| Parameter | Units | LOR | Sample Number: SE103054.031<br>Sample Matrix: Soil<br>Sample Date: 31 Oct 2011<br>Sample Name: AST1 0-0.2 | SE103054.032<br>Soil<br>31 Oct 2011<br>UST1 0-0.3 | SE103054.033<br>Soil<br>01 Nov 2011<br>SD4 0-0.1 | SE103054.034<br>Soil<br>01 Nov 2011<br>SD5 0-0.1 | SE103054.035<br>Soil<br>02 Nov 2011<br>SP1 |
|---|---|---|---|---|---|---|---|
| **OC Pesticides in Soil Method: AN400/AN420 (continued)** | | | | | | | |
| Surrogates | | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | **93** | **108** | **130** | **122** | **115** |
| **PCBs in Soil Method: AN400/AN420** | | | | | | | |
| Arochlor 1016 | mg/kg | 0.2 | <0.2 | <0.2 | - | - | <0.2 |
| Arochlor 1221 | mg/kg | 0.2 | <0.2 | <0.2 | - | - | <0.2 |
| Arochlor 1232 | mg/kg | 0.2 | <0.2 | <0.2 | - | - | <0.2 |
| Arochlor 1242 | mg/kg | 0.2 | <0.2 | <0.2 | - | - | <0.2 |
| Arochlor 1248 | mg/kg | 0.2 | <0.2 | <0.2 | - | - | <0.2 |
| Arochlor 1254 | mg/kg | 0.2 | <0.2 | <0.2 | - | - | <0.2 |
| Arochlor 1260 | mg/kg | 0.2 | <0.2 | <0.2 | - | - | <0.2 |
| Arochlor 1262 | mg/kg | 0.2 | <0.2 | <0.2 | - | - | <0.2 |
| Arochlor 1268 | mg/kg | 0.2 | <0.2 | <0.2 | - | - | <0.2 |
| Total PCBs (Arochlors) | mg/kg | 1 | <1 | <1 | - | - | <1 |
| Surrogates | | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | **93** | **108** | - | - | **115** |
| **Total Phenolics in Soil Method: AN289** | | | | | | | |
| Total Phenols | mg/kg | 0.1 | **0.6** | **1.2** | - | - | - |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320** | | | | | | | |
| Arsenic, As | mg/kg | 3 | <3 | **9** | **13** | **8** | **17** |
| Cadmium, Cd | mg/kg | 0.3 | <0.3 | **3.0** | **0.7** | **0.3** | **2.8** |
| Chromium, Cr | mg/kg | 0.3 | **14** | **28** | **27** | **11** | **21** |
| Copper, Cu | mg/kg | 0.5 | **39** | **19** | **15** | **25** | **180** |
| Lead, Pb | mg/kg | 1 | **9** | **83** | **26** | **17** | **1400** |
| Nickel, Ni | mg/kg | 0.5 | **23** | **7.6** | **5.6** | **11** | **25** |
| Zinc, Zn | mg/kg | 0.5 | **53** | **100** | **30** | **60** | **980** |
| **Mercury in Soil Method: AN312** | | | | | | | |
| Mercury | mg/kg | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | **0.31** |
| **Fibre Identification in soil Method: AN602** | | | | | | | |
| FibreID | | | | | | | |
| Asbestos Detected | No unit | - | - | - | - | - | No |
| SemiQuant | | | | | | | |
| Estimated Fibres | %w/w | 0.01 | - | - | - | - | <0.01 |
| **Fibre ID in bulk materials Method: AN602** | | | | | | | |
| FibreID | | | | | | | |
| Asbestos Detected | No unit | - | - | - | - | - | - |
| **Moisture Content Method: AN234** | | | | | | | |
| % Moisture | % | 0.5 | **3.1** | **8.0** | **41** | **50** | **6.0** |
| **Metals in Water (Dissolved) by ICPOES Method: AN320/AN321** | | | | | | | |
| Arsenic, As | mg/L | 0.05 | - | - | - | - | - |
| Cadmium, Cd | mg/L | 0.005 | - | - | - | - | - |
| Chromium, Cr | mg/L | 0.005 | - | - | - | - | - |
| Copper, Cu | mg/L | 0.01 | - | - | - | - | - |
| Lead, Pb | mg/L | 0.02 | - | - | - | - | - |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | SE103054.031<br>Soil<br>31 Oct 2011<br>AST1 0-0.2 | SE103054.032<br>Soil<br>31 Oct 2011<br>UST1 0-0.3 | SE103054.033<br>Soil<br>01 Nov 2011<br>SD4 0-0.1 | SE103054.034<br>Soil<br>01 Nov 2011<br>SD5 0-0.1 | SE103054.035<br>Soil<br>02 Nov 2011<br>SP1 |
|---|---|---|---|---|---|---|---|---|
| **Metals in Water (Dissolved) by ICPOES Method: AN320/AN321 (continued)** | | | | | | | | |
| Nickel, Ni | mg/L | 0.01 | | - | - | - | - | - |
| Zinc, Zn | mg/L | 0.01 | | - | - | - | - | - |
| **Mercury (dissolved) in Water Method: AN311/AN312** | | | | | | | | |
| Mercury | mg/L | 0.0001 | | - | - | - | - | - |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | SE103054.036<br>Material<br>02 Nov 2011<br>SP1_ZLB | SE103054.037<br>Soil<br>01 Nov 2011<br>Duplicate D3 | SE103054.038<br>Soil<br>01 Nov 2011<br>Duplicate D4 | SE103054.039<br>Water<br>31 Oct 2011<br>Rinsate R3 | SE103054.040<br>Water<br>01 Nov 2011<br>Rinsate R4 |
|---|---|---|---|---|---|---|---|---|
| **VOC's in Soil Method: AN433/AN434** | | | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | | | |
| Benzene | mg/kg | 0.1 | | - | <0.1 | - | - | - |
| Toluene | mg/kg | 0.1 | | - | <0.1 | - | - | - |
| Ethylbenzene | mg/kg | 0.1 | | - | <0.1 | - | - | - |
| m/p-xylene | mg/kg | 0.2 | | - | <0.2 | - | - | - |
| o-xylene | mg/kg | 0.1 | | - | <0.1 | - | - | - |
| Oxygenated Compounds | | | | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | | - | <0.1 | - | - | - |
| Surrogates | | | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | | - | **101** | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | | - | **101** | - | - | - |
| d8-toluene (Surrogate) | % | - | | - | **96** | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | | - | **101** | - | - | - |
| Totals | | | | | | | | |
| Total BTEX* | mg/kg | - | | - | **0** | - | - | - |
| Total Xylenes* | mg/kg | 0.3 | | - | <0.3 | - | - | - |
| **Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434** | | | | | | | | |
| TRH C6-C9 | mg/kg | 20 | | - | <20 | - | - | - |
| Surrogates | | | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | | - | **123** | - | - | - |
| Dibromofluoromethane (Surrogate) | % | - | | - | - | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | | - | - | - | - | - |
| d8-toluene (Surrogate) | % | - | | - | - | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | | - | - | - | - | - |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403** | | | | | | | | |
| TRH C10-C14 | mg/kg | 20 | | - | <20 | - | - | - |
| TRH C15-C28 | mg/kg | 50 | | - | <50 | - | - | - |
| TRH C29-C40 | mg/kg | 150 | | - | <150 | - | - | - |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | SE103054.036<br>Material<br>02 Nov 2011<br>SP1_ZLB | SE103054.037<br>Soil<br>01 Nov 2011<br>Duplicate D3 | SE103054.038<br>Soil<br>01 Nov 2011<br>Duplicate D4 | SE103054.039<br>Water<br>31 Oct 2011<br>Rinsate R3 | SE103054.040<br>Water<br>01 Nov 2011<br>Rinsate R4 |
|---|---|---|---|---|---|---|---|---|
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 (continued)** | | | | | | | | |
| Surrogates | | | | | | | | |
| TRH (Surrogate) | % | - | | - | - | - | - | - |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420** | | | | | | | | |
| Naphthalene | mg/kg | 0.1 | | - | <0.1 | - | - | - |
| 2-methylnaphthalene | mg/kg | 0.1 | | - | <0.1 | - | - | - |
| 1-methylnaphthalene | mg/kg | 0.1 | | - | <0.1 | - | - | - |
| Acenaphthylene | mg/kg | 0.1 | | - | <0.1 | - | - | - |
| Acenaphthene | mg/kg | 0.1 | | - | <0.1 | - | - | - |
| Fluorene | mg/kg | 0.1 | | - | <0.1 | - | - | - |
| Phenanthrene | mg/kg | 0.1 | | - | **0.1** | - | - | - |
| Anthracene | mg/kg | 0.1 | | - | <0.1 | - | - | - |
| Fluoranthene | mg/kg | 0.1 | | - | **0.4** | - | - | - |
| Pyrene | mg/kg | 0.1 | | - | **0.4** | - | - | - |
| Benzo(a)anthracene | mg/kg | 0.1 | | - | **0.3** | - | - | - |
| Chrysene | mg/kg | 0.1 | | - | **0.2** | - | - | - |
| Benzo(b)fluoranthene | mg/kg | 0.1 | | - | **0.3** | - | - | - |
| Benzo(k)fluoranthene | mg/kg | 0.1 | | - | **0.1** | - | - | - |
| Benzo(a)pyrene | mg/kg | 0.1 | | - | **0.2** | - | - | - |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | | - | **0.2** | - | - | - |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | | - | <0.1 | - | - | - |
| Benzo(ghi)perylene | mg/kg | 0.1 | | - | **0.2** | - | - | - |
| Total PAH | mg/kg | 0.8 | | - | **2.4** | - | - | - |
| Surrogates | | | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | | - | **113** | - | - | - |
| 2-fluorobiphenyl (Surrogate) | % | - | | - | **106** | - | - | - |
| d14-p-terphenyl (Surrogate) | % | - | | - | **117** | - | - | - |
| **OC Pesticides in Soil Method: AN400/AN420** | | | | | | | | |
| Hexachlorobenzene (HCB) | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| Alpha BHC | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| Lindane | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| Heptachlor | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| Aldrin | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| Beta BHC | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| Delta BHC | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| Heptachlor epoxide | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| o,p'-DDE | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| Alpha Endosulfan | mg/kg | 0.2 | | - | <0.2 | <0.2 | - | - |
| Gamma Chlordane | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| Alpha Chlordane | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| trans-Nonachlor | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| p,p'-DDE | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| Dieldrin | mg/kg | 0.05 | | - | <0.1↑ | <0.1↑ | - | - |
| Endrin | mg/kg | 0.2 | | - | <0.2 | <0.2 | - | - |
| o,p'-DDD | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| o,p'-DDT | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| Beta Endosulfan | mg/kg | 0.2 | | - | <0.2 | <0.2 | - | - |
| p,p'-DDD | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| p,p'-DDT | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| Endosulfan sulphate | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| Endrin Aldehyde | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| Methoxychlor | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |
| Endrin Ketone | mg/kg | 0.1 | | - | <0.1 | <0.1 | - | - |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | SE103054.036<br>Material<br>02 Nov 2011<br>SP1_ZLB | SE103054.037<br>Soil<br>01 Nov 2011<br>Duplicate D3 | SE103054.038<br>Soil<br>01 Nov 2011<br>Duplicate D4 | SE103054.039<br>Water<br>31 Oct 2011<br>Rinsate R3 | SE103054.040<br>Water<br>01 Nov 2011<br>Rinsate R4 |
|---|---|---|---|---|---|---|---|---|
| **OC Pesticides in Soil Method: AN400/AN420 (continued)** | | | | | | | | |
| Surrogates | | | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | | - | **113** | **118** | - | - |
| **PCBs in Soil Method: AN400/AN420** | | | | | | | | |
| Arochlor 1016 | mg/kg | 0.2 | | - | <0.2 | - | - | - |
| Arochlor 1221 | mg/kg | 0.2 | | - | <0.2 | - | - | - |
| Arochlor 1232 | mg/kg | 0.2 | | - | <0.2 | - | - | - |
| Arochlor 1242 | mg/kg | 0.2 | | - | <0.2 | - | - | - |
| Arochlor 1248 | mg/kg | 0.2 | | - | <0.2 | - | - | - |
| Arochlor 1254 | mg/kg | 0.2 | | - | <0.2 | - | - | - |
| Arochlor 1260 | mg/kg | 0.2 | | - | <0.2 | - | - | - |
| Arochlor 1262 | mg/kg | 0.2 | | - | <0.2 | - | - | - |
| Arochlor 1268 | mg/kg | 0.2 | | - | <0.2 | - | - | - |
| Total PCBs (Arochlors) | mg/kg | 1 | | - | <1 | - | - | - |
| Surrogates | | | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | | - | **113** | - | - | - |
| **Total Phenolics in Soil Method: AN289** | | | | | | | | |
| Total Phenols | mg/kg | 0.1 | | - | - | - | - | - |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320** | | | | | | | | |
| Arsenic, As | mg/kg | 3 | | - | **9** | **7** | - | - |
| Cadmium, Cd | mg/kg | 0.3 | | - | **0.6** | **0.3** | - | - |
| Chromium, Cr | mg/kg | 0.3 | | - | **24** | **16** | - | - |
| Copper, Cu | mg/kg | 0.5 | | - | **25** | **26** | - | - |
| Lead, Pb | mg/kg | 1 | | - | **61** | **21** | - | - |
| Nickel, Ni | mg/kg | 0.5 | | - | **16** | **5.0** | - | - |
| Zinc, Zn | mg/kg | 0.5 | | - | **130** | **27** | - | - |
| **Mercury in Soil Method: AN312** | | | | | | | | |
| Mercury | mg/kg | 0.05 | | - | **0.27** | <0.05 | - | - |
| **Fibre Identification in soil Method: AN602** | | | | | | | | |
| FibreID | | | | | | | | |
| Asbestos Detected | No unit | - | | - | - | - | - | - |
| SemiQuant | | | | | | | | |
| Estimated Fibres | %w/w | 0.01 | | - | - | - | - | - |
| **Fibre ID in bulk materials Method: AN602** | | | | | | | | |
| FibreID | | | | | | | | |
| Asbestos Detected | No unit | - | | Yes | - | - | - | - |
| **Moisture Content Method: AN234** | | | | | | | | |
| % Moisture | % | 0.5 | | - | **12** | **12** | - | - |
| **Metals in Water (Dissolved) by ICPOES Method: AN320/AN321** | | | | | | | | |
| Arsenic, As | mg/L | 0.05 | | - | - | - | <0.05 | <0.05 |
| Cadmium, Cd | mg/L | 0.005 | | - | - | - | <0.005 | <0.005 |
| Chromium, Cr | mg/L | 0.005 | | - | - | - | <0.005 | <0.005 |
| Copper, Cu | mg/L | 0.01 | | - | - | - | <0.01 | <0.01 |
| Lead, Pb | mg/L | 0.02 | | - | - | - | <0.02 | <0.02 |

| Parameter | Units | LOR | Sample Number: SE103054.036<br>Sample Matrix: Material<br>Sample Date: 02 Nov 2011<br>Sample Name: SP1_ZLB | Sample Number: SE103054.037<br>Sample Matrix: Soil<br>Sample Date: 01 Nov 2011<br>Sample Name: Duplicate D3 | Sample Number: SE103054.038<br>Sample Matrix: Soil<br>Sample Date: 01 Nov 2011<br>Sample Name: Duplicate D4 | Sample Number: SE103054.039<br>Sample Matrix: Water<br>Sample Date: 31 Oct 2011<br>Sample Name: Rinsate R3 | Sample Number: SE103054.040<br>Sample Matrix: Water<br>Sample Date: 01 Nov 2011<br>Sample Name: Rinsate R4 |
|---|---|---|---|---|---|---|---|
| **Metals in Water (Dissolved) by ICPOES Method: AN320/AN321 (continued)** | | | | | | | |
| Nickel, Ni | mg/L | 0.01 | - | - | - | <0.010 | <0.010 |
| Zinc, Zn | mg/L | 0.01 | - | - | - | <0.01 | <0.01 |
| **Mercury (dissolved) in Water Method: AN311/AN312** | | | | | | | |
| Mercury | mg/L | 0.0001 | - | - | - | <0.0001 | <0.0001 |

| Parameter | Units | LOR | Sample Number: SE103054.041<br>Sample Matrix: Water<br>Sample Date: 02 Nov 2011<br>Sample Name: Rinsate R5 | Sample Number: SE103054.042<br>Sample Matrix: Soil<br>Sample Date: 31 Oct 2011<br>Sample Name: Trip Spike TS1 | Sample Number: SE103054.043<br>Sample Matrix: Soil<br>Sample Date: 31 Oct 2011<br>Sample Name: C12 | Sample Number: SE103054.044<br>Sample Matrix: Soil<br>Sample Date: 31 Oct 2011<br>Sample Name: C13 | Sample Number: SE103054.045<br>Sample Matrix: Soil<br>Sample Date: 31 Oct 2011<br>Sample Name: C14 |
|---|---|---|---|---|---|---|---|
| **VOC's in Soil Method: AN433/AN434** | | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | | |
| Benzene | mg/kg | 0.1 | - | [96%] | - | - | - |
| Toluene | mg/kg | 0.1 | - | [98%] | - | - | - |
| Ethylbenzene | mg/kg | 0.1 | - | [96%] | - | - | - |
| m/p-xylene | mg/kg | 0.2 | - | [98%] | - | - | - |
| o-xylene | mg/kg | 0.1 | - | [97%] | - | - | - |
| Oxygenated Compounds | | | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | - | [94%] | - | - | - |
| Surrogates | | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | - | **94** | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | - | **98** | - | - | - |
| d8-toluene (Surrogate) | % | - | - | **94** | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | - | **88** | - | - | - |
| Totals | | | | | | | |
| Total BTEX* | mg/kg | - | - | [97%] | - | - | - |
| Total Xylenes* | mg/kg | 0.3 | - | [98%] | - | - | - |
| **Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434** | | | | | | | |
| TRH C6-C9 | mg/kg | 20 | - | - | - | - | - |
| Surrogates | | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | - | - | - | - | - |
| Dibromofluoromethane (Surrogate) | % | - | - | - | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | - | - | - | - | - |
| d8-toluene (Surrogate) | % | - | - | - | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | - | - | - | - | - |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403** | | | | | | | |
| TRH C10-C14 | mg/kg | 20 | - | - | - | - | - |
| TRH C15-C28 | mg/kg | 50 | - | - | - | - | - |
| TRH C29-C40 | mg/kg | 150 | - | - | - | - | - |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | SE103054.041<br>Water<br>02 Nov 2011<br>Rinsate R5 | SE103054.042<br>Soil<br>31 Oct 2011<br>Trip Spike TS1 | SE103054.043<br>Soil<br>31 Oct 2011<br>C12 | SE103054.044<br>Soil<br>31 Oct 2011<br>C13 | SE103054.045<br>Soil<br>31 Oct 2011<br>C14 |
|---|---|---|---|---|---|---|---|---|
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 (continued)** | | | | | | | | |
| Surrogates | | | | | | | | |
| TRH (Surrogate) | % | - | | - | - | - | - | - |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420** | | | | | | | | |
| Naphthalene | mg/kg | 0.1 | | - | - | - | - | - |
| 2-methylnaphthalene | mg/kg | 0.1 | | - | - | - | - | - |
| 1-methylnaphthalene | mg/kg | 0.1 | | - | - | - | - | - |
| Acenaphthylene | mg/kg | 0.1 | | - | - | - | - | - |
| Acenaphthene | mg/kg | 0.1 | | - | - | - | - | - |
| Fluorene | mg/kg | 0.1 | | - | - | - | - | - |
| Phenanthrene | mg/kg | 0.1 | | - | - | - | - | - |
| Anthracene | mg/kg | 0.1 | | - | - | - | - | - |
| Fluoranthene | mg/kg | 0.1 | | - | - | - | - | - |
| Pyrene | mg/kg | 0.1 | | - | - | - | - | - |
| Benzo(a)anthracene | mg/kg | 0.1 | | - | - | - | - | - |
| Chrysene | mg/kg | 0.1 | | - | - | - | - | - |
| Benzo(b)fluoranthene | mg/kg | 0.1 | | - | - | - | - | - |
| Benzo(k)fluoranthene | mg/kg | 0.1 | | - | - | - | - | - |
| Benzo(a)pyrene | mg/kg | 0.1 | | - | - | - | - | - |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | | - | - | - | - | - |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | | - | - | - | - | - |
| Benzo(ghi)perylene | mg/kg | 0.1 | | - | - | - | - | - |
| Total PAH | mg/kg | 0.8 | | - | - | - | - | - |
| Surrogates | | | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | | - | - | - | - | - |
| 2-fluorobiphenyl (Surrogate) | % | - | | - | - | - | - | - |
| d14-p-terphenyl (Surrogate) | % | - | | - | - | - | - | - |
| **OC Pesticides in Soil Method: AN400/AN420** | | | | | | | | |
| Hexachlorobenzene (HCB) | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| Alpha BHC | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| Lindane | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| Heptachlor | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| Aldrin | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| Beta BHC | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| Delta BHC | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| Heptachlor epoxide | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| o,p'-DDE | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| Alpha Endosulfan | mg/kg | 0.2 | | - | - | <0.2 | <0.2 | <0.2 |
| Gamma Chlordane | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| Alpha Chlordane | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| trans-Nonachlor | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| p,p'-DDE | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| Dieldrin | mg/kg | 0.05 | | - | - | <0.1↑ | <0.1↑ | <0.1↑ |
| Endrin | mg/kg | 0.2 | | - | - | <0.2 | <0.2 | <0.2 |
| o,p'-DDD | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| o,p'-DDT | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| Beta Endosulfan | mg/kg | 0.2 | | - | - | <0.2 | <0.2 | <0.2 |
| p,p'-DDD | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| p,p'-DDT | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| Endosulfan sulphate | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| Endrin Aldehyde | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| Methoxychlor | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |
| Endrin Ketone | mg/kg | 0.1 | | - | - | <0.1 | <0.1 | <0.1 |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | SE103054.041<br>Water<br>02 Nov 2011<br>Rinsate R5 | SE103054.042<br>Soil<br>31 Oct 2011<br>Trip Spike TS1 | SE103054.043<br>Soil<br>31 Oct 2011<br>C12 | SE103054.044<br>Soil<br>31 Oct 2011<br>C13 | SE103054.045<br>Soil<br>31 Oct 2011<br>C14 |
|---|---|---|---|---|---|---|---|---|
| **OC Pesticides in Soil Method: AN400/AN420 (continued)** | | | | | | | | |
| Surrogates | | | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | | - | - | **121** | **115** | **118** |
| **PCBs in Soil Method: AN400/AN420** | | | | | | | | |
| Arochlor 1016 | mg/kg | 0.2 | | - | - | - | - | - |
| Arochlor 1221 | mg/kg | 0.2 | | - | - | - | - | - |
| Arochlor 1232 | mg/kg | 0.2 | | - | - | - | - | - |
| Arochlor 1242 | mg/kg | 0.2 | | - | - | - | - | - |
| Arochlor 1248 | mg/kg | 0.2 | | - | - | - | - | - |
| Arochlor 1254 | mg/kg | 0.2 | | - | - | - | - | - |
| Arochlor 1260 | mg/kg | 0.2 | | - | - | - | - | - |
| Arochlor 1262 | mg/kg | 0.2 | | - | - | - | - | - |
| Arochlor 1268 | mg/kg | 0.2 | | - | - | - | - | - |
| Total PCBs (Arochlors) | mg/kg | 1 | | - | - | - | - | - |
| Surrogates | | | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | | - | - | - | - | - |
| **Total Phenolics in Soil Method: AN289** | | | | | | | | |
| Total Phenols | mg/kg | 0.1 | | - | - | - | - | - |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320** | | | | | | | | |
| Arsenic, As | mg/kg | 3 | | - | - | **6** | <3 | **4** |
| Cadmium, Cd | mg/kg | 0.3 | | - | - | **2.6** | <0.3 | <0.3 |
| Chromium, Cr | mg/kg | 0.3 | | - | - | **20** | **8.4** | **16** |
| Copper, Cu | mg/kg | 0.5 | | - | - | **7.6** | **7.1** | **11** |
| Lead, Pb | mg/kg | 1 | | - | - | **17** | **14** | **18** |
| Nickel, Ni | mg/kg | 0.5 | | - | - | **4.5** | **4.4** | **8.5** |
| Zinc, Zn | mg/kg | 0.5 | | - | - | **310** | **17** | **30** |
| **Mercury in Soil Method: AN312** | | | | | | | | |
| Mercury | mg/kg | 0.05 | | - | - | <0.05 | <0.05 | <0.05 |
| **Fibre Identification in soil Method: AN602** | | | | | | | | |
| FibreID | | | | | | | | |
| Asbestos Detected | No unit | - | | - | - | - | - | - |
| SemiQuant | | | | | | | | |
| Estimated Fibres | %w/w | 0.01 | | - | - | - | - | - |
| **Fibre ID in bulk materials Method: AN602** | | | | | | | | |
| FibreID | | | | | | | | |
| Asbestos Detected | No unit | - | | - | - | - | - | - |
| **Moisture Content Method: AN234** | | | | | | | | |
| % Moisture | % | 0.5 | | - | - | **15** | **8.3** | **11** |
| **Metals in Water (Dissolved) by ICPOES Method: AN320/AN321** | | | | | | | | |
| Arsenic, As | mg/L | 0.05 | | <0.05 | - | - | - | - |
| Cadmium, Cd | mg/L | 0.005 | | <0.005 | - | - | - | - |
| Chromium, Cr | mg/L | 0.005 | | <0.005 | - | - | - | - |
| Copper, Cu | mg/L | 0.01 | | <0.01 | - | - | - | - |
| Lead, Pb | mg/L | 0.02 | | <0.02 | - | - | - | - |

| Parameter | Units | LOR | Sample Number: SE103054.041 Sample Matrix: Water Sample Date: 02 Nov 2011 Sample Name: Rinsate R5 | SE103054.042 Soil 31 Oct 2011 Trip Spike TS1 | SE103054.043 Soil 31 Oct 2011 C12 | SE103054.044 Soil 31 Oct 2011 C13 | SE103054.045 Soil 31 Oct 2011 C14 |
|---|---|---|---|---|---|---|---|
| **Metals in Water (Dissolved) by ICPOES Method: AN320/AN321 (continued)** | | | | | | | |
| Nickel, Ni | mg/L | 0.01 | <0.010 | - | - | - | - |
| Zinc, Zn | mg/L | 0.01 | <0.01 | - | - | - | - |
| **Mercury (dissolved) in Water Method: AN311/AN312** | | | | | | | |
| Mercury | mg/L | 0.0001 | <0.0001 | - | - | - | - |

| Parameter | Units | LOR | Sample Number: SE103054.046 Sample Matrix: Soil Sample Date: 31 Oct 2011 Sample Name: C15 | SE103054.047 Soil 31 Oct 2011 C16 | SE103054.048 Soil 31 Oct 2011 C17 | SE103054.049 Soil 31 Oct 2011 C18 | SE103054.050 Soil 31 Oct 2011 C19 |
|---|---|---|---|---|---|---|---|
| **VOC's in Soil Method: AN433/AN434** | | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | | |
| Benzene | mg/kg | 0.1 | - | - | - | - | - |
| Toluene | mg/kg | 0.1 | - | - | - | - | - |
| Ethylbenzene | mg/kg | 0.1 | - | - | - | - | - |
| m/p-xylene | mg/kg | 0.2 | - | - | - | - | - |
| o-xylene | mg/kg | 0.1 | - | - | - | - | - |
| Oxygenated Compounds | | | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | - | - | - | - | - |
| Surrogates | | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | - | - | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | - | - | - | - | - |
| d8-toluene (Surrogate) | % | - | - | - | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | - | - | - | - | - |
| Totals | | | | | | | |
| Total BTEX* | mg/kg | - | - | - | - | - | - |
| Total Xylenes* | mg/kg | 0.3 | - | - | - | - | - |
| **Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434** | | | | | | | |
| TRH C6-C9 | mg/kg | 20 | - | - | - | - | - |
| Surrogates | | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | - | - | - | - | - |
| Dibromofluoromethane (Surrogate) | % | - | - | - | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | - | - | - | - | - |
| d8-toluene (Surrogate) | % | - | - | - | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | - | - | - | - | - |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403** | | | | | | | |
| TRH C10-C14 | mg/kg | 20 | - | - | - | - | - |
| TRH C15-C28 | mg/kg | 50 | - | - | - | - | - |
| TRH C29-C40 | mg/kg | 150 | - | - | - | - | - |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | SE103054.046<br>Soil<br>31 Oct 2011<br>C15 | SE103054.047<br>Soil<br>31 Oct 2011<br>C16 | SE103054.048<br>Soil<br>31 Oct 2011<br>C17 | SE103054.049<br>Soil<br>31 Oct 2011<br>C18 | SE103054.050<br>Soil<br>31 Oct 2011<br>C19 |
|---|---|---|---|---|---|---|---|---|
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403 (continued)** | | | | | | | | |
| Surrogates | | | | | | | | |
| TRH (Surrogate) | % | - | | - | - | - | - | - |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420** | | | | | | | | |
| Naphthalene | mg/kg | 0.1 | | - | <0.1 | - | - | <0.1 |
| 2-methylnaphthalene | mg/kg | 0.1 | | - | <0.1 | - | - | <0.1 |
| 1-methylnaphthalene | mg/kg | 0.1 | | - | <0.1 | - | - | <0.1 |
| Acenaphthylene | mg/kg | 0.1 | | - | <0.1 | - | - | <0.1 |
| Acenaphthene | mg/kg | 0.1 | | - | <0.1 | - | - | <0.1 |
| Fluorene | mg/kg | 0.1 | | - | <0.1 | - | - | <0.1 |
| Phenanthrene | mg/kg | 0.1 | | - | <0.1 | - | - | **0.1** |
| Anthracene | mg/kg | 0.1 | | - | <0.1 | - | - | <0.1 |
| Fluoranthene | mg/kg | 0.1 | | - | <0.1 | - | - | **0.4** |
| Pyrene | mg/kg | 0.1 | | - | <0.1 | - | - | **0.4** |
| Benzo(a)anthracene | mg/kg | 0.1 | | - | <0.1 | - | - | **0.2** |
| Chrysene | mg/kg | 0.1 | | - | <0.1 | - | - | **0.2** |
| Benzo(b)fluoranthene | mg/kg | 0.1 | | - | <0.1 | - | - | **0.3** |
| Benzo(k)fluoranthene | mg/kg | 0.1 | | - | <0.1 | - | - | **0.1** |
| Benzo(a)pyrene | mg/kg | 0.1 | | - | <0.1 | - | - | **0.2** |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | | - | <0.1 | - | - | **0.2** |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | | - | <0.1 | - | - | <0.1 |
| Benzo(ghi)perylene | mg/kg | 0.1 | | - | <0.1 | - | - | **0.2** |
| Total PAH | mg/kg | 0.8 | | - | <0.8 | - | - | **2.3** |
| Surrogates | | | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | | - | **112** | - | - | **117** |
| 2-fluorobiphenyl (Surrogate) | % | - | | - | **100** | - | - | **108** |
| d14-p-terphenyl (Surrogate) | % | - | | - | **116** | - | - | **118** |
| **OC Pesticides in Soil Method: AN400/AN420** | | | | | | | | |
| Hexachlorobenzene (HCB) | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Alpha BHC | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Lindane | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Heptachlor | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Aldrin | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Beta BHC | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Delta BHC | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Heptachlor epoxide | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| o,p'-DDE | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Alpha Endosulfan | mg/kg | 0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Gamma Chlordane | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Alpha Chlordane | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| trans-Nonachlor | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| p,p'-DDE | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Dieldrin | mg/kg | 0.05 | | <0.1↑ | <0.1↑ | <0.1↑ | <0.1↑ | <0.1↑ |
| Endrin | mg/kg | 0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| o,p'-DDD | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| o,p'-DDT | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Beta Endosulfan | mg/kg | 0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| p,p'-DDD | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| p,p'-DDT | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Endosulfan sulphate | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Endrin Aldehyde | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Methoxychlor | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Endrin Ketone | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |

| Parameter | Units | LOR | Sample Number: SE103054.046 Sample Matrix: Soil Sample Date: 31 Oct 2011 Sample Name: C15 | SE103054.047 Soil 31 Oct 2011 C16 | SE103054.048 Soil 31 Oct 2011 C17 | SE103054.049 Soil 31 Oct 2011 C18 | SE103054.050 Soil 31 Oct 2011 C19 |
|---|---|---|---|---|---|---|---|
| **OC Pesticides in Soil Method: AN400/AN420 (continued)** | | | | | | | |
| Surrogates | | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | **117** | **121** | **122** | **110** | **103** |
| **PCBs in Soil Method: AN400/AN420** | | | | | | | |
| Arochlor 1016 | mg/kg | 0.2 | - | <0.2 | - | - | <0.2 |
| Arochlor 1221 | mg/kg | 0.2 | - | <0.2 | - | - | <0.2 |
| Arochlor 1232 | mg/kg | 0.2 | - | <0.2 | - | - | <0.2 |
| Arochlor 1242 | mg/kg | 0.2 | - | <0.2 | - | - | <0.2 |
| Arochlor 1248 | mg/kg | 0.2 | - | <0.2 | - | - | <0.2 |
| Arochlor 1254 | mg/kg | 0.2 | - | <0.2 | - | - | <0.2 |
| Arochlor 1260 | mg/kg | 0.2 | - | <0.2 | - | - | <0.2 |
| Arochlor 1262 | mg/kg | 0.2 | - | <0.2 | - | - | <0.2 |
| Arochlor 1268 | mg/kg | 0.2 | - | <0.2 | - | - | <0.2 |
| Total PCBs (Arochlors) | mg/kg | 1 | - | <1 | - | - | <1 |
| Surrogates | | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | - | **121** | - | - | **103** |
| **Total Phenolics in Soil Method: AN289** | | | | | | | |
| Total Phenols | mg/kg | 0.1 | - | - | - | - | - |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320** | | | | | | | |
| Arsenic, As | mg/kg | 3 | **8** | **10** | **9** | **11** | **7** |
| Cadmium, Cd | mg/kg | 0.3 | **0.5** | **0.5** | **0.4** | **0.4** | **0.5** |
| Chromium, Cr | mg/kg | 0.3 | **26** | **16** | **16** | **18** | **17** |
| Copper, Cu | mg/kg | 0.5 | **7.8** | **17** | **31** | **14** | **21** |
| Lead, Pb | mg/kg | 1 | **22** | **22** | **25** | **24** | **27** |
| Nickel, Ni | mg/kg | 0.5 | **4.1** | **4.1** | **8.6** | **7.2** | **13** |
| Zinc, Zn | mg/kg | 0.5 | **23** | **20** | **61** | **40** | **76** |
| **Mercury in Soil Method: AN312** | | | | | | | |
| Mercury | mg/kg | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| **Fibre Identification in soil Method: AN602** | | | | | | | |
| FibreID | | | | | | | |
| Asbestos Detected | No unit | - | - | - | - | - | - |
| SemiQuant | | | | | | | |
| Estimated Fibres | %w/w | 0.01 | - | - | - | - | - |
| **Fibre ID in bulk materials Method: AN602** | | | | | | | |
| FibreID | | | | | | | |
| Asbestos Detected | No unit | - | - | - | - | - | - |
| **Moisture Content Method: AN234** | | | | | | | |
| % Moisture | % | 0.5 | **8.4** | **11** | **12** | **11** | **11** |
| **Metals in Water (Dissolved) by ICPOES Method: AN320/AN321** | | | | | | | |
| Arsenic, As | mg/L | 0.05 | - | - | - | - | - |
| Cadmium, Cd | mg/L | 0.005 | - | - | - | - | - |
| Chromium, Cr | mg/L | 0.005 | - | - | - | - | - |
| Copper, Cu | mg/L | 0.01 | - | - | - | - | - |
| Lead, Pb | mg/L | 0.02 | - | - | - | - | - |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | SE103054.046<br>Soil<br>31 Oct 2011<br>C15 | SE103054.047<br>Soil<br>31 Oct 2011<br>C16 | SE103054.048<br>Soil<br>31 Oct 2011<br>C17 | SE103054.049<br>Soil<br>31 Oct 2011<br>C18 | SE103054.050<br>Soil<br>31 Oct 2011<br>C19 |
|---|---|---|---|---|---|---|---|---|
| **Metals in Water (Dissolved) by ICPOES Method: AN320/AN321 (continued)** | | | | | | | | |
| Nickel, Ni | mg/L | 0.01 | | - | - | - | - | - |
| Zinc, Zn | mg/L | 0.01 | | - | - | - | - | - |
| **Mercury (dissolved) in Water Method: AN311/AN312** | | | | | | | | |
| Mercury | mg/L | 0.0001 | | - | - | - | - | - |

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

**Mercury (dissolved) in Water** **Method: ME-(AU)-[ENV]AN311/AN312**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Mercury | LB008427 | mg/L | 0.0001 | <0.0001 | 65% | 98% | 100% |

**Mercury in Soil** **Method: ME-(AU)-[ENV]AN312**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Mercury | LB008322 | mg/kg | 0.05 | <0.05 | 0 - 14% | 98% | 93% |
| | LB008323 | mg/kg | 0.05 | <0.05 | 0% | 97% | 72% |

**Metals in Water (Dissolved) by ICPOES** **Method: ME-(AU)-[ENV]AN320/AN321**

| Parameter | QC Reference | Units | LOR | MB | LCS %Recovery |
|---|---|---|---|---|---|
| Arsenic, As | LB008557 | mg/L | 0.05 | <0.05 | 94% |
| Cadmium, Cd | LB008557 | mg/L | 0.005 | <0.005 | 96% |
| Chromium, Cr | LB008557 | mg/L | 0.005 | <0.005 | 96% |
| Copper, Cu | LB008557 | mg/L | 0.01 | <0.01 | 98% |
| Lead, Pb | LB008557 | mg/L | 0.02 | <0.02 | 97% |
| Nickel, Ni | LB008557 | mg/L | 0.01 | <0.010 | 96% |
| Zinc, Zn | LB008557 | mg/L | 0.01 | <0.01 | 95% |

**Moisture Content** **Method: ME-(AU)-[ENV]AN234**

| Parameter | QC Reference | Units | LOR | DUP %RPD |
|---|---|---|---|---|
| % Moisture | LB008312 | % | 0.5 | 1 - 11% |

**OC Pesticides in Soil** **Method: ME-(AU)-[ENV]AN400/AN420**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Hexachlorobenzene (HCB) | LB008301 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Alpha BHC | LB008301 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Lindane | LB008301 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Heptachlor | LB008301 | mg/kg | 0.1 | <0.1 | 0% | 116% | 119% |
| Aldrin | LB008301 | mg/kg | 0.1 | <0.1 | 0% | 115% | 128% |
| Beta BHC | LB008301 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Delta BHC | LB008301 | mg/kg | 0.1 | <0.1 | 0% | 107% | 120% |
| Heptachlor epoxide | LB008301 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| o,p'-DDE | LB008301 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Alpha Endosulfan | LB008301 | mg/kg | 0.2 | <0.2 | 0% | NA | NA |
| Gamma Chlordane | LB008301 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Alpha Chlordane | LB008301 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| trans-Nonachlor | LB008301 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| p,p'-DDE | LB008301 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Dieldrin | LB008301 | mg/kg | 0.05 | <0.1 | 0% | 110% | 116% |
| Endrin | LB008301 | mg/kg | 0.2 | <0.2 | 0% | 118% | 120% |
| o,p'-DDD | LB008301 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| o,p'-DDT | LB008301 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Beta Endosulfan | LB008301 | mg/kg | 0.2 | <0.2 | 0% | NA | NA |
| p,p'-DDD | LB008301 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| p,p'-DDT | LB008301 | mg/kg | 0.1 | <0.1 | 0% | 116% | 74% |
| Endosulfan sulphate | LB008301 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Endrin Aldehyde | LB008301 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Methoxychlor | LB008301 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Endrin Ketone | LB008301 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Tetrachloro-m-xylene (TCMX) (Surrogate) | LB008301 | % | - | 104% | 3% | 92% | 119% |

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Naphthalene | LB008302 | mg/kg | 0.1 | <0.1 | 0% | 106% | 117% |
| 2-methylnaphthalene | LB008302 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| 1-methylnaphthalene | LB008302 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Acenaphthylene | LB008302 | mg/kg | 0.1 | <0.1 | 0% | 101% | 115% |
| Acenaphthene | LB008302 | mg/kg | 0.1 | <0.1 | 0% | 120% | 135% |
| Fluorene | LB008302 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Phenanthrene | LB008302 | mg/kg | 0.1 | <0.1 | 22 - 33% | 107% | 106% |
| Anthracene | LB008302 | mg/kg | 0.1 | <0.1 | 0% | 110% | 114% |
| Fluoranthene | LB008302 | mg/kg | 0.1 | <0.1 | 16 - 46% | 107% | 89% |
| Pyrene | LB008302 | mg/kg | 0.1 | <0.1 | 15 - 30% | 112% | 99% |
| Benzo(a)anthracene | LB008302 | mg/kg | 0.1 | <0.1 | 6 - 13% | NA | NA |
| Chrysene | LB008302 | mg/kg | 0.1 | <0.1 | 21 - 31% | NA | NA |
| Benzo(b)fluoranthene | LB008302 | mg/kg | 0.1 | <0.1 | 4 - 18% | NA | NA |
| Benzo(k)fluoranthene | LB008302 | mg/kg | 0.1 | <0.1 | 0 - 31% | NA | NA |
| Benzo(a)pyrene | LB008302 | mg/kg | 0.1 | <0.1 | 6 - 24% | 112% | 121% |
| Indeno(1,2,3-cd)pyrene | LB008302 | mg/kg | 0.1 | <0.1 | 7 - 22% | NA | NA |
| Dibenzo(a&h)anthracene | LB008302 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Benzo(ghi)perylene | LB008302 | mg/kg | 0.1 | <0.1 | 10 - 15% | NA | NA |
| Total PAH | LB008302 | mg/kg | 0.8 | <0.8 | 9 - 29% | NA | NA |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| d5-nitrobenzene (Surrogate) | LB008302 | % | - | 124% | 3 - 11% | 116% | 108% |
| 2-fluorobiphenyl (Surrogate) | LB008302 | % | - | 104% | 1 - 15% | 106% | 103% |
| d14-p-terphenyl (Surrogate) | LB008302 | % | - | 114% | 2 - 13% | 115% | 111% |

**PCBs in Soil Method: ME-(AU)-[ENV]AN400/AN420**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery |
|---|---|---|---|---|---|---|
| Arochlor 1016 | LB008301 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1221 | LB008301 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1232 | LB008301 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1242 | LB008301 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1248 | LB008301 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1254 | LB008301 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1260 | LB008301 | mg/kg | 0.2 | <0.2 | 0% | 118% |
| Arochlor 1262 | LB008301 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1268 | LB008301 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Total PCBs (Arochlors) | LB008301 | mg/kg | 1 | <1 | 0% | NA |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery |
|---|---|---|---|---|---|---|
| Tetrachloro-m-xylene (TCMX) (Surrogate) | LB008301 | % | - | 104% | 3% | 99% |

**Total Phenolics in Soil Method: ME-(AU)-[ENV]AN289**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Total Phenols | LB008491 | mg/kg | 0.1 | <0.1 | 0% | 103% | 54% |

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Arsenic, As | LB008317 | mg/kg | 3 | <3 | 1 - 3% | 103% | |
| | LB008318 | mg/kg | 3 | <3 | 1 - 10% | 104% | 79% |
| | LB008319 | mg/kg | 3 | <3 | | 101% | 85% |
| Cadmium, Cd | LB008317 | mg/kg | 0.3 | <0.3 | 1 - 7% | 105% | |
| | LB008318 | mg/kg | 0.3 | <0.3 | 1 - 20% | 106% | 82% |
| | LB008319 | mg/kg | 0.3 | <0.3 | | 104% | 88% |
| Chromium, Cr | LB008317 | mg/kg | 0.3 | <0.3 | 1 - 3% | 102% | |
| | LB008318 | mg/kg | 0.3 | <0.3 | 1 - 7% | 103% | 75% |
| | LB008319 | mg/kg | 0.3 | <0.3 | | 101% | 85% |
| Copper, Cu | LB008317 | mg/kg | 0.5 | <0.5 | 1 - 2% | 100% | |
| | LB008318 | mg/kg | 0.5 | <0.5 | 3 - 4% | 101% | 79% |
| | LB008319 | mg/kg | 0.5 | <0.5 | | 99% | 84% |
| Lead, Pb | LB008317 | mg/kg | 1 | <1 | 1 - 3% | 104% | |
| | LB008318 | mg/kg | 1 | <1 | 5 - 19% | 105% | 72% |
| | LB008319 | mg/kg | 1 | <1 | | 103% | 82% |
| Nickel, Ni | LB008317 | mg/kg | 0.5 | <0.5 | 0 - 3% | 105% | |
| | LB008318 | mg/kg | 0.5 | <0.5 | 1 - 20% | 107% | 81% |
| | LB008319 | mg/kg | 0.5 | <0.5 | | 104% | 88% |
| Zinc, Zn | LB008317 | mg/kg | 0.5 | <0.5 | 1 - 4% | 102% | |
| | LB008318 | mg/kg | 0.5 | <0.5 | 4 - 5% | 103% | 81% |
| | LB008319 | mg/kg | 0.5 | <0.5 | | 101% | 87% |

**TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| TRH C10-C14 | LB008299 | mg/kg | 20 | <20 | 0% | 103% | 118% |
| TRH C15-C28 | LB008299 | mg/kg | 50 | <50 | 0% | 103% | 118% |
| TRH C29-C40 | LB008299 | mg/kg | 150 | <150 | 0% | NA | NA |

**VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434**

Monocyclic Aromatic Hydrocarbons

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Benzene | LB008304 | mg/kg | 0.1 | <0.1 | | 87% | |
| | LB008486 | mg/kg | 0.1 | <0.1 | 0% | 119% | 113% |
| Toluene | LB008304 | mg/kg | 0.1 | <0.1 | | 96% | |
| | LB008486 | mg/kg | 0.1 | <0.1 | 0% | 117% | 118% |
| Ethylbenzene | LB008304 | mg/kg | 0.1 | <0.1 | | 89% | |
| | LB008486 | mg/kg | 0.1 | <0.1 | 0% | 128% | 127% |
| m/p-xylene | LB008304 | mg/kg | 0.2 | <0.2 | | 91% | |
| | LB008486 | mg/kg | 0.2 | <0.2 | 0% | 129% | 126% |
| o-xylene | LB008304 | mg/kg | 0.1 | <0.1 | | 98% | |
| | LB008486 | mg/kg | 0.1 | <0.1 | 0% | 127% | 123% |

Oxygenated Compounds

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| MtBE (Methyl-tert-butyl ether) | LB008304 | mg/kg | 0.1 | <0.1 | | NA | |
| | LB008486 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Dibromofluoromethane (Surrogate) | LB008304 | % | - | 91% | 0% | 85% | |
| | LB008486 | % | - | 103% | 1% | 101% | 102% |
| d4-1,2-dichloroethane (Surrogate) | LB008304 | % | - | 107% | 1% | 105% | |
| | LB008486 | % | - | 100% | 3% | 105% | 103% |
| d8-toluene (Surrogate) | LB008304 | % | - | 98% | 0% | 100% | |
| | LB008486 | % | - | 95% | 5% | 98% | 102% |

# QC SUMMARY

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

**VOC's in Soil** **Method: ME-(AU)-[ENV]AN433/AN434 (continued)**

| | | | | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Bromofluorobenzene (Surrogate) | LB008304 | % | - | 101% | 3% | 103% | |
| | LB008486 | % | - | 101% | 2% | 106% | 102% |

Totals

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Total BTEX* | LB008304 | mg/kg | - | 0 | | NA | |
| | LB008486 | mg/kg | - | 0 | NA | NA | NA |
| Total Xylenes* | LB008304 | mg/kg | 0.3 | <0.3 | | NA | |
| | LB008486 | mg/kg | 0.3 | <0.3 | 0% | NA | NA |

**Volatile Petroleum Hydrocarbons in Soil** **Method: ME-(AU)-[ENV]AN433/AN434**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| TRH C6-C9 | LB008304 | mg/kg | 20 | NVL | | 0% | |
| | LB008572 | mg/kg | 20 | <20 | 0% | 130% | 133% |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (Surrogate) | LB008304 | % | - | 0% | | NVL | |
| | LB008572 | % | - | 108% | 27% | 107% | 121% |

| METHOD | METHODOLOGY SUMMARY |
|---|---|
| AN020 | Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B. |
| AN040 | A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analsysis by ASS or ICP as per USEPA Method 200.8. |
| AN088 | Orbital rolling for Organic pollutants are extracted from soil/sediment by transferring an appropriate mass of sample to a clear soil jar and extracting with 1:1 Dichloromethane/Acetone. Orbital Rolling method is intended for the extraction of semi-volatile organic compounds from soil/sediment samples, and is based somewhat on USEPA method 3570 (Micro Organic extraction and sample preparation). Method 3700. |
| AN234 | The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water. |
| AN311/AN312 | Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500. |
| AN312 | Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500 |
| AN320/AN321 | Metals by ICP-OES: Samples are preserved with 10% nitric acid for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components. |
| AN320/AN321 | Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements. Reference APHA 3120 B. |
| AN400 | OC and OP Pesticides by GC-ECD: The determination of organochlorine (OC) and organophosphorus (OP) pesticides and polychlorinated biphenyls (PCBs) in soils, sludges and groundwater. (Based on USEPA methods 3510, 3550, 8140 and 8080.) |
| AN403 | Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36. |
| AN403 | Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Petroleum Hydrocarbons (TPH) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with diffential polarity of the elluent solvents. |
| AN403 | The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependant on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B. |
| AN420 | (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). |

