

**Harbor Isle Site
Island Park, New York
Proposed Response to NYSDEC Concerns Regarding
Tentatively Identified Compounds (TICs) and Total Petroleum Hydrocarbons (TPH)
Technical Outline
October 10, 2008**

- 1.0 Description of the nature of the TICs which have been detected in soil samples at the Site
- A. There were no specific (TIC) compounds identified by the laboratory in the samples except for toluene, which is a listed VOC (see attached table). The concentrations of toluene detected are less than the Track 1 Soil Cleanup Objective (SCO). Other TICs were identified only by functional group and, therefore, are unknown chemicals for which a cleanup standard can not be applied.
 - B. Only one sample exhibited a concentration of an individual TIC above 100 ppm. Soil sample TP-7 (0-2) contained a semi-volatile organic TIC, identified as an “unknown aromatic,” with an estimated concentration of 124 milligrams per kilogram.
 - C. The TICs may not be related to historical use of the Site. They may represent naturally occurring background chemicals (e.g., plant-derived organic matter in soil).
- 2.0 Description of proposed approach to future management of TICs in soil
- A. If the sources of contamination at the Site were not known or there was a high likelihood of unconventional contamination, analysis for TICs would be relevant; however, the nature of contamination at the Site is well known and the compounds of concern associated with petroleum contamination are well-known and listed in the Track 1 standards.
 - B. The TICs as reported cannot be evaluated with respect to impact on human health and the environment and in general the TIC data is not useful in characterizing the Site for remediation purposes. The reason is two-fold, first the sample analytical data indicates that the laboratory was unable to specifically identify the compounds, thus there is a significant level of quantitative and qualitative uncertainty regarding the nature and concentrations of the unknown compounds. Secondly, since the laboratory was unable to identify any compounds (other than toluene), exposure and toxicological information can not be developed to serve as a basis for using the TICs for remedial action objectives.
 - C. In consideration of the above, the recommended approach is: as proposed, use the most stringent (i.e., Track 1) SCOs in 6 NYCRR Part 375 and remove grossly contaminated media consistent with the definition found at 6 NYCRR 375-1.2(u).

3.0 Evaluation of TPH results from Pilot Test

The general evaluation of the site prior to expending larger amounts of money on more detailed analyses as required by the regulations was conducted using TPH, which is limited to a gross indication of hydrocarbon compounds that may include non-petroleum background constituents (when present). All future characterization and treatment monitoring will be conducted as described in the October 1, 2008 dispute resolution letter and the Supplemental Remedial Investigation Work Plan, which will be submitted shortly and subject to Department review.

**Summary of Reported TICs
Harbor Isle Site
Island Park, NY**

Report ID/sample number:	0612387/1	0612384/1	0611112/2	0612387/3	0611112/1	0612387/2	0610577/1
Sample ID:	OTC-8-121906	OTC-9-121806	PTW-1	PTW-1-121906	PTW-2	PTW-2-121906	RS-4/3
Date Collected:	12/19/06	12/18/06	11/06/06	12/19/06	11/06/06	12/19/06	10/26/06

Unknown VOC Analyte

Unknown Acid							
Unknown Aromatic		X					X
Unknown Branched Alkane	X	X					X
Unknown Branched Alkene	X	X	X				
Unknown Branched Alkyl Benzene		X	X				
Unknown Compound		X					
Unknown Cycloalkane	X	X					X
Unknown Cycloalkene							X
Unknown Ketone							
None Detected				X	X	X	

Unknown Semi-VOC Analyte

Unknown Acid							
Unknown Aromatic	X	X		X		X	X
Unknown Branched Alkane	X	X		X			X
Unknown Branched Alkene							X
Unknown Branched Alkyl Benzene		X		X			
Unknown Compound				X		X	
Unknown Cycloalkane	X						X
Unknown Cycloalkene							
Unknown Ketone							
None Detected							
Toluene			X		X		

