



## NEPM TRH Fractions (F1 & F2), Naphthalene reporting and Benzo(a)Pyrene TEQ

Envirolab has made the move to standardise on the reporting of the draft NEPM fractions as described below. The likely release in 2013 of the 'Schedule B (1) – Guideline on Investigation Levels for Soil and Groundwater' document requires the proposed fractions\* to be reported. However, the Envirolab Group will continue to report the historical fractions for purposes of comparison, until further notice.

Therefore the fractions in the tables below will be reported as standard, this includes the F1 and F2 calculated fractions as discussed in Schedule B (1):-

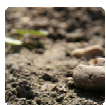
|  |      |                    |       |                   |
|--|------|--------------------|-------|-------------------|
| Date extracted                                     | --   | 21/11/2012 (Water) | --    | 21/11/2012 (Soil) |
| Date analysed                                      | --   | 21/11/2012 (Water) | --    | 21/11/2012 (Soil) |
| TRHC <sub>6</sub> -C <sub>9</sub>                  | µg/L | <10                | mg/kg | <25               |
| TRHC <sub>6</sub> -C <sub>10</sub> *               | µg/L | <10                | mg/kg | <25               |
| TRHC <sub>6</sub> -C <sub>10</sub> less BTEX (F1)* | µg/L | <10                | mg/kg | <25               |
| Surrogate Dibromofluoromethane                     | %    | 100                | %     | 100               |
| Surrogate toluene-d8                               | %    | 100                | %     | 100               |
| Surrogate 4-BFB                                    | %    | 100                | %     | 100               |

|  |      |                    |       |                   |
|--|------|--------------------|-------|-------------------|
| Date extracted   | --   | 21/11/2012 (Water) | --    | 21/11/2012 (Soil) |
| Date analysed  | --   | 21/11/2012 (Water) | --    | 21/11/2012 (Soil) |
| TRHC <sub>10</sub> - C <sub>14</sub>                         | µg/L | <50                | mg/kg | <50               |
| TRHC <sub>15</sub> - C <sub>28</sub>                         | µg/L | <100               | mg/kg | <100              |
| TRHC <sub>29</sub> - C <sub>36</sub>                         | µg/L | <100               | mg/kg | <100              |
| Surrogate o-Terphenyl  | %    | 100                | %     | 100               |
| TRH>C <sub>10</sub> - C <sub>16</sub> *                      | µg/L | <50                | mg/kg | <50               |
| TRH>C <sub>10</sub> - C <sub>16</sub> less Naphthalene (F2)* | µg/L | <50                | mg/kg | <50               |
| TRH>C <sub>16</sub> - C <sub>34</sub> *                      | µg/L | <100               | mg/kg | <100              |
| TRH>C <sub>34</sub> - C <sub>40</sub> *                      | µg/L | <100               | mg/kg | <100              |

\*NEPM draft fractions

page 1 of 2

### ENVIROLAB GROUP SPECIALIZES IN



#### Soil

- Contaminated Sites
- Waste



#### Water

- Ground
- Surface
- Drinking
- Trade Waste
- Saline



#### Air

- Indoor
- Workplace
- Emissions
- Ambient
- Soil gas
- Dust / DPM



#### Asbestos

- Building
- Soil
- Brake pads



#### SPOCAS

- Acid Sulphate Soil
- AMD

| Sydney  | Perth  | Melbourne   | Adelaide  | Brisbane   |
|---|--|---|---|--|
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**The Naphthalene value used for the F2 determination is taken from the VOC analysis due to availability (determined with BTEX/vTRH using Purge and Trap GC-MS techniques), hence Naphthalene will be reported with the BTEX data at no extra cost (assuming vTRH and/or BTEX is already requested).**

### Variability between VOC and SVOC Naphthalene data

There is the potential for discrepancy in the Naphthalene results for a particular sample where the result from a VOC analysis (typically Purge and Trap – GC-MS) differs from a result from a SVOC analysis (direct injection – GC-MS). While both results are valid, there are several parameters that may cause poor precision between the VOC and SVOC results. These are detailed below:-

- i. Extraction efficiency for soils – VOC extraction with methanol vs SVOC DCM-Acetone extraction can cause discrepancy in the Naphthalene results.
- ii. Preservation for water samples – VOC containers are typically preserved, whereas SVOC containers may not be, discrepancy in the Naphthalene results may occur.
- iii. Non-homogeneity with soils and water aliquots from bottle to vial may cause discrepancy in the Naphthalene results.
- iv. VOC is typically a Purge & Trap system connected to GC-MS, SVOC is a liquid injection directly onto a GC-MS, these are two distinct methods of delivery to the GC-MS which can cause a degree of variability in the Naphthalene results.

### Benzo(a)Pyrene TEQ

The draft 'Schedule B (1) – Guideline on Investigation Levels for Soil and Groundwater' document also includes HILs for Benzo(a)pyrene as Toxic Equivalents (TEQ) i.e. the comparison of 8 carcinogenic PAHs relative to Benzo(a)pyrene. Therefore Envirolab will include this calculated value in all reports where PAHs are analysed.

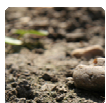
FOR FURTHER INFORMATION AND TECHNICAL ASSISTANCE CONTACT YOUR LOCAL LABORATORY OR OFFICE ON

1300 42 43 44 or [www.envirolab.com.au](http://www.envirolab.com.au) OR [www.mpl.com.au](http://www.mpl.com.au)

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page 2 of 2

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