# METHOD SUMMARY

| METHOD | METHODOLOGY SUMMARY |
|---|---|
| AN420 | SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). |
| AN433/AN434 | VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260. |
| AN602 | Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. |

FOOTNOTES

| | |
|---|---|
| IS | Insufficient sample for analysis. |
| LNR | Sample listed, but not received. |
| * | This analysis is not covered by the scope of accreditation. |
| ^ | Performed by outside laboratory. |
| LOR | Limit of Reporting |
| ↑↓ | Raised or Lowered Limit of Reporting |
| QFH | QC result is above the upper tolerance |
| QFL | QC result is below the lower tolerance |
| - | The sample was not analysed for this analyte |
| NVL | Not Validated |

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: http://www.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf

# STATEMENT OF QA/QC PERFORMANCE AGAINST DATA QUALITY OBJECTIVES

SE103054 R0

## CLIENT DETAILS

| | |
|---|---|
| Contact | Anwar Barbhuyia |
| Client | Geotechnique |
| Address | P.O. Box 880<br>NSW 2751 |
| Telephone | 02 4722 2700 |
| Facsimile | 02 4722 6161 |
| Email | anwar.barbhuyia@geotech.com.au |
| Project | **12576/1 - Marsden Park Precinct** |
| Order Number | (Not specified) |
| Samples | 50 |

## LABORATORY DETAILS

| | |
|---|---|
| Manager | Huong Crawford |
| Laboratory | SGS Alexandria Environmental |
| Address | Unit 16, 33 Maddox St<br>Alexandria NSW 2015 |
| Telephone | +61 2 8594 0400 |
| Facsimile | +61 2 8594 0499 |
| Email | au.environmental.sydney@sgs.com |
| SGS Reference | SE103054 R0 |
| Report Number | 0000011634 |
| Date Reported | 11 Nov 2011 |

## COMMENTS

All the laboratory data for each environmental matrix was compared to the SGS Environmental Services' stated data quality objectives (DQO).
Comments arising from the comparison were made and are reported below.
The data relating to sampling was taken from the chain of custody document and was supplied by the client.
This QA/QC statement must be read in conjunction with the referenced analytical report.
The statement and the analytical report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

| | | |
|---|---|---|
| MS | Total Phenolics in Soil | 1 Item |

## SAMPLE SUMMARY

| | | | |
|---|---|---|---|
| Sample counts by matrix | 36 Soil,2 Bulk,3 Wat | Type of documentation received | COC |
| Date documentation received | 04/11/2011@1:02pr | Samples received in good order | Yes |
| Samples received without headspace | Yes | Sample temperature upon receipt | 2.7°C |
| Sample container provider | SGS | Turnaround time requested | Standard |
| Samples received in correct containers | Yes | Sufficient sample for analysis | Yes |
| Sample cooling method | Ice Bricks | Samples clearly labelled | Yes |
| Complete documentation received | Yes | | |

# HOLDING TIME SUMMARY

SE103054 R0

## HOLDING TIMES

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field sampling guide for containers and holding time" (Ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

The extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and Analysis dates are shown in **Green** when within suggested criteria and in **Bold** with an appended dagger symbol and Red† when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

| Sample Name | Sample Number | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| **Fibre ID in bulk materials** Method: ME-(AU)-[ENV]AN602 | | | | | | | | |
| TP55 0-0.3_ZLB | SE103054.025 | LB008482 | 02 Nov 2011 | 03 Nov 2011 | 01 Nov 2012 | 09 Nov 2011 | 01 Nov 2012 | 10 Nov 2011 |
| SP1_ZLB | SE103054.036 | LB008482 | 02 Nov 2011 | 03 Nov 2011 | 01 Nov 2012 | 09 Nov 2011 | 01 Nov 2012 | 10 Nov 2011 |
| **Fibre Identification in soil** Method: ME-(AU)-[ENV]AN602 | | | | | | | | |
| TP55 0-0.3 | SE103054.024 | LB008574 | 02 Nov 2011 | 03 Nov 2011 | 01 Nov 2012 | 10 Nov 2011 | 01 Nov 2012 | 11 Nov 2011 |
| SP1 | SE103054.035 | LB008574 | 02 Nov 2011 | 03 Nov 2011 | 01 Nov 2012 | 10 Nov 2011 | 01 Nov 2012 | 11 Nov 2011 |
| **Mercury (dissolved) in Water** Method: ME-(AU)-[ENV]AN311/AN312 | | | | | | | | |
| Rinsate R3 | SE103054.039 | LB008427 | 31 Oct 2011 | 03 Nov 2011 | 28 Nov 2011 | 09 Nov 2011 | 28 Nov 2011 | 09 Nov 2011 |
| Rinsate R4 | SE103054.040 | LB008427 | 01 Nov 2011 | 03 Nov 2011 | 29 Nov 2011 | 09 Nov 2011 | 29 Nov 2011 | 09 Nov 2011 |
| Rinsate R5 | SE103054.041 | LB008427 | 02 Nov 2011 | 03 Nov 2011 | 30 Nov 2011 | 09 Nov 2011 | 30 Nov 2011 | 09 Nov 2011 |
| **Mercury in Soil** Method: ME-(AU)-[ENV]AN312 | | | | | | | | |
| TP41 0-0.15 | SE103054.008 | LB008322 | 01 Nov 2011 | 03 Nov 2011 | 29 Nov 2011 | 08 Nov 2011 | 29 Nov 2011 | 08 Nov 2011 |
| TP47 0-0.2 | SE103054.014 | LB008322 | 01 Nov 2011 | 03 Nov 2011 | 29 Nov 2011 | 08 Nov 2011 | 29 Nov 2011 | 08 Nov 2011 |
| TP50 0-0.15 | SE103054.018 | LB008322 | 01 Nov 2011 | 03 Nov 2011 | 29 Nov 2011 | 08 Nov 2011 | 29 Nov 2011 | 08 Nov 2011 |
| TP53 0-0.3 | SE103054.022 | LB008322 | 02 Nov 2011 | 03 Nov 2011 | 30 Nov 2011 | 08 Nov 2011 | 30 Nov 2011 | 08 Nov 2011 |
| TP59 0-0.3 | SE103054.030 | LB008322 | 02 Nov 2011 | 03 Nov 2011 | 30 Nov 2011 | 08 Nov 2011 | 30 Nov 2011 | 08 Nov 2011 |
| AST1 0-0.2 | SE103054.031 | LB008322 | 31 Oct 2011 | 03 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 |
| UST1 0-0.3 | SE103054.032 | LB008322 | 31 Oct 2011 | 03 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 |
| SD4 0-0.1 | SE103054.033 | LB008322 | 01 Nov 2011 | 03 Nov 2011 | 29 Nov 2011 | 08 Nov 2011 | 29 Nov 2011 | 08 Nov 2011 |
| SD5 0-0.1 | SE103054.034 | LB008322 | 01 Nov 2011 | 03 Nov 2011 | 29 Nov 2011 | 08 Nov 2011 | 29 Nov 2011 | 08 Nov 2011 |
| SP1 | SE103054.035 | LB008322 | 02 Nov 2011 | 03 Nov 2011 | 30 Nov 2011 | 08 Nov 2011 | 30 Nov 2011 | 08 Nov 2011 |
| Duplicate D3 | SE103054.037 | LB008322 | 01 Nov 2011 | 03 Nov 2011 | 29 Nov 2011 | 08 Nov 2011 | 29 Nov 2011 | 08 Nov 2011 |
| Duplicate D4 | SE103054.038 | LB008322 | 01 Nov 2011 | 03 Nov 2011 | 29 Nov 2011 | 08 Nov 2011 | 29 Nov 2011 | 08 Nov 2011 |
| C12 | SE103054.043 | LB008322 | 31 Oct 2011 | 03 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 |
| C13 | SE103054.044 | LB008322 | 31 Oct 2011 | 03 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 |
| C14 | SE103054.045 | LB008322 | 31 Oct 2011 | 03 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 |
| C15 | SE103054.046 | LB008322 | 31 Oct 2011 | 03 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 |
| C16 | SE103054.047 | LB008322 | 31 Oct 2011 | 03 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 |
| C17 | SE103054.048 | LB008322 | 31 Oct 2011 | 03 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 |
| C18 | SE103054.049 | LB008322 | 31 Oct 2011 | 03 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 |
| C19 | SE103054.050 | LB008323 | 31 Oct 2011 | 03 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 | 28 Nov 2011 | 08 Nov 2011 |
| **Metals in Water (Dissolved) by ICPOES** Method: ME-(AU)-[ENV]AN320/AN321 | | | | | | | | |
| Rinsate R3 | SE103054.039 | LB008557 | 31 Oct 2011 | 03 Nov 2011 | 28 Apr 2012 | 10 Nov 2011 | 28 Apr 2012 | 10 Nov 2011 |
| Rinsate R4 | SE103054.040 | LB008557 | 01 Nov 2011 | 03 Nov 2011 | 29 Apr 2012 | 10 Nov 2011 | 29 Apr 2012 | 10 Nov 2011 |
| Rinsate R5 | SE103054.041 | LB008557 | 02 Nov 2011 | 03 Nov 2011 | 30 Apr 2012 | 10 Nov 2011 | 30 Apr 2012 | 10 Nov 2011 |
| **Moisture Content** Method: ME-(AU)-[ENV]AN234 | | | | | | | | |
| TP3 0-0.1 | SE103054.001 | LB008311 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP17 0-0.1 | SE103054.002 | LB008311 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP20 0-0.15 | SE103054.003 | LB008311 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP37 0-0.15 | SE103054.004 | LB008311 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP38 0-0.15 | SE103054.005 | LB008311 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP39 0-0.15 | SE103054.006 | LB008311 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP40 0-0.15 | SE103054.007 | LB008311 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP41 0-0.15 | SE103054.008 | LB008311 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| TP42 0-0.1 | SE103054.009 | LB008311 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP43 0-0.15 | SE103054.010 | LB008311 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP44 0-0.1 | SE103054.011 | LB008311 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |

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SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field sampling guide for containers and holding time” (Ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

The extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and Analysis dates are shown in **Green** when within suggested criteria and in **Bold** with an appended dagger symbol and Red† when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

| Sample Name | Sample Number | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| TP45 0-0.1 | SE103054.012 | LB008311 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP46 0-0.1 | SE103054.013 | LB008311 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP47 0-0.2 | SE103054.014 | LB008311 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| TP47 0.5-0.8 | SE103054.015 | LB008311 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP48 0-0.1 | SE103054.016 | LB008311 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP49 0-0.15 | SE103054.017 | LB008311 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP50 0-0.15 | SE103054.018 | LB008311 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| TP50 0.3-0.6 | SE103054.019 | LB008311 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP51 0-0.15 | SE103054.020 | LB008312 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP52 0-0.15 | SE103054.021 | LB008312 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP53 0-0.3 | SE103054.022 | LB008312 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| TP54 0-0.3 | SE103054.023 | LB008312 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP55 0-0.3 | SE103054.024 | LB008312 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP55 0.5-0.8 | SE103054.026 | LB008312 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP56 0-0.1 | SE103054.027 | LB008312 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP57 0-0.1 | SE103054.028 | LB008312 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP58 0-0.15 | SE103054.029 | LB008312 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 11 Nov 2011 |
| TP59 0-0.3 | SE103054.030 | LB008312 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| AST1 0-0.2 | SE103054.031 | LB008312 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| UST1 0-0.3 | SE103054.032 | LB008312 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| SD4 0-0.1 | SE103054.033 | LB008312 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| SD5 0-0.1 | SE103054.034 | LB008312 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| SP1 | SE103054.035 | LB008312 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| Duplicate D3 | SE103054.037 | LB008312 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| Duplicate D4 | SE103054.038 | LB008312 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| C12 | SE103054.043 | LB008312 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| C13 | SE103054.044 | LB008312 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| C14 | SE103054.045 | LB008312 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| C15 | SE103054.046 | LB008312 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| C16 | SE103054.047 | LB008312 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| C17 | SE103054.048 | LB008312 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| C18 | SE103054.049 | LB008312 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| C19 | SE103054.050 | LB008312 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |

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## HOLDING TIMES

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field sampling guide for containers and holding time" (Ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

The extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and Analysis dates are shown in **Green** when within suggested criteria and in **Bold** with an appended dagger symbol and Red† when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

| Sample Name | Sample Number | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| **OC Pesticides in Soil** Method: ME-(AU)-[ENV]AN400/AN420 | | | | | | | | |
| TP41 0-0.15 | SE103054.008 | LB008301 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| TP47 0-0.2 | SE103054.014 | LB008301 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| TP50 0-0.15 | SE103054.018 | LB008301 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| TP53 0-0.3 | SE103054.022 | LB008301 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| TP59 0-0.3 | SE103054.030 | LB008301 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| AST1 0-0.2 | SE103054.031 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| UST1 0-0.3 | SE103054.032 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| SD4 0-0.1 | SE103054.033 | LB008301 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| SD5 0-0.1 | SE103054.034 | LB008301 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| SP1 | SE103054.035 | LB008301 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| Duplicate D3 | SE103054.037 | LB008301 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| Duplicate D4 | SE103054.038 | LB008301 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| C12 | SE103054.043 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| C13 | SE103054.044 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| C14 | SE103054.045 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| C15 | SE103054.046 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| C16 | SE103054.047 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| C17 | SE103054.048 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| C18 | SE103054.049 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| C19 | SE103054.050 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil** Method: ME-(AU)-[ENV]AN420 | | | | | | | | |
| TP47 0-0.2 | SE103054.014 | LB008302 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 09 Nov 2011 |
| TP53 0-0.3 | SE103054.022 | LB008302 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 09 Nov 2011 |
| TP59 0-0.3 | SE103054.030 | LB008302 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 09 Nov 2011 |
| AST1 0-0.2 | SE103054.031 | LB008302 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 09 Nov 2011 |
| UST1 0-0.3 | SE103054.032 | LB008302 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 09 Nov 2011 |
| SP1 | SE103054.035 | LB008302 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 09 Nov 2011 |
| Duplicate D3 | SE103054.037 | LB008302 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 09 Nov 2011 |
| C16 | SE103054.047 | LB008302 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 09 Nov 2011 |
| C19 | SE103054.050 | LB008302 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 09 Nov 2011 |
| **PCBs in Soil** Method: ME-(AU)-[ENV]AN400/AN420 | | | | | | | | |
| TP41 0-0.15 | SE103054.008 | LB008301 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| TP47 0-0.2 | SE103054.014 | LB008301 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| TP50 0-0.15 | SE103054.018 | LB008301 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| TP53 0-0.3 | SE103054.022 | LB008301 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| TP59 0-0.3 | SE103054.030 | LB008301 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| AST1 0-0.2 | SE103054.031 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| UST1 0-0.3 | SE103054.032 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| SD4 0-0.1 | SE103054.033 | LB008301 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| SD5 0-0.1 | SE103054.034 | LB008301 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| SP1 | SE103054.035 | LB008301 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| Duplicate D3 | SE103054.037 | LB008301 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| Duplicate D4 | SE103054.038 | LB008301 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| C12 | SE103054.043 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| C13 | SE103054.044 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| C14 | SE103054.045 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| C15 | SE103054.046 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| C16 | SE103054.047 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| C17 | SE103054.048 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |

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SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field sampling guide for containers and holding time” (Ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

The extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and Analysis dates are shown in **Green** when within suggested criteria and in **Bold** with an appended dagger symbol and Red† when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

| Sample Name | Sample Number | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| C18 | SE103054.049 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| C19 | SE103054.050 | LB008301 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 11 Nov 2011 |
| **Total Phenolics in Soil** **Method: ME-(AU)-[ENV]AN289** | | | | | | | | |
| AST1 0-0.2 | SE103054.031 | LB008491 | 31 Oct 2011 | 03 Nov 2011 | 28 Nov 2011 | 09 Nov 2011 | 28 Nov 2011 | 09 Nov 2011 |
| UST1 0-0.3 | SE103054.032 | LB008491 | 31 Oct 2011 | 03 Nov 2011 | 28 Nov 2011 | 09 Nov 2011 | 28 Nov 2011 | 09 Nov 2011 |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest** **Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | | | |
| TP41 0-0.15 | SE103054.008 | LB008319 | 01 Nov 2011 | 03 Nov 2011 | 29 Apr 2012 | 08 Nov 2011 | 29 Apr 2012 | 10 Nov 2011 |
| TP47 0-0.2 | SE103054.014 | LB008319 | 01 Nov 2011 | 03 Nov 2011 | 29 Apr 2012 | 08 Nov 2011 | 29 Apr 2012 | 10 Nov 2011 |
| TP50 0-0.15 | SE103054.018 | LB008317 | 01 Nov 2011 | 03 Nov 2011 | 29 Apr 2012 | 08 Nov 2011 | 29 Apr 2012 | 10 Nov 2011 |
| TP53 0-0.3 | SE103054.022 | LB008317 | 02 Nov 2011 | 03 Nov 2011 | 30 Apr 2012 | 08 Nov 2011 | 30 Apr 2012 | 10 Nov 2011 |
| TP59 0-0.3 | SE103054.030 | LB008317 | 02 Nov 2011 | 03 Nov 2011 | 30 Apr 2012 | 08 Nov 2011 | 30 Apr 2012 | 10 Nov 2011 |
| AST1 0-0.2 | SE103054.031 | LB008317 | 31 Oct 2011 | 03 Nov 2011 | 28 Apr 2012 | 08 Nov 2011 | 28 Apr 2012 | 10 Nov 2011 |
| UST1 0-0.3 | SE103054.032 | LB008317 | 31 Oct 2011 | 03 Nov 2011 | 28 Apr 2012 | 08 Nov 2011 | 28 Apr 2012 | 10 Nov 2011 |
| SD4 0-0.1 | SE103054.033 | LB008317 | 01 Nov 2011 | 03 Nov 2011 | 29 Apr 2012 | 08 Nov 2011 | 29 Apr 2012 | 10 Nov 2011 |
| SD5 0-0.1 | SE103054.034 | LB008317 | 01 Nov 2011 | 03 Nov 2011 | 29 Apr 2012 | 08 Nov 2011 | 29 Apr 2012 | 10 Nov 2011 |
| SP1 | SE103054.035 | LB008317 | 02 Nov 2011 | 03 Nov 2011 | 30 Apr 2012 | 08 Nov 2011 | 30 Apr 2012 | 10 Nov 2011 |
| Duplicate D3 | SE103054.037 | LB008317 | 01 Nov 2011 | 03 Nov 2011 | 29 Apr 2012 | 08 Nov 2011 | 29 Apr 2012 | 10 Nov 2011 |
| Duplicate D4 | SE103054.038 | LB008317 | 01 Nov 2011 | 03 Nov 2011 | 29 Apr 2012 | 08 Nov 2011 | 29 Apr 2012 | 10 Nov 2011 |
| C12 | SE103054.043 | LB008317 | 31 Oct 2011 | 03 Nov 2011 | 28 Apr 2012 | 08 Nov 2011 | 28 Apr 2012 | 10 Nov 2011 |
| C13 | SE103054.044 | LB008317 | 31 Oct 2011 | 03 Nov 2011 | 28 Apr 2012 | 08 Nov 2011 | 28 Apr 2012 | 10 Nov 2011 |
| C14 | SE103054.045 | LB008317 | 31 Oct 2011 | 03 Nov 2011 | 28 Apr 2012 | 08 Nov 2011 | 28 Apr 2012 | 10 Nov 2011 |
| C15 | SE103054.046 | LB008317 | 31 Oct 2011 | 03 Nov 2011 | 28 Apr 2012 | 08 Nov 2011 | 28 Apr 2012 | 10 Nov 2011 |
| C16 | SE103054.047 | LB008317 | 31 Oct 2011 | 03 Nov 2011 | 28 Apr 2012 | 08 Nov 2011 | 28 Apr 2012 | 10 Nov 2011 |
| C17 | SE103054.048 | LB008317 | 31 Oct 2011 | 03 Nov 2011 | 28 Apr 2012 | 08 Nov 2011 | 28 Apr 2012 | 10 Nov 2011 |
| C18 | SE103054.049 | LB008318 | 31 Oct 2011 | 03 Nov 2011 | 28 Apr 2012 | 08 Nov 2011 | 28 Apr 2012 | 10 Nov 2011 |
| C19 | SE103054.050 | LB008318 | 31 Oct 2011 | 03 Nov 2011 | 28 Apr 2012 | 08 Nov 2011 | 28 Apr 2012 | 10 Nov 2011 |

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## HOLDING TIMES

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field sampling guide for containers and holding time" (Ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

The extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and Analysis dates are shown in **Green** when within suggested criteria and in **Bold** with an appended dagger symbol and Red† when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

| Sample Name | Sample Number | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403** | | | | | | | | |
| TP41 0-0.15 | SE103054.008 | LB008299 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| TP47 0-0.2 | SE103054.014 | LB008299 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| TP50 0-0.15 | SE103054.018 | LB008299 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| TP53 0-0.3 | SE103054.022 | LB008299 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| TP59 0-0.3 | SE103054.030 | LB008299 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| AST1 0-0.2 | SE103054.031 | LB008299 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| UST1 0-0.3 | SE103054.032 | LB008299 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| SD4 0-0.1 | SE103054.033 | LB008299 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| SD5 0-0.1 | SE103054.034 | LB008299 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| SP1 | SE103054.035 | LB008299 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| Duplicate D3 | SE103054.037 | LB008299 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| Duplicate D4 | SE103054.038 | LB008299 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| C12 | SE103054.043 | LB008299 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| C13 | SE103054.044 | LB008299 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| C14 | SE103054.045 | LB008299 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| C15 | SE103054.046 | LB008299 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| C16 | SE103054.047 | LB008299 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| C17 | SE103054.048 | LB008299 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| C18 | SE103054.049 | LB008299 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| C19 | SE103054.050 | LB008299 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | | | |
| TP47 0-0.2 | SE103054.014 | LB008486 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 09 Nov 2011 | 19 Dec 2011 | 10 Nov 2011 |
| TP53 0-0.3 | SE103054.022 | LB008486 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 09 Nov 2011 | 19 Dec 2011 | 10 Nov 2011 |
| AST1 0-0.2 | SE103054.031 | LB008486 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 09 Nov 2011 | 19 Dec 2011 | 10 Nov 2011 |
| UST1 0-0.3 | SE103054.032 | LB008486 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 09 Nov 2011 | 19 Dec 2011 | 10 Nov 2011 |
| SP1 | SE103054.035 | LB008486 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 09 Nov 2011 | 19 Dec 2011 | 10 Nov 2011 |
| Duplicate D3 | SE103054.037 | LB008486 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 09 Nov 2011 | 19 Dec 2011 | 10 Nov 2011 |
| Trip Spike TS1 | SE103054.042 | LB008486 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 09 Nov 2011 | 19 Dec 2011 | 10 Nov 2011 |
| **Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | | | |
| TP47 0-0.2 | SE103054.014 | LB008572 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 10 Nov 2011 | 20 Dec 2011 | 10 Nov 2011 |
| TP53 0-0.3 | SE103054.022 | LB008572 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 10 Nov 2011 | 20 Dec 2011 | 10 Nov 2011 |
| AST1 0-0.2 | SE103054.031 | LB008572 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 10 Nov 2011 | 20 Dec 2011 | 10 Nov 2011 |
| UST1 0-0.3 | SE103054.032 | LB008572 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 10 Nov 2011 | 20 Dec 2011 | 10 Nov 2011 |
| SP1 | SE103054.035 | LB008572 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 10 Nov 2011 | 20 Dec 2011 | 10 Nov 2011 |
| Duplicate D3 | SE103054.037 | LB008572 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | 10 Nov 2011 | 20 Dec 2011 | 10 Nov 2011 |
| Trip Spike TS1 | SE103054.042 | LB008304 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | 07 Nov 2011 | 17 Dec 2011 | 10 Nov 2011 |

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.
Result is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| Parameter | Sample Name | Sample Number | Units | Criteria | Recovery % |
|---|---|---|---|---|---|
| **OC Pesticides in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | TP41 0-0.15 | SE103054.008 | % | 60 - 130% | 113 |
| | TP47 0-0.2 | SE103054.014 | % | 60 - 130% | 113 |
| | TP50 0-0.15 | SE103054.018 | % | 60 - 130% | 114 |
| | TP53 0-0.3 | SE103054.022 | % | 60 - 130% | 114 |
| | TP59 0-0.3 | SE103054.030 | % | 60 - 130% | 111 |
| | AST1 0-0.2 | SE103054.031 | % | 60 - 130% | 93 |
| | UST1 0-0.3 | SE103054.032 | % | 60 - 130% | 108 |
| | SD4 0-0.1 | SE103054.033 | % | 60 - 130% | 130 |
| | SD5 0-0.1 | SE103054.034 | % | 60 - 130% | 122 |
| | SP1 | SE103054.035 | % | 60 - 130% | 115 |
| | Duplicate D3 | SE103054.037 | % | 60 - 130% | 113 |
| | Duplicate D4 | SE103054.038 | % | 60 - 130% | 118 |
| | C12 | SE103054.043 | % | 60 - 130% | 121 |
| | C13 | SE103054.044 | % | 60 - 130% | 115 |
| | C14 | SE103054.045 | % | 60 - 130% | 118 |
| | C15 | SE103054.046 | % | 60 - 130% | 117 |
| | C16 | SE103054.047 | % | 60 - 130% | 121 |
| | C17 | SE103054.048 | % | 60 - 130% | 122 |
| | C18 | SE103054.049 | % | 60 - 130% | 110 |
| | C19 | SE103054.050 | % | 60 - 130% | 103 |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | | | |
| 2-fluorobiphenyl (Surrogate) | TP47 0-0.2 | SE103054.014 | % | 60 - 130% | 91 |
| | TP53 0-0.3 | SE103054.022 | % | 60 - 130% | 89 |
| | TP59 0-0.3 | SE103054.030 | % | 60 - 130% | 101 |
| | AST1 0-0.2 | SE103054.031 | % | 60 - 130% | 114 |
| | UST1 0-0.3 | SE103054.032 | % | 60 - 130% | 102 |
| | SP1 | SE103054.035 | % | 60 - 130% | 111 |
| | Duplicate D3 | SE103054.037 | % | 60 - 130% | 106 |
| | C16 | SE103054.047 | % | 60 - 130% | 100 |
| | C19 | SE103054.050 | % | 60 - 130% | 108 |
| d14-p-terphenyl (Surrogate) | TP47 0-0.2 | SE103054.014 | % | 60 - 130% | 112 |
| | TP53 0-0.3 | SE103054.022 | % | 60 - 130% | 111 |
| | TP59 0-0.3 | SE103054.030 | % | 60 - 130% | 107 |
| | AST1 0-0.2 | SE103054.031 | % | 60 - 130% | 118 |
| | UST1 0-0.3 | SE103054.032 | % | 60 - 130% | 102 |
| | SP1 | SE103054.035 | % | 60 - 130% | 128 |
| | Duplicate D3 | SE103054.037 | % | 60 - 130% | 117 |
| | C16 | SE103054.047 | % | 60 - 130% | 116 |
| | C19 | SE103054.050 | % | 60 - 130% | 118 |
| d5-nitrobenzene (Surrogate) | TP47 0-0.2 | SE103054.014 | % | 60 - 130% | 111 |
| | TP53 0-0.3 | SE103054.022 | % | 60 - 130% | 110 |
| | TP59 0-0.3 | SE103054.030 | % | 60 - 130% | 109 |
| | AST1 0-0.2 | SE103054.031 | % | 60 - 130% | 117 |
| | UST1 0-0.3 | SE103054.032 | % | 60 - 130% | 104 |
| | SP1 | SE103054.035 | % | 60 - 130% | 121 |
| | Duplicate D3 | SE103054.037 | % | 60 - 130% | 113 |
| | C16 | SE103054.047 | % | 60 - 130% | 112 |
| | C19 | SE103054.050 | % | 60 - 130% | 117 |
| **PCBs in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | TP47 0-0.2 | SE103054.014 | % | 60 - 130% | 113 |
| | TP53 0-0.3 | SE103054.022 | % | 60 - 130% | 114 |
| | AST1 0-0.2 | SE103054.031 | % | 60 - 130% | 93 |
| | UST1 0-0.3 | SE103054.032 | % | 60 - 130% | 108 |
| | SP1 | SE103054.035 | % | 60 - 130% | 115 |
| | Duplicate D3 | SE103054.037 | % | 60 - 130% | 113 |

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.
Result is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| Parameter | Sample Name | Sample Number | Units | Criteria | Recovery % |
|---|---|---|---|---|---|
| **Continued... PCBs in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | C16 | SE103054.047 | % | 60 - 130% | 121 |
| | C19 | SE103054.050 | % | 60 - 130% | 103 |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | |
| Bromofluorobenzene (Surrogate) | TP47 0-0.2 | SE103054.014 | % | 60 - 130% | 97 |
| | TP53 0-0.3 | SE103054.022 | % | 60 - 130% | 107 |
| | AST1 0-0.2 | SE103054.031 | % | 60 - 130% | 100 |
| | UST1 0-0.3 | SE103054.032 | % | 60 - 130% | 101 |
| | SP1 | SE103054.035 | % | 60 - 130% | 102 |
| | Duplicate D3 | SE103054.037 | % | 60 - 130% | 101 |
| | Trip Spike TS1 | SE103054.042 | % | 60 - 130% | 88 |
| d4-1,2-dichloroethane (Surrogate) | TP47 0-0.2 | SE103054.014 | % | 60 - 130% | 102 |
| | TP53 0-0.3 | SE103054.022 | % | 60 - 130% | 98 |
| | AST1 0-0.2 | SE103054.031 | % | 60 - 130% | 100 |
| | UST1 0-0.3 | SE103054.032 | % | 60 - 130% | 101 |
| | SP1 | SE103054.035 | % | 60 - 130% | 100 |
| | Duplicate D3 | SE103054.037 | % | 60 - 130% | 101 |
| | Trip Spike TS1 | SE103054.042 | % | 60 - 130% | 98 |
| d8-toluene (Surrogate) | TP47 0-0.2 | SE103054.014 | % | 60 - 130% | 101 |
| | TP53 0-0.3 | SE103054.022 | % | 60 - 130% | 92 |
| | AST1 0-0.2 | SE103054.031 | % | 60 - 130% | 94 |
| | UST1 0-0.3 | SE103054.032 | % | 60 - 130% | 97 |
| | SP1 | SE103054.035 | % | 60 - 130% | 100 |
| | Duplicate D3 | SE103054.037 | % | 60 - 130% | 96 |
| | Trip Spike TS1 | SE103054.042 | % | 60 - 130% | 94 |
| Dibromofluoromethane (Surrogate) | TP47 0-0.2 | SE103054.014 | % | 60 - 130% | 102 |
| | TP53 0-0.3 | SE103054.022 | % | 60 - 130% | 98 |
| | AST1 0-0.2 | SE103054.031 | % | 60 - 130% | 99 |
| | UST1 0-0.3 | SE103054.032 | % | 60 - 130% | 102 |
| | SP1 | SE103054.035 | % | 60 - 130% | 100 |
| | Duplicate D3 | SE103054.037 | % | 60 - 130% | 101 |
| | Trip Spike TS1 | SE103054.042 | % | 60 - 130% | 94 |
| **Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | |
| Trifluorotoluene (Surrogate) | TP47 0-0.2 | SE103054.014 | % | 60 - 130% | 116 |
| | TP53 0-0.3 | SE103054.022 | % | 60 - 130% | 86 |
| | AST1 0-0.2 | SE103054.031 | % | 60 - 130% | 130 |
| | UST1 0-0.3 | SE103054.032 | % | 60 - 130% | 124 |
| | SP1 | SE103054.035 | % | 60 - 130% | 126 |
| | Duplicate D3 | SE103054.037 | % | 60 - 130% | 123 |

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, which is typically 2.5 times the statistically determined method detection limit (MDL).
Result is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| Parameter | Units | Control LOR | BLK MB |
|---|---|---|---|
| **Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311/AN312** | | | |
| LB008427.001 | | | |
| Mercury | mg/L | 0.0001 | <0.0001 |
| **Mercury in Soil Method: ME-(AU)-[ENV]AN312** | | | |
| LB008322.001 | | | |
| Mercury | mg/kg | 0.05 | <0.05 |
| LB008323.001 | | | |
| Mercury | mg/kg | 0.05 | <0.05 |
| **Metals in Water (Dissolved) by ICPOES Method: ME-(AU)-[ENV]AN320/AN321** | | | |
| LB008557.001 | | | |
| Arsenic, As | mg/L | 0.05 | <0.05 |
| Cadmium, Cd | mg/L | 0.005 | <0.005 |
| Chromium, Cr | mg/L | 0.005 | <0.005 |
| Copper, Cu | mg/L | 0.01 | <0.01 |
| Lead, Pb | mg/L | 0.02 | <0.02 |
| Nickel, Ni | mg/L | 0.01 | <0.010 |
| Zinc, Zn | mg/L | 0.01 | <0.01 |
| **OC Pesticides in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | |
| LB008301.001 | | | |
| Hexachlorobenzene (HCB) | mg/kg | 0.1 | <0.1 |
| Alpha BHC | mg/kg | 0.1 | <0.1 |
| Lindane | mg/kg | 0.1 | <0.1 |
| Heptachlor | mg/kg | 0.1 | <0.1 |
| Aldrin | mg/kg | 0.1 | <0.1 |
| Beta BHC | mg/kg | 0.1 | <0.1 |
| Delta BHC | mg/kg | 0.1 | <0.1 |
| Heptachlor epoxide | mg/kg | 0.1 | <0.1 |
| Alpha Endosulfan | mg/kg | 0.2 | <0.2 |
| Gamma Chlordane | mg/kg | 0.1 | <0.1 |
| Alpha Chlordane | mg/kg | 0.1 | <0.1 |
| p,p'-DDE | mg/kg | 0.1 | <0.1 |
| Dieldrin | mg/kg | 0.05 | <0.1 |
| Endrin | mg/kg | 0.2 | <0.2 |
| Beta Endosulfan | mg/kg | 0.2 | <0.2 |
| p,p'-DDD | mg/kg | 0.1 | <0.1 |
| p,p'-DDT | mg/kg | 0.1 | <0.1 |
| Endosulfan sulphate | mg/kg | 0.1 | <0.1 |
| Endrin Aldehyde | mg/kg | 0.1 | <0.1 |
| Methoxychlor | mg/kg | 0.1 | <0.1 |
| Endrin Ketone | mg/kg | 0.1 | <0.1 |
| Surrogates | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | 104 |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | |
| LB008302.001 | | | |
| Naphthalene | mg/kg | 0.1 | <0.1 |
| 2-methylnaphthalene | mg/kg | 0.1 | <0.1 |
| 1-methylnaphthalene | mg/kg | 0.1 | <0.1 |
| Acenaphthylene | mg/kg | 0.1 | <0.1 |
| Acenaphthene | mg/kg | 0.1 | <0.1 |
| Fluorene | mg/kg | 0.1 | <0.1 |
| Phenanthrene | mg/kg | 0.1 | <0.1 |

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, which is typically 2.5 times the statistically determined method detection limit (MDL).
Result is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| Parameter | Units | Control LOR | BLK MB |
|---|---|---|---|
| **Continued... PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | |
| LB008302.001 | | | |
| Anthracene | mg/kg | 0.1 | <0.1 |
| Fluoranthene | mg/kg | 0.1 | <0.1 |
| Pyrene | mg/kg | 0.1 | <0.1 |
| Benzo(a)anthracene | mg/kg | 0.1 | <0.1 |
| Chrysene | mg/kg | 0.1 | <0.1 |
| Benzo(a)pyrene | mg/kg | 0.1 | <0.1 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | <0.1 |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | <0.1 |
| Benzo(ghi)perylene | mg/kg | 0.1 | <0.1 |
| Total PAH | mg/kg | 0.8 | <0.8 |
| Surrogates | | | |
| d5-nitrobenzene (Surrogate) | % | - | 124 |
| 2-fluorobiphenyl (Surrogate) | % | - | 104 |
| d14-p-terphenyl (Surrogate) | % | - | 114 |
| **PCBs in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | |
| LB008301.001 | | | |
| Arochlor 1016 | mg/kg | 0.2 | <0.2 |
| Arochlor 1221 | mg/kg | 0.2 | <0.2 |
| Arochlor 1232 | mg/kg | 0.2 | <0.2 |
| Arochlor 1242 | mg/kg | 0.2 | <0.2 |
| Arochlor 1248 | mg/kg | 0.2 | <0.2 |
| Arochlor 1254 | mg/kg | 0.2 | <0.2 |
| Arochlor 1260 | mg/kg | 0.2 | <0.2 |
| Arochlor 1262 | mg/kg | 0.2 | <0.2 |
| Arochlor 1268 | mg/kg | 0.2 | <0.2 |
| Total PCBs (Arochlors) | mg/kg | 1 | <1 |
| Surrogates | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | 104 |
| **Total Phenolics in Soil Method: ME-(AU)-[ENV]AN289** | | | |
| LB008491.001 | | | |
| Total Phenols | mg/kg | 0.1 | <0.1 |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320** | | | |
| LB008317.001 | | | |
| Arsenic, As | mg/kg | 3 | <3 |
| Cadmium, Cd | mg/kg | 0.3 | <0.3 |
| Chromium, Cr | mg/kg | 0.3 | <0.3 |
| Copper, Cu | mg/kg | 0.5 | <0.5 |
| Lead, Pb | mg/kg | 1 | <1 |
| Nickel, Ni | mg/kg | 0.5 | <0.5 |
| Zinc, Zn | mg/kg | 0.5 | <0.5 |
| LB008318.001 | | | |
| Arsenic, As | mg/kg | 3 | <3 |
| Cadmium, Cd | mg/kg | 0.3 | <0.3 |
| Chromium, Cr | mg/kg | 0.3 | <0.3 |
| Copper, Cu | mg/kg | 0.5 | <0.5 |
| Lead, Pb | mg/kg | 1 | <1 |
| Nickel, Ni | mg/kg | 0.5 | <0.5 |
| Zinc, Zn | mg/kg | 0.5 | <0.5 |

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, which is typically 2.5 times the statistically determined method detection limit (MDL).
Result is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| Parameter | Units | Control LOR | BLK MB |
|---|---|---|---|
| **Continued... Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320** | | | |
| LB008319.001 | | | |
| Arsenic, As | mg/kg | 3 | <3 |
| Cadmium, Cd | mg/kg | 0.3 | <0.3 |
| Chromium, Cr | mg/kg | 0.3 | <0.3 |
| Copper, Cu | mg/kg | 0.5 | <0.5 |
| Lead, Pb | mg/kg | 1 | <1 |
| Nickel, Ni | mg/kg | 0.5 | <0.5 |
| Zinc, Zn | mg/kg | 0.5 | <0.5 |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403** | | | |
| LB008299.001 | | | |
| TRH C10-C14 | mg/kg | 20 | <20 |
| TRH C15-C28 | mg/kg | 50 | <50 |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | |
| LB008486.001 | | | |
| Monocyclic Aromatic Hydrocarbons | | | |
| Benzene | mg/kg | 0.1 | <0.1 |
| Toluene | mg/kg | 0.1 | <0.1 |
| Ethylbenzene | mg/kg | 0.1 | <0.1 |
| m/p-xylene | mg/kg | 0.2 | <0.2 |
| o-xylene | mg/kg | 0.1 | <0.1 |
| Oxygenated Compounds | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | <0.1 |
| Surrogates | | | |
| Dibromofluoromethane (Surrogate) | % | - | 103 |
| d4-1,2-dichloroethane (Surrogate) | % | - | 100 |
| d8-toluene (Surrogate) | % | - | 95 |
| Bromofluorobenzene (Surrogate) | % | - | 101 |
| Totals | | | |
| Total BTEX* | mg/kg | - | 0 |
| **Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | |
| LB008572.001 | | | |
| TRH C6-C9 | mg/kg | 20 | <20 |
| Surrogates | | | |
| Trifluorotoluene (Surrogate) | % | - | 108 |

Duplicates are calculated as relative percent difference (RPD) using the formula RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula: MaxAllowableDifference = 100 x StatisticalDetectionLimit / Mean + LimitingRepeatability
Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.
RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Sample Name | SE103054.014-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420 | | | | | | |
| LB008302.004 | | | | | | |
| Naphthalene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| 2-methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| 1-methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Acenaphthylene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Acenaphthene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Fluorene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Phenanthrene | mg/kg | 0.1 | 0.2 | 0.1 | 104 | 22 |
| Anthracene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Fluoranthene | mg/kg | 0.1 | 0.4 | 0.3 | 57 | 16 |
| Pyrene | mg/kg | 0.1 | 0.4 | 0.4 | 55 | 15 |
| Benzo(a)anthracene | mg/kg | 0.1 | 0.2 | 0.2 | 91 | 6 |
| Chrysene | mg/kg | 0.1 | 0.2 | 0.2 | 83 | 21 |
| Benzo(b)fluoranthene | mg/kg | 0.1 | 0.3 | 0.3 | 66 | 4 |
| Benzo(k)fluoranthene | mg/kg | 0.1 | 0.1 | 0.1 | 101 | 0 |
| Benzo(a)pyrene | mg/kg | 0.1 | 0.2 | 0.2 | 95 | 6 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | 0.1 | 0.2 | 99 | 7 |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Benzo(ghi)perylene | mg/kg | 0.1 | 0.2 | 0.2 | 78 | 10 |
| Total PAH | mg/kg | 0.8 | 2.3 | 2.1 | 67 | 9 |
| Surrogates | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | 111.0 | 124.0 | 30 | 11 |
| 2-fluorobiphenyl (Surrogate) | % | - | 91.0 | 106.0 | 30 | 15 |
| d14-p-terphenyl (Surrogate) | % | - | 112.0 | 127.0 | 30 | 13 |
| TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403 | | | | | | |
| LB008299.005 | | | | | | |
| TRH C10-C14 | mg/kg | 20 | <20 | <20 | 200 | 0 |
| TRH C15-C28 | mg/kg | 50 | <50 | <50 | 200 | 0 |
| TRH C29-C40 | mg/kg | 150 | <150 | <150 | 200 | 0 |

| | | Sample Name | SE103054.031-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| OC Pesticides in Soil Method: ME-(AU)-[ENV]AN400/AN420 | | | | | | |
| LB008301.009 | | | | | | |
| Hexachlorobenzene (HCB) | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Alpha BHC | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Lindane | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Heptachlor | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Aldrin | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Beta BHC | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Delta BHC | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Heptachlor epoxide | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| o,p'-DDE | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Alpha Endosulfan | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| Gamma Chlordane | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Alpha Chlordane | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| trans-Nonachlor | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| p,p'-DDE | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Dieldrin | mg/kg | 0.05 | <0.1 | <0.1 | 200 | 0 |

Duplicates are calculated as relative percent difference (RPD) using the formula RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula: MaxAllowableDifference = 100 x StatisticalDetectionLimit / Mean + LimitingRepeatability
Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.
RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Sample Name | SE103054.031-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **Continued... OC Pesticides in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | | | | |
| LB008301.009 | | | | | | |
| Endrin | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| o,p'-DDD | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| o,p'-DDT | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Beta Endosulfan | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| p,p'-DDD | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| p,p'-DDT | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Endosulfan sulphate | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Endrin Aldehyde | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Methoxychlor | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Endrin Ketone | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Surrogates | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | 93 | 90 | 30 | 3 |
| **PCBs in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | | | | |
| LB008301.009 | | | | | | |
| Arochlor 1016 | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| Arochlor 1221 | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| Arochlor 1232 | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| Arochlor 1242 | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| Arochlor 1248 | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| Arochlor 1254 | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| Arochlor 1260 | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| Arochlor 1262 | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| Arochlor 1268 | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| Total PCBs (Arochlors) | mg/kg | 1 | <1 | <1 | 200 | 0 |
| Surrogates | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | 93 | 90 | 30 | 3 |
| **Total Phenolics in Soil Method: ME-(AU)-[ENV]AN289** | | | | | | |
| LB008491.004 | | | | | | |
| Total Phenols | mg/kg | 0.1 | 0.6 | 0.6 | 30 | 0 |

Duplicates are calculated as relative percent difference (RPD) using the formula RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula: MaxAllowableDifference = 100 x StatisticalDetectionLimit / Mean + LimitingRepeatability
Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.
RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Sample Name | SE103054.035-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **Mercury in Soil** **Method: ME-(AU)-[ENV]AN312** | | | | | | |
| LB008322.014 | | | | | | |
| Mercury | mg/kg | 0.05 | 0.31 | 0.35 | 45 | 14 |

| | | Sample Name | SE103054.038-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest** **Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | |
| LB008317.014 | | | | | | |
| Arsenic, As | mg/kg | 3 | 7 | 7 | 74 | 1 |
| Cadmium, Cd | mg/kg | 0.3 | 0.3 | 0.3 | 120 | 1 |
| Chromium, Cr | mg/kg | 0.3 | 16 | 16 | 32 | 3 |
| Copper, Cu | mg/kg | 0.5 | 26 | 25 | 32 | 1 |
| Lead, Pb | mg/kg | 1 | 21 | 20 | 35 | 3 |
| Nickel, Ni | mg/kg | 0.5 | 5.0 | 4.9 | 40 | 3 |
| Zinc, Zn | mg/kg | 0.5 | 27 | 27 | 32 | 1 |

| | | Sample Name | SE103054.044-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **Moisture Content** **Method: ME-(AU)-[ENV]AN234** | | | | | | |
| LB008312.022 | | | | | | |
| % Moisture | % | 0.5 | 8.3 | 8.2 | 36 | 1 |

| | | Sample Name | SE103054.048-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest** **Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | |
| LB008317.021 | | | | | | |
| Arsenic, As | mg/kg | 3 | 9 | 9 | 64 | 3 |
| Cadmium, Cd | mg/kg | 0.3 | 0.4 | 0.4 | 105 | 7 |
| Chromium, Cr | mg/kg | 0.3 | 16 | 16 | 32 | 1 |
| Copper, Cu | mg/kg | 0.5 | 31 | 31 | 32 | 2 |
| Lead, Pb | mg/kg | 1 | 25 | 25 | 34 | 1 |
| Nickel, Ni | mg/kg | 0.5 | 8.6 | 8.6 | 36 | 0 |
| Zinc, Zn | mg/kg | 0.5 | 61 | 63 | 31 | 4 |

| | | Sample Name | SE103054.049-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **Mercury in Soil** **Method: ME-(AU)-[ENV]AN312** | | | | | | |
| LB008322.024 | | | | | | |
| Mercury | mg/kg | 0.05 | <0.05 | <0.05 | 200 | 0 |

Duplicates are calculated as relative percent difference (RPD) using the formula RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula: MaxAllowableDifference = 100 x StatisticalDetectionLimit / Mean + LimitingRepeatability
Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.
RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | Sample Name | | SE103054.050-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **Moisture Content** **Method: ME-(AU)-[ENV]AN234** | | | | | | |
| LB008312.029 | | | | | | |
| % Moisture | % | 0.5 | 11 | 9.8 | 35 | 11 |

| | Sample Name | | SE103066.008-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest** **Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | |
| LB008318.014 | | | | | | |
| Arsenic, As | mg/kg | 3 | 17 | 17 | 48 | 1 |
| Cadmium, Cd | mg/kg | 0.3 | 0.9 | 0.9 | 62 | 1 |
| Chromium, Cr | mg/kg | 0.3 | 40 | 40 | 31 | 1 |
| Copper, Cu | mg/kg | 0.5 | 80 | 82 | 31 | 3 |
| Lead, Pb | mg/kg | 1 | 44 | 36 | 33 | 19 |
| Nickel, Ni | mg/kg | 0.5 | 11 | 13 | 34 | 20 |
| Zinc, Zn | mg/kg | 0.5 | 250 | 260 | 30 | 5 |

| | Sample Name | | SE103066.009-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **Mercury in Soil** **Method: ME-(AU)-[ENV]AN312** | | | | | | |
| LB008323.014 | | | | | | |
| Mercury | mg/kg | 0.05 | <0.05 | <0.05 | 200 | 0 |

| | Sample Name | | SE103066.010-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **Mercury in Soil** **Method: ME-(AU)-[ENV]AN312** | | | | | | |
| LB008323.016 | | | | | | |
| Mercury | mg/kg | 0.05 | <0.05 | <0.05 | 200 | 0 |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest** **Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | |
| LB008318.017 | | | | | | |
| Arsenic, As | mg/kg | 3 | 12 | 14 | 53 | 10 |
| Cadmium, Cd | mg/kg | 0.3 | 0.7 | 0.8 | 70 | 20 |
| Chromium, Cr | mg/kg | 0.3 | 36 | 38 | 31 | 7 |
| Copper, Cu | mg/kg | 0.5 | 8.4 | 8.1 | 36 | 4 |
| Lead, Pb | mg/kg | 1 | 30 | 32 | 33 | 5 |
| Nickel, Ni | mg/kg | 0.5 | 3.7 | 3.7 | 44 | 1 |
| Zinc, Zn | mg/kg | 0.5 | 15 | 16 | 33 | 4 |

