 | NCP | % | 89 | | 70-130 | Pass | |
| Acenaphthylene | S18-Au06159 | NCP | % | 94 | | 70-130 | Pass | |
| Anthracene | S18-Au06159 | NCP | % | 86 | | 70-130 | Pass | |
| Benz(a)anthracene | S18-Au06159 | NCP | % | 97 | | 70-130 | Pass | |
| Benzo(a)pyrene | S18-Au06159 | NCP | % | 93 | | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | S18-Au06159 | NCP | % | 88 | | 70-130 | Pass | |
| Benzo(g.h.i)perylene | S18-Au06159 | NCP | % | 96 | | 70-130 | Pass | |
| Benzo(k)fluoranthene | S18-Au06159 | NCP | % | 91 | | 70-130 | Pass | |
| Chrysene | S18-Au06159 | NCP | % | 95 | | 70-130 | Pass | |
| Dibenz(a.h)anthracene | S18-Au06159 | NCP | % | 105 | | 70-130 | Pass | |
| Fluoranthene | S18-Au06159 | NCP | % | 97 | | 70-130 | Pass | |
| Fluorene | S18-Au06159 | NCP | % | 89 | | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | S18-Au06159 | NCP | % | 101 | | 70-130 | Pass | |
| Naphthalene | S18-Au06159 | NCP | % | 95 | | 70-130 | Pass | |
| Phenanthrene | S18-Au06159 | NCP | <u> </u> | 83 | | 70-130 | Pass | |
| Pyrene | S18-Au06159 | NCP | <u> </u> | 97 | | 70-130 | Pass | |
| Spike - % Recovery | 310-Au00139 | INCF | /0 |] 31 | | 70-130 | rass_ | |
| Organochlorine Pesticides | | | | Result 1 | Т | I | | |
| 4.4'-DDD | S18-Au08245 | NCP | % | 127 | | 70-130 | Pass | |
| 4.4'-DDE | S18-Au08245 | NCP | % | 99 | | 70-130 | Pass | |
| | | | | 83 | | | | |
| 4.4'-DDT | S18-Au06773 | NCP | % | 97 | | 70-130 | Pass | |
| a-BHC | S18-Au08245 | NCP | % | | | 70-130 | Pass | |
| Aldrin | S18-Au08245 | NCP | % | 109 | | 70-130 | Pass | |
| b-BHC | S18-Au08245 | NCP | % | 91 | | 70-130 | Pass | |
| d-BHC | S18-Au08245 | NCP | % | 101 | | 70-130 | Pass | |
| Dieldrin . | S18-Au08245 | NCP | % | 98 | | 70-130 | Pass | |
| Endosulfan I | S18-Au08245 | NCP | % | 98 | | 70-130 | Pass | |
| Endosulfan II | S18-Au08245 | NCP | % | 97 | | 70-130 | Pass | |
| Endosulfan sulphate | S18-Au08245 | NCP | % | 93 | | 70-130 | Pass | |
| Endrin Endrin | S18-Au08245 | NCP | % | 87 | | 70-130 | Pass | |
| Endrin aldehyde | S18-Au08245 | NCP | % | 83 | | 70-130 | Pass | |
| Endrin ketone | S18-Au08245 | NCP | % | 71 | | 70-130 | Pass | |
| g-BHC (Lindane) | S18-Au08245 | NCP | % | 90 | | 70-130 | Pass | - |
| Heptachlor | S18-Au08245 | NCP | % | 72 | | 70-130 | Pass | |
| Heptachlor epoxide | S18-Au08245 | NCP | % | 101 | | 70-130 | Pass | |
| Hexachlorobenzene | S18-Au08245 | NCP | % | 99 | | 70-130 | Pass | - |
| Methoxychlor | S18-Au06773 | NCP | % | 97 | | 70-130 | Pass | |
| Toxaphene | S18-Jl33208 | NCP | % | 95 | | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | | |
| Polychlorinated Biphenyls | 1 2 | | | Result 1 | | | | - |
| Aroclor-1260 | S18-Au08245 | NCP | % | 93 | | 70-130 | Pass | |
| Spike - % Recovery | | | | | | I | | |
| Heavy Metals | | | | Result 1 | | | | <u> </u> |



| Cadmium | Test | Lab Sample ID | QA | Units | Result 1 | | | Acceptance | Pass | Qualifying |
|--|------------------------------|----------------|------|----------|----------|----------|-----|----------------------|------|--------------------|
| Cathrium | | • | | | | | | | | Code |
| Chromitism | | | | | | | | | | |
| Coppor | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Mercury | | | | | | | | | | |
| Nickel | I | | | | | | | | | |
| Test | cury | S18-Au06151 | | | | | | | Pass | |
| Test | el | S18-Au06151 | | | | | | | Pass | |
| Duplicate Duplicate Duplicate Source S | | S18-Au06151 | NCP | % | 111 | | | | Pass | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | Test | Lab Sample ID | | Units | Result 1 | | | Acceptance Limits | | Qualifying Code |
| TRH C6-C9 | cate | | | | ı | ı | | | | |
| TRH C10-C14 | Recoverable Hydrocarbons - 1 | 999 NEPM Fract | | | Result 1 | Result 2 | RPD | | | |
| TRH C15-C28 | C6-C9 | S18-Au06863 | | mg/kg | < 20 | < 20 | <1 | 30% | Pass | |
| TRH C29-C36 | C10-C14 | S18-Au06158 | NCP | mg/kg | < 20 | < 20 | <1 | 30% | Pass | |
| Duplicate BTEX | C15-C28 | S18-Au06158 | NCP | mg/kg | < 50 | < 50 | <1 | 30% | Pass | |
| Benzene | C29-C36 | S18-Au06158 | NCP | mg/kg | < 50 | < 50 | <1 | 30% | Pass | |
| Benzene | cate | | | | | | | | | |
| Toluene | (| | | | Result 1 | Result 2 | RPD | | | |
| Ethylbenzene | zene | S18-Au06863 | NCP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| m&p-Xylenes S18-Au06863 NCP mg/kg < 0.2 < 0.2 < 1 30% Pass o-Xylene S18-Au06863 NCP mg/kg < 0.1 | ene | S18-Au06863 | NCP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| o-Xylene \$18-Au06863 NCP mg/kg < 0.1 < 1 30% Pass Xylenes - Total \$18-Au06863 NCP mg/kg < 0.3 < 1 30% Pass Duplicate Total Recoverable Hydrocarbons - 2013 NEPM Fractions Result 1 Result 2 RPD Image: Result 1 Result 2 RPD Image: Result 1 Result 2 RPD Image: Result 1 Result 2 RPD Image: Result 2 RPD Image: Result 2 RPD Image: Result 2 RPD Image: Result 2 RPD Image: Result 2 RPD Image: Result 2 RPD Image: Result 2 RPD Image: Result 3 Image: Result 3 Image: Result 4 Result 3 Image: Result 4 Result 4 Result 4 Result 4 Result 4 Image: Result 4 Result 4 Result 4 Image: Result 4 Image: Result 4 Image: Result 4 Image: Result 4 Image: Result 4 Result 4 Result 4 Image: Result 4 Image: Result 4 Result 4 Result 4 Image: Result 4 Image: Result 4 Image: Result 4 Image | Ibenzene | S18-Au06863 | NCP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Xylenes - Total | -Xylenes | S18-Au06863 | NCP | mg/kg | < 0.2 | < 0.2 | <1 | 30% | Pass | |
| Duplicate Total Recoverable Hydrocarbons - 2013 NEPM Fractions Result 1 Result 2 RPD | lene | S18-Au06863 | NCP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Naphthalene | nes - Total | S18-Au06863 | NCP | mg/kg | < 0.3 | < 0.3 | <1 | 30% | Pass | |
| Naphthalene | icate | | | | | | | | | |
| Naphthalene | Recoverable Hydrocarbons - 2 | 013 NEPM Fract | ions | | Result 1 | Result 2 | RPD | | | |
| TRH C6-C10 | nthalene | S18-Au06863 | NCP | mg/kg | < 0.5 | < 0.5 | | 30% | Pass | |
| TRH > C10 - C16 | C6-C10 | S18-Au06863 | NCP | | < 20 | < 20 | <1 | 30% | Pass | |
| TRH > C16-C34 S18-Au06158 NCP mg/kg < 100 < 1 30% Pass TRH > C34-C40 S18-Au06158 NCP mg/kg < 100 < 1 30% Pass Duplicate Polycyclic Aromatic Hydrocarbons Result 1 Result 2 RPD Acenaphthene S18-Au07709 NCP mg/kg < 0.5 | | S18-Au06158 | | | 1 | | | 30% | Pass | |
| TRH > C34 - C40 | | S18-Au06158 | | | 1 | | | 30% | | |
| Duplicate Polycyclic Aromatic Hydrocarbons Result 1 Result 2 RPD | >C34-C40 | S18-Au06158 | | | | | | 30% | Pass | |
| Result 1 Result 2 RPD | | | | <u> </u> | | | | | | |
| Acenaphthene \$18-Au07709 NCP mg/kg < 0.5 < 1 30% Pass Acenaphthylene \$18-Au07709 NCP mg/kg < 0.5 | | | | | Result 1 | Result 2 | RPD | | | |
| Acenaphthylene \$18-Au07709 NCP mg/kg < 0.5 < 0.5 < 1 30% Pass Anthracene \$18-Au07709 NCP mg/kg < 0.5 | · · · | S18-Au07709 | NCP | ma/ka | | < 0.5 | | 30% | Pass | |
| Anthracene \$18-Au07709 NCP mg/kg < 0.5 < 0.5 < 1 30% Pass Benz(a)anthracene \$18-Au07709 NCP mg/kg < 0.5 | · | | | | | | | | | |
| Benz(a)anthracene \$18-Au07709 NCP mg/kg < 0.5 < 1 30% Pass Benzo(a)pyrene \$18-Au07709 NCP mg/kg < 0.5 | ' ' | | | | | | | | | |
| Benzo(a)pyrene \$18-Au07709 NCP mg/kg < 0.5 < 1 30% Pass Benzo(b&j)fluoranthene \$18-Au07709 NCP mg/kg < 0.5 | | | | | | | | | | |
| Benzo(b&j)fluoranthene \$18-Au07709 NCP mg/kg < 0.5 < 1 30% Pass Benzo(g.h.i)perylene \$18-Au07709 NCP mg/kg < 0.5 | ` ' | | | | | | | | | |
| Benzo(g.h.i)perylene S18-Au07709 NCP mg/kg < 0.5 < 0.5 < 1 30% Pass Benzo(k)fluoranthene S18-Au07709 NCP mg/kg < 0.5 | \ /! / | | | | | | | | | |
| Benzo(k)fluoranthene \$18-Au07709 NCP mg/kg < 0.5 < 0.5 < 1 30% Pass Chrysene \$18-Au07709 NCP mg/kg < 0.5 | · // | | | | | | | | | |
| Chrysene \$18-Au07709 NCP mg/kg < 0.5 < 0.5 < 1 30% Pass Dibenz(a.h)anthracene \$18-Au07709 NCP mg/kg < 0.5 | (0 /1 / | | | | | | | | | |
| Dibenz(a.h)anthracene \$18-Au07709 NCP mg/kg < 0.5 < 0.5 < 1 30% Pass Fluoranthene \$18-Au07709 NCP mg/kg < 0.5 | , | | | | | | | | | |
| Fluoranthene \$18-Au07709 NCP mg/kg < 0.5 < 0.5 < 1 30% Pass Fluorene \$18-Au07709 NCP mg/kg < 0.5 | | | | | | | | | | |
| Fluorene \$18-Au07709 NCP mg/kg < 0.5 < 0.5 < 1 30% Pass Indeno(1.2.3-cd)pyrene \$18-Au07709 NCP mg/kg < 0.5 | · / | | | | | | | | | |
| Indeno(1.2.3-cd)pyrene | | | | | | | | | | |
| Naphthalene \$18-Au07709 NCP mg/kg < 0.5 < 0.5 < 1 30% Pass Phenanthrene \$18-Au07709 NCP mg/kg < 0.5 | | | | | | | | | | |
| Phenanthrene \$18-Au07709 NCP mg/kg < 0.5 < 0.5 <1 30% Pass Pyrene \$18-Au07709 NCP mg/kg < 0.5 | ` ''' | | | | | | | | | |
| Pyrene \$18-Au07709 NCP mg/kg < 0.5 < 0.5 <1 30% Pass Duplicate Result 1 Result 2 RPD RPD Result 2 RPD Result 3 Pass Chlordanes - Total \$18-Au06871 NCP mg/kg < 0.1 | | | | | | | | | | |
| Duplicate Result 1 Result 2 RPD Chlordanes - Total S18-Au06871 NCP mg/kg < 0.1 | | | | | | | | | | |
| Organochlorine Pesticides Result 1 Result 2 RPD Chlordanes - Total S18-Au06871 NCP mg/kg < 0.1 | | 310-AUU//U9 | INCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | rass | |
| Chlordanes - Total S18-Au06871 NCP mg/kg < 0.1 < 0.1 <1 30% Pass | | | | | Result 1 | Result 2 | RPD | | | |
| | | S18-Au06871 | NCP | ma/ka | | | | 30% | Pass | |
| 4.4'-DDD S18-Au06871 NCP mg/kg < 0.05 < 0.05 < 1 30% Pass | | | NCP | | | | | | | |
| | | | | | | | | | | |
| 4.4'-DDE S18-Au06871 NCP mg/kg < 0.05 < 0.05 <1 30% Pass 4.4'-DDT S18-Au06871 NCP mg/kg < 0.05 | | | | | | | | | | |



| - | | | | | | | | | |
|----------------------------------|-------------|-----|----------|----------|----------|------|-----|------|---|
| Duplicate | | | | | | | I | | |
| Organochlorine Pesticides | 1 | 1 | | Result 1 | Result 2 | RPD | | | |
| a-BHC | S18-Au06871 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Aldrin | S18-Au06871 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| b-BHC | S18-Au06871 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| d-BHC | S18-Au06871 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Dieldrin | S18-Au06871 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endosulfan I | S18-Au06871 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endosulfan II | S18-Au06871 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endosulfan sulphate | S18-Au06871 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endrin | S18-Au06871 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endrin aldehyde | S18-Au06871 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endrin ketone | S18-Au06871 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| g-BHC (Lindane) | S18-Au06871 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Heptachlor | S18-Au06871 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Heptachlor epoxide | S18-Au06871 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Hexachlorobenzene | S18-Au06871 | NCP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Methoxychlor | S18-Au06871 | NCP | mg/kg | < 0.2 | < 0.2 | <1 | 30% | Pass | |
| Toxaphene | S18-Au06871 | NCP | mg/kg | < 1 | < 1 | <1 | 30% | Pass | |
| Duplicate | | | | | | | | | |
| Polychlorinated Biphenyls | | | | Result 1 | Result 2 | RPD | | | |
| Aroclor-1016 | S18-Au06871 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Aroclor-1221 | S18-Au06871 | NCP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Aroclor-1232 | S18-Au06871 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Aroclor-1242 | S18-Au06871 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Aroclor-1248 | S18-Au06871 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Aroclor-1254 | S18-Au06871 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Aroclor-1260 | S18-Au06871 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Duplicate | | | | | | | | | |
| Heavy Metals | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic | S18-Au06096 | NCP | mg/kg | 4.5 | 4.9 | 10 | 30% | Pass | |
| Cadmium | S18-Au06096 | NCP | mg/kg | < 0.4 | < 0.4 | <1 | 30% | Pass | |
| Chromium | S18-Au06096 | NCP | mg/kg | 9.1 | 9.8 | 7.0 | 30% | Pass | |
| Copper | S18-Au06096 | NCP | mg/kg | 8.1 | 9.0 | 11 | 30% | Pass | |
| Lead | S18-Au06096 | NCP | mg/kg | 63 | 76 | 20 | 30% | Pass | |
| Mercury | S18-Au01486 | NCP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Nickel | S18-Au06096 | NCP | mg/kg | < 5 | < 5 | <1 | 30% | Pass | |
| Zinc | S18-Au06096 | NCP | mg/kg | 38 | 47 | 20 | 30% | Pass | |
| Duplicate | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| % Moisture | S18-Au00415 | NCP | % | 3.2 | 2.8 | 13 | 30% | Pass | |
| Duplicate | | | | | | | | | |
| Acid Sulfate Soils Field pH Test | | | | Result 1 | Result 2 | RPD | | | |
| pH-F (Field pH test)* | S18-Au02476 | СР | pH Units | 5.0 | 5.1 | pass | 30% | Pass | |
| Reaction Ratings* | S18-Au02476 | CP | comment | 4.0 | 4.0 | pass | 30% | Pass | |
| Duplicate | | | | | | | | | |
| Acid Sulfate Soils Field pH Test | | | | Result 1 | Result 2 | RPD | | | _ |
| pH-F (Field pH test)* | S18-Au02487 | СР | pH Units | 4.9 | 4.9 | pass | 30% | Pass | |
| Reaction Ratings* | S18-Au02487 | СР | comment | 2.0 | 2.0 | pass | 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

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).

N01

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.

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. N04

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 N07

Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction.

Authorised By

N02

S05

Nibha Vaidya Analytical Services Manager Nibha Vaidya Senior Analyst-Asbestos (NSW)

Glenn Jackson

National Operations Manager

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. Impt 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 I mgt be liable for consequential damages including, but no limited to, lot growing, damages for eladed include and excellent in a finite standard in the terms tested. Unless indicated otherwise, the tests were sindicated otherwise, the tests were, the filted are related only to the terms tested. Unless indicated otherwise, the tests were

Enviro Sample Bris

From: Enviro Sample NSW

Sent: Wednesday, 8 August 2018 4:02 PM

To: Enviro Sample Bris

Subject: FW: Eurofins | mgt Sample Receipt Advice - Report 609184 : Site SCOTLAND

ISLAND ENERGY RELIABILITY PROJECT (2127425)

9/8/15

Attachments: COC1 2127425_Eurofins_Chain Of Custody 5_SPOCAS.xls

Follow Up Flag: Follow up Flag Status: Flagged

Hi Team,

Following additional for samples sent to Brisbane under report No: 609184.

Kind Regards,
Elvis D
Enviro Sample NSW
Sample Receipt NSW

Eurofins | mgt

Unit F3, Parkview Building 16 Mars Road LANE COVE WEST NSW 2066 AUSTRALIA

Phone: +61 2 9900 8492

Email: EnviroSampleNSW@Eurofins.com

Website: www.eurofins.com.au/environmental-testing

From: Justin Kabat [mailto:Justin.Kabat@ghd.com]

Sent: Wednesday, 8 August 2018 3:40 PM **To:** Enviro Sample NSW; Clifton Thompson

Cc: Jacqui Hallchurch

Subject: RE: Eurofins | mgt Sample Receipt Advice - Report 609184 : Site SCOTLAND ISLAND ENERGY RELIABILITY

PROJECT (2127425)

Hi Elvis

Further to the testing undertaken on samples, we wish to schedule the attached additional testing on remaining sample material (sPOCAS and SCr suites).

Cheers,

Justin Kabat MIEAust CPEng NER Senior Geotechnical Engineer

GHD

T: 61 2 9462 4831 | F: 61 2 8898 8810 | V: 214831 | M: 61 413 244 331 | E: justin.kabat@ghd.com Level 6, 20 Smith Street Parramatta NSW 2150 Australia | http://www.ghd.com/ Water | Energy & Resources | Environment | Property & Buildings | Transportation

From: EnviroSampleNSW@eurofins.com < EnviroSampleNSW@eurofins.com >

Sent: Wednesday, 25 July 2018 2:39 PM

To: Clifton Thompson < Clifton. Thompson@ghd.com>

Cc: Jacqui Hallchurch < <u>Jacqui.Hallchurch@ghd.com</u>>; Justin Kabat < <u>Justin.Kabat@ghd.com</u>>

Subject: Eurofins | mgt Sample Receipt Advice - Report 609184 : Site SCOTLAND ISLAND ENERGY RELIABILITY PROJECT (2127425)

Dear Valued Client,

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job Number, Turn Around Time, any comments in the Notes section and sample numbers as well as the requested analysis. If there are any irregularities then please contact your Eurofins | mgt Analytical Services Manager as soon as possible to make certain that they get changed.

Regards

Elvis Dsouza

Sample Receipt

Eurofins | mgt Unit F3, Parkview Building 16 Mars Road LANE COVE WEST NSW 2066 AUSTRALIA

Phone: +61 29900 8492

Email: <u>EnviroSampleNSW@eurofins.com</u> Website: <u>environment.eurofins.com.au</u>

EnviroNote 1076 - PFAS Biota EnviroNote 1077 - Soil Vapour Sampling - NATA Accreditation

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Sydney
Unit F3 - 6 Building F, 16 Mars Road, Lane Cove
Phone: +612 9900 8400

Email: enviro.syd@mgtlabmark.com.au

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| | | 115 | υa | |

Unit 1-21 Smallwood Place, Murrarie Phone: +617 3902 4600

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Melbourne

2 Kingston Town Close, Oakleigh, VIC 3166 Phone: +613 8564 5000 Fax: +613 8564 5090 Email: enquiries.melb@mqtlabmark.com.au

| | | | | | | | | | | | C | ;H/ | AIN | OF | CU | ST | יםס | r R | EC | OR | RD | | - E | | | | 2.5 | | | | |
|--------|---|----------------|----------|------------|------------------|----------|----------|---------|-------|-------|--|------------|------|---------|------|------|---------|-------|---------|--------|-------|-----------|---------------------|---------------|----------|-----------|----------------|---------------|---------------|-------------|---------------|
| LIEN | T DETAILS | | | | | | | | | | | | | | | | | | | | | | | | | | | | age1_ | _ of1_ | |
| compa | any Name : GHD Pty Ltd | | | Con | tact N | Name : | Clifton | Thom | psoo | n | | | | | | P | urchas | e Ord | r : 21 | 27425 | 5 | | | | | | COC Number : 3 | | | | |
| Office | Address : | | | Proj | ject M | lanager | : Just | in Kab | oat | | | | | | | P | ROJEC | T Nur | ber : | 21274 | 425 | | | | | | Eurofins | mgt quot | te ID : 170 | 308GHDN | |
| L | evel 15, 133 Castlereagh Stree | t, Sydney NS | W 2000 | Ema | ail for | results | : clifte | on.tho | mpsc | n@ghd | l.com | | | | | P | ROJEC | T Nan | ne : So | cotlan | nd Is | land Ener | gy Reliabi | lity Projec | t | | Data out | out format: | Esdat, P |)F | |
| | | | | | | | | | | | | Analy | /tes | | | | | | | | | | | Sor | | | g times (wi | | | ion). | |
| pecia | al Directions & Comments : | | | 40 | (S) | П | Т | Т | | | 1.2 | П | T | | | Т | | Т | | | | | | Waters | | 7 1010101 | | 0111001 010 | | oils | |
| | | | | 84964-2004 | metals) | | | | | | Aggressivity Suite (pH, EC trivity, S04) | (×) | | | | | | 1 | | | | BTEX. | MAH. VO | С | | 14 days | BTEX | , MAH, VO | C | | 14 days |
| pecia | al Directions & Comments : | | | 496 | 8 | | | | | | F, | and pHfox) | | | | | | | | | | TRH, F | PAH, Phen | ols, Pestic | ides | 7 days | | PAH, Phen | | ehir | 14 days |
| | | | | -AS | Ž | | | | | | 9 | a p | | | | | | | | | | Heavy | | | | 6 months | | Metals | 1013, 1 63110 | 1063 | 6 months |
| | k bag samples frozen overnight Please freeze zip lock bags for | | | loo loo | I A | | | | | | ij | a | | | | | | | | | | | ry, CrVI | | | 28 days | 110011 | ry, CrVI | | | 28 days |
| | . Thanks | possible lutur | e SPOCAS | pse | /B1 | 贸 | | | | | ≥ _ | (pHf | | | | | | | | | | | iological te | estina | | 24 hours | | biological te | natina | | 72 hours |
| | | | | ce/a | A. | PCB | | | 65 | | ok) | 2 | | | | | | | | | | | | rite, Total I | V | 2 days | Anion | | sung | | 28 days |
| | | | | sen | 15 | <u>a</u> | | | 62-92 | | es. | ee | | | | | | | | | | | - TSS, TD | | | 7 days | | CAS, pH Fie | old and EC | Y Crs | 24 hours |
| | | | | ed) | (TRH/PAH/BTEXN/8 | OCP | | | Ī | | vity | Screen | | | | | | | | | | Ferrou | _ | 0.00 | | 7 days | | , TCLP | na ana i | 7, 010 | |
| urofin | ns mgt DI water batch number: | | | 9 | B7 (| B13 | <u>0</u> | | / TPH | | L2 A | Field | | | | | | | | | | 1 01100 | 0 11 011 | | | r days | ASLP | TCLP | | | 7 days |
| | | | | estos | te B | e E | 8 metals | X | BTEX | م | te L Re | Œ, | | | ΙI | | | | | | | Container | s: | | | | | | | | A contract of |
| | Sample ID | Date | Matrix | Asbest | Suite | Suite | 8 | BTEX | BTI | TCLP | Suite CI, Re | 표 | | | | | | | | | | 1LP | 250P | 125P | 1LA | 40mL via | 1 125mL A | Jar | bag | Sample | comments: |
| 1 | GHD-BH3_16_16.45 | 17/07/2018 | soil | | | | | | | | | Х | | | | | | | | | | | | | | | | | 1 | | |
| 2 | GHD-BH3_17.5_17.77 | 17/07/2018 | soil | - | | | | | | | | Х | | | | | | | | | | | | | | | | | 1 | | |
| 3 | GHD-BH3 19 19.45 | 17/07/2018 | soil | \vdash | | | | | | | | Х | | | | | 1 | | | | | | | | | | | | 1 | | |
| 4 | GHD-BH3_22_22.45 | 17/07/2018 | soil | | | | | | | | | Х | | | | | | | | | | | | | | | | 1 | 1 | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | 1 | | | | | | | | | | | | | - 1 | 1 5 | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | - | 5 | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | 4 | dk | | | | | | | | | | | | | - |
| 10 | | | | | | 9 | | | | | | | | -1 | | | | | A62 - | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | Т | 1 | 5. | | | | 1 | | | | _ " | | | | | | | | | | | | | | | | | |
| 13 | | | | | 1 | | | | | 1 | | | | | | | | | | | | 1 | | | | | | | | | |
| 14 | | | | | | | | | | -4 | | | | 4 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | 12 | | | | | | | | | | | | | | - | | | | | | | | |
| 16 | | - 3 | | | | | | | 1 | | | | | | | | | | | | | | | | | 1. | / | | | | |
| | | | | | | Lal | borato | ry Stat | ff | | | | | | Turr | arou | nd time | | | | | | | | Method C | f Shipme | nt | | | Temperature | on arrival: |
| Relino | quished By: Clifton Thompson | 1 | Receiv | ved B | 3y: / | ade | e. | 6 | , | | | | | | Υ 🗆 | | DAY [| 1 | | | | □ c | ourier | | | | | | | 5-2 | 26°C |
| Date 8 | & Time : 18:00, 24/07/2018 | | Date 8 | & Tim | 24 | | 1/18 | | 7 | 35 | My | | Y 🗆 | | | | _ | 4 | | | | | and Delive estal | red | | | | | | Report numb | er: |
| Signa | ture: | | Signa | ture: | | 1 | 1 | 5 | _ | - | V | 5 DA | Y | 10 D | AY L |] 0 | ther: | | | | | Courier C | onsignme | ent#: | | | | | | 600 | 1184 |

QS3009_R0

Issue Date: 25 February 2013

Page 1 of 1



Melbourne Melbourne
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Oakleigh Vic 3166
Phone: +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

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ABN - 50 005 085 521

e.mail: EnviroSales@eurofins.com web: www.eurofins.com.au

Sample Receipt Advice

Company name: **GHD Pty Ltd NSW**

Contact name: Clifton Thompson

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT Project name:

Project ID: 2127425 COC number: Not provided

Turn around time: 5 Day

Aug 8, 2018 4:02 PM Date/Time received:

Eurofins | mgt reference: 611405

Sample information

- \mathbf{V} A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- \mathbf{V} Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt: 5.3 degrees Celsius.
- \mathbf{V} All samples have been received as described on the above COC.
- \square COC has been completed correctly.
- \square Attempt to chill was evident.
- \mathbf{V} Appropriately preserved sample containers have been used.
- \mathbf{V} All samples were received in good condition.
- \square Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- \mathbf{V} Appropriate sample containers have been used.
- \boxtimes Split sample sent to requested external lab.
- \boxtimes Some samples have been subcontracted.
- Custody Seals intact (if used). N/A

Contact notes

If you have any questions with respect to these samples please contact:

Nibha Vaidya on Phone: +61 (2) 9900 8415 or by e.mail: NibhaVaidya@eurofins.com

Results will be delivered electronically via e.mail to Clifton Thompson - Clifton.Thompson@ghd.com.









