

## **Appendix D**

### **Field Documentation**

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### **D-02 – Surface Sediment Sampling Field Forms**

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**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<i>Michael Murphy</i>	Station ID:	<i>301</i>					
Subcontractor/Crew:	<i>Matt Martin &gt; HDR Ed Brandt</i>	Time:	<i>1500</i>					
		Water Depth:	<i>2.5'</i>					
		Tide:	<i>Mid-high</i>					
		Weather:	<i>Humid - 90° - Sunny</i>					
Bulk Sediment Sample ID:	<i>GC-SD301-0,0-0.5</i>	Grab Penetration:	<i>0.5' ft</i>					
Number of Sampling Attempts:	<i>0 / 1</i>	Sample Time:	<i>1500</i>					
Problems During Collection:	<i>None</i>							
<b>QC SAMPLE DATA</b>								
QA/QC Sample IDs:	<input checked="" type="checkbox"/> <i>NONE</i> DUP _____ , MS/MSD _____							
Floating Debris (describe):	<i>None</i>							
Water Color:	<i>brown</i>							
Clarity:	<i>clear</i>							
Turbidity:	<i>clear</i>							
Sheen:	<i>none observed</i>							
Sample Analytical Parameters:	Bottleware/Preservation:							
TCL VOCs	<input checked="" type="checkbox"/>							
TCL SVOCs	<input checked="" type="checkbox"/>							
TCL Pesticides	<input checked="" type="checkbox"/>							
TCL PCBs	<input checked="" type="checkbox"/>							
TAL Metals + Hg	<input checked="" type="checkbox"/>							
Cyanide	<input checked="" type="checkbox"/>							
TOC	<input checked="" type="checkbox"/>							
Grainsize	<input checked="" type="checkbox"/>							
AVS/SEM	<input checked="" type="checkbox"/>							
Toxicity	<input checked="" type="checkbox"/>							
PCB Cons.	<input checked="" type="checkbox"/>							
	<i>3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C 8 oz Amber, wide mouth glass; protect from light, 4°C 8 oz wide mouth glass; 4°C 8 oz wide mouth glass; 4°C 8 oz wide mouth glass; 4°C 4 oz wide mouth glass; 4°C 4 oz wide mouth glass; no headspace; 4°C 3 x 1-gallon HDPE buckets; 4°C</i>							
	<i>+ Archive Sample</i>							
<b>SED SAMPLE DESCRIPTION</b>								
Color:	Moisture: Dry Si. Moist Moist V.Moist <input checked="" type="checkbox"/> Wet							
Major Description:	Clay	Silty Clay	Silt	Clayey Sand	Sandy Clay <input checked="" type="checkbox"/> Sand	Gravelly Sand	Gravel	Grvly Clay
Minor Description:	<input checked="" type="checkbox"/> Organic	Mottled	Plastic	M.Plastic	Nodules	vt f coarse-grained	Ang	SA / SR / Rounded
Other Descriptors:	<i>Well / poorly / mod - sorted well / poorly / mod - cemented <input checked="" type="checkbox"/> loose SM - silty sand - black (10yr 21.) - pose - organic plant material + plastic, wet, fine gravel (concrete)</i>							
<b>COMMENTS/OBSERVATIONS</b>								
Sampler Signature/Date	<i>May 6/23/10</i>							

Reviewed by *[Signature]*

Date *7/19/10*

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>Michael Murphy</u>	Station ID:	<u>GC - SD302-0.0-0.5</u>
Subcontractor/Crew:	<u>Matt &gt; HDR</u>	Time:	<u>1430</u>
	<u>Casey</u>	Water Depth:	<u>5.0</u>
		Tide:	<u>Mid-tide</u>
		Weather:	<u>Pi Cloudy</u>

Bulk Sediment Sample ID: GC - SD302-0.0-0.5 Grab Penetration 0.5 ft Sample Time: 1430

Number of Sampling Attempts: THH 11

Problems During Collection: Problem w/ grab sampler pin / trigger

**QC SAMPLE DATA**

QA/QC Sample IDs:

<u>NONE</u>	DUP	MS/MSD
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Floating Debris (describe): NONE

Water Color: Brown

Clarity:

Turbidity:

Sheen: slight sheen brought up w/ sediment

Sample Analytical Parameters:

Bottleware/Preservation:

TCL VOCs	X	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C
TCL SVOCs	X	8 oz Amber, wide mouth glass; protect from light, 4°C
TCL Pesticides	X	8 oz wide mouth glass; 4°C
TCL PCBs	X	8 oz wide mouth glass; 4°C
TAL Metals + Hg	X	8 oz wide mouth glass; 4°C
Cyanide	X	8 oz wide mouth glass; 4°C
TOC	X	4 oz wide mouth glass; 4°C
Grainsize		
AVS/SEM	X	4 oz wide mouth glass; no headspace; 4°C
Toxicity		3 x 1-gallon HDPE buckets; 4°C

+ archive sample

**SED SAMPLE DESCRIPTION**

Color:

BLACK - 10YR 2/1

Moisture: Dry Si. Moist Moist V.Moist Wei

Major Description:

Clay Silty Clay Silt Clayey Sand Sandy Clay Sand Gravelly Sand Gravel Grvly Clay

Minor Description:

Organic Mottled Plastic M.Plastic Nodules vf f coarse-grained Ang / SA / SR / Rounded

Well / poorly / mod - sorted well / poorly / mod - cemented Loose

Other Descriptors:

DL - 10YR 2/1 - organic silt - low plasticity trace sand / sand  
sheen noted on surface at SWL  
septic/organic odor - fibrous organic matter

**COMMENTS/OBSERVATIONS**

PD 2.5 ppm

Sampler Signature/Date

R. J. 3/17/10

Reviewed by

R. J. 3/17/10

Date

7/19/10

Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York

Samplers/Inspectors:	<u>R Ciannon</u>	Station ID:	<u>(303)</u> GC-SD 303-00.0-005	
Subcontractor/Crew:	<u>HDR - Matt Steve, Dan</u>	Time:	1400	/ 07/19/10
		Water Depth:	4.8'	
		Tide:	high	
		Weather:	clear, breezy, mid 70s	
Bulk Sediment Sample ID:	<u>GC-SD 303-00.0-005</u>		Grab Penetration	0.5 ft
Number of Sampling Attempts:	8 (incl. mult. deployments for toxicity sample volume)		Sample Time:	1425
Problems During Collection:	None			

QC SAMPLE DATA

QA/QC Sample IDs:				
NONE	DUP	MS/MSD		
Floating Debris (describe):	None			
Water Color:	Inky Black			
Clarity:	-			
Turbidity:	-			
Sheen:	-			
Sample Analytical Parameters:	Bottleware/Preservation:			
TCL VOCs	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C			
TCL SVOCs	8 oz Amber, wide mouth glass; protect from light, 4°C			
TCL Pesticides	8 oz wide mouth glass; 4°C			
TCL PCBs	8 oz wide mouth glass; 4°C			
TAL Metals + Hg	8 oz wide mouth glass; 4°C			
Cyanide	8 oz wide mouth glass; 4°C			
TOC	8 oz wide mouth glass; 4°C			
Grainsize	+ PCB Congener			
AVS/SEM	4 oz wide mouth glass; no headspace; 4°C			
Toxicity	3 x 1-gallon HDPE buckets; 4°C			
	+ Archive Sample			

SED SAMPLE DESCRIPTION

Color:	<u>104R21</u>		Moisture:	Dry	Sl. Moist	Moist	V.Moist	Wet	
Major Description:	Clay	Silty Clay	<u>Silt</u>	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	vf f coarse-grained	Ang / SA / SR	/ Rounded	
	Well	poorly / mod - sorted	well / poorly / mod - cemented		Loose				
Other Descriptors:	Slight Sheen on water and sed.								
	DNC Oder debris + organics (leaf matter, twigs), strings, plastic in sample								
	USCS - OL								

COMMENTS/OBSERVATIONS

Sampler Signature/Date

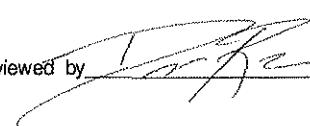
R. Ciannon 07/19/10

Reviewed by [Signature]

Date 7/19/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>R. Glennon</u>	Station ID:	<u>GC-SD-304</u>		
Subcontractor/Crew:	<u>HDR - Steve, Don</u>	Time:	<u>1530</u>	<u>6/17/10</u>	
		Water Depth:	<u>7 ft. 2 in</u>		
		Tide:	<u>High</u>		
		Weather:	<u>Partly cloudy, breezy, mid 70's</u>		
Bulk Sediment Sample ID:	<u>GC-SD304-00 0~20.5</u>	Grab Penetration	<u>0.5 ft</u>	Sample Time:	<u>1530</u>
Number of Sampling Attempts:	<u>1</u>				
Problems During Collection:	<u>None</u>				
<b>QC SAMPLE DATA</b>					
QA/QC Sample IDs:	<input checked="" type="checkbox"/> <b>NONE</b> DUP _____      MS/MSD _____				
Floating Debris (describe):	<u>None</u>				
Water Color:	<u>Inky black</u>				
Clarity:					
Turbidity:					
Sheen:					
Sample Analytical Parameters:	Bottleware/Preservation:				
TCL VOCs	<input checked="" type="checkbox"/>				
TCL SVOCs	<input checked="" type="checkbox"/>				
TCL Pesticides	<input checked="" type="checkbox"/>				
TCL PCBs	<input checked="" type="checkbox"/>				
TAL Metals + Hg	<input checked="" type="checkbox"/>				
Cyanide	<input checked="" type="checkbox"/>				
TOC	<input checked="" type="checkbox"/>				
Grainsize	<input checked="" type="checkbox"/>				
AVS/SEM	<input checked="" type="checkbox"/>				
Toxicity	<input checked="" type="checkbox"/>				
	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C 8 oz Amber, wide mouth glass; protect from light, 4°C 8 oz wide mouth glass; 4°C 8 oz wide mouth glass; 4°C 8 oz wide mouth glass; 4°C 4 oz wide mouth glass; 4°C  4 oz wide mouth glass; no headspace; 4°C 3 x 1-gallon HDPE buckets; 4°C				
	<i>+ Archive sample</i>				
<b>SED SAMPLE DESCRIPTION</b>					
Color:	<u>7.5Y 2.5/1 black</u>				
Major Description:	Clay	Silty Clay	Silt	Clayey Sand	Sandy Clay
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules
	<u>Well / poorly / mod - sorted</u>				
Other Descriptors:	<u>UNP odor</u>				
	<u>No visible det'n's</u>				
	<u>USCS: OL</u>				
<b>COMMENTS/OBSERVATIONS</b>					
Sampler Signature/Date	<u>200 OL 6/17/10</u>				

Reviewed by 

Date 7-19-10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>Michael Murphy</u>	Station ID:	<u>305</u>						
Subcontractor/Crew:	<u>Casey &amp; HDR</u>	Time:	<u>1530</u>						
		Water Depth:	<u>9.5'</u>						
		Tide:	<u>High</u>						
		Weather:	<u>P. Cloudy - 80° low wind</u>						
Bulk Sediment Sample ID:	<u>G-C- SD 305-0.0-0.5</u>	Grab Penetration	<u>7"</u>						
Number of Sampling Attempts:	<u>1/11 =&gt; 4</u>	Sample Time:	<u>1530</u>						
Problems During Collection:	<u>water in gnb seeder 1st 3 attempts/deployment</u>								
<b>QC SAMPLE DATA</b>									
QA/QC Sample IDs:									
<u>NONE</u>	DUP	MS/MSD							
Floating Debris (describe):	<u>None</u>								
Water Color:	<u>brown</u>								
Clarity:	<u>None</u>								
Turbidity:	<u>unable to see to bottom</u>								
Sheen:	<u>Floating, sheen nearby</u>								
Sample Analytical Parameters:	Bottleware/Preservation:								
TCL VOCs	X	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C							
TCL SVOCs	X	8 oz Amber, wide mouth glass; protect from light, 4°C							
TCL Pesticides	X	8 oz wide mouth glass; 4°C							
TCL PCBs	X	8 oz wide mouth glass; 4°C							
TAL Metals + Hg	X	8 oz wide mouth glass; 4°C							
Cyanide	X	8 oz wide mouth glass; 4°C							
TOC	X	4 oz wide mouth glass; 4°C							
Grainsize	X								
AVS/SEM	X	4 oz wide mouth glass; no headspace; 4°C							
Toxicity		3 x 1-gallon HDPE buckets; 4°C							
<u>+ Archive Sample</u>									
<b>SED SAMPLE DESCRIPTION</b>									
Color:									
Major Description:	Clay	Silty Clay	Silt	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	vf f coarse-grained	Ang / SA / SR	/ Rounded	
Other Descriptors:	<u>DL - Organic silt - 10 YR 2/1 - organic/septic like odor</u> <u>Fibrous plant material - leaves + grasses</u>								
<b>COMMENTS/OBSERVATIONS</b>									
<u>ILD 6-8</u>									
_____ <u>R. J. 4/11/10</u>									
Sampler Signature/Date									

Reviewed by J. Parker Date 7/19/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<i>Michael Murphy</i>	Station ID:	<i>306</i>
Subcontractor/Crew:	<i>Casper &gt; HDR Matt</i>	Time:	<i>1640</i>
		Water Depth:	<i>8.5</i>
		Tide:	<i>H:gin</i>
		Weather:	<i>P, Cloud, 80° low humidity</i>

Bulk Sediment Sample ID:	<i>GC - SD306-0.0 - 0.5</i>	Grab Penetration:	<i>6"</i>	Sample Time:	<i>1640</i>
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Number of Sampling Attempts: *111 => 3*

Problems During Collection: *NONE*

**QC SAMPLE DATA**

QA/QC Sample IDs:

*(None)*

DUP \_\_\_\_\_, MS/MSD \_\_\_\_\_

Floating Debris (describe): *NONE*

Water Color: *brown*

Clarity: *cloudy - rush to see to bottom*

Turbidity: *Floating solids*

Sheen: *sheen noted on sediment surface*

Sample Analytical Parameters:

Bottleware/Preservation:

TCL VOCs	X
TCL SVOCs	X
TCL Pesticides	X
TCL PCBs	X
TAL Metals + Hg	X
Cyanide	X
TOC	X
Grainsize	X
AVS/SEM	X
Toxicity	