Duplicates are calculated as relative percent difference (RPD) using the formula RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula: MaxAllowableDifference = 100 x StatisticalDetectionLimit / Mean + LimitingRepeatability
Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.
RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | Sample Name | | SE103066.011-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311/AN312** | | | | | | |
| LB008427.009 | | | | | | |
| Mercury | µg/L | 0.0001 | <0.0001 | <0.0001 | 86 | 65 |

| | Sample Name | | SE103082.002-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | | | | |
| LB008302.016 | | | | | | |
| Naphthalene | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| 2-methylnaphthalene | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| 1-methylnaphthalene | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Acenaphthylene | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Acenaphthene | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Fluorene | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Phenanthrene | mg/kg | 0.1 | 0.08 | 0.1 | 121 | 33 |
| Anthracene | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Fluoranthene | mg/kg | 0.1 | 0.27 | 0.4 | 59 | 46 |
| Pyrene | mg/kg | 0.1 | 0.34 | 0.5 | 55 | 30 |
| Benzo(a)anthracene | mg/kg | 0.1 | 0.14 | 0.2 | 97 | 13 |
| Chrysene | mg/kg | 0.1 | 0.11 | 0.2 | 107 | 31 |
| Benzo(b)fluoranthene | mg/kg | 0.1 | 0.3 | 0.4 | 60 | 18 |
| Benzo(k)fluoranthene | mg/kg | 0.1 | 0.11 | 0.2 | 107 | 31 |
| Benzo(a)pyrene | mg/kg | 0.1 | 0.15 | 0.2 | 89 | 24 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | 0.12 | 0.2 | 104 | 22 |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Benzo(ghi)perylene | mg/kg | 0.1 | 0.18 | 0.2 | 81 | 15 |
| Total PAH | mg/kg | 0.8 | 1.8 | 2.4 | 68 | 29 |
| Surrogates | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | 109 | 112.0 | 30 | 3 |
| 2-fluorobiphenyl (Surrogate) | % | - | 111 | 110.0 | 30 | 1 |
| d14-p-terphenyl (Surrogate) | % | - | 120 | 122.0 | 30 | 2 |

| | Sample Name | | SE103082.003-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008486.015 | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | |
| Benzene | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Toluene | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Ethylbenzene | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| m/p-xylene | mg/kg | 0.2 | 0 | <0.2 | 200 | 0 |
| o-xylene | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Oxygenated Compounds | | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Surrogates | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | 101 | 100.0 | 50 | 1 |
| d4-1,2-dichloroethane (Surrogate) | % | - | 102 | 99.0 | 50 | 3 |

Duplicates are calculated as relative percent difference (RPD) using the formula RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula: MaxAllowableDifference = 100 x StatisticalDetectionLimit / Mean + LimitingRepeatability
Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.
RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Sample Name | SE103082.003-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| Continued... VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434 LB008486.015 | | | | | | |
| d8-toluene (Surrogate) | % | - | 101 | 96.0 | 50 | 5 |
| Bromofluorobenzene (Surrogate) | % | - | 101 | 99.0 | 50 | 2 |
| Totals | | | | | | |
| Total BTEX* | mg/kg | - | 0 | 0 | 200 | NA |
| Total Xylenes* | mg/kg | 0.3 | 0 | <0.3 | 200 | 0 |
| Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434 LB008572.013 | | | | | | |
| TRH C6-C9 | mg/kg | 20 | 0 | <20 | 200 | 0 |
| Surrogates | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | 81 | 62 | 30 | 27 |

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022).
For more information refer to the footnotes in the concluding page of the report.
Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Control | LCS STD | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Result | Expected Result | Criteria % | Recovery % |
| **Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311/AN312** | | | | | | |
| LB008427.002 | | | | | | |
| Mercury | mg/L | 0.0001 | 0.0079 | 0.008 | 80 - 120 | 98 |
| **Mercury in Soil Method: ME-(AU)-[ENV]AN312** | | | | | | |
| LB008322.002 | | | | | | |
| Mercury | mg/kg | 0.05 | 0.20 | 0.2 | 70 - 130 | 98 |
| LB008323.002 | | | | | | |
| Mercury | mg/kg | 0.05 | 0.19 | 0.2 | 70 - 130 | 97 |
| **Metals in Water (Dissolved) by ICPOES Method: ME-(AU)-[ENV]AN320/AN321** | | | | | | |
| LB008557.002 | | | | | | |
| Arsenic, As | mg/L | 0.05 | 1.9 | 2 | 80 - 120 | 94 |
| Cadmium, Cd | mg/L | 0.005 | 1.9 | 2 | 80 - 120 | 96 |
| Chromium, Cr | mg/L | 0.005 | 1.9 | 2 | 80 - 120 | 96 |
| Copper, Cu | mg/L | 0.01 | 2.0 | 2 | 80 - 120 | 98 |
| Lead, Pb | mg/L | 0.02 | 1.9 | 2 | 80 - 120 | 97 |
| Nickel, Ni | mg/L | 0.01 | 1.9 | 2 | 80 - 120 | 96 |
| Zinc, Zn | mg/L | 0.01 | 1.9 | 2 | 80 - 120 | 95 |
| **OC Pesticides in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | | | | |
| LB008301.002 | | | | | | |
| Heptachlor | mg/kg | 0.1 | 0.2 | 0.2 | 60 - 140 | 116 |
| Aldrin | mg/kg | 0.1 | 0.2 | 0.2 | 60 - 140 | 115 |
| Delta BHC | mg/kg | 0.1 | 0.2 | 0.2 | 60 - 140 | 107 |
| Dieldrin | mg/kg | 0.05 | 0.2 | 0.2 | 60 - 140 | 110 |
| Endrin | mg/kg | 0.2 | 0.2 | 0.2 | 60 - 140 | 118 |
| p,p'-DDT | mg/kg | 0.1 | 0.2 | 0.2 | 60 - 140 | 116 |
| Surrogates | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | 92 | 100 | 60 - 140 | 92 |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | | | | |
| LB008302.002 | | | | | | |
| Naphthalene | mg/kg | 0.1 | 3.6 | 3.37 | 60 - 140 | 106 |
| Acenaphthylene | mg/kg | 0.1 | 3.4 | 3.37 | 60 - 140 | 101 |
| Acenaphthene | mg/kg | 0.1 | 4.0 | 3.37 | 60 - 140 | 120 |
| Phenanthrene | mg/kg | 0.1 | 3.6 | 3.37 | 60 - 140 | 107 |
| Anthracene | mg/kg | 0.1 | 3.7 | 3.37 | 60 - 140 | 110 |
| Fluoranthene | mg/kg | 0.1 | 3.6 | 3.37 | 60 - 140 | 107 |
| Pyrene | mg/kg | 0.1 | 3.8 | 3.37 | 60 - 140 | 112 |
| Benzo(a)pyrene | mg/kg | 0.1 | 3.8 | 3.37 | 60 - 140 | 112 |
| Surrogates | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | 116.0 | 100 | 60 - 140 | 116 |
| 2-fluorobiphenyl (Surrogate) | % | - | 106.0 | 100 | 60 - 140 | 106 |
| d14-p-terphenyl (Surrogate) | % | - | 115.0 | 100 | 60 - 140 | 115 |
| **PCBs in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | | | | |
| LB008301.002 | | | | | | |
| Arochlor 1260 | mg/kg | 0.2 | 0.5 | 0.4 | 60 - 140 | 118 |

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022).
For more information refer to the footnotes in the concluding page of the report.
Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Control | LCS STD | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Result | Expected Result | Criteria % | Recovery % |
| **Continued... PCBs in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | | | | |
| LB008301.002 | | | | | | |
| Surrogates | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | 99 | 100 | 60 - 140 | 99 |
| **Total Phenolics in Soil Method: ME-(AU)-[ENV]AN289** | | | | | | |
| LB008491.002 | | | | | | |
| Total Phenols | mg/kg | 0.1 | 2.6 | 2.5 | 70 - 130 | 103 |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | |
| LB008317.002 | | | | | | |
| Arsenic, As | mg/kg | 3 | 51 | 50 | 80 - 120 | 103 |
| Cadmium, Cd | mg/kg | 0.3 | 53 | 50 | 80 - 120 | 105 |
| Chromium, Cr | mg/kg | 0.3 | 51 | 50 | 80 - 120 | 102 |
| Copper, Cu | mg/kg | 0.5 | 50 | 50 | 80 - 120 | 100 |
| Lead, Pb | mg/kg | 1 | 52 | 50 | 80 - 120 | 104 |
| Nickel, Ni | mg/kg | 0.5 | 52 | 50 | 80 - 120 | 105 |
| Zinc, Zn | mg/kg | 0.5 | 51 | 50 | 80 - 120 | 102 |
| LB008318.002 | | | | | | |
| Arsenic, As | mg/kg | 3 | 52 | 50 | 80 - 120 | 104 |
| Cadmium, Cd | mg/kg | 0.3 | 53 | 50 | 80 - 120 | 106 |
| Chromium, Cr | mg/kg | 0.3 | 52 | 50 | 80 - 120 | 103 |
| Copper, Cu | mg/kg | 0.5 | 50 | 50 | 80 - 120 | 101 |
| Lead, Pb | mg/kg | 1 | 53 | 50 | 80 - 120 | 105 |
| Nickel, Ni | mg/kg | 0.5 | 53 | 50 | 80 - 120 | 107 |
| Zinc, Zn | mg/kg | 0.5 | 51 | 50 | 80 - 120 | 103 |
| LB008319.002 | | | | | | |
| Arsenic, As | mg/kg | 3 | 51 | 50 | 80 - 120 | 101 |
| Cadmium, Cd | mg/kg | 0.3 | 52 | 50 | 80 - 120 | 104 |
| Chromium, Cr | mg/kg | 0.3 | 50 | 50 | 80 - 120 | 101 |
| Copper, Cu | mg/kg | 0.5 | 49 | 50 | 80 - 120 | 99 |
| Lead, Pb | mg/kg | 1 | 51 | 50 | 80 - 120 | 103 |
| Nickel, Ni | mg/kg | 0.5 | 52 | 50 | 80 - 120 | 104 |
| Zinc, Zn | mg/kg | 0.5 | 50 | 50 | 80 - 120 | 101 |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403** | | | | | | |
| LB008299.002 | | | | | | |
| TRH C10-C14 | mg/kg | 20 | 41 | 40 | 60 - 140 | 103 |
| TRH C15-C28 | mg/kg | 50 | <50 | 40 | 60 - 140 | 103 |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008486.002 | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | |
| Benzene | mg/kg | 0.1 | 2.7 | 2.27 | 60 - 140 | 119 |
| Toluene | mg/kg | 0.1 | 2.7 | 2.27 | 60 - 140 | 117 |
| Ethylbenzene | mg/kg | 0.1 | 2.9 | 2.27 | 60 - 140 | 128 |
| m/p-xylene | mg/kg | 0.2 | 5.9 | 4.54 | 60 - 140 | 129 |
| o-xylene | mg/kg | 0.1 | 2.9 | 2.27 | 60 - 140 | 127 |
| Surrogates | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | 101.0 | 100 | 60 - 140 | 101 |
| d4-1,2-dichloroethane (Surrogate) | % | - | 105.0 | 100 | 60 - 140 | 105 |
| d8-toluene (Surrogate) | % | - | 98.0 | 100 | 60 - 140 | 98 |

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022).
For more information refer to the footnotes in the concluding page of the report.
Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Control | LCS STD | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Result | Expected Result | Criteria % | Recovery % |
| **Continued... VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008486.002 | | | | | | |
| Bromofluorobenzene (Surrogate) | % | - | 106.0 | 100 | 60 - 140 | 106 |
| **Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008572.002 | | | | | | |
| TRH C6-C9 | mg/kg | 20 | 30 | 23 | 60 - 140 | 130 |

Matrix spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of the report. Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Control | MS | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Result | Original Result | Spike Added | Recovery % |
| **Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311/AN312** | | | | | | |
| LB008427.004 | | | | | | |
| Mercury | mg/L | 0.0001 | 0.0081 | <0.0001 | 0.008 | 100 |
| **Mercury in Soil Method: ME-(AU)-[ENV]AN312** | | | | | | |
| LB008322.004 | | | | | | |
| Mercury | mg/kg | 0.05 | 0.20 | <0.05 | 0.2 | 93 |
| LB008323.004 | | | | | | |
| Mercury | mg/kg | 0.05 | 0.18 | <0.05 | 0.2 | 72 |
| **OC Pesticides in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | | | | |
| LB008301.011 | | | | | | |
| Hexachlorobenzene (HCB) | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Alpha BHC | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Lindane | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Heptachlor | mg/kg | 0.1 | 0.2 | <0.1 | 0.2 | 119 |
| Aldrin | mg/kg | 0.1 | 0.3 | <0.1 | 0.2 | 128 |
| Beta BHC | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Delta BHC | mg/kg | 0.1 | 0.2 | <0.1 | 0.2 | 120 |
| Heptachlor epoxide | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| o,p'-DDE | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Alpha Endosulfan | mg/kg | 0.2 | <0.2 | <0.2 | - | NA |
| Gamma Chlordane | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Alpha Chlordane | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| trans-Nonachlor | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| p,p'-DDE | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Dieldrin | mg/kg | 0.05 | 0.2 | <0.1 | 0.2 | 116 |
| Endrin | mg/kg | 0.2 | 0.2 | <0.2 | 0.2 | 120 |
| o,p'-DDD | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| o,p'-DDT | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Beta Endosulfan | mg/kg | 0.2 | <0.2 | <0.2 | - | NA |
| p,p'-DDD | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| p,p'-DDT | mg/kg | 0.1 | 0.1 | <0.1 | 0.2 | 74 |
| Endosulfan sulphate | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Endrin Aldehyde | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Methoxychlor | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Endrin Ketone | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Surrogates | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | 120 | 110 | 100 | 119 |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | | | | |
| LB008302.007 | | | | | | |
| Naphthalene | mg/kg | 0.1 | 4.0 | <0.1 | 3.37 | 117 |
| 2-methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| 1-methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Acenaphthylene | mg/kg | 0.1 | 4.1 | 0.2 | 3.37 | 115 |
| Acenaphthene | mg/kg | 0.1 | 4.5 | <0.1 | 3.37 | 135 |
| Fluorene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Phenanthrene | mg/kg | 0.1 | 4.7 | 1.1 | 3.37 | 106 |
| Anthracene | mg/kg | 0.1 | 4.2 | 0.4 | 3.37 | 114 |
| Fluoranthene | mg/kg | 0.1 | 5.0 | 2.0 | 3.37 | 89 |
| Pyrene | mg/kg | 0.1 | 5.3 | 2.0 | 3.37 | 99 |
| Benzo(a)anthracene | mg/kg | 0.1 | <0.1 | 1.3 | - | NA |
| Chrysene | mg/kg | 0.1 | <0.1 | 0.8 | - | NA |
| Benzo(b)fluoranthene | mg/kg | 0.1 | <0.1 | 1.2 | - | NA |

Matrix spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of the report. Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Control | MS | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Result | Original Result | Spike Added | Recovery % |
| **Continued... PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | | | | |
| LB008302.007 | | | | | | |
| Benzo(k)fluoranthene | mg/kg | 0.1 | <0.1 | 0.4 | - | NA |
| Benzo(a)pyrene | mg/kg | 0.1 | 5.0 | 1.0 | 3.37 | 121 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | <0.1 | 0.5 | - | NA |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | <0.1 | 0.1 | - | NA |
| Benzo(ghi)perylene | mg/kg | 0.1 | <0.1 | 0.6 | - | NA |
| Total PAH | mg/kg | 0.8 | 37 | 11 | - | NA |
| Surrogates | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | 108.0 | 109.0 | 100 | 108 |
| 2-fluorobiphenyl (Surrogate) | % | - | 103.0 | 101.0 | 100 | 103 |
| d14-p-terphenyl (Surrogate) | % | - | 111.0 | 107.0 | 100 | 111 |
| **Total Phenolics in Soil Method: ME-(AU)-[ENV]AN289** | | | | | | |
| LB008491.006 | | | | | | |
| Total Phenols | mg/kg | 0.1 | 2.5 | 1.2 | 2.5 | **54†** |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | |
| LB008318.004 | | | | | | |
| Arsenic, As | mg/kg | 3 | 50 | 11 | 50 | 79 |
| Cadmium, Cd | mg/kg | 0.3 | 41 | 0.4 | 50 | 82 |
| Chromium, Cr | mg/kg | 0.3 | 56 | 18 | 50 | 75 |
| Copper, Cu | mg/kg | 0.5 | 54 | 14 | 50 | 79 |
| Lead, Pb | mg/kg | 1 | 60 | 24 | 50 | 72 |
| Nickel, Ni | mg/kg | 0.5 | 48 | 7.2 | 50 | 81 |
| Zinc, Zn | mg/kg | 0.5 | 80 | 40 | 50 | 81 |
| LB008319.004 | | | | | | |
| Arsenic, As | mg/kg | 3 | 45 | <3 | 50 | 85 |
| Cadmium, Cd | mg/kg | 0.3 | 44 | <0.3 | 50 | 88 |
| Chromium, Cr | mg/kg | 0.3 | 51 | 8.9 | 50 | 85 |
| Copper, Cu | mg/kg | 0.5 | 51 | 9.5 | 50 | 84 |
| Lead, Pb | mg/kg | 1 | 52 | 11 | 50 | 82 |
| Nickel, Ni | mg/kg | 0.5 | 50 | 6.6 | 50 | 88 |
| Zinc, Zn | mg/kg | 0.5 | 64 | 20 | 50 | 87 |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403** | | | | | | |
| LB008299.008 | | | | | | |
| TRH C10-C14 | mg/kg | 20 | 48 | <20 | 40 | 118 |
| TRH C15-C28 | mg/kg | 50 | 51 | <50 | 40 | 118 |
| TRH C29-C40 | mg/kg | 150 | <150 | <150 | - | NA |

Matrix spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of the report. Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Control | MS | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Result | Original Result | Spike Added | Recovery % |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008486.004 | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | |
| Benzene | mg/kg | 0.1 | 2.6 | <0.1 | 2.27 | 113 |
| Toluene | mg/kg | 0.1 | 2.7 | <0.1 | 2.27 | 118 |
| Ethylbenzene | mg/kg | 0.1 | 2.9 | <0.1 | 2.27 | 127 |
| m/p-xylene | mg/kg | 0.2 | 5.7 | <0.2 | 4.54 | 126 |
| o-xylene | mg/kg | 0.1 | 2.8 | <0.1 | 2.27 | 123 |
| Oxygenated Compounds | | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Surrogates | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | 102.0 | 102.0 | 100 | 102 |
| d4-1,2-dichloroethane (Surrogate) | % | - | 103.0 | 102.0 | 100 | 103 |
| d8-toluene (Surrogate) | % | - | 102.0 | 101.0 | 100 | 102 |
| Bromofluorobenzene (Surrogate) | % | - | 102.0 | 97.0 | 100 | 102 |
| Totals | | | | | | |
| Total BTEX* | mg/kg | - | 17 | 0 | - | NA |
| Total Xylenes* | mg/kg | 0.3 | 8.5 | <0.3 | - | NA |
| **Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008572.004 | | | | | | |
| TRH C6-C9 | mg/kg | 20 | 31 | <20 | 23 | 133 |
| Surrogates | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | 121 | 116 | - | 121 |

Matrix spike duplicates are calculated as relative percent difference using the formula RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The original result is the analyte concentration of the matrix spike and the replicate result is the analyte concentration of the matrix spike duplicate.
The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula: MaxAllowableDifference = 100 x StatisticalDetectionLimit / Mean + LimitingRepeatability
RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

No Matrix Spike Duplicates were required for this job.

FOOTNOTES

| | |
|---|---|
| IS | Insufficient sample for analysis. |
| LNR | Sample listed, but not received. |
| * | NATA Accreditation does not cover this analysis. |
| ^ | Performed by outside laboratory. |
| LOR | Limit of Reporting |
| QFH | QC result is above the upper tolerance |
| QFL | QC result is below the lower tolerance |
| NA | The sample was not analysed for this analyte |

Samples analysed as received.
Solid samples expressed on a dry weight basis.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: http://www.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf

# ANALYTICAL REPORT

WORLD RECOGNISED ACCREDITATION

## CLIENT DETAILS

| | |
|---|---|
| Contact | Anwar Barbhuyia |
| Client | Geotechnique |
| Address | P.O. Box 880<br>PENRITH NSW 2751 |
| Telephone | 02 4722 2700 |
| Facsimile | 02 4722 6161 |
| Email | anwar.barbhuyia@geotech.com.au |
| Project | **12576/1 - Marsden Park Precinct** |
| Order Number | (Not specified) |
| Samples | 50 |

## LABORATORY DETAILS

| | |
|---|---|
| Manager | Huong Crawford |
| Laboratory | SGS Alexandria Environmental |
| Address | Unit 16, 33 Maddox St<br>Alexandria NSW 2015 |
| Telephone | +61 2 8594 0400 |
| Facsimile | +61 2 8594 0499 |
| Email | au.environmental.sydney@sgs.com |
| SGS Reference | SE103054 R0 |
| Report Number | 0000011635 |
| Date Reported | 11/11/2011 6:23:56PM |
| Date Received | 03 Nov 2011 |

## COMMENTS

The document is issued in accordance with NATA's accreditation requirements.
Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

No respirable fibres detected using trace analysis technique.
Asbestos analysed by Approved Identifier Yusuf Kuthpudin.

## SIGNATORIES

Andy Sutton
Organics Chemist

Dong Liang
Inorganics Metals Team Leader

Huong Crawford
Laboratory Manager

Ly Kim Ha
Organics Supervisor

Ravee Sivasubramaniam
Hygienist

Snezana Kostoska
Inorganics Chemist

# ANALYTICAL REPORT

RESULTS

Fibre Identification in soil — Method AN602

| Laboratory Reference | Client Reference | Matrix | Sample Description | Date Sampled | Fibre Identification | Est.%w/w |
|---|---|---|---|---|---|---|
| SE103054.024 | TP55 0-0.3 | Soil | 30g Soil,rocks | 02 Nov 2011 | No Asbestos Found<br>Organic Fibres Detected | <0.01 |
| SE103054.035 | SP1 | Soil | 26g Soil | 02 Nov 2011 | No Asbestos Found<br>Organic Fibres Detected | <0.01 |

RESULTS

Fibre ID in bulk materials — Method AN602

| Laboratory Reference | Client Reference | Matrix | Sample Description | Date Sampled | Fibre Identification | Est.%w/w |
|---|---|---|---|---|---|---|
| SE103054.025 | TP55 0-0.3_ZLB | Other | 45x30x6 mm Cement sheet fragments | 02 Nov 2011 | Amosite & Chrysotile Asbestos Found<br>Organic Fibres Detected | |
| SE103054.036 | SP1_ZLB | Other | 35x25x6 mm Cement sheet fragments | 02 Nov 2011 | Chrysotile Asbestos Found | |

# METHOD SUMMARY

SE103054 R0

| METHOD | METHODOLOGY SUMMARY |
|---|---|
| AN602 | Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. |

FOOTNOTES

| | | | | | |
|---|---|---|---|---|---|
| Amosite | - | Brown Asbestos | NA | - | Not Analysed |
| Chrysotile | - | White Asbestos | LNR | - | Listed Not Required |
| Crocidolite | - | Blue Asbestos | * | - | Not Accredited |

AS4964.2004 Method for the Qualitative Identification of Asbestos in Bulk Samples, Section 8.4, Trace Analysis Criteria, Note 4 states:
"Depending upon sample condition and fibre type, the detection limit of this technique has been found to lie generally in the range of 1 in 1,000 to 1 in 10,000 parts by weight, equivalent to 1 to 0.1 g/kg."

This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Sampled by the client

Where reported: 'Asbestos Detected':
Asbestos detected by polarized light microscopy, including dispersion staining

Where reported: 'No Asbestos Found':
No Asbestos Found by polarized light microscopy, including dispersion staining

Where reported: 'UMF Detected':
Mineral fibres of unknown type detected by polarized light microscopy, including dispersion staining.
Confirmation by another independent analytical technique may be necessary

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos-containing bulk materials using polarised light microscopy.
This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: http://www.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf

COC received 4/11/11 @ 1:02pm

SGS
Received 03/11/14
By SG
Time 2:30 PM
Samples intact
Ice/Cooler Pack
Temperature on Rece 2.7°C
Storage Location 8775-8, W028-8, ASB
SB103054

# GEOTECHNIQUE PTY LTD

## Laboratory Test Request / Chain of Custody Record


Lemko Place
PENRITH NSW 2750

P O Box 880
PENRITH NSW 2751

Tel: (02) 4722 2700
Fax: (02) 4722 6161
email: info@geotech.com.au




| | | | |
|---|---|---|---|
| **TO:** | **SGS ENVIRONMENTAL SERVICES**<br>**UNIT 16**<br>**33 MADDOX STREET**<br>**ALEXANDRIA NSW 2015** | **Sampling By:** | AN |
| **PH:** | **02 8594 0400** **FAX:** **02 8594 0499** | **Project Manager:** | AB |
| **ATTN:** | **MS ANGELA MAMALICOS** | | |

| | | |
|---|---|---|
| **Job No:** | 12576/1 | |
| **Project:** | | |
| **Location:** | Marsden Park Precinct | |

**Results required by: Normal Turnaround Time**

| | Location | Depth (m) | Date | Time | Sample type: Soil | Sample type: Material | Metals As, Cd, Cr, Cu, Pb, Hg, Ni and Zn | TPH* & BTEX | PAH | OCP | PCB | ASBESTOS | | | | KEEP SAMPLE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | TP3 | 0-0.1 | 31/10/2011 | - | SG | | | | | | | | | | | YES |
| 2. | TP17 | 0-0.1 | 31/10/2011 | - | SG | | | | | | | | | | | YES |
| 3. | TP20 | 0-0.15 | 31/10/2011 | - | SG | | | | | | | | | | | YES |
| 4 | TP37 | 0-0.15 | 1/11/2011 | - | SG | | | | | | | | | | | YES |
| 5 | TP38 | 0-0.15 | 1/11/2011 | - | SG | | | | | | | | | | | YES |
| 6 | TP39 | 0-0.1 | 1/11/2011 | - | SG | | | | | | | | | | | YES |
| 7 | TP40 | 0-0.15 | 1/11/2011 | - | SG | | | | | | | | | | | YES |
| 8 | TP41 | 0-0.15 | 1/11/2011 | - | SG | | ✓ | | | ✓ | | | | | | YES |
| 9 | TP42 | 0-0.1 | 1/11/2011 | - | SG | | | | | | | | | | | YES |
| 10 | TP43 | 0-0.15 | 1/11/2011 | - | SG | | | | | | | | | | | YES |
| 11 | TP44 | 0-0.1 | 1/11/2011 | - | SG | | | | | | | | | | | YES |
| 12 | TP45 | 0-0.1 | 1/11/2011 | - | SG | | | | | | | | | | | YES |

| Relinquished by | | | Received by | | |
|---|---|---|---|---|---|
| Name | Signature | Date | Name | Signature | Date |
| ANWAR BARBHUYIA | AB | 4/11/2011 | Suba | | 03/11/14 |

Legend:

| | | | | | | |
|---|---|---|---|---|---|---|
| WG | Water sample, glass bottle | SG | Soil sample (glass jar) | SP | Soil sample (plastic bag) | * Purge & Trap |
| WP | Water sample, plastic bottle | FCP | Fibro Cement Piece | ✓ | Test required | |

# GEOTECHNIQUE PTY LTD

## Laboratory Test Request / Chain of Custody Record

Lemko Place
PENRITH NSW 2750

P O Box 880
PENRITH NSW 2751

Tel: (02) 4722 2700
Fax: (02) 4722 6161
email: info@geotech.com.au



**TO:** SGS ENVIRONMENTAL SERVICES
UNIT 16
33 MADDOX STREET
ALEXANDRIA NSW 2015

**PH:** 02 8594 0400 **FAX:** 02 8594 0499

**ATTN:** MS ANGELA MAMALICOS

**Sampling By:** AN **Job No:** 12576/1

**Project:**

**Project Manager:** AB **Location:** Marsden Park Precinct

**Results required by: Normal Turnaround Time**

| Sampling details | | | | Sample type | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Location | Depth (m) | Date | Time | Soil | Material | Metals As, Cd, Cr, Cu, Pb, Hg, Ni and Zn | TPH* & BTEX | PAH | OCP | PCB | ASBESTOS | | | KEEP SAMPLE |
| 13 | TP46 | 0-0.1 | 1/11/2011 | - | SG | | | | | | | | | | YES |
| 14 | TP47 | 0-0.2 | 1/11/2011 | - | SG/SP | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | YES |
| 15 | TP47 | 0.5-0.8 | 1/11/2011 | - | SG | | | | | | | | | | YES |
| | TP47 | 1.0-1.3 | 1/11/2011 | - | SG | | | | | | | | | | YES |
| 16 | TP48 | 0-0.1 | 1/11/2011 | - | SG | | | | | | | | | | YES |
| 17 | TP49 | 0-0.15 | 1/11/2011 | - | SG | | | | | | | | | | YES |
| 18 | TP50 | 0-0.15 | 1/11/2011 | - | SG | | ✓ | | | ✓ | | | | | YES |
| 19 | TP50 | 0.3-0.6 | 1/11/2011 | - | SG | | | | | | | | | | YES |
| 20 | TP51 | 0-0.15 | 1/11/2011 | - | SG | | | | | | | | | | YES |
| 21 | TP52 | 0-0.15 | 1/11/2011 | - | SG | | | | | | | | | | YES |
| 22 | TP53 | 0-0.3 | 2/11/2011 | - | SG/SP | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | YES |
| | TP53 | 0.5-0.8 | 2/11/2011 | - | SG/SP | | | | | | | | | | YES |

| Relinquished by | | | Received by | | |
|---|---|---|---|---|---|
| Name | Signature | Date | Name | Signature | Date |
| ANWAR BARBHUYIA | AB | 4/11/2011 | Suba | | 08/11/11 |

Legend:

| | | | | | | |
|---|---|---|---|---|---|---|
| WG | Water sample, glass bottle | SG | Soil sample (glass jar) | SP | Soil sample (plastic bag) | * Purge & Trap |
| WP | Water sample, plastic bottle | FCP | Fibro Cement Piece | ✓ | Test required | |

# GEOTECHNIQUE PTY LTD

## Laboratory Test Request / Chain of Custody Record

Lemko Place
PENRITH NSW 2750

P O Box 880
PENRITH NSW 2751

Tel: (02) 4722 2700
Fax: (02) 4722 6161
email: info@geotech.com.au



**TO:** SGS ENVIRONMENTAL SERVICES
UNIT 16
33 MADDOX STREET
ALEXANDRIA NSW 2015

**PH:** 02 8594 0400 **FAX:** 02 8594 0499

**ATTN:** MS ANGELA MAMALICOS

**Sampling By:** AN **Job No:** 12576/1

**Project:**

**Project Manager:** AB **Location:** Marsden Park Precinct

**Results required by: Normal Turnaround Time**

| | Sampling details | | | | Sample type | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Location | Depth (m) | Date | Time | Soil | Material | Metals As, Cd, Cr, Cu, Pb, Hg, Ni and Zn | TPH* & BTEX | PAH | OCP | PCB | ASBESTOS | | | KEEP SAMPLE |
| | TP53 | 1.0-1.2 | 2/11/2011 | - | SG | | | | | | | | | | YES |
| | TP53 | 1.25-1.4 | 2/11/2011 | - | SG | | | | | | | | | | YES |
| 23 | TP54 | 0-0.3 | 2/11/2011 | - | SG/SP | | | | | | | | | | YES |
| | TP54 | 0.35-0.5 | 2/11/2011 | - | SG | | | | | | | | | | YES |
| 24 | TP55 | 0-0.3 | 2/11/2011 | - | SG/SP | | | | | | | ✓ | | | YES |
| 25 | TP55 | 0-0.3 | 2/11/2011 | - | | FCP | | | | | | ✓ | | | YES |
| 26 | TP55 | 0.5-0.8 | 2/11/2011 | - | SG/SP | | | | | | | | | | YES |
| | TP55 | 1.05-1.2 | 2/11/2011 | - | SG | | | | | | | | | | YES |
| 27 | TP56 | 0-0.1 | 2/11/2011 | - | SG | | | | | | | | | | YES |
| 28 | TP57 | 0-0.1 | 2/11/2011 | - | SG | | | | | | | | | | YES |
| 29 | TP58 | 0-0.15 | 2/11/2011 | - | SG | | | | | | | | | | YES |
| 30 | TP59 | 0-0.3 | 2/11/2011 | - | SG/SP | | ✓ | | ✓ | ✓ | | | | | YES |
| | TP59 | 0.5-0.8 | 2/11/2011 | - | SG/SP | | | | | | | | | | YES |

| Relinquished by | | | Received by | | |
|---|---|---|---|---|---|
| Name | Signature | Date | Name | Signature | Date |
| ANWAR BARBHUYIA | AB | 4/11/2011 | | | |

Legend:

| | | | | | |
|---|---|---|---|---|---|
| WG | Water sample, glass bottle | SG | Soil sample (glass jar) | SP | Soil sample (plastic bag) |
| WP | Water sample, plastic bottle | FCP | Fibro Cement Piece | ✓ | Test required |

* Purge & Trap

# GEOTECHNIQUE PTY LTD

## Laboratory Test Request / Chain of Custody Record

Lemko Place
PENRITH NSW 2750

P O Box 880
PENRITH NSW 2751

Tel: (02) 4722 2700
Fax: (02) 4722 6161
email: info@geotech.com.au



**TO:** SGS ENVIRONMENTAL SERVICES
UNIT 16
33 MADDOX STREET
ALEXANDRIA NSW 2015

**PH:** 02 8594 0400 **FAX:** 02 8594 0499

**ATTN:** MS ANGELA MAMALICOS

**Sampling By:** AN **Job No:** 12576/1

**Project:**

**Project Manager:** AB **Location:** Marsden Park Precinct

**Results required by: Normal Turnaround Time**

| | Location | Depth (m) | Date | Time | Soil | Material | Metals As, Cd, Cr, Cu, Pb, Hg, Ni and Zn | TPH* & BTEX | PAH | OCP | PCB | ASBESTOS | PHENOLS | | | KEEP SAMPLE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TP59 | 0.85-1.0 | 2/11/2011 | - | SG | | | | | | | | | | | YES |
| 31 | AST1 | 0-0.2 | 31/10/2011 | - | SG | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | | YES |
| | AST1 | 0.25-0.4 | 31/10/2011 | - | SG | | | | | | | | | | | YES |
| | AST1 | 0.7-0.8 | 31/10/2011 | - | SG | | | | | | | | | | | YES |
| | AST1 | 1.2-1.3 | 31/10/2011 | - | SG | | | | | | | | | | | YES |
| 32 | UST1 | 0-0.3 | 31/10/2011 | - | SG | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | | YES |
| | UST1 | 0.35-0.5 | 31/10/2011 | - | SG | | | | | | | | | | | YES |
| | UST1 | 0.9-1.0 | 31/10/2011 | - | SG | | | | | | | | | | | YES |
| | UST1 | 1.2-1.3 | 31/10/2011 | - | SG | | | | | | | | | | | YES |
| 33 | SD4 | 0-0.1 | 1/111/2011 | - | SG | | ✓ | | | ✓ | | | | | | YES |
| 34 | SD5 | 0-0.1 | 1/11/2011 | - | SG | | ✓ | | | ✓ | | | | | | YES |
| 35 | SP1 | | 2/11/2011 | - | SG/SP | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | YES |
| 36 | SP1 | | 2/11/2011 | - | | FCP | | | | | | ✓ | | | | YES |

| Relinquished by | | | Received by | | |
|---|---|---|---|---|---|
| Name | Signature | Date | Name | Signature | Date |
| ANWAR BARBHUYIA | AB | 4/11/2011 | | | |

Legend:

| | | | | | |
|---|---|---|---|---|---|
| WG | Water sample, glass bottle | SG | Soil sample (glass jar) | SP | Soil sample (plastic bag) |
| WP | Water sample, plastic bottle | FCP | Fibro Cement Piece | ✓ | Test required |

* Purge & Trap

# GEOTECHNIQUE PTY LTD

## Laboratory Test Request / Chain of Custody Record

Lemko Place
PENRITH NSW 2750

P O Box 880
PENRITH NSW 2751

Tel: (02) 4722 2700
Fax: (02) 4722 6161
email: info@geotech.com.au



**TO:** SGS ENVIRONMENTAL SERVICES
UNIT 16
33 MADDOX STREET
ALEXANDRIA NSW 2015

**PH:** 02 8594 0400 **FAX:** 02 8594 0499

**ATTN:** MS ANGELA MAMALICOS

**Sampling By:** AN **Job No:** 12576/1

**Project:**

**Project Manager:** AB **Location:** Marsden Park Precinct

**Results required by: Normal Turnaround Time**

| | Location | Depth (m) | Date | Time | Soil | Water | Metals As, Cd, Cr, Cu, Pb, Hg, Ni and Zn | TPH* & BTEX | PAH | OCP | PCB | ASBESTOS | BTEX | | | KEEP SAMPLE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Duplicate D1 | | 28/10/2011 | - | SG | | | | | | | | | | | YES |
| 37 | Duplicate D3 | | 1/11/2011 | - | SG | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | YES |
| 38 | Duplicate D4 | | 1/11/2011 | - | SG | | ✓ | | | ✓ | | | | | | YES |
| | Duplicate D5 | | 2/11/2011 | - | SG | | | | | | | | | | | YES |
| 39 | Rinsate R3 | | 31/10/2011 | - | | WG | ✓ | | | | | | | | | YES |
| 40 | Rinsate R4 | | 1/11/2011 | - | | WG | ✓ | | | | | | | | | YES |
| 41 | Rinsate R5 | | 2/11/2011 | - | | WG | ✓ | | | | | | | | | YES |
| 42 | Trip Spike TS1 | | | | | | | | | | | | ✓ | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

| Relinquished by | | | Received by | | |
|---|---|---|---|---|---|
| Name | Signature | Date | Name | Signature | Date |
| ANWAR BARBHUYIA | AB | 4/11/2011 | Subs | | |

Legend:

| | | | | | |
|---|---|---|---|---|---|
| WG | Water sample, glass bottle | SG | Soil sample (glass jar) | SP | Soil sample (plastic bag) |
| WP | Water sample, plastic bottle | FCP | Fibro Cement Piece | ✓ | Test required |

* Purge & Trap

GEOTECHNIQUE PTY LTD

**SGS ENVIRONMENTAL SERVICES**

Sampling Date: 31/10/2011 & 1 & 2/11/2011 Job No: 12576/1
Sampled by: AN Location: Marsden Park Precinct
Project Manager: AB

**Results Required by: Normal TAT**



| | Composite Sample | Sub-Samples | Analyte | | | | |
|---|---|---|---|---|---|---|---|
| | | | Metals | PAH | OCP | PCB | |
| 43 | C12 | TP3 (0-0.1m) + TP17 (0-0.1m) + TP20 (0-0.15m) | ✔ | - | ✔ | - | 1+2+3 |
| 44 | C13 | TP37 (0-0.15m) + TP38 (0-0.15m) + TP40 (0-0.15m) | ✔ | - | ✔ | - | 4+5+7 |
| 45 | C14 | TP39 (0-0.1m) + TP42 (0-0.1m) + TP43 (0-0.15m) | ✔ | - | ✔ | - | 6+9+10 |
| 46 | C15 | TP44 (0-0.1m) + TP45 (0-0.1m) + TP46 (0-0.1m) | ✔ | - | ✔ | - | 11+12+13 |
| 47 | C16 | TP47 (0.5-0.8m) + TP50 (0.3-0.6m) + TP55 (0.5-0.8m) | ✔ | ✔ | ✔ | ✔ | 15+19+26 |
| 48 | C17 | TP48 (0-0.1m) + TP49 (0-0.15m) + TP51 (0-0.15m) | ✔ | - | ✔ | - | 16+17+20 |
| 49 | C18 | TP52 (0-0.15m) + TP56 (0-0.1m) + TP57 (0-0.1m) | ✔ | - | ✔ | - | 21+27+28 |
| 50 | C19 | TP54 (0-0.3m) + TP55 (0-0.3m) + TP58 (0-0.15m) | ✔ | ✔ | ✔ | ✔ | 23+24+29 |

✔ Test required

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

PAH = Polycyclic Aromatic Hydrocarbons; OCP = Organochlorine Pesticides; PCB = Polychlorinated Biphenyls

AB
4/11/2011
(ANWAR BARBHUYIA)
Geotechnique Pty Ltd

# SAMPLE RECEIPT ADVICE

SE103054

## CLIENT DETAILS

| | |
|---|---|
| Contact | Anwar Barbhuyia |
| Client | Geotechnique |
| Address | P.O. Box 880<br>PENRITH NSW 2751 |
| Telephone | 02 4722 2700 |
| Facsimile | 02 4722 6161 |
| Email | anwar.barbhuyia@geotech.com.au |
| Project | **12576/1 - Marsden Park Precinct** |
| Order Number | (Not specified) |
| Samples | 50 |

## LABORATORY DETAILS

| | |
|---|---|
| Manager | Huong Crawford |
| Laboratory | SGS Alexandria Environmental |
| Address | Unit 16, 33 Maddox St<br>Alexandria NSW 2015 |
| Telephone | +61 2 8594 0400 |
| Facsimile | +61 2 8594 0499 |
| Email | au.environmental.sydney@sgs.com |
| Samples Received | Thu 3/11/2011 |
| Report Due | Fri 11/11/2011 |
| SGS Reference | **SE103054** |

## SUBMISSION DETAILS

This is to confirm that 50 samples were received on Thursday 3/11/2011. Results are expected to be ready by Friday 11/11/2011. Please quote SGS reference SE103054 when making enquiries. Refer below for details relating to sample integrity upon receipt.

| | | | |
|---|---|---|---|
| Sample counts by matrix | 36 Soil,2 Bulk,3 Water | Type of documentation received | COC |
| Date documentation received | 04/11/2011@1:02pm | Samples received in good order | Yes |
| Samples received without headspace | Yes | Sample temperature upon receipt | 2.7°C |
| Sample container provider | SGS | Turnaround time requested | Standard |
| Samples received in correct containers | Yes | Sufficient sample for analysis | Yes |
| Sample cooling method | Ice Bricks | Samples clearly labelled | Yes |
| Complete documentation received | Yes | | |

Samples will be held for one month for water samples and two months for soil samples from date of report, unless otherwise instructed.

## COMMENTS

Chain of custody instructions received at SGS 04/11/2011 @ 1:02pm.
16 soil jars and 7 plastic bags and have been placed on hold as no tests have been assigned for them by the client. These samples will not be processed.
Filtration and acidification will be conducted at SGS laboratory for dissolved metals analysis from the 1L amber bottle supplied.

# SAMPLE RECEIPT ADVICE

SE103054

CLIENT DETAILS

| | | | |
|---|---|---|---|
| Client | Geotechnique | Project | 12576/1 - Marsden Park Precinct |

SUMMARY OF ANALYSIS

| No. | Sample ID | Mercury in Soil | OC Pesticides in Soil | PAH (Polynuclear Aromatic Hydrocarbons) in | PCBs in Soil | Total Recoverable Metals in Soil by ICPOES from | TRH (Total Recoverable Hydrocarbons) in Soil | VOC's in Soil | Volatile Petroleum Hydrocarbons in Soil |
|---|---|---|---|---|---|---|---|---|---|
| 008 | TP41 0-0.15 | 1 | 26 | - | - | 7 | - | - | - |
| 014 | TP47 0-0.2 | 1 | 26 | 22 | 11 | 7 | 3 | 12 | 2 |
| 018 | TP50 0-0.15 | 1 | 26 | - | - | 7 | - | - | - |
| 022 | TP53 0-0.3 | 1 | 26 | 22 | 11 | 7 | 3 | 12 | 2 |

CONTINUED OVERLEAF

The above table represents SGS Environmental Services' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details.
Testing as per this table shall commence immediately unless the client intervenes with a correction.

# SAMPLE RECEIPT ADVICE

SE103054

CLIENT DETAILS

Client: Geotechnique

Project: 12576/1 - Marsden Park Precinct

SUMMARY OF ANALYSIS

| No. | Sample ID | Mercury in Soil | OC Pesticides in Soil | PAH (Polynuclear Aromatic Hydrocarbons) in | PCBs in Soil | Total Phenolics in Soil | Total Recoverable Metals in Soil by ICPOES from | TRH (Total Recoverable Hydrocarbons) in Soil | VOC's in Soil | Volatile Petroleum Hydrocarbons in Soil |
|---|---|---|---|---|---|---|---|---|---|---|
| 030 | TP59 0-0.3 | 1 | 26 | 22 | - | - | 7 | - | - | - |
| 031 | AST1 0-0.2 | 1 | 26 | 22 | 11 | 1 | 7 | 3 | 12 | 2 |
| 032 | UST1 0-0.3 | 1 | 26 | 22 | 11 | 1 | 7 | 3 | 12 | 2 |
| 033 | SD4 0-0.1 | 1 | 26 | - | - | - | 7 | - | - | - |
| 034 | SD5 0-0.1 | 1 | 26 | - | - | - | 7 | - | - | - |
| 035 | SP1 | 1 | 26 | 22 | 11 | - | 7 | 3 | 12 | 2 |
| 037 | Duplicate D3 | 1 | 26 | 22 | 11 | - | 7 | 3 | 12 | 2 |
| 038 | Duplicate D4 | 1 | 26 | - | - | - | 7 | - | - | - |
| 042 | Trip Spike TS1 | - | - | - | - | - | - | - | 12 | - |
| 043 | C12 | 1 | 26 | - | - | - | 7 | - | - | - |
| 044 | C13 | 1 | 26 | - | - | - | 7 | - | - | - |
| 045 | C14 | 1 | 26 | - | - | - | 7 | - | - | - |
| 046 | C15 | 1 | 26 | - | - | - | 7 | - | - | - |
| 047 | C16 | 1 | 26 | 22 | 11 | - | 7 | - | - | - |
| 048 | C17 | 1 | 26 | - | - | - | 7 | - | - | - |

CONTINUED OVERLEAF

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Please indicate as soon as possible should your request differ from these details.
Testing as per this table shall commence immediately unless the client intervenes with a correction.

# SAMPLE RECEIPT ADVICE

SE103054

CLIENT DETAILS

| | | | |
|---|---|---|---|
| Client | Geotechnique | Project | 12576/1 - Marsden Park Precinct |

SUMMARY OF ANALYSIS

| No. | Sample ID | Mercury in Soil | OC Pesticides in Soil | PAH (Polynuclear Aromatic Hydrocarbons) in | PCBs in Soil | Total Recoverable Metals in Soil by ICPOES from |
|---|---|---|---|---|---|---|
| 049 | C18 | 1 | 26 | - | - | 7 |
| 050 | C19 | 1 | 26 | 22 | 11 | 7 |

CONTINUED OVERLEAF

The above table represents SGS Environmental Services' interpretation of the client-supplied Chain Of Custody document.
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# SAMPLE RECEIPT ADVICE

SE103054

CLIENT DETAILS

| | | | |
|---|---|---|---|
| Client | Geotechnique | Project | 12576/1 - Marsden Park Precinct |

SUMMARY OF ANALYSIS

| No. | Sample ID | Fibre Identification in soil | Moisture Content |
|---|---|---|---|
| 008 | TP41 0-0.15 | - | 1 |
| 014 | TP47 0-0.2 | - | 1 |
| 018 | TP50 0-0.15 | - | 1 |
| 022 | TP53 0-0.3 | - | 1 |
| 024 | TP55 0-0.3 | 2 | - |

CONTINUED OVERLEAF

The above table represents SGS Environmental Services' interpretation of the client-supplied Chain Of Custody document.
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Please indicate as soon as possible should your request differ from these details.
Testing as per this table shall commence immediately unless the client intervenes with a correction.

# SAMPLE RECEIPT ADVICE

SE103054

CLIENT DETAILS

| | | | |
|---|---|---|---|
| Client | Geotechnique | Project | 12576/1 - Marsden Park Precinct |

SUMMARY OF ANALYSIS

| No. | Sample ID | Fibre ID in bulk materials | Fibre Identification in soil | Mercury (dissolved) in Water | Metals in Water (Dissolved) by ICPOES | Moisture Content |
|---|---|---|---|---|---|---|
| 025 | TP55 0-0.3_ZLB | 1 | - | - | - | - |
| 030 | TP59 0-0.3 | - | - | - | - | 1 |
| 031 | AST1 0-0.2 | - | - | - | - | 1 |
| 032 | UST1 0-0.3 | - | - | - | - | 1 |
| 033 | SD4 0-0.1 | - | - | - | - | 1 |
| 034 | SD5 0-0.1 | - | - | - | - | 1 |
| 035 | SP1 | - | 2 | - | - | 1 |
| 036 | SP1_ZLB | 1 | - | - | - | - |
| 037 | Duplicate D3 | - | - | - | - | 1 |
| 038 | Duplicate D4 | - | - | - | - | 1 |
| 039 | Rinsate R3 | - | - | 1 | 7 | - |
| 040 | Rinsate R4 | - | - | 1 | 7 | - |
| 041 | Rinsate R5 | - | - | 1 | 7 | - |
| 043 | C12 | - | - | - | - | 1 |
| 044 | C13 | - | - | - | - | 1 |
| 045 | C14 | - | - | - | - | 1 |
| 046 | C15 | - | - | - | - | 1 |
| 047 | C16 | - | - | - | - | 1 |
| 048 | C17 | - | - | - | - | 1 |

CONTINUED OVERLEAF

The above table represents SGS Environmental Services' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details.
Testing as per this table shall commence immediately unless the client intervenes with a correction.

# SAMPLE RECEIPT ADVICE

SE103054

CLIENT DETAILS

| | | | |
|---|---|---|---|
| Client | Geotechnique | Project | 12576/1 - Marsden Park Precinct |

SUMMARY OF ANALYSIS

| No. | Sample ID | Moisture Content |
|---|---|---|
| 049 | C18 | 1 |
| 050 | C19 | 1 |

The above table represents SGS Environmental Services' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details.
Testing as per this table shall commence immediately unless the client intervenes with a correction.