Certificate of Analysis

NATA Accredited Accreditation Number 1261 Site Number 20794

Site Number 20794

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

GHD Pty Ltd NSW Level 15, 133 Castlereagh Street Sydney NSW 2000

Attention: Clifton Thompson

Report 611405-S-V2

Project name SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID 2127425 Received Date Aug 08, 2018

| Client Sample ID Sample Matrix | | | GHD-BH2_16- 16.45 Soil | GHD- BH2_17.5- 17.77 Soil | GHD-BH2_19- 19.45 Soil | GHD-BH2_22- 22.45 Soil |
|--|------|----------------------|------------------------------|------------------------------------|------------------------------|------------------------------|
| Eurofins mgt Sample No. | | | B18-Au10547 | B18-Au10548 | B18-Au10549 | B18-Au10550 |
| Date Sampled | | | Jul 17, 2018 | Jul 17. 2018 | Jul 17. 2018 | Jul 17. 2018 |
| , | LOD | l lait | Jul 17, 2010 | Jul 17, 2010 | Jul 17, 2010 | Jul 17, 2010 |
| Test/Reference SPOCAS Suite | LOR | Unit | | | | |
| | 0.4 | | 5.0 | 5.0 | F.0 | 1.1 |
| pH-KCL | 0.1 | pH Units | | 5.3 | 5.6 | 4.1 |
| pH-OX Acid trail - Titratable Actual Acidity | 0.1 | pH Units mol H+/t | 2.6 8.5 | 9.2 | 3.8 | 1.6 150 |
| Acid trail - Titratable Actual Acidity Acid trail - Titratable Peroxide Acidity | 2 | | | 69 | 22 | |
| Acid trail - Titratable Peroxide Acidity Acid trail - Titratable Sulfidic Acidity | 2 | mol H+/t | 1 | 62 | 22 | 2500 2400 |
| sulfidic - TAA equiv. S% pyrite | 0.02 | % pyrite S | < 0.02 | < 0.02 | < 0.02 | 0.24 |
| sulfidic - TPA equiv. 5% pyrite | 0.02 | % pyrite S | | 0.11 | 0.02 | 4.0 |
| sulfidic - TSA equiv. 5% pyrite | 0.02 | % pyrite S | | 0.10 | 0.04 | 3.8 |
| Sulfur - KCl Extractable | 0.02 | % S | < 0.02 | < 0.02 | < 0.02 | 0.21 |
| Sulfur - Peroxide | 0.02 | % S | 0.24 | 0.09 | 0.03 | 3.6 |
| Sulfur - Peroxide Oxidisable Sulfur | 0.02 | % S | 0.24 | 0.09 | 0.03 | 3.3 |
| acidity - Peroxide Oxidisable Sulfur | 10 | mol H+/t | i - | 58 | 17 | 2100 |
| HCI Extractable Sulfur | 0.02 | % S | n/a | n/a | n/a | 0.21 |
| Net Acid soluble sulfur | 0.02 | % S | n/a | n/a | n/a | < 0.02 |
| Net Acid soluble sulfur - acidity units | 10 | mol H+/t | | n/a | n/a | < 10 |
| Net Acid soluble sulfur - equivalent S% pyrite ^{S02} | 0.02 | % S | n/a | n/a | n/a | < 0.02 |
| Calcium - KCI Extractable | 0.02 | % Ca | 0.03 | 0.04 | 0.02 | 0.10 |
| Calcium - Peroxide | 0.02 | % Ca | 0.03 | 0.05 | 0.02 | 0.09 |
| Acid Reacted Calcium | 0.02 | % Ca | < 0.02 | < 0.02 | < 0.02 | -0.01 |
| acidity - Acid Reacted Calcium | 10 | mol H+/t | < 10 | < 10 | < 10 | -7 |
| sulfidic - Acid Reacted Ca equiv. S% pyrite | 0.02 | % S | < 0.02 | < 0.02 | < 0.02 | -0.01 |
| Magnesium - KCI Extractable | 0.02 | % Mg | 0.04 | 0.05 | 0.03 | 0.10 |
| Magnesium - Peroxide | 0.02 | % Mg | 0.04 | 0.05 | 0.03 | 0.10 |
| Acid Reacted Magnesium | 0.02 | % Mg | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| acidity - Acid Reacted Magnesium | 10 | mol H+/t | < 10 | < 10 | < 10 | < 10 |
| sulfidic - Acid Reacted Mg equiv. S% pyrite | 0.02 | % S | < 0.02 | < 0.02 | < 0.02 | < 0.02 |
| Acid Neutralising Capacity (ANCE) | 0.02 | %CaCO3 | n/a | n/a | n/a | n/a |
| Acid Neutralising Capacity - Acidity units (a-ANCE) | 10 | mol H+/t | n/a | n/a | n/a | n/a |
| Acid Neutralising Capacity - equivalent S% pyrite(s-ANCE) | 0.02 | % S | n/a | n/a | n/a | n/a |
| ANC Fineness Factor | | factor | 1.5 | 1.5 | 1.5 | 1.5 |
| SPOCAS - Net Acidity (Sulfur Units) | 0.02 | % S | 0.25 | 0.10 | 0.03 | 3.6 |
| SPOCAS - Net Acidity (Acidity Units) | 10 | mol H+/t | 160 | 65 | 17 | 2200 |
| SPOCAS - Liming rate | 1 | kg CaCO3/t | 12 | 5.0 | 1.0 | 170 |



| Client Sample ID | | | GHD-BH2_16- 16.45 | GHD- BH2_17.5- 17.77 | GHD-BH2_19- 19.45 | GHD-BH2_22- 22.45 |
|--|-------|------------|----------------------|----------------------------|----------------------|----------------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | B18-Au10547 | B18-Au10548 | B18-Au10549 | B18-Au10550 |
| Date Sampled | | | Jul 17, 2018 | Jul 17, 2018 | Jul 17, 2018 | Jul 17, 2018 |
| Test/Reference | LOR | Unit | | | | |
| Chromium Suite | | • | | | | |
| pH-KCL | 0.1 | pH Units | 5.3 | 5.3 | 5.6 | 4.1 |
| Acid trail - Titratable Actual Acidity | 2 | mol H+/t | 8.5 | 9.2 | 3.7 | 150 |
| sulfidic - TAA equiv. S% pyrite | 0.02 | % pyrite S | < 0.02 | < 0.02 | < 0.02 | 0.24 |
| Chromium Reducible Sulfur ^{S04} | 0.005 | % S | 0.20 | 0.066 | 0.017 | 2.9 |
| Chromium Reducible Sulfur -acidity units | 3 | mol H+/t | 120 | 41 | 11 | 1800 |
| Sulfur - KCI Extractable | 0.02 | % S | < 0.02 | < 0.02 | < 0.02 | 0.21 |
| HCI Extractable Sulfur | 0.02 | % S | n/a | n/a | n/a | 0.21 |
| Net Acid soluble sulfur | 0.02 | % S | n/a | n/a | n/a | < 0.02 |
| Net Acid soluble sulfur - acidity units | 10 | mol H+/t | n/a | n/a | n/a | < 10 |
| Net Acid soluble sulfur - equivalent S% pyrite ^{S02} | 0.02 | % S | n/a | n/a | n/a | < 0.02 |
| Acid Neutralising Capacity (ANCbt) | 0.01 | %CaCO3 | n/a | n/a | n/a | n/a |
| Acid Neutralising Capacity - acidity (a-ANCbt) | 2 | mol H+/t | n/a | n/a | n/a | n/a |
| Acid Neutralising Capacity - equivalent S% pyrite (s-ANCbt) $^{\rm S03}$ | 0.02 | % S | n/a | n/a | n/a | n/a |
| ANC Fineness Factor | | factor | 1.5 | 1.5 | 1.5 | 1.5 |
| CRS Suite - Net Acidity (Sulfur Units) | 0.02 | % S | 0.19 | 0.07 | 0.02 | 3.2 |
| CRS Suite - Net Acidity (Acidity Units) | 10 | mol H+/t | 130 | 50 | 14 | 2000 |
| CRS Suite - Liming Rate ^{S01} | 1 | kg CaCO3/t | 9.8 | 3.8 | 1.1 | 150 |
| Extraneous Material | | | | | | |
| <2mm Fraction | 0.005 | g | 52 | 42 | 34 | 59 |
| >2mm Fraction | 0.005 | g | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Analysed Material | 0.1 | % | 100 | 100 | 100 | 100 |
| Extraneous Material | 0.1 | % | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| % Moisture | 1 | | 24 | 19 | 17 | 27 |



Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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 |
|---------------------------------|--------------|--------------|---------------------|
| SPOCAS Suite SPOCAS Suite | Brisbane | Aug 09, 2018 | 6 Week |
| - Method: LTM-GEN-7050 | | | |
| Chromium Reducible Sulfur Suite | | | |
| Chromium Suite | Brisbane | Aug 13, 2018 | 6 Week |
| - Method: LTM-GEN-7070 | | | |
| Extraneous Material | Brisbane | Aug 09, 2018 | 6 Week |
| - Method: LTM-GEN-7050/7070 | | | |
| % Moisture | Brisbane | Aug 09, 2018 | 14 Day |

⁻ Method: LTM-GEN-7080 Moisture



ABN- 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au Melbourne 2-5 Kingston Town Close Oakleigh VIC 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271 Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217 Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 4600 NATA # 1261 Site # 20794

Received:

Priority:

Due:

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone: +61 8 9251 9600
NATA # 1261
Site # 23736

Aug 8, 2018 4:02 PM

Aug 15, 2018

5 Day

Company Name: GHD Pty Ltd NSW

Address: Level 15, 133 Castlereagh Street

Sydney

NSW 2000

Project Name: SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID: 2127425

 Order No.:
 2127425

 Report #:
 611405

 Phone:
 02 9239 7100

 Fax:
 02 9239 7199

Contact Name: Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| | | Sa | mple Detail | | | SPOCAS Suite | Chromium Reducible Sulfur Suite | Moisture Set |
|------|----------------------------|-----------------|------------------|--------|-------------|--------------|---------------------------------|--------------|
| Melb | ourne Laborato | ory - NATA Site | # 1254 & 142 | 271 | | | | |
| Sydi | ney Laboratory | - NATA Site # 1 | 8217 | | | | | |
| Bris | bane Laboratory | y - NATA Site # | 20794 | | | Х | Х | Х |
| | h Laboratory - N | | 36 | | | | | |
| | rnal Laboratory | | | | 1 | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | |
| 1 | GHD-BH2_16- 16.45 | Jul 17, 2018 | | Soil | B18-Au10547 | Х | Х | Х |
| 2 | GHD- BH2_17.5- 17.77 | Jul 17, 2018 | | Soil | B18-Au10548 | х | х | х |
| 3 | GHD-BH2_19- 19.45 | Jul 17, 2018 | | Soil | B18-Au10549 | Х | Х | х |
| 4 | GHD-BH2_22- 22.45 | Jul 17, 2018 | | Soil | B18-Au10550 | Х | х | х |
| Test | Counts | | | | | 4 | 4 | 4 |



Internal Quality Control Review and Glossary

General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- 4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences
- 5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds
- 6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 7. Samples were analysed on an 'as received' basis
- 8. 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.

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

Units

mg/kg: milligrams per kilogram mg/L: milligrams per litre ug/L: micrograms per litre

ppm: Parts per million **ppb:** Parts per billion
%: Percentage

org/100mL: Organisms per 100 millilitres NTU: Nephelometric Turbidity Units MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery.

CRM Certified Reference Material - reported as percent recovery.

Method Blank In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.

Surr - Surrogate The addition of a like compound to the analyte target and reported as percentage recovery

Duplicate A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

USEPA United States Environmental Protection Agency

APHA American Public Health Association
TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

QSM Quality Systems Manual ver 5.1 US Department of Defense

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

TEQ Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxaphene is not added to the Spike.
- 5. Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

 Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- 8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Report Number: 611405-S-V2



Quality Control Results

| Test | | | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---------------|--------------|------------|----------|----------|-----|----------------------|----------------|--------------------|
| LCS - % Recovery | | | | | | | | | |
| Chromium Suite | | | | | | | | | |
| Chromium Reducible Sulfur | | | % | 99 | | | 70-130 | Pass | |
| Acid Neutralising Capacity (ANCbt) | | | % | 106 | | | 70-130 | Pass | |
| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
| Duplicate | | | | | 1 | | | | |
| SPOCAS Suite | | ı | ı | Result 1 | Result 2 | RPD | | | |
| pH-KCL | M18-Au09044 | NCP | pH Units | 4.9 | 5.0 | <1 | 30% | Pass | |
| pH-OX | B18-Au13733 | NCP | pH Units | 3.0 | 3.0 | 1.0 | 30% | Pass | |
| Acid trail - Titratable Actual Acidity | M18-Au09044 | NCP | mol H+/t | 27 | 26 | 1.7 | 30% | Pass | |
| Acid trail - Titratable Peroxide Acidity | B18-Au13733 | NCP | mol H+/t | 160 | 160 | 1.0 | 30% | Pass | |
| Acid trail - Titratable Sulfidic Acidity | B18-Au13733 | NCP | mol H+/t | 120 | 120 | 1.0 | 30% | Pass | |
| sulfidic - TAA equiv. S% pyrite | M18-Au09044 | NCP | % pyrite S | 0.04 | 0.04 | 2.0 | 30% | Pass | |
| sulfidic - TPA equiv. S% pyrite | B18-Au13733 | NCP | % pyrite S | 0.26 | 0.26 | 1.0 | 30% | Pass | |
| sulfidic - TSA equiv. S% pyrite | B18-Au13733 | NCP | % pyrite S | 0.19 | 0.19 | 1.0 | 30% | Pass | |
| Sulfur - KCl Extractable | B18-Au13733 | NCP | % S | 0.09 | 0.09 | 1.0 | 30% | Pass | |
| Sulfur - Peroxide | B18-Au13733 | NCP | % S | 0.19 | 0.20 | 4.0 | 30% | Pass | |
| Sulfur - Peroxide Oxidisable Sulfur | B18-Au13733 | NCP | % S | 0.10 | 0.11 | 9.0 | 30% | Pass | |
| acidity - Peroxide Oxidisable Sulfur | B18-Au13733 | NCP | mol H+/t | 62 | 68 | 9.0 | 30% | Pass | |
| HCl Extractable Sulfur | B18-Au13733 | NCP | % S | 0.28 | 0.27 | 2.0 | 30% | Pass | |
| Net Acid soluble sulfur | B18-Au13733 | NCP | % S | 0.19 | 0.19 | 3.0 | 30% | Pass | |
| Net Acid soluble sulfur - acidity units | B18-Au13733 | NCP | mol H+/t | 89 | 87 | 3.0 | 30% | Pass | |
| Net Acid soluble sulfur - equivalent S% pyrite | B18-Au13733 | NCP | % S | 0.14 | 0.14 | 3.0 | 30% | Pass | |
| Calcium - KCl Extractable | B18-Au13733 | NCP | % Ca | 0.16 | 0.16 | 3.0 | 30% | Pass | |
| Calcium - Peroxide | B18-Au13733 | NCP | % Ca | 0.15 | 0.17 | 8.0 | 30% | Pass | |
| Acid Reacted Calcium | B18-Au13733 | NCP | % Ca | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| sulfidic - Acid Reacted Ca equiv. S% pyrite | B18-Au13733 | NCP | % S | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Magnesium - KCl Extractable | B18-Au13733 | NCP | % Mg | 0.06 | 0.06 | 1.0 | 30% | Pass | |
| Magnesium - Peroxide | B18-Au13733 | NCP | % Mg | 0.06 | 0.06 | 7.0 | 30% | Pass | |
| Acid Reacted Magnesium | B18-Au13733 | NCP | % Mg | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| sulfidic - Acid Reacted Mg equiv. S% pyrite | B18-Au13733 | NCP | % S | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Acid Neutralising Capacity (ANCE) | B18-Au13733 | NCP | %CaCO3 | n/a | n/a | n/a | 30% | Pass | |
| Acid Neutralising Capacity - Acidity units (a-ANCE) | B18-Au13733 | NCP | mol H+/t | n/a | n/a | n/a | 30% | Pass | |
| ANC Fineness Factor | M18-Au09044 | NCP | factor | 1.5 | 1.5 | <1 | 30% | Pass | |
| SPOCAS - Liming rate | B18-Au13733 | NCP | kg CaCO3/t | 15 | 15 | 2.0 | 30% | Pass | |
| Duplicate | | | | | · | | | | |
| Chromium Suite | | | | Result 1 | Result 2 | RPD | | | |
| Chromium Reducible Sulfur | M18-Au09044 | NCP | % S | 0.029 | 0.027 | 6.0 | 30% | Pass | |
| Chromium Reducible Sulfur -acidity units | M18-Au09044 | NCP | mol H+/t | 18 | 17 | 6.0 | 30% | Pass | |
| Acid Neutralising Capacity (ANCbt) | M18-Au09044 | NCP | %CaCO3 | n/a | n/a | n/a | 30% | Pass | |
| Acid Neutralising Capacity - equivalent S% pyrite (s-ANCbt) | M18-Au09044 | NCP | % S | n/a | n/a | n/a | 30% | Pass | |
| CRS Suite - Net Acidity (Sulfur Units) | M18-Au09044 | NCP | % S | 0.07 | 0.07 | n/a | 30% | Pass | |
| CRS Suite - Net Acidity (Acidity Units) | M18-Au09044 | NCP | mol H+/t | 45 | 43 | n/a | 30% | Pass | |
| CRS Suite - Liming Rate | M18-Au09044 | NCP | kg CaCO3/t | 3.4 | 3.2 | 4.0 | 30% | Pass | |



| Duplicate | | | | | | | | | |
|------------|-------------|-----|---|----------|----------|-----|-----|------|--|
| | | | | Result 1 | Result 2 | RPD | | | |
| % Moisture | P18-JI04806 | NCP | % | 25 | 25 | 1.0 | 30% | Pass | |



Comments

New version to amend IDs.

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

| <u> </u> | |
|----------|-------------|
| Code | Description |
| | |

Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m3 in-situ soil' multiply 'reported results' x 'wet bulk density of soil in t/m3'

S01

Retained Acidity is Reported when the pHKCl is less than pH $4.5\,$ S02

Acid Neutralising Capacity is only required if the pHKCl if greater than or equal to pH 6.5 S03 S04 Acid Sulfate Soil Samples have a 24 hour holding time unless frozen or dried within that period

Authorised By

Nibha Vaidya Analytical Services Manager Steven Trout Senior Analyst-Metal (QLD)

Glenn Jackson

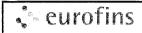
National Operations Manager

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. Ingit 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 | mg be liable for consequential damages including, but not limited to, lost profits, damages for infallate to meet deadlines and lots production arising from this report. This document shall be reported everyein full and are fetted send yet of the liable to meet when the sindle and otherwise, the tests were performed on the samples as received.



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Email: enquiries.melb@mgtlabmark.com.au

| | | | | | | | | | | | | CH | AIN | OF | CL | JST | (e)D | YF | ΕŒ | OR | B | | | | | | | | | | |
|----------|---|--------------|--------------|----------|--------------------------|--|-----------|------------------|--------------|-------------------|---|-------------------------------|---------------|-----|------|-------------|---------|--------|--------------|---------------|-------|-----------|---------------------|---------------|----------|---------------------------------------|-----------|--------------|------------|------------------|----------|
| CLIENT | DETAILS | | | | | | | | | | | | | | | | | | | | | | | | | | | Pa | ge1_ | of1 | |
| Compa | ny Name : GHD Pty Ltd | | | Co | ntact | Name | : Clifto | n Tho | npsoc | on | | | | | | | Purcha | se Ord | ler : 2 | 127425 | 5 | | | | | , | COC Num | ber : 5 | | | |
| Office A | Address: | | | Pro | oject N | /lanage | er : Jus | tin Ka | bat | | | | | | | | PROJE | CT Nu | mber | : 2127 | 425 | | | | | | Eurofins | mgt quot | e ID : 170 | B08GHDN | |
| Le | evel 15, 133 Castlereagh Stree | t, Sydney NS | W 2000 | En | nail for | result | ts : clif | ton.th | omps | on@gh | d.com | | | | | | PROJE | CT Na | me : S | Scotlan | ıd İs | land Ene | gy Reliab | lity Projec | :t | · · · · · · · · · · · · · · · · · · · | Data outp | ut format: | Esdat, Pl | OF . | |
| | | | , | | | ************************************** | | | | | | Ana | lytes | | | • | | • | | | | | | Sor | | on holding or further in | | | | ion). | |
| Special | Directions & Comments : | | | 2004 | als) | | | | | | Ú | | | | | | | | | | | | | Waters | | | | | Sc | oils | |
| | | | | 24-2 | (TRH/PAH/BTEXN/8 metals) | | | | | | ш | ΙŠ | | | | | | | | | | BTEX | MAH, VO | С | | 14 days | BTEX | MAH, VO | ? | | 14 days |
| Special | Directions & Comments : | | | 7648 | 8 | | | | | | H. | pHfox) | | | | | | Ì | | 1 1 | | TRH, | PAH, Pher | ols, Pestic | ides | 7 days | | PAH, Phen | | ides | 14 days |
| 'in lack | has samples frozen oversight | and been on | ion all atha | , (e) | Ì | | - 1 | | | | te (| l p | | | | | | | | | | Heavy | Metals | | | 6 months | | Metals | | | 6 months |
| | bag samples frozen overnight Please freeze zip lock bags for | | | | | | | | | | Suite (pH, | vity, S04) Screen (pHf and | | | | | | | | | | Mercu | ry, CrVI | | | 28 days | | ry, CrVI | | | 28 days |
| | Thanks | | | aps | P | PCB | | | | | | ᅴ핕 | | | | | | ŀ | | | | Microl | oiological te | sting | | 24 hours | | iological te | sting | | 72 hours |
| | | | | lce/ | 14 | I ~ I | | | 62-92 | | ŠŠiŠ | 9 ne | | | | | | | | | | BOD, | Nitrate, Nit | rite, Total I | V | 2 days | Anions | | | | 28 days |
| | | | | ese | ΙĮΞ | OCP | | | ပြိ | | Je j | Z. S. | | | | | | İ | | | | Solids | - TSS, TD | S etc | | 7 days | SPOC | AS, pH Fie | ld and FO | X, CrS | 24 hours |
| F | mgt DI water batch number: | | • | j O | 15 | 0 | | | TPH | | Aggressivity 3 | N S | | | | | | | | | | Ferro | is iron | | | 7 days | ASLP, | TCLP | | | 7 days |
| Euroins | Higt of water batch fluither. | | | O SC | B7 | B13 | 1 6 | 2 | 1 | | [2] | <u>e</u> <u>g</u> | | | | | | | | | | | | | | | | | | | |
| | Sample ID | Date | Matrix | Asbest | Suite | Suite | 1 6 | o metals BTEX | BTEX/ | TCLP | Suite | ¥ <u>+</u> | | | | | | | | | | Containe | rs: | | | | | | | Sample com | monts: |
| | Sample 15 | Date | WIGHTA | Ask | Su | l S | 0 | 9 B | BT | | Su | 5 E | | | | | | | | | | 1LP | 250P | 125P | 1LA | 40mL vial | 125mL A | Jar | bag | campic con | ments. |
| 1 | GHD-BH1_0_0.1 | 8/08/2018 | soil | | | | | | | | | X | | | | | | | | | | | | | | | | 1 | 1 | | |
| 2 | GHD-BH1_0.5_0.6 | 8/08/2018 | soil | X | X | X | | | | | | X | | | | | | | | | | | | | | | | 1 | 1 | | |
| 3 | GHD-BH1_1.0_1.45 | 8/08/2018 | soil | | | | | | | | | X | | | | | | | | | | | | | | | | 1 | 1 | | |
| 4 | GHD-BH1_2.0_2.1 | 8/08/2018 | soil | | X | | | | | | | <u> </u> | <u> </u> | | | 1 | | | | \perp | | | | | | | | 1 | 1 | | |
| 5 | GHD-BH1_3.0_3.1 | 8/08/2018 | soil | | | 1 | | | | | | X | 11 | | | | | | | $\perp \perp$ | | <u></u> | | | | ļ | | 1 | 1 | | |
| 6 | GHD-BH1_3.9_4.0 | 8/08/2018 | soil | _ | ļ | | | | ļ | | | <u> </u> | <u> </u> | | | 1_1 | | Д_ | _ | \perp | | | | | | ļ | | 1 | 1 | | |
| 7 | GHD-BH1_4.9_5.0 | 8/08/2018 | soil | ┵ | | | | | | | | X | \perp | | _ | | | | | $\perp \perp$ | | | | | | <u> </u> | | 1 | 1 | | |
| 8 | RIN2 | 8/08/2018 | soil | 4 | | | | | | \perp | | _ | $\perp \perp$ | | | | | 4- | | 1 | | | | | | ļ | 1 | | | | |
| 9 | DUP03 | 8/08/2018 | soil | 4_ | <u> X</u> | X | | | | | | _ | | | _ | | | _ | - | 1 | | | | | | | | 1 | | | |
| 10 | DUP04 | 8/08/2018 | soil | 4 | | 1 | | - - | - | \vdash | + | + | | | | ├ ─┤ | | | <u> </u> | | | | | | | | | 1 | | | |
| 11 | | | | - | | \vdash | | | | - | | | - | | _ | 1 1 | _ | | ╂ | - | | | | | | | | | ····· | | |
| 12 | | , | | - | - | +-+ | | _ | 1 | - | _ | _ | \perp | | | + | | | ļ | \perp | | <u> </u> | | | | | | | | | |
| 13 | | | | _ | + | 11 | | - | | | | | | | ╀ | \Box | _ | + | - | \vdash | | | | | | ļ | | | | | |
| 14 | | | | - - | | + | | | + | - | _ | + | + | | - | + | | | ╂ | | | | | | | | | | | | |
| 15 | | | | + | - | + | | + | - | - | | | ╁━┼ | | + | + | - | + | | ╁╌┼ | | | | | | | | | | | |
| 16 | | | | _ i | | <u> </u> | | | | 1 | | +- | | | Tu | rn aro | und tin | 16 | Ь | | | | | | 1 | | 4 | | | Temperature on a | arrival: |
| Relinqu | ished By: Clifton Thompsor | | Rece | ived l | Ву: | 7 | aborato | y Su | 11T * | 7 | | ┪ | | | | | | | | - 4 . 4. | | Пс | ourier | | Method C | f Shipmen | | | | -2.9 | |
| Date & | Time : 07:00 9/8/18 | | Date | & Tin | ne : | ·() 6 | 7 W. | ? ! #! | | * <u>.</u> 8/1 | | | \Y □ | | AY [| | 3 DAY | | | | | ☑ на | and Delive ostal | r ed | | | | | | Report number: | |
| Signatu | ire: | | Sign | ature: | : M | 1 | V | ., | 7 | | *************************************** |]° D/ | u 🗹 | 101 | DAY | لــا | Other: | | | | | Courier C | onsignme | ent # : | | | | | | | |



Melbourne Melbourne
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NATA # 1261
Site # 1254 & 14271

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ABN - 50 005 085 521

e.mail: EnviroSales@eurofins.com

web: www.eurofins.com.au

Sample Receipt Advice

Company name: **GHD Pty Ltd NSW**

Contact name: Clifton Thompson

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT Project name:

Project ID: 2127425 COC number: Not provided

Turn around time: 5 Day

Aug 9, 2018 9:40 AM Date/Time received:

Eurofins | mgt reference: 611464

Sample information

- \mathbf{V} A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- \mathbf{V} Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt: 0.00 degrees Celsius.
- \mathbf{V} All samples have been received as described on the above COC.
- \square COC has been completed correctly.
- \square Attempt to chill was evident.
- \mathbf{V} Appropriately preserved sample containers have been used.
- \mathbf{V} All samples were received in good condition.
- \square Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- \mathbf{V} Appropriate sample containers have been used.
- \mathbf{V} Sample containers for volatile analysis received with zero headspace.
- \boxtimes Split sample sent to requested external lab.
- \boxtimes Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

Nibha Vaidya on Phone: +61 (2) 9900 8415 or by e.mail: NibhaVaidya@eurofins.com

Results will be delivered electronically via e.mail to Clifton Thompson - Clifton.Thompson@ghd.com.









Certificate of Analysis





NATA Accredited
Accreditation Number 1261
Site Number 18217

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

GHD Pty Ltd NSW Level 15, 133 Castlereagh Street Sydney NSW 2000

Attention: Clifton Thompson Report 611464-AID

Project Name SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

 Project ID
 2127425

 Received Date
 Aug 09, 2018

 Date Reported
 Aug 16, 2018

Methodology:

Asbestos Fibre

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 subsampling 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 asbestoscontaining 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 AS4964 method for inhomogeneous samples is around 0.1 g/kg (0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis where required, this is considered to be at the nominal reporting limit of 0.01 % (w / w). The examination of large sample sizes(500 mL is recommended) may improve the likelihood of identifying ACM in the > 2mm fraction. The NEPM screening level of 0.001 % (w / w) asbestos in soil for FA(friable asbestos) and AF(asbestos fines) then applies where they are able to be quantified by gravimetric procedures. This quantitative screening is not generally applicable to FF(free fibres) and results of Trace Analysis are referred.

