CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**4/24/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**4/25/2006**
Client Sample ID:	**ST17SB05(49-51)**	**SDG No.:**	**X2521**
Lab Sample ID:	**X2521-03**	**Matrix:**	**SOIL**
Analytical Method:	**8270**	**% Moisture:**	**20**
Sample Wt/Wol:	**30.2 g**	**Extract Vol:**	**1000 uL**

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE030797.D	1	4/27/2006	4/28/2006	BE041906

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	52	U	410	52	ug/Kg
53-70-3	Dibenz(a,h)anthracene	52	U	410	52	ug/Kg
191-24-2	Benzo(g,h,i)perylene	68	U	410	68	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	171.68	57 %	25 - 121		SPK: 30
13127-88-3	Phenol-d5	179.92	60 %	24 - 113		SPK: 30
4165-60-0	Nitrobenzene-d5	120.61	60 %	23 - 120		SPK: 20
321-60-8	2-Fluorobiphenyl	117.4	59 %	30 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	222.09	74 %	19 - 122		SPK: 30
1718-51-0	Terphenyl-d14	120.96	60 %	18 - 137		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	190805	4.27			
1146-65-2	Naphthalene-d8	698085	5.44			
15067-26-2	Acenaphthene-d10	339038	7.15			
1517-22-2	Phenanthrene-d10	478791	8.62			
1719-03-5	Chrysene-d12	356772	11.36			
1520-96-3	Perylene-d12	306327	13.16			
TENTITIVE IDENTIFIED COMPOUNDS						
	ACP2.98	~~1400~~	R ~~AB~~	2.98		ug/Kg
593-45-3	Octadecane	~~120~~	R ~~J~~	10.13		ug/Kg
297-03-0	Cyclotetracosane	100	JN	11.24		ug/Kg

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

Jam 6/6/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	4/24/2006
Project:	Stuyvesant town form	**Date Received:**	4/25/2006
Client Sample ID:	ST17SB05(49-51)	**SDG No.:**	X2521
Lab Sample ID:	X2521-03	**Matrix:**	SOIL
		% Solids:	80.20

CAS No.	Analyte	Conc.	Qualifier	Units	DL	Dilution	Date Prep	Date Anal.	Method
7429-90-5	Aluminum	5000 J		mg/Kg	0.72	1	4/27/2006	5/1/2006	EPA SW-846 6010
7440-36-0	Antimony	18.1 J	+	mg/Kg	0.40	1	4/27/2006	5/1/2006	EPA SW-846 6010
7440-38-2	Arsenic	2.1 J		mg/Kg	0.48	1	4/27/2006	5/1/2006	EPA SW-846 6010
7440-39-3	Barium	39.0 J		mg/Kg	0.09	1	4/27/2006	5/1/2006	EPA SW-846 6010
7440-41-7	Beryllium	~~0.39~~ 0.62UJ+		mg/Kg	0.01	1	4/27/2006	5/1/2006	EPA SW-846 6010
7440-43-9	Cadmium	0.04	UJ	mg/Kg	0.04	1	4/27/2006	5/1/2006	EPA SW-846 6010
7440-70-2	Calcium	13200 J		mg/Kg	0.05	1	4/27/2006	5/1/2006	EPA SW-846 6010
7440-47-3	Chromium	15.3	+	mg/Kg	0.11	1	4/27/2006	5/1/2006	EPA SW-846 6010
7440-48-4	Cobalt	9.1 J		mg/Kg	0.12	1	4/27/2006	5/1/2006	EPA SW-846 6010
7440-50-8	Copper	13.1 J		mg/Kg	0.08	1	4/27/2006	5/1/2006	EPA SW-846 6010
7439-89-6	Iron	10800 J		mg/Kg	1.9	1	4/27/2006	5/1/2006	EPA SW-846 6010
7439-92-1	Lead	8.3		mg/Kg	0.35	1	4/27/2006	5/1/2006	EPA SW-846 6010
7439-95-4	Magnesium	6390 J		mg/Kg	1.2	1	4/27/2006	5/1/2006	EPA SW-846 6010
7439-96-5	Manganese	292		mg/Kg	0.03	1	4/27/2006	5/1/2006	EPA SW-846 6010
7439-97-6	Mercury	0.007	UJ N	mg/Kg	0.007	1	4/28/2006	5/1/2006	EPA SW-846 7471
7440-02-0	Nickel	13.7 J		mg/Kg	0.15	1	4/27/2006	5/1/2006	EPA SW-846 6010
7440-09-7	Potassium	2930 J		mg/Kg	6.5	1	4/27/2006	5/1/2006	EPA SW-846 6010
7782-49-2	Selenium	1.9 J		mg/Kg	0.42	1	4/27/2006	5/1/2006	EPA SW-846 6010
7440-22-4	Silver	~~0.37~~ 1.2UJ+		mg/Kg	0.10	1	4/27/2006	5/1/2006	EPA SW-846 6010
7440-23-5	Sodium	1480 J	N*	mg/Kg	35.2	1	4/27/2006	5/1/2006	EPA SW-846 6010
7440-28-0	Thallium	0.64	U	mg/Kg	0.64	1	4/27/2006	5/1/2006	EPA SW-846 6010
7440-62-2	Vanadium	15.1		mg/Kg	0.07	1	4/27/2006	5/1/2006	EPA SW-846 6010
7440-66-6	Zinc	31.2 J		mg/Kg	0.09	1	4/27/2006	5/1/2006	EPA SW-846 6010

Comments:

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U = Not Detected
DL = Method Detection Limit or Instrument Detection Limit

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Spiked sample recovery not within control limits

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	4/24/2006
Project:	Stuyvesant town former MGP Pro	**Date Received:**	4/25/2006
Client Sample ID:	ST17SB05(49-51)	**SDG No.:**	X2521
Lab Sample ID:	X2521-03	**Matrix:**	SOIL
% Solids:	80.20		

Analyte	Result	Qualifier	RL	Units	DF	Date Analyzed	Method
Cyanide	0.62	U	0.62	mg/Kg	1	4/27/2006	9012 Cyanide
Cyanide-Amenable	0.62	U	0.62	mg/Kg	1	5/1/2006	9012 Cyanide-Amenable

Comment

6/5/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	4/26/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/2/2006
Client Sample ID:	ST17SB05-2(5-7)	**SDG No.:**	X2580
Lab Sample ID:	X2580-07	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	11
Sample Wt/Wol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK005922.D	1	5/6/2006	VK050406

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	4.7	U	28	4.7	ug/Kg
74-87-3	Chloromethane	4.7	U	28	4.7	ug/Kg
75-01-4	Vinyl chloride	4.5	U	28	4.5	ug/Kg
74-83-9	Bromomethane	11	U	28	11	ug/Kg
75-00-3	Chloroethane	12	U	28	12	ug/Kg
75-69-4	Trichlorofluoromethane	6.9	U	28	6.9	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	3.7	U	28	3.7	ug/Kg
75-35-4	1,1-Dichloroethene	3.2	UJ	28	3.2	ug/Kg
67-64-1	Acetone	19	U	140	19	ug/Kg
75-15-0	Carbon disulfide	2.0	UJ	28	2.0	ug/Kg
1634-04-4	Methyl tert-butyl Ether	2.0	U	28	2.0	ug/Kg
79-20-9	Methyl Acetate	4.8	U	28	4.8	ug/Kg
75-09-2	Methylene Chloride	10	U	28	10	ug/Kg
156-60-5	trans-1,2-Dichloroethene	3.5	U	28	3.5	ug/Kg
75-34-3	1,1-Dichloroethane	1.5	U	28	1.5	ug/Kg
110-82-7	Cyclohexane	1.8	U	28	1.8	ug/Kg
78-93-3	2-Butanone	16	U	140	16	ug/Kg
56-23-5	Carbon Tetrachloride	2.4	U	28	2.4	ug/Kg
156-59-2	cis-1,2-Dichloroethene	1.8	U	28	1.8	ug/Kg
67-66-3	Chloroform	1.9	U	28	1.9	ug/Kg
71-55-6	1,1,1-Trichloroethane	2.3	U	28	2.3	ug/Kg
108-87-2	Methylcyclohexane	2.3	U	28	2.3	ug/Kg
71-43-2	Benzene	2.2	U	28	2.2	ug/Kg
107-06-2	1,2-Dichloroethane	1.7	U	28	1.7	ug/Kg
79-01-6	Trichloroethene	1.7	U	28	1.7	ug/Kg
78-87-5	1,2-Dichloropropane	2.2	U	28	2.2	ug/Kg
75-27-4	Bromodichloromethane	1.8	U	28	1.8	ug/Kg
108-10-1	4-Methyl-2-Pentanone	11	U	140	11	ug/Kg
108-88-3	Toluene	2.2	U	28	2.2	ug/Kg
10061-02-6	t-1,3-Dichloropropene	2.0	U	28	2.0	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	1.8	U	28	1.8	ug/Kg
79-00-5	1,1,2-Trichloroethane	1.6	U	28	1.6	ug/Kg

U = Not Detected
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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	4/26/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/2/2006
Client Sample ID:	ST17SB05-2(5-7)	**SDG No.:**	X2580
Lab Sample ID:	X2580-07	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	11
Sample Wt/Vol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK005922.D	1	5/6/2006	VK050406

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	20	U	140	20	ug/Kg
124-48-1	Dibromochloromethane	1.3	U	28	1.3	ug/Kg
106-93-4	1,2-Dibromoethane	2.2	U	28	2.2	ug/Kg
127-18-4	Tetrachloroethene	4.0	U	28	4.0	ug/Kg
108-90-7	Chlorobenzene	2.0	U	28	2.0	ug/Kg
100-41-4	Ethyl Benzene	1.9	U	28	1.9	ug/Kg
126777-61-2	m/p-Xylenes	4.8	U	55	4.8	ug/Kg
95-47-6	o-Xylene	2.1	U	28	2.1	ug/Kg
100-42-5	Styrene	2.5	U	28	2.5	ug/Kg
75-25-2	Bromoform	1.7	U	28	1.7	ug/Kg
98-82-8	Isopropylbenzene	2.3	U	28	2.3	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.7	U	28	1.7	ug/Kg
541-73-1	1,3-Dichlorobenzene	3.1	U	28	3.1	ug/Kg
106-46-7	1,4-Dichlorobenzene	3.0	U	28	3.0	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.1	U	28	2.1	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	5.2	U	28	5.2	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	3.8	U	28	3.8	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	42.25	85 %	75 - 125		SPK: 50
1868-53-7	Dibromofluoromethane	47.88	96 %	75 - 125		SPK: 50
2037-26-5	Toluene-d8	49.98	100 %	75 - 125		SPK: 50
460-00-4	4-Bromofluorobenzene	46.54	93 %	75 - 125		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	282776	3.51			
540-36-3	1,4-Difluorobenzene	400339	3.92			
3114-55-4	Chlorobenzene-d5	344717	6.70			
3855-82-1	1,4-Dichlorobenzene-d4	186841	8.96			

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6/6/06

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Report of Analysis

Client:	GEI Consultants	**Date Collected:**	4/26/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/2/2006
Client Sample ID:	ST17SB05-2(5-7)	**SDG No.:**	X2580
Lab Sample ID:	X2580-07	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	11
Sample Wt/Vol:	30.2 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003402.D	1	5/4/2006	5/4/2006	BF042006

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	~~76~~ R	~~U~~	370	76	ug/Kg
108-95-2	Phenol	56	U	370	56	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	58	U	370	58	ug/Kg
95-57-8	2-Chlorophenol	59	U	370	59	ug/Kg
95-48-7	2-Methylphenol	61	U	370	61	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	60	U	370	60	ug/Kg
98-86-2	Acetophenone	54	U	370	54	ug/Kg
106-44-5	3+4-Methylphenols	58	U	370	58	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	61	U	370	61	ug/Kg
67-72-1	Hexachloroethane	63	U	370	63	ug/Kg
98-95-3	Nitrobenzene	81	U	370	81	ug/Kg
78-59-1	Isophorone	56	U	370	56	ug/Kg
88-75-5	2-Nitrophenol	57	U	370	57	ug/Kg
105-67-9	2,4-Dimethylphenol	59	U	370	59	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	61	U	370	61	ug/Kg
120-83-2	2,4-Dichlorophenol	68	U	370	68	ug/Kg
91-20-3	Naphthalene	63	U	370	63	ug/Kg
106-47-8	4-Chloroaniline	44	U	370	44	ug/Kg
87-68-3	Hexachlorobutadiene	57	U	370	57	ug/Kg
105-60-2	Caprolactam	59	U	370	59	ug/Kg
59-50-7	4-Chloro-3-methylphenol	51	U	370	51	ug/Kg
91-57-6	2-Methylnaphthalene	62	U	370	62	ug/Kg
77-47-4	Hexachlorocyclopentadiene	59	U	370	59	ug/Kg
88-06-2	2,4,6-Trichlorophenol	54	U	370	54	ug/Kg
95-95-4	2,4,5-Trichlorophenol	57	U	930	57	ug/Kg
92-52-4	1,1-Biphenyl	61	U	370	61	ug/Kg
91-58-7	2-Chloronaphthalene	61	U	370	61	ug/Kg
88-74-4	2-Nitroaniline	47	U	930	47	ug/Kg
131-11-3	Dimethylphthalate	59	U	370	59	ug/Kg
208-96-8	Acenaphthylene	60	U	370	60	ug/Kg
606-20-2	2,6-Dinitrotoluene	52	U	370	52	ug/Kg

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	4/26/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/2/2006
Client Sample ID:	ST17SB05-2(5-7)	**SDG No.:**	X2580
Lab Sample ID:	X2580-07	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	11
Sample Wt/Vol:	30.2 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003402.D	1	5/4/2006	5/4/2006	BF042006

CAS Number	Parameter		Conc.	Qualifier	RL	MDL	Units	
TARGETS								
99-09-2	3-Nitroaniline		48	U	930	48	ug/Kg	
83-32-9	Acenaphthene		66	U	370	66	ug/Kg	
51-28-5	2,4-Dinitrophenol		320	U	930	320	ug/Kg	
100-02-7	4-Nitrophenol		46	UJ	930	46	ug/Kg	
132-64-9	Dibenzofuran		61	U	370	61	ug/Kg	
121-14-2	2,4-Dinitrotoluene		54	U	370	54	ug/Kg	
84-66-2	Diethylphthalate		64	U	370	64	ug/Kg	
7005-72-3	4-Chlorophenyl-phenylether		58	U	370	58	ug/Kg	
86-73-7	Fluorene		62	U	370	62	ug/Kg	
100-01-6	4-Nitroaniline		63	U	930	63	ug/Kg	
534-52-1	4,6-Dinitro-2-methylphenol		72	U	930	72	ug/Kg	
86-30-6	N-Nitrosodiphenylamine		61	U	370	61	ug/Kg	
101-55-3	4-Bromophenyl-phenylether		55	U	370	55	ug/Kg	
118-74-1	Hexachlorobenzene		59	U	370	59	ug/Kg	
1912-24-9	Atrazine		57	U	370	57	ug/Kg	
87-86-5	Pentachlorophenol		86	U	930	86	ug/Kg	
85-01-8	Phenanthrene		910		370	59	ug/Kg	
120-12-7	Anthracene		200 J	J	370	56	ug/Kg	
86-74-8	Carbazole		69 J	J	370	56	ug/Kg	
84-74-2	Di-n-butylphthalate		56	U	370	56	ug/Kg	
206-44-0	Fluoranthene	2700	~~3100~~	~~B~~	370	55	ug/Kg	
129-00-0	Pyrene	2700	~~3900~~	~~B J~~	370	65	ug/Kg	
85-68-7	~~Butylbenzylphthalate~~		~~60~~	~~UJ~~	370	60	ug/Kg	
91-94-1	3,3-Dichlorobenzidine		63	UJ	370	63	ug/Kg	donot report from this analysis
56-55-3	Benzo(a)anthracene		1500 J		370	52	ug/Kg	
218-01-9	Chrysene		1400 J		370	66	ug/Kg	
117-81-7	bis(2-Ethylhexyl)phthalate		250 J	J	370	71	ug/Kg	
117-84-0	Di-n-octyl phthalate		63	UJ	370	63	ug/Kg	
205-99-2	Benzo(b)fluoranthene		2400 J		370	41	ug/Kg	Report results from 5x dilution
207-08-9	Benzo(k)fluoranthene		800 J		370	81	ug/Kg	
50-32-8	~~Benzo(a)pyrene~~		1400 J		370	59	ug/Kg	

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B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

Write-in results are reported from a reanalysis

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	4/26/2006
Project:	Stuyvesant town former MGP Proj06	Date Received:	5/2/2006
Client Sample ID:	ST17SB05-2(5-7)	SDG No.:	X2580
Lab Sample ID:	X2580-07	Matrix:	SOIL
Analytical Method:	8270	% Moisture:	11
Sample Wt/Vol:	30.2 g	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003402.D	1	5/4/2006	5/4/2006	BF042006

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	~~Indeno(1,2,3-cd)pyrene~~	~~150~~ ~~J~~	~~J~~	~~370~~	47	ug/Kg
53-70-3	Dibenz(a,h)anthracene	58 J	J	370	46	ug/Kg
191-24-2	~~Benzo(g,h,i)perylene~~	~~430~~ ~~J~~		~~370~~	61	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	229.66	77 %	25 - 121		SPK: 30
13127-88-3	Phenol-d5	251.69	84 %	24 - 113		SPK: 30
4165-60-0	Nitrobenzene-d5	156.64	78 %	23 - 120		SPK: 20
321-60-8	2-Fluorobiphenyl	152.8	76 %	30 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	261.97	87 %	19 - 122		SPK: 30
1718-51-0	Terphenyl-d14	227.51	114 %	18 - 137		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	99845	4.07			
1146-65-2	Naphthalene-d8	383333	5.22			
15067-26-2	Acenaphthene-d10	191055	6.91			
1517-22-2	Phenanthrene-d10	251995	8.37			
1719-03-5	Chrysene-d12	135380	10.98			
1520-96-3	Perylene-d12	50723	12.48			
TENTITIVE IDENTIFIED COMPOUNDS						
	ACP2.79	~~2100~~ R	~~A~~	2.79		ug/Kg
832-69-9	Phenanthrene, 1-methyl-	130	J N	8.86		ug/Kg
613-12-7	Anthracene, 2-methyl-	170	J	8.89		ug/Kg
203-64-5	4H-Cyclopenta[def]phenanthrene	250	J	8.97		ug/Kg
84-65-1	9,10-Anthracenedione	120	J	9.18		ug/Kg
5737-13-3	Cyclopenta(def)phenanthrenone	180	J	9.49		ug/Kg
239-35-0	Benzo[b]naphtho[2,1-d]thiophene	90	J N	10.72		ug/Kg
	Unknown12.35	570	J	12.35		ug/Kg
	Unknown14.12	290	J	14.12		ug/Kg

do not report

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

dgm 9/7/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	4/26/2006
Project:	Stuyvesant town former MGP Proj06	Date Received:	5/2/2006
Client Sample ID:	ST17SB05-2(5-7)DL	SDG No.:	X2580
Lab Sample ID:	X2580-07DL	Matrix:	SOIL
Analytical Method:	8270	% Moisture:	11
Sample Wt/Wol:	30.2 g	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003481.D	5	5/4/2006	5/9/2006	BF050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	380	UD UJ	1800	380	ug/Kg
108-95-2	Phenol	280	UD	1800	280	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	290	UD	1800	290	ug/Kg
95-57-8	2-Chlorophenol	300	UD	1800	300	ug/Kg
95-48-7	2-Methylphenol	310	UD	1800	310	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	300	UD	1800	300	ug/Kg
98-86-2	Acetophenone	270	UD	1800	270	ug/Kg
106-44-5	3+4-Methylphenols	290	UD	1800	290	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	310	UD	1800	310	ug/Kg
67-72-1	Hexachloroethane	310	UD	1800	310	ug/Kg
98-95-3	Nitrobenzene	400	UD	1800	400	ug/Kg
78-59-1	Isophorone	280	UD	1800	280	ug/Kg
88-75-5	2-Nitrophenol	280	UD	1800	280	ug/Kg
105-67-9	2,4-Dimethylphenol	290	UD	1800	290	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	300	UD	1800	300	ug/Kg
120-83-2	2,4-Dichlorophenol	340	UD	1800	340	ug/Kg
91-20-3	Naphthalene	320	UD	1800	320	ug/Kg
106-47-8	4-Chloroaniline	220	UD	1800	220	ug/Kg
87-68-3	Hexachlorobutadiene	280	UD	1800	280	ug/Kg
105-60-2	Caprolactam	300	UD	1800	300	ug/Kg
59-50-7	4-Chloro-3-methylphenol	260	UD	1800	260	ug/Kg
91-57-6	2-Methylnaphthalene	310	UD	1800	310	ug/Kg
77-47-4	Hexachlorocyclopentadiene	300	UD	1800	300	ug/Kg
88-06-2	2,4,6-Trichlorophenol	270	UD	1800	270	ug/Kg
95-95-4	2,4,5-Trichlorophenol	280	UD	4600	280	ug/Kg
92-52-4	1,1-Biphenyl	300	UD	1800	300	ug/Kg
91-58-7	2-Chloronaphthalene	310	UD	1800	310	ug/Kg
88-74-4	2-Nitroaniline	230	UD	4600	230	ug/Kg
131-11-3	Dimethylphthalate	300	UD	1800	300	ug/Kg
208-96-8	Acenaphthylene	300	UD	1800	300	ug/Kg
606-20-2	2,6-Dinitrotoluene	260	UD	1800	260	ug/Kg

do not report

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Do not report this analysis.
Use initial analysis.