# ANALYTICAL REPORT

WORLD RECOGNISED ACCREDITATION

## CLIENT DETAILS

| | |
|---|---|
| Contact | Anwar Barbhuyia |
| Client | Geotechnique |
| Address | P.O. Box 880<br>NSW 2751 |
| Telephone | 02 4722 2700 |
| Facsimile | 02 4722 6161 |
| Email | anwar.barbhuyia@geotech.com.au |
| Project | **12576/1 - Marsden Park Precinct-Add** |
| Order Number | (Not specified) |
| Samples | 20 |

## LABORATORY DETAILS

| | |
|---|---|
| Manager | Huong Crawford |
| Laboratory | SGS Alexandria Environmental |
| Address | Unit 16, 33 Maddox St<br>Alexandria NSW 2015 |
| Telephone | +61 2 8594 0400 |
| Facsimile | +61 2 8594 0499 |
| Email | au.environmental.sydney@sgs.com |
| SGS Reference | SE103054A R1 |
| Report Number | 0000012796 |
| Date Reported | 29 Nov 2011 |
| Date Received | 03 Nov 2011 |

## COMMENTS

The document is issued in accordance with NATA's accreditation requirements.
Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

This report cancels and supersedes the report No.SE103054A issued by SGS Environmental Services due to the addition of silical clean up fraction C37-C40 for sample # 35.

## SIGNATORIES

Andy Sutton
Organics Chemist

Huong Crawford
Laboratory Manager

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | SE103054A.001<br>Soil<br>31 Oct 2011<br>TP3 0-0.1 | SE103054A.002<br>Soil<br>31 Oct 2011<br>TP17 0-0.1 | SE103054A.003<br>Soil<br>31 Oct 2011<br>TP20 0-0.15 |
|---|---|---|---|---|---|---|
| **VOC's in Soil Method: AN433/AN434** | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | |
| Benzene | mg/kg | 0.1 | | - | - | - |
| Toluene | mg/kg | 0.1 | | - | - | - |
| Ethylbenzene | mg/kg | 0.1 | | - | - | - |
| m/p-xylene | mg/kg | 0.2 | | - | - | - |
| o-xylene | mg/kg | 0.1 | | - | - | - |
| Oxygenated Compounds | | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | | - | - | - |
| Surrogates | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | | - | - | - |
| d8-toluene (Surrogate) | % | - | | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | | - | - | - |
| Totals | | | | | | |
| Total Xylenes* | mg/kg | 0.3 | | - | - | - |
| Total BTEX* | mg/kg | - | | - | - | - |
| **Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434** | | | | | | |
| TRH C6-C9 | mg/kg | 20 | | - | - | - |
| Surrogates | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | | - | - | - |
| Dibromofluoromethane (Surrogate) | % | - | | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | | - | - | - |
| d8-toluene (Surrogate) | % | - | | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | | - | - | - |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403** | | | | | | |
| TRH C10-C14 | mg/kg | 20 | | - | - | - |
| TRH C15-C28 | mg/kg | 50 | | - | - | - |
| TRH C29-C40 | mg/kg | 150 | | - | - | - |
| Surrogates | | | | | | |
| TRH (Surrogate) | % | - | | - | - | - |
| **TPH (Total Petroleum Hydrocarbons - Si Gel) in Soil Method: AN403** | | | | | | |
| TPH C10-C14 Silica Gel | mg/kg | 20 | | - | - | - |
| TPH C15-C28 Silica Gel | mg/kg | 45 | | - | - | - |
| TPH C29-C36 Silica Gel | mg/kg | 45 | | - | - | - |
| TPH C37-C40 Silica Gel | mg/kg | 100 | | - | - | - |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420** | | | | | | |
| Naphthalene | mg/kg | 0.1 | | - | - | - |
| 2-methylnaphthalene | mg/kg | 0.1 | | - | - | - |
| 1-methylnaphthalene | mg/kg | 0.1 | | - | - | - |
| Acenaphthylene | mg/kg | 0.1 | | - | - | - |
| Acenaphthene | mg/kg | 0.1 | | - | - | - |
| Fluorene | mg/kg | 0.1 | | - | - | - |
| Phenanthrene | mg/kg | 0.1 | | - | - | - |
| Anthracene | mg/kg | 0.1 | | - | - | - |
| Fluoranthene | mg/kg | 0.1 | | - | - | - |
| Pyrene | mg/kg | 0.1 | | - | - | - |
| Benzo(a)anthracene | mg/kg | 0.1 | | - | - | - |
| Chrysene | mg/kg | 0.1 | | - | - | - |

| Parameter | Units | LOR | Sample Number: SE103054A.001<br>Sample Matrix: Soil<br>Sample Date: 31 Oct 2011<br>Sample Name: TP3 0-0.1 | SE103054A.002<br>Soil<br>31 Oct 2011<br>TP17 0-0.1 | SE103054A.003<br>Soil<br>31 Oct 2011<br>TP20 0-0.15 |
|---|---|---|---|---|---|
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 (continued)** | | | | | |
| Benzo(b)fluoranthene | mg/kg | 0.1 | - | - | - |
| Benzo(k)fluoranthene | mg/kg | 0.1 | - | - | - |
| Benzo(a)pyrene | mg/kg | 0.1 | - | - | - |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | - | - | - |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | - | - | - |
| Benzo(ghi)perylene | mg/kg | 0.1 | - | - | - |
| Total PAH | mg/kg | 0.8 | - | - | - |
| Surrogates | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | - | - | - |
| 2-fluorobiphenyl (Surrogate) | % | - | - | - | - |
| d14-p-terphenyl (Surrogate) | % | - | - | - | - |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320** | | | | | |
| Arsenic, As | mg/kg | 3 | - | - | - |
| Cadmium, Cd | mg/kg | 0.3 | **0.9** | **0.3** | **6.7** |
| Zinc, Zn | mg/kg | 0.5 | **24** | **6.9** | **1000** |
| **Moisture Content Method: AN234** | | | | | |
| % Moisture | % | 0.5 | **9.0** | **14** | **18** |

| Parameter | Units | LOR | Sample Number: SE103054A.011<br>Sample Matrix: Soil<br>Sample Date: 01 Nov 2011<br>Sample Name: TP44 0-0.1 | SE103054A.012<br>Soil<br>01 Nov 2011<br>TP45 0-0.1 | SE103054A.013<br>Soil<br>01 Nov 2011<br>TP46 0-0.1 | SE103054A.015<br>Soil<br>01 Nov 2011<br>TP47 0.5-0.8 |
|---|---|---|---|---|---|---|
| **VOC's in Soil Method: AN433/AN434** | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | |
| Benzene | mg/kg | 0.1 | - | - | - | - |
| Toluene | mg/kg | 0.1 | - | - | - | - |
| Ethylbenzene | mg/kg | 0.1 | - | - | - | - |
| m/p-xylene | mg/kg | 0.2 | - | - | - | - |
| o-xylene | mg/kg | 0.1 | - | - | - | - |
| Oxygenated Compounds | | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | - | - | - | - |
| Surrogates | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | - | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | - | - | - | - |
| d8-toluene (Surrogate) | % | - | - | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | - | - | - | - |
| Totals | | | | | | |
| Total Xylenes* | mg/kg | 0.3 | - | - | - | - |
| Total BTEX* | mg/kg | - | - | - | - | - |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | SE103054A.011<br>Soil<br>01 Nov 2011<br>TP44 0-0.1 | SE103054A.012<br>Soil<br>01 Nov 2011<br>TP45 0-0.1 | SE103054A.013<br>Soil<br>01 Nov 2011<br>TP46 0-0.1 | SE103054A.015<br>Soil<br>01 Nov 2011<br>TP47 0.5-0.8 |
|---|---|---|---|---|---|---|---|
| **Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434** | | | | | | | |
| TRH C6-C9 | mg/kg | 20 | | - | - | - | - |
| Surrogates | | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | | - | - | - | - |
| Dibromofluoromethane (Surrogate) | % | - | | - | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | | - | - | - | - |
| d8-toluene (Surrogate) | % | - | | - | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | | - | - | - | - |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403** | | | | | | | |
| TRH C10-C14 | mg/kg | 20 | | - | - | - | - |
| TRH C15-C28 | mg/kg | 50 | | - | - | - | - |
| TRH C29-C40 | mg/kg | 150 | | - | - | - | - |
| Surrogates | | | | | | | |
| TRH (Surrogate) | % | - | | - | - | - | - |
| **TPH (Total Petroleum Hydrocarbons - Si Gel) in Soil Method: AN403** | | | | | | | |
| TPH C10-C14 Silica Gel | mg/kg | 20 | | - | - | - | - |
| TPH C15-C28 Silica Gel | mg/kg | 45 | | - | - | - | - |
| TPH C29-C36 Silica Gel | mg/kg | 45 | | - | - | - | - |
| TPH C37-C40 Silica Gel | mg/kg | 100 | | - | - | - | - |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420** | | | | | | | |
| Naphthalene | mg/kg | 0.1 | | - | - | - | - |
| 2-methylnaphthalene | mg/kg | 0.1 | | - | - | - | - |
| 1-methylnaphthalene | mg/kg | 0.1 | | - | - | - | - |
| Acenaphthylene | mg/kg | 0.1 | | - | - | - | - |
| Acenaphthene | mg/kg | 0.1 | | - | - | - | - |
| Fluorene | mg/kg | 0.1 | | - | - | - | - |
| Phenanthrene | mg/kg | 0.1 | | - | - | - | - |
| Anthracene | mg/kg | 0.1 | | - | - | - | - |
| Fluoranthene | mg/kg | 0.1 | | - | - | - | - |
| Pyrene | mg/kg | 0.1 | | - | - | - | - |
| Benzo(a)anthracene | mg/kg | 0.1 | | - | - | - | - |
| Chrysene | mg/kg | 0.1 | | - | - | - | - |
| Benzo(b)fluoranthene | mg/kg | 0.1 | | - | - | - | - |
| Benzo(k)fluoranthene | mg/kg | 0.1 | | - | - | - | - |
| Benzo(a)pyrene | mg/kg | 0.1 | | - | - | - | - |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | | - | - | - | - |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | | - | - | - | - |
| Benzo(ghi)perylene | mg/kg | 0.1 | | - | - | - | - |
| Total PAH | mg/kg | 0.8 | | - | - | - | - |
| Surrogates | | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | | - | - | - | - |
| 2-fluorobiphenyl (Surrogate) | % | - | | - | - | - | - |
| d14-p-terphenyl (Surrogate) | % | - | | - | - | - | - |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320** | | | | | | | |
| Arsenic, As | mg/kg | 3 | | **6** | **6** | **8** | **8** |
| Cadmium, Cd | mg/kg | 0.3 | | - | - | - | - |
| Zinc, Zn | mg/kg | 0.5 | | - | - | - | - |
| **Moisture Content Method: AN234** | | | | | | | |
| % Moisture | % | 0.5 | | **6.8** | **9.4** | **8.3** | **13** |

| Parameter | Units | LOR | Sample Number: SE103054A.016<br>Sample Matrix: Soil<br>Sample Date: 01 Nov 2011<br>Sample Name: TP48 0-0.1 | SE103054A.017<br>Soil<br>01 Nov 2011<br>TP49 0-0.15 | SE103054A.019<br>Soil<br>01 Nov 2011<br>TP50 0.3-0.6 | SE103054A.020<br>Soil<br>01 Nov 2011<br>TP51 0-0.15 |
|---|---|---|---|---|---|---|
| **VOC's in Soil Method: AN433/AN434** | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | |
| Benzene | mg/kg | 0.1 | - | - | - | - |
| Toluene | mg/kg | 0.1 | - | - | - | - |
| Ethylbenzene | mg/kg | 0.1 | - | - | - | - |
| m/p-xylene | mg/kg | 0.2 | - | - | - | - |
| o-xylene | mg/kg | 0.1 | - | - | - | - |
| Oxygenated Compounds | | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | - | - | - | - |
| Surrogates | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | - | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | - | - | - | - |
| d8-toluene (Surrogate) | % | - | - | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | - | - | - | - |
| Totals | | | | | | |
| Total Xylenes* | mg/kg | 0.3 | - | - | - | - |
| Total BTEX* | mg/kg | - | - | - | - | - |
| **Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434** | | | | | | |
| TRH C6-C9 | mg/kg | 20 | - | - | - | - |
| Surrogates | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | - | - | - | - |
| Dibromofluoromethane (Surrogate) | % | - | - | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | - | - | - | - |
| d8-toluene (Surrogate) | % | - | - | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | - | - | - | - |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403** | | | | | | |
| TRH C10-C14 | mg/kg | 20 | - | - | - | - |
| TRH C15-C28 | mg/kg | 50 | - | - | - | - |
| TRH C29-C40 | mg/kg | 150 | - | - | - | - |
| Surrogates | | | | | | |
| TRH (Surrogate) | % | - | - | - | - | - |
| **TPH (Total Petroleum Hydrocarbons - Si Gel) in Soil Method: AN403** | | | | | | |
| TPH C10-C14 Silica Gel | mg/kg | 20 | - | - | - | - |
| TPH C15-C28 Silica Gel | mg/kg | 45 | - | - | - | - |
| TPH C29-C36 Silica Gel | mg/kg | 45 | - | - | - | - |
| TPH C37-C40 Silica Gel | mg/kg | 100 | - | - | - | - |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420** | | | | | | |
| Naphthalene | mg/kg | 0.1 | - | - | - | - |
| 2-methylnaphthalene | mg/kg | 0.1 | - | - | - | - |
| 1-methylnaphthalene | mg/kg | 0.1 | - | - | - | - |
| Acenaphthylene | mg/kg | 0.1 | - | - | - | - |
| Acenaphthene | mg/kg | 0.1 | - | - | - | - |
| Fluorene | mg/kg | 0.1 | - | - | - | - |
| Phenanthrene | mg/kg | 0.1 | - | - | - | - |
| Anthracene | mg/kg | 0.1 | - | - | - | - |
| Fluoranthene | mg/kg | 0.1 | - | - | - | - |
| Pyrene | mg/kg | 0.1 | - | - | - | - |
| Benzo(a)anthracene | mg/kg | 0.1 | - | - | - | - |
| Chrysene | mg/kg | 0.1 | - | - | - | - |
| Benzo(b)fluoranthene | mg/kg | 0.1 | - | - | - | - |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name<br>SE103054A.016<br>Soil<br>01 Nov 2011<br>TP48 0-0.1 | SE103054A.017<br>Soil<br>01 Nov 2011<br>TP49 0-0.15 | SE103054A.019<br>Soil<br>01 Nov 2011<br>TP50 0.3-0.6 | SE103054A.020<br>Soil<br>01 Nov 2011<br>TP51 0-0.15 |
|---|---|---|---|---|---|---|
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 (continued)** | | | | | | |
| Benzo(k)fluoranthene | mg/kg | 0.1 | - | - | - | - |
| Benzo(a)pyrene | mg/kg | 0.1 | - | - | - | - |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | - | - | - | - |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | - | - | - | - |
| Benzo(ghi)perylene | mg/kg | 0.1 | - | - | - | - |
| Total PAH | mg/kg | 0.8 | - | - | - | - |
| Surrogates | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | - | - | - | - |
| 2-fluorobiphenyl (Surrogate) | % | - | - | - | - | - |
| d14-p-terphenyl (Surrogate) | % | - | - | - | - | - |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320** | | | | | | |
| Arsenic, As | mg/kg | 3 | **9** | **8** | **5** | **10** |
| Cadmium, Cd | mg/kg | 0.3 | - | - | - | - |
| Zinc, Zn | mg/kg | 0.5 | - | - | - | - |
| **Moisture Content Method: AN234** | | | | | | |
| % Moisture | % | 0.5 | **12** | **9.7** | **15** | **13** |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name<br>SE103054A.021<br>Soil<br>01 Nov 2011<br>TP52 0-0.15 | SE103054A.023<br>Soil<br>02 Nov 2011<br>TP54 0-0.3 | SE103054A.024<br>Soil<br>02 Nov 2011<br>TP55 0-0.3 |
|---|---|---|---|---|---|
| **VOC's in Soil Method: AN433/AN434** | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | |
| Benzene | mg/kg | 0.1 | - | - | - |
| Toluene | mg/kg | 0.1 | - | - | - |
| Ethylbenzene | mg/kg | 0.1 | - | - | - |
| m/p-xylene | mg/kg | 0.2 | - | - | - |
| o-xylene | mg/kg | 0.1 | - | - | - |
| Oxygenated Compounds | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | - | - | - |
| Surrogates | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | - | - | - |
| d8-toluene (Surrogate) | % | - | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | - | - | - |
| Totals | | | | | |
| Total Xylenes* | mg/kg | 0.3 | - | - | - |
| Total BTEX* | mg/kg | - | - | - | - |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name<br>SE103054A.021<br>Soil<br>01 Nov 2011<br>TP52 0-0.15 | SE103054A.023<br>Soil<br>02 Nov 2011<br>TP54 0-0.3 | SE103054A.024<br>Soil<br>02 Nov 2011<br>TP55 0-0.3 |
|---|---|---|---|---|---|
| **Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434** | | | | | |
| TRH C6-C9 | mg/kg | 20 | - | - | - |
| Surrogates | | | | | |
| Trifluorotoluene (Surrogate) | % | - | - | - | - |
| Dibromofluoromethane (Surrogate) | % | - | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | - | - | - |
| d8-toluene (Surrogate) | % | - | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | - | - | - |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403** | | | | | |
| TRH C10-C14 | mg/kg | 20 | - | - | - |
| TRH C15-C28 | mg/kg | 50 | - | - | - |
| TRH C29-C40 | mg/kg | 150 | - | - | - |
| Surrogates | | | | | |
| TRH (Surrogate) | % | - | - | - | - |
| **TPH (Total Petroleum Hydrocarbons - Si Gel) in Soil Method: AN403** | | | | | |
| TPH C10-C14 Silica Gel | mg/kg | 20 | - | - | - |
| TPH C15-C28 Silica Gel | mg/kg | 45 | - | - | - |
| TPH C29-C36 Silica Gel | mg/kg | 45 | - | - | - |
| TPH C37-C40 Silica Gel | mg/kg | 100 | - | - | - |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420** | | | | | |
| Naphthalene | mg/kg | 0.1 | - | - | - |
| 2-methylnaphthalene | mg/kg | 0.1 | - | - | - |
| 1-methylnaphthalene | mg/kg | 0.1 | - | - | - |
| Acenaphthylene | mg/kg | 0.1 | - | - | - |
| Acenaphthene | mg/kg | 0.1 | - | - | - |
| Fluorene | mg/kg | 0.1 | - | - | - |
| Phenanthrene | mg/kg | 0.1 | - | - | - |
| Anthracene | mg/kg | 0.1 | - | - | - |
| Fluoranthene | mg/kg | 0.1 | - | - | - |
| Pyrene | mg/kg | 0.1 | - | - | - |
| Benzo(a)anthracene | mg/kg | 0.1 | - | - | - |
| Chrysene | mg/kg | 0.1 | - | - | - |
| Benzo(b)fluoranthene | mg/kg | 0.1 | - | - | - |
| Benzo(k)fluoranthene | mg/kg | 0.1 | - | - | - |
| Benzo(a)pyrene | mg/kg | 0.1 | - | - | - |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | - | - | - |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | - | - | - |
| Benzo(ghi)perylene | mg/kg | 0.1 | - | - | - |
| Total PAH | mg/kg | 0.8 | - | - | - |
| Surrogates | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | - | - | - |
| 2-fluorobiphenyl (Surrogate) | % | - | - | - | - |
| d14-p-terphenyl (Surrogate) | % | - | - | - | - |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320** | | | | | |
| Arsenic, As | mg/kg | 3 | **10** | **8** | **6** |
| Cadmium, Cd | mg/kg | 0.3 | - | - | - |
| Zinc, Zn | mg/kg | 0.5 | - | **39** | **220** |
| **Moisture Content Method: AN234** | | | | | |
| % Moisture | % | 0.5 | **8.0** | **10** | **6.1** |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | SE103054A.026<br>Soil<br>02 Nov 2011<br>TP55 0.5-0.8 | SE103054A.027<br>Soil<br>02 Nov 2011<br>TP56 0-0.1 | SE103054A.028<br>Soil<br>02 Nov 2011<br>TP57 0-0.1 | SE103054A.029<br>Soil<br>02 Nov 2011<br>TP58 0-0.15 |
|---|---|---|---|---|---|---|---|
| **VOC's in Soil Method: AN433/AN434** | | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | | |
| Benzene | mg/kg | 0.1 | | - | - | - | - |
| Toluene | mg/kg | 0.1 | | - | - | - | - |
| Ethylbenzene | mg/kg | 0.1 | | - | - | - | - |
| m/p-xylene | mg/kg | 0.2 | | - | - | - | - |
| o-xylene | mg/kg | 0.1 | | - | - | - | - |
| Oxygenated Compounds | | | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | | - | - | - | - |
| Surrogates | | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | | - | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | | - | - | - | - |
| d8-toluene (Surrogate) | % | - | | - | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | | - | - | - | - |
| Totals | | | | | | | |
| Total Xylenes* | mg/kg | 0.3 | | - | - | - | - |
| Total BTEX* | mg/kg | - | | - | - | - | - |
| **Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434** | | | | | | | |
| TRH C6-C9 | mg/kg | 20 | | - | - | - | - |
| Surrogates | | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | | - | - | - | - |
| Dibromofluoromethane (Surrogate) | % | - | | - | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | | - | - | - | - |
| d8-toluene (Surrogate) | % | - | | - | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | | - | - | - | - |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403** | | | | | | | |
| TRH C10-C14 | mg/kg | 20 | | - | - | - | - |
| TRH C15-C28 | mg/kg | 50 | | - | - | - | - |
| TRH C29-C40 | mg/kg | 150 | | - | - | - | - |
| Surrogates | | | | | | | |
| TRH (Surrogate) | % | - | | - | - | - | - |
| **TPH (Total Petroleum Hydrocarbons - Si Gel) in Soil Method: AN403** | | | | | | | |
| TPH C10-C14 Silica Gel | mg/kg | 20 | | - | - | - | - |
| TPH C15-C28 Silica Gel | mg/kg | 45 | | - | - | - | - |
| TPH C29-C36 Silica Gel | mg/kg | 45 | | - | - | - | - |
| TPH C37-C40 Silica Gel | mg/kg | 100 | | - | - | - | - |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420** | | | | | | | |
| Naphthalene | mg/kg | 0.1 | | - | - | - | - |
| 2-methylnaphthalene | mg/kg | 0.1 | | - | - | - | - |
| 1-methylnaphthalene | mg/kg | 0.1 | | - | - | - | - |
| Acenaphthylene | mg/kg | 0.1 | | - | - | - | - |
| Acenaphthene | mg/kg | 0.1 | | - | - | - | - |
| Fluorene | mg/kg | 0.1 | | - | - | - | - |
| Phenanthrene | mg/kg | 0.1 | | - | - | - | - |
| Anthracene | mg/kg | 0.1 | | - | - | - | - |
| Fluoranthene | mg/kg | 0.1 | | - | - | - | - |
| Pyrene | mg/kg | 0.1 | | - | - | - | - |
| Benzo(a)anthracene | mg/kg | 0.1 | | - | - | - | - |
| Chrysene | mg/kg | 0.1 | | - | - | - | - |
| Benzo(b)fluoranthene | mg/kg | 0.1 | | - | - | - | - |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name<br>SE103054A.026<br>Soil<br>02 Nov 2011<br>TP55 0.5-0.8 | SE103054A.027<br>Soil<br>02 Nov 2011<br>TP56 0-0.1 | SE103054A.028<br>Soil<br>02 Nov 2011<br>TP57 0-0.1 | SE103054A.029<br>Soil<br>02 Nov 2011<br>TP58 0-0.15 |
|---|---|---|---|---|---|---|
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 (continued)** | | | | | | |
| Benzo(k)fluoranthene | mg/kg | 0.1 | - | - | - | - |
| Benzo(a)pyrene | mg/kg | 0.1 | - | - | - | - |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | - | - | - | - |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | - | - | - | - |
| Benzo(ghi)perylene | mg/kg | 0.1 | - | - | - | - |
| Total PAH | mg/kg | 0.8 | - | - | - | - |
| Surrogates | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | - | - | - | - |
| 2-fluorobiphenyl (Surrogate) | % | - | - | - | - | - |
| d14-p-terphenyl (Surrogate) | % | - | - | - | - | - |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320** | | | | | | |
| Arsenic, As | mg/kg | 3 | **14** | **8** | **11** | **5** |
| Cadmium, Cd | mg/kg | 0.3 | - | - | - | - |
| Zinc, Zn | mg/kg | 0.5 | - | - | - | **51** |
| **Moisture Content Method: AN234** | | | | | | |
| % Moisture | % | 0.5 | **8.8** | **11** | **11** | **17** |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name<br>SE103054A.035<br>Soil<br>02 Nov 2011<br>SP1 |
|---|---|---|---|
| **VOC's in Soil Method: AN433/AN434** | | | |
| Monocyclic Aromatic Hydrocarbons | | | |
| Benzene | mg/kg | 0.1 | - |
| Toluene | mg/kg | 0.1 | - |
| Ethylbenzene | mg/kg | 0.1 | - |
| m/p-xylene | mg/kg | 0.2 | - |
| o-xylene | mg/kg | 0.1 | - |
| Oxygenated Compounds | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | - |
| Surrogates | | | |
| Dibromofluoromethane (Surrogate) | % | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | - |
| d8-toluene (Surrogate) | % | - | - |
| Bromofluorobenzene (Surrogate) | % | - | - |
| Totals | | | |
| Total Xylenes* | mg/kg | 0.3 | - |
| Total BTEX* | mg/kg | - | - |

| Parameter | Units | LOR | Sample Number SE103054A.035<br>Sample Matrix Soil<br>Sample Date 02 Nov 2011<br>Sample Name SP1 |
|---|---|---|---|
| **Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434** | | | |
| TRH C6-C9 | mg/kg | 20 | - |
| Surrogates | | | |
| Trifluorotoluene (Surrogate) | % | - | - |
| Dibromofluoromethane (Surrogate) | % | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | - |
| d8-toluene (Surrogate) | % | - | - |
| Bromofluorobenzene (Surrogate) | % | - | - |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403** | | | |
| TRH C10-C14 | mg/kg | 20 | - |
| TRH C15-C28 | mg/kg | 50 | - |
| TRH C29-C40 | mg/kg | 150 | - |
| Surrogates | | | |
| TRH (Surrogate) | % | - | - |
| **TPH (Total Petroleum Hydrocarbons - Si Gel) in Soil Method: AN403** | | | |
| TPH C10-C14 Silica Gel | mg/kg | 20 | <20 |
| TPH C15-C28 Silica Gel | mg/kg | 45 | **290** |
| TPH C29-C36 Silica Gel | mg/kg | 45 | **270** |
| TPH C37-C40 Silica Gel | mg/kg | 100 | <100 |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420** | | | |
| Naphthalene | mg/kg | 0.1 | - |
| 2-methylnaphthalene | mg/kg | 0.1 | - |
| 1-methylnaphthalene | mg/kg | 0.1 | - |
| Acenaphthylene | mg/kg | 0.1 | - |
| Acenaphthene | mg/kg | 0.1 | - |
| Fluorene | mg/kg | 0.1 | - |
| Phenanthrene | mg/kg | 0.1 | - |
| Anthracene | mg/kg | 0.1 | - |
| Fluoranthene | mg/kg | 0.1 | - |
| Pyrene | mg/kg | 0.1 | - |
| Benzo(a)anthracene | mg/kg | 0.1 | - |
| Chrysene | mg/kg | 0.1 | - |
| Benzo(b)fluoranthene | mg/kg | 0.1 | - |
| Benzo(k)fluoranthene | mg/kg | 0.1 | - |
| Benzo(a)pyrene | mg/kg | 0.1 | - |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | - |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | - |
| Benzo(ghi)perylene | mg/kg | 0.1 | - |
| Total PAH | mg/kg | 0.8 | - |
| Surrogates | | | |
| d5-nitrobenzene (Surrogate) | % | - | - |
| 2-fluorobiphenyl (Surrogate) | % | - | - |
| d14-p-terphenyl (Surrogate) | % | - | - |

| Parameter | Units | LOR | Sample Number SE103054A.035<br>Sample Matrix Soil<br>Sample Date 02 Nov 2011<br>Sample Name SP1 |
|---|---|---|---|
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320** | | | |
| Arsenic, As | mg/kg | 3 | - |
| Cadmium, Cd | mg/kg | 0.3 | - |
| Zinc, Zn | mg/kg | 0.5 | - |
| **Moisture Content Method: AN234** | | | |
| % Moisture | % | 0.5 | - |

| Parameter | Units | LOR | Sample Number SE103054A.051<br>Sample Matrix Soil<br>Sample Date 31 Oct 2011<br>Sample Name AST1 0.25-0.4 |
|---|---|---|---|
| **VOC's in Soil Method: AN433/AN434** | | | |
| Monocyclic Aromatic Hydrocarbons | | | |
| Benzene | mg/kg | 0.1 | <0.1 |
| Toluene | mg/kg | 0.1 | <0.1 |
| Ethylbenzene | mg/kg | 0.1 | <0.1 |
| m/p-xylene | mg/kg | 0.2 | <0.2 |
| o-xylene | mg/kg | 0.1 | <0.1 |
| Oxygenated Compounds | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | <0.1 |
| Surrogates | | | |
| Dibromofluoromethane (Surrogate) | % | - | **98** |
| d4-1,2-dichloroethane (Surrogate) | % | - | **100** |
| d8-toluene (Surrogate) | % | - | **98** |
| Bromofluorobenzene (Surrogate) | % | - | **101** |
| Totals | | | |
| Total Xylenes* | mg/kg | 0.3 | <0.3 |
| Total BTEX* | mg/kg | - | **0** |
| **Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434** | | | |
| TRH C6-C9 | mg/kg | 20 | <20 |
| Surrogates | | | |
| Trifluorotoluene (Surrogate) | % | - | **68** |
| Dibromofluoromethane (Surrogate) | % | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | - |
| d8-toluene (Surrogate) | % | - | - |
| Bromofluorobenzene (Surrogate) | % | - | - |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403** | | | |
| TRH C10-C14 | mg/kg | 20 | <20 |
| TRH C15-C28 | mg/kg | 50 | **580** |
| TRH C29-C40 | mg/kg | 150 | <150 |
| Surrogates | | | |
| TRH (Surrogate) | % | - | - |

| Parameter | Units | LOR | Sample Number SE103054A.051<br>Sample Matrix Soil<br>Sample Date 31 Oct 2011<br>Sample Name AST1 0.25-0.4 |
|---|---|---|---|
| **TPH (Total Petroleum Hydrocarbons - Si Gel) in Soil Method: AN403** | | | |
| TPH C10-C14 Silica Gel | mg/kg | 20 | - |
| TPH C15-C28 Silica Gel | mg/kg | 45 | - |
| TPH C29-C36 Silica Gel | mg/kg | 45 | - |
| TPH C37-C40 Silica Gel | mg/kg | 100 | - |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420** | | | |
| Naphthalene | mg/kg | 0.1 | <0.1 |
| 2-methylnaphthalene | mg/kg | 0.1 | <0.1 |
| 1-methylnaphthalene | mg/kg | 0.1 | <0.1 |
| Acenaphthylene | mg/kg | 0.1 | <0.1 |
| Acenaphthene | mg/kg | 0.1 | <0.1 |
| Fluorene | mg/kg | 0.1 | <0.1 |
| Phenanthrene | mg/kg | 0.1 | <0.1 |
| Anthracene | mg/kg | 0.1 | <0.1 |
| Fluoranthene | mg/kg | 0.1 | **0.2** |
| Pyrene | mg/kg | 0.1 | **0.2** |
| Benzo(a)anthracene | mg/kg | 0.1 | <0.1 |
| Chrysene | mg/kg | 0.1 | <0.1 |
| Benzo(b)fluoranthene | mg/kg | 0.1 | <0.1 |
| Benzo(k)fluoranthene | mg/kg | 0.1 | <0.1 |
| Benzo(a)pyrene | mg/kg | 0.1 | <0.1 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | <0.1 |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | <0.1 |
| Benzo(ghi)perylene | mg/kg | 0.1 | <0.1 |
| Total PAH | mg/kg | 0.8 | <0.8 |
| Surrogates | | | |
| d5-nitrobenzene (Surrogate) | % | - | **76** |
| 2-fluorobiphenyl (Surrogate) | % | - | **76** |
| d14-p-terphenyl (Surrogate) | % | - | **85** |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320** | | | |
| Arsenic, As | mg/kg | 3 | - |
| Cadmium, Cd | mg/kg | 0.3 | - |
| Zinc, Zn | mg/kg | 0.5 | - |
| **Moisture Content Method: AN234** | | | |
| % Moisture | % | 0.5 | **5.9** |

# QC SUMMARY

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

**Moisture Content** **Method: ME-(AU)-[ENV]AN234**

| Parameter | QC Reference | Units | LOR | DUP %RPD |
|---|---|---|---|---|
| % Moisture | LB008993 | % | 0.5 | 0 - 18% |

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil** **Method: ME-(AU)-[ENV]AN420**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Naphthalene | LB008859 | mg/kg | 0.1 | <0.1 | 0% | 101% | 110% |
| 2-methylnaphthalene | LB008859 | mg/kg | 0.1 | <0.1 | | NA | |
| 1-methylnaphthalene | LB008859 | mg/kg | 0.1 | <0.1 | | NA | |
| Acenaphthylene | LB008859 | mg/kg | 0.1 | <0.1 | 0% | 104% | 109% |
| Acenaphthene | LB008859 | mg/kg | 0.1 | <0.1 | 0% | 112% | 125% |
| Fluorene | LB008859 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Phenanthrene | LB008859 | mg/kg | 0.1 | <0.1 | 0% | 115% | 113% |
| Anthracene | LB008859 | mg/kg | 0.1 | <0.1 | 0% | 105% | 117% |
| Fluoranthene | LB008859 | mg/kg | 0.1 | <0.1 | 0% | 102% | 113% |
| Pyrene | LB008859 | mg/kg | 0.1 | <0.1 | 0% | 108% | 117% |
| Benzo(a)anthracene | LB008859 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Chrysene | LB008859 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Benzo(b)fluoranthene | LB008859 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Benzo(k)fluoranthene | LB008859 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Benzo(a)pyrene | LB008859 | mg/kg | 0.1 | <0.1 | 0% | 112% | 115% |
| Indeno(1,2,3-cd)pyrene | LB008859 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Dibenzo(a&h)anthracene | LB008859 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Benzo(ghi)perylene | LB008859 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Total PAH | LB008859 | mg/kg | 0.8 | <0.8 | | NA | |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| d5-nitrobenzene (Surrogate) | LB008859 | % | - | 116% | 9% | 109% | 79% |
| 2-fluorobiphenyl (Surrogate) | LB008859 | % | - | 109% | 10% | 101% | 78% |
| d14-p-terphenyl (Surrogate) | LB008859 | % | - | 123% | 4% | 114% | 93% |

**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest** **Method: ME-(AU)-[ENV]AN040/AN320**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Arsenic, As | LB009078 | mg/kg | 3 | <3 | 3 - 9% | 98% | |
| Cadmium, Cd | LB009078 | mg/kg | 0.3 | <0.3 | 6% | 101% | 88% |
| Zinc, Zn | LB009078 | mg/kg | 0.5 | <0.5 | 5 - 6% | 101% | 93% |

**TPH (Total Petroleum Hydrocarbons - Si Gel) in Soil** **Method: ME-(AU)-[ENV]AN403**

| Parameter | QC Reference | Units | LOR | MB | LCS %Recovery |
|---|---|---|---|---|---|
| TPH C10-C14 Silica Gel | LB008856 | mg/kg | 20 | <20 | 103% |
| TPH C15-C28 Silica Gel | LB008856 | mg/kg | 45 | <45 | 110% |
| TPH C29-C36 Silica Gel | LB008856 | mg/kg | 45 | <45 | 105% |

**TRH (Total Recoverable Hydrocarbons) in Soil** **Method: ME-(AU)-[ENV]AN403**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| TRH C10-C14 | LB008856 | mg/kg | 20 | <20 | 0% | 105% | 118% |
| TRH C15-C28 | LB008856 | mg/kg | 50 | <50 | 0% | 103% | 113% |
| TRH C29-C40 | LB008856 | mg/kg | 150 | <150 | | NA | |

# QC SUMMARY

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

**VOC's in Soil** **Method: ME-(AU)-[ENV]AN433/AN434**

Monocyclic Aromatic Hydrocarbons

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Benzene | LB008851 | mg/kg | 0.1 | <0.1 | 0% | 119% | 80% |
| Toluene | LB008851 | mg/kg | 0.1 | <0.1 | 0% | 122% | 80% |
| Ethylbenzene | LB008851 | mg/kg | 0.1 | <0.1 | 0% | 121% | 83% |
| m/p-xylene | LB008851 | mg/kg | 0.2 | <0.2 | 0% | 120% | 83% |
| o-xylene | LB008851 | mg/kg | 0.1 | <0.1 | 0% | 119% | 81% |

Oxygenated Compounds

| Parameter | QC Reference | Units | LOR | MB | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|
| MtBE (Methyl-tert-butyl ether) | LB008851 | mg/kg | 0.1 | <0.1 | NA | NA |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Dibromofluoromethane (Surrogate) | LB008851 | % | - | 95% | 0 - 1% | 94% | 101% |
| d4-1,2-dichloroethane (Surrogate) | LB008851 | % | - | 90% | 2% | 93% | 102% |
| d8-toluene (Surrogate) | LB008851 | % | - | 106% | 1% | 106% | 101% |
| Bromofluorobenzene (Surrogate) | LB008851 | % | - | 98% | 1 - 2% | 98% | 100% |

Totals

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Total Xylenes* | LB008851 | mg/kg | 0.3 | <0.3 | 0% | NA | NA |
| Total BTEX* | LB008851 | mg/kg | - | 0 | NA | NA | NA |

**Volatile Petroleum Hydrocarbons in Soil** **Method: ME-(AU)-[ENV]AN433/AN434**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| TRH C6-C9 | LB008851 | mg/kg | 20 | <20 | 0% | 94% | 93% |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (Surrogate) | LB008851 | % | - | 67% | 6 - 10% | 73% | 70% |

# METHOD SUMMARY

| METHOD | METHODOLOGY SUMMARY |
|---|---|
| AN040 | A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analsysis by ASS or ICP as per USEPA Method 200.8. |
| AN088 | Orbital rolling for Organic pollutants are extracted from soil/sediment by transferring an appropriate mass of sample to a clear soil jar and extracting with 1:1 Dichloromethane/Acetone. Orbital Rolling method is intended for the extraction of semi-volatile organic compounds from soil/sediment samples, and is based somewhat on USEPA method 3570 (Micro Organic extraction and sample preparation). Method 3700. |
| AN234 | The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water. |
| AN403 | Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36. |
| AN403 | Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Petroleum Hydrocarbons (TPH) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with diffential polarity of the elluent solvents. |
| AN403 | The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependant on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B |
| AN420 | (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). |
| AN433/AN434 | VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260. |

FOOTNOTES

| | |
|---|---|
| IS | Insufficient sample for analysis. |
| LNR | Sample listed, but not received. |
| * | This analysis is not covered by the scope of accreditation. |
| ^ | Performed by outside laboratory. |
| LOR | Limit of Reporting |
| ↑↓ | Raised or Lowered Limit of Reporting |
| QFH | QC result is above the upper tolerance |
| QFL | QC result is below the lower tolerance |
| - | The sample was not analysed for this analyte |
| NVL | Not Validated |

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here:
http://www.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf

# STATEMENT OF QA/QC PERFORMANCE AGAINST DATA QUALITY OBJECTIVES

SE103054A R1

## CLIENT DETAILS

| | |
|---|---|
| Contact | Anwar Barbhuyia |
| Client | Geotechnique |
| Address | P.O. Box 880<br>NSW 2751 |
| Telephone | 02 4722 2700 |
| Facsimile | 02 4722 6161 |
| Email | anwar.barbhuyia@geotech.com.au |
| Project | **12576/1 - Marsden Park Precinct-Add** |
| Order Number | (Not specified) |
| Samples | 20 |

## LABORATORY DETAILS

| | |
|---|---|
| Manager | Huong Crawford |
| Laboratory | SGS Alexandria Environmental |
| Address | Unit 16, 33 Maddox St<br>Alexandria NSW 2015 |
| Telephone | +61 2 8594 0400 |
| Facsimile | +61 2 8594 0499 |
| Email | au.environmental.sydney@sgs.com |
| SGS Reference | SE103054A R1 |
| Report Number | 0000012798 |
| Date Reported | 29 Nov 2011 |

## COMMENTS

All the laboratory data for each environmental matrix was compared to the SGS Environmental Services' stated data quality objectives (DQO).
Comments arising from the comparison were made and are reported below.
The data relating to sampling was taken from the chain of custody document and was supplied by the client.
This QA/QC statement must be read in conjunction with the referenced analytical report.
The statement and the analytical report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

| | | |
|---|---|---|
| Extraction Date | Moisture Content | 19 Items |
| | PAH (Polynuclear Aromatic Hydrocarbons) in Soil | 1 Item |
| | TPH (Total Petroleum Hydrocarbons - Si Gel) in Soil | 1 Item |
| | TRH (Total Recoverable Hydrocarbons) in Soil | 1 Item |
| | VOC's in Soil | 1 Item |
| | Volatile Petroleum Hydrocarbons in Soil | 1 Item |

## SAMPLE SUMMARY

| | | | |
|---|---|---|---|
| Sample counts by matrix | 20 Soils | Type of documentation received | Email |
| Date documentation received | 14/11/11@4:50pm | Samples received in good order | Yes |
| Samples received without headspace | Yes | Sample temperature upon receipt | 2.7°C |
| Sample container provider | SGS | Turnaround time requested | Standard |
| Samples received in correct containers | Yes | Sufficient sample for analysis | Yes |
| Sample cooling method | Ice Bricks | Samples clearly labelled | Yes |
| Complete documentation received | Yes | | |

# HOLDING TIME SUMMARY

SE103054A R1

## HOLDING TIMES

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field sampling guide for containers and holding time" (Ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

The extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and Analysis dates are shown in **Green** when within suggested criteria and in **Bold** with an appended dagger symbol and Red† when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

| Sample Name | Sample Number | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| **Moisture Content Method: ME-(AU)-[ENV]AN234** | | | | | | | | |
| TP3 0-0.1 | SE103054A.001 | LB008993 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| TP17 0-0.1 | SE103054A.002 | LB008993 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| TP20 0-0.15 | SE103054A.003 | LB008993 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| TP44 0-0.1 | SE103054A.011 | LB008993 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| TP45 0-0.1 | SE103054A.012 | LB008993 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| TP46 0-0.1 | SE103054A.013 | LB008993 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| TP47 0.5-0.8 | SE103054A.015 | LB008993 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| TP48 0-0.1 | SE103054A.016 | LB008993 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| TP49 0-0.15 | SE103054A.017 | LB008993 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| TP50 0.3-0.6 | SE103054A.019 | LB008993 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| TP51 0-0.15 | SE103054A.020 | LB008993 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| TP52 0-0.15 | SE103054A.021 | LB008993 | 01 Nov 2011 | 03 Nov 2011 | 15 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| TP54 0-0.3 | SE103054A.023 | LB008993 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| TP55 0-0.3 | SE103054A.024 | LB008993 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| TP55 0.5-0.8 | SE103054A.026 | LB008993 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| TP56 0-0.1 | SE103054A.027 | LB008993 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| TP57 0-0.1 | SE103054A.028 | LB008993 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| TP58 0-0.15 | SE103054A.029 | LB008993 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| AST1 0.25-0.4 | SE103054A.051 | LB008993 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | **17 Nov 2011†** | 22 Nov 2011 | 18 Nov 2011 |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | | | | | | |
| AST1 0.25-0.4 | SE103054A.051 | LB008859 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | **15 Nov 2011†** | 25 Dec 2011 | 21 Nov 2011 |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | | | |
| TP3 0-0.1 | SE103054A.001 | LB009078 | 31 Oct 2011 | 03 Nov 2011 | 28 Apr 2012 | 18 Nov 2011 | 28 Apr 2012 | 22 Nov 2011 |
| TP17 0-0.1 | SE103054A.002 | LB009078 | 31 Oct 2011 | 03 Nov 2011 | 28 Apr 2012 | 18 Nov 2011 | 28 Apr 2012 | 22 Nov 2011 |
| TP20 0-0.15 | SE103054A.003 | LB009078 | 31 Oct 2011 | 03 Nov 2011 | 28 Apr 2012 | 18 Nov 2011 | 28 Apr 2012 | 22 Nov 2011 |
| TP44 0-0.1 | SE103054A.011 | LB009078 | 01 Nov 2011 | 03 Nov 2011 | 29 Apr 2012 | 18 Nov 2011 | 29 Apr 2012 | 22 Nov 2011 |
| TP45 0-0.1 | SE103054A.012 | LB009078 | 01 Nov 2011 | 03 Nov 2011 | 29 Apr 2012 | 18 Nov 2011 | 29 Apr 2012 | 22 Nov 2011 |
| TP46 0-0.1 | SE103054A.013 | LB009078 | 01 Nov 2011 | 03 Nov 2011 | 29 Apr 2012 | 18 Nov 2011 | 29 Apr 2012 | 22 Nov 2011 |
| TP47 0.5-0.8 | SE103054A.015 | LB009078 | 01 Nov 2011 | 03 Nov 2011 | 29 Apr 2012 | 18 Nov 2011 | 29 Apr 2012 | 22 Nov 2011 |
| TP48 0-0.1 | SE103054A.016 | LB009078 | 01 Nov 2011 | 03 Nov 2011 | 29 Apr 2012 | 18 Nov 2011 | 29 Apr 2012 | 22 Nov 2011 |
| TP49 0-0.15 | SE103054A.017 | LB009078 | 01 Nov 2011 | 03 Nov 2011 | 29 Apr 2012 | 18 Nov 2011 | 29 Apr 2012 | 22 Nov 2011 |
| TP50 0.3-0.6 | SE103054A.019 | LB009078 | 01 Nov 2011 | 03 Nov 2011 | 29 Apr 2012 | 18 Nov 2011 | 29 Apr 2012 | 22 Nov 2011 |
| TP51 0-0.15 | SE103054A.020 | LB009078 | 01 Nov 2011 | 03 Nov 2011 | 29 Apr 2012 | 18 Nov 2011 | 29 Apr 2012 | 22 Nov 2011 |
| TP52 0-0.15 | SE103054A.021 | LB009078 | 01 Nov 2011 | 03 Nov 2011 | 29 Apr 2012 | 18 Nov 2011 | 29 Apr 2012 | 22 Nov 2011 |
| TP54 0-0.3 | SE103054A.023 | LB009078 | 02 Nov 2011 | 03 Nov 2011 | 30 Apr 2012 | 18 Nov 2011 | 30 Apr 2012 | 22 Nov 2011 |
| TP55 0-0.3 | SE103054A.024 | LB009078 | 02 Nov 2011 | 03 Nov 2011 | 30 Apr 2012 | 18 Nov 2011 | 30 Apr 2012 | 22 Nov 2011 |
| TP55 0.5-0.8 | SE103054A.026 | LB009078 | 02 Nov 2011 | 03 Nov 2011 | 30 Apr 2012 | 18 Nov 2011 | 30 Apr 2012 | 22 Nov 2011 |
| TP56 0-0.1 | SE103054A.027 | LB009078 | 02 Nov 2011 | 03 Nov 2011 | 30 Apr 2012 | 18 Nov 2011 | 30 Apr 2012 | 22 Nov 2011 |
| TP57 0-0.1 | SE103054A.028 | LB009078 | 02 Nov 2011 | 03 Nov 2011 | 30 Apr 2012 | 18 Nov 2011 | 30 Apr 2012 | 22 Nov 2011 |
| TP58 0-0.15 | SE103054A.029 | LB009078 | 02 Nov 2011 | 03 Nov 2011 | 30 Apr 2012 | 18 Nov 2011 | 30 Apr 2012 | 22 Nov 2011 |
| **TPH (Total Petroleum Hydrocarbons - Si Gel) in Soil Method: ME-(AU)-[ENV]AN403** | | | | | | | | |
| SP1 | SE103054A.035 | LB008856 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 15 Nov 2011 | 25 Dec 2011 | 18 Nov 2011 |
| AST1 0.25-0.4 | SE103054A.051 | LB008856 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | **15 Nov 2011†** | 25 Dec 2011 | 21 Nov 2011 |

# HOLDING TIME SUMMARY

SE103054A R1

## HOLDING TIMES

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field sampling guide for containers and holding time” (Ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

The extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and Analysis dates are shown in **Green** when within suggested criteria and in **Bold** with an appended dagger symbol and Red† when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

| Sample Name | Sample Number | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403** | | | | | | | | |
| SP1 | SE103054A.035 | LB008856 | 02 Nov 2011 | 03 Nov 2011 | 16 Nov 2011 | 15 Nov 2011 | 25 Dec 2011 | 21 Nov 2011 |
| AST1 0.25-0.4 | SE103054A.051 | LB008856 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | **15 Nov 2011†** | 25 Dec 2011 | 18 Nov 2011 |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | | | |
| AST1 0.25-0.4 | SE103054A.051 | LB008851 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | **15 Nov 2011†** | 25 Dec 2011 | 21 Nov 2011 |
| **Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | | | |
| AST1 0.25-0.4 | SE103054A.051 | LB008851 | 31 Oct 2011 | 03 Nov 2011 | 14 Nov 2011 | **15 Nov 2011†** | 25 Dec 2011 | 21 Nov 2011 |

