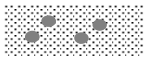
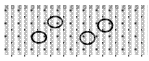
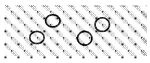
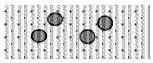
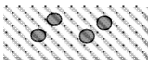
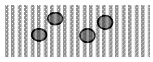
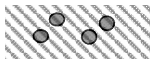
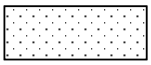
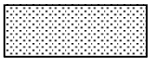
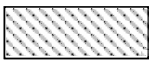
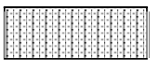
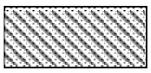
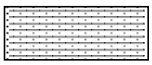
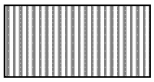
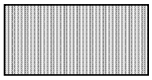
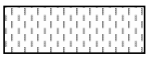
Sediment Core Log Key

MAJOR DIVISIONS		GRAPHIC SYMBOL	GROUP SYMBOL	DESCRIPTION
COARSE-GRAINED MATERIAL	GRAVELS — CLEAN GRAVELS		GW	Well-graded gravel Well-graded gravel with sand
			GP	Poorly graded gravel Poorly graded gravel with sand
			GW-GM	Well-graded gravel with silt Well-graded gravel with silt and sand
			GW-GC	Well-graded gravel with clay Well graded gravel with clay and sand
	GRAVELS — GRAVELS WITH FINES		GP-GM	Poorly graded gravel with silt Poorly graded gravel with silt and sand
			GP-GC	Poorly graded gravel with clay Poorly graded gravel with clay and sand
			GM	Silty gravel Silty gravel with sand
			GC	Clayey gravel Clayey gravel with sand
	SANDS — CLEAN SANDS		SW	Well-graded sands Well-graded sand and gravel
			SP	Poorly-graded sands Poorly graded sand with gravel
			SW-SM	Well-graded sand with silt Well-graded sand with silt and gravel
			SW-SC	Well-graded sand with clay Well-graded sand with clay and gravel
			SP-SM	Poorly-graded sand with silt Poorly-graded sand with silt and gravel
	SANDS WITH FINES		SP-SC	Poorly-graded sand with clay Poorly-graded sand with clay and gravel
			SM	Silty sand Silty sand and with gravel
			SC	Clayey sand Clayey sand and with gravel
FINE-GRAINED MATERIALS			CL	Lean clay * Lean clay with sand or gravel * Sandy lean clay * Sandy lean clay with gravel * Gravelly lean clay * Gravelly lean clay with sand
			ML	Silt * Silty with sand or gravel * Sandy silt * Sandy silt with gravel * Gravelly silt * Gravelly silt with sand
	SILTS AND CLAYS		CH	Fat clay * Fat clay with sand or gravel * Sandy fat clay * Gravelly fat clay * Gravelly fat clay with sand
			MH	Elastic silt * Elastic silt with sand or gravel * Sandy elastic silt * Sandy elastic silt with gravel * Gravelly elastic silt * Gravelly elastic silt with sand
			OL/OH	Organic silt * Organic silt with sand or gravel * Sandy organic silt * Sandy organic soil with gravel * Gravelly organic soil * Gravelly organic soil with sand

Well Graded (Engineering) = Poorly Sorted (Geological) = grains of all different sizes mixed together

Poorly Graded (Engineering) = Well Sorted (Geological) = grains are all same size

∩ Shell hash

λλλλ Peat/organic matter

CONSISTENCY

Penetration of thumb:

<0.25 cm = hard (H)

0.25 - 2.0 cm = firm (F)

2.0 - 4.0 cm = soft (S)

>4.0 cm = very soft (VS)

CEMENTATION

N = not cemented

W = weakly cemented

M = Moderately cemented

S = Strongly cemented

STRUCTURE

H = Homogeneous

S = Stratified

L = Laminated

M = Mottled

COLOR

from Munsell chart

MAXIMUM PARTICLE SIZE

SC = Small Cobble

CP = Coarse Pebble

MP = Medium Pebble

SP = Small Pebble

CS = Coarse Sand

MS = Medium Sand

FS = Fine Sand

VFS = Very Fine Sand

Z = Silt

SA = Sub-angular

VA = Very angular

ODOR

N = None

UNC = Unclassified

S = Sulfur-like

T = Tar-like

PHC = Petroleum hydrocarbon-like

Quantifying Descriptors

Strong

Moderate

Faint

Moisture Content

Wet

Moist

Dry

well graded = poorly sorted = grains of all different sizes mixed together

poorly graded = well sorted = grains are all same size

VISIBLE CONTAMINATION DESCRIPTORS

Sheen - iridescent petroleum-like sheen. Free product is not present but a distinct film is evident. Not to be used to describe a “bacterial sheen” which can be distinguished by its tendency to break up on the water surface at angles whereas petroleum sheen will be continuous and will not break up.

Stained - used w/ color (i.e. black or brown stained) to indicate that the soil matrix is stained a color other than the natural (unimpacted) color of the soil.

Coated - soil grains are coated with free product – there is not sufficient free-phase material present to saturate the pore spaces.

Blebs - observed discrete sphericals of tar/free product - but for the most part the soil matrix was not visibly contaminated or saturated. Typically this is residual product.

Saturated - the entirety of the pore space for a sample is saturated with NAPL. Care should be taken to ensure that you’re not observing water saturating the pore spaces if you use this term. Depending on viscosity, free-phase saturated materials may freely drain from a soil sample.

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD107	**Easting:**	634413.11	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	673635.16	**Penetration (ft):** 20'	N - 20' Penetration
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-3.7 NAVD88	**Recovery (ft)** 16'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/9/2010 15:25	
	ASI - M. Shappell/Captain	**Depth (ft):**	4.7'		
		St. Arrival:	15:20	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	15:55	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC (mod)	0%	5%	95%	0.0	A	* Organic: leaf and wood fragments, septic-like odor, abrupt change
2		SM	10YR 2/1	F	N	H	Wet	FS	UNC (mod)	0%	75%	25%	1.2	B	Silty sand - no garbage
3															*
4		OL	10YR 2/1	S	N	H	Wet	FS	UNC (mod)	0%	75%	25%	0.6	C	Plastic bags and garbage noted throughout, fibrous wood, glass fragments
5															*
6								MP		25%	50%	25%	13.1		
7										0%	80%	20%	3.1	D	*
8		SW-SM	10YR 5/1	H	N	H	Wet	MP	UNC (mod)	0%	80%	20%	2.1		
9			10YR 2/1					FS			90%	10%	0.3		
10								MS					1.8	E	* Several bands of very silty sand, light gray
													1.5		

Additional Notes/Comments: Bottom of core at 16.0'. Core opened at 1650. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW-SM	10YR 2/1	H	N	H	Wet	ML	UNC	0%	90%	10%	30.3	F/G	
													0.4		
12		SM/ML	10YR 2/1	H	N	H	Moist/ Wet	VFS	UNC	0%	60%	40%	5.1		
													1.6	H	
13													1.6		
14													0.0		
													0.0	I	No NAPL observed
15		SM						FS			80%	20%			
BOC=													0.0		
16													1.3		
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD107-00.0-02.0	N	03/09/2010 16:50	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD107-02.0-04.0	N	03/09/2010 16:50	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD107-04.0-06.0	N	03/09/2010 16:50	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
D	GC-SD107-06.0-08.0	N	03/09/2010 16:50	6.0-8.0	X	X	X	X	X	X	X	X	X	X		
E	GC-SD107-08.0-10.0	N	03/09/2010 16:50	8.0-10.0	X	X	X	X	X	X	X	X	X	X		
F	GC-SD107-10.0-12.0	N	03/09/2010 16:50	10.0-12.0	X	X	X	X	X	X	X	X	X	X		
G	D-03092010-02	FD	03/09/2010 16:50	10.0-12.0	X	X	X	X	X	X		X				
H	GC-SD107-12.0-14.0	N	03/09/2010 16:50	12.0-14.0	X	X	X	X	X	X	X	X	X	X		
I	GC-SD107-14.0-16.0	N	03/09/2010 16:50	14.0-16.0	X	X	X	X	X	X	X	X	X	X		
J	GC-SD107-00.0-16.0	N-TCLP	03/09/2010 16:50	0.0-16.0											X	X
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/9/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD108	**Easting:**	634231.95		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	673200.67	**Penetration (ft):**	16.5'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-4.2 NAVD88	**Recovery (ft)**	13.5'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/5/2010 8:30		
	ASI - M. Shappell/Captain	**Depth (ft):**	4.5'				
		St. Arrival:	8:25		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	9:40	**Penetration (ft):**	17'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	11.5'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/5/2010 9:10		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	1%	1%	98%	4.2	A	* PID above core - 33.3 ppm
2															Wood fragments - worm
3													4.2	B	* PID above core - 52.6 ppm
4															Garbage - plastic bags
5													10	C	* PID above core - 86.6 ppm
6															
7				S					PHC (faint)	5%	5%	90%	22.6	D	* PID above core - 38.5 ppm
8		GP-GM	10YR 2/1	H	N	H	Wet	CP	PHC (faint)	50%	25%	25%			Increasing sand and gravel content Gradual transition to fine silty sand
9		SM	10YR 2/1	H	N	H	Wet	MS	PHC (mod)	0%	75%	25%	9.9	E	* PID above core - 41.4 Abrupt transition to fine silty sand
10		ML	10YR 4/2	H	M	H	Moist	FS	PHC (mod)	0%	10%	90%		F	

Additional Notes/Comments: Bottom of core at 13.5'. Core opened at 10:13. (1) Coordinates are of first core, which was retained and processed.
* Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		ML	10YR 4/2	H	M	H	Moist	FS	PHC (mod)	0%	10%	90%	32.5	F	* PID above core - 422 ppm
12		SW-SM	10YR 4/2	H	N	H	Wet	SP	PHC (strong)	10%	89%	1%	22.5	G	Gradually increasing gravel content (rounded)
13 BOC 13.5'															PID above core - 276 ppm NAPL saturation at approximately 13.0' * Heavy coating - 12.8 - 13.1'
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD108-00.0-02.0	N	03/03/2010 10:13	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD108-02.0-04.0	N	03/03/2010 10:13	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD108-04.0-06.0	N	03/03/2010 10:13	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
	D-03052010-01	FD	03/03/2010 10:13	4.0-6.0	X	X			X	X		X				
D	GC-SD108-06.0-08.0	N	03/03/2010 10:13	6.0-8.0	X	X	X	X	X	X	X	X	X	X		
	D-03052010-02	FD	03/03/2010 10:13	6.0-8.0			X	X								
E	GC-SD108-08.0-10.0	N	03/03/2010 10:13	8.0-10.0	X	X	X	X	X	X	X	X	X	X		
F	GC-SD108-10.0-12.0	N/MSD	03/03/2010 10:13	10.0-12.0	X	X	X	X	X	X	X	X	X	X		
G	GC-SD108-12.0-13.5	N	03/03/2010 10:13	12.0-13.5	X	X	X	X	X	X	X	X	X	X		
N/A	GC-SD108-00.0-13.5	N/TCLP	03/03/2010 10:13	0.0-13.5											X	X
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/5/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD109	**Easting:**	633912.23	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	672596.42	**Penetration (ft):** 13.0'	Y
Crew/Company	J. Balas/CH2M HILL	**Elevation:**	-9.9' NAVD88	**Recovery (ft)** 11.3'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/3/2010 15:02	
	ASI - M. Shappell/Captain	**Depth (ft):**	8.7'		
		St. Arrival:	14:40	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	15:30	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10 YR 2/1	VS	N	H	Wet	MP	UNC	5%	5%	90%	0.2	A	**PID above core - 1.2 ppm** *
2															
3													0.0	B	PID above core - 0.0 ppm *
4									TLO (faint)						
4.8													2.5		Transition zone - not sampled Wood fragments, fine sand
5		SP	10 YR 6/1	H	N	H	Moist/ Wet	FS	TLO (mod)	0%	95%	5%	1.9	C	PID above core - 6.0 ppm *
6															
7													17.9	D	PID above core - 52.7 ppm *
8															
9													46.2	E	PID above core - 63 ppm *
10									(strong)						

Additional Notes/Comments: Bottom of core at 11.3'. Core opened at 08:24. * Indicates VOC collection depth. 4.8 to 11.3: fine sand, NAPL odor and staining. Saturated at 10.2 to 10.5 below top of core. Hard, moderately saturated silty sand at 4.8 to 5.1. 10.8 to 11.3: not sampled.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SP	10YR 6/1	H	N	H	Moist/ Wet	FS	TLO (strong)	0%	95%	5%		E	VOC sample collected @ 10.4, saturated layer PID above core - 10.2 ppm
BOC = 11.3'															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD109-00.0-02.0	N	03/04/2010 08:24	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD109-02.0-04.0	N	03/04/2010 08:24	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD109-04.8-06.8	N	03/04/2010 08:24	4.8-6.8	X	X	X	X	X	X	X	X	X	X		
	D	GC-SD109-06.8-08.8	N	03/04/2010 08:24	6.8-8.8	X	X	X	X	X	X	X	X	X	X		
	E	GC-SD109-08.8-10.8	N	03/04/2010 08:24	8.8-10.8	X	X	X	X	X	X	X	X	X	X		
	F	GC-SD109-00.0-10.8	TCLP	03/04/2010 08:24	0.0-10.8											X	X
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 3/4/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD110	**Easting:**	633682.91	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671922.23	**Penetration (ft):** 20.0'	N - 20' pen
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-9.0' NAVD88	**Recovery (ft)** 14.2'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/11/2010 8:50	
	ASI - M. Shappell/Captain	**Depth (ft):**	8.5'		
		St. Arrival:	8:40	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	9:20	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	1%	99%	5.6	A	Organics: leaves and fibrous wood, sticks, plastic bag, beach ball *
2															
3													7.4	B	*
4															
5													16.4	C	*
6															NAPL Blebs - non water soluble, black Transition zone - not sampled
6		SM	10YR 4/1	F	N	H	Wet	FS	TLO (faint)	0%	90%	10%	9.5	D	*
7				H									5.3		NAPL blebs, no apparent staining on soil surface, non-water soluble, confined to 5.0-7.0'
8			10YR 6/6										3.9		
9													0.5	E	No NAPL observed
10			10YR 4/1										0.4		
													2.1		*

Additional Notes/Comments: Bottom of core at 14.2'. Core opened at 10:10. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SM	10YR 4/1	H	N	H	Wet	MS/SP	None	5%	95%	0%	10.9		No NAPL observed *
11		SW	10YR 4/1	H	N	H	Wet	MS/SP	None	5%	95%	0%	10.3	F	Gradual lithology change Medium to coarse sand
12								CP					110		
								MS		0%	99%	1%	1.2		Gradual lithology change Coarse to medium sand
13													0.6	G	
14													0.7		
14.2													0.4	NA	
BOC= 14.2															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD110-00.0-02.0	N	03/11/2010 10:10	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD110-02.0-04.0	N	03/11/2010 10:10	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD110-04.0-05.0	N	03/11/2010 10:10	4.0-5.0	X	X	X	X	X	X		X				
D	GC-SD110-06.0-08.0	N	03/11/2010 10:10	6.0-8.0	X	X	X	X	X	X	X	X	X	X		
E	GC-SD110-08.0-10.0	N	03/11/2010 10:10	8.0-10.0	X	X	X	X	X	X	X	X	X	X		
F	GC-SD110-10.0-12.0	N	03/11/2010 10:10	10.0-12.0	X	X	X	X	X	X	X	X	X	X		
G	GC-SD110-12.0-14.0	N	03/11/2010 10:10	12.0-14.0	X	X	X	X	X	X	X	X	X	X		
H	GC-SD110-00.0-14.2	N	03/11/2010 10:10	0.0-14.0											X	X
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: TMHimmer Date: 3/11/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD111	**Easting:**	633530.99		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671127.28	**Penetration (ft):**	18'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-4.5' NAVD88	**Recovery (ft)**	15.9'		
	J. Balas	**Datum:**	NYSP Zone East NAD 83	**Date/Time:**	3/16/2010 9:53		
	ASI - M. Shappell/Captain	**Depth (ft):**	7.8'				
		St. Arrival:	9:30		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	10:25	**Penetration (ft):**	NA		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
0		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	3%	97%			Organic: fibrous wood and sticks noted
1									TLO (mod)				1.7	A	*
2															
3													15.7	B/I	*
4															
5													21.3	C	*
6															
7								SP	(strong)				53.0	D	* Coal-like gravel (angular), NAPL staining - black/brown staining on sampling equipment
8				S											
8.3															Transition zone - not sampled - black/brown silty sand, sheen, no staining/coating noted
9		CL	10YR 4/3	H	M	H	Moist	VFS	TLO (mod)	0%	5%	95%	28.1		
													35.8	E	* Heavy staining/NAPL coating, brown stain NAPL: brown/black, low viscosity, sticky/tacky, tar-like odor
10													33.9		

Additional Notes/Comments: Bottom of core at 15.9'. Core opened at 1210. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
10.3		CL	10YR 4/3	H	M	H	Moist	VFS	None	0%	1%	99%	2.0		
11													2.5	F	Slight/trace staining/discoloration
12													2.7		*
12.3															
12.8		SM	10YR 4/3	H	N	H	Wet	FS	None	0%	75%	25%	1.2		No visual NAPL contamination
13		CL	10YR 4/2	F	M	H	Wet	VFS	None	0%	1%	99%	1.0		
													0.6	G	*
14													0.1		
													0.0		
15													0.0		
BOC= 15.9														H	*
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD111-00.0-02.0	N	03/16/2010 12:10	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD111-02.0-04.0	N	03/16/2010 12:10	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD111-04.0-06.0	N	03/16/2010 12:10	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
D	GC-SD111-06.0-08.0	N	03/16/2010 12:10	6.0-8.0	X	X	X	X	X	X	X	X	X	X		
E	GC-SD111-08.3-10.3	N	03/16/2010 12:10	8.3-10.3	X	X	X	X	X	X	X	X	X	X		
F	GC-SD111-10.3-12.3	N	03/16/2010 12:10	10.3-12.3	X	X	X	X	X	X	X	X	X	X		
G	GC-SD111-12.3-14.3	N	03/16/2010 12:10	12.3-14.3	X	X	X	X	X	X	X	X	X	X		
H	GC-SD111-14.3-15.9	N	03/16/2010 12:10	14.3-15.9	X	X	X	X	X	X	X	X	X	X		
I	D-03162010-02	FD	03/16/2010 12:10	2.0-4.0	X	X	X	X	X	X		X				
J	GC-SD111-00.0-15.9	TCLP	03/16/2010 12:10	0.0-15.9											X	X
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: TMHimmer Date: 3/16/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD112	**Easting:**	633293.14	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671426.76	**Penetration (ft):** 3'	Y
Crew/Company	M. Murphy/CH2M HILL	**Elevation:**	-5.0' NAVD88	**Recovery (ft)** None - Lost nose cone	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/11/2010 15:10	
	ASI - M. Shappell/Captain	**Depth (ft):**	7.4		
		St. Arrival:	15:03	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	16:10	7'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 4'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 03/11/2010 15:30	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		SW	10YR 2/1	H	N	H	Wet	CP	UNC	25%	70%	5%	7.1	A	Organic: fibrous wood, garbage, glass, plastic *
2			2/1					SC							
		OL	10YR 2/1	H	N	H	Wet	FS	UNC	0	10%	90%			Coarse sand w/ gravel, small cobbles noted at 1.9' and 3.9'
3		SW	10YR 2/1	H	N	H	Wet	FS CP	UNC	0% 25%	10% 70%	90% 5%	44.4	B/C	Angular to subangular gravel *
4								SC							
BOC= 4'															
5															
6															
7															
8															
9															
10															

Additional Notes/Comments: Core opened on 3/12/2010. Bottom of core at 4.0'. * Indicates VOC collection depth. Attempt # 3: 7' penetration, 5' recovery

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD112-00.0-02.0	N	03/12/2010 07:45	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD112-02.0-04.0	N	03/12/2010 07:45	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	D-03122010-01	FD	03/12/2010 07:45	2.0-4.0	X	X	X	X	X	X		X				
D	GC-SD112-00.0-04.0	N/TCLP	03/12/2010 07:45	0.0-4.0											X	X
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/12/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD113	**Easting:**	632853.82	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671583.41	**Penetration (ft):** 20.0'	N
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-8.9' NAVD 88	**Recovery (ft)** 15'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/15/2010 11:50	
	ASI - M. Shappell/Captain	**Depth (ft):**	11.4'		
		St. Arrival:	10:50	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	11:45	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
0		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	5%	5%	90%		EB	Organic: wood fragments, leaf matter to 9.0' plastic garbage noted 4.5'-5.0'
1													9.3	A	*
2															
3													20.2	B	*
4															
5													36.4	C/D	*
6								MP	TLO (strong)	20%	20%	60%			
7													62.2	E	* NAPL saturated streaks
8															NAPL - black, low viscosity, tar-like odor (strong) slick, slight tacky 6.5'-9.0'
9													125	F	* Abrupt change
9.3															Transition zone - not sampled
10		CL	10YR 5/1	H	M	H	Moist	Z	TLO (faint)	0%	0%	100%	45.4	G	

Additional Notes/Comments: Bottom of core at 15.0'. Core opened at 12:15. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW-SM	10YR 4/3	H	N	H	Wet	MS	TLO (strong)	0%	95%	5%	105 154	G	Fine sand - trace fines - strong tar-like odor, little to no staining on soil surface noted (or gloves), staining noted on sampling utensils *
12													169.9		
13											90%	10%	157	H	*
14		ML	10YR 4/3	H	N	S	Wet/ Moist	MS	(mod)	0%	30%	70%	103 106 167	I/J	Alternating 0.5' layers of fine silty sand Small pebbles noted at bottom of recovery
15								SP		10%	25%	65%	167.9		*
BOC = 15.0'															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD113-00.0-02.0	N/MSD	03/15/2010 12:15	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD113-02.0-04.0	N	03/15/2010 12:15	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD113-04.0-06.0	N	03/15/2010 12:15	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
D	D-03152010-01	FD	03/15/2010 10:00	4.0-6.0	X	X	X	X	X	X		X				
E	GC-SD113-06.0-08.0	N	03/15/2010 12:15	6.0-8.0	X	X	X	X	X	X	X	X	X	X		
F	GC-SD113-08.0-09.0	N	03/15/2010 12:15	8.0-9.0	X	X	X	X	X	X	X	X	X	X		
G	GC-SD113-09.3-11.3	N	03/15/2010 12:15	9.3-11.3	X	X	X	X	X	X	X	X	X	X		
H	GC-SD113-11.3-13.3	N	03/15/2010 12:15	11.3-13.3	X	X	X	X	X	X	X	X	X	X		
I	GC-SD113-13.3-15.0	N	03/15/2010 12:15	13.3-15.0	X	X	X	X	X	X	X	X	X	X		
J	D-03152010-02	FD	03/15/2010 11:30	13.3-15.0	X	X	X	X	X	X		X				
K	GC-SD113-00.0-15.0	N	03/15/2010 12:15	00.0-15.0											X	X
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/15/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD114	**Easting:**	632380.38		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671570.77	**Penetration (ft):**	18.8'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-16.6' NAVD88	**Recovery (ft)**	15.5'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/23/2010 8:40		
	ASI - M. Shappell/Captain	**Depth (ft):**	14.4'				
		St. Arrival:	8:15		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	9:00	**Penetration (ft):**	NA		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
0		GW	10YR 2/1	H	N	H	Wet	SP	**	99%	0%	1%	48.8	NA	**Gravel - NAPL saturated, black, medium viscosity**
1													152	NA	Transition zone - not sampled
1.2															
		CL	10YR 4/3	F	W	H	Wet	FS	**	0%	3%	97%	124		Silty clay - trace sand
2										0%	49%	51%	221	A	Increasing sand content with depth
		SM	10YR 4/4	H	N	H	Wet	FS	**	0%	75%	25%	305		Abrupt transition * NAPL saturated, black, brown staining slick, not sticky/tacky
3															
		ML	10YR 3/3	H	N	H	Moist	VFS	**	0%	3%	97%	241	B	*
4													222		
5													203		
													196	C/H	
6													318		
7													383		*
													420	D	*
8										0%	10%	90%	388		
9													393		
										0%	40%	60%	338	E	
10															

Additional Notes/Comments: Bottom of core at 14.9'. Core opened at 09:35. * Indicates VOC sampling depth. **Due to elevated PID readings, respirators were donned, no odor descriptions recorded.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SM	10YR 3/1	H	N	H	Wet	FS	**	0%	85%	15%	435 567	E	Gradual transition to silty sand NAPL saturated, see NAPL description above *
12		ML	10YR 4/3	F	N	H	Moist	VFS	**	0%	5%	95%	305 510 109	F	* NAPL streaks and blebs throughout
13															
14		SM	10YR 3/1	H	N	H	Wet	FS	**	0%	85%	15%	342 471	G	* NAPL saturated, see NAPL description above
15		ML	10YR 4/3	F	N	H	Moist	VFS	**	0%	5%	95%	393		NAPL streaks and blebs throughout
BOC = 14.9'															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD114-01.2-03.2	N	03/23/2010 09:35	1.2-3.2	X	X	X	X	X	X	X	X	X	X		
B	GC-SD114-03.2-05.2	N	03/23/2010 09:35	3.2-5.2	X	X	X	X	X	X	X	X	X	X		
C	GC-SD114-05.2-07.2	N	03/23/2010 09:35	5.2-7.2	X	X	X	X	X	X	X	X	X	X		
D	GC-SD114-07.2-09.2	N	03/23/2010 09:35	7.2-9.2	X	X	X	X	X	X	X	X	X	X		
E	GC-SD114-09.2-11.2	N	03/23/2010 09:35	9.2-11.2	X	X	X	X	X	X	X	X	X	X		
F	GC-SD114-11.2-13.2	N	03/23/2010 09:35	11.2-13.2	X	X	X	X	X	X	X	X	X	X		
G	GC-SD114-13.2-14.9	N	03/23/2010 09:35	13.2-14.9	X	X	X	X	X	X	X	X	X	X		
H	D-03232010-01	FD	03/23/2010 09:35	5.2-7.2	X	X	X	X	X	X		X				
I	GC-SD114-00.0-14.9	N	03/23/2010 09:35	0.0-14.9											X	X
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/23/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD115	**Easting:**	631941.75	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671126.10	**Penetration (ft):** 19'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-13.3' NAVD	**Recovery (ft)** 14'	
	J. Balas/CH2M HILL	**Datum:**	NYSP Zone East NAD 83	**Date/Time:** 3/17/2010 14:05	
	ASI - M. Shappell/Captain	**Depth (ft):**	12.1'		
		St. Arrival:	13:48	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	14:45	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		GM	10YR 2/1	H	N	H	Wet	MP	UNC	75%	15%	10%	42.1	A	Angular gravel, unclassified chemical * odor (non-organic).
1.8													60	NA	Transition zone - not sampled
2		SW-SM	10YR 4/3	H	N	H	Wet	FS	UNC	0%	90%	10%	22.5		NAPL staining from 2.0-5.8'
3													50.9	B/H	* Sandy silt pocket 10YR 2/1, sheen noted
													12.9		
4			10YR 4/2						TLO (strong)				81.3	C	Sandy silt pocket 10YR 2/1, sheen noted
5													98.2		
													173		*
6													266	D	* Heavy NAPL coating (5.8-9'); staining gloves and sampling equipment
7													258		
													206		
8													431	E	*
9			10YR 2/1										92		Below 9' NAPL saturated (9-13.8')
													191		
10															

Additional Notes/Comments: Bottom of core at 13.8'. Core opened at 15:45. * Indicates VOC collection depth. NAPL has black color, brown staining, low to moderate viscosity, and is slick, not sticky or tacky.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SW-SM	10YR 2/1	H	N	H	Wet	FS	TLO (strong)	0%	90%	10%	158		NAPL saturated; easily squeezed from soil pores; dark brown stain on gloves; moderate to low
11													365	F	* viscosity
													225		
12													182		10YR 2/1 silt pocket, sheen noted.
													340	G	*
13															
BOC = 13.8'													280		
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD115-00.0-01.5	N	03/17/2010 15:45	0.0-1.5	X	X	X	X	X	X	X	X	X	X		
B	GC-SD115-01.8-03.8	N	03/17/2010 15:45	1.8-3.8	X	X	X	X	X	X	X	X	X	X		
C	GC-SD115-03.8-05.8	N	03/17/2010 15:45	3.8-5.8	X	X	X	X	X	X	X	X	X	X		
D	GC-SD115-05.8-07.8	N	03/17/2010 15:45	5.8-7.8	X	X	X	X	X	X	X	X	X	X		
E	GC-SD115-07.8-09.8	N	03/17/2010 15:45	7.8-9.8	X	X	X	X	X	X	X	X	X	X		
F	GC-SD115-09.8-11.8	N	03/17/2010 15:45	9.8-11.8	X	X	X	X	X	X	X	X	X	X		
G	GC-SD115-11.8-13.8	N/MSD	03/17/2010 15:45	11.8-13.8	X	X	X	X	X	X	X	X	X	X		
H	D-03172010-02	N	03/17/2010 15:45	1.8-3.8	X	X	X	X	X	X		X				
I	GC-SD115-00.0-13.3	N	03/17/2010 15:45	0.0-13.8											X	X
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/17/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD116 (1st Attempt)	**Easting:**	632576.11		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671370.26	**Penetration (ft):**	20'	N	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-8.8' NAVD88	**Recovery (ft)**	16'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/17/2010 10:15		
	ASI - M. Shappell/Captain	**Depth (ft):**	11.1'				
		St. Arrival:	10:05		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	10:35	**Penetration (ft):**	NA		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	3%	97%	8.6	A	Organic: fibrous wood fragments noted throughout, increased in 4-6' interval. *
2															
3													11.0	B	*
4								MS			5%	95%			
5													20.7	C	*
6									PHC (faint)						
6.5													63.9		Transition zone - not sampled
7		SW-SM	10YR 5/2	H	N	S	Wet	FS	PHC (strong)	0%	85%	15%	45.6	D	* Heavy NAPL coating - near saturation, increased NAPL in higher silt content lenses at 6.7', 7.0', and 7.5'
8			10YR 4/3						(mod)				35.1		NAPL: low viscosity, brown staining, non-sticky/ tacky, decreases with depth.
													36.3		
9			10YR 5/2						none				28.3	E/I	No NAPL contamination observed/noted
													57.6		*
10													33.1		

Additional Notes/Comments: Bottom of core at 15.8'. Core opened at 11:10. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW-SM	10YR 3/1	H	N	H	Wet	FS	None	0%	85%	15%		E/I	
12									TLO				41.5 51.0 142.0	F	*
13			10YR 3/1										72.0		
14		ML	10YR 4/3	H	N	H	Moist/ Wet	VFS	None	0%	1%	99%	162.7 20.9	G	* NAPL saturation at 13.5' - medium viscosity, increases with depth to underlying silt layer, black NAPL, black staining, stick/tacky
15													15.5		
BOC= 15.8													3.9 6.1	H	NAPL blebs at 14.0' - No NAPL in soil pores, on surface of soil and surrounding water *
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD116-00.0-02.0	N	03/17/2010 11:10	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD116-02.0-04.0	N/MSD	03/17/2010 11:10	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD116-04.0-06.0	N	03/17/2010 11:10	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
D	GC-SD116-06.5-08.5	N	03/17/2010 11:10	6.5-8.5	X	X	X	X	X	X	X	X	X	X		
E	GC-SD116-08.5-10.5	N	03/17/2010 11:10	8.5-10.5	X	X	X	X	X	X	X	X	X	X		
F	GC-SD116-10.5-12.5	N	03/17/2010 11:10	10.5-12.5	X	X	X	X	X	X	X	X	X	X		
G	GC-SD116-12.5-14.5	N	03/17/2010 11:10	12.5-14.5	X	X	X	X	X	X	X	X	X	X		
H	GC-SD116-14.5-15.8	N	03/17/2010 11:10	14.5-15.8	X	X	X	X	X	X	X	X	X	X		
I	D-03172010-01	FD	03/17/2010 11:10	8.5-10.5	X	X	X	X	X	X		X				
J	GC-SD11600.0-15.8	TCLP	03/17/2010 11:10	0.0-15.8											X	X
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/17/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD117	**Easting:**	632254.29		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671107.65	**Penetration (ft):**	20'	N	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-7.2' NAVD88	**Recovery (ft)**	16'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/17/2010 13:10		
	ASI - M. Shappell/Captain	**Depth (ft):**	7.8'				
		St. Arrival:	12:50		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	13:10	**Penetration (ft):**	NA		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	VFS	UNC	0%	1%	99%	11.6	A	Organic: silt, trace wood fibers noted *
2															
3													4.9	B	*
4															
5								FS		0%	5%	95%	9.5	C/J	*
6								MP	TLO (strong)	5%	5%	90%			NAPL saturated - black, high viscosity, sticky/tacky, tar-like odor Glass bottle
7													52.4	D	* NAPL saturated - black, high viscosity, sticky/ tacky, tar-like odor, coal, garbage
8													17.7		Abrupt transition Transition zone - not sampled
8.7															Abrupt transition
9		SM	10YR3/2	H	W	H	Wet	FS	TLO	0%	85%	15%			*
		CL	10YR 5/1	H	W	H	Moist	Z	None	0%	0%	100%	46.0	F	NAPL saturated: black, brown staining, medium to low viscosity, slick, tacky/sticky
10		SW-SM	10YR 4/3	H	N	H	Wet	FS	None	0%	95%	5%	1.2		Fine silty sand Abrupt transition

Additional Notes/Comments: Bottom of core at 15.7'. Core opened at 08:20. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW-SM	10YR 4/3	H	N	H	Wet	FS	None	0%	95%	5%	0.5	F	No odors/NAPL staining or coating noted below 9'
													0.3		
12													1.3	G	*
													0.9		
13			10YR 2/1							0%	90%	10%	0.2		Slight increase in silt content - dark color, no odor/staining
14			10YR 3/2							0%	95%	5%	1.4	H	*
15													0.8		
BOC= 15.7													2.4	I	*
													1.8		
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD117-00.0-02.0	N	03/18/2010 08:20	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD117-02.0-04.0	N	03/18/2010 08:20	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD117-04.0-06.0	N	03/18/2010 08:20	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
D	GC-SD117-06.0-07.6	N	03/18/2010 08:20	6.0-7.6	X	X	X	X	X	X	X	X	X	X		
E	Not sampled															
F	GC-SD117-08.7-10.7	N	03/18/2010 08:20	8.7-10.7	X	X	X	X	X	X	X	X	X	X		
G	GC-SD117-10.7-12.7	N	03/18/2010 08:20	10.7-12.7	X	X	X	X	X	X	X	X	X	X		
H	GC-SD117-12.7-14.7	N	03/18/2010 08:20	12.7-14.7	X	X	X	X	X	X	X	X	X	X		
I	GC-SD117-14.7-15.7	N	03/18/2010 08:20	14.7-15.7	X	X	X	X	X	X	X	X	X	X		
J	D-03182010	FD	03/18/2010 08:20	4.0-6.0	X	X	X	X	X	X		X				
K	GC-SD117-00.0-15.7	TCLP	03/18/2010 08:20	0.0-15.7											X	X
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: TMHimmer Date: 3/18/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD118	**Easting:**	631655.17	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	670727.45	**Penetration (ft):** 13.5'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-16.0' NAVD88	**Recovery (ft)** 10.1'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/1/2010 11:15	
	ASI - J. Clemens/Captain	**Depth (ft):**	18.4'		
		St. Arrival:	10:40	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	12:10	**Penetration (ft):** 13.4'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 10.6'	
Collector Information:	T. Himmer/CH2M HILL for less than 100% core recovery	Log reflects sample as collected – no correction factor applied		**Date/Time:** 4/1/2010 11:45	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		GW												NA	Gravel at top of core; sample collected from
0.7		OL	10YR 2/1	F	N	H	Wet	SP	UNC	5%	5%	90%	37.3	A	* 6" interval below gravel Abrupt Transition
1															Transition zone - not sampled
1.2													47.7		
		SW-SM	10YR 4/3	H	N	H	Wet	FS	Tar-like (strong)	0%	90%	10%	12.5		NAPL coating - moderate, medium viscosity brown staining
2			↓ 10YR 5/3						↓ (faint)				11.4	B	No staining/coating
3			↓ 10YR 3/2						↓ (strong)				18.1		*
4			↓ 10YR 5/3										16.1	C	*
5			↓ 10YR 3/2						↓ (strong)				15.8 17.3		
6			↓ 10YR 2/1										19.0	D	* NAPL saturated - black, dark brown staining, low viscosity, slick, not sticky/tacky
7													10.8		
													11.1		
8													11.8	E	
													14.8		*
9													21.9		* Abrupt transition - silt Trace to no staining
		ML	10YR 3/2	H	N	H	Moist	FS	PHC (strong)	0%	1%	99%		F	
10													89.7		

Additional Notes/Comments: Bottom of core at 10.2'. Core opened at 13:30 * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
10.2		ML	10YR3/2	H	N	H	Moist	FS	PHC (strong)	0%	1%	99%	99.6	F	
BOC															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD118-00.2-00.7	N	04/01/2010 13:30	0.2-0.7	X	X	X	X	X	X	X	X	X			
B	GC-SD118-01.0-03.0	N	04/01/2010 13:30	1.0-3.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD118-03.0-05.0	N	04/01/2010 13:30	3.0-5.0	X	X	X	X	X	X	X	X	X	X		
D	GC-SD118-05.0-07.0	N	04/01/2010 13:30	5.0-7.0	X	X	X	X	X	X	X	X	X	X		
E	GC-SD118-07.0-09.0	N/MSD	04/01/2010 13:30	7.0-9.0	X	X	X	X	X	X	X	X	X	X		
F	GC-SD118-09.0-10.2	N	04/01/2010 13:30	9.0-10.2	X	X	X	X	X	X	X	X	X	X		
G	GC-SD118-00.0-10.2	N/TLCP	04/01/2010 13:30	0.0-10.2											X	X
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: TMHimmer Date: 4/1/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD119	**Easting:**	631673.79	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	670324.35	**Penetration (ft):** 19.0'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	4.2'	**Recovery (ft)** 11.5'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/31/2010 11:05	
	ASI - J. Clemens/Captain	**Depth (ft):**	3.8'		
		St. Arrival:	11:01	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	12:30	**Penetration (ft):** 20'	N
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 13.7' very soft material at top of core lost	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 3/31/2001 12:00	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	MS	UNC	0%	3%	97%	24.9	A	Organic: wood fragments, fibrous plant material, * shell, at top of recovery, organic odor
1.2															
2														NA	Lost recovery - sediment very "soupy", spilled out upon opening core
3															
4															
4.5															
5		OL	10YR 2/1	VS	N	H	Wet	VFS ↓ MP	UNC	0% ↓ 10%	3% ↓ 3%	92% ↓ 87%	27.4	B	Organic odor *
6								↓ SC MP		↓ 45% 10%	↓ 3% 3%	↓ 52% 87%			Small cobble and minor gravel
7													28.4	C/H	* Minor coal fragments
8															
9									↓ TLO (faint)				70.1	D	*
10															