6/7/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	4/26/2006
Project:	Stuyvesant town former MGP Proj06	Date Received:	5/2/2006
Client Sample ID:	ST17SB05-2(5-7)DL	SDG No.:	X2580
Lab Sample ID:	X2580-07DL	Matrix:	SOIL
Analytical Method:	8270	% Moisture:	11
Sample Wt/Vol:	30.2 g	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003481.D	5	5/4/2006	5/9/2006	BF050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	240	UD	4600	240	ug/Kg
83-32-9	Acenaphthene	330	UD	1800	330	ug/Kg
51-28-5	2,4-Dinitrophenol	1600	UD	4600	1600	ug/Kg
100-02-7	4-Nitrophenol	230	UD	4600	230	ug/Kg
132-64-9	Dibenzofuran	310	UD	1800	310	ug/Kg
121-14-2	2,4-Dinitrotoluene	270	UD	1800	270	ug/Kg
84-66-2	Diethylphthalate	320	UD	1800	320	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	290	UD	1800	290	ug/Kg
86-73-7	Fluorene	310	UD	1800	310	ug/Kg
100-01-6	4-Nitroaniline	320	UD	4600	320	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	360	UD	4600	360	ug/Kg
86-30-6	N-Nitrosodiphenylamine	300	UD	1800	300	ug/Kg
101-55-3	4-Bromophenyl-phenylether	280	UD	1800	280	ug/Kg
118-74-1	Hexachlorobenzene	300	UD	1800	300	ug/Kg
1912-24-9	Atrazine	280	UD	1800	280	ug/Kg
87-86-5	Pentachlorophenol	430	UD	4600	430	ug/Kg
85-01-8	Phenanthrene	780	JD	1800	290	ug/Kg
120-12-7	Anthracene	280	UD	1800	280	ug/Kg
86-74-8	Carbazole	280	UD	1800	280	ug/Kg
84-74-2	Di-n-butylphthalate	280	UD	1800	280	ug/Kg
206-44-0	Fluoranthene	2700	D	1800	270	ug/Kg
129-00-0	Pyrene	2700 J	D	1800	330	ug/Kg
85-68-7	Butylbenzylphthalate	300 UJ	UD	1800	300	ug/Kg
91-94-1	3,3-Dichlorobenzidine	320	UD	1800 U	320	ug/Kg
56-55-3	Benzo(a)anthracene	1400 J	JD	1800	260	ug/Kg
218-01-9	Chrysene	1300 J	JD	1800	330	ug/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	350	UD	1800 U	350	ug/Kg
117-84-0	Di-n-octyl phthalate	310	UD	1800 U	310	ug/Kg
205-99-2	Benzo(b)fluoranthene	2200	D	1800	200	ug/Kg
207-08-9	Benzo(k)fluoranthene	770 J	JD	1800	410	ug/Kg
50-32-8	Benzo(a)pyrene	880 J	JD	1800	300	ug/Kg

do not report

report these results

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B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

Report only the indicated results from this analysis.

dam 6/7/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	4/26/2006
Project:	Stuyvesant town former MGP Proj06	Date Received:	5/2/2006
Client Sample ID:	ST17SB05-2(5-7)DL	SDG No.:	X2580
Lab Sample ID:	X2580-07DL	Matrix:	SOIL
Analytical Method:	8270	% Moisture:	11
Sample Wt/Vol:	30.2 g	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003481.D	5	5/4/2006	5/9/2006	BF050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	530	J JD	1800	230	ug/Kg
53-70-3	Dibenz(a,h)anthracene	230	UD	1800 U	230	ug/Kg
191-24-2	Benzo(g,h,i)perylene	640	J JD	1800	310	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	212.2	71 %	25 - 121		SPK: 30
13127-88-3	Phenol-d5	230.55	77 %	24 - 113		SPK: 30
4165-60-0	Nitrobenzene-d5	152.45	76 %	23 - 120		SPK: 20
321-60-8	2-Fluorobiphenyl	134.5	67 %	30 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	222.65	74 %	19 - 122		SPK: 30
1718-51-0	Terphenyl-d14	154.7	77 %	18 - 137		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	110632	3.98			
1146-65-2	Naphthalene-d8	454946	5.14			
15067-26-2	Acenaphthene-d10	247145	6.84			
1517-22-2	Phenanthrene-d10	338041	8.29			
1719-03-5	Chrysene-d12	247440	10.90			
1520-96-3	Perylene-d12	175570	12.37			

report these results

Report only the indicated results from this analysis.

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N = Presumptive Evidence of a Compound

AM 6/7/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	4/26/2006
Project:	Stuyvesant town form	**Date Received:**	5/2/2006
Client Sample ID:	ST17SB05-2(5-7)	**SDG No.:**	X2580
Lab Sample ID:	X2580-07	**Matrix:**	SOIL
		% Solids:	89.20

CAS No.	Analyte	Conc.	Qualifier	Units	DL	Dilution	Date Prep	Date Anal.	Method
7429-90-5	Aluminum	3460	J N	mg/Kg	0.643	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-36-0	Antimony	0.361	UJ N	mg/Kg	0.361	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-38-2	Arsenic	3.640		mg/Kg	0.431	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-39-3	Barium	411	J N	mg/Kg	0.079	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-41-7	Beryllium	~~0.241~~ 0.550J		mg/Kg	0.007	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-43-9	Cadmium	0.655	J	mg/Kg	0.036	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-70-2	Calcium	14100	J	mg/Kg	0.041	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-47-3	Chromium	12.0	N	mg/Kg	0.097	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-48-4	Cobalt	4.100	J	mg/Kg	0.107	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-50-8	Copper	35.8	J	mg/Kg	0.071	1	5/5/2006	5/8/2006	EPA SW-846 6010
7439-89-6	Iron	8960	J	mg/Kg	1.690	1	5/5/2006	5/8/2006	EPA SW-846 6010
7439-92-1	Lead	318		mg/Kg	0.317	1	5/5/2006	5/8/2006	EPA SW-846 6010
7439-95-4	Magnesium	1980	J	mg/Kg	1.050	1	5/5/2006	5/8/2006	EPA SW-846 6010
7439-96-5	Manganese	197		mg/Kg	0.031	1	5/5/2006	5/8/2006	EPA SW-846 6010
7439-97-6	Mercury	0.388	J	mg/Kg	0.007	1	5/4/2006	5/4/2006	EPA SW-846 7471
7440-02-0	Nickel	15.1	J	mg/Kg	0.134	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-09-7	Potassium	1120	J	mg/Kg	5.830	1	5/5/2006	5/8/2006	EPA SW-846 6010
7782-49-2	Selenium	0.375	UJ	mg/Kg	0.375	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-22-4	Silver	2.650	J N	mg/Kg	0.087	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-23-5	Sodium	397	J N	mg/Kg	28.4	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-28-0	Thallium	0.579	UJ	mg/Kg	0.579	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-62-2	Vanadium	21.5		mg/Kg	0.066	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-66-6	Zinc	256	J N	mg/Kg	0.079	1	5/5/2006	5/8/2006	EPA SW-846 6010

Comments:

6/6/06

U = Not Detected
DL = Method Detection Limit or Instrument Detection Limit

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Spiked sample recovery not within control limits

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**4/26/2006**
Project:	**Stuyvesant town former MGP Pro**	**Date Received:**	**5/2/2006**
Client Sample ID:	**ST17SB05-2(5-7)**	**SDG No.:**	**X2580**
Lab Sample ID:	**X2580-07**	**Matrix:**	**SOIL**
% Solids:	**89.20**		

Analyte	Result	Qualifier	RL	Units	DF	Date Analyzed	Method
Cyanide	0.56	U	0.56	mg/Kg	1	5/4/2006	9012 Cyanide
Cyanide-Amenable	0.56	U	0.56	mg/Kg	1	5/4/2006	9012 Cyanide-Amenable

Comment

6/6/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**4/26/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**5/2/2006**
Client Sample ID:	**ST17SB05-2(35-37)**	**SDG No.:**	**X2580**
Lab Sample ID:	**X2580-03**	**Matrix:**	**SOIL**
Analytical Method:	**8260**	**% Moisture:**	**22**
Sample Wt/Vol:	**1.0 Units: g**	**Soil Extract Vol:**	**uL**
Soil Aliquot Vol:	**uL**		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK005920.D	1	5/5/2006	VK050406

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	5.3	U	31	5.3	ug/Kg
74-87-3	Chloromethane	5.3	U	31	5.3	ug/Kg
75-01-4	Vinyl chloride	5.1	U	31	5.1	ug/Kg
74-83-9	Bromomethane	12	U	31	12	ug/Kg
75-00-3	Chloroethane	13	U	31	13	ug/Kg
75-69-4	Trichlorofluoromethane	7.7	U	31	7.7	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	4.1	U	31	4.1	ug/Kg
75-35-4	1,1-Dichloroethene	3.5	UJ	31	3.5	ug/Kg
67-64-1	Acetone	21	U	150	21	ug/Kg
75-15-0	Carbon disulfide	2.3	UJ	31	2.3	ug/Kg
1634-04-4	Methyl tert-butyl Ether	2.3	U	31	2.3	ug/Kg
79-20-9	Methyl Acetate	5.3	U	31	5.3	ug/Kg
75-09-2	Methylene Chloride	11	U	31	11	ug/Kg
156-60-5	trans-1,2-Dichloroethene	3.9	U	31	3.9	ug/Kg
75-34-3	1,1-Dichloroethane	1.7	U	31	1.7	ug/Kg
110-82-7	Cyclohexane	2.0	U	31	2.0	ug/Kg
78-93-3	2-Butanone	17	U	150	17	ug/Kg
56-23-5	Carbon Tetrachloride	2.7	U	31	2.7	ug/Kg
156-59-2	cis-1,2-Dichloroethene	2.0	U	31	2.0	ug/Kg
67-66-3	Chloroform	2.1	U	31	2.1	ug/Kg
71-55-6	1,1,1-Trichloroethane	2.6	U	31	2.6	ug/Kg
108-87-2	Methylcyclohexane	2.6	U	31	2.6	ug/Kg
71-43-2	Benzene	2.5	U	31	2.5	ug/Kg
107-06-2	1,2-Dichloroethane	1.9	U	31	1.9	ug/Kg
79-01-6	Trichloroethene	1.9	U	31	1.9	ug/Kg
78-87-5	1,2-Dichloropropane	2.4	U	31	2.4	ug/Kg
75-27-4	Bromodichloromethane	2.1	U	31	2.1	ug/Kg
108-10-1	4-Methyl-2-Pentanone	12	U	150	12	ug/Kg
108-88-3	Toluene	2.5	U	31	2.5	ug/Kg
10061-02-6	t-1,3-Dichloropropene	2.2	U	31	2.2	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	2.0	U	31	2.0	ug/Kg
79-00-5	1,1,2-Trichloroethane	1.8	U	31	1.8	ug/Kg

U = Not Detected
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N = Presumptive Evidence of a Compound

dam 6/6/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	4/26/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/2/2006
Client Sample ID:	ST17SB05-2(35-37)	**SDG No.:**	X2580
Lab Sample ID:	X2580-03	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	22
Sample Wt/Vol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK005920.D	1	5/5/2006	VK050406

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	22	U	150	22	ug/Kg
124-48-1	Dibromochloromethane	1.4	U	31	1.4	ug/Kg
106-93-4	1,2-Dibromoethane	2.5	U	31	2.5	ug/Kg
127-18-4	Tetrachloroethene	4.5	U	31	4.5	ug/Kg
108-90-7	Chlorobenzene	2.2	U	31	2.2	ug/Kg
100-41-4	Ethyl Benzene	2.2	U	31	2.2	ug/Kg
126777-61-2	m/p-Xylenes	5.3	U	62	5.3	ug/Kg
95-47-6	o-Xylene	2.4	U	31	2.4	ug/Kg
100-42-5	Styrene	2.8	U	31	2.8	ug/Kg
75-25-2	Bromoform	1.9	U	31	1.9	ug/Kg
98-82-8	Isopropylbenzene	2.6	U	31	2.6	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.9	U	31	1.9	ug/Kg
541-73-1	1,3-Dichlorobenzene	3.4	U	31	3.4	ug/Kg
106-46-7	1,4-Dichlorobenzene	3.4	U	31	3.4	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.4	U	31	2.4	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	5.8	U	31	5.8	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	4.2	U	31	4.2	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	42.38	85 %	75 - 125		SPK: 50
1868-53-7	Dibromofluoromethane	48.16	96 %	75 - 125		SPK: 50
2037-26-5	Toluene-d8	50.65	101 %	75 - 125		SPK: 50
460-00-4	4-Bromofluorobenzene	44.28	89 %	75 - 125		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	286097	3.50			
540-36-3	1,4-Difluorobenzene	401910	3.91			
3114-55-4	Chlorobenzene-d5	337227	6.69			
3855-82-1	1,4-Dichlorobenzene-d4	177700	8.96			

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6/6/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	4/26/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/2/2006
Client Sample ID:	ST17SB05-2(35-37)	**SDG No.:**	X2580
Lab Sample ID:	X2580-03	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	22
Sample Wt/Wol:	30.2 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003399.D	1	5/4/2006	5/4/2006	BF042006

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	~~87~~ R	~~U~~	420	87	ug/Kg
108-95-2	Phenol	64	U	420	64	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	67	U	420	67	ug/Kg
95-57-8	2-Chlorophenol	67	U	420	67	ug/Kg
95-48-7	2-Methylphenol	70	U	420	70	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	68	U	420	68	ug/Kg
98-86-2	Acetophenone	62	U	420	62	ug/Kg
106-44-5	3+4-Methylphenols	67	U	420	67	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	70	U	420	70	ug/Kg
67-72-1	Hexachloroethane	72	U	420	72	ug/Kg
98-95-3	Nitrobenzene	92	U	420	92	ug/Kg
78-59-1	Isophorone	63	U	420	63	ug/Kg
88-75-5	2-Nitrophenol	65	U	420	65	ug/Kg
105-67-9	2,4-Dimethylphenol	67	U	420	67	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	69	U	420	69	ug/Kg
120-83-2	2,4-Dichlorophenol	78	U	420	78	ug/Kg
91-20-3	Naphthalene	72	U	420	72	ug/Kg
106-47-8	4-Chloroaniline	50	U	420	50	ug/Kg
87-68-3	Hexachlorobutadiene	65	U	420	65	ug/Kg
105-60-2	Caprolactam	68	U	420	68	ug/Kg
59-50-7	4-Chloro-3-methylphenol	58	U	420	58	ug/Kg
91-57-6	2-Methylnaphthalene	70	U	420	70	ug/Kg
77-47-4	Hexachlorocyclopentadiene	67	U	420	67	ug/Kg
88-06-2	2,4,6-Trichlorophenol	62	U	420	62	ug/Kg
95-95-4	2,4,5-Trichlorophenol	64	U	1100	64	ug/Kg
92-52-4	1,1-Biphenyl	69	U	420	69	ug/Kg
91-58-7	2-Chloronaphthalene	70	U	420	70	ug/Kg
88-74-4	2-Nitroaniline	54	U	1100	54	ug/Kg
131-11-3	Dimethylphthalate	68	U	420	68	ug/Kg
208-96-8	Acenaphthylene	68	U	420	68	ug/Kg
606-20-2	2,6-Dinitrotoluene	60	U	420	60	ug/Kg

U = Not Detected
RL = Reporting Limit
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E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

jam 6/7/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**4/26/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**5/2/2006**
Client Sample ID:	**ST17SB05-2(35-37)**	**SDG No.:**	**X2580**
Lab Sample ID:	**X2580-03**	**Matrix:**	**SOIL**
Analytical Method:	**8270**	**% Moisture:**	**22**
Sample Wt/Wol:	**30.2 g**	**Extract Vol:**	**1000 uL**

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003399.D	1	5/4/2006	5/4/2006	BF042006

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	55	U	1100	55	ug/Kg
83-32-9	Acenaphthene	75	U	420	75	ug/Kg
51-28-5	2,4-Dinitrophenol	360	U	1100	360	ug/Kg
100-02-7	4-Nitrophenol	52	UJ	1100	52	ug/Kg
132-64-9	Dibenzofuran	70	U	420	70	ug/Kg
121-14-2	2,4-Dinitrotoluene	62	U	420	62	ug/Kg
84-66-2	Diethylphthalate	73	U	420	73	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	67	U	420	67	ug/Kg
86-73-7	Fluorene	71	U	420	71	ug/Kg
100-01-6	4-Nitroaniline	72	U	1100	72	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	82	U	1100	82	ug/Kg
86-30-6	N-Nitrosodiphenylamine	69	U	420	69	ug/Kg
101-55-3	4-Bromophenyl-phenylether	63	U	420	63	ug/Kg
118-74-1	Hexachlorobenzene	67	U	420	67	ug/Kg
1912-24-9	Atrazine	65	U	420	65	ug/Kg
87-86-5	Pentachlorophenol	98	U	1100	98	ug/Kg
85-01-8	Phenanthrene	67	U	420	67	ug/Kg
120-12-7	Anthracene	64	U	420	64	ug/Kg
86-74-8	Carbazole	64	U	420	64	ug/Kg
84-74-2	Di-n-butylphthalate	64	U	420	64	ug/Kg
206-44-0	Fluoranthene	63	U	420	63	ug/Kg
129-00-0	Pyrene	75	U	420	75	ug/Kg
85-68-7	Butylbenzylphthalate	68	U	420	68	ug/Kg
91-94-1	3,3-Dichlorobenzidine	72	U	420	72	ug/Kg
56-55-3	Benzo(a)anthracene	59	U	420	59	ug/Kg
218-01-9	Chrysene	76	U	420	76	ug/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	81	U	420	81	ug/Kg
117-84-0	Di-n-octyl phthalate	72	U	420	72	ug/Kg
205-99-2	Benzo(b)fluoranthene	46	UJ	420	46	ug/Kg
207-08-9	Benzo(k)fluoranthene	93	U	420	93	ug/Kg
50-32-8	Benzo(a)pyrene	67	U	420	67	ug/Kg

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Jan 6/7/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	4/26/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/2/2006
Client Sample ID:	ST17SB05-2(35-37)	**SDG No.:**	X2580
Lab Sample ID:	X2580-03	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	22
Sample Wt/Wol:	30.2 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003399.D	1	5/4/2006	5/4/2006	BF042006

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	54	U J	420	54	ug/Kg
53-70-3	Dibenz(a,h)anthracene	53	U J	420	53	ug/Kg
191-24-2	Benzo(g,h,i)perylene	70	U J	420	70	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	218	73 %	25 - 121		SPK: 30
13127-88-3	Phenol-d5	234.76	78 %	24 - 113		SPK: 30
4165-60-0	Nitrobenzene-d5	140.8	70 %	23 - 120		SPK: 20
321-60-8	2-Fluorobiphenyl	121.58	61 %	30 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	229.66	77 %	19 - 122		SPK: 30
1718-51-0	Terphenyl-d14	150.27	75 %	18 - 137		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	97924	4.07			
1146-65-2	Naphthalene-d8	383492	5.22			
15067-26-2	Acenaphthene-d10	196359	6.91			
1517-22-2	Phenanthrene-d10	260096	8.37			
1719-03-5	Chrysene-d12	182180	10.97			
1520-96-3	Perylene-d12	148249	12.47			
TENTITIVE IDENTIFIED COMPOUNDS						
	ACP2.79	~~2200~~ R	~~A~~	2.79		ug/Kg
6971-40-0	17-Pentatriacontene	170	J N	10.86		ug/Kg
7683-64-9	Squalene	300	J N	11.87		ug/Kg

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Jam 6/7/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	4/26/2006
Project:	Stuyvesant town form	**Date Received:**	5/2/2006
Client Sample ID:	ST17SB05-2(35-37)	**SDG No.:**	X2580
Lab Sample ID:	X2580-03	**Matrix:**	SOIL
		% Solids:	78.10

CAS No.	Analyte	Conc.	Qualifier	Units	DL	Dilution	Date Prep	Date Anal.	Method
7429-90-5	Aluminum	7660	J N	mg/Kg	0.742	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-36-0	Antimony	0.416	UJ N	mg/Kg	0.416	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-38-2	Arsenic	2.130		mg/Kg	0.497	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-39-3	Barium	54.4	J ~~N~~E	mg/Kg	0.091	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-41-7	Beryllium	~~0.463~~ 0.63U	J	mg/Kg	0.008	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-43-9	Cadmium	~~0.135~~ 0.63U	J	mg/Kg	0.042	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-70-2	Calcium	18300	J	mg/Kg	0.047	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-47-3	Chromium	14.9	~~B~~	mg/Kg	0.112	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-48-4	Cobalt	8.360	J	mg/Kg	0.123	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-50-8	Copper	18.7	J	mg/Kg	0.082	1	5/5/2006	5/8/2006	EPA SW-846 6010
7439-89-6	Iron	12800	J	mg/Kg	1.940	1	5/5/2006	5/8/2006	EPA SW-846 6010
7439-92-1	Lead	17.8		mg/Kg	0.365	1	5/5/2006	5/8/2006	EPA SW-846 6010
7439-95-4	Magnesium	7710	J	mg/Kg	1.210	1	5/5/2006	5/8/2006	EPA SW-846 6010
7439-96-5	Manganese	704		mg/Kg	0.035	1	5/5/2006	5/8/2006	EPA SW-846 6010
7439-97-6	Mercury	0.044	J	mg/Kg	0.007	1	5/4/2006	5/4/2006	EPA SW-846 7471
7440-02-0	Nickel	21.4	J	mg/Kg	0.155	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-09-7	Potassium	3530	J	mg/Kg	6.720	1	5/5/2006	5/8/2006	EPA SW-846 6010
7782-49-2	Selenium	0.432	UJ	mg/Kg	0.432	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-22-4	Silver	3.700	J N	mg/Kg	0.100	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-23-5	Sodium	774	J N	mg/Kg	32.7	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-28-0	Thallium	0.668	UJ	mg/Kg	0.668	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-62-2	Vanadium	20.2		mg/Kg	0.076	1	5/5/2006	5/8/2006	EPA SW-846 6010
7440-66-6	Zinc	45.0	J ~~B~~	mg/Kg	0.091	1	5/5/2006	5/8/2006	EPA SW-846 6010

Comments:

JAM 6/16/06

U = Not Detected
DL = Method Detection Limit or Instrument Detection Limit

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Spiked sample recovery not within control limits

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**4/26/2006**
Project:	**Stuyvesant town former MGP Pro**	**Date Received:**	**5/2/2006**
Client Sample ID:	**ST17SB05-2(35-37)**	**SDG No.:**	**X2580**
Lab Sample ID:	**X2580-03**	**Matrix:**	**SOIL**
% Solids:	**78.10**		

Analyte	Result	Qualifier	RL	Units	DF	Date Analyzed	Method
Cyanide	0.64	U	0.64	mg/Kg	1	5/4/2006	9012 Cyanide
Cyanide-Amenable	0.64	U	0.64	mg/Kg	1	5/4/2006	9012 Cyanide-Amenable

Comment

6/6/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	4/26/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/2/2006
Client Sample ID:	ST17SB05-2(37-39)	**SDG No.:**	X2580
Lab Sample ID:	X2580-04	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	29
Sample Wt/Vol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK005921.D	1	5/5/2006	VK050406

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	6.0	U	35	6.0	ug/Kg
74-87-3	Chloromethane	5.9	U	35	5.9	ug/Kg
75-01-4	Vinyl chloride	5.7	U	35	5.7	ug/Kg
74-83-9	Bromomethane	14	U	35	14	ug/Kg
75-00-3	Chloroethane	15	U	35	15	ug/Kg
75-69-4	Trichlorofluoromethane	8.7	U	35	8.7	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	4.6	U	35	4.6	ug/Kg
75-35-4	1,1-Dichloroethene	4.0	UJ	35	4.0	ug/Kg
67-64-1	Acetone	23	U	170	23	ug/Kg
75-15-0	Carbon disulfide	2.6	UJ	35	2.6	ug/Kg
1634-04-4	Methyl tert-butyl Ether	2.6	U	35	2.6	ug/Kg
79-20-9	Methyl Acetate	6.0	U	35	6.0	ug/Kg
75-09-2	Methylene Chloride	13	U	35	13	ug/Kg
156-60-5	trans-1,2-Dichloroethene	4.5	U	35	4.5	ug/Kg
75-34-3	1,1-Dichloroethane	1.9	U	35	1.9	ug/Kg
110-82-7	Cyclohexane	2.3	U	35	2.3	ug/Kg
78-93-3	2-Butanone	20	U	170	20	ug/Kg
56-23-5	Carbon Tetrachloride	3.1	U	35	3.1	ug/Kg
156-59-2	cis-1,2-Dichloroethene	2.3	U	35	2.3	ug/Kg
67-66-3	Chloroform	2.4	U	35	2.4	ug/Kg
71-55-6	1,1,1-Trichloroethane	2.9	U	35	2.9	ug/Kg
108-87-2	Methylcyclohexane	2.9	U	35	2.9	ug/Kg
71-43-2	Benzene	2.8	U	35	2.8	ug/Kg
107-06-2	1,2-Dichloroethane	2.1	U	35	2.1	ug/Kg
79-01-6	Trichloroethene	2.1	U	35	2.1	ug/Kg
78-87-5	1,2-Dichloropropane	2.8	U	35	2.8	ug/Kg
75-27-4	Bromodichloromethane	2.3	U	35	2.3	ug/Kg
108-10-1	4-Methyl-2-Pentanone	14	U	170	14	ug/Kg
108-88-3	Toluene	2.8	U	35	2.8	ug/Kg
10061-02-6	t-1,3-Dichloropropene	2.5	U	35	2.5	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	2.3	U	35	2.3	ug/Kg
79-00-5	1,1,2-Trichloroethane	2.0	U	35	2.0	ug/Kg

U = Not Detected
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E = Value Exceeds Calibration Range
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6/6/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	4/26/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/2/2006
Client Sample ID:	ST17SB05-2(37-39)	**SDG No.:**	X2580
Lab Sample ID:	X2580-04	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	29
Sample Wt/Vol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK005921.D	1	5/5/2006	VK050406

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	25	U	170	25	ug/Kg
124-48-1	Dibromochloromethane	1.6	U	35	1.6	ug/Kg
106-93-4	1,2-Dibromoethane	2.8	U	35	2.8	ug/Kg
127-18-4	Tetrachloroethene	5.1	U	35	5.1	ug/Kg
108-90-7	Chlorobenzene	2.5	U	35	2.5	ug/Kg
100-41-4	Ethyl Benzene	2.5	U	35	2.5	ug/Kg
126777-61-2	m/p-Xylenes	6.0	U	70	6.0	ug/Kg
95-47-6	o-Xylene	2.7	U	35	2.7	ug/Kg
100-42-5	Styrene	3.2	U	35	3.2	ug/Kg
75-25-2	Bromoform	2.2	U	35	2.2	ug/Kg
98-82-8	Isopropylbenzene	2.9	U	35	2.9	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	2.2	U	35	2.2	ug/Kg
541-73-1	1,3-Dichlorobenzene	3.9	U	35	3.9	ug/Kg
106-46-7	1,4-Dichlorobenzene	3.8	U	35	3.8	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.7	U	35	2.7	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	6.6	U	35	6.6	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	4.8	U	35	4.8	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	46.14	92 %	75 - 125		SPK: 50
1868-53-7	Dibromofluoromethane	48.35	97 %	75 - 125		SPK: 50
2037-26-5	Toluene-d8	48.16	96 %	75 - 125		SPK: 50
460-00-4	4-Bromofluorobenzene	40.42	81 %	75 - 125		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	252481	3.50			
540-36-3	1,4-Difluorobenzene	376689	3.92			
3114-55-4	Chlorobenzene-d5	304460	6.69			
3855-82-1	1,4-Dichlorobenzene-d4	147768	8.97			

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6/6/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	4/26/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/2/2006
Client Sample ID:	ST17SB05-2(37-39)	**SDG No.:**	X2580
Lab Sample ID:	X2580-04	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	29
Sample Wt/Wol:	30.2 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BB031193.D	1	5/8/2006	5/8/2006	BB042806

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	95	UJ	460	95	ug/Kg
108-95-2	Phenol	70	U	460	70	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	73	U	460	73	ug/Kg
95-57-8	2-Chlorophenol	74	U	460	74	ug/Kg
95-48-7	2-Methylphenol	77	U	460	77	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	75	U	460	75	ug/Kg
98-86-2	Acetophenone	68	U	460	68	ug/Kg
106-44-5	3+4-Methylphenols	73	U	460	73	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	77	U	460	77	ug/Kg
67-72-1	Hexachloroethane	79	U	460	79	ug/Kg
98-95-3	Nitrobenzene	100	U	460	100	ug/Kg
78-59-1	Isophorone	70	U	460	70	ug/Kg
88-75-5	2-Nitrophenol	71	U	460	71	ug/Kg
105-67-9	2,4-Dimethylphenol	73	U	460	73	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	76	U	460	76	ug/Kg
120-83-2	2,4-Dichlorophenol	86	U	460	86	ug/Kg
91-20-3	Naphthalene	79	U	460	79	ug/Kg
106-47-8	4-Chloroaniline	55	U	460	55	ug/Kg
87-68-3	Hexachlorobutadiene	71	U	460	71	ug/Kg
105-60-2	Caprolactam	74	U	460	74	ug/Kg
59-50-7	4-Chloro-3-methylphenol	64	U	460	64	ug/Kg
91-57-6	2-Methylnaphthalene	77	U	460	77	ug/Kg
77-47-4	Hexachlorocyclopentadiene	74	U	460	74	ug/Kg
88-06-2	2,4,6-Trichlorophenol	68	U	460	68	ug/Kg
95-95-4	2,4,5-Trichlorophenol	71	U	1200	71	ug/Kg
92-52-4	1,1-Biphenyl	76	U	460	76	ug/Kg
91-58-7	2-Chloronaphthalene	77	U	460	77	ug/Kg
88-74-4	2-Nitroaniline	59	U	1200	59	ug/Kg
131-11-3	Dimethylphthalate	74	U	460	74	ug/Kg
208-96-8	Acenaphthylene	75	U	460	75	ug/Kg
606-20-2	2,6-Dinitrotoluene	65	U	460	65	ug/Kg

U = Not Detected
RL = Reporting Limit
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E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

6/7/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	4/26/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/2/2006
Client Sample ID:	ST17SB05-2(37-39)	**SDG No.:**	X2580
Lab Sample ID:	X2580-04	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	29
Sample Wt/Vol:	30.2 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BB031193.D	1	5/8/2006	5/8/2006	BB042806

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	60	U	1200	60	ug/Kg
83-32-9	Acenaphthene	82	U	460	82	ug/Kg
51-28-5	2,4-Dinitrophenol	400	U	1200	400	ug/Kg
100-02-7	4-Nitrophenol	57	UJ	1200	57	ug/Kg
132-64-9	Dibenzofuran	77	U	460	77	ug/Kg
121-14-2	2,4-Dinitrotoluene	68	U	460	68	ug/Kg
84-66-2	Diethylphthalate	80	U	460	80	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	73	U	460	73	ug/Kg
86-73-7	Fluorene	78	U	460	78	ug/Kg
100-01-6	4-Nitroaniline	79	U	1200	79	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	90	U	1200	90	ug/Kg
86-30-6	N-Nitrosodiphenylamine	76	U	460	76	ug/Kg
101-55-3	4-Bromophenyl-phenylether	69	U	460	69	ug/Kg
118-74-1	Hexachlorobenzene	74	U	460	74	ug/Kg
1912-24-9	Atrazine	71	U	460	71	ug/Kg
87-86-5	Pentachlorophenol	110	U	1200	110	ug/Kg
85-01-8	Phenanthrene	74	U	460	74	ug/Kg
120-12-7	Anthracene	70	U	460	70	ug/Kg
86-74-8	Carbazole	71	U	460	71	ug/Kg
84-74-2	Di-n-butylphthalate	70	U	460	70	ug/Kg
206-44-0	Fluoranthene	69	U	460	69	ug/Kg
129-00-0	Pyrene	82	U	460	82	ug/Kg
85-68-7	Butylbenzylphthalate	75	U	460	75	ug/Kg
91-94-1	3,3-Dichlorobenzidine	79	U	460	79	ug/Kg
56-55-3	Benzo(a)anthracene	65	U	460	65	ug/Kg
218-01-9	Chrysene	83	U	460	83	ug/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	89	U	460	89	ug/Kg
117-84-0	Di-n-octyl phthalate	79	U	460	79	ug/Kg
205-99-2	Benzo(b)fluoranthene	51	U	460	51	ug/Kg
207-08-9	Benzo(k)fluoranthene	100	U	460	100	ug/Kg
50-32-8	Benzo(a)pyrene	74	U	460	74	ug/Kg

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N = Presumptive Evidence of a Compound

dm 6/7/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	4/26/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/2/2006
Client Sample ID:	ST17SB05-2(37-39)	**SDG No.:**	X2580
Lab Sample ID:	X2580-04	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	29
Sample Wt/Wol:	30.2 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BB031193.D	1	5/8/2006	5/8/2006	BB042806

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	59	U	460	59	ug/Kg
53-70-3	Dibenz(a,h)anthracene	58	U	460	58	ug/Kg
191-24-2	Benzo(g,h,i)perylene	77	U	460	77	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	211.07	70 %	25 - 121		SPK: 30
13127-88-3	Phenol-d5	253.52	85 %	24 - 113		SPK: 30
4165-60-0	Nitrobenzene-d5	148.99	74 %	23 - 120		SPK: 20
321-60-8	2-Fluorobiphenyl	134.68	67 %	30 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	217.22	72 %	19 - 122		SPK: 30
1718-51-0	Terphenyl-d14	170.84	85 %	18 - 137		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	494851	7.05			
1146-65-2	Naphthalene-d8	2008301	9.72			
15067-26-2	Acenaphthene-d10	1038163	13.76			
1517-22-2	Phenanthrene-d10	1454732	17.27			
1719-03-5	Chrysene-d12	1172304	23.53			
1520-96-3	Perylene-d12	1092208	27.07			
TENTITIVE IDENTIFIED COMPOUNDS						
57-55-6	Propylene Glycol	160	JN	2.92		ug/Kg
	ACP4.30	~~2500~~ R	~~AB~~	4.30		ug/Kg
77899-03-7	1-Heneicosyl formate	300	J	23.32		ug/Kg
111-02-4	2,6,10,14,18,22-Tetracosahexaene,	~~480~~ R	~~JB~~	25.75		ug/Kg

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6/7/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB06(0-0.2)	**SDG No.:**	X2736
Lab Sample ID:	X2736-01	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	4
Sample Wt/Vol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK006168.D	1	5/14/2006	VK050406

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	4.5	UJ	26	4.5	ug/Kg
74-87-3	Chloromethane	4.4	U	26	4.4	ug/Kg
75-01-4	Vinyl chloride	4.3	U	26	4.3	ug/Kg
74-83-9	Bromomethane	11	U	26	11	ug/Kg
75-00-3	Chloroethane	11	UJ	26	11	ug/Kg
75-69-4	Trichlorofluoromethane	6.5	UJ	26	6.5	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	3.5	U	26	3.5	ug/Kg
75-35-4	1,1-Dichloroethene	3.0	U	26	3.0	ug/Kg
67-64-1	Acetone	18	U	130	18	ug/Kg
75-15-0	Carbon disulfide	1.9	U	26	1.9	ug/Kg
1634-04-4	Methyl tert-butyl Ether	1.9	U	26	1.9	ug/Kg
79-20-9	Methyl Acetate	4.5	U	26	4.5	ug/Kg
75-09-2	Methylene Chloride	170 UJ	~~B~~	26	9.5	ug/Kg
156-60-5	trans-1,2-Dichloroethene	3.3	U	26	3.3	ug/Kg
75-34-3	1,1-Dichloroethane	1.4	U	26	1.4	ug/Kg
110-82-7	Cyclohexane	1.7	U	26	1.7	ug/Kg
78-93-3	2-Butanone	15	U	130	15	ug/Kg
56-23-5	Carbon Tetrachloride	2.3	UJ	26	2.3	ug/Kg
156-59-2	cis-1,2-Dichloroethene	1.7	U	26	1.7	ug/Kg
67-66-3	Chloroform	1.8	U	26	1.8	ug/Kg
71-55-6	1,1,1-Trichloroethane	2.2	U	26	2.2	ug/Kg
108-87-2	Methylcyclohexane	2.2	U	26	2.2	ug/Kg
71-43-2	Benzene	2.1	U	26	2.1	ug/Kg
107-06-2	1,2-Dichloroethane	1.6	U	26	1.6	ug/Kg
79-01-6	Trichloroethene	1.6	U	26	1.6	ug/Kg
78-87-5	1,2-Dichloropropane	2.1	U	26	2.1	ug/Kg
75-27-4	Bromodichloromethane	1.7	U	26	1.7	ug/Kg
108-10-1	4-Methyl-2-Pentanone	10	U	130	10	ug/Kg
108-88-3	Toluene	2.1	U	26	2.1	ug/Kg
10061-02-6	t-1,3-Dichloropropene	1.9	U	26	1.9	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	1.7	U	26	1.7	ug/Kg
79-00-5	1,1,2-Trichloroethane	1.5	U	26	1.5	ug/Kg

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6/26/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	5/8/2006
Project:	Stuyvesant town former MGP Proj06	Date Received:	5/10/2006
Client Sample ID:	ST17SB06(0-0.2)	SDG No.:	X2736
Lab Sample ID:	X2736-01	Matrix:	SOIL
Analytical Method:	8260	% Moisture:	4
Sample Wt/Vol:	1.0 Units: g	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK006168.D	1	5/14/2006	VK050406

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	19	U	130	19	ug/Kg
124-48-1	Dibromochloromethane	1.2	U	26	1.2	ug/Kg
106-93-4	1,2-Dibromoethane	2.1	U	26	2.1	ug/Kg
127-18-4	Tetrachloroethene	3.8	U	26	3.8	ug/Kg
108-90-7	Chlorobenzene	1.9	U	26	1.9	ug/Kg
100-41-4	Ethyl Benzene	1.8	U	26	1.8	ug/Kg
126777-61-2	m/p-Xylenes	6.6 J	J	52	4.5	ug/Kg
95-47-6	o-Xylene	2.0	U	26	2.0	ug/Kg
100-42-5	Styrene	2.4	U	26	2.4	ug/Kg
75-25-2	Bromoform	1.6	U	26	1.6	ug/Kg
98-82-8	Isopropylbenzene	2.2	U	26	2.2	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.6	U	26	1.6	ug/Kg
541-73-1	1,3-Dichlorobenzene	2.9	U	26	2.9	ug/Kg
106-46-7	1,4-Dichlorobenzene	2.8	U	26	2.8	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.0	U	26	2.0	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	4.9	U	26	4.9	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	3.6	U	26	3.6	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	48.07	96 %	75 - 125		SPK: 50
1868-53-7	Dibromofluoromethane	54.76	110 %	75 - 125		SPK: 50
2037-26-5	Toluene-d8	56.13	112 %	75 - 125		SPK: 50
460-00-4	4-Bromofluorobenzene	50.97	102 %	75 - 125		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	243027	3.49			
540-36-3	1,4-Difluorobenzene	358319	3.90			
3114-55-4	Chlorobenzene-d5	304749	6.68			
3855-82-1	1,4-Dichlorobenzene-d4	157997	8.95			

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jm 6/26/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB06(0-0.2)	**SDG No.:**	X2736
Lab Sample ID:	X2736-01	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	4
Sample Wt/Wol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE031111.D	10	5/13/2006	5/15/2006	BE050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	~~700~~	R ~~U~~	3400	700	ug/Kg
108-95-2	Phenol	520	U	3400	520	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	540	U	3400	540	ug/Kg
95-57-8	2-Chlorophenol	550	U	3400	550	ug/Kg
95-48-7	2-Methylphenol	570	U	3400	570	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	550	U	3400	550	ug/Kg
98-86-2	Acetophenone	500	U	3400	500	ug/Kg
106-44-5	3+4-Methylphenols	540	U	3400	540	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	570	U	3400	570	ug/Kg
67-72-1	Hexachloroethane	580	U	3400	580	ug/Kg
98-95-3	Nitrobenzene	750	U	3400	750	ug/Kg
78-59-1	Isophorone	520	U	3400	520	ug/Kg
88-75-5	2-Nitrophenol	530	U J	3400	530	ug/Kg
105-67-9	2,4-Dimethylphenol	540	U	3400	540	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	560	U	3400	560	ug/Kg
120-83-2	2,4-Dichlorophenol	630	U	3400	630	ug/Kg
91-20-3	Naphthalene	590	U	3400	590	ug/Kg
106-47-8	4-Chloroaniline	410	U	3400	410	ug/Kg
87-68-3	Hexachlorobutadiene	530	U	3400	530	ug/Kg
105-60-2	Caprolactam	550	U	3400	550	ug/Kg
59-50-7	4-Chloro-3-methylphenol	470	U	3400	470	ug/Kg
91-57-6	2-Methylnaphthalene	570	U	3400	570	ug/Kg
77-47-4	Hexachlorocyclopentadiene	~~550~~	R ~~U~~	3400	550	ug/Kg
88-06-2	2,4,6-Trichlorophenol	500	U	3400	500	ug/Kg
95-95-4	2,4,5-Trichlorophenol	520	U	8600	520	ug/Kg
92-52-4	1,1-Biphenyl	570	U	3400	570	ug/Kg
91-58-7	2-Chloronaphthalene	570	U	3400	570	ug/Kg
88-74-4	2-Nitroaniline	440	U	8600	440	ug/Kg
131-11-3	Dimethylphthalate	550	U	3400	550	ug/Kg
208-96-8	Acenaphthylene	560	U	3400	560	ug/Kg
606-20-2	2,6-Dinitrotoluene	490	U	3400	490	ug/Kg

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Jan 6/27/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB06(0-0.2)	**SDG No.:**	X2736
Lab Sample ID:	X2736-01	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	4
Sample Wt/Wol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE031111.D	10	5/13/2006	5/15/2006	BE050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	~~450~~	R ~~U~~	8600	450	ug/Kg
83-32-9	Acenaphthene	610	U	3400	610	ug/Kg
51-28-5	2,4-Dinitrophenol	2900	U	8600	2900	ug/Kg
100-02-7	4-Nitrophenol	430	U	8600	430	ug/Kg
132-64-9	Dibenzofuran	570	U	3400	570	ug/Kg
121-14-2	2,4-Dinitrotoluene	500	UJ	3400	500	ug/Kg
84-66-2	Diethylphthalate	590	U	3400	590	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	540	U	3400	540	ug/Kg
86-73-7	Fluorene	580	U	3400	580	ug/Kg
100-01-6	4-Nitroaniline	590	U	8600	590	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	670	U	8600	670	ug/Kg
86-30-6	N-Nitrosodiphenylamine	570	U	3400	570	ug/Kg
101-55-3	4-Bromophenyl-phenylether	510	U	3400	510	ug/Kg
118-74-1	Hexachlorobenzene	550	U	3400	550	ug/Kg
1912-24-9	Atrazine	530	U	3400	530	ug/Kg
87-86-5	Pentachlorophenol	790	U	8600	790	ug/Kg
85-01-8	Phenanthrene	780 J	J	3400	550	ug/Kg
120-12-7	Anthracene	520	U	3400	520	ug/Kg
86-74-8	Carbazole	~~520~~ R	~~U~~	3400	520	ug/Kg
84-74-2	Di-n-butylphthalate	520	U	3400	520	ug/Kg
206-44-0	Fluoranthene	2800 J	J	3400	510	ug/Kg
129-00-0	Pyrene	4600	J	3400	610	ug/Kg
85-68-7	Butylbenzylphthalate	550	UJ	3400	550	ug/Kg
91-94-1	3,3-Dichlorobenzidine	590	UJ	3400	590	ug/Kg
56-55-3	Benzo(a)anthracene	1400 J	J	3400	480	ug/Kg
218-01-9	Chrysene	1400 J	J	3400	620	ug/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	660	UJ	3400	660	ug/Kg
117-84-0	Di-n-octyl phthalate	580	UJ	3400	580	ug/Kg
205-99-2	Benzo(b)fluoranthene	2200 J	J	3400	380	ug/Kg
207-08-9	Benzo(k)fluoranthene	~~750~~ R	~~U~~	3400	750	ug/Kg
50-32-8	Benzo(a)pyrene	1400 J	J	3400	550	ug/Kg