3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C  
 8 oz Amber, wide mouth glass; protect from light, 4°C  
 8 oz wide mouth glass; 4°C  
 8 oz wide mouth glass; 4°C  
 8 oz wide mouth glass; 4°C  
 4 oz wide mouth glass; 4°C  
 4 oz wide mouth glass; no headspace; 4°C  
 3 x 1-gallon HDPE buckets; 4°C

**SED SAMPLE DESCRIPTION**

Color: *Black*

Moisture: Dry Si. Moist Moist V.Moist Wet

Major Description: Clay Silty Clay Silt Clayey Sand Sandy Clay Sand Gravelly Sand Gravel Givly Clay

Minor Description: Organic Mottled Plastic M.Plastic Nodules vif coarse-grained Ang / SA / SR / Rounded

Well / poorly / mod - sorted well / poorly / mod - cemented Loose

Other Descriptors: *DL - organic silt - 10% gravel, (black) - well sorted/poorly  
graded - 10% gravelly mix (brown) fibrous plant material  
strong septic like odor*

**COMMENTS/OBSERVATIONS**

- Sheen noted on sediment

- Pic not collected at this location

*PID 2.7 ppm*

Sampler Signature/Date

*R. J. 6/11/10 1640*

Reviewed by *J. Park* Date *7/19/10*

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/inspectors:	Rachel Cinnon	Station ID:	GC-SD306
Subcontractor/Crew:	Ed Brandt - HDR Matt Pupilla - HDR	Time:	1150
		Water Depth:	N/A
		Tide:	?
		Weather:	Sunny, low 90s
Bulk Sediment Sample ID:	GC-SD306-0,0-0.5	Grab Penetration	0.5 ft
Number of Sampling Attempts:	1		
Problems During Collection:			
<b>QC SAMPLE DATA</b>			
QA/QC Sample IDs:	<input checked="" type="checkbox"/> NONE      DUP _____      MS/MSD _____		
Floating Debris (describe):			
Water Color:			
Clarity:			
Turbidity:			
Sheen:			
Sample Analytical Parameters:	Bottleware/Preservation:		
TCL VOCs	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C		
TCL SVOCs	8 oz Amber, wide mouth glass; protect from light, 4°C		
TCL Pesticides	8 oz wide mouth glass; 4°C		
TCL PCBs	8 oz wide mouth glass; 4°C		
TAL Metals + Hg	8 oz wide mouth glass; 4°C		
Cyanide	8 oz wide mouth glass; 4°C		
TOC	4 oz wide mouth glass; 4°C		
Grainsize	4 oz wide mouth glass; no headspace; 4°C		
AVS/SEM	3 x 1-gallon HDPE buckets; 4°C		
Toxicity			
<b>SED SAMPLE DESCRIPTION</b>			
Color:	Black loamy	Moisture:	Dry Si. Moist Moist V.Moist <input checked="" type="checkbox"/> Wet
Major Description:	Clay Silty Clay <input checked="" type="checkbox"/> Silt Clayey Sand	Sandy Clay Sand Gravelly Sand Gravel Grvly Clay	
Minor Description:	Organic Mottled Plastic M.Plastic	Nodules vf f coarse-grained Ang / SA / SR / Rounded	
Other Descriptors:	Well / poorly / mod - sorted well / poorly / mod - cemented Loose Black loamy silt (organic) true to little fine sand, strong septic like odor		
<b>COMMENTS/OBSERVATIONS</b>			
Sampler Signature/Date	RLA 6/24/10		

Reviewed by RLA Date 7/19/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>R. Clannan</u>	Station ID:	<u>GC-SP-307A</u>						
Subcontractor/Crew:	<u>HDR - Steve, Dan</u>	Time:	<u>1650 / 6/17/10</u>						
		Water Depth:	<u>6.0 ft</u>						
		Tide:							
		Weather:	<u>Partly cloudy, mid 70s</u>						
Bulk Sediment Sample ID:	<u>GC-SD307A-00.0-0015</u>	Grab	Sample	Time:					
Number of Sampling Attempts:	1	Penetration	0.5 ft	<u>1650</u>					
Problems During Collection:									
<b>QC SAMPLE DATA</b>									
QA/QC Sample IDs:									
<u>NONE</u>	DUP	MS/MSD							
Floating Debris (describe):	<u>None</u>								
Water Color:	<u>Inky black/grey</u>								
Clarity:	<u>Moderate</u>								
Turbidity:	<u>Moderately turbid</u>								
Sheen:	<u>None</u>								
Sample Analytical Parameters:	Bottleware/Preservation:								
TCL VOCs	<input checked="" type="checkbox"/>	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C							
TCL SVOCs	<input checked="" type="checkbox"/>	8 oz Amber, wide mouth glass; protect from light; 4°C							
TCL Pesticides	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
TCL PCBs	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
TAL Metals + Hg	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
Cyanide	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
TOC	<input checked="" type="checkbox"/>	4 oz wide mouth glass; 4°C							
Grainsize	<input checked="" type="checkbox"/>	4 oz wide mouth glass; no headspace; 4°C							
AVS/SEM	<input checked="" type="checkbox"/>	3 x 1-gallon HDPE buckets; 4°C							
Toxicity	<input checked="" type="checkbox"/>	+ PCB Congeners							
		+ Archive							
<b>SED SAMPLE DESCRIPTION</b>									
Color:	<u>754 25/1</u>	<u>black</u>	Moisture:	Dry	Sl. Moist	Moist	V.Moist	<u>Wet</u>	
Major Description:	Clay	Silty Clay	<u>Silt</u>	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	vf f	coarse-grained	Ang	/ SA / SR / Rounded
Other Descriptors:	<u>Well / poorly / mod - sorted</u>				<u>well / poorly / mod - cemented</u>				<u>Loose</u>
	<u>UNL odor</u>				<u>Few organics (twigs, leaf matter),</u>				
					<u>Trace fine-med sand</u>				
<b>COMMENTS/OBSERVATIONS</b>									
Sampler Signature/Date	<u>R. Clannan</u>				<u>6/17/10</u>				

Reviewed by J. P. Keane Date 7/19/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>R. Lennon</u>		Station ID:	<u>GC-SD 307B</u>							
Subcontractor/Crew:	<u>HDR - S. New</u> <u>D. Hershaw</u>		Time:	<u>6/18/10 1555</u>							
			Water Depth:	<u>7.0 ft</u>							
			Tide:	<u>high tide 1400, lowering</u>							
			Weather:	<u>sunny, v. light breeze, Hm 80s</u>							
Bulk Sediment Sample ID:	<u>GC-SD 307B-00.0-00X</u>		Grab	Sample	Penetration <u>0.5</u> ft Time: <u>1555</u>						
Number of Sampling Attempts:	<u>1/1X</u>		(Sampled on 7th attempt - parent sample -								
Problems During Collection:	<u>None</u> <u>to add'l deployments necessary to</u> <u>achieve recovery for toxic sampling</u>										
<b>QC SAMPLE DATA</b>											
QA/QC Sample IDs:	<input checked="" type="checkbox"/> <u>NONE</u> <input type="checkbox"/> <u>DUP</u> <input type="checkbox"/> <u>MS/MSD</u>										
Floating Debris (describe):	<u>None</u>										
Water Color:	<u>Inky Black</u>										
Clarity:	<u>Moderately clear</u>										
Turbidity:	<u>Very turbid / murky</u>										
Sheen:	<u>none evident</u>										
Sample Analytical Parameters:	Bottleware/Preservation:										
TCL VOCs	<input checked="" type="checkbox"/> 3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C										
TCL SVOCs	<input checked="" type="checkbox"/> 8 oz Amber, wide mouth glass; protect from light, 4°C										
TCL Pesticides	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C										
TCL PCBs	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C										
TAL Metals + Hg	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C										
Cyanide	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C										
TOC	<input checked="" type="checkbox"/> 4 oz wide mouth glass; 4°C										
Grainsize											
AVS/SEM	<input checked="" type="checkbox"/> 4 oz wide mouth glass; no headspace; 4°C										
Toxicity	<input checked="" type="checkbox"/> 3 x 1-gallon HDPE buckets; 4°C										
<b>SED SAMPLE DESCRIPTION</b>											
Color:						Moisture:	Dry	Sl. Moist	Moist	V.Moist	<u>Wet</u>
Major Description:	Clay	Silly Clay	<u>Silt</u>	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay		
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	vt. f.	coarse-grained	Ang	/ SA / SR	/ Rounded	
Other Descriptors:	<u>Well / poorly / mod - sorted</u>					<u>well / poorly / mod - cemented</u>	<u>Loose</u>				
	<u>Black (254 2.5/1) salt, trace vt-f sand + rau to</u>										
	<u>little organics, no gas faint VNC odor; OL</u>										
	<u>DID: 1.1 ppm</u>										
<b>COMMENTS/OBSERVATIONS</b>											
Sampler Signature/Date	<u>R. Lennon 6/18/10</u>										

Reviewed by J. Reaven Date 7/19/10

\* VOC Only \*

Surface Sediment Sampling Form Gowanus Canal Remedial Investigation Brooklyn, Kings County, New York									
Samplers/Inspectors:	<i>Michael Murphy</i>			Station ID:	307B (VOC only)				
Subcontractor/Crew:	<i>Matt</i> <i>Ed</i>			Time:	1420 6/23/10				
		Water Depth:	9.0'			Tide:	Mid-tide		
		Weather:	Sunny - 90°						
Bulk Sediment Sample ID:	GC-SD 307B 0.005			Grab Penetration	0.5 ft	Sample Time:	1420		
Number of Sampling Attempts:	(1)								
Problems During Collection:	None								
QC SAMPLE DATA									
QA/QC Sample IDs:	<input checked="" type="checkbox"/> NONE      DUP _____      MS/MSD _____								
Floating Debris (describe):									
Water Color:									
Clarity:									
Turbidity:									
Sheen:	- slight sheen (DN)								
Sample Analytical Parameters:	Bottletware/Preservation: TCL VOCs TCL SVOCs TCL Pesticides TCL PCBs TAL Metals + Hg Cyanide TOC Grainsize AVS/SEM Toxicity								
	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C 8 oz Amber, wide mouth glass; protect from light, 4°C 8 oz wide mouth glass; 4°C 8 oz wide mouth glass; 4°C 8 oz wide mouth glass; 4°C 4 oz wide mouth glass; 4°C 4 oz wide mouth glass; no headspace; 4°C 3 x 1-gallon HDPE buckets; 4°C								
SED SAMPLE DESCRIPTION									
Color:	<i>Black</i>								
Moisture:	Dry	St. Moist	Moist	V. Moist	<i>Wet</i>				
Major Description:	Clay	Silty Clay	Silt	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	(v)	coarse-grained	Ang / SA / SR	/ Rounded
Other Descriptors:	Well / poorly	mod - sorted	well / poorly	mod - cemented	(v)	Loose			
- no shear noted on sediment surface - slight shear noted on H2O in area									
COMMENTS/OBSERVATIONS									
- down stream of outfall									
Sampler Signature/Date	<i>J. Murphy 6/23/10</i>								

Reviewed by *J. Murphy* Date *7/19/10*

**Surface Sediment Sampling Form**  
**Gowanus Canal Remedial Investigation**  
**Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>Nichel Murphy</u>	Station ID:	<u>308A</u>
Subcontractor/Crew:	<u>Moff Martin &amp; HDR</u>	Time:	<u>920</u>
	<u>E.J. Brant</u>	Water Depth:	<u>0'</u>
		Tide:	<u>Mid → low</u>
		Weather:	<u>Sunny 85° - humid</u>
Bulk Sediment Sample ID:	<u>GC-SD 308A-0,0-0,5</u>	Grab Penetration	<u>0.5 ft</u>
Number of Sampling Attempts:	<u>0/1</u>	Sample Time:	<u>950</u>
Problems During Collection:	<u>NONE</u>		

**QC SAMPLE DATA**

QA/QC Sample IDs:	<u>(NONE)</u> <u>MM</u> <u>TA/1/1</u> <u>DUP</u> <u>DUP-01</u> , MS/MSD
Floating Debris (describe):	<u>Organic matter</u>
Water Color:	<u>Brown</u>
Clarity:	<u>Clear / 3mm</u>
Turbidity:	<u>low</u>
Sheen:	<u>None observed</u>
Sample Analytical Parameters:	Bottleware/Preservation:
TCL VOCs	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C
TCL SVOCs	8 oz Amber, wide mouth glass; protect from light, 4°C
TCL Pesticides	8 oz wide mouth glass; 4°C
TCL PCBs	8 oz wide mouth glass; 4°C
TAL Metals + Hg	8 oz wide mouth glass; 4°C
Cyanide	8 oz wide mouth glass; 4°C
TOC	4 oz wide mouth glass; 4°C
Grainsize	4 oz wide mouth glass; no headspace; 4°C
AVS/SEM	3 x 1-gallon HDPE buckets; 4°C
Toxicity	
PCB Long	+ archive

**SED SAMPLE DESCRIPTION**

Color:	Moisture:						
Major Description:	Clay	Silty Clay	Silt	Clayey Sand	Sandy Clay	Sand Gravelly Sand Gravel Grvly Clay	
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	vf.f. coarse-grained Ang / SA / SR / Rounded	
Other Descriptors:	Well / poorly / mod - sorted	well / poorly / mod - cemented	Loose				
	<u>SN - Silty sand</u>	<u>- reddish brown</u>	<u>- clay grain (med.)</u>				
	<u>moist/wet</u>	<u>- broken glass fragments</u>	<u>- no odor</u>				