**Summary of Reported TICs
Harbor Isle Site
Island Park, NY**

Report ID/sample number:	0610536/2	0610536/1	0706425/1	0706425/2	0706425/3	0706425/4	0706425/5	0706425/6
Sample ID:	RS-5	RS-6	TP-1	TP-4	TP-5	TP-7	TP-10	TP-11
Date Collected:	10/24/06	10/24/06	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07

Unknown VOC Analyte

Unknown Acid								
Unknown Aromatic	X	X			X		X	X
Unknown Branched Alkane		X	X	X	X	X	X	X
Unknown Branched Alkene	X	X	X		X			X
Unknown Branched Alkyl Benzene	X	X		X				
Unknown Compound				X			X	X
Unknown Cycloalkane			X	X		X	X	X
Unknown Cycloalkene					X	X		
Unknown Ketone								
None Detected								

Unknown Semi-VOC Analyte

Unknown Acid								
Unknown Aromatic		X	X	X	X	X		X
Unknown Branched Alkane	X	X	X	X	X	X		X
Unknown Branched Alkene		X				X		
Unknown Branched Alkyl Benzene		X						
Unknown Compound				X		X		X
Unknown Cycloalkane	X	X				X		
Unknown Cycloalkene								
Unknown Ketone								
None Detected								
Toluene							X	

**Summary of Reported TICs
Harbor Isle Site
Island Park, NY**

Report ID/sample number:	0706425/7	0706425/8	0706425/9	0706159/1	0706159/2	0706159/4	0706159/5	0706159/7
Sample ID:	TP-14	TP-15	TP-17	TP1 (0-2)	TP1 (2-4)	TP2 (0-2)	TP2 (2-4)	TP3 (0-2)
Date Collected:	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07

Unknown VOC Analyte

Unknown Acid								
Unknown Aromatic	X	X	X		X	X	X	X
Unknown Branched Alkane	X	X	X	X		X		X
Unknown Branched Alkene				X	X		X	
Unknown Branched Alkyl Benzene		X	X		X		X	
Unknown Compound	X	X			X			
Unknown Cycloalkane		X	X	X			X	X
Unknown Cycloalkene								
Unknown Ketone								
None Detected								

Unknown Semi-VOC Analyte

Unknown Acid								
Unknown Aromatic			X	X	X	X	X	X
Unknown Branched Alkane	X	X	X	X	X	X	X	X
Unknown Branched Alkene								
Unknown Branched Alkyl Benzene				X			X	
Unknown Compound	X		X	X	X	X	X	X
Unknown Cycloalkane				X	X	X	X	X
Unknown Cycloalkene								
Unknown Ketone								
None Detected								
Toluene	X	X	X					

**Summary of Reported TICs
Harbor Isle Site
Island Park, NY**

Report ID/sample number:	0706159/8	0706159/10	0706159/11	0706160/2	0706160/3	0706160/5	0706160/6	0706160/8
Sample ID:	TP3 (2-4)	TP4 (0-2)	TP4 (2-4)	TP5 (0-1.5)	TP5 (1.5-3)	TP6 (0-2)	TP6 (2-4)	TP7 (0-2)
Date Collected:	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07

Unknown VOC Analyte

Unknown Acid								
Unknown Aromatic	X	X	X	X	X	X	X	X
Unknown Branched Alkane	X	X		X				X
Unknown Branched Alkene				X	X	X	X	X
Unknown Branched Alkyl Benzene	X	X	X		X	X	X	
Unknown Compound				X		X		
Unknown Cycloalkane	X	X		X			X	X
Unknown Cycloalkene				X				X
Unknown Ketone								
None Detected								

Unknown Semi-VOC Analyte

Unknown Acid								
Unknown Aromatic	X	X	X	X	X	X	X	X
Unknown Branched Alkane	X	X	X	X	X	X	X	X
Unknown Branched Alkene				X				X
Unknown Branched Alkyl Benzene				X				
Unknown Compound	X	X		X				X
Unknown Cycloalkane		X	X	X	X	X	X	X
Unknown Cycloalkene								
Unknown Ketone								
None Detected								
Toluene								