Additional Notes/Comments: Bottom of core at 13.0'. Core opened at 13:30. * Indicates VOC collection depth.
Note: Pictures taken label core as 119B should be 119.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		OL	10YR 2/1	VS	N	H	Wet	MP	TLO (mod)	10%	3%	87%	12.0	E	Light brown staining on sampling equipment *
12		GM	10YR 2/1	H	N	H	Wet	MP	TLO (mod)	60%	20%	20%	14.6	F	Abrupt transition- increase gravel, medium * brown staining on sampling equipment Sheen noted on water surface, black, brown/dark brown residue
BOC= 13'															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD119-00.0-01.2	N	03/31/2010 13:30	0.0-1.2	X	X	X	X	X	X	X	X	X	X		
B	GC-SD119-04.5-06.0	N	03/31/2010 13:30	4.5-6.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD119-06.0-08.0	N	03/31/2010 13:30	6.0-8.0	X	X	X	X	X	X	X	X	X	X		
D	GC-SD119-08.0-10.0	N	03/31/2010 13:30	8.0-10.0	X	X	X	X	X	X	X	X	X	X		
E	GC-SD119-10.0-12.0	N	03/31/2010 13:30	10.0-12.0	X	X	X	X	X	X	X	X	X	X		
F	GC-SD119-12.0-13.0	N	03/31/2010 13:30	12.0-13.0	X	X	X	X								
G	GC-SD119-00.0-13.0	N/TCLP	03/31/2010 13:30	0.0-13.0											X	X
H	D-03312010-01	FD	03/31/2010 13:30	6.0-8.0	X	X	X	X	X	X		X				
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: TMHimmer Date: 3/31/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD120	**Easting:**	631478.12	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	670312.41	**Penetration (ft):** 17.4'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-15.1' NAVD88	**Recovery (ft)** 12.0'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/31/2010 12:47	
	ASI - J. Clemens/Captain	**Depth (ft):**	14.1'		
		St. Arrival:	12:30	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	13:45	**Penetration (ft):** 19.5'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 13.5' - lost some soft material when core cut	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 3/31/2010 13:31	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		GM	10YR 2/1	H	N	H	Wet	SC	TLO (mod)	50%	25%	25%	21.8	A	* NAPL saturated Free Phase NAPL noted at top of recovery Coal, gravel and bone observed
1.3													12.3		
2													89.8		Transition zone - not sampled - wood fragments and peat, trace/little staining or coating
2.5															
3		SW-SM	10YR 3/2	H	N	H	Wet	FS	TLO	0%	90%	10%	163	B	Wood fragments Near NAPL saturation Heavy coating
4													136		Decreasing NAPL coating with depth
													221		*
5													126	C	Moderate NAPL coating - stains gloves and sampling equipment
6													204		*
													151		
7													205	D/G	NAPL - medium brown, low viscosity, slick, not tacky, tar-like odor
8													161		
													212		*
9													171	E	* Clay pocket, 10YR 6/6
10													82.2		

Additional Notes/Comments: Bottom of core at 12.6'. Core opened at 15:40. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW-SM	10YR 3/2 ↓ 10YR 2/1 ↓ 10YR 4/4	H	N	H	Wet	FS	TLO (mod)	0%	90%	10%	137	E	Moderate NAPL coating
12													231	F	* Heavy coating/near saturation
BOC= 12.6'													177		
14													144		
15													173	NA	
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD120-00.0-01.3	N	03/31/2010 15:40	0.0-1.3	X	X	X	X	X	X		X				
B	GC-SD120-02.5-04.5	N/MSD	03/31/2010 15:40	2.5-4.5	X	X	X	X	X	X	X	X	X	X		
C	GC-SD120-04.5-06.5	N	03/31/2010 15:40	4.5-6.5	X	X	X	X	X	X	X	X	X	X		
D	GC-SD120-06.5-08.5	N	03/31/2010 15:40	6.5-8.5	X	X	X	X	X	X	X	X	X	X		
E	GC-SD120-08.5-10.5	N	03/31/2010 15:40	8.5-10.5	X	X	X	X	X	X	X	X	X	X		
F	GC-SD120-10.5-12.5	N	03/31/2010 15:40	10.5-12.5	X	X	X	X	X	X	X	X	X	X		
G	D-03312010-02	FD	03/31/2010 15:40	6.5-8.5	X	X	X	X	X	X		X				
H	GC-SD120-00.0-12.6	N/TCLP	03/31/2010 15:40	0.0-12.6											X	X
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/31/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD121	**Easting:**	631388.08		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	670187.49	**Penetration (ft):**	15.1'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-14' NAVD88	**Recovery (ft)**	9.0'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/1/2010 14:45		
	ASI - J. Clemens/Captain	**Depth (ft):**	12.1'				
		St. Arrival:	14:20		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	16:20	**Penetration (ft):**	19.4'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	13.6'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	4/1/2010 15:45		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		GW	10YR 3/1	H	N	H	Wet	MP	PHC (Faint)	90%	9%	1%	16.0	N/A	Gravel - faint PHC odor, angular to subangular
1.5															Abrupt transition
2		CL	10YR 4/1	F	N/W	H	Wet	FS	None	0%	25%	75%	7.3		
											10%	90%	15.8	A	Sandy clay - no staining, no odor
3													14.2		*Abrupt transition
4		SM	10YR 4/2	H	N	H	Wet	FS	TLO (strong)	0%	80%	20%	136		Heavy NAPL coating, near saturation
											60%	40%	121	B	Strong tar-like odor
5											51%	49%	189		
6		ML	10YR 4/3	F	N	H	wet	VFS	TLO (faint)	0%	15%	85%	6.0		Gradual transition
													2.4	C	*
7									None				1.4		
8										0%	30%	70%	1.3		
													2.9	D	*
9													1.3		
10		SM	10YR 4/3	H	N	H	Wet	VFS	None	0%	85%	15%	1.5	E	

Additional Notes/Comments: Bottom of core at 13.5'. Core opened at 07:45. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SM	10YR 4/3	H	N	H	Wet	VFS	None	0%	75%	25%	1.6	E	* Silty Sand No staining, no odor
								↓		↓	↓	↓			
								FS		0%	85%	15%	1.0		*
								↓		↓	↓	↓			
12								VFS		0%	75%	25%			
								↓			↓	↓	2.5		
								FS			85%	15%	0.9	F/G	
								↓							
13								VFS					1.0		
		↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			
BOC= 13.5'															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD121-01.5-03.5	N	04/02/2010 07:45	1.5-3.5	X	X	X	X	X	X	X	X	X	X		
B	GC-SD121-03.5-05.5	N	04/02/2010 07:45	3.5-5.5	X	X	X	X	X	X	X	X	X	X		
C	GC-SD121-05.5-07.5	N	04/02/2010 07:45	5.5-7.5	X	X	X	X	X	X	X	X	X	X		
D	GC-SD121-07.5-09.5	N	04/02/2010 07:45	7.5-9.5	X	X	X	X	X	X	X	X	X	X		
E	GC-SD121-09.5-11.5	N	04/02/2010 07:45	9.5-11-.5	X	X	X	X	X	X	X	X	X	X		
F	GC-SD121-11.5-13.5	N	04/02/2010 07:45	11.5-13.5	X	X	X	X	X	X	X	X	X	X		
G	D-04022010-01	FD	04/02/2010 07:45	11.5-13.5	X	X	X	X	X	X		X				
H	GC-SD121-00.0-13.5	N/TCLP	04/02/2010 07:45	0.0-13.5											X	X
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: TMHimmer Date: 4/2/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GS-SD122	**Easting:**	631068.85	**Attempt 1**	**Refusal? Y/N**
Sampling	J. Balas/CH2M HILL	**Northing:**	669589.58	**Penetration (ft):** 11.5'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-22.9' NAVD88	**Recovery (ft)** 5.8'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/6/2010 14:40	
	ASI - Jeff Clemens	**Depth (ft):**	24.3'		
		St. Arrival:	14:30	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	16:30	**Penetration (ft):** 18.2'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 16.5'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 4/6/2010 16:10	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
0.7		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	5%	5%	90%	6.7	A	* Organic: fibrous wood and wood fragments
1													31.0		Transition zone - not sampled
1.1		SM	10YR 4/2	F	N	H	Wet	FS	PHC (mod)	0%	75%	25%	143		* Silty sand - NAPL coating (moderate)
2		ML	10YR 4/3	F	W	H	Moist	FS	PHC (mod)	0%	5%	95%	20.1	B	Brown staining, slick not sticky/tacky Faint NAPL coating, stain on gloves and sampling equipment (pale brown)
3			10YR 4/2 10YR 3/2										64.7		Wood fragments
4													55.2 31.6	C	*
5		SM	10YR 3/2	H	N	H	Wet	FS	PHC (strong)	0%	75%	25%	15.0		
		ML	10YR 4/3	F	N	H	Moist	FS	PHC (mod)	0%	5%	95%	67.2		Heavy NAPL coating Moderate NAPL coating
6		SM	10YR 4/2	F	N	H	Wet	FS	PHC (mod)	0%	75%	25%	59.0	D	Faint NAPL coating
7													143.0		* Wood Fragments
													87.2		* NAPL saturated around wood
8													2.8	E	Light NAPL Staining
9		SW-SM	10YR 4/1	H	N	H	Wet	FS	None	0%	90%	10%	0.2		No NAPL Staining
													0.2		
10		ML	10YR 4/3	S	N	H	Wet	Z	None	0%	0%	100%	0.2	F	*

Additional Notes/Comments: Bottom of core at 16.1 '. Core opened at 07:35. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		ML	10YR 4/3	F	N	H	Wet	Z	None	0%	0%	100%	0.1 0.1	F	Fine silt, no odor, no staining
12													0.1 0.1	G/H	*
13													0.1		
14													0.3 0.3	H	
15													2.1		*
16		SW-SM	10YR 4/3	H	N	H	Wet	VFS	None	0%	90%	10%	0.9	I	*Abrupt transition Very fine sand, no odor, no staining
BOC= 16.1'															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD122-00.0-00.7	N	04/07/2010 07:35	0.0-0.7	X	X	X	X	X	X						
B	GC-SD122-01.1-03.1	N	04/07/2010 07:35	1.1-3.1	X	X	X	X	X	X	X	X	X	X		
C	GC-SD122-03.1-05.1	N	04/07/2010 07:35	3.1-5.1	X	X	X	X	X	X	X	X	X	X		
D	GC-SD122-05.1-07.1	N/MSD	04/07/2010 07:35	5.1-7.1	X	X	X	X	X	X	X	X	X	X		
E	GC-SD122-07.1-09.1	N	04/07/2010 07:35	7.1-9.1	X	X	X	X	X	X	X	X	X	X		
F	GC-SD122-09.1-11.1	N	04/07/2010 07:35	9.1-11.1	X	X	X	X	X	X	X	X	X	X		
G	GC-SD122-11.1-13.1	N	04/07/2010 07:35	11.1-13.1	X	X	X	X	X	X	X	X	X	X		
H	GC-SD122-13.1-15.1	N	04/07/2010 07:35	13.1-15.1	X	X	X	X	X	X	X	X	X	X		
I	GC-SD122-15.1-16.1	N	04/07/2010 07:35	15.1-16.1	X	X	X	X	X	X	X	X	X	X		
J	D-04072010-01	FD	04/07/2010 07:35	11.1-13.1	X	X	X	X	X	X		X				
K	GC-SD122-00.0-16.1	N/TCLP	04/07/2010 07:35	0.0-16.1											X	X
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 4/7/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD123	**Easting:**	630858.12		**Attempt 1**	**Refusal? Y/N**	
Sampling	J. Balas/CH2M HILL	**Northing:**	668785.32	**Penetration (ft):**	20.0'	N	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-28.0' NAVD88	**Recovery (ft)**	10.3' + 0.5' sand lost from bottom of core		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/8/2010 11:30		
	ASI - Jeff Clemens	**Depth (ft):**	28.8'				
		St. Arrival:	11:20		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	13:00	**Penetration (ft):**	20.0'		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	8' + 0.4' gravel and sand lost from bottom of core		
Collector Information:	T. Himmer/CH2M HILL applied for less than 100% core recovery	Log reflects sample as collected – no correction factor		**Date/Time:**	4/8/2010 12:10		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	1%	99%	1.0	A	* Organic: fibrous plant material, faint organic odor
2															
3													9.5	B	*
4															
5													2.7	C	*
6															
6.8													3.9	D	Increased fibrous plant material *
7 7.0													2.8		Abrupt transition; Transition zone - not sampled
8		SW-SM	10YR 2/1	H	N	H	Wet	MS ↓ FS	None	0%	90%	10%	0.2	E/G	
													0.1		
9		SW	10YR 6/6 ↓ 10YR 5/3	H	N	H	Wet	MS ↓ FS	None	0% ↓ 5%	99% ↓ 94%	1% ↓ 1%	0.1		
10			10YR 6/6 10YR 5/3					↓ SP ↓ MS		↓ 0%	↓ 99%	↓ 1%	0.1	F	

Additional Notes/Comments: Bottom of core at 11.0". Core opened at 14:15. * Indicates VOC Collection Depth.
Attempt #3: 20' penetration, 10.6' recovery 12:45 4/8/2010.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW	10YR 5/3	H	N	H	Wet	FS	None	0%	99%	1%	0.1	F	*
BOC= 11.0'		↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓		
12													0.1		
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD123-00.0-02.0	N	04/08/2010 14:15	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD123-02.0-04.0	N	04/08/2010 14:15	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD123-04.0-06.0	N	04/08/2010 14:15	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
D	GC-SD123-06.0-06.8	N	04/08/2010 14:15	6.0-6.8	X	X	X	X	X	X	X	X	X			
E	GC-SD123-07.0-09.0	N	04/08/2010 14:15	7.0-9.0	X	X	X	X	X	X	X	X	X	X		
F	GC-SD123-09.0-11.0	N	04/08/2010 14:15	9.0-11.0	X	X	X	X	X	X	X	X	X	X		
G	D-04082010-02	FD	04/08/2010 14:15	0.0-2.0	X	X	X	X	X	X		X				
H	GC-SD123-00.0-11.0	N/TCCP	04/08/2010 14:15	0.0-11.0											X	X
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: TMHimmer Date: 3/18/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD124	**Easting:**	634340.71		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	673564.39	**Penetration (ft):**	11'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-9.6' NAVD88	**Recovery (ft)**	6'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/8/2010 15:03		
	ASI - M. Shappell/Captain	**Depth (ft):**	10.6				
		St. Arrival:	15:02		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	16:20	**Penetration (ft):**	14'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	7'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/8/2010 15:36		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	5%	95%	5.7	A	* Organic: shells, leaves, twigs NAPL - black, low viscosity, brown staining on gloves
2															
3													2.2	B	*
4				S	W										Wood fragments and NAPL saturation
5													37.6	C	Sediment more cohesive below 4' * Wood fragments and fibers noted throughout
6															
7 BOC= 7.5'													51.9	D	* Large wood fragments noted at bottom of core
8															
9															
10															

Additional Notes/Comments: Bottom of core at 7.5'. Core opened at 17:00. * Indicates VOC collection depth. 3rd attempt: 3/18/10 at 16:02: 12.6' penetration and 7' recovery.
(1) Coordinates and depth are of core retained for processing (2nd of 3 attempts).

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD124-00.0-02.0	N	03/08/2010 17:00	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD124-02.0-04.0	N	03/08/2010 17:00	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD124-04.0-06.0	N	03/08/2010 17:00	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
D	GC-SD124-06.0-07.5	N	03/08/2010 17:00	6.0-7.5	X	X	X	X	X	X	X	X	X	X		
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/8/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD125	**Easting:**	634384.85		**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	673554.68	**Penetration (ft):**	20'	N - Head buried
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-1.9	**Recovery (ft)**	14' in field	
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/8/2010 17:12	
	ASI - M. Shappell/Captain	**Depth (ft):**	2.1'			
		St. Arrival:	17:10		**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	17:15	**Penetration (ft):**	NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		SM	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	80%	20%	5.6	A	Black silty sand
2		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	20%	80%			Abrupt transition
3													1.7	B	Black sandy silt - plastic, garbage, fibrous wood, and wood fragments
4															
5													0.6	C	
6															
7													1.0	D	
8															
9													24.6	E/F	
9.7		S											39.9		Abrupt transition
10		SP-SM	10YR 4/1	H	N	H	Wet	ML	PHC (fnt)	0%	75%	25%	47.8		*

Additional Notes/Comments: Bottom of core at 13.6'. Core opened at 09:15. * Indicates VOC collection depth.
Recovery measured on boat was approx. 14' but top 1' was very soft and likely settled.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SP	10YR 6/1	H	N	H	Wet	ML	PHC (strong)	0%	95%	5%	100		NAPL saturated - black, brown staining, low * viscosity, non-sticky
11													94.2	G	
													49.9		
12			10YR 4/1										48.5		NAPL staining - brown
													70.7		Fine/medium sand
13													75.3	H	Rainbow sheen
BOC= 13.6													8.7 64.0		NAPL saturated - brown, slick, low viscosity
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD125-00.0-02.0	N	03/09/2010 09:15	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD125-02.0-04.0	N	03/09/2010 09:15	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD125-04.0-06.0	N/MSD	03/09/2010 09:15	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
D	GC-SD125-06.0-08.0	N	03/09/2010 09:15	6.0-8.0	X	X	X	X	X	X	X	X	X	X		
E	GC-SD125-08.0-10.0	N	03/09/2010 09:15	8.0-10.0	X	X	X	X	X	X	X	X	X	X		
F	D-03092010-01	FD	03/09/2010 00:00	8.0-10.0	X	X	X	X	X	X		X				
G	GC-SD125-10.0-12.0	N	03/09/2010 09:15	10.0-12.0	X	X	X	X	X	X	X	X	X	X		
H	GC-SD125-12.0-13.6	N	03/09/2010 09:15	12.0-13.6	X	X	X	X	X	X	X	X	X	X		
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/9/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD126	**Easting:**	634429.84	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	673537.65	**Penetration (ft):** 11'	Y
Crew/Company	J. Balas/CH2M HILL	**Elevation:**	-2.1' NAVD88	**Recovery (ft)** 6.6'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/4/2010 11:49	
	ASI - M. Shappell/Captain	**Depth (ft):**	5.4'		
		St. Arrival:	11:40	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	12:45	**Penetration (ft):** 7.5'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 5.5'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 3/4/2010 0:00	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	10%	90%	3.6	A	*
2															
3													8.6	B/E	*
3.9				S											
4															Transition zone - not sampled
4		ML	10YR 2/1	S	W	H	Wet	FS	UNC (faint)	0%	3%	97%	2.5	C/F	*
5								Z							
6		GM						SP		40%	40%	20%			Black 3" gravel (angular) at 6'
BOC		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	25%	77%	1.8	D	Abrupt transition - fibrous plant material noted
6.6'															*
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 6.6'. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD126-00.0-02.0	N	03/04/2010 14:45	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD126-02.0-04.0	N	03/04/2010 14:45	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD126-04.0-06.0	N	03/04/2010 14:45	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
	D	GC-SD126-06.0-06.6	N	03/04/2010 14:45	6.0-6.6	X	X	X	X	X	X	X	X	X	X		
	E	D-03042010-01	FD	03/04/2010 00:00	2.0-4.0	X	X			X	X						
	F	D-03042010-02	FD	03/04/2010 00:00	4.0-6.0			X	X				X				
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 3/5/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD127	**Easting:**	633549.75		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671757.01	**Penetration (ft):**	20'	N	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-8.1' NAVD88	**Recovery (ft)**	15'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/10/2010 16:20:00 PM		
	ASI - M. Shappell/Captain	**Depth (ft):**	7.8'				
		St. Arrival:	16:04		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	16:50	**Penetration (ft):**	NA		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	MP	UNC	5%	5%	90%	35.2	A	**Organic: fibrous wood and leaf matter, sticks,** septic-like odor, increasing tar-like odor with depth *
2															
3													29.6	B	*
4															Coal fragments noted below ~4' (trace)
5									TLO (mod)				63.5	C/D	*
5.5		CL	10YR 5/2	H	M	H	Moist	Z	TLO (mod)	0%	0%	100%			Abrupt lithology change Single 4" angular cobble noted
6													30.9	E/J	Moderate to strong tar-like odor *
7													29.9		No staining/discoloration noted
8		ML	10YR 5/2	H	M	H	Moist	Z	TLO(mod	0%	0%	100%	18.1		
9		SM	10 YR 5/4	H	N	H	Wet	FS	TLO (strong)	0%	90%	10%	52.5	F	NAPL saturated - brown, low viscosity, strong tar-like odor, easily squeezed from pore spaces
													65.2		*
10													57.7		

Additional Notes/Comments: Bottom of core at 15.8'. Core opened at 07:45. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SM	10 YR 5/4	H	N	H	Wet	FS	TLO (strong)	0%	90%	10%	34.1		Increasing silt content with depth
11		ML	10 YR 3/1	F	W	H	Moist	VFS	TLO (faint)	0%	3%	97%	27.3	G	Abrupt lithology change Very fine sandy silt Abrupt lithology change
		SW-SM	10YR 4/2	H	N	H	Wet	SP	TLO (faint)	5%	75%	20%	42.8		*
12															NAPL saturated - brown, low viscosity, strong tar-like odor, freely seeping from soil pore space
													28.9		*
13													28.4	H	
													8		
14															
													9.2		
15													25.1	I	*
													3.1		Increased silt content, slight cohesive, hard No NAPL saturation or staining
16 BOC= 15.8'															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD127-00.0-02.0	N	03/11/2010 07:45	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD127-02.0-04.0	N	03/11/2010 07:45	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD127-04.0-06.0	N	03/11/2010 07:45	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
D	D-03112010-01	FD	03/11/2010 00:00	4.0-6.0	X	X			X	X		X				
E	GC-SD127-06.0-08.0	N	03/11/2010 07:45	6.0-8.0	X	X	X	X	X	X	X	X	X	X		
F	GC-SD127-08.0-10.0	N	03/11/2010 07:45	8.0-10.0	X	X	X	X	X	X	X	X	X	X		
G	GC-SD127-10.0-12.0	N	03/11/2010 07:45	10.0-12.0	X	X	X	X	X	X	X	X	X	X		
H	GC-SD127-12.0-14.0	N	03/11/2010 07:45	12.0-14.0	X	X	X	X	X	X	X	X	X	X		
I	GC-SD127-14.0-15.8	N	03/11/2010 07:45	14.0-15.8	X	X	X	X	X	X	X	X	X	X		
J	D-03112010-02	FD	03/11/2010 00:00	6.0-8.0			X	X								
K																
L																
M																
N																
O																
P																
Q																
R																
S																

Reviewed by: *TMHimmer* Date: 3/11/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD128	**Easting:**	633588.78 (1)		**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671742.60	**Penetration (ft):**	6.1'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-10.3' NAVD88	**Recovery (ft)**	4'	
	J. Balas/CH2M HILL	**Datum:**	NYSP Zone East NAD 83	**Date/Time:**	3/11/2010 9:40	
	ASI - M. Shappell/Captain	**Depth (ft):**	9.7'			
		St. Arrival:	9:30		**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	10:25	**Penetration (ft):**	18'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	13.4'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/11/2010 9:57	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 4/1	VS	N	H	Wet	FS	UNC	0%	3%	97%	10.3	A	Organic: fibrous wood and leaf material, moderate organic odor *
2															
2.5													11.1	B	
3													20.6		Transition zone - not sampled
3.3															
4		CL	10YR 4/1	H	M	H	Moist	VFS	PHC (faint)	0%	1%	99%	21.2	C/D	Lean clay
5													24.7		
		SM	10YR 4/2	F	N	H	Wet	FS	PHC (strong)	0%	51%	49%	2.8		*
6													42.4	D	NAPL - heavy coating and staining, near saturation, brown, low viscosity, slick/not slippery, not sticky
7		ML	10YR 3/1	F	N	H	Moist	FS	PHC (strong)	0%	5%	95%	17.1		
													19.2		
8													29.1	F	
													36.6		*
9		SW-SM	10YR3/1	F	N	H	Moist	FS	PHC(stg)	0%	90%	10%	38.1		
		ML	10YR3/1	F	N	H	Moist	FS	PHC(stg)	0%	10%	90%			
10		SW-SM	10YR 4/2	H	N	H	Wet	SC	PHC (strong)	10%	80%	10%	37.8	G	NAPL saturation - blebs of NAPL, floating, non-water soluble, low viscosity, black in color, brown staining, heavy staining on soil pores

Additional Notes/Comments: Bottom of core at 13.3'. Core opened at 14:00. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW-SM	10YR 4/2 ↓ 10YR 5/4	H	N	H	Wet	SC	PHC (mod)	10%	80%	10%	29.4 39.2	G	* Subangular to subrounded cobbles (trace/little) noted throughout NAPL staining/brown discoloration noted
12													24.5 32.4	H	*
BOC= 13.3													7.2		
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD128-00.0-02.0	N	03/11/2010 14:00	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD128-02.0-02.5	N	03/11/2010 14:00	2.0-2.5	X	X		X								
C	GC-SD128-03.3-05.3	N	03/11/2010 14:00	3.3-5.3	X	X	X	X	X	X	X	X	X	X		
D	D-03112010-03	FD	03/11/2010 14:00	3.3-5.3	X	X	X	X	X	X		X				
E	GC-SD128-05.3-07.3	N	03/11/2010 14:00	5.3-7.3	X	X	X	X	X	X	X	X	X	X		
F	GC-SD128-07.3-09.3	N	03/11/2010 14:00	7.3-9.3	X	X	X	X	X	X	X	X	X	X		
G	GC-SD128-09.3-11.3	N	03/11/2010 14:00	9.3-11.3	X	X	X	X	X	X	X	X	X	X		
H	GC-SD128-11.3-13.3	N	03/11/2010 14:00	11.3-13.3	X	X	X	X	X	X	X	X	X	X		
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/11/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD129	**Easting:**	633604.51		**Attempt 1**	**Refusal? Y/N**
Sampling		**Northing:**	671726.39	**Penetration (ft):**	15.4'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-9.9' NAVD88	**Recovery (ft)**	10.0'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/13/2010 15:25	
	ASI - Jeff Clemens	**Depth (ft):**	8.2'			
		St. Arrival:	15:10		**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	16:20	**Penetration (ft):**	15.7'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	11.0'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	4/13/2010 16:00	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
0		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	1%	99%			Organic: trace fibrous plant material
1													5.1	A	*
2															Increased wood fragments
3									PHC (mod)				70.4	B	*
4															Garbage, plastic, and refuse
5								SP		5%	5%	90%	70.7	C	* Small coal-like gravel noted
6													58.3	D	
6.5															*Abrupt transition
6.6													52.8		Transition zone - not sampled
7		ML	10YR 3/1	F	W	H	Moist	VFS	TLO (faint)	0%	1%	99%	37.8		Fine SM lens - gray
8			10YR 3/2						(mod)				39.3	E/G	Light NAPL staining *
9			10YR 4/2										67.8 / 85.3	F	* Moderate NAPL Coating
10		SM	10YR 4/2	H	N	H	Wet	FS	TLO	0%	75%	25%	80.0		

Additional Notes/Comments: Bottom of core Core opened at 09:35. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
BOC= 10.8'		SM	10YR 4/2	H	N	H	Wet	FS	TLO	0%	75%	25%	89.8 73.5	F	Heavy NAPL staining and coating near saturation NAPL - black staining, brown, low viscosity, slick, not sticky/tacky.
11		↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓			
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD129-00.0-02.0	N	04/14/2010 09:35	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD129-02.0-04.0	N	04/14/2010 09:35	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD129-04.0-06.0	N	04/14/2010 09:35	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
	D	GC-SD129-06.0-06.5	N	04/14/2010 09:35	6.0-6.5	X	X	X	X	X	X						
	E	GC-SD129-06.6-08.6	N	04/14/2010 09:35	6.6-8.6	X	X	X	X	X	X	X	X	X	X		
	F	GC-SD129-08.6-10.6	N	04/14/2010 09:35	8.6-10.6	X	X	X	X	X	X	X	X	X	X		
	G	D-04142010-02	FD	04/14/2010 00:00	6.6-8.6	X	X	X	X	X	X		X				
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/14/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD130	**Easting:**	631797.88	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	670940.52	**Penetration (ft):** 14.8'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-12.7' NAVD88	**Recovery (ft)** 13.5'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/22/2010 9:30	
	ASI - M. Shappell/Captain	**Depth (ft):**	12.0'		
		St. Arrival:	8:50	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	10:00	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	5%	5%	90%	32	A	* Organic: fibrous wood fragments
2		GM	10YR 2/1	H	N	H	Wet	SP	UNC	50%	25%	25%			Increasing gravel content until 2.0', abrupt transition to trace gravel
3		OL	10YR 2/1	F	N	H	Wet	SP	UNC	1%	5%	94%	105	B/H	Increasing wood fragments from 2-4' *
4															
5													203	C	*
6															
7									PHC (mod)				130 192	D	*
7.4													348		Transition zone - not sampled
8		ML	10YR 4/3	S	W	H	Moist	VFS	PHC (mod)	0%	1%	99%	146 372	E	Moderate NAPL coating
9													379		* Sample collection through 9.4' to avoid transition zone; wood fragment ~3" in diameter
10		SM	10YR 5/3	H	N	H	Wet	FS	PHC (strong)	0%	85%	15%	340	F	Heavy NAPL coating

Additional Notes/Comments: Bottom of core at 12.8'. Core opened at 10:15. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SM	10YR 4/2 ↓ 10YR 3/1 ↓ 10YR 4/2	H	N	H	Wet	FS	PHC (strong)	0%	85%	15%	789 267 364 666 705	F G	* Heavy NAPL coating, increased saturation with depth NAPL saturation NAPL coating light, increasingly heavy with depth * NAPL saturation
12 BOC = 12.8'															
13															NAPL is brown, low/medium viscosity not sticky/tacky
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD130-00.0-02.0	N	03/22/2010 10:15	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD130-02.0-04.0	N	03/22/2010 10:15	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD130-04.0-06.0	N	03/22/2010 10:15	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
D	GC-SD130-06.0-07.0	N	03/22/2010 10:15	6.0-7.0	X	X	X	X	X	X	X	X	X	X		
E	GC-SD130-07.4-09.4	N	03/22/2010 10:15	7.4-9.4	X	X	X	X	X	X	X	X	X	X		
F	GC-SD130-09.4-11.4	N	03/22/2010 10:15	9.4-11.4	X	X	X	X	X	X	X	X	X	X		
G	GC-SD130-11.4-12.8	N	03/22/2010 10:15	11.4-12.8	X	X	X	X	X	X	X	X	X	X		
H	D-03222010-01	FD	03/22/2010 10:15	2.0-4.0	X	X	X	X	X	X		X				
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: TMHimmer Date: 3/22/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD131	**Easting:**	631812.89**		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	670953.72**	**Penetration (ft):**	13.9'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-15.6' NAVD88	**Recovery (ft)**	11.5'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/18/2010 9:25		
	ASI - M. Shappell/Captain	**Depth (ft):**	17.5'				
		St. Arrival:	9:20		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	10:30	**Penetration (ft):**	13.9'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	12.5' top material very soft		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/18/2010 9:25		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		GM	10 YR 2/1	H	N	H	Wet	SP	UNC	75%	15%	10%	16.1	A	**Organic, septic-like odor** *
1.5													47.5		Transition zone - not sampled
2		CH	10 YR 4/2	F	S	H	Moist/ Wet	Z	TLO (mod)	0%	0%	100%	41.5		Fat clay, NAPL saturated vesicles noted
													79.0	B	* NAPL is black in color; dark brown staining observed. NAPL has low to moderate viscosity
3													30.3		
4													52.4		*
													16.4	C	Light NAPL coating noted on surrounding clay; light staining on gloves
5													16.7		
6			10YR 3/3										37.2		
													19.1	D	
7													87.5		* Sandy clay lenses noted Abrupt transition
8													82.4		
		SW-SM	10YR 4/3	H	N	H	Wet	FS	TLO (strong)	0%	90%	10%	180	E/H	* NAPL coating, near saturation - NAPL is brown, low to medium viscosity, decreasing contamination with depth
9													48.5		
10													5.2	F	Sandy silt lens

Additional Notes/Comments: Bottom of core at 11.9'. Core opened at 12:00. * Indicates VOC collection depth.
** Due to bridge and overhead highway structure, GPS signal may not be reliable.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SW-SM	10 YR 4/3	H	N	H	Wet	FS	TLO (faint)	0%	90%	10%	10.9	F	Moderate/light NAPL staining
11		ML	10 YR 3/3	H	N	H	Moist	VFS	None	0%	5%	95%	10.3		Light/trace NAPL coating Sandy silt lens
12		SW-SM	10 YR 4/3	H	N	H	Wet	FS	UNC (mod)	0%	90%	10%	110	G	* Heavy NAPL staining
BOC = 11.9'															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD131-00.0-01.3	N	03/18/2010 12:00	0.0 -1.3	X	X	X	X	X	X	X	X	X	X		
B	GC-SD131-01.5-03.5	N	03/18/2010 12:00	1.5-3.5	X	X	X	X	X	X	X	X	X	X		
C	GC-SD131-03.5-05.5	N	03/18/2010 12:00	3.5-5.5	X	X	X	X	X	X	X	X	X	X		
D	GC-SD131-05.5-07.5	N	03/18/2010 12:00	5.5-7.5	X	X	X	X	X	X	X	X	X	X		
E	GC-SD131-07.5-09.5	N	03/18/2010 12:00	7.5-9.5	X	X	X	X	X	X	X	X	X	X		
F	GC-SD131-09.5-11.5	N	03/18/2010 12:00	9.5-11.5	X	X	X	X	X	X	X	X	X	X		
G	GC-SD131-11.5-11.9	N	03/18/2010 12:00	11.5-11.9	X	X	X									
H	D-03182010-02	FD	03/18/2010 12:00	7.5-9.5	X	X	X	X	X	X		X				
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/18/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD132	**Easting:**	631881.75**		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	670931.7**	**Penetration (ft):**	13.5'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-12.3' NAVD88	**Recovery (ft)**	9.0'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/22/2010 10:20		
	ASI - M. Shappell/Captain	**Depth (ft):**	13.1'				
		St. Arrival:	10:10		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	11:40	**Penetration (ft):**	8.8'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	4'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/22/2010 10:45		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	3%	3%	94%	18.6	A	Organic material: fibrous wood and organic matter *
2															
3		GM	10YR 2/1	H	N	H	Wet	MP	UNC / TLO (strong)	75%	20%	5%	291	B	* NAPL saturated - black, low viscosity tar-like odor
4		OL	10YR 2/1	S	N	H	Wet	FS	TLO (faint)	0%	5%	95%	80.6	C	Increased fibrous wood with depth *
5 4.9													113		Transition zone - not sampled
6		CL	10YR 4/4	S	N	H	Moist	Z/VFS	None	0%	1%	99%	35.4 30.5	D/F	* Silty clay - low to medium plasticity
7													31.5		
8 BOC = 8.6'			10YR 3/2										46.8 16.0 66.4	E	*
9															
10															

Additional Notes/Comments: Bottom of core at 8.6'. Core opened at 12:20. * Indicates VOC collection depth.
Attempt #3 - 14.0' penetration; 9.0' recovery 3/22/2010 11:20
** Due to bridge and overhead highway structure, GPS signal may not be reliable.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD132-00.0-02.0	N	03/22/2010 12:20	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD132-02.0-04.0	N	03/22/2010 12:20	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD132-04.0-04.7	N	03/22/2010 12:20	4.0-4.7	X	X	X	X								
	D	GC-SD132-04.9-06.9	N	03/22/2010 12:20	4.9-6.9	X	X	X	X	X	X	X	X	X	X		
	E	GC-SD132-06.9-08.6	N	03/22/2010 12:20	6.9-8.6	X	X	X	X	X	X	X	X	X	X		
	F	D-03222010-02	FD	03/22/2010 12:20	4.9-6.9	X	X	X	X	X	X		X				
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: TMHimmer Date: 3/22/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD133 (2nd Attempt)	**Easting:**	**NA		**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	**NA	**Penetration (ft):**	6.1'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	TBD	**Recovery (ft)**	5.5'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/5/2010 14:20	
	ASI - Jeff Clemens	**Depth (ft):**	5.8'			
		St. Arrival:	14:05		**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	14:57	**Penetration (ft):**	16.2'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	10.7'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	4/5/2010 14:40	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
0		OL	10YR 2/1	S	N	H	Wet	FS	UNC	0%	5%	95%			
1													7.4	A	Organic: fibrous wood and plant fragments, organic odor *
2															
3													7.5	B	*
4										10%	10%	80%			Brick fragment and garbage bag
5									TLO (mod)	0%	49%	51%	13.9	C	Coal fragments * Light NAPL coating/staining
6									UNC	0%	15%	85%			Light NAPL coating/staining
7													15.2	D	*
7.8									TLO	0%	49%	51%			
8													38.0		Transition zone - not sampled
8.2		SM	10YR 4/1	H	N	H	Wet	FS	TLO (strong)	0%	85%	15%			
9													58.7	E	Heavy NAPL coating
10			10YR 4/4										11.3		* Near saturation Heavy staining

Additional Notes/Comments: Bottom of core at 10.7'. Core opened at 07:20. * Indicates VOC collection depth.
** Due to bridge and overhead highway structure, GPS signal may not be reliable.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
BOC=		SM	10YR 4/1	H	N	H	Wet	FS	TLO	0%	15%	85%	94.1	E	Banded NAPL staining with depth
10.7'		↓	10YR 4/4	↓	↓	↓	↓	↓	↓	↓	↓	↓	53.0	F	*
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD133-00.0-02.0	N	04/06/2010 07:20	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD133-02.0-04.0	N	04/06/2010 07:20	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD133-04.0-06.0	N	04/06/2010 07:20	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
D	GC-SD133-06.0-07.8	N/MSD	04/06/2010 07:20	6.0-7.8	X	X	X	X	X	X	X	X	X	X		
E	GC-SD133-08.2-10.2	N	04/06/2010 07:20	8.2-10.2	X	X	X	X	X	X	X	X	X	X		
F	GC-SD133-10.2-10.7	N	04/06/2010 07:20	10.2-10.7	X	X	X	X	X	X	X	X	X	X		
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/18/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD134	**Easting:**	631158.62**	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Murphy/CH2M HILL	**Northing:**	669852.65**	**Penetration (ft):** 8.1'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	13.7' NAVD88	**Recovery (ft)** 4.6'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/6/2010 10:22	
	ASI - J. Clemens/Captain	**Depth (ft):**	13.5'		
		St. Arrival:	10:10	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	11:25	**Penetration (ft):** 5'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** No recovery	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 4/6/2010 10:55	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		SM	10YR 2/1	S	N	H	Wet	SP	UNC	1%	84%	15%	6.3	A	*
2									PHC (mod)	5%	70%	15%			
3													162	B	* NAPL coating
4									PHC (strong)	20%	60%	20%	330	C	* NAPL saturated
BOC= 4.4'															
5															NAPL - black, thick, medium viscosity, sticky/tacky, trace staining on gloves (stain is grayish brown)
6															
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 4.4'. Core opened at 11:50. * Indicates VOC collection depth.
** Due to bridge and overhead highway structure, GPS signal may not be reliable.
Attempt #3: 11.5' penetration, 4.1' recovery. 11:15 4/16/2010

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD134-00.0-02.0	N	04/06/2010 11:50	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD134-02.0-04.0	N	04/06/2010 11:50	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD134-04.0-04.4	N	04/06/2010 11:50	4.0-4.4	X	X	X	X								
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 4/6/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD135	**Easting:**	**NA		**Attempt 1** **Refusal? Y/N**
Sampling	M. Murphy/CH2M HILL	**Northing:**	**NA	**Penetration (ft):**	12.0' Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-4.8' NAVD88	**Recovery (ft)**	6.4'
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/6/2010 8:50
	ASI - M. Shappell/Captain	**Depth (ft):**	3.4'		
		St. Arrival:	8:45		**Attempt 2** **Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	10:00	**Penetration (ft):**	12.1' Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	7.0'
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	4/6/2010 9:25

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	5%	95%	3.1	A	Organic material, strong septic-like odor *
2				S											Fibrous wood, wood fragments, sticks and plant matter
3													12.1	B/F	*
4															
5													23.9	C	0.2' silty sand (coarse) with small gravel *
6										0%	10%	90%			
7													35.9	D	* Increased wood fragments
8										0%	5%	95%			
9													32.5	E	* No native material observed
BOC = 10.0' 10															No NAPL staining/odors observed.