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Jam 6/27/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB06(0-0.2)	**SDG No.:**	X2736
Lab Sample ID:	X2736-01	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	4
Sample Wt/Vol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE031111.D	10	5/13/2006	5/15/2006	BE050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	440	UJ	3400	440	ug/Kg
53-70-3	Dibenz(a,h)anthracene	~~430~~ R	~~U~~	3400	430	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1100 J	J	3400	570	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	243.4	81 %	25 - 121		SPK: 30
13127-88-3	Phenol-d5	256.9	86 %	24 - 113		SPK: 30
4165-60-0	Nitrobenzene-d5	152.7	76 %	23 - 120		SPK: 20
321-60-8	2-Fluorobiphenyl	194.9	97 %	30 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	195.9	65 %	19 - 122		SPK: 30
1718-51-0	Terphenyl-d14	335.4	168 %	18 - 137		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	332402	5.04			
1146-65-2	Naphthalene-d8	1194806	6.88			
15067-26-2	Acenaphthene-d10	584727	9.63			
1517-22-2	Phenanthrene-d10	827901	12.01			
1719-03-5	Chrysene-d12	297945	16.27			
1520-96-3	Perylene-d12	99054	18.40			
TENTITIVE IDENTIFIED COMPOUNDS						
	ACP3.12	~~1200~~ R	~~A~~	3.12		ug/Kg

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JAM 6/27/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB06(0-0.2)RE	**SDG No.:**	X2736
Lab Sample ID:	X2736-01RE	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	4
Sample Wt/Vol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE031144.D	10	5/13/2006	5/17/2006	BE050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	~~700~~	R ~~U~~	3400	700	ug/Kg
108-95-2	Phenol	520	U	3400	520	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	540	U	3400	540	ug/Kg
95-57-8	2-Chlorophenol	550	U	3400	550	ug/Kg
95-48-7	2-Methylphenol	570	U	3400	570	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	550	U	3400	550	ug/Kg
98-86-2	Acetophenone	500	U	3400	500	ug/Kg
106-44-5	3+4-Methylphenols	540	U	3400	540	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	570	U	3400	570	ug/Kg
67-72-1	Hexachloroethane	580	U	3400	580	ug/Kg
98-95-3	Nitrobenzene	750	U	3400	750	ug/Kg
78-59-1	Isophorone	520	U	3400	520	ug/Kg
88-75-5	2-Nitrophenol	530	U J	3400	530	ug/Kg
105-67-9	2,4-Dimethylphenol	540	U	3400	540	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	560	U	3400	560	ug/Kg
120-83-2	2,4-Dichlorophenol	630	U	3400	630	ug/Kg
91-20-3	Naphthalene	590	U	3400	590	ug/Kg
106-47-8	4-Chloroaniline	410	U	3400	410	ug/Kg
87-68-3	Hexachlorobutadiene	530	U	3400	530	ug/Kg
105-60-2	Caprolactam	550	U	3400	550	ug/Kg
59-50-7	4-Chloro-3-methylphenol	470	U	3400	470	ug/Kg
91-57-6	2-Methylnaphthalene	570	U	3400	570	ug/Kg
77-47-4	Hexachlorocyclopentadiene	~~550~~	R ~~U~~	3400	550	ug/Kg
88-06-2	2,4,6-Trichlorophenol	500	U	3400	500	ug/Kg
95-95-4	2,4,5-Trichlorophenol	520	U	8600	520	ug/Kg
92-52-4	1,1-Biphenyl	570	U	3400	570	ug/Kg
91-58-7	2-Chloronaphthalene	570	U	3400	570	ug/Kg
88-74-4	2-Nitroaniline	440	U	8600	440	ug/Kg
131-11-3	Dimethylphthalate	550	U	3400	550	ug/Kg
208-96-8	Acenaphthylene	560	U	3400	560	ug/Kg
606-20-2	2,6-Dinitrotoluene	490	U	3400	490	ug/Kg

do not report

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

Jam 6/27/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB06(0-0.2)RE	**SDG No.:**	X2736
Lab Sample ID:	X2736-01RE	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	4
Sample Wt/Wol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE031144.D	10	5/13/2006	5/17/2006	BE050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	~~450~~	R ~~U~~	8600	450	ug/Kg
83-32-9	Acenaphthene	610	U	3400	610	ug/Kg
51-28-5	2,4-Dinitrophenol	2900	UJ	8600	2900	ug/Kg
100-02-7	4-Nitrophenol	430	U	8600	430	ug/Kg
132-64-9	Dibenzofuran	570	U	3400	570	ug/Kg
121-14-2	2,4-Dinitrotoluene	500	UJ	3400	500	ug/Kg
84-66-2	Diethylphthalate	590	U	3400	590	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	540	U	3400	540	ug/Kg
86-73-7	Fluorene	580	U	3400	580	ug/Kg
100-01-6	4-Nitroaniline	590	U	8600	590	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	670	U	8600	670	ug/Kg
86-30-6	N-Nitrosodiphenylamine	570	U	3400	570	ug/Kg
101-55-3	4-Bromophenyl-phenylether	510	U	3400	510	ug/Kg
118-74-1	Hexachlorobenzene	550	U	3400	550	ug/Kg
1912-24-9	Atrazine	530	U	3400	530	ug/Kg
87-86-5	Pentachlorophenol	790	U	8600	790	ug/Kg
85-01-8	Phenanthrene	550	U	3400	550	ug/Kg
120-12-7	Anthracene	520	U	3400	520	ug/Kg
86-74-8	Carbazole	~~520~~	R ~~U~~	3400	520	ug/Kg
84-74-2	Di-n-butylphthalate	520	U	3400	520	ug/Kg
206-44-0	Fluoranthene	2800	J	3400	510	ug/Kg
129-00-0	Pyrene	4400	J	3400	610	ug/Kg
85-68-7	Butylbenzylphthalate	550	UJ	3400	550	ug/Kg
91-94-1	3,3-Dichlorobenzidine	590	UJ	3400	590	ug/Kg
56-55-3	Benzo(a)anthracene	1400	J	3400	480	ug/Kg
218-01-9	Chrysene	1500	J	3400	620	ug/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	660	UJ	3400	660	ug/Kg
117-84-0	Di-n-octyl phthalate	580	UJ	3400	580	ug/Kg
205-99-2	Benzo(b)fluoranthene	2000	J	3400	380	ug/Kg
207-08-9	Benzo(k)fluoranthene	~~750~~	R ~~U~~	3400	750	ug/Kg
50-32-8	Benzo(a)pyrene	1100	J	3400	550	ug/Kg

do not report

U = Not Detected
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N = Presumptive Evidence of a Compound

Jan 6/27/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB06(0-0.2)RE	**SDG No.:**	X2736
Lab Sample ID:	X2736-01RE	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	4
Sample Wt/Wol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE031144.D	10	5/13/2006	5/17/2006	BE050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	440	U J	3400	440	ug/Kg
53-70-3	Dibenz(a,h)anthracene	~~430~~ R	~~U~~	3400	430	ug/Kg
191-24-2	Benzo(g,h,i)perylene	980 J	J	3400	570	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	248.4	83 %	25 - 121		SPK: 30
13127-88-3	Phenol-d5	256.6	86 %	24 - 113		SPK: 30
4165-60-0	Nitrobenzene-d5	151	76 %	23 - 120		SPK: 20
321-60-8	2-Fluorobiphenyl	194.9	97 %	30 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	206.4	69 %	19 - 122		SPK: 30
1718-51-0	Terphenyl-d14	316.7	158 %	18 - 137		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	324070	5.01			
1146-65-2	Naphthalene-d8	1160942	6.85			
15067-26-2	Acenaphthene-d10	561307	9.60			
1517-22-2	Phenanthrene-d10	793643	11.97			
1719-03-5	Chrysene-d12	307294	16.23			
1520-96-3	Perylene-d12	112929	18.37			

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

Jam 6/27/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town form	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB06(0-0.2)	**SDG No.:**	X2736
Lab Sample ID:	X2736-01	**Matrix:**	SOIL
		% Solids:	96.40

CAS No.	Analyte	Conc.	Qualifier	Units	DL	Dilution	Date Prep	Date Anal.	Method
7429-90-5	Aluminum	1160	J E	mg/Kg	0.607	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-36-0	Antimony	0.340	UJ N	mg/Kg	0.340	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-38-2	Arsenic	0.483 J	J	mg/Kg	0.407	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-39-3	Barium	12.5 J	J E	mg/Kg	0.075	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-41-7	Beryllium	0.075 J	J	mg/Kg	0.006	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-43-9	Cadmium	0.034	UJ	mg/Kg	0.034	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-70-2	Calcium	1920 J	E	mg/Kg	0.038	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-47-3	Chromium	7.320 J	NE	mg/Kg	0.091	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-48-4	Cobalt	1.860 J	J N	mg/Kg	0.101	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-50-8	Copper	154		mg/Kg	0.067	1	5/15/2006	5/18/2006	EPA SW-846 6010
7439-89-6	Iron	3610 J	E	mg/Kg	1.590	1	5/15/2006	5/18/2006	EPA SW-846 6010
7439-92-1	Lead	118		mg/Kg	0.299	1	5/15/2006	5/18/2006	EPA SW-846 6010
7439-95-4	Magnesium	660 J	E	mg/Kg	0.988	1	5/15/2006	5/18/2006	EPA SW-846 6010
7439-96-5	Manganese	62.2 J	E	mg/Kg	0.029	1	5/15/2006	5/18/2006	EPA SW-846 6010
7439-97-6	Mercury	0.055		mg/Kg	0.006	1	5/17/2006	5/17/2006	EPA SW-846 7471
7440-02-0	Nickel	10.3 J	NE	mg/Kg	0.127	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-09-7	Potassium	192 J	J N	mg/Kg	5.500	1	5/15/2006	5/18/2006	EPA SW-846 6010
7782-49-2	Selenium	0.354	U	mg/Kg	0.354	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-22-4	Silver	0.752 J	J N	mg/Kg	0.082	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-23-5	Sodium	99.6 J	J N	mg/Kg	26.8	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-28-0	Thallium	0.547	U	mg/Kg	0.547	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-62-2	Vanadium	10.2	N	mg/Kg	0.062	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-66-6	Zinc	177 J	N	mg/Kg	0.075	1	5/15/2006	5/18/2006	EPA SW-846 6010

Comments:

U = Not Detected
DL = Method Detection Limit or Instrument Detection Limit

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Spiked sample recovery not within control limits

JAM 6/28/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Pro	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB06(0-0.2)	**SDG No.:**	X2736
Lab Sample ID:	X2736-01	**Matrix:**	SOIL
% Solids:	96.40		

Analyte	Result	Qualifier	RL	Units	DF	Date Analyzed	Method
Cyanide	~~0.52~~ 0.53	~~U~~	0.52	mg/Kg	1	5/15/2006	9012 Cyanide
Cyanide-Amenable	0.52	UJ	0.52	mg/Kg	1	5/17/2006	9012 Cyanide-Amenable

Comment

JA 6/28/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB06(2-4)	**SDG No.:**	X2736
Lab Sample ID:	X2736-02	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	13
Sample Wt/Vol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK006167.D	1	5/14/2006	VK050406

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	4.9	UJ	29	4.9	ug/Kg
74-87-3	Chloromethane	4.9	U	29	4.9	ug/Kg
75-01-4	Vinyl chloride	4.7	U	29	4.7	ug/Kg
74-83-9	Bromomethane	12	U	29	12	ug/Kg
75-00-3	Chloroethane	12	UJ	29	12	ug/Kg
75-69-4	Trichlorofluoromethane	7.2	UJ	29	7.2	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	3.8	U	29	3.8	ug/Kg
75-35-4	1,1-Dichloroethene	3.3	U	29	3.3	ug/Kg
67-64-1	Acetone	19	U	140	19	ug/Kg
75-15-0	Carbon disulfide	2.1	U	29	2.1	ug/Kg
1634-04-4	Methyl tert-butyl Ether	2.1	U	29	2.1	ug/Kg
79-20-9	Methyl Acetate	5.0	U	29	5.0	ug/Kg
75-09-2	Methylene Chloride	200	UJ	~~B~~	29	10 ug/Kg
156-60-5	trans-1,2-Dichloroethene	3.7	U	29	3.7	ug/Kg
75-34-3	1,1-Dichloroethane	1.5	U	29	1.5	ug/Kg
110-82-7	Cyclohexane	1.9	U	29	1.9	ug/Kg
78-93-3	2-Butanone	16	U	140	16	ug/Kg
56-23-5	Carbon Tetrachloride	2.5	UJ	29	2.5	ug/Kg
156-59-2	cis-1,2-Dichloroethene	1.9	U	29	1.9	ug/Kg
67-66-3	Chloroform	2.0	U	29	2.0	ug/Kg
71-55-6	1,1,1-Trichloroethane	2.4	U	29	2.4	ug/Kg
108-87-2	Methylcyclohexane	2.4	U	29	2.4	ug/Kg
71-43-2	Benzene	2.3	U	29	2.3	ug/Kg
107-06-2	1,2-Dichloroethane	1.8	U	29	1.8	ug/Kg
79-01-6	Trichloroethene	1.8	U	29	1.8	ug/Kg
78-87-5	1,2-Dichloropropane	2.3	U	29	2.3	ug/Kg
75-27-4	Bromodichloromethane	1.9	U	29	1.9	ug/Kg
108-10-1	4-Methyl-2-Pentanone	11	U	140	11	ug/Kg
108-88-3	Toluene	2.3	U	29	2.3	ug/Kg
10061-02-6	t-1,3-Dichloropropene	2.1	U	29	2.1	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	1.9	U	29	1.9	ug/Kg
79-00-5	1,1,2-Trichloroethane	1.7	U	29	1.7	ug/Kg

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

jam 6/6/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	5/8/2006
Project:	Stuyvesant town former MGP Proj06	Date Received:	5/10/2006
Client Sample ID:	ST17SB06(2-4)	SDG No.:	X2736
Lab Sample ID:	X2736-02	Matrix:	SOIL
Analytical Method:	8260	% Moisture:	13
Sample Wt/Vol:	1.0 Units: g	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK006167.D	1	5/14/2006	VK050406

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	21	U	140	21	ug/Kg
124-48-1	Dibromochloromethane	1.3	U	29	1.3	ug/Kg
106-93-4	1,2-Dibromoethane	2.3	U	29	2.3	ug/Kg
127-18-4	Tetrachloroethene	4.2	U	29	4.2	ug/Kg
108-90-7	Chlorobenzene	2.1	U	29	2.1	ug/Kg
100-41-4	Ethyl Benzene	2.0	U	29	2.0	ug/Kg
126777-61-2	m/p-Xylenes	5.0	U	57	5.0	ug/Kg
95-47-6	o-Xylene	2.2	U	29	2.2	ug/Kg
100-42-5	Styrene	2.6	U	29	2.6	ug/Kg
75-25-2	Bromoform	1.8	U	29	1.8	ug/Kg
98-82-8	Isopropylbenzene	2.4	U	29	2.4	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.8	U	29	1.8	ug/Kg
541-73-1	1,3-Dichlorobenzene	3.2	U	29	3.2	ug/Kg
106-46-7	1,4-Dichlorobenzene	3.1	U	29	3.1	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.2	U	29	2.2	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	5.4	U	29	5.4	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	3.9	U	29	3.9	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	49.06	98 %	75 - 125		SPK: 50
1868-53-7	Dibromofluoromethane	55.37	111 %	75 - 125		SPK: 50
2037-26-5	Toluene-d8	53.16	106 %	75 - 125		SPK: 50
460-00-4	4-Bromofluorobenzene	46.36	93 %	75 - 125		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	238551	3.49			
540-36-3	1,4-Difluorobenzene	338300	3.89			
3114-55-4	Chlorobenzene-d5	268247	6.68			
3855-82-1	1,4-Dichlorobenzene-d4	135797	8.96			

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
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J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

jam 6/26/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB06(2-4)	**SDG No.:**	X2736
Lab Sample ID:	X2736-02	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	13
Sample Wt/Wol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE031105.D	5	5/13/2006	5/15/2006	BE050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	~~390~~	R ~~U~~	1900	390	ug/Kg
108-95-2	Phenol	290	U	1900	290	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	300	U	1900	300	ug/Kg
95-57-8	2-Chlorophenol	300	U	1900	300	ug/Kg
95-48-7	2-Methylphenol	320	U	1900	320	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	310	U	1900	310	ug/Kg
98-86-2	Acetophenone	280	U	1900	280	ug/Kg
106-44-5	3+4-Methylphenols	300	U	1900	300	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	310	U	1900	310	ug/Kg
67-72-1	Hexachloroethane	320	U	1900	320	ug/Kg
98-95-3	Nitrobenzene	410	U	1900	410	ug/Kg
78-59-1	Isophorone	280	U	1900	280	ug/Kg
88-75-5	2-Nitrophenol	290	U	1900	290	ug/Kg
105-67-9	2,4-Dimethylphenol	300	U	1900	300	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	310	U	1900	310	ug/Kg
120-83-2	2,4-Dichlorophenol	350	U	1900	350	ug/Kg
91-20-3	Naphthalene	320	U	1900	320	ug/Kg
106-47-8	4-Chloroaniline	230	U	1900	230	ug/Kg
87-68-3	Hexachlorobutadiene	290	U	1900	290	ug/Kg
105-60-2	Caprolactam	300	U	1900	300	ug/Kg
59-50-7	4-Chloro-3-methylphenol	260	U	1900	260	ug/Kg
91-57-6	2-Methylnaphthalene	320	U	1900	320	ug/Kg
77-47-4	Hexachlorocyclopentadiene	300	U	1900	300	ug/Kg
88-06-2	2,4,6-Trichlorophenol	280	U	1900	280	ug/Kg
95-95-4	2,4,5-Trichlorophenol	290	U	4800	290	ug/Kg
92-52-4	1,1-Biphenyl	310	U	1900	310	ug/Kg
91-58-7	2-Chloronaphthalene	310	U	1900	310	ug/Kg
88-74-4	2-Nitroaniline	240	U	4800	240	ug/Kg
131-11-3	Dimethylphthalate	300	U	1900	300	ug/Kg
208-96-8	Acenaphthylene	310	U	1900	310	ug/Kg
606-20-2	2,6-Dinitrotoluene	270	U	1900	270	ug/Kg

U = Not Detected
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J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

dam 6/27/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB06(2-4)	**SDG No.:**	X2736
Lab Sample ID:	X2736-02	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	13
Sample Wt/Vol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE031105.D	5	5/13/2006	5/15/2006	BE050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	250	U	4800	250	ug/Kg
83-32-9	Acenaphthene	340	U	1900	340	ug/Kg
51-28-5	2,4-Dinitrophenol	1600	U	4800	1600	ug/Kg
100-02-7	4-Nitrophenol	230	U	4800	230	ug/Kg
132-64-9	Dibenzofuran	310	U	1900	310	ug/Kg
121-14-2	2,4-Dinitrotoluene	280	U	1900	280	ug/Kg
84-66-2	Diethylphthalate	330	U	1900	330	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	300	U	1900	300	ug/Kg
86-73-7	Fluorene	320	U	1900	320	ug/Kg
100-01-6	4-Nitroaniline	320	U	4800	320	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	370	U	4800	370	ug/Kg
86-30-6	N-Nitrosodiphenylamine	310	U	1900	310	ug/Kg
101-55-3	4-Bromophenyl-phenylether	280	U	1900	280	ug/Kg
118-74-1	Hexachlorobenzene	300	U	1900	300	ug/Kg
1912-24-9	Atrazine	290	U	1900	290	ug/Kg
87-86-5	Pentachlorophenol	440	U	4800	440	ug/Kg
85-01-8	Phenanthrene	2300		1900	300	ug/Kg
120-12-7	Anthracene	610 J	J	1900	290	ug/Kg
86-74-8	Carbazole	290	U	1900	290	ug/Kg
84-74-2	Di-n-butylphthalate	290	U	1900	290	ug/Kg
206-44-0	Fluoranthene	2900		1900	280	ug/Kg
129-00-0	Pyrene	4700		1900	340	ug/Kg
85-68-7	Butylbenzylphthalate	310	U	1900	310	ug/Kg
91-94-1	3,3-Dichlorobenzidine	320	U J	1900	320	ug/Kg
56-55-3	Benzo(a)anthracene	1800 J	J	1900	270	ug/Kg
218-01-9	Chrysene	1800 J	J	1900	340	ug/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	360	U	1900	360	ug/Kg
117-84-0	Di-n-octyl phthalate	320	U	1900	320	ug/Kg
205-99-2	Benzo(b)fluoranthene	2700 J		1900	210	ug/Kg
207-08-9	Benzo(k)fluoranthene	930 J	J	1900	420	ug/Kg
50-32-8	Benzo(a)pyrene	2200 J		1900	300	ug/Kg