**COMMENTS/OBSERVATIONS**

Sampler Signature/Date

A. J. 6/23/10

Reviewed by

Date

7/19/10

**Surface Sediment Sampling Form**  
**Gowanus Canal Remedial Investigation**  
**Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>Michael Murphy</u>		Station ID:	<u>308B</u>		
Subcontractor/Crew:	<u>Matt</u> <u>ED</u>		Time:	<u>1005 6/23/10</u>		
			Water Depth:	<u>3'</u>		
			Tide:	<u>Mid → Low</u>		
			Weather:	<u>Sunny - 85° - no wind/haze</u>		
Bulk Sediment Sample ID:	<u>(GC-SI) 308B-010-0.5</u>		Grab Penetration	<u>0.5 ft</u>	Sample Time:	<u>1005</u>
Number of Sampling Attempts:	<u>1</u>					
Problems During Collection:	<u>NONE</u>					
<b>QC SAMPLE DATA</b>						
QA/QC Sample IDs:	<input checked="" type="checkbox"/> <u>NONE</u> <input type="checkbox"/> <u>DUP</u> <input type="checkbox"/> <u>MS/MSD</u>					
Floating Debris (describe):	<u>Barrels / Floating organic matter</u>					
Water Color:	<u>Brown / Cloudy</u>					
Clarity:	<u>Clear</u>					
Turbidity:	<u>Clear / Cloudy</u>					
Sheen:						
Sample Analytical Parameters:	Bottleware/Preservation:					
TCL VOCs	<input checked="" type="checkbox"/> 3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C					
TCL SVOCs	<input checked="" type="checkbox"/> 8 oz Amber, wide mouth glass; protect from light, 4°C					
TCL Pesticides	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C					
TCL PCBs	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C					
TAL Metals + Hg	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C					
Cyanide	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C					
TOC	<input checked="" type="checkbox"/> 4 oz wide mouth glass; 4°C					
Grainsize						
AVS/SEM	<input checked="" type="checkbox"/> 4 oz wide mouth glass; no headspace; 4°C					
Toxicity	<input checked="" type="checkbox"/> 3 x 1-gallon HDPE buckets; 4°C					
PCB Cont.	<u>+ archive</u>					
<b>SED SAMPLE DESCRIPTION</b>						
Color:	Moisture: <input type="checkbox"/> Dry <input type="checkbox"/> Sl. Moist <input type="checkbox"/> Moist <input type="checkbox"/> V.Moist <input checked="" type="checkbox"/> Wet					
Major Description:	Clay	Silty Clay	<input checked="" type="checkbox"/> Silt	Clayey Sand	Sandy Clay	Sand
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	vf f coarse-grained
Other Descriptors:	<u>Well / poorly / mod sorted</u> <u>well / poorly / mod - cemented</u> <u>Loose</u> <u>OL - Black (TOYR 31)</u> <u>organic</u> <u>S, f - wet - trace</u> <u>brown organic matter, tree root (sub angular), homogenous</u> <u>fragm</u>					
<b>COMMENTS/OBSERVATIONS</b>						
Sampler Signature/Date	<u>6/23/10</u>					

Reviewed by Michael Murphy Date 6/23/10  
DR 7/14/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>Michael Murphy</u>	Station ID:	<u>309</u>
Subcontractor/Crew:	<u>Mofft &gt; HDR</u>	Time:	<u>1015</u>
	<u>Casey</u>	Water Depth:	<u>13.1</u>
		Tide:	<u>High &gt; Mid</u>
		Weather:	<u>Sunny - 80° - low wind</u>

Bulk Sediment Sample ID:	<u>OC-SI 309 - 0.0 - 015</u>	Grab	<u>7"</u>	Sample	<u>P</u>	Time:	<u>1015</u>
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Number of Sampling Attempts: 1/1

Problems During Collection: - none

**QC SAMPLE DATA**

QA/QC Sample IDs:

NONE

DUP

MS/MSD

Floating Debris (describe): cake bottles, organic debris

Water Color: brown

Clarity: water is clear in power - cloudy - wash to sea canal floor

Turbidity: Slight (visual)

Sheen: No sheen observed

Sample Analytical Parameters:

Bottleware/Preservation:

TCL VOCs	<input checked="" type="checkbox"/>
TCL SVOCs	<input checked="" type="checkbox"/>
TCL Pesticides	<input checked="" type="checkbox"/>
TCL PCBs	<input checked="" type="checkbox"/>
TAL Metals + Hg	<input checked="" type="checkbox"/>
Cyanide	<input checked="" type="checkbox"/>
TOC	<input checked="" type="checkbox"/>
Grainsize	<input checked="" type="checkbox"/>
AVS/SEM	<input checked="" type="checkbox"/>
Toxicity	<input checked="" type="checkbox"/>
TCP congeners	<input checked="" type="checkbox"/>

3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C

8 oz Amber, wide mouth glass; protect from light, 4°C

8 oz wide mouth glass; 4°C

8 oz wide mouth glass; 4°C

8 oz wide mouth glass; 4°C

4 oz wide mouth glass; 4°C

3x 1-gallon HDPE buckets; 4°C

1 oz wide mouth 4°C + archive

**SED SAMPLE DESCRIPTION**

Color:

Moisture: Dry Sl. Moist Moist V.Moist Wet

Major Description:

Clay Silty Clay Silt Clayey Sand Sandy Clay Sand Gravelly Sand Gravel Grvly Clay

Minor Description:

Organic Mottled Plastic M.Plastic Nodules At coarse-grained Ang / SA / SR / Rounded

Well / poorly / mod - sorted well / poorly / mod - cemented Loose

Other Descriptors:

OC - organic Silt - fine plastic - homogeneous

fine gravel (65%) = wet

**COMMENTS/OBSERVATIONS**

25% headspace - 1.1

Sampler Signature/Date

Br. J.

6/18/10 1015

Reviewed by J. R. Koen Date 7/10/10

~~VOL Only~~

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

**Surface Sediment Sampling Form**  
**Gowanus Canal Remedial Investigation**  
**Brooklyn/Kings County, New York**

Samplers/Inspectors:	Michael Murphy	Station ID:	309 (VOC only)							
Subcontractor/Crew:	Matt > HDR ED	Time:	1400							
		Water Depth:	8.7							
		Tide:	mid-tide							
		Weather:	Sunny 80°							
Bulk Sediment Sample ID:	GC-SD309-010-0.5	Grab Penetration	It							
Number of Sampling Attempts:	(1)	Sample Time:	1400							
Problems During Collection:	None									
<b>QC SAMPLE DATA</b>										
QA/QC Sample IDs:										
NONE	DUP	MS/MSD								
Floating Debris (describe):	Organic matter / garbage									
Water Color:										
Clarity:										
Turbidity:										
Sheen:										
Sample Analytical Parameters:		Bottleware/Preservation:								
TCL VOCs	<input checked="" type="checkbox"/>	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C								
TCL SVOCs		8 oz Amber, wide mouth glass; protect from light, 4°C								
TCL Pesticides		8 oz wide mouth glass; 4°C								
TCL PCBs		8 oz wide mouth glass; 4°C								
TAL Metals + Hg		8 oz wide mouth glass; 4°C								
Cyanide		8 oz wide mouth glass; 4°C								
TOC		4 oz wide mouth glass; 4°C								
Grainsize		4 oz wide mouth glass; no headspace; 4°C								
AVS/SEM		3 x 1-gallon HDPE buckets; 4°C								
Toxicity										
<b>SED SAMPLE DESCRIPTION</b>										
Color:	Black									
Major Description:	Clay	Silty Clay	Sandy Clay	Moisture:	Dry	Sl. Moist	Moist	V.Moist	Wet	
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	coarse-grained	Ang	SA	SR	Rounded
Other Descriptors:	Well/poorly mod - sorted			mod - poorly	mod - cemented	Loose				
	- no shear noted									
	- collected along side bridge									
<b>COMMENTS/OBSERVATIONS</b>										
RTD 010										
M. 6/23/10										

**Sampler Signature/Date**

~~Mr. - cy~~ 6/23/12

Reviewed by

Date 7/19/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	Rachel Clennan - CH2M Hill	Station ID:	GC-SD310						
Subcontractor/Crew:	Matt Papineau - HDSR Ed Brandt - HDSR	Time:	0920						
Bulk Sediment Sample ID:	GC-SD310-0.0-0.5	Water Depth:	5.6 ft						
Number of Sampling Attempts:	6 deployments to achieve volume required for toxicity sample								
Problems During Collection:	None								
<b>QC SAMPLE DATA</b>									
QA/QC Sample IDs:	NONE	DUP	MS/MSD						
<b>Floating Debris (describe):</b>									
Water Color:									
Clarity:									
Turbidity:									
Sheen:									
Sample Analytical Parameters:	Bottleware/Preservation:								
TCL VOCs	<input checked="" type="checkbox"/>	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C							
TCL SVOCs	<input checked="" type="checkbox"/>	8 oz Amber, wide mouth glass; protect from light, 4°C							
TCL Pesticides	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
TCL PCBs	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
TAL Metals + Hg	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
Cyanide	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
TOC	<input checked="" type="checkbox"/>	4 oz wide mouth glass; 4°C							
Grainsize									
AVS/SEM	<input checked="" type="checkbox"/>	4 oz wide mouth glass; no headspace; 4°C							
Toxicity	<input checked="" type="checkbox"/>	3 x 1-gallon HDPE buckets; 4°C							
PCB Congener	<input checked="" type="checkbox"/>								
<b>SED SAMPLE DESCRIPTION</b>									
Color:	Black 104 R2/1			Moisture:	Dry	Sl. Moist	Moist	V.Moist	Wet
Major Description:	Clay	Silty Clay	<input checked="" type="checkbox"/> Silt	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	vf f	coarse-grained	Ang / SA / SR	/ Rounded
Other Descriptors:	Well / poorly / mod - sorted			well / poorly / mod - cemented	Loose Organic Silt (104 R2/1) trace to little fine sand Some organics (algae, leaves debris (plastic)), faint septic / UNC odor.				
<b>COMMENTS/OBSERVATIONS</b>									
PID: 1.7 ppm									
Sampler Signature/Date	RL On 6/18/10								

Reviewed by

RL

Date 7/19/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>Michael Murphy</u>	Station ID:	<u>311</u>
Subcontractor/Crew:	<u>Matt &gt; HDR</u>	Time:	<u>1100</u>
		Water Depth:	<u>5.4'</u>
		Tide:	<u>Mid - low</u>
		Weather:	<u>Sunny - 80° - mod Humidity</u>
Bulk Sediment Sample ID:	<u>GC-SD311-0.0-015</u>	Grab Penetration	<u>0.5 ft</u>
Number of Sampling Attempts:	<u>1</u>	Sample Time:	<u>1105</u>
Problems During Collection:	<u>NONE</u>		

**QC SAMPLE DATA**

QA/QC Sample IDs:	<u>NONE</u>	DUP	<u>                  </u>	MS/MSD	<u>                  </u>
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Floating Debris (describe):	<u>NONE</u>
Water Color:	<u>Clear / none - Brown</u>
Clarity:	<u>Clear</u>
Turbidity:	<u>Clear</u>
Sheen:	<u>none noted</u>

Sample Analytical Parameters:	Bottleware/Preservation:	
TCL VOCs	<input checked="" type="checkbox"/>	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C
TCL SVOCs	<input checked="" type="checkbox"/>	8 oz Amber, wide mouth glass; protect from light, 4°C
TCL Pesticides	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C
TCL PCBs	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C
TAL Metals + Hg	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C
Cyanide	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C
TOC	<input checked="" type="checkbox"/>	4 oz wide mouth glass; 4°C
Grainsize	<input checked="" type="checkbox"/>	4 oz wide mouth glass; no headspace; 4°C
AVS/SEM	<input checked="" type="checkbox"/>	3 x 1-gallon HDPE buckets; 4°C
Toxicity	<input checked="" type="checkbox"/>	

**SED SAMPLE DESCRIPTION**

Color:									
Major Description:	Clay	Silty Clay	<input checked="" type="checkbox"/> Silt	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	vf f coarse-grained	Ang	SA / SR	Rounded
Other Descriptors:	<u>OC - Organic silt - low plasticity - strong sepium like odor, sheen noted on sediment surface</u>								

**COMMENTS/OBSERVATIONS**

PID - 0.0

Sampler Signature/Date           6/23/10

Reviewed by     

Date

7/12/10

**Surface Sediment Sampling Form**  
**Gowanus Canal Remedial Investigation**  
**Brooklyn, Kings County, New York**

Samplers/Inspectors:	<i>Michael Murphy</i>	Station ID:	<i>312</i>
Subcontractor/Crew:	<i>Matt Ed &gt; HDR</i>	Time:	<i>1140</i>
		Water Depth:	<i>2.6</i>
		Tide:	<i>low - mid</i>
		Weather:	<i>Sunny - 80° - no wind</i>
Bulk Sediment Sample ID:	<i>GC - SD312 - 0.0 - 0.5</i>	Grab Penetration	<i>0.5 ft</i>
Number of Sampling Attempts:	<i>1</i>	Sample Time:	<i>1140</i>
Problems During Collection:	<i>None</i>		
<b>QC SAMPLE DATA</b>			
QA/QC Sample IDs:	<input checked="" type="checkbox"/> NONE      DUP _____      MS/MSD _____		
Floating Debris (describe):	<i>Garbage + floating organic matter</i>		
Water Color:	<i>brown</i>		
Clarity:	<i>clear</i>		
Turbidity:	<i>none observed</i>		
Sheen:	<i>none observed</i>		
Sample Analytical Parameters:	Bottleware/Preservation:		
TCL VOCs	<input checked="" type="checkbox"/>		
TCL SVOCs	<input checked="" type="checkbox"/>		
TCL Pesticides	<input checked="" type="checkbox"/>		
TCL PCBs	<input checked="" type="checkbox"/>		
TAL Metals + Hg	<input checked="" type="checkbox"/>		
Cyanide	<input checked="" type="checkbox"/>		
TOC	<input checked="" type="checkbox"/>		
Grainsize	<input checked="" type="checkbox"/>		
AVS/SEM	<input checked="" type="checkbox"/>		
Toxicity	<input checked="" type="checkbox"/>		
PCB Congens	<input checked="" type="checkbox"/>		
	<i>+ archive</i>		
<b>SED SAMPLE DESCRIPTION</b>			
Color:			
Major Description:	Clay	Silty Clay	<input checked="" type="checkbox"/> Silt
Minor Description:	Organic	Mottled	Plastic M.Plastic
Other Descriptors:	Well / poorly / mod - sorted   well / poorly / mod - cemented <input checked="" type="checkbox"/> Loose <i>01 - Organic Silt - sleek (10 YR 21) - trace organic matter (fibers) - wet strong organic odor non plastic homogeneous, v. soft, loose, poorly cemented/non plastic</i>		
<b>COMMENTS/OBSERVATIONS</b>			
<i>PBD - 0.5</i>			
Sampler Signature/Date	<i>K. Murphy 6/23/10</i>		