Additional Notes/Comments: Bottom of core at 10.0'. Core opened at 10:35. * Indicates VOC collection depth.
Attempt #3: 12.1' penetration; 10' recovery 9:45 4/6/2010.
** Due to bridge and overhead highway structure, GPS signal was not able to be obtained .

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD135-00.0-02.0	N	04/06/2010 10:35	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD135-02.0-04.0	N	04/06/2010 10:35	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD135-04.0-06.0	N	04/06/2010 10:35	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
	D	GC-SD135-06.0-08.0	N	04/06/2010 10:35	6.0-8.0	X	X	X	X	X	X	X	X	X	X		
	E	GC-SD135-08.0-10.0	N	04/06/2010 10:35	8.0-10.0	X	X	X	X	X	X	X	X	X	X		
	F	D-04062010-01	FD	04/06/2010 00:00	2.0-4.0	X	X	X	X	X	X		X				
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/6/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD136	**Easting:**	631002.60**	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	669474.21**	**Penetration (ft):** 3.0'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-23.6' NAVD88	**Recovery (ft)** 2.5'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/19/2010 11:30	
	ASI - M. Shappell/Captain	**Depth (ft):**	25.2'		
		St. Arrival:	11:20	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	12:40	**Penetration (ft):** 3.5'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** None - lost nose cone	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 3/19/2010 12:10	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	5%	5%	90%	6.2	A	Organic: fibrous wood fragments Trace rounded pebbles *
2															
BOC = 2.0'															Minimal recovery due to vibracore refusal
3															
4															
5															
6															
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 2.0'. Core opened at 08:55. * Indicates VOC collection depth.
** Due to bridge and overhead highway structure, GPS signal may not be reliable.
Attempt #3: 3.5' penetration, 2' recovery 12:30 3/19/2010

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD136-00.0-02.0	N	03/22/2010 08:55	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B																
C																
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/22/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD137	**Easting:**	631029.88	**Attempt 1**	**Refusal? Y/N**
Sampling	J. Balas/CH2M HILL	**Northing:**	669430.53	**Penetration (ft):** ~18' (barrel tipped over)	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-25.3' NAVD88	**Recovery (ft)** None	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/19/2010 13:10	
	ASI - J. Clemens/Captain	**Depth (ft):**	24.0'		
		St. Arrival:	9:25	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	10:00	**Penetration (ft):** 19.5'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 13.6' (including 2.5' sand lost)	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 4/7/2010 9:30	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		SW-SM	10YR 2/1	H	N	H	Wet	FS	TLO (faint)	0%	90%	10%	15.9	A	Faint tar-like odor
										15%	75%	10%	10.5		
2		ML	10YR 4/3	H	N	H	Moist	VFS	TLO (faint)	0%	3%	97%	144.0		* Sandy lens, no staining, no coating, tar-like odor
3													0.9	B	
													2.0		
4		SM	10YR 4/1	H	N	H	Wet	FS	None	0%	85%	15%	6.8		* Abrupt change
5		SW-SM	10YR 6/6 10YR 2/1 10YR 3/2	H	N	H	Wet	FS	None TLO None TLO	0%	90%	10%	55.5	C	Black staining, moderate tar-like odor
													57.0		* Black staining, moderate tar-like odor
6		SM	10YR 4/3	N	H	N	Wet	VFS	None	0%	85%	15%	3.9		Abrupt change
7													0.7	D	
													2.5		Abrupt change
8		SW	10YR 6/8	N	H	N	Wet	MS	None	0%	95%	5%	3.6		*
9		SM	10YR 2/1 10YR 4/3	N	H	N	Wet	FS VFS FS	None	0%	85%	15%	85.2	E/F	* Light NAPL coating, light to moderate staining on sampling equipment and gloves, moderate tar-like odor, moderate sheen
BOC= 9.8'													3.4		
10													2.6		

Additional Notes/Comments: Bottom of core at 9.3'. Core opened at 13:20. * Indicates VOC collection depth.
2.5' feet of sand lost from bottom of core. Material in top 1-2' of core liquified and not able to be sampled (lost on vessel during sectioning).

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD137-00.0-02.0	N	04/07/2010 13:20	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD137-02.0-04.0	N	04/07/2010 13:20	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD137-04.0-06.0	N	04/07/2010 13:20	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
	D	GC-SD137-06.0-08.0	N	04/07/2010 13:20	6.0-8.0	X	X	X	X	X	X	X	X	X	X		
	E	GC-SD137-08.0-09.8	N	04/07/2010 13:20	8.0-9.8	X	X	X	X	X	X	X	X	X	X		
	F	D-04072010-02	FD	04/07/2010 00:00	0.0-2.0	X	X	X	X	X	X		X				
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/7/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD138	**Easting:**	631106.13		**Attempt 1** **Refusal? Y/N**
Sampling		**Northing:**	669389.68	**Penetration (ft):**	7.0' Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-14.8' NAVD88	**Recovery (ft)**	1.4'
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/7/2010 14:50
	ASI - M. Shappell/Captain	**Depth (ft):**	15.5'		
		St. Arrival:	14:45		**Attempt 2** **Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	15:30	**Penetration (ft):**	4.0' Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	1.7'
Collector Information:	T. Himmer/CH2M HILL Log reflects sample as collected – no correction factor applied for less than 100% core recovery			**Date/Time:**	4/7/2010 15:05

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		GP	10YR 2/1	H	N	H	Wet	SP	None	99%	0%	1%	0.5	A	Gravel - angular to subangular, well sorted, poorly graded, uniform
BOC= 1.7'		ML	10YR 2/1	F	N	H	Wet	SP	UNC	10%	15%	75%	3.4		Abrupt transition, sandy silt with gravel
2															
3															
4															
5															
6															
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 1.7'. Core opened at 11:00.
Attempt #3: 4.0' penetration; no recovery (washout) 4/7/2010 15:25.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD138-00.0-01.7	N	04/08/2010 11:00	0.0-1.7	X	X	X	X	X	X	X	X	X	X		
	B																
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/8/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD139	**Easting:**	630425.96		**Attempt 1**	**Refusal? Y/N**	
Sampling	J. Balas/CH2M HILL	**Northing:**	668733.58	**Penetration (ft):**	15.6'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-18.9' NAVD88	**Recovery (ft)**	13.0'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/12/2010 14:15		
	ASI - M. Shappell/Captain	**Depth (ft):**	16.2'				
		St. Arrival:	13:55		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	14:40	**Penetration (ft):**	13.7'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	10.8'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	4/14/2010 15:55		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	MP	UNC	10%	5%	85%	2.5	A	*
2		SM	10YR 2/1	H	N	H	Wet	MP	UNC	80%	10%	10%			
3		OL	10YR 2/1	H	N	H	Wet	SP	UNC	5%	5%	90%	29.6	B	Organic: wood fragments and fibrous wood *
4								FS		0%	5%	95%			Multiple sandy seams observed, NAPL saturated. NAPL - black, high viscosity, thick, tar-like odor.
5													7.2	C	*
6									TLO (faint)						
7													15.5	D	* Large piece of wood
8															
9									(mod)				36.9	E	* Sandy seam
10															

Additional Notes/Comments: Bottom of core at 12.7'. Core opened at 07:35. * Indicates VOC collection depth.
Attempt #2 opened on 4/15/2010 (~7:30 AM). Recovery approximately 10.5', no native material encountered, material and lithology similar to attempt 1.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		OL	10YR 2/1	H	N	H	Wet	FS	TLO (mod)	0%	5%	95%	73.6	F/H	* Sandy seam - NAPL saturated, NAPL highly viscous
12													297	G	Sandy seam - NAPL saturated, NAPL highly viscous
13 BOC = 12.8'															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD139-00.0-02.0	N	04/13/2010 07:35	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD139-02.0-04.0	N	04/13/2010 07:35	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD139-04.0-06.0	N	04/13/2010 07:35	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
D	GC-SD139-06.0-08.0	N	04/13/2010 07:35	6.0-8.0	X	X	X	X	X	X	X	X	X	X		
E	GC-SD139-08.0-10.0	N	04/13/2010 07:35	8.0-10.0	X	X	X	X	X	X	X	X	X	X		
F	GC-SD139-10.0-12.0	N	04/13/2010 07:35	10.0-12.0	X	X	X	X	X	X	X	X	X	X		
G	GC-SD139-12.0-12.8	N	04/13/2010 07:35	12.0-12.8	X	X	X	X	X	X	X	X	X	X		
H	D-04132010-01	FD	04/13/2010 00:00	10.0-12.0	X	X	X	X	X	X		X				
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: TMHimmer Date: 4/13/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD140	**Easting:**	630526.94	**Attempt 1**	**Refusal? Y/N**
Sampling	J. Balas/CH2M HILL	**Northing:**	668625.44	**Penetration (ft):** 20.0'	N
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-30.9' NAVD88	**Recovery (ft)** 9.9 + 4.5' sand lost from bottom of core	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/14/2010 10:30	
	ASI - M. Shappell/Captain	**Depth (ft):**	31.8'		
		St. Arrival:	10:25	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	11:15	**Penetration (ft):** 18.9'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 12.9'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 4/14/2010 10:58	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	VFS	UNC	0%	1%	99%	2.9	A	Organic: trace fibrous wood fragments * Top interval appears homogeneous
2															
3													8.6	B	*
4															
5													14.2	C	* UNC - unclassified chemical-like odor
6	6														Abrupt transition, cloth observed
	6.2												4.9		Transition zone - not sampled
7		SW-SM	10YR 2/1	H	N	H	Wet	FS	UNC	0%	90%	10%	5.4	D	*
8			10YR 6/6						None				0.0		Abrupt color change
9			10YR 5/2										0.0 0.2 0.0	E	*
10													0.0		

Additional Notes/Comments: Bottom of core at 12.7'. Core opened at 11:50. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW-SM	10YR 2/1	H	N	H	Wet	FS	UNC	0%	90%	10%	0.0		No NAPL staining or odor
12 BOC = 12.7'		SW	10YR 6/6	H	N	H	Wet	SP MP	None	10%	85%	5%	0.0 3.1 0.0	F G	Rounded pebbles
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD140-00.0-02.0	N	04/14/2010 11:50	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD140-02.0-04.0	N	04/14/2010 11:50	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD140-04.0-06.0	N	04/14/2010 11:50	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
D	GC-SD140-06.2-08.2	N	04/14/2010 11:50	6.2-8.2	X	X	X	X	X	X	X	X	X	X		
E	GC-SD140-08.2-10.2	N/MSD	04/14/2010 11:50	8.2-10.2	X	X	X	X	X	X	X	X	X	X		
F	GC-SD140-10.2-12.2	N	04/14/2010 11:50	10.2-12.2	X	X	X	X	X	X	X	X	X	X		
G	GC-SD140-12.2-12.7	N	04/14/2010 11:50	12.2-12.7	X	X	X	X	X	X						
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 4/14/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD141	**Easting:**	630591.52		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Murphy/CH2M HILL	**Northing:**	668510.65	**Penetration (ft):**	11.8'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-29.7' NAVD88	**Recovery (ft)**	none - washout		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/8/2010 16:35		
	ASI - J. Clemens/Captain	**Depth (ft):**	27.1'				
		St. Arrival:	12:45		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	13:50	**Penetration (ft):**	6.4'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	5.0'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	412/2010 12:50		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS ↓ SP	UNC	1%	1%	98%	8.4	A	Organic: trace fibrous plant material *
2															
3													8.2	B	*
4															
5									↓ PHC (faint)				59.7	C	Increased fibrous wood and wood fragments *
BOC = 5.7'															
6															
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 5.7'. Core opened at 15:35. * Indicates VOC collection depth.
Attempt #3: 8.8' penetration, 6.3' recovery 13:25 4/12/2010

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD141-00.0-02.0	N	04/12/2010 15:35	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD141-02.0-04.0	N	04/12/2010 15:35	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD141-04.0-05.7	N/MSD	04/12/2010 15:35	4.0-5.7	X	X	X	X	X	X	X	X	X	X		
	D	GC-SD141-00.0-05.7	N	04/12/2010 15:35	0.0-5.7											X	X
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/12/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD142	**Easting:**	630022.58	**Attempt 1**	**Refusal? Y/N**
Sampling	J. Balas/CH2M HILL	**Northing:**	668390.50	**Penetration (ft):** 19.5'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-26.9' NAVD88	**Recovery (ft)** 11.5' + 0.5' sand lost from bottom of core	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/14/2010 13:05	
	ASI - M. Shappell/Captain	**Depth (ft):**	25.0'		
		St. Arrival:	12:50	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	14:15	**Penetration (ft):** 20.0'	N
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 10.5' + 0.5' sand lost from bottom of core	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 4/14/2010 13:50	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	1%	99%	2.6	A	Organic: fibrous plant material *
2															
3								SP		5%	5%	90%	3.0	B	
3.8															
4															Transition zone - not sampled
4.1		SM	10YR 2/1	H	N	H	Wet	MP	None	5%	80%	15%	4.7		
5													0.4	C	*
								MS		0%	85%	15%			
6													0.5		
		SW-SM	10YR 2/1 ↓ 10YR 5/6	H	N	H	Wet	MS	None	0%	90%	10%	0.2		
7													0.2	D	*
8													0.2		
													0.2		
9													0.4	E/G	*
10		SM	10YR 5/4	H	N	H	Wet	VFS	None	0%	75%	25%	0.2		

Additional Notes/Comments: Bottom of core at 11.2'. Core opened at 07:45. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW	10YR 5/3	H	N	H	Wet	CS	None	0%	95%	5%	0.3	F	No NAPL staining or odor
BOC = 11.2'		↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	0.5		*
12															Cloth noted at bottom of core
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD142-00.0-02.0	N	04/15/2010 07:45	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD142-02.0-03.8	N	04/15/2010 07:45	2.0-3.8	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD142-04.1-06.1	N	04/15/2010 07:45	4.1-6.1	X	X	X	X	X	X	X	X	X	X		
	D	GC-SD142-06.1-08.1	N	04/15/2010 07:45	6.1-8.1	X	X	X	X	X	X	X	X	X	X		
	E	GC-SD142-08.1-10.1	N	04/15/2010 07:45	8.1-10.1	X	X	X	X	X	X	X	X	X	X		
	F	GC-SD142-10.2-11.2	N	04/15/2010 07:45	10.1-11.2	X	X	X	X	X	X	X	X	X	X		
	G	D-04152010-01	FD	04/15/2010 00:00	8.1-10.1	X	X	X	X	X	X		X				
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/15/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD143	**Easting:**	630211.16	**Attempt 1**	**Refusal? Y/N**
Sampling		**Northing:**	668362.60	**Penetration (ft):** 15.5'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-34.7' NAVD88	**Recovery (ft)** 2.5'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/14/2010 11:35	
	ASI - M. Shappell/Captain	**Depth (ft):**	33.7'		
		St. Arrival:	11:25	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	12:45	**Penetration (ft):** 19.0'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 13.6'	
Collector Information:	T. Himmer/CH2M HILL Log reflects sample as collected – no correction factor applied for less than 100% core recovery			**Date/Time:** 4/14/2010 12:15	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	VFS	UNC	0%	1%	99%	59.2	A	Organic: trace fibrous plant material, organic odor
2													11.2	B	*
3 2.9															Cloth fragment in transition zone
3.3													5.6		Transition zone - not sampled
4		SW-SM	10YR 5/4	H	N	H	Wet	FS	UNC	0%	90%	10%	0.2		* Black staining
													0.0	C/I	No NAPL staining/odor
5													0.0		
		SW	10YR 6/6	H	N	H	Wet	MS	None	0%	95%	5%			Cloth fragment
6								SP		1%	95%	4%	0.0	D	Rounded pebbles *
7													0.0		
													0.0		
8													0.0	E	*
9													0.0		Abrupt change
10		CL	10YR 6/4	F	M	H	Moist	Z	None	0%	0%	100%	0.0	F	Silty clay

Additional Notes/Comments: Bottom of core at 13.8'. Core opened at 14:10. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		CL	10YR 6/4	F	M	H	Moist	Z	None	0%	1%	99%	0.0 0.0	F	* Silty clay
12		ML	10YR 6/4	F	N	H	Wet	Z	None	0%	1%	99%	0.0		Fine silt
13		CL	10YR 6/4	F	M	H	Moist	Z	None	0%	1%	99%	0.0 0.2	G	Silty clay *
BOC = 13.8'			5YR 5/6										0.9	H	*
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD143-00.0-02.0	N	04/14/2010 14:10	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD143-02.0-02.9	N	04/14/2010 14:10	2.0-2.9	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD143-03.3-05.3	N	04/14/2010 14:10	3.3-5.3	X	X	X	X	X	X	X	X	X	X		
	D	GC-SD143-05.3-07.3	N	04/14/2010 14:10	5.3-7.3	X	X	X	X	X	X	X	X	X	X		
	E	GC-SD143-07.3-09.3	N	04/14/2010 14:10	7.3-9.3	X	X	X	X	X	X	X	X	X	X		
	F	GC-SD143-09.3-11.3	N	04/14/2010 14:10	9.3-11.3	X	X	X	X	X	X	X	X	X	X		
	G	GC-SD143-11.3-13.3	N	04/14/2010 14:10	11.3-13.3	X	X	X	X	X	X	X	X	X	X		
	H	GC-SD143-13.3-13.8	N	04/14/2010 14:10	13.3-13.8	X	X	X	X	X	X	X	X	X	X		
	I	D-04142010-03	FD	04/14/2010 00:00	3.3-5.3	X	X	X	X	X	X		X				
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/14/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD144B	**Easting:**	630407.60		**Attempt 1**	**Refusal? Y/N**	
Sampling	J. Balas/CH2M HILL	**Northing:**	668852.52	**Penetration (ft):**	18.0	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-35.6' NAVD88	**Recovery (ft)**	3.8'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/25/2010 15:30		
	ASI - J. Clemens/Captain	**Depth (ft):**	33.5'				
		St. Arrival:	14:40		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	16:00	**Penetration (ft):**	16.7'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	6.5' + 2.5' sand lost from bottom of core		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	4/12/2010 13:30		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
0.3		SM	10YR 2/1	S	N	H	Wet	MS	PHC	0%	75%	25%	57.5	NA	
0.8													83.2		Transition zone - not sampled
1		SW-SM	10YR 2/1 ↓ 10YR 5/4 ↓ 10YR 5/6	H	N	H	Wet	FS	PHC (mod) ↓ None	0%	80% ↓ 90%	20% ↓ 10%	74.7		* Black staining
2													11.2	A	No NAPL staining or discoloration throughout rest of core
3													3.0		
4		SW	7.5YR 5/8	H	N	H	Wet	MS/SP	None	1%	95%	4%	1.5		
5													3.3	B	*
6													1.0		
BOC= 6.5'													1.3		
7													2.8	C	*
8													1.8		
9															
10															

Additional Notes/Comments: Bottom of core at 6.5'. Core opened at 09:20. * Indicates VOC collection depth. Core 144B used to collect native sediment, core 144C used for accumulated soft sediment sampling.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD144B-00.8-02.8	N	04/13/2010 09:20	0.8-2.8	X	X	X	X	X	X	X	X	X	X		
B	GC-SD144B-02.8-04.8	N	04/13/2010 09:20	2.8-4.8	X	X	X	X	X	X	X	X	X	X		
C	GC-SD144B-04.8-06.5	N	04/13/2010 09:20	4.8-6.5	X	X	X	X	X	X	X	X	X	X		
D																	
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: *TMHimmer* Date: 4/13/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-144C	**Easting:**	630404.83		**Attempt 1**	**Refusal? Y/N**	
Sampling	J. Balas/CH2M HILL	**Northing:**	668362.00	**Penetration (ft):**	7.0'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-35.0' NAVD88	**Recovery (ft)**	6.0'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/12/2010 15:30		
	ASI - M. Shappell/Captain	**Depth (ft):**	33.7'				
		St. Arrival:	14:40		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	16:00	**Penetration (ft):**	NA		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	1%	15%	84%	70.3	A	Organic: fibrous wood and wood fragments, trace small pebbles *
2									PHC (mod)						
3													102	B	* Increased wood and wood fragments
3.3															
3.5													114		Transition zone - not sampled
4		SW-SM	10YR 2/1	H	N	H	Wet	FS	None	0%	90%	10%	11.0		No NAPL odor
5			10YR 5/4										5.5		Black staining
6			10YR 4/2										2.7	NA	
BOC= 6.3'													3.5		
7													2.8		
8															
9															
10															

Additional Notes/Comments: Bottom of core at 7.0'. Core opened at 15:45. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD144C-00.0-02.0	N	04/13/2010 09:15	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD144C-02.0-03.3	N	04/13/2010 09:15	2.0-3.3	X	X	X	X	X	X	X	X	X	X		
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/13/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD145	**Easting:**	633791.00		**Attempt 1**	**Refusal? Y/N**	
Sampling	J. Balas/CH2M HILL	**Northing:**	672310.37	**Penetration (ft):**	11.3'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-14.1' NAVD88	**Recovery (ft)**	6.4'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/9/2010 9:05		
	ASI - J. Clemens/Captain	**Depth (ft):**	13.3'				
		St. Arrival:	8:45		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	10:25	**Penetration (ft):**	14.3'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	8.2'		
Collector Information:	T. Himmer/CH2M HILL for less than 100% core recovery	Log reflects sample as collected – no correction factor applied		**Date/Time:**	4/9/2010 9:30		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10 YR 2/1	VS	N	H	Wet	MP	UNC	5%	1%	94%	6.3	A	* Organic: fibrous plant material, organic odor
2															
3													41.3	B	Glass and garbage noted * Small cobble noted
3.5															Abrupt Transition
3.8													24.7		Transition zone - not sampled. NAPL blebs, brown, non-water soluble
4		ML	10YR 4/2	F	N	H	Moist	VFS	TLO (faint)	0%	1%	99%	31.6 30.7	C	* Light NAPL staining - light brown, slick, low viscosity
5		SM	10YR 4/3	H	N	H	Wet	FS	TLO (mod)	0%	85%	15%	22.0		
6													24.2 15.3	D	Moderate NAPL coating
7		SW-SM	10YR 5/2	H	N	H	Wet	FS	TLO (mod)	0%	90%	10%	38.2		* Heavy NAPL coating, near saturation
8													12.3		No NAPL staining/odor
9													11.1	E	
BOC= 9.6'													67.0		*
10															

Additional Notes/Comments: Bottom of core at 9.6'. Core opened at 11:15 * Indicates VOC collection depth. Attempt #3 - 12.4' penetration, 9.5' recovery at 09:55 4/9/2010

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD145-00.0-02.0	N	04/09/2010 11:15	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD145-02.0-03.5	N	04/09/2010 11:15	2.0-3.5	X	X	X	X	X	X	X	X	X	X		
C	GC-SD145-03.8-05.8	N	04/09/2010 11:15	3.8-5.8	X	X	X	X	X	X	X	X	X	X		
D	GC-SD145-05.8-07.8	N	04/09/2010 11:15	5.8-7.8	X	X	X	X	X	X	X	X	X	X		
E	GC-SD145-07.8-09.6	N/MSD	04/09/2010 11:15	7.8-9.6	X	X	X	X	X	X	X	X	X	X		
F	GC-SD145-00.0-09.6	N/TCLP	04/09/2010 11:15	0.0-9.6											X	X
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/18/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD146	**Easting:**	633748.24		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Murphy/CH2M HILL	**Northing:**	672058.48	**Penetration (ft):**	20.0'	N	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-8.7' NAVD88	**Recovery (ft)**	13.2'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/9/2010 10:50		
	ASI - J. Clemens/Captain	**Depth (ft):**	7.4'				
		St. Arrival:	10:40		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	11:15	**Penetration (ft):**	NA		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
0		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	5%	5%	90%			Organic, septic-like odor, trace rounded/angular gravel
													38.1	A	*
													5.9	B	*
													11.5	C	*
6.6													40.0	D	* Abrupt change
7.0															Transition zone - not sampled
		SM	10YR 3/1	H	N	H	Wet	MP	PHC (strong)	15%	70%	15%	60.0	E	Heavy NAPL coating - black, medium to low viscosity, not sticky/tacky
										0%	85%	15%	69.7		
													125.0		*
													129.0	F	* Decreased NAPL coating with depth
10									(mod)				91.0		

Additional Notes/Comments: Bottom of core at 13.2'. Core opened at 10:10. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SM	10YR 4/1	H	N	H	Wet	SC	None	15%	70%	15%	4.5	F	
12													8.2 12.2	G/H	
13													14.4		*
BOC = 13.2'														NA	
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD146-00.0-02.0	N	04/12/2010 10:10	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD146-02.0-04.0	N	04/12/2010 10:10	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD146-04.0-06.0	N	04/12/2010 10:10	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
	D	GC-SD146-06.6-06.6	N	04/12/2010 10:10	6.0-6.6	X	X	X	X								
	E	GC-SD146-07.0-09.0	N	04/12/2010 10:10	7.0-9.0	X	X	X	X	X	X	X	X	X	X		
	F	GC-SD146-09.0-11.0	N	04/12/2010 10:10	9.0-11.0	X	X	X	X	X	X	X	X	X	X		
	G	GC-SD146-11.0-13.0	N	04/12/2010 10:10	11.0-13.0	X	X	X	X	X	X	X	X	X	X		
	H	D-04122010-02	FD	04/12/2010 00:00	11.0-13.0	X	X	X	X	X	X		X				
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/12/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD147	**Easting:**	633772.00		**Attempt 1**	**Refusal? Y/N**
Sampling	J. Balas/CH2M HILL	**Northing:**	672024.10	**Penetration (ft):**	20'	N
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-12.0' NAVD88	**Recovery (ft)**	16.7'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/9/2010 11:30	
	ASI - J. Clemens/Captain	**Depth (ft):**	10.4'			
		St. Arrival:	11:15		**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	12:00	**Penetration (ft):**	NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**		
Collector Information:	T. Himmer/CH2M HILL for less than 100% core recovery	Log reflects sample as collected – no correction factor applied		**Date/Time:**		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	N	FS	UNC	0%	3%	97%	12.5	A	Organic, strong septic-like odor, fibrous plant material *
2													23.7	B	*
3															
3.1															
3.5															Transition zone - not sampled
4		SM/ML	10YR 3/3	H	N	S	Wet/ Moist	MS SP MS	TLO (Strong)	5%	60%	40%	97.0 125	C	Alternating stratified layers of silty sand (10YR 3/3); heavy NAPL coating/near saturation and layers of sandy silt, grey (10YR 4/1)
5		SM	10YR 3/3	H	N	H	Wet	SP	TLO (Strong)	5%	80%	15%	146		*
6		ML	10YR 5/2	F	N	H	Moist	VFS	TLO (Mod)	0%	5%	95%	16.9 28.8	D/J	
7													122		Silty sand pocket at 7', black, NAPL saturated *
8													68.7		Sheen on sediment surface
9													124 20.8	E	* Silty sand pocket at 8' Heavy coating/near saturation, brown (10YR 4/4), sticky, strong tar-like odor, low viscosity
10		SM	10YR 5/3	H	N	H	Wet	FS	TLO (Strong)	0%	75%	25%	124	F	Heavy NAPL coating Increasing NAPL with depth

Additional Notes/Comments: Bottom of core at 17.0". Core opened at 13:55. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SM	10YR 5/3	H	N	H	Wet	SP	TLO (strong)	3%	82%	15%	153	F	* NAPL saturation - freely squeezed from pore space (10.7'-11.3"), heavy staining
								MS		0%	85%	15%	109		
12													133		*
															Heavy NAPL coating
													81.9	G	
13															
			10YR 2/1							0%	80%	20%	51.0		
14													201		*
											85%	15%	82.0	H	NAPL saturated - black, slick, low viscosity
15			10YR 5/2												
													167		
			10YR 3/1										203		
16													213	I	*
17													188		Round cobble at very bottom of recovery
BOC =17'															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GS-SD147-00.0-02.0	N	04/09/2010 13:55	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD147-02.0-03.1	N	04/09/2010 13:55	2.0-3.1	X	X	X	X	X	X		X				
C	GC-SD147-03.5-05.5	N	04/09/2010 13:55	3.5-5.5	X	X	X	X	X	X	X	X	X	X		
D	GC-SD147-05.5-07.5	N	04/09/2010 13:55	5.5-7.5	X	X	X	X	X	X	X	X	X	X		
E	GC-SD147-07.5-09.5	N	04/09/2010 13:55	7.5-9.5	X	X	X	X	X	X	X	X	X	X		
F	GC-SD147-09.5-11.5	N	04/09/2010 13:55	9.5-11.5	X	X	X	X	X	X	X	X	X	X		
G	GC-SD147-11.5-13.5	N	04/09/2010 13:55	11.5-13.5	X	X	X	X	X	X	X	X	X	X		
H	GC-SD147-13.5-15.5	N	04/09/2010 13:55	13.5-15.5	X	X	X	X	X	X	X	X	X	X		
I	GC-SD147-15.5-17.0	N	04/09/2010 13:55	15.5-17.0	X	X	X	X	X	X	X	X	X	X		
J	D-04092010-01	FD	04/09/2010 00:00	5.5-7.5	X	X	X	X	X	X		X				
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 4/9/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD148	**Easting:**	633781.90	**Attempt 1**	**Refusal? Y/N**
Sampling	J. Balas/CH2M HILL	**Northing:**	672022.77	**Penetration (ft):** 20.0'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-9.7' NAVD88	**Recovery (ft)**	12.5' plus 0.5' sand lost from catcher
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/13/2010 13:35
	ASI - J. Clemens/Captain	**Depth (ft):**	7.2'		
		St. Arrival:	13:30	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	13:55	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	H	H	Wet	VFS	UNC	0%	1%	99%	5.6	A	Organic: fibrous plant material *
2															
3													18.3	B	* Increased wood fragments
4				S				FS	PHC (mod)		5%	95%			
5								SP		5%	5%	90%	88.7	C	* Rounded and subrounded gravel, moderate PHC odor
5.5															
6													28.6		Transition zone - not sampled
6.2															
7		SW-SM	10YR 4/2	H	N	H	Wet	FS	None	0%	90%	10%	16.0		Well-graded sand with silt, no odor, staining, discoloration or coating noted
8													18.9	D/G	*
9													7.2		
10			10YR 3/4					VFS					15.4 5.0 6.1	E	*

Additional Notes/Comments: Bottom of core at 11.9'. Core opened at 08:05. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SW-SM	10YR 5/4	H	N	H	Wet	VFS	None	0%	90%	10%	1.7		No NAPL staining or discoloration
11		SW	10YR 5/2	H	N	H	Wet	MS	None	0%	95%	5%	1.9	F	abrupt transition
12								SP		5%	90%	5%	4.4		Small pocket of NAPL observed (0.1' x 0.1') NAPL hardened, tar-like, black, very high * viscosity, thick, sticky/tacky, faint to moderate tar-like odor.
BOC = 11.9'															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD148-00.0-02.0	N	04/14/2010 08:05	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD148-02.0-04.0	N	04/14/2010 08:05	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD148-04.0-05.5	N	04/14/2010 08:05	4.0-5.5	X	X	X	X	X	X	X	X	X	X		
	D	GC-SD148-06.2-08.2	N	04/14/2010 08:05	6.2-8.2	X	X	X	X	X	X	X	X	X	X		
	E	GC-SD148-08.2-10.2	N	04/14/2010 08:05	8.2-10.2	X	X	X	X	X	X	X	X	X	X		
	F	GC-SD148-10.2-11.9	N	04/14/2010 08:05	10.2-11.9	X	X	X	X	X	X	X	X	X	X		
	G	GC-SD148-06.2-08.2	FD	04/14/2010 00:00	6.2-8.2	X	X	X	X	X	X		X				
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/14/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD149	**Easting:**	631543.92		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Murphy/CH2M HILL	**Northing:**	670396.66	**Penetration (ft):**	6.0'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-12.2' NAVD88	**Recovery (ft)**	4.6'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/12/2010 10:00		
	ASI - J. Clemens/Captain	**Depth (ft):**	11.4'				
		St. Arrival:	10:00		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	11:30	**Penetration (ft):**	5.7'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	4.0'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	4/12/2010 10:40		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		GM	10YR 2/1	H	N	H	Wet	SP	UNC	60%	25%	15%	23.9	A	*
1.5		OL	10YR 2/1	S	N	H	Wet	MP	UNC	15%	5%	80%			Gravelly silt
2															
3									PHC (strong)				296	B	Heavy NAPL coating, black staining on gloves and sampling equipment *
4															
4.7													191	C	Increasing fibrous wood *
5													152		Transition zone - not sampled
5		SM	10YR 3/1	H	N	H	Wet	SP	PHC (strong)	5%	80%	15%	168		Heavily coated with NAPL
6													262	D	*
7								MP					243		NAPL saturated NAPL - black, low to medium viscosity, not sticky, strong PHC odor
BOC = 7.0'															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 7.0'. Core opened at 12:10. * Indicates VOC collection depth.
Attempt #3: 14.1' penetration, 7.0' recovery, 11:00 4/12/2010

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD149-00.0-02.0	N	04/12/2010 12:10	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD149-02.0-04.0	N	04/12/2010 12:10	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD149-04.0-04.7	N	04/12/2010 12:10	4.0-4.7	X	X	X	X	X	X		X				
D	GC-SD149-05.0-07.0	N	04/12/2010 12:10	5.0-7.0	X	X	X	X	X	X	X	X	X	X		
E	GC-SD149-00.0-07.0	N/TLCP	04/12/2010 12:10	0.0-7.0											X	X
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 4/12/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD150	**Easting:**	630894.44	**Attempt 1**	**Refusal? Y/N**
Sampling	J. Balas/CH2M HILL	**Northing:**	669169.28	**Penetration (ft):** 10'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-26.7' NAVD88	**Recovery (ft)** None - washout	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/9/2010 13:30	
	ASI - J. Clemens/Captain	**Depth (ft):**	27.1'		
		St. Arrival:	13:25	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	15:00	**Penetration (ft):** 9.5'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 6.0'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 4/9/2010 14:10	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	VFS	UNC	0%	1%	99%	2.0	A	Organic, septic-like odor, trace fibrous plant material *
2															
3													12.2	B	* Gravelly lens
4															Garbage and plastic bag noted at 4-6'
5									PHC (faint)				20.0	C	*
6															
7									(mod)				29.8	D	Increased fibrous wood material *
8															
8.2													21.4		Sampling interval increased slightly to include sediment above transition zone
8.6													6.6		Transition zone - not sampled
9		SM	10YR 3/1	H	N	H	Wet	FS	PHC (mod)	0%	85%	15%	8.7	E/I	
10													47.1		

Additional Notes/Comments: Bottom of core at 15.5'. Core opened at 08:10. * Indicates VOC collection depth.
Attempt #3: 20' penetration; 16.0' recovery + 0.35' of sand lost from bottom of core. 14:45 4/9/2010

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SM	10YR 2/1	H	N	H	Wet	FS	PHC	0%	85%	15%	82.8	E	* Strong PHC odor; heavily coated, black staining, near saturation
		ML	2/1	F	N	H	Wet/	VFS	PHC	0%	1%	99%	1.9		
11		↓	2/1	↓	↓	↓	Moist	↓	↓	↓	↓	↓			
			10YR				↓		None				2.3		
			4/6						↓						
		SW	10YR	H	N	H	Wet	FS	None	0%	99%	1%		F	*
			5/4					↓		↓	↓	↓	1.7		
12			↓												
			10YR					SP		3%	96%	1%			
			6/6										2.1		
13															Rounded pebbles
													2.2	G	*
14													1.5		
													1.2		*
15														H	
BOC = 15.5'													0.9		
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD150-00.0-02.0	N	04/12/2010 08:10	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD150-02.0-04.0	N	04/12/2010 08:10	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD150-04.0-06.0	N	04/12/2010 08:10	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
D	GC-SD150-06.0-08.2	N	04/12/2010 08:10	6.0-8.2	X	X	X	X	X	X	X	X	X	X		
E	GC-SD150-08.6-10.6	N	04/12/2010 08:10	8.6-10.6	X	X	X	X	X	X	X	X	X	X		
F	GC-SD150-10.6-12.6	N	04/12/2010 08:10	10.6-12.6	X	X	X	X	X	X	X	X	X	X		
G	GC-SD150-12.6-14.6	N	04/12/2010 08:10	12.6-14.6	X	X	X	X	X	X	X	X	X	X		
H	GC-SD150-14.6-15.5	N	04/12/2010 08:10	14.6-15.5	X	X	X	X	X	X	X	X	X	X		
I	D-04121010-01	FD	04/12/2010 00:00	8.6-10.6	X	X	X	X	X	X		X				
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: TMHimmer Date: 4/12/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD151	**Easting:**	631050.33	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Murphy/CH2M HILL	**Northing:**	669093.74	**Penetration (ft):** 7.3'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-27.7' NAVD88	**Recovery (ft)** 3.5'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/12/2010 11:45	
	ASI - J. Clemens/Captain	**Depth (ft):**	25.9'		
		St. Arrival:	11:35	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	12:40	**Penetration (ft):** 15.0'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 12.0'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 4/12/2010 12:12	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
0		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	20%	5%	75%	0.6	A	Organic: wood fragments
1															*
2										10%	5%	85%	2.6	B	Increased wood fragments
3															*
4		SM	10YR 2/1	H	N	H	Wet	SP	UNC	60%	25%	15%	1.1	C	*
4.8															
5													3.5		Abrupt change Transition zone - not sampled
5.2		ML	10YR 4/4	F	N	H	Wet	VFS	None	0%	1%	99%	0.4	D	No NAPL odor, staining, or coating observed, non-plastic silt
6													0.3		
7													0.6		*
8													0.3	E/G	*
9													0.3		
10													0.3	F	