NOTE: NATA News March 2014, p.7, states in relation to AS4964: "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". Accordingly, NATA Accreditation does not cover the performance of this service (indicated with an asterisk). This report is consistent with the analytical procedures and reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended) and the Western Australia Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia, 2009, including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil, June 2011.

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 ABN: 50 005 085 521 Telephone: +61 2 9900 8400

Report Number: 611464-AID







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

Page 2 of 7

Report Number: 611464-AID

Project Name SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID 2127425

Date Reported: Aug 16, 2018

Date Sampled Aug 08, 2018 Report 611464-AID

| Client Sample ID | Eurofins mgt Sample No. | Date Sampled | Sample Description | Result |
|------------------|------------------------------|--------------|--|--|
| GHD-BH1_0.5-0.6 | 18-Au11035 | Aug 08, 2018 | Sample consisted of: Brown fine grain sandy soil | No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No respirable fibres detected. |

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 ABN: 50 005 085 521 Telephone: +61 2 9900 8400



Sample History

Date Reported: Aug 16, 2018

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

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.

DescriptionTesting SiteExtractedHolding TimeAsbestos - LTM-ASB-8020SydneyAug 09, 2018Indefinite

Page 3 of 7

Report Number: 611464-AID



ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au Melbourne

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Brisbane

Perth 2/91 Leach Highway Kewdale WA 6105 Phone: +61 8 9251 9600 NATA # 1261 Site # 23736

Company Name:

GHD Pty Ltd NSW

Address:

Level 15, 133 Castlereagh Street

Sydney

NSW 2000

Project Name:

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID: 2127425

Order No.: 2127425 Report #: 611464 Phone: 02 9239 7100

Fax:

02 9239 7199

Received: Aug 9, 2018 9:40 AM **Due:** Aug 16, 2018

Priority: 5 Day

Contact Name: Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| | | | mple Detail | | | Asbestos - AS4964 | HOLD | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 |
|----|-----------------------------------|--------------|------------------|--------|-------------|-------------------|------|----------------------------------|--------------------------|--------------|-------------------------|
| | ourne Laborato | | | 271 | | Х | Х | | Х | Х | Х |
| | ney Laboratory bane Laboratory | | | | | ^ | ^ | Х | ^ | ^ | \vdash |
| | h Laboratory - N | | | | | | | | | | |
| | rnal Laboratory | | | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | |
| 1 | GHD-BH1_0- 0.1 | Aug 08, 2018 | | Soil | S18-Au11034 | | | Х | | | |
| 2 | GHD- BH1_0.5-0.6 | Aug 08, 2018 | | Soil | S18-Au11035 | х | | Х | х | Х | х |
| 3 | GHD- BH1_1.0-1.45 | Aug 08, 2018 | | Soil | S18-Au11036 | | | Х | | | |
| 4 | GHD- BH1_2.0-2.1 | Aug 08, 2018 | | Soil | S18-Au11037 | | | Х | | Х | х |
| 5 | GHD- BH1_3.0-3.1 | Aug 08, 2018 | | Soil | S18-Au11038 | | | Х | | | |
| 6 | GHD- | Aug 08, 2018 | | Soil | S18-Au11039 | | | Х | | | |

Page 4 of 7



ABN - 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Order No.:

Report #:

Melbourne

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Sydney Unit F3, Building F Brisbane 16 Mars Road Lane Cove West NSW 2066

Received:

Priority:

Due:

Phone: +61 2 9900 8400

NATA # 1261 Site # 18217

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

Perth 2/91 Leach Highway Kewdale WA 6105 Phone: +61 8 9251 9600 NATA # 1261 Site # 23736

Aug 9, 2018 9:40 AM

Aug 16, 2018

5 Day

Company Name:

GHD Pty Ltd NSW

Address:

Level 15, 133 Castlereagh Street

Sydney

NSW 2000

Project Name: Project ID:

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

2127425

Phone: 02 9239 7100 Fax: 02 9239 7199

2127425

611464

Contact Name: Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| | | Sa | mple Detail | | | Asbestos - AS4964 | HOLD | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 |
|-------|---------------------|-----------------|-------------|-------|-------------|-------------------|------|----------------------------------|--------------------------|--------------|-------------------------|
| | | ory - NATA Site | | 271 | | | | | | | |
| Sydr | ney Laboratory | - NATA Site # 1 | 8217 | | | Х | Х | | Х | Х | Х |
| Brisl | bane Laborator | y - NATA Site # | 20794 | | | | | Х | | | |
| Pertl | h Laboratory - N | NATA Site # 237 | 36 | | | | | | | | |
| | BH1_3.9-4.0 | | | | | | | | | | |
| 7 | GHD- BH1_4.9-5.0 | Aug 08, 2018 | | Soil | S18-Au11040 | | | Х | | | |
| 8 | DUP03 | Aug 08, 2018 | | Soil | S18-Au11041 | | | | Х | Х | Х |
| 9 | RIN2 | Aug 08, 2018 | | Water | S18-Au11042 | | Χ | | | | |
| 10 | DUP04 | Aug 08, 2018 | | Soil | S18-Au11043 | | Х | | | | |
| Test | Counts | | | | | 1 | 2 | 7 | 2 | 3 | 3 |



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. This report replaces any interim results previously issued.

Holding Times

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

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

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: weight for weight basis grams per kilogram
Filter loading: fibres/100 graticule areas

Reported Concentration: fibres/mL Flowrate: L/min

Terms

ΑF

Date Reported: Aug 16, 2018

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis

LOR Limit of Reporting
COC Chain of Custody
SRA Sample Receipt Advice

ISO International Standards Organisation

AS Australian Standards

WA DOH Western Australia Department of Health

NOHSC National Occupational Health and Safety Commission

ACM Bonded asbestos-containing material means any material containing more than 1% asbestos and comprises asbestos-containing-material which is in sound condition,

although possibly broken or fragmented, and where the asbestos is bound in a matrix such as cement or resin. Common examples of ACM include but are not limited to: pipe and boiler insulation, sprayed-on fireproofing, troweled-on acoustical plaster, floor tile and mastic, floor linoleum, transite shingles, roofing materials, wall and ceiling plaster, ceiling tiles, and gasket materials. This term is restricted to material that cannot pass a 7 mm x 7 mm sieve. This sieve size is selected because it approximates the thickness of common asbestos cement sheeting and for fragments to be smaller than this would imply a high degree of damage and hence potential

for fibre release.

FA FA comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. This type of friable asbestos

is defined here as asbestos material that is in a degraded condition such that it can be broken or crumbled by hand pressure. This material is typically unbonded or

was previously bonded and is now significantly degraded (crumbling).

PACM Presumed Asbestos-Containing Material means thermal system insulation and surfacing material found in buildings, vessels, and vessel sections constructed no later

than 1980 that are assumed to contain greater than one percent asbestos but have not been sampled or analyzed to verify or negate the presence of asbestos.

Asbestos fines (AF) are defined as free fibres, or fibre bundles, smaller than 7mm. It is the free fibres which present the greatest risk to human health, although very

small fibres (< 5 microns in length) are not considered to be such a risk. AF also includes small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve.

(Note that for bonded ACM fragments to pass through a 7 mm x 7 mm sieve implies a substantial degree of damage which increases the potential for fibre release.)

AC Asbestos cement means a mixture of cement and asbestos fibres (typically 90:10 ratios).

Report Number: 611464-AID



Comments

The sample received was not collected in an approved asbestos bag and was therefore sub-sampled from the 250mL glass jar. Valid sub-sampling procedures were applied so as to ensure that the sub-sample to be analysed accurately represented the sample received.

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 N/A Not applicable

Asbestos Counter/Identifier:

Sayeed Abu Senior Analyst-Asbestos (NSW)

Authorised by:

Laxman Dias Senior Analyst-Asbestos (NSW)

Glenn Jackson

National Operations Manager

Final Report - this report replaces any previously issued Report

Measurement uncertainty of test data is available on request or please $\underline{\text{click here.}}$

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Report Number: 611464-AID

⁻ Indicates Not Requested

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





Certificate of Analysis

GHD Pty Ltd NSW Level 15, 133 Castlereagh Street Sydney NSW 2000





NATA Accredited Accreditation Number 1261 Site Number 18217

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

Attention: Clifton Thompson

Report 611464-S

Project name SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID 2127425 Received Date Aug 09, 2018

| Client Sample ID | | | GHD-BH1_0- 0.1 | GHD-BH1_0.5- 0.6 | GHD-BH1_1.0- 1.45 | GHD-BH1_2.0- 2.1 |
|---|-------|-------|-------------------|---------------------|----------------------|---------------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-Au11034 | S18-Au11035 | S18-Au11036 | S18-Au11037 |
| Date Sampled | | | Aug 08, 2018 | Aug 08, 2018 | Aug 08, 2018 | Aug 08, 2018 |
| Test/Reference | LOR | Unit | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Frac | tions | • | | | | |
| TRH C6-C9 | 20 | mg/kg | - | < 20 | - | < 20 |
| TRH C10-C14 | 20 | mg/kg | - | < 20 | - | < 20 |
| TRH C15-C28 | 50 | mg/kg | - | < 50 | - | < 50 |
| TRH C29-C36 | 50 | mg/kg | - | < 50 | - | < 50 |
| TRH C10-36 (Total) | 50 | mg/kg | - | < 50 | - | < 50 |
| 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 | % | - | 66 | - | 54 |
| Total Recoverable Hydrocarbons - 2013 NEPM Frac | tions | | | | | |
| Naphthalene ^{N02} | 0.5 | mg/kg | - | < 0.5 | - | < 0.5 |
| TRH C6-C10 | 20 | mg/kg | - | < 20 | - | < 20 |
| TRH C6-C10 less BTEX (F1)N04 | 20 | mg/kg | - | < 20 | - | < 20 |
| TRH >C10-C16 | 50 | mg/kg | - | < 50 | - | < 50 |
| TRH >C10-C16 less Naphthalene (F2)N01 | 50 | mg/kg | - | < 50 | - | < 50 |
| TRH >C16-C34 | 100 | mg/kg | - | < 100 | - | < 100 |
| TRH >C34-C40 | 100 | mg/kg | - | < 100 | - | < 100 |
| TRH >C10-C40 (total)* | 100 | mg/kg | - | < 100 | - | < 100 |
| Polycyclic Aromatic Hydrocarbons | | | | | | |
| Benzo(a)pyrene TEQ (lower bound) * | 0.5 | mg/kg | - | < 0.5 | - | < 0.5 |
| Benzo(a)pyrene TEQ (medium bound) * | 0.5 | mg/kg | - | 0.6 | - | 0.6 |
| Benzo(a)pyrene TEQ (upper bound) * | 0.5 | mg/kg | - | 1.2 | - | 1.2 |
| Acenaphthene | 0.5 | mg/kg | - | < 0.5 | - | < 0.5 |
| Acenaphthylene | 0.5 | mg/kg | - | < 0.5 | - | < 0.5 |
| Anthracene | 0.5 | mg/kg | - | < 0.5 | - | < 0.5 |
| Benz(a)anthracene | 0.5 | mg/kg | - | < 0.5 | - | < 0.5 |
| Benzo(a)pyrene | 0.5 | mg/kg | - | < 0.5 | - | < 0.5 |
| Benzo(b&j)fluoranthene ^{N07} | 0.5 | mg/kg | - | < 0.5 | - | < 0.5 |
| Benzo(g.h.i)perylene | 0.5 | mg/kg | - | < 0.5 | - | < 0.5 |
| Benzo(k)fluoranthene | 0.5 | mg/kg | - | < 0.5 | - | < 0.5 |
| Chrysene | 0.5 | mg/kg | - | < 0.5 | - | < 0.5 |

Report Number: 611464-S



| Client Sample ID | | | GHD-BH1_0- 0.1 | GHD-BH1_0.5- 0.6 | GHD-BH1_1.0- 1.45 | GHD-BH1_2.0- 2.1 |
|-------------------------------------|------|-------|-------------------|---------------------|----------------------|---------------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-Au11034 | S18-Au11035 | S18-Au11036 | S18-Au11037 |
| Date Sampled | | | Aug 08, 2018 | Aug 08, 2018 | Aug 08, 2018 | Aug 08, 2018 |
| Test/Reference | LOR | Unit | Aug 00, 2010 | Aug 00, 2010 | Aug 00, 2010 | Aug 00, 2010 |
| Polycyclic Aromatic Hydrocarbons | LOR | Offic | | | | |
| | 0.5 | | | .0.5 | | .0.5 |
| Dibenz(a.h)anthracene | 0.5 | mg/kg | - | < 0.5 | - | < 0.5 |
| Fluoranthene | 0.5 | mg/kg | - | 1.0 | - | < 0.5 |
| Fluorene | 0.5 | mg/kg | - | < 0.5 | - | < 0.5 |
| Indeno(1.2.3-cd)pyrene | 0.5 | mg/kg | | < 0.5 | | < 0.5 |
| Naphthalene | 0.5 | mg/kg | - | < 0.5 | - | < 0.5 |
| Phenanthrene | 0.5 | mg/kg | - | < 0.5 | - | < 0.5 |
| Pyrene | 0.5 | mg/kg | - | 0.9 | - | < 0.5 |
| Total PAH* | 0.5 | mg/kg | - | 1.9 | = | < 0.5 |
| 2-Fluorobiphenyl (surr.) | 1 | % | - | 120 | = | 113 |
| p-Terphenyl-d14 (surr.) | 1 | % | - | 129 | - | 119 |
| Organochlorine Pesticides | | 1 | | | | |
| 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-BHC | 0.05 | mg/kg | - | < 0.05 | - | - |
| Aldrin | 0.05 | mg/kg | - | < 0.05 | - | - |
| b-BHC | 0.05 | mg/kg | - | < 0.05 | - | - |
| d-BHC | 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-BHC (Lindane) | 0.05 | mg/kg | - | < 0.05 | - | - |
| Heptachlor | 0.05 | mg/kg | - | < 0.05 | - | - |
| Heptachlor epoxide | 0.05 | mg/kg | - | < 0.05 | - | - |
| Hexachlorobenzene | 0.05 | mg/kg | - | < 0.05 | - | - |
| Methoxychlor | 0.2 | mg/kg | - | < 0.2 | - | - |
| Toxaphene | 1 | mg/kg | - | < 1 | - | - |
| 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 | % | _ | 86 | _ | _ |
| Tetrachloro-m-xylene (surr.) | 1 | % | _ | 87 | _ | _ |
| Polychlorinated Biphenyls | | | | | | |
| Aroclor-1016 | 0.5 | mg/kg | - | < 0.5 | - | _ |
| Aroclor-1221 | 0.1 | mg/kg | _ | < 0.1 | _ | _ |
| Aroclor-1221 Aroclor-1232 | 0.5 | mg/kg | - | < 0.5 | - | _ |
| Aroclor-1232 Aroclor-1242 | 0.5 | mg/kg | - | < 0.5 | - | _ |
| Aroclor-1248 | 0.5 | mg/kg | - | < 0.5 | - | _ |
| Aroclor-1254 | 0.5 | mg/kg | | < 0.5 | - | |
| | 0.5 | | - | < 0.5 | | - |
| Aroclor-1260 | | mg/kg | - | | - | - |
| Total PCB* | 0.5 | mg/kg | - | < 0.5 | - | - |
| Dibutylchlorendate (surr.) | 1 | % | - | 86 | - | - |



| Client Sample ID | | | GHD-BH1_0- 0.1 | GHD-BH1_0.5- 0.6 | GHD-BH1_1.0- 1.45 | GHD-BH1_2.0- 2.1 |
|----------------------------------|-----|----------|-------------------|---------------------|----------------------|---------------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-Au11034 | S18-Au11035 | S18-Au11036 | S18-Au11037 |
| Date Sampled | | | Aug 08, 2018 | Aug 08, 2018 | Aug 08, 2018 | Aug 08, 2018 |
| Test/Reference | LOR | Unit | | | | |
| Heavy Metals | | | | | | |
| Arsenic | 2 | mg/kg | - | 7.8 | - | 5.8 |
| Cadmium | 0.4 | mg/kg | - | < 0.4 | - | < 0.4 |
| Chromium | 5 | mg/kg | = | 9.9 | - | 5.4 |
| Copper | 5 | mg/kg | = | < 5 | - | < 5 |
| Lead | 5 | mg/kg | = | < 5 | - | 8.1 |
| Mercury | 0.1 | mg/kg | - | < 0.1 | - | < 0.1 |
| Nickel | 5 | mg/kg | - | < 5 | - | < 5 |
| Zinc | 5 | mg/kg | = | 11 | - | 10 |
| Acid Sulfate Soils Field pH Test | | | | | | |
| pH-F (Field pH test)* | 0.1 | pH Units | 8.2 | 8.6 | 9.0 | 8.8 |
| pH-FOX (Field pH Peroxide test)* | 0.1 | pH Units | 7.8 | 9.3 | 9.5 | 7.5 |
| Reaction Ratings*S05 | | comment | 3.0 | 4.0 | 4.0 | 4.0 |
| % Moisture | 1 | % | - | 11 | - | 21 |

| Client Sample ID | | | GHD-BH1_3.0- | GHD-BH1_3.9- | GHD-BH1_4.9- | | |
|--|--------|-------|--------------|--------------|--------------|--------------|--|
| • | | | 3.1 4 | 4.0 | 5.0 | DUP03 | |
| Sample Matrix | | | Soil | Soil | Soil | Soil | |
| Eurofins mgt Sample No. | | | S18-Au11038 | S18-Au11039 | S18-Au11040 | S18-Au11041 | |
| Date Sampled | | | Aug 08, 2018 | Aug 08, 2018 | Aug 08, 2018 | Aug 08, 2018 | |
| Test/Reference | LOR | Unit | | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fra | ctions | | | | | | |
| TRH C6-C9 | 20 | mg/kg | - | - | - | < 20 | |
| TRH C10-C14 | 20 | mg/kg | - | - | - | < 20 | |
| TRH C15-C28 | 50 | mg/kg | - | - | - | < 50 | |
| TRH C29-C36 | 50 | mg/kg | - | - | - | < 50 | |
| TRH C10-36 (Total) | 50 | mg/kg | - | - | - | < 50 | |
| BTEX | | | | | | | |
| Benzene | 0.1 | mg/kg | - | - | - | < 0.1 | |
| Toluene | 0.1 | mg/kg | - | - | - | < 0.1 | |
| Ethylbenzene | 0.1 | mg/kg | - | - | - | < 0.1 | |
| m&p-Xylenes | 0.2 | mg/kg | - | - | - | < 0.2 | |
| o-Xylene | 0.1 | mg/kg | - | - | - | < 0.1 | |
| Xylenes - Total | 0.3 | mg/kg | - | - | - | < 0.3 | |
| 4-Bromofluorobenzene (surr.) | 1 | % | - | - | - | 61 | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fra | ctions | | | | | | |
| Naphthalene ^{N02} | 0.5 | mg/kg | - | - | - | < 0.5 | |
| TRH C6-C10 | 20 | mg/kg | - | - | - | < 20 | |
| TRH C6-C10 less BTEX (F1)N04 | 20 | mg/kg | - | - | - | < 20 | |
| TRH >C10-C16 | 50 | mg/kg | - | - | - | < 50 | |
| TRH >C10-C16 less Naphthalene (F2)N01 | 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 | |



| Client Sample ID | | | GHD-BH1_3.0- 3.1 | GHD-BH1_3.9- 4.0 | GHD-BH1_4.9- 5.0 | DUP03 | |
|---------------------------------------|------|-------|---------------------|---------------------|---------------------|--------------|--|
| Sample Matrix | | | Soil | Soil | Soil | Soil | |
| Eurofins mgt Sample No. | | S1 | | S18-Au11039 | S18-Au11040 | S18-Au11041 | |
| Date Sampled | | | Aug 08, 2018 | Aug 08, 2018 | | Aug 08, 2018 | |
| • | | | Aug 06, 2016 | Aug 06, 2016 | Aug 08, 2018 | Aug 08, 2016 | |
| Test/Reference | LOR | Unit | | | | | |
| Polycyclic Aromatic Hydrocarbons | | 1 | | | | | |
| 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 | - | - | - | 0.8 | |
| 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 | - | - | - | 0.7 | |
| Total PAH* | 0.5 | mg/kg | - | - | - | 1.5 | |
| 2-Fluorobiphenyl (surr.) | 1 | % | - | - | - | 113 | |
| p-Terphenyl-d14 (surr.) | 1 | % | - | - | - | 121 | |
| 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-BHC | 0.05 | mg/kg | _ | _ | _ | < 0.05 | |
| Aldrin | 0.05 | mg/kg | _ | _ | - | < 0.05 | |
| b-BHC | 0.05 | mg/kg | _ | _ | _ | < 0.05 | |
| d-BHC | 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-BHC (Lindane) | 0.05 | mg/kg | - | - | - | < 0.05 | |
| Heptachlor | 0.05 | mg/kg | - | - | - | < 0.05 | |
| Heptachlor epoxide | 0.05 | mg/kg | - | - | - | < 0.05 | |
| Hexachlorobenzene | 0.05 | mg/kg | - | - | - | < 0.05 | |
| Methoxychlor | 0.05 | mg/kg | - | - | - | < 0.05 | |
| - | 1 | | | | | < 0.2 | |
| Toxaphene | | mg/kg | - | - | - | | |
| 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 | % | - | - | - | 97 | |



| Client Sample ID | | | GHD-BH1_3.0- 3.1 | GHD-BH1_3.9- 4.0 | GHD-BH1_4.9- 5.0 | DUP03 |
|----------------------------------|-----|----------|---------------------|---------------------|---------------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-Au11038 | S18-Au11039 | S18-Au11040 | S18-Au11041 |
| Date Sampled | | | Aug 08, 2018 | Aug 08, 2018 | Aug 08, 2018 | Aug 08, 2018 |
| Test/Reference | LOR | Unit | | | | |
| Polychlorinated Biphenyls | | | | | | |
| Aroclor-1016 | 0.5 | mg/kg | - | - | - | < 0.5 |
| Aroclor-1221 | 0.1 | mg/kg | - | - | - | < 0.1 |
| Aroclor-1232 | 0.5 | mg/kg | - | - | - | < 0.5 |
| Aroclor-1242 | 0.5 | mg/kg | - | - | - | < 0.5 |
| Aroclor-1248 | 0.5 | mg/kg | - | - | - | < 0.5 |
| Aroclor-1254 | 0.5 | mg/kg | - | - | - | < 0.5 |
| Aroclor-1260 | 0.5 | mg/kg | - | - | - | < 0.5 |
| Total PCB* | 0.5 | mg/kg | - | - | - | < 0.5 |
| Dibutylchlorendate (surr.) | 1 | % | - | - | - | 97 |
| Tetrachloro-m-xylene (surr.) | 1 | % | - | - | - | 99 |
| Heavy Metals | | | | | | |
| Arsenic | 2 | mg/kg | - | - | - | 8.0 |
| Cadmium | 0.4 | mg/kg | - | - | - | < 0.4 |
| Chromium | 5 | mg/kg | - | - | - | 11 |
| Copper | 5 | mg/kg | - | - | - | 5.2 |
| Lead | 5 | mg/kg | - | - | - | < 5 |
| Mercury | 0.1 | mg/kg | - | - | - | < 0.1 |
| Nickel | 5 | mg/kg | - | - | - | < 5 |
| Zinc | 5 | mg/kg | - | - | - | 12 |
| Acid Sulfate Soils Field pH Test | | | | | | |
| pH-F (Field pH test)* | 0.1 | pH Units | 8.7 | 6.0 | 7.9 | - |
| pH-FOX (Field pH Peroxide test)* | 0.1 | pH Units | 8.4 | 7.2 | 8.9 | - |
| D (' D (' +\$05 | | comment | 4.0 | 2.0 | 4.0 | - |
| Reaction Ratings*S05 | | | | | | |

Report Number: 611464-S



Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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 Total Passy archia Undescribera 4000 NEDM Fractions | Testing Site | Extracted | Holding Time |
|--|--------------|--------------|--------------|
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | Sydney | Aug 13, 2018 | 14 Day |
| - Method: TRH C6-C36 - LTM-ORG-2010 | October | A 40, 0040 | 44.0 |
| BTEX | Sydney | Aug 13, 2018 | 14 Day |
| - Method: TRH C6-C40 - LTM-ORG-2010 | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Sydney | Aug 13, 2018 | 14 Day |
| - Method: TRH C6-C40 - LTM-ORG-2010 | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Sydney | Aug 13, 2018 | 14 Day |
| - Method: TRH C6-C40 - LTM-ORG-2010 | | | |
| Polycyclic Aromatic Hydrocarbons | Sydney | Aug 13, 2018 | 14 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| Metals M8 | Sydney | Aug 13, 2018 | 28 Day |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |
| Organochlorine Pesticides | Sydney | Aug 13, 2018 | 14 Day |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water | | | |
| Polychlorinated Biphenyls | Sydney | Aug 13, 2018 | 28 Days |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water | | | |
| Acid Sulfate Soils Field pH Test | Brisbane | Aug 10, 2018 | 7 Days |
| - Method: LTM-GEN-7060 Determination of field pH (pHF) and field pH peroxide (pHFOX) tests | | | |
| % Moisture | Sydney | Aug 09, 2018 | 14 Day |
| | | | |

Report Number: 611464-S



ABN- 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Fax:

Melbourne 2-5 Kingston Town Close Oakleigh VIC 3166 Phone: +613 8564 5000 NATA # 1261 Site # 1254 & 14271 Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217 Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 4600 NATA # 1261 Site # 20794 Perth
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NATA # 1261
Site # 23736

Company Name: GHD Pty Ltd NSW

Address: Level 15, 133 Castlereagh Street

Sydney

NSW 2000

Project Name: SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID: 2127425

 Order No.:
 2127425
 Received:
 Aug 9, 2018 9:40 AM

 Report #:
 611464
 Due:
 Aug 16, 2018

 Phone:
 02 9239 7100
 Priority:
 5 Day

02 9239 7199 Contact Name: Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| Sample Detail Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 |
|---|----------------------|----------------------|------------------|--------|-------------|---|--|----------------------------------|--------------------------|--------------|-------------------------|
| | | Х | X | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | Х | Х | X |
| | | | | | | | | Х | | | |
| | rnal Laboratory | NATA Site # 237 / | 30 | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | |
| 1 | GHD-BH1_0- 0.1 | Aug 08, 2018 | | Soil | S18-Au11034 | | | Х | | | |
| 2 | GHD- BH1_0.5-0.6 | Aug 08, 2018 | | Soil | S18-Au11035 | Х | | Х | Х | Х | х |
| 3 | GHD- BH1_1.0-1.45 | Aug 08, 2018 | | Soil | S18-Au11036 | | | Х | | | |
| 4 | GHD- BH1_2.0-2.1 | Aug 08, 2018 | | Soil | S18-Au11037 | | | Х | | Х | х |
| 5 | GHD- BH1_3.0-3.1 | Aug 08, 2018 | | Soil | S18-Au11038 | | | Х | | | |
| 6 | GHD- | Aug 08, 2018 | | Soil | S18-Au11039 | | | Х | | | |

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 ABN: 50 005 085 521 Telephone: +61 2 9900 8400 Page 7 of 13

Date Reported:Aug 16, 2018



ABN- 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au Melbourne 2-5 Kingston Town Close Oakleigh VIC 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271 Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217

Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 4600 NATA # 1261 Site # 20794 Perth
2/91 Leach Highway
Kewdale WA 6105
Phone: +61 8 9251 9600
NATA # 1261
Site # 23736

Company Name: GHD Pty Ltd NSW

Address: Level 15, 133 Castlereagh Street

Sydney

NSW 2000

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID: 2127425

Project Name:

Order No.: 2127425 Received: Aug 9, 2018 9:40 AM Report #: 611464 Due: Aug 16, 2018 Phone: 02 9239 7100 Priority: 5 Day **Contact Name:** Clifton Thompson Fax: 02 9239 7199

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| Sample Detail | | | | | | Asbestos - AS4964 | HOLD | Acid Sulfate Soils Field pH Test | Eurofins mgt Suite B13 | Moisture Set | Eurofins mgt Suite B7 |
|---------------|---------------------|-----------------|--------------|-------|-------------|-------------------|------|----------------------------------|--------------------------|--------------|-------------------------|
| Melb | ourne Laborato | ory - NATA Site | # 1254 & 142 | 271 | | | | | | | |
| Sydı | ney Laboratory | - NATA Site # 1 | 8217 | | | Х | Х | | Х | Χ | Χ |
| Bris | bane Laboratory | y - NATA Site # | 20794 | | | | | Х | | | |
| Pert | h Laboratory - N | NATA Site # 237 | 36 | | | | | | | | |
| | BH1_3.9-4.0 | | | | | | | | | | |
| 7 | GHD- BH1_4.9-5.0 | Aug 08, 2018 | | Soil | S18-Au11040 | | | Х | | | |
| 8 | DUP03 | Aug 08, 2018 | | Soil | S18-Au11041 | | | | Х | Х | Х |
| 9 | RIN2 | Aug 08, 2018 | | Water | S18-Au11042 | | Х | | | | |
| 10 | DUP04 | Aug 08, 2018 | | Soil | S18-Au11043 | | Х | | | | |
| Test | est Counts | | | | | | | 7 | 2 | 3 | 3 |



Internal Quality Control Review and Glossary

General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- 4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences
- 5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds
- 6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 7. Samples were analysed on an 'as received' basis
- 8. 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.

