New Jersey Department of Environmental Protection
Site Remediation Program

PHASE-IN FOR THE IMPLEMENTATION OF THE "PROTOCOL FOR ADDRESSING EXTRACTABLE PETROLEUM HYDROCARBONS" AND THE ASSOCIATED ANALYTICAL METHOD "ANALYSIS OF EXTRACTABLE PETROLEUM HYDROCARBON COMPOUNDS (EPH) IN AQUEOUS AND SOIL/SEDIMENT/SLUDGE MATRICES"

(Version 1.0, November 6, 2009)

The Brownfield and Contaminated Site Remediation Act mandates that that the New Jersey Department of Environmental Protection (Department) adopt health based soil remediation standards (N.J.S.A. 58:10B-12). The Department has developed a new analytical method to develop and implement health based soil remediation standards for non-volatile petroleum hydrocarbon mixtures. As the method focuses on the non-volatile petroleum products, the method will be referred to as an extractable petroleum hydrocarbon (EPH) method and has been titled, "*Analysis of Extractable Petroleum Hydrocarbon Compounds (EPH) in Aqueous and Soil/Sediment/Sludge Matrices*." A copy of the method is available at http://www.nj.gov/dep/srp/guidance/srra/eph_method_october2009.pdf. The Department method resembles the Massachusetts Department of Environmental Protection "*Method for the Determination of Extractable Petroleum Hydrocarbons (EPH)*," and represents a significant change in the manner in which samples are analyzed and the subsequent petroleum product data reported. Analytically, the method separates the extract into an aliphatic and aromatic fraction, both of which are analyzed separately. Each fraction is further separated chromatographically into specific carbon ranges, each with an assigned toxicity factor that is used to determine compliance with a standard.

The Department will allow a phase-in period of six months for the use of the EPH Method and the guidance document "*Protocol for Addressing Extractable Petroleum Hydrocarbons*" which is similar to the phase-in period for the soil remediation standards (http://www.nj.gov/dep/srp/guidance/rs/phasein.htm).

- The time frames and options outlined in the two tables below are contingent upon a remedial action workplan (RAWP) or remedial action report (RAR) that has been approved by the Department or filed by a Licensed Site Remediation Professional (LSRP) with the Department for the remediation of either (a) Number 2 (No. 2) fuel oil and/or diesel fuel oil contamination or (b) contamination from all non-volatile petroleum hydrocarbon mixtures other than No. 2 fuel oil and/or diesel fuel oil (including but not limited to Number 4 fuel oil, Number 6 fuel oil, hydraulic oil, cutting oil, waste oil).

- If remediation is conducted and a RAWP or RAR has not been approved by the Department or filed by the LSRP, or if the Department issues a Notice Of Violation (NOV) for an approved/filed document, then the person responsible for conducting the remediation must use the analytical method, remediation criterion, contingency analyses, and remediation standards applicable at the time the work is performed.

PHASE-IN TIME FRAME FOR NUMBER 2 FUEL OIL and DIESEL FUEL OIL

Time Frame	Analytical Method for PHC	TPHC/EPH Criterion Contin	gency Analyses	Contingency Sample Remediation Standards
September 30, 2007 through September 16, 2008	USEPA SW846 Method 8015B or NJDEP OQA-QAM-025	10,000 mg/kg	Analyze highest 25% of soil samples that exceed 1,000 mg/kg TPHC for VO+10	Soil Cleanup Criteria (SCC)
September 17, 2008 through March 17, 2009	USEPA SW846 Method 8015B or NJDEP OQA-QAM-025 rev. 7	10,000 mg/kg or 5,100 mg/kg	Analyze highest 25% of soil samples that exceed 1,000 mg/kg TPHC for either VO+10 or BN+15	Either SCC or Soil Remediation Standards (SRS)
March 18, 2009 through May 9, 2010	USEPA SW846 Method 8015B/C* or NJDEP OQA-QAM-025 rev. 7*	5,100 mg/kg	Analyze highest 25% of soil samples that exceed 1,000 mg/kg EPH for 2-methylnaphthalene and naphthalene	SRS
On or after May 10, 2010	"Analysis of Extractable Petroleum Hydrocarbon Compounds (EPH) in Aqueous and Soil/Sediment/Sludge Matrices" (aka NJDEP EPH 10/08 Revision 2)	5,100 mg/kg (residential) or 54,000 mg/kg (non-residential)	Analyze highest 25% of soil samples that exceed 1,000 mg/kg EPH for 2-methylnaphthalene and naphthalene	SRS

* The person responsible for conducting the remediation may choose to use the "Analysis of Extractable Petroleum Hydrocarbon Compounds (EPH) in Aqueous and Soil/Sediment/Sludge Matrices" (aka NJDEP EPH 10/08 Revision 2) prior to May 10, 2010, provided that a New Jersey certified laboratory performs the analyses.

PHASE-IN TIME FRAME FOR NON-VOLATILE PETROLEUM HYDROCARBON MIXTURES OTHER THAN NUMBER 2 FUEL OIL and DIESEL FUEL OIL

Time Frame	Analytical Method for PHC	TPHC/EPH Criterion	Contingency Analyses	Contingency Sample Remediation Standards
September 30, 2007 through September 16, 2008	NJDEP OQA-QAM-025	10,000 mg/kg	Pursuant to Technical Requirements for Site Remediation (TRSR), Table 2-1	SCC
September 17, 2008 through March 17, 2009	NJDEP OQA-QAM-025 rev. 7	10,000 mg/kg	Pursuant to TRSR, Table 2-1	Either SCC or SRS
March 18, 2009 through May 9, 2010	NJDEP OQA-QAM-025 rev. 7*	10,000 mg/kg*	Pursuant to TRSR, Table 2-1	SRS
On or after May 10, 2010	"Analysis of Extractable Petroleum Hydrocarbon Compounds (EPH) in Aqueous and Soil/Sediment/Sludge Matrices" (aka NJDEP EPH 10/08 Revision 2)	Sample-specific criterion using EPH Calculator	Pursuant to TRSR, Table 2-1	SRS

* The person responsible for conducting the remediation may choose to use the "Analysis of Extractable Petroleum Hydrocarbon Compounds (EPH) in Aqueous and Soil/Sediment/Sludge Matrices" (aka NJDEP EPH 10/08 Revision 2) prior to May 10, 2010, provided that a New Jersey certified laboratory performs the analyses. Note that if this method is used to analyze the soil samples for mixtures other than No. 2 fuel oil/diesel fuel oil, then the EPH Calculator must be used to determine the sample-specific EPH soil remediation criterion.