Additional Notes/Comments: Bottom of core at 11.6'. Core opened at 14:06. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		ML ↓	10YR 4/4 ↓	F ↓	N ↓	H ↓	Wet ↓	VFS ↓	None ↓	0% ↓	1% ↓	99% ↓	0.5 0.5 1.4	F NA	* No odor or staining observed
12 BOC = 11.6'															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD151-00.0-02.0	N	04/12/2010 14:05	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD151-02.0-04.0	N	04/12/2010 14:05	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD151-04.0-04.8	N	04/12/2010 14:05	4.0-4.8	X	X	X	X	X	X						
	D	GC-SD151-05.2-07.2	N	04/12/2010 14:05	5.2-7.2	X	X	X	X	X	X	X	X	X	X		
	E	GC-SD151-07.2-09.2	N	04/12/2010 14:05	7.2-9.2	X	X	X	X	X	X	X	X	X	X		
	F	GC-SD151-09.2-11.2	N	04/12/2010 14:05	9.2-11.2	X	X	X	X	X	X	X	X	X	X		
	G	D-04122010-03	FD	04/12/2010 00:00	7.2-9.2	X	X	X	X	X	X		X				
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/12/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD152	**Easting:**	634280.01	**Attempt 1**	**Refusal? Y/N**
Sampling	J. Balas/CH2M HILL	**Northing:**	673289.33	**Penetration (ft):** 18.7'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-3.5' NAVD88	**Recovery (ft)** 13.1' top material extremely soft	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/15/2010 9:20	
	ASI - J. Clemens/Captain	**Depth (ft):**	5.1'		
		St. Arrival:	9:15	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	9:45	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	MS	UNC	0%	3%	97%	10.7	A	Organic, strong septic-like odor, fibrous wood fragments *
2								SP		1%	3%	96%			
3								MS		0%	3%	97%	32.0	B	*
4															
5													33.6	C	*
6										5%	3%	92%			Increased wood and wood fragments
7													63.9	D	Light NAPL coating, black, slick, low viscosity *
7.3															
7.7													227.0		Transition zone - not sampled Silty sand, heavy NAPL coating
8		CL	10YR 4/3	F	W	H	Wet	FS	PHC (strong)	0%	10%	90%	148.0		* PHC odor, faint staining
9		SW-SM	10YR 4/6	H	N	H	Wet	FS	PHC (strong)	0%	90%	10%	98.2	E	Heavy NAPL coating. NAPL - brown, light brown staining, slick, not sticky/tacky
		SW	10YR 4/2	H	N	H	Wet	MP	PHC (faint)	15%	80%	5%	6.5		No NAPL coating
10													23.6	F	Faint odor

Additional Notes/Comments: Bottom of core at 12.0'. Core opened at 10:30. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SW	10YR 4/2	H	N	H	Wet	MP	None	15%	80%	5%	219.0		
11		GW	10YR 3/1	H	N	H	Wet	MP	PHC	75%	20%	5%		F/G	* Heavy NAPL coating, near saturation
		SW	10YR 4/2	H	N	H	Wet	MP	PHC (faint)	5%	90%	5%	20.9		
12		GW	10YR 3/1	H	N	H	Wet	LP	PHC	75%	20%	5%	198.0	NA	Heavy NAPL coating. Interval not sampled because similar to interval above.
BOC = 12.0'															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD152-00.0-02.0	N	04/15/2010 10:30	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD152-02.0-04.0	N	04/15/2010 10:30	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD152-04.0-06.0	N	04/15/2010 10:30	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
D	GC-SD152-06.0-07.3	N	04/15/2010 10:30	6.0-7.3	X	X	X	X	X	X	X	X	X	X		
E	GC-SD152-07.7-09.7	N	04/15/2010 10:30	7.7-9.7	X	X	X	X	X	X	X	X	X	X		
F	GC-SD152-09.7-11.7	N	04/15/2010 10:30	9.7-11.7	X	X	X	X	X	X	X	X	X	X		
G	D-04152010-02	FD	04/15/2010 00:00	9.7-11.7	X	X	X	X	X	X	X	X	X	X		
H	GC-SD152-00.0-12.0	N/TCLP	04/15/2010 10:30	0.0-12.0											X	X
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 4/15/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD153	**Easting:**	633803.36	**Attempt 1**	**Refusal? Y/N**
Sampling	M.Murphy/CH2M HILL	**Northing:**	672395.30	**Penetration (ft):** 14.2'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-11.0' NAVD88	**Recovery (ft)** 8.3' + 2.0' sand lost from bottom of core	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/15/2010 11:15	
	ASI - J. Clemens/Captain	**Depth (ft):**	11.8'		
		St. Arrival:	11:10	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	12:55	**Penetration (ft):** 13.4'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 8.0' + 0.3' sand lost from bottom of core	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 4/15/2010 12:00	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	3%	97%	20.6	A	Organic, faint septic-like odor *
2								SP		5%	3%	92%			Increased fibrous wood and wood fragments
3													19.8	B	*
3.2															
4													22.9		Transition zone - not sampled
4.2															
5		SW-SM	10YR 3/1 ↓ 10YR 5/2	H	N	H	Wet	FS	None	0%	90%	10%	26.9	C	
6													26.6		*
7													7.8	D	Pockets of NAPL present, does not affect entire depth interval
8								MS VFS					57.8		
9													11.3		
BOC = 8.8'													145		* NAPL saturated/heavy coating
10													13.1	E	*

Additional Notes/Comments: Bottom of core at 8.8'. Core opened at 13:40. * Indicates VOC collection depth.
Attempt 3#: 14.8' penetration, 9.0' recovery, 0.2' sand lost from bottom of core.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD153-00.0-02.0	N	04/15/2010 13:40	0.0-2.0	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD153-02.0-03.2	N	04/15/2010 13:40	2.0-3.2	X	X	X	X	X	X						
	C	GC-SD153-04.2-06.2	N	04/15/2010 13:40	4.2-6.2	X	X	X	X	X	X	X	X	X	X		
	D	GC-SD153-06.2-08.2	N	04/15/2010 13:40	6.2-8.2	X	X	X	X	X	X	X	X	X	X		
	E	GC-SD153-08.2-08.8	N	04/15/2010 13:40	8.2-8.8	X	X	X	X	X	X	X	X	X	X		
	F	GC-SD153-00.0-08.8	N/TCLP	04/15/2010 13:40	0.0-8.8											X	X
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/15/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD01A (attempt 1)	**Easting:**	634355.13	**Attempt 1**	**Refusal? Y/N**
Sampling	Not sampled	**Northing:**	673411.90	**Penetration (ft):**	18.5'
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-3.1' NAVD88	**Recovery (ft)**	11'
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/5/2010 12:00
	ASI - M. Shappell/Captain	**Depth (ft):**	5.9'		
		St. Arrival:	12:10	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	13:30	**Penetration (ft):**	15'
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	11'
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/5/2010 13:25

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	5%	95%	3.1	NA	
2															
3													3.7	NA	
4															Sand lens noted at 4'
5													8.3	NA	
6															Increasing sand content with depth
7													6.2	NA	
8			S												
9		SW-SM	10YR 5/1/ 10YR 3/1	F	M	S	Wet	FS	TLO (mod)	0%	50%	50%	55	NA	Large wood fragment Alternating layers of gray silty sand and black sandy silt
BOC= 10' 10															

Additional Notes/Comments: Bottom of core at 10.0'. Core opened at 10:20. Core will be re-attempted. No samples collected.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	No samples collected															
B																
C																
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/8/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD01A (attempt 2)	**Easting:**	634372.94	**Attempt 1**	**Refusal? Y/N**
Sampling	Not sampled	**Northing:**	673604.37	**Penetration (ft):**	18.5'
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-2.8' NAVD88	**Recovery (ft)**	11'
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/5/2010 12:00
	ASI - M. Shappell/Captain	**Depth (ft):**	5.3'		
		St. Arrival:	12:10	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	13:30	**Penetration (ft):**	15'
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	11'
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/5/2010 13:25

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	5%	95%	2.1	NA	Organic: sticks, wood fragments, and leaves noted at approximately 6" below top of core.
2															
3													2.2	NA	
4															
5													7.5	NA	Sand lens (approximately 0.2' noted at 4' bgs), blank organic odor
6															
7													4.2	NA	
8										0%	20%	80%			Increased sand content
9													9.5	NA	
BOC= 10.4' 10				S											

Additional Notes/Comments: Bottom of core at 10.4'. Core opened at 11:20. Core will be re-attempted. No samples collected.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	No samples collected															
	B																
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 3/18/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD01A (attempt 3)	**Easting:**	634371.28	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/R. Clennon/CH2M HILL	**Northing:**	673607.91	**Penetration (ft):** 20'	20'-N-Head Buried
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-2.9' NAVD88	**Recovery (ft)** 12.5'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/8/2010 16:38	
	ASI - M. Shappell/Captain	**Depth (ft):**	3.6'		
		St. Arrival:	16:32	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	16:50	**Penetration (ft):**	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	See previous logs for GCSD01A
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	10%	90%	4.1	NA	Organic: black matter, leaves, fibrous wood, organic odor
2															
3													5.5	NA	
4															Medium sand, black, UNC odor
5													11	NA	
6				S					PHC (faint)		30%	70%			
7				F									20.5	NA	NAPL saturated at 7.1', black, rainbow sheen on moisture surface, very fine grained sandy silt
8									PHC (strong)				31.8		
8.3													51.1		Transition zone - not sampled
9															Alternating layers of OL and SM
9.4		SM	10YR 4/1	H	N	H	Wet	MS	PHC (strong)	0% 1%	49%	50%	198	A	*
10															

Additional Notes/Comments: Bottom of core at 11.4'. Core opened at 08:00. Third attempt. Retained even though recovery at 70%. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11 BOC= 11.4'		SM	10YR 4/1	H	N	H	Wet	MS	PHC (strong)	1%	80%	19%	175 185 195	A	
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD001A-09.4-11.4	N	03/03/2010 08:00	9.4-11.4	X	X	X	X	X	X	X	X	X	X		
B																
C																
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/9/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD02A	**Easting:**	634402.6		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	673599.74	**Penetration (ft):**	19'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-2.4' NAVD88	**Recovery (ft)**	15'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/9/2010 16:15		
	ASI - M. Shappell/Captain	**Depth (ft):**	3.5'				
		St. Arrival:	16:02		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	16:30	**Penetration (ft):**	NA		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		SM	10YR 2/1	VS	N	H	Wet	FS	UNC (strong)	0%	75%	25%	9.6	NA	Organic: leaves, twigs, fibrous wood, plastic bags, garbage, strong septic-like organic odor
2				S											
3													4.3	NA	
4		OL	10YR 2/1	S	N	H	Wet	FS	UNC (strong)	0%	10%	90%			
5													5.2	NA	
6															
7													13.5	NA	
8															
9													6.6	NA	
10															

Additional Notes/Comments: Bottom of core at 13.9'. Core opened at 07:40. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		OL	10YR 2/1	S	N	H	Wet	FS	UNC (faint)	0%	10%	90%	8.6	NA	Coarse gravel pocket (angular) - coal fragments
11.7															
11.9													27.5		Transition zone - not sampled
12		SM	10YR 5/1	H	N	H	Wet	ML	None	0%	85%	15%	6.1		*
													2.8	A	Well graded fine to medium sand with silt, gray-black stain noted at 12.2'
13															
BOC 13.9'													4.0		
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD002A-11.9-13.9	N/MSD	03/10/2010 07:40	11.9-13.9	X	X	X	X	X	X	X	X	X	X		
B																
C																
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: TMHimmer Date: 3/10/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD03B	**Easting:**	634429.69	**Attempt 1**	**Refusal? Y/N**
Sampling	Not Sampled	**Northing:**	673583.80	**Penetration (ft):**	15'
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-1.9' NAVD88	**Recovery (ft)**	11'
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/5/2010 10:15
	ASI - M. Shappell/Captain	**Depth (ft):**	3.8'		
		St. Arrival:	10:05	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	10:40	**Penetration (ft):**	NA
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		SM	10YR 2/1	S	N	H	Wet	SP	UNC	1%	75%	24%	0.4	NA	PID 40 ppm
2															
3													6.5	NA	Increasing sand content with depth Decreasing fine content with depth
4															
5		ML	10YR 2/1	F	W	H	Wet/ Moist	MS	UNC	0%	20%	85%	7.4	NA	Organic matter - rooting and leaves noted Garbage noted at 5' Decreasing sand content with depth
6															Sheen noted on soil at 4.0 - 4.3'
7								FS					11.8	NA	
8															
9													6.4	NA	
10				S					PHC (faint)		5%	95%			

Additional Notes/Comments: Bottom of core at 11.0'. Core opened at 1310. No samples collected. No headspace readings.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		ML ↓	10YR 2/1 ↓	S ↓	W ↓	H ↓	Wet ↓	FS ↓	PHC (faint) ↓	0% ↓	5% ↓	95% ↓	25.5 ↓		Abrupt change/transition to silty-sand NAPL coating/staining
11		SM ↓	10YR 4/2	H ↓	W ↓	H ↓	Wet ↓	CS ↓	PHC (strong)	0% ↓	95% ↓	5% ↓	25.5 ↓	NA	
BOC = 11'															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	No samples collected															
B																
C																
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/5/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD04A	**Easting:**	634285.63	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	673438.09	**Penetration (ft):** 10'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-4.5' NAVD88	**Recovery (ft)** 7'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/9/2010 16:45	
	ASI - M. Shappell/Captain	**Depth (ft):**	5.2'		
		St. Arrival:	16:30	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	17:15	**Penetration (ft):** 19.5'	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 14.5'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 3/9/2010 17:00	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	1%	5%	94%	0.9	NA	Organic: fibrous wood and plant material, leaves and sticks
2															
3													9.1	NA	
4															
5													17.5	NA	Angular gravel (approximately 1"), coal-like, low density, black
6															
7	7.3			S									43.0	NA	Coal-like fragments
		SM	10YR 4/3	F	W	H	Wet	FS	PHC (strong)	0%	60%	40%	48.4	A	NAPL - heavy staining/coating, brown, low viscosity/not sticky, strong PHC odor *
8													49.2		
		CL	10YR 3/2	H	S	H	Moist	Z	PHC (faint)	0%	0%	100%			
9													19.8		
		SWSM	10YR 4/2	H	N	H	Wet	MS	PHC (strong)	3%	80%	17%			
10													61.6	B	

Additional Notes/Comments: Bottom of core at 14.2'. Core opened at 08:30. * Indicates VOC collection depth. Attempt 2 retained coordinates are from 2nd attempt.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SWSM	10YR 4/2	H	N	H	Wet	MS	PHC (strong)	3%	80%	17%	42.1	B	*
													36.6		NAPL saturated, brown, low viscosity, not sticky, slick
								SC MS		20% 3%	70% 80%	10% 17%	121		
12															NAPL - heavily stained/coated soils
													120	C	Medium sand (well graded), saturated
13													45.2		* Medium sand (well graded), saturated
													46.4	NA	
14													94.6		
BOC= 14.2															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD004A-07.3-09.3	N	03/10/2010 08:30	7.3-9.3	X	X	X	X	X	X	X	X	X	X		
B	GC-SD004A-09.3-11.3	N	03/10/2010 08:30	9.3-11.3	X	X	X	X	X	X	X	X	X	X		
C	GC-SD004A-11.3-13.3	N	03/10/2010 08:30	11.3-13.3	X	X	X	X	X	X	X	X	X	X		
D																	
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: TMHimmer Date: 3/10/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD05A	**Easting:**	634313.60		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	673432.78	**Penetration (ft):**	20'	N	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-4.5' NAVD88	**Recovery (ft)**	13'		
	J. Balas/CH2M HILL	**Datum:**	NYSP Zone East NAD 83	**Date/Time:**	3/10/2010 8:13		
	ASI - M. Shappell/Captain	**Depth (ft):**	3.2'				
		St. Arrival:	8:05		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	9:50	**Penetration (ft):**	20'	N = 20' penetration	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	13'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/10/2010 8:50		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		SM	10YR 2/1	S	N	H	Wet	FS	UNC	0%	75%	25%	0.2	NA	Black, silty sand
2		OL	10YR 2/1	VS	N	H	Wet	VFS	UNC	0%	3%	97%			Organic matter, fibrous wood, garbage and plastic bags
3													1.6	NA	
4															
5									PHC (faint)				113.2	NA	
5.5				S	N	H									
6															Transition zone - not sampled
6		SW-SM	10YR 5/1	H	N	H	Wet	VFS	PHC (strong)	0%	95%	5%	236	*	*
7		ML	10YR 6/1	H	N	H	Wet	Z	PHC	0%	10%	90%	105	A	Brown NAPL staining/heavy coating Abrupt transition
		SW-SM	10YR 4/1	H	N	H	Wet	MS	PHC (strong)	0%	50%	40%	124		
8								SP		20%	75%	5%	79		Gravel (subrounded) NAPL saturated
9								Z		0%	0%	100%	116	B	NAPL - brown, low viscosity, non-sticky
10								FS		5%	90%	5%	45		

Additional Notes/Comments: Bottom of core at 12.0'. Core opened at 1030. * Indicates VOC collection depth. (1) Coordinates & data are for attempt 3.
Attempt 3: Penetration: 20'; Recovery: 12'; Time: 3/10/2010 09:33.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW-SM	10YR 4/1	H	N	H	Wet	FS	PHC (strong)	5%	90%	5%	186		* NAPL staining/heavy coating
													142	C	
BOC= 12			10YR 3/1					MS		0%	99%	1%	175		NAPL saturated Brown NAPL - low viscosity, not sticky
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD005A-06.0-08.0		N	03/10/2010 10:30	6.0-8.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD005A-08.0-10.0		N	03/10/2010 10:30	8.0-10.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD005A-10.0-12.0		N	03/10/2010 10:30	10.0-12.0	X	X	X	X	X	X	X	X	X	X		
D																	
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: TMHimmer Date: 3/10/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD06A (attempt 1)	**Easting:**	634360.76		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	673413.32	**Penetration (ft):**	15'	Y	
Crew/Company	J. Balas/CH2M HILL	**Elevation:**	-3.8' NAVD88	**Recovery (ft)**	10.3'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/4/2010 11:13		
	ASI - M. Shappell/Captain	**Depth (ft):**	7.2'				
		St. Arrival:	11:04		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	11:40	**Penetration (ft):**	20'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	14.5'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/5/2010 11:17		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 4/1	VS	N	H	Wet	MP	UNC	10%	5%	85%	18	NA	
2															
3													6.5	NA	
4															Plastic bags/garbage noted from 3.5 to 4.5'
5													381	NA	
6										40%		55%			
7													398	NA	Black coal-like gravel (angular)
8									PHC (faint)						
8.5		SM	10YR 6/1	F	N	S	Wet	FS	PHC (strong)	0%	75%	25%	513	A	Abrupt transition *
9															(37.8 headspace)
10		ML													Near saturation - heavy coating

Additional Notes/Comments: Bottom of core at 10.4'. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
BOC = 10.4		ML ↓	10YR 6/1	F ↓	W ↓	S ↓	Wet ↓	FS ↓	PHC ↓	0% ↓	25% ↓	75% ↓		A	
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD006A-08.5-10.4	N/MSD	03/04/2010 13:30	8.5-10.4	X	X	X	X	X	X	X	X	X	X		
B																
C																
D																
E																
F																
G																
H																
I																
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Reviewed by: *TMHimmer* Date: 3/8/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD06A (attempt 2)	**Easting:**	634355.13		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	673411.90	**Penetration (ft):**	15'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-3.4' NAVD88	**Recovery (ft)**	10.3'		
	J. Balas/CH2M HILL	**Datum:**	NYSP Zone East NAD 83	**Date/Time:**	3/4/2010 11:13		
	ASI - M. Shappell/Captain	**Depth (ft):**	5.9'				
		St. Arrival:	11:15		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	11:50	**Penetration (ft):**	20'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	14.5'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/5/2010 11:17		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC (faint)	0%	5%	75%	0.9	NA	Organic: sticks, leaves, twigs Garbage and plastic bags noted ~5" below top of core
2															
3													2.9	NA	
4															
5													4.4	NA	
6															
7								MP	PHC (faint)	10%	5%	85%	3.7	NA	Coal, gravel fragments noted below 7', wood fragments Increasing PHC odor with depth
8															
9				S	W				PHC (strong)				2.4	NA	
															Transition zone - not sampled
9.4		SW-SM	10YR 5/1	H	W	H	Wet	FS	PHC (strong)	0%	75%	25%			
10													93.1	A	Heavy NAPL coating and heavy staining

Additional Notes/Comments: Bottom of core at 14.0'. Core opened at 08:05. * Indicates VOC collection depth. 13 - 14' of core barrel cracked and disintegrated over weekend - Lexan liner is very brittle.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW-SM	10YR 5/1	H	W	H	Moist/ Wet	VFS	PHC (strong)	0%	75%	25%		A	* NAPL staining
12					N			FS					26.6	B	Near NAPL saturation Heavy staining/strong odor Decreasing silt content with depth. *
13															
BOC= 14								MS	PHC (strong)	0%	90%	10%	53.2	C	NAPL saturation - easily squeezed from soil pore * NAPL - high viscosity, sticky, tacky
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD006A-09.4-11.4	N	03/08/2010 08:05	9.4-11.4	X	X	X	X	X	X	X	X	X	X		
B	GC-SD006A-11.4-13.4	N/MSD	03/08/2010 08:05	11.4-13.4	X	X	X	X	X	X	X	X	X	X		
C	GC-SD006A-13.4-14.0	N	03/08/2010 08:05	13.4-14.0	X	X	X	X	X	X	X	X	X	X		
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: TMHimmer Date: 3/8/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD07A	**Easting:**	634227.22	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	673298.55	**Penetration (ft):**	20' Head buried
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-6.3' NAVD88	**Recovery (ft)**	14'
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/8/2010 11:20
	ASI - M. Shappell/Captain	**Depth (ft):**	6.1'		
		St. Arrival:	11:05	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	11:50	**Penetration (ft):**	NA
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	1%	1%	98%	8.5	NA	Organic: wood fragments and organic fibrous matter
2															
3										0%	5%	95%	9.8	NA	
4															
5								MP	PHC (faint)	20%	20%	60%	21.2	NA	Angular coal gravel and subrounded pebbles, coarse sand, wood fragments, PHC-like odor (faint)
6				S											
7													41.6		Transition zone - not sampled Clayey silt, wood fibers
8		SM	10YR 6/1	F	W	H	Moist/ Wet	SP	PHC (strong)	5%	50%	45%	97.5	A	Heavy coating/near saturation NAPL easily squeezed from soil pores, possible free phase NAPL observed - black, low viscosity *
9				H	N	N	Wet				80%	15%			
10														B	*

Additional Notes/Comments: Bottom of core at 13.4'. Core opened at 13:30. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SM	10YR 6/1	H	N	H	Wet	SP	PHC (strong)	5%	80%	15%	211	B	Heavy NAPL coating/near saturation from 10.9 to 11.1'. NAPL easily squeezed from soil pores - high viscosity, tacky, brown
12													217	C	*
13 BOC= 13.4													153	NA	
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD007A-07.0-09.0	N	03/08/2010 13:30	7.0-9.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD007A-09.0-11.0	N	03/08/2010 13:30	9.0-11.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD007A-11.0-13.0	N	03/08/2010 13:30	11.0-13.0	X	X	X	X	X	X	X	X	X	X		
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
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R																
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Reviewed by: TMHimmer Date: 3/18/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD08A	**Easting:**	634255.69	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	673285.30	**Penetration (ft):** 20'	Head buried
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-3.6' NAVD88	**Recovery (ft)** 13.5'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/8/2010 12:22	
	ASI - M. Shappell/Captain	**Depth (ft):**	4.4'		
		St. Arrival:	12:15	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	14:10	**Penetration (ft):** 20'	Head buried
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 13.5'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 3/8/10 1300	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	1%	99%	6.1	NA	Organic: leaves and fibrous material noted
2															
3													9.2	NA	
4															
5													12.3	NA	
6															
7													43.0	NA	
7.8									PHC (faint)						
8															Transition zone - not sampled
8		SM	10YR 5/1	H	N/W	H/S	Wet	MS	PHC (strong)	0%	50%	50%	290	A/B	Clay lenses noted at 8.2 and 9.0' Decreasing silt content with depth *
9															
10										5%	70%	25%			

Additional Notes/Comments: Bottom of core at 13.0'. Core opened at 15:00. * Indicates VOC collection depth. 3rd attempt: 20' penetration, 11' recovery at 13:40.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SM	10YR 4/1	H	N	H	Wet	CP/SC	PHC (strong)	20%	70%	10%	216	C/D	Medium/coarse sand with little pebbles (subrounded), saturated with brown NAPL - low viscosity *
12								MS		0%	90%	10%			
BOC= 13													219	E	Slight NAPL staining Strong NAPL odor *
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD008A-08.0-10.0	N	03/08/2010 15:00	8.0-10.0	X	X	X	X	X	X	X	X	X	X		
B	D-03082010-01	FD	03/08/2010 15:00	8.0-10.0	X	X			X	X		X				
C	GC-SD008A-10.0-12.0	N	03/08/2010 15:00	10.0-12.0	X	X	X	X	X	X	X	X	X	X		
D	D-03082010-02	FD	03/08/2010 15:00	10.0-12.0			X	X								
E	GC-SD008A-12.0-13.0	N	03/08/2010 15:00	12.0-13.0	X	X	X	X	X	X	X	X	X	X		
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/8/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD10A	**Easting:**	634066.63	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	672981.11	**Penetration (ft):** 19.0'	Y
Crew/Company		**Elevation:**	-6.5' NAVD88	**Recovery (ft)** 13.0'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/4/2010 15:15	
	ASI - M. Shappell/Captain	**Depth (ft):**	5.8'		
		St. Arrival:	15:10	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	15:35	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	3%	3%	94%	1.8	NA	
2															
3													3.2	NA	
4															Soft sediment Garbage found at approximately 4' Electrical outlets and wood fragments
5													6.8	NA	
6									PHC (faint)						
6.4															Transition zone - not sampled
7		SP	10YR 4/2	H	N	H	Moist/ Wet	MS	PHC (mod)	0%	95%	5%	15.8	A	Equipment blank pan used from 6.4 to 8.4' sampling interval. NAPL staining/odor
8															
9													13.7	B	
10															

Additional Notes/Comments: Bottom of core at 11.2'. Core opened at 17:00.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SP ↓	10YR 4/2 ↓	H ↓	N ↓	H ↓	Wet ↓	SP ↓	PHC (mod) ↓	25% ↓	70% ↓	5% ↓	1.4	C	Heavy, dark NAPL staining on liner Subrounded 2" diameter pebble
11		GW	10YR 4/2	H	N	H	Wet	SP	PHC(mod	25%	70%	5%			
BOC = 11.2'															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD010A-06.4-08.4	N	03/14/2010 17:00	6.4-8.4	X	X	X	X	X	X	X	X	X	X		
B	GC-SD010A-08.4-10.4	N	03/14/2010 17:00	8.4-10.4	X	X	X	X	X	X	X	X	X	X		
C	GC-SD010A-10.4-11.2	N	03/14/2010 17:00	10.4-11.2	X	X	X	X	X	X	X	X	X	X		
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
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Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/4/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD011A	**Easting:**	672969.35	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	634086.74	**Penetration (ft):** 20.0'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-6.0' NAVD88	**Recovery (ft)** 14.5'	
	J. Balas/CH2M HILL	**Datum:**	NYSP Zone East NAD 83	**Date/Time:** 3/10/2010 10:50	
	ASI - M. Shappell/Captain	**Depth (ft):**	4.2'		
		St. Arrival:	10:30	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	11:02	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
0		OL	10YR 2/1	VS	N	H	Wet	MS	UNC	0%	3%	97%	0.9	NA	**Organic: fibrous wood and plant matter** Cloth, plastic bag
1															
2													0.9	NA	
3															
4													0.5	NA	
5															
6													0.2	NA	
7															
7.4															Abrupt Transition
															Transition zone - not sampled
7.7		SP	10YR 4/1	H	N	H	Wet	SC	None	10%	89%	1%	0.4		Medium sand, trace/little gravel (round)
8															
9													0.6	A/D	
10													2.1		*
														B	

Additional Notes/Comments: Bottom of core at 14.9 '. Core opened at 11:45. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SP	10YR 4/1	H	N	H	Wet	MS	None	0%	99%	1%	0.9 2 0	B	Medium Sand *
12													0		Abrupt change in grain size Coarse sand with gravel
13								SP		30%	69%	1%	0 0	C	*
14													0	NA	No sample collected from this interval due to no observed NAPL contamination
15 BOC = 14.9'															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD010A-07.7-09.7	N	03/10/2010 11:45	7.7-9.7	X	X	X	X	X	X	X	X	X	X		
B	GC-SD010A-09.7-11.7	N	03/10/2010 11:45	9.7-11.7	X	X	X	X	X	X	X	X	X	X		
C	GC-SD010A-11.7-13.7	N	03/10/2010 11:45	11.7-13.7	X	X	X	X	X	X	X	X	X	X		
D	D-03102010-01	N	03/10/2010 11:45	7.7-9.7	X	X	X	X	X	X	X	X	X	X		
E																
F																
G																
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Reviewed by: TMHimmer Date: 3/10/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD012A	**Easting:**	634116.82	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	672959.20	**Penetration (ft):** 13.5'	Y
Crew/Company	M. Murphy/CH2M HILL	**Elevation:**	-5.7' NAVD88	**Recovery (ft)** 10.5'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/4/2010 10:25	
	ASI - M. Shappell/Captain	**Depth (ft):**	8.8'		
		St. Arrival:	10:22	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	10:50	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	James Balas	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10 YR 2/1	VS	N	H	Wet	FS	UNC	0%	75%	95%	6.0	NA	
2															
3													45.0	NA	
4															
5													9.5	NA	
5.2															
5.9													232		Transition zone - not sampled
6		GM	10 YR 2/1	F	N	H	Wet	SC	UNC	90%	5%	5%			Angular gravel, wood, leaves, fibrous material, cement fill
7													6.2	NA	
8															
9													315	NA	Large cobble at 9.3'
10		OL	10 YR 2/1	VS	N	H	Wet	FS	UNC	0%	5%	95%			Abrupt Transition

Additional Notes/Comments: Bottom of core at 10.5 '. No native material observed. No samples collected.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
BOC = 10.5'		SM ↓	10 YR 2/1 ↓	S ↓	N ↓	H ↓	Wet ↓	CP ↓	PHC ↓	10% ↓	70% ↓	20% ↓	316 ↓	NA	
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	No samples collected															
	B																
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 3/4/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD13B	**Easting:**	633961.99	**Attempt 1**	**Refusal? Y/N**
Sampling	Not Sampled	**Northing:**	672788.72	**Penetration (ft):** 9'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-5.0' NAVD88	**Recovery (ft)** 7'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/4/2010 16:11	
	ASI - M. Shappell/Captain	**Depth (ft):**	3.6'		
		St. Arrival:	16:10	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	17:00	**Penetration (ft):** 9.5'	Y
Collection:	vibracore	**Logged by:**	Mary Velasquez	**Recovery (ft)** 5.5'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 3/4/2010 16:41	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	5%	95%	37.0	NA	
2															
3				S				SP		5%	20%	75%	5.8	NA	
4															
5													10.9	NA	
6															
6.5 BOC= 7			10YR 2/1	VS				CP	TLO	50%	25%	25%	13.0	NA	Coal and brick fragments - 6.5 - 7'
8															
9															
10															

Additional Notes/Comments: Bottom of core at 7.0'. Core opened at 08:30. No native material observed. No samples collected.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	No samples collected															
B																
C																
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/5/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD13B (3rd Attempt)	**Easting:**	633963.58		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	672791.88	**Penetration (ft):**	19.5'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-3.2	**Recovery (ft)**	16'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/8/2010 8:59		
	ASI - M. Shappell/Captain	**Depth (ft):**	1.9'				
		St. Arrival:	8:20		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	9:20	**Penetration (ft):**	See other log		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	1%	99%	26.0	NA	Organic: fibrous wood fragments, leaves, sticks, faint organic odor
2															
3													27.6	NA	
4															
5													30.4	NA	
6								CP		50%	25%	25%			Coarse gravel (angular) and wood fragments: 5.8 - 6.0'
6		ML	10YR 7/1	F	W	H	Wet	FS	PHC (faint)	0%	25%	75%	102		Abrupt change: gray sandy silt
7													66.6	A	
8			10YR 4/1										167		Heavy NAPL staining/coating throughout * in seams of sandier material
													67.3		
9		SM	10YR 4/1	H	N	S	Wet	MS	PHC (strong)	0%	75%	25%	454	B	* NAPL saturation, easily squeezed from soil pore space
10													231		

Additional Notes/Comments: Bottom of core at 16.2'. Core opened at 11:30. * Indicates VOC collection depth. Sample from 12-14' not submitted per USEPA instruction 3/9/2010.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SM	10YR 4/1	H	N	S	Wet	MS	PHC (strong)	0%	75%	25%	312		* NAPL saturated - brown, low viscosity, slick
													170	C	Heavy staining/coating
12			10YR 2/1										141		
													119		* Black gravel (rounded), NAPL saturated, staining, PHC odor
13													15.5	D	NAPL staining (black), sheen on moisture surface
14			10YR 5/3										25.1		
													145		*
15			10YR 4/2										21.9	E	NAPL saturated, black staining throughout
															Increased silt content (green color)
16													105		
													18.2	NA	* Heavy coating
BOC= 16.2															NAPL - brown, slick, not sticky, low viscosity
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD013B-06.0-08.0	N	03/09/2010 11:30	6.0-8.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD013B-08.0-10.0	N	03/09/2010 11:30	8.0-10.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD013B-10.0-12.0	N	03/09/2010 11:30	10.0-12.0	X	X	X	X	X	X	X	X	X	X		
D	Not sampled															
E	GC-SD013B-14.0-16.0	N	03/09/2010 11:30	14.0-16.0	X	X	X	X	X	X	X	X	X	X		
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: TMHimmer Date: 3/18/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD-14A	**Easting:**	633983.67		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	672782.48	**Penetration (ft):**	20'	N	
Crew/Company	M. Murphy/CH2M HILL	**Elevation:**	-7.5' NAVD88	**Recovery (ft)**	14'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/9/2010 9:40		
	ASI - M. Shappell/Captain	**Depth (ft):**	5.7'				
		St. Arrival:	9:30		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	10:05	**Penetration (ft):**	NA		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SC	UNC	10%	5%	85%	8.2	NA	Organic: fibrous wood fragments, glass, plastic, gravel
2															
3													11.7	NA	
4															
5													20.1	NA	Coal piece noted at approximately 5'
6								FS	PHC (faint)	0%	30%	70%			Increasing sand content with depth Increasing PHC odor with depth
7									PHC (mod)				41.5	NA	
7.2										0%	50%	50%			
7.4															Transition zone - not sampled
8		SM	10YR 5/3	H	N	H	Wet	FS	PHC (strong)	0%	80%	20%	81.0		Heavy black/brown NAPL staining/coating
								MS					140	A	Saturated with depth
9													237		*
10			10YR 3/1										102	B	

Additional Notes/Comments: Bottom of core at 13.9'. Core opened at 14:00. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SM	10YR 2/1	H	N	H	Wet	MS	PHC (strong)	0%	80%	20%	286	B	* NAPL saturation: easily squeezed from soil pore space, brown, slick, not sticky/tacky, low viscosity, PHC odor
						S				50%	30%	20%	183		Black subrounded gravel - heavily affected, NAPL saturated
12										0%	25%	75%	120	C	*
		ML	10YR 4/3	H	W	S	Moist	VFS	PHC (strong)	0%	25%	75%	22.8		
13		MLCL	10YR4/3	H	W	S	Moist	VFS	PHC(stg)	0%	10%	90%	10.4		
BOC= 13.9		CL	5YR4/3		M	H			UNC(fnt)	0%	1%	99%	8.0	D	* Reddish brown silty clay, little to no staining
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD014A-07.4-09.4	N	03/03/2010 14:00	7.4-9.4	X	X	X	X	X	X	X	X	X	X		
B	GC-SD014A-09.4-11.4	N	03/03/2010 14:00	9.4-11.4	X	X	X	X	X	X	X	X	X	X		
C	GC-SD014A-11.4-13.4	N	03/03/2010 14:00	11.4-13.4	X	X	X	X	X	X	X	X	X	X		
D	GC-SD014A-13.4-13.9	N	03/03/2010 14:00	13.4-13.9	X	X	X	X								
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/9/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD16A	**Easting:**	633828.90		**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	672521.70	**Penetration (ft):**	18'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-10' NAVD88	**Recovery (ft)**	11.6'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/10/2010 11:55	
	ASI - M. Shappell/Captain	**Depth (ft):**	7.9'			
		St. Arrival:	12:15		**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	13:15	**Penetration (ft):**	20'	N - 20' Penetration
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	14'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/10/2010 12:45	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
0		OL	10YR 2/1	VS	N	H	Wet	FS	TLO (strong)	0%	3%	97%	24.7	NA	Organic: wood fibers and sticks
1															Tar-like/organic-like odor (strong)
2															
3													27.0	NA	NAPL blebs noted on surface of water
4														NA	
4.8															Abrupt transition
5													32.9		Transition zone - not sampled
5.4															
6		SP	10YR 4/2	H	N	H	Wet	FS	TLO (strong)	0%	80%	20%	59.1	A	Silty sand NAPL - heavily coated, brown, slick, moderate viscosity, not sticky
7			10YR 3/1					MP FS					94.5 137		*
8													210	B	Small gravel layer (0.2')
9									(mod)				134 87.8	NA	NAPL saturated - easily squeezed from soil pores
10		SW-SM	10YR 6/1	H	N	S	Wet	SP	TLO	10%	80%	10%	20.3	C	Slight/moderate NAPL staining

Additional Notes/Comments: Bottom of core at 13.4'. Core opened at 14:20. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SW-SM	10YR 6/1	H	N	S	Wet	ML	TLO	10%	80%	10%	19.0		Medium sand
11		SW	10YR 6/1	H	N	S	Wet	SP	TLO (mod)	20%	75%	5%	48.2	C	Coarse sand *
12													28.0		Coarse sand, coating/heavy staining
13			10YR 2/1						(strong)	25% 10%	50% 79%	25% 1%	18.6	D	NAPL saturated, rounded gravel
BOC= 13.4													68.3		Heavily stained *
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD016A-05.4-07.4		N	03/10/2010 14:20	5.4-7.4	X	X	X	X	X	X	X	X	X	X		
B	GC-SD016A-07.4-08.4		N	03/10/2010 14:20	7.4-9.4	X	X	X	X	X	X	X	X	X	X		
C	GC-SD016A-09.4-11.4		N	03/10/2010 14:20	9.4-11.4	X	X	X	X	X	X	X	X	X	X		
D	GC-SD016A-11.4-13.4		N	03/10/2010 14:20	11.4-13.4	X	X	X	X	X	X	X	X	X	X		
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
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R																	
S																	
T																	
U																	

Reviewed by: TMHimmer Date: 3/10/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD17A (1st Attempt)	**Easting:**	633870.70		**Attempt 1**	**Refusal? Y/N**	
Sampling	Not Sampled	**Northing:**	672531.15	**Penetration (ft):**	18'		
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-10.2' NAVD88	**Recovery (ft)**	6.6'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/9/2010 10:35		
	ASI - M. Shappell/Captain	**Depth (ft):**	8.7'				
		St. Arrival:	10:20		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	10:50	**Penetration (ft):**	See other log		
Collection:	vibracore	**Logged by:**	Mary Velasquez	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SC	UNC	0% → 10%	10% → 5%	99% → 85%	1.6	NA	Some angular to subangular gravel, small cobble
2															
3													15.2	NA	Fibrous material/vegetation at 3.5' Abrupt lithology change at 3.5'
4		SP-SM	10YR 4/2	F	N	H	Wet	MP	PHC (strong)	0% → 35%	85% → 50%	15% → 15%	35.6	NA	Garbage encountered (broken glass) at very top of interval ~3.6' NAPL staining, heavy coating Subrounded gravel at 5.5' Saturated at 4.5 to approximately 6.5' Saturated at 5.5'
5															
6															
BOC= 6.6		SM	10YR 4/2	F	N	H	Wet	FS	PHC (faint)	0%	75%	25%	11.8	NA	Decreasing grain size below 5.6'
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 6.6'. Core opened at 16:00. Not sampled: core barrel broke at this station.