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

Units

mg/kg: milligrams per kilogram mg/L: milligrams per litre ug/L: micrograms per litre

ppm: Parts per million **ppb:** Parts per billion
%: Percentage

org/100mL: Organisms per 100 millilitres NTU: Nephelometric Turbidity Units MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery.

CRM Certified Reference Material - reported as percent recovery.

Method Blank In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.

Surr - Surrogate The addition of a like compound to the analyte target and reported as percentage recovery

Duplicate A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

USEPA United States Environmental Protection Agency

APHA American Public Health Association
TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

QSM Quality Systems Manual ver 5.1 US Department of Defense

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.

TEQ Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxaphene is not added to the Spike.
- 5. Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

 Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- 8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 Page 9 of 13

ABN : 50 005 085 521 Telephone: +61 2 9900 8400 Report Number: 611464-S



Quality Control Results

| mg/kg | < 0.1 < 0.05 < | 0.1 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 | Pass Pass Pass Pass Pass Pass Pass Pass | |
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| 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 | < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 | | 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 | Pass Pass Pass Pass Pass Pass Pass Pass | |
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| | | | | | | | A | D | O !!f! |
|---|--|--|---|---|---|--|--|---|--------------------|
| Test | | | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
| Hexachlorobenzene | | | % | 95 | | | 70-130 | Pass | |
| Methoxychlor | | | % | 89 | | | 70-130 | Pass | |
| LCS - % Recovery | | | | | | | | | |
| Polychlorinated Biphenyls | | | | | | | | | |
| Aroclor-1260 | | 1 | % | 87 | | | 70-130 | Pass | |
| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
| Spike - % Recovery | | | | | 1 | | ı | | |
| Organochlorine Pesticides | | 1 | | Result 1 | | | | | |
| 4.4'-DDE | S18-Au11041 | CP | % | 96 | | | 70-130 | Pass | |
| a-BHC | S18-Au11041 | CP | % | 93 | | | 70-130 | Pass | |
| Aldrin | S18-Au11041 | CP | % | 94 | | | 70-130 | Pass | |
| b-BHC | S18-Au11041 | CP | % | 88 | | | 70-130 | Pass | |
| d-BHC | S18-Au11041 | CP | % | 91 | | | 70-130 | Pass | |
| Dieldrin | S18-Au11041 | CP | % | 96 | | | 70-130 | Pass | |
| Endosulfan I | S18-Au11041 | CP | % | 94 | | | 70-130 | Pass | |
| Endosulfan II | S18-Au11041 | CP | % | 95 | | | 70-130 | Pass | |
| Endosulfan sulphate | S18-Au11041 | CP | % | 86 | | | 70-130 | Pass | |
| Endrin | S18-Au11041 | CP | % | 92 | | | 70-130 | Pass | |
| Endrin aldehyde | S18-Au11041 | CP | % | 86 | | | 70-130 | Pass | |
| g-BHC (Lindane) | S18-Au11041 | CP | % | 86 | | | 70-130 | Pass | |
| Heptachlor epoxide | S18-Au11041 | CP | % | 94 | | | 70-130 | Pass | |
| Hexachlorobenzene | S18-Au11041 | CP | % | 96 | | | 70-130 | Pass | |
| Spike - % Recovery | | | | D It 4 | | | | | |
| Polychlorinated Biphenyls | C40 A44044 | CD | 0/ | Result 1 | | | 70.400 | Dana | |
| Aroclor-1260 | S18-Au11041 | CP QA | % | 89 | | | 70-130 | Pass Pass | Ouglifying |
| Test | Lab Sample ID | Source | Units | Result 1 | | | Acceptance Limits | Limits | Qualifying Code |
| D Parata | | | | | | | | | |
| Duplicate | | | | | | | | | |
| Duplicate Acid Sulfate Soils Field pH Test | | | | Result 1 | Result 2 | RPD | | | |
| | M18-Au10016 | NCP | pH Units | Result 1 | Result 2 | RPD pass | 30% | Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* | M18-Au10016 M18-Au10016 | NCP NCP | pH Units | | | | 30% | Pass Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate | M18-Au10016 | NCP | • | 8.1 | 8.2 4.0 | pass | | | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons | M18-Au10016 | NCP | • | 8.1 4.0 Result 1 | 8.2 4.0 Result 2 | pass | 30% | Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 | M18-Au10016 s - 1999 NEPM Fract S18-Au15303 | NCP | comment mg/kg | 8.1 4.0 Result 1 < 20 | 8.2 4.0 Result 2 < 20 | pass pass | 30% | | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 TRH C10-C14 | M18-Au10016 s - 1999 NEPM Fract S18-Au15303 S18-Au14513 | NCP NCP NCP | mg/kg mg/kg | 8.1 4.0 Result 1 < 20 25 | 8.2 4.0 Result 2 < 20 27 | pass pass RPD <1 5.0 | 30% 30% 30% | Pass Pass Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 TRH C10-C14 TRH C15-C28 | M18-Au10016 S - 1999 NEPM Fract S18-Au15303 S18-Au14513 S18-Au14513 | NCP NCP NCP | mg/kg mg/kg mg/kg | 8.1 4.0 Result 1 < 20 25 130 | 8.2 4.0 Result 2 < 20 27 150 | pass pass RPD <1 5.0 14 | 30% 30% 30% 30% | Pass Pass Pass Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 TRH C10-C14 TRH C15-C28 TRH C29-C36 | M18-Au10016 s - 1999 NEPM Fract S18-Au15303 S18-Au14513 | NCP NCP NCP | mg/kg mg/kg | 8.1 4.0 Result 1 < 20 25 | 8.2 4.0 Result 2 < 20 27 | pass pass RPD <1 5.0 | 30% 30% 30% | Pass Pass Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate | M18-Au10016 S - 1999 NEPM Fract S18-Au15303 S18-Au14513 S18-Au14513 S18-Au14513 | NCP NCP NCP | mg/kg mg/kg mg/kg | 8.1 4.0 Result 1 < 20 25 130 260 | 8.2 4.0 Result 2 < 20 27 150 230 | pass pass RPD <1 5.0 14 13 | 30% 30% 30% 30% | Pass Pass Pass Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate Polycyclic Aromatic Hydrocarbons | M18-Au10016 S - 1999 NEPM Fract \$18-Au15303 \$18-Au14513 \$18-Au14513 \$18-Au14513 | NCP NCP NCP NCP | mg/kg mg/kg mg/kg mg/kg | 8.1 4.0 Result 1 < 20 25 130 260 | 8.2 4.0 Result 2 < 20 27 150 230 | pass pass RPD <1 5.0 14 13 RPD | 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate Polycyclic Aromatic Hydrocarbo Benz(a)anthracene | M18-Au10016 S - 1999 NEPM Fract \$18-Au15303 \$18-Au14513 \$18-Au14513 \$18-Au14513 \$18-Au10960 | NCP ions NCP NCP NCP NCP NCP | mg/kg mg/kg mg/kg mg/kg | 8.1 4.0 Result 1 < 20 25 130 260 Result 1 < 0.5 | 8.2 4.0 Result 2 < 20 27 150 230 Result 2 < 0.5 | pass pass RPD <1 5.0 14 13 RPD <1 | 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate Polycyclic Aromatic Hydrocarbo Benz(a)anthracene Benzo(a)pyrene | M18-Au10016 S - 1999 NEPM Fract S18-Au15303 S18-Au14513 S18-Au14513 S18-Au14513 ns S18-Au10960 S18-Au10960 | NCP NCP NCP NCP NCP NCP | mg/kg mg/kg mg/kg mg/kg mg/kg | 8.1 4.0 Result 1 < 20 25 130 260 Result 1 < 0.5 < 0.5 | 8.2 4.0 Result 2 < 20 27 150 230 Result 2 < 0.5 < 0.5 | pass pass RPD <1 5.0 14 13 RPD <1 <1 <1 | 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate Polycyclic Aromatic Hydrocarbo Benz(a)anthracene Benzo(b&j)fluoranthene | M18-Au10016 S - 1999 NEPM Fract S18-Au15303 S18-Au14513 S18-Au14513 S18-Au14513 S18-Au10960 S18-Au10960 S18-Au10960 | NCP NCP NCP NCP NCP NCP NCP NCP | mg/kg mg/kg mg/kg mg/kg mg/kg | 8.1 4.0 Result 1 < 20 25 130 260 Result 1 < 0.5 < 0.5 < 0.5 | 8.2 4.0 Result 2 < 20 27 150 230 Result 2 < 0.5 < 0.5 < 0.5 | pass pass RPD <1 5.0 14 13 RPD <1 <1 <1 <1 <1 | 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate Polycyclic Aromatic Hydrocarbons Benz(a)anthracene Benzo(b&j)fluoranthene Benzo(g.h.i)perylene | M18-Au10016 S - 1999 NEPM Fract S18-Au15303 S18-Au14513 S18-Au14513 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 | NCP NCP NCP NCP NCP NCP NCP NCP | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | 8.1 4.0 Result 1 < 20 25 130 260 Result 1 < 0.5 < 0.5 < 0.5 < 0.5 | 8.2 4.0 Result 2 < 20 27 150 230 Result 2 < 0.5 < 0.5 < 0.5 < 0.5 | pass pass RPD <1 5.0 14 13 RPD <1 <1 <1 <1 <1 <1 <1 | 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate Polycyclic Aromatic Hydrocarbons Benz(a)anthracene Benzo(a)pyrene Benzo(b&j)fluoranthene Benzo(g.h.i)perylene Benzo(k)fluoranthene | M18-Au10016 S - 1999 NEPM Fract S18-Au15303 S18-Au14513 S18-Au14513 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 | NCP NCP NCP NCP NCP NCP NCP NCP | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | 8.1 4.0 Result 1 < 20 25 130 260 Result 1 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 | 8.2 4.0 Result 2 < 20 27 150 230 Result 2 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 | pass pass RPD <1 5.0 14 13 RPD <1 <1 <1 <1 <1 <1 <1 <1 <1 | 30% 30% 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate Polycyclic Aromatic Hydrocarbo Benz(a)anthracene Benzo(b&j)fluoranthene Benzo(g.h.i)perylene Benzo(k)fluoranthene Dibenz(a.h)anthracene | M18-Au10016 S - 1999 NEPM Fract S18-Au15303 S18-Au14513 S18-Au14513 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 | NCP NCP NCP NCP NCP NCP NCP NCP | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | 8.1 4.0 Result 1 < 20 25 130 260 Result 1 < 0.5 < 0.5 < 0.5 < 0.5 | 8.2 4.0 Result 2 < 20 27 150 230 Result 2 < 0.5 < 0.5 < 0.5 < 0.5 | pass pass RPD <1 5.0 14 13 RPD <1 <1 <1 <1 <1 <1 <1 | 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate Polycyclic Aromatic Hydrocarbons Benz(a)anthracene Benzo(a)pyrene Benzo(b&j)fluoranthene Benzo(g.h.i)perylene Benzo(k)fluoranthene Dibenz(a.h)anthracene Duplicate | M18-Au10016 S - 1999 NEPM Fract S18-Au15303 S18-Au14513 S18-Au14513 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 | NCP NCP NCP NCP NCP NCP NCP NCP | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | 8.1 4.0 Result 1 < 20 25 130 260 Result 1 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 | 8.2 4.0 Result 2 < 20 27 150 230 Result 2 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 | pass pass RPD <1 5.0 14 13 RPD <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 | 30% 30% 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate Polycyclic Aromatic Hydrocarbons Benz(a)anthracene Benzo(a)pyrene Benzo(b&j)fluoranthene Benzo(g.h.i)perylene Benzo(k)fluoranthene Dibenz(a.h)anthracene Duplicate Organochlorine Pesticides | M18-Au10016 S - 1999 NEPM Fract S18-Au15303 S18-Au14513 S18-Au14513 S18-Au14513 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 | NCP NCP NCP NCP NCP NCP NCP NCP | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | 8.1 4.0 Result 1 < 20 25 130 260 Result 1 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 Result 1 | 8.2 4.0 Result 2 < 20 27 150 230 Result 2 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 | pass pass RPD <1 5.0 14 13 RPD <1 <1 <1 <1 <1 <1 <rpd <rpd<="" td=""><td>30% 30% 30% 30% 30% 30% 30% 30%</td><td>Pass Pass Pass Pass Pass Pass Pass Pass</td><td></td></rpd> | 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate Polycyclic Aromatic Hydrocarbons Benzo(a)anthracene Benzo(b&j)fluoranthene Benzo(g.h.i)perylene Benzo(k)fluoranthene Dibenz(a.h)anthracene Duplicate Organochlorine Pesticides Chlordanes - Total | M18-Au10016 S - 1999 NEPM Fract \$18-Au15303 \$18-Au14513 \$18-Au14513 \$18-Au14513 S18-Au10960 \$18-Au10960 \$18-Au10960 \$18-Au10960 \$18-Au10960 \$18-Au10960 \$18-Au10960 \$18-Au10960 \$18-Au10960 | NCP NCP NCP NCP NCP NCP NCP NCP | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | 8.1 4.0 Result 1 < 20 25 130 260 Result 1 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 | 8.2 4.0 Result 2 < 20 27 150 230 Result 2 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 | pass pass RPD <1 5.0 14 13 RPD <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 | 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate Polycyclic Aromatic Hydrocarbons Benz(a)anthracene Benzo(a)pyrene Benzo(b&j)fluoranthene Benzo(g.h.i)perylene Benzo(k)fluoranthene Dibenz(a.h)anthracene Duplicate Organochlorine Pesticides Chlordanes - Total 4.4'-DDD | M18-Au10016 S - 1999 NEPM Fract S18-Au15303 S18-Au14513 S18-Au14513 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 | NCP NCP NCP NCP NCP NCP NCP NCP | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | 8.1 4.0 Result 1 < 20 25 130 260 Result 1 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 | 8.2 4.0 Result 2 < 20 27 150 230 Result 2 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 | pass pass RPD <1 5.0 14 13 RPD <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 | 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate Polycyclic Aromatic Hydrocarbons Benz(a)anthracene Benzo(b&j)fluoranthene Benzo(g.h.i)perylene Benzo(k)fluoranthene Dibenz(a.h)anthracene Duplicate Organochlorine Pesticides Chlordanes - Total 4.4'-DDD 4.4'-DDE | M18-Au10016 S - 1999 NEPM Fract S18-Au15303 S18-Au14513 S18-Au14513 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 | NCP NCP NCP NCP NCP NCP NCP NCP | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | 8.1 4.0 Result 1 < 20 25 130 260 Result 1 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 | Result 2 < 20 27 150 230 Result 2 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 | pass pass RPD <1 5.0 14 13 RPD <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 | 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate Polycyclic Aromatic Hydrocarbons Benz(a)anthracene Benzo(a)pyrene Benzo(b&j)fluoranthene Benzo(g.h.i)perylene Benzo(k)fluoranthene Dibenz(a.h)anthracene Duplicate Organochlorine Pesticides Chlordanes - Total 4.4'-DDD 4.4'-DDE 4.4'-DDT | M18-Au10016 S - 1999 NEPM Fract S18-Au15303 S18-Au14513 S18-Au14513 S18-Au14513 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 | NCP NCP NCP NCP NCP NCP NCP NCP NCP CP CP CP | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | 8.1 4.0 Result 1 < 20 25 130 260 Result 1 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 | Result 2 < 20 27 150 230 Result 2 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 | pass pass RPD <1 5.0 14 13 RPD <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 | 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| Acid Sulfate Soils Field pH Test pH-F (Field pH test)* Reaction Ratings* Duplicate Total Recoverable Hydrocarbons TRH C6-C9 TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate Polycyclic Aromatic Hydrocarbons Benz(a)anthracene Benzo(b&j)fluoranthene Benzo(g.h.i)perylene Benzo(k)fluoranthene Dibenz(a.h)anthracene Duplicate Organochlorine Pesticides Chlordanes - Total 4.4'-DDD 4.4'-DDE | M18-Au10016 S - 1999 NEPM Fract S18-Au15303 S18-Au14513 S18-Au14513 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 S18-Au10960 | NCP NCP NCP NCP NCP NCP NCP NCP | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | 8.1 4.0 Result 1 < 20 25 130 260 Result 1 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 | Result 2 < 20 27 150 230 Result 2 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 | pass pass RPD <1 5.0 14 13 RPD <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 | 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |

Report Number: 611464-S



| Duplicate | | | | | | | | | | | | | |
|---------------------------|-------------|----------|----------|----------|----------|-----|-----|------|--|--|--|--|--|
| Organochlorine Pesticides | | | | Result 1 | Result 2 | RPD | | | | | | | |
| d-BHC | S18-Au11035 | СР | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | | | | | |
| Dieldrin | S18-Au11035 | СР | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | | | | | |
| Endosulfan I | S18-Au11035 | СР | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | | | | | |
| Endosulfan II | S18-Au11035 | СР | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | | | | | |
| Endosulfan sulphate | S18-Au11035 | СР | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | | | | | |
| Endrin | S18-Au11035 | СР | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | | | | | |
| Endrin aldehyde | S18-Au11035 | СР | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | | | | | |
| Endrin ketone | S18-Au11035 | СР | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | | | | | |
| g-BHC (Lindane) | S18-Au11035 | СР | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | | | | | |
| Heptachlor | S18-Au11035 | СР | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | | | | | |
| Heptachlor epoxide | S18-Au11035 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | | | | | |
| Hexachlorobenzene | S18-Au11035 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | | | | | |
| Methoxychlor | S18-Au11035 | СР | mg/kg | < 0.2 | < 0.2 | <1 | 30% | Pass | | | | | |
| Toxaphene | S18-Au11035 | CP | mg/kg | < 1 | < 1 | <1 | 30% | Pass | | | | | |
| Duplicate | | | | | | | | | | | | | |
| Polychlorinated Biphenyls | | Result 1 | Result 2 | RPD | | | | | | | | | |
| Aroclor-1016 | S18-Au11035 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | | | | | |
| Aroclor-1221 | S18-Au11035 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | | | | | |
| Aroclor-1232 | S18-Au11035 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | | | | | |
| Aroclor-1242 | S18-Au11035 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | | | | | |
| Aroclor-1248 | S18-Au11035 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | | | | | |
| Aroclor-1254 | S18-Au11035 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | | | | | |
| Aroclor-1260 | S18-Au11035 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | | | | | |
| Duplicate | | | | | | | | | | | | | |
| Heavy Metals | | | | Result 1 | Result 2 | RPD | | | | | | | |
| Arsenic | M18-Au12942 | NCP | mg/kg | ** | ** | 19 | 30% | Pass | | | | | |
| Cadmium | M18-Au12942 | NCP | mg/kg | ** | ** | <1 | 30% | Pass | | | | | |
| Chromium | M18-Au10739 | NCP | mg/kg | ** | ** | 1.0 | 30% | Pass | | | | | |
| Copper | M18-Au12942 | NCP | mg/kg | ** | ** | <1 | 30% | Pass | | | | | |
| Lead | M18-Au12942 | NCP | mg/kg | ** | ** | <1 | 30% | Pass | | | | | |
| Mercury | M18-Au12942 | NCP | mg/kg | ** | ** | <1 | 30% | Pass | | | | | |
| Nickel | M18-Au10739 | NCP | mg/kg | ** | ** | 3.0 | 30% | Pass | | | | | |
| Zinc | M18-Au10739 | NCP | mg/kg | ** | ** | 2.0 | 30% | Pass | | | | | |
| Duplicate | | | | | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | | | | | |
| % Moisture | S18-JI26285 | NCP | % | 5.7 | 5.5 | 2.0 | 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

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).

N01

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.

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. N04

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 N07

Field Screen uses the following fizz rating to classify the rate the samples reacted to the peroxide: 1.0; No reaction to slight. 2.0; Moderate reaction. 3.0; Strong reaction with persistent froth. 4.0; Extreme reaction. S05

Authorised By

N02

Nibha Vaidya Analytical Services Manager Senior Analyst-Asbestos (NSW) Nibha Vaidya



Glenn Jackson

National Operations Manager

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.

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Report Number: 611464-S

| 8 | C | ro | Manager N | ns |
|----------|---|----|-----------|----|
| | | | | |

Sydney

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| | | | | | | | | | | | C | HA | \prod | OF (| | T(8 |)DY | F.E | 0.0 | RΦ | | | | | | | | | | |
|--------------------|--|--------------|----------------------------------|-------------------|---------------------------|-----------|------------|----------|-------------------------|---------|--|--|----------|------------------------|-------|--------------------------|--------|-------|--------|--|---|------------|-----------------|--------------------------------------|------------|--|--------------------------------|--------------|----------------|--------------------|
| CLIEN | T DETAILS | | A. 17-1-2-1-10 CONTACT - 1921 CO | | | | | | | | | | | | | | | | | | | | | | | | P | age1_ | _ of1 | |
| Compa | any Name : GHD Pty Ltd | | | Con | ntact I | Name : | Clifton | Thom | psoo | 1 | | ************************************** | | | | Pui | rchase | Order | : 2127 | 425 | | | | | | COC Number : 6 | | | | |
| Office | Address : | | | Pro | ject N | lanage | r : Justi | n Kab | at | | | | | ···- | • | PROJECT Number : 2127425 | | | | | | | | Eurofins mgt quote ID : 170808GHDN | | | | | | |
| L | evel 15, 133 Castlereagh Street | , Sydney NS | SW 2000 | Ema | ail for | r result | s : clifto | n.tho | mpso | n@ghd.d | com | | | ***** | | PR | OJECT | Name | : Scot | Scotland Island Energy Reliability Project | | | | | | | Data output format: Esdat, PDF | | | |
| | | | | - | V | | | | | | | Analyte | s | ., | | | | | | | T | | Sor | | | g times (with correct preservation). | | | | |
| Specia | al Directions & Comments : | | | 4 | 100 | ТТ | | Τ | | | 1 | Ť | 1 | | | 1 | \top | Т | | 1 | Waters | | | | | iormation c | ontact the | | oils | |
| | | | | ence)-AS4964-2004 | metals) | | | | | | EC, | | | | | | | | | | BTEX | , MAH, V | | | 14 days | DIEV | , MAH, VO | | | 44 15 5 |
| | I Directions & Comments : | | | 3496 | 18 18 | | | | | | Suite (pH, EC | pHfox) | | | | | | | | | | | nois, Pestic | ides | 7 days | · | | nols, Pestio | ides | 14 days 14 days |
| | carry out these tests on the remains custodγ | naining samp | oles already in | (e) (A) | Ž | | | | | | ite (| 힏 | | | | | | | | | Heav | / Metals | | | 6 months | | Metals | | | 6 months |
| | , | | | senc | 黑 | _ | | | | | Su | ₽ | | | | ı | | | | | Merci | ıry, CrVI | | | 28 days | Mercu | ry, CrVI | | ~~~ | 28 days |
| | | | | qe/ | \frac{1}{2} | OCP / PCB | | | 6 | | 4 kg | [희] | | | | | | | | | | biological | | | 24 hours | Microb | oiological te | esting | | 72 hours |
| | | | | ance | ĮΨ | 17 | | | Q. | | ssi S0 | - 등 년 | 2 | | | | | | | | | <u></u> | itrite, Total I | N | 2 days | Anions | 3 | | **** | 28 days |
| | | | | rese | 15 | [방] | | | Ö | | gre ₹ | See 1 | ź | | | | | | | | | | 7 days | SPOC | AS, pH Fi | eld and FO | X, CrS | 24 hours | | |
| Eurofin | s mgt DI water batch number: | | | آق [0 | Suite B7 (TRH/PAH/BTEXN/8 | | (0 | | BTEX / TPH C6-C9 | | Suite L2 Aggressivity Cl, Resistivity, S04) | pH - Field Screen (pHf and | ğ g | | | | | | | Ferrous iron 7 days ASLP, TCLP | | | | 7 days | | | | | | |
| | | | | stos | e B | Suite B13 | 8 metals | × | × | Д. | e L2 Resi | کے اور | ₹ | | | | | - | | | Containe | rs: | | • | | | *** | | | |
| | Sample ID | Date | Matrix | Asbest | Suit | Suit | 8 H | BTEX | BTE | TCLP | Suit CI, | 됩 | <u> </u> | | | | | | | | 1LP | 250P | 125P | 1LA | 40mL vial | 125ml. A | Jar | bag | Sample con | nments: |
| 1 | GHD-BH02_22_22.45 | | soil | | T | | | | | | |) | X | | | T | | | | | | | | | | | | 1 | | |
| 2 | GHD-BH04_15_15.45 | | soil | Т | | | | T | | | |) | X . | | | | | | | | | | | | | | | 1 | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 16 | | | L | | | | | | | | | | | | | | | | | | | | | <u></u> | | | <u> </u> | <u> </u> | T | |
| | | | | | | La | borator | y Staf | f | - | | | X-710-1 | | Turn | around | time | | | | | | | Method C | of Shipmer | nt | | | Temperature on | arrivai: |
| Relinq | uished By: Clifton Thompson | | Receiv | ved B | sy: | ٧Ļ | 201 | 16 | 1 | | | ļ | _ | | | | \Box | | | | □ c | ourier | | | | | | | | |
| Date & | · Time : | | Date & | k Tim | e : - | 11 | V | | . (*) | ANI | 1 | 1 DAY | LJ | 2 DA | Y [_] | 3 D | AY [| | | | ✓ Hand Delivered✓ Postal | | | | | Report number: | | | 01 | |
| Signature: Signatu | | | ture: | 17/8 -060W s | | | | | 5 DAY 🗸 10 DAY 🗋 Other: | | | | | Courier Consignment #: | | | | | 36 | | | | | | | | | | | |



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NATA # 1261
Site # 1254 & 14271

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ABN - 50 005 085 521

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web: www.eurofins.com.au

Sample Receipt Advice

Company name: **GHD Pty Ltd NSW**

Contact name: Clifton Thompson

ADDITIONAL - SCOTLAND ISLAND ENERGY RELIABILITY PROJECT Project name:

Project ID: 2127425 COC number: Not provided

Turn around time: 5 Day

Aug 14, 2018 1:06 PM Date/Time received:

Eurofins | mgt reference: 612636

Sample information

- \mathbf{V} A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- \mathbf{V} Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt: 5.3 degrees Celsius.
- \mathbf{V} All samples have been received as described on the above COC.
- \square COC has been completed correctly.
- \square Attempt to chill was evident.
- \mathbf{V} Appropriately preserved sample containers have been used.
- \mathbf{V} All samples were received in good condition.
- \square Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- \mathbf{V} Appropriate sample containers have been used.
- \boxtimes Split sample sent to requested external lab.
- \boxtimes Some samples have been subcontracted.
- Custody Seals intact (if used). N/A

Contact notes

If you have any questions with respect to these samples please contact:

Nibha Vaidya on Phone: +61 (2) 9900 8415 or by e.mail: NibhaVaidya@eurofins.com

Results will be delivered electronically via e.mail to Clifton Thompson - Clifton.Thompson@ghd.com.









