Surrogate Spike Recovery (Isobutylbenzene, n-Dotriacontane)	60-140 %	60-130 %
Matrix Spike Recovery	30-130 %	30-130%
Laboratory Duplicate Results (RPD)	50%	50 %

7.0 SAMPLE HOLDING TIMES

7.1 Water samples

- BTEX / $C_6 - C_{10}$ (preserved to pH < 2 or with sodium bisulphate or equivalent): Samples to be refrigerated (1 to 6°C) and analysed within 14 days after sampling.

- $>C_{10} - C_{32}$ (preserved to pH < 2 or with sodium bisulphate or equivalent): Samples to be refrigerated (1 to 6°C) and extracted within 14 days after sampling. Extracts to be refrigerated (1 to 6°C) and analysed within 40 days of preparation.

7.2 Soil samples:

- BTEX / $C_6 - C_{10}$: Samples to be refrigerated (1 to 6°C), extracted within 7 days after sampling and within 72 hours of receipt at the laboratory (or sooner as required to meet the 7 day hold time). Methanol extracts to be refrigerated (1 to 6°C) and analysed within 28 days of preparation.

- $>C_{10} - C_{32}$: Samples to be refrigerated (1 to 6°C) and extracted within 14 days. Extracts to be refrigerated (1 to 6°C) and analysed within 40 days of preparation.

8.0 REFERENCES

- ATLANTIC RBCA (Risk-Based Corrective Action) Version 2.0 For Petroleum Impacted Sites in Atlantic Canada, User Guidance, October 2003.

- Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil - Tier I Method, Canadian Council of Ministers of the Environment Inc., 2001.

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- Massachusetts Department of Environmental Protection, Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), January 1998.

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- Method for Determination of Diesel Range Organics, American Petroleum Institute Publication, Revision 3, 1992.

- Method for Characterization of Petroleum Hydrocarbons in Soil, American Petroleum Institute Publication, Revision 1, 1992.

- USEPA SW846 Method 8260B, Volatile Organic Compounds by Gas Chromatography/ Mass Spectrometry (GC/MS), Revision 2, 1996.

- USEPA SW846 Method 8015B, Nonhalogenated Organics Using GC/FID, Revision 2, 1996.

- USEPA SW846 Method 5030, Purge and Trap for Aqueous Samples, Revision 2, 1996.

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APPENDIX 1

Atlantic RBCA Standards

Volatiles (in methanol)		Extractables (in hexane/DCM - 85%/15%)	
Aromatic	**Aliphatic**	**Aromatic**	**Aliphatic**
Benzene	Hexane (C_6)	Naphthalene	Decane (C_{10})
Toluene	Heptane (C_7)	Acenaphthene	Dodecane (C_{12})
Ethylbenzene	Octane (C_8)	Anthracene	Hexadecane (C_{16})
o-Xylene	Decane (C_{10})	Chrysene	Heneicosane (C_{21})
p-Xylene		Benzo[a]pyrene	Octacosane (C_{28})
1-Methyl-3-ethylbenzene			Dotriacontane (C_{32})
1,2,4-Trimethylbenzene			
1,3,5-Trimethylbenzene			

Note: The VPH standard may also include m-Xylene at the same concentration as p-Xylene. If this is the case, the total number of compounds in the VPH standard would equal 13 instead of 12. Any subsequent calculations would need to account for this.

Alternate Approach: Because the FID analysis produces nearly equal responses for aliphatic and aromatic compounds within a particular range, fewer compounds can be used to calibrate the FID for EPH. The following compounds at a minimum are to be used for EPH calibration: C_{21}. acenaphthene, and benzo[a]pyrene.