	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
	11															
	12															
	13															
	14															
	15															
	16															
	17															
	18															
	19															
	20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	No samples collected															
	B																
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 3/9/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD17A 2nd Attempt	**Easting:**	633864.93	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	672537.54	**Penetration (ft):** 19'	Y (1)
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-11.7' NAVD88	**Recovery (ft)** 11'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/10/2010 13:35	
	ASI - M. Shappell/Captain	**Depth (ft):**	10.2'		
		St. Arrival:	13:25	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	14:20	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		SW	10YR 4/1	S	N	H	Wet	FS	TLO (strong)	0%	95%	5%	6.9	NA	**Thin layer of black silty accumulated soft** sediment at top of recovery - traces of soft sediment noted 0 - 2'
2				F				SC	(mod)	5%	90%	5%	8.9		NAPL - freely released, oozing from soil pores brown, low viscosity, stained gloves, blebs noted in significant number 0-2'
3								SP	(strong)				14.4	A	
4													55.4		*
5									(faint)				4.4		
6													5.1	B	Sand/gravel - rounded/subrounded
7													7.5		*
8										10%	85%	5%	8.4		
9									(strong)				7.9	C	
BOC= 10									(mod)				33.4		* Heavily coated medium sand lens (0.2') - uniform, moderate viscosity, near saturated to saturated
													3.5		
													1.8	NA	Interval not sampled (see noted ** below)
													5.3		Coated medium sand lens (0.2') - uniform, moderate viscosity

Additional Notes/Comments: Bottom of core at 10.0'. Core opened at 16:00. * Indicates VOC collection depth. NAPL staining noted throughout. Brown seams noted in core.
(1) did not make third attempt per P. White because of 2 bent barrels and confirmed at least 6' native in lower part of core.
** Interval not sampled. NAPL impacts/VOC detections lower than upper interval.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD017A-02.0-04.0	N	03/10/2010 16:00	2.0-4.0	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD017A-04.0-06.0	N	03/10/2010 16:00	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD017A-06.0-08.0	N	03/10/2010 16:00	6.0-8.0	X	X	X	X	X	X	X	X	X	X		
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 3/10/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD18A	**Easting:**	633887.21		**Attempt 1** **Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	672526.66	**Penetration (ft):**	13' Y
Crew/Company	D. Reamer/CH2M HILL	**Elevation:**	-7.9' NAVD88	**Recovery (ft)**	10'
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/3/2010 13:46
	ASI - M. Shappell/M. PadoverCaptain	**Depth (ft):**	7.9'		
		St. Arrival:	13:41		**Attempt 2** **Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	14:33	**Penetration (ft):**	NA
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL for less than 100% core recovery	Log reflects sample as collected – no correction factor applied		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	S	N	H	Wet	FS	UNC	0%	5%	95%	0	NA	Headspace - 0.0
2															
3									TLO				0	NA	Tar-like odor
4															Transition zone - not sampled
5		SP-SM	7.5YR 6/1	H	N	M	Moist/ Wet	MP	TLO	1%	95%	5%	0	A	Pockets of moderately cemented silt *
6															NAPL coating/staining
7													0	B	Trace subangular gravel *
8															
9		SP	7.5YR 6/1	H	N	M	Moist/ Wet	MP	TLO	1%	95%	5%	0	C	
BOC = 10															* Heavy staining/near saturation

Additional Notes/Comments: Bottom of core at 10.0'. *Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GS-SD018A-04.0-06.0	N	03/03/2010 15:05	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
B	GS-SD018A-06.0-08.0	N	03/03/2010 15:05	6.0-8.0	X	X	X	X	X	X	X	X	X	X		
C	GS-SD018A-08.0-10.0	N	03/03/2010 15:05	8.0-10.0	X	X	X	X	X	X	X	X	X	X		
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/3/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD19C	**Easting:**	633769.29	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	672227.64	**Penetration (ft):** 16'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-6.4' NAVD88	**Recovery (ft)** 11.5'	
	J. Balas/CH2M HILL	**Datum:**	NYSP Zone East NAD 83	**Date/Time:** 3/11/2010 13:50	
	ASI - M. Shappell/Captain	**Depth (ft):**	5.7'		
		St. Arrival:	13:45	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	14:35	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	CS	UNC	0%	3%	97%	33.1	NA	Organic: fibrous wood, leaves, and stick fragments
2															
3													11.3	NA	
4															
5													23.2	NA	
6															
6.5														NA	
6.8															Transition zone - not sampled
7		SW-SM	10YR 4/3	H	N	H	Wet	FS	PHC (strong)	0%	75%	25%	25.1		*
													32.8	A	Well graded sand with silt NAPL coating - blebs of NAPL rising via gravity/ soil dilatency
8													33.4		No staining or discoloration on soil pores
9		ML	10YR 4/4	F	N	H	Wet	VFS	PHC (mod)	0%	90%	10%	29.9		*
														B	Well graded sand with silt and gravel * Single small cobble (subrounded)
10		SW-SM	10YR 4/4	H	N	H	Wet	FS	PHC (strong)	15%	60%	25%	39.1		NAPL staining on and around cobble - slick, low viscosity, not sticky, brown staining

Additional Notes/Comments: Bottom of core at 11.5'. Core opened at 08:30. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11 BOC= 11.5		SW-SM	10YR 4/3	H	N	H	Wet	FS	PHC (strong)	15%	60%	25%	34.5	B	Single small cobble (subrounded)
													94.1	C	*
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD019C-06.8-08.8	N	03/12/2010 08:30	6.8-8.8	X	X	X	X	X	X	X	X	X	X		
B	GC-SD019C-08.8-10.8	N	03/12/2010 08:30	8.8-10.8	X	X	X	X	X	X	X	X	X	X		
C	GC-SD019C-10.8-11.5	N	03/12/2010 08:30	10.8-11.5	X	X	X	X	X	X	X	X	X	X		
D																	
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: *TMHimmer* Date: 3/12/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD020A	**Easting:**	633788.42	**Attempt 1**	**Refusal? Y/N**
Sampling		**Northing:**	672170.88	**Penetration (ft):** 3'	Y
Crew/Company	M. Velasquez/CH2M HILL	**Elevation:**	-8.2' NAVD88	**Recovery (ft)** 2'	
	R. Clennon/CH2M HILL	**Datum:**	NYSP Zone East NAD 83	**Date/Time:** 3/11/2010 10:45	
	ASI - M. Shappell/Captain	**Depth (ft):**	6.9'		
		St. Arrival:	10:32	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	11:50	**Penetration (ft):** 3.5'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 2'	
Collector Information:	T. Himmer/CH2M HILL Log reflects sample as collected – no correction factor applied for less than 100% core recovery			**Date/Time:** 3/11/2010 11:01	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	VFS	UNC	0%	5%	95%	15.2	NA	Organics: sticks, leaves, plastic, glass, septic-like odor
2															
3													39	NA	
BOC= 3.9'								SC		1%	0%	99%			
4															
5															
6															
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 11.2'. Core opened at 12:20. No samples collected. No native material observed.
3/11/2010 11:24; Penetration: 4.5', Recovery 3'

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary: no samples collected

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	No samples collected															
B																
C																
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/11/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD21B	**Easting:**	633820.67	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	672179.31	**Penetration (ft):** 4.8'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-6.0' NAVD88	**Recovery (ft)** 3.0'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/13/2010 13:00	
	ASI - M. Shappell/Captain	**Depth (ft):**	11.5		
		St. Arrival:	13:04	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	14:05	**Penetration (ft):** 5.5'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 4.0'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 4/13/2010 13:10	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	VFS	UNC	0%	1%	99%	94.0	NA	Organic: wood fragments and fibrous wood
2								FS		0%	5%	95%			
3													12.7	NA	
4													18.0	NA	Garbage and plastic fragments
BOC= 4.2															
5															
6															
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 4.2'. Core opened at 15:00. No samples collected. No native material observed.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	No samples collected															
	B																
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/13/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD22B	**Easting:**	633669.58		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671925.90	**Penetration (ft):**	5.5'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-6.5' NAVD88	**Recovery (ft)**	4.0'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/11/2010 12:17		
	ASI - M. Shappell/Captain	**Depth (ft):**	5.1'				
		St. Arrival:	12:10		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	13:20	**Penetration (ft):**	20'	N	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	15' (in field)		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/11/2010 12:44		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	CS	UNC	0%	3%	97%	7.4	NA	Organics: sticks and leaves
2															
3													20.6	NA	
3.7				S				SC							4" brick fragment
4													22.3		Transition zone - not sampled
4		SP-SM	7/1 5/3/ 7/1 5/1	H	N	H	Wet	ML	PHC (strong)	0%	75%	25%	21.2		Abrupt lithology change
5													57.9	A	Stratified layers of very dense fine grained silty sand (10YR 5/1) and medium dense fine to medium sand (10YR 5/3) - coarse material * is stained with NAPL with strong PHC odor
6													66.8		Near saturation
		SM	10YR 5/4	H	N	H	Wet	ML	PHC (strong)	0%	75%	25%	90.8		*
7													90.0	B	Silty sand - NAPL saturated
8													86.0		
													107.0		*
9		SW-SM	10YR 5/4	H	N	H	Wet	SC	PHC (strong)	25%	70%	5%	57.5	C	Gradual increase in grain size
10													61.9		

Additional Notes/Comments: Bottom of core at 14.0'. Core opened at 15:45. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		GP	10YR 5/2	H	N	H	Wet	SC	PHC (strong)	75%	24%	1%	80.2		NAPL saturated
													78.7	D	NAPL - black/brown, brown staining, low viscosity not sticky/tacky
12										25%	70%	5%	92.9		
													48.9		*
13			10YR 2/1											E	
													25.6		
BOC= 14		SM	10YR 4/3	F	N	H	Wet	FS	PHC (faint)	0%	75%	25%	31.7		Abrupt change Heavily coated - near saturation
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD022B-04.0-06.0	N	03/11/2010 15:45	4.0-6.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD022B-06.0-08.0	N/MSD	03/11/2010 15:45	6.0-8.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD022B-08.0-10.0	N	03/11/2010 15:45	8.0-10.0	X	X	X	X	X	X	X	X	X	X		
D	GC-SD022B-10.0-12.0	N	03/11/2010 15:45	10.0-12.0	X	X	X	X	X	X	X	X	X	X		
E	GC-SD022B-12.0-14.0	N	03/11/2010 15:45	12.0-14.0	X	X	X	X	X	X	X	X	X	X		
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: TMHimmer Date: 3/11/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD024B	**Easting:**	633709.15	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Murphy/CH2M HILL	**Northing:**	671891.11	**Penetration (ft):** 5.6'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-10.2 NAVD88	**Recovery (ft)** 4.0'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/13/2010 14:05:00 PM	
	ASI - J. Clemens/Captain	**Depth (ft):**	11.5'		
		St. Arrival:	14:00	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	14:50	**Penetration (ft):** 19.1'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 14.9'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 4/13/2010 14:25:00 PM	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	VFS	UNC	0%	1%	99%	17.7	NA	Organic, strong septic like odor
2															Increased wood fragments
3										10%	10%	80%	30.9	NA	NAPL - black, medium viscosity, faint PHC odor
4													62.0		
4.5														NA	Abrupt transition
4.8													73.1		Transition zone - not sampled
5		SW-SM	10YR 4/4	H	N	H	Wet	FS	PHC (mod)	0%	95%	5%	83.9		NAPL coating, near saturation
6													94.6	A	*Decreasing NAPL saturation with depth
7													192 62.2		NAPL coating
8													91.4	B	*
9		SM	10YR 2/1	H	N	H	Wet	FS	PHC (mod)	0%	85%	15%	89.2 68.0		*
10													65.6	C	Black staining, sheen noted on sediment surfaces

Additional Notes/Comments: Bottom of core at 14.8'. Core opened at 15:15. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SM	10YR 2/1	H	N	H	Wet	FS	PHC (mod)	0%	85%	15%	2.2	C	
11		ML	10YR 6/6	H	N	H	Moist	VFS	None	0%	1%	99%	11.0		
		SW-SM	10YR 6/4	H	N	H	Wet	FS	None	0%	90%	10%	37.4	D	*
12													0.7		
13									PHC (strong)	10%	75%	15%	5.1	E	* NAPL saturated, dark brown, medium viscosity abrupt NAPL layer, no staining above. Abrupt lithology transition
14		ML	10YR 6/6	H	N	H	Moist	Z	None	0%	0%	100%	94.3		
BOC = 14.8'													1.3		
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD024B-04.8-06.8	N/MSD	04/13/2010 15:15	4.8-6.8	X	X	X	X	X	X	X	X	X	X		
B	GC-SD024B-06.8-08.8	N	04/13/2010 15:15	6.8-8.8	X	X	X	X	X	X	X	X	X	X		
C	GC-SD024B-08.8-10.8	N	04/13/2010 15:15	8.8-10.8	X	X	X	X	X	X	X	X	X	X		
D	GC-SD024B-10.8-12.8	N	04/13/2010 15:15	10.8-12.8	X	X	X	X	X	X	X	X	X	X		
E	GC-SD024B-12.8-14.8	N	04/13/2010 15:15	12.8-14.8	X	X	X	X	X	X	X	X	X	X		
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: TMHimmer Date: 4/13/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD025B	**Easting:**	633439.12	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671567.17	**Penetration (ft):** 20'	N
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-7.9' NAVD88	**Recovery (ft)** 12'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/12/2010 11:40	
	ASI - M. Shappell/Captain	**Depth (ft):**	7.7'		
		St. Arrival:	11:30	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	13:00	**Penetration (ft):** 13.5'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 8'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 3/12/2010 12:25	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	10%	5%	85%	53.3	NA	Organics: fibrous wood and leaf matter
2															
3													23.2	NA	
4															
4.4															Large chunks of wood
4.8													47.6	NA	Abrupt change in lithology Transition zone - not sampled
5		SW	10YR 5/1	H	N	H	Wet	FS	PHC (mod)	0%	90%	10%	187		*
6			10YR 4/3										88.5 81.1	A	
7		SW-SM/ SW						SG		3%	72%	25%	79.3	B	Increased silt and gravel content, NAPL sheen on soil surface, staining on gloves (brown)
8			10YR 4/2					FS		0%	90%	10%	21.6 149		*
9													54.8	C	
10			10YR 2/1						(strong)				123		* NAPL saturated

Additional Notes/Comments: Bottom of core at 11.6'. Core opened at 14:40. * Indicates VOC collection depth.
Attempt 3: Penetration : 19.5'; Recovery : 12'; Date/Time: 03/12/2010 12:50.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SW-SM	10YR 2/1	H	N	H	Wet	FS	PHC (strong)	0%	90%	10%	94.1	C	Increased NAPL saturation with depth
11													134	*	
11.6													86.2	D	NAPL - black staining on soil surface, brown staining on soil surface, low to moderate viscosity slick/not sticky
BOC= 11.6															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD025B-04.8-06.8	N	03/12/2010 14:40	4.8-6.8	X	X	X	X	X	X	X	X	X	X		
B	GC-SD025B-06.8-08.8	N	03/12/2010 14:40	6.8-8.8	X	X	X	X	X	X	X	X	X	X		
C	GC-SD025B-8.8-10.8	N	03/12/2010 14:40	8.8-10.8	X	X	X	X	X	X	X	X	X	X		
D	GC-SD025B-10.8-11.6	N	03/12/2010 14:40	10.8-11.6	X	X	X	X	X	X	X	X	X	X		
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/12/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD26A	**Easting:**	633459.11		**Attempt 1** **Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671551.88	**Penetration (ft):**	20' N - 20
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-12.9' NAVD88	**Recovery (ft)**	15.5'
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/19/2010 15:15
	ASI - M. Shappell/Captain	**Depth (ft):**	11.1'		
		St. Arrival:	15:10		**Attempt 2** **Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	15:40	**Penetration (ft):**	NA
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC (mod)	5%	1%	94%	16.4	NA	Organic: trace fibrous wood, moderate septic-like odor that transitions to faint, tar-like odor with depth
2								SC	TLO (faint)						Large coal-like gravel
2.4													56.3		Transition zone - not sampled
3		CL	10YR 5/2	F	W	H	Wet	FS	TLO (faint)	0%	90%	10%	10.6		Moderate NAPL coating - brown staining, low to moderate viscosity, not sticky, tar-like odor
4		SW-SM	10YR 4/2	H	N	H	Wet	FS	TLO (strong)	0%	90%	10%	22.2	A	
													45.1		*
5		ML	10YR 4/2	F	W	H	Wet/ Moist	VFS	TLO (faint)	0%	3%	17%	26.3		
		SM	10YR 5/2	H	N	H	Wet/ Moist	FS		0%	85%	15%		B	
6		ML	10YR 5/2	H	W	H	Moist	VFS	TLO (faint)	0%	15%	85%	51.3		*
													37.0		
7										3%	15%	82%	14.1		
8			10YR 2/1						None	0%	3%	97%	26.1	C	*
										0%	0%	100%	16.8		
9									TLO (faint)				94.6	NA	Sandy seam (medium sand), heavy NAPL coating. NAPL - black, brown staining, medium viscosity, tar-like odor, slick, not sticky
10		SW-SM	10YR 4/2	H	N	H	Wet	MS FS	TLO (strong)	0%	90%	10%	80.0		

Additional Notes/Comments: Bottom of core at 14.7'. Core opened at 10:00. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SW-SM	10YR 3/2	H	N	H	Wet	FS	TLO (strong)	0%	85%	15%	101	NA	Increasing NAPL saturation with depth
11													72.1	*	*
													61.8	D	NAPL saturation - heavy brown staining/ discoloration
12		ML	10YR6/1	H	N	H	Wet	VFS	TLO(stg)	0%	5%	95%	64.7		Fine sandy silt, sheen noted, not saturated
		SW-SM	10YR 3/2	H	N	H	Wet	FS	TLO (strong)	0%	85%	15%	56.3		NAPL saturation - heavy brown staining/ discoloration
13		ML	10YR 4/2	H	N	H	Wet	FS	TLO (faint)	0%	3%	97%	9.4	E	*
14			10YR 2/1										12.3		Sheen noted on soil surface
													2.2		Gradual transition
14.7		SM	10YR 2/1	H	N	H	Wet	FS	None	0%	51%	49%	3.3	NA	Gradual increase in sand content between 12.4 and 14.7' - no odor/staining noted
BOC= 14.7															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD026A-02.4-04.4	N	03/19/2010 10:00	2.4-4.4	X	X	X	X	X	X	X	X	X	X		
B	GC-SD026A-04.4-06.4	N	03/19/2010 10:00	4.4-6.4	X	X	X	X	X	X	X	X	X	X		
C	GC-SD026A-06.4-08.4	N	03/19/2010 10:00	6.4-8.4	X	X	X	X	X	X	X	X	X	X		
D	GC-SD026A-10.4-12.4	N	03/19/2010 10:00	10.4-12.4	X	X	X	X	X	X	X	X	X	X		
E	GC-SD026A-12.4-14.4	N	03/19/2010 10:00	12.4-14.4	X	X	X	X	X	X	X	X	X	X		
F	D-03192010-01	FD	03/19/2010 10:00	6.4-8.4	X	X	X	X	X	X		X				
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: TMHimmer Date: 3/19/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD027A	**Easting:**	633475.29		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Murphy/CH2M HILL	**Northing:**	671533.17	**Penetration (ft):**	5.0'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-12.3' NAVD88	**Recovery (ft)**	3.5'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/13/2010 11:10		
	ASI - J. Clemens/Captain	**Depth (ft):**	11.7				
		St. Arrival:	11:00		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	11:45	**Penetration (ft):**	12.8'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	8.7'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	4/13/2010 11:25		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
0		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	3%	97%			Organic: fibrous wood and stick fragments, live worm
1									PHC (faint)					NA	
2													49.9		Light NAPL coating, light brown staining
3														NA	Increasing wood fragments with depth
4													111		Transition zone - not sampled
4.1		ML	10YR 3/2	F	W	H	Moist	VFS	PHC (mod)	0%	1%	99%	115		* Moderate NAPL odor
5					N								39.8	A/D	Trace sticks
6													47.1		
		SM	10YR 4/3	H	N	H	Wet	FS	PHC (strong)	0%	85%	15%	167		NAPL coating, moderate brown staining, low viscosity, slick, not sticky
7													127		
		ML	10YR 4/3	F	W	H	Moist	VFS	PHC (mod)	0%	0%	100%		B	Abrupt change in sediment type
		SM	10YR 4/3	H	N	H	Wet	MP	PHC (strong)	15%	70%	15%	177		*
8													46.0	C	* Faint NAPL coating
9															
10															

Additional Notes/Comments: Bottom of core at 8.6'. Core opened at 13:30. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD027A-04.1-06.1	N	04/13/2010 13:30	4.1-6.1	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD027A-06.1-08.1	N	04/13/2010 13:30	6.1-8.1	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD027A-08.1-08.6	N	04/13/2010 13:30	8.1-8.6	X	X	X	X	X	X						
	D	D-04132010-02	FD	04/13/2010 13:30	4.1-6.1	X	X	X	X	X	X		X				
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/13/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD28B	**Easting:**	633252.49	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671513.18	**Penetration (ft):** 19'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-7.2' NAVD88	**Recovery (ft)** 14.5'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/12/2010 9:00	
	ASI - M. Shappell/Captain	**Depth (ft):**	7.9'		
		St. Arrival:	8:50	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	9:20	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	CS	UNC	5%	5%	90%	NC	NA	Organic: sticks and fibrous wood, garbage, plastic
2															
3													11.7	NA	
4															
5													38.8	NA	3/4" cast iron steel elbow (45º) noted at 4.5'
6													25.7		
6.4				S									1.0	NA	Abrupt transition
6.8													11.9		Transition zone - not sampled
7		CL	10YR 5/1	F	M	H	Moist	Z	PHC (mod)	0%	0%	100%	29.5	A	* Lean clay, slight/faint NAPL staining on gloves near bottom of clay
8													27.3		
9		SW-SM	10YR 3/3	H	N	H	Wet	ML	PHC (strong)	0%	85%	15%	70.1	B	* NAPL saturated - black, low viscosity, non-water soluble, floats to water surface; blebs appear not to have stained soil pore surface
10													66.6		

Additional Notes/Comments: Bottom of core at 13.9'. Core opened at 10:05. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		ML	10YR 3/2	F	N	H	Moist	Z	None	0%	0%	100%	13.5	B	Abrupt transition
11		SW-SM	10YR 4/3	H	N	H	Wet	FS	PHC (mod)	0%	80%	20%	97.3	C	Slight NAPL coating - very little staining of gloves, decreasing NAPL prevalence with depth, low viscosity, slick
12													10.6		
13													6.1		
BOC= 13.9													3.0 4.5 5.4	NA	Interval not sampled due to decreased implied/suspected NAPL impact
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD028B-06.8-08.8	N	03/12/2010 10:05	6.8-8.8	X	X	X	X	X	X	X	X	X	X		
B	GC-SD028B-08.8-10.8	N	03/12/2010 10:05	8.8-10.8	X	X	X	X	X	X	X	X	X	X		
C	GC-SD028B-10.8-12.8	N	03/12/2010 10:05	10.8-12.8	X	X	X	X	X	X	X	X	X	X		
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
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R																
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Reviewed by: *TMHimmer* Date: 3/12/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD029A	**Easting:**	633238.84	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671471.48	**Penetration (ft):** 8.4'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-10.7' NAVD88	**Recovery (ft)** 4.0'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/12/2010 9:45	
	ASI - M. Shappell/Captain	**Depth (ft):**	9.1		
		St. Arrival:	9:35	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	11:20	**Penetration (ft):** 5'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** None - lost nose cone	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 3/12/2010 10:10	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10 YR 2/1	VS	N	H	Wet	FS	UNC	0%	10%	90%	5	NA	Organics: fibrous wood and leaf matter, faint organic odor noted
2															
3													6.1	NA	
4															
4.4													4.5		Abrupt transition
4.8															Transition zone - not sampled
5		CL	10 YR 3/1	F/H	M	H	Moist	Z	PHC (faint)	0%	3%	97%	18	A	Abrupt transition Lean clay, faint PHC odor
6													52.4		*
													50.7		
7													52.4	B	
8													64.9		*
													55.8		
9													45.9	C	
10		SW-SM	10YR 4/3	F	N	H	Wet	FS	PHC (strong)	0%	85%	15%	82		Fine silty sand, weak/faint coating, light * staining on gloves (brown) trace blebs

Additional Notes/Comments: Bottom of core at 17.2'. Core opened at 12:00.* Indicates VOC collection depth.
Attempt 3: Penetration: 18.5'; Recovery 17' 10:50.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SW-SM	4/3	F	N	S	Wet	FS	PHC	0%	85%	15%	63	C	
			4/3						(strong)						
		ML	10YR	F	N	S	Moist	FS	PHC	0%	25%	75%	54.8		10.8-11.8 - interval not sampled, elevated impacts noted below
11			3/1						(strong)					NA	
													106		
		SW-SM	10YR	H	N	H	Wet	FS	PHC	0%	95%	5%	48		
12			4/3						(strong)				184		* NAPL saturated - medium viscosity, dark brown staining, freely oozing from soil pores, 100% saturation - saturated throughout entire depth (11.8-13.8')
														D/E	
13													107		
													80.1		Brown peat layer - fibrous plant material/roots
14									(mod)				4.5		
		ML	10YR	F	N	H	Moist	VFS	PHC	0%	1%	99%	7.3	NA	0.2' lens of grayish brown fine silty sand (wet)
15			3/1						(faint)						
													11.2		
16													8.5		
													4.5	NA	
17													7.1		
BOC= 17.2'															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD029A-04.8-06.8	N	03/12/2010 12:00	4.8-6.8	X	X	X	X	X	X	X	X	X	X		
B	GC-SD029A-06.8-08.8	N	03/12/2010 12:00	6.8-8.8	X	X	X	X	X	X	X	X	X	X		
C	GC-SD029A-08.8-10.8	N	03/12/2010 12:00	8.8-10.8	X	X	X	X	X	X	X	X	X	X		
D	GC-SD029A-11.8-13.8	N	03/12/2010 12:00	11.8-13.8	X	X	X	X	X	X	X	X	X	X		
E	D-03122010	FD	03/12/2010 12:00	11.8-13.8	X	X	X	X	X	X		X				
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
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Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/12/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD030A	**Easting:**	633256.91		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671442.92	**Penetration (ft):**	20.0'	N	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-7.3' NAVD88	**Recovery (ft)**	17.5'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/19/2010 14:10		
	ASI - M. Shappell/Captain	**Depth (ft):**	7.2				
		St. Arrival:	14:00		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	14:40	**Penetration (ft):**	NA		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	UNC (strong)	5%	5%	90%	9.6	NA	Organics: strong septic-like odor, fibrous wood, sticks, plastic and broken glass noted
2		SM	10YR 2/1	F	N	H	Wet	SP	UNC	25%	50%	25%			Silty sand with gravel
3													14.9	NA	
4		OL	10YR 2/1	S	N	H	Wet	FS	UNC	5%	10%	85%		NA	
5		SM	10YR 2/1	F	N	H	Wet	SP	TLO (faint)	15%	70%	15%	38	NA	
5.7															
6															Transition zone - not sampled
6		CL	10YR 4/4	H	M	H	Moist	VFS	TLO (mod)	0%	1%	99%	14.1		Very light NAPL coating/staining
7													18.5	A	Light brown NAPL staining on gloves
8													20.7		*
9													72.6		*
		ML	10YR 3/2	F	W	N	Moist	VFS	TLO (faint)	0%	3%	97%	19.6	B	Gradual increase in grain size with depth Moderate NAPL staining/coating
10		SM	10YR 4/2	H	N	H	Wet	FS	TLO mod	0%	85%	15%	12.2		

Additional Notes/Comments: Bottom of core at 17.7'. Core opened at 08:10. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SM	10YR 4/2	H	N	H	Wet	FS	TLO (mod)	0%	85%	15%	15		Heavier NAPL coating with depth
11													10.9	C	Near NAPL saturation - heavy staining, gloves (brown, slick not static, low to medium viscosity)
12													62.2		*
		ML	10YR 3/1	F	N	H	Wet/ Moist	Z	TLO (mod)	0%	0%	100%	22.2		
		SM	10YR 3/2	H	N	H	Wet	FS	TLO (strong)	0%	95%	5%	153	D	*
13													106		NAPL saturation ~ 13', NAPL easily squeezed from soil pores, black, tar-like odor, low viscosity
14															
		ML	10YR 3/1	H	N	H	Moist	VFS	TLO (mod)	0%	1%	99%	9.4		
		OL	10YR 5/6	H	W	S	Wet/ Moist	Z	None	0%	0%	100%	10.2	NA	
15															Silty, peat-like ~15.5'
16													4.2		
		ML	10YR 4/3	H	W	H	Moist	Z	None	0%	0%	100%	3.8		
17													4.7	E	
		SW	10YR 4/3	H	N	H	Wet	SP	None	5%	10%	85	6.8		*
BOC = 17.7'															Subangular - rounded pebbles
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD030A-06.0-08.0	N	03/19/2010 08:10	6.0-8.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD030A-08.0-10.0	N	03/19/2010 08:10	8.0-10.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD030A-10.0-12.0	N	03/19/2010 08:10	10.0-12.0	X	X	X	X	X	X	X	X	X	X		
D	GC-SD030A-12.0-14.0	N	03/19/2010 08:10	12.0-14.0	X	X	X	X	X	X	X	X	X	X		
E	GC-SD030A-16.0-17.7	N	03/19/2010 08:10	16.0-17.7	X	X	X	X	X	X	X	X	X	X		
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/19/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD031A	**Easting:**	633077.08	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671550.03	**Penetration (ft):** 18.0	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-4.8' NAVD88	**Recovery (ft)** 13.8'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/25/2010 12:10	
	ASI - M. Shappell/Captain	**Depth (ft):**	5.4		
		St. Arrival:	11:50	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	12:30	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	CS	UNC	0%	3%	97%	9.9	NA	Organics: fibrous wood, leaf, and stick fragments
2															
3													17.8	NA	Garbage and glass fragments noted at 4'
4															
5													19.2	NA	
6															
7								SP	UNC (strong)	25%	3%	72%	77.9	NA	Coal-like gravel (subangular to angular)
8				S											
8.7													114.4	NA	Increased wood fragments with depth, strong unclassified organic at bottom of accumulated soft sediment
9															
9.3													90.8		Transition zone - not sampled
10		CL	10YR 4/2	H	M	H	Moist	Z	TLO (faint)	0%	0%	100%	39.9	A/D	Silty clay no staining/discoloration observed

Additional Notes/Comments: Bottom of core at 13.9'. Core opened at 07:55. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		CL	10YR 4/2	H	M	H	Moist	Z	TLO	0%	0%	100%	45.9		Gradual transition to silty sand
11		SM	10YR 4/2	H	N	H	Wet	FS	TLO (mod)	0%	90%	10%	156.1	A/D	*
12													132.7 126	B	* Trace staining, very light coating of NAPL, brown/amber staining on sampling equipment
13		ML	10YR 4/2	H	W	H	Moist	Z/VFS	TLO (faint)	0%	1%	99%	71.9		Abrupt transition to fine silt
14													50.7	C	*
BOC= 13.9'															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD031A-09.3-11.3	N	03/16/2010 07:55	9.3-11.3	X	X	X	X	X	X	X	X	X	X		
B	GC-SD031A-11.3-13.3	N	03/16/2010 07:55	11.3-13.3	X	X	X	X	X	X	X	X	X	X		
C	GC-SD031A-13.3-13.9	N	03/16/2010 07:55	13.3-13.9	X	X	X	X	X	X	X	X	X	X		
D	D-03162010-01	FD	03/16/2010 00:00	9.3-11.3	X	X	X	X	X	X		X				
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/16/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD032A	**Easting:**	633065.62		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671571.73	**Penetration (ft):**	18'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-9.4 NAVD88	**Recovery (ft)**	12.5'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/15/2010 12:56		
	ASI - M. Shappell/Captain	**Depth (ft):**	9.3				
		St. Arrival:	12:45		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	13:15	**Penetration (ft):**	NA		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	MS	UNC	0%	5%	95%	32.5	NA	Organics: fibrous wood and leaf fragments
2															
3													36.9	NA	
4									TLO (faint)	10%	5%	85%			Angular coal-like gravel noted at 4'
5										0%	5%	95%	77.1	NA	
5.7															
6 6.1															Transition zone - not sampled
		CL/SM	10YR 4/1 10YR 4/3	H	M/N	S	Moist	Z/FS	TLO (mod)	0%	0% 95%	100% 5%	151.3		* Alternating stratified layers of silty clay (10YR4/1) and silty sand (10YR4/3) from 6.1 to 8.3. Each layer is ~ 0.5' thick
7													67.3	A	
8													97.4		Stick noted at ~ 7.3', saturated with NAPL
		SM	10YR 4/3	H	N	S	Wet	FS	TLO (strong)	5%	95%	5%	143		
9													208	B	NAPL saturation (0.3') - brown, heavy coating, moderate viscosity
													210		*
10		ML	10YR4/2	F	W	H	Moist	VFS	TLO(stg)	5%	3%	97%		C	Abrupt transition

Additional Notes/Comments: Bottom of core at 12.1". Core opened at 16:45. * Indicates VOC collection depth. Little to no staining in layers not clearly saturated with NAPL.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		ML	10YR 4/2	F	W	H	Moist	VFS	TLO (strong)	0%	3%	97%	89.5		Abrupt transition at 10.5'
11		SW-SM	10YR 3/1	H	N	H	Wet	MP	TLO (strong)	15%	80%	5%	204	C	~10.5-12.1 - NAPL saturation - black NAPL noted throughout, brown staining, low to medium viscosity, not water soluble, slick *
12													131		
BOC = 12.1'															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD032A-06.1-08.1	N	03/15/2010 16:45	6.1-8.1	X	X	X	X	X	X	X	X	X	X		
B	GC-SD032A-08.1-10.1	N	03/15/2010 16:45	8.1-10.1	X	X	X	X	X	X	X	X	X	X		
C	GC-SD032A-10.1-12.1	N	03/15/2010 16:45	10.1-12.1	X	X	X	X	X	X	X	X	X	X		
D																	
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: *TMHimmer* Date: 3/15/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD033A	**Easting:**	633040.16	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671481.39	**Penetration (ft):** 19.5'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-5.0' NAVD88	**Recovery (ft)** 15.3	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/15/2010 1335	
	ASI - M. Shappell/Captain	**Depth (ft):**	4.9'		
		St. Arrival:	13:20	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	14:10	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	1%	1%	99%	8.4	NA	Organics: fibrous wood and leaf matter
2															
3													10.3	NA	
4															Increased gravel content below 4'
5													20.3	NA	
5.8									TLO (mod)						
6													71.6		Transition zone - not sampled
6.2		CL	10YR 4/3	H	M	S	Moist	Z	TLO (faint)	0%	0%	100%	41.9	A	Little black staining at 7-8'
7			↓ 10YR 2/1										110.9		*
8				↓ F									51		
8.2			↓ 10YR 5/2				↓ Wet						41.4	B	
9			↓ 10YR 5/3												
10													57.4		*

Additional Notes/Comments: Bottom of core at 15.8". Core opened at 15:00. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		CL	10YR 3/2	F	M	S	Moist	Z	TLO (strong)	0%	0%	100%	46.9	B	Increased NAPL, seeping out of soil pores
11		SW-SM	10YR 2/1	H	N	H	Wet	FS	TLO (strong)	0%	95%	5%	61.1	C	Abrupt transition at 11' to silty sand, heavy black staining and heavy NAPL coating - NAPL is thick, viscous
12											90%	10%	74.9		*
13			10YR 4/3						(mod)				50.4	NA	Interval not sampled, less apparent NAPL/ contamination noted
14													123.9		
15			10YR 3/2						(strong)				141.4	D	NAPL saturation - thick NAPL, black, medium to low viscosity, black/little staining on gloves
													141.7		*
BOC= 15.8'		ML	10YR 4/2	F	N	H	Moist	Z	TLO (mod)	0%	0%	100%	8.8	NA	Less affected with depth (interval not sampled)
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD033A-06.2-08.2		N	03/15/2010 15:00	6.2-8.2	X	X	X	X	X	X	X	X	X	X		
B	GC-SD033A-08.2-10.2		N	03/15/2010 15:00	8.2-10.2	X	X	X	X	X	X	X	X	X	X		
C	GC-SD033A-10.2-12.2		N	03/15/2010 15:00	10.2-12.2	X	X	X	X	X	X	X	X	X	X		
D	GC-SD033A-13.6-15.6		N	03/15/2010 15:00	13.6-15.6	X	X	X	X	X	X	X	X	X	X		
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: TMHimmer Date: 3/15/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD034B	**Easting:**	632847.79	**Attempt 1**	**Refusal? Y/N**
Sampling	J. Balas/CH2M HILL	**Northing:**	671583.78	**Penetration (ft):** 13'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-8.9' NAVD88	**Recovery (ft)** ~5.5	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/15/2010 15:25 AM	
	ASI - M. Shappell/Captain	**Depth (ft):**	10.1'		
		St. Arrival:	12:55	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	14:00	**Penetration (ft):** 14.8'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** ~9.5'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 1300 3/23/2010	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	MP	UNC	5%	3%	92%	35.2	NA	**Organics: sticks, fibrous wood, leaves,** garbage and plastic
2															
3													17.4	NA	
4									TLO (strong)						
5													164.9	NA	Coal fragments, NAPL saturation **NAPL - black, black staining, moderate to low viscosity, slick, not sticky/tacky**
6															
7													89.8	NA	
7.4															
8													101.8		Transition zone - not sampled
8.1		SW-SM	10YR 5/2	H	N	H	Wet	FS	TLO (strong)	0%	95%	5%	86.6		NAPL coating - stains gloves, brown stain, low tar-like odor
9													131	A	*
BOC= 10 9.9'													111.2		