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.
Result is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| Parameter | Sample Name | Sample Number | Units | Criteria | Recovery % |
|---|---|---|---|---|---|
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | | | |
| 2-fluorobiphenyl (Surrogate) | AST1 0.25-0.4 | SE103054A.051 | % | 60 - 130% | 76 |
| d14-p-terphenyl (Surrogate) | AST1 0.25-0.4 | SE103054A.051 | % | 60 - 130% | 85 |
| d5-nitrobenzene (Surrogate) | AST1 0.25-0.4 | SE103054A.051 | % | 60 - 130% | 76 |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | |
| Bromofluorobenzene (Surrogate) | AST1 0.25-0.4 | SE103054A.051 | % | 60 - 130% | 101 |
| d4-1,2-dichloroethane (Surrogate) | AST1 0.25-0.4 | SE103054A.051 | % | 60 - 130% | 100 |
| d8-toluene (Surrogate) | AST1 0.25-0.4 | SE103054A.051 | % | 60 - 130% | 98 |
| Dibromofluoromethane (Surrogate) | AST1 0.25-0.4 | SE103054A.051 | % | 60 - 130% | 98 |
| **Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | |
| Trifluorotoluene (Surrogate) | AST1 0.25-0.4 | SE103054A.051 | % | 60 - 130% | 68 |

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, which is typically 2.5 times the statistically determined method detection limit (MDL).
Result is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| Parameter | Units | Control LOR | BLK MB |
|---|---|---|---|
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | |
| LB008859.001 | | | |
| Naphthalene | mg/kg | 0.1 | <0.1 |
| 2-methylnaphthalene | mg/kg | 0.1 | <0.1 |
| 1-methylnaphthalene | mg/kg | 0.1 | <0.1 |
| Acenaphthylene | mg/kg | 0.1 | <0.1 |
| Acenaphthene | mg/kg | 0.1 | <0.1 |
| Fluorene | mg/kg | 0.1 | <0.1 |
| Phenanthrene | mg/kg | 0.1 | <0.1 |
| Anthracene | mg/kg | 0.1 | <0.1 |
| Fluoranthene | mg/kg | 0.1 | <0.1 |
| Pyrene | mg/kg | 0.1 | <0.1 |
| Benzo(a)anthracene | mg/kg | 0.1 | <0.1 |
| Chrysene | mg/kg | 0.1 | <0.1 |
| Benzo(a)pyrene | mg/kg | 0.1 | <0.1 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | <0.1 |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | <0.1 |
| Benzo(ghi)perylene | mg/kg | 0.1 | <0.1 |
| Total PAH | mg/kg | 0.8 | <0.8 |
| Surrogates | | | |
| d5-nitrobenzene (Surrogate) | % | - | 116 |
| 2-fluorobiphenyl (Surrogate) | % | - | 109 |
| d14-p-terphenyl (Surrogate) | % | - | 123 |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320** | | | |
| LB009078.001 | | | |
| Arsenic, As | mg/kg | 3 | <3 |
| Cadmium, Cd | mg/kg | 0.3 | <0.3 |
| Zinc, Zn | mg/kg | 0.5 | <0.5 |
| **TPH (Total Petroleum Hydrocarbons - Si Gel) in Soil Method: ME-(AU)-[ENV]AN403** | | | |
| LB008856.001 | | | |
| TPH C10-C14 Silica Gel | mg/kg | 20 | <20 |
| TPH C15-C28 Silica Gel | mg/kg | 45 | <45 |
| TPH C29-C36 Silica Gel | mg/kg | 45 | <45 |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403** | | | |
| LB008856.001 | | | |
| TRH C10-C14 | mg/kg | 20 | <20 |
| TRH C15-C28 | mg/kg | 50 | <50 |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | |
| LB008851.001 | | | |
| Monocyclic Aromatic Hydrocarbons | | | |
| Benzene | mg/kg | 0.1 | <0.1 |
| Toluene | mg/kg | 0.1 | <0.1 |
| Ethylbenzene | mg/kg | 0.1 | <0.1 |
| m/p-xylene | mg/kg | 0.2 | <0.2 |
| o-xylene | mg/kg | 0.1 | <0.1 |
| Oxygenated Compounds | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | <0.1 |
| Surrogates | | | |
| Dibromofluoromethane (Surrogate) | % | - | 95 |
| d4-1,2-dichloroethane (Surrogate) | % | - | 90 |
| d8-toluene (Surrogate) | % | - | 106 |
| Bromofluorobenzene (Surrogate) | % | - | 98 |
| Totals | | | |
| Total BTEX* | mg/kg | - | 0 |

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, which is typically 2.5 times the statistically determined method detection limit (MDL).
Result is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| Parameter | Units | Control LOR | BLK MB |
|---|---|---|---|
| **Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | |
| LB008851.001 | | | |
| TRH C6-C9 | mg/kg | 20 | <20 |
| Surrogates | | | |
| Trifluorotoluene (Surrogate) | % | - | 67 |

Duplicates are calculated as relative percent difference (RPD) using the formula RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula: MaxAllowableDifference = 100 x StatisticalDetectionLimit / Mean + LimitingRepeatability
Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.
RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | Sample Name | | SE103054A.003-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | |
| LB009078.007 | | | | | | |
| Cadmium, Cd | mg/kg | 0.3 | 6.7 | 6.3 | 35 | 6 |
| Zinc, Zn | mg/kg | 0.5 | 1000 | 970 | 30 | 6 |

| | Sample Name | | SE103054A.019-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **Moisture Content Method: ME-(AU)-[ENV]AN234** | | | | | | |
| LB008993.011 | | | | | | |
| % Moisture | % | 0.5 | 15 | 15 | 33 | 0 |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | |
| LB009078.015 | | | | | | |
| Arsenic, As | mg/kg | 3 | 5 | 5 | 87 | 9 |

| | Sample Name | | SE103054A.029-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | |
| LB009078.024 | | | | | | |
| Arsenic, As | mg/kg | 3 | 5 | 5 | 90 | 3 |
| Zinc, Zn | mg/kg | 0.5 | 51 | 54 | 31 | 5 |

| | Sample Name | | SE103054A.051-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **Moisture Content Method: ME-(AU)-[ENV]AN234** | | | | | | |
| LB008993.021 | | | | | | |
| % Moisture | % | 0.5 | 5.9 | 5.0 | 39 | 18 |

| | Sample Name | | SE103265.001-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403** | | | | | | |
| LB008856.006 | | | | | | |
| TRH C10-C14 | mg/kg | 20 | <20 | <20 | 200 | 0 |
| TRH C15-C28 | mg/kg | 50 | <50 | <50 | 200 | 0 |

| | Sample Name | | SE103265.008-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008851.014 | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | |
| Benzene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Toluene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Ethylbenzene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| m/p-xylene | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| o-xylene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |

Duplicates are calculated as relative percent difference (RPD) using the formula RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula: MaxAllowableDifference = 100 x StatisticalDetectionLimit / Mean + LimitingRepeatability
Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.
RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Sample Name | SE103265.008-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| Continued... VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434 | | | | | | |
| LB008851.014 | | | | | | |
| Surrogates | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | 101.0 | 102.0 | 50 | 1 |
| d4-1,2-dichloroethane (Surrogate) | % | - | 99.0 | 101.0 | 50 | 2 |
| d8-toluene (Surrogate) | % | - | 98.0 | 97.0 | 50 | 1 |
| Bromofluorobenzene (Surrogate) | % | - | 100.0 | 99.0 | 50 | 1 |
| Totals | | | | | | |
| Total Xylenes* | mg/kg | 0.3 | <0.3 | <0.3 | 200 | 0 |
| Total BTEX* | mg/kg | - | 0 | 0 | 200 | NA |
| Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434 | | | | | | |
| LB008851.014 | | | | | | |
| TRH C6-C9 | mg/kg | 20 | <20 | <20 | 200 | 0 |
| Surrogates | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | 66.0 | 60 | 30 | 10 |

| | | Sample Name | SE103265.009-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403 | | | | | | |
| LB008856.016 | | | | | | |
| TRH C10-C14 | mg/kg | 20 | <20 | <20 | 200 | 0 |
| TRH C15-C28 | mg/kg | 50 | <50 | <50 | 200 | 0 |

| | | Sample Name | SE103265.018-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420 | | | | | | |
| LB008859.013 | | | | | | |
| Naphthalene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Acenaphthylene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Acenaphthene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Fluorene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Phenanthrene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Anthracene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Pyrene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Benzo(a)anthracene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Chrysene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Benzo(b)fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Benzo(k)fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Benzo(a)pyrene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Benzo(ghi)perylene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |

Duplicates are calculated as relative percent difference (RPD) using the formula RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula: MaxAllowableDifference = 100 x StatisticalDetectionLimit / Mean + LimitingRepeatability
Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.
RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Sample Name | SE103265.018-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **Continued... PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | | | | |
| LB008859.013 | | | | | | |
| Surrogates | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | 90.0 | 82.0 | 30 | 9 |
| 2-fluorobiphenyl (Surrogate) | % | - | 81.0 | 73.0 | 30 | 10 |
| d14-p-terphenyl (Surrogate) | % | - | 93.0 | 89.0 | 30 | 4 |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403** | | | | | | |
| LB008856.026 | | | | | | |
| TRH C10-C14 | mg/kg | 20 | <20 | <20 | 200 | 0 |
| TRH C15-C28 | mg/kg | 50 | <50 | <50 | 200 | 0 |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008851.025 | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | |
| Benzene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Toluene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Ethylbenzene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| m/p-xylene | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| o-xylene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Surrogates | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | 101.0 | 101.0 | 50 | 0 |
| d4-1,2-dichloroethane (Surrogate) | % | - | 99.0 | 101.0 | 50 | 2 |
| d8-toluene (Surrogate) | % | - | 98.0 | 97.0 | 50 | 1 |
| Bromofluorobenzene (Surrogate) | % | - | 98.0 | 100.0 | 50 | 2 |
| Totals | | | | | | |
| Total Xylenes* | mg/kg | 0.3 | <0.3 | <0.3 | 200 | 0 |
| Total BTEX* | mg/kg | - | 0 | 0 | 200 | NA |
| **Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008851.025 | | | | | | |
| TRH C6-C9 | mg/kg | 20 | <20 | <20 | 200 | 0 |
| Surrogates | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | 130.0 | 123 | 30 | 6 |

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022).
For more information refer to the footnotes in the concluding page of the report.
Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Control | LCS STD | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Result | Expected Result | Criteria % | Recovery % |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | | | | |
| LB008859.002 | | | | | | |
| Naphthalene | mg/kg | 0.1 | 3.4 | 4 | 60 - 140 | 101 |
| Acenaphthylene | mg/kg | 0.1 | 3.5 | 4 | 60 - 140 | 104 |
| Acenaphthene | mg/kg | 0.1 | 3.8 | 4 | 60 - 140 | 112 |
| Phenanthrene | mg/kg | 0.1 | 3.9 | 4 | 60 - 140 | 115 |
| Anthracene | mg/kg | 0.1 | 3.5 | 4 | 60 - 140 | 105 |
| Fluoranthene | mg/kg | 0.1 | 3.5 | 4 | 60 - 140 | 102 |
| Pyrene | mg/kg | 0.1 | 3.6 | 4 | 60 - 140 | 108 |
| Benzo(a)pyrene | mg/kg | 0.1 | 3.8 | 4 | 60 - 140 | 112 |
| Surrogates | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | 109.0 | 100 | 60 - 140 | 109 |
| 2-fluorobiphenyl (Surrogate) | % | - | 101.0 | 100 | 60 - 140 | 101 |
| d14-p-terphenyl (Surrogate) | % | - | 114.0 | 100 | 60 - 140 | 114 |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | |
| LB009078.002 | | | | | | |
| Arsenic, As | mg/kg | 3 | 49 | 50 | 80 - 120 | 98 |
| Cadmium, Cd | mg/kg | 0.3 | 51 | 50 | 80 - 120 | 101 |
| Zinc, Zn | mg/kg | 0.5 | 50 | 50 | 80 - 120 | 101 |
| **TPH (Total Petroleum Hydrocarbons - Si Gel) in Soil Method: ME-(AU)-[ENV]AN403** | | | | | | |
| LB008856.002 | | | | | | |
| TPH C10-C14 Silica Gel | mg/kg | 20 | 41 | 40 | 70 - 130 | 103 |
| TPH C15-C28 Silica Gel | mg/kg | 45 | <45 | 40 | 70 - 130 | 110 |
| TPH C29-C36 Silica Gel | mg/kg | 45 | <45 | 40 | 70 - 130 | 105 |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403** | | | | | | |
| LB008856.002 | | | | | | |
| TRH C10-C14 | mg/kg | 20 | 42 | 40 | 60 - 140 | 105 |
| TRH C15-C28 | mg/kg | 50 | <50 | 40 | 60 - 140 | 103 |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008851.002 | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | |
| Benzene | mg/kg | 0.1 | 2.7 | 3 | 60 - 140 | 119 |
| Toluene | mg/kg | 0.1 | 2.8 | 3 | 60 - 140 | 122 |
| Ethylbenzene | mg/kg | 0.1 | 2.7 | 3 | 60 - 140 | 121 |
| m/p-xylene | mg/kg | 0.2 | 5.4 | 5.9 | 60 - 140 | 120 |
| o-xylene | mg/kg | 0.1 | 2.7 | 2.9 | 60 - 140 | 119 |
| Surrogates | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | 94.0 | 100 | 60 - 140 | 94 |
| d4-1,2-dichloroethane (Surrogate) | % | - | 93.0 | 100 | 60 - 140 | 93 |
| d8-toluene (Surrogate) | % | - | 106.0 | 100 | 60 - 140 | 106 |
| Bromofluorobenzene (Surrogate) | % | - | 98.0 | 100 | 60 - 140 | 98 |
| **Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008851.002 | | | | | | |
| TRH C6-C9 | mg/kg | 20 | 22 | 24.4 | 60 - 140 | 94 |

Matrix spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of the report. Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Control | MS | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Result | Original Result | Spike Added | Recovery % |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | | | | |
| LB008859.005 | | | | | | |
| Naphthalene | mg/kg | 0.1 | 3.7 | <0.1 | 4 | 110 |
| Acenaphthylene | mg/kg | 0.1 | 3.7 | <0.1 | 4 | 109 |
| Acenaphthene | mg/kg | 0.1 | 4.2 | <0.1 | 4 | 125 |
| Fluorene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Phenanthrene | mg/kg | 0.1 | 3.8 | <0.1 | 4 | 113 |
| Anthracene | mg/kg | 0.1 | 3.9 | <0.1 | 4 | 117 |
| Fluoranthene | mg/kg | 0.1 | 3.8 | <0.1 | 4 | 113 |
| Pyrene | mg/kg | 0.1 | 4.0 | <0.1 | 4 | 117 |
| Benzo(a)anthracene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Chrysene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Benzo(b)fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Benzo(k)fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Benzo(a)pyrene | mg/kg | 0.1 | 3.9 | <0.1 | 4 | 115 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Benzo(ghi)perylene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Surrogates | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | 79.0 | 82.0 | 100 | 79 |
| 2-fluorobiphenyl (Surrogate) | % | - | 78.0 | 81.0 | 100 | 78 |
| d14-p-terphenyl (Surrogate) | % | - | 93.0 | 91.0 | 100 | 93 |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | |
| LB009078.004 | | | | | | |
| Cadmium, Cd | mg/kg | 0.3 | 45 | 0.9 | 50 | 88 |
| Zinc, Zn | mg/kg | 0.5 | 71 | 24 | 50 | 93 |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403** | | | | | | |
| LB008856.009 | | | | | | |
| TRH C10-C14 | mg/kg | 20 | 49 | <20 | 40 | 118 |
| TRH C15-C28 | mg/kg | 50 | 53 | <50 | 40 | 113 |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008851.004 | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | |
| Benzene | mg/kg | 0.1 | 1.8 | <0.1 | 3 | 80 |
| Toluene | mg/kg | 0.1 | 1.8 | <0.1 | 3 | 80 |
| Ethylbenzene | mg/kg | 0.1 | 1.9 | <0.1 | 3 | 83 |
| m/p-xylene | mg/kg | 0.2 | 3.8 | <0.2 | 5.9 | 83 |
| o-xylene | mg/kg | 0.1 | 1.8 | <0.1 | 2.9 | 81 |
| Oxygenated Compounds | | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Surrogates | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | 101.0 | 98.0 | 100 | 101 |
| d4-1,2-dichloroethane (Surrogate) | % | - | 102.0 | 100.0 | 100 | 102 |
| d8-toluene (Surrogate) | % | - | 101.0 | 98.0 | 100 | 101 |
| Bromofluorobenzene (Surrogate) | % | - | 100.0 | 101.0 | 100 | 100 |
| Totals | | | | | | |
| Total Xylenes* | mg/kg | 0.3 | 5.6 | <0.3 | - | NA |
| Total BTEX* | mg/kg | - | 11 | 0 | - | NA |
| **Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008851.004 | | | | | | |
| TRH C6-C9 | mg/kg | 20 | 21 | <20 | 24.4 | 93 |

Matrix spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of the report. Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Control | MS | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Result | Original Result | Spike Added | Recovery % |
| **Continued... Volatile Petroleum Hydrocarbons in Soil** **Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008851.004 | | | | | | |
| Surrogates | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | 70 | 68 | - | 70 |

Matrix spike duplicates are calculated as relative percent difference using the formula RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The original result is the analyte concentration of the matrix spike and the replicate result is the analyte concentration of the matrix spike duplicate.
The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula: MaxAllowableDifference = 100 x StatisticalDetectionLimit / Mean + LimitingRepeatability
RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

No Matrix Spike Duplicates were required for this job.

FOOTNOTES

| | |
|---|---|
| IS | Insufficient sample for analysis. |
| LNR | Sample listed, but not received. |
| * | NATA Accreditation does not cover this analysis. |
| ^ | Performed by outside laboratory. |
| LOR | Limit of Reporting |
| QFH | QC result is above the upper tolerance |
| QFL | QC result is below the lower tolerance |
| NA | The sample was not analysed for this analyte |

Samples analysed as received.
Solid samples expressed on a dry weight basis.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: http://www.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf

coc received 14/11/11 @ 4:50 pm

COC 14/11/2011 @4:50PM.

SGS Ref: SE103054A.
Date D-R: 22/11/11
TAT: NORMAL

# GEOTECHNIQUE PTY LTD

## Laboratory Test Request / Chain of Custody Record


Lemko Place
PENRITH NSW 2750

P O Box 880
PENRITH NSW 2751

Tel: (02) 4722 2700
Fax: (02) 4722 6161
email: info@geotech.com.au




**TO:** SGS ENVIRONMENTAL SERVICES
UNIT 16
33 MADDOX STREET
ALEXANDRIA NSW 2015

**PH:** 02 8594 0400 **FAX:** 02 8594 0499

**ATTN:** MS ANGELA MAMALICOS

**Sampling By:** AN **Job No:** 12576/1

**Project:**

**Project Manager:** AB **Location:** Marsden Park Precinct

**Results required by: Normal Turnaround Time**

| | Sampling details | | | | Sample type | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Location | Depth (m) | Date | Time | Soil | Material | ARSENIC | CADMIUM | ZINC | | | | | SGS REF: | KEEP SAMPLE |
| 1 | TP3 | 0-0.1 | 31/10/2011 | - | SG | | | ✓ | ✓ | | | | | SE103054- | YES |
| 2 | TP17 | 0-0.1 | 31/10/2011 | - | SG | | | ✓ | ✓ | | | | | SE103054- | YES |
| 3 | TP20 | 0-0.15 | 31/10/2011 | - | SG | | | ✓ | ✓ | | | | | SE103054- | YES |
| | TP37 | 0-0.15 | 1/11/2011 | - | SG | | | | | | | | | SE103054- | YES |
| | TP38 | 0-0.15 | 1/11/2011 | - | SG | | | | | | | | | SE103054- | YES |
| | TP39 | 0-0.1 | 1/11/2011 | - | SG | | | | | | | | | SE103054- | YES |
| | TP40 | 0-0.15 | 1/11/2011 | - | SG | | | | | | | | | SE103054- | YES |
| | TP41 | 0-0.15 | 1/11/2011 | - | SG | | | | | | | | | SE103054- | YES |
| | TP42 | 0-0.1 | 1/11/2011 | - | SG | | | | | | | | | SE103054- | YES |
| | TP43 | 0-0.15 | 1/11/2011 | - | SG | | | | | | | | | SE103054- | YES |
| 11 | TP44 | 0-0.1 | 1/11/2011 | - | SG | | ✓ | | | | | | | SE103054- | YES |
| 12 | TP45 | 0-0.1 | 1/11/2011 | - | SG | | ✓ | | | | | | | SE103054- | YES |

| Relinquished by | | | Received by | | |
|---|---|---|---|---|---|
| Name | Signature | Date | Name | Signature | Date |
| ANWAR BARBHUYIA | AB | 14/11/2011 | [illegible] | [illegible] | 14/11/11 |

Legend:

| | | | | | |
|---|---|---|---|---|---|
| WG | Water sample, glass bottle | SG | Soil sample (glass jar) | SP | Soil sample (plastic bag) |
| WP | Water sample, plastic bottle | FCP | Fibro Cement Piece | ✓ | Test required |

* Purge & Trap

# GEOTECHNIQUE PTY LTD

## Laboratory Test Request / Chain of Custody Record

Lemko Place
PENRITH NSW 2750

P O Box 880
PENRITH NSW 2751

Tel: (02) 4722 2700
Fax: (02) 4722 6161
email: info@geotech.com.au



**TO:** SGS ENVIRONMENTAL SERVICES
UNIT 16
33 MADDOX STREET
ALEXANDRIA NSW 2015

**PH:** 02 8594 0400 **FAX:** 02 8594 0499

**ATTN:** MS ANGELA MAMALICOS

**Sampling By:** AN **Job No:** 12576/1

**Project:**

**Project Manager:** AB **Location:** Marsden Park Precinct

**Results required by: Normal Turnaround Time**

| | Location | Depth (m) | Date | Time | Sample type: Soil | Sample type: Material | ARSENIC | CADMIUM | ZINC | | | | | | SGS REF: | KEEP SAMPLE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | TP46 | 0-0.1 | 1/11/2011 | - | SG | | ✓ | | | | | | | | SE103054- | YES |
| | TP47 | 0-0.2 | 1/11/2011 | - | SG/SP | | | | | | | | | | SE103054- | YES |
| 15 | TP47 | 0.5-0.8 | 1/11/2011 | - | SG | | ✓ | | | | | | | | SE103054- | YES |
| | TP47 | 1.0-1.3 | 1/11/2011 | - | SG | | | | | | | | | | SE103054- | YES |
| 16 | TP48 | 0-0.1 | 1/11/2011 | - | SG | | ✓ | | | | | | | | SE103054- | YES |
| 17 | TP49 | 0-0.15 | 1/11/2011 | - | SG | | ✓ | | | | | | | | SE103054- | YES |
| | TP50 | 0-0.15 | 1/11/2011 | - | SG | | | | | | | | | | SE103054- | YES |
| 19 | TP50 | 0.3-0.6 | 1/11/2011 | - | SG | | ✓ | | | | | | | | SE103054- | YES |
| 20 | TP51 | 0-0.15 | 1/11/2011 | - | SG | | ✓ | | | | | | | | SE103054- | YES |
| 21 | TP52 | 0-0.15 | 1/11/2011 | - | SG | | ✓ | | | | | | | | SE103054- | YES |
| | TP53 | 0-0.3 | 2/11/2011 | - | SG/SP | | | | | | | | | | SE103054- | YES |
| | TP53 | 0.5-0.8 | 2/11/2011 | - | SG/SP | | | | | | | | | | SE103054- | YES |

| Relinquished by | | | Received by | | |
|---|---|---|---|---|---|
| Name | Signature | Date | Name | Signature | Date |
| ANWAR BARBHUYIA | AB | 14/11/2011 | Shirley Yuan | | 14/11/11 |

Legend:

| | | | | | |
|---|---|---|---|---|---|
| WG | Water sample, glass bottle | SG | Soil sample (glass jar) | SP | Soil sample (plastic bag) |
| WP | Water sample, plastic bottle | FCP | Fibro Cement Piece | ✓ | Test required |

* Purge & Trap

# GEOTECHNIQUE PTY LTD

## Laboratory Test Request / Chain of Custody Record

Lemko Place
PENRITH NSW 2750

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PENRITH NSW 2751

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email: info@geotech.com.au



**TO:** SGS ENVIRONMENTAL SERVICES
UNIT 16
33 MADDOX STREET
ALEXANDRIA NSW 2015

**PH:** 02 8594 0400 **FAX:** 02 8594 0499

**ATTN:** MS ANGELA MAMALICOS

**Sampling By:** AN **Job No:** 12576/1

**Project:**

**Project Manager:** AB **Location:** Marsden Park Precinct

**Results required by: Normal Turnaround Time**

| Sampling details | | | | Sample type | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Date | Time | Soil | Material | ARSENIC | CADMIUM | ZINC | | | | | SGS REF: | KEEP SAMPLE |
| TP53 | 1.0-1.2 | 2/11/2011 | - | SG | | | | | | | | | SE103054- | YES |
| TP53 | 1.25-1.4 | 2/11/2011 | - | SG | | | | | | | | | SE103054- | YES |
| 23 TP54 | 0-0.3 | 2/11/2011 | - | SG/SP | | ✓ | | ✓ | | | | | SE103054- | YES |
| TP54 | 0.35-0.5 | 2/11/2011 | - | SG | | | | | | | | | SE103054- | YES |
| 24 TP55 | 0-0.3 | 2/11/2011 | - | SG/SP | | ✓ | | ✓ | | | | | SE103054- | YES |
| TP55 | 0-0.3 | 2/11/2011 | - | | FCP | | | | | | | | SE103054- | YES |
| 26 TP55 | 0.5-0.8 | 2/11/2011 | - | SG/SP | | ✓ | | | | | | | SE103054- | YES |
| TP55 | 1.05-1.2 | 2/11/2011 | - | SG | | | | | | | | | SE103054- | YES |
| 27 TP56 | 0-0.1 | 2/11/2011 | - | SG | | ✓ | | | | | | | SE103054- | YES |
| 28 TP57 | 0-0.1 | 2/11/2011 | - | SG | | ✓ | | | | | | | SE103054- | YES |
| 29 TP58 | 0-0.15 | 2/11/2011 | - | SG | | ✓ | | ✓ | | | | | SE103054- | YES |
| TP59 | 0-0.3 | 2/11/2011 | - | SG/SP | | | | | | | | | SE103054- | YES |
| TP59 | 0.5-0.8 | 2/11/2011 | - | SG/SP | | | | | | | | | SE103054- | YES |

| Relinquished by | | | Received by | | |
|---|---|---|---|---|---|
| Name | Signature | | Name | Signature | Date |
| ANWAR BARBHUYIA | AB | 14/11/2011 | [illegible] | [illegible] | 15/11/11 |

Legend:

| | | | | | |
|---|---|---|---|---|---|
| WG | Water sample, glass bottle | SG | Soil sample (glass jar) | SP | Soil sample (plastic bag) |
| WP | Water sample, plastic bottle | FCP | Fibro Cement Piece | ✓ | Test required |

* Purge & Trap

# GEOTECHNIQUE PTY LTD

## Laboratory Test Request / Chain of Custody Record

Lemko Place
PENRITH NSW 2750

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PENRITH NSW 2751

Tel: (02) 4722 2700
Fax: (02) 4722 6161
email: info@geotech.com.au



**TO:** SGS ENVIRONMENTAL SERVICES
UNIT 16
33 MADDOX STREET
ALEXANDRIA NSW 2015

**PH:** 02 8594 0400 **FAX:** 02 8594 0499

**ATTN:** MS ANGELA MAMALICOS

**Sampling By:** AN

**Project Manager:** AB

**Job No:** 12576/1

**Project:**

**Location:** Marsden Park Precinct

**Results required by: Normal Turnaround Time**

| Sampling details | | | | Sample type | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Date | Time | Soil | Material | ARSENIC | CADMIUM | ZINC | TPH (C10-C40) with Silica Gel Clean-up | TPH* & BTEX | PAH | | | SGS REF: | KEEP SAMPLE |
| TP59 | 0.85-1.0 | 2/11/2011 | - | SG | | | | | | | | | | SE103054- | YES |
| AST1 | 0-0.2 | 31/10/2011 | - | SG | | | | | | | | | | SE103054- | YES |
| 5 AST1 | 0.25-0.4 | 31/10/2011 | - | SG | | | | | | ✓ | ✓ | | | SE103054- | YES |
| AST1 | 0.7-0.8 | 31/10/2011 | - | SG | | | | | | | | | | SE103054- | YES |
| AST1 | 1.2-1.3 | 31/10/2011 | - | SG | | | | | | | | | | SE103054- | YES |
| UST1 | 0-0.3 | 31/10/2011 | - | SG | | | | | | | | | | SE103054- | YES |
| UST1 | 0.35-0.5 | 31/10/2011 | - | SG | | | | | | | | | | SE103054- | YES |
| UST1 | 0.9-1.0 | 31/10/2011 | - | SG | | | | | | | | | | SE103054- | YES |
| UST1 | 1.2-1.3 | 31/10/2011 | - | SG | | | | | | | | | | SE103054- | YES |
| SD4 | 0-0.1 | 1/111/2011 | - | SG | | | | | | | | | | SE103054- | YES |
| SD5 | 0-0.1 | 1/11/2011 | - | SG | | | | | | | | | | SE103054- | YES |
| 35 SP1 | | 2/11/2011 | - | SG | | | | | ✓ | | | | | SE103054- | YES |
| SP1 | | 2/11/2011 | - | | FCP | | | | | | | | | SE103054- | YES |

| Relinquished by | | | Received by | | |
|---|---|---|---|---|---|
| Name | Signature | | Name | Signature | Date |
| ANWAR BARBHUYIA | AB | 14/11/2011 | | | |

Legend:

| | | | | | |
|---|---|---|---|---|---|
| WG | Water sample, glass bottle | SG | Soil sample (glass jar) | SP | Soil sample (plastic bag) |
| WP | Water sample, plastic bottle | FCP | Fibro Cement Piece | ✓ | Test required |

* Purge & Trap

# SAMPLE RECEIPT ADVICE

**SE103054A**

## CLIENT DETAILS

| | |
|---|---|
| Contact | Anwar Barbhuyia |
| Client | Geotechnique |
| Address | P.O. Box 880<br>PENRITH NSW 2751 |
| Telephone | 02 4722 2700 |
| Facsimile | 02 4722 6161 |
| Email | anwar.barbhuyia@geotech.com.au |
| Project | **12576/1 - Marsden Park Precinct-Add** |
| Order Number | (Not specified) |
| Samples | 20 |

## LABORATORY DETAILS

| | |
|---|---|
| Manager | Huong Crawford |
| Laboratory | SGS Alexandria Environmental |
| Address | Unit 16, 33 Maddox St<br>Alexandria NSW 2015 |
| Telephone | +61 2 8594 0400 |
| Facsimile | +61 2 8594 0499 |
| Email | au.environmental.sydney@sgs.com |
| Samples Received | Thu 3/11/2011 |
| Report Due | Tue 22/11/2011 |
| SGS Reference | **SE103054A** |

## SUBMISSION DETAILS

This is to confirm that 20 samples were received on Thursday 3/11/2011. Results are expected to be ready by Tuesday 22/11/2011. Please quote SGS reference SE103054A when making enquiries. Refer below for details relating to sample integrity upon receipt.

| | | | |
|---|---|---|---|
| Sample counts by matrix | 20 Soils | Type of documentation received | Email |
| Date documentation received | 14/11/11@4:50pm | Samples received in good order | Yes |
| Samples received without headspace | Yes | Sample temperature upon receipt | 2.7°C |
| Sample container provider | SGS | Turnaround time requested | Standard |
| Samples received in correct containers | Yes | Sufficient sample for analysis | Yes |
| Sample cooling method | Ice Bricks | Samples clearly labelled | Yes |
| Complete documentation received | Yes | | |

Samples will be held for one month for water samples and two months for soil samples from date of report, unless otherwise instructed.

## COMMENTS

# SAMPLE RECEIPT ADVICE

SE103054A

CLIENT DETAILS

| | | | |
|---|---|---|---|
| Client | Geotechnique | Project | 12576/1 - Marsden Park Precinct-Add |

SUMMARY OF ANALYSIS

| No. | Sample ID | Moisture Content | Total Recoverable Metals in Soil by ICPOES from |
|---|---|---|---|
| 001 | TP3 0-0.1 | 1 | 2 |
| 002 | TP17 0-0.1 | 1 | 2 |
| 003 | TP20 0-0.15 | 1 | 2 |
| 011 | TP44 0-0.1 | 1 | 1 |
| 012 | TP45 0-0.1 | 1 | 1 |
| 013 | TP46 0-0.1 | 1 | 1 |
| 015 | TP47 0.5-0.8 | 1 | 1 |
| 016 | TP48 0-0.1 | 1 | 1 |
| 017 | TP49 0-0.15 | 1 | 1 |
| 019 | TP50 0.3-0.6 | 1 | 1 |
| 020 | TP51 0-0.15 | 1 | 1 |
| 021 | TP52 0-0.15 | 1 | 1 |
| 023 | TP54 0-0.3 | 1 | 2 |
| 024 | TP55 0-0.3 | 1 | 2 |

CONTINUED OVERLEAF

The above table represents SGS Environmental Services' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details.
Testing as per this table shall commence immediately unless the client intervenes with a correction.

# SAMPLE RECEIPT ADVICE

SE103054A

CLIENT DETAILS

| | | | |
|---|---|---|---|
| Client | Geotechnique | Project | 12576/1 - Marsden Park Precinct-Add |

SUMMARY OF ANALYSIS

| No. | Sample ID | Moisture Content | Total Recoverable Metals in Soil by ICPOES from | TPH (Total Petroleum Hydrocarbons - Si Gel) in |
|---|---|---|---|---|
| 035 | SP1 | - | - | 4 |
| 026 | TP55 0.5-0.8 | 1 | 1 | - |
| 027 | TP56 0-0.1 | 1 | 1 | - |
| 028 | TP57 0-0.1 | 1 | 1 | - |
| 029 | TP58 0-0.15 | 1 | 2 | - |

CONTINUED OVERLEAF

The above table represents SGS Environmental Services' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details.
Testing as per this table shall commence immediately unless the client intervenes with a correction.

# SAMPLE RECEIPT ADVICE

SE103054A

CLIENT DETAILS

| | | | |
|---|---|---|---|
| Client | Geotechnique | Project | 12576/1 - Marsden Park Precinct-Add |

SUMMARY OF ANALYSIS

| No. | Sample ID | Moisture Content | PAH (Polynuclear Aromatic Hydrocarbons) in | TRH (Total Recoverable Hydrocarbons) in Soil | VOC's in Soil | Volatile Petroleum Hydrocarbons in Soil |
|---|---|---|---|---|---|---|
| 051 | AST1 0.25-0.4 | - | 22 | - | - | - |
| 051 | AST1 0.25-0.4 | 1 | - | 4 | 12 | 6 |

The above table represents SGS Environmental Services' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details.
Testing as per this table shall commence immediately unless the client intervenes with a correction.

# ANALYTICAL REPORT

WORLD RECOGNISED ACCREDITATION

## CLIENT DETAILS

| | |
|---|---|
| Contact | Anwar Barbhuyia |
| Client | Geotechnique |
| Address | P.O. Box 880<br>NSW 2751 |
| Telephone | 02 4722 2700 |
| Facsimile | 02 4722 6161 |
| Email | anwar.barbhuyia@geotech.com.au |
| Project | **12576/1 - Marsden Park Precinct** |
| Order Number | (Not specified) |
| Samples | 11 |

## LABORATORY DETAILS

| | |
|---|---|
| Manager | Huong Crawford |
| Laboratory | SGS Alexandria Environmental |
| Address | Unit 16, 33 Maddox St<br>Alexandria NSW 2015 |
| Telephone | +61 2 8594 0400 |
| Facsimile | +61 2 8594 0499 |
| Email | au.environmental.sydney@sgs.com |
| SGS Reference | SE103066 R0 |
| Report Number | 0000011584 |
| Date Reported | 11 Nov 2011 |
| Date Received | 04 Nov 2011 |

## COMMENTS

The document is issued in accordance with NATA's accreditation requirements.
Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

## SIGNATORIES

Andy Sutton
Organics Chemist

Dong Liang
Inorganics Metals Team Leader

Ly Kim Ha
Organics Supervisor

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | SE103066.001<br>Soil<br>03 Nov 2011<br>TP60 0-0.1 | SE103066.002<br>Soil<br>03 Nov 2011<br>TP61 0-0.15 | SE103066.003<br>Soil<br>03 Nov 2011<br>TP62 0-0.1 | SE103066.004<br>Soil<br>03 Nov 2011<br>TP63 0-0.1 | SE103066.005<br>Soil<br>03 Nov 2011<br>TP64 0-0.3 |
|---|---|---|---|---|---|---|---|---|
| **VOC's in Soil Method: AN433/AN434** | | | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | | | |
| Benzene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Toluene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Ethylbenzene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| m/p-xylene | mg/kg | 0.2 | | - | - | - | - | <0.2 |
| o-xylene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Oxygenated Compounds | | | | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Surrogates | | | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | | - | - | - | - | **125** |
| d4-1,2-dichloroethane (Surrogate) | % | - | | - | - | - | - | **116** |
| d8-toluene (Surrogate) | % | - | | - | - | - | - | **106** |
| Bromofluorobenzene (Surrogate) | % | - | | - | - | - | - | **111** |
| Totals | | | | | | | | |
| Total BTEX* | mg/kg | - | | - | - | - | - | **0** |
| Total Xylenes* | mg/kg | 0.3 | | - | - | - | - | <0.3 |
| **Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434** | | | | | | | | |
| TRH C6-C9 | mg/kg | 20 | | - | - | - | - | <20 |
| Surrogates | | | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | | - | - | - | - | **113** |
| Dibromofluoromethane (Surrogate) | % | - | | - | - | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | | - | - | - | - | - |
| d8-toluene (Surrogate) | % | - | | - | - | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | | - | - | - | - | - |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403** | | | | | | | | |
| TRH C10-C14 | mg/kg | 20 | | - | - | - | - | <20 |
| TRH C15-C28 | mg/kg | 50 | | - | - | - | - | <50 |
| TRH C29-C40 | mg/kg | 150 | | - | - | - | - | <150 |
| Surrogates | | | | | | | | |
| TRH (Surrogate) | % | - | | - | - | - | - | - |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420** | | | | | | | | |
| Naphthalene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| 2-methylnaphthalene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| 1-methylnaphthalene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Acenaphthylene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Acenaphthene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Fluorene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Phenanthrene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Anthracene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Fluoranthene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Pyrene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Benzo(a)anthracene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Chrysene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Benzo(b)fluoranthene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Benzo(k)fluoranthene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Benzo(a)pyrene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | | - | - | - | - | <0.1 |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | SE103066.001<br>Soil<br>03 Nov 2011<br>TP60 0-0.1 | SE103066.002<br>Soil<br>03 Nov 2011<br>TP61 0-0.15 | SE103066.003<br>Soil<br>03 Nov 2011<br>TP62 0-0.1 | SE103066.004<br>Soil<br>03 Nov 2011<br>TP63 0-0.1 | SE103066.005<br>Soil<br>03 Nov 2011<br>TP64 0-0.3 |
|---|---|---|---|---|---|---|---|---|
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil** | **Method: AN420 (continued)** | | | | | | | |
| Benzo(ghi)perylene | mg/kg | 0.1 | | - | - | - | - | <0.1 |
| Total PAH | mg/kg | 0.8 | | - | - | - | - | <0.8 |
| Surrogates | | | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | | - | - | - | - | **99** |
| 2-fluorobiphenyl (Surrogate) | % | - | | - | - | - | - | **85** |
| d14-p-terphenyl (Surrogate) | % | - | | - | - | - | - | **103** |
| **OC Pesticides in Soil** | **Method: AN400/AN420** | | | | | | | |
| Hexachlorobenzene (HCB) | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Alpha BHC | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Lindane | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Heptachlor | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Aldrin | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Beta BHC | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Delta BHC | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Heptachlor epoxide | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| o,p'-DDE | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Alpha Endosulfan | mg/kg | 0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Gamma Chlordane | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Alpha Chlordane | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| trans-Nonachlor | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| p,p'-DDE | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Dieldrin | mg/kg | 0.05 | | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin | mg/kg | 0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| o,p'-DDD | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| o,p'-DDT | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Beta Endosulfan | mg/kg | 0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| p,p'-DDD | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| p,p'-DDT | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Endosulfan sulphate | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Endrin Aldehyde | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Methoxychlor | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Endrin Ketone | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |

| Parameter | Units | LOR | Sample Number: SE103066.001<br>Sample Matrix: Soil<br>Sample Date: 03 Nov 2011<br>Sample Name: TP60 0-0.1 | SE103066.002<br>Soil<br>03 Nov 2011<br>TP61 0-0.15 | SE103066.003<br>Soil<br>03 Nov 2011<br>TP62 0-0.1 | SE103066.004<br>Soil<br>03 Nov 2011<br>TP63 0-0.1 | SE103066.005<br>Soil<br>03 Nov 2011<br>TP64 0-0.3 |
|---|---|---|---|---|---|---|---|
| **OC Pesticides in Soil Method: AN400/AN420 (continued)** | | | | | | | |
| Surrogates | | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | **110** | **113** | **113** | **105** | **111** |
| **PCBs in Soil Method: AN400/AN420** | | | | | | | |
| Arochlor 1016 | mg/kg | 0.2 | - | - | - | - | <0.2 |
| Arochlor 1221 | mg/kg | 0.2 | - | - | - | - | <0.2 |
| Arochlor 1232 | mg/kg | 0.2 | - | - | - | - | <0.2 |
| Arochlor 1242 | mg/kg | 0.2 | - | - | - | - | <0.2 |
| Arochlor 1248 | mg/kg | 0.2 | - | - | - | - | <0.2 |
| Arochlor 1254 | mg/kg | 0.2 | - | - | - | - | <0.2 |
| Arochlor 1260 | mg/kg | 0.2 | - | - | - | - | <0.2 |
| Arochlor 1262 | mg/kg | 0.2 | - | - | - | - | <0.2 |
| Arochlor 1268 | mg/kg | 0.2 | - | - | - | - | <0.2 |
| Total PCBs (Arochlors) | mg/kg | 1 | - | - | - | - | <1 |
| Surrogates | | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | - | - | - | - | **111** |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320** | | | | | | | |
| Arsenic, As | mg/kg | 3 | **5** | **8** | **11** | **11** | **7** |
| Cadmium, Cd | mg/kg | 0.3 | <0.3 | **0.4** | **0.5** | **0.5** | **0.4** |
| Chromium, Cr | mg/kg | 0.3 | **12** | **14** | **18** | **21** | **15** |
| Copper, Cu | mg/kg | 0.5 | **10** | **13** | **11** | **8.2** | **36** |
| Lead, Pb | mg/kg | 1 | **20** | **22** | **23** | **21** | **30** |
| Nickel, Ni | mg/kg | 0.5 | **7.2** | **6.5** | **6.5** | **5.7** | **10** |
| Zinc, Zn | mg/kg | 0.5 | **26** | **51** | **30** | **22** | **120** |
| **Mercury in Soil Method: AN312** | | | | | | | |
| Mercury | mg/kg | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| **Moisture Content Method: AN234** | | | | | | | |
| % Moisture | % | 0.5 | **16** | **18** | **12** | **8.3** | **12** |
| **Metals in Water (Dissolved) by ICPOES Method: AN320/AN321** | | | | | | | |
| Arsenic, As | mg/L | 0.05 | - | - | - | - | - |
| Cadmium, Cd | mg/L | 0.005 | - | - | - | - | - |
| Chromium, Cr | mg/L | 0.005 | - | - | - | - | - |
| Copper, Cu | mg/L | 0.01 | - | - | - | - | - |
| Lead, Pb | mg/L | 0.02 | - | - | - | - | - |
| Nickel, Ni | mg/L | 0.01 | - | - | - | - | - |
| Zinc, Zn | mg/L | 0.01 | - | - | - | - | - |
| **Mercury (dissolved) in Water Method: AN311/AN312** | | | | | | | |
| Mercury | mg/L | 0.0001 | - | - | - | - | - |

| Parameter | Units | LOR | Sample Number: SE103066.006<br>Sample Matrix: Soil<br>Sample Date: 03 Nov 2011<br>Sample Name: TP65 0-0.3 | SE103066.007<br>Soil<br>03 Nov 2011<br>TP66 0-0.15 | SE103066.008<br>Soil<br>03 Nov 2011<br>TP67 0-0.1 | SE103066.009<br>Soil<br>03 Nov 2011<br>TP68 0-0.1 | SE103066.010<br>Soil<br>03 Nov 2011<br>TP69 0-0.1 |
|---|---|---|---|---|---|---|---|
| **VOC's in Soil Method: AN433/AN434** | | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | | |
| Benzene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| Toluene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| Ethylbenzene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| m/p-xylene | mg/kg | 0.2 | <0.2 | <0.2 | - | - | - |
| o-xylene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| Oxygenated Compounds | | | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| Surrogates | | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | **99** | **107** | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | **98** | **103** | - | - | - |
| d8-toluene (Surrogate) | % | - | **102** | **84** | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | **113** | **108** | - | - | - |
| Totals | | | | | | | |
| Total BTEX* | mg/kg | - | **0** | **0** | - | - | - |
| Total Xylenes* | mg/kg | 0.3 | <0.3 | <0.3 | - | - | - |
| **Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434** | | | | | | | |
| TRH C6-C9 | mg/kg | 20 | <20 | <20 | - | - | - |
| Surrogates | | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | **126** | **95** | - | - | - |
| Dibromofluoromethane (Surrogate) | % | - | - | - | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | - | - | - | - | - |
| d8-toluene (Surrogate) | % | - | - | - | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | - | - | - | - | - |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403** | | | | | | | |
| TRH C10-C14 | mg/kg | 20 | <20 | <20 | - | - | - |
| TRH C15-C28 | mg/kg | 50 | <50 | <50 | - | - | - |
| TRH C29-C40 | mg/kg | 150 | <150 | <150 | - | - | - |
| Surrogates | | | | | | | |
| TRH (Surrogate) | % | - | - | - | - | - | - |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420** | | | | | | | |
| Naphthalene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| 2-methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| 1-methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| Acenaphthylene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| Acenaphthene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| Fluorene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| Phenanthrene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| Anthracene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| Fluoranthene | mg/kg | 0.1 | <0.1 | **0.2** | - | - | - |
| Pyrene | mg/kg | 0.1 | <0.1 | **0.2** | - | - | - |
| Benzo(a)anthracene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| Chrysene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| Benzo(b)fluoranthene | mg/kg | 0.1 | <0.1 | **0.1** | - | - | - |
| Benzo(k)fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| Benzo(a)pyrene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |

| Parameter | Units | LOR | Sample Number: SE103066.006<br>Sample Matrix: Soil<br>Sample Date: 03 Nov 2011<br>Sample Name: TP65 0-0.3 | SE103066.007<br>Soil<br>03 Nov 2011<br>TP66 0-0.15 | SE103066.008<br>Soil<br>03 Nov 2011<br>TP67 0-0.1 | SE103066.009<br>Soil<br>03 Nov 2011<br>TP68 0-0.1 | SE103066.010<br>Soil<br>03 Nov 2011<br>TP69 0-0.1 |
|---|---|---|---|---|---|---|---|
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 (continued)** | | | | | | | |
| Benzo(ghi)perylene | mg/kg | 0.1 | <0.1 | <0.1 | - | - | - |
| Total PAH | mg/kg | 0.8 | <0.8 | <0.8 | - | - | - |
| Surrogates | | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | **103** | **101** | - | - | - |
| 2-fluorobiphenyl (Surrogate) | % | - | **92** | **89** | - | - | - |
| d14-p-terphenyl (Surrogate) | % | - | **109** | **103** | - | - | - |
| **OC Pesticides in Soil Method: AN400/AN420** | | | | | | | |
| Hexachlorobenzene (HCB) | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Alpha BHC | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Lindane | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Heptachlor | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Aldrin | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Beta BHC | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Delta BHC | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Heptachlor epoxide | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| o,p'-DDE | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Alpha Endosulfan | mg/kg | 0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Gamma Chlordane | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Alpha Chlordane | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| trans-Nonachlor | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| p,p'-DDE | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Dieldrin | mg/kg | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| Endrin | mg/kg | 0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| o,p'-DDD | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| o,p'-DDT | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Beta Endosulfan | mg/kg | 0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| p,p'-DDD | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| p,p'-DDT | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Endosulfan sulphate | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Endrin Aldehyde | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Methoxychlor | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Endrin Ketone | mg/kg | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |

| Parameter | Units | LOR | Sample Number: SE103066.006 Sample Matrix: Soil Sample Date: 03 Nov 2011 Sample Name: TP65 0-0.3 | SE103066.007 Soil 03 Nov 2011 TP66 0-0.15 | SE103066.008 Soil 03 Nov 2011 TP67 0-0.1 | SE103066.009 Soil 03 Nov 2011 TP68 0-0.1 | SE103066.010 Soil 03 Nov 2011 TP69 0-0.1 |
|---|---|---|---|---|---|---|---|
| **OC Pesticides in Soil Method: AN400/AN420 (continued)** | | | | | | | |
| Surrogates | | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | **109** | **105** | **107** | **111** | **106** |
| **PCBs in Soil Method: AN400/AN420** | | | | | | | |
| Arochlor 1016 | mg/kg | 0.2 | <0.2 | <0.2 | - | - | - |
| Arochlor 1221 | mg/kg | 0.2 | <0.2 | <0.2 | - | - | - |
| Arochlor 1232 | mg/kg | 0.2 | <0.2 | <0.2 | - | - | - |
| Arochlor 1242 | mg/kg | 0.2 | <0.2 | <0.2 | - | - | - |
| Arochlor 1248 | mg/kg | 0.2 | <0.2 | <0.2 | - | - | - |
| Arochlor 1254 | mg/kg | 0.2 | <0.2 | <0.2 | - | - | - |
| Arochlor 1260 | mg/kg | 0.2 | <0.2 | <0.2 | - | - | - |
| Arochlor 1262 | mg/kg | 0.2 | <0.2 | <0.2 | - | - | - |
| Arochlor 1268 | mg/kg | 0.2 | <0.2 | <0.2 | - | - | - |
| Total PCBs (Arochlors) | mg/kg | 1 | <1 | <1 | - | - | - |
| Surrogates | | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | **109** | **105** | - | - | - |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320** | | | | | | | |
| Arsenic, As | mg/kg | 3 | **11** | **6** | **17** | **14** | **12** |
| Cadmium, Cd | mg/kg | 0.3 | **0.4** | **0.4** | **0.9** | **0.5** | **0.7** |
| Chromium, Cr | mg/kg | 0.3 | **12** | **16** | **40** | **14** | **36** |
| Copper, Cu | mg/kg | 0.5 | **17** | **12** | **80** | **22** | **8.4** |
| Lead, Pb | mg/kg | 1 | **15** | **24** | **44** | **25** | **30** |
| Nickel, Ni | mg/kg | 0.5 | **5.4** | **6.0** | **11** | **9.0** | **3.7** |
| Zinc, Zn | mg/kg | 0.5 | **36** | **42** | **250** | **44** | **15** |
| **Mercury in Soil Method: AN312** | | | | | | | |
| Mercury | mg/kg | 0.05 | <0.05 | <0.05 | **0.05** | <0.05 | <0.05 |
| **Moisture Content Method: AN234** | | | | | | | |
| % Moisture | % | 0.5 | **15** | **7.1** | **9.2** | **13** | **7.8** |
| **Metals in Water (Dissolved) by ICPOES Method: AN320/AN321** | | | | | | | |
| Arsenic, As | mg/L | 0.05 | - | - | - | - | - |
| Cadmium, Cd | mg/L | 0.005 | - | - | - | - | - |
| Chromium, Cr | mg/L | 0.005 | - | - | - | - | - |
| Copper, Cu | mg/L | 0.01 | - | - | - | - | - |
| Lead, Pb | mg/L | 0.02 | - | - | - | - | - |
| Nickel, Ni | mg/L | 0.01 | - | - | - | - | - |
| Zinc, Zn | mg/L | 0.01 | - | - | - | - | - |
| **Mercury (dissolved) in Water Method: AN311/AN312** | | | | | | | |
| Mercury | mg/L | 0.0001 | - | - | - | - | - |

| Parameter | Units | LOR | Sample Number: SE103066.011<br>Sample Matrix: Water<br>Sample Date: 03 Nov 2011<br>Sample Name: Rinsate R6 |
|---|---|---|---|
| **VOC's in Soil Method: AN433/AN434** | | | |
| Monocyclic Aromatic Hydrocarbons | | | |
| Benzene | mg/kg | 0.1 | - |
| Toluene | mg/kg | 0.1 | - |
| Ethylbenzene | mg/kg | 0.1 | - |
| m/p-xylene | mg/kg | 0.2 | - |
| o-xylene | mg/kg | 0.1 | - |
| Oxygenated Compounds | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | - |
| Surrogates | | | |
| Dibromofluoromethane (Surrogate) | % | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | - |
| d8-toluene (Surrogate) | % | - | - |
| Bromofluorobenzene (Surrogate) | % | - | - |
| Totals | | | |
| Total BTEX* | mg/kg | - | - |
| Total Xylenes* | mg/kg | 0.3 | - |
| **Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434** | | | |
| TRH C6-C9 | mg/kg | 20 | - |
| Surrogates | | | |
| Trifluorotoluene (Surrogate) | % | - | - |
| Dibromofluoromethane (Surrogate) | % | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | - |
| d8-toluene (Surrogate) | % | - | - |
| Bromofluorobenzene (Surrogate) | % | - | - |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403** | | | |
| TRH C10-C14 | mg/kg | 20 | - |
| TRH C15-C28 | mg/kg | 50 | - |
| TRH C29-C40 | mg/kg | 150 | - |
| Surrogates | | | |
| TRH (Surrogate) | % | - | - |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420** | | | |
| Naphthalene | mg/kg | 0.1 | - |
| 2-methylnaphthalene | mg/kg | 0.1 | - |
| 1-methylnaphthalene | mg/kg | 0.1 | - |
| Acenaphthylene | mg/kg | 0.1 | - |
| Acenaphthene | mg/kg | 0.1 | - |
| Fluorene | mg/kg | 0.1 | - |
| Phenanthrene | mg/kg | 0.1 | - |
| Anthracene | mg/kg | 0.1 | - |
| Fluoranthene | mg/kg | 0.1 | - |
| Pyrene | mg/kg | 0.1 | - |
| Benzo(a)anthracene | mg/kg | 0.1 | - |
| Chrysene | mg/kg | 0.1 | - |
| Benzo(b)fluoranthene | mg/kg | 0.1 | - |
| Benzo(k)fluoranthene | mg/kg | 0.1 | - |
| Benzo(a)pyrene | mg/kg | 0.1 | - |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | - |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | - |

| Parameter | Units | LOR | Sample Number SE103066.011<br>Sample Matrix Water<br>Sample Date 03 Nov 2011<br>Sample Name Rinsate R6 |
|---|---|---|---|
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 (continued)** | | | |
| Benzo(ghi)perylene | mg/kg | 0.1 | - |
| Total PAH | mg/kg | 0.8 | - |
| Surrogates | | | |
| d5-nitrobenzene (Surrogate) | % | - | - |
| 2-fluorobiphenyl (Surrogate) | % | - | - |
| d14-p-terphenyl (Surrogate) | % | - | - |
| **OC Pesticides in Soil Method: AN400/AN420** | | | |
| Hexachlorobenzene (HCB) | mg/kg | 0.1 | - |
| Alpha BHC | mg/kg | 0.1 | - |
| Lindane | mg/kg | 0.1 | - |
| Heptachlor | mg/kg | 0.1 | - |
| Aldrin | mg/kg | 0.1 | - |
| Beta BHC | mg/kg | 0.1 | - |
| Delta BHC | mg/kg | 0.1 | - |
| Heptachlor epoxide | mg/kg | 0.1 | - |
| o,p'-DDE | mg/kg | 0.1 | - |
| Alpha Endosulfan | mg/kg | 0.2 | - |
| Gamma Chlordane | mg/kg | 0.1 | - |
| Alpha Chlordane | mg/kg | 0.1 | - |
| trans-Nonachlor | mg/kg | 0.1 | - |
| p,p'-DDE | mg/kg | 0.1 | - |
| Dieldrin | mg/kg | 0.05 | - |
| Endrin | mg/kg | 0.2 | - |
| o,p'-DDD | mg/kg | 0.1 | - |
| o,p'-DDT | mg/kg | 0.1 | - |
| Beta Endosulfan | mg/kg | 0.2 | - |
| p,p'-DDD | mg/kg | 0.1 | - |
| p,p'-DDT | mg/kg | 0.1 | - |
| Endosulfan sulphate | mg/kg | 0.1 | - |
| Endrin Aldehyde | mg/kg | 0.1 | - |
| Methoxychlor | mg/kg | 0.1 | - |
| Endrin Ketone | mg/kg | 0.1 | - |

| Parameter | Units | LOR | Sample Number SE103066.011<br>Sample Matrix Water<br>Sample Date 03 Nov 2011<br>Sample Name Rinsate R6 |
|---|---|---|---|
| **OC Pesticides in Soil Method: AN400/AN420 (continued)** | | | |
| Surrogates | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | - |
| **PCBs in Soil Method: AN400/AN420** | | | |
| Arochlor 1016 | mg/kg | 0.2 | - |
| Arochlor 1221 | mg/kg | 0.2 | - |
| Arochlor 1232 | mg/kg | 0.2 | - |
| Arochlor 1242 | mg/kg | 0.2 | - |
| Arochlor 1248 | mg/kg | 0.2 | - |
| Arochlor 1254 | mg/kg | 0.2 | - |
| Arochlor 1260 | mg/kg | 0.2 | - |
| Arochlor 1262 | mg/kg | 0.2 | - |
| Arochlor 1268 | mg/kg | 0.2 | - |
| Total PCBs (Arochlors) | mg/kg | 1 | - |
| Surrogates | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | - |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320** | | | |
| Arsenic, As | mg/kg | 3 | - |
| Cadmium, Cd | mg/kg | 0.3 | - |
| Chromium, Cr | mg/kg | 0.3 | - |
| Copper, Cu | mg/kg | 0.5 | - |
| Lead, Pb | mg/kg | 1 | - |
| Nickel, Ni | mg/kg | 0.5 | - |
| Zinc, Zn | mg/kg | 0.5 | - |
| **Mercury in Soil Method: AN312** | | | |
| Mercury | mg/kg | 0.05 | - |
| **Moisture Content Method: AN234** | | | |
| % Moisture | % | 0.5 | - |
| **Metals in Water (Dissolved) by ICPOES Method: AN320/AN321** | | | |
| Arsenic, As | mg/L | 0.05 | <0.05 |
| Cadmium, Cd | mg/L | 0.005 | <0.005 |
| Chromium, Cr | mg/L | 0.005 | <0.005 |
| Copper, Cu | mg/L | 0.01 | <0.01 |
| Lead, Pb | mg/L | 0.02 | <0.02 |
| Nickel, Ni | mg/L | 0.01 | <0.010 |
| Zinc, Zn | mg/L | 0.01 | <0.01 |
| **Mercury (dissolved) in Water Method: AN311/AN312** | | | |
| Mercury | mg/L | 0.0001 | <0.0001 |

# QC SUMMARY

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

## Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311/AN312

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Mercury | LB008427 | mg/L | 0.0001 | <0.0001 | 65% | 98% | 100% |

## Mercury in Soil Method: ME-(AU)-[ENV]AN312

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Mercury | LB008323 | mg/kg | 0.05 | <0.05 | 0% | 97% | 72% |

## Metals in Water (Dissolved) by ICPOES Method: ME-(AU)-[ENV]AN320/AN321

| Parameter | QC Reference | Units | LOR | MB | LCS %Recovery |
|---|---|---|---|---|---|
| Arsenic, As | LB008557 | mg/L | 0.05 | <0.05 | 94% |
| Cadmium, Cd | LB008557 | mg/L | 0.005 | <0.005 | 96% |
| Chromium, Cr | LB008557 | mg/L | 0.005 | <0.005 | 96% |
| Copper, Cu | LB008557 | mg/L | 0.01 | <0.01 | 98% |
| Lead, Pb | LB008557 | mg/L | 0.02 | <0.02 | 97% |
| Nickel, Ni | LB008557 | mg/L | 0.01 | <0.010 | 96% |
| Zinc, Zn | LB008557 | mg/L | 0.01 | <0.01 | 95% |

## Moisture Content Method: ME-(AU)-[ENV]AN234

| Parameter | QC Reference | Units | LOR | DUP %RPD |
|---|---|---|---|---|
| % Moisture | LB008313 | % | 0.5 | 2 - 5% |

## OC Pesticides in Soil Method: ME-(AU)-[ENV]AN400/AN420

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery |
|---|---|---|---|---|---|---|
| Hexachlorobenzene (HCB) | LB008372 | mg/kg | 0.1 | <0.1 | 0% | NA |
| Alpha BHC | LB008372 | mg/kg | 0.1 | <0.1 | 0% | NA |
| Lindane | LB008372 | mg/kg | 0.1 | <0.1 | 0% | NA |
| Heptachlor | LB008372 | mg/kg | 0.1 | <0.1 | 0% | 118% |
| Aldrin | LB008372 | mg/kg | 0.1 | <0.1 | 0% | 121% |
| Beta BHC | LB008372 | mg/kg | 0.1 | <0.1 | 0% | NA |
| Delta BHC | LB008372 | mg/kg | 0.1 | <0.1 | 0% | 113% |
| Heptachlor epoxide | LB008372 | mg/kg | 0.1 | <0.1 | 0% | NA |
| o,p'-DDE | LB008372 | mg/kg | 0.1 | <0.1 | 0% | NA |
| Alpha Endosulfan | LB008372 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Gamma Chlordane | LB008372 | mg/kg | 0.1 | <0.1 | 0% | NA |
| Alpha Chlordane | LB008372 | mg/kg | 0.1 | <0.1 | 0% | NA |
| trans-Nonachlor | LB008372 | mg/kg | 0.1 | <0.1 | 0% | NA |
| p,p'-DDE | LB008372 | mg/kg | 0.1 | <0.1 | 0% | NA |
| Dieldrin | LB008372 | mg/kg | 0.05 | <0.05 | 0% | 114% |
| Endrin | LB008372 | mg/kg | 0.2 | <0.2 | 0% | 120% |
| o,p'-DDD | LB008372 | mg/kg | 0.1 | <0.1 | 0% | NA |
| o,p'-DDT | LB008372 | mg/kg | 0.1 | <0.1 | 0% | NA |
| Beta Endosulfan | LB008372 | mg/kg | 0.2 | <0.2 | 0% | NA |
| p,p'-DDD | LB008372 | mg/kg | 0.1 | <0.1 | 0% | NA |
| p,p'-DDT | LB008372 | mg/kg | 0.1 | <0.1 | 0% | 108% |
| Endosulfan sulphate | LB008372 | mg/kg | 0.1 | <0.1 | 0% | NA |
| Endrin Aldehyde | LB008372 | mg/kg | 0.1 | <0.1 | 0% | NA |
| Methoxychlor | LB008372 | mg/kg | 0.1 | <0.1 | 0% | NA |
| Endrin Ketone | LB008372 | mg/kg | 0.1 | <0.1 | 0% | NA |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery |
|---|---|---|---|---|---|---|
| Tetrachloro-m-xylene (TCMX) (Surrogate) | LB008372 | % | - | 93% | 0 - 5% | 101% |

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil** **Method: ME-(AU)-[ENV]AN420**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Naphthalene | LB008373 | mg/kg | 0.1 | <0.1 | 0% | 106% | 114% |
| 2-methylnaphthalene | LB008373 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| 1-methylnaphthalene | LB008373 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Acenaphthylene | LB008373 | mg/kg | 0.1 | <0.1 | 0% | 101% | 114% |
| Acenaphthene | LB008373 | mg/kg | 0.1 | <0.1 | 0% | 120% | 129% |
| Fluorene | LB008373 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Phenanthrene | LB008373 | mg/kg | 0.1 | <0.1 | 0% | 107% | 115% |
| Anthracene | LB008373 | mg/kg | 0.1 | <0.1 | 0% | 110% | 117% |
| Fluoranthene | LB008373 | mg/kg | 0.1 | <0.1 | 0% | 107% | 115% |
| Pyrene | LB008373 | mg/kg | 0.1 | <0.1 | 0% | 112% | 118% |
| Benzo(a)anthracene | LB008373 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Chrysene | LB008373 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Benzo(b)fluoranthene | LB008373 | mg/kg | 0.1 | <0.1 | 0 - 7% | NA | NA |
| Benzo(k)fluoranthene | LB008373 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Benzo(a)pyrene | LB008373 | mg/kg | 0.1 | <0.1 | 0% | 112% | 115% |
| Indeno(1,2,3-cd)pyrene | LB008373 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Dibenzo(a&h)anthracene | LB008373 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Benzo(ghi)perylene | LB008373 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Total PAH | LB008373 | mg/kg | 0.8 | <0.8 | 0% | NA | NA |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| d5-nitrobenzene (Surrogate) | LB008373 | % | - | 124% | 1 - 3% | 116% | 109% |
| 2-fluorobiphenyl (Surrogate) | LB008373 | % | - | 104% | 3 - 4% | 105% | 103% |
| d14-p-terphenyl (Surrogate) | LB008373 | % | - | 114% | 0% | 115% | 112% |

**PCBs in Soil** **Method: ME-(AU)-[ENV]AN400/AN420**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery |
|---|---|---|---|---|---|---|
| Arochlor 1016 | LB008372 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1221 | LB008372 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1232 | LB008372 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1242 | LB008372 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1248 | LB008372 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1254 | LB008372 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1260 | LB008372 | mg/kg | 0.2 | <0.2 | 0% | 74% |
| Arochlor 1262 | LB008372 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1268 | LB008372 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Total PCBs (Arochlors) | LB008372 | mg/kg | 1 | <1 | 0% | NA |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery |
|---|---|---|---|---|---|---|
| Tetrachloro-m-xylene (TCMX) (Surrogate) | LB008372 | % | - | 93% | 0% | 107% |

**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest** **Method: ME-(AU)-[ENV]AN040/AN320**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Arsenic, As | LB008318 | mg/kg | 3 | <3 | 1 - 10% | 104% | 79% |
| Cadmium, Cd | LB008318 | mg/kg | 0.3 | <0.3 | 1 - 20% | 106% | 82% |
| Chromium, Cr | LB008318 | mg/kg | 0.3 | <0.3 | 1 - 7% | 103% | 75% |
| Copper, Cu | LB008318 | mg/kg | 0.5 | <0.5 | 3 - 4% | 101% | 79% |
| Lead, Pb | LB008318 | mg/kg | 1 | <1 | 5 - 19% | 105% | 72% |
| Nickel, Ni | LB008318 | mg/kg | 0.5 | <0.5 | 1 - 20% | 107% | 81% |
| Zinc, Zn | LB008318 | mg/kg | 0.5 | <0.5 | 4 - 5% | 103% | 81% |

# QC SUMMARY

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

**TRH (Total Recoverable Hydrocarbons) in Soil** **Method: ME-(AU)-[ENV]AN403**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| TRH C10-C14 | LB008370 | mg/kg | 20 | <20 | 0% | 118% | 115% |
| TRH C15-C28 | LB008370 | mg/kg | 50 | <50 | 0% | 118% | 100% |
| TRH C29-C40 | LB008370 | mg/kg | 150 | <150 | 0% | NA | NA |

**VOC's in Soil** **Method: ME-(AU)-[ENV]AN433/AN434**

Monocyclic Aromatic Hydrocarbons

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Benzene | LB008375 | mg/kg | 0.1 | <0.1 | 0% | 133% | 206% |
| Toluene | LB008375 | mg/kg | 0.1 | <0.1 | 0% | 109% | 145% |
| Ethylbenzene | LB008375 | mg/kg | 0.1 | <0.1 | 0% | 132% | NVL |
| m/p-xylene | LB008375 | mg/kg | 0.2 | <0.2 | 0% | 134% | -46% |
| o-xylene | LB008375 | mg/kg | 0.1 | <0.1 | 0% | 135% | -115% |

Oxygenated Compounds

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| MtBE (Methyl-tert-butyl ether) | LB008375 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Dibromofluoromethane (Surrogate) | LB008375 | % | - | 118% | 0 - 13% | 111% | 137% |
| d4-1,2-dichloroethane (Surrogate) | LB008375 | % | - | 118% | 2 - 11% | 111% | 131% |
| d8-toluene (Surrogate) | LB008375 | % | - | 101% | 2% | 90% | 104% |
| Bromofluorobenzene (Surrogate) | LB008375 | % | - | 106% | 0 - 1% | 107% | 103% |

Totals

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Total BTEX* | LB008375 | mg/kg | - | 0 | NA | NA | NVL |
| Total Xylenes* | LB008375 | mg/kg | 0.3 | <0.3 | 0% | NA | NVL |

**Volatile Petroleum Hydrocarbons in Soil** **Method: ME-(AU)-[ENV]AN433/AN434**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| TRH C6-C9 | LB008375 | mg/kg | 20 | <20 | 0% | 124% | -274% |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (Surrogate) | LB008375 | % | - | 79% | 3 - 4% | 123% | NVL |

| METHOD | METHODOLOGY SUMMARY |
|---|---|
| AN020 | Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B. |
| AN040 | A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analsysis by ASS or ICP as per USEPA Method 200.8. |
| AN088 | Orbital rolling for Organic pollutants are extracted from soil/sediment by transferring an appropriate mass of sample to a clear soil jar and extracting with 1:1 Dichloromethane/Acetone. Orbital Rolling method is intended for the extraction of semi-volatile organic compounds from soil/sediment samples, and is based somewhat on USEPA method 3570 (Micro Organic extraction and sample preparation). Method 3700. |
| AN234 | The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water. |
| AN311/AN312 | Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500. |
| AN312 | Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500 |
| AN320/AN321 | Metals by ICP-OES: Samples are preserved with 10% nitric acid for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components. |
| AN320/AN321 | Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements. Reference APHA 3120 B. |
| AN400 | OC and OP Pesticides by GC-ECD: The determination of organochlorine (OC) and organophosphorus (OP) pesticides and polychlorinated biphenyls (PCBs) in soils, sludges and groundwater. (Based on USEPA methods 3510, 3550, 8140 and 8080.) |
| AN403 | Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36. |
| AN403 | Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Petroleum Hydrocarbons (TPH) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with diffential polarity of the elluent solvents. |
| AN403 | The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependant on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B. |
| AN420 | (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). |

# METHOD SUMMARY

| METHOD | METHODOLOGY SUMMARY |
|---|---|
| AN420 | SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). |
| AN433/AN434 | VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260. |

FOOTNOTES

| | |
|---|---|
| IS | Insufficient sample for analysis. |
| LNR | Sample listed, but not received. |
| * | This analysis is not covered by the scope of accreditation. |
| ^ | Performed by outside laboratory. |
| LOR | Limit of Reporting |
| ↑↓ | Raised or Lowered Limit of Reporting |
| QFH | QC result is above the upper tolerance |
| QFL | QC result is below the lower tolerance |
| - | The sample was not analysed for this analyte |
| NVL | Not Validated |

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: http://www.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf

# STATEMENT OF QA/QC PERFORMANCE AGAINST DATA QUALITY OBJECTIVES

SE103066 R0

## CLIENT DETAILS

| | |
|---|---|
| Contact | Anwar Barbhuyia |
| Client | Geotechnique |
| Address | P.O. Box 880<br>NSW 2751 |
| Telephone | 02 4722 2700 |
| Facsimile | 02 4722 6161 |
| Email | anwar.barbhuyia@geotech.com.au |
| Project | **12576/1 - Marsden Park Precinct** |
| Order Number | (Not specified) |
| Samples | 11 |

## LABORATORY DETAILS

| | |
|---|---|
| Manager | Huong Crawford |
| Laboratory | SGS Alexandria Environmental |
| Address | Unit 16, 33 Maddox St<br>Alexandria NSW 2015 |
| Telephone | +61 2 8594 0400 |
| Facsimile | +61 2 8594 0499 |
| Email | au.environmental.sydney@sgs.com |
| SGS Reference | SE103066 R0 |
| Report Number | 0000011587 |
| Date Reported | 11 Nov 2011 |

## COMMENTS

All the laboratory data for each environmental matrix was compared to the SGS Environmental Services' stated data quality objectives (DQO).
Comments arising from the comparison were made and are reported below.
The data relating to sampling was taken from the chain of custody document and was supplied by the client.
This QA/QC statement must be read in conjunction with the referenced analytical report.
The statement and the analytical report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

| | | |
|---|---|---|
| MS | VOC's in Soil | 4 Items |
| | Volatile Petroleum Hydrocarbons in Soil | 1 Item |

## SAMPLE SUMMARY

| | | | |
|---|---|---|---|
| Sample counts by matrix | 10 Soil,1 Water | Type of documentation received | COC |
| Date documentation received | 4/11/2011 | Samples received in good order | Yes |
| Samples received without headspace | Yes | Sample temperature upon receipt | 2.6°C |
| Sample container provider | SGS | Turnaround time requested | Standard |
| Samples received in correct containers | Yes | Sufficient sample for analysis | Yes |
| Sample cooling method | Ice Bricks | Samples clearly labelled | Yes |
| Complete documentation received | Yes | | |

# HOLDING TIME SUMMARY

SE103066 R0

## HOLDING TIMES

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field sampling guide for containers and holding time" (Ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

The extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and Analysis dates are shown in **Green** when within suggested criteria and in **Bold** with an appended dagger symbol and Red† when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

| Sample Name | Sample Number | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| **Mercury (dissolved) in Water** Method: ME-(AU)-[ENV]AN311/AN312 | | | | | | | | |
| Rinsate R6 | SE103066.011 | LB008427 | 03 Nov 2011 | 04 Nov 2011 | 01 Dec 2011 | 09 Nov 2011 | 01 Dec 2011 | 09 Nov 2011 |
| **Mercury in Soil** Method: ME-(AU)-[ENV]AN312 | | | | | | | | |
| TP60 0-0.1 | SE103066.001 | LB008323 | 03 Nov 2011 | 04 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 |
| TP61 0-0.15 | SE103066.002 | LB008323 | 03 Nov 2011 | 04 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 |
| TP62 0-0.1 | SE103066.003 | LB008323 | 03 Nov 2011 | 04 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 |
| TP63 0-0.1 | SE103066.004 | LB008323 | 03 Nov 2011 | 04 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 |
| TP64 0-0.3 | SE103066.005 | LB008323 | 03 Nov 2011 | 04 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 |
| TP65 0-0.3 | SE103066.006 | LB008323 | 03 Nov 2011 | 04 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 |
| TP66 0-0.15 | SE103066.007 | LB008323 | 03 Nov 2011 | 04 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 |
| TP67 0-0.1 | SE103066.008 | LB008323 | 03 Nov 2011 | 04 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 |
| TP68 0-0.1 | SE103066.009 | LB008323 | 03 Nov 2011 | 04 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 |
| TP69 0-0.1 | SE103066.010 | LB008323 | 03 Nov 2011 | 04 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 | 01 Dec 2011 | 08 Nov 2011 |
| **Metals in Water (Dissolved) by ICPOES** Method: ME-(AU)-[ENV]AN320/AN321 | | | | | | | | |
| Rinsate R6 | SE103066.011 | LB008557 | 03 Nov 2011 | 04 Nov 2011 | 01 May 2012 | 10 Nov 2011 | 01 May 2012 | 10 Nov 2011 |
| **Moisture Content** Method: ME-(AU)-[ENV]AN234 | | | | | | | | |
| TP60 0-0.1 | SE103066.001 | LB008313 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| TP61 0-0.15 | SE103066.002 | LB008313 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| TP62 0-0.1 | SE103066.003 | LB008313 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| TP63 0-0.1 | SE103066.004 | LB008313 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| TP64 0-0.3 | SE103066.005 | LB008313 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| TP65 0-0.3 | SE103066.006 | LB008313 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| TP66 0-0.15 | SE103066.007 | LB008313 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| TP67 0-0.1 | SE103066.008 | LB008313 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| TP68 0-0.1 | SE103066.009 | LB008313 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| TP69 0-0.1 | SE103066.010 | LB008313 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 08 Nov 2011 |
| **OC Pesticides in Soil** Method: ME-(AU)-[ENV]AN400/AN420 | | | | | | | | |
| TP60 0-0.1 | SE103066.001 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 08 Nov 2011 |
| TP61 0-0.15 | SE103066.002 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 08 Nov 2011 |
| TP62 0-0.1 | SE103066.003 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 08 Nov 2011 |
| TP63 0-0.1 | SE103066.004 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 08 Nov 2011 |
| TP64 0-0.3 | SE103066.005 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 08 Nov 2011 |
| TP65 0-0.3 | SE103066.006 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 08 Nov 2011 |
| TP66 0-0.15 | SE103066.007 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 08 Nov 2011 |
| TP67 0-0.1 | SE103066.008 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 08 Nov 2011 |
| TP68 0-0.1 | SE103066.009 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 08 Nov 2011 |
| TP69 0-0.1 | SE103066.010 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 08 Nov 2011 |

# HOLDING TIME SUMMARY

SE103066 R0

## HOLDING TIMES

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field sampling guide for containers and holding time" (Ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

The extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and Analysis dates are shown in **Green** when within suggested criteria and in **Bold** with an appended dagger symbol and Red† when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

| Sample Name | Sample Number | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | | | | | | |
| TP64 0-0.3 | SE103066.005 | LB008373 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 08 Nov 2011 |
| TP65 0-0.3 | SE103066.006 | LB008373 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 08 Nov 2011 |
| TP66 0-0.15 | SE103066.007 | LB008373 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 08 Nov 2011 |
| **PCBs in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | | | | | | |
| TP60 0-0.1 | SE103066.001 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 11 Nov 2011 |
| TP61 0-0.15 | SE103066.002 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 11 Nov 2011 |
| TP62 0-0.1 | SE103066.003 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 11 Nov 2011 |
| TP63 0-0.1 | SE103066.004 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 11 Nov 2011 |
| TP64 0-0.3 | SE103066.005 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 08 Nov 2011 |
| TP65 0-0.3 | SE103066.006 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 08 Nov 2011 |
| TP66 0-0.15 | SE103066.007 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 08 Nov 2011 |
| TP67 0-0.1 | SE103066.008 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 11 Nov 2011 |
| TP68 0-0.1 | SE103066.009 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 11 Nov 2011 |
| TP69 0-0.1 | SE103066.010 | LB008372 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 11 Nov 2011 |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | | | |
| TP60 0-0.1 | SE103066.001 | LB008318 | 03 Nov 2011 | 04 Nov 2011 | 01 May 2012 | 08 Nov 2011 | 01 May 2012 | 10 Nov 2011 |
| TP61 0-0.15 | SE103066.002 | LB008318 | 03 Nov 2011 | 04 Nov 2011 | 01 May 2012 | 08 Nov 2011 | 01 May 2012 | 10 Nov 2011 |
| TP62 0-0.1 | SE103066.003 | LB008318 | 03 Nov 2011 | 04 Nov 2011 | 01 May 2012 | 08 Nov 2011 | 01 May 2012 | 10 Nov 2011 |
| TP63 0-0.1 | SE103066.004 | LB008318 | 03 Nov 2011 | 04 Nov 2011 | 01 May 2012 | 08 Nov 2011 | 01 May 2012 | 10 Nov 2011 |
| TP64 0-0.3 | SE103066.005 | LB008318 | 03 Nov 2011 | 04 Nov 2011 | 01 May 2012 | 08 Nov 2011 | 01 May 2012 | 10 Nov 2011 |
| TP65 0-0.3 | SE103066.006 | LB008318 | 03 Nov 2011 | 04 Nov 2011 | 01 May 2012 | 08 Nov 2011 | 01 May 2012 | 10 Nov 2011 |
| TP66 0-0.15 | SE103066.007 | LB008318 | 03 Nov 2011 | 04 Nov 2011 | 01 May 2012 | 08 Nov 2011 | 01 May 2012 | 10 Nov 2011 |
| TP67 0-0.1 | SE103066.008 | LB008318 | 03 Nov 2011 | 04 Nov 2011 | 01 May 2012 | 08 Nov 2011 | 01 May 2012 | 10 Nov 2011 |
| TP68 0-0.1 | SE103066.009 | LB008318 | 03 Nov 2011 | 04 Nov 2011 | 01 May 2012 | 08 Nov 2011 | 01 May 2012 | 10 Nov 2011 |
| TP69 0-0.1 | SE103066.010 | LB008318 | 03 Nov 2011 | 04 Nov 2011 | 01 May 2012 | 08 Nov 2011 | 01 May 2012 | 10 Nov 2011 |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403** | | | | | | | | |
| TP60 0-0.1 | SE103066.001 | LB008370 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP61 0-0.15 | SE103066.002 | LB008370 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP62 0-0.1 | SE103066.003 | LB008370 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP63 0-0.1 | SE103066.004 | LB008370 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP64 0-0.3 | SE103066.005 | LB008370 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP65 0-0.3 | SE103066.006 | LB008370 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP66 0-0.15 | SE103066.007 | LB008370 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP67 0-0.1 | SE103066.008 | LB008370 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP68 0-0.1 | SE103066.009 | LB008370 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP69 0-0.1 | SE103066.010 | LB008370 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | | | |
| TP64 0-0.3 | SE103066.005 | LB008375 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 09 Nov 2011 |
| TP65 0-0.3 | SE103066.006 | LB008375 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 09 Nov 2011 |
| TP66 0-0.15 | SE103066.007 | LB008375 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 09 Nov 2011 |

# HOLDING TIME SUMMARY

SE103066 R0

## HOLDING TIMES

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field sampling guide for containers and holding time” (Ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

The extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and Analysis dates are shown in **Green** when within suggested criteria and in **Bold** with an appended dagger symbol and Red† when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

| Sample Name | Sample Number | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434 | | | | | | | | |
| TP64 0-0.3 | SE103066.005 | LB008375 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 09 Nov 2011 |
| TP65 0-0.3 | SE103066.006 | LB008375 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 09 Nov 2011 |
| TP66 0-0.15 | SE103066.007 | LB008375 | 03 Nov 2011 | 04 Nov 2011 | 17 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 09 Nov 2011 |

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.
Result is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| Parameter | Sample Name | Sample Number | Units | Criteria | Recovery % |
|---|---|---|---|---|---|
| **OC Pesticides in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | TP60 0-0.1 | SE103066.001 | % | 60 - 130% | 110 |
| | TP61 0-0.15 | SE103066.002 | % | 60 - 130% | 113 |
| | TP62 0-0.1 | SE103066.003 | % | 60 - 130% | 113 |
| | TP63 0-0.1 | SE103066.004 | % | 60 - 130% | 105 |
| | TP64 0-0.3 | SE103066.005 | % | 60 - 130% | 111 |
| | TP65 0-0.3 | SE103066.006 | % | 60 - 130% | 109 |
| | TP66 0-0.15 | SE103066.007 | % | 60 - 130% | 105 |
| | TP67 0-0.1 | SE103066.008 | % | 60 - 130% | 107 |
| | TP68 0-0.1 | SE103066.009 | % | 60 - 130% | 111 |
| | TP69 0-0.1 | SE103066.010 | % | 60 - 130% | 106 |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | | | |
| 2-fluorobiphenyl (Surrogate) | TP64 0-0.3 | SE103066.005 | % | 60 - 130% | 85 |
| | TP65 0-0.3 | SE103066.006 | % | 60 - 130% | 92 |
| | TP66 0-0.15 | SE103066.007 | % | 60 - 130% | 89 |
| d14-p-terphenyl (Surrogate) | TP64 0-0.3 | SE103066.005 | % | 60 - 130% | 103 |
| | TP65 0-0.3 | SE103066.006 | % | 60 - 130% | 109 |
| | TP66 0-0.15 | SE103066.007 | % | 60 - 130% | 103 |
| d5-nitrobenzene (Surrogate) | TP64 0-0.3 | SE103066.005 | % | 60 - 130% | 99 |
| | TP65 0-0.3 | SE103066.006 | % | 60 - 130% | 103 |
| | TP66 0-0.15 | SE103066.007 | % | 60 - 130% | 101 |
| **PCBs in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | TP64 0-0.3 | SE103066.005 | % | 60 - 130% | 111 |
| | TP65 0-0.3 | SE103066.006 | % | 60 - 130% | 109 |
| | TP66 0-0.15 | SE103066.007 | % | 60 - 130% | 105 |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | |
| Bromofluorobenzene (Surrogate) | TP64 0-0.3 | SE103066.005 | % | 60 - 130% | 111 |
| | TP65 0-0.3 | SE103066.006 | % | 60 - 130% | 113 |
| | TP66 0-0.15 | SE103066.007 | % | 60 - 130% | 108 |
| d4-1,2-dichloroethane (Surrogate) | TP64 0-0.3 | SE103066.005 | % | 60 - 130% | 116 |
| | TP65 0-0.3 | SE103066.006 | % | 60 - 130% | 98 |
| | TP66 0-0.15 | SE103066.007 | % | 60 - 130% | 103 |
| d8-toluene (Surrogate) | TP64 0-0.3 | SE103066.005 | % | 60 - 130% | 106 |
| | TP65 0-0.3 | SE103066.006 | % | 60 - 130% | 102 |
| | TP66 0-0.15 | SE103066.007 | % | 60 - 130% | 84 |
| Dibromofluoromethane (Surrogate) | TP64 0-0.3 | SE103066.005 | % | 60 - 130% | 125 |
| | TP65 0-0.3 | SE103066.006 | % | 60 - 130% | 99 |
| | TP66 0-0.15 | SE103066.007 | % | 60 - 130% | 107 |
| **Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | |
| Trifluorotoluene (Surrogate) | TP64 0-0.3 | SE103066.005 | % | 60 - 130% | 113 |
| | TP65 0-0.3 | SE103066.006 | % | 60 - 130% | 126 |
| | TP66 0-0.15 | SE103066.007 | % | 60 - 130% | 95 |

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, which is typically 2.5 times the statistically determined method detection limit (MDL).
Result is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| Parameter | Units | Control LOR | BLK MB |
|---|---|---|---|
| **Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311/AN312** | | | |
| LB008427.001 | | | |
| Mercury | mg/L | 0.0001 | <0.0001 |
| **Mercury in Soil Method: ME-(AU)-[ENV]AN312** | | | |
| LB008323.001 | | | |
| Mercury | mg/kg | 0.05 | <0.05 |
| **Metals in Water (Dissolved) by ICPOES Method: ME-(AU)-[ENV]AN320/AN321** | | | |
| LB008557.001 | | | |
| Arsenic, As | mg/L | 0.05 | <0.05 |
| Cadmium, Cd | mg/L | 0.005 | <0.005 |
| Chromium, Cr | mg/L | 0.005 | <0.005 |
| Copper, Cu | mg/L | 0.01 | <0.01 |
| Lead, Pb | mg/L | 0.02 | <0.02 |
| Nickel, Ni | mg/L | 0.01 | <0.010 |
| Zinc, Zn | mg/L | 0.01 | <0.01 |
| **OC Pesticides in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | |
| LB008372.001 | | | |
| Hexachlorobenzene (HCB) | mg/kg | 0.1 | <0.1 |
| Alpha BHC | mg/kg | 0.1 | <0.1 |
| Lindane | mg/kg | 0.1 | <0.1 |
| Heptachlor | mg/kg | 0.1 | <0.1 |
| Aldrin | mg/kg | 0.1 | <0.1 |
| Beta BHC | mg/kg | 0.1 | <0.1 |
| Delta BHC | mg/kg | 0.1 | <0.1 |
| Heptachlor epoxide | mg/kg | 0.1 | <0.1 |
| Alpha Endosulfan | mg/kg | 0.2 | <0.2 |
| Gamma Chlordane | mg/kg | 0.1 | <0.1 |
| Alpha Chlordane | mg/kg | 0.1 | <0.1 |
| p,p'-DDE | mg/kg | 0.1 | <0.1 |
| Dieldrin | mg/kg | 0.05 | <0.05 |
| Endrin | mg/kg | 0.2 | <0.2 |
| Beta Endosulfan | mg/kg | 0.2 | <0.2 |
| p,p'-DDD | mg/kg | 0.1 | <0.1 |
| p,p'-DDT | mg/kg | 0.1 | <0.1 |
| Endosulfan sulphate | mg/kg | 0.1 | <0.1 |
| Endrin Aldehyde | mg/kg | 0.1 | <0.1 |
| Methoxychlor | mg/kg | 0.1 | <0.1 |
| Endrin Ketone | mg/kg | 0.1 | <0.1 |
| Surrogates | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | 93 |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | |
| LB008373.001 | | | |
| Naphthalene | mg/kg | 0.1 | <0.1 |
| 2-methylnaphthalene | mg/kg | 0.1 | <0.1 |
| 1-methylnaphthalene | mg/kg | 0.1 | <0.1 |
| Acenaphthylene | mg/kg | 0.1 | <0.1 |
| Acenaphthene | mg/kg | 0.1 | <0.1 |
| Fluorene | mg/kg | 0.1 | <0.1 |
| Phenanthrene | mg/kg | 0.1 | <0.1 |
| Anthracene | mg/kg | 0.1 | <0.1 |
| Fluoranthene | mg/kg | 0.1 | <0.1 |
| Pyrene | mg/kg | 0.1 | <0.1 |
| Benzo(a)anthracene | mg/kg | 0.1 | <0.1 |

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, which is typically 2.5 times the statistically determined method detection limit (MDL).
Result is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| Parameter | Units | Control LOR | BLK MB |
|---|---|---|---|
| **Continued... PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | |
| LB008373.001 | | | |
| Chrysene | mg/kg | 0.1 | <0.1 |
| Benzo(a)pyrene | mg/kg | 0.1 | <0.1 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | <0.1 |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | <0.1 |
| Benzo(ghi)perylene | mg/kg | 0.1 | <0.1 |
| Total PAH | mg/kg | 0.8 | <0.8 |
| Surrogates | | | |
| d5-nitrobenzene (Surrogate) | % | - | 124 |
| 2-fluorobiphenyl (Surrogate) | % | - | 104 |
| d14-p-terphenyl (Surrogate) | % | - | 114 |
| **PCBs in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | |
| LB008372.001 | | | |
| Arochlor 1016 | mg/kg | 0.2 | <0.2 |
| Arochlor 1221 | mg/kg | 0.2 | <0.2 |
| Arochlor 1232 | mg/kg | 0.2 | <0.2 |
| Arochlor 1242 | mg/kg | 0.2 | <0.2 |
| Arochlor 1248 | mg/kg | 0.2 | <0.2 |
| Arochlor 1254 | mg/kg | 0.2 | <0.2 |
| Arochlor 1260 | mg/kg | 0.2 | <0.2 |
| Arochlor 1262 | mg/kg | 0.2 | <0.2 |
| Arochlor 1268 | mg/kg | 0.2 | <0.2 |
| Total PCBs (Arochlors) | mg/kg | 1 | <1 |
| Surrogates | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | 93 |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320** | | | |
| LB008318.001 | | | |
| Arsenic, As | mg/kg | 3 | <3 |
| Cadmium, Cd | mg/kg | 0.3 | <0.3 |
| Chromium, Cr | mg/kg | 0.3 | <0.3 |
| Copper, Cu | mg/kg | 0.5 | <0.5 |
| Lead, Pb | mg/kg | 1 | <1 |
| Nickel, Ni | mg/kg | 0.5 | <0.5 |
| Zinc, Zn | mg/kg | 0.5 | <0.5 |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403** | | | |
| LB008370.001 | | | |
| TRH C10-C14 | mg/kg | 20 | <20 |
| TRH C15-C28 | mg/kg | 50 | <50 |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | |
| LB008375.001 | | | |
| Monocyclic Aromatic Hydrocarbons | | | |
| Benzene | mg/kg | 0.1 | <0.1 |
| Toluene | mg/kg | 0.1 | <0.1 |
| Ethylbenzene | mg/kg | 0.1 | <0.1 |
| m/p-xylene | mg/kg | 0.2 | <0.2 |
| o-xylene | mg/kg | 0.1 | <0.1 |

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, which is typically 2.5 times the statistically determined method detection limit (MDL).
Result is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| Parameter | Units | Control LOR | BLK MB |
|---|---|---|---|
| **Continued... VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | |
| LB008375.001 | | | |
| Oxygenated Compounds | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | <0.1 |
| Surrogates | | | |
| Dibromofluoromethane (Surrogate) | % | - | 118 |
| d4-1,2-dichloroethane (Surrogate) | % | - | 118 |
| d8-toluene (Surrogate) | % | - | 101 |
| Bromofluorobenzene (Surrogate) | % | - | 106 |
| Totals | | | |
| Total BTEX* | mg/kg | - | 0 |
| **Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | |
| LB008375.001 | | | |
| TRH C6-C9 | mg/kg | 20 | <20 |
| Surrogates | | | |
| Trifluorotoluene (Surrogate) | % | - | 79 |

Duplicates are calculated as relative percent difference (RPD) using the formula RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula: MaxAllowableDifference = 100 x StatisticalDetectionLimit / Mean + LimitingRepeatability
Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.
RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Sample Name | SE102935.002-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **OC Pesticides in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | | | | |
| LB008372.004 | | | | | | |
| Hexachlorobenzene (HCB) | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Alpha BHC | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Lindane | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Heptachlor | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Aldrin | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Beta BHC | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Delta BHC | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Heptachlor epoxide | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| o,p'-DDE | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Alpha Endosulfan | mg/kg | 0.2 | 0 | <0.2 | 200 | 0 |
| Gamma Chlordane | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Alpha Chlordane | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| trans-Nonachlor | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| p,p'-DDE | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Dieldrin | mg/kg | 0.05 | 0 | <0.05 | 200 | 0 |
| Endrin | mg/kg | 0.2 | 0 | <0.2 | 200 | 0 |
| o,p'-DDD | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| o,p'-DDT | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Beta Endosulfan | mg/kg | 0.2 | 0 | <0.2 | 200 | 0 |
| p,p'-DDD | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| p,p'-DDT | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Endosulfan sulphate | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Endrin Aldehyde | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Methoxychlor | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Endrin Ketone | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Surrogates | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | 93 | 93 | 30 | 0 |
| **PCBs in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | | | | |
| LB008372.004 | | | | | | |
| Arochlor 1016 | mg/kg | 0.2 | 0 | <0.2 | 200 | 0 |
| Arochlor 1221 | mg/kg | 0.2 | 0 | <0.2 | 200 | 0 |
| Arochlor 1232 | mg/kg | 0.2 | 0 | <0.2 | 200 | 0 |
| Arochlor 1242 | mg/kg | 0.2 | 0 | <0.2 | 200 | 0 |
| Arochlor 1248 | mg/kg | 0.2 | 0 | <0.2 | 200 | 0 |
| Arochlor 1254 | mg/kg | 0.2 | 0 | <0.2 | 200 | 0 |
| Arochlor 1260 | mg/kg | 0.2 | 0 | <0.2 | 200 | 0 |
| Arochlor 1262 | mg/kg | 0.2 | 0 | <0.2 | 200 | 0 |
| Arochlor 1268 | mg/kg | 0.2 | 0 | <0.2 | 200 | 0 |
| Total PCBs (Arochlors) | mg/kg | 1 | 0 | <1 | 200 | 0 |
| Surrogates | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | 93 | 93 | 30 | 0 |

Duplicates are calculated as relative percent difference (RPD) using the formula RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula: MaxAllowableDifference = 100 x StatisticalDetectionLimit / Mean + LimitingRepeatability
Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.
RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Sample Name | SE103066.001-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| OC Pesticides in Soil Method: ME-(AU)-[ENV]AN400/AN420 | | | | | | |
| LB008372.007 | | | | | | |
| Hexachlorobenzene (HCB) | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Alpha BHC | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Lindane | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Heptachlor | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Aldrin | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Beta BHC | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Delta BHC | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Heptachlor epoxide | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| o,p'-DDE | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Alpha Endosulfan | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| Gamma Chlordane | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Alpha Chlordane | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| trans-Nonachlor | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| p,p'-DDE | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Dieldrin | mg/kg | 0.05 | <0.05 | <0.05 | 200 | 0 |
| Endrin | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| o,p'-DDD | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| o,p'-DDT | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Beta Endosulfan | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| p,p'-DDD | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| p,p'-DDT | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Endosulfan sulphate | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Endrin Aldehyde | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Methoxychlor | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Endrin Ketone | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Surrogates | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | 110 | 110 | 30 | 5 |

| | | Sample Name | SE103066.005-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420 | | | | | | |
| LB008373.007 | | | | | | |
| Naphthalene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| 2-methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| 1-methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Acenaphthylene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Acenaphthene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Fluorene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Phenanthrene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Anthracene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Pyrene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Benzo(a)anthracene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Chrysene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Benzo(b)fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Benzo(k)fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Benzo(a)pyrene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |

Duplicates are calculated as relative percent difference (RPD) using the formula RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula: MaxAllowableDifference = 100 x StatisticalDetectionLimit / Mean + LimitingRepeatability
Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.
RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Sample Name | SE103066.005-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **Continued... PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | | | | |
| LB008373.007 | | | | | | |
| Benzo(ghi)perylene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Total PAH | mg/kg | 0.8 | <0.8 | <0.8 | 200 | 0 |
| Surrogates | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | 99.0 | 100.0 | 30 | 1 |
| 2-fluorobiphenyl (Surrogate) | % | - | 85.0 | 88.0 | 30 | 3 |
| d14-p-terphenyl (Surrogate) | % | - | 103.0 | 103.0 | 30 | 0 |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403** | | | | | | |
| LB008370.010 | | | | | | |
| TRH C10-C14 | mg/kg | 20 | <20 | <20 | 200 | 0 |
| TRH C15-C28 | mg/kg | 50 | <50 | <50 | 200 | 0 |
| TRH C29-C40 | mg/kg | 150 | <150 | <150 | 200 | 0 |

| | | Sample Name | SE103066.008-DUP | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Original Result | Duplicate Result | Criteria % | RPD % |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | |
| LB008318.014 | | | | | | |
| Arsenic, As | mg/kg | 3 | 17 | 17 | 48 | 1 |
| Cadmium, Cd | mg/kg | 0.3 | 0.9 | 0.9 | 62 | 1 |
| Chromium, Cr | mg/kg | 0.3 | 40 | 40 | 31 | 1 |
| Copper, Cu | mg/kg | 0.5 | 80 | 82 | 31 | 3 |
| Lead, Pb | mg/kg | 1 | 44 | 36 | 33 | 19 |
| Nickel, Ni | mg/kg | 0.5 | 11 | 13 | 34 | 20 |
| Zinc, Zn | mg/kg | 0.5 | 250 | 260 | 30 | 5 |