**Summary of Reported TICs
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Island Park, NY**

Report ID/sample number:	0706160/9	0706160/11	0706161/1	0706161/3	0706161/4	0706161/6	0706161/7	0706161/9
Sample ID:	TP7 (2-4)	TP8 (0-2)	TP8 (4-5)	TP9 (0-2)	TP9 (2-4)	TP10 (0-2)	TP10 (2-4)	TP11 (0-2)
Date Collected:	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07

Unknown VOC Analyte

Unknown Acid						X		
Unknown Aromatic	X	X	X	X	X	X	X	X
Unknown Branched Alkane			X	X	X	X	X	X
Unknown Branched Alkene				X			X	
Unknown Branched Alkyl Benzene			X				X	
Unknown Compound		X	X	X	X			X
Unknown Cycloalkane	X	X		X		X		X
Unknown Cycloalkene								
Unknown Ketone								
None Detected								

Unknown Semi-VOC Analyte

Unknown Acid								
Unknown Aromatic		X			X	X	X	X
Unknown Branched Alkane		X			X	X	X	X
Unknown Branched Alkene	X							X
Unknown Branched Alkyl Benzene								
Unknown Compound	X	X		X	X	X		X
Unknown Cycloalkane	X	X	X		X		X	
Unknown Cycloalkene		X						
Unknown Ketone								
None Detected								
Toluene								

**Summary of Reported TICs
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Report ID/sample number:	0706161/10	0706162/1	0706162/2	0706162/4	0706162/5	0706162/7	0706162/8	0706162/10
Sample ID:	TP11 (2-4)	TP12 (0-2)	TP12 (2-4)	TP13 (0-2)	TP13 (2-4)	TP14 (0-2)	TP14 (2-6)	TP15 (0-4)
Date Collected:	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07

Unknown VOC Analyte

Unknown Acid								
Unknown Aromatic	X	X	X				X	
Unknown Branched Alkane	X	X	X	X				
Unknown Branched Alkene	X	X						
Unknown Branched Alkyl Benzene		X	X					
Unknown Compound								
Unknown Cycloalkane	X		X	X				
Unknown Cycloalkene								
Unknown Ketone							X	
None Detected					X	X		X

Unknown Semi-VOC Analyte

Unknown Acid								
Unknown Aromatic	X		X		X			
Unknown Branched Alkane	X	X	X		X		X	
Unknown Branched Alkene			X			X		
Unknown Branched Alkyl Benzene								
Unknown Compound	X						X	
Unknown Cycloalkane					X			
Unknown Cycloalkene								
Unknown Ketone								
None Detected				X				X
Toluene								

**Summary of Reported TICs
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Report ID/sample number:	0706162/11	0706163/2	0706163/3	0706163/5	0706163/6	0706163/8	0706163/9	0706163/11
Sample ID:	TP15 (4-6)	TP16 (0-2)	TP16 (2-4)	TP17 (0-2)	TP17 (2-4)	TP18 (0-2)	TP18 (2-4)	FB1
Date Collected:	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07	06/07/07

Unknown VOC Analyte

Unknown Acid								
Unknown Aromatic		X	X	X	X	X		
Unknown Branched Alkane		X	X		X	X	X	
Unknown Branched Alkene				X	X			
Unknown Branched Alkyl Benzene					X	X	X	
Unknown Compound				X			X	
Unknown Cycloalkane			X	X		X	X	
Unknown Cycloalkene								
Unknown Ketone								
None Detected	X							X

Unknown Semi-VOC Analyte

Unknown Acid								
Unknown Aromatic			X	X	X	X	X	
Unknown Branched Alkane			X	X	X	X	X	
Unknown Branched Alkene							X	
Unknown Branched Alkyl Benzene								
Unknown Compound				X	X	X	X	
Unknown Cycloalkane			X		X	X	X	
Unknown Cycloalkene								
Unknown Ketone								
None Detected	X	X						X
Toluene								