Additional Notes/Comments: Bottom of core at 9.9'. Core opened at 07:45. * Indicates VOC collection depth.
Attempt 3 at 13:30 on 3/23/2010: 15.4' penetration and 10.2' recovery.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD034B-08.1-09.9	N	03/24/2010 07:45	8.1-9.9	X	X	X	X	X	X	X	X	X	X		
	B																
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 3/24/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD35A	**Easting:**	632813.58	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671555.55	**Penetration (ft):** 17.0'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-9.9' NAVD88	**Recovery (ft)** 12.0'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/18/2010 16:00	
	ASI - M. Shappell/Captain	**Depth (ft):**	7.8'		
		St. Arrival:	15:50	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	16:20	**Penetration (ft):** 15.5'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 11.8'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 3/19/2010 8:15	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	5%	95%	10.7	NA	Organics: leaves, fibrous wood and stick fragments, 3" worm at top of recovery (alive)
2															
3													15.2	NA	
4															Increased wood fragments and coal gravel noted
5.1									TLO (mod)				81.0	NA	
5.3													131		Abrupt Transition Transition zone - not sampled
6		CL	10YR 4/3	F	W	H	Wet	FS	TLO (mod)	0%	10%	90%	158		*
		SM	10YR 3/2	H	N	H	Wet	VFS	(strong)	0%	60%	40%	83.0	A	Heavy NAPL coating, medium brown, not sticky, low viscosity
		ML	10YR 4/1	H	N	H	Wet	VFS	(mod)	0%	40%	60%	139		
													109		Large wood fragment, friable wood, NAPL saturated
8		SM	10YR 3/2	H	N	H	Wet	FS	TLO (strong)	0%	85%	15%	86	B	NAPL coating
9								MS					301		NAPL saturation - black, brown staining medium viscosity *
10		SW-SM	10YR 4/3	H	N	H	Wet	FS	TLO (strong)	0%	95%	5%	107.4	C	Moderate NAPL coating

Additional Notes/Comments: Bottom of core at 11.7'. Core opened at 13:00. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SW-SM	10YR 4/3	H	N	H	Wet	FS	TLO (strong)	0%	95%	5%	142	C	Moderate NAPL stain *
11		↓	↓	↓	↓	↓	↓	↓	↓ (faint)	↓	↓	↓	17.4		Light NAPL staining
BOC= 11.7		↓	↓	↓	↓	↓	↓	↓	↓ (mod)	↓	↓	↓	105	NA	Moderate odor at bottom of core - slight increase from overlying sediment
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD035A-05.3-07.3	N	03/19/2010 13:00	5.3-7.3	X	X	X	X	X	X	X	X	X	X	X	
B	GC-SD035A-07.3-09.3	N	03/19/2010 13:00	7.3-9.3	X	X	X	X	X	X	X	X	X	X	X	
C	GC-SD035A-09.3-11.3	N/MSD	03/19/2010 13:00	9.3-11.3	X	X	X	X	X	X	X	X	X	X	X	
D																	
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: *TMHimmer* Date: 3/19/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD036A	**Easting:**	632801.03		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671551.43	**Penetration (ft):**	13.6'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-8.5' NAVD88	**Recovery (ft)**	10.0'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/19/2010 9:05		
	ASI - M. Shappell/Captain	**Depth (ft):**	10.1'				
		St. Arrival:	8:45		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	10:40	**Penetration (ft):**	2.5'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	5.5'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/19/2010 9:30		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	99%	1%	64.0	NA	Organics: fibrous wood and stick fragments, increased fibrous wood below 5'
2															
3													13.9	NA	
4															
5									TLO (strong)	15%	10%	75%	271.7	NA	Coal fragments Thick, black NAPL coating, tar-like odor
5.9															
6															Transition zone - not sampled
6.1		SM	10YR 5/3	H	N	H	Wet	FS	TLO (strong)	0%	75%	25%	407.0		* NAPL coating - stains gloves with brown, slick, low-viscosity
7								VFS		0%	60%	40%	98.0	A	
8													176.0		
		ML	10YR 2/1	H	N	H	Wet	VFS	TLO (strong)	0%	5%	95%	243.0		*
9		SM	10YR 3/1	H	N	H	Wet	VFS	TLO (strong)	0%	75%	25%	188.0	B	
BOC = 9.2'															
10															

Additional Notes/Comments: Bottom of core at 9.2'. Core opened at 07:50. * Indicates VOC collection depth.
Attempt #3: 13.8' penetration; 9' recovery at 10:15 3/19/2010. Attempt #1 not used because liner broke upon moving core from cold storage and attempt 3 had greater thickness of native material.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD036A-06.1-08.1	N	03/22/2010 07:50	6.1-8.1	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD036A-08.1-09.2	N	03/22/2010 07:50	8.1-9.2	X	X	X	X	X	X	X	X	X	X		
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 3/22/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD037B	**Easting:**	632570.52		**Attempt 1**	**Refusal? Y/N**	
Sampling		**Northing:**	671612.79	**Penetration (ft):**	6.0'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-10.1' NAVD88	**Recovery (ft)**	2.5'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/13/2010 8:15		
	ASI - J. Clemens/Captain	**Depth (ft):**	11.8'				
		St. Arrival:	8:10		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	9:30	**Penetration (ft):**	5.0'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	1.7'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	4/13/2010 8:40		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		GP	10YR 2/1	H	N	H	Wet	MP	UNC	98%	1%	1%	4.5	NA	
2		OL	10YR 2/1	S	N	H	Moist	SP	TLO (mod)	15%	5%	80%	95.4	A	*Plastic and refuse
		GM	10YR 2/1	H	N	H	Wet	MP	TLO (mod)	80%	5%	15%	60.8	NA	
3		OL	10YR 2/1	S	N	H	Moist	SP	TLO (mod)	5%	5%	90%	49.4	B	Fibrous wood *
4 BOC = 4.2'													42.4		Heavy NAPL coating, black, black staining, medium viscosity, bone fragment
5															
6															
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 4.2'. Core opened at 10:45. * Indicates VOC collection depth.
Attempt #3: 7.0' penetration; 4.1' recovery at 8:55. Cores from all three attempts opened and examined. Surface grab collected at this location at 9:10 (GC-SD037B-00.0-00.5). Samples of soft sediment collected for chemistry analysis per EPA request.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD037B-01.4-01.9	N	04/13/2010 10:45	1.4-1.9	X	X	X	X				X				
	B	GC-SD037B-02.5-04.2	N	04/13/2010 10:45	2.5-4.2	X	X	X	X	X	X	X	X	X	X		
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/13/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD038A	**Easting:**	632604.82		**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671597.43	**Penetration (ft):**	4.0'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-11.3	**Recovery (ft)**	2.2'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/13/2010 9:40	
	ASI - J. Clemens/Captain	**Depth (ft):**	12.2			
		St. Arrival:	9:35		**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	10:40	**Penetration (ft):**	7.3'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	4.3'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	4/13/2010 10:05	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	10%	5%	85%	107	NA	Organics: trace plant matter, live worm
2		GM	10YR 2/1	H	N	H	Wet	MP	UNC	85%	0%	15%	97.7		
3		OL	10YR 2/1	VS	N	H	Wet	FS	UNC (mod)	80%	5%	15%	177	A	*NAPL saturated, thick, high viscosity, black
								SP	(strong)	5%	5%	90%	225		
4													297	B	Increased fibrous plant material, trace to little wood fragments
BOC = 4.4													400		*
5															
6															
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 4.4'. Core opened at 11:45. * Indicates VOC collection depth.
Attempt #3: 5.3' penetration; 1.7' recovery at 10:30. Cores from all three attempts opened and examined. Samples of soft sediment collected for chemistry analysis per EPA request.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD038A-02.1-02.6	N	04/13/2010 11:45	2.1-2.6	X	X	X	X	X	X						
	B	GC-SD038A-02.6-04.4	N	04/13/2010 11:45	2.6-4.4	X	X	X	X	X	X	X	X	X	X		
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/13/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD39A	**Easting:**	632606.80		**Attempt 1**	**Refusal? Y/N**	
Sampling	Not sampled	**Northing:**	671562.72	**Penetration (ft):**	9.6'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-10.3' NAVD88	**Recovery (ft)**	6.5'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/17/2010 15:15		
	ASI - M. Shappell/Captain	**Depth (ft):**	8.4'				
		St. Arrival:	15:05		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	16:50	**Penetration (ft):**	5.5'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	3.5'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/17/2010 15:50		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		GW	10YR 2/1	H	N	H	Wet	MP	TLO (mod)	80%	15%	5%	12.2	NA	Gravel, brick, and glass fragments
2															Sandy silt lens
3		GM	10YR 2/1	H	N	H	Wet	MP	TLO (strong)	25%	25%	50%	131.0	NA	NAPL saturation - black, black staining, moderate to high viscosity, coal tar-like odor
4		OL	10YR 2/1	S	N	H	Wet	SP	TLO (mod)	5%	15%	80%			Fibrous wood and sticks
5				F									90.7	NA	Coal-like gravel (subangular)
6.1															Abrupt transition
BOC= 6.4		ML	10YR 3/2	F	N	H	Wet	FS	TLO (faint)	0%	15%	85%	81.0	NA	Sandy silt
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 6.4'. Core opened at 07:45. No samples collected.
Attempt 3: 9.5' penetration, 5' recovery, 3/17/2010 1620.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	No samples collected															
	B																
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 3/18/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD040A	**Easting:**	632418.04		**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671609.70	**Penetration (ft):**	10'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-13' NAVD88	**Recovery (ft)**	5.5'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/23/2010 9:30	
	ASI - M. Shappell/Captain	**Depth (ft):**	11.3'			
		St. Arrival:	9:10		**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	11:00	**Penetration (ft):**	7.8'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	3.3'	
Collector Information:	T. Himmer/CH2M HILL Log reflects sample as collected – no correction factor applied for less than 100% core recovery			**Date/Time:**	3/23/2010 10:15	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
0		GW	10YR 2/1	H	N	H	Wet	SP	PHC (faint)	99%	0%	1%			
1		GM	10YR 2/1	H	N	H	Wet	SP	PHC (mod)	70%	5%	25%	14.6	NA	Abrupt decrease in gravel and increase in fines
2		OL	10YR 2/1	VS	N	H	Wet	MP	PHC (strong)	5%	3%	92%			Abrupt change in sediment type NAPL saturated; NAPL black, low viscosity, sticky.
3													63	NA	Coal and gravel fragments
4															Fibrous wood fragments
4.0															Transition zone - not sampled
5		SM	10YR 3/2	F	N	H	Wet	FS	PHC (strong)	0%	85%	15%	133 188	A	* Silty sand, heavy NAPL coating, leaves heavy brown stain on gloves. NAPL is brown, low viscosity, slick, not sticky or tacky
BOC = 5.0'															
6															
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 5.0'. Core opened at 13:55. * Indicates VOC collection depth.
Attempt #3: 4.5' penetration, 2' recovery at 10:45.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD040A-04.0-05.0	N	03/23/2010 13:55	4.0-5.0	X	X										
	B																
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 3/23/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD041A	**Easting:**	632427.12		**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671589.20	**Penetration (ft):**	8.4'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-15.4' NAVD88	**Recovery (ft)**	7.1'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/23/2010 11:25	
	ASI - M. Shappell/Captain	**Depth (ft):**	15.6'			
		St. Arrival:	11:15		**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	11:50	**Penetration (ft):**	NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		GW	10YR 2/1	H	N	H	Wet	SC	PHC (faint)	99%	0%	1%	69.3	NA	NAPL saturated, black, thick / medium viscosity, sticky/tacky
2		GM	10YR 2/1	H	N	H	Wet	SC	PHC (strong)	80%	5%	15%			Increased fibrous wood fragments
2.4													269		Abrupt transition Transition zone - not sampled
3		SM	10YR 3/2	H	N	H	Wet	FS	PHC (strong)	0%	85%	15%	162		Heavy NAPL staining, heavy coating - near saturation, gloves very easily stained
4			10YR 4/1										198	A	*
													144		
5		ML	10YR 4/4	F	W	H	Moist	VFS	PHC (mod)	0%	60%	40%	162		Abrupt transition
6		SM	10YR 3/3	H	N	H	Wet	SC	PHC (strong)	5%	70%	25%	314	B	Trace small cobbles and gravel, subrounded to * subangular NAPL saturated - black, brown staining, medium viscosity, not sticky/tacky
													167		Abrupt transition
7 BOC = 7.5'		ML	10YR 4/3	F	N	H	Wet	VFS	PHC (mod)	0%	99%	51%	242 140	C	*
8															
9															
10															

Additional Notes/Comments: Bottom of core at 7.5'. Core opened at 14:55. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD041A-02.4-04.4		N	03/23/2010 14:55	2.4-4.4	X	X	X	X	X	X	X	X	X	X		
B	GC-SD041A-04.4-06.4		N	03/23/2010 14:55	4.4-6.4	X	X	X	X	X	X	X	X	X	X		
C	GC-SD041A-06.4-07.5		N	03/23/2010 14:55	6.4-7.5	X	X	X	X	X	X	X	X	X	X		
D																	
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: TMHimmer Date: 3/23/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD042B	**Easting:**	632444.55	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671564.57	**Penetration (ft):** 9.2'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-14.9' NAVD88	**Recovery (ft)** 7.0'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/23/2010 12:05	
	ASI - M. Shappell/Captain	**Depth (ft):**	15.6'		
		St. Arrival:	12:00	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	12:30	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		GW	10YR 2/1	H	N	H	Wet	SC	PHC (faint)	99%	0%	1%			Gravel - angular/subangular
2		OL	10YR 2/1	S	N	H	Wet	FS	PHC (strong)	0%	5%	95%	169	NA	NAPL saturated, black, medium viscosity Fibrous wood and organic fragments
2.2													99.6		Transition zone - not sampled
3		CL	10YR 5/3	S	W	H	Wet	VFS	PHC (faint)	0%	3%	97%	64.7		
													158	A/D	
4													197		*
										0%	10%	90%			
5													285		Red wood fragments, peat-like consistency
														B	
		SM	10YR	H	N	H	Wet	FS	PHC(stg)	0%	85%	15%	395		Silty sand seam, NAPL saturated - heavily
6		ML	4/3	H	N	H	Wet	VFS	PHC(stg)	0%	15%	85%	296		coated, NAPL easily seeps from pore space
		SM	10YR 3/2	H	N	H	Wet	FS	PHC(stg)	0%	85%	15%	396		* dark brown/black staining, low to medium
		GM	3/2	H	N	H	Wet	SP	PHC (strong)	50%	25%	25%	149	C	viscosity, not sticky/tacky, slick
7			3/2										313		*
BOC = 7.0'															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 7.0'. Core opened at 15:45. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD042B-02.2-04.2	N	03/23/2010 15:45	2.2-4.2	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD042B-04.2-06.2	N	03/23/2010 15:45	4.2-6.2	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD042B-06.2-07.2	N	03/23/2010 15:45	6.2-7.0	X	X	X	X	X	X	X	X	X	X		
	D	D-03232010-02	FD	03/23/2010 15:45	2.2-4.2	X	X	X	X	X	X		X				
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 3/23/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD043A	**Easting:**	632339.02		**Attempt 1** **Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671583.64	**Penetration (ft):**	3.0' Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	12.5' NAVD88	**Recovery (ft)**	2.5'
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/24/2010 9:05
	ASI - M. Shappell/Captain	**Depth (ft):**	10.4'		
		St. Arrival:	8:45		**Attempt 2** **Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	10:20	**Penetration (ft):**	12.6' Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	9.0'
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/24/2010 9:35

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		GM	10YR 2/1	H	N	H	Wet	MP	PHC (mod)	75%	5%	20%	16.3		Silty sand, moderate PHC odor
1															Abrupt transition, layer of leaf litter
		OL	10YR 2/1	S	N	H	Wet	FS	PHC (strong)	5%	20%	75%		NA	
2													32.3		Fibrous wood fragments, NAPL coating, black, black staining
2.3													70.5		
2.6		SM	10YR2/1	S	N	H	Wet	VFS	PHC(stg)	0%	51%	49%	27.3	NA	Abrupt transition
		ML	10YR 5/2	H	N	H	Wet	VFS	PHC (faint)	0%	15%	85%	232		Light NAPL coating, light staining on gloves, brown
3														A	
										<1%	3%	97%	307		*
4															Subrounded cobble
													97.7		
5													182		Subrounded cobble
										<1%				B	Increasing sand and gravel content
6													224		
					M					5%	15%	80%	141		Subrounded cobble
7													267		
		SM	10YR 3/2	H	N	H	wet	SP	PHC (strong)	0% 5%	60% 60%	40% 35%			Abrupt transition
													287	C	* Heavy NAPL coating, brown staining, low to medium viscosity
8		ML	10YR 5/2	H	N	H	wet	FS	PHC (strong)	0%	1%	99%	110		Heavy coating - NAPL saturated, NAPL easily squeezed from pore space
													206		Bottom 0.2' not sampled, similar to interval above
9 BOC = 8.8'															
10															

Additional Notes/Comments: Bottom of core at 8.8'. Core opened at 11:35. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD043A-02.6-04.6		N	03/24/2010 11:35	2.6-4.6	X	X	X	X	X	X	X	X	X	X		
B	GC-SD043A-04.6-06.6		N	03/24/2010 11:35	4.6-6.6	X	X	X	X	X	X	X	X	X	X		
C	GC-SD043A-06.6-08.6		N	03/24/2010 11:35	6.6-8.6	X	X	X	X	X	X	X	X	X	X		
D																	
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: TMHimmer Date: 3/24/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD044A	**Easting:**	632346.46		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671536.55	**Penetration (ft):**	20'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-18.1' NAVD88	**Recovery (ft)**	16.0'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/235/2010 14:30		
	ASI - M. Shappell/Captain	**Depth (ft):**	19.1'				
		St. Arrival:	14:00		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	15:00	**Penetration (ft):**	NA		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		GM	10YR 2/1	H	N	H	Wet	SC	TLO (strong)	75%	10%	15%	69.6	NA	Silty gravel, fibrous wood and coal fragments, NAPL coated, black, brown staining
1.3															Abrupt transition
1.7													33.0		Transition zone - not sampled
2		CL	10YR 4/1	F	W	H	Moist	VFS	PHC (faint)	0%	1%	99%	26.1	A	Brown wood fragments
3		SM	10YR 4/1	H	N	H	Wet	FS	PHC (mod)	0%	75%	25%	111		Abrupt transition Light NAPL coating, increasing with depth
									(strong)				177		*
4													107		
5													114	B	
													115		*
6										10%	75%	15%	74.1		Increased subangular gravel, NAPL saturated, black, dark brown staining, low to medium viscosity, slick, not sticky/tacky
7													118	C	*
		ML	10YR 5/3 / 3/2	H	N	H	Moist	VFS	PHC (faint)	0%	3%	97%	46.2		Abrupt transition, mica flakes
8													98.1		
													108	NA	Light NAPL coating, increasing with depth
9															Alternating ML layers of 10YR 5/3 and 10YR 3/2
													116		
10														D	

Additional Notes/Comments: Bottom of core at 16.1'. Core opened at 19:15. * Indicates VOC collection depth.
Core stored in refrigerator overnight; bottom 8' of Lexan liner very brittle and degraded. Lexan broke apart when core opened.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		ML	10YR 5/3	H	N	S	Moist	VFS	PHC (faint)	0%	3%	97%	196	*	
			10YR 3/2										124	D	NAPL saturated, dark brown staining
12									(mod)				151		
													137		Light NAPL coating
13													70	NA	
													60		
14													102		
													98		
15													106	E/F	
16									(strong)	0%	10%	90%	118		* NAPL saturated - free-phase NAPL, black, brown staining, medium viscosity, not sticky/ tacky
BOC = 16.1'															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD044A-01.7-03.7	N	03/24/2010 09:15	1.7-3.7	X	X	X	X	X	X	X	X	X	X		
B	GC-SD044A-03.7-05.7	N	03/24/2010 09:15	3.7-5.7	X	X	X	X	X	X	X	X	X	X		
C	GC-SD044A-05.7-07.7	N	03/24/2010 09:15	5.7-7.7	X	X	X	X	X	X	X	X	X	X		
D	GC-SD044A-091.7-11.7	N	03/24/2010 09:15	9.7-11.7	X	X	X	X	X	X	X	X	X	X		
E	GC-SD044A-14.1-16.1	N	03/24/2010 09:15	14.1-16.1	X	X	X	X	X	X	X	X	X	X		
F	D-03242010-01	FD	03/24/2010 00:00	14.1-16.1	X	X	X	X	X	X		X				
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/24/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD045C	**Easting:**	632368.25		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671518.38	**Penetration (ft):**	9.9'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-16.9' NAVD88	**Recovery (ft)**	5.0'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/23/2010 15:25		
	ASI - M. Shappell/Captain	**Depth (ft):**	17.3'				
		St. Arrival:	15:15		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	16:10	**Penetration (ft):**	8.8'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	7.9'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/23/2010 15:50		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SC	UNC	15%	5%	80%	5.5	NA	Organics: strong septic-like odor, fibrous plant matter, brick fragments (up to 4" diameter)
2															
3										3%	5%	92%	50.1	NA	
4															
4.7													89.6		Transition zone - not sampled Abrupt transition, NAPL coating - black, black staining, medium viscosity, slick, not sticky
5		CL	10YR 4/3	F	W	H	Moist	VFS	None	0%	1%	99%	19.2		
6									TLO (faint)				15.7	A	
													65.7		* NAPL blebs, light NAPL coating
7							Wet	FS	TLO (strong)	0%	49%	51%	30.1	B	Increasing sand content with depth, fibrous content and wood fragments moderately
8													95.5		* coated with NAPL Sandy clay present at bottom of core
BOC = 7.9'															
9															
10															

Additional Notes/Comments: Bottom of core at 7.9'. Core opened at 08:30. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD045C-04.7-06.7	N	03/24/2010 08:30	4.7-6.7	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD045C-06.7-07.9	N	03/24/2010 08:30	6.7-7.9	X	X	X	X	X	X	X	X	X	X		
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 3/24/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD046C	**Easting:**	632153.80		**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671463.18	**Penetration (ft):**	14.6'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	9.9' NAVD88	**Recovery (ft)**	10.3'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/24/2010 11:35	
	ASI - M. Shappell/Captain	**Depth (ft):**	10.2'			
		St. Arrival:	11:10		**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	12:10	**Penetration (ft):**	NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		GM	10YR 2/1	H	N	H	Wet	SC	UNC	75%	5%	20%			Organics: fibrous wood and leaf fragments
															Abrupt transition
2		OL	10YR 2/1	H	N	H	Wet	MP	PHC (mod)	10%	3%	87%	56.9	NA	
3									(strong)	5%	1%	94%	145.0	NA	Increased wood fragments NAPL coating, black, black staining, medium viscosity
	3.9												50.8		Transition zone - not sampled
4		CL	10YR 5/4	F	W	H	Moist	Z	None	0%	0%	100%			
5		SM	10YR 4/2	H	N	H	Wet	FS	PHC (mod)	0%	75%	25%	82.8	A	
													179		
6									PHC (strong)	0%	85%	15%	307		Heavy NAPL staining on sampling equipment, * no observable discoloration of sediment
								MS					87.4		Wood fragments
7													191	B	Fibrous wood and root fragments Heavy NAPL coating, near saturation
8													242		*
9		ML	10YR 3/2	F	N	H	Moist	VFS	PHC (faint)	0%	3%	97%	52.4		
									(mod)				80.7	C	
BOC = 10.1'													147		*
10		SM	10YR 3/2	H	N	H	Moist	VFS	PHC	10%	75%	15%	259		Abrupt transition, strong PHC odor, rounded gravel

Additional Notes/Comments: Bottom of core at 10.1'. Core opened at 13:15. * Indicates VOC collection depth. 9.9-10.1' interval not sampled because interval had minimal volume and did not appear to be more impacted than interval above.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD046C-03.9-05.9	N	03/24/2010 13:15	3.9-5.9	X	X	X	X	X	X	X	X	X	X		
B	GC-SD046C-05.9-07.9	N	03/24/2010 13:15	5.9-7.9	X	X	X	X	X	X	X	X	X	X		
C	GC-SD046C-07.9-09.9	N	03/24/2010 13:15	7.9-9.9	X	X	X	X	X	X	X	X	X	X		
D																	
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: *TMHimmer* Date: 3/24/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD047A	**Easting:**	632188.77		**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671431.56	**Penetration (ft):**	19.5'	Y
Crew/Company	M. Murphy/CH2M HILL	**Elevation:**	-15.9' NAVD88	**Recovery (ft)**	19.5'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/25/2010 10:30	
	ASI - M. Shappell/Captain	**Depth (ft):**	14.2'			
		St. Arrival:	10:30		**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	11:05	**Penetration (ft):**	NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		GM	10YR 2/1	F	N	H	Wet	MP	UNC	50%	10%	40%	23.1	NA	**Fibrous wood and gravel**
0.6													11.4		Transition zone - not sampled
		CL	10YR 4/4	F	W	H	Moist	VFS	UNC (mod)	0%	1%	99%	14.0		Silty clay, NAPL blebs, trace/faint staining on particle surfaces.
1													119	A	*
															Wood fragments throughout
2													6.6		UNC is unclassified, chemical-like odor
3													9.2		
													17.1	B	*
4													7.1		
5													9.1		
													21.9	C	
		SM	10YR 4/3	H	N	H	Wet	FS	TLO (mod)	0%	75%	25%			Abrupt transition
6													67.0		* NAPL staining and moderate coating, light brown, low viscosity, not sticky/tacky
		ML	10YR 4/1	H	N	H	Moist/ Wet	VFS	TLO (strong)	0%	3%	97%	69.4		Abrupt transition
7													177	NA	
8													155		
		SM	10YR 2/1	H	N	H	Wet	FS	TLO	0%	85%	15%			Heavy NAPL staining
		ML	10YR 5/4	F	N	H	Moist/ Wet	VFS	TLO (mod)	0%	1%	99%	29.2		
9														NA	
													7.0		
10															

Additional Notes/Comments: Bottom of core at 18.8'. Core opened at 11:50. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		ML	10YR 5/4	F	N	H	Moist/ Wet	VFS	TLO (mod)	0%	1%	99%	8.5	NA	Layer contains lenses saturated with NAPL
11													33.4		
													46.2	D	* NAPL saturation and heavy staining
12													19.3		
13													92.3		NAPL saturation and heavy staining
													46.2	E	*
14													6.3		
15													44.8		NAPL saturation and heavy staining
													30.8	F	
16													85.7		* NAPL saturation and heavy staining
17													103.0		* NAPL saturation and heavy staining
													8.5	G	
18													5.1		NAPL is black, brown staining, slick, not sticky/tacky, tar-like odor
BOC = 18.8'													4.1	NA	
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD047A-00.6-02.6	N	03/25/2010 11:50	0.6-2.6	X	X	X	X	X	X	X	X	X	X		
B	GC-SD047A-02.6-04.6	N	03/25/2010 11:50	2.6-4.6	X	X	X	X	X	X	X	X	X	X		
C	GC-SD047A-04.6-06.6	N	03/25/2010 11:50	4.6-6.6	X	X	X	X	X	X	X	X	X	X		
D	GC-SD047A-10.6-12.6	N/MSD	03/25/2010 11:50	10.6-12.6	X	X	X	X	X	X	X	X	X	X		
E	GC-SD047A-12.6-14.6	N	03/25/2010 11:50	12.6-14.6	X	X	X	X	X	X	X	X	X	X		
F	GC-SD047A-14.6-16.6	N	03/25/2010 11:50	14.6-16.6	X	X	X	X	X	X	X	X	X	X		
G	GC-SD047A-16.6-18.6	N	03/25/2010 11:50	16.6-18.6	X	X	X	X	X	X	X	X	X	X		
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/25/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD048A	**Easting:**	632203.22	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671413.44	**Penetration (ft):** 10.6'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-13.0' NAVD88	**Recovery (ft)** 4.0'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/24/2010 15:40	
	ASI - M. Shappell/Captain	**Depth (ft):**	14.2'		
		St. Arrival:	15:30	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	17:00	**Penetration (ft):** 8.1'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 5.5'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 3/24/2010 16:20:00 PM	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	MP	UNC	15%	1%	84%	7.1	NA	Organics: fibrous wood
2															Increase in wood and plant matter below 3.5'
3								MS		1%	1%	98%	32.0	NA	
4															
5									PHC (faint)				137.0	NA	
BOC = 5.5'															
6															
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 5.5'. Core opened at 07:50. * Indicates VOC collection depth. Attempt 3#: 7.5' penetration, 4.5' recovery 16:45.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	No samples collected															
	B																
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 3/25/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD049A	**Easting:**	632071.13		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671373.45	**Penetration (ft):**	13.6'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-12.3' NAVD88	**Recovery (ft)**	7.0'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/24/2010 12:30		
	ASI - M. Shappell/Captain	**Depth (ft):**	12.0'				
		St. Arrival:	12:15		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	13:50	**Penetration (ft):**	18.1'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	11.5'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/24/2010 13:00		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		GM	10YR 2/1	H	N	H	Wet	MP	PHC (strong)	50%	25%	25%	102.0	NA	Silty gravel, fibrous wood noted
2															
3													281	NA	NAPL saturated - black, medium viscosity, slick, not sticky/tacky
3.4													46.5		Transition zone - not sampled
4		CL	10YR 3/2	F	W	H	Moist	VFS	None	0%	1%	99%	92.9		
5													61.2	A	NAPL coating, increasing with depth
6		SM	10YR 3/1	H	N	H	Wet	FS	PHC (strong)	0%	60%	40%	311		* NAPL - brown staining, low viscosity, slick, not sticky
7										0%	85%	15%	261		
8									(mod)				324	B	*
9									(faint)				283		Silty sand lens
10		SW-SM	10YR 4/3	H	N	H	Wet	MS	PHC (faint)	0%	90%	10%	286		*
													105	C	
													57.8		Wood fragments
													64.0	NA	Rounded cobble, NAPL staining

Additional Notes/Comments: Bottom of core at 13.3'. Core opened at 14:35. * Indicates VOC collection depth. Attempt 3#: 19.0' penetration, 13' recovery 13:45.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW-SM	10YR 4'/3	H	N	H	Wet	MS	None	0%	90%	10%	78.7	NA	No NAPL staining or coating, no odor
													40.3		
12									TLO (faint)				193	D/E	
													98.3		NAPL coating - dark brown, low to medium
13									(strong)				337		* viscosity
BOC = 13.3'															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD049A-03.4-05.4	N	03/24/2010 14:35	3.4-5.4	X	X	X	X	X	X	X	X	X	X		
B	GC-SD049A-05.4-07.4	N	03/24/2010 14:35	5.4-7.4	X	X	X	X	X	X	X	X	X	X		
C	GC-SD049A-07.4-09.4	N	03/24/2010 14:35	7.4-9.4	X	X	X	X	X	X	X	X	X	X		
D	GC-SD049A-11.4-13.4	N	03/24/2010 14:35	11.4-13.3	X	X	X	X	X	X	X	X	X	X		
E	D-03242010-02	FD	03/24/2010 14:35	11.4-13.3	X	X	X	X	X	X		X				
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/24/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD050B	**Easting:**	632097.35	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671342.44	**Penetration (ft):** 11.7'	Y
Crew/Company	J. Balas/CH2M HILL	**Elevation:**	-16.9' NAVD88	**Recovery (ft)** 9'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/25/2010 11:21	
	ASI - M. Shappell/Captain	**Depth (ft):**	16.1		
		St. Arrival:	11:25	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	12:20	**Penetration (ft):** 17.4'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 13.0'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 3/25/2010 12:05	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	PHC (mod)	10%	3%	87%	37.1	NA	Organics: fibrous wood; moderate PHC odor
1.7													11.4		Transition zone - not sampled
2		CL	10YR 4/3	H	W	H	Moist	VFS	PHC (faint)	0%	1%	99%	34.2		Wood fragments and fibrous organic matter
3													21.5	A	
		SM	10YR 3/2	H	N	H	Wet	FS	PHC (strong)	0%	75%	25%	40.3		* NAPL coating - brown, slick, not sticky
4		ML	10YR 2/1	F	N	H	Wet	VFS	PHC	0%	15%	85%			
		SW-SM	10YR 4/4	H	N	S	Wet	FS	PHC (strong)	0%	90%	10%	32.9		Well graded sand with silt
5						H							36.2	B	NAPL coating - increasing with depth, brown
													146		*
						S		SP		3%	90%	7%			Brown staining
6								FS		0%	90%	10%	104		Black silty lens * Nearly saturated with NAPL, heavily stained.
7													96.8	C	
													73.6		Black silty lens
8													22.4		Black silty lens
9													87.1	NA	Black silty lens
													266		* Black silty lens
10														D	

Additional Notes/Comments: Bottom of core at 12.2'. Core opened at 15:00; * Indicates VOC collection depth. Black silty sand lens, dense/hard, weakly cemented.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SW-SM	10YR4/4	H	N	S	Wet	FS	)	0%	90%	10%			
		ML	10YR 4/4	H	N	H	Wet	VFS	TLO (faint)	0%	1%	99%	19.2		Same as above
11		↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	7.9	D	
													12.8		
12													14.3	NA	
BOC = 12.2'															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD050B-01.7-03.7	N	03/25/2010 15:00	1.7-3.7	X	X	X	X	X	X	X	X	X	X		
B	GC-SD050B-03.7-05.7	N	03/25/2010 15:00	3.7-5.7	X	X	X	X	X	X	X	X	X	X		
C	GC-SD050B-05.7-07.7	N	03/25/2010 15:00	5.7-7.7	X	X	X	X	X	X	X	X	X	X		
D	GC-SD050B-09.7-11.7	N	03/25/2010 15:00	7.7-9.7	X	X	X	X	X	X	X	X	X	X		
E	D-03252010-01	FD	03/25/2010 15:00	3.7-5.7	X	X	X	X	X	X		X				
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: TMHimmer Date: 3/25/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD051A (2nd Attempt)	**Easting:**	632123.73		**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671326.02	**Penetration (ft):**	11.2'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-14.6' NAVD88	**Recovery (ft)**	9'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/31/2010 9:00	
	ASI - Jeff Clemens	**Depth (ft):**	17.4'			
		St. Arrival:	8:55		**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	10:00	**Penetration (ft):**	17.1'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	11.0'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/31/2010 9:00	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	0%	3%	97%	131.0	NA	**Organic, septic-like odor at top of core** Strong PHC odor at bottom of interval Fibrous plant material, glass, and porcelain fragments Coal-like gravel at bottom of interval
									PHC (strong)	3%	3%	94%			
2													105		Transition zone - not sampled Strong PHC Odor
2.4															
3		SM	10YR 3/2	S	N	H	Wet	VFS	PHC	0%	51%	49%	236		* NAPL saturated at top of interval and heavily coated near bottom of interval NAPL is dark brown/black, low viscosity, PHC odor, not sticky/tacky
								FS		0%	85%	15%	211	A	
4													248		Wood fragment, abrupt increase in sand * content
													650		
5		ML	10YR 4/1	H	N	H	Wet	VFS	PHC	0%	49%	51%			
6		SW-SM	10YR 4/2	H	N	H	Wet	FS	PHC (strong)	0%	90%	10%	516	B	* NAPL saturated at top of interval and heavily coated near bottom of interval
													108		Fine sand/sandy gravel
7		ML	10YR 4/3	H	N	H	Wet	VFS	PHC (mod)	0%	5%	95%	222		*
															NAPL blebs, no staining on sediment
8													13.6	C	
		SW-SM	10YR 2/1	H	N	H	Wet	FS	None	0%	90%	10%	43.6		Black staining, no odor, no coating
9			10YR 5/2										26.8	D	*
BOC= 9.3													40.9		
10															

Additional Notes/Comments: Bottom of core at 9.3'. Core opened at 10:25 * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD051A-02.4-04.4	N	03/31/2010 10:25	2.4-4.4	X	X	X	X	X	X	X	X	X	X		
B	GC-SD051A-04.4-06.4	N	03/31/2010 10:25	4.4-6.4	X	X	X	X	X	X	X	X	X	X		
C	GC-SD051A-06.4-08.4	N	03/31/2010 10:25	6.4-8.4	X	X	X	X	X	X	X	X	X	X		
D	GC-SD051A-08.4-09.3	N	03/31/2010 10:25	8.4-9.3	X	X	X	X	X	X	X	X	X	X		
E																
F																
G																
H																
I																
J																
K																
L																
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Reviewed by: *TMHimmer* Date: 3/31/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD052A	**Easting:**	631973.80		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671233.59	**Penetration (ft):**	1'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-12.8' NAVD88	**Recovery (ft)**	no recovery		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/24/2010 14:40		
	ASI - M. Shappell/Captain	**Depth (ft):**	13'				
		St. Arrival:	14:20		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	15:30	**Penetration (ft):**	4.4'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	4'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/24/2010 15:00		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	S	N	H	Wet	SP	PHC (faint)	5%	5%	90%	61.8	NA	
2															
3									PHC (mod)				128.0	NA	
BOC = 3.2'															
4															
5															
6															
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 3.2'. Core opened at 08:40. Attempt #3 - 1.6' penetration; 1' recovery.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	No samples collected															
B																
C																
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/25/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD053A	**Easting:**	632005.69	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671215.51	**Penetration (ft):** 14.2'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-14.5' NAVD88	**Recovery (ft)** 10.4'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/1/2010 9:30	
	ASI - Jeff Clemens	**Depth (ft):**	17.0'		
		St. Arrival:	7:30	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	9:30	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	MS	UNC	10%	3%	87%	32.8	NA	Organics: fibrous plan material, strong septic-like odor
2		GM	10YR 2/1	H	N	H	Wet	SP	UNC	50%	25%	25%			
2.1															Abrupt transition
2.5															Transition zone - not sampled
3		SM	10YR 4/2	F	N	H	Wet	FS	TLO (strong)	0%	60%	40%	25.6		* NAPL saturated - black, brown staining, low viscosity
4		ML	10YR 4/2	F	N	H	Moist	Z	TLO (strong)	0%	0%	100%	19.5	A	Bone-like fragment Abrupt Transition
5		SW-SM	10YR 3/2	H	N	H	Wet	FS	TLO (strong)	0%	90%	10%	17.5 54.7		* NAPL saturated - black, brown staining, low viscosity
6		ML	10YR 4/3	H	N	H	Moist	VFS	TLO (strong)	0%	3%	97%	74.9 61.1	B	
7		SM	10YR 3/2	H	N	H	Wet	FS	TLO	0%	85%	15%			*
8		ML	10YR 3/3	H	N	H	Moist	FS	TLO (Faint)	0%	10%	90%	319 55.4	C	Heavy NAPL coating, near saturation Gradual increase in sand content with depth
9		SM	10YR 3/3	H	N	H	Wet	FS	None	0%	60%	40%	10.2 49.7		
BOC= 10.1' 10		SW	10YR 3/3	H	N	H	Wet	FS	None	0%	90%	10%	70.5 39.8	NA	Thin ML seam No sample collected, not visually contaminated more than above layer

Additional Notes/Comments: Bottom of core at 10.1'. Core opened at 10:40. * Indicates VOC collection depth.