Reviewed by *[Signature]*

Date *7/19/2010*

**Surface Sediment Sampling Form**  
**Gowanus Canal Remedial Investigation**  
**Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>R. Lennon</u>		Station ID:	SED 30313					
Subcontractor/Crew:	<u>HDR: Steve New, Don Henshaw</u>		Time:	10:20 AM (P) Sample Time: 10:30 AM					
			Water Depth:	6.0 ft SCA; 7.2" when unchained					
			Tide:	Low					
			Weather:	Sunny, clear, high 70°					
Bulk Sediment Sample ID:	<u>GC-SED313-00.0-00.5</u>		Grab	Sample	Penetration 0.5 ft Time: 11				
Number of Sampling Attempts:									
Problems During Collection:	See notes below! Several attempts made @ scoped location only recovered water and rocks, moved to just inside turning basin mouth for collection								
QC SAMPLE DATA									
QA/QC Sample IDs:									
NONE	DUP	<input checked="" type="checkbox"/> (R) No dup collected, MS/MSD							
Floating Debris (describe):	<u>None</u>								
Water Color:	<u>Clear to translucent, inkly black</u>								
Clarity:	<u>moderately clear</u>								
Turbidity:	<u>low to moderate</u>								
Sheen:	<u>Yes; when sea. disturbed and ponar brought up</u>								
Sample Analytical Parameters:	Bottleware/Preservation:								
TCL VOCs	<input checked="" type="checkbox"/>	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C							
TCL SVOCs	<input checked="" type="checkbox"/>	8 oz Amber, wide mouth glass; protect from light, 4°C							
TCL Pesticides	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
TCL PCBs	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
TAL Metals + Hg	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
Cyanide	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
TOC	<input checked="" type="checkbox"/>	4 oz wide mouth glass; 4°C							
Grainsize	<input checked="" type="checkbox"/>	4 oz wide mouth glass; no headspace; 4°C							
AVS/SEM	<input checked="" type="checkbox"/>	3 x 1-gallon HDPE buckets; 4°C							
Toxicity	<input checked="" type="checkbox"/>								
SED SAMPLE DESCRIPTION									
Color:	<u>2.54 2.51</u>		Moisture:	Dry	St. Moist	Moist	V.Moist	<input checked="" type="checkbox"/> Wet	
Major Description:	Clay	Silty Clay	Silt	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	vf f	coarse-grained	Ang / SA / SR	Rounded
Other Descriptors:	Well / poorly / mod - sorted well / poorly / mod - cemented Loose					<u>+ PCB container (8 oz amber)</u>			
						<u>+ Archive (8 oz amber)</u>			
PID Rads: 12.0 ppm on 0% moisture sample									
<u>2.57 2.51 Black silt, trace f-m sand, trace organics, well sorted</u>									
<u>USCS: OL</u>									
COMMENTS/OBSERVATIONS									
1st Attempt - No Recovery 2nd Att. - few Rock fragments 3rd Att. - Rock fragments 4th Attempt - (new loc.) - all water 5th Attempt - rocks Attempts: 11/1 - Attempt 9, just inside mouth of turning basin, achieved acceptable recovery PID reading in sample: 12.0 ppm Sheen on water appeared when ponar first brought up									
Sampler Signature/Date									

Reviewed by

  
Date 7/19/2010

\* VOL only \*

Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York

Samplers/Inspectors:	Michael Murphy	Station ID:	313 (VOL only)
Subcontractor/Crew:	Matt > HDR	Time:	1305 7/19/10
	ED	Water Depth:	4.9'
		Tide:	Mid Tide
		Weather:	Sunny 90°
Bulk Sediment Sample ID:	GC-SD 313-0.0-0.5	Grab Penetration	6.5 ft
Number of Sampling Attempts:	(1)	Sample Time:	1305
Problems During Collection:	None		
QC SAMPLE DATA			
QA/QC Sample IDs:			
NONE	DUP	MS/MSD	
Floating Debris (describe):			
Water Color:			
Clarity:			
Turbidity:			
Sheen:	Sheen on water upon retrieval		
Sample Analytical Parameters:	Bottleware/Preservation:		
TCL VOCs	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C		
TCL SVOCs	8 oz Amber, wide mouth glass; protect from light, 4°C		
TCL Pesticides	8 oz wide mouth glass; 4°C		
TCL PCBs	8 oz wide mouth glass; 4°C		
TAL Metals + Hg	8 oz wide mouth glass; 4°C		
Cyanide	8 oz wide mouth glass; 4°C		
TOC	4 oz wide mouth glass; 4°C		
Grainsize			
AVS/SEM	4 oz wide mouth glass; no headspace; 4°C		
Toxicity	3 x 1-gallon HDPE buckets; 4°C		
SED SAMPLE DESCRIPTION			
Color:	Black	Moisture:	Dry Si. Moist Moist V.Moist Wet
Major Description:	Clay Silty Clay Silt Clayey Sand Sandy Clay Sand Gravelly Sand Gravel Grivly Clay		
Minor Description:	Organic Mottled Plastic M.Plastic Nodules	Well sorted	f coarse-grained Ang / SA / SR / Rounded
Other Descriptors:	poorly / mod - sorted well / poorly / mod - cemented loose		
COMMENTS/OBSERVATIONS			
* re-collect for VOCs only *			
Sampler Signature/Date	M. Murphy 6/23/10		

Reviewed by Roger Date 7/19/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<i>Michael Murphy</i>	Station ID:	<i>314</i>	
Subcontractor/Crew:	<i>Cape 7 HDR</i>	Time:	<i>@ station 1300</i>	
		Water Depth:	<i>6.5</i>	
		Tide:	<i>Mid tide</i>	
		Weather:	<i>Clear / sunny, 170-80</i>	
Bulk Sediment Sample ID:	<i>GC-SD 314-0.0-0.5</i>	Grab Penetration	<i>0.5 ft</i>	
Number of Sampling Attempts:	<i>THL 11</i>	Sample Time:	<i>1315</i>	
Problems During Collection:	<i>low recovery</i>			
<b>QC SAMPLE DATA</b>				
QA/QC Sample IDs:	None <i>DUP</i> , MS/MSD _____			
Floating Debris (describe):	<i>Barrels +</i>			
Water Color:	<i>brown - brown sheen</i>			
Clarity:	<i>brown - low turbidity</i>			
Turbidity:	<i>mod</i>			
Sheen:	<i>sheen noted</i>			
Sample Analytical Parameters:	Bottleware/Preservation:			
TCL VOCs	<input checked="" type="checkbox"/>	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C		
TCL SVOCs	<input checked="" type="checkbox"/>	8 oz Amber, wide mouth glass; protect from light, 4°C		
TCL Pesticides	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C		
TCL PCBs	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C		
TAL Metals + Hg	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C		
Cyanide	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C		
TOC	<input checked="" type="checkbox"/>	4 oz wide mouth glass; 4°C		
Grainsize				
AVS/SEM	<input checked="" type="checkbox"/>	4 oz wide mouth glass; no headspace; 4°C		
Toxicity	<input checked="" type="checkbox"/>	3 x 1-gallon HDPE buckets; 4°C → will return & another		
PB Cores	<input checked="" type="checkbox"/>			
<b>SED SAMPLE DESCRIPTION</b>				
Color:	<i>Black 10 YR 2/1</i>			
Major Description:	Clay	Silty Clay	Silt	<i>Clayey Sand</i>
Minor Description:	Organic	Mottled	Plastic	M.Plastic
Other Descriptors:	<i>loamy organic silt - ferrous-like odor - fine gravel (&lt;5%)</i>			<i>very dark brown/grey (≈ 10 YR 3/2) - NAPL floating on H<sub>2</sub>O</i>
	<i>fine sample - ferrous-like odor - escaping out of sediment pore space</i>			
<b>COMMENTS/OBSERVATIONS</b>				
<p><i>Brown slick noted in area</i>  <i>sheen noted on water surface of sample</i>  <i>Heavy sheen noted on water upon power retrieval</i></p> <p><i>P.D. = 5.0</i></p>				
Sampler Signature/Date	<i>R. J. 6/17/10</i>			

Reviewed by *[Signature]*

Date *7/19/10*

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>Bachel Clevenger - CH2M HILL</u>	Station ID:	<u>G-C-SD314</u>							
Subcontractor/Crew:	<u>HDR: Mike Papula, Ed Brandt</u>	Time:	<u>1030</u>							
		Water Depth:	<u>3.2 ft</u>							
		Tide:	<u>high falling</u>							
		Weather:	<u>few clouds; mild 80s</u>							
Bulk Sediment Sample ID:	<u>G-C-SD314-0.0-0.5</u>	Grab Penetration	<u>0.5 ft</u>							
Number of Sampling Attempts:	<u>1</u>	Sample Time:	<u>0945</u>							
Problems During Collection:	<u>None</u>									
<b>QC SAMPLE DATA</b>										
QA/QC Sample IDs:										
<u>NONE</u>	DUP	<u>D-04242010-01</u>	<u>MS/MSD</u>							
	<u>(collected for VOCs only)</u>									
Floating Debris (describe):										
Water Color:										
Clarity:										
Turbidity:										
Sheen:										
Sample Analytical Parameters:	Bottleware/Preservation:									
TCL VOCs	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C									
TCL SVOCs	8 oz Amber, wide mouth glass; protect from light, 4°C									
TCL Pesticides	8 oz wide mouth glass; 4°C									
TCL PCBs	8 oz wide mouth glass; 4°C									
TAL Metals + Hg	8 oz wide mouth glass; 4°C									
Cyanide	8 oz wide mouth glass; 4°C									
TOC	4 oz wide mouth glass; 4°C									
Grainsize										
AVS/SEM	4 oz wide mouth glass; no headspace; 4°C									
Toxicity	3 x 1-gallon HDPE buckets; 4°C									
<b>SED SAMPLE DESCRIPTION</b>										
Color:	<u>Black 10YR 2/1</u>	<u>7.5 4 4/1</u>	Moisture: <input checked="" type="radio"/> Dry <input type="radio"/> Si. Moist <input type="radio"/> Moist <input type="radio"/> V.Moist <input type="radio"/> Wet							
Major Description:	Clay	Silty Clay	Silt	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay	
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	v f coarse-grained	Ang	SA / SR	Rounded	
Other Descriptors:	Well / poorly / mod - sorted	well / poorly / mod - cemented	<u>(Loose)</u>							
	<u>Black silt, organic, 10YR 2/1 / 7.5 4 2/1, trace v fine sand, moderate far-like color, sheen</u>									
<b>COMMENTS/OBSERVATIONS</b>										
<p><u>PID: 1514 ppm</u></p> <p><u>- Resampled for VOCs only</u></p>										
Sampler Signature/Date	<u>DLL 10/24/10</u>									

Reviewed by \_\_\_\_\_ Date \_\_\_\_\_

DLL 7/19/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	R. Clemons	Station ID:	GC-SD 315	
Subcontractor/Crew:	HDR S Nies (captain) D. Henshaw (helper)	Time:	10:00	
Bulk Sediment Sample ID:	GC-SD 315-00.0-00.5	Water Depth:	16.0 ft 9.5 ft	
Number of Sampling Attempts:	(1) (1st location), (2) (2nd location), At 3rd loc - 1 attempt, plus	Tide:	(R) low tide	
Problems During Collection:				
<b>QC SAMPLE DATA</b>				
QA/QC Sample IDs:	None DUP D-06182010-02, MS/MSD			
Floating Debris (describe):	None			
Water Color:	Light, ink gray to clear			
Clarity:	moderate			
Turbidity:	moderate			
Sheen:	Slight Sheen			
Sample Analytical Parameters:	Bottleware/Preservation:			
TCL VOCs	<input checked="" type="checkbox"/>	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C		
TCL SVOCs	<input checked="" type="checkbox"/>	8 oz Amber, wide mouth glass; protect from light, 4°C		
TCL Pesticides	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C		
TCL PCBs	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C		
TAL Metals + Hg	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C		
Cyanide	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C		
TOC	<input checked="" type="checkbox"/>	4 oz wide mouth glass; 4°C		
Grainsize	<input checked="" type="checkbox"/>	4 oz wide mouth glass; no headspace; 4°C		
AVS/SEM	<input checked="" type="checkbox"/>	3 x 1-gallon HDPE buckets; 4°C		
Toxicity	<input checked="" type="checkbox"/>	+ PCB Congener and Etc Archive (RC)		
<b>SED SAMPLE DESCRIPTION</b>				
Color:	2.54 2.51 black	Moisture:	Dry Sl. Moist Moist V.Moist	Wet
Major Description:	Clay Silty Clay Silt Clayey Sand Sandy Clay Sand Gravelly Sand Gravel Grvly Clay			
Minor Description:	Organic Mottled Plastic M.Plastic Nodules vf f coarse-grained Ang / SA / SR / Rounded			
Other Descriptors:	Well poorly / mod - sorted well / poorly / mod - cemented Loose black (2.54 2.51) Silt with fm sand, little organics (twigs, leaf debris); tar like odor, USGS-04	Moderate		
P.D.: 28.3 ppm				
COMMENTS/OBSERVATIONS				
<p>Handwritten notes and signatures:</p> <p>2010 6/18/10</p> <p>Sampler Signature/Date</p>				

Reviewed by  Date 7/19/10

\* VOC Only \*

Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York

Samplers/Inspectors:	<u>Michael Murphy</u>	Station ID:	<u>315 (VOC only)</u>					
Subcontractor/Crew:	<u>Matt &amp; Ed HDR</u>	Time:	<u>1340</u>					
		Water Depth:	<u>8.2</u>					
		Tide:	<u>Mid tide</u>					
		Weather:	<u>Sunny 80°</u>					
Bulk Sediment Sample ID:	<u>GC-SD 315-00-0.5</u>	Grab Penetration	<u>0.5 ft</u>					
Number of Sampling Attempts:	<u>1</u>	Sample Time:	<u>1340</u>					
Problems During Collection:	<u>None</u>							
<b>QC SAMPLE DATA</b>								
QA/QC Sample IDs:								
<u>NONE</u>	DUP	MS/MSD						
Floating Debris (describe):	<u>None</u>							
Water Color:	<u>brown</u>							
Clarity:	<u>clear</u>							
Turbidity:	<u>clear</u>							
Sheen:	<u>No</u>							
Sample Analytical Parameters:	Bottleware/Preservation:							
TCL VOCs	<input checked="" type="checkbox"/> 3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C							
TCL SVOCs	<input type="checkbox"/> 8 oz Amber, wide mouth glass; protect from light, 4°C							
TCL Pesticides	<input type="checkbox"/> 8 oz wide mouth glass; 4°C							
TCL PCBs	<input type="checkbox"/> 8 oz wide mouth glass; 4°C							
TAL Metals + Hg	<input type="checkbox"/> 8 oz wide mouth glass; 4°C							
Cyanide	<input type="checkbox"/> 8 oz wide mouth glass; 4°C							
TOC	<input type="checkbox"/> 4 oz wide mouth glass; 4°C							
Grainsize								
AVS/SEM	<input type="checkbox"/> 4 oz wide mouth glass; no headspace; 4°C							
Toxicity	<input type="checkbox"/> 3 x 1-gallon HDPE buckets; 4°C							
<b>SED SAMPLE DESCRIPTION</b>								
Color:	<u>Black</u>							
Moisture:	Dry	Sl. Moist	Moist					
Major Description:	Clay	Silty Clay	<u>Silt</u>	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	<u>vt</u>	coarse-grained	Ang / SA / SR / Rounded
Other Descriptors:	Well / poorly	mod - sorted	well / poorly	mod - cemented	<u>Loose</u>			
<u>Steen on H2O upon power retrieval</u>								
<b>COMMENTS/OBSERVATIONS</b>								
<u>located in mouth of turning basin</u>								
<u>- Resampled for VOCs only</u>								
Sampler Signature/Date	<u>M - J 8/23/10</u>							