U = Not Detected
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jam 6/27/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB06(2-4)	**SDG No.:**	X2736
Lab Sample ID:	X2736-02	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	13
Sample Wt/Wol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE031105.D	5	5/13/2006	5/15/2006	BE050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	490 J	J	1900	240	ug/Kg
53-70-3	Dibenz(a,h)anthracene	240	UJ	1900	240	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1300 J	J	1900	310	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	236.65	79 %	25 - 121		SPK: 30
13127-88-3	Phenol-d5	249.4	83 %	24 - 113		SPK: 30
4165-60-0	Nitrobenzene-d5	155.25	78 %	23 - 120		SPK: 20
321-60-8	2-Fluorobiphenyl	165.8	83 %	30 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	209.15	70 %	19 - 122		SPK: 30
1718-51-0	Terphenyl-d14	249.25	125 %	18 - 137		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	329607	5.04			
1146-65-2	Naphthalene-d8	1193169	6.88			
15067-26-2	Acenaphthene-d10	585256	9.63			
1517-22-2	Phenanthrene-d10	844542	12.01			
1719-03-5	Chrysene-d12	378948	16.27			
1520-96-3	Perylene-d12	134697	18.40			
TENTITIVE IDENTIFIED COMPOUNDS						
	ACP3.12	~~1400~~ R	~~A~~	3.12		ug/Kg
613-12-7	Anthracene, 2-methyl-	420	JN	12.83		ug/Kg
	Unknown12.87	450	J	12.87		ug/Kg
203-64-5	4H-Cyclopenta[def]phenanthrene	640	JN	12.99		ug/Kg
132545-36-9	1-Methyl-4-ethyl 2-phenylsuccinat	460	J	13.33		ug/Kg
203-12-3	Benzo[ghi]fluoranthene	430	J	15.91		ug/Kg
12260-67-2	(1-Cyclopentenyl)ferrocene	810	J	18.02		ug/Kg
198-55-0	Perylene	2000	J	18.25		ug/Kg

U = Not Detected
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Jam 6/27/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB06(2-4)RE	**SDG No.:**	X2736
Lab Sample ID:	X2736-02RE	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	13
Sample Wt/Vol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE031138.D	5	5/13/2006	5/16/2006	BE050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	~~390~~	R ~~U~~	1900	390	ug/Kg
108-95-2	Phenol	290	U	1900	290	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	300	U	1900	300	ug/Kg
95-57-8	2-Chlorophenol	300	U	1900	300	ug/Kg
95-48-7	2-Methylphenol	320	U	1900	320	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	310	U	1900	310	ug/Kg
98-86-2	Acetophenone	280	U	1900	280	ug/Kg
106-44-5	3+4-Methylphenols	300	U	1900	300	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	310	U	1900	310	ug/Kg
67-72-1	Hexachloroethane	320	U	1900	320	ug/Kg
98-95-3	Nitrobenzene	410	U	1900	410	ug/Kg
78-59-1	Isophorone	280	U	1900	280	ug/Kg
88-75-5	2-Nitrophenol	290	U	1900	290	ug/Kg
105-67-9	2,4-Dimethylphenol	300	U	1900	300	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	310	U	1900	310	ug/Kg
120-83-2	2,4-Dichlorophenol	350	U	1900	350	ug/Kg
91-20-3	Naphthalene	320	U	1900	320	ug/Kg
106-47-8	4-Chloroaniline	230	U	1900	230	ug/Kg
87-68-3	Hexachlorobutadiene	290	U	1900	290	ug/Kg
105-60-2	Caprolactam	300	U	1900	300	ug/Kg
59-50-7	4-Chloro-3-methylphenol	260	U	1900	260	ug/Kg
91-57-6	2-Methylnaphthalene	320	U	1900	320	ug/Kg
77-47-4	Hexachlorocyclopentadiene	300	U	1900	300	ug/Kg
88-06-2	2,4,6-Trichlorophenol	280	U	1900	280	ug/Kg
95-95-4	2,4,5-Trichlorophenol	290	U	4800	290	ug/Kg
92-52-4	1,1-Biphenyl	310	U	1900	310	ug/Kg
91-58-7	2-Chloronaphthalene	310	U	1900	310	ug/Kg
88-74-4	2-Nitroaniline	240	U	4800	240	ug/Kg
131-11-3	Dimethylphthalate	300	U	1900	300	ug/Kg
208-96-8	Acenaphthylene	310	U	1900	310	ug/Kg
606-20-2	2,6-Dinitrotoluene	270	U	1900	270	ug/Kg

do not report

U = Not Detected
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jm 6/27/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB06(2-4)RE	**SDG No.:**	X2736
Lab Sample ID:	X2736-02RE	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	13
Sample Wt/Vol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE031138.D	5	5/13/2006	5/16/2006	BE050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	250	U	4800	250	ug/Kg
83-32-9	Acenaphthene	340	U	1900	340	ug/Kg
51-28-5	2,4-Dinitrophenol	1600	UJ	4800	1600	ug/Kg
100-02-7	4-Nitrophenol	230	U	4800	230	ug/Kg
132-64-9	Dibenzofuran	310	U	1900	310	ug/Kg
121-14-2	2,4-Dinitrotoluene	280	U	1900	280	ug/Kg
84-66-2	Diethylphthalate	330	U	1900	330	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	300	U	1900	300	ug/Kg
86-73-7	Fluorene	320	U	1900	320	ug/Kg
100-01-6	4-Nitroaniline	320	U	4800	320	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	370	U	4800	370	ug/Kg
86-30-6	N-Nitrosodiphenylamine	310	U	1900	310	ug/Kg
101-55-3	4-Bromophenyl-phenylether	280	U	1900	280	ug/Kg
118-74-1	Hexachlorobenzene	300	U	1900	300	ug/Kg
1912-24-9	Atrazine	290	U	1900	290	ug/Kg
87-86-5	Pentachlorophenol	440	U	4800	440	ug/Kg
85-01-8	Phenanthrene	2300		1900	300	ug/Kg
120-12-7	Anthracene	620 J	J	1900	290	ug/Kg
86-74-8	Carbazole	290	U	1900	290	ug/Kg
84-74-2	Di-n-butylphthalate	290	U	1900	290	ug/Kg
206-44-0	Fluoranthene	280	U	1900	280	ug/Kg
129-00-0	Pyrene	4600		1900	340	ug/Kg
85-68-7	Butylbenzylphthalate	310	U	1900	310	ug/Kg
91-94-1	3,3-Dichlorobenzidine	320	UJ	1900	320	ug/Kg
56-55-3	Benzo(a)anthracene	1800 J	J	1900	270	ug/Kg
218-01-9	Chrysene	1900		1900	340	ug/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	360	U	1900	360	ug/Kg
117-84-0	Di-n-octyl phthalate	320	U	1900	320	ug/Kg
205-99-2	Benzo(b)fluoranthene	2600 J		1900	210	ug/Kg
207-08-9	Benzo(k)fluoranthene	990 J	J	1900	420	ug/Kg
50-32-8	Benzo(a)pyrene	2200 J		1900	300	ug/Kg

do not report

U = Not Detected
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jm 6/27/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB06(2-4)RE	**SDG No.:**	X2736
Lab Sample ID:	X2736-02RE	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	13
Sample Wt/Wol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE031138.D	5	5/13/2006	5/16/2006	BE050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	520 J	J	1900	240	ug/Kg
53-70-3	Dibenz(a,h)anthracene	240	UJ	1900	240	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1300 J	J	1900	310	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	236.1	79 %	25 - 121		SPK: 30
13127-88-3	Phenol-d5	245.55	82 %	24 - 113		SPK: 30
4165-60-0	Nitrobenzene-d5	157.3	79 %	23 - 120		SPK: 20
321-60-8	2-Fluorobiphenyl	164.6	82 %	30 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	204.25	68 %	19 - 122		SPK: 30
1718-51-0	Terphenyl-d14	239.7	120 %	18 - 137		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	336699	5.01			
1146-65-2	Naphthalene-d8	1183015	6.85			
15067-26-2	Acenaphthene-d10	583610	9.60			
1517-22-2	Phenanthrene-d10	835776	11.97			
1719-03-5	Chrysene-d12	392261	16.23			
1520-96-3	Perylene-d12	148969	18.36			

do not report

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JAM 6/27/06

Revised 07/22/06 LAm

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town form	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB06(2-4)	**SDG No.:**	X2736
Lab Sample ID:	X2736-02	**Matrix:**	SOIL
		% Solids:	86.80

CAS No.	Analyte	Conc.	Qualifier	Units	DL	Dilution	Date Prep	Date Anal.	Method
7429-90-5	Aluminum	4350	J. E	mg/Kg	0.661	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-36-0	Antimony	17.0	J. N	mg/Kg	0.370	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-38-2	Arsenic	6.210	J.	mg/Kg	0.443	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-39-3	Barium	314	J. E	mg/Kg	0.081	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-41-7	Beryllium	0.233	J. J	mg/Kg	0.007	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-43-9	Cadmium	0.037	UJ.	mg/Kg	0.037	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-70-2	Calcium	17000	J. E	mg/Kg	0.042	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-47-3	Chromium	13.3	J. NE	mg/Kg	0.099	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-48-4	Cobalt	9.920	N	mg/Kg	0.110	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-50-8	Copper	49.0		mg/Kg	0.073	1	5/15/2006	5/18/2006	EPA SW-846 6010
7439-89-6	Iron	13900	J. E	mg/Kg	1.730	1	5/15/2006	5/18/2006	EPA SW-846 6010
7439-92-1	Lead	287		mg/Kg	0.325	1	5/15/2006	5/18/2006	EPA SW-846 6010
7439-95-4	Magnesium	1930	J. E	mg/Kg	1.080	1	5/15/2006	5/18/2006	EPA SW-846 6010
7439-96-5	Manganese	251	J. E	mg/Kg	0.032	1	5/15/2006	5/18/2006	EPA SW-846 6010
7439-97-6	Mercury	1.7	D	mg/Kg	0.067	10	5/17/2006	5/17/2006	EPA SW-846 7471
7440-02-0	Nickel	20.7	J. NE	mg/Kg	0.138	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-09-7	Potassium	1160	J. N	mg/Kg	5.990	1	5/15/2006	5/18/2006	EPA SW-846 6010
7782-49-2	Selenium	0.385	U	mg/Kg	0.385	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-22-4	Silver	3.020	J. N	mg/Kg	0.089	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-23-5	Sodium	383	J. N	mg/Kg	29.2	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-28-0	Thallium	0.595	U	mg/Kg	0.595	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-62-2	Vanadium	17.8	J. N	mg/Kg	0.068	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-66-6	Zinc	237	J. N	mg/Kg	0.081	1	5/15/2006	5/18/2006	EPA SW-846 6010

Comments:

U = Not Detected
DL = Method Detection Limit or Instrument Detection Limit

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Spiked sample recovery not within control limits

LAm 6/28/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	5/8/2006
Project:	Stuyvesant town former MGP Pro	Date Received:	5/10/2006
Client Sample ID:	STI7SB06(2-4)	SDG No.:	X2736
Lab Sample ID:	X2736-02	Matrix:	SOIL
% Solids:	86.80		

Analyte	Result	Qualifier	RL	Units	DF	Date Analyzed	Method
Cyanide	~~1.16~~ 1.33		0.58	mg/Kg	1	5/15/2006	9012 Cyanide
Cyanide-Amenable	0.58	U	0.58	mg/Kg	1	5/17/2006	9012 Cyanide-Amenable

Comment

Jam 6/28/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(27-29)	**SDG No.:**	X2867
Lab Sample ID:	X2867-06	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	16
Sample Wt/Vol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK006404.D	1	5/22/2006	VK050406

CAS Number	Parameter		Conc.	Qualifier	RL	MDL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane		5.0	U	29	5.0	ug/Kg
74-87-3	Chloromethane		5.0	U	29	5.0	ug/Kg
75-01-4	Vinyl chloride		4.9	U	29	4.9	ug/Kg
74-83-9	Bromomethane		12	U	29	12	ug/Kg
75-00-3	Chloroethane		13	U UJ	29	13	ug/Kg
75-69-4	Trichlorofluoromethane		7.3	U	29	7.3	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane		3.9	U	29	3.9	ug/Kg
75-35-4	1,1-Dichloroethene		3.4	U	29	3.4	ug/Kg
67-64-1	Acetone		20	U	150	20	ug/Kg
75-15-0	Carbon disulfide		2.2	U	29	2.2	ug/Kg
1634-04-4	Methyl tert-butyl Ether		2.2	U	29	2.2	ug/Kg
79-20-9	Methyl Acetate		5.1	U	29	5.1	ug/Kg
75-09-2	Methylene Chloride	68U	~~68~~	~~B~~ J	29 UJ	11	ug/Kg
156-60-5	trans-1,2-Dichloroethene		3.8	U	29	3.8	ug/Kg
75-34-3	1,1-Dichloroethane		1.6	U	29	1.6	ug/Kg
110-82-7	Cyclohexane		1.9	U	29	1.9	ug/Kg
78-93-3	2-Butanone		17	U	150	17	ug/Kg
56-23-5	Carbon Tetrachloride		2.6	U	29	2.6	ug/Kg
156-59-2	cis-1,2-Dichloroethene		1.9	U	29	1.9	ug/Kg
67-66-3	Chloroform		2.1	U	29	2.1	ug/Kg
71-55-6	1,1,1-Trichloroethane		2.5	U	29	2.5	ug/Kg
108-87-2	Methylcyclohexane		2.5	U	29	2.5	ug/Kg
71-43-2	Benzene		2.4	U	29	2.4	ug/Kg
107-06-2	1,2-Dichloroethane		1.8	U	29	1.8	ug/Kg
79-01-6	Trichloroethene		1.8	U	29	1.8	ug/Kg
78-87-5	1,2-Dichloropropane		2.3	U	29	2.3	ug/Kg
75-27-4	Bromodichloromethane		2.0	U	29	2.0	ug/Kg
108-10-1	4-Methyl-2-Pentanone		12	U	150	12	ug/Kg
108-88-3	Toluene		2.4	U	29	2.4	ug/Kg
10061-02-6	t-1,3-Dichloropropene		2.1	U	29	2.1	ug/Kg
10061-01-5	cis-1,3-Dichloropropene		2.0	U	29	2.0	ug/Kg
79-00-5	1,1,2-Trichloroethane		1.7	U	29	1.7	ug/Kg

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

EMM 7/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(27-29)	**SDG No.:**	X2867
Lab Sample ID:	X2867-06	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	16
Sample Wt/Wol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK006404.D	1	5/22/2006	VK050406

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	21	U	150	21	ug/Kg
124-48-1	Dibromochloromethane	1.4	U	29	1.4	ug/Kg
106-93-4	1,2-Dibromoethane	2.4	U	29	2.4	ug/Kg
127-18-4	Tetrachloroethene	4.3	U	29	4.3	ug/Kg
108-90-7	Chlorobenzene	2.1	U	29	2.1	ug/Kg
100-41-4	Ethyl Benzene	2.1	U	29	2.1	ug/Kg
126777-61-2	m/p-Xylenes	5.1	U	59	5.1	ug/Kg
95-47-6	o-Xylene	2.3	U	29	2.3	ug/Kg
100-42-5	Styrene	2.7	U	29	2.7	ug/Kg
75-25-2	Bromoform	1.8	U	29	1.8	ug/Kg
98-82-8	Isopropylbenzene	2.5	U	29	2.5	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.8	U	29	1.8	ug/Kg
541-73-1	1,3-Dichlorobenzene	3.3	U	29	3.3	ug/Kg
106-46-7	1,4-Dichlorobenzene	3.2	U	29	3.2	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.3	U	29	2.3	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	5.6	U	29	5.6	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	4.0	U	29	4.0	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	44.44	89 %	75 - 125		SPK: 50
1868-53-7	Dibromofluoromethane	50.07	100 %	75 - 125		SPK: 50
2037-26-5	Toluene-d8	55.8	112 %	75 - 125		SPK: 50
460-00-4	4-Bromofluorobenzene	52.94	106 %	75 - 125		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	262624	3.50			
540-36-3	1,4-Difluorobenzene	364697	3.90			
3114-55-4	Chlorobenzene-d5	320103	6.68			
3855-82-1	1,4-Dichlorobenzene-d4	193342	8.96			

U = Not Detected
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N = Presumptive Evidence of a Compound

Ethm 7/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(27-29)	**SDG No.:**	X2867
Lab Sample ID:	X2867-06	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	16
Sample Wt/Wol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003706.D	1	5/22/2006	5/22/2006	BF052206

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	81	U UJ	390	81	ug/Kg
108-95-2	Phenol	59	U	390	59	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	62	U	390	62	ug/Kg
95-57-8	2-Chlorophenol	63	U	390	63	ug/Kg
95-48-7	2-Methylphenol	65	U	390	65	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	63	U	390	63	ug/Kg
98-86-2	Acetophenone	57	U	390	57	ug/Kg
106-44-5	3+4-Methylphenols	62	U	390	62	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	65	U	390	65	ug/Kg
67-72-1	Hexachloroethane	67	U	390	67	ug/Kg
98-95-3	Nitrobenzene	86	U	390	86	ug/Kg
78-59-1	Isophorone	59	U	390	59	ug/Kg
88-75-5	2-Nitrophenol	60	U	390	60	ug/Kg
105-67-9	2,4-Dimethylphenol	62	U	390	62	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	65	U	390	65	ug/Kg
120-83-2	2,4-Dichlorophenol	73	U	390	73	ug/Kg
91-20-3	Naphthalene	67	U	390	67	ug/Kg
106-47-8	4-Chloroaniline	47	U	390	47	ug/Kg
87-68-3	Hexachlorobutadiene	60	U	390	60	ug/Kg
105-60-2	Caprolactam	63	U	390	63	ug/Kg
59-50-7	4-Chloro-3-methylphenol	54	U	390	54	ug/Kg
91-57-6	2-Methylnaphthalene	66	U	390	66	ug/Kg
77-47-4	Hexachlorocyclopentadiene	63	U	390	63	ug/Kg
88-06-2	2,4,6-Trichlorophenol	58	U	390	58	ug/Kg
95-95-4	2,4,5-Trichlorophenol	60	U	980	60	ug/Kg
92-52-4	1,1-Biphenyl	65	U	390	65	ug/Kg
91-58-7	2-Chloronaphthalene	65	U	390	65	ug/Kg
88-74-4	2-Nitroaniline	50	U	980	50	ug/Kg
131-11-3	Dimethylphthalate	63	U	390	63	ug/Kg
208-96-8	Acenaphthylene	64	U	390	64	ug/Kg
606-20-2	2,6-Dinitrotoluene	56	U	390	56	ug/Kg

U = Not Detected
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EMM 7/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	5/17/2006
Project:	Stuyvesant town former MGP Proj06	Date Received:	5/18/2006
Client Sample ID:	ST17SB06(27-29)	SDG No.:	X2867
Lab Sample ID:	X2867-06	Matrix:	SOIL
Analytical Method:	8270	% Moisture:	16
Sample Wt/Vol:	30.1 g	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003706.D	1	5/22/2006	5/22/2006	BF052206

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	51	U	980	51	ug/Kg
83-32-9	Acenaphthene	70	U	390	70	ug/Kg
51-28-5	2,4-Dinitrophenol	340	U	980	340	ug/Kg
100-02-7	4-Nitrophenol	49	U	980	49	ug/Kg
132-64-9	Dibenzofuran	65	U	390	65	ug/Kg
121-14-2	2,4-Dinitrotoluene	58	U	390	58	ug/Kg
84-66-2	Diethylphthalate	68	U	390	68	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	62	U	390	62	ug/Kg
86-73-7	Fluorene	66	U	390	66	ug/Kg
100-01-6	4-Nitroaniline	67	U	980	67	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	76	U	980	76	ug/Kg
86-30-6	N-Nitrosodiphenylamine	65	U	390	65	ug/Kg
101-55-3	4-Bromophenyl-phenylether	59	U	390	59	ug/Kg
118-74-1	Hexachlorobenzene	63	U	390	63	ug/Kg
1912-24-9	Atrazine	60	U	390	60	ug/Kg
87-86-5	Pentachlorophenol	91	U	980	91	ug/Kg
85-01-8	Phenanthrene	94	J J	390	63	ug/Kg
120-12-7	Anthracene	59	U	390	59	ug/Kg
86-74-8	Carbazole	60	U	390	60	ug/Kg
84-74-2	Di-n-butylphthalate	60	U	390	60	ug/Kg
206-44-0	Fluoranthene	98	J J	390	58	ug/Kg
129-00-0	Pyrene	87	J J	390	69	ug/Kg
85-68-7	Butylbenzylphthalate	63	U	390	63	ug/Kg
91-94-1	3,3-Dichlorobenzidine	67	U	390	67	ug/Kg
56-55-3	Benzo(a)anthracene	55	U	390	55	ug/Kg
218-01-9	Chrysene	70	U	390	70	ug/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	75	U	390	75	ug/Kg
117-84-0	Di-n-octyl phthalate	67	U	390	67	ug/Kg
205-99-2	Benzo(b)fluoranthene	43	U	390	43	ug/Kg
207-08-9	Benzo(k)fluoranthene	86	U	390	86	ug/Kg
50-32-8	Benzo(a)pyrene	63	U	390	63	ug/Kg

U = Not Detected
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E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

EM 7/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(27-29)	**SDG No.:**	X2867
Lab Sample ID:	X2867-06	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	16
Sample Wt/Vol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003706.D	1	5/22/2006	5/22/2006	BF052206

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	50	U	390	50	ug/Kg
53-70-3	Dibenz(a,h)anthracene	49	U	390	49	ug/Kg
191-24-2	Benzo(g,h,i)perylene	65	U	390	65	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	124.33	83 %	25 - 121		SPK: 15
13127-88-3	Phenol-d5	133.08	89 %	24 - 113		SPK: 15
4165-60-0	Nitrobenzene-d5	77.5	78 %	23 - 120		SPK: 10
321-60-8	2-Fluorobiphenyl	72.75	73 %	30 - 116		SPK: 10
118-79-6	2,4,6-Tribromophenol	135.74	90 %	19 - 122		SPK: 15
1718-51-0	Terphenyl-d14	78.58	79 %	18 - 137		SPK: 10
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	173464	4.08			
1146-65-2	Naphthalene-d8	670833	5.48			
15067-26-2	Acenaphthene-d10	359903	7.55			
1517-22-2	Phenanthrene-d10	531993	9.33			
1719-03-5	Chrysene-d12	372628	12.53			
1520-96-3	Perylene-d12	294006	14.14			
TENTITIVE IDENTIFIED COMPOUNDS						
	~~ACP2.58~~	~~2000~~	~~AB~~	~~2.58~~		~~ug/Kg~~ R
111-02-4	~~2,6,10,14,18,22-Tetracosahexaene,~~	~~290~~	~~JB~~	~~13.70~~		~~ug/Kg~~ R