	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
	11															
	12															
	13															
	14															
	15															
	16															
	17															
	18															
	19															
	20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD053A-02.5-04.5	N	04/01/2010 10:40	2.5-4.5	X	X	X	X	X	X	X	X	X	X		
B	GC-SD053A-04.5-06.5	N	04/01/2010 10:40	4.5-6.5	X	X	X	X	X	X	X	X	X	X		
C	GC-SD053A-06.5-08.5	N	04/01/2010 10:40	6.5-8.5	X	X	X	X	X	X	X	X	X	X		
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 4/1/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD054B	**Easting:**	632018.62	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671172.68	**Penetration (ft):** 16.5'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-12.1' NAVD88	**Recovery (ft)** 11.5'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/25/2010 13:30	
	ASI - M. Shappell/Captain	**Depth (ft):**	11.5'		
		St. Arrival:	13:04	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	14:05	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	5%	3%	92%	37.2	NA	Organics: fibrous matter
2															
3		GM	10YR 2/1	H	N	H	Wet	SC	UNC	70%	5%	25%			Abrupt change to silty gravel
								SP	PHC (strong)	75%	5%	20%	69.7	NA	
4															NAPL - black, thick, sticky, moderate viscosity, strong PHC odor
4.5													74		Transition zone - not sampled
5		ML	10YR 5/2	F	N	H	Moist	VFS	PHC (strong)	0%	5%	95%	13		NAPL saturated pockets; NAPL black, thick, sticky
													23.3	A	
6													60		Wood fragments *
7		SM	10YR 4/3	H	N	H	Wet	FS	PHC (strong)	0%	75%	25%	101		Abrupt transition *
													92.9	B	
8										0%	51%	49%	19.7		Increasing silt content with depth
9		ML	10YR 3/1	H	H/W	H	Moist	VFS	PHC (faint)	0%	10%	90%	3.2		Gradual transition
10										0%	5%	95%	2.9	C	

Additional Notes/Comments: Bottom of core at 11.2'. Core opened at 09:00. * indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		ML	10YR 3/1	H	H/W	H	Moist	VFS	PHC (faint)	0%	5%	95%	12.2	C	* Same as above
11 BOC = 11.2'		SM	10YR 4/1	H	N	H	Wet	FS	UNC (strong)	0%	75%	25%	153	D	*
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD054B-04.5-06.5	N	03/29/2010 09:00	4.5-6.5	X	X	X	X	X	X	X	X	X	X		
B	GC-SD054B-06.5-08.5	N	03/29/2010 09:00	6.5-8.5	X	X	X	X	X	X	X	X	X	X		
C	GC-SD054B-08.5-10.5	N	03/29/2010 09:00	8.5-10.5	X	X	X	X	X	X	X	X	X	X		
D	GC-SD054B-10.5-11.2	N	03/29/2010 09:00	10.5-11.2	X	X	X	X	X	X	X	X	X	X		
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: TMHimmer Date: 3/29/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD055A	**Easting:**	631828.69		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671020.81	**Penetration (ft):**	11.4'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-7.8' NAVD88	**Recovery (ft)**	6'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/22/2010 12:10		
	ASI - M. Shappell/Captain	**Depth (ft):**	8.9'				
		St. Arrival:	11:50		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	13:50	**Penetration (ft):**	11.8'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	6.1'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/22/2010 12:55		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	3%	1%	96%	46	NA	Organic, strong septic-like odor
2															Fibrous wood, sticks, leaves
3													10.8	NA	
4															
5		GW	10YR 2/1	H	N	H	Wet	MP	UNC	75%	20%	5%	34.9	NA	Silty gravel
6		OL	10YR 2/1	H	N	H	Wet	CS	UNC	0%	15%	85%		NA	
BOC = 6'															
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 6'. Core opened at 14:30. Attempt #3 - 11.0' penetration, 4' recovery (13:15 3/22/2010). No native material observed or collected.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	No samples collected															
	B																
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 3/22/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD056A	**Easting:**	631870.43	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671009.89	**Penetration (ft):** 8.9'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-13.8' NAVD88	**Recovery (ft)** 5.5'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/22/2010 14:00	
	ASI - M. Shappell/Captain	**Depth (ft):**	14.5'		
		St. Arrival:	13:55	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	16:00	**Penetration (ft):** 8'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 4'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 3/22/2010 14:35	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		GW	10YR 2/1	H	N	H	Wet	MP	UNC	84%	15%	1%	18.5	NA	Gravel with sand
1.4															
1.6													288		Transition zone - not sampled
2		SM	10YR 5/3	H	N	H	Wet	FS	PHC (faint)	0%	85%	15%	546		*
															Silty sand, NAPL staining throughout,
3													240	A	moderate coating
													119		
4													118		
													149	B	
5													598		Near NAPL saturation near bottom of * core
BOC = 5.3'															Dark brown NAPL staining on liner
6															
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 5.3'. Core opened at 15:55. * Indicates VOC collection depth.
Coordinates listed are from Attempt #2 (Penetration 7.6', recovery 5.5' - 15:20)

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD056A-01.6-03.6	N/MSD	03/22/2010 15:55	1.6-3.6	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD056A-03.6-05.3	N	03/22/2010 15:55	3.6-5.3	X	X	X	X	X	X	X	X	X	X		
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 3/22/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD057A	**Easting:**	631915.69		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671003.16	**Penetration (ft):**	4'	Y	
Crew/Company	M. Murphy/CH2M HILL	**Elevation:**	-10.3' NAVD88	**Recovery (ft)**	3.5'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/22/2010 16:25		
	ASI - M. Shappell/Captain	**Depth (ft):**	8.6'				
		St. Arrival:	16:10		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	17:10	**Penetration (ft):**	16.6'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	12'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/22/2010 16:50		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	5%	95%	16.7	NA	Organics: fibrous wood
2									PHC (mod)						
3		GM	10YR 2/1	H	N	H	Wet	SP	PHC (strong)	50%	25%	25%	25.2	NA	Abrupt transition NAPL coating, heavy, black, low viscosity
4															Thick, tacky, "honey-like" consistency
5													74.3	NA	
6															NAPL saturation
6.8													210	NA	Fibers, glass fragments, garbage
7													31.8		Transition zone - not sampled
7.2															Abrupt transition
8		CL	10YR 4/3	F	M	H	Moist	VFS	PHC (mod)	0%	3%	97%	77.3		Silty clay with trace sand, trace wood fragments throughout (red); increasing sand content with depth
					W			FS		0%	5%	95%	172	A	*
9													85.4		
											10%	90%	81	B	
10													87		*

Additional Notes/Comments: Bottom of core at 11.9'. Core opened at 07:55. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		CL	10YR 4/3	F	M	H	Moist	VFS	PHC (mod)	0%	25% ↓ 50%	75% ↓ 50%	52.9	B	
12		SM	10YR 4/3	H	N	H	Wet	FS	PHC (strong)	0%	75%	25%	153	C	Heavy NAPL coating, near saturation * NAPL is brown, low viscosity
BOC = 11.9'															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD057A-07.2-09.2	N	03/23/2010 07:55	7.2-9.2	X	X	X	X	X	X	X	X	X	X		
B	GC-SD057A-09.2-11.2	N	03/23/2010 07:55	9.2-11.2	X	X	X	X	X	X	X	X	X	X		
C	GC-SD057A-11.2-11.9	N	03/23/2010 07:55	11.2-11.9	X	X	X	X	X	X	X	X	X	X		
D																
E																
F																
G																
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Reviewed by: TMHimmer Date: 3/23/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD059A	**Easting:**	631695.70	**Attempt 1**	**Refusal? Y/N**
Sampling	J. Balas/CH2M HILL	**Northing:**	670730.43	**Penetration (ft):** 18.4'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-16.8' NAVD88	**Recovery (ft)** 13.0'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/5/2010 8:55	
	ASI - J. Clemens/Captain	**Depth (ft):**	15.1'		
		St. Arrival:	8:52	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	9:30	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	5%	5%	90%	10.0	NA	
1.8		SM	10YR2/1	S	N	H	Wet	SP	UNC	10%	65%	25%			
2													183		Transition zone - not sampled
2.1		SM	10YR 4/1	H	N	H	Wet	SP	TLO (strong)	1%	84%	15%	156		Silty sand, heavy NAPL coating
3													132	A	NAPL saturated from 2.7-3.1' NAPL dark brown, slick, not sticky/tacky
4		ML	10YR 4/2	F	N	H	Wet	VFS	TLO (strong)	0%	40%	60%	300		*
5		SM	10YR 4/2	H	N	H	Wet	FS	TLO (strong)	0%	75%	25%	201 202	B	Heavy NAPL coating
6									(mod)				293		*
		ML	10YR 2/1	H	N	H	Wet	VFS	None	0%	1%	99%	29.4		
7		SM	10YR 4/1	H	N	H	Wet	FS	TLO (mod)	0%	85%	15%	104	C	* Moderate NAPL coating
8													51.3		
9													138 54.7	NA	
10													123		

Additional Notes/Comments: Bottom of core at 13.0'. Core opened at 09:40. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SM	10YR 4/1	H	N	H	Wet	FS	TLO	0%	85%	15%	101	NA	
		ML	10YR 2/1	H	N	H	Wet	VFS	TLO	0%	1%	99%	136	D	Abrupt lithology changes, silt lenses
12		SM	10YR 4/1	H	N	H	Wet	FS	TLO	0%	85%	15%	103		
		ML	10YR 2/1	H	N	H	Wet	VFS	TLO	0%	1%	99%			
13		SM	10YR 4/1	H	N	H	Wet	FS	TLO	0%	85%	15%	162		* Heavy NAPL coating
BOC = 13.0'															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD059A-02.1-04.1	N	04/05/2010 09:40	2.1-4.1	X	X	X	X	X	X	X	X	X	X		
B	GC-SD059A-04.1-06.1	N	04/05/2010 09:40	4.1-6.1	X	X	X	X	X	X	X	X	X	X		
C	GC-SD059A-06.1-08.1	N	04/05/2010 09:40	6.1-8.1	X	X	X	X	X	X	X	X	X	X		
D	GC-SD059A-11.0-13.0	N	04/05/2010 09:40	11.0-13.0	X	X	X	X	X	X	X	X	X	X		
E																
F																
G																
H																
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Reviewed by: *TMHimmer* Date: 4/5/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD060B	**Easting:**	631721.71		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	670707.73	**Penetration (ft):**	11.3'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-12.8' NAVD88	**Recovery (ft)**	8.0'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/1/2010 12:30		
	ASI - J. Clemens/Captain	**Depth (ft):**	14.4'				
		St. Arrival:	12:20		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	14:00	**Penetration (ft):**	12.7'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	4.5'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	4/1/2010 13:05		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SC	UNC	15%	5%	80%	7.3	NA	
2				S			Moist/ Wet	SP		1%	3%	96%			
3								FS		0%	4%	96%	9.5	NA	
4															
5													47.1	NA	
5.2															Transition zone - not sampled
6		SM	10YR 3/3	F	N	H	Wet	FS	TLO (strong)	0%	85%	15%	104		* NAPL saturated. NAPL - black, dark brown staining, medium viscosity, not sticky/tacky
7		ML	10YR 4/3	F	N W	H	Moist	VFS	None TLO (faint) None	0%	1%	99%	67.8 101	A/C	Abrupt change in lithology - fine silt, moist, no staining and faint odor
8									TLO (faint)				83.7 112	B	* Sandy silt pocket
BOC = 8.0' 9															
10															

Additional Notes/Comments: Bottom of core at 8.0'. Core opened at 14:55. * Indicates VOC collection depth.
Attempt #3: 4' penetration, 2.1' recovery at 13:30 4/1/2010.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD060B-05.2-07.2	N	04/01/2010 14:55	5.2-7.2	X	X	X	X	X	X	X	X	X			
	B	GC-SD060B-07.2-08.0	N	04/01/2010 14:55	7.2-8.0	X	X	X	X	X	X	X	X	X			
	C	D-04012010-02	FD	04/01/2010 14:55	5.2-7.2	X	X	X	X	X	X		X				
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/1/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD61C	**Easting:**	631545.57		**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	670562.15	**Penetration (ft):**	17.2'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-11.9' NAVD88	**Recovery (ft)**	11.7'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/1/2010 16:35	
	ASI - Jeff Clemens	**Depth (ft):**	9.8'			
		St. Arrival:	16:30		**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	17:00	**Penetration (ft):**	NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	5%	3%	92%	26.4	NA	Organics: fibrous plant material
2															
3													21.5	NA	
4															
5									TLO (strong)	15%	5%	80%	195.0	NA	Coal fragments (3") Heavy NAPL coating, NAPL - black, thick, medium viscosity, sticky/tacky
6				S						5%	3%	92%			
7									(mod)				13.2	NA	
7.7													30.6		
8		SW-SM	10YR 3/2	H	N	H	Wet	FS	TLO (strong)	0%	90%	10%	165		NAPL coating, heavy, increasing NAPL saturation with depth Fully saturated at 8.4', easily squeezed from pore spaces
9													258	A	NAPL is black, dark brown staining, low viscosity, slick, not sticky.
													312		*
		ML	10YR 4/2	H	W	H	Moist	Z	TLO (strong)	0%	0%	100%	272		
10															

Additional Notes/Comments: Bottom of core at 11.3'. Core opened at 10:15 * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SW-SM	10YR 2/1	H	N	H	Wet	FS	TLO (strong)	0%	90%	10%	290	B	0.1' ML lens
11 BOC= 11.3'		ML	10YR 2/1	H	N	H	Wet	Z	TLO (mod)	0%	0%	100%	261		
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD061C-07.7-09.7	N	04/02/2010 10:15	7.7-9.7	X	X	X	X	X	X	X	X	X	X		
B	GC-SD061C-09.7-11.7	N	04/02/2010 10:15	9.7-11.7	X	X	X	X	X	X	X	X	X	X		
C																
D																
E																
F																
G																
H																
I																
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Reviewed by: *TMHimmer* Date: 4/1/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD062C	**Easting:**	631578.01		**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	670549.78	**Penetration (ft):**	20'	N
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-15.8' NAVD88	**Recovery (ft)**	7.7'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/5/2010 9:40	
	ASI - M. Shappell/Captain	**Depth (ft):**	15.3'			
		St. Arrival:	9:35		**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	11:00	**Penetration (ft):**	20'	N
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	13.1'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	4/5/2010 10:20	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		GM	10YR 2/1	H	N	H	Wet	MP	UNC	50%	10%	40%	23.2	NA	Abrupt transition: fibers, wood and stick fragments, moderate organic/PHC-like odor
2		OL	10YR 2/1	S	N	H	Moist/ Wet	FS	UNC/ PHC	0%	5%	95%			
3													71.0	NA	
3.5															
4													26.6	NA	Transition zone - not sampled
4.5															
5		CL	10YR 4/1	S	W	H	Moist	VFS	PHC (mod)	0%	1%	99%	239		
6		SM	10YR 3/1	H	N	H	Wet	FS	PHC (strong)	0%	85%	15%	160	A	Heavy NAPL coating Moderate NAPL coating
													230		NAPL saturation
7		SW-SM	10YR 5/4	H	N	H	Wet	FS	None	0%	95%	5%	383		<0.1' clay lens (gray)
8													25.6	B	
													78.9		Sheen noted on soil surface
9													139	C	
10		ML	5YR 3/4	H	N	H	Moist	Z	TLO (mod)	0%	0%	100%	276		Silt - moderate tar-like odor

Additional Notes/Comments: Bottom of core at 12.7'. Core opened at 11:10. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW-SM	10YR 4/1	H	N	H	Wet	FS	TLO (strong)	0%	95%	5%	345	C	* NAPL saturated No NAPL staining or coating - no odor
12 BOC= 12.7		↓	↓	↓	↓	↓	↓	↓	↓	↓ 0%	↓ 90%	↓ 10%	27.1 14.0 18.8	D	
13													46.5	NA	
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD062C-04.5-06.5		N	04/05/2010 11:10	4.5-6.5	X	X	X	X	X	X	X	X	X	X		
B	GC-SD062C-06.5-08.5		N	04/05/2010 11:10	6.5-8.5	X	X	X	X	X	X	X	X	X	X		
C	GC-SD062C-08.5-10.5		N	04/05/2010 11:10	8.5-10.5	X	X	X	X	X	X	X	X	X	X		
D	GC-SD062C-10.5-12.5		N	04/05/2010 11:10	10.5-12.5	X	X	X	X	X	X	X	X	X	X		
E																	
F																	
G																	
H																	
I																	
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K																	
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M																	
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R																	
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T																	
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Reviewed by: *TMHimmer* Date: 4/5/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD063A	**Easting:**	631609.30	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	670524.84	**Penetration (ft):** 15.6'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-12.3' NAVD88	**Recovery (ft)** 11.2'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/31/2010 16:10	
	ASI - Jeff Clemens	**Depth (ft):**	10.7'		
		St. Arrival:	16:00	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	17:30	**Penetration (ft):** 14.3'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 8'	
Collector Information:	T. Himmer/CH2M HILL applied for less than 100% core recovery	Log reflects sample as collected – no correction factor		**Date/Time:** 3/31/2010 16:45	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SM	10YR 2/1	H	N	H	Wet	MP	UNC	10%	80%	10%			**Faint organic/PHC odor** No organic matter or fibrous plant material observed
1		GW	10YR 2/1	H	N	H	Wet	SC CP	UNC	80%	10%	10%	27.1	NA	
2															Rounded to subangular gravel
		OL	10YR 2/1	S	N	H	Moist/ Wet	FS	UNC	0%	5%	95%	99.2	NA	Organics: fibrous plant material
3	3.1												27.6		Transition zone not sampled
		SM	10YR 4/3	H	N	H	Wet	FS	TLO	0%	85%	25%	156		* NAPL coating, light brown staining, slick low viscosity
4		CL	10YR 4/2	F	W	H	Moist	Z	None	0%	0%	100%	21.7	A	Silty clay, trace wood fragments
5													34.5		
													68.3		
6		SM	10YR 4/3	H	N	H	Wet	FS	TLO (strong)	0%	85%	15%	97.9	B	* Heavy NAPL coating, near saturation, light brown staining, slick, low viscosity
7		ML	10YR 4/1	F	N	H	Moist	FS	TLO	0%	5%	95%	8.5		
		SW-SM	10YR 3/2	H	N	H	Wet	FS	TLO (strong)	0%	90%	10%	138		*
8															NAPL saturated, brown staining, low viscosity, not sticky/tacky, easily squeezed from pore spaces
													125	C/D	
9													117		
													28.0	NA	
10													91.5		

Additional Notes/Comments: Bottom of core at 10.7'. Core opened at 09:15 * Indicates VOC collection depth. Liner very brittle upon opening fell apart when opened at 8-10.7' Attempt #3: 18.4' penetration, 10.7' recovery 17:05 3/31/2010.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SW-SM	10YR 3/2	H	N	H	Wet	FS	TLO	0%	90%	10%	78.0		NAPL saturated
BOC=		SM	10YR	H	N	H	Wet	FS	TLO	0%	75%	25%	28	NA	
10.7		↓	4/4	↓	↓	↓	↓	↓	(faint)	↓	↓	↓			Light NAPL coating
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD063A-03.1-05.1	N	04/01/2010 09:15	3.1-5.1	X	X	X	X	X	X	X	X	X	X		
B	GC-SD063A-05.1-07.1	N	04/01/2010 09:15	5.1-7.1	X	X	X	X	X	X	X	X	X	X		
C	GC-SD063A-07.1-09.1	N	04/01/2010 09:15	7.1-9.1	X	X	X	X	X	X	X	X	X	X		
D	D-04012010-01	FD	04/01/2010 09:15	7.1-9.1	X	X	X	X	X		X					
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 4/1/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD64D	**Easting:**	631371.64		**Attempt 1** **Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	670275.67	**Penetration (ft):**	19.1' Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-12.9' NAVD88	**Recovery (ft)**	15.3'
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/2/2010 8:10
	ASI - Jeff Clemens	**Depth (ft):**	13.2'		
		St. Arrival:	8:05		**Attempt 2** **Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	8:45	**Penetration (ft):**	NA
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL Log reflects sample as collected – no correction factor applied for less than 100% core recovery			**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		GW	10YR 2/1	H	N	H	Wet	SC MP	None	100% 90%	0% 5%	0% 5%			Large rock Medium gravel, glass
1		GM	10YR 2/1	H	N	H	Wet	MP	None	50%	10%	40%	29.0	NA	Increase in silt content Black NAPL - medium viscosity, faint tar-like odor
2		OL	10YR 2/1	VS	N	H	Wet	FS/SP	TAR (faint)	3%	10%	87%	159.0	NA	Abrupt transition
2.7															
3 3.1													105		Transition zone - not sampled
		SW-SM	10YR 2/1	H	N	H	Wet	FS	PHC (Med)	0%	90%	10%	121		NAPL coating - black, brown stain, low viscosity
4													117	A	Increasing NAPL saturation
5													202		* NAPL saturation
		ML	10YR 6/8 10YR 5/2	H	N	H	Dry Moist	Z	None	0%	0%	100%	32.0		Fine silt, no staining, no odor, easily crumbles
6													47.6	B	
		SM	10YR 3/2	H	N	H	Wet	FS	TLO (strong)	0%	85%	15%			
7													237		*
		ML	10YR 3/1	H	N	H	Moist	FS	TLO (strong)	0%	15%	85%	64.6		
		SM	10YR 2/1	H	N	H	Wet	FS	TLO (strong)	0%	85%	15%			NAPL saturated
8		ML	10YR 3/1	H	N	H	Moist	FS	TLO (strong)	0%	15%	85%	163	C	
		SM	10YR 3/2	H	N	H	Wet	FS	TLO (strong)	0%	85%	15%	188		*
9		ML	10YR 4/2	H	N	H	Moist	VFS	TLO (strong)	0%	1%	99%	310	D	
10															

Additional Notes/Comments: Bottom of core at 15.4'. Core opened at 11:20, * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation / Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SM	10YR 2/1	H	N	H	Wet	FS	TLO (strong)	0%	85%	15%	32.2	D	* NAPL saturation NAPL freely oozing from pore space
11		ML	10YR 7/8 10YR 5/3	H	N	H	Moist	VFS	None	0%	1%	99%	33.2		
12													6.2 5.9	NA	
13													5.6		
14													21.2 11.1	E	0.2' lens of silty sand - moderately coated with NAPL
15		SW-SM	10YR 4/4	H	N	H	Wet	FS	None	0%	90%	10%	5.7		
BOC= 15.4'													3.2	NA	
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD064D-03-1-05-1	N	04/02/2010 11:20	3.1-5.1	X	X	X	X	X	X	X	X	X	X		
B	GC-SD064D-05.1-07.1	N	04/02/2010 11:20	5.1-7.1	X	X	X	X	X	X	X	X	X	X		
C	GC-SD064D-07.1-09.1	N	04/02/2010 11:20	7.1-9.1	X	X	X	X	X	X	X	X	X	X		
D	GC-SD064D-09.1-11.1	N	04/02/2010 11:20	9.1-11.1	X	X	X	X	X	X	X	X	X	X		
E	GC-SD064D-13.1-15.1	N	04/02/2010 11:20	13.-15.1	X	X	X	X	X	X	X	X	X	X		
F																
G																
H																
I																
J																
K																
L																
M																
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Reviewed by: TMHimmer Date: 4/2/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD065A	**Easting:**	631402.71		**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	670251.90	**Penetration (ft):**	20'	N
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-17.3' NAVD88	**Recovery (ft)**	11.8'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/5/2010 11:15	
	ASI - J. Clemens/Captain	**Depth (ft):**	17.8'			
		St. Arrival:	11:00		**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	12:30	**Penetration (ft):**	20'	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	13.5'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	4/5/2010 11:35	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
0		GWGM	10YR 2/1	H	N	H	Wet	MP	None	90%	1%	9%	6.1	NA	
0.9		SM	10YR2/1	H	N	H	Wet	MP	None	90%	1%	9%	18.0		Abrupt transition
1															Transition zone - not sampled
1		CL	10YR 4/1	F	W	H	Moist	FS	None	0%	10%	90%	8.3		No NAPL staining/coating/sheen/odor
2													7.9	A	
3		SW-SM	10YR 6/6	H	N	H	Wet	FS	None	0%	95%	5%	14.3		*
4		ML	10YR 5/4	F	W	H	Wet	FS	None	0%	30%	70%	16.6	B/E	
5		SW-SM	10YR 6/6	H	N	H	Wet	FS	None	0%	95%	5%	18.8		
6													20.8		*
7													15.1	C	
8		ML	10YR 5/4	H	N	H	Wet	VFS	None	0%	10%	90%	25.2		*
9													11.5		
10													4.8	NA	
													6.3		
													22.9		
													18.1	NA	
													9.4		

Additional Notes/Comments: Bottom of core at 12.7'. Core opened at 12:50. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		ML	10YR 5/4	H	N	H	Wet	VFS	None	0%	10%	90%	17.4	NA	No NAPL contamination noted
													13.6		
		SM	6	H	N	H	Wet	FS	None	0%	85%	15%			
12		ML	10YR 5/4	H	N	H	Wet	VFS	None	0%	10%	90%	12.6	D	
BOC= 12.7		SM	10YR 6/6	H	N	H	Wet	FS	None	0%	85%	15%	32.5		Trace black staining *
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD065A-01.0-03.0	N	04/05/2010 12:50	1.0-3.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD065A-03.0-05.0	N	04/05/2010 12:50	3.0-5.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD065A-05.0-07.0	N	04/05/2010 12:50	5.0-7.0	X	X	X	X	X	X	X	X	X	X		
D	GC-SD065A-11.0-12.7	N	04/05/2010 12:50	11.0-12.7	X	X	X	X	X	X	X	X	X	X		
E	D-04052010-01	FD	04/05/2010 12:50	3.0-5.0	X	X	X	X	X	X		X				
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 3/18/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD066C	**Easting:**	631420.77		**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	670216.81	**Penetration (ft):**	16.5'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	12.7'	**Recovery (ft)**	11.5'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/31/2010 14:10	
	ASI - Jeff Clemens	**Depth (ft):**	9.9'			
		St. Arrival:	14:01		**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	15:50	**Penetration (ft):**	2.5'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	1'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/31/2010 15:20	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		SM	10YR 2/1	H	N	H	Wet	CS	UNC	5%	80%	15%	7.7	NA	**Silty sand - black** Faint organic odor
2		GW	10YR 2/1	H	N	H	Wet	MP	None	90%	5%	5%	19.4	NA	
2.5													12.3		Transition zone - not sampled
2.7															
3		CL	10YR 6/6	F	W	H	Moist	FS	None	0%	10%	90%	12.7		
4													15.1	A	
													134		* Abrupt transition
5		SM	10YR 3/2	H	N	H	Wet	FS	TLO (strong)	0%	85%	15%	118		Heavy NAPL coating, brown/black staining, slick, not tacky, low viscosity
6													109	B	
7													178		*
													184		*
8		ML	10YR 4/4	F	N	H	Wet	Z VFS	TLO (faint)	0% 0%	0% 25%	100% 25%	18.0 18.6	C	Abrupt transition Increasing fine sand content Rainbow-like sheen observed
9										0%	49%	51%	12.4	NA	No sample indicated, no visual or olfactory contamination
10													10.7		Liner brittle upon opening/cracking, core sat overnight in fridge

Additional Notes/Comments: Bottom of core at 13.3'. Core opened at 08:00 * Indicates VOC collection depth, Attempt #3: 20.0' penetration; 13.4' recovery 3/31/2010 15:22

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		ML	10YR 4/4	F	N	H	Wet	VFS	TLO (fnt)	0%	49%	51%	19.2	NA	
		SW	10YR 6/6	H	N	H	Wet	FS	None	0%	95%	5%			
11		ML	10YR 4/4	F	N	H	Wet	VFS	TLO (fnt)	0%	49%	51%	15.1		
		SW	10YR 6/6	H	N	H	Wet	FS	None	0%	95%	5%			
		ML	10YR 4/4	F	N	H	Wet	VFS	TLO (fnt)	0%	49%	51%	19.1		
		SW	10YR 2/1	H	N	H	Wet	FS	TLO (fnt)	0%	95%	5%	105	D	*
12		ML	10YR 4/4	F	N	H	Wet	VFS	TLO (fnt)	0%	49%	51%	89.4		
13		SW	10YR	H	N	H	Wet	FS	None	0%	95%	5%			
BOC=			4/4										8.5	NA	Not sampled - no visual or olfactory contamination
13.3															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD66C-02.7-04.7	N	04/01/2010 08:00	2.7-4.7	X	X	X	X	X	X	X	X	X	X		
B	GC-SD66C-04.7-06.7	N	04/01/2010 08:00	4.7-6.7	X	X	X	X	X	X	X	X	X	X		
C	GC-SD066C-06.7-08.7	N	04/01/2010 08:00	6.7-8.7	X	X	X	X	X	X	X	X	X	X		
D	GC-SD066C-10.7-12.7	N	04/01/2010 08:00	10.7-12.7	X	X	X	X	X	X	X	X	X	X		
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 4/1/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD067B	**Easting:**	631090.06	**Attempt 1**	**Refusal? Y/N**
Sampling		**Northing:**	669777.71	**Penetration (ft):** 18.7'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-13.9' NAVD88	**Recovery (ft)** 15'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/6/2010 12:15	
	ASI - J. Clemens/Captain	**Depth (ft):**	14.2'		
		St. Arrival:	11:40	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	12:40	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		SM	10YR 2/1	VS	N	H	Wet	SP	UNC	15%	70%	15%	49.3	NA	Organics: wood fragments
2				H											
3													31.2	NA	
4															
5		OL	10YR 2/1	S	N	H	Wet	FS/SP	UNC	1%	5%	94%	87.6	NA	Broken glass and medium gravel
5.5									PHC (mod)						Organics: fibrous wood and wood fragments
6													386.0		Transition zone - not sampled
															0.1' silty sand - strong PHC odor
7		ML	10YR 4/6	F	N	H	Moist	VFS	None	0%	1%	99%	5.3		Fine silt, no NAPL sheen noted, no odor
													2.4	A	*
8								Z			0%	100%	1.9		
9													11.6		
													1.7	B	*
10													6.3		

Additional Notes/Comments: Bottom of core at 15.2'. Core opened at 1330. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		ML	10YR 4/6	F	N	H	Moist	Z	None	0%	0%	100%	1.4 1.5	C/D	*
12													2.7 2.8		
13													0.3	NA	Intervals not sampled - no changes in lithology/color/PID readings
14													0.2 0.3		
15													2.5	NA	
BOC= 15.2'															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD067B-06.0-08.0	N	04/06/2010 13:30	6.0-8.9	X	X	X	X	X	X	X	X	X	X		
B	GC-SD067B-08.0-10.0	N	04/06/2010 13:30	8.0-10.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD067B-10.0-12.0	N	04/06/2010 13:30	10.0-12.0	X	X	X	X	X	X	X	X	X	X		
D	D-04062010-02	FD	04/06/2010 13:30	10.0-12.0	X	X	X	X	X	X		X				
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: TMHimmer Date: 4/6/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD068A	**Easting:**	631131.37	**Attempt 1**	**Refusal? Y/N**
Sampling	Not Sampled	**Northing:**	669758.13	**Penetration (ft):** 4.2'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-15.6' NAVD88	**Recovery (ft)** 3.1'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/5/2010 12:45	
	ASI - J. Clemens/Captain	**Depth (ft):**	17.3'		
		St. Arrival:	12:40	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	13:50	**Penetration (ft):** 8'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 3.8'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 4/5/2010 13:20	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	5%	95%	11.5	NA	Organics: wood fragments and fibrous wood Plastic bags and garbage
2								SP		5%	5%	90%			
3													38.9	NA	
		SM	1	H	N	H	Wet	FS	UNC	0%	5%	95%			
BOC= 3.9		OL	10YR 2/1	S	N	H	Wet	FS	UNC	0%	3%	97%			
4															
5															
6															
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 3.9'. Core opened at 14:50. No samples collected. No native material observed.
Attempt 3: penetration - 3', recovery - none, 4/5/2010 13:45.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	No samples collected															
	B																
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/5/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD069C	**Easting:**	631177.00		**Attempt 1**	**Refusal? Y/N**	
Sampling	Not Sampled	**Northing:**	669745.17	**Penetration (ft):**	11.8'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-8.5' NAVD88	**Recovery (ft)**	7.9'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/6/2010 13:15		
	ASI - J. Clemens/Captain	**Depth (ft):**	9.2'				
		St. Arrival:	12:55		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	13:30	**Penetration (ft):**	NA		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	3%	97%	22.9	NA	Organics: strong septic-like odor, fibrous wood and wood fragments
2								SP FS		5% 0%	3% 3%	92% 97%			
3													12.8	NA	
4															No NAPL contamination observed, no staining/coating
5													19.3	NA	
6															
7 BOC= 7.7													56.3	NA	Faint organic/PHC odor
8															
9															
10															

Additional Notes/Comments: Bottom of core at 7.7'. Core opened at 15:00. No samples collected. No native material observed.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	No samples collected															
B																
C																
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
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Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 4/6/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD070B	**Easting:**	631030.37	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	669605.64	**Penetration (ft):** 11.4'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-20.0' NAVD88	**Recovery (ft)** 9.7'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/6/2010 13:50	
	ASI - J. Clemens/Captain	**Depth (ft):**	21.1'		
		St. Arrival:	13:40	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	14:20	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		SM	10YR 2/1	S	N	H	Wet	FS	UNC	10%	75%	15%	121	NA	Organic, faint/moderate septic-like odor Plastic, rope
2				H				SP	PHC (mod)						
3													110	NA	
4															Gravel lens (rounded) - strong PHC odor
4.1													113	NA	Moderate NAPL staining
4.8													110		Transition zone - not sampled
5		ML	10YR 4/3	F	N	H	Moist	Z	None	0%	0%	100%	Silty sand		
6													16.6 2.5	A	* Fibrous wood fragments
7													3.9 2.7		
8		SW-SM	10YR4/3	H	N	H	Wet	FS	None	0%	95%	5%	4.9	B	*
9		ML	10YR 4/3	F	N	H	Moist	Z	None	0%	0%	100%	2.5 5.4	C	*
BOC= 9.1' 10															

Additional Notes/Comments: Bottom of core at 9.1'. Core opened at 15:25. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD070B-04.8-06.8	N	04/06/2010 15:25	4.8-6.8	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD070B-06.8-08.8	N	04/06/2010 15:25	6.8-8.8	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD070B-08.8-09.1	N	04/06/2010 15:25	8.8-9.1	X	X	X	X	X	X	X	X	X	X		
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/6/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD072B	**Easting:**	631097.91		**Attempt 1** **Refusal? Y/N**
Sampling		**Northing:**	669582.54	**Penetration (ft):**	7.5' Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-18.4' NAVD88	**Recovery (ft)**	2.9'
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/7/2010 10:35
	ASI - J. Clemens/Captain	**Depth (ft):**	17.2'		
		St. Arrival:	10:30		**Attempt 2** **Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	12:00	**Penetration (ft):**	7.2'
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	No recovery - washout
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	4/7/2010 11:00

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		GP	10YR 2/1	H	N	H	Wet	SP	UNC	99%	0%	1%	3.3	NA	Poorly graded gravel Strong septic-like odor
1.5		OL	10YR6/1	S	N	H	Wet	SP	UNC	1%	5%	94%			Fibrous wood and plant matter
1.8													32.2		Transition zone - not sampled
2		CL	10YR 4/4	S	W	H	Moist	VFS	None	0%	1%	99%	0.7		*
															Silty clay - trace wood fragments
															Gradual decrease in plasticity
3		ML	10YR 4/4	S	N	H	Moist	VFS	None	0%	1%	99%	0.4	A	*
													0.2		
4			10YR 3/2										0.7		
5													1.1	B	*
															Fine sand lens (<0.1')
6			10YR 3/1										12.5		*
													3.5		
7													0.7	C	
										0%	80%	70%	0.2		
8			10YR 6/6										0.2		Gradual increase in silty sand
9											49%	51%	0.2	D	
		SM	10YR 6/4	H	N	H	Wet	FS	None	0%	75%	25%			
10			10YR 4/3								85%	15%	0.3		*
														NA	Interval not sampled - no significant changes

Additional Notes/Comments: Bottom of core at 10.2'. Core opened at 14:40. * Indicates VOC collection depth.
Attempt 3: 17.3' penetration, 9.9' recovery, 4/7/2010 11:15.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SM	10YR4/3	H	N	H	Wet	FS	None	0%	85%	15%	0.7	NA	
BOC= 10.2															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD072B-01.8-03.8		N	04/07/2010 14:40	1.8-3.8	X	X	X	X	X	X	X	X	X	X		
B	GC-SD072B-03.8-05.8		N	04/07/2010 14:40	3.8-5.8	X	X	X	X	X	X	X	X	X	X		
C	GC-SD072B-05.8-07.8		N	04/07/2010 14:40	5.8-7.8	X	X	X	X	X	X	X	X	X	X		
D	GC-SD072B-07.8-09.8		N	04/07/2010 14:40	7.8-9.8	X	X	X	X	X	X	X	X	X	X		
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: TMHimmer Date: 4/7/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD073E	**Easting:**	630930.25	**Attempt 1**	**Refusal? Y/N**
Sampling	Not Sampled	**Northing:**	669276.87	**Penetration (ft):** 4.7'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-25.6' NAVD88	**Recovery (ft)** None - washout	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/7/2010 12:30	
	ASI - J. Clemens/Captain	**Depth (ft):**	26.3'		
		St. Arrival:	12:15	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	13:15	**Penetration (ft):** NA - Barrel tipped	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** None	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 4/7/2010 12:45	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	VFS	UNC	0%	3%	97%	0.8	NA	Organics: fibrous wood and plant fragments
2															
3										10%	3% 10%	87% 90%	1.2	NA	Plastic and garbage noted 3-4'
4															
5				S						0%	1%	99%	1.7	NA	Coal-like gravel - light, black, subangular/angular
6															
7													4.4	NA	
BOC= 8.0' 8															
9															
10															