Reviewed by

Date

7/19/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	R. Connor - CH2M	Station ID:	SD-316						
Subcontractor/Crew:	S. Niero - captain - HDR M. Papulka - first mate HDR	Time:	1630						
		Water Depth:	6.0 ft						
		Tide:	high						
		Weather:	Sunny, low 80s, light breeze						
Bulk Sediment Sample ID:	GC-SD316-D-0-0-05	Grab Penetration:	0.5 ft						
Number of Sampling Attempts:	11 (2)	Sample Time:	1635						
Problems During Collection:	None								
<b>QC SAMPLE DATA</b>									
QA/QC Sample IDs:									
NONE	DUP	MS/MSD							
Floating Debris (describe):	possible sewage; plastic, styrofoam								
Water Color:	mod green								
Clarity:									
Turbidity:	mod high								
Sheen:	moderate sheen on water								
Sample Analytical Parameters:	Bottleware/Preservation:								
TCL VOCs	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C								
TCL SVOCs	8 oz Amber, wide mouth glass; protect from light, 4°C								
TCL Pesticides	8 oz wide mouth glass; 4°C								
TCL PCBs	8 oz wide mouth glass; 4°C								
TAL Metals + Hg	8 oz wide mouth glass; 4°C								
Cyanide	8 oz wide mouth glass; 4°C								
TOC	4 oz wide mouth glass; 4°C								
Grainsize									
AVS/SEM	4 oz wide mouth glass; no headspace; 4°C								
Toxicity	3x 1-gallon HDPE buckets; 4°C; 1x 1-gal bucket								
PCB Congeners	8oz AMBER								
<b>SED SAMPLE DESCRIPTION</b>									
Color:	Black 10M R 2/1								
Moisture:	Dry	Sl. Moist	Moist						
V.Moist	Wet								
Major Description:	Clay	Silty Clay	Silt	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	vf f coarse-grained	Ang / SA / SR	/ Rounded	
Other Descriptors:	Well / poorly / mod - sorted			well / poorly / mod - cemented			Loose to little		
	Black 10M R 2/1 organic silt (02)			trace fine sand, wet,					
	well sorted, faint VNC odor								
<b>COMMENTS/OBSERVATIONS</b>									
PID: 1.2 ppm									
Sampler Signature/Date	R. Connor 10/21/10								

Reviewed by *[Signature]* Date 10/19/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<i>Michael Murphy</i>	Station ID:	317						
Subcontractor/Crew:	<i>Steve</i>	Time:	155:00						
	<i>Matt</i>	Water Depth:	13'						
		Tide:	Med/high tide						
		Weather:	Sunny ~80°						
Bulk Sediment Sample ID:	GC-SD 317-0.0-0.5	Grab Penetration	0.5 ft Sample Time: 1600						
Number of Sampling Attempts:	1								
Problems During Collection:	NONE								
<b>QC SAMPLE DATA</b>									
QA/QC Sample IDs:									
.NONE	DUP	<i>(MS/MSD)</i>							
Floating Debris (describe):	<i>Garbage + floaty organic matter</i>								
Water Color:	<i>brown</i>								
Clarity:	<i>clear / brown</i>								
Turbidity:	<i>none</i>								
Sheen:	<i>noted @ water surface + sediment surface</i>								
Sample Analytical Parameters:	Bottleware/Preservation:								
TCL VOCs	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C								
TCL SVOCs	8 oz Amber, wide mouth glass; protect from light, 4°C								
TCL Pesticides	8 oz wide mouth glass; 4°C								
TCL PCBs	8 oz wide mouth glass; 4°C								
TAL Metals + Hg	8 oz wide mouth glass; 4°C								
Cyanide	8 oz wide mouth glass; 4°C								
TOC	4 oz wide mouth glass; 4°C								
Grainsize	4 oz wide mouth glass; no headspace; 4°C								
AVS/SEM	3 x 1-gallon HDPE buckets; 4°C								
Toxicity									
<b>SED SAMPLE DESCRIPTION</b>									
Color:	Moisture:								
Major Description:	Clay	Silty Clay	Silt	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	vf f	coarse-grained	Ang	/ SA / SR / Rounded
Other Descriptors:	Well / poorly / mod - sorted			well / poorly / mod - cemented	Loose				
	<i>OC - organic silt - fine - Black - 10 YR 2/1</i>								
	<i>low plastic - sheen noted on sediment surface</i>								
	<i>wet, heavy texture,</i>								
<b>COMMENTS/OBSERVATIONS</b>									
<i>PID - 3,0</i>									
<i>6/22/10</i>									
Sampler Signature/Date	<i>John [Signature]</i>								

Reviewed by *[Signature]*

Date *7/9/10*

**Surface Sediment Sampling Form**  
**Gowanus Canal Remedial Investigation**  
**Brooklyn, Kings County, New York**

Samplers/Inspectors:	<i>Michael Murphy</i>	Station ID:	318							
Subcontractor/Crew:	<i>Ab Steve &gt; HDR Matt</i>	Time:	1425							
		Water Depth:	2.5							
		Tide:	high / mid							
		Weather:	sunny 80°							
Bulk Sediment Sample ID:	GC - SD 318	Grab Penetration	0.5 ft							
Number of Sampling Attempts:	1	Sample Time:	1440							
Problems During Collection:	None									
<b>QC SAMPLE DATA</b>										
QA/QC Sample IDs:	<input checked="" type="radio"/> NONE <input type="radio"/> DUP <input type="radio"/> MS/MSD									
Floating Debris (describe):	Floating boom; garbage, floating organic matter									
Water Color:	Brown									
Clarity:	Brown / clear									
Turbidity:	Clear									
Sheen:	Sheen noted on water surface									
Sample Analytical Parameters:	Bottleware/Preservation:									
TCL VOCs	<input checked="" type="checkbox"/>	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C								
TCL SVOCs	<input checked="" type="checkbox"/>	8 oz Amber, wide mouth glass; protect from light, 4°C								
TCL Pesticides	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C								
TCL PCBs	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C								
TAL Metals + Hg	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C								
Cyanide	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C								
TOC	<input checked="" type="checkbox"/>	4 oz wide mouth glass; 4°C								
Grainsize	<input type="checkbox"/>									
AVS/SEM	<input checked="" type="checkbox"/>	4 oz wide mouth glass; no headspace; 4°C								
Toxicity	<input checked="" type="checkbox"/>	3 x 1-gallon HDPE buckets; 4°C								
PCB cong	<input checked="" type="checkbox"/>									
+ archive										
<b>SED SAMPLE DESCRIPTION</b>										
Color:	Moisture:									
Major Description:	Clay	Silty Clay	Silt	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay	<input checked="" type="checkbox"/> Wet
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	Cu <sup>2+</sup> coarse-grained	Ang / SA / SR	Ang	SA / SR / Rounded	
Other Descriptors:	Well / poorly / mod - sorted   well / poorly / mod - cemented   loose									
organic silt - black (10 yr 2/1), - trace gravel - organic matter Fibers organic matter - non organic, wet										
<b>COMMENTS/OBSERVATIONS</b>										
?ID 0.0										
M - 07/04/10										
Sampler Signature/Date	<i>[Signature]</i> Date 7/19/10									

Reviewed by *[Signature]*

Date 7/19/10

**Surface Sediment Sampling Form**  
**Gowanus Canal Remedial Investigation**  
**Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>Michael Murphy</u>	Station ID:	<u>319</u>								
Subcontractor/Crew:	<u>Matt &gt; HDR</u>	Time:	<u>905</u>								
		Water Depth:	<u>12'</u>								
		Tide:	<u>Mid Tide</u>								
		Weather:	<u>Sunny 80°</u>								
Bulk Sediment Sample ID:	<u>GC- SD 319-0,0 - 0,5</u>	Grab Penetration	<u>0.5 ft</u>								
Number of Sampling Attempts:	<u>111 111 111 111 111 111 111</u>	Sample Time:	<u>1040</u>								
Problems During Collection:	<u>(gravel) (gravel) (gravel) (gravel) (gravel) (gravel) (gravel)</u>										
<b>QC SAMPLE DATA</b>											
QA/QC Sample IDs:											
NONE	DUP	, MS/MSD									
Floating Debris (describe):	<u>garbage</u>										
Water Color:	<u>Clear / brown</u>										
Clarity:	<u>Clear</u>										
Turbidity:	<u>Clear</u>										
Sheen:	<u>YES -</u>										
Sample Analytical Parameters:	Bottleware/Preservation:										
TCL VOCs	<input checked="" type="checkbox"/> 3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C										
TCL SVOCs	<input checked="" type="checkbox"/> 8oz Amber, wide mouth glass; protect from light, 4°C										
TCL Pesticides	<input checked="" type="checkbox"/> 8oz wide mouth glass; 4°C										
TCL PCBs	<input checked="" type="checkbox"/> 8oz wide mouth glass; 4°C										
TAL Metals + Hg	<input checked="" type="checkbox"/> 8oz wide mouth glass; 4°C										
Cyanide	<input checked="" type="checkbox"/> 8oz wide mouth glass; 4°C										
TOC	<input checked="" type="checkbox"/> 4 oz wide mouth glass; 4°C										
Grainsize	<input checked="" type="checkbox"/>										
AVS/SEM	<input checked="" type="checkbox"/> 4 oz wide mouth glass; no headspace; 4°C ; 1x + soil HDR bullet										
Toxicity	<input checked="" type="checkbox"/> 3x 1-gallon HDPE buckets; 4°C										
PCBs Congener	<input checked="" type="checkbox"/> 8 oz amber + Archive										
<b>SED SAMPLE DESCRIPTION</b>											
Color:	Moisture:										
Major Description:	Clay	Silty Clay	<input checked="" type="radio"/> Silt	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay	<input checked="" type="radio"/> Wet	
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	vf f	coarse-grained	Ang	/ SA / SR / Rounded		
Other Descriptors:	Well / poorly / mod - sorted	well / poorly / mod - cemented	Loose								
<u>OL - organic silt - few gravel (sub rounded) / subangular black (1040 2) - sheer noted on sediment surface non / low plasticity + homogenous, wet</u>											
<b>COMMENTS/OBSERVATIONS</b>											
<u>Sample collect approx 200-300' North Cup canal - located alongside SF bulkhead of 9th St bridge - used to collect GPS coordinates</u>											
<u>PID - 0,0</u>											
<u>M - 7/19/10</u>											
Sampler Signature/Date											

Reviewed by JFR

Date 7/19/10

No water  
8  
↓  
Tall

**Surface Sediment Sampling Form**  
**Gowanus Canal Remedial Investigation**  
**Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>Michael Murphy</u>	Station ID:	<u>320</u>						
Subcontractor/Crew:	<u>Steve &gt; HDR</u>	Time:	<u>1:34S</u>						
		Water Depth:							
		Tide:	<u>M.D - tide</u>						
		Weather:							
Bulk Sediment Sample ID:	<u>GC-SD</u>	Grab Penetration	<u>0.4 ft</u>						
Number of Sampling Attempts:	<u>III</u>	Sample Time:	<u>1405</u>						
Problems During Collection:	<u>(W-shot) West port saw</u> → <u>5cc comments</u> <u>8x3y</u>								
<b>QC SAMPLE DATA</b>									
QA/QC Sample IDs:									
NONE	DUP	MS/MSD							
Floating Debris (describe):	<u>None</u>								
Water Color:	<u>Clear / Brown</u>								
Clarity:	<u>Clear</u>								
Turbidity:	<u>Clear</u>								
Sheen:	<u>None</u> on sediment surface								
Sample Analytical Parameters:	Bottleware/Preservation:								
TCL VOCs	<input checked="" type="checkbox"/> 3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C								
TCL SVOCs	<input checked="" type="checkbox"/> 8 oz Amber, wide mouth glass; protect from light, 4°C								
TCL Pesticides	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C								
TCL PCBs	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C								
TAL Metals + Hg	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C								
Cyanide	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C								
TOC	<input checked="" type="checkbox"/> 4 oz wide mouth glass; 4°C								
Grainsize									
AVS/SEM	<input checked="" type="checkbox"/> 4 oz wide mouth glass; no headspace; 4°C								
Toxicity	<input checked="" type="checkbox"/> 3 x 1-gallon HDPE buckets; 4°C; 1 x 1-gal HDPE bucket								
PCB Congener	<input checked="" type="checkbox"/> 8 oz Amber <i>for archive</i>								
<b>SED SAMPLE DESCRIPTION</b>									
Color:	Moisture: Dry St. Moist Moist V.Moist <u>Wet</u>								
Major Description:	Clay	Silty Clay	Silt Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay	
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	vf f coarse-grained	Ang	SA / SR / Rounded	
Other Descriptors:	<u>SM - Silty sand - Black (10% silt), organic</u>			<u>Well / poorly / mod - sorted well / poorly / mod - cemented Loose</u>					
	<u>non-plastic, wet, homogeneous</u>								
<b>COMMENTS/OBSERVATIONS</b>									
<u>unable to collect 3rd location GPS coordinates (poor satellite coverage) - sample collected alongside bulkhead near Han. Ave bridge</u>									
<u>P.T.D 310</u>									
<u>May 6/22/10</u>									
Sampler Signature/Date					Reviewed by	<u>[Signature]</u>			
					Date	<u>7/19/10</u>			