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B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

EHW 7/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town form	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(27-29)	**SDG No.:**	X2867
Lab Sample ID:	X2867-06	**Matrix:**	SOIL
		% Solids:	84.30

CAS No.	Analyte	Conc.	Qualifier	Units	DL	Dilution	Date Prep	Date Anal.	Method
7429-90-5	Aluminum	2760	J	mg/Kg	0.687	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-36-0	Antimony	~~2.060~~ 7.4	UJ+ N	mg/Kg	0.385	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-38-2	Arsenic	2.070		mg/Kg	0.460	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-39-3	Barium	20.4	J + N	mg/Kg	0.085	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-41-7	Beryllium	~~0.276~~ 0.59	J+	mg/Kg	0.007	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-43-9	Cadmium	0.039	UJ N	mg/Kg	0.039	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-70-2	Calcium	38500	J	mg/Kg	0.043	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-47-3	Chromium	12.1	J N	mg/Kg	0.103	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-48-4	Cobalt	2.030	J + N	mg/Kg	0.114	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-50-8	Copper	4.600	J	mg/Kg	0.076	1	5/19/2006	5/22/2006	EPA SW-846 6010
7439-89-6	Iron	5640	J E	mg/Kg	1.800	1	5/19/2006	5/22/2006	EPA SW-846 6010
7439-92-1	Lead	5.990	J N	mg/Kg	0.338	1	5/19/2006	5/22/2006	EPA SW-846 6010
7439-95-4	Magnesium	1750	J	mg/Kg	1.120	1	5/19/2006	5/22/2006	EPA SW-846 6010
7439-96-5	Manganese	82.1	J N	mg/Kg	0.033	1	5/19/2006	5/22/2006	EPA SW-846 6010
7439-97-6	Mercury	0.016	J	mg/Kg	0.007	1	5/23/2006	5/23/2006	EPA SW-846 7471
7440-02-0	Nickel	6.080	J N	mg/Kg	0.143	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-09-7	Potassium	938	J	mg/Kg	6.220	1	5/19/2006	5/22/2006	EPA SW-846 6010
7782-49-2	Selenium	0.401	U N	mg/Kg	0.401	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-22-4	Silver	0.093	UJ	mg/Kg	0.093	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-23-5	Sodium	841	J N	mg/Kg	30.3	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-28-0	Thallium	0.619	U	mg/Kg	0.619	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-62-2	Vanadium	9.710	J E	mg/Kg	0.070	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-66-6	Zinc	13.8	J E	mg/Kg	0.085	1	5/19/2006	5/22/2006	EPA SW-846 6010

Comments:

U = Not Detected
DL = Method Detection Limit or Instrument Detection Limit

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Spiked sample recovery not within control limits

7/9/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**5/17/2006**
Project:	**Stuyvesant town former MGP Pro**	**Date Received:**	**5/18/2006**
Client Sample ID:	**ST17SB06(27-29)**	**SDG No.:**	**X2867**
Lab Sample ID:	**X2867-06**	**Matrix:**	**SOIL**
% Solids:	**84.30**		

Analyte	Result	Qualifier	RL	Units	DF	Date Analyzed	Method
Cyanide	0.59	U	0.59	mg/Kg	1	5/23/2006	9012 Cyanide
Cyanide-Amenable	0.59	U	0.59	mg/Kg	1	5/23/2006	9012 Cyanide-Amenable

Comment

7/9/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	5/17/2006
Project:	Stuyvesant town former MGP Proj06	Date Received:	5/18/2006
Client Sample ID:	ST17SB06(29-31)	SDG No.:	X2867
Lab Sample ID:	X2867-05	Matrix:	SOIL
Analytical Method:	8260	% Moisture:	16
Sample Wt/Vol:	1.0 Units: g	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK006456.D	1	5/25/2006	VK050406

CAS Number	Parameter		Conc.	Qualifier	RL	MDL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane		5.1	U	30	5.1	ug/Kg
74-87-3	Chloromethane		5.1	U	30	5.1	ug/Kg
75-01-4	Vinyl chloride		4.9	U	30	4.9	ug/Kg
74-83-9	Bromomethane		12	U UJ	30	12	ug/Kg
75-00-3	Chloroethane		13	U UJ	30	13	ug/Kg
75-69-4	Trichlorofluoromethane		7.4	U	30	7.4	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane		4.0	U	30	4.0	ug/Kg
75-35-4	1,1-Dichloroethene		3.4	U	30	3.4	ug/Kg
67-64-1	Acetone		20	U	150	20	ug/Kg
75-15-0	Carbon disulfide		2.2	U	30	2.2	ug/Kg
1634-04-4	Methyl tert-butyl Ether		2.2	U	30	2.2	ug/Kg
79-20-9	Methyl Acetate		5.1	U	30	5.1	ug/Kg
75-09-2	Methylene Chloride	57U	~~57~~	~~B~~	30	11	ug/Kg
156-60-5	trans-1,2-Dichloroethene		3.8	U	30	3.8	ug/Kg
75-34-3	1,1-Dichloroethane		1.6	U	30	1.6	ug/Kg
110-82-7	Cyclohexane		1.9	U	30	1.9	ug/Kg
78-93-3	2-Butanone		17	U	150	17	ug/Kg
56-23-5	Carbon Tetrachloride		2.6	U	30	2.6	ug/Kg
156-59-2	cis-1,2-Dichloroethene		1.9	U	30	1.9	ug/Kg
67-66-3	Chloroform		2.1	U	30	2.1	ug/Kg
71-55-6	1,1,1-Trichloroethane		2.5	U	30	2.5	ug/Kg
108-87-2	Methylcyclohexane		2.5	U	30	2.5	ug/Kg
71-43-2	Benzene		2.4	U	30	2.4	ug/Kg
107-06-2	1,2-Dichloroethane		1.8	U	30	1.8	ug/Kg
79-01-6	Trichloroethene		1.8	U	30	1.8	ug/Kg
78-87-5	1,2-Dichloropropane		2.4	U	30	2.4	ug/Kg
75-27-4	Bromodichloromethane		2.0	U	30	2.0	ug/Kg
108-10-1	4-Methyl-2-Pentanone		12	U	150	12	ug/Kg
108-88-3	Toluene		2.4	U	30	2.4	ug/Kg
10061-02-6	t-1,3-Dichloropropene		2.2	U	30	2.2	ug/Kg
10061-01-5	cis-1,3-Dichloropropene		2.0	U	30	2.0	ug/Kg
79-00-5	1,1,2-Trichloroethane		1.8	U	30	1.8	ug/Kg

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

EHM 7/7/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(29-31)	**SDG No.:**	X2867
Lab Sample ID:	X2867-05	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	16
Sample Wt/Wol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK006456.D	1	5/25/2006	VK050406

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	21	U	150	21	ug/Kg
124-48-1	Dibromochloromethane	1.4	U	30	1.4	ug/Kg
106-93-4	1,2-Dibromoethane	2.4	U	30	2.4	ug/Kg
127-18-4	Tetrachloroethene	4.3	U	30	4.3	ug/Kg
108-90-7	Chlorobenzene	2.2	U	30	2.2	ug/Kg
100-41-4	Ethyl Benzene	2.1	U	30	2.1	ug/Kg
126777-61-2	m/p-Xylenes	5.1	U	60	5.1	ug/Kg
95-47-6	o-Xylene	2.3	U	30	2.3	ug/Kg
100-42-5	Styrene	2.7	U	30	2.7	ug/Kg
75-25-2	Bromoform	1.8	U	30	1.8	ug/Kg
98-82-8	Isopropylbenzene	2.5	U	30	2.5	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.9	U	30	1.9	ug/Kg
541-73-1	1,3-Dichlorobenzene	3.3	U	30	3.3	ug/Kg
106-46-7	1,4-Dichlorobenzene	3.2	U	30	3.2	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.3	U	30	2.3	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	5.6	U	30	5.6	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	4.1	U	30	4.1	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	38.68	77 %	75 - 125		SPK: 50
1868-53-7	Dibromofluoromethane	44.66	89 %	75 - 125		SPK: 50
2037-26-5	Toluene-d8	50.17	100 %	75 - 125		SPK: 50
460-00-4	4-Bromofluorobenzene	47.82	96 %	75 - 125		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	286350	3.51			
540-36-3	1,4-Difluorobenzene	398853	3.92			
3114-55-4	Chlorobenzene-d5	341398	6.68			
3855-82-1	1,4-Dichlorobenzene-d4	207733	8.96			

U = Not Detected
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E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

EHM 7/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(29-31)	**SDG No.:**	X2867
Lab Sample ID:	X2867-05	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	16
Sample Wt/Wol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003821.D	1	5/25/2006	5/26/2006	BF052206

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	80	U UJ	390	80	ug/Kg
108-95-2	Phenol	59	U	390	59	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	62	U	390	62	ug/Kg
95-57-8	2-Chlorophenol	63	U	390	63	ug/Kg
95-48-7	2-Methylphenol	65	U	390	65	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	63	U	390	63	ug/Kg
98-86-2	Acetophenone	57	U	390	57	ug/Kg
106-44-5	3+4-Methylphenols	62	U	390	62	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	65	U	390	65	ug/Kg
67-72-1	Hexachloroethane	67	U	390	67	ug/Kg
98-95-3	Nitrobenzene	86	U	390	86	ug/Kg
78-59-1	Isophorone	59	U	390	59	ug/Kg
88-75-5	2-Nitrophenol	60	U	390	60	ug/Kg
105-67-9	2,4-Dimethylphenol	62	U	390	62	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	64	U	390	64	ug/Kg
120-83-2	2,4-Dichlorophenol	72	U	390	72	ug/Kg
91-20-3	Naphthalene	67	U	390	67	ug/Kg
106-47-8	4-Chloroaniline	47	U	390	47	ug/Kg
87-68-3	Hexachlorobutadiene	60	U	390	60	ug/Kg
105-60-2	Caprolactam	63	U	390	63	ug/Kg
59-50-7	4-Chloro-3-methylphenol	54	U	390	54	ug/Kg
91-57-6	2-Methylnaphthalene	66	U	390	66	ug/Kg
77-47-4	Hexachlorocyclopentadiene	63	U	390	63	ug/Kg
88-06-2	2,4,6-Trichlorophenol	58	U	390	58	ug/Kg
95-95-4	2,4,5-Trichlorophenol	60	U	980	60	ug/Kg
92-52-4	1,1-Biphenyl	65	U	390	65	ug/Kg
91-58-7	2-Chloronaphthalene	65	U	390	65	ug/Kg
88-74-4	2-Nitroaniline	50	U	980	50	ug/Kg
131-11-3	Dimethylphthalate	63	U	390	63	ug/Kg
208-96-8	Acenaphthylene	64	U	390	64	ug/Kg
606-20-2	2,6-Dinitrotoluene	55	U	390	55	ug/Kg

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EHM 7/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	5/17/2006
Project:	Stuyvesant town former MGP Proj06	Date Received:	5/18/2006
Client Sample ID:	ST17SB06(29-31)	SDG No.:	X2867
Lab Sample ID:	X2867-05	Matrix:	SOIL
Analytical Method:	8270	% Moisture:	16
Sample Wt/Vol:	30.1 g	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003821.D	1	5/25/2006	5/26/2006	BF052206

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	51	U	980	51	ug/Kg
83-32-9	Acenaphthene	70	U	390	70	ug/Kg
51-28-5	2,4-Dinitrophenol	340	U	980	340	ug/Kg
100-02-7	4-Nitrophenol	49	U	980	49	ug/Kg
132-64-9	Dibenzofuran	65	U	390	65	ug/Kg
121-14-2	2,4-Dinitrotoluene	58	U	390	58	ug/Kg
84-66-2	Diethylphthalate	68	U	390	68	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	62	U	390	62	ug/Kg
86-73-7	Fluorene	66	U	390	66	ug/Kg
100-01-6	4-Nitroaniline	67	U	980	67	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	76	U	980	76	ug/Kg
86-30-6	N-Nitrosodiphenylamine	65	U	390	65	ug/Kg
101-55-3	4-Bromophenyl-phenylether	59	U	390	59	ug/Kg
118-74-1	Hexachlorobenzene	63	U	390	63	ug/Kg
1912-24-9	Atrazine	60	U	390	60	ug/Kg
87-86-5	Pentachlorophenol	91	U	980	91	ug/Kg
85-01-8	Phenanthrene	62	U	390	62	ug/Kg
120-12-7	Anthracene	59	U	390	59	ug/Kg
86-74-8	Carbazole	60	U	390	60	ug/Kg
84-74-2	Di-n-butylphthalate	60	U	390	60	ug/Kg
206-44-0	Fluoranthene	58	U	390	58	ug/Kg
129-00-0	Pyrene	69	U	390	69	ug/Kg
85-68-7	Butylbenzylphthalate	63	U	390	63	ug/Kg
91-94-1	3,3-Dichlorobenzidine	67	U	390	67	ug/Kg
56-55-3	Benzo(a)anthracene	55	U	390	55	ug/Kg
218-01-9	Chrysene	70	U	390	70	ug/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	75	U	390	75	ug/Kg
117-84-0	Di-n-octyl phthalate	67	U	390	67	ug/Kg
205-99-2	Benzo(b)fluoranthene	43	U UJ	390	43	ug/Kg
207-08-9	Benzo(k)fluoranthene	86	U UJ	390	86	ug/Kg
50-32-8	Benzo(a)pyrene	63	U	390	63	ug/Kg

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EHM 7/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	5/17/2006
Project:	Stuyvesant town former MGP Proj06	Date Received:	5/18/2006
Client Sample ID:	ST17SB06(29-31)	SDG No.:	X2867
Lab Sample ID:	X2867-05	Matrix:	SOIL
Analytical Method:	8270	% Moisture:	16
Sample Wt/Vol:	30.1 g	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003821.D	1	5/25/2006	5/26/2006	BF052206

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	~~Indeno(1,2,3-cd)pyrene~~	~~50~~	~~U UJ~~	~~390~~ R	50	ug/Kg
53-70-3	Dibenz(a,h)anthracene	49	U UJ	390	49	ug/Kg
191-24-2	Benzo(g,h,i)perylene	65	U UJ	390	65	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	124.66	83 %	25 - 121		SPK: 15
13127-88-3	Phenol-d5	135.54	90 %	24 - 113		SPK: 15
4165-60-0	Nitrobenzene-d5	76.76	77 %	23 - 120		SPK: 10
321-60-8	2-Fluorobiphenyl	69.9	70 %	30 - 116		SPK: 10
118-79-6	2,4,6-Tribromophenol	152.43	102 %	19 - 122		SPK: 15
1718-51-0	Terphenyl-d14	68.4	68 %	18 - 137		SPK: 10
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	125983	3.95			
1146-65-2	Naphthalene-d8	498623	5.33			
15067-26-2	Acenaphthene-d10	281844	7.40			
1517-22-2	Phenanthrene-d10	430605	9.18			
1719-03-5	Chrysene-d12	352495	12.37			
1520-96-3	Perylene-d12	354922	13.98			
TENTITIVE IDENTIFIED COMPOUNDS						
	~~ACP2.45~~	~~2100~~	~~A~~	~~2.45~~		~~ug/Kg~~ R
7683-64-9	~~Squalene~~	~~150~~	~~JB~~	~~13.55~~		~~ug/Kg~~ R

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EMH 7/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(35-37)-TOP	**SDG No.:**	X2867
Lab Sample ID:	X2867-04	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	16
Sample Wt/Vol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK006403.D	1	5/22/2006	VK050406

CAS Number	Parameter		Conc.	Qualifier	RL		MDL	Units
TARGETS								
75-71-8	Dichlorodifluoromethane		5.1	U	30		5.1	ug/Kg
74-87-3	Chloromethane		5.1	U	30		5.1	ug/Kg
75-01-4	Vinyl chloride		4.9	U	30		4.9	ug/Kg
74-83-9	Bromomethane		12	U	30		12	ug/Kg
75-00-3	Chloroethane		13	U	30	UJ	13	ug/Kg
75-69-4	Trichlorofluoromethane		7.4	U	30		7.4	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane		4.0	U	30		4.0	ug/Kg
75-35-4	1,1-Dichloroethene		3.4	U	30		3.4	ug/Kg
67-64-1	Acetone		20	U	150		20	ug/Kg
75-15-0	Carbon disulfide		2.2	U	30		2.2	ug/Kg
1634-04-4	Methyl tert-butyl Ether		2.2	U	30		2.2	ug/Kg
79-20-9	Methyl Acetate		5.1	U	30		5.1	ug/Kg
75-09-2	Methylene Chloride	74U	~~74~~	~~B~~ J	30	UJ	11	ug/Kg
156-60-5	trans-1,2-Dichloroethene		3.8	U	30		3.8	ug/Kg
75-34-3	1,1-Dichloroethane		1.6	U	30		1.6	ug/Kg
110-82-7	Cyclohexane		1.9	U	30		1.9	ug/Kg
78-93-3	2-Butanone		17	U	150		17	ug/Kg
56-23-5	Carbon Tetrachloride		2.6	U	30		2.6	ug/Kg
156-59-2	cis-1,2-Dichloroethene		1.9	U	30		1.9	ug/Kg
67-66-3	Chloroform		2.1	U	30		2.1	ug/Kg
71-55-6	1,1,1-Trichloroethane		2.5	U	30		2.5	ug/Kg
108-87-2	Methylcyclohexane		2.5	U	30		2.5	ug/Kg
71-43-2	Benzene		2.4	U	30		2.4	ug/Kg
107-06-2	1,2-Dichloroethane		1.8	U	30		1.8	ug/Kg
79-01-6	Trichloroethene		1.8	U	30		1.8	ug/Kg
78-87-5	1,2-Dichloropropane		2.4	U	30		2.4	ug/Kg
75-27-4	Bromodichloromethane		2.0	U	30		2.0	ug/Kg
108-10-1	4-Methyl-2-Pentanone		12	U	150		12	ug/Kg
108-88-3	Toluene		2.4	U	30		2.4	ug/Kg
10061-02-6	t-1,3-Dichloropropene		2.2	U	30		2.2	ug/Kg
10061-01-5	cis-1,3-Dichloropropene		2.0	U	30		2.0	ug/Kg
79-00-5	1,1,2-Trichloroethane		1.8	U	30		1.8	ug/Kg

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EMM 7/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(35-37)-TOP	**SDG No.:**	X2867
Lab Sample ID:	X2867-04	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	16
Sample Wt/Vol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK006403.D	1	5/22/2006	VK050406

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	21	U	150	21	ug/Kg
124-48-1	Dibromochloromethane	1.4	U	30	1.4	ug/Kg
106-93-4	1,2-Dibromoethane	2.4	U	30	2.4	ug/Kg
127-18-4	Tetrachloroethene	4.3	U	30	4.3	ug/Kg
108-90-7	Chlorobenzene	2.2	U	30	2.2	ug/Kg
100-41-4	Ethyl Benzene	2.1	U	30	2.1	ug/Kg
126777-61-2	m/p-Xylenes	5.1	U	60	5.1	ug/Kg
95-47-6	o-Xylene	2.3	U	30	2.3	ug/Kg
100-42-5	Styrene	2.7	U	30	2.7	ug/Kg
75-25-2	Bromoform	1.8	U	30	1.8	ug/Kg
98-82-8	Isopropylbenzene	2.5	U	30	2.5	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.9	U	30	1.9	ug/Kg
541-73-1	1,3-Dichlorobenzene	3.3	U	30	3.3	ug/Kg
106-46-7	1,4-Dichlorobenzene	3.2	U	30	3.2	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.3	U	30	2.3	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	5.6	U	30	5.6	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	4.1	U	30	4.1	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	44.26	89 %	75 - 125		SPK: 50
1868-53-7	Dibromofluoromethane	50.67	101 %	75 - 125		SPK: 50
2037-26-5	Toluene-d8	56.41	113 %	75 - 125		SPK: 50
460-00-4	4-Bromofluorobenzene	53.65	107 %	75 - 125		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	275733	3.50			
540-36-3	1,4-Difluorobenzene	380114	3.91			
3114-55-4	Chlorobenzene-d5	336801	6.68			
3855-82-1	1,4-Dichlorobenzene-d4	207091	8.96			

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EMM 7/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	5/17/2006
Project:	Stuyvesant town former MGP Proj06	Date Received:	5/18/2006
Client Sample ID:	ST17SB06(35-37)-TOP	SDG No.:	X2867
Lab Sample ID:	X2867-04	Matrix:	SOIL
Analytical Method:	8270	% Moisture:	16
Sample Wt/Vol:	30.2 g	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003705.D	1	5/22/2006	5/22/2006	BF052206