Additional Notes/Comments: Bottom of core at 8.0'. Core opened at 09:05. No samples taken. No native material observed.
Attempt 3: 12.9' penetration, 7.7' recovery, 4/7/2010 1320.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	No samples collected															
	B																
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/8/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD074E	**Easting:**	630997.67		**Attempt 1**	**Refusal? Y/N**	
Sampling	R. Clennon/J. Balas/CH2M HILL	**Northing:**	669253.05	**Penetration (ft):**	16'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-30.2' NAVD88	**Recovery (ft)**	11.3'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/8/2010 8:50		
	ASI - J. Clemens/Captain	**Depth (ft):**	29.3'				
		St. Arrival:	8:45		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	9:10	**Penetration (ft):**	NA		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	1%	99%	4.3	NA	Organics: fibrous wood and plant material, organic odor
2								SP		1%	3%	96%			
3										1%	5%	94%	22.1	NA	
4															Plastic garbage noted at 4'
4.2														NA	Abrupt transition
4.4													1.6		Transition zone - not sampled
5		ML	10YR 4/3	F	N	H	Moist/ Wet	VFS	None	0%	5%	99%	0.3	A	* No NAPL contamination noted throughout, no staining/discoloration, no NAPL odors
6													0.2		
7											10%	90%	0.2		
		SM	10YR 4/3	H	N	H	Wet	VFS	None	0%	85%	15%	0.1	B/D	Abrupt increase in sand content *
8											49%	51%	0.1		
		ML	10YR 4/4	F	N	H	Moist	VFS	None	0%	51%	49%	0.1		Gradual transition to ML
9													0.1	C	
10											15%	85%	0.1		*

Additional Notes/Comments: Bottom of core at 11.2'. Core opened at 09:50. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		ML	10YR 4/4	F	N	H	Moist	VFS	None	0%	15%	85%	0.1	C	
		↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	0.2		
11		SM	10YR 6/6	H	N	H	Wet	MS	None	0%	85%	15%	0.2	NA	Abrupt transition No sample collected from 10.4-11.2 - no NAPL contamination noted, no significant lithology changes
BOC= 11.2															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD074E-04.4-06.4		N	04/08/2010 09:50	4.4-6.4	X	X	X	X	X	X	X	X	X	X		
B	GC-SD074E-06.4-08.4		N	04/08/2010 09:50	6.4-8.4	X	X	X	X	X	X	X	X	X	X		
C	GC-SD074E-08.4-10.4		N	04/08/2010 09:50	8.4-10.4	X	X	X	X	X	X	X	X	X	X		
D	D-04082010-01		FD	04/08/2010 09:50	4.4-6.4	X	X	X	X	X	X		X				
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: TMHimmer Date: 4/18/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD075C	**Easting:**	631102.91		**Attempt 1** **Refusal? Y/N**
Sampling	R. Clennon/CH2M HILL	**Northing:**	669281.38	**Penetration (ft):**	15.3' Y
Crew/Company	M. Murphy/CH2M HILL	**Elevation:**	-23.9' NAVD88	**Recovery (ft)**	8'
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/6/2010 15:10
	ASI - J. Clemens/Captain	**Depth (ft):**	25.5'		
		St. Arrival:	15:05		**Attempt 2** **Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	15:40	**Penetration (ft):**	NA
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
0.8		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	1%	99%	0.6	NA	Very "soupy" and wet
1													0.7	NA	Transition zone - not sampled
1		ML	10YR 4/3	F	N	H	Wet	Z	None	0%	0%	100%	0.4		* No NAPL staining, no odor
2								VFS			1%	99%	0.2	A	
3		SM	10YR 4/3	H	N	H	Wet	VFS	None	0%	75%	25%	0.3		
													0.2		
4		ML	10YR 4/4	F	N	H	Wet	VFS	None	0%	1%	99%			
											10%	90%	0.2	B	*
5											1%	99%	0.2		
													0.2		
6													0.2	C	*
7		SM	10YR 4/3	H	N	H	Wet	VFS	None	0%	75%	25%	0.2		
BOC= 7.9		ML	10YR 4/3	F	N	H	Wet	VFS	None	0%	1%	99%	0.2 0.3	NA	
8															
9															
10															

Additional Notes/Comments: Bottom of core at 7.9'. Core opened at 10:10. * Indicates VOC collection depth. Note: PID ambient 0.2 reading.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD075C-01.0-03.0	N	04/07/2010 10:10	1.0-3.0	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD075C-03.0-05.0	N	04/07/2010 10:10	3.0-5.0	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD075C-05.0-07.0	N	04/07/2010 10:10	5.0-7.0	X	X	X	X	X	X	X	X	X	X		
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 3/18/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD076C	**Easting:**	630782.93	**Attempt 1**	**Refusal? Y/N**
Sampling	R. Clennon/CH2M HILL	**Northing:**	668936.19	**Penetration (ft):**	20'
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-24.4' NAVD88	**Recovery (ft)**	14.5' + 0.5' lost from bottom of core
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/7/2010 14:08
	ASI - J. Clemens/Captain	**Depth (ft):**	25.5'		
		St. Arrival:	14:00	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	14:40	**Penetration (ft):**	NA
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	3%	97%	9.0	NA	Organics: fibrous plant material Faint septic-like odor
2															
3								SP		10%	3%	87%	26.3	NA	
4															
5								CP SP	PHC (mod)	20%	3%	77%	128	NA	Brick and wood fragments
5.7															NAPL staining - brown, not sticky/tacky
5.8													160	NA	Transition zone - not sampled
6		SW-SM	10YR 2/1	H	N	H	Wet	FS	PHC (strong)	0%	90%	10%	165	A	Heavy NAPL staining - moderate coating, stains gloves and sampling equipment, black, low viscosity, slick, not sticky/tacky, moderate PHC odor
7								VFS					180		*
		ML	10YR2/1	H	N	H	Moist	VFS	PHC	0%	1%	99%	7.7		Sheen on soil surface noted
8		SW-SM	10YR 2/1	H	N	H	Wet	MS	PHC (faint)	0%	90%	10%	10.5	B	
9			10YR 4/3					FS VFS			85%	15%	70.3 4.4		* Sheen on soil surface noted
10		SM	10YR2/1	H	N	H	Wet	VFS	PHC	0%	80%	20%			

Additional Notes/Comments: Bottom of core at 14.0'. Core opened at 07:40. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW	10YR 6/6 ↓ 10YR 2/1 ↓ 10YR 3/1 ↓ 10YR 2/1 ↓ 10YR 4/2	H	N	H	Wet	MS ↓ FS	UNC/ None	0%	97%	3%	4.5 5.5 7.2	C	Fine/medium sand *
12													8.9	D	
13													74.4 2.2		Sheen noted on soil surface - no odor, trace * brown NAPL coating
14													1.3		
BOC= 14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD076C-05.8-07.8	N	04/08/2010 07:40	5.8-7.8	X	X	X	X	X	X	X	X	X	X		
B	GC-SD076C-07.8-09.8	N/MSD	04/08/2010 07:40	7.8-9.8	X	X	X	X	X	X	X	X	X	X		
C	GC-SD076C-09.8-11.8	N	04/08/2010 07:40	9.8-11.8	X	X	X	X	X	X	X	X	X	X		
D	GC-SD076C-11.8-13.8	N	04/08/2010 07:40	11.8-13.8	X	X	X	X	X	X	X	X	X	X		
E																
F																
G																
H																
I																
J																
K																
L																
M																
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R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 4/8/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD077A	**Easting:**	630891.31		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Murphy/CH2M HILL	**Northing:**	668861.10	**Penetration (ft):**	20'	N	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-28.1' NAVD88	**Recovery (ft)**	12.1 and 2.9' Sand lost from bottom of core		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/8/2010 9:50		
	ASI - J. Clemens/Captain	**Depth (ft):**	27.3'				
		St. Arrival:	9:45		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	11:00	**Penetration (ft):**	20'	N	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	12.0 and 0.8' Sand lost from BOC		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	4/8/2010 10:35		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	VFS	UNC	0%	1%	98%	1.6	NA	
2															
3													7.0	NA	
4															
5								SP		3%	1%	96%	3.5	NA	Increased gravel and sand Bird leg, coal-like gravel
6											3%	93%			
6.4													29.7	NA	
6.7													19.7		Transition zone - not sampled
7		SW-SM	10YR 2/1	H	N	H	Wet	FS	None	0%	90%	10%	0.6	A	* Black staining
8		SW	10YR 6/6 → 10YR 5/3	H	N	H	Wet	MS → FS → CP	None	0% → 1% → 0%	99% → 98% → 99%	1%	0.3 0.1		No NAPL staining/odor
9			10YR 6/6 → 10YR 5/3					SP		5%	94%		0.1	B	Rounded pebbles
10										10%	89%		0.2		*

Additional Notes/Comments: Bottom of core at 12.4'. Core opened at 13:10. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW	10YR 5/3	H	N	H	Wet	SP	None	10%	89%	1%	0.1	B	
12										5%	94%	1%	0.1 0.2	C	*
12.4= BOC													0.2		
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD077A-06.7-08.7	N	04/08/2010 13:10	6.7-8.7	X	X	X	X	X	X	X	X	X	X		
B	GC-SD077A-08.7-10.7	N	04/08/2010 13:10	8.7-10.7	X	X	X	X	X	X	X	X	X	X		
C	GC-SD077A-10.7-12.4	N	04/08/2010 13:10	10.7-12.4	X	X	X	X	X	X	X	X	X	X		
D																	
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: *TMHimmer* Date: 4/8/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD78B	**Easting:**	631016.41		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	668801.16	**Penetration (ft):**	15.3'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-23.8' NAVD88	**Recovery (ft)**	9.8'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/8/2010 14:50		
	ASI - J. Clemens/Captain	**Depth (ft):**	25.1'				
		St. Arrival:	14:40		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	16:00	**Penetration (ft):**	16.0'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	8.7'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	4/8/2010 15:25		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	3%	97%	4.9	NA	Organics: fibrous wood fragments and plant matter
2															
3													16.6	NA	
4															
5													10.6	NA	
6															
7		ML	10YR 2/1	S	W	H	Moist	VFS	UNC	0%	1%	99%	8.4	NA	Silty sand lens 10YR 4/4
8															
9 BOC= 9.3		OL	10YR 2/1	S	N	H	Moist	VFS	UNC	0%	3%	97%	9.2	NA	Increased wood fragments
10															

Additional Notes/Comments: Bottom of core at 9.3'. Core opened at 08:00. No samples collected. No native material observed.
Attempt #3: 12.7' penetration, no recovery - lost nose cone. 15:45 4/8/2010.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	No samples collected															
	B																
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/9/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD079A	**Easting:**	630266.08		**Attempt 1**	**Refusal? Y/N**
Sampling	J. Balas/CH2M HILL	**Northing:**	668735.70	**Penetration (ft):**	19.2'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-30.1' NAVD88	**Recovery (ft)**	9.0'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	4/14/2010 14:55	
	ASI - M. Shappell/Captain	**Depth (ft):**	27.3'			
		St. Arrival:	14:45		**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	15:30	**Penetration (ft):**	19.5'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	14.5' and 0.5' sand lost from bottom of core	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	4/14/2010 15:20	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	PHC (faint)	1%	1%	98%	45.2	NA	Organics: fibrous wood and wood fragments
2															Plastic and garbage noted at approximately 2'
3													19.9	NA	
4															
5													64.2	NA	
5.6															Abrupt transition
6													59.1		Transition zone - not sampled
6		SW-SM	10YR 4/2	H	N	H	Wet	FS	None	0%	90%	10%	18.5		
7			10YR 2/1										18.7 19.7	A	* Black staining/discoloration, no odor/coating
8		ML	10YR6/4	F	N	H	Moist	VFS	None	0%	1%	49%	17.4		
9		SW	10YR 5/4	H	N	H	Wet	MS SP	None	0% 1%	95% 95%	5% 4%	18.3 7.8	B	*
10								MS		0%	95%	4%	8.8		

Additional Notes/Comments: Bottom of core at 14.2'. Core opened at 09:15. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW	10YR 5/4	H	N	H	Wet	MS ↓ SP	None	0% ↓ 1%	95%	5% ↓ 4%	3.2 5.2	C	*
12								↓ MS		↓ 0%		↓ 5%	1.5		
13								↓ SP		↓ 1%		↓ 4%	2.7 1.0	NA	Interval not sampled - no significant change in lithology/color/odor
14								↓ MS		↓ 0%		↓ 5%	2.9 0.6		
BOC= 14.2															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD079A-06.0-08.0	N	04/15/2010 09:15	6.0-8.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD079A-08.0-10.0	N	04/15/2010 09:15	8.0-10.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD079A-10.0-12.0	N/MSD	04/15/2010 09:15	10.0-12.0	X	X	X	X	X	X	X	X	X	X		
D																	
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: TMHimmer Date: 4/15/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD81A	**Easting:**	630209.73	**Attempt 1**	**Refusal? Y/N**
Sampling	R. Clennon/CH2M HILL	**Northing:**	668620.52	**Penetration (ft):** 20'	Y
Crew/Company		**Elevation:**	-32.5	**Recovery (ft)** 14.2'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/15/2010 14:00	
	ASI - J. Clemens/Captain	**Depth (ft):**	30.0'		
		St. Arrival:	13:55	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	14:25	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	UNC (strong)	5%	1%	94%	68.3	NA	Organics: fibrous wood and stick fragments UNC odor (strong)
2															
3													79.1	NA	
4															
4.7													110	NA	Increased wood
5															
5.3													68.5		Abrupt transition Transition zone - not sampled
		SW	10YR 4/2	H	N	H	Wet	FS	None	0%	95%	5%	7.5	A	No NAPL coating/staining/odor *
6			↓ 10YR 5/4												
7								MS FS					16.1		
													3.9		
8													0.6	B	
													1.1		
9													1.2		*
10								MS SP		5%	94%	1%	0.6	C	

Additional Notes/Comments: Bottom of core at 14.2'. Core opened at 15:00. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW	10YR 5/4	H	N	H	Wet	SP	None	5%	94%	1%	2.5	C	*
													1.0		No NAPL odor/staining
								FS		0%	95%	5%			
12													1.0	NA	
													1.8		
								SP		5%	94%	1%			
13								FS		0%	95%	5%			
													8.0		
14													1.9	NA	
14.2= BOC								SP		5%	94%	1%	4.5		
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID	Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD081A-05.3-07.3	N	04/15/2010 15:00	5.3-7.3	X	X	X	X	X	X	X	X	X	X		
B	GC-SD081A-07.3-09.3	N	04/15/2010 15:00	7.3-9.3	X	X	X	X	X	X	X	X	X	X		
C	GC-SD081A-09.3-11.3	N	04/15/2010 15:00	9.3-11.3	X	X	X	X	X	X	X	X	X	X		
D	D-04152010-03	FD	04/15/2010 15:00	5.3-7.3	X	X	X	X	X	X		X				
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 4/15/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD083A	**Easting:**	630139.54	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Murphy/CH2M HILL	**Northing:**	668432.01	**Penetration (ft):** 18.7'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-32.3' NAVD88	**Recovery (ft)** 12.0 and 0.2' of sand at bottom of core	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/15/2010 14:35	
	ASI - J. Clemens/Captain	**Depth (ft):**	29.6'		
		St. Arrival:	14:30	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	16:00	**Penetration (ft):** 19.6'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 7.5'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 4/15/2010 15:00	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	5%	1%	94%		NA	Organics: fibrous wood and wood fragments
2															
3													12.1	NA	
4															
4.4													3.8	NA	
5													1.6		Transition zone - not sampled
5		SW-SM	10YR 2/1	H	N	H	Wet	MS	None	0%	90%	10%	1.4		Black staining
6													1.3	A	No staining/odor/coating
7		SW	10YR 6/6	H	N	H	Wet	MS	None	0%	95%	5%	5.0		*
													0.4		*
8													0.3	B	
9													0.2		
10								SP		1%	95%	4%	0.4	C/D	Rounded gravel

Additional Notes/Comments: Bottom of core at 11.3'. Core opened at 16:00. * Indicates VOC collection depth.
Attempt #3: 19.3' penetration, 6.9' recovery.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW	10YR 6/6	H	N	H	Wet	SP	None	1%	95%	4%	1.8 1.2	C/D	
													3.5	NA	Not sampled - same as above, no significant changes in lithology - <1'
BOC= 11.3'															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD083A-05.0-07.0	N	04/15/2010 16:00	5.0-7.0	X	X	X	X	X	X	X	X	X	X		
B	GC-SD083A-07.0-09.0	N	04/15/2010 16:00	7.0-9.0	X	X	X	X	X	X	X	X	X	X		
C	GC-SD083A-09.0-11.0	N	04/15/2010 16:00	9.0-11.0	X	X	X	X	X	X	X	X	X	X		
D	D-04152010-04	FD	04/15/2010 16:00	9.0-11.0	X	X	X	X	X	X		X				
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: *TMHimmer* Date: 4/15/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD085B	**Easting:**	633421.42	**Attempt 1**	**Refusal? Y/N**
Sampling	Not Sampled	**Northing:**	671327.49	**Penetration (ft):** 14'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-2.3' NAVD88	**Recovery (ft)** 4'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/16/2010 10:50	
	ASI - M. Shappell/Captain	**Depth (ft):**	5.5'		
		St. Arrival:	10:25	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	11:35	**Penetration (ft):** 11'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 8.1' in field - top very loose	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 3/16/2010 11:18	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	5%	95%	2.6	NA	Fibrous wood, garbage items, plastic, tin foil present throughout length of core
2															
3													5.5	NA	
4										0%	3%	91%			
5													9.0	NA	
6															
7 BOC= 7.4													17.3	NA	
8															
9															
10															

Additional Notes/Comments: Bottom of core at 7.4'. No native material observed. No samples collected.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	No samples collected															
	B																
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 3/17/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD087A	**Easting:**	633828.02		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	670945.87	**Penetration (ft):**	20'	N	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-4.8' NAVD88	**Recovery (ft)**	14.5'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/16/2010 9:05		
	ASI - M. Shappell/Captain	**Depth (ft):**	8.0'				
		St. Arrival:	8:50		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	9:20	**Penetration (ft):**	NA		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	SP	UNC	3%	3%	94%	4.5	NA	Organics: fibrous wood and sticks
2															
3													7.4	NA	
4															
5													11.4	NA	
6								MP	TLO (strong)	20%	5%	75%			NAPL saturated Coal-like fragments
7									(mod)				4.2	NA	NAPL - medium viscosity, thick, black, brown stain, sticky/tacky
8															
8.3													5.9		Transition zone - not sampled
9		CL/SM	10YR4/1 10YR4/3 10YR 4/2	H	W/N W	S H	Moist/ Wet Moist/	FS VFS	UNC/ None UNC (faint)	0% 0%	50% 99%	50% 1%	7.8 5.4	A	Stratified layers of alternating silty clay/silty sand (0.2' layer) Black lignite-like staining Medium sand lens (0.3')
10		SM	10YR 5/6	H	N	H	Wet	FS	None	0%	85%	15%	19.3		NAPL saturated/heavily coated - light brown, little staining, low viscosity, UNC odor (sweet)

Additional Notes/Comments: Bottom of core at 14.6'. Core opened at 10:10.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SM	10YR 5/6	H	N	H	Wet	FS	None	0%	85%	15%	11.1		
		SP	10YR 6/6	H	N	H	Wet	FS	None	0%	99%	1%	4.0		*
11													0.5	B	
12								SP		3%	96%	1%	0.6		
13													0.3		Trace/little gravel (subrounded - rounded)
		SW	10YR 6/6	H	N	H	Wet	MP	None	10%	89%	1%	0.4	C	
14													0.8		*
BOC= 14.6'													31.8	NA	Interval not sampled - same as above, no indicating factors that 14.3-14.6 is more contaminated than above.
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD087A-08.3-10.3	N/MSD	03/16/2010 10:10	8.3-10.3	X	X	X	X	X	X	X	X	X	X		
B	GC-SD087A-10.3-12.3	N	03/16/2010 10:10	10.3-12.3	X	X	X	X	X	X	X	X	X	X		
C	GC-SD087A-12.3-14.3	N	03/16/2010 10:10	12.3-14.3	X	X	X	X	X	X	X	X	X	X		
D																	
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: TMHimmer Date: 3/16/2010

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD088A	**Easting:**	632491.15		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671401.95	**Penetration (ft):**	18.9'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-5.6' NAVD88	**Recovery (ft)**	15'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/17/2010 11:55		
	ASI - M. Shappell/Captain	**Depth (ft):**	7.4'				
		St. Arrival:	8:15		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	9:05	**Penetration (ft):**	13.5'	Y	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	7'		
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/17/2010 12:20		

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	VFS	UNC	0%	1%	99%	8.7	NA	Organics: fibrous wood and trace stick fragments
2															
3													10.8	NA	
4															
5													23.9	NA	
6															Glass, plastic bags, and other garbage noted
7													143	NA	NAPL - Heavy coating/near saturation, black staining, moderate viscosity
7.7															
8													82.0		Transition zone - not sampled
8		ML	10YR6/1	H	N	H	Wet	Z	None	0%	0%	100%			Abrupt transition
		SW-SM	10YR 4/4	H	N	H	Wet	FS	TLO (strong)	0%	95%	5%	197		
9													211	A	*
10													202		

Additional Notes/Comments: Bottom of core at 14.3'. Core opened at 10:45. * Indicates VOC collection depth.
Attempt 3: 20' penetration, ~16' recovery measured in field, top several feet very loose, 3/18/2010, 08:30.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
		SM/ML	10YR 4/3/ 10YR 5/1	H	N	S	Wet/ Moist	FS/VFS	TLO (strong)	0%	85%/ 15%	15%/ 85%	137		NAPL coating - brown, slick, low viscosity
11													108	B	Stratified alternating layers of silty sand (SM), and sandy silt (ML)
12													210		*
		SW-SM	10YR 4/3	H	N	H	Wet	FS	TLO (strong)	0%	90%	10%	131		NAPL coating - brown, slick, low viscosity
13															*
		CL	10YR 5/1	H	W	H	Moist	Z	TLO (mod)	0%	0%	100%	381	C	Silty clay lens - abrupt transition, trace NAPL staining
		SW-SM	10YR 3/2	H	N	H	Wet	FS	TLO	0%	90%	10%	236		Heavy NAPL coating/near saturation
BOC= 14.3'													188	NA	Heavy NAPL coating/near saturation
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD88A-08.0-10.0	N	03/18/2010 10:45	8.0-10.0	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD088A-10.0-12.0	N	03/18/2010 10:45	10.0-12.0	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD088A-12.0-14.0	N	03/18/2010 10:45	12.0-14.0	X	X	X	X	X	X	X	X	X	X		
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 3/18/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD089B	**Easting:**	632648.18		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671340.80	**Penetration (ft):**	17.8'	Y	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-7.8' NAVD88	**Recovery (ft)**	15.5'		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/17/2010 11:05		
	ASI - M. Shappell/Captain	**Depth (ft):**	10.8'				
		St. Arrival:	10:40		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	11:45	**Penetration (ft):**	NA		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	VFS	UNC	0%	1%	99%	9.0	NA	Organics: sticks and leaf fragments
2															
3													14.3	NA	
4								SP		15%	5%	80%			Coal-like gravel (angular, black, low density)
5													15.9	NA	
6								MP		10%	5%	85%			
7													48.4	NA	Increased fibrous wood, coal gravel, rope
8 8.2													75.4		Abrupt transition
8.3													94.7	NA	Transition zone - not sampled
9		SM/ML	10YR 4/4/ 10YR 7/1	H	N	S	Wet	FS/VFS	PHC (mod)	0%	85%/ 15%	15%/ 85%	95.7 141.6 17.3	A	Alternating stratified layers of fine silty sand (SM) and very fine sandy silt (ML), moderate staining within SM layers - NAPL appears brown on gloves, * slick, low viscosity, faint staining within ML layers - NAPL is barely present on gloves
10															

Additional Notes/Comments: Bottom of core at 14.8'. Core opened at 14:25. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SM	10YR 4/3	H	N	H	Wet	FS/VFS	PHC (mod)	0%	85%	15%	84.8	B	Decreasing silt content with depth
12													42.9 85.7		Faint staining at 11-12', decreasing stain below and decreasing with depth * Trace rounded gravel
13		SW-SM	10YR 4/3	H	N	H	Wet	FS MS	PHC (faint)	3%	90%	7%	67.0	C	*
14								SP					18.1 45.4		
BOC= 14.8		ML	10YR4/3	H	N	H	Wet	VFS	None	0%	1%	99%	20.0	NA	Fine silt - no staining/odor
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD089B-08.3-10.3		N	03/17/2010 14:25	8.3-10.3	X	X	X	X	X	X	X	X	X	X		
B	GC-SD089B-10.3-12.3		N	03/17/2010 14:25	10.3-12.3	X	X	X	X	X	X	X	X	X	X		
C	GC-SD089B-12.3-14.3		N	03/17/2010 14:25	12.3-14.3	X	X	X	X	X	X	X	X	X	X		
D																	
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: TMHimmer Date: 3/17/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD090B	**Easting:**	632902.28		**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671142.33	**Penetration (ft):**	14.8'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-7.7' NAVD88	**Recovery (ft)**	14.0'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/16/2010 12:00	
	ASI - M. Shappell/Captain	**Depth (ft):**	9.6'			
		St. Arrival:	11:50		**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	13:20	**Penetration (ft):**	15.5'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	14'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	3/16/2020 12:50	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	MP	UNC	10%	5%	85%	21.2	NA	Organics: fibrous wood and stick fragments
2															
3								FS		10%	25%	65%	61.7	NA	
4										10%	5%	65%			
5.1													18.5	NA	Increased wood: 30-40% fibrous wood
5.4													47.8	NA	Transition zone - not sampled
6		SW-SM	10YR 4/3	F	N	H	Wet	FS	PHC (strong)	0%	95%	5%	95.0	A	CL, mottled, hard, 10YR 6/1 and 10YR 3/4 Heavy NAPL coating - brown staining, heavily saturated at ~5.8', brown, slick/non-sticky, low to moderate viscosity * NAPL saturated
7													126 22.5 55.4		
8		ML	10YR 2/1	H	N	H	Wet	VFS	PHC (strong)	0%	20%	80%	85.6 53.0	B	
9													40.0 141		0.3' lens of silty sand, sheen NAPL saturation - heavily coated
10		CL	10YR 4/3	H	M	H	Moist	Z	Non	0%	1%	99%	4.7	C	

Additional Notes/Comments: Bottom of core at 14.0'. Core opened at 15:00. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		CL	10YR 4/1	H	M	H	Moist	Z	None	0%	1%	99%	0.7	C	1" seam of sand - no staining/sheen/odor *
12													0.5		
13 BOC= 13.4'		SP-SM	10YR 3/2	F	N	H	Wet	FS	None	0%	85%	15%	1.3	D	Abrupt transition
14													0.5		*
15													0.0		
16													0.2	NA	Did not sample interval 13.4-14.0
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD090B-05.4-07.4	N	03/16/2010 15:00	5.4-7.4	X	X	X	X	X	X	X	X	X	X		
B	GC-SD090B-07.4-09.4	N	03/16/2010 15:00	7.4-9.4	X	X	X	X	X	X	X	X	X	X		
C	GC-SD090B-09.4-11.4	N	03/16/2010 15:00	9.4-11.4	X	X	X	X	X	X	X	X	X	X		
D	GC-SD090B-11.4-13.4	N	03/16/2010 15:00	11.4-13.4	X	X	X	X	X	X	X	X	X	X		
E	D-03162010-03	FD	03/16/2010 15:00	7.4-9.4	X	X	X	X	X	X		X				
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	
Q																	
R																	
S																	
T																	
U																	

Reviewed by: TMHimmer Date: 3/16/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD091A	**Easting:**	632084.13	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671200.88	**Penetration (ft):** 18.7'	Y
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-6.7' NAVD88	**Recovery (ft)** 13'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 3/18/2010 12:30	
	ASI - M. Shappell/Captain	**Depth (ft):**	6.8'	(1)	
		St. Arrival:	12:30	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	13:40	**Penetration (ft):** 17.9'	Y
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)** 13'	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:** 3/18/2010 13:20	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	VFS	UNC	0%	3%	97%	6.3	NA	Organics: fibrous wood and stick fragments
2															
3													13.4	NA	
4															
5													28.7	NA	
6															
7													51.8	NA	
8															Increased wood matter
9	9.1									15%	5%	80%	62.8	NA	Increased gravel - NAPL saturated, black, moderate viscosity, tar-like odor
	9.2												137		Transition zone - not sampled
10		ML	10YR 4/1	H	N	H	Wet	VFS	TLO (faint)	0%	5%	95%	215 114	A	Moderate NAPL coating - brown staining on gloves, low viscosity, slick/not tacky

Additional Notes/Comments: Bottom of core at 13.2'. Core opened at 16:45. * Indicates VOC collection depth.
(1) 1st core attempted at this station contained some gaps in the sediment profile at depth; 2nd core sampled 3/18/2010.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW-SM	10YR 6/1 ↓ 10YR 2/1 ↓ 10YR 6/1 ↓ 10YR 3/2	H	N	S	Wet	FS	TLO (strong)	0%	90%	10%	254	A	* Stratified layers of sand - laminated streaks of color throughout
12													314	B/C	
13													250		Increased NAPL saturation with depth,
BOC= 13.2'													348		* 12': heavy coating; 13.2': full saturation
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD091A-09.2-11.2	N	03/18/2010 16:45	9.2-11.2	X	X	X	X	X	X	X	X	X	X		
B	GC-SD091A-11.2-13.2	N	03/18/2010 16:45	11.2-13.2	X	X	X	X	X	X	X	X	X	X		
C	D-03182010-03	FD	03/18/2010 16:45	11.2-13.2	X	X	X	X	X	X		X				
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
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Q																
R																
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T																
U																

Reviewed by: *TMHimmer* Date: 3/18/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD093A	**Easting:**	632378.16		**Attempt 1**	**Refusal? Y/N**	
Sampling	M. Velasquez/CH2M HILL	**Northing:**	671029.44	**Penetration (ft):**	20'	N	
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-5.6' NAVD88	**Recovery (ft)**	18' top sediment very loose		
		Datum:	NYSP Zone East NAD 83	**Date/Time:**	3/18/2010 11:50		
	ASI - M. Shappell/Captain	**Depth (ft):**	7.6'				
		St. Arrival:	11:25		**Attempt 2**	**Refusal? Y/N**	
Vessel:	*R/V Manasquan*	**St.Depart:**	12:20	**Penetration (ft):**	NA		
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**			
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**			

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	VFS	UNC	0%	1%	99%	15.8	NA	Organics: fibrous wood and stick fragments
2															
3													13.9	NA	
4															
5.1													19.5	NA	
5.2													8.1		Transition zone - not sampled
6		ML	10YR 5/4	H	N	H	Moist/ Wet	VFS	TLO (faint)	0%	5%	95%	5.6	A	Sandy silt *
7			10YR 6/1										2.8		
		SW-SM	10YR 4/3	H	N	H	Wet	FS	None	0%	95%	5%	3.5		Well graded sand with silt
8													1.3	B	*
9													1.1		
10													0.7		
													0.2	C	
													0.1		

Additional Notes/Comments: Bottom of core at 17.3'. Core opened at 15:00. * Indicates VOC collection depth.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		SW-SM	10YR 5/1 ↓ 10YR 2/1 ↓ 10YR 6/6	H	N	H	Wet	FS	None	0%	95%	5%	0.0	C	* Well graded sand with silt
12													0.0		
													0.1	D	*
13													0.2		
14													0.1		
													0.1	NA	
15													0.0		
													0.1		
16		CL	10YR 5/1	F	W	H	Wet	VFS	None	0%	3%	97%		E	* Lean clay - trace sand, silty sand
		SM	10YR 3/2	H	N	H	Wet	FS	None	0%	85%	15%	0.1		
17													0.0		
BOC= 17.3'														NA	
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	GC-SD093A-05.2-07.2	N	03/10/2010 15:00	5.2-7.2	X	X	X	X	X	X	X	X	X	X		
B	GC-SD093A-07.2-09.2	N/MSD	03/10/2010 15:00	7.2-9.2	X	X	X	X	X	X	X	X	X	X		
C	GC-SD093A-09.2-11.2	N	03/10/2010 15:00	9.2-11.2	X	X	X	X	X	X	X	X	X	X		
D	GC-SD093A-11.2-13.2	N	03/10/2010 15:00	11.2-13.2	X	X	X	X	X	X	X	X	X	X		
E	GC-SD093A-15.2-17.2	N	03/10/2010 15:00	13.2-17.2	X	X	X	X	X	X	X	X	X	X		
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
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Reviewed by: TMHimmer Date: 3/18/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD104A	**Easting:**	631286.39	**Attempt 1**	**Refusal? Y/N**
Sampling		**Northing:**	670165.95	**Penetration (ft):** 6.9'	Y
Crew/Company	Not Sampled	**Elevation:**	-7.4' NAVD88	**Recovery (ft)** 4.4'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/2/2010 9:00	
	ASI - Jeff Clemens	**Depth (ft):**	8.7'		
		St. Arrival:	8:45	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	9:35	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		GW-GM	10YR 2/1	H	N	H	Wet	MP	UNC	90%	5%	5%	1.7	NA	Gravel, organic septic-like odor
2															
3													3.2	NA	
4		OL	10YR 2/1	S	N	H	Wet	MP	UNC	15%	5%	80%			Abrupt transition
BOC= 4.3													24.6	NA	
5															
6															
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 4.3". Core opened at 08:40. No samples collected. No native material observed.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11															
12 BOC = 11.9'															
13															
14															
15															
16															
17															
18															
19															
20															

Sample Summary:

Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
A	No samples collected															
B																
C																
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																
O																
P																
Q																
R																
S																
T																
U																

Reviewed by: *TMHimmer* Date: 4/5/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD105A	**Easting:**	631316.58	**Attempt 1**	**Refusal? Y/N**
Sampling	M. Velasquez/CH2M HILL	**Northing:**	670129.25	**Penetration (ft):** 20'	N
Crew/Company	R. Clennon/CH2M HILL	**Elevation:**	-15.2' NAVD88	**Recovery (ft)** 14.7	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/2/2010 10:30	
	ASI - J. Clemens/Captain	**Depth (ft):**	17.4		
		St. Arrival:	10:15	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	10:55	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		GW	10YR 2/1	H	N	H	Wet	SP	PHC (mod)	90%	5%	5%	18.1	N/A	Gravel - subangular
1.7													60.6		Transition zone - not sampled
1.9															
2		ML	10YR 2/1 → 10YR 6/6	H	N	S	Moist	FS	PHC (mod)	0%	40%	60%	95.3		* No NAPL coating, staining, or odor
		SM	10YR 5/1	H	N	H	Wet	FS	None	0%	85%	15%	8.8	A	
3		ML	10YR 4/2	F	N	H	Moist	VFS	None	0%	5%	95%	7.6		
4		SM	10YR 5/1	H	N	H	Wet	FS	None	0%	85%	15%	5.6		
										0%	51%	49%	11.6	B/F	
5									TLO (strong)	0%	85%	15%	327		* NAPL saturated (0.1' layer), brown, brown stain, low viscosity, not sticky/tacky
6		ML	10YR 3/2	F	N	H	Moist	VFS	TLO (strong)	0%	15%	85%	21.9		Light coating/moderate staining, tar-like odor, brown staining
													9.1		
7											10%	90%	12.0	C	
8									None				84.4		*
											40%	60%			
9													1.6		Interval not sampled
													1.7	NA	
10													3.1		

Additional Notes/Comments: Bottom of core at 14.1' Core opened at 13:30. * Indicates VOC collection depth.
Additional intervals sampled per EPA request.

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
11		ML	10YR 4/4	H	N	H	Wet	VFS	None	0%	40%	60%	0.5 1.2 7.6	D	No staining or odor observed
12		SM	10YR 5/4	H	N	H	Wet	FS	None	0%	85%	15%	1.8		
13													2.4	E	Sandy silt seam
14													8.0		
BOC= 14.1'															
15															
16															
17															
18															
19															
20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	GC-SD105A-01.9-03.9	N/MSD	04/02/2010 13:30	1.9-3.9	X	X	X	X	X	X	X	X	X	X		
	B	GC-SD105A-03.9-05.9	N	04/02/2010 13:30	3.9-5.9	X	X	X	X	X	X	X	X	X	X		
	C	GC-SD105A-05.9-07.9	N	04/02/2010 13:30	5.9-7.9	X	X	X	X	X	X	X	X	X	X		
	D	GC-SD105A-09.9-11.9	N	04/02/2010 13:30	9.9-11.9	X	X	X	X	X	X	X	X	X	X		
	E	GC-SD105A-11.9-13.9	N	04/02/2010 13:30	11.9-13.9	X	X	X	X	X	X	X	X	X	X		
	F	D-04022010-02	FD	04/02/2010 13:30	3.9-5.9	X	X	X	X	X	X		X				
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: TMHimmer Date: 4/2/2010

CH2MHILL

Site Name: Gowanus Canal Sediment Coring Investigation
Project Number: 395863
Project Location: Gowanus Canal, Brooklyn, New York
Survey Duration: March-April 2010

Station ID:	GC-SD106D	**Easting:**	631351.60	**Attempt 1**	**Refusal? Y/N**
Sampling		**Northing:**	670110.26	**Penetration (ft):** 3.1'	Y
Crew/Company	Not Sampled	**Elevation:**	-13.1' NAVD88	**Recovery (ft)** 2.1'	
		Datum:	NYSP Zone East NAD 83	**Date/Time:** 4/2/2010 9:50	
	ASI - J. Clemens/Captain	**Depth (ft):**	15.1'		
		St. Arrival:	9:35	**Attempt 2**	**Refusal? Y/N**
Vessel:	*R/V Manasquan*	**St.Depart:**	10:10	**Penetration (ft):** NA	
Collection:	vibracore	**Logged by:**	Michael Murphy	**Recovery (ft)**	
Collector Information:	T. Himmer/CH2M HILL	Log reflects sample as collected – no correction factor applied for less than 100% core recovery		**Date/Time:**	

Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
1		OL	10YR 2/1	VS	N	H	Wet	FS	UNC	0%	5%	95%	0.9	NA	
2															
BOC= 2.3'													0.9		
3															
4															
5															
6															
7															
8															
9															
10															

Additional Notes/Comments: Bottom of core at 2.3". Core opened at 09:00 No samples collected. No native material observed.

	Depth below mudline (ft)	Lithology	Type	Color (Munsell)	Consistency/ Density	Cementation/ Plasticity	Structure	Moisture Content	Maximum particle size	Odor	% gravel	% sand	% fines	PID Reading (ppm)	Sample IDs (Single Letter)	Comments
	11															
	12															
	13															
	14															
	15															
	16															
	17															
	18															
	19															
	20															

Sample Summary:

	Sample ID		Sample Type (N/FD/MSD)	Sample Date/Time	Depth Interval (ft)	TCL VOCs	TCL SVOCs	TCL Pesticides	TCL PCBs	TAL Metals + Hg	Cyanide	TOC	Sulfide	Grain Size	Archive	TCLP	RIC
	A	No samples collected															
	B																
	C																
	D																
	E																
	F																
	G																
	H																
	I																
	J																
	K																
	L																
	M																
	N																
	O																
	P																
	Q																
	R																
	S																
	T																
	U																

Reviewed by: *TMHimmer* Date: 4/5/2010