Duplicates are calculated as relative percent difference (RPD) using the formula RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula: MaxAllowableDifference = 100 x StatisticalDetectionLimit / Mean + LimitingRepeatability
Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.
RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | Sample Name | | SE103066.009-DUP | | | |
|---|---|---|---|---|---|---|
| **Parameter** | **Units** | **LOR** | **Original Result** | **Duplicate Result** | **Criteria %** | **RPD %** |
| **Mercury in Soil Method: ME-(AU)-[ENV]AN312** | | | | | | |
| LB008323.014 | | | | | | |
| Mercury | mg/kg | 0.05 | <0.05 | <0.05 | 200 | 0 |

| | Sample Name | | SE103066.010-DUP | | | |
|---|---|---|---|---|---|---|
| **Parameter** | **Units** | **LOR** | **Original Result** | **Duplicate Result** | **Criteria %** | **RPD %** |
| **Mercury in Soil Method: ME-(AU)-[ENV]AN312** | | | | | | |
| LB008323.016 | | | | | | |
| Mercury | mg/kg | 0.05 | <0.05 | <0.05 | 200 | 0 |
| **Moisture Content Method: ME-(AU)-[ENV]AN234** | | | | | | |
| LB008313.011 | | | | | | |
| % Moisture | % | 0.5 | 7.8 | 7.6 | 36 | 2 |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | |
| LB008318.017 | | | | | | |
| Arsenic, As | mg/kg | 3 | 12 | 14 | 53 | 10 |
| Cadmium, Cd | mg/kg | 0.3 | 0.7 | 0.8 | 70 | 20 |
| Chromium, Cr | mg/kg | 0.3 | 36 | 38 | 31 | 7 |
| Copper, Cu | mg/kg | 0.5 | 8.4 | 8.1 | 36 | 4 |
| Lead, Pb | mg/kg | 1 | 30 | 32 | 33 | 5 |
| Nickel, Ni | mg/kg | 0.5 | 3.7 | 3.7 | 44 | 1 |
| Zinc, Zn | mg/kg | 0.5 | 15 | 16 | 33 | 4 |

| | Sample Name | | SE103066.011-DUP | | | |
|---|---|---|---|---|---|---|
| **Parameter** | **Units** | **LOR** | **Original Result** | **Duplicate Result** | **Criteria %** | **RPD %** |
| **Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311/AN312** | | | | | | |
| LB008427.009 | | | | | | |
| Mercury | µg/L | 0.0001 | <0.0001 | <0.0001 | 86 | 65 |

| | Sample Name | | SE103077.001-DUP | | | |
|---|---|---|---|---|---|---|
| **Parameter** | **Units** | **LOR** | **Original Result** | **Duplicate Result** | **Criteria %** | **RPD %** |
| **Moisture Content Method: ME-(AU)-[ENV]AN234** | | | | | | |
| LB008313.013 | | | | | | |
| % Moisture | % | 0.5 | 8.8 | 8.4 | 36 | 5 |

| | Sample Name | | SE103079.006-DUP | | | |
|---|---|---|---|---|---|---|
| **Parameter** | **Units** | **LOR** | **Original Result** | **Duplicate Result** | **Criteria %** | **RPD %** |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008375.015 | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | |
| Benzene | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Toluene | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Ethylbenzene | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| m/p-xylene | mg/kg | 0.2 | 0 | <0.2 | 200 | 0 |
| o-xylene | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |

Duplicates are calculated as relative percent difference (RPD) using the formula RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula: MaxAllowableDifference = 100 x StatisticalDetectionLimit / Mean + LimitingRepeatability
Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.
RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Sample Name | SE103079.006-DUP | | | |
|---|---|---|---|---|---|---|
| **Parameter** | **Units** | **LOR** | **Original Result** | **Duplicate Result** | **Criteria %** | **RPD %** |
| **Continued... VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008375.015 | | | | | | |
| Oxygenated Compounds | | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | 0 | <0.1 | 200 | 0 |
| Surrogates | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | 100 | 114.0 | 50 | 13 |
| d4-1,2-dichloroethane (Surrogate) | % | - | 109 | 111.0 | 50 | 2 |
| d8-toluene (Surrogate) | % | - | 83 | 85.0 | 50 | 2 |
| Bromofluorobenzene (Surrogate) | % | - | 107 | 106.0 | 50 | 1 |
| Totals | | | | | | |
| Total BTEX* | mg/kg | - | 0 | 0 | 200 | NA |
| Total Xylenes* | mg/kg | 0.3 | 0 | <0.3 | 200 | 0 |
| **Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008375.015 | | | | | | |
| TRH C6-C9 | mg/kg | 20 | 0 | <20 | 200 | 0 |
| Surrogates | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | 77 | 79 | 30 | 3 |

| | | Sample Name | SE103084.001-DUP | | | |
|---|---|---|---|---|---|---|
| **Parameter** | **Units** | **LOR** | **Original Result** | **Duplicate Result** | **Criteria %** | **RPD %** |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | | | | |
| LB008373.022 | | | | | | |
| Naphthalene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| 2-methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| 1-methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Acenaphthylene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Acenaphthene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Fluorene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Phenanthrene | mg/kg | 0.1 | 0.1 | 0.1 | 113 | 0 |
| Anthracene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Fluoranthene | mg/kg | 0.1 | 0.3 | 0.3 | 60 | 0 |
| Pyrene | mg/kg | 0.1 | 0.3 | 0.3 | 62 | 0 |
| Benzo(a)anthracene | mg/kg | 0.1 | 0.1 | 0.1 | 107 | 0 |
| Chrysene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Benzo(b)fluoranthene | mg/kg | 0.1 | 0.1 | 0.1 | 104 | 7 |
| Benzo(k)fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Benzo(a)pyrene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Benzo(ghi)perylene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Total PAH | mg/kg | 0.8 | 0.9 | 0.9 | 120 | 0 |
| Surrogates | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | 96.0 | 93.0 | 30 | 3 |
| 2-fluorobiphenyl (Surrogate) | % | - | 93.0 | 89.0 | 30 | 4 |
| d14-p-terphenyl (Surrogate) | % | - | 99.0 | 99.0 | 30 | 0 |

Duplicates are calculated as relative percent difference (RPD) using the formula RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula: MaxAllowableDifference = 100 x StatisticalDetectionLimit / Mean + LimitingRepeatability
Where the MaxAllowableDifference evaluates to a number larger than 200 it is displayed as 200.
RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Sample Name | SE103084.001-DUP | | | |
|---|---|---|---|---|---|---|
| **Parameter** | **Units** | **LOR** | **Original Result** | **Duplicate Result** | **Criteria %** | **RPD %** |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403** | | | | | | |
| LB008370.021 | | | | | | |
| TRH C10-C14 | mg/kg | 20 | <20 | <20 | 200 | 0 |
| TRH C15-C28 | mg/kg | 50 | <50 | <50 | 200 | 0 |

| | | Sample Name | SE103084.002-DUP | | | |
|---|---|---|---|---|---|---|
| **Parameter** | **Units** | **LOR** | **Original Result** | **Duplicate Result** | **Criteria %** | **RPD %** |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008375.021 | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | |
| Benzene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Toluene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Ethylbenzene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| m/p-xylene | mg/kg | 0.2 | <0.2 | <0.2 | 200 | 0 |
| o-xylene | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Oxygenated Compounds | | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | <0.1 | <0.1 | 200 | 0 |
| Surrogates | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | 121.0 | 121.0 | 50 | 0 |
| d4-1,2-dichloroethane (Surrogate) | % | - | 109.0 | 122.0 | 50 | 11 |
| d8-toluene (Surrogate) | % | - | 101.0 | 103.0 | 50 | 2 |
| Bromofluorobenzene (Surrogate) | % | - | 106.0 | 106.0 | 50 | 0 |
| Totals | | | | | | |
| Total BTEX* | mg/kg | - | 0 | 0 | 200 | NA |
| Total Xylenes* | mg/kg | 0.3 | <0.3 | <0.3 | 200 | 0 |
| **Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008375.021 | | | | | | |
| TRH C6-C9 | mg/kg | 20 | <20 | <20 | 200 | 0 |
| Surrogates | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | 111 | 107 | 30 | 4 |

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022).
For more information refer to the footnotes in the concluding page of the report.
Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Control | LCS STD | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Result | Expected Result | Criteria % | Recovery % |
| **Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311/AN312** | | | | | | |
| LB008427.002 | | | | | | |
| Mercury | mg/L | 0.0001 | 0.0079 | 0.008 | 80 - 120 | 98 |
| **Mercury in Soil Method: ME-(AU)-[ENV]AN312** | | | | | | |
| LB008323.002 | | | | | | |
| Mercury | mg/kg | 0.05 | 0.19 | 0.2 | 70 - 130 | 97 |
| **Metals in Water (Dissolved) by ICPOES Method: ME-(AU)-[ENV]AN320/AN321** | | | | | | |
| LB008557.002 | | | | | | |
| Arsenic, As | mg/L | 0.05 | 1.9 | 2 | 80 - 120 | 94 |
| Cadmium, Cd | mg/L | 0.005 | 1.9 | 2 | 80 - 120 | 96 |
| Chromium, Cr | mg/L | 0.005 | 1.9 | 2 | 80 - 120 | 96 |
| Copper, Cu | mg/L | 0.01 | 2.0 | 2 | 80 - 120 | 98 |
| Lead, Pb | mg/L | 0.02 | 1.9 | 2 | 80 - 120 | 97 |
| Nickel, Ni | mg/L | 0.01 | 1.9 | 2 | 80 - 120 | 96 |
| Zinc, Zn | mg/L | 0.01 | 1.9 | 2 | 80 - 120 | 95 |
| **OC Pesticides in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | | | | |
| LB008372.002 | | | | | | |
| Heptachlor | mg/kg | 0.1 | 0.2 | 0.2 | 60 - 140 | 118 |
| Aldrin | mg/kg | 0.1 | 0.2 | 0.2 | 60 - 140 | 121 |
| Delta BHC | mg/kg | 0.1 | 0.2 | 0.2 | 60 - 140 | 113 |
| Dieldrin | mg/kg | 0.05 | 0.23 | 0.2 | 60 - 140 | 114 |
| Endrin | mg/kg | 0.2 | 0.2 | 0.2 | 60 - 140 | 120 |
| p,p'-DDT | mg/kg | 0.1 | 0.2 | 0.2 | 60 - 140 | 108 |
| Surrogates | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | 100 | 100 | 60 - 140 | 101 |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | | | | |
| LB008373.002 | | | | | | |
| Naphthalene | mg/kg | 0.1 | 3.6 | 3.37 | 60 - 140 | 106 |
| Acenaphthylene | mg/kg | 0.1 | 3.4 | 3.37 | 60 - 140 | 101 |
| Acenaphthene | mg/kg | 0.1 | 4.0 | 3.37 | 60 - 140 | 120 |
| Phenanthrene | mg/kg | 0.1 | 3.6 | 3.37 | 60 - 140 | 107 |
| Anthracene | mg/kg | 0.1 | 3.7 | 3.37 | 60 - 140 | 110 |
| Fluoranthene | mg/kg | 0.1 | 3.6 | 3.37 | 60 - 140 | 107 |
| Pyrene | mg/kg | 0.1 | 3.8 | 3.37 | 60 - 140 | 112 |
| Benzo(a)pyrene | mg/kg | 0.1 | 3.8 | 3.37 | 60 - 140 | 112 |
| Surrogates | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | 116.0 | 100 | 60 - 140 | 116 |
| 2-fluorobiphenyl (Surrogate) | % | - | 105.0 | 100 | 60 - 140 | 105 |
| d14-p-terphenyl (Surrogate) | % | - | 115.0 | 100 | 60 - 140 | 115 |
| **PCBs in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | | | | |
| LB008372.002 | | | | | | |
| Arochlor 1260 | mg/kg | 0.2 | 0.3 | 0.4 | 60 - 140 | 74 |
| Surrogates | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | 110 | 100 | 60 - 140 | 107 |

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022).
For more information refer to the footnotes in the concluding page of the report.
Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Control | LCS STD | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Result | Expected Result | Criteria % | Recovery % |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | |
| LB008318.002 | | | | | | |
| Arsenic, As | mg/kg | 3 | 52 | 50 | 80 - 120 | 104 |
| Cadmium, Cd | mg/kg | 0.3 | 53 | 50 | 80 - 120 | 106 |
| Chromium, Cr | mg/kg | 0.3 | 52 | 50 | 80 - 120 | 103 |
| Copper, Cu | mg/kg | 0.5 | 50 | 50 | 80 - 120 | 101 |
| Lead, Pb | mg/kg | 1 | 53 | 50 | 80 - 120 | 105 |
| Nickel, Ni | mg/kg | 0.5 | 53 | 50 | 80 - 120 | 107 |
| Zinc, Zn | mg/kg | 0.5 | 51 | 50 | 80 - 120 | 103 |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403** | | | | | | |
| LB008370.002 | | | | | | |
| TRH C10-C14 | mg/kg | 20 | 47 | 40 | 60 - 140 | 118 |
| TRH C15-C28 | mg/kg | 50 | <50 | 40 | 60 - 140 | 118 |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008375.002 | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | |
| Benzene | mg/kg | 0.1 | 3.0 | 2.27 | 60 - 140 | 133 |
| Toluene | mg/kg | 0.1 | 2.5 | 2.27 | 60 - 140 | 109 |
| Ethylbenzene | mg/kg | 0.1 | 3.0 | 2.27 | 60 - 140 | 132 |
| m/p-xylene | mg/kg | 0.2 | 6.1 | 4.54 | 60 - 140 | 134 |
| o-xylene | mg/kg | 0.1 | 3.1 | 2.27 | 60 - 140 | 135 |
| Surrogates | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | 111.0 | 100 | 60 - 140 | 111 |
| d4-1,2-dichloroethane (Surrogate) | % | - | 111.0 | 100 | 60 - 140 | 111 |
| d8-toluene (Surrogate) | % | - | 90.0 | 100 | 60 - 140 | 90 |
| Bromofluorobenzene (Surrogate) | % | - | 107.0 | 100 | 60 - 140 | 107 |
| **Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008375.002 | | | | | | |
| TRH C6-C9 | mg/kg | 20 | 29 | 23 | 60 - 140 | 124 |

Matrix spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of the report. Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Control | MS | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Result | Original Result | Spike Added | Recovery % |
| **Mercury (dissolved) in Water Method: ME-(AU)-[ENV]AN311/AN312** | | | | | | |
| LB008427.004 | | | | | | |
| Mercury | mg/L | 0.0001 | 0.0081 | <0.0001 | 0.008 | 100 |
| **Mercury in Soil Method: ME-(AU)-[ENV]AN312** | | | | | | |
| LB008323.004 | | | | | | |
| Mercury | mg/kg | 0.05 | 0.18 | <0.05 | 0.2 | 72 |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | | | | |
| LB008373.010 | | | | | | |
| Naphthalene | mg/kg | 0.1 | 3.8 | <0.1 | 3.37 | 114 |
| 2-methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| 1-methylnaphthalene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Acenaphthylene | mg/kg | 0.1 | 3.8 | <0.1 | 3.37 | 114 |
| Acenaphthene | mg/kg | 0.1 | 4.3 | <0.1 | 3.37 | 129 |
| Fluorene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Phenanthrene | mg/kg | 0.1 | 3.9 | <0.1 | 3.37 | 115 |
| Anthracene | mg/kg | 0.1 | 3.9 | <0.1 | 3.37 | 117 |
| Fluoranthene | mg/kg | 0.1 | 4.0 | 0.2 | 3.37 | 115 |
| Pyrene | mg/kg | 0.1 | 4.1 | 0.2 | 3.37 | 118 |
| Benzo(a)anthracene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Chrysene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Benzo(b)fluoranthene | mg/kg | 0.1 | <0.1 | 0.1 | - | NA |
| Benzo(k)fluoranthene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Benzo(a)pyrene | mg/kg | 0.1 | 3.9 | <0.1 | 3.37 | 115 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Benzo(ghi)perylene | mg/kg | 0.1 | <0.1 | <0.1 | - | NA |
| Total PAH | mg/kg | 0.8 | 32 | <0.8 | - | NA |
| Surrogates | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | 109.0 | 101.0 | 100 | 109 |
| 2-fluorobiphenyl (Surrogate) | % | - | 103.0 | 89.0 | 100 | 103 |
| d14-p-terphenyl (Surrogate) | % | - | 112.0 | 103.0 | 100 | 112 |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | |
| LB008318.004 | | | | | | |
| Arsenic, As | mg/kg | 3 | 50 | 11 | 50 | 79 |
| Cadmium, Cd | mg/kg | 0.3 | 41 | 0.4 | 50 | 82 |
| Chromium, Cr | mg/kg | 0.3 | 56 | 18 | 50 | 75 |
| Copper, Cu | mg/kg | 0.5 | 54 | 14 | 50 | 79 |
| Lead, Pb | mg/kg | 1 | 60 | 24 | 50 | 72 |
| Nickel, Ni | mg/kg | 0.5 | 48 | 7.2 | 50 | 81 |
| Zinc, Zn | mg/kg | 0.5 | 80 | 40 | 50 | 81 |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403** | | | | | | |
| LB008370.012 | | | | | | |
| TRH C10-C14 | mg/kg | 20 | 46 | <20 | 40 | 115 |
| TRH C15-C28 | mg/kg | 50 | <50 | <50 | 40 | 100 |
| TRH C29-C40 | mg/kg | 150 | <150 | <150 | - | NA |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008375.004 | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | |
| Benzene | mg/kg | 0.1 | 4.7 | 0 | 2.27 | **206†** |
| Toluene | mg/kg | 0.1 | 6.4 | 3.14 | 2.27 | **145†** |
| Ethylbenzene | mg/kg | 0.1 | NVL | NVL | NVL | NVL |
| m/p-xylene | mg/kg | 0.2 | 25 | 26.9 | 4.54 | **-46†** |
| o-xylene | mg/kg | 0.1 | 15 | 17.6 | 2.27 | **-115†** |

Matrix spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub-sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of the report. Recovery is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

| | | Control | MS | | | |
|---|---|---|---|---|---|---|
| Parameter | Units | LOR | Result | Original Result | Spike Added | Recovery % |
| **Continued... VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008375.004 | | | | | | |
| Oxygenated Compounds | | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | <0.1 | 0 | - | NA |
| Surrogates | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | 137.0 | 105 | 100 | 137 |
| d4-1,2-dichloroethane (Surrogate) | % | - | 131.0 | 104 | 100 | 131 |
| d8-toluene (Surrogate) | % | - | 104.0 | 82 | 100 | 104 |
| Bromofluorobenzene (Surrogate) | % | - | 103.0 | 103 | 100 | 103 |
| Totals | | | | | | |
| Total BTEX* | mg/kg | - | NVL | NVL | NVL | NVL |
| Total Xylenes* | mg/kg | 0.3 | NVL | NVL | NVL | NVL |

Recovery failed acceptance criteria due to matrix interference.

| | | | | | | |
|---|---|---|---|---|---|---|
| **Volatile Petroleum Hydrocarbons in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | |
| LB008375.004 | | | | | | |
| TRH C6-C9 | mg/kg | 20 | 250 | 312 | 23 | **-274†** |
| Surrogates | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | NVL | NVL | NVL | NVL |

Matrix spike duplicates are calculated as relative percent difference using the formula RPD = | OriginalResult - ReplicateResult | x 100 / Mean
The original result is the analyte concentration of the matrix spike and the replicate result is the analyte concentration of the matrix spike duplicate.
The RPD is evaluated against the maximum allowable RPD criteria and can be graphically represented by a curve calculated from the statistical detection limit and limiting repeatability using the formula: MaxAllowableDifference = 100 x StatisticalDetectionLimit / Mean + LimitingRepeatability
RPD is shown in **Green** when within suggested criteria or **Bold** with an appended dagger symbol and Red† when outside suggested criteria.

No Matrix Spike Duplicates were required for this job.

FOOTNOTES

| | |
|---|---|
| IS | Insufficient sample for analysis. |
| LNR | Sample listed, but not received. |
| * | NATA Accreditation does not cover this analysis. |
| ^ | Performed by outside laboratory. |
| LOR | Limit of Reporting |
| QFH | QC result is above the upper tolerance |
| QFL | QC result is below the lower tolerance |
| NA | The sample was not analysed for this analyte |

Samples analysed as received.
Solid samples expressed on a dry weight basis.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: http://www.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf

# SAMPLE RECEIPT ADVICE

**SE103066**

## CLIENT DETAILS

| | |
|---|---|
| Contact | Anwar Barbhuyia |
| Client | Geotechnique |
| Address | P.O. Box 880<br>PENRITH NSW 2751 |
| Telephone | 02 4722 2700 |
| Facsimile | 02 4722 6161 |
| Email | anwar.barbhuyia@geotech.com.au |
| Project | **12576/1 - Marsden Park Precinct** |
| Order Number | (Not specified) |
| Samples | 11 |

## LABORATORY DETAILS

| | |
|---|---|
| Manager | Huong Crawford |
| Laboratory | SGS Alexandria Environmental |
| Address | Unit 16, 33 Maddox St<br>Alexandria NSW 2015 |
| Telephone | +61 2 8594 0400 |
| Facsimile | +61 2 8594 0499 |
| Email | au.environmental.sydney@sgs.com |
| Samples Received | Fri 4/11/2011 |
| Report Due | Fri 11/11/2011 |
| SGS Reference | **SE103066** |

## SUBMISSION DETAILS

This is to confirm that 11 samples were received on Friday 4/11/2011. Results are expected to be ready by Friday 11/11/2011. Please quote SGS reference SE103066 when making enquiries. Refer below for details relating to sample integrity upon receipt.

| | | | |
|---|---|---|---|
| Sample counts by matrix | 10 Soil,1 Water | Type of documentation received | COC |
| Date documentation received | 4/11/2011 | Samples received in good order | Yes |
| Samples received without headspace | Yes | Sample temperature upon receipt | 2.6°C |
| Sample container provider | SGS | Turnaround time requested | Standard |
| Samples received in correct containers | Yes | Sufficient sample for analysis | Yes |
| Sample cooling method | Ice Bricks | Samples clearly labelled | Yes |
| Complete documentation received | Yes | | |

Samples will be held for one month for water samples and two months for soil samples from date of report, unless otherwise instructed.

## COMMENTS

Filtration and acidification will be conducted at SGS laboratory for dissolved metals analysis from the 1L amber bottle supplied.
5 soil samples have been placed on hold and no tests assigned. These samples will not be processed.

# SAMPLE RECEIPT ADVICE

SE103066

CLIENT DETAILS

| | | | |
|---|---|---|---|
| Client | Geotechnique | Project | 12576/1 - Marsden Park Precinct |

SUMMARY OF ANALYSIS

| No. | Sample ID | Mercury in Soil | OC Pesticides in Soil | PAH (Polynuclear Aromatic Hydrocarbons) in | PCBs in Soil | Total Recoverable Metals in Soil by ICPOES from | TRH (Total Recoverable Hydrocarbons) in Soil | VOC's in Soil | Volatile Petroleum Hydrocarbons in Soil |
|---|---|---|---|---|---|---|---|---|---|
| 001 | TP60 0-0.1 | 1 | 26 | - | - | 7 | - | - | - |
| 002 | TP61 0-0.15 | 1 | 26 | - | - | 7 | - | - | - |
| 003 | TP62 0-0.1 | 1 | 26 | - | - | 7 | - | - | - |
| 004 | TP63 0-0.1 | 1 | 26 | - | - | 7 | - | - | - |
| 005 | TP64 0-0.3 | 1 | 26 | 22 | 11 | 7 | 4 | 12 | 6 |
| 006 | TP65 0-0.3 | 1 | 26 | 22 | 11 | 7 | 4 | 12 | 6 |
| 007 | TP66 0-0.15 | 1 | 26 | 22 | 11 | 7 | 4 | 12 | 6 |
| 008 | TP67 0-0.1 | 1 | 26 | - | - | 7 | - | - | - |
| 009 | TP68 0-0.1 | 1 | 26 | - | - | 7 | - | - | - |
| 010 | TP69 0-0.1 | 1 | 26 | - | - | 7 | - | - | - |

CONTINUED OVERLEAF

The above table represents SGS Environmental Services' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details.
Testing as per this table shall commence immediately unless the client intervenes with a correction.

# SAMPLE RECEIPT ADVICE

SE103066

CLIENT DETAILS

| | | | |
|---|---|---|---|
| Client | Geotechnique | Project | 12576/1 - Marsden Park Precinct |

SUMMARY OF ANALYSIS

| No. | Sample ID | Mercury (dissolved) in Water | Metals in Water (Dissolved) by ICPOES | Moisture Content |
|---|---|---|---|---|
| 001 | TP60 0-0.1 | - | - | 1 |
| 002 | TP61 0-0.15 | - | - | 1 |
| 003 | TP62 0-0.1 | - | - | 1 |
| 004 | TP63 0-0.1 | - | - | 1 |
| 005 | TP64 0-0.3 | - | - | 1 |
| 006 | TP65 0-0.3 | - | - | 1 |
| 007 | TP66 0-0.15 | - | - | 1 |
| 008 | TP67 0-0.1 | - | - | 1 |
| 009 | TP68 0-0.1 | - | - | 1 |
| 010 | TP69 0-0.1 | - | - | 1 |
| 011 | Rinsate R6 | 1 | 7 | - |

The above table represents SGS Environmental Services' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details.
Testing as per this table shall commence immediately unless the client intervenes with a correction.

COC received 4/11/11 @ 3:47pm

Received 02/11/11
By S.S
Time 2:00 pm
Samples intact
Ice/Cooler Pack
Temperature on Receipt 2.8°c
Storage Location 3778-9
SB103066

# GEOTECHNIQUE PTY LTD

## Laboratory Test Request / Chain of Custody Record


Lemko Place
PENRITH NSW 2750

P O Box 880
PENRITH NSW 2751

Tel: (02) 4722 2700
Fax: (02) 4722 6161
email: info@geotech.com.au




**TO:** SGS ENVIRONMENTAL SERVICES
UNIT 16
33 MADDOX STREET
ALEXANDRIA NSW 2015

**PH:** 02 8594 0400 **FAX:** 02 8594 0499

**ATTN:** MS ANGELA MAMALICOS

**Sampling By:** AN **Job No:** 12576/1

**Project:**

**Project Manager:** AB **Location:** Marsden Park Precinct

**Results required by: Normal Turnaround Time**

| | Sampling details: Location | Depth (m) | Date | Time | Sample type: Soil | Material | Metals As, Cd, Cr, Cu, Pb, Hg, Ni and Zn | TPH* & BTEX | PAH | OCP | PCB | | | | | KEEP SAMPLE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | TP60 | 0-0.1 | 3/11/2011 | - | SG | | ✓ | | | ✓ | | | | | | YES |
| 2 | TP61 | 0-0.15 | 3/11/2011 | - | SG | | ✓ | | | ✓ | | | | | | YES |
| 3 | TP62 | 0-0.1 | 3/11/2011 | - | SG | | ✓ | | | ✓ | | | | | | YES |
| 4 | TP63 | 0-0.1 | 3/11/2011 | - | SG | | ✓ | | | ✓ | | | | | | YES |
| 5 | TP64 | 0-0.3 | 3/11/2011 | - | SG | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | YES |
| | TP64 | 0.55-0.7 | 3/11/2011 | - | SG | | | | | | | | | | | YES |
| 6 | TP65 | 0-0.3 | 3/11/2011 | - | SG | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | YES |
| | TP65 | 0.5-0.8 | 3/11/2011 | - | SG | | | | | | | | | | | YES |
| | TP65 | 1.0-1.2 | 3/11/2011 | - | SG | | | | | | | | | | | YES |
| | TP65 | 1.25-1.4 | 3/11/2011 | - | SG | | | | | | | | | | | YES |
| 7 | TP66 | 0-0.15 | 3/11/2011 | - | SG | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | YES |
| | TP66 | 0.2-0.3 | 3/11/2011 | - | SG | | | | | | | | | | | YES |

| Relinquished by | | | Received by | | |
|---|---|---|---|---|---|
| Name | Signature | Date | Name | Signature | Date |
| ANWAR BARBHUYIA | AB | 4/11/2011 | Suba | | 02/11/11 |

Legend:

| | | | | | |
|---|---|---|---|---|---|
| WG | Water sample, glass bottle | SG | Soil sample (glass jar) | SP | Soil sample (plastic bag) |
| WP | Water sample, plastic bottle | FCP | Fibro Cement Piece | ✓ | Test required |

* Purge & Trap

# GEOTECHNIQUE PTY LTD

## Laboratory Test Request / Chain of Custody Record

Lemko Place
PENRITH NSW 2750

P O Box 880
PENRITH NSW 2751

Tel: (02) 4722 2700
Fax: (02) 4722 6161
email: info@geotech.com.au



| | | | |
|---|---|---|---|
| **TO:** | **SGS ENVIRONMENTAL SERVICES**<br>**UNIT 16**<br>**33 MADDOX STREET**<br>**ALEXANDRIA NSW 2015** | **Sampling By:** | AN |
| **PH:** | **02 8594 0400** **FAX: 02 8594 0499** | **Project Manager:** | AB |
| **ATTN:** | **MS ANGELA MAMALICOS** | | |

| | | | |
|---|---|---|---|
| **Job No:** | 12576/1 | | |
| **Project:** | | | |
| **Location:** | Marsden Park Precinct | | |

**Results required by: Normal Turnaround Time**

| | Sampling details | | | Sample type | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Location** | **Depth (m)** | **Date** | **Time** | **Soil** | **Material** | **Metals As, Cd, Cr, Cu, Pb, Hg, Ni and Zn** | **TPH* & BTEX** | **PAH** | **OCP** | **PCB** | | | | | **KEEP SAMPLE** |
| 8 | TP67 | 0-0.1 | 3/11/2011 | - | SG | | ✓ | | | ✓ | | | | | | YES |
| 9 | TP68 | 0-0.1 | 3/11/2011 | - | SG | | ✓ | | | ✓ | | | | | | YES |
| 10 | TP69 | 0-0.1 | 3/11/2011 | - | SG | | ✓ | | | ✓ | | | | | | YES |
| 11 | Rinsate R6 | | 3/11/2011 | - | | WG | ✓ | | | | | | | | | YES |

| Relinquished by | | | Received by | | |
|---|---|---|---|---|---|
| Name | Signature | Date | Name | Signature | Date |
| ANWAR BARBHUYIA | AB | 4/11/2011 | | | 04/11/11 |

Legend:

| | | | | | | |
|---|---|---|---|---|---|---|
| WG | Water sample, glass bottle | SG | Soil sample (glass jar) | SP | Soil sample (plastic bag) | * Purge & Trap |
| WP | Water sample, plastic bottle | FCP | Fibro Cement Piece | ✓ | Test required | |

# ANALYTICAL REPORT

WORLD RECOGNISED ACCREDITATION

## CLIENT DETAILS

| | |
|---|---|
| Contact | Anwar Barbhuyia |
| Client | Geotechnique |
| Address | P.O. Box 880<br>NSW 2751 |
| Telephone | 02 4722 2700 |
| Facsimile | 02 4722 6161 |
| Email | anwar.barbhuyia@geotech.com.au |
| Project | **12576-1 - Marsden Park Precinct** |
| Order Number | (Not specified) |
| Samples | 18 |

## LABORATORY DETAILS

| | |
|---|---|
| Manager | Huong Crawford |
| Laboratory | SGS Alexandria Environmental |
| Address | Unit 16, 33 Maddox St<br>Alexandria NSW 2015 |
| Telephone | +61 2 8594 0400 |
| Facsimile | +61 2 8594 0499 |
| Email | au.environmental.sydney@sgs.com |
| SGS Reference | SE103091 R1 |
| Report Number | 0000011813 |
| Date Reported | 15 Nov 2011 |
| Date Received | 07 Nov 2011 |

## COMMENTS

The document is issued in accordance with NATA's accreditation requirements.
Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562(4354).

This report cancels and supersedes the report No.SE103091 R0 dated 14/11/11 issued by SGS Environmental Services due to the addition of VOC results for trip spike.

## SIGNATORIES

Andy Sutton
Organics Chemist

Dong Liang
Inorganics Metals Team Leader

Ly Kim Ha
Organics Supervisor

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | SE103091.001<br>Soil<br>04 Nov 2011<br>TP70 0-0.1 | SE103091.002<br>Soil<br>04 Nov 2011<br>TP70 0.1-0.4 | SE103091.003<br>Soil<br>04 Nov 2011<br>TP71 0-0.1 | SE103091.004<br>Soil<br>04 Nov 2011<br>TP72 0-0.1 | SE103091.005<br>Soil<br>04 Nov 2011<br>TP72 0.1-0.4 |
|---|---|---|---|---|---|---|---|---|
| **VOC's in Soil Method: AN433/AN434** | | | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | | | |
| Benzene | mg/kg | 0.1 | | - | <0.1 | - | - | <0.1 |
| Toluene | mg/kg | 0.1 | | - | <0.1 | - | - | <0.1 |
| Ethylbenzene | mg/kg | 0.1 | | - | <0.1 | - | - | <0.1 |
| m/p-xylene | mg/kg | 0.2 | | - | <0.2 | - | - | <0.2 |
| o-xylene | mg/kg | 0.1 | | - | <0.1 | - | - | <0.1 |
| Oxygenated Compounds | | | | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | | - | <0.1 | - | - | <0.1 |
| Surrogates | | | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | | - | **96** | - | - | **101** |
| d4-1,2-dichloroethane (Surrogate) | % | - | | - | **99** | - | - | **102** |
| d8-toluene (Surrogate) | % | - | | - | **95** | - | - | **98** |
| Bromofluorobenzene (Surrogate) | % | - | | - | **100** | - | - | **102** |
| Totals | | | | | | | | |
| Total BTEX* | mg/kg | - | | - | **0** | - | - | **0** |
| Total Xylenes* | mg/kg | 0.3 | | - | <0.3 | - | - | <0.3 |
| **Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434** | | | | | | | | |
| TRH C6-C9 | mg/kg | 20 | | - | <20 | - | - | <20 |
| Surrogates | | | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | | - | **102** | - | - | **89** |
| Dibromofluoromethane (Surrogate) | % | - | | - | - | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | | - | - | - | - | - |
| d8-toluene (Surrogate) | % | - | | - | - | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | | - | - | - | - | - |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403** | | | | | | | | |
| TRH C10-C14 | mg/kg | 20 | | - | <20 | - | - | <20 |
| TRH C15-C28 | mg/kg | 50 | | - | **140** | - | - | <50 |
| TRH C29-C40 | mg/kg | 150 | | - | <150 | - | - | <150 |
| Surrogates | | | | | | | | |
| TRH (Surrogate) | % | - | | - | - | - | - | - |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420** | | | | | | | | |
| Naphthalene | mg/kg | 0.1 | | - | **0.1** | - | - | <0.1 |
| 2-methylnaphthalene | mg/kg | 0.1 | | - | **0.1** | - | - | <0.1 |
| 1-methylnaphthalene | mg/kg | 0.1 | | - | **0.1** | - | - | <0.1 |
| Acenaphthylene | mg/kg | 0.1 | | - | **0.8** | - | - | <0.1 |
| Acenaphthene | mg/kg | 0.1 | | - | **0.1** | - | - | <0.1 |
| Fluorene | mg/kg | 0.1 | | - | **0.8** | - | - | <0.1 |
| Phenanthrene | mg/kg | 0.1 | | - | **6.3** | - | - | <0.1 |
| Anthracene | mg/kg | 0.1 | | - | **1.9** | - | - | <0.1 |
| Fluoranthene | mg/kg | 0.1 | | - | **6.3** | - | - | <0.1 |
| Pyrene | mg/kg | 0.1 | | - | **5.4** | - | - | <0.1 |
| Benzo(a)anthracene | mg/kg | 0.1 | | - | **3.4** | - | - | <0.1 |
| Chrysene | mg/kg | 0.1 | | - | **1.5** | - | - | <0.1 |
| Benzo(b)fluoranthene | mg/kg | 0.1 | | - | **2.4** | - | - | <0.1 |
| Benzo(k)fluoranthene | mg/kg | 0.1 | | - | **0.8** | - | - | <0.1 |
| Benzo(a)pyrene | mg/kg | 0.1 | | - | **1.8** | - | - | <0.1 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | | - | **0.8** | - | - | <0.1 |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | | - | **0.2** | - | - | <0.1 |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | SE103091.001<br>Soil<br>04 Nov 2011<br>TP70 0-0.1 | SE103091.002<br>Soil<br>04 Nov 2011<br>TP70 0.1-0.4 | SE103091.003<br>Soil<br>04 Nov 2011<br>TP71 0-0.1 | SE103091.004<br>Soil<br>04 Nov 2011<br>TP72 0-0.1 | SE103091.005<br>Soil<br>04 Nov 2011<br>TP72 0.1-0.4 |
|---|---|---|---|---|---|---|---|---|
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil** | **Method: AN420 (continued)** | | | | | | | |
| Benzo(ghi)perylene | mg/kg | 0.1 | | - | **0.8** | - | - | <0.1 |
| Total PAH | mg/kg | 0.8 | | - | **33** | - | - | <0.8 |
| Surrogates | | | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | | - | **90** | - | - | **94** |
| 2-fluorobiphenyl (Surrogate) | % | - | | - | **94** | - | - | **85** |
| d14-p-terphenyl (Surrogate) | % | - | | - | **100** | - | - | **105** |
| **OC Pesticides in Soil** | **Method: AN400/AN420** | | | | | | | |
| Hexachlorobenzene (HCB) | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Alpha BHC | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Lindane | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Heptachlor | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Aldrin | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Beta BHC | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Delta BHC | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Heptachlor epoxide | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| o,p'-DDE | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Alpha Endosulfan | mg/kg | 0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Gamma Chlordane | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Alpha Chlordane | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| trans-Nonachlor | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| p,p'-DDE | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Dieldrin | mg/kg | 0.05 | | **0.2** | <0.1↑ | <0.1↑ | <0.1↑ | <0.1↑ |
| Endrin | mg/kg | 0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| o,p'-DDD | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| o,p'-DDT | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Beta Endosulfan | mg/kg | 0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| p,p'-DDD | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| p,p'-DDT | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Endosulfan sulphate | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Endrin Aldehyde | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Methoxychlor | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Endrin Ketone | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |

| Parameter | Units | LOR | Sample Number: SE103091.001<br>Sample Matrix: Soil<br>Sample Date: 04 Nov 2011<br>Sample Name: TP70 0-0.1 | SE103091.002<br>Soil<br>04 Nov 2011<br>TP70 0.1-0.4 | SE103091.003<br>Soil<br>04 Nov 2011<br>TP71 0-0.1 | SE103091.004<br>Soil<br>04 Nov 2011<br>TP72 0-0.1 | SE103091.005<br>Soil<br>04 Nov 2011<br>TP72 0.1-0.4 |
|---|---|---|---|---|---|---|---|
| **OC Pesticides in Soil Method: AN400/AN420 (continued)** | | | | | | | |
| Surrogates | | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | **105** | **107** | **103** | **100** | **98** |
| **PCBs in Soil Method: AN400/AN420** | | | | | | | |
| Arochlor 1016 | mg/kg | 0.2 | - | <0.2 | - | - | <0.2 |
| Arochlor 1221 | mg/kg | 0.2 | - | <0.2 | - | - | <0.2 |
| Arochlor 1232 | mg/kg | 0.2 | - | <0.2 | - | - | <0.2 |
| Arochlor 1242 | mg/kg | 0.2 | - | <0.2 | - | - | <0.2 |
| Arochlor 1248 | mg/kg | 0.2 | - | <0.2 | - | - | <0.2 |
| Arochlor 1254 | mg/kg | 0.2 | - | <0.2 | - | - | <0.2 |
| Arochlor 1260 | mg/kg | 0.2 | - | <0.2 | - | - | <0.2 |
| Arochlor 1262 | mg/kg | 0.2 | - | <0.2 | - | - | <0.2 |
| Arochlor 1268 | mg/kg | 0.2 | - | <0.2 | - | - | <0.2 |
| Total PCBs (Arochlors) | mg/kg | 1 | - | <1 | - | - | <1 |
| Surrogates | | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | - | **107** | - | - | **98** |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320** | | | | | | | |
| Arsenic, As | mg/kg | 3 | **11** | **8** | **6** | **8** | **11** |
| Cadmium, Cd | mg/kg | 0.3 | **0.5** | **0.5** | **0.3** | **0.6** | **1.0** |
| Chromium, Cr | mg/kg | 0.3 | **23** | **15** | **19** | **21** | **27** |
| Copper, Cu | mg/kg | 0.5 | **19** | **68** | **3.6** | **12** | **24** |
| Lead, Pb | mg/kg | 1 | **170** | **58** | **17** | **23** | **67** |
| Nickel, Ni | mg/kg | 0.5 | **7.4** | **17** | **2.0** | **4.7** | **6.9** |
| Zinc, Zn | mg/kg | 0.5 | **84** | **88** | **9.4** | **60** | **160** |
| **Mercury in Soil Method: AN312** | | | | | | | |
| Mercury | mg/kg | 0.05 | **0.06** | **0.06** | <0.05 | <0.05 | **0.06** |
| **Moisture Content Method: AN234** | | | | | | | |
| % Moisture | % | 0.5 | **14** | **13** | **11** | **11** | **10** |
| **Metals in Water (Dissolved) by ICPOES Method: AN320/AN321** | | | | | | | |
| Arsenic, As | mg/L | 0.05 | - | - | - | - | - |
| Cadmium, Cd | mg/L | 0.005 | - | - | - | - | - |
| Chromium, Cr | mg/L | 0.005 | - | - | - | - | - |
| Copper, Cu | mg/L | 0.01 | - | - | - | - | - |
| Lead, Pb | mg/L | 0.02 | - | - | - | - | - |
| Nickel, Ni | mg/L | 0.01 | - | - | - | - | - |
| Zinc, Zn | mg/L | 0.01 | - | - | - | - | - |
| **Mercury (dissolved) in Water Method: AN311/AN312** | | | | | | | |
| Mercury | mg/L | 0.0001 | - | - | - | - | - |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | SE103091.006<br>Soil<br>04 Nov 2011<br>TP73 0-0.1 | SE103091.007<br>Soil<br>04 Nov 2011<br>TP74 0-0.1 | SE103091.008<br>Soil<br>04 Nov 2011<br>TP75 0-0.15 | SE103091.009<br>Soil<br>04 Nov 2011<br>TP76 0-0.3 | SE103091.010<br>Soil<br>04 Nov 2011<br>TP77 0-0.3 |
|---|---|---|---|---|---|---|---|---|
| **VOC's in Soil Method: AN433/AN434** | | | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | | | |
| Benzene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Toluene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Ethylbenzene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| m/p-xylene | mg/kg | 0.2 | | - | - | - | <0.2 | <0.2 |
| o-xylene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Oxygenated Compounds | | | | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Surrogates | | | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | | - | - | - | **97** | **97** |
| d4-1,2-dichloroethane (Surrogate) | % | - | | - | - | - | **100** | **99** |
| d8-toluene (Surrogate) | % | - | | - | - | - | **92** | **92** |
| Bromofluorobenzene (Surrogate) | % | - | | - | - | - | **104** | **101** |
| Totals | | | | | | | | |
| Total BTEX* | mg/kg | - | | - | - | - | **0** | **0** |
| Total Xylenes* | mg/kg | 0.3 | | - | - | - | <0.3 | <0.3 |
| **Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434** | | | | | | | | |
| TRH C6-C9 | mg/kg | 20 | | - | - | - | <20 | <20 |
| Surrogates | | | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | | - | - | - | **92** | **98** |
| Dibromofluoromethane (Surrogate) | % | - | | - | - | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | | - | - | - | - | - |
| d8-toluene (Surrogate) | % | - | | - | - | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | | - | - | - | - | - |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403** | | | | | | | | |
| TRH C10-C14 | mg/kg | 20 | | - | - | - | <20 | <20 |
| TRH C15-C28 | mg/kg | 50 | | - | - | - | **120** | <50 |
| TRH C29-C40 | mg/kg | 150 | | - | - | - | **420** | <150 |
| Surrogates | | | | | | | | |
| TRH (Surrogate) | % | - | | - | - | - | - | - |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420** | | | | | | | | |
| Naphthalene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| 2-methylnaphthalene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| 1-methylnaphthalene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Acenaphthylene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Acenaphthene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Fluorene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Phenanthrene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Anthracene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Fluoranthene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Pyrene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Benzo(a)anthracene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Chrysene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Benzo(b)fluoranthene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Benzo(k)fluoranthene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Benzo(a)pyrene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | SE103091.006<br>Soil<br>04 Nov 2011<br>TP73 0-0.1 | SE103091.007<br>Soil<br>04 Nov 2011<br>TP74 0-0.1 | SE103091.008<br>Soil<br>04 Nov 2011<br>TP75 0-0.15 | SE103091.009<br>Soil<br>04 Nov 2011<br>TP76 0-0.3 | SE103091.010<br>Soil<br>04 Nov 2011<br>TP77 0-0.3 |
|---|---|---|---|---|---|---|---|---|
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil** | **Method: AN420 (continued)** | | | | | | | |
| Benzo(ghi)perylene | mg/kg | 0.1 | | - | - | - | <0.1 | <0.1 |
| Total PAH | mg/kg | 0.8 | | - | - | - | <0.8 | <0.8 |
| Surrogates | | | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | | - | - | - | **94** | **75** |
| 2-fluorobiphenyl (Surrogate) | % | - | | - | - | - | **93** | **73** |
| d14-p-terphenyl (Surrogate) | % | - | | - | - | - | **101** | **99** |
| **OC Pesticides in Soil** | **Method: AN400/AN420** | | | | | | | |
| Hexachlorobenzene (HCB) | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Alpha BHC | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Lindane | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Heptachlor | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Aldrin | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Beta BHC | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Delta BHC | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Heptachlor epoxide | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| o,p'-DDE | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Alpha Endosulfan | mg/kg | 0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Gamma Chlordane | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Alpha Chlordane | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| trans-Nonachlor | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| p,p'-DDE | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Dieldrin | mg/kg | 0.05 | | <0.1↑ | <0.1↑ | <0.1↑ | <0.1↑ | <0.1↑ |
| Endrin | mg/kg | 0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| o,p'-DDD | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| o,p'-DDT | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Beta Endosulfan | mg/kg | 0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| p,p'-DDD | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| p,p'-DDT | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Endosulfan sulphate | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Endrin Aldehyde | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Methoxychlor | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Endrin Ketone | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |

| Parameter | Units | LOR | Sample Number: SE103091.006 Sample Matrix: Soil Sample Date: 04 Nov 2011 Sample Name: TP73 0-0.1 | SE103091.007 Soil 04 Nov 2011 TP74 0-0.1 | SE103091.008 Soil 04 Nov 2011 TP75 0-0.15 | SE103091.009 Soil 04 Nov 2011 TP76 0-0.3 | SE103091.010 Soil 04 Nov 2011 TP77 0-0.3 |
|---|---|---|---|---|---|---|---|
| **OC Pesticides in Soil Method: AN400/AN420 (continued)** | | | | | | | |
| Surrogates | | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | **100** | **103** | **102** | **105** | **101** |
| **PCBs in Soil Method: AN400/AN420** | | | | | | | |
| Arochlor 1016 | mg/kg | 0.2 | - | - | - | <0.2 | <0.2 |
| Arochlor 1221 | mg/kg | 0.2 | - | - | - | <0.2 | <0.2 |
| Arochlor 1232 | mg/kg | 0.2 | - | - | - | <0.2 | <0.2 |
| Arochlor 1242 | mg/kg | 0.2 | - | - | - | <0.2 | <0.2 |
| Arochlor 1248 | mg/kg | 0.2 | - | - | - | <0.2 | <0.2 |
| Arochlor 1254 | mg/kg | 0.2 | - | - | - | <0.2 | <0.2 |
| Arochlor 1260 | mg/kg | 0.2 | - | - | - | <0.2 | <0.2 |
| Arochlor 1262 | mg/kg | 0.2 | - | - | - | <0.2 | <0.2 |
| Arochlor 1268 | mg/kg | 0.2 | - | - | - | <0.2 | <0.2 |
| Total PCBs (Arochlors) | mg/kg | 1 | - | - | - | <1 | <1 |
| Surrogates | | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | - | - | - | **105** | **101** |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320** | | | | | | | |
| Arsenic, As | mg/kg | 3 | **9** | **7** | **9** | **12** | **8** |
| Cadmium, Cd | mg/kg | 0.3 | **0.8** | **0.5** | **0.5** | **0.5** | **0.4** |
| Chromium, Cr | mg/kg | 0.3 | **28** | **24** | **17** | **19** | **14** |
| Copper, Cu | mg/kg | 0.5 | **11** | **8.6** | **23** | **19** | **19** |
| Lead, Pb | mg/kg | 1 | **27** | **32** | **19** | **15** | **15** |
| Nickel, Ni | mg/kg | 0.5 | **6.0** | **5.3** | **4.9** | **2.0** | **3.4** |
| Zinc, Zn | mg/kg | 0.5 | **26** | **17** | **55** | **36** | **26** |
| **Mercury in Soil Method: AN312** | | | | | | | |
| Mercury | mg/kg | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| **Moisture Content Method: AN234** | | | | | | | |
| % Moisture | % | 0.5 | **7.6** | **19** | **9.7** | **17** | **13** |
| **Metals in Water (Dissolved) by ICPOES Method: AN320/AN321** | | | | | | | |
| Arsenic, As | mg/L | 0.05 | - | - | - | - | - |
| Cadmium, Cd | mg/L | 0.005 | - | - | - | - | - |
| Chromium, Cr | mg/L | 0.005 | - | - | - | - | - |
| Copper, Cu | mg/L | 0.01 | - | - | - | - | - |
| Lead, Pb | mg/L | 0.02 | - | - | - | - | - |
| Nickel, Ni | mg/L | 0.01 | - | - | - | - | - |
| Zinc, Zn | mg/L | 0.01 | - | - | - | - | - |
| **Mercury (dissolved) in Water Method: AN311/AN312** | | | | | | | |
| Mercury | mg/L | 0.0001 | - | - | - | - | - |

