POTENTIAL PETROLEUM CONTAMINANTS June 21, 2012

This table is intended for use when investigating refined petroleum releases at regulated UST sites. Consult the IDEM project manager regarding: 1) laboratory methods based on site-specific needs and cost effectiveness; 2) modification of contaminant reporting once the site characterization is completed; 3) potential petroleum contaminants for products not listed in this table; and 4) additional reporting based on site-specific information.

Petroleum Product or Waste	Soil	Ground Water	Air/Soil Gas	Typical Products/Wastes
Gasoline Range Product	VOCs[1] Naphthalenes[2] Lead and Lead Scavengers[3]	VOCs[1] Naphthalenes[2] Lead and Lead Scavengers[3]	VOCs[4]	Automotive Gas Aviation Gas Racing Fuel Mineral Spirits Stoddard Solvent Naphtha Jet Fuel – JP-4 Ethanol Fuels
Diesel Range Product	VOCs[1] PAHs[5]	VOCs[1] PAHs[5]	VOCs[4]	Diesel #1 & 2 Kerosene Jet Fuel – JP#5, 7, & 8 Light Oil Home Heating Oil Biodiesel <100%
Hydrocarbon Oils Range Product	PAHs[5]	PAHs[5]	None	#4, 5, & 6 Fuel Oil Bunker C Mineral Oil Virgin Motor Oil Hydraulic Oil
Waste/Used Oil and Unknown Products and Wastes	VOCs[1] PAHs[5] Lead and Lead Scavengers[3]	VOCs[1] PAHs[5] Lead and Lead Scavengers[3]	VOCs[4]	Waste/Used Oil Unknown refined petroleum product or waste

[1] VOC methods – During site characterization use SW846 Method 8260B and report all VOCs and naphthalenes. SW846 Method 8021 may be more cost effective during Corrective Action Plan (CAP) implementation and closure monitoring and should be considered when seeking reimbursement from the Excess Liability Trust Fund (ELTF). Identify which methods are proposed in the CAP.

[2] Naphthalenes – Report naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene.

[3] Lead and Lead Scavenger Methods – Report total lead and lead scavengers when investigating aviation gas and racing fuel, and when automotive gas was used or stored before January 1, 1996. Lead scavengers include EDB (ethylene dibromide or 1,2-dibromoethane) and 1,2-DCA (1,2-dichloroethane). Use EPA methods with appropriate detection limits. Ground water samples for lead analysis should be unfiltered.

[4] Air VOC Method – Report all VOCs. Use Method TO-15 for VOC.

[5] PAHs Methods – Report all PAHs. Use SW846 Method 8270 SIM, 8310 or other appropriate method for PAHs.

Transition to the Remediation Closure Guide

The transition period for the Remediation Closure Guide (RCG) ended six months from its effective date. The effective date of the RCG was March 22, 2012, therefore the transition period ended September 22, 2012.

- For the Leaking Underground Storage Tank Program, a party(s) may choose to use either previously applicable guidance or the new guidance if a Corrective Action Plan (CAP) has been submitted to IDEM prior to September 22, 2012.

- If the CAP has not been submitted before the end of the transition period, then IDEM will refer to current guidance and applicable rules and laws when evaluating proposed remediation work plans and remediation objectives.

- For additional information please refer to Section 1.4 of the Remediation Program Guide.

The LUST Potential Petroleum Contaminants (PPCs) Table 3.1 of the Remediation Program Guide was updated in Errata on July 9, 2012. TPH is no longer a PPC for LUST sites under the RCG/RPG. Sites that have a previously approved CAP utilizing TPH Remediation Objectives for soils should continue to evaluate TPH at closure or submit a Corrective Action Plan Addendum (CAPA) outlining a request to transition the site to the RCG. Additional guidance can be provided by the IDEM LUST PM regarding site specific transition requirements and requests.

All VOCs for gasoline and other petroleum releases are required to be reported. HEA 1162 amended several statutes regulating environmental remediation projects. It became effective July 1, 2009. In addition, U.S. EPA recommended that IDEM require screening for lead scavengers due to evidence showing that it may be present (https://www.epa.gov/sites/production/files/2015-07/documents/lead_scavengers_memo_05212010.pdf). Finally, IDEM has evidence that while BTEX and MTBE are remediated to acceptable levels, other VOCs may be present above acceptable levels. With the implementation of the RCG and RPG, IDEM seeks to comply with its statutory mandate to make risk-based decisions when developing remediation objectives and fulfill EPA's recommendations through assessment of all potential risks associated with VOCs from petroleum releases.