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>R. Clemon - CH2M</u>		Station ID: <u>GC-SD321</u>
Subcontractor/Crew:	<u>S. Niero - HDR-Captain</u> <u>M. Paparella - HDR-First mate</u>		Time: <u>1405</u>
Bulk Sediment Sample ID:	<u>GC-SD321-0.0-0.5</u>	Grab Penetration <u>0.5</u> ft	Water Depth: <u>25 ft</u>
Number of Sampling Attempts:	1		
Problems During Collection:	<u>None</u> Many deployments required to collect full volume for toxicity/bioassay sample (approx. 152g)		
<b>QC SAMPLE DATA</b>			
QA/QC Sample IDs:	<input checked="" type="checkbox"/> NONE <input type="checkbox"/> DUP <input type="checkbox"/> MS/MSD		
Floating Debris (describe):	<u>few pieces plastic, wood</u>		
Water Color:	<u>light greenish gray</u>		
Clarity:	<u>mostly clear</u>		
Turbidity:	<u>low</u>		
Sheen:	<u>slight</u>		
Sample Analytical Parameters:	Bottleware/Preservation:		
TCL VOCs	<input checked="" type="checkbox"/>		
TCL SVOCs	<input checked="" type="checkbox"/>		
TCL Pesticides	<input checked="" type="checkbox"/>		
TCL PCBs	<input checked="" type="checkbox"/>		
TAL Metals + Hg	<input checked="" type="checkbox"/>		
Cyanide	<input checked="" type="checkbox"/>		
TOC	<input checked="" type="checkbox"/>		
Grainsize	<input checked="" type="checkbox"/>		
AVS/SEM	<input checked="" type="checkbox"/>		
Toxicity	<input checked="" type="checkbox"/>		
PCB Congens	<input checked="" type="checkbox"/>		
<b>SED SAMPLE DESCRIPTION</b>			
Color:	<u>104R21 Black</u>		
Moisture:	Dry	Sl. Moist	Moist
Major Description:	Clay	Silty Clay	<input checked="" type="checkbox"/> Silt
Minor Description:	Organic	Mottled	Plastic
Other Descriptors:	<u>Well</u> poorly / mod - sorted   well / poorly / mod - cemented   Loose		
<u>104R21 Black organic silt (0.2), well sorted, trace if sand, trace to little gravel, slight sheen on sample pore water.</u> <u>PID: N/A - battery on PID dead</u>			
<b>COMMENTS/OBSERVATIONS</b>			
Sampler Signature/Date	<u>R. Clemon 6/21/10</u>		

Reviewed by [Signature]

Date 7/19/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<i>Michael Murphy</i>		Station ID:	<u>322</u>						
Subcontractor/Crew:	<i>Steve Matt &gt; HDR</i>		Time:	<u>1250</u>						
			Water Depth:	<u>27'</u>						
			Tide:	<u>Low/Mid Tide</u>						
			Weather:	<u>Sunny 85°</u>						
Bulk Sediment Sample ID:	<u>G.C.-SD322-0.0-0.5</u>		Grab Penetration	<u>0.5' ft</u>						
Number of Sampling Attempts:	<u>1</u>		Sample Time:	<u>13:00</u>						
Problems During Collection:	<u>None</u>									
<b>QC SAMPLE DATA</b>										
QA/QC Sample IDs:	<input checked="" type="radio"/> <u>NONE</u> <input type="radio"/> <u>DUP</u> _____, MS/MSD _____									
Floating Debris (describe):	<u>NONE</u>									
Water Color:	<u>brown / clear</u>									
Clarity:	<u>clear</u>									
Turbidity:	<u>clear</u>									
Sheen:	<u>None</u>									
Sample Analytical Parameters:	Bottleware/Preservation:									
TCL VOCs	<input checked="" type="checkbox"/> 3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C									
TCL SVOCs	<input checked="" type="checkbox"/> 8 oz Amber, wide mouth glass; protect from light, 4°C									
TCL Pesticides	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C									
TCL PCBs	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C									
TAL Metals + Hg	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C									
Cyanide	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C									
TOC	<input checked="" type="checkbox"/> 4 oz wide mouth glass; 4°C									
Grainsize										
AVS/SEM	<input checked="" type="checkbox"/> 4 oz wide mouth glass; no headspace; 4°C									
Toxicity	<input checked="" type="checkbox"/> 3 x 1-gallon HDPE buckets; 4°C									
	<i>+ Archive</i>									
<b>SED SAMPLE DESCRIPTION</b>										
Color:	Moisture:									
Major Description:	Clay	Silty Clay	<input checked="" type="checkbox"/> Silt	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay	<input checked="" type="checkbox"/> Wet
Minor Description:	<input checked="" type="checkbox"/> Organic	Mottled	Plastic	M.Plastic	Nodules	<input checked="" type="checkbox"/> coarse-grained	Ang	/ SA	/ SR	Rounded
Other Descriptors:	<u>OC - Block (10yr 21d)</u>				<u>orange</u>				<u>5+ ft, tree root</u>	
(Substr.)	<u>- tree orange plot rather, hanging, wet</u>									
<b>COMMENTS/OBSERVATIONS</b>										
<u>PID - 0.0</u>										
Sampler Signature/Date	<i>MM</i>				<i>3/22/14</i>					

Reviewed by *JFR*

Date *7/12/10*

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>Michael Murphy</u>	Station ID:	<u>323</u>
Subcontractor/Crew:	<u>Steve J HDR</u>	Time:	<u>1220</u>
	<u>Matt</u>	Water Depth:	<u>24'</u>
		Tide:	<u>Mid-tide</u>
		Weather:	<u>Sunny 85° low humid</u>

Bulk Sediment Sample ID:	<u>GC- SD 323-0.0-0.5</u>	Grab	<u>0.5</u>	ft	Sample Time:	<u>1230</u>
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Number of Sampling Attempts: 11

Problems During Collection: NONE

**QC SAMPLE DATA**

QA/QC Sample IDs:

NONE

DUP \_\_\_\_\_, MS/MSD \_\_\_\_\_

Floating Debris (describe): NONE

Water Color: clear brown

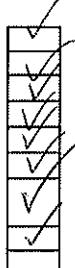
Clarity: clear

Turbidity: clear

Sheen: none observed

Sample Analytical Parameters:

TCL VOCs  
TCL SVOCs  
TCL Pesticides  
TCL PCBs  
TAL Metals + Hg  
Cyanide  
TOC  
Grainsize  
AVS/SEM  
Toxicity



3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C  
8 oz Amber, wide mouth glass; protect from light, 4°C  
8 oz wide mouth glass; 4°C  
4 oz wide mouth glass; 4°C  
4 oz wide mouth glass; no headspace; 4°C  
3 x 1-gallon HDPE buckets; 4°C

+ Archive

**SED SAMPLE DESCRIPTION**

Color:

Moisture: Dry Si. Moist Moist V.Moist Wet

Major Description:

Clay Silty Clay Silt Clayey Sand Sandy Clay Sand Gravelly Sand Gravel Grvly Clay

Minor Description:

Organic Mottled Plastic M.Plastic Nodules vf f coarse-grained Ang / SA / SR / Rounded

Well / poorly / mod - sorted well / poorly / mod - cemented Loose

Other Descriptors: DL - organic Silt - black - 10YR 2/1 - fine gravel  
wet, low plastic - organics - fine fibrous plant material  
homogeneous

**COMMENTS/OBSERVATIONS**

PID - 0.5 ft

Sampler Signature/Date

R. J. Murphy 6/22/10

Reviewed by R. J. Murphy Date 7/19/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>R. Clennan</u>	Station ID:	<u>GC-SD324</u>	
Subcontractor/Crew:	<u>S. Niero - Captain</u> <u>M. Papula - first mate</u>	Time:	<u>1250</u>	
		Water Depth:	<u>~ 10.0 ft @ first drop; 16.0 ft @</u> <u>mid (high) 16.42)</u>	
		Tide:	<u>mid (high) 16.42)</u>	
		Weather:	<u>clear, light breeze, low 80s</u>	
Bulk Sediment Sample ID:	<u>GC-SD324-00 D-005</u>	Grab Penetration	0.5 ft	Sample Time: <u>1250</u>
Number of Sampling Attempts:	<u>III (3) @ selected locations; more ~ 10 ft, 1 attempt @ 2nd to 2.</u>			
Problems During Collection:	<u>Recovery insufficient in first 3 deployments</u>			

**QC SAMPLE DATA**

QA/QC Sample IDs:				
<u>NONE</u>	DUP	MS/MSD		
Floating Debris (describe):	<u>organics, few pieces plastic</u>			
Water Color:	<u>greenish gray</u>			
Clarity:	<u>clear</u>			
Turbidity:	<u>slightly turbid</u>			
Sheen:	<u>none observed</u>			
Sample Analytical Parameters:	Bottleware/Preservation:			
TCL VOCs	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial, full, 4°C			
TCL SVOCs	8 oz Amber, wide mouth glass; protect from light, 4°C			
TCL Pesticides	8 oz wide mouth glass; 4°C			
TCL PCBs	8 oz wide mouth glass; 4°C			
TAL Metals + Hg	8 oz wide mouth glass; 4°C			
Cyanide	8 oz wide mouth glass; 4°C			
TOC	4 oz wide mouth glass; 4°C			
Grainsize	4 oz wide mouth glass; no headspace; 4°C			
AVS/SEM	3x 1-gallon HDPE buckets; 4°C; 1 x 1 gal bucket			
Toxicity	<u>802 AMBER</u>			
PCB Congener				

**SED SAMPLE DESCRIPTION**

Color:	<u>104R21 (Black)</u>		Moisture:	Dry	Si. Moist	Moist	V.Moist	Wet	
Major Description:	Clay	Silty Clay	Silt	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Gryly Clay
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	vf f	coarse-grained	Ang / SA / SR	Rounded
Other Descriptors:	<u>Well / poorly / mod - sorted well / poorly / mod - cemented Loose</u> <u>104R21 organic silt (0L), trace vf-f sand,</u> <u>moderate septic-like odor, well sorted, no clumping</u> <u>PID: 0.0</u>								

**COMMENTS/OBSERVATIONS**

Sampler Signature/Date

Bill A 6/21/10

Reviewed by K. F. Date 7/18/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	R. Clemons (CH2m)	Station ID:	GC-SD 324-00-0-005	
Subcontractor/Crew:	S. Nero - (HDR)	Time:	1145	
	M. Papula (HDR)	Water Depth:	13.0 ft / 33.0 ft as	
		Tide:	low	
		Weather:	Clear, light breeze, high 70's	
Bulk Sediment Sample ID:	GC-SD 324-00-0-005		Grab Penetration	0.5 ft
Number of Sampling Attempts:	11 (3) more out after 3 attempts; 2nd loc: 11 (2)			
Problems During Collection:	3rd loc: 11 (2); 4th loc: 1			

**QC SAMPLE DATA**

QA/QC Sample IDs:	None	
	DUP	06/21/2010-01
Floating Debris (describe):	None observed	
Water Color:	clear to slight inky bluish	
Clarity:		
Turbidity:		
Sheen:	Slight Sheen	
Sample Analytical Parameters:	Bottleware/Preservation:	
TCL VOCs	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial, full; 4°C	
TCL SVOCs	8 oz Amber, wide mouth glass; protect from light, 4°C	
TCL Pesticides	8 oz wide mouth glass; 4°C	
TCL PCBs	8 oz wide mouth glass; 4°C	
TAL Metals + Hg	8 oz wide mouth glass; 4°C	
Cyanide	8 oz wide mouth glass; 4°C	
TOC	4 oz wide mouth glass; 4°C	
Grainsize	4 oz wide mouth glass; no headspace; 4°C	
AVS/SEM	3 x 1-gallon HDPE buckets; 4°C; 1 x 1-gal HDPE bucket; 4°C	
Toxicity	8 oz AMBER + Archive	
PCB CONCENTRATOR		

**SED SAMPLE DESCRIPTION**

Color:	104R 2/1 (Black)		Moisture:	Dry	Sl. Moist	Moist	V.Moist	Wet	
Major Description:	Clay	Silty Clay	Silt	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay
Minor Description:	Organic	Mottled	Plastic	M. Plastic	Nodules	vf f	coarse-grained	Ang	/ SA / SR / Rounded
Other Descriptors:	Well / poorly / mod - sorted well / poorly / mod - cemented Loose 104R-2/1 organic silt (OL), trace to little fine sand no evident odor								
	P/D: 0.0								

**COMMENTS/OBSERVATIONS**

Sampler Signature/Date

*J. Clemons* 6/21/10

Reviewed by

*R. Clemons* Date 7/18/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	Mike Cunningham → Erin, ED → HDR								
Subcontractor/Crew:	Station ID:	376							
	Time:	13:38							
	Water Depth:	37'							
	Tide:	High							
	Weather:	clear sunny, 70-80							
Bulk Sediment Sample ID:	GC-SD326-0.0-0.5	Grab Penetration	0-0.5 ft Sample Time: 1346						
Number of Sampling Attempts:	1								
Problems During Collection:									
<b>QC SAMPLE DATA</b>									
QA/QC Sample IDs:									
<input checked="" type="radio"/> NONE	DUP	MS/MSD							
<b>Floating Debris (describe):</b>									
Water Color:									
Clarity:									
Turbidity:									
Sheen:									
Sample Analytical Parameters:	Bottleware/Preservation:								
TCL VOCs	<input checked="" type="checkbox"/>	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C							
TCL SVOCs	<input checked="" type="checkbox"/>	8 oz Amber, wide mouth glass; protect from light, 4°C							
TCL Pesticides	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
TCL PCBs	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
TAL Metals + Hg	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
Cyanide	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
TOC	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
Grainsize	<input checked="" type="checkbox"/>	4 oz wide mouth glass; no headspace; 4°C							
AVS/SEM	<input checked="" type="checkbox"/>	3 x 1-gallon HDPE buckets; 4°C							
Toxicity	<input checked="" type="checkbox"/>								
<i>+ Archive</i>									
<b>SED SAMPLE DESCRIPTION</b>									
Color:	black-brown								
Moisture:	Dry	Sl. Moist	<input checked="" type="radio"/> Moist	V.Moist	Wet				
Major Description:	Clay	Silty Clay	Silt	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Gvly Clay
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	vf f	coarse-grained	Ang	/ SA / SR / Rounded
Other Descriptors:	Well / poorly / mod - sorted well / poorly / mod - cemented Loose								
<b>COMMENTS/OBSERVATIONS</b>									
7 gallons of sediment included sediment that became into contact with sample device walls.									
Sampler Signature/Date	<i>Michael E. Cunningham</i>			6/17/2010					