| Parameter | Units | LOR | Sample Number: SE103091.011 Sample Matrix: Soil Sample Date: 04 Nov 2011 Sample Name: TP78 0-0.3 | SE103091.012 Soil 04 Nov 2011 TP79 0-0.1 | SE103091.013 Soil 04 Nov 2011 TP80 0-0.15 | SE103091.014 Soil 04 Nov 2011 SD6 | SE103091.015 Soil 04 Nov 2011 SP2 |
|---|---|---|---|---|---|---|---|
| **VOC's in Soil Method: AN433/AN434** | | | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | | | |
| Benzene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| Toluene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| Ethylbenzene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| m/p-xylene | mg/kg | 0.2 | <0.2 | - | - | - | <0.2 |
| o-xylene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| Oxygenated Compounds | | | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| Surrogates | | | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | **97** | - | - | - | **96** |
| d4-1,2-dichloroethane (Surrogate) | % | - | **98** | - | - | - | **99** |
| d8-toluene (Surrogate) | % | - | **92** | - | - | - | **91** |
| Bromofluorobenzene (Surrogate) | % | - | **102** | - | - | - | **103** |
| Totals | | | | | | | |
| Total BTEX* | mg/kg | - | **0** | - | - | - | **0** |
| Total Xylenes* | mg/kg | 0.3 | <0.3 | - | - | - | <0.3 |
| **Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434** | | | | | | | |
| TRH C6-C9 | mg/kg | 20 | <20 | - | - | - | <20 |
| Surrogates | | | | | | | |
| Trifluorotoluene (Surrogate) | % | - | **113** | - | - | - | **103** |
| Dibromofluoromethane (Surrogate) | % | - | - | - | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | - | - | - | - | - |
| d8-toluene (Surrogate) | % | - | - | - | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | - | - | - | - | - |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403** | | | | | | | |
| TRH C10-C14 | mg/kg | 20 | <20 | - | - | - | <20 |
| TRH C15-C28 | mg/kg | 50 | <50 | - | - | - | <50 |
| TRH C29-C40 | mg/kg | 150 | <150 | - | - | - | <150 |
| Surrogates | | | | | | | |
| TRH (Surrogate) | % | - | - | - | - | - | - |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420** | | | | | | | |
| Naphthalene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| 2-methylnaphthalene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| 1-methylnaphthalene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| Acenaphthylene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| Acenaphthene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| Fluorene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| Phenanthrene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| Anthracene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| Fluoranthene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| Pyrene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| Benzo(a)anthracene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| Chrysene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| Benzo(b)fluoranthene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| Benzo(k)fluoranthene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| Benzo(a)pyrene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | <0.1 | - | - | - | <0.1 |

| Parameter | Units | LOR | Sample Number<br>Sample Matrix<br>Sample Date<br>Sample Name | SE103091.011<br>Soil<br>04 Nov 2011<br>TP78 0-0.3 | SE103091.012<br>Soil<br>04 Nov 2011<br>TP79 0-0.1 | SE103091.013<br>Soil<br>04 Nov 2011<br>TP80 0-0.15 | SE103091.014<br>Soil<br>04 Nov 2011<br>SD6 | SE103091.015<br>Soil<br>04 Nov 2011<br>SP2 |
|---|---|---|---|---|---|---|---|---|
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil** | **Method: AN420 (continued)** | | | | | | | |
| Benzo(ghi)perylene | mg/kg | 0.1 | | <0.1 | - | - | - | <0.1 |
| Total PAH | mg/kg | 0.8 | | <0.8 | - | - | - | <0.8 |
| Surrogates | | | | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | | **98** | - | - | - | **95** |
| 2-fluorobiphenyl (Surrogate) | % | - | | **92** | - | - | - | **89** |
| d14-p-terphenyl (Surrogate) | % | - | | **105** | - | - | - | **105** |
| **OC Pesticides in Soil** | **Method: AN400/AN420** | | | | | | | |
| Hexachlorobenzene (HCB) | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Alpha BHC | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Lindane | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Heptachlor | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Aldrin | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Beta BHC | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Delta BHC | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Heptachlor epoxide | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| o,p'-DDE | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Alpha Endosulfan | mg/kg | 0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Gamma Chlordane | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Alpha Chlordane | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| trans-Nonachlor | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| p,p'-DDE | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Dieldrin | mg/kg | 0.05 | | <0.1↑ | <0.1↑ | <0.1↑ | <0.1↑ | <0.1↑ |
| Endrin | mg/kg | 0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| o,p'-DDD | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| o,p'-DDT | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Beta Endosulfan | mg/kg | 0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| p,p'-DDD | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| p,p'-DDT | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Endosulfan sulphate | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Endrin Aldehyde | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Methoxychlor | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| Endrin Ketone | mg/kg | 0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |

| Parameter | Units | LOR | Sample Number: SE103091.011 Sample Matrix: Soil Sample Date: 04 Nov 2011 Sample Name: TP78 0-0.3 | SE103091.012 Soil 04 Nov 2011 TP79 0-0.1 | SE103091.013 Soil 04 Nov 2011 TP80 0-0.15 | SE103091.014 Soil 04 Nov 2011 SD6 | SE103091.015 Soil 04 Nov 2011 SP2 |
|---|---|---|---|---|---|---|---|
| **OC Pesticides in Soil Method: AN400/AN420 (continued)** | | | | | | | |
| Surrogates | | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | **103** | **100** | **81** | **97** | **103** |
| **PCBs in Soil Method: AN400/AN420** | | | | | | | |
| Arochlor 1016 | mg/kg | 0.2 | <0.2 | - | - | - | <0.2 |
| Arochlor 1221 | mg/kg | 0.2 | <0.2 | - | - | - | <0.2 |
| Arochlor 1232 | mg/kg | 0.2 | <0.2 | - | - | - | <0.2 |
| Arochlor 1242 | mg/kg | 0.2 | <0.2 | - | - | - | <0.2 |
| Arochlor 1248 | mg/kg | 0.2 | <0.2 | - | - | - | <0.2 |
| Arochlor 1254 | mg/kg | 0.2 | <0.2 | - | - | - | <0.2 |
| Arochlor 1260 | mg/kg | 0.2 | <0.2 | - | - | - | <0.2 |
| Arochlor 1262 | mg/kg | 0.2 | <0.2 | - | - | - | <0.2 |
| Arochlor 1268 | mg/kg | 0.2 | <0.2 | - | - | - | <0.2 |
| Total PCBs (Arochlors) | mg/kg | 1 | <1 | - | - | - | <1 |
| Surrogates | | | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | **103** | - | - | - | **103** |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320** | | | | | | | |
| Arsenic, As | mg/kg | 3 | **9** | **9** | **10** | <3 | **5** |
| Cadmium, Cd | mg/kg | 0.3 | **0.4** | **0.4** | <0.3 | <0.3 | **0.4** |
| Chromium, Cr | mg/kg | 0.3 | **14** | **16** | **13** | **9.5** | **14** |
| Copper, Cu | mg/kg | 0.5 | **26** | **13** | **11** | **26** | **29** |
| Lead, Pb | mg/kg | 1 | **23** | **18** | **14** | **18** | **17** |
| Nickel, Ni | mg/kg | 0.5 | **6.8** | **6.5** | **6.0** | **8.3** | **23** |
| Zinc, Zn | mg/kg | 0.5 | **66** | **26** | **20** | **42** | **67** |
| **Mercury in Soil Method: AN312** | | | | | | | |
| Mercury | mg/kg | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| **Moisture Content Method: AN234** | | | | | | | |
| % Moisture | % | 0.5 | **8.5** | **7.8** | **7.9** | **38** | **12** |
| **Metals in Water (Dissolved) by ICPOES Method: AN320/AN321** | | | | | | | |
| Arsenic, As | mg/L | 0.05 | - | - | - | - | - |
| Cadmium, Cd | mg/L | 0.005 | - | - | - | - | - |
| Chromium, Cr | mg/L | 0.005 | - | - | - | - | - |
| Copper, Cu | mg/L | 0.01 | - | - | - | - | - |
| Lead, Pb | mg/L | 0.02 | - | - | - | - | - |
| Nickel, Ni | mg/L | 0.01 | - | - | - | - | - |
| Zinc, Zn | mg/L | 0.01 | - | - | - | - | - |
| **Mercury (dissolved) in Water Method: AN311/AN312** | | | | | | | |
| Mercury | mg/L | 0.0001 | - | - | - | - | - |

| Parameter | Units | LOR | Sample Number: SE103091.016<br>Sample Matrix: Soil<br>Sample Date: 04 Nov 2011<br>Sample Name: Duplicate D6 | SE103091.017<br>Water<br>04 Nov 2011<br>Rinsate R7 | SE103091.018<br>Soil<br>04 Nov 2011<br>Trip Spike TS2 |
|---|---|---|---|---|---|
| **VOC's in Soil Method: AN433/AN434** | | | | | |
| Monocyclic Aromatic Hydrocarbons | | | | | |
| Benzene | mg/kg | 0.1 | <0.1 | - | [99%] |
| Toluene | mg/kg | 0.1 | <0.1 | - | [99%] |
| Ethylbenzene | mg/kg | 0.1 | <0.1 | - | [101%] |
| m/p-xylene | mg/kg | 0.2 | <0.2 | - | [99%] |
| o-xylene | mg/kg | 0.1 | <0.1 | - | [98%] |
| Oxygenated Compounds | | | | | |
| MtBE (Methyl-tert-butyl ether) | mg/kg | 0.1 | <0.1 | - | [99%] |
| Surrogates | | | | | |
| Dibromofluoromethane (Surrogate) | % | - | **102** | - | **87** |
| d4-1,2-dichloroethane (Surrogate) | % | - | **102** | - | **105** |
| d8-toluene (Surrogate) | % | - | **93** | - | **102** |
| Bromofluorobenzene (Surrogate) | % | - | **105** | - | **103** |
| Totals | | | | | |
| Total BTEX* | mg/kg | - | **0** | - | - |
| Total Xylenes* | mg/kg | 0.3 | <0.3 | - | - |
| **Volatile Petroleum Hydrocarbons in Soil Method: AN433/AN434** | | | | | |
| TRH C6-C9 | mg/kg | 20 | <20 | - | - |
| Surrogates | | | | | |
| Trifluorotoluene (Surrogate) | % | - | **86** | - | - |
| Dibromofluoromethane (Surrogate) | % | - | - | - | - |
| d4-1,2-dichloroethane (Surrogate) | % | - | - | - | - |
| d8-toluene (Surrogate) | % | - | - | - | - |
| Bromofluorobenzene (Surrogate) | % | - | - | - | - |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: AN403** | | | | | |
| TRH C10-C14 | mg/kg | 20 | <20 | - | - |
| TRH C15-C28 | mg/kg | 50 | <50 | - | - |
| TRH C29-C40 | mg/kg | 150 | <150 | - | - |
| Surrogates | | | | | |
| TRH (Surrogate) | % | - | - | - | - |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420** | | | | | |
| Naphthalene | mg/kg | 0.1 | <0.1 | - | - |
| 2-methylnaphthalene | mg/kg | 0.1 | <0.1 | - | - |
| 1-methylnaphthalene | mg/kg | 0.1 | <0.1 | - | - |
| Acenaphthylene | mg/kg | 0.1 | <0.1 | - | - |
| Acenaphthene | mg/kg | 0.1 | <0.1 | - | - |
| Fluorene | mg/kg | 0.1 | <0.1 | - | - |
| Phenanthrene | mg/kg | 0.1 | <0.1 | - | - |
| Anthracene | mg/kg | 0.1 | <0.1 | - | - |
| Fluoranthene | mg/kg | 0.1 | <0.1 | - | - |
| Pyrene | mg/kg | 0.1 | <0.1 | - | - |
| Benzo(a)anthracene | mg/kg | 0.1 | <0.1 | - | - |
| Chrysene | mg/kg | 0.1 | <0.1 | - | - |
| Benzo(b)fluoranthene | mg/kg | 0.1 | <0.1 | - | - |
| Benzo(k)fluoranthene | mg/kg | 0.1 | <0.1 | - | - |
| Benzo(a)pyrene | mg/kg | 0.1 | <0.1 | - | - |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.1 | <0.1 | - | - |
| Dibenzo(a&h)anthracene | mg/kg | 0.1 | <0.1 | - | - |

| Parameter | Units | LOR | Sample Number: SE103091.016<br>Sample Matrix: Soil<br>Sample Date: 04 Nov 2011<br>Sample Name: Duplicate D6 | SE103091.017<br>Water<br>04 Nov 2011<br>Rinsate R7 | SE103091.018<br>Soil<br>04 Nov 2011<br>Trip Spike TS2 |
|---|---|---|---|---|---|
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: AN420 (continued)** | | | | | |
| Benzo(ghi)perylene | mg/kg | 0.1 | <0.1 | - | - |
| Total PAH | mg/kg | 0.8 | <0.8 | - | - |
| Surrogates | | | | | |
| d5-nitrobenzene (Surrogate) | % | - | **88** | - | - |
| 2-fluorobiphenyl (Surrogate) | % | - | **83** | - | - |
| d14-p-terphenyl (Surrogate) | % | - | **96** | - | - |
| **OC Pesticides in Soil Method: AN400/AN420** | | | | | |
| Hexachlorobenzene (HCB) | mg/kg | 0.1 | <0.1 | - | - |
| Alpha BHC | mg/kg | 0.1 | <0.1 | - | - |
| Lindane | mg/kg | 0.1 | <0.1 | - | - |
| Heptachlor | mg/kg | 0.1 | <0.1 | - | - |
| Aldrin | mg/kg | 0.1 | <0.1 | - | - |
| Beta BHC | mg/kg | 0.1 | <0.1 | - | - |
| Delta BHC | mg/kg | 0.1 | <0.1 | - | - |
| Heptachlor epoxide | mg/kg | 0.1 | <0.1 | - | - |
| o,p'-DDE | mg/kg | 0.1 | <0.1 | - | - |
| Alpha Endosulfan | mg/kg | 0.2 | <0.2 | - | - |
| Gamma Chlordane | mg/kg | 0.1 | <0.1 | - | - |
| Alpha Chlordane | mg/kg | 0.1 | <0.1 | - | - |
| trans-Nonachlor | mg/kg | 0.1 | <0.1 | - | - |
| p,p'-DDE | mg/kg | 0.1 | <0.1 | - | - |
| Dieldrin | mg/kg | 0.05 | <0.1↑ | - | - |
| Endrin | mg/kg | 0.2 | <0.2 | - | - |
| o,p'-DDD | mg/kg | 0.1 | <0.1 | - | - |
| o,p'-DDT | mg/kg | 0.1 | <0.1 | - | - |
| Beta Endosulfan | mg/kg | 0.2 | <0.2 | - | - |
| p,p'-DDD | mg/kg | 0.1 | <0.1 | - | - |
| p,p'-DDT | mg/kg | 0.1 | <0.1 | - | - |
| Endosulfan sulphate | mg/kg | 0.1 | <0.1 | - | - |
| Endrin Aldehyde | mg/kg | 0.1 | <0.1 | - | - |
| Methoxychlor | mg/kg | 0.1 | <0.1 | - | - |
| Endrin Ketone | mg/kg | 0.1 | <0.1 | - | - |

| Parameter | Units | LOR | Sample Number: SE103091.016<br>Sample Matrix: Soil<br>Sample Date: 04 Nov 2011<br>Sample Name: Duplicate D6 | SE103091.017<br>Water<br>04 Nov 2011<br>Rinsate R7 | SE103091.018<br>Soil<br>04 Nov 2011<br>Trip Spike TS2 |
|---|---|---|---|---|---|
| **OC Pesticides in Soil Method: AN400/AN420 (continued)** | | | | | |
| Surrogates | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | **114** | - | - |
| **PCBs in Soil Method: AN400/AN420** | | | | | |
| Arochlor 1016 | mg/kg | 0.2 | <0.2 | - | - |
| Arochlor 1221 | mg/kg | 0.2 | <0.2 | - | - |
| Arochlor 1232 | mg/kg | 0.2 | <0.2 | - | - |
| Arochlor 1242 | mg/kg | 0.2 | <0.2 | - | - |
| Arochlor 1248 | mg/kg | 0.2 | <0.2 | - | - |
| Arochlor 1254 | mg/kg | 0.2 | <0.2 | - | - |
| Arochlor 1260 | mg/kg | 0.2 | <0.2 | - | - |
| Arochlor 1262 | mg/kg | 0.2 | <0.2 | - | - |
| Arochlor 1268 | mg/kg | 0.2 | <0.2 | - | - |
| Total PCBs (Arochlors) | mg/kg | 1 | <1 | - | - |
| Surrogates | | | | | |
| Tetrachloro-m-xylene (TCMX) (Surrogate) | % | - | **114** | - | - |
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: AN040/AN320** | | | | | |
| Arsenic, As | mg/kg | 3 | **6** | - | - |
| Cadmium, Cd | mg/kg | 0.3 | <0.3 | - | - |
| Chromium, Cr | mg/kg | 0.3 | **15** | - | - |
| Copper, Cu | mg/kg | 0.5 | **17** | - | - |
| Lead, Pb | mg/kg | 1 | **12** | - | - |
| Nickel, Ni | mg/kg | 0.5 | **3.1** | - | - |
| Zinc, Zn | mg/kg | 0.5 | **24** | - | - |
| **Mercury in Soil Method: AN312** | | | | | |
| Mercury | mg/kg | 0.05 | <0.05 | - | - |
| **Moisture Content Method: AN234** | | | | | |
| % Moisture | % | 0.5 | **16** | - | - |
| **Metals in Water (Dissolved) by ICPOES Method: AN320/AN321** | | | | | |
| Arsenic, As | mg/L | 0.05 | - | <0.05 | - |
| Cadmium, Cd | mg/L | 0.005 | - | <0.005 | - |
| Chromium, Cr | mg/L | 0.005 | - | <0.005 | - |
| Copper, Cu | mg/L | 0.01 | - | <0.01 | - |
| Lead, Pb | mg/L | 0.02 | - | <0.02 | - |
| Nickel, Ni | mg/L | 0.01 | - | <0.010 | - |
| Zinc, Zn | mg/L | 0.01 | - | <0.01 | - |
| **Mercury (dissolved) in Water Method: AN311/AN312** | | | | | |
| Mercury | mg/L | 0.0001 | - | <0.0001 | - |

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

**Mercury (dissolved) in Water** **Method: ME-(AU)-[ENV]AN311/AN312**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery |
|---|---|---|---|---|---|---|
| Mercury | LB008531 | mg/L | 0.0001 | <0.0001 | 3% | 101% |

**Mercury in Soil** **Method: ME-(AU)-[ENV]AN312**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Mercury | LB008386 | mg/kg | 0.05 | <0.05 | 0% | 101% | 88% |

**Metals in Water (Dissolved) by ICPOES** **Method: ME-(AU)-[ENV]AN320/AN321**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery |
|---|---|---|---|---|---|---|
| Arsenic, As | LB008561 | mg/L | 0.05 | <0.05 | 0% | 94% |
| Cadmium, Cd | LB008561 | mg/L | 0.005 | <0.005 | 0% | 96% |
| Chromium, Cr | LB008561 | mg/L | 0.005 | <0.005 | 0% | 96% |
| Copper, Cu | LB008561 | mg/L | 0.01 | <0.01 | 0% | 98% |
| Lead, Pb | LB008561 | mg/L | 0.02 | <0.02 | 0% | 97% |
| Nickel, Ni | LB008561 | mg/L | 0.01 | <0.010 | 0% | 96% |
| Zinc, Zn | LB008561 | mg/L | 0.01 | <0.01 | 0% | 95% |

**Moisture Content** **Method: ME-(AU)-[ENV]AN234**

| Parameter | QC Reference | Units | LOR | DUP %RPD |
|---|---|---|---|---|
| % Moisture | LB008332 | % | 0.5 | 3 - 7% |

**OC Pesticides in Soil** **Method: ME-(AU)-[ENV]AN400/AN420**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Hexachlorobenzene (HCB) | LB008393 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Alpha BHC | LB008393 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Lindane | LB008393 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Heptachlor | LB008393 | mg/kg | 0.1 | <0.1 | 0% | 116% | 135% |
| Aldrin | LB008393 | mg/kg | 0.1 | <0.1 | 0% | 115% | 135% |
| Beta BHC | LB008393 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Delta BHC | LB008393 | mg/kg | 0.1 | <0.1 | 0% | 107% | 130% |
| Heptachlor epoxide | LB008393 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| o,p'-DDE | LB008393 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Alpha Endosulfan | LB008393 | mg/kg | 0.2 | <0.2 | 0% | NA | NA |
| Gamma Chlordane | LB008393 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Alpha Chlordane | LB008393 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| trans-Nonachlor | LB008393 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| p,p'-DDE | LB008393 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Dieldrin | LB008393 | mg/kg | 0.05 | <0.1 | 0% | 110% | 135% |
| Endrin | LB008393 | mg/kg | 0.2 | <0.2 | 0% | 118% | 135% |
| o,p'-DDD | LB008393 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| o,p'-DDT | LB008393 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Beta Endosulfan | LB008393 | mg/kg | 0.2 | <0.2 | 0% | NA | NA |
| p,p'-DDD | LB008393 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| p,p'-DDT | LB008393 | mg/kg | 0.1 | <0.1 | 0% | 116% | 95% |
| Endosulfan sulphate | LB008393 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Endrin Aldehyde | LB008393 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Methoxychlor | LB008393 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Endrin Ketone | LB008393 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Tetrachloro-m-xylene (TCMX) (Surrogate) | LB008393 | % | - | 104% | 0 - 1% | 92% | 117% |

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

**PAH (Polynuclear Aromatic Hydrocarbons) in Soil** **Method: ME-(AU)-[ENV]AN420**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Naphthalene | LB008394 | mg/kg | 0.1 | <0.1 | 8% | 98% | 108% |
| 2-methylnaphthalene | LB008394 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| 1-methylnaphthalene | LB008394 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Acenaphthylene | LB008394 | mg/kg | 0.1 | <0.1 | 1% | 103% | 108% |
| Acenaphthene | LB008394 | mg/kg | 0.1 | <0.1 | 0% | 104% | 117% |
| Fluorene | LB008394 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |
| Phenanthrene | LB008394 | mg/kg | 0.1 | <0.1 | 2% | 104% | 108% |
| Anthracene | LB008394 | mg/kg | 0.1 | <0.1 | 0% | 111% | 108% |
| Fluoranthene | LB008394 | mg/kg | 0.1 | <0.1 | 2% | 107% | 108% |
| Pyrene | LB008394 | mg/kg | 0.1 | <0.1 | 1% | 110% | 115% |
| Benzo(a)anthracene | LB008394 | mg/kg | 0.1 | <0.1 | 4% | NA | NA |
| Chrysene | LB008394 | mg/kg | 0.1 | <0.1 | 3% | NA | NA |
| Benzo(b)fluoranthene | LB008394 | mg/kg | 0.1 | <0.1 | 4% | NA | NA |
| Benzo(k)fluoranthene | LB008394 | mg/kg | 0.1 | <0.1 | 18% | NA | NA |
| Benzo(a)pyrene | LB008394 | mg/kg | 0.1 | <0.1 | 1% | 111% | 104% |
| Indeno(1,2,3-cd)pyrene | LB008394 | mg/kg | 0.1 | <0.1 | 1% | NA | NA |
| Dibenzo(a&h)anthracene | LB008394 | mg/kg | 0.1 | <0.1 | 5% | NA | NA |
| Benzo(ghi)perylene | LB008394 | mg/kg | 0.1 | <0.1 | 1% | NA | NA |
| Total PAH | LB008394 | mg/kg | 0.8 | <0.8 | 1% | NA | NA |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| d5-nitrobenzene (Surrogate) | LB008394 | % | - | 103% | 0% | 101% | 100% |
| 2-fluorobiphenyl (Surrogate) | LB008394 | % | - | 93% | 0% | 95% | 96% |
| d14-p-terphenyl (Surrogate) | LB008394 | % | - | 107% | 2% | 110% | 101% |

**PCBs in Soil** **Method: ME-(AU)-[ENV]AN400/AN420**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery |
|---|---|---|---|---|---|---|
| Arochlor 1016 | LB008393 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1221 | LB008393 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1232 | LB008393 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1242 | LB008393 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1248 | LB008393 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1254 | LB008393 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1260 | LB008393 | mg/kg | 0.2 | <0.2 | 0% | 118% |
| Arochlor 1262 | LB008393 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Arochlor 1268 | LB008393 | mg/kg | 0.2 | <0.2 | 0% | NA |
| Total PCBs (Arochlors) | LB008393 | mg/kg | 1 | <1 | 0% | NA |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery |
|---|---|---|---|---|---|---|
| Tetrachloro-m-xylene (TCMX) (Surrogate) | LB008393 | % | - | 104% | 0 - 1% | 99% |

**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest** **Method: ME-(AU)-[ENV]AN040/AN320**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Arsenic, As | LB008384 | mg/kg | 3 | <3 | 0 - 8% | 101% | 69% |
| | LB008387 | mg/kg | 3 | <3 | 8 - 13% | 103% | 73% |
| Cadmium, Cd | LB008384 | mg/kg | 0.3 | <0.3 | 0 - 3% | 102% | |
| | LB008387 | mg/kg | 0.3 | <0.3 | 0 - 6% | 102% | 73% |
| Chromium, Cr | LB008384 | mg/kg | 0.3 | <0.3 | 2 - 6% | 102% | |
| | LB008387 | mg/kg | 0.3 | <0.3 | 0 - 19% | 102% | 63% |
| Copper, Cu | LB008384 | mg/kg | 0.5 | <0.5 | 0 - 19% | 101% | |
| | LB008387 | mg/kg | 0.5 | <0.5 | 1 - 10% | 102% | 78% |

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

**Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest** **Method: ME-(AU)-[ENV]AN040/AN320 (continued)**

| | | | | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Lead, Pb | LB008384 | mg/kg | 1 | <1 | 0 - 2% | 101% | |
| | LB008387 | mg/kg | 1 | <1 | 3% | 100% | 65% |
| Nickel, Ni | LB008384 | mg/kg | 0.5 | <0.5 | 10 - 17% | 104% | |
| | LB008387 | mg/kg | 0.5 | <0.5 | 3 - 6% | 104% | 75% |
| Zinc, Zn | LB008384 | mg/kg | 0.5 | <0.5 | 7 - 10% | 103% | |
| | LB008387 | mg/kg | 0.5 | <0.5 | 1 - 18% | 103% | 79% |

**TRH (Total Recoverable Hydrocarbons) in Soil** **Method: ME-(AU)-[ENV]AN403**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| TRH C10-C14 | LB008391 | mg/kg | 20 | <20 | 0% | 118% | 118% |
| TRH C15-C28 | LB008391 | mg/kg | 50 | <50 | 5% | 125% | 98% |
| TRH C29-C40 | LB008391 | mg/kg | 150 | <150 | 0% | NA | NA |

**VOC's in Soil** **Method: ME-(AU)-[ENV]AN433/AN434**

Monocyclic Aromatic Hydrocarbons

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Benzene | LB008381 | mg/kg | 0.1 | <0.1 | | 91% | |
| | LB008483 | mg/kg | 0.1 | <0.1 | 0% | 115% | 105% |
| Toluene | LB008381 | mg/kg | 0.1 | <0.1 | | 110% | |
| | LB008483 | mg/kg | 0.1 | <0.1 | 0% | 112% | 107% |
| Ethylbenzene | LB008381 | mg/kg | 0.1 | <0.1 | | 96% | |
| | LB008483 | mg/kg | 0.1 | <0.1 | 0% | 133% | 124% |
| m/p-xylene | LB008381 | mg/kg | 0.2 | <0.2 | | 99% | |
| | LB008483 | mg/kg | 0.2 | <0.2 | 0% | 130% | 124% |
| o-xylene | LB008381 | mg/kg | 0.1 | <0.1 | | 104% | |
| | LB008483 | mg/kg | 0.1 | <0.1 | 0% | 125% | 122% |

Oxygenated Compounds

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| MtBE (Methyl-tert-butyl ether) | LB008381 | mg/kg | 0.1 | <0.1 | | NA | |
| | LB008483 | mg/kg | 0.1 | <0.1 | 0% | NA | NA |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Dibromofluoromethane (Surrogate) | LB008381 | % | - | 85% | | 78% | |
| | LB008483 | % | - | 96% | 1% | 93% | 96% |
| d4-1,2-dichloroethane (Surrogate) | LB008381 | % | - | 88% | | 89% | |
| | LB008483 | % | - | 100% | 1% | 97% | 99% |
| d8-toluene (Surrogate) | LB008381 | % | - | 104% | | 103% | |
| | LB008483 | % | - | 95% | 0% | 94% | 97% |
| Bromofluorobenzene (Surrogate) | LB008381 | % | - | 102% | | 104% | |
| | LB008483 | % | - | 101% | 3% | 101% | 99% |

Totals

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery | MS %Recovery |
|---|---|---|---|---|---|---|---|
| Total BTEX* | LB008381 | mg/kg | - | 0 | | NA | |
| | LB008483 | mg/kg | - | 0 | NA | NA | NA |
| Total Xylenes* | LB008381 | mg/kg | 0.3 | <0.3 | | NA | |
| | LB008483 | mg/kg | 0.3 | <0.3 | 0% | NA | NA |

# QC SUMMARY

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula: *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

**Volatile Petroleum Hydrocarbons in Soil** **Method: ME-(AU)-[ENV]AN433/AN434**

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery |
|---|---|---|---|---|---|---|
| TRH C6-C9 | LB008381 | mg/kg | 20 | <20 | 0% | 125% |

Surrogates

| Parameter | QC Reference | Units | LOR | MB | DUP %RPD | LCS %Recovery |
|---|---|---|---|---|---|---|
| Trifluorotoluene (Surrogate) | LB008381 | % | - | 119% | 45% | 126% |

| METHOD | METHODOLOGY SUMMARY |
|---|---|
| AN020 | Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B. |
| AN040 | A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analsysis by ASS or ICP as per USEPA Method 200.8. |
| AN088 | Orbital rolling for Organic pollutants are extracted from soil/sediment by transferring an appropriate mass of sample to a clear soil jar and extracting with 1:1 Dichloromethane/Acetone. Orbital Rolling method is intended for the extraction of semi-volatile organic compounds from soil/sediment samples, and is based somewhat on USEPA method 3570 (Micro Organic extraction and sample preparation). Method 3700. |
| AN234 | The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water. |
| AN311/AN312 | Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500. |
| AN312 | Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500 |
| AN320/AN321 | Metals by ICP-OES: Samples are preserved with 10% nitric acid for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components. |
| AN320/AN321 | Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements. Reference APHA 3120 B. |
| AN400 | OC and OP Pesticides by GC-ECD: The determination of organochlorine (OC) and organophosphorus (OP) pesticides and polychlorinated biphenyls (PCBs) in soils, sludges and groundwater. (Based on USEPA methods 3510, 3550, 8140 and 8080.) |
| AN403 | Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36. |
| AN403 | Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Petroleum Hydrocarbons (TPH) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with diffential polarity of the elluent solvents. |
| AN403 | The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependant on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B. |
| AN420 | (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). |

# METHOD SUMMARY

| METHOD | METHODOLOGY SUMMARY |
|---|---|
| AN420 | SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). |
| AN433/AN434 | VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260. |

FOOTNOTES

| | |
|---|---|
| IS | Insufficient sample for analysis. |
| LNR | Sample listed, but not received. |
| * | This analysis is not covered by the scope of accreditation. |
| ^ | Performed by outside laboratory. |
| LOR | Limit of Reporting |
| ↑↓ | Raised or Lowered Limit of Reporting |
| QFH | QC result is above the upper tolerance |
| QFL | QC result is below the lower tolerance |
| - | The sample was not analysed for this analyte |
| NVL | Not Validated |

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: http://www.au.sgs.com/sgs-mp-au-env-qu-022-qa-qc-plan-en-09.pdf

# STATEMENT OF QA/QC PERFORMANCE AGAINST DATA QUALITY OBJECTIVES

SE103091 R1

## CLIENT DETAILS

| | |
|---|---|
| Contact | Anwar Barbhuyia |
| Client | Geotechnique |
| Address | P.O. Box 880<br>NSW 2751 |
| Telephone | 02 4722 2700 |
| Facsimile | 02 4722 6161 |
| Email | anwar.barbhuyia@geotech.com.au |
| Project | **12576-1 - Marsden Park Precinct** |
| Order Number | (Not specified) |
| Samples | 18 |

## LABORATORY DETAILS

| | |
|---|---|
| Manager | Huong Crawford |
| Laboratory | SGS Alexandria Environmental |
| Address | Unit 16, 33 Maddox St<br>Alexandria NSW 2015 |
| Telephone | +61 2 8594 0400 |
| Facsimile | +61 2 8594 0499 |
| Email | au.environmental.sydney@sgs.com |
| SGS Reference | SE103091 R1 |
| Report Number | 0000011814 |
| Date Reported | 15 Nov 2011 |

## COMMENTS

All the laboratory data for each environmental matrix was compared to the SGS Environmental Services' stated data quality objectives (DQO).
Comments arising from the comparison were made and are reported below.
The data relating to sampling was taken from the chain of custody document and was supplied by the client.
This QA/QC statement must be read in conjunction with the referenced analytical report.
The statement and the analytical report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

| | | |
|---|---|---|
| Duplicate | Volatile Petroleum Hydrocarbons in Soil | 1 Item |
| MS | Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest | 1 Item |
| | Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest | 2 Items |

## SAMPLE SUMMARY

| | | | |
|---|---|---|---|
| Sample counts by matrix | 16 Soils, 1 Water | Type of documentation received | COC |
| Date documentation received | 7/11/2011 | Samples received in good order | Yes |
| Samples received without headspace | Yes | Sample temperature upon receipt | 2.7°C |
| Sample container provider | SGS | Turnaround time requested | Standard |
| Samples received in correct containers | Yes | Sufficient sample for analysis | Yes |
| Sample cooling method | Ice Bricks | Samples clearly labelled | Yes |
| Complete documentation received | Yes | | |

# HOLDING TIME SUMMARY

SE103091 R1

## HOLDING TIMES

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field sampling guide for containers and holding time" (Ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

The extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and Analysis dates are shown in **Green** when within suggested criteria and in **Bold** with an appended dagger symbol and Red† when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

| Sample Name | Sample Number | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| **Mercury (dissolved) in Water** Method: ME-(AU)-[ENV]AN311/AN312 | | | | | | | | |
| Rinsate R7 | SE103091.017 | LB008531 | 04 Nov 2011 | 07 Nov 2011 | 02 Dec 2011 | 10 Nov 2011 | 02 Dec 2011 | 10 Nov 2011 |
| **Mercury in Soil** Method: ME-(AU)-[ENV]AN312 | | | | | | | | |
| TP70 0-0.1 | SE103091.001 | LB008386 | 04 Nov 2011 | 07 Nov 2011 | 02 Dec 2011 | 08 Nov 2011 | 02 Dec 2011 | 09 Nov 2011 |
| TP70 0.1-0.4 | SE103091.002 | LB008386 | 04 Nov 2011 | 07 Nov 2011 | 02 Dec 2011 | 08 Nov 2011 | 02 Dec 2011 | 09 Nov 2011 |
| TP71 0-0.1 | SE103091.003 | LB008386 | 04 Nov 2011 | 07 Nov 2011 | 02 Dec 2011 | 08 Nov 2011 | 02 Dec 2011 | 09 Nov 2011 |
| TP72 0-0.1 | SE103091.004 | LB008386 | 04 Nov 2011 | 07 Nov 2011 | 02 Dec 2011 | 08 Nov 2011 | 02 Dec 2011 | 09 Nov 2011 |
| TP72 0.1-0.4 | SE103091.005 | LB008386 | 04 Nov 2011 | 07 Nov 2011 | 02 Dec 2011 | 08 Nov 2011 | 02 Dec 2011 | 09 Nov 2011 |
| TP73 0-0.1 | SE103091.006 | LB008386 | 04 Nov 2011 | 07 Nov 2011 | 02 Dec 2011 | 08 Nov 2011 | 02 Dec 2011 | 09 Nov 2011 |
| TP74 0-0.1 | SE103091.007 | LB008386 | 04 Nov 2011 | 07 Nov 2011 | 02 Dec 2011 | 08 Nov 2011 | 02 Dec 2011 | 09 Nov 2011 |
| TP75 0-0.15 | SE103091.008 | LB008386 | 04 Nov 2011 | 07 Nov 2011 | 02 Dec 2011 | 08 Nov 2011 | 02 Dec 2011 | 09 Nov 2011 |
| TP76 0-0.3 | SE103091.009 | LB008386 | 04 Nov 2011 | 07 Nov 2011 | 02 Dec 2011 | 08 Nov 2011 | 02 Dec 2011 | 09 Nov 2011 |
| TP77 0-0.3 | SE103091.010 | LB008386 | 04 Nov 2011 | 07 Nov 2011 | 02 Dec 2011 | 08 Nov 2011 | 02 Dec 2011 | 09 Nov 2011 |
| TP78 0-0.3 | SE103091.011 | LB008386 | 04 Nov 2011 | 07 Nov 2011 | 02 Dec 2011 | 08 Nov 2011 | 02 Dec 2011 | 09 Nov 2011 |
| TP79 0-0.1 | SE103091.012 | LB008386 | 04 Nov 2011 | 07 Nov 2011 | 02 Dec 2011 | 08 Nov 2011 | 02 Dec 2011 | 09 Nov 2011 |
| TP80 0-0.15 | SE103091.013 | LB008386 | 04 Nov 2011 | 07 Nov 2011 | 02 Dec 2011 | 08 Nov 2011 | 02 Dec 2011 | 09 Nov 2011 |
| SD6 | SE103091.014 | LB008386 | 04 Nov 2011 | 07 Nov 2011 | 02 Dec 2011 | 08 Nov 2011 | 02 Dec 2011 | 09 Nov 2011 |
| SP2 | SE103091.015 | LB008386 | 04 Nov 2011 | 07 Nov 2011 | 02 Dec 2011 | 08 Nov 2011 | 02 Dec 2011 | 09 Nov 2011 |
| Duplicate D6 | SE103091.016 | LB008386 | 04 Nov 2011 | 07 Nov 2011 | 02 Dec 2011 | 08 Nov 2011 | 02 Dec 2011 | 09 Nov 2011 |
| **Metals in Water (Dissolved) by ICPOES** Method: ME-(AU)-[ENV]AN320/AN321 | | | | | | | | |
| Rinsate R7 | SE103091.017 | LB008561 | 04 Nov 2011 | 07 Nov 2011 | 02 May 2012 | 10 Nov 2011 | 02 May 2012 | 11 Nov 2011 |
| **Moisture Content** Method: ME-(AU)-[ENV]AN234 | | | | | | | | |
| TP70 0-0.1 | SE103091.001 | LB008332 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 09 Nov 2011 |
| TP70 0.1-0.4 | SE103091.002 | LB008332 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 09 Nov 2011 |
| TP71 0-0.1 | SE103091.003 | LB008332 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 09 Nov 2011 |
| TP72 0-0.1 | SE103091.004 | LB008332 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 09 Nov 2011 |
| TP72 0.1-0.4 | SE103091.005 | LB008332 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 09 Nov 2011 |
| TP73 0-0.1 | SE103091.006 | LB008332 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 09 Nov 2011 |
| TP74 0-0.1 | SE103091.007 | LB008332 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 09 Nov 2011 |
| TP75 0-0.15 | SE103091.008 | LB008332 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 09 Nov 2011 |
| TP76 0-0.3 | SE103091.009 | LB008332 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 09 Nov 2011 |
| TP77 0-0.3 | SE103091.010 | LB008332 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 09 Nov 2011 |
| TP78 0-0.3 | SE103091.011 | LB008332 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 09 Nov 2011 |
| TP79 0-0.1 | SE103091.012 | LB008332 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 09 Nov 2011 |
| TP80 0-0.15 | SE103091.013 | LB008332 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 09 Nov 2011 |
| SD6 | SE103091.014 | LB008332 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 09 Nov 2011 |
| SP2 | SE103091.015 | LB008332 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 09 Nov 2011 |
| Duplicate D6 | SE103091.016 | LB008332 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 13 Nov 2011 | 09 Nov 2011 |

# HOLDING TIME SUMMARY

SE103091 R1

## HOLDING TIMES

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field sampling guide for containers and holding time" (Ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

The extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and Analysis dates are shown in **Green** when within suggested criteria and in **Bold** with an appended dagger symbol and Red† when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

| Sample Name | Sample Number | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| **OC Pesticides in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | | | | | | |
| TP70 0-0.1 | SE103091.001 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP70 0.1-0.4 | SE103091.002 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP71 0-0.1 | SE103091.003 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP72 0-0.1 | SE103091.004 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP72 0.1-0.4 | SE103091.005 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP73 0-0.1 | SE103091.006 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP74 0-0.1 | SE103091.007 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP75 0-0.15 | SE103091.008 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP76 0-0.3 | SE103091.009 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP77 0-0.3 | SE103091.010 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP78 0-0.3 | SE103091.011 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP79 0-0.1 | SE103091.012 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP80 0-0.15 | SE103091.013 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| SD6 | SE103091.014 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| SP2 | SE103091.015 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| Duplicate D6 | SE103091.016 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| **PAH (Polynuclear Aromatic Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN420** | | | | | | | | |
| TP70 0.1-0.4 | SE103091.002 | LB008394 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP72 0.1-0.4 | SE103091.005 | LB008394 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP76 0-0.3 | SE103091.009 | LB008394 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP77 0-0.3 | SE103091.010 | LB008394 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP78 0-0.3 | SE103091.011 | LB008394 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| SP2 | SE103091.015 | LB008394 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| Duplicate D6 | SE103091.016 | LB008394 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| **PCBs in Soil Method: ME-(AU)-[ENV]AN400/AN420** | | | | | | | | |
| TP70 0-0.1 | SE103091.001 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP70 0.1-0.4 | SE103091.002 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP71 0-0.1 | SE103091.003 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP72 0-0.1 | SE103091.004 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP72 0.1-0.4 | SE103091.005 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP73 0-0.1 | SE103091.006 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP74 0-0.1 | SE103091.007 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP75 0-0.15 | SE103091.008 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP76 0-0.3 | SE103091.009 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP77 0-0.3 | SE103091.010 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP78 0-0.3 | SE103091.011 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP79 0-0.1 | SE103091.012 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| TP80 0-0.15 | SE103091.013 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| SD6 | SE103091.014 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| SP2 | SE103091.015 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |
| Duplicate D6 | SE103091.016 | LB008393 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 14 Nov 2011 |

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SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field sampling guide for containers and holding time" (Ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

The extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and Analysis dates are shown in **Green** when within suggested criteria and in **Bold** with an appended dagger symbol and Red† when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

| Sample Name | Sample Number | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| **Total Recoverable Metals in Soil by ICPOES from EPA 200.8 Digest Method: ME-(AU)-[ENV]AN040/AN320** | | | | | | | | |
| TP70 0-0.1 | SE103091.001 | LB008384 | 04 Nov 2011 | 07 Nov 2011 | 02 May 2012 | 08 Nov 2011 | 02 May 2012 | 10 Nov 2011 |
| TP70 0.1-0.4 | SE103091.002 | LB008384 | 04 Nov 2011 | 07 Nov 2011 | 02 May 2012 | 08 Nov 2011 | 02 May 2012 | 10 Nov 2011 |
| TP71 0-0.1 | SE103091.003 | LB008384 | 04 Nov 2011 | 07 Nov 2011 | 02 May 2012 | 08 Nov 2011 | 02 May 2012 | 10 Nov 2011 |
| TP72 0-0.1 | SE103091.004 | LB008384 | 04 Nov 2011 | 07 Nov 2011 | 02 May 2012 | 08 Nov 2011 | 02 May 2012 | 10 Nov 2011 |
| TP72 0.1-0.4 | SE103091.005 | LB008384 | 04 Nov 2011 | 07 Nov 2011 | 02 May 2012 | 08 Nov 2011 | 02 May 2012 | 10 Nov 2011 |
| TP73 0-0.1 | SE103091.006 | LB008384 | 04 Nov 2011 | 07 Nov 2011 | 02 May 2012 | 08 Nov 2011 | 02 May 2012 | 10 Nov 2011 |
| TP74 0-0.1 | SE103091.007 | LB008387 | 04 Nov 2011 | 07 Nov 2011 | 02 May 2012 | 08 Nov 2011 | 02 May 2012 | 11 Nov 2011 |
| TP75 0-0.15 | SE103091.008 | LB008387 | 04 Nov 2011 | 07 Nov 2011 | 02 May 2012 | 08 Nov 2011 | 02 May 2012 | 11 Nov 2011 |
| TP76 0-0.3 | SE103091.009 | LB008387 | 04 Nov 2011 | 07 Nov 2011 | 02 May 2012 | 08 Nov 2011 | 02 May 2012 | 11 Nov 2011 |
| TP77 0-0.3 | SE103091.010 | LB008387 | 04 Nov 2011 | 07 Nov 2011 | 02 May 2012 | 08 Nov 2011 | 02 May 2012 | 11 Nov 2011 |
| TP78 0-0.3 | SE103091.011 | LB008387 | 04 Nov 2011 | 07 Nov 2011 | 02 May 2012 | 08 Nov 2011 | 02 May 2012 | 11 Nov 2011 |
| TP79 0-0.1 | SE103091.012 | LB008387 | 04 Nov 2011 | 07 Nov 2011 | 02 May 2012 | 08 Nov 2011 | 02 May 2012 | 11 Nov 2011 |
| TP80 0-0.15 | SE103091.013 | LB008387 | 04 Nov 2011 | 07 Nov 2011 | 02 May 2012 | 08 Nov 2011 | 02 May 2012 | 11 Nov 2011 |
| SD6 | SE103091.014 | LB008387 | 04 Nov 2011 | 07 Nov 2011 | 02 May 2012 | 08 Nov 2011 | 02 May 2012 | 11 Nov 2011 |
| SP2 | SE103091.015 | LB008387 | 04 Nov 2011 | 07 Nov 2011 | 02 May 2012 | 08 Nov 2011 | 02 May 2012 | 11 Nov 2011 |
| Duplicate D6 | SE103091.016 | LB008387 | 04 Nov 2011 | 07 Nov 2011 | 02 May 2012 | 08 Nov 2011 | 02 May 2012 | 11 Nov 2011 |
| **TRH (Total Recoverable Hydrocarbons) in Soil Method: ME-(AU)-[ENV]AN403** | | | | | | | | |
| TP70 0-0.1 | SE103091.001 | LB008391 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP70 0.1-0.4 | SE103091.002 | LB008391 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP71 0-0.1 | SE103091.003 | LB008391 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP72 0-0.1 | SE103091.004 | LB008391 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP72 0.1-0.4 | SE103091.005 | LB008391 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP73 0-0.1 | SE103091.006 | LB008391 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP74 0-0.1 | SE103091.007 | LB008391 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP75 0-0.15 | SE103091.008 | LB008391 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP76 0-0.3 | SE103091.009 | LB008391 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP77 0-0.3 | SE103091.010 | LB008391 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP78 0-0.3 | SE103091.011 | LB008391 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP79 0-0.1 | SE103091.012 | LB008391 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| TP80 0-0.15 | SE103091.013 | LB008391 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| SD6 | SE103091.014 | LB008391 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| SP2 | SE103091.015 | LB008391 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| Duplicate D6 | SE103091.016 | LB008391 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |
| **VOC's in Soil Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | | | |
| TP70 0.1-0.4 | SE103091.002 | LB008483 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 09 Nov 2011 | 19 Dec 2011 | 10 Nov 2011 |
| TP72 0.1-0.4 | SE103091.005 | LB008483 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 09 Nov 2011 | 19 Dec 2011 | 10 Nov 2011 |
| TP76 0-0.3 | SE103091.009 | LB008483 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 09 Nov 2011 | 19 Dec 2011 | 10 Nov 2011 |
| TP77 0-0.3 | SE103091.010 | LB008483 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 09 Nov 2011 | 19 Dec 2011 | 10 Nov 2011 |
| TP78 0-0.3 | SE103091.011 | LB008483 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 09 Nov 2011 | 19 Dec 2011 | 10 Nov 2011 |
| SP2 | SE103091.015 | LB008483 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 09 Nov 2011 | 19 Dec 2011 | 10 Nov 2011 |
| Duplicate D6 | SE103091.016 | LB008483 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 09 Nov 2011 | 19 Dec 2011 | 10 Nov 2011 |
| Trip Spike TS2 | SE103091.018 | LB008381 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 10 Nov 2011 |

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SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS “Field sampling guide for containers and holding time” (Ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

The extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and Analysis dates are shown in **Green** when within suggested criteria and in **Bold** with an appended dagger symbol and Red† when outside suggested criteria. If the sampled date is not supplied then compliance with criteria cannot be determined. If the received date is after one or both due dates then holding time will fail by default.

| Sample Name | Sample Number | QC Ref | Sampled | Received | Extraction Due | Extracted | Analysis Due | Analysed |
|---|---|---|---|---|---|---|---|---|
| **Volatile Petroleum Hydrocarbons in Soil** **Method: ME-(AU)-[ENV]AN433/AN434** | | | | | | | | |
| TP70 0.1-0.4 | SE103091.002 | LB008381 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 09 Nov 2011 |
| TP72 0.1-0.4 | SE103091.005 | LB008381 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 09 Nov 2011 |
| TP76 0-0.3 | SE103091.009 | LB008381 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 09 Nov 2011 |
| TP77 0-0.3 | SE103091.010 | LB008381 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 09 Nov 2011 |
| TP78 0-0.3 | SE103091.011 | LB008381 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 09 Nov 2011 |
| SP2 | SE103091.015 | LB008381 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 09 Nov 2011 |
| Duplicate D6 | SE103091.016 | LB008381 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 09 Nov 2011 |
| Trip Spike TS2 | SE103091.018 | LB008381 | 04 Nov 2011 | 07 Nov 2011 | 18 Nov 2011 | 08 Nov 2011 | 18 Dec 2011 | 09 Nov 2011 |