Certificate of Analysis

GHD Pty Ltd NSW Level 15, 133 Castlereagh Street Sydney NSW 2000





NATA Accredited Accreditation Number 1261 Site Number 18217

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

Attention: Clifton Thompson

Report 612636-S

Project name ADDITIONAL - SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID 2127425 Received Date Aug 14, 2018

| Client Sample ID Sample Matrix | | | GHD-BH2_22- 22.45 Soil | GHD- BH4_15.0_15.4 5 Soil |
|---|------|------------|------------------------------|------------------------------------|
| Eurofins mgt Sample No. | | | S18-Au20520 | S18-Au20521 |
| Date Sampled | | | Jul 17, 2018 | Jul 17, 2018 |
| Test/Reference | LOR | Unit | | |
| SPOCAS Suite | • | | | |
| pH-KCL | 0.1 | pH Units | 4.1 | 4.7 |
| pH-OX | 0.1 | pH Units | 1.6 | 3.6 |
| Acid trail - Titratable Actual Acidity | 2 | mol H+/t | 150 | 73 |
| Acid trail - Titratable Peroxide Acidity | 2 | mol H+/t | 2500 | 170 |
| Acid trail - Titratable Sulfidic Acidity | 2 | mol H+/t | 2400 | 92 |
| sulfidic - TAA equiv. S% pyrite | 0.02 | % pyrite S | 0.24 | 0.12 |
| sulfidic - TPA equiv. S% pyrite | 0.02 | % pyrite S | 4.0 | 0.27 |
| sulfidic - TSA equiv. S% pyrite | 0.02 | % pyrite S | 3.8 | 0.15 |
| Sulfur - KCl Extractable | 0.02 | % S | 0.21 | 0.03 |
| Sulfur - Peroxide | 0.02 | % S | 3.6 | 0.04 |
| Sulfur - Peroxide Oxidisable Sulfur | 0.02 | % S | 3.3 | < 0.02 |
| acidity - Peroxide Oxidisable Sulfur | 10 | mol H+/t | 2100 | < 10 |
| HCI Extractable Sulfur | 0.02 | % S | 0.21 | n/a |
| Net Acid soluble sulfur | 0.02 | % S | < 0.02 | n/a |
| Net Acid soluble sulfur - acidity units | 10 | mol H+/t | < 10 | n/a |
| Net Acid soluble sulfur - equivalent S% pyrite ^{S02} | 0.02 | % S | < 0.02 | n/a |
| Calcium - KCI Extractable | 0.02 | % Ca | 0.10 | 0.04 |
| Calcium - Peroxide | 0.02 | % Ca | 0.09 | 0.04 |
| Acid Reacted Calcium | 0.02 | % Ca | < 0.02 | < 0.02 |
| acidity - Acid Reacted Calcium | 10 | mol H+/t | < 10 | < 10 |
| sulfidic - Acid Reacted Ca equiv. S% pyrite | 0.02 | % S | < 0.02 | < 0.02 |
| Magnesium - KCI Extractable | 0.02 | % Mg | 0.10 | 0.08 |
| Magnesium - Peroxide | 0.02 | % Mg | 0.10 | 0.07 |
| Acid Reacted Magnesium | 0.02 | % Mg | < 0.02 | < 0.02 |
| acidity - Acid Reacted Magnesium | 10 | mol H+/t | < 10 | < 10 |
| sulfidic - Acid Reacted Mg equiv. S% pyrite | 0.02 | % S | < 0.02 | < 0.02 |
| Acid Neutralising Capacity (ANCE) | 0.02 | %CaCO3 | n/a | n/a |
| Acid Neutralising Capacity - Acidity units (a-ANCE) | 10 | mol H+/t | n/a | n/a |
| Acid Neutralising Capacity - equivalent S% pyrite(s-ANCE) | 0.02 | % S | n/a | n/a |
| ANC Fineness Factor | | factor | 1.5 | 1.5 |
| SPOCAS - Net Acidity (Sulfur Units) | 0.02 | % S | 3.6 | 0.13 |
| SPOCAS - Net Acidity (Acidity Units) | 10 | mol H+/t | 2200 | 79 |
| SPOCAS - Liming rate | 1 | kg CaCO3/t | 170 | 6.0 |



| Client Sample ID | | | GHD-BH2_22- 22.45 | GHD- BH4_15.0_15.4 5 |
|--|-------|------------|----------------------|----------------------------|
| Sample Matrix | | | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-Au20520 | S18-Au20521 |
| Date Sampled | | | Jul 17, 2018 | Jul 17, 2018 |
| Test/Reference | LOR | Unit | | |
| Chromium Suite | | • | | |
| pH-KCL | 0.1 | pH Units | 4.1 | 4.7 |
| Acid trail - Titratable Actual Acidity | 2 | mol H+/t | 150 | 73 |
| sulfidic - TAA equiv. S% pyrite | 0.02 | % pyrite S | 0.24 | 0.12 |
| Chromium Reducible Sulfur ^{S04} | 0.005 | % S | 2.9 | < 0.005 |
| Chromium Reducible Sulfur -acidity units | 3 | mol H+/t | 1800 | < 3 |
| Sulfur - KCl Extractable | 0.02 | % S | 0.21 | 0.03 |
| HCI Extractable Sulfur | 0.02 | % S | 0.21 | n/a |
| Net Acid soluble sulfur | 0.02 | % S | < 0.02 | n/a |
| Net Acid soluble sulfur - acidity units | 10 | mol H+/t | < 10 | n/a |
| Net Acid soluble sulfur - equivalent S% pyrite ^{S02} | 0.02 | % S | < 0.02 | n/a |
| Acid Neutralising Capacity (ANCbt) | 0.01 | %CaCO3 | n/a | n/a |
| Acid Neutralising Capacity - acidity (a-ANCbt) | 2 | mol H+/t | n/a | n/a |
| Acid Neutralising Capacity - equivalent S% pyrite (s-ANCbt) ^{S03} | 0.02 | % S | n/a | n/a |
| ANC Fineness Factor | | factor | 1.5 | 1.5 |
| CRS Suite - Net Acidity (Sulfur Units) | 0.02 | % S | 3.2 | 0.12 |
| CRS Suite - Net Acidity (Acidity Units) | 10 | mol H+/t | 2000 | 73 |
| CRS Suite - Liming Rate ^{S01} | 1 | kg CaCO3/t | 150 | 5.5 |
| Extraneous Material | | | | |
| <2mm Fraction | 0.005 | g | 59 | 30 |
| >2mm Fraction | 0.005 | g | < 0.005 | < 0.005 |
| Analysed Material | 0.1 | % | 100 | 100 |
| Extraneous Material | 0.1 | % | < 0.1 | < 0.1 |
| % Moisture | 1 | % | 27 | 16 |



Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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 |
|---------------------------------|--------------|--------------|--------------|
| SPOCAS Suite SPOCAS Suite | Brisbane | Aug 16, 2018 | 6 Week |
| - Method: LTM-GEN-7050 | Brisbario | Aug 10, 2010 | O WEEK |
| Chromium Reducible Sulfur Suite | | | |
| Chromium Suite | Brisbane | Aug 16, 2018 | 6 Week |
| - Method: LTM-GEN-7070 | | | |
| Extraneous Material | Brisbane | Aug 16, 2018 | 6 Week |
| - Method: LTM-GEN-7050/7070 | | | |
| % Moisture | Brisbane | Aug 16, 2018 | 14 Day |

⁻ Method: LTM-GEN-7080 Moisture

Report Number: 612636-S



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Eurofins | mgt Analytical Services Manager : Nibha Vaidya

Perth 2/91 Leach Highway Kewdale WA 6105 Phone: +61 8 9251 9600 NATA # 1261 Site # 23736

Company Name: GHD Pty Ltd NSW Order No.: Received: Aug 14, 2018 1:06 PM

Address: Level 15, 133 Castlereagh Street Report #: 612636 Due: Aug 21, 2018

Sydney Phone: 02 9239 7100 Priority: 5 Day

NSW 2000 Fax: 02 9239 7199 **Contact Name:** Clifton Thompson

Project Name: Project ID: 2127425

| | | Sal | mple Detail | | | SPOCAS Suite | Chromium Reducible Sulfur Suite | Moisture Set |
|------|------------------------------|--------------|------------------|--------|-------------|--------------|---------------------------------|--------------|
| | | | | | | | Ifur Suite | |
| | | | | | | | | |
| | ourne Laborato | | | 271 | | | | |
| | ney Laboratory | | | | | ., | | |
| | bane Laboratory | | | | | Х | Х | Х |
| | h Laboratory - N | | 36 | | | | | |
| No | rnal Laboratory Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | |
| 1 | GHD-BH2_22- 22.45 | Jul 17, 2018 | | Soil | S18-Au20520 | Х | Х | х |
| 2 | GHD- BH4_15.0_15. 45 | Jul 17, 2018 | | Soil | S18-Au20521 | х | х | х |
| Test | Counts | | | | | 2 | 2 | 2 |

ADDITIONAL - SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 ABN: 50 005 085 521 Telephone: +61 2 9900 8400

Page 4 of 7

Date Reported:Aug 21, 2018



Internal Quality Control Review and Glossary

General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated
- 3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- 4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences
- 5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds
- 6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 7. Samples were analysed on an 'as received' basis
- 8. 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.

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

Units

mg/kg: milligrams per kilogram mg/L: milligrams per litre ug/L: micrograms per litre

ppm: Parts per million **ppb:** Parts per billion
%: Percentage

org/100mL: Organisms per 100 millilitres NTU: Nephelometric Turbidity Units MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery.

CRM Certified Reference Material - reported as percent recovery.

Method Blank In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.

Surr - Surrogate The addition of a like compound to the analyte target and reported as percentage recovery

Duplicate A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

USEPA United States Environmental Protection Agency

APHA American Public Health Association
TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

QSM Quality Systems Manual ver 5.1 US Department of Defense

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.

TEQ Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxaphene is not added to the Spike.
- 5. Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

 Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- 8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 Page 5 of 7

ABN: 50 005 085 521 Telephone: +61 2 9900 8400 Report Number: 612636-S



Quality Control Results

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|---------------|--------------|----------------------|------------|------------|------------|----------------------|----------------|--------------------|
| Duplicate | | | | | | | | | |
| SPOCAS Suite | | | | Result 1 | Result 2 | RPD | | | |
| pH-KCL | B18-Au13733 | NCP | pH Units | 4.5 | 4.5 | <1 | 30% | Pass | |
| pH-OX | B18-Au13733 | NCP | pH Units | 3.0 | 3.0 | 1.0 | 30% | Pass | |
| Acid trail - Titratable Actual Acidity | B18-Au13733 | NCP | mol H+/t | 44 | 44 | <1 | 30% | Pass | |
| Acid trail - Titratable Peroxide | D40 A42722 | NCD | | 160 | 160 | 1.0 | 200/ | Doos | |
| Acidity Acid trail - Titratable Sulfidic Acidity | B18-Au13733 | NCP NCP | mol H+/t mol H+/t | 160 120 | 160 120 | 1.0 1.0 | 30% | Pass Pass | |
| • | B18-Au13733 | NCP | | | | | | | |
| sulfidic - TAA equiv. S% pyrite | B18-Au13733 | t | % pyrite S | 0.07 | 0.07 | <1 | 30% | Pass | |
| sulfidic - TPA equiv. S% pyrite | B18-Au13733 | NCP | % pyrite S | 0.26 | 0.26 | 1.0 | 30% | Pass | |
| sulfidic - TSA equiv. S% pyrite | B18-Au13733 | NCP | % pyrite S | 0.19 | 0.19 | 1.0 | 30% | Pass | |
| Sulfur - KCl Extractable | B18-Au13733 | NCP | % S | 0.09 | 0.09 | 1.0 | 30% | Pass | |
| Sulfur - Peroxide | B18-Au13733 | NCP | % S | 0.19 | 0.20 | 4.0 | 30% | Pass | |
| Sulfur - Peroxide Oxidisable Sulfur | B18-Au13733 | NCP NCP | % S | 0.10 | 0.11 | 9.0 | 30% | Pass | |
| acidity - Peroxide Oxidisable Sulfur | B18-Au13733 | NCP | mol H+/t % S | 62 | 68 | 9.0 | 30% | Pass | |
| HCI Extractable Sulfur | B18-Au13733 | NCP | | 0.28 | 0.27 | 2.0 | 30% | Pass | |
| Net Acid soluble sulfur Net Acid soluble sulfur - acidity | B18-Au13733 | NCP | % S | 0.19 | 0.19 | 3.0 | 30% | Pass | |
| units | B18-Au13733 | NCP | mol H+/t | 89 | 87 | 3.0 | 30% | Pass | |
| Net Acid soluble sulfur - equivalent S% pyrite | B18-Au13733 | NCP | % S | 0.14 | 0.14 | 3.0 | 30% | Pass | |
| Calcium - KCI Extractable | B18-Au13733 | NCP | % Ca | 0.16 | 0.16 | 3.0 | 30% | Pass | |
| Calcium - Peroxide | B18-Au13733 | NCP | % Ca | 0.15 | 0.17 | 8.0 | 30% | Pass | |
| Acid Reacted Calcium | B18-Au13733 | NCP | % Ca | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| acidity - Acid Reacted Calcium | B18-Au13733 | NCP | mol H+/t | -2 | < 10 | 1200 | 30% | Fail | |
| sulfidic - Acid Reacted Ca equiv. S% pyrite | B18-Au13733 | NCP | % S | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Magnesium - KCI Extractable | B18-Au13733 | NCP | % Mg | 0.06 | 0.06 | 1.0 | 30% | Pass | |
| Magnesium - Peroxide | B18-Au13733 | NCP | % Mg | 0.06 | 0.06 | 7.0 | 30% | Pass | |
| Acid Reacted Magnesium | B18-Au13733 | NCP | % Mg | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| acidity - Acid Reacted Magnesium | B18-Au13733 | NCP | mol H+/t | -1 | < 10 | 590 | 30% | Fail | |
| sulfidic - Acid Reacted Mg equiv. S% pyrite | B18-Au13733 | NCP | % S | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Acid Neutralising Capacity (ANCE) | B18-Au13733 | NCP | %CaCO3 | n/a | n/a | n/a | 30% | Pass | |
| Acid Neutralising Capacity - Acidity units (a-ANCE) | B18-Au13733 | NCP | mol H+/t | n/a | n/a | n/a | 30% | Pass | |
| ANC Fineness Factor | B18-Au13733 | NCP | factor | 1.5 | 1.5 | <1 | 30% | Pass | |
| SPOCAS - Liming rate | B18-Au13733 | NCP | kg CaCO3/t | 15 | 15 | 2.0 | 30% | Pass | |
| Duplicate | | | J | | | | | | |
| Chromium Suite | | | | Result 1 | Result 2 | RPD | | | |
| Chromium Reducible Sulfur | M18-Au09044 | NCP | % S | 0.029 | 0.027 | 6.0 | 30% | Pass | |
| Chromium Reducible Sulfur -acidity units | M18-Au09044 | NCP | mol H+/t | 18 | 17 | 6.0 | 30% | Pass | |
| Acid Neutralising Capacity (ANCbt) | M18-Au09044 | NCP | %CaCO3 | n/a | n/a | n/a | 30% | Pass | |
| Acid Neutralising Capacity - equivalent S% pyrite (s-ANCbt) | M18-Au09044 | NCP | % S | n/a | n/a | n/a | 30% | Pass | |
| CRS Suite - Net Acidity (Sulfur Units) | M18-Au09044 | NCP | % S | 0.07 | 0.07 | n/a | 30% | Pass | |
| CRS Suite - Net Acidity (Acidity Units) | M18-Au09044 | NCP | mol H+/t | 45 | 43 | n/a | 30% | Pass | |
| CRS Suite - Liming Rate | M18-Au09044 | NCP | kg CaCO3/t | 3.4 | 3.2 | 4.0 | 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 |
| Code | Describitori |

Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m3 in-situ soil' multiply 'reported results' x 'wet bulk density of soil in t/m3'

S01

S02 Retained Acidity is Reported when the pHKCl is less than pH $4.5\,$

S03 Acid Neutralising Capacity is only required if the pHKCl if greater than or equal to pH 6.5 Acid Sulfate Soil Samples have a 24 hour holding time unless frozen or dried within that period S04

Authorised By

Nibha Vaidya Analytical Services Manager Steven Trout Senior Analyst-Metal (QLD)

Glenn Jackson

National Operations Manager

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 | mgt 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 | mgt 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.

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Unit F3 - 6 Building F, 16 Mars Road, Lane Cove Phone: +612 9900 8400

Email: enviro.syd@mgtlabmark.com.au

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Unit 1-21 Smallwood Place, Murrarie Phone: +617 3902 4600 Email: enviro.bris@mgtlabmark.com.au

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2 Kingston Town Close, Oakleigh, VIC 3166
Phone: +613 8564 5000 Fax: +613 8564 5090 Email: enquiries.melb@mgtlabmark.com.au

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| Compa | ny Name : GHD Pty Ltd | ····· | | Con | tact N | lame : | Clifto | on Tho | mpso | оп | | | | ****** | | Purchase Order : 2127425 | | | | | | | | COC Number : 7 | | | | | | | |
| Office A | Address : | | | Proj | ject M | anage | r : Ju | stin Ka | abat | | | | | | | PROJECT Number : 2127425 Eurofins mgt q | | | | | | mgt quot | t quote ID : 170808GHDN | | | | | | | | |
| Le | evel 15, 133 Castlereagh Stree | t, Sydney NS | W 2000 | Ema | ail for | result | s:cli | fton.th | omps | on@ghd | .com | | | | | PROJECT Name : Scotland Island Energy Reliability Project | | | | | | Data outp | ut format: | : Esdat, PD |)F | | | | | | |
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| Special | Directions & Comments : | | | 2004 | (S) | | Т | Т | | П | Ú | | | | | | | | | П | | | | Waters | | | | | So | oils | |
| | | | | 34-2 | metals) | | | | | | Ш | <u>x</u> | | | | | | | | | | BTEX | MAH, VC | С | | 14 days | BTEX. | MAH, VO | C | | 14 days |
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| | | | | A. | Ž | | - 1 | | | |) Ee | 힐 | | | | | | | | | | Heavy | Metals | | | 6 months | Heavy | Metals | | | 6 months |
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| | | | | uce/ | PA | <u>a</u> | | | 62-92 | | ssiv S04 | <u></u> | | | | | | | | | | BOD, | Nitrate, Ni | trite, Total I | 4 | 2 days | Anions | 3 | | | 28 days |
| | | | | ese | I | 용 | | | ၂ဗ | 1 1 | Z de | Screen | | | | | | | | | | Solids | - TSS, TE | S etc | | 7 days | SPOC | AS, pH Fie | eld and FO | X, CrS | 24 hours |
| Eurofins | s mgt DI water batch number: | | | ID (pr | (TRH/PAH/BTEXN/8 | B13 OCP / PCB | | | TPH | | Aggressivity stivity, S04) | 1701 | | | | | | | | | | Ferro | ıs iron | | | 7 days | ASLP, | TCLP | | | 7 days |
| | | 1 | | stos I | 9 B7 | B 1 | | etals | | | e L2 Resig | - Field | | | | | | | | | | Containe | re . | | | | | | | | |
| | Sample ID | Date | Matrix | Asbestos | Suite | Suite | PAH | 8 metals | BTEX/ | TCLP | Suite L2 CI, Resis | 표 | | | | | | | | | | 1LP | 250P | 125P | 1LA | 40mL viai | 125ml. A | Jar | bag | Sample comm | nents: |
| 1 | GHD-BH6_0_0.1 | 27/09/2018 | soil | х | х | х | | | | | х | | | | | | | | | | | | | | | | | 1 | 1 | | |
| 2 | GHD-BH6_0.4_0.5 | 27/09/2018 | soil | | х | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | |
| 3 | GHD-BH7_0_0.1 | 27/09/2018 | soil | х | | х | | | | | х | | | | | | | | | Ш | | | | | | | | 1 | 1 | | |
| 4 | GHD-BH7_0.4_0.5 | 27/09/2018 | soil | | х | | | | | | | \sqcup | | | | | | | <u> </u> | | | | | | | | | 1 | 1 | | |
| 5 | GHD-BH7_0.9_1.0 | 27/09/2018 | soil | х | | | _ | | | $\perp \perp$ | x | \sqcup | | | | \sqcup | | | | - | | | | ļ | | | | 1 | 1 | | |
| 6 | GHD-BH7_1.5_1.6 | 27/09/2018 | soil | _ | х | Ш | _ | | | | | | | | <u> </u> | \perp | | | _ | Ш | | | | | | | | 1 | 1 | <u> </u> | |
| 7 | GHD-BH7_1.9_2.0 | 27/09/2018 | soil | _ | - | | _ | \perp | | ++ | X | \sqcup | | + | ـــ | + | | | | | | <u> </u> | <u> </u> | <u> </u> | | | | 1 | 1 | D. (-t-ID-0 | 0000 |
| 8 | SI-RIN01 | 27/09/2018 | liquid | ₩ | _ | \sqcup | х | | | | | - | | | _ | + | | _ | - | \vdash | | <u> </u> | <u></u> | | | 2 | 1 | | | Batch ID: S- | .0082 |
| 9 | GHD-SI01 | 27/09/2018 | soil | × | - | \sqcup | | + | | | | \vdash | | + | | + | | | - | \vdash | | | | | | | | 1 | 1 | | |
| 10 | GHD-SI02 | 27/09/2018 | soil | X | | \vdash | | $-\!\!\!\!+$ | | \perp | + | \vdash | - | _ | - | + | + | | ╄ | | | | | | | | | 1 | | | |
| 11 | GHD-S103 | 27/09/2018 | soil | × | - | \vdash | \dashv | - | | | | | | | \vdash | + | - | - | \vdash | - | | | _ | <u> </u> | | | | 1 | 1 | <u> </u> | |
| 12 | GHD-S104 | 27/09/2018 | soil | X | - | \vdash | - | + | + | + | + | \vdash | + | - | ┼ | ++ | | | ╫ | \vdash | | | ļ | | | | <u> </u> | 1 | | | |
| 13 | GHD-SI05 | 27/09/2018 | soil | X | - | \vdash | - | | + | ++ | - | \vdash | - | +- | \vdash | + | + | | ┼ | \vdash | | - | | | | | | 1 | _ | | |
| 14 | GHD-SI06 | 27/09/2018 | soil | × | + | \vdash | \dashv | | | + | | \vdash | | - | ┼ | + | + | + | \vdash | \vdash | | | | | | | | | | please filter the s | sample in |
| 15 | GHD-BH1-GW | 27/09/2018 | liquid | | × | x | | | | | | | | | | | | | | | | | 1 | 1 | | 2 | 1 | | | unpreserved green bottle for analy | |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | La | abora | tory St | aff | | | | *************************************** | | Tu | rn aro | und tin | ne | | | | | | | Method C | f Shipmer | t | | | Temperature on a | rrival: |
| Reling | uished By: Clifton Thompso | П | Receiv | ed B | By: | ilv | <i>(</i> -> | 6 |) | | | | p.e | | | | ✓ Courier | | | | | | 5.430 | | | | | | | | |
| Date & | Time: 02/10/2018 15:00 | | Date 8 | | | - | | _50 | | | 0-4 | 1 DAY | ' L.J | 2 D# | YY [| _ | Hand Delivered | | | | | | Report number: | | | | | | | | |
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| Signature: Sig | | | Signat | ture: | | - | _ | | - | Manage in 15 december 2017 in the case | | | | | | | | | | | | Couner | onsigiim | ent#; | | | | | | 1 2200 | 71 |

Enviro Sample NSW

Alena Bounkeua From:

Tuesday, 2 October 2018 5:07 PM Enviro Sample NSW; COC NSW Sent: To:

FW: GHD 2127425 Subject:

COC7 2127425_Eurofins_Chain Of Custody 1_SCOTLAND ISLAND.xls Attachments:

Follow up Flagged Follow Up Flag: Flag Status:

Hi Guys,

COC for samples arrived on Friday.

Please note that for the last water sample - it is for B7FILT - metals needs to be subbed from the unpreserved and filtered. If sending unlogged to Melbourne – please let Melbourne team know.

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Thanksi

Warm Regards,

Alena Bounkeua

Euroins inst

Phone: (02) 9900 8414

Email: <u>AlenaBounkeua@eurofins.com</u>

From: Clifton Thompson [mailto:Clifton.Thompson@ghd.com]
Sent: Tuesday, 2 October 2018 4:32 PM
To: Alena Bounkeua
Cc: Nibha Vaidya; Henry Luo
Subject: GHD 2127425

EXTERNAL EMAIL*

Hi Alena,

Please find the attached COC for the samples received on Friday.

Regards,

Clifton Thompson

Proudify employee awned T: 461 1 8898 8812 | M: 461 431 470 139 | E: <u>elfton.thompson@ehd.com</u> Level 2, 16 Smith Street Perremetta NSW 1150 Australia | <u>www.ghd.com</u>



Melbourne Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone: +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Unit F3, Building F 1/21 Smallwood Place 1/21 Smallwood Place Murarrie QLD 4172 Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217

Perth Z/91 Leach Highway Kewdale WA 6105 Phone: +61 8 9251 9600 NATA # 1261 Site # 23736

ABN - 50 005 085 521

e.mail: EnviroSales@eurofins.com web: www.eurofins.com.au

Sample Receipt Advice

Company name: **GHD Pty Ltd NSW**

Contact name: Clifton Thompson

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT Project name:

Project ID: 2127425 COC number: Not provided

Turn around time: 5 Day

Oct 2, 2018 5:07 PM Date/Time received:

Eurofins | mgt reference: 620547

Sample information

- \mathbf{V} A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- \mathbf{V} Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt : 5.4 degrees Celsius.
- \mathbf{V} All samples have been received as described on the above COC.
- \square COC has been completed correctly.
- \square Attempt to chill was evident.
- \mathbf{V} Appropriately preserved sample containers have been used.
- \mathbf{V} All samples were received in good condition.
- \square Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- \mathbf{V} Appropriate sample containers have been used.
- \mathbf{V} Sample containers for volatile analysis received with zero headspace.
- \boxtimes Split sample sent to requested external lab.
- \boxtimes Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

Nibha Vaidya on Phone: +61 (2) 9900 8415 or by e.mail: NibhaVaidya@eurofins.com

Results will be delivered electronically via e.mail to Clifton Thompson - Clifton.Thompson@ghd.com.









Certificate of Analysis





NATA Accredited Accreditation Number 1261 Site Number 18217

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

GHD Pty Ltd NSW Level 15, 133 Castlereagh Street Sydney NSW 2000

Attention: Clifton Thompson Report 620547-AID

Project Name SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

 Project ID
 2127425

 Received Date
 Oct 02, 2018

 Date Reported
 Oct 09, 2018

Methodology:

Asbestos Fibre

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 subsampling 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 asbestoscontaining 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 AS4964 method for inhomogeneous samples is around 0.1 g/kg (0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis where required, this is considered to be at the nominal reporting limit of 0.01 % (w / w). The examination of large sample sizes(500 mL is recommended) may improve the likelihood of identifying ACM in the > 2mm fraction. The NEPM screening level of 0.001 % (w / w) asbestos in soil for FA(friable asbestos) and AF(asbestos fines) then applies where they are able to be quantified by gravimetric procedures. This quantitative screening is not generally applicable to FF(free fibres) and results of Trace Analysis are referred.

NOTE: NATA News March 2014, p.7, states in relation to AS4964: "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". Accordingly, NATA Accreditation does not cover the performance of this service (indicated with an asterisk). This report is consistent with the analytical procedures and reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended) and the Western Australia Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia, 2009, including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil, June 2011.







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

Page 2 of 7

Project Name SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID 2127425

Date Reported: Oct 09, 2018

Date Sampled Sep 27, 2018 Report 620547-AID

| Client Sample ID Eurofins mgt Sample No. Date Sampled | | | Sample Description | Result |
|---|------------|--------------|---|--|
| GHD-BH6_0.0-0.1 | 18-Oc02399 | Sep 27, 2018 | Approximate Sample 192g Sample consisted of: Brown fine-grained soil, rocks and organic debris | No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No respirable fibres detected. |
| GHD-BH7_0.0-0.1 | 18-Oc02401 | Sep 27, 2018 | Approximate Sample 289g Sample consisted of: Brown fine-grained soil, rocks and organic debris | No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No respirable fibres detected. |
| GHD-BH7_0.9-1.0 | 18-Oc02403 | Sep 27, 2018 | Approximate Sample 229g Sample consisted of: Light brown fine-grained soil and rocks | No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No respirable fibres detected. |
| GHD-SI01 | 18-Oc02406 | Sep 27, 2018 | Approximate Sample 420g Sample consisted of: Brown fine-grained soil, rocks and organic debris | No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No respirable fibres detected. |
| GHD-SI02 | 18-Oc02407 | Sep 27, 2018 | Approximate Sample 343g Sample consisted of: Brown fine-grained soil, rocks and organic debris | No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No respirable fibres detected. |
| GHD-SI03 | 18-Oc02408 | Sep 27, 2018 | Approximate Sample 262g Sample consisted of: Brown fine-grained soil, rocks and organic debris | No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No respirable fibres detected. |
| GHD-SI04 | 18-Oc02409 | Sep 27, 2018 | Approximate Sample 267g Sample consisted of: Brown fine-grained soil, rocks and organic debris | No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No respirable fibres detected. |
| GHD-SI05 | 18-Oc02410 | Sep 27, 2018 | Approximate Sample 245g Sample consisted of: Brown fine-grained soil, rocks and organic debris | No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No respirable fibres detected. |
| GHD-SI06 | 18-Oc02411 | Sep 27, 2018 | Approximate Sample 255g Sample consisted of: Brown fine-grained soil, rocks and organic debris | No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No respirable fibres detected. |

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 ABN: 50 005 085 521 Telephone: +61 2 9900 8400 Report Number: 620547-AID



Sample History

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

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.