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	80	U VJ	390	80	ug/Kg
108-95-2	Phenol	59	U	390	59	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	62	U	390	62	ug/Kg
95-57-8	2-Chlorophenol	63	U	390	63	ug/Kg
95-48-7	2-Methylphenol	65	U	390	65	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	63	U	390	63	ug/Kg
98-86-2	Acetophenone	57	U	390	57	ug/Kg
106-44-5	3+4-Methylphenols	62	U	390	62	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	65	U	390	65	ug/Kg
67-72-1	Hexachloroethane	67	U	390	67	ug/Kg
98-95-3	Nitrobenzene	85	U	390	85	ug/Kg
78-59-1	Isophorone	59	U	390	59	ug/Kg
88-75-5	2-Nitrophenol	60	U	390	60	ug/Kg
105-67-9	2,4-Dimethylphenol	62	U	390	62	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	64	U	390	64	ug/Kg
120-83-2	2,4-Dichlorophenol	72	U	390	72	ug/Kg
91-20-3	Naphthalene	67	U	390	67	ug/Kg
106-47-8	4-Chloroaniline	47	U	390	47	ug/Kg
87-68-3	Hexachlorobutadiene	60	U	390	60	ug/Kg
105-60-2	Caprolactam	63	U	390	63	ug/Kg
59-50-7	4-Chloro-3-methylphenol	54	U	390	54	ug/Kg
91-57-6	2-Methylnaphthalene	65	U	390	65	ug/Kg
77-47-4	Hexachlorocyclopentadiene	63	U	390	63	ug/Kg
88-06-2	2,4,6-Trichlorophenol	58	U	390	58	ug/Kg
95-95-4	2,4,5-Trichlorophenol	60	U	980	60	ug/Kg
92-52-4	1,1-Biphenyl	65	U	390	65	ug/Kg
91-58-7	2-Chloronaphthalene	65	U	390	65	ug/Kg
88-74-4	2-Nitroaniline	50	U	980	50	ug/Kg
131-11-3	Dimethylphthalate	63	U	390	63	ug/Kg
208-96-8	Acenaphthylene	64	U	390	64	ug/Kg
606-20-2	2,6-Dinitrotoluene	55	U	390	55	ug/Kg

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EMM 7/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(35-37)-TOP	**SDG No.:**	X2867
Lab Sample ID:	X2867-04	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	16
Sample Wt/Vol:	30.2 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003705.D	1	5/22/2006	5/22/2006	BF052206

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	51	U	980	51	ug/Kg
83-32-9	Acenaphthene	70	U	390	70	ug/Kg
51-28-5	2,4-Dinitrophenol	340	U	980	340	ug/Kg
100-02-7	4-Nitrophenol	49	U	980	49	ug/Kg
132-64-9	Dibenzofuran	65	U	390	65	ug/Kg
121-14-2	2,4-Dinitrotoluene	58	U	390	58	ug/Kg
84-66-2	Diethylphthalate	68	U	390	68	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	62	U	390	62	ug/Kg
86-73-7	Fluorene	66	U	390	66	ug/Kg
100-01-6	4-Nitroaniline	67	U	980	67	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	76	U	980	76	ug/Kg
86-30-6	N-Nitrosodiphenylamine	65	U	390	65	ug/Kg
101-55-3	4-Bromophenyl-phenylether	58	U	390	58	ug/Kg
118-74-1	Hexachlorobenzene	63	U	390	63	ug/Kg
1912-24-9	Atrazine	60	U	390	60	ug/Kg
87-86-5	Pentachlorophenol	91	U	980	91	ug/Kg
85-01-8	Phenanthrene	62	U	390	62	ug/Kg
120-12-7	Anthracene	59	U	390	59	ug/Kg
86-74-8	Carbazole	60	U	390	60	ug/Kg
84-74-2	Di-n-butylphthalate	60	U	390	60	ug/Kg
206-44-0	Fluoranthene	58	U	390	58	ug/Kg
129-00-0	Pyrene	69	U	390	69	ug/Kg
85-68-7	Butylbenzylphthalate	63	U	390	63	ug/Kg
91-94-1	3,3-Dichlorobenzidine	67	U	390	67	ug/Kg
56-55-3	Benzo(a)anthracene	55	U	390	55	ug/Kg
218-01-9	Chrysene	70	U	390	70	ug/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	75	U	390	75	ug/Kg
117-84-0	Di-n-octyl phthalate	67	U	390	67	ug/Kg
205-99-2	Benzo(b)fluoranthene	43	U	390	43	ug/Kg
207-08-9	Benzo(k)fluoranthene	86	U	390	86	ug/Kg
50-32-8	Benzo(a)pyrene	63	U	390	63	ug/Kg

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

EMM 7/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	5/17/2006
Project:	Stuyvesant town former MGP Proj06	Date Received:	5/18/2006
Client Sample ID:	ST17SB06(35-37)-TOP	SDG No.:	X2867
Lab Sample ID:	X2867-04	Matrix:	SOIL
Analytical Method:	8270	% Moisture:	16
Sample Wt/Vol:	30.2 g	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003705.D	1	5/22/2006	5/22/2006	BF052206

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	50	U	390	50	ug/Kg
53-70-3	Dibenz(a,h)anthracene	49	U	390	49	ug/Kg
191-24-2	Benzo(g,h,i)perylene	65	U	390	65	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	128.28	86 %	25 - 121		SPK: 15
13127-88-3	Phenol-d5	137.36	92 %	24 - 113		SPK: 15
4165-60-0	Nitrobenzene-d5	80.8	81 %	23 - 120		SPK: 10
321-60-8	2-Fluorobiphenyl	77.56	78 %	30 - 116		SPK: 10
118-79-6	2,4,6-Tribromophenol	142.26	95 %	19 - 122		SPK: 15
1718-51-0	Terphenyl-d14	83.46	83 %	18 - 137		SPK: 10
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	171217	4.08			
1146-65-2	Naphthalene-d8	666447	5.48			
15067-26-2	Acenaphthene-d10	357333	7.55			
1517-22-2	Phenanthrene-d10	524167	9.33			
1719-03-5	Chrysene-d12	364340	12.53			
1520-96-3	Perylene-d12	289199	14.14			
TENTITIVE IDENTIFIED COMPOUNDS						
	~~ACP2.58~~	~~2100~~	~~AB~~	~~2.58~~		~~ug/Kg~~ R
111-02-4	~~2,6,10,14,18,22-Tetracosahexaene,~~	~~260~~	~~JB~~	13.69		~~ug/Kg~~ R

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EMM 7/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town form	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(35-37)-TOP	**SDG No.:**	X2867
Lab Sample ID:	X2867-04	**Matrix:**	SOIL
		% Solids:	83.90

CAS No.	Analyte	Conc.	Qualifier	Units	DL	Dilution	Date Prep	Date Anal.	Method
7429-90-5	Aluminum	2050 J		mg/Kg	0.684	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-36-0	Antimony	0.383	UJ N	mg/Kg	0.383	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-38-2	Arsenic	0.506 J	J	mg/Kg	0.458	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-39-3	Barium	12.1 J	J N	mg/Kg	0.084	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-41-7	Beryllium	~~0.176~~ 0.600J		mg/Kg	0.007	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-43-9	Cadmium	0.039	UJ N	mg/Kg	0.039	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-70-2	Calcium	1130 J		mg/Kg	0.043	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-47-3	Chromium	6.200 J	N	mg/Kg	0.103	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-48-4	Cobalt	1.520 J	J N	mg/Kg	0.113	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-50-8	Copper	4.830 J		mg/Kg	0.076	1	5/19/2006	5/22/2006	EPA SW-846 6010
7439-89-6	Iron	4110 J	E	mg/Kg	1.790	1	5/19/2006	5/22/2006	EPA SW-846 6010
7439-92-1	Lead	5.450	N	mg/Kg	0.337	1	5/19/2006	5/22/2006	EPA SW-846 6010
7439-95-4	Magnesium	1150 J		mg/Kg	1.110	1	5/19/2006	5/22/2006	EPA SW-846 6010
7439-96-5	Manganese	40.0 J	N	mg/Kg	0.033	1	5/19/2006	5/22/2006	EPA SW-846 6010
7439-97-6	Mercury	0.010 J	J	mg/Kg	0.007	1	5/23/2006	5/23/2006	EPA SW-846 7471
7440-02-0	Nickel	5.910 J	N	mg/Kg	0.143	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-09-7	Potassium	378 J	J	mg/Kg	6.190	1	5/19/2006	5/22/2006	EPA SW-846 6010
7782-49-2	Selenium	0.398	U N	mg/Kg	0.398	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-22-4	Silver	0.092	UJ	mg/Kg	0.092	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-23-5	Sodium	~~596UJ 217 J~~	J N	mg/Kg	30.2	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-28-0	Thallium	0.616	U	mg/Kg	0.616	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-62-2	Vanadium	7.700	E	mg/Kg	0.070	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-66-6	Zinc	10.4 J	E	mg/Kg	0.084	1	5/19/2006	5/22/2006	EPA SW-846 6010

Comments:

U = Not Detected
DL = Method Detection Limit or Instrument Detection Limit

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Spiked sample recovery not within control limits

7/9/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**5/17/2006**
Project:	**Stuyvesant town former MGP Pro**	**Date Received:**	**5/18/2006**
Client Sample ID:	**ST17SB06(35-37)-TOP**	**SDG No.:**	**X2867**
Lab Sample ID:	**X2867-04**	**Matrix:**	**SOIL**
% Solids:	**83.90**		

Analyte	Result	Qualifier	RL	Units	DF	Date Analyzed	Method
Cyanide	0.60	U	0.60	mg/Kg	1	5/23/2006	9012 Cyanide
Cyanide-Amenable	0.60	U	0.60	mg/Kg	1	5/23/2006	9012 Cyanide-Amenable

Comment

Jan 7/9/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	5/17/2006
Project:	Stuyvesant town former MGP Proj06	Date Received:	5/18/2006
Client Sample ID:	ST17SB06(35-37)-BOT	SDG No.:	X2867
Lab Sample ID:	X2867-03	Matrix:	SOIL
Analytical Method:	8260	% Moisture:	23
Sample Wt/Wol:	1.0 Units: g	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK006455.D	1	5/25/2006	VK050406

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	5.6	U	33	5.6	ug/Kg
74-87-3	Chloromethane	5.6	U	33	5.6	ug/Kg
75-01-4	Vinyl chloride	5.4	U	33	5.4	ug/Kg
74-83-9	Bromomethane	13	U UJ	33	13	ug/Kg
75-00-3	Chloroethane	14	U UJ	33	14	ug/Kg
75-69-4	Trichlorofluoromethane	8.2	U	33	8.2	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	4.4	U	33	4.4	ug/Kg
75-35-4	1,1-Dichloroethene	3.8	U	33	3.8	ug/Kg
67-64-1	Acetone	48	~~J~~ J	160	22	ug/Kg
75-15-0	Carbon disulfide	2.4	U	33	2.4	ug/Kg
1634-04-4	Methyl tert-butyl Ether	2.4	U	33	2.4	ug/Kg
79-20-9	Methyl Acetate	5.7	U	33	5.7	ug/Kg
75-09-2	Methylene Chloride	~~57~~	~~B~~ 57U	33	12	ug/Kg
156-60-5	trans-1,2-Dichloroethene	4.2	U	33	4.2	ug/Kg
75-34-3	1,1-Dichloroethane	1.8	U	33	1.8	ug/Kg
110-82-7	Cyclohexane	2.1	U	33	2.1	ug/Kg
78-93-3	2-Butanone	19	U	160	19	ug/Kg
56-23-5	Carbon Tetrachloride	2.9	U	33	2.9	ug/Kg
156-59-2	cis-1,2-Dichloroethene	2.1	U	33	2.1	ug/Kg
67-66-3	Chloroform	2.3	U	33	2.3	ug/Kg
71-55-6	1,1,1-Trichloroethane	2.7	U	33	2.7	ug/Kg
108-87-2	Methylcyclohexane	2.8	U	33	2.8	ug/Kg
71-43-2	Benzene	2.6	U	33	2.6	ug/Kg
107-06-2	1,2-Dichloroethane	2.0	U	33	2.0	ug/Kg
79-01-6	Trichloroethene	2.0	U	33	2.0	ug/Kg
78-87-5	1,2-Dichloropropane	2.6	U	33	2.6	ug/Kg
75-27-4	Bromodichloromethane	2.2	U	33	2.2	ug/Kg
108-10-1	4-Methyl-2-Pentanone	13	U	160	13	ug/Kg
108-88-3	Toluene	2.7	U	33	2.7	ug/Kg
10061-02-6	t-1,3-Dichloropropene	2.4	U	33	2.4	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	2.2	U	33	2.2	ug/Kg
79-00-5	1,1,2-Trichloroethane	1.9	U	33	1.9	ug/Kg

U = Not Detected
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N = Presumptive Evidence of a Compound

EAM 7/17/07

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(35-37)-BOT	**SDG No.:**	X2867
Lab Sample ID:	X2867-03	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	23
Sample Wt/Vol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK006455.D	1	5/25/2006	VK050406

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	24	U	160	24	ug/Kg
124-48-1	Dibromochloromethane	1.5	U	33	1.5	ug/Kg
106-93-4	1,2-Dibromoethane	2.6	U	33	2.6	ug/Kg
127-18-4	Tetrachloroethene	4.8	U	33	4.8	ug/Kg
108-90-7	Chlorobenzene	2.4	U	33	2.4	ug/Kg
100-41-4	Ethyl Benzene	2.3	U	33	2.3	ug/Kg
126777-61-2	m/p-Xylenes	5.7	U	66	5.7	ug/Kg
95-47-6	o-Xylene	2.5	U	33	2.5	ug/Kg
100-42-5	Styrene	3.0	U	33	3.0	ug/Kg
75-25-2	Bromoform	2.0	U	33	2.0	ug/Kg
98-82-8	Isopropylbenzene	2.7	U	33	2.7	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	33	2.0	ug/Kg
541-73-1	1,3-Dichlorobenzene	3.7	U	33	3.7	ug/Kg
106-46-7	1,4-Dichlorobenzene	3.6	U	33	3.6	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.5	U	33	2.5	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	6.2	U	33	6.2	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	4.5	U	33	4.5	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	41.87	84 %	75 - 125		SPK: 50
1868-53-7	Dibromofluoromethane	46.89	94 %	75 - 125		SPK: 50
2037-26-5	Toluene-d8	51.47	103 %	75 - 125		SPK: 50
460-00-4	4-Bromofluorobenzene	49.07	98 %	75 - 125		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	254932	3.50			
540-36-3	1,4-Difluorobenzene	361108	3.91			
3114-55-4	Chlorobenzene-d5	313850	6.68			
3855-82-1	1,4-Dichlorobenzene-d4	187023	8.96			

U = Not Detected
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EMM 7/7/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(35-37)-BOT	**SDG No.:**	X2867
Lab Sample ID:	X2867-03	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	23
Sample Wt/Wol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003820.D	1	5/25/2006	5/26/2006	BF052206

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	88	U UJ	430	88	ug/Kg
108-95-2	Phenol	65	U	430	65	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	68	U	430	68	ug/Kg
95-57-8	2-Chlorophenol	68	U	430	68	ug/Kg
95-48-7	2-Methylphenol	71	U	430	71	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	69	U	430	69	ug/Kg
98-86-2	Acetophenone	63	U	430	63	ug/Kg
106-44-5	3+4-Methylphenols	67	U	430	67	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	71	U	430	71	ug/Kg
67-72-1	Hexachloroethane	73	U	430	73	ug/Kg
98-95-3	Nitrobenzene	93	U	430	93	ug/Kg
78-59-1	Isophorone	64	U	430	64	ug/Kg
88-75-5	2-Nitrophenol	66	U	430	66	ug/Kg
105-67-9	2,4-Dimethylphenol	68	U	430	68	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	70	U	430	70	ug/Kg
120-83-2	2,4-Dichlorophenol	79	U	430	79	ug/Kg
91-20-3	Naphthalene	73	U	430	73	ug/Kg
106-47-8	4-Chloroaniline	51	U	430	51	ug/Kg
87-68-3	Hexachlorobutadiene	66	U	430	66	ug/Kg
105-60-2	Caprolactam	69	U	430	69	ug/Kg
59-50-7	4-Chloro-3-methylphenol	59	U	430	59	ug/Kg
91-57-6	2-Methylnaphthalene	72	U	430	72	ug/Kg
77-47-4	Hexachlorocyclopentadiene	68	U	430	68	ug/Kg
88-06-2	2,4,6-Trichlorophenol	63	U	430	63	ug/Kg
95-95-4	2,4,5-Trichlorophenol	65	U	1100	65	ug/Kg
92-52-4	1,1-Biphenyl	70	U	430	70	ug/Kg
91-58-7	2-Chloronaphthalene	71	U	430	71	ug/Kg
88-74-4	2-Nitroaniline	54	U	1100	54	ug/Kg
131-11-3	Dimethylphthalate	69	U	430	69	ug/Kg
208-96-8	Acenaphthylene	69	U	430	69	ug/Kg
606-20-2	2,6-Dinitrotoluene	61	U	430	61	ug/Kg

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
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N = Presumptive Evidence of a Compound

EHM 7/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	5/17/2006
Project:	Stuyvesant town former MGP Proj06	Date Received:	5/18/2006
Client Sample ID:	ST17SB06(35-37)-BOT	SDG No.:	X2867
Lab Sample ID:	X2867-03	Matrix:	SOIL
Analytical Method:	8270	% Moisture:	23
Sample Wt/Vol:	30.1 g	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003820.D	1	5/25/2006	5/26/2006	BF052206

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	56	U	1100	56	ug/Kg
83-32-9	Acenaphthene	76	U	430	76	ug/Kg
51-28-5	2,4-Dinitrophenol	370	U	1100	370	ug/Kg
100-02-7	4-Nitrophenol	53	U	1100	53	ug/Kg
132-64-9	Dibenzofuran	71	U	430	71	ug/Kg
121-14-2	2,4-Dinitrotoluene	63	U	430	63	ug/Kg
84-66-2	Diethylphthalate	74	U	430	74	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	68	U	430	68	ug/Kg
86-73-7	Fluorene	72	U	430	72	ug/Kg
100-01-6	4-Nitroaniline	73	U	1100	73	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	83	U	1100	83	ug/Kg
86-30-6	N-Nitrosodiphenylamine	70	U	430	70	ug/Kg
101-55-3	4-Bromophenyl-phenylether	64	U	430	64	ug/Kg
118-74-1	Hexachlorobenzene	68	U	430	68	ug/Kg
1912-24-9	Atrazine	66	U	430	66	ug/Kg
87-86-5	Pentachlorophenol	99	U	1100	99	ug/Kg
85-01-8	Phenanthrene	68	U	430	68	ug/Kg
120-12-7	Anthracene	65	U	430	65	ug/Kg
86-74-8	Carbazole	65	U	430	65	ug/Kg
84-74-2	Di-n-butylphthalate	65	U	430	65	ug/Kg
206-44-0	Fluoranthene	64	U	430	64	ug/Kg
129-00-0	Pyrene	76	U	430	76	ug/Kg
85-68-7	Butylbenzylphthalate	69	U	430	69	ug/Kg
91-94-1	3,3-Dichlorobenzidine	73	U	430	73	ug/Kg
56-55-3	Benzo(a)anthracene	60	U	430	60	ug/Kg
218-01-9	Chrysene	77	U	430	77	ug/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	82	U	430	82	ug/Kg
117-84-0	Di-n-octyl phthalate	73	U	430	73	ug/Kg
205-99-2	Benzo(b)fluoranthene	47	U VJ	430	47	ug/Kg
207-08-9	Benzo(k)fluoranthene	94	U VJ	430	94	ug/Kg
50-32-8	Benzo(a)pyrene	68	U	430	68	ug/Kg

U = Not Detected
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B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

EHM 7/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(35-37)-BOT	**SDG No.:**	X2867
Lab Sample ID:	X2867-03	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	23
Sample Wt/Vol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003820.D	1	5/25/2006	5/26/2006	BF052206

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	~~Indeno(1,2,3-cd)pyrene~~	~~54~~	~~U~~ UJ	430 R	54	ug/Kg
53-70-3	Dibenz(a,h)anthracene	54	U UJ	430	54	ug/Kg
191-24-2	Benzo(g,h,i)perylene	71	U UJ	430	71	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	129.96	87 %	25 - 121		SPK: 15
13127-88-3	Phenol-d5	139.44	93 %	24 - 113		SPK: 15
4165-60-0	Nitrobenzene-d5	80.17	80 %	23 - 120		SPK: 10
321-60-8	2-Fluorobiphenyl	80.84	81 %	30 - 116		SPK: 10
118-79-6	2,4,6-Tribromophenol	158.08	105 %	19 - 122		SPK: 15
1718-51-0	Terphenyl-d14	80.53	81 %	18 - 137		SPK: 10
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	127517	3.95			
1146-65-2	Naphthalene-d8	505857	5.34			
15067-26-2	Acenaphthene-d10	280571	7.40			
1517-22-2	Phenanthrene-d10	427866	9.18			
1719-03-5	Chrysene-d12	349528	12.37			
1520-96-3	Perylene-d12	354932	13.98			
TENTITIVE IDENTIFIED COMPOUNDS						
	~~ACP2.45~~	~~2300~~	~~A~~	~~2.45~~		~~ug/Kg~~ R
111-02-4	~~2,6,10,14,18,22-Tetracosahexaene,~~	~~430~~	~~JB~~	~~13.55~~		~~ug/Kg~~ R

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EHM 7/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/18/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(50-51)	**SDG No.:**	X2867
Lab Sample ID:	X2867-02	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	14
Sample Wt/Vol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK006402.D	1	5/22/2006	VK050406