Reviewed by *Peter R.* Date 7/12/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>MC BRENNAN</u>	Station ID:	<u>1533 307</u>			
Subcontractor/Crew:	<u>ENRON ED - HDPE</u>	Time:	<u>0330 pm (15:30)</u>			
		Water Depth:	<u>3 ft 3 in</u>			
		Tide:	<u>high</u>			
		Weather:	<u>clear, sunny, 70-80</u>			
Bulk Sediment Sample ID:	<u>GC-SD307-00-0-6'</u>	Grab Penetration	<u>0.6 ft</u>			
Number of Sampling Attempts:	<u>1/2</u>	Sample Time:	<u>15:30</u>			
Problems During Collection:	<u>Waves pushing samples over</u>					
<b>QC SAMPLE DATA</b>						
QA/QC Sample IDs:						
<u>NONE</u>	DUP _____	MS/MSD _____				
Floating Debris (describe):						
Water Color:						
Clarity:						
Turbidity:						
Sheen:						
Sample Analytical Parameters:	Bottleware/Preservation:					
TCL VOCs	<input checked="" type="checkbox"/> 3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C					
TCL SVOCs	<input checked="" type="checkbox"/> 8 oz Amber, wide mouth glass; protect from light, 4°C					
TCL Pesticides	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C					
TCL PCBs	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C					
TAL Metals + Hg	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C					
Cyanide	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C					
TOC	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C					
Grainsize	<input checked="" type="checkbox"/> 4 oz wide mouth glass; no headspace; 4°C					
AVS/SEM	<input checked="" type="checkbox"/> 3 x 1-gallon HDPE buckets; 4°C					
Toxicity						
	<i>+ Archive</i>					
<b>SED SAMPLE DESCRIPTION</b>						
Color: <u>Gray to black</u>	Moisture:	Dry	Sl. Moist	Moist	<input checked="" type="checkbox"/> V.Moist	Wet
Major Description: <input checked="" type="checkbox"/> Clay <input type="checkbox"/> Silty Clay <input type="checkbox"/> Silt <input type="checkbox"/> Clayey Sand <input type="checkbox"/> Sandy Clay <input type="checkbox"/> Sand <input type="checkbox"/> Gravelly Sand <input type="checkbox"/> Gravel <input type="checkbox"/> Grvly Clay						
Minor Description: <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Mottled <input type="checkbox"/> Plastic <input type="checkbox"/> M.Plastic <input type="checkbox"/> Nodules <input type="checkbox"/> vf f coarse-grained <input type="checkbox"/> Ang / SA / SR / Rounded						
Other Descriptors: <input type="checkbox"/> Well / poorly / mod - sorted <input type="checkbox"/> well / poorly / mod - cemented <input checked="" type="checkbox"/> loose						
<b>COMMENTS/OBSERVATIONS</b>						
Sampler Signature/Date	<u>Michael E. Cunneen</u>					
	<u>6/17/2010</u>					

Reviewed by K. J. Bren Date 7/18/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>Commingham</u>	Station ID:	<u>328</u>	
Subcontractor/Crew:	<u>Ehren, ED &gt; HDR</u>	Time:	<u>09:48</u>	
		Water Depth:	<u>34.8</u>	
		Tide:	<u>Intermediate</u>	
		Weather:	<u>Sunny 80's</u>	
Bulk Sediment Sample ID:	<u>GC-SD 328-0.0-0.5</u>	Grab Penetration	<u>0.5 ft</u>	
Number of Sampling Attempts:	<u>1/1 - 4 grabs to get all 7 gallons</u>			
Problems During Collection:	<u>none, but many mussels in samples</u>			
<b>QC SAMPLE DATA</b>				
QA/QC Sample IDs:				
NONE	DUP _____	MS/MSD _____		
Floating Debris (describe):				
Water Color:				
Clarity:				
Turbidity:				
Sheen:				
Sample Analytical Parameters:	Bottleware/Preservation:			
TCL VOCs	<input checked="" type="checkbox"/>	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C		
TCL SVOCs	<input checked="" type="checkbox"/>	8 oz Amber, wide mouth glass; protect from light, 4°C		
TCL Pesticides	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C		
TCL PCBs	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C		
TAL Metals + Hg	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C		
Cyanide	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C		
TOC	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C		
Grainsize	<input checked="" type="checkbox"/>	4 oz wide mouth glass; no headspace; 4°C		
AVS/SEM	<input checked="" type="checkbox"/>	3 x 1-gallon HDPE buckets; 4°C		
Toxicity	<input checked="" type="checkbox"/>	8oz Amber		
PCBs	<input checked="" type="checkbox"/>	+ Archive		
<b>SED SAMPLE DESCRIPTION</b>				
Color:	<u>Black</u>			
Major Description:	Clay	<u>Silty Clay</u>	Silt Clayey Sand Sandy Clay Sand Gravelly Sand Gravel Grvly Clay	
Minor Description:	Organic	Mottled	Plastic M.Plastic Nodules vf f coarse-grained Ang / SA / SR / Rounded	
Other Descriptors:	Well / poorly mod - sorted	well / poorly mod - cemented	Loose	
<b>COMMENTS/OBSERVATIONS</b>				
<u>PID &gt; 2.0</u>				
<u>- Located position from a map because GPS was not working properly</u>				
<u>7 gallons sampled</u>				
<u>for bioassay</u>				
Sampler Signature/Date	<u>Michael E. Cunningham</u>			
	<u>6/18/2010</u>			

Reviewed by J. F. F. Date 7/19/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>M. Cunningham</u>	Station ID:	<u>329</u>
Subcontractor/Crew:	<u>KC, Ehren, ED</u>	Time:	<u>1516</u>
		Water Depth:	<u>39.9'</u>
		Tide:	<u>High</u>
		Weather:	<u>Sunny, calm, 80's</u>
Bulk Sediment Sample ID:	<u>GC-S0329-0.0-0.5</u>	Grab Penetration	<u>0-5 ft</u>
Number of Sampling Attempts:	<u>3/3</u>	Sample Time:	<u>15-16</u>

Problems During Collection:

**QC SAMPLE DATA**

QA/QC Sample IDs:

NONE

DUP \_\_\_\_\_ MS/MSD \_\_\_\_\_

Floating Debris (describe):

Water Color:

Clarity:

Turbidity:

Sheen:

Sample Analytical Parameters:

TCL VOCs  
TCL SVOCs  
TCL Pesticides  
TCL PCBs  
TAL Metals + Hg  
Cyanide  
TOC  
Grainsize  
AVS/SEM  
Toxicity  
PCB congeners



Bottleware/Preservation:

3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C  
8 oz Amber, wide mouth glass; protect from light, 4°C  
8 oz wide mouth glass; 4°C  
4 oz wide mouth glass; no headspace; 4°C  
3 x 1-gallon HDPE buckets; 4°C  
8 oz Amber

+ Archive

**SED SAMPLE DESCRIPTION**

Color:

Moisture: Dry Sl. Moist Moist V.Moist Wet

Major Description:

Clay Silty Clay Silt Clayey Sand Sandy Clay Sand Gravelly Sand Gravel Grvly Clay

Minor Description:

Organic Mottled Plastic M.Plastic Nodules vf f coarse-grained Ang / SA / SR / Rounded

Well / poorly / mod - sorted well / poorly / mod - cemented Loose

Other Descriptors:

**COMMENTS/OBSERVATIONS**

PID = 0.0

Sampler Signature/Date

Michael E. Cunningham

6/18/2010

Reviewed by John J. He Date 6/18/10



**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>Mike Cunningham</u>	Station ID:	<u>330</u>					
Subcontractor/Crew:	<u>Ehren, ED</u>	Time:	<u>12:52</u>					
		Water Depth:	<u>34'</u>					
		Tide:	<u>Incoming / High</u>					
		Weather:	<u>Sunny, calm, 80's</u>					
Bulk Sediment Sample ID:	<u>GC-SD330-0.0-0.5</u>	Grab Penetration	<u>0.5 ft</u>					
Number of Sampling Attempts:	<u>3/3</u>	Sample Time:	<u>12:52</u>					
Problems During Collection:	<u>-</u>							
<b>QC SAMPLE DATA</b>								
QA/QC Sample IDs:	<u>NONE</u>	DUP	MS/MSD					
Floating Debris (describe):	<u>-</u>							
Water Color:	<u>-</u>							
Clarity:	<u>-</u>							
Turbidity:	<u>-</u>							
Sheen:	<u>-</u>							
Sample Analytical Parameters:	Bottleware/Preservation:							
TCL VOCs	<input checked="" type="checkbox"/> 3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C							
TCL SVOCs	<input checked="" type="checkbox"/> 8 oz Amber, wide mouth glass; protect from light, 4°C							
TCL Pesticides	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C							
TCL PCBs	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C							
TAL Metals + Hg	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C							
Cyanide	<input checked="" type="checkbox"/> 8 oz wide mouth glass; 4°C							
TOC	<input checked="" type="checkbox"/> 4 oz wide mouth glass; 4°C							
Grainsize	<input checked="" type="checkbox"/> 4 oz wide mouth glass; no headspace; 4°C							
AVS/SEM	<input checked="" type="checkbox"/> 3x 1-gallon HDPE buckets; 4°C							
Toxicity	<input checked="" type="checkbox"/> 8 oz Amber							
PCB CONGENER	<input checked="" type="checkbox"/> +Archive							
<b>SED SAMPLE DESCRIPTION</b>								
Color:	<u>Dark Grey</u>							
Major Description:	Clay	<input checked="" type="checkbox"/> Silty Clay	Silt Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	vf f	coarse-grained	Ang / SA / SR / Rounded
Other Descriptors:	Well /poorly/ mod - sorted	well /poorly/ mod - cemented	Loose					
<b>COMMENTS/OBSERVATIONS</b>								
<u>607258.03' N 3 Complex Coordinates 604635.03' E 3</u>								
<u>7 gallons sampled in 3 attempts</u>								
<u>PID=0.6 ppm</u>								
Sampler Signature/Date	<u>Michael E Cunningham</u>			<u>6/18/2010</u>				

Reviewed by

Date

7/19/10

\* VOCs only \*

Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York

Samplers/Inspectors:	Bill, Steve, Ethan - HDL	Station ID: 330
Subcontractor/Crew:		Time: 1421
		Water Depth: 34.0 ft
		Tide: High
		Weather: mostly sunny, high 80s
Bulk Sediment Sample ID:	GC-SD330-00-05	Grab Penetration 0.5 ft Sample Time: 1421
Number of Sampling Attempts:		
Problems During Collection:		
QC SAMPLE DATA		
QA/QC Sample IDs:	None DUP D-06242010-02, MS/MSD	
Floating Debris (describe):		
Water Color:		
Clarity:		
Turbidity:		
Sheen:		
Sample Analytical Parameters:	Bottleware/Preservation:	
TCL VOCs	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C	
TCL SVOCs	8 oz Amber, wide mouth glass; protect from light, 4°C	
TCL Pesticides	8 oz wide mouth glass; 4°C	
TCL PCBs	8 oz wide mouth glass; 4°C	
TAL Metals + Hg	8 oz wide mouth glass; 4°C	
Cyanide	8 oz wide mouth glass; 4°C	
TOC	4 oz wide mouth glass; 4°C	
Grainsize	4 oz wide mouth glass; no headspace; 4°C	
AVS/SEM	3 x 1-gallon HDPE buckets; 4°C	
Toxicity		
SED SAMPLE DESCRIPTION		
Color:	Black 1041A/1	Moisture: Dry Si. Moist Moist V.Moist Wet
Major Description:	Clay Silty Clay Silt Clayey Sand Sandy Clay Sand Gravelly Sand Gravel Grvly Clay	
Minor Description:	Organic Mottled Plastic M.Plastic Nodules vf f coarse-grained Ang / SA / SR / Rounded	
Other Descriptors:	Well / poorly / mod - sorted well / poorly / mod - cemented Loose	
COMMENTS/OBSERVATIONS		
- Resampled for VOCs only		
Duplicate Sample Collected		
Sampler Signature/Date		

Reviewed by  Date 7/19/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors: M C Station ID: 331  
 Subcontractor/Crew: KC, ED, EHREN Time: 5:08  
 Water Depth: 41.4 Tide: Outgoing / High  
 Weather: Sunny, 80's, calm

Bulk Sediment Sample ID: GC-SD-331-0.0-0.5' Grab Penetration 0.5 ft Sample Time: 16:16

Number of Sampling Attempts: 1/1

Problems During Collection:

**QC SAMPLE DATA**

QA/QC Sample IDs:

NONE DUP \_\_\_\_\_ MS/MSD \_\_\_\_\_

Floating Debris (describe):

Water Color:

Clarity:

Turbidity:

Sheen:

Sample Analytical Parameters:

TCL VOCs	<input checked="" type="checkbox"/>
TCL SVOCs	<input checked="" type="checkbox"/>
TCL Pesticides	<input checked="" type="checkbox"/>
TCL PCBs	<input checked="" type="checkbox"/>
TAL Metals + Hg	<input checked="" type="checkbox"/>
Cyanide	<input checked="" type="checkbox"/>
TOC	<input checked="" type="checkbox"/>
Grainsize	<input checked="" type="checkbox"/>
AVS/SEM	<input checked="" type="checkbox"/>
Toxicity	<input checked="" type="checkbox"/>
PCB Congener	<input checked="" type="checkbox"/>

Bottleware/Preservation:

3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C  
 8 oz Amber, wide mouth glass; protect from light, 4°C  
 8 oz wide mouth glass; 4°C  
 4 oz wide mouth glass; no headspace; 4°C  
 3 x 1-gallon HDPE buckets; 4°C  
 8 oz AMBER

+ Archive

**SED SAMPLE DESCRIPTION**

Color: Dark Grey

Moisture: Dry Si. Moist Moist V.Moist Wet

Major Description: Clay Silty Clay Silt Clayey Sand Sandy Clay Sand Gravelly Sand Gravel Grvly Clay

Minor Description: Organic Mottled Plastic M.Plastic Nodules vf f coarse-grained Ang / SA / SR / Rounded

Other Descriptors: Well / poorly / mod - sorted well / poorly / mod - cemented Loose