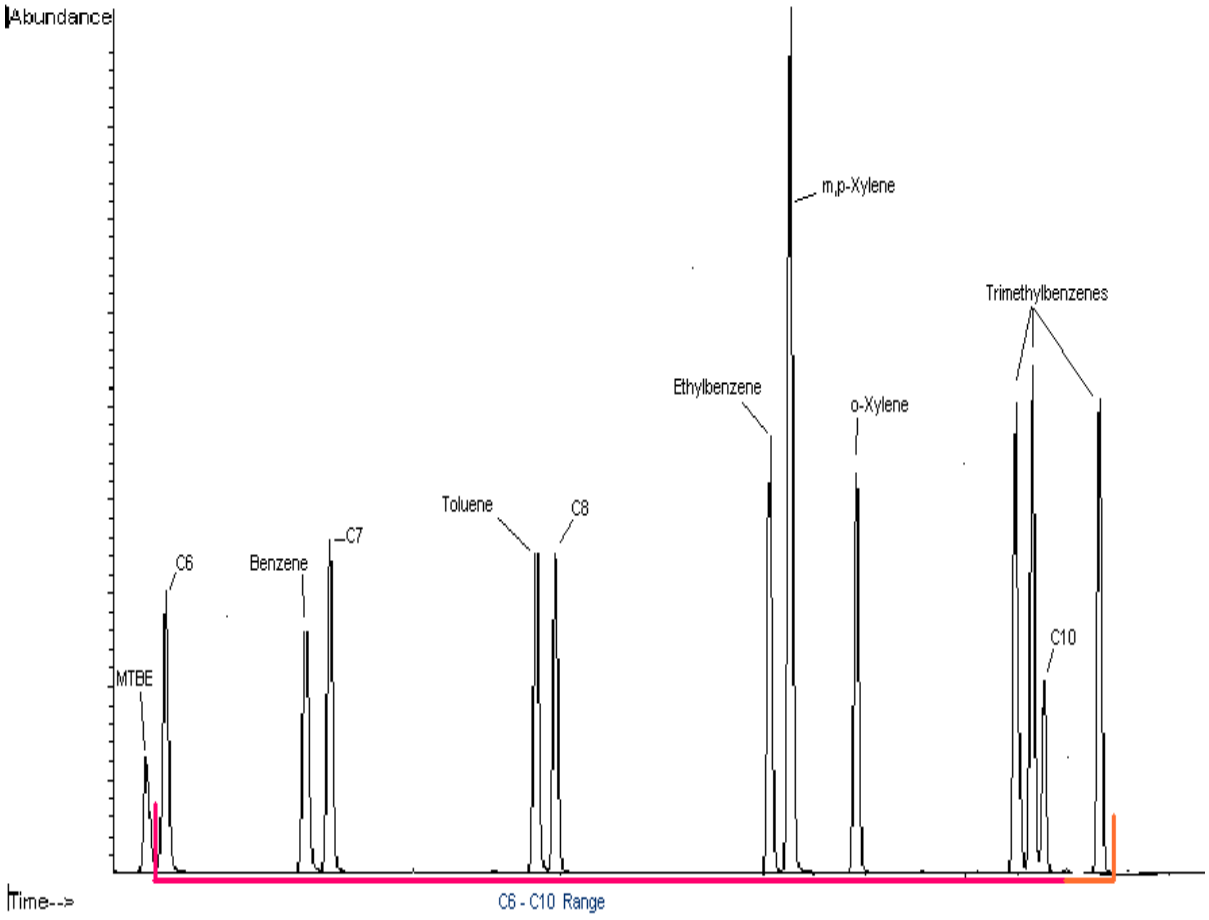
If these compounds are used, the areas of C_{21} and acenaphthene are used to calibrate the $>C_{10}$-C_{16} and $>C_{16}$-C_{21} ranges for Tier I analysis, and the $>C_{10}$-C_{12}, $>C_{12}$-C_{16}, $>C_{16}$-C_{21} ranges for Tier II analysis.

The C_{21} and benzo[a]pyrene areas are used to calibrate the $>C_{21}$-C_{32} range in Tier I and II analysis.

Stock alkane mixes would then need to be used for retention time marking if the complete PIRI standard is unavailable.

APPENDIX 2

Example Chromatogram showing VPH Integration Range



APPENDIX 3

Example Chromatogram showing EPH Integration Range