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Analytical Services Tasmania gains NATA Accreditation for TRH analysis

Analytical Services Tasmania has recently gained NATA accreditation for reporting Total Recoverable Hydrocarbons (TRH) against the 2013 NEPM (National Environment Protection Measure). Schedule B3 of the NEPM has allowed laboratories to standardise their test methods which allows easier comparisons between results from different laboratories.

There has been a subtle name change from “Total Petroleum Hydrocarbons” (TPH) to “Total Recoverable Hydrocarbons” (TRH). This removes the implication that positive results are necessarily from petroleum sources. Significant contributions can also come from non-petroleum sources such as fatty acids and cholesterol from sewage, or humic substances from plant material. These types of interferences can be relatively easily identified in the laboratory from the gas-chromatographic profile of the sample.

Most of these interferences can be removed using a “Silica” clean-up step. Note that the clean-up is only applicable to the TRH >C10-C40 and TPH C10-C36 fractions.

The TRH fractions have been altered slightly from the existing TPH fractions (see table below). TRH is also split into two separate methods: Volatile TRH (vTRH) which covers C6-C10 and includes BTEX and Naphthalene, and TRH >C10-C40 (semi-volatile fractions). Calculation and reporting of the NEPM “F1” (C6-C10 minus BTEX) and “F2” (>C10-C16 minus Naphthalene) fractions can also be requested. Analysis of vTRH in water requires submission of a separate headspace vial.

We will continue to offer the old TPH method/fractions for those clients who wish to have continuity in their reporting, although Method Reporting Limits (MRLs) will change for consistency with the TRH method. Note that BTEX will no longer be part of the existing TPH test (from 12 September 2016), and will be analysed by the separate vTRH test method (thus incurring an extra charge). This new method will utilise modern headspace sampling techniques coupled to sensitive GC-MS analysis. This change is in-line with modern analytical practises, is consistent with the NEPM, and is also desirable from a WHS perspective so our analysts are not exposed to BTEX in significant quantities.

TPH / TRH Method Reporting Limits

	Water µg/L	Soil mg/kg		Water µg/L	Soil mg/kg
TRH			TPH		
>C10-C16	50	25	C6-C9	50	25
>C16-C34	100	100	C10-C14	50	25
>C34-C40	100	100	C15-C28	100	100
TRH >C10-C40	100	100	C29-C36	100	100
NEPM "F2"	100	100	Total TPH	100	100
vTRH & BTEXN			BTEX	see vTRH & BTEXN	
C6-C10 (vTRH)	75	25			
Benzene	0.4	0.4			
Toluene	0.4	0.4			
Ethylbenzene	0.4	0.4			
m+p-Xylene	1	0.5			
o-Xylene	1	0.5			
Total BTEX	2	2			
Naphthalene	2	1			
NEPM "F1"	75	25			



If you would like to enquire about these services please contact:

Tim Jordan, Section Head – Organic Chemistry

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Email tim.jordan@ast.tas.gov.au

TRH and/or TPH

1L amber glass bottle



vTRH and/or BTEXN

40mL glass headspace vial



Soil & Solids

250mL glass jar



Reference:

National Environment Protection Council, 2013, Federal Register of Legislative Instruments, F2013L00768, National Environment Protection (Assessment of Site Contamination) Measure, Schedule B3 – Guideline on laboratory analysis of potentially contaminated soils.
www.legislation.gov.au/Details/F2013C00288 (Volume 4, Appendix 1)