Clayey silt is more accurate description of almost all of our samples in the Bay

**COMMENTS/OBSERVATIONS**

- Neutral

pH = 8.0

Sampler Signature/Date

Michael E. Gough 6/18/2010

Reviewed by

Date

7/19/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>Cunningham</u>	Station ID:	<u>337</u>							
Subcontractor/Crew:	<u>KC, ED, Ehren</u>	Time:	<u>4:16</u>							
		Water Depth:	<u>22.4</u>							
		Tide:	<u>High / outgoing</u>							
		Weather:	<u>Sunny, calm, 80's</u>							
Bulk Sediment Sample ID:	<u>B.C.-SD 332 - 0.5-0.5</u>	Grab Penetration	<u>0.5 ft</u>							
Number of Sampling Attempts:	<u>1/1</u>	Sample Time:	<u>16:16</u>							
Problems During Collection:	<u>none</u>									
<b>QC SAMPLE DATA</b>										
QA/QC Sample IDs:										
<input checked="" type="radio"/> <u>NONE</u>	DUP _____	MS/MSD _____								
Floating Debris (describe):										
Water Color:										
Clarity:										
Turbidity:										
Sheen:										
Sample Analytical Parameters:	Bottleware/Preservation:									
TCL VOCs	<input checked="" type="checkbox"/>	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C								
TCL SVOCs	<input checked="" type="checkbox"/>	8 oz Amber, wide mouth glass; protect from light, 4°C								
TCL Pesticides	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C								
TCL PCBs	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C								
TAL Metals + Hg	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C								
Cyanide	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C								
TOC	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C								
Grainsize										
AVS/SEM	<input checked="" type="checkbox"/>	4 oz wide mouth glass; no headspace; 4°C								
Toxicity	<input checked="" type="checkbox"/>	3x 1-gallon HDPE buckets; 4°C								
PCB Congeners	<input checked="" type="checkbox"/>	8 oz AMBER + Archive								
<b>SED SAMPLE DESCRIPTION</b>										
Color:	<u>Dark Grey</u>									
Moisture:	Dry	Sl. Moist	Moist	V.Moist	<input checked="" type="radio"/> Wet					
Major Description:	Clay	Silty Clay	Silt	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay	
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	vt	coarse-grained	Ang	/ SA / SR / Rounded	
Other Descriptors:	Well / poorly	mod - sorted	well / poorly	mod - cemented	mod - cemented	Loose				
<b>COMMENTS/OBSERVATIONS</b>										
<u>PID &gt; 0.0</u>										
Sampler Signature/Date	<u>Michael E. Cunningham</u>			<u>6/18/2010</u>			Date	<u>7/19/10</u>		

Reviewed by [Signature]

Date 7/19/10

\* VOC Only \*

Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York

Samplers/Inspectors:

Bill, Steve, Chin-HDR

Station ID: 832

Subcontractor/Crew:

Time: 1341

Water Depth: 14.0 ft

Tide: High - mid mostly

Weather: high 80s, Sunny & breezy

Bulk Sediment Sample ID:

GC-SD332-0.0-05

Grab Penetration 0.5 ft

Sample Time:

1341

Number of Sampling Attempts:

Problems During Collection:

QC SAMPLE DATA

QA/QC Sample IDs:

NONE

DUP

MS/MSD

Floating Debris (describe):

Water Color:

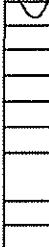
Clarity:

Turbidity:

Sheen:

Sample Analytical Parameters:

TCL VOCs  
TCL SVOCs  
TCL Pesticides  
TCL PCBs  
TAL Metals + Hg  
Cyanide  
TOC  
Grainsize  
AVS/SEM  
Toxicity



Bottleware/Preservation:

3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C  
8 oz Amber, wide mouth glass; protect from light, 4°C  
8 oz wide mouth glass; 4°C  
4 oz wide mouth glass; 4°C  
4 oz wide mouth glass; no headspace; 4°C  
3 x 1-gallon HDPE buckets; 4°C

SED SAMPLE DESCRIPTION

Color:

10YR 2/1 OL "Org. Silt"

Moisture:

Dry Sl. Moist Moist V.Moist Wet

Major Description:

Clay Silty Clay Silt Clayey Sand Sandy Clay Sand Gravelly Sand Gravel Grvly Clay

Minor Description:

Organic Mottled Plastic M.Plastic Nodules lf f coarse-grained Ang / SA / SR / Rounded

Well / poorly / mod - sorted well / poorly / mod - cemented Loose

Other Descriptors:

COMMENTS/OBSERVATIONS

- Resampled for VOCs only

Sampler Signature/Date

Reviewed by

Date

7/12/10

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>M. Cunningham</u>	Station ID:	<u>333</u>						
Subcontractor/Crew:	<u>Ehren, E.D.</u>	Time:	<u>11:21</u>						
		Water Depth:	<u>19.8</u>						
		Tide:	<u>Intermediate / Incoming</u>						
		Weather:	<u>Sunny, 80's, calm</u>						
Bulk Sediment Sample ID:	<u>GC-SD 333-0.0-0.5</u>	Grab Penetration	<u>0.5 ft</u>						
Number of Sampling Attempts:	<u>3/3</u>	Sample Time:	<u>11:21</u>						
Problems During Collection:									
<b>QC SAMPLE DATA</b>									
QA/QC Sample IDs:	<input checked="" type="radio"/> NONE      DUP _____ , MS/MSD _____								
Floating Debris (describe):									
Water Color:									
Clarity:									
Turbidity:									
Sheen:									
Sample Analytical Parameters:	Bottleware/Preservation:								
TCL VOCs	<input checked="" type="checkbox"/>	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C							
TCL SVOCs	<input checked="" type="checkbox"/>	8 oz Amber, wide mouth glass; protect from light, 4°C							
TCL Pesticides	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
TCL PCBs	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
TAL Metals + Hg	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
Cyanide	<input checked="" type="checkbox"/>	8 oz wide mouth glass; 4°C							
TOC	<input checked="" type="checkbox"/>	4 oz wide mouth glass; 4°C							
Grainsize	<input checked="" type="checkbox"/>	4 oz wide mouth glass; no headspace; 4°C							
AVS/SEM	<input checked="" type="checkbox"/>	3 x 1-gallon HDPE buckets; 4°C							
Toxicity	<input checked="" type="checkbox"/>	8 oz Amber							
PCB Congener	<input checked="" type="checkbox"/>	Archive							
<b>SED SAMPLE DESCRIPTION</b>									
Color:	<u>Dark Gray</u>								
Moisture:	Dry	Sl. Moist	Moist	V.Moist	Wet				
Major Description:	Clay	Silky Clay	Silt	Clayey Sand	Sandy Clay	Sand	Gravelly Sand	Gravel	Grvly Clay
Minor Description:	Organic	Mottled	Plastic	M.Plastic	Nodules	vf f	coarse-grained	Ang	/ SA / SR / Rounded
Other Descriptors:	Well / poorly	mod - sorted	well / poorly	mod - cemented	Loose				
<b>COMMENTS/OBSERVATIONS</b>									
coordinates "AS IS" 667204-85 ft N 622197.36 ft E									
sediment - 7 gallons sampled									
$P.D = 0.5$									
Sampler Signature/Date	<u>Michael E Cunningham</u>			<u>6/18/2010</u>					

Reviewed by

Date

7/19/10

1 bucket - charged  
 1 bag - charged

Ehren  
S. Nero  
B. Ol

-C }  
} HDR

\* VOC only \*

Surface Sediment Sampling Form Gowanus Canal Remedial Investigation Brooklyn, Kings County, New York							
Samplers/Inspectors:	R. Glennon - C172n(Rc)	Station ID:	333				
	S. Nero - HDR Captain	Time:	1333				
Subcontractor/Crew:	M. Pappalardo - Captain - HDR(Rc)	Water Depth:	15.0 ft				
	E. Brandt - Captain - HDR(Rc)	Tide:	High - mid				
		Weather:	partly sunny, high 80°, light wind				
Bulk Sediment Sample ID:	GC-SD 333-0.0-0.5'	Grab Penetration	0.5' ft				
Number of Sampling Attempts:	1	Sample Time:	1330				
Problems During Collection:	-						
QC SAMPLE DATA							
QA/QC Sample IDs:							
NONE	DUP	MS/MSD					
Floating Debris (describe):	-						
Water Color:	-						
Clarity:	-						
Turbidity:	-						
Sheen:	-						
Sample Analytical Parameters:	Bottleware/Preservation:						
TCL VOCs	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C						
TCL SVOCs	8 oz Amber, wide mouth glass; protect from light, 4°C						
TCL Pesticides	8 oz wide mouth glass; 4°C						
TCL PCBs	8 oz wide mouth glass; 4°C						
TAL Metals + Hg	8 oz wide mouth glass; 4°C						
Cyanide	8 oz wide mouth glass; 4°C						
TOC	4 oz wide mouth glass; 4°C						
Grain size	4 oz wide mouth glass; no headspace; 4°C						
AVS/SEM	3 x 1-gallon HDPE buckets; 4°C						
Toxicity							
SED SAMPLE DESCRIPTION							
Color:	Black (104R 21) Organic Silt	Moisture:	Dry Sl. Moist Moist V.Moist Wet				
Major Description:	Clay Silty Clay Silt Clayey Sand Sandy Clay Sand Gravelly Sand Gravel Grvly Clay						
Minor Description:	Organic Mottled Plastic M. Plastic Nodules vf f coarse-grained Ang / SA / SR / Rounded						
Other Descriptors:	Well / poorly / mod - sorted well / poorly / mod - cemented Loose						
COMMENTS/OBSERVATIONS							
- Resampled for VOCs only							
Sampler Signature/Date							

Reviewed by Rey J. Lopez Date 7/17/10

W 331 SP  
38 ft - 1312

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>Cunningham</u>	Station ID:	<u>334</u>
Subcontractor/Crew:	<u>KC, ED, Ehren</u>	Time:	<u>20.28 1640</u>
		Water Depth:	<u>42.5</u>
		Tide:	<u>High / outgoing</u>
		Weather:	<u>Sunny, hot, 80's</u>

Bulk Sediment Sample ID: GC-SD 334-0.0-0.5 Grab Penetration 0.5 ft Sample Time: 1640

Number of Sampling Attempts: 1/1

Problems During Collection: none

**QC SAMPLE DATA**

QA/QC Sample IDs:

(NONE)

DUP

MS/MSD

Floating Debris (describe):

Water Color:

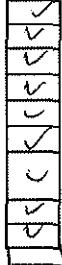
Clarity:

Turbidity:

Sheen:

Sample Analytical Parameters:

TCL VOCs  
TCL SVOCs  
TCL Pesticides  
TCL PCBs  
TAL Metals + Hg  
Cyanide  
TOC  
Grainsize  
AVS/SEM  
Toxicity  
PCB Congeners



Bottles/ware/Preservation:

3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C  
8 oz Amber, wide mouth glass; protect from light, 4°C  
8 oz wide mouth glass; 4°C  
4 oz wide mouth glass; no headspace; 4°C  
3 x 1-gallon HDPE buckets; 4°C  
8 oz AMBER

**SED SAMPLE DESCRIPTION**

Color: Dock Grey

Moisture: Dry Sl. Moist Moist V.Moist.. Wet

Major Description: Clay Silty Clay Silt Clayey Sand Sandy Clay Sand Gravelly Sand Gravel Grvly Clay

Minor Description: Organic Mottled Plastic M.Plastic Nodules vf f coarse-grained Ang / SA / SR / Rounded

Well /poorly/ mod - sorted well / poorly (mod - cemented) Loose

Other Descriptors:

**COMMENTS/OBSERVATIONS**

Gunhog & Crab in Sample

PID = 0.0

Sampler Signature/Date

Michael E. Cunningham

6/18/2010

Reviewed by

Date

7/17/10

\* VOCs Only \*

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Reviewed by \_\_\_\_\_

Date \_\_\_\_\_

Hafes

**Surface Sediment Sampling Form  
Gowanus Canal Remedial Investigation  
Brooklyn, Kings County, New York**

Samplers/Inspectors:	<u>Mika Cunningham</u>	Station ID:	<u>335</u>
Subcontractor/Crew:	<u>Ehren, ED</u>	Time:	<u>16:05</u>
		Water Depth:	<u>17.4'</u>
		Tide:	<u>high</u>
		Weather:	<u>windy, 70-80, sun</u>
Bulk Sediment Sample ID:	<u>GC-SD335-0.0-0.5</u>	Grab Penetration	<u>0.5 ft</u>
Number of Sampling Attempts:	<u>1/1</u>	Sample Time:	<u>16:45</u>
Problems During Collection:	<u>very windy + choppy - no time to fool around w/ gear</u>		
<b>QC SAMPLE DATA</b>			
QA/QC Sample IDs:	<input checked="" type="checkbox"/> NONE <input type="checkbox"/> DUP <input type="checkbox"/> MS/MSD		
Floating Debris (describe):	-		
Water Color:	-		
Clarity:	-		
Turbidity:	-		
Sheen:	-		
Sample Analytical Parameters:	Bottleware/Preservation:		
TCL VOCs	3x 40 mL vials/TerraCore with stir bar, 1-40 mL vial/full; 4°C		
TCL SVOCs	8 oz Amber, wide mouth glass; protect from light, 4°C		
TCL Pesticides	8 oz wide mouth glass; 4°C		
TCL PCBs	8 oz wide mouth glass; 4°C		
TAL Metals + Hg	8 oz wide mouth glass; 4°C		
Cyanide	8 oz wide mouth glass; 4°C		
TOC	8 oz wide mouth glass; 4°C		
Grainsize	4 oz wide mouth glass; no headspace; 4°C		
AVS/SEM	3 x 1-gallon HDPE buckets; 4°C		
Toxicity			
<b>SED SAMPLE DESCRIPTION</b>			
Color:	Moisture: Dry Si. Moist <input checked="" type="checkbox"/> Moist V.Moist Wet		
Major Description:	Clay <input checked="" type="checkbox"/> Silty Clay <input type="checkbox"/> Silt <input type="checkbox"/> Clayey Sand <input type="checkbox"/> Sandy Clay <input type="checkbox"/> Sand <input type="checkbox"/> Gravelly Sand <input type="checkbox"/> Gravel <input type="checkbox"/> Grvly Clay		
Minor Description:	Organic Mottled Plastic M.Plastic Nodules vf f coarse-grained Ang / SA / SR / Rounded Well / poorly / mod - sorted well / poorly / mod - cemented <input type="checkbox"/> Loose		
Other Descriptors:			
<b>COMMENTS/OBSERVATIONS</b>			
Sampler Signature/Date	<u>Michael E. Cunningham</u> <u>6/17/2010</u>		

Reviewed by Mark Date 7/19/10