DescriptionTesting SiteExtractedHolding TimeAsbestos - LTM-ASB-8020SydneyOct 02, 2018Indefinite





Certificate of Analysis

ac-MRA NA



NATA Accredited Accreditation Number 1261 Site Number 18217

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

GHD Pty Ltd NSW Level 15, 133 Castlereagh Street Sydney NSW 2000

Attention: Clifton Thompson

Report 620547-S

Project name SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID 2127425 Received Date Oct 02, 2018

| DI 10 1 ID | | | GHD-BH6 0.0- | GHD-BH6 0.4- | GHD-BH7_0.0- | GHD-BH7_0.4- |
|--|-----------|-------|--------------|--------------|--------------|--------------|
| Client Sample ID | | | 0.1 | 0.5 | 0.1 | 0.5 |
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-Oc02399 | S18-Oc02400 | S18-Oc02401 | S18-Oc02402 |
| Date Sampled | | | Sep 27, 2018 | Sep 27, 2018 | Sep 27, 2018 | Sep 27, 2018 |
| Test/Reference | LOR | Unit | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM | Fractions | | | | | |
| TRH C6-C9 | 20 | mg/kg | < 20 | < 20 | - | < 20 |
| TRH C10-C14 | 20 | mg/kg | < 20 | < 20 | - | < 20 |
| TRH C15-C28 | 50 | mg/kg | 82 | 65 | - | < 50 |
| TRH C29-C36 | 50 | mg/kg | 110 | 73 | - | < 50 |
| TRH C10-36 (Total) | 50 | mg/kg | 192 | 138 | - | < 50 |
| BTEX | | | | | | |
| Benzene | 0.1 | mg/kg | < 0.1 | < 0.1 | - | < 0.1 |
| Toluene | 0.1 | mg/kg | < 0.1 | < 0.1 | - | < 0.1 |
| Ethylbenzene | 0.1 | mg/kg | < 0.1 | < 0.1 | - | < 0.1 |
| m&p-Xylenes | 0.2 | mg/kg | < 0.2 | < 0.2 | - | < 0.2 |
| o-Xylene | 0.1 | mg/kg | < 0.1 | < 0.1 | - | < 0.1 |
| Xylenes - Total | 0.3 | mg/kg | < 0.3 | < 0.3 | - | < 0.3 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 67 | 63 | - | 62 |
| Total Recoverable Hydrocarbons - 2013 NEPM | Fractions | | | | | |
| Naphthalene ^{N02} | 0.5 | mg/kg | < 0.5 | < 0.5 | - | < 0.5 |
| TRH C6-C10 | 20 | mg/kg | < 20 | < 20 | - | < 20 |
| TRH C6-C10 less BTEX (F1)N04 | 20 | mg/kg | < 20 | < 20 | - | < 20 |
| TRH >C10-C16 | 50 | mg/kg | < 50 | < 50 | - | < 50 |
| TRH >C10-C16 less Naphthalene (F2)N01 | 50 | mg/kg | < 50 | < 50 | - | < 50 |
| TRH >C16-C34 | 100 | mg/kg | 150 | 110 | - | < 100 |
| TRH >C34-C40 | 100 | mg/kg | < 100 | < 100 | - | < 100 |
| TRH >C10-C40 (total)* | 100 | mg/kg | 150 | 110 | - | < 100 |
| 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)fluorantheneN07 | 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 |



| | | 1 | | T | I | l |
|-------------------------------------|----------|-------|---------------------|---------------------|---------------------|---------------------|
| Client Sample ID | | | GHD-BH6_0.0- 0.1 | GHD-BH6_0.4- 0.5 | GHD-BH7_0.0- 0.1 | GHD-BH7_0.4- 0.5 |
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-Oc02399 | S18-Oc02400 | S18-Oc02401 | S18-Oc02402 |
| Date Sampled | | | Sep 27, 2018 | Sep 27, 2018 | Sep 27, 2018 | Sep 27, 2018 |
| Test/Reference | LOR | Unit | | | | |
| Polycyclic Aromatic Hydrocarbons | <u>'</u> | 1 | | | | |
| 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 | % | 182 | 114 | - | 107 |
| p-Terphenyl-d14 (surr.) | 1 | % | 221 | 126 | - | 120 |
| Organochlorine Pesticides | | | | | | - |
| Chlordanes - Total | 0.1 | mg/kg | < 0.1 | - | < 0.1 | - |
| 4.4'-DDD | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| 4.4'-DDE | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| 4.4'-DDT | 0.05 | mg/kg | < 0.05 | - | < 0.05 | _ |
| a-BHC | 0.05 | mg/kg | < 0.05 | - | < 0.05 | _ |
| Aldrin | 0.05 | mg/kg | < 0.05 | - | < 0.05 | _ |
| b-BHC | 0.05 | mg/kg | < 0.05 | _ | < 0.05 | _ |
| d-BHC | 0.05 | mg/kg | < 0.05 | _ | < 0.05 | _ |
| Dieldrin | 0.05 | mg/kg | < 0.05 | _ | < 0.05 | _ |
| Endosulfan I | 0.05 | mg/kg | < 0.05 | _ | < 0.05 | _ |
| Endosulfan II | 0.05 | mg/kg | < 0.05 | - | < 0.05 | _ |
| Endosulfan sulphate | 0.05 | mg/kg | < 0.05 | - | < 0.05 | _ |
| Endrin | 0.05 | mg/kg | < 0.05 | - | < 0.05 | _ |
| Endrin aldehyde | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| Endrin ketone | 0.05 | mg/kg | < 0.05 | - | < 0.05 | _ |
| g-BHC (Lindane) | 0.05 | mg/kg | < 0.05 | - | < 0.05 | _ |
| Heptachlor | 0.05 | mg/kg | < 0.05 | - | < 0.05 | _ |
| Heptachlor epoxide | 0.05 | mg/kg | < 0.05 | - | < 0.05 | _ |
| Hexachlorobenzene | 0.05 | mg/kg | < 0.05 | - | < 0.05 | _ |
| Methoxychlor | 0.2 | mg/kg | < 0.2 | - | < 0.2 | _ |
| Toxaphene | 1 | mg/kg | < 1 | - | < 1 | _ |
| Aldrin and Dieldrin (Total)* | 0.05 | mg/kg | < 0.05 | - | < 0.05 | - |
| DDT + DDE + DDD (Total)* | 0.05 | mg/kg | < 0.05 | - | < 0.05 | _ |
| Vic EPA IWRG 621 OCP (Total)* | 0.1 | mg/kg | < 0.1 | - | < 0.1 | _ |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.1 | mg/kg | < 0.1 | - | < 0.1 | - |
| Dibutylchlorendate (surr.) | 1 | % | 135 | - | 112 | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 115 | - | 101 | - |
| Polychlorinated Biphenyls | | 1 | | | | |
| Aroclor-1016 | 0.5 | mg/kg | < 0.5 | - | < 0.5 | _ |
| Aroclor-1221 | 0.1 | mg/kg | < 0.1 | - | < 0.1 | - |
| Aroclor-1221 | 0.1 | mg/kg | < 0.5 | - | < 0.1 | - |
| Aroclor-1242 | 0.5 | mg/kg | < 0.5 | - | < 0.5 | _ |
| Aroclor-1248 | 0.5 | mg/kg | < 0.5 | - | < 0.5 | _ |
| Aroclor-1254 | 0.5 | mg/kg | < 0.5 | - | < 0.5 | _ |
| Aroclor-1260 | 0.5 | mg/kg | < 0.5 | - | < 0.5 | - |
| Total PCB* | 0.5 | mg/kg | < 0.5 | - | < 0.5 | - |
| Dibutylchlorendate (surr.) | 1 | % | 135 | - | 112 | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 115 | - | 101 | - |



| Client Sample ID Sample Matrix Eurofins mgt Sample No. Date Sampled Test/Reference | LOR | Unit | GHD-BH6_0.0- 0.1 Soil S18-Oc02399 Sep 27, 2018 | GHD-BH6_0.4- 0.5 Soil S18-Oc02400 Sep 27, 2018 | GHD-BH7_0.0- 0.1 Soil S18-Oc02401 Sep 27, 2018 | GHD-BH7_0.4- 0.5 Soil S18-Oc02402 Sep 27, 2018 |
|--|----------|----------|--|--|--|--|
| Chloride | 10 | mg/kg | 57 | _ | 77 | |
| Conductivity (1:5 aqueous extract at 25°C as rec.) | 5 | uS/cm | 77 | | 94 | |
| pH (1:5 Aqueous extract at 25°C as rec.) | 0.1 | pH Units | | _ | 5.4 | _ |
| Resistivity* | 0.5 | ohm.m | 650 | _ | 530 | _ |
| Sulphate (as SO4) | 10 | mg/kg | 14 | _ | 13 | _ |
| % Moisture | 1 | % | 14 | 11 | 11 | 11 |
| Heavy Metals | <u> </u> | 1 /- | | | | |
| Arsenic | 2 | mg/kg | 4.1 | 4.7 | - | 4.0 |
| Cadmium | 0.4 | mg/kg | < 0.4 | < 0.4 | - | < 0.4 |
| Chromium | 5 | mg/kg | 8.3 | 10 | - | 9.8 |
| Copper | 5 | mg/kg | < 5 | < 5 | - | < 5 |
| Lead | 5 | mg/kg | 23 | 18 | - | 13 |
| Mercury | 0.1 | mg/kg | < 0.1 | < 0.1 | - | < 0.1 |
| Nickel | 5 | mg/kg | < 5 | < 5 | - | < 5 |
| Zinc | 5 | mg/kg | 39 | 32 | - | 22 |

| Client Sample ID | | | GHD-BH7_0.9- 1.0 | GHD-BH7_1.5- 1.6 | GHD-BH7_1.9- 2.0 |
|---|---------|-------|---------------------|---------------------|---------------------|
| Sample Matrix | | | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-Oc02403 | S18-Oc02404 | S18-Oc02405 |
| Date Sampled | | | Sep 27, 2018 | Sep 27, 2018 | Sep 27, 2018 |
| Test/Reference | LOR | Unit | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fra | actions | | | | |
| TRH C6-C9 | 20 | mg/kg | - | < 20 | - |
| TRH C10-C14 | 20 | mg/kg | - | < 20 | - |
| TRH C15-C28 | 50 | mg/kg | = | < 50 | - |
| TRH C29-C36 | 50 | mg/kg | = | < 50 | - |
| TRH C10-36 (Total) | 50 | mg/kg | - | < 50 | - |
| BTEX | | | | | |
| Benzene | 0.1 | mg/kg | - | < 0.1 | - |
| Toluene | 0.1 | mg/kg | - | < 0.1 | - |
| Ethylbenzene | 0.1 | mg/kg | = | < 0.1 | - |
| m&p-Xylenes | 0.2 | mg/kg | = | < 0.2 | - |
| o-Xylene | 0.1 | mg/kg | = | < 0.1 | - |
| Xylenes - Total | 0.3 | mg/kg | - | < 0.3 | - |
| 4-Bromofluorobenzene (surr.) | 1 | % | - | 75 | - |
| Total Recoverable Hydrocarbons - 2013 NEPM Fra | actions | | | | |
| Naphthalene ^{N02} | 0.5 | mg/kg | - | < 0.5 | - |
| TRH C6-C10 | 20 | mg/kg | - | < 20 | - |
| TRH C6-C10 less BTEX (F1)N04 | 20 | mg/kg | - | < 20 | - |
| TRH >C10-C16 | 50 | mg/kg | - | < 50 | - |
| TRH >C10-C16 less Naphthalene (F2) ^{N01} | 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 | - |



| Client Sample ID | | | GHD-BH7_0.9- 1.0 | GHD-BH7_1.5- 1.6 | GHD-BH7_1.9- 2.0 |
|--|-----|----------|---------------------|---------------------|---------------------|
| Sample Matrix | | | Soil | Soil | Soil |
| Eurofins mgt Sample No. | | | S18-Oc02403 | S18-Oc02404 | S18-Oc02405 |
| Date Sampled | | | Sep 27, 2018 | Sep 27, 2018 | Sep 27, 2018 |
| Test/Reference | LOR | Unit | | , , , | , |
| Polycyclic Aromatic Hydrocarbons | Lor | O i iii | | | |
| 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 | % | _ | 110 | _ |
| p-Terphenyl-d14 (surr.) | 1 | % | _ | 123 | _ |
| p rospilosty at a (outr.) | | 70 | | 120 | |
| Chloride | 10 | mg/kg | 27 | - | 42 |
| Conductivity (1:5 aqueous extract at 25°C as rec.) | 5 | uS/cm | 53 | - | 1100 |
| pH (1:5 Aqueous extract at 25°C as rec.) | 0.1 | pH Units | 5.4 | - | 4.8 |
| Resistivity* | 0.5 | ohm.m | 940 | = | 47 |
| Sulphate (as SO4) | 10 | mg/kg | 36 | - | 140 |
| % Moisture | 1 | % | 11 | 16 | 18 |
| Heavy Metals | | | | | |
| Arsenic | 2 | mg/kg | - | 12 | - |
| Cadmium | 0.4 | mg/kg | - | < 0.4 | - |
| Chromium | 5 | mg/kg | - | 25 | - |
| Copper | 5 | mg/kg | - | < 5 | - |
| Lead | 5 | mg/kg | - | 16 | - |
| Mercury | 0.1 | mg/kg | - | < 0.1 | - |
| Nickel | 5 | mg/kg | - | < 5 | - |
| Zinc | 5 | mg/kg | - | 5.8 | _ |



Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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 | Sydney | Oct 03, 2018 | 14 Day |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| BTEX | Sydney | Oct 03, 2018 | 14 Day |
| - Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Sydney | Oct 03, 2018 | 14 Day |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Sydney | Oct 03, 2018 | 14 Day |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Polycyclic Aromatic Hydrocarbons | Sydney | Oct 03, 2018 | 14 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| Organochlorine Pesticides | Sydney | Oct 03, 2018 | 14 Day |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water | | | |
| Polychlorinated Biphenyls | Sydney | Oct 03, 2018 | 28 Days |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water | | | |
| Chloride | Sydney | Oct 03, 2018 | 28 Day |
| - Method: E045 /E047 Chloride | | | |
| Conductivity (1:5 aqueous extract at 25°C as rec.) | Sydney | Oct 03, 2018 | 7 Day |
| - Method: LTM-INO-4030 Conductivity | | | |
| pH (1:5 Aqueous extract at 25°C as rec.) | Sydney | Oct 03, 2018 | 7 Day |
| - Method: LTM-GEN-7090 pH in soil by ISE | | | |
| Sulphate (as SO4) | Sydney | Oct 03, 2018 | 28 Day |
| - Method: E045 Anions by Ion Chromatography | | | |
| % Moisture | Sydney | Oct 02, 2018 | 14 Day |
| - Method: LTM-GEN-7080 Moisture | | | |
| Metals M8 | Sydney | Oct 03, 2018 | 28 Day |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |



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Fax:

Melbourne 2-5 Kingston Town Close Oakleigh VIC 3166 Phone: +613 8564 5000 NATA # 1261 Site # 1254 & 14271 Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NATA # 1261 Site # 18217 Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone: +61 7 3902 4600 NATA # 1261 Site # 20794 Perth
2/91 Leach Highway
Kewdale WA 6105
Phone: +61 8 9251 9600
NATA # 1261
Site # 23736

Company Name: GHD Pty Ltd NSW

Address: Level 15, 133 Castlereagh Street

Sydney

NSW 2000

Project Name: SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID: 2127425

 Order No.:
 2127425
 Received:
 Oct 2, 2018 5:07 PM

 Report #:
 620547
 Due:
 Oct 9, 2018

 Phone:
 02 9239 7100
 Priority:
 5 Day

02 9239 7199 Contact Name: Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| | Sample Detail Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | Eurofins mgt Suite B13 | Aggressivity Soil Set | Moisture Set | Eurofins mgt Suite B7 | Eurofins mgt Suite B7 (filtered metals) |
|----|--|------------------------------------|------------------|--------|-------------|---|----|--------------------------|-----------------------|--------------|-------------------------|---|
| | | | | 271 | | | ., | | ., | ., | ., | |
| | | - NATA Site # 1 y - NATA Site # | | | | Х | Х | Х | Х | Х | Х | X |
| | | y - NATA Site # NATA Site # 237 | | | | | | | | | | |
| | rnal Laboratory | | 50 | | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | | |
| 1 | GHD- BH6_0.0-0.1 | Sep 27, 2018 | | Soil | S18-Oc02399 | Х | | Х | Х | Х | Х | |
| 2 | GHD- BH6_0.4-0.5 | Sep 27, 2018 | | Soil | S18-Oc02400 | | | | | Х | Х | |
| 3 | GHD- BH7_0.0-0.1 | Sep 27, 2018 | | Soil | S18-Oc02401 | Х | | Х | Х | Х | | |
| 4 | GHD- BH7_0.4-0.5 | Sep 27, 2018 | | Soil | S18-Oc02402 | | | | | Х | Х | |
| 5 | GHD- BH7_0.9-1.0 | Sep 27, 2018 | | Soil | S18-Oc02403 | Х | | | Х | Х | | |
| 6 | GHD- | Sep 27, 2018 | | Soil | S18-Oc02404 | | | | | Х | Х | |

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 ABN: 50 005 085 521 Telephone: +61 2 9900 8400 Page 6 of 16



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Melbourne 2-5 Kingston Town Close Oakleigh VIC 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271

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2/91 Leach Highway
Kewdale WA 6105
Phone: +61 8 9251 9600
NATA # 1261 Site # 23736

Company Name: GHD Pty Ltd NSW

Address: Level 15, 133 Castlereagh Street

Sydney

NSW 2000

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT **Project Name:**

Project ID: 2127425 Order No.: 2127425 Received: Oct 2, 2018 5:07 PM Report #: 620547 Due: Oct 9, 2018 Phone: 02 9239 7100 Priority: 5 Day Fax: 02 9239 7199

Contact Name: Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| Mall | | | mple Detail | | | Asbestos - AS4964 | Polycyclic Aromatic Hydrocarbons | Eurofins mgt Suite B13 | Aggressivity Soil Set | Moisture Set | Eurofins mgt Suite B7 | Eurofins mgt Suite B7 (filtered metals) |
|------|---------------------|--------------|-------------|-------|-------------|-------------------|----------------------------------|--------------------------|-----------------------|--------------|-------------------------|---|
| | ourne Laboratoney | | | 2/1 | | Х | Х | X | Х | Х | Х | X |
| | bane Laboratory | | | | | | | | | | | |
| | h Laboratory - N | | | | | | | | | | | |
| | BH7_1.5-1.6 | | | | | | | | | | | |
| 7 | GHD- BH7_1.9-2.0 | Sep 27, 2018 | | Soil | S18-Oc02405 | | | | Х | Х | | |
| 8 | GHD-SI01 | Sep 27, 2018 | | Soil | S18-Oc02406 | Х | | | | | | |
| 9 | GHD-SI02 | Sep 27, 2018 | | Soil | S18-Oc02407 | Х | | | | | | |
| 10 | GHD-SI03 | Sep 27, 2018 | | Soil | S18-Oc02408 | Х | | | | | | |
| 11 | GHD-SI04 | Sep 27, 2018 | | Soil | S18-Oc02409 | Х | | | | | | |
| 12 | GHD-SI05 | Sep 27, 2018 | | Soil | S18-Oc02410 | Х | | | | | | |
| 13 | GHD-SI06 | Sep 27, 2018 | | Soil | S18-Oc02411 | Х | | | | | | |
| 14 | GHD-BH1-GW | Sep 27, 2018 | | Water | S18-Oc02412 | | | Х | | | | Х |
| 15 | SI-RIN01 | Sep 27, 2018 | | Water | S18-Oc02413 | | Х | | | | | |
| Test | Counts | | | | | 9 | 1 | 3 | 4 | 7 | 4 | 1 |



Internal Quality Control Review and Glossary

General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated
- 3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- 4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences
- 5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds
- 6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 7. Samples were analysed on an 'as received' basis
- 8. 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.

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

Units

mg/kg: milligrams per kilogram mg/L: milligrams per litre ug/L: micrograms per litre

ppm: Parts per million **ppb:** Parts per billion
%: Percentage

org/100mL: Organisms per 100 millilitres NTU: Nephelometric Turbidity Units MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery.

CRM Certified Reference Material - reported as percent recovery.

Method Blank In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.

Surr - Surrogate The addition of a like compound to the analyte target and reported as percentage recovery

Duplicate A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

USEPA United States Environmental Protection Agency

APHA American Public Health Association
TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

QSM Quality Systems Manual ver 5.1 US Department of Defense

CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.

TEQ Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxaphene is not added to the Spike.
- Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported
 in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

 Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- 8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 Page 8 of 16

ABN: 50 005 085 521 Telephone: +61 2 9900 8400 Report Number: 620547-S



Quality Control Results

| | Result 1 | Acceptance Limits | Pass Limits | Qualifying Code |
|----------------|---|----------------------|--------------------|--------------------|
| | | | | |
| i | | | | |
| mg/kg | < 20 | 20 | Pass | |
| mg/kg | < 20 | 20 | Pass | |
| mg/kg | < 50 | 50 | Pass | |
| mg/kg | < 50 | 50 | Pass | |
| | | | | |
| | | | | |
| mg/kg | < 0.1 | 0.1 | Pass | |
| mg/kg | < 0.1 | 0.1 | Pass | |
| mg/kg | < 0.1 | 0.1 | Pass | |
| mg/kg | < 0.2 | 0.2 | Pass | |
| | < 0.1 | | Pass | |
| | < 0.3 | 0.3 | Pass | |
| 1 3 3 | | | | |
| i | | | | |
| | < 0.5 | 0.5 | Pass | |
| | < 20 | | | |
| | | | | |
| | 1 | | | |
| | | | | |
| IIIg/Kg | V 100 | 100 | 1 455 | |
| | | | | |
| ma/ka | < 0.5 | 0.5 | Pass | |
| | 1 | | | |
| | | | | |
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| | 1 | | | |
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| | | | | |
| | 1 | | | |
| | | | | |
| | | | | |
| mg/kg | < 0.5 | 0.5 | Pass | |
| | Т | | Ι | |
| | .01 | 0.1 | Door | |
| | | | | |
| | | | | |
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| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| mg/kg mg/kg | | | | |
| | < 0.05 | 0.05 | Pass | I |
| | mg/kg | mg/kg < 20 | mg/kg < 20 | mg/kg < 20 |



| 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-BHC (Lindane) | mg/kg | < 0.05 | 0.05 | Pass | |
| Heptachlor | mg/kg | < 0.05 | 0.05 | Pass | |
| Heptachlor epoxide | mg/kg | < 0.05 | 0.05 | Pass | |
| Hexachlorobenzene | mg/kg | < 0.05 | 0.05 | Pass | |
| Methoxychlor | mg/kg | < 0.2 | 0.2 | Pass | |
| Toxaphene | mg/kg | <1 | 1 | Pass | |
| Method Blank | Hig/kg | | | 1 433 | |
| Polychlorinated Biphenyls | | | | П | |
| Aroclor-1016 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1016 Aroclor-1221 | mg/kg | < 0.1 | 0.5 | Pass | |
| | 1 - | | | | |
| Aroclor 1242 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor 1242 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1248 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1254 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1260 | mg/kg | < 0.5 | 0.5 | Pass | |
| Total PCB* | mg/kg | < 0.5 | 0.5 | Pass | |
| Method Blank | T | T I | | T | |
| Chloride | mg/kg | < 10 | 10 | Pass | |
| Conductivity (1:5 aqueous extract at 25°C as rec.) | uS/cm | < 5 | 5 | Pass | |
| Sulphate (as SO4) | mg/kg | < 10 | 10 | Pass | |
| Method Blank | | 1 | | | |
| Heavy Metals | T | | | | |
| Arsenic | mg/kg | < 2 | 2 | Pass | |
| Cadmium | mg/kg | < 0.4 | 0.4 | Pass | |
| Chromium | mg/kg | < 5 | 5 | Pass | |
| Copper | mg/kg | < 5 | 5 | Pass | |
| Lead | mg/kg | < 5 | 5 | Pass | |
| Mercury | mg/kg | < 0.1 | 0.1 | Pass | |
| Nickel | mg/kg | < 5 | 5 | Pass | |
| Zinc | mg/kg | < 5 | 5 | Pass | |
| LCS - % Recovery | | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | | |
| TRH C6-C9 | % | 109 | 70-130 | Pass | |
| TRH C10-C14 | % | 114 | 70-130 | Pass | |
| LCS - % Recovery | • | | | • | |
| ВТЕХ | | | | | |
| Benzene | % | 117 | 70-130 | Pass | |
| Toluene | % | 116 | 70-130 | Pass | |
| Ethylbenzene | % | 116 | 70-130 | Pass | |
| m&p-Xylenes | % | 119 | 70-130 | Pass | |
| o-Xylene | % | 118 | 70-130 | Pass | |
| Xylenes - Total | % | 119 | 70-130 | Pass | |
| LCS - % Recovery | /0 | 113 | 1 10-130 | 1 1 455 | |
| | | | | T | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | 0/ | 127 | 70 120 | Poor | |
| Naphthalene | % | 127 | 70-130 | Pass | |
| TRH C6-C10 | % | 105 | 70-130 | Pass | |
| TRH >C10-C16 | % | 128 | 70-130 | Pass | |
| LCS - % Recovery | | | 1 | T | |
| Polycyclic Aromatic Hydrocarbons | | | | | |
| Acenaphthene | % | 82 | 70-130 | Pass | |



| Test | Units | Result 1 | Acceptance Limits | Pass Limits | Qualifying Code |
|--|--------|----------|----------------------|----------------|--------------------|
| Acenaphthylene | % | 91 | 70-130 | Pass | |
| Anthracene | % | 90 | 70-130 | Pass | |
| Benz(a)anthracene | % | 89 | 70-130 | Pass | |
| Benzo(a)pyrene | % | 87 | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | % | 80 | 70-130 | Pass | |
| Benzo(g.h.i)perylene | % | 91 | 70-130 | Pass | |
| Benzo(k)fluoranthene | % | 85 | 70-130 | Pass | |
| Chrysene | % | 90 | 70-130 | Pass | |
| Dibenz(a.h)anthracene | % | 92 | 70-130 | Pass | |
| Fluoranthene | | 91 | 70-130 | Pass | |
| Fluorene | | 89 | 70-130 | Pass | |
| | % | 96 | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | | | | | |
| Naphthalene | % | 87 | 70-130 | Pass | |
| Phenanthrene | % | 90 | 70-130 | Pass | |
| Pyrene | % | 93 | 70-130 | Pass | |
| LCS - % Recovery | | | | Γ | |
| Organochlorine Pesticides | | | | | |
| 4.4'-DDD | % | 110 | 70-130 | Pass | |
| 4.4'-DDE | % | 127 | 70-130 | Pass | |
| 4.4'-DDT | % | 93 | 70-130 | Pass | |
| a-BHC | % | 119 | 70-130 | Pass | |
| Aldrin | % | 122 | 70-130 | Pass | |
| b-BHC | % | 106 | 70-130 | Pass | |
| d-BHC | % | 112 | 70-130 | Pass | |
| Dieldrin | % | 127 | 70-130 | Pass | |
| Endosulfan I | % | 124 | 70-130 | Pass | |
| Endosulfan II | % | 122 | 70-130 | Pass | |
| Endosulfan sulphate | % | 121 | 70-130 | Pass | |
| Endrin | % | 124 | 70-130 | Pass | |
| Endrin aldehyde | % | 111 | 70-130 | Pass | |
| Endrin ketone | % | 111 | 70-130 | Pass | |
| g-BHC (Lindane) | % | 113 | 70-130 | Pass | |
| Heptachlor | % | 114 | 70-130 | Pass | |
| Heptachlor epoxide | % | 121 | 70-130 | Pass | |
| Hexachlorobenzene | % % | 105 | 70-130 | Pass | |
| | | | | | |
| Methoxychlor | % | 107 | 70-130 | Pass | |
| LCS - % Recovery | | | | | |
| Polychlorinated Biphenyls | 2/ | 110 | 70.400 | _ | |
| Aroclor-1260 | % | 110 | 70-130 | Pass | |
| LCS - % Recovery | | T | T == | Γ_ | |
| Chloride | % | 103 | 70-130 | Pass | |
| Conductivity (1:5 aqueous extract at 25°C as rec.) | % | 97 | 70-130 | Pass | |
| Resistivity* | % | 97 | 70-130 | Pass | |
| Sulphate (as SO4) | % | 108 | 70-130 | Pass | |
| LCS - % Recovery | | | | | |
| Heavy Metals | 1 | | | | |
| Arsenic | % | 118 | 70-130 | Pass | |
| Cadmium | % | 104 | 70-130 | Pass | |
| Chromium | % | 104 | 70-130 | Pass | |
| Copper | % | 102 | 70-130 | Pass | |
| Lead | % | 106 | 70-130 | Pass | |
| Mercury | % | 103 | 70-130 | Pass | |
| Nickel | % | 101 | 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 Fract | tions | | Result 1 | | | |
| TRH C6-C9 | S18-Oc02040 | NCP | % | 101 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| ВТЕХ | | | | Result 1 | | | |
| Benzene | S18-Oc02040 | NCP | % | 103 | 70-130 | Pass | |
| Toluene | S18-Oc02040 | NCP | % | 102 | 70-130 | Pass | |
| Ethylbenzene | S18-Oc02040 | NCP | % | 99 | 70-130 | Pass | |
| m&p-Xylenes | S18-Oc02040 | NCP | % | 104 | 70-130 | Pass | |
| o-Xylene | S18-Oc02040 | NCP | % | 102 | 70-130 | Pass | |
| Xylenes - Total | S18-Oc02040 | NCP | % | 103 | 70-130 | Pass | |
| Spike - % Recovery | | , | | | | | |
| Total Recoverable Hydrocarbons | - 2013 NEPM Fract | tions | | Result 1 | | | |
| Naphthalene | S18-Oc02040 | NCP | % | 82 | 70-130 | Pass | |
| TRH C6-C10 | S18-Oc02040 | NCP | % | 99 | 70-130 | Pass | |
| Spike - % Recovery | | | ,, | | | | |
| Organochlorine Pesticides | | | | Result 1 | | | |
| 4.4'-DDD | S18-Oc03390 | NCP | % | 123 | 70-130 | Pass | |
| 4.4'-DDT | S18-Oc03390 | NCP | % | 121 | 70-130 | Pass | |
| Methoxychlor | S18-Oc03390 | NCP | % | 117 | 70-130 | Pass | |
| Spike - % Recovery | 1 010 0000000 | 1101 | 70 | 117 | 70-130 | 1 433 | |
| Polychlorinated Biphenyls | | | | Result 1 | | | |
| Aroclor-1260 | S18-Oc03390 | NCP | % | 97 | 70-130 | Pass | |
| Spike - % Recovery | 310-0003390 | INCI | /0 | 97 | 70-130 | 1 033 | |
| Spike - % Recovery | | | | Result 1 | | | |
| Chlorida | C10 O-02200 | СР | 0/ | | 70.120 | Door | |
| Chloride | S18-Oc02399 | | % | 96 | 70-130 | Pass | |
| Sulphate (as SO4) | S18-Oc02399 | CP | % | 101 | 70-130 | Pass | |
| Spike - % Recovery | 4000 NEDM F | | | Don't 4 | | | |
| Total Recoverable Hydrocarbons | | | 0/ | Result 1 | 70,100 | _ | |
| TRH C10-C14 | S18-Oc02400 | CP | % | 86 | 70-130 | Pass | |
| Spike - % Recovery | | | | I 5 11 1 | | | |
| Total Recoverable Hydrocarbons | | | | Result 1 | | _ | |
| TRH >C10-C16 | S18-Oc02400 | CP | % | 91 | 70-130 | Pass | |
| Spike - % Recovery | | | | T T | | | |
| Polycyclic Aromatic Hydrocarbon | | | | Result 1 | | _ | |
| Acenaphthene | S18-Oc02400 | CP | % | 77 | 70-130 | Pass | |
| Acenaphthylene | S18-Oc02400 | CP | % | 87 | 70-130 | Pass | |
| Anthracene | S18-Oc02400 | CP | % | 86 | 70-130 | Pass | |
| Benz(a)anthracene | S18-Oc02400 | CP | % | 83 | 70-130 | Pass | |
| Benzo(a)pyrene | S18-Oc02400 | CP | % | 79 | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | S18-Oc02400 | CP | % | 75 | 70-130 | Pass | |
| Benzo(g.h.i)perylene | S18-Oc02400 | CP | % | 88 | 70-130 | Pass | |
| Benzo(k)fluoranthene | S18-Oc02400 | CP | % | 79 | 70-130 | Pass | |
| Chrysene | S18-Oc02400 | CP | % | 87 | 70-130 | Pass | |
| Dibenz(a.h)anthracene | S18-Oc02400 | CP | % | 90 | 70-130 | Pass | |
| Fluoranthene | S18-Oc02400 | CP | % | 89 | 70-130 | Pass | |
| Fluorene | S18-Oc02400 | CP | % | 85 | 70-130 | Pass | |
| Indeno(1.2.3-cd)pyrene | S18-Oc02400 | CP | % | 92 | 70-130 | Pass | |
| Naphthalene | S18-Oc02400 | CP | % | 87 | 70-130 | Pass | |
| Phenanthrene | S18-Oc02400 | CP | % | 86 | 70-130 | Pass | |
| Pyrene | S18-Oc02400 | CP | % | 89 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| Heavy Metals | | | | Result 1 | | | |
| Arsenic | S18-Oc02400 | СР | % | 109 | 70-130 | Pass | |



| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---|--|--|---|---|--|--|--|---|--------------------|
| Cadmium | S18-Oc02400 | СР | % | 99 | | | 70-130 | Pass | |
| Chromium | S18-Oc02400 | СР | % | 95 | | | 70-130 | Pass | |
| Copper | S18-Oc02400 | СР | % | 92 | | | 70-130 | Pass | |
| Lead | S18-Oc02400 | СР | % | 96 | | | 70-130 | Pass | |
| Mercury | S18-Oc02400 | СР | % | 101 | | | 70-130 | Pass | |
| Nickel | S18-Oc02400 | СР | % | 95 | | | 70-130 | Pass | |
| Zinc | S18-Oc02400 | СР | % | 86 | | | 70-130 | Pass | |
| Spike - % Recovery | | | | | , | | | | |
| Organochlorine Pesticides | | | | Result 1 | | | | | |
| 4.4'-DDE | S18-Oc02401 | СР | % | 124 | | | 70-130 | Pass | |
| a-BHC | S18-Oc02401 | СР | % | 109 | | | 70-130 | Pass | |
| Aldrin | S18-Oc02401 | СР | % | 109 | | | 70-130 | Pass | |
| b-BHC | S18-Oc02401 | СР | % | 97 | | | 70-130 | Pass | |
| d-BHC | S18-Oc02401 | СР | % | 102 | | | 70-130 | Pass | |
| Dieldrin | S18-Oc02401 | СР | % | 124 | | | 70-130 | Pass | |
| Endosulfan I | S18-Oc02401 | CP | % | 114 | | | 70-130 | Pass | |
| Endosulfan II | S18-Oc02401 | CP | % | 118 | | | 70-130 | Pass | |
| Endosulfan sulphate | S18-Oc02401 | CP | % | 124 | | | 70-130 | Pass | |
| Endrin | S18-Oc02401 | СР | % | 126 | | | 70-130 | Pass | |
| Endrin aldehyde | S18-Oc02401 | CP | % | 110 | | | 70-130 | Pass | |
| Endrin ketone | S18-Oc02401 | CP | % | 97 | | | 70-130 | Pass | |
| g-BHC (Lindane) | S18-Oc02401 | CP | % | 101 | | | 70-130 | Pass | |
| Heptachlor | S18-Oc02401 | CP | % | 96 | | | 70-130 | Pass | |
| Heptachlor epoxide | S18-Oc02401 | CP | % | 110 | | | 70-130 | Pass | |
| Hexachlorobenzene | S18-Oc02401 | CP | % | 95 | | | 70-130 | Pass | |
| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
| Duplicate | | | | | | | | | |
| Total Recoverable Hydrocarbon | s - 1999 NEPM Fract | ions | | Result 1 | Result 2 | RPD | | | |
| | | | | | | | | | |
| TRH C6-C9 | S18-Oc02399 | CP | mg/kg | < 20 | < 20 | <1 | 30% | Pass | |
| TRH C6-C9 TRH C10-C14 | S18-Oc02399 S18-Oc02399 | CP CP | mg/kg mg/kg | < 20 < 20 | < 20 < 20 | <1 <1 | 30% 30% | Pass Pass | |
| | | | | | | | | | |
| TRH C10-C14 | S18-Oc02399 | СР | mg/kg | < 20 | < 20 | <1 | 30% | Pass | |
| TRH C10-C14 TRH C15-C28 | S18-Oc02399 S18-Oc02399 | CP CP | mg/kg mg/kg | < 20 82 | < 20 < 50 | <1 <1 | 30% 30% | Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 | S18-Oc02399 S18-Oc02399 | CP CP | mg/kg mg/kg | < 20 82 | < 20 < 50 | <1 <1 | 30% 30% | Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate | S18-Oc02399 S18-Oc02399 | CP CP | mg/kg mg/kg | < 20 82 110 | < 20 < 50 61 | <1 <1 <1 | 30% 30% | Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate BTEX | \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 | CP CP CP | mg/kg mg/kg mg/kg | < 20 82 110 Result 1 | < 20 < 50 61 Result 2 | <1 <1 <1 RPD | 30% 30% 30% | Pass Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate BTEX Benzene | \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 | CP CP CP | mg/kg mg/kg mg/kg | < 20 82 110 Result 1 < 0.1 | < 20 < 50 61 Result 2 < 0.1 | <1 <1 <1 RPD <1 | 30% 30% 30% 30% | Pass Pass Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate BTEX Benzene Toluene | \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 | CP CP CP | mg/kg mg/kg mg/kg | < 20 82 110 Result 1 < 0.1 < 0.1 | < 20 < 50 61 Result 2 < 0.1 < 0.1 | <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 | 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate BTEX Benzene Toluene Ethylbenzene | \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 | CP CP CP CP CP | mg/kg mg/kg mg/kg mg/kg mg/kg | < 20 82 110 Result 1 < 0.1 < 0.1 < 0.1 | < 20 < 50 61 Result 2 < 0.1 < 0.1 < 0.1 | <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 < | 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate BTEX Benzene Toluene Ethylbenzene m&p-Xylenes | \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 | CP CP CP CP CP CP | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | < 20 82 110 Result 1 < 0.1 < 0.1 < 0.1 < 0.2 | < 20 < 50 61 Result 2 < 0.1 < 0.1 < 0.2 | <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 < | 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate BTEX Benzene Toluene Ethylbenzene m&p-Xylenes o-Xylene | \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 | CP CP CP CP CP CP CP | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | < 20 82 110 Result 1 < 0.1 < 0.1 < 0.1 < 0.2 < 0.1 | < 20 < 50 61 Result 2 < 0.1 < 0.1 < 0.1 < 0.2 < 0.1 | <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 < | 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate BTEX Benzene Toluene Ethylbenzene m&p-Xylenes o-Xylene Xylenes - Total Duplicate | \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 | CP CP CP CP CP CP CP CP | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | < 20 82 110 Result 1 < 0.1 < 0.1 < 0.1 < 0.2 < 0.1 | < 20 < 50 61 Result 2 < 0.1 < 0.1 < 0.1 < 0.2 < 0.1 | <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 < | 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate BTEX Benzene Toluene Ethylbenzene m&p-Xylenes o-Xylene Xylenes - Total | \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 | CP CP CP CP CP CP CP CP | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | < 20 82 110 Result 1 < 0.1 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 1 | < 20 < 50 61 Result 2 < 0.1 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 | <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 < | 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate BTEX Benzene Toluene Ethylbenzene m&p-Xylenes o-Xylene Xylenes - Total Duplicate Total Recoverable Hydrocarbon | \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 | CP CP CP CP CP CP CP CP CP CP | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | < 20 82 110 Result 1 < 0.1 < 0.1 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 1 < 0.5 | < 20 < 50 61 Result 2 < 0.1 < 0.1 < 0.1 < 0.2 < 0.3 | <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 < | 30% 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate BTEX Benzene Toluene Ethylbenzene m&p-Xylenes o-Xylene Xylenes - Total Duplicate Total Recoverable Hydrocarbon Naphthalene TRH C6-C10 | \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 | CP CP CP CP CP CP CP CP CP CP CP CP | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | < 20 82 110 Result 1 < 0.1 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 1 < 0.5 < 20 | < 20 < 50 61 Result 2 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 2 < 0.5 < 20 | <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 < | 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate BTEX Benzene Toluene Ethylbenzene m&p-Xylenes o-Xylene Xylenes - Total Duplicate Total Recoverable Hydrocarbon Naphthalene | \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 | CP CP CP CP CP CP CP CP CP CP CP CP CP C | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | < 20 82 110 Result 1 < 0.1 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 1 < 0.5 < 20 < 50 | < 20 < 50 61 Result 2 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 2 < 0.5 < 20 < 50 | <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 < | 30% 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate BTEX Benzene Toluene Ethylbenzene m&p-Xylenes o-Xylene Xylenes - Total Duplicate Total Recoverable Hydrocarbon Naphthalene TRH C6-C10 TRH >C10-C16 | \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 | CP CP CP CP CP CP CP CP CP CP CP CP CP | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | < 20 82 110 Result 1 < 0.1 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 1 < 0.5 < 20 | < 20 < 50 61 Result 2 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 2 < 0.5 < 20 | <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 < | 30% 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate BTEX Benzene Toluene Ethylbenzene m&p-Xylenes o-Xylene Xylenes - Total Duplicate Total Recoverable Hydrocarbon Naphthalene TRH C6-C10 TRH >C10-C16 TRH >C16-C34 | \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 | CP CP CP CP CP CP CP CP CP CP CP CP CP C | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | < 20 82 110 Result 1 < 0.1 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 1 < 0.5 < 20 < 50 150 | < 20 < 50 61 Result 2 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 2 < 0.5 < 100 | <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 < | 30% 30% 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate BTEX Benzene Toluene Ethylbenzene m&p-Xylenes o-Xylene Xylenes - Total Duplicate Total Recoverable Hydrocarbon Naphthalene TRH C6-C10 TRH >C10-C16 TRH >C16-C34 TRH >C34-C40 Duplicate | \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 | CP CP CP CP CP CP CP CP CP CP CP CP CP C | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | < 20 82 110 Result 1 < 0.1 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 1 < 0.5 < 20 < 50 150 | < 20 < 50 61 Result 2 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 2 < 0.5 < 100 | <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 < | 30% 30% 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate BTEX Benzene Toluene Ethylbenzene m&p-Xylenes o-Xylene Xylenes - Total Duplicate Total Recoverable Hydrocarbon Naphthalene TRH C6-C10 TRH >C10-C16 TRH >C16-C34 TRH >C34-C40 | \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 | CP CP CP CP CP CP CP CP CP CP CP CP CP C | mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg | < 20 82 110 Result 1 < 0.1 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 1 < 0.5 < 20 < 50 150 < 100 Result 1 | < 20 < 50 61 Result 2 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 2 < 0.5 < 100 < 100 Result 2 | <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 < | 30% 30% 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate BTEX Benzene Toluene Ethylbenzene m&p-Xylenes o-Xylene Xylenes - Total Duplicate Total Recoverable Hydrocarbon Naphthalene TRH C6-C10 TRH >C10-C16 TRH >C10-C16 TRH >C34-C40 Duplicate Polycyclic Aromatic Hydrocarbon Acenaphthene | \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 | CP CP CP CP CP CP CP CP CP CP CP CP CP C | 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 | < 20 82 110 Result 1 < 0.1 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 1 < 0.5 < 20 < 50 150 < 100 Result 1 < 0.5 | < 20 < 50 61 Result 2 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 2 < 0.5 < 20 < 50 < 100 < 100 Result 2 < 0.5 | <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 < | 30% 30% 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate BTEX Benzene Toluene Ethylbenzene m&p-Xylenes o-Xylene Xylenes - Total Duplicate Total Recoverable Hydrocarbon Naphthalene TRH C6-C10 TRH >C10-C16 TRH >C10-C16 TRH >C34-C40 Duplicate Polycyclic Aromatic Hydrocarbon Acenaphthylene | \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 | CP CP CP CP CP CP CP CP CP CP CP CP CP C | 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 | < 20 82 110 Result 1 < 0.1 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 1 < 0.5 < 20 < 50 150 < 100 Result 1 < 0.5 < 0.5 < 0.5 | < 20 < 50 61 Result 2 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 2 < 0.5 < 20 < 50 < 100 < 100 Result 2 < 0.5 < 0.5 < 0.5 | <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 < | 30% 30% 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |
| TRH C10-C14 TRH C15-C28 TRH C29-C36 Duplicate BTEX Benzene Toluene Ethylbenzene m&p-Xylenes o-Xylene Xylenes - Total Duplicate Total Recoverable Hydrocarbon Naphthalene TRH C6-C10 TRH >C10-C16 TRH >C10-C16 TRH >C34-C40 Duplicate Polycyclic Aromatic Hydrocarbon Acenaphthene | \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 \$18-Oc02399 | CP CP CP CP CP CP CP CP CP CP CP CP CP C | 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 | < 20 82 110 Result 1 < 0.1 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 1 < 0.5 < 20 < 50 150 < 100 Result 1 < 0.5 | < 20 < 50 61 Result 2 < 0.1 < 0.1 < 0.2 < 0.1 < 0.3 Result 2 < 0.5 < 20 < 50 < 100 < 100 Result 2 < 0.5 | <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 < | 30% 30% 30% 30% 30% 30% 30% 30% 30% 30% | Pass Pass Pass Pass Pass Pass Pass Pass | |



| Duplicate | | | | | | | 1 | | |
|--|-------------|--------------|----------|----------|----------|------|---------------|------|--|
| Polycyclic Aromatic Hydrocarbons | | 1 | 1 | Result 1 | Result 2 | RPD | | | |
| Benzo(b&j)fluoranthene | S18-Oc02399 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Benzo(g.h.i)perylene | S18-Oc02399 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Benzo(k)fluoranthene | S18-Oc02399 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Chrysene | S18-Oc02399 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Dibenz(a.h)anthracene | S18-Oc02399 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Fluoranthene | S18-Oc02399 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Fluorene | S18-Oc02399 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Indeno(1.2.3-cd)pyrene | S18-Oc02399 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Naphthalene | S18-Oc02399 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Phenanthrene | S18-Oc02399 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Pyrene | S18-Oc02399 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Duplicate | | | | | | | ı | | |
| Organochlorine Pesticides | | | | Result 1 | Result 2 | RPD | | | |
| Chlordanes - Total | S18-Oc02399 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| 4.4'-DDD | S18-Oc02399 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| 4.4'-DDE | S18-Oc02399 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| 4.4'-DDT | S18-Oc02399 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| a-BHC | S18-Oc02399 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Aldrin | S18-Oc02399 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| b-BHC | S18-Oc02399 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| d-BHC | S18-Oc02399 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Dieldrin | S18-Oc02399 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endosulfan I | S18-Oc02399 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endosulfan II | S18-Oc02399 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endosulfan sulphate | S18-Oc02399 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endrin | S18-Oc02399 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endrin aldehyde | S18-Oc02399 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Endrin ketone | S18-Oc02399 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| g-BHC (Lindane) | S18-Oc02399 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Heptachlor | S18-Oc02399 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Heptachlor epoxide | S18-Oc02399 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Hexachlorobenzene | S18-Oc02399 | CP | mg/kg | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Methoxychlor | S18-Oc02399 | CP | mg/kg | < 0.2 | < 0.2 | <1 | 30% | Pass | |
| Toxaphene | S18-Oc02399 | CP | mg/kg | < 1 | < 1 | <1 | 30% | Pass | |
| Duplicate | | | | | | | | | |
| Polychlorinated Biphenyls | | | | Result 1 | Result 2 | RPD | | | |
| Aroclor-1016 | S18-Oc02399 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Aroclor-1221 | S18-Oc02399 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Aroclor-1232 | S18-Oc02399 | СР | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Aroclor-1242 | S18-Oc02399 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Aroclor-1248 | S18-Oc02399 | СР | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Aroclor-1254 | S18-Oc02399 | СР | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Aroclor-1260 | S18-Oc02399 | СР | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass | |
| Duplicate | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Chloride | S18-Oc02399 | CP | mg/kg | 57 | 57 | <1 | 30% | Pass | |
| Conductivity (1:5 aqueous extract at 25°C as rec.) | S18-Oc02236 | NCP | uS/cm | 84 | 79 | 6.0 | 30% | Pass | |
| pH (1:5 Aqueous extract at 25°C as rec.) | S18-Oc02399 | СР | pH Units | 5.9 | 5.9 | pass | 30% | Pass | |
| Resistivity* | S18-Oc02399 | CP | ohm.m | 650 | 630 | 3.0 | 30% | Pass | |
| Sulphate (as SO4) | S18-Oc02399 | CP | mg/kg | 14 | 13 | 3.0 | 30% | Pass | |
| / | | | J .J | 14 | 14 | 1.0 | + · · · · · · | 1 | |



| Duplicate | | | | | | | | | |
|--------------|-------------|-----|-------|----------|----------|-----|-----|------|--|
| Heavy Metals | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic | S18-Oc03239 | NCP | mg/kg | 80 | 86 | 7.0 | 30% | Pass | |
| Cadmium | S18-Oc03094 | NCP | mg/kg | < 0.4 | < 0.4 | <1 | 30% | Pass | |
| Chromium | S18-Oc03094 | NCP | mg/kg | 5.5 | 5.0 | 9.0 | 30% | Pass | |
| Copper | S18-Oc03094 | NCP | mg/kg | 5.2 | 5.3 | 3.0 | 30% | Pass | |
| Lead | S18-Oc03094 | NCP | mg/kg | < 5 | < 5 | <1 | 30% | Pass | |
| Mercury | S18-Oc03094 | NCP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass | |
| Nickel | S18-Oc03094 | NCP | mg/kg | 5.9 | 5.6 | 5.0 | 30% | Pass | |
| Zinc | S18-Oc03094 | NCP | mg/kg | 54 | 53 | 2.0 | 30% | Pass | |



Comments

Sample Integrity

| 1 0 1 | |
|---|-----|
| 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

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).

N01

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.

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. N04

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 N07

Authorised By

N02

Nibha Vaidya Analytical Services Manager Nibha Vaidya Senior Analyst-Asbestos (NSW)



Glenn Jackson

National Operations Manager

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.

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ABN - 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Melbourne 3-5 Kingston Town Close

Oakleigh VIC 3166 Phone: +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271

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1/21 Smallwood Place Murarrie QLD 4172 Lane Cove West NSW 2066 Phone: +61 7 3902 4600 Phone: +61 2 9900 8400 NATA # 1261 Site # 20794 NATA # 1261 Site # 18217

Perth

2/91 Leach Highway Kewdale WA 6105 Phone: +61 8 9251 9600 NATA # 1261 Site # 23736

Company Name: GHD Pty Ltd NSW Order No.: 2127425 Received: Oct 2, 2018 5:07 PM Address:

Level 15, 133 Castlereagh Street Report #: 620547 Due: Oct 9, 2018 Sydney Phone: 02 9239 7100 Priority: 5 Day

NSW 2000 Fax: 02 9239 7199 **Contact Name:** Clifton Thompson

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT **Project Name:**

Project ID: 2127425 Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| | | | mple Detail | | | Asbestos - AS4964 | Polycyclic Aromatic Hydrocarbons | Eurofins mgt Suite B13 | Aggressivity Soil Set | Moisture Set | Eurofins mgt Suite B7 | Eurofins mgt Suite B7 (filtered metals) |
|----|---------------------|-----------------|------------------|--------|-------------|-------------------|----------------------------------|--------------------------|-----------------------|--------------|-------------------------|---|
| | | ory - NATA Site | | 271 | | | | | | | | |
| | | - NATA Site # 1 | | | | Х | Х | Х | Х | Х | Х | Х |
| | | y - NATA Site # | | | | | | | | | | |
| | | NATA Site # 237 | 36 | | | | | | | | | |
| | rnal Laboratory | | 0 II | I | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | | |
| 1 | GHD- BH6_0.0-0.1 | Sep 27, 2018 | | Soil | S18-Oc02399 | Х | | Х | Х | Х | Х | |
| 2 | GHD- BH6_0.4-0.5 | Sep 27, 2018 | | Soil | S18-Oc02400 | | | | | Х | Х | |
| 3 | GHD- BH7_0.0-0.1 | Sep 27, 2018 | | Soil | S18-Oc02401 | х | | Х | Х | Х | | |
| 4 | GHD- BH7_0.4-0.5 | Sep 27, 2018 | | Soil | S18-Oc02402 | | | | | Х | Х | |
| 5 | GHD- BH7_0.9-1.0 | Sep 27, 2018 | | Soil | S18-Oc02403 | Х | | | Х | Х | | |
| 6 | GHD- | Sep 27, 2018 | | Soil | S18-Oc02404 | | | | | х | х | |



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Order No.:

Fax:

Melbourne

2127425

02 9239 7199

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Received:

NATA # 1261 Site # 18217

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

Brisbane

Perth 2/91 Leach Highway Kewdale WA 6105 Phone: +61 8 9251 9600 NATA # 1261 Site # 23736

Oct 2, 2018 5:07 PM

Company Name: GHD Pty Ltd NSW

Address:

Level 15, 133 Castlereagh Street

Sydney

NSW 2000

Project Name: Project ID: SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

2127425

 Report #:
 620547
 Due:
 Oct 9, 2018

 Phone:
 02 9239 7100
 Priority:
 5 Day

Contact Name: Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| Molli | | | mple Detail | 174 | | Asbestos - AS4964 | Polycyclic Aromatic Hydrocarbons | Eurofins mgt Suite B13 | Aggressivity Soil Set | Moisture Set | Eurofins mgt Suite B7 | Eurofins mgt Suite B7 (filtered metals) |
|-------|-----------------------------------|----------------|-------------|-------|-------------|-------------------|----------------------------------|--------------------------|-----------------------|--------------|-------------------------|---|
| | ourne Laborato | | | 2/1 | | X | X | X | Х | Х | X | X |
| | ney Laboratory bane Laboratory | | | | | | | | | | | ^ |
| | h Laboratory - N | | | | | | | | | | | |
| 1 CIL | BH7 1.5-1.6 | ATA OILE # 257 | 30 | 1 | | | | | | | | |
| 7 | GHD- BH7_1.9-2.0 | Sep 27, 2018 | | Soil | S18-Oc02405 | | | | Х | Х | | |
| 8 | GHD-SI01 | Sep 27, 2018 | | Soil | S18-Oc02406 | Х | | | | | | |
| 9 | GHD-SI02 | Sep 27, 2018 | | Soil | S18-Oc02407 | Х | | | | | | |
| 10 | GHD-SI03 | Sep 27, 2018 | | Soil | S18-Oc02408 | Х | | | | | | |
| 11 | GHD-SI04 | Sep 27, 2018 | | Soil | S18-Oc02409 | Х | | | | | | |
| 12 | GHD-SI05 | Sep 27, 2018 | | Soil | S18-Oc02410 | Х | | | | | | |
| 13 | GHD-SI06 | Sep 27, 2018 | | Soil | S18-Oc02411 | Х | | | | | | |
| 14 | GHD-BH1-GW | Sep 27, 2018 | | Water | S18-Oc02412 | | | Х | | | | Х |
| 15 | SI-RIN01 | Sep 27, 2018 | | Water | S18-Oc02413 | | Х | | | | | |
| Test | Counts | | | | | 9 | 1 | 3 | 4 | 7 | 4 | 1 |

Page 5 of 7



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. This report replaces any interim results previously issued.

Holding Times

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

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

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: weight for weight basis grams per kilogram
Filter loading: fibres/100 graticule areas

Reported Concentration: fibres/mL Flowrate: L/min

Terms

ΑF

Date Reported: Oct 09, 2018

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis

LOR Limit of Reporting
COC Chain of Custody
SRA Sample Receipt Advice

ISO International Standards Organisation

AS Australian Standards

WA DOH Western Australia Department of Health

NOHSC National Occupational Health and Safety Commission

ACM Bonded asbestos-containing material means any material containing more than 1% asbestos and comprises asbestos-containing-material which is in sound condition,

although possibly broken or fragmented, and where the asbestos is bound in a matrix such as cement or resin. Common examples of ACM include but are not limited to: pipe and boiler insulation, sprayed-on fireproofing, troweled-on acoustical plaster, floor tile and mastic, floor linoleum, transite shingles, roofing materials, wall and ceiling plaster, ceiling tiles, and gasket materials. This term is restricted to material that cannot pass a 7 mm x 7 mm sieve. This sieve size is selected because it approximates the thickness of common asbestos cement sheeting and for fragments to be smaller than this would imply a high degree of damage and hence potential

for fibre release.

FA FA comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. This type of friable asbestos

is defined here as asbestos material that is in a degraded condition such that it can be broken or crumbled by hand pressure. This material is typically unbonded or

was previously bonded and is now significantly degraded (crumbling).

PACM Presumed Asbestos-Containing Material means thermal system insulation and surfacing material found in buildings, vessels, and vessel sections constructed no later

than 1980 that are assumed to contain greater than one percent asbestos but have not been sampled or analyzed to verify or negate the presence of asbestos.

Asbestos fines (AF) are defined as free fibres, or fibre bundles, smaller than 7mm. It is the free fibres which present the greatest risk to human health, although very

small fibres (< 5 microns in length) are not considered to be such a risk. AF also includes small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve.

(Note that for bonded ACM fragments to pass through a 7 mm x 7 mm sieve implies a substantial degree of damage which increases the potential for fibre release.)

AC Asbestos cement means a mixture of cement and asbestos fibres (typically 90:10 ratios).



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 N/A Not applicable

Asbestos Counter/Identifier:

Sayeed Abu Senior Analyst-Asbestos (NSW)

Authorised by:

Nibha Vaidya Senior Analyst-Asbestos (NSW)

Glenn Jackson

National Operations Manager

Final Report - this report replaces any previously issued Report

- Indicates Not Requested

Date Reported: Oct 09, 2018

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

Measurement uncertainty of test data is available on request or please $\underline{\text{click here.}}$

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Certificate of Analysis

NATA Accredited Accreditation Number 1261 Site Number 18217

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

GHD Pty Ltd NSW Level 15, 133 Castlereagh Street Sydney NSW 2000





Attention: **Clifton Thompson**

620547-W Report

SCOTLAND ISLAND ENERGY RELIABILITY PROJECT Project name

Project ID 2127425 Received Date Oct 02, 2018

| Client Sample ID | | | GHD-BH1-GW | SI-RIN01 |
|---|-----------|--------|--------------|--------------|
| Sample Matrix | | | Water | Water |
| Eurofins mgt Sample No. | | | S18-Oc02412 | S18-Oc02413 |
| Date Sampled | | | Sep 27, 2018 | Sep 27, 2018 |
| • | 1.00 | l lait | OCP 27, 2010 | OCP 21, 2010 |
| Test/Reference | LOR | Unit | | |
| Total Recoverable Hydrocarbons - 1999 NEPM | | | 0.00 | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | - |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | - |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | - |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | - |
| TRH C10-36 (Total) | 0.1 | mg/L | < 0.1 | - |
| BTEX | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | - |
| Toluene | 0.001 | mg/L | < 0.001 | - |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | - |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | - |
| o-Xylene | 0.001 | mg/L | < 0.001 | - |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | - |
| 4-Bromofluorobenzene (surr.) | 1 | % | 82 | - |
| Total Recoverable Hydrocarbons - 2013 NEPM | Fractions | | | |
| Naphthalene ^{N02} | 0.01 | mg/L | < 0.01 | - |
| TRH C6-C10 | 0.02 | mg/L | < 0.02 | - |
| TRH C6-C10 less BTEX (F1)N04 | 0.02 | mg/L | < 0.02 | - |
| TRH >C10-C16 | 0.05 | mg/L | < 0.05 | - |
| TRH >C10-C16 less Naphthalene (F2) ^{N01} | 0.05 | mg/L | < 0.05 | - |
| TRH >C16-C34 | 0.1 | mg/L | < 0.1 | - |
| TRH >C34-C40 | 0.1 | mg/L | < 0.1 | - |
| TRH >C10-C40 (total)* | 0.1 | mg/L | < 0.1 | - |
| 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 |
| 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 |



| Client Sample ID | | | GHD-BH1-GW | SI-RIN01 |
|-------------------------------------|----------|------|--------------|--------------|
| Sample Matrix | | | Water | Water |
| Eurofins mgt Sample No. | | | S18-Oc02412 | S18-Oc02413 |
| Date Sampled | | | Sep 27, 2018 | Sep 27, 2018 |
| Test/Reference | LOR | Unit | | • |
| Polycyclic Aromatic Hydrocarbons | | | | |
| 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 | % | 100 | 67 |
| p-Terphenyl-d14 (surr.) | 1 | % | 124 | 72 |
| Organochlorine Pesticides | <u> </u> | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | - |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | - |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | - |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | - |
| a-BHC | 0.0001 | mg/L | < 0.0001 | - |
| Aldrin | 0.0001 | mg/L | < 0.0001 | - |
| b-BHC | 0.0001 | mg/L | < 0.0001 | - |
| d-BHC | 0.0001 | mg/L | < 0.0001 | - |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | - |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | - |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | - |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | - |
| Endrin | 0.0001 | mg/L | < 0.0001 | - |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | - |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | - |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | - |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | - |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | - |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | - |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | - |
| Toxaphene | 0.01 | mg/L | < 0.01 | - |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | - |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | - |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | - |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | - |
| Dibutylchlorendate (surr.) | 1 | % | 70 | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 63 | - |
| Polychlorinated Biphenyls | | | | |
| Aroclor-1016 | 0.005 | mg/L | < 0.005 | - |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | - |
| Aroclor-1232 | 0.005 | mg/L | < 0.005 | - |
| Aroclor-1242 | 0.005 | mg/L | < 0.005 | - |
| Aroclor-1248 | 0.005 | mg/L | < 0.005 | - |
| Aroclor-1254 | 0.005 | mg/L | < 0.005 | - |
| Aroclor-1260 | 0.005 | mg/L | < 0.005 | - |
| Total PCB* | 0.001 | mg/L | < 0.001 | - |
| Dibutylchlorendate (surr.) | 1 | % | 70 | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 63 | - |



| Client Sample ID Sample Matrix | | | GHD-BH1-GW Water | SI-RIN01 Water |
|-----------------------------------|--------|------|---------------------|-------------------|
| Eurofins mgt Sample No. | | | S18-Oc02412 | S18-Oc02413 |
| Date Sampled | | | Sep 27, 2018 | Sep 27, 2018 |
| Test/Reference | LOR | Unit | | |
| Heavy Metals | | | | |
| Arsenic (filtered) | 0.001 | mg/L | 0.002 | - |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | - |
| Chromium (filtered) | 0.001 | mg/L | 0.004 | - |
| Copper (filtered) | 0.001 | mg/L | 0.009 | - |
| Lead (filtered) | 0.001 | mg/L | 0.003 | - |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | - |
| Nickel (filtered) | 0.001 | mg/L | 0.020 | - |
| Zinc (filtered) | 0.005 | ma/L | 0.044 | _ |



Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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 | Sydney | Oct 02, 2018 | 7 Day |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| BTEX | Sydney | Oct 02, 2018 | 14 Day |
| - Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Sydney | Oct 02, 2018 | 7 Day |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | Sydney | Oct 02, 2018 | 7 Day |
| - Method: LTM-ORG-2010 TRH C6-C40 | | | |
| Polycyclic Aromatic Hydrocarbons | Sydney | Oct 02, 2018 | 7 Days |
| - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | | | |
| Metals M8 filtered | Sydney | Oct 02, 2018 | 28 Day |
| - Method: | | | |
| Organochlorine Pesticides | Sydney | Oct 02, 2018 | 7 Day |
| - Method: LTM-ORG-2220 OCP & PCB in Soil and Water | | | |
| Polychlorinated Biphenyls | Sydney | Oct 02, 2018 | 7 Days |
| Method, LTM ODC 2220 OCD 9 DCD in Sail and Water | | | |



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Phone: +61 8 9251 9600
NATA # 1261
Site # 23736

Company Name: GHD Pty Ltd NSW

Address: Level 15, 133 Castlereagh Street

Sydney

NSW 2000

Project Name: SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID: 2127425

 Order No.:
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 Oct 2, 2018 5:07 PM

 Report #:
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 Due:
 Oct 9, 2018

 Phone:
 02 9239 7100
 Priority:
 5 Day

Contact Name: Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| | | | mple Detail | | | Asbestos - AS4964 | Polycyclic Aromatic Hydrocarbons | Eurofins mgt Suite B13 | Aggressivity Soil Set | Moisture Set | Eurofins mgt Suite B7 | Eurofins mgt Suite B7 (filtered metals) |
|------|---------------------|------------------------------------|------------------|--------|-------------|-------------------|----------------------------------|--------------------------|-----------------------|--------------|-------------------------|---|
| | | ory - NATA Site | | 271 | | Х | Х | X | Х | Х | X | Х |
| | | - NATA Site # 1 y - NATA Site # | | | | | ^ | | ^ | ^ | ^ | ^ |
| | | NATA Site # 237 | | | | | | | | | | |
| Exte | rnal Laboratory | | | | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | | |
| 1 | GHD- BH6_0.0-0.1 | Sep 27, 2018 | | Soil | S18-Oc02399 | х | | x | х | х | х | |
| 2 | GHD- BH6_0.4-0.5 | Sep 27, 2018 | | Soil | S18-Oc02400 | | | | | х | х | |
| 3 | GHD- BH7_0.0-0.1 | Sep 27, 2018 | | Soil | S18-Oc02401 | х | | Х | х | Х | | |
| 4 | GHD- BH7_0.4-0.5 | Sep 27, 2018 | | Soil | S18-Oc02402 | | | | | Х | Х | |
| 5 | GHD- BH7_0.9-1.0 | Sep 27, 2018 | | Soil | S18-Oc02403 | Х | | | Х | Х | | |
| 6 | GHD- | Sep 27, 2018 | | Soil | S18-Oc02404 | | | | | Х | Х | |

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 ABN: 50 005 085 521 Telephone: +61 2 9900 8400 Page 5 of 13
Report Number: 620547-W

Date Reported:Oct 09, 2018



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Company Name: GHD Pty Ltd NSW

Address: Level 15, 133 Castlereagh Street

Sydney

NSW 2000

Project Name: SCOTLAND ISLAND ENERGY RELIABILITY PROJECT

Project ID: 2127425

Order No.: 2127425 Received: Oct 2, 2018 5:07 PM Report #: 620547 Due: Oct 9, 2018 Phone: 02 9239 7100 Priority: 5 Day **Contact Name:** Fax: 02 9239 7199 Clifton Thompson

Eurofins | mgt Analytical Services Manager : Nibha Vaidya

| | | | mple Detail | | | Asbestos - AS4964 | Polycyclic Aromatic Hydrocarbons | Eurofins mgt Suite B13 | Aggressivity Soil Set | Moisture Set | Eurofins mgt Suite B7 | Eurofins mgt Suite B7 (filtered metals) |
|------|---------------------|-----------------|-------------|-------|-------------|-------------------|----------------------------------|--------------------------|-----------------------|--------------|-------------------------|---|
| | oourne Laborato | | | 271 | | | | | | | | |
| | ney Laboratory | | | | | Х | Х | Х | Х | Х | Х | Х |
| | bane Laboratory | | | | | | | | | | | |
| Pert | h Laboratory - N | NATA Site # 237 | 736 | | | | | | | | | |
| | BH7_1.5-1.6 | | | | | | | | | | | |
| 7 | GHD- BH7_1.9-2.0 | Sep 27, 2018 | | Soil | S18-Oc02405 | | | | Х | Х | | |
| 8 | GHD-SI01 | Sep 27, 2018 | | Soil | S18-Oc02406 | Х | | | | | | |
| 9 | GHD-SI02 | Sep 27, 2018 | | Soil | S18-Oc02407 | Х | | | | | | |
| 10 | GHD-SI03 | Sep 27, 2018 | | Soil | S18-Oc02408 | Х | | | | | | |
| 11 | GHD-SI04 | Sep 27, 2018 | | Soil | S18-Oc02409 | Х | | | | | | |
| 12 | GHD-SI05 | Sep 27, 2018 | | Soil | S18-Oc02410 | Х | | | | | | |
| 13 | GHD-SI06 | Sep 27, 2018 | | Soil | S18-Oc02411 | Х | | | | | | |
| 14 | GHD-BH1-GW | Sep 27, 2018 | | Water | S18-Oc02412 | | | Х | | | | Х |
| 15 | SI-RIN01 | Sep 27, 2018 | | Water | S18-Oc02413 | | Х | | | | | |
| Test | Counts | | | | | 9 | 1 | 3 | 4 | 7 | 4 | 1 |



Internal Quality Control Review and Glossary

General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- 4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences
- 5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds
- 6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 7. Samples were analysed on an 'as received' basis
- 8. 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.

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

Units

mg/kg: milligrams per kilogram mg/L: milligrams per litre ug/L: micrograms per litre

ppm: Parts per million **ppb:** Parts per billion
%: Percentage

org/100mL: Organisms per 100 millilitres NTU: Nephelometric Turbidity Units MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry Where a moisture has been determined on a solid sample the result is expressed on a dry basis.

LOR Limit of Reporting

SPIKE Addition of the analyte to the sample and reported as percentage recovery RPD Relative Percent Difference between two Duplicate pieces of analysis.

LCS Laboratory Control Sample - reported as percent recovery.

CRM Certified Reference Material - reported as percent recovery.

Method Blank In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.

Surr - Surrogate The addition of a like compound to the analyte target and reported as percentage recovery

Duplicate A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

USEPA United States Environmental Protection Agency

APHA American Public Health Association
TCLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

QSM Quality Systems Manual ver 5.1 US Department of Defense
CP Client Parent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.

TEQ Toxic Equivalency Quotient

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxaphene is not added to the Spike.
- 5. Total Recoverable Hydrocarbons where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time.

 Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- 8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Eurofins | mgt Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia, 2066 Page 7 of 13

ABN: 50 005 085 521 Telephone: +61 2 9900 8400 Report Number: 620547-W



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 | |
| 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 | IIIg/L | V 0.1 | 0.1 | 1 455 | |
| 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(q.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 | | < 0.001 | 0.001 | Pass | |
| Fluoranthene | mg/L | < 0.001 | | Pass | |
| | mg/L | | 0.001 | Pass | |
| Fluorene | mg/L | < 0.001 | 0.001 | Pass | |
| Indeno(1.2.3-cd)pyrene | mg/L | | 0.001 | | |
| Naphthalene | mg/L | < 0.001 | 0.001 | Pass | |
| Phenanthrene | mg/L | < 0.001 | 0.001 | Pass | |
| Pyrene Method Blank | mg/L | < 0.001 | 0.001 | Pass | |
| Method Blank | | | | | |
| Organochlorine Pesticides | // | . 0 004 | 0.004 | Dana | |
| Chlordanes - Total | mg/L | < 0.001 | 0.001 | Pass | |
| 4.4'-DDD | mg/L | < 0.0001 | 0.0001 | Pass | |
| 4.4'-DDE | mg/L | < 0.0001 | 0.0001 | Pass | |
| 4.4'-DDT | mg/L | < 0.0001 | 0.0001 | Pass | |
| a-BHC | mg/L | < 0.0001 | 0.0001 | Pass | |
| Aldrin | mg/L | < 0.0001 | 0.0001 | Pass | |
| b-BHC | mg/L | < 0.0001 | 0.0001 | Pass | |
| d-BHC | mg/L | < 0.0001 | 0.0001 | Pass | |
| Dieldrin | mg/L | < 0.0001 | 0.0001 | Pass | |
| Endosulfan I | mg/L | < 0.0001 | 0.0001 | Pass | |
| Endosulfan II | mg/L | < 0.0001 | 0.0001 | Pass | |



| Test | Units | Result 1 | Acceptano Limits | e Pass Limits | Qualifying Code |
|--|--------|----------|---------------------|------------------|--------------------|
| Endosulfan sulphate | mg/L | < 0.0001 | 0.0001 | Pass | |
| Endrin | mg/L | < 0.0001 | 0.0001 | Pass | |
| Endrin aldehyde | mg/L | < 0.0001 | 0.0001 | Pass | |
| Endrin ketone | mg/L | < 0.0001 | 0.0001 | Pass | |
| g-BHC (Lindane) | mg/L | < 0.0001 | 0.0001 | Pass | |
| Heptachlor | mg/L | < 0.0001 | 0.0001 | Pass | |
| Heptachlor epoxide | mg/L | < 0.0001 | 0.0001 | Pass | |
| Hexachlorobenzene | mg/L | < 0.0001 | 0.0001 | Pass | |
| Methoxychlor | mg/L | < 0.0001 | 0.0001 | Pass | |
| Toxaphene | mg/L | < 0.001 | 0.001 | Pass | |
| Method Blank | IIIg/L | < 0.01 | 0.01 | Fass | |
| Polychlorinated Biphenyls | | Т | | | |
| | ma/l | 4 O OOF | 0.005 | Poor | |
| Aroclor-1016 | mg/L | < 0.005 | 0.005 | Pass | |
| Aroclor-1221 | mg/L | < 0.001 | 0.001 | Pass | |
| Aroclor-1232 | mg/L | < 0.005 | 0.005 | Pass | |
| Aroclor-1242 | mg/L | < 0.005 | 0.005 | Pass | |
| Aroclor-1248 | mg/L | < 0.005 | 0.005 | Pass | |
| Aroclor-1254 | mg/L | < 0.005 | 0.005 | Pass | |
| Aroclor-1260 | mg/L | < 0.005 | 0.005 | Pass | |
| Total PCB* | mg/L | < 0.001 | 0.001 | Pass | |
| Method Blank | | | | <u> </u> | |
| Heavy Metals | | | | | |
| Arsenic (filtered) | mg/L | < 0.001 | 0.001 | Pass | |
| Cadmium (filtered) | mg/L | < 0.0002 | 0.0002 | Pass | |
| Chromium (filtered) | mg/L | < 0.001 | 0.001 | Pass | |
| Copper (filtered) | mg/L | < 0.001 | 0.001 | Pass | |
| Lead (filtered) | mg/L | < 0.001 | 0.001 | Pass | |
| Mercury (filtered) | mg/L | < 0.0001 | 0.0001 | Pass | |
| Nickel (filtered) | mg/L | < 0.001 | 0.001 | Pass | |
| Zinc (filtered) | mg/L | < 0.005 | 0.005 | Pass | |
| LCS - % Recovery | | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | | |
| TRH C6-C9 | % | 74 | 70-130 | Pass | |
| TRH C10-C14 | % | 83 | 70-130 | Pass | |
| LCS - % Recovery | | | | | |
| BTEX | | | | | |
| Benzene | % | 77 | 70-130 | Pass | |
| Toluene | % | 83 | 70-130 | Pass | |
| Ethylbenzene | % | 78 | 70-130 | Pass | |
| m&p-Xylenes | % | 79 | 70-130 | Pass | |
| o-Xylene | % | 82 | 70-130 | Pass | |
| Xylenes - Total | % | 80 | 70-130 | Pass | |
| LCS - % Recovery | , , | | , , , , , , , , , | , | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | | |
| Naphthalene | % | 121 | 70-130 | Pass | |
| TRH C6-C10 | % | 71 | 70-130 | Pass | |
| TRH >C10-C16 | % | 83 | 70-130 | Pass | |
| LCS - % Recovery | 70 | | 70-130 | 1 433 | |
| Polycyclic Aromatic Hydrocarbons | | | | | |
| Acenaphthene | % | 87 | 70-130 | Pass | |
| • | % | 84 | 70-130 | Pass | |
| Acenaphthylene | | | | | |
| Anthracene | % | 84 | 70-130 | Pass | |
| Benz(a)anthracene | % | 91 | 70-130 | Pass | |
| Benzo(a)pyrene | % | 92 | 70-130 | Pass | |



| | | | | | 1 | | | |
|----------------------------------|-----------------|--------------|-------|----------|----|------------------|----------|-----------------|
| Test | | | Units | Result 1 | | Accepta Limit | | Qualifying Code |
| Benzo(b&j)fluoranthene | | | % | 91 | | 70-13 | 0 Pass | |
| Benzo(g.h.i)perylene | | | % | 97 | | 70-13 | 0 Pass | |
| Benzo(k)fluoranthene | | | % | 94 | | 70-13 | 0 Pass | |
| Chrysene | | | % | 92 | | 70-13 | 0 Pass | |
| Dibenz(a.h)anthracene | | | % | 92 | | 70-13 | 0 Pass | |
| Fluoranthene | | | % | 88 | | 70-13 | 0 Pass | |
| Fluorene | | | % | 87 | | 70-13 | 0 Pass | |
| Indeno(1.2.3-cd)pyrene | | | % | 91 | | 70-13 | 0 Pass | |
| Naphthalene | | | % | 81 | | 70-13 | 0 Pass | |
| Phenanthrene | | | % | 83 | | 70-13 | 0 Pass | |
| Pyrene | | | % | 90 | | 70-13 | 0 Pass | |
| LCS - % Recovery | | | | | | | | |
| Organochlorine Pesticides | | | | | | | | |
| 4.4'-DDD | | | % | 104 | | 70-13 | 0 Pass | |
| 4.4'-DDE | | | % | 106 | | 70-13 | | |
| 4.4'-DDT | | | % | 96 | | 70-13 | | |
| a-BHC | | | % | 102 | | 70-13 | | |
| Aldrin | | | % | 94 | | 70-13 | | |
| b-BHC | | | % | 94 | | 70-13 | | |
| d-BHC | | | % | 92 | | 70-13 | | |
| Dieldrin | | | % | 104 | | 70-13 | | |
| | | | | | | | | |
| Endosulfan I | | | % | 102 | | 70-13 | | |
| Endosulfan II | | | % | 82 | | 70-13 | | |
| Endosulfan sulphate | | | % | 70 | | 70-13 | | |
| Endrin | | | % | 120 | | 70-13 | | |
| Endrin aldehyde | | | % | 70 | | 70-13 | | |
| Endrin ketone | | | % | 80 | | 70-13 | | |
| g-BHC (Lindane) | | | % | 102 | | 70-13 | | |
| Heptachlor | | | % | 98 | | 70-13 | | |
| Heptachlor epoxide | | | % | 102 | | 70-13 | | |
| Hexachlorobenzene | | | % | 82 | | 70-13 | 0 Pass | |
| Methoxychlor | | | % | 82 | | 70-13 | 0 Pass | |
| Toxaphene | | | % | 92 | | 70-13 | 0 Pass | |
| LCS - % Recovery | | | | 1 | ı | l I | | |
| Polychlorinated Biphenyls | | | 1 | | | | | |
| Aroclor-1260 | | | % | 83 | | 70-13 | 0 Pass | |
| LCS - % Recovery | | | | | T. | | | |
| Heavy Metals | | | | | | | | |
| Arsenic (filtered) | | | % | 102 | | 70-13 | 0 Pass | |
| Cadmium (filtered) | | | % | 99 | | 70-13 | 0 Pass | |
| Chromium (filtered) | | | % | 99 | | 70-13 | 0 Pass | |
| Copper (filtered) | | | % | 98 | | 70-13 | 0 Pass | |
| Lead (filtered) | | | % | 99 | | 70-13 | 0 Pass | |
| Mercury (filtered) | | | % | 97 | | 70-13 | 0 Pass | |
| Nickel (filtered) | | | % | 97 | | 70-13 | | |
| Zinc (filtered) | | | % | 96 | | 70-13 | | |
| Test | Lab Sample ID | QA Source | Units | Result 1 | | Accepta Limit | nce Pass | Qualifying |
| Spike - % Recovery | | | | | | | | |
| Total Recoverable Hydrocarbons - | 1999 NEPM Fract | ions | | Result 1 | | | | |
| TRH C6-C9 | S18-Se37127 | NCP | % | 87 | | 70-13 | 0 Pass | |
| Spike - % Recovery | | | | | | | | |
| BTEX | | | | Result 1 | | | | |
| Benzene | S18-Se37127 | NCP | % | 90 | | 70-13 | 0 Pass | |
| Toluene | S18-Se37127 | NCP | % | 90 | | 70-13 | | |
| . 5.45110 | J 3 10 0007 127 | | /0 | | I | 1 70-10 | 1 1 433 | |



| | | QA | | | | | Acceptance | Pass | Qualifying |
|-----------------------------|-----------------------|--------------|-------|----------|----------|-----|----------------------|----------------|--------------------|
| Test | Lab Sample ID | Source | Units | Result 1 | | | Limits | Limits | Code |
| Ethylbenzene | S18-Se37127 | NCP | % | 90 | | | 70-130 | Pass | |
| m&p-Xylenes | S18-Se37127 | NCP | % | 92 | | | 70-130 | Pass | |
| o-Xylene | S18-Se37127 | NCP | % | 94 | | | 70-130 | Pass | |
| Xylenes - Total | S18-Se37127 | NCP | % | 93 | | | 70-130 | Pass | |
| Spike - % Recovery | | | | Ι | | | | | |
| Total Recoverable Hydrocarb | | | | Result 1 | | | | _ | |
| Naphthalene | S18-Se37127 | NCP | % | 86 | | | 70-130 | Pass | |
| TRH C6-C10 | S18-Se37127 | NCP | % | 82 | | | 70-130 | Pass | |
| Spike - % Recovery | | | | Ι | | | I | | |
| Organochlorine Pesticides | | | | Result 1 | | | | _ | |
| 4.4'-DDD | M18-Se01593 | NCP | % | 127 | | | 70-130 | Pass | |
| 4.4'-DDE | M18-Se01593 | NCP | % | 126 | | | 70-130 | Pass | |
| 4.4'-DDT | M18-Se01593 | NCP | % | 121 | | | 70-130 | Pass | |
| a-BHC | M18-Se01593 | NCP | % | 121 | | | 70-130 | Pass | |
| Aldrin | M18-Se01593 | NCP | % | 121 | | | 70-130 | Pass | |
| b-BHC | M18-Se01593 | NCP | % | 110 | | | 70-130 | Pass | |
| d-BHC | M18-Se01593 | NCP | % | 116 | | | 70-130 | Pass | |
| Dieldrin | M18-Se01593 | NCP | % | 126 | | | 70-130 | Pass | |
| Endosulfan I | M18-Se01593 | NCP | % | 122 | | | 70-130 | Pass | |
| Endosulfan II | M18-Se01593 | NCP | % | 120 | | | 70-130 | Pass | |
| Endosulfan sulphate | M18-Se01593 | NCP | % | 122 | | | 70-130 | Pass | |
| Endrin aldehyde | M18-Se01593 | NCP | % | 110 | | | 70-130 | Pass | |
| Endrin ketone | M18-Se01593 | NCP | % | 111 | | | 70-130 | Pass | |
| g-BHC (Lindane) | M18-Se01593 | NCP | % | 122 | | | 70-130 | Pass | |
| Heptachlor | M18-Se01593 | NCP | % | 124 | | | 70-130 | Pass | |
| Heptachlor epoxide | M18-Se01593 | NCP | % | 119 | | | 70-130 | Pass | |
| Hexachlorobenzene | M18-Se01593 | NCP | % | 106 | | | 70-130 | Pass | |
| Methoxychlor | M18-Se01593 | NCP | % | 115 | | | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | T | | |
| Heavy Metals | 010 0 00101 | | | Result 1 | | | | _ | |
| Arsenic (filtered) | S18-Se37124 | NCP | % | 121 | | | 70-130 | Pass | |
| Cadmium (filtered) | S18-Se37124 | NCP | % | 99 | | | 70-130 | Pass | |
| Chromium (filtered) | S18-Se37124 | NCP | % | 92 | | | 70-130 | Pass | |
| Copper (filtered) | S18-Se37124 | NCP | % | 82 | | | 70-130 | Pass | |
| Lead (filtered) | S18-Se37124 | NCP | % | 85 | | | 70-130 | Pass | |
| Mercury (filtered) | S18-Se37124 | NCP | % | 87 | | | 70-130 | Pass | |
| Nickel (filtered) | S18-Se37124 | NCP | % | 85 | | | 70-130 | Pass | |
| Zinc (filtered) | S18-Se37124 | NCP | % | 84 | | | 70-130 | Pass | 0 |
| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
| Duplicate | | | | | | | | | |
| Total Recoverable Hydrocarb | ons - 1999 NEPM Fract | ions | | Result 1 | Result 2 | RPD | | | |
| TRH C6-C9 | S18-Se37126 | NCP | mg/L | 72 | 0.41 | 1.0 | 30% | Pass | |
| Duplicate | | | | | | | | | |
| BTEX | | | | Result 1 | Result 2 | RPD | | | |
| Benzene | S18-Se37126 | NCP | mg/L | 100 | 0.051 | <1 | 30% | Pass | |
| Toluene | S18-Se37126 | NCP | mg/L | 96 | 0.048 | <1 | 30% | Pass | |
| Ethylbenzene | S18-Se37126 | NCP | mg/L | 87 | 0.045 | 3.0 | 30% | Pass | |
| m&p-Xylenes | S18-Se37126 | NCP | mg/L | 84 | 0.086 | 3.0 | 30% | Pass | |
| o-Xylene | S18-Se37126 | NCP | mg/L | 94 | 0.048 | 2.0 | 30% | Pass | |
| Xylenes - Total | S18-Se37126 | NCP | mg/L | 87 | 0.13 | 2.0 | 30% | Pass | |
| Duplicate | | | | | | | | | |
| Total Recoverable Hydrocarb | ons - 2013 NEPM Fract | ions | | Result 1 | Result 2 | RPD | | | |
| Naphthalene | S18-Se37126 | NCP | mg/L | 86 | 0.05 | 14 | 30% | Pass | |
| TRH C6-C10 | S18-Se37126 | NCP | mg/L | 71 | 0.47 | 1.0 | 30% | Pass | |



| Duplicate | | | | | | | | | |
|---------------------|-------------|-----|------|----------|----------|-----|-----|------|--|
| Heavy Metals | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic (filtered) | S18-Oc03631 | NCP | mg/L | 0.002 | 0.002 | 6.0 | 30% | Pass | |
| Cadmium (filtered) | S18-Oc03631 | NCP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Chromium (filtered) | S18-Oc03631 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Copper (filtered) | S18-Oc03631 | NCP | mg/L | 0.018 | 0.018 | 1.0 | 30% | Pass | |
| Lead (filtered) | S18-Oc03631 | NCP | mg/L | 0.002 | 0.002 | 3.0 | 30% | Pass | |
| Mercury (filtered) | S18-Oc07400 | NCP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass | |
| Nickel (filtered) | S18-Oc03631 | NCP | mg/L | 0.003 | 0.003 | 5.0 | 30% | Pass | |
| Zinc (filtered) | S18-Oc03631 | NCP | mg/L | 0.027 | 0.026 | 5.0 | 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

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).

N01

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.

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. N04

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 N07

Authorised By

N02

Nibha Vaidya Analytical Services Manager

Glenn Jackson

National Operations Manager

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.

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| | | Name | Signature | Name | Signature | Date | | |
| 0 | T. Nham | J. Hallchurch | 11 00 | S. Mortimer | | 26/10/2018 | | |
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