CAS Number	Parameter		Conc.	Qualifier	RL	MDL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane		4.9	U	28	4.9	ug/Kg
74-87-3	Chloromethane		4.9	U	28	4.9	ug/Kg
75-01-4	Vinyl chloride		4.7	U	28	4.7	ug/Kg
74-83-9	Bromomethane		12	U	28	12	ug/Kg
75-00-3	Chloroethane		12	U UJ	28	12	ug/Kg
75-69-4	Trichlorofluoromethane		7.1	U	28	7.1	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane		3.8	U	28	3.8	ug/Kg
75-35-4	1,1-Dichloroethene		3.3	U	28	3.3	ug/Kg
67-64-1	Acetone		19	U	140	19	ug/Kg
75-15-0	Carbon disulfide		2.1	U	28	2.1	ug/Kg
1634-04-4	Methyl tert-butyl Ether		2.1	U	28	2.1	ug/Kg
79-20-9	Methyl Acetate		4.9	U	28	4.9	ug/Kg
75-09-2	Methylene Chloride	28 U	~~20~~	~~B~~ J	28 UJ	10	ug/Kg
156-60-5	trans-1,2-Dichloroethene		3.6	U	28	3.6	ug/Kg
75-34-3	1,1-Dichloroethane		1.5	U	28	1.5	ug/Kg
110-82-7	Cyclohexane		1.8	U	28	1.8	ug/Kg
78-93-3	2-Butanone		16	U	140	16	ug/Kg
56-23-5	Carbon Tetrachloride		2.5	U	28	2.5	ug/Kg
156-59-2	cis-1,2-Dichloroethene		1.9	U	28	1.9	ug/Kg
67-66-3	Chloroform		2.0	U	28	2.0	ug/Kg
71-55-6	1,1,1-Trichloroethane		2.4	U	28	2.4	ug/Kg
108-87-2	Methylcyclohexane		2.4	U	28	2.4	ug/Kg
71-43-2	Benzene		2.3	U	28	2.3	ug/Kg
107-06-2	1,2-Dichloroethane		1.7	U	28	1.7	ug/Kg
79-01-6	Trichloroethene		1.8	U	28	1.8	ug/Kg
78-87-5	1,2-Dichloropropane		2.3	U	28	2.3	ug/Kg
75-27-4	Bromodichloromethane		1.9	U	28	1.9	ug/Kg
108-10-1	4-Methyl-2-Pentanone		11	U	140	11	ug/Kg
108-88-3	Toluene		2.3	U	28	2.3	ug/Kg
10061-02-6	t-1,3-Dichloropropene		2.1	U	28	2.1	ug/Kg
10061-01-5	cis-1,3-Dichloropropene		1.9	U	28	1.9	ug/Kg
79-00-5	1,1,2-Trichloroethane		1.7	U	28	1.7	ug/Kg

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EHM 7/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/18/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(50-51)	**SDG No.:**	X2867
Lab Sample ID:	X2867-02	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	14
Sample Wt/Wol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK006402.D	1	5/22/2006	VK050406

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	21	U	140	21	ug/Kg
124-48-1	Dibromochloromethane	1.3	U	28	1.3	ug/Kg
106-93-4	1,2-Dibromoethane	2.3	U	28	2.3	ug/Kg
127-18-4	Tetrachloroethene	4.2	U	28	4.2	ug/Kg
108-90-7	Chlorobenzene	2.1	U	28	2.1	ug/Kg
100-41-4	Ethyl Benzene	2.0	U	28	2.0	ug/Kg
126777-61-2	m/p-Xylenes	4.9	U	57	4.9	ug/Kg
95-47-6	o-Xylene	2.2	U	28	2.2	ug/Kg
100-42-5	Styrene	2.6	U	28	2.6	ug/Kg
75-25-2	Bromoform	1.8	U	28	1.8	ug/Kg
98-82-8	Isopropylbenzene	2.4	U	28	2.4	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.8	U	28	1.8	ug/Kg
541-73-1	1,3-Dichlorobenzene	3.2	U	28	3.2	ug/Kg
106-46-7	1,4-Dichlorobenzene	3.1	U	28	3.1	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.2	U	28	2.2	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	5.4	U	28	5.4	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	3.9	U	28	3.9	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	44.53	89 %	75 - 125		SPK: 50
1868-53-7	Dibromofluoromethane	48.31	97 %	75 - 125		SPK: 50
2037-26-5	Toluene-d8	53.89	108 %	75 - 125		SPK: 50
460-00-4	4-Bromofluorobenzene	52.74	105 %	75 - 125		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	270575	3.50			
540-36-3	1,4-Difluorobenzene	379873	3.91			
3114-55-4	Chlorobenzene-d5	335137	6.69			
3855-82-1	1,4-Dichlorobenzene-d4	203294	8.96			

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EMM 7/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/18/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(50-51)	**SDG No.:**	X2867
Lab Sample ID:	X2867-02	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	14
Sample Wt/Wol:	30.2 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003704.D	1	5/22/2006	5/22/2006	BF052206

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	78	U UJ	380	78	ug/Kg
108-95-2	Phenol	58	U	380	58	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	60	U	380	60	ug/Kg
95-57-8	2-Chlorophenol	61	U	380	61	ug/Kg
95-48-7	2-Methylphenol	64	U	380	64	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	62	U	380	62	ug/Kg
98-86-2	Acetophenone	56	U	380	56	ug/Kg
106-44-5	3+4-Methylphenols	60	U	380	60	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	63	U	380	63	ug/Kg
67-72-1	Hexachloroethane	65	U	380	65	ug/Kg
98-95-3	Nitrobenzene	83	U	380	83	ug/Kg
78-59-1	Isophorone	57	U	380	57	ug/Kg
88-75-5	2-Nitrophenol	59	U	380	59	ug/Kg
105-67-9	2,4-Dimethylphenol	61	U	380	61	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	63	U	380	63	ug/Kg
120-83-2	2,4-Dichlorophenol	71	U	380	71	ug/Kg
91-20-3	Naphthalene	65	U	380	65	ug/Kg
106-47-8	4-Chloroaniline	46	U	380	46	ug/Kg
87-68-3	Hexachlorobutadiene	59	U	380	59	ug/Kg
105-60-2	Caprolactam	61	U	380	61	ug/Kg
59-50-7	4-Chloro-3-methylphenol	53	U	380	53	ug/Kg
91-57-6	2-Methylnaphthalene	64	U	380	64	ug/Kg
77-47-4	Hexachlorocyclopentadiene	61	U	380	61	ug/Kg
88-06-2	2,4,6-Trichlorophenol	56	U	380	56	ug/Kg
95-95-4	2,4,5-Trichlorophenol	58	U	960	58	ug/Kg
92-52-4	1,1-Biphenyl	63	U	380	63	ug/Kg
91-58-7	2-Chloronaphthalene	63	U	380	63	ug/Kg
88-74-4	2-Nitroaniline	49	U	960	49	ug/Kg
131-11-3	Dimethylphthalate	61	U	380	61	ug/Kg
208-96-8	Acenaphthylene	62	U	380	62	ug/Kg
606-20-2	2,6-Dinitrotoluene	54	U	380	54	ug/Kg

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EHM 7/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/18/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(50-51)	**SDG No.:**	X2867
Lab Sample ID:	X2867-02	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	14
Sample Wt/Vol:	30.2 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003704.D	1	5/22/2006	5/22/2006	BF052206

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	50	U	960	50	ug/Kg
83-32-9	Acenaphthene	68	U	380	68	ug/Kg
51-28-5	2,4-Dinitrophenol	330	U UJ	960	330	ug/Kg
100-02-7	4-Nitrophenol	47	U	960	47	ug/Kg
132-64-9	Dibenzofuran	63	U	380	63	ug/Kg
121-14-2	2,4-Dinitrotoluene	56	U	380	56	ug/Kg
84-66-2	Diethylphthalate	66	U	380	66	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	60	U	380	60	ug/Kg
86-73-7	Fluorene	64	U	380	64	ug/Kg
100-01-6	4-Nitroaniline	65	U	960	65	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	74	U	960	74	ug/Kg
86-30-6	N-Nitrosodiphenylamine	63	U	380	63	ug/Kg
101-55-3	4-Bromophenyl-phenylether	57	U	380	57	ug/Kg
118-74-1	Hexachlorobenzene	61	U	380	61	ug/Kg
1912-24-9	Atrazine	59	U	380	59	ug/Kg
87-86-5	Pentachlorophenol	89	U	960	89	ug/Kg
85-01-8	Phenanthrene	61	U	380	61	ug/Kg
120-12-7	Anthracene	58	U	380	58	ug/Kg
86-74-8	Carbazole	58	U	380	58	ug/Kg
84-74-2	Di-n-butylphthalate	58	U	380	58	ug/Kg
206-44-0	Fluoranthene	57	U	380	57	ug/Kg
129-00-0	Pyrene	68	U	380	68	ug/Kg
85-68-7	Butylbenzylphthalate	62	U	380	62	ug/Kg
91-94-1	3,3-Dichlorobenzidine	65	U	380	65	ug/Kg
56-55-3	Benzo(a)anthracene	54	U	380	54	ug/Kg
218-01-9	Chrysene	69	U	380	69	ug/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	73	U	380	73	ug/Kg
117-84-0	Di-n-octyl phthalate	65	U	380	65	ug/Kg
205-99-2	Benzo(b)fluoranthene	42	U	380	42	ug/Kg
207-08-9	Benzo(k)fluoranthene	84	U	380	84	ug/Kg
50-32-8	Benzo(a)pyrene	61	U	380	61	ug/Kg

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EMN 7/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/18/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(50-51)	**SDG No.:**	X2867
Lab Sample ID:	X2867-02	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	14
Sample Wt/Vol:	30.2 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BF003704.D	1	5/22/2006	5/22/2006	BF052206

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	49	U	380	49	ug/Kg
53-70-3	Dibenz(a,h)anthracene	48	U	380	48	ug/Kg
191-24-2	Benzo(g,h,i)perylene	63	U	380	63	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	120.79	81 %	25 - 121		SPK: 15
13127-88-3	Phenol-d5	129.6	86 %	24 - 113		SPK: 15
4165-60-0	Nitrobenzene-d5	75.68	76 %	23 - 120		SPK: 10
321-60-8	2-Fluorobiphenyl	75.48	75 %	30 - 116		SPK: 10
118-79-6	2,4,6-Tribromophenol	131.05	87 %	19 - 122		SPK: 15
1718-51-0	Terphenyl-d14	81.11	81 %	18 - 137		SPK: 10
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	168493	4.08			
1146-65-2	Naphthalene-d8	651806	5.48			
15067-26-2	Acenaphthene-d10	347675	7.55			
1517-22-2	Phenanthrene-d10	507765	9.33			
1719-03-5	Chrysene-d12	362585	12.53			
1520-96-3	Perylene-d12	288506	14.14			
TENTITIVE IDENTIFIED COMPOUNDS						
	~~ACP2.58~~	~~1900~~	~~AB~~	~~2.58~~		~~ug/Kg~~ R
111-02-4	~~2,6,10,14,18,22-Tetracosahexaene,~~	~~380~~	~~JB~~	~~13.70~~		~~ug/Kg~~ R

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EMM 7/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/18/2006
Project:	Stuyvesant town form	**Date Received:**	5/18/2006
Client Sample ID:	ST17SB06(50-51)	**SDG No.:**	X2867
Lab Sample ID:	X2867-02	**Matrix:**	SOIL
		% Solids:	86.40

CAS No.	Analyte	Conc.	Qualifier	Units	DL	Dilution	Date Prep	Date Anal.	Method
7429-90-5	Aluminum	3330 J		mg/Kg	0.677	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-36-0	Antimony	~~0.941~~ 6.9UJ+	N	mg/Kg	0.380	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-38-2	Arsenic	0.454	U	mg/Kg	0.454	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-39-3	Barium	39.5 J	N	mg/Kg	0.083	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-41-7	Beryllium	~~0.170~~ 0.58U+		mg/Kg	0.007	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-43-9	Cadmium	0.038	UJ N	mg/Kg	0.038	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-70-2	Calcium	11600 J		mg/Kg	0.043	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-47-3	Chromium	7.450 J	N	mg/Kg	0.102	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-48-4	Cobalt	3.970 J	N	mg/Kg	0.112	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-50-8	Copper	10.1		mg/Kg	0.075	1	5/19/2006	5/22/2006	EPA SW-846 6010
7439-89-6	Iron	5860 J	E	mg/Kg	1.780	1	5/19/2006	5/22/2006	EPA SW-846 6010
7439-92-1	Lead	1.870	N	mg/Kg	0.333	1	5/19/2006	5/22/2006	EPA SW-846 6010
7439-95-4	Magnesium	5860 J		mg/Kg	1.100	1	5/19/2006	5/22/2006	EPA SW-846 6010
7439-96-5	Manganese	162 J	N	mg/Kg	0.032	1	5/19/2006	5/22/2006	EPA SW-846 6010
7439-97-6	Mercury	0.012 J		mg/Kg	0.007	1	5/23/2006	5/23/2006	EPA SW-846 7471
7440-02-0	Nickel	9.290 J	N	mg/Kg	0.141	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-09-7	Potassium	1820 J		mg/Kg	6.130	1	5/19/2006	5/22/2006	EPA SW-846 6010
7782-49-2	Selenium	0.395	U N	mg/Kg	0.395	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-22-4	Silver	0.091	UJ	mg/Kg	0.091	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-23-5	Sodium	953 J	N	mg/Kg	29.9	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-28-0	Thallium	0.610	U	mg/Kg	0.610	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-62-2	Vanadium	11.8	E	mg/Kg	0.069	1	5/19/2006	5/22/2006	EPA SW-846 6010
7440-66-6	Zinc	18.3 J	E	mg/Kg	0.083	1	5/19/2006	5/22/2006	EPA SW-846 6010

Comments:

U = Not Detected
DL = Method Detection Limit or Instrument Detection Limit

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Spiked sample recovery not within control limits

7/9/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**5/18/2006**
Project:	**Stuyvesant town former MGP Pro**	**Date Received:**	**5/18/2006**
Client Sample ID:	**ST17SB06(50-51)**	**SDG No.:**	**X2867**
Lab Sample ID:	**X2867-02**	**Matrix:**	**SOIL**
% Solids:	**86.40**		

Analyte	Result	Qualifier	RL	Units	DF	Date Analyzed	Method
Cyanide	0.58	U	0.58	mg/Kg	1	5/23/2006	9012 Cyanide
Cyanide-Amenable	0.58	U	0.58	mg/Kg	1	5/23/2006	9012 Cyanide-Amenable

Comment

7/9/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	5/8/2006
Project:	Stuyvesant town former MGP Proj06	Date Received:	5/10/2006
Client Sample ID:	ST17SB07(2-4)	SDG No.:	X2736
Lab Sample ID:	X2736-03	Matrix:	SOIL
Analytical Method:	8260	% Moisture:	12
Sample Wt/Vol:	1.0 Units: g	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK006194.D	1	5/15/2006	VK050406

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	4.8	U	28	4.8	ug/Kg
74-87-3	Chloromethane	4.8	U	28	4.8	ug/Kg
75-01-4	Vinyl chloride	4.6	U	28	4.6	ug/Kg
74-83-9	Bromomethane	11	U	28	11	ug/Kg
75-00-3	Chloroethane	12	U J	28	12	ug/Kg
75-69-4	Trichlorofluoromethane	7.0	U	28	7.0	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	3.7	U	28	3.7	ug/Kg
75-35-4	1,1-Dichloroethene	3.2	U	28	3.2	ug/Kg
67-64-1	Acetone	19	U	140	19	ug/Kg
75-15-0	Carbon disulfide	2.1	U	28	2.1	ug/Kg
1634-04-4	Methyl tert-butyl Ether	2.1	U	28	2.1	ug/Kg
79-20-9	Methyl Acetate	4.9	U	28	4.9	ug/Kg
75-09-2	Methylene Chloride	49 UJ	~~B~~	28	10	ug/Kg
156-60-5	trans-1,2-Dichloroethene	3.6	U	28	3.6	ug/Kg
75-34-3	1,1-Dichloroethane	1.5	U	28	1.5	ug/Kg
110-82-7	Cyclohexane	1.8	U	28	1.8	ug/Kg
78-93-3	2-Butanone	16	U	140	16	ug/Kg
56-23-5	Carbon Tetrachloride	2.5	U	28	2.5	ug/Kg
156-59-2	cis-1,2-Dichloroethene	1.8	U	28	1.8	ug/Kg
67-66-3	Chloroform	2.0	U	28	2.0	ug/Kg
71-55-6	1,1,1-Trichloroethane	2.4	U	28	2.4	ug/Kg
108-87-2	Methylcyclohexane	2.4	U	28	2.4	ug/Kg
71-43-2	Benzene	2.2	U	28	2.2	ug/Kg
107-06-2	1,2-Dichloroethane	1.7	U	28	1.7	ug/Kg
79-01-6	Trichloroethene	1.7	U	28	1.7	ug/Kg
78-87-5	1,2-Dichloropropane	2.2	U	28	2.2	ug/Kg
75-27-4	Bromodichloromethane	1.9	U	28	1.9	ug/Kg
108-10-1	4-Methyl-2-Pentanone	11	U	140	11	ug/Kg
108-88-3	Toluene	2.3	U	28	2.3	ug/Kg
10061-02-6	t-1,3-Dichloropropene	2.0	U	28	2.0	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	1.9	U	28	1.9	ug/Kg
79-00-5	1,1,2-Trichloroethane	1.7	U	28	1.7	ug/Kg

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

6/26/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	5/8/2006
Project:	Stuyvesant town former MGP Proj06	Date Received:	5/10/2006
Client Sample ID:	ST17SB07(2-4)	SDG No.:	X2736
Lab Sample ID:	X2736-03	Matrix:	SOIL
Analytical Method:	8260	% Moisture:	12
Sample Wt/Vol:	1.0 Units: g	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK006194.D	1	5/15/2006	VK050406

CAS Number	Parameter	Conc.		Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	20		U	140	20	ug/Kg
124-48-1	Dibromochloromethane	1.3		U	28	1.3	ug/Kg
106-93-4	1,2-Dibromoethane	2.3		U	28	2.3	ug/Kg
127-18-4	Tetrachloroethene	4.1		UJ	28	4.1	ug/Kg
108-90-7	Chlorobenzene	2.0		U	28	2.0	ug/Kg
100-41-4	Ethyl Benzene	2.0		U	28	2.0	ug/Kg
126777-61-2	m/p-Xylenes	8.7	J	J	56	4.9	ug/Kg
95-47-6	o-Xylene	2.2		U	28	2.2	ug/Kg
100-42-5	Styrene	2.6		U	28	2.6	ug/Kg
75-25-2	Bromoform	1.7		U	28	1.7	ug/Kg
98-82-8	Isopropylbenzene	2.3		U	28	2.3	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.7		U	28	1.7	ug/Kg
541-73-1	1,3-Dichlorobenzene	3.1		U	28	3.1	ug/Kg
106-46-7	1,4-Dichlorobenzene	3.1		U	28	3.1	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.2		U	28	2.2	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	5.3		U	28	5.3	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	3.8		U	28	3.8	ug/Kg
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	44.02		88 %	75 - 125		SPK: 50
1868-53-7	Dibromofluoromethane	49.51		99 %	75 - 125		SPK: 50
2037-26-5	Toluene-d8	51.16		102 %	75 - 125		SPK: 50
460-00-4	4-Bromofluorobenzene	43.17		86 %	75 - 125		SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	282238		3.50			
540-36-3	1,4-Difluorobenzene	394560		3.91			
3114-55-4	Chlorobenzene-d5	325767		6.69			
3855-82-1	1,4-Dichlorobenzene-d4	161984		8.96			

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jam 6/26/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB07(2-4)	**SDG No.:**	X2736
Lab Sample ID:	X2736-03	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	12
Sample Wt/Vol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE031106.D	5	5/13/2006	5/15/2006	BE050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	~~380~~	R ~~U~~	1900	380	ug/Kg
108-95-2	Phenol	280	U	1900	280	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	300	U	1900	300	ug/Kg
95-57-8	2-Chlorophenol	300	U	1900	300	ug/Kg
95-48-7	2-Methylphenol	310	U	1900	310	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	300	U	1900	300	ug/Kg
98-86-2	Acetophenone	270	U	1900	270	ug/Kg
106-44-5	3+4-Methylphenols	300	U	1900	300	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	310	U	1900	310	ug/Kg
67-72-1	Hexachloroethane	320	U	1900	320	ug/Kg
98-95-3	Nitrobenzene	410	U	1900	410	ug/Kg
78-59-1	Isophorone	280	U	1900	280	ug/Kg
88-75-5	2-Nitrophenol	290	U	1900	290	ug/Kg
105-67-9	2,4-Dimethylphenol	300	U	1900	300	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	310	U	1900	310	ug/Kg
120-83-2	2,4-Dichlorophenol	350	U	1900	350	ug/Kg
91-20-3	Naphthalene	320	U	1900	320	ug/Kg
106-47-8	4-Chloroaniline	220	U	1900	220	ug/Kg
87-68-3	Hexachlorobutadiene	290	U	1900	290	ug/Kg
105-60-2	Caprolactam	300	U	1900	300	ug/Kg
59-50-7	4-Chloro-3-methylphenol	260	U	1900	260	ug/Kg
91-57-6	2-Methylnaphthalene	310	U	1900	310	ug/Kg
77-47-4	Hexachlorocyclopentadiene	300	U	1900	300	ug/Kg
88-06-2	2,4,6-Trichlorophenol	280	U	1900	280	ug/Kg
95-95-4	2,4,5-Trichlorophenol	290	U	4700	290	ug/Kg
92-52-4	1,1-Biphenyl	310	U	1900	310	ug/Kg
91-58-7	2-Chloronaphthalene	310	U	1900	310	ug/Kg
88-74-4	2-Nitroaniline	240	U	4700	240	ug/Kg
131-11-3	Dimethylphthalate	300	U	1900	300	ug/Kg
208-96-8	Acenaphthylene	300	U	1900	300	ug/Kg
606-20-2	2,6-Dinitrotoluene	260	U	1900	260	ug/Kg

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

dam 6/27/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB07(2-4)	**SDG No.:**	X2736
Lab Sample ID:	X2736-03	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	12
Sample Wt/Vol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE031106.D	5	5/13/2006	5/15/2006	BE050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	240	U	4700	240	ug/Kg
83-32-9	Acenaphthene	330	U	1900	330	ug/Kg
51-28-5	2,4-Dinitrophenol	1600	U	4700	1600	ug/Kg
100-02-7	4-Nitrophenol	230	U	4700	230	ug/Kg
132-64-9	Dibenzofuran	310	U	1900	310	ug/Kg
121-14-2	2,4-Dinitrotoluene	280	U	1900	280	ug/Kg
84-66-2	Diethylphthalate	320	U	1900	320	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	300	U	1900	300	ug/Kg
86-73-7	Fluorene	320	U	1900	320	ug/Kg
100-01-6	4-Nitroaniline	320	U	4700	320	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	360	U	4700	360	ug/Kg
86-30-6	N-Nitrosodiphenylamine	310	U	1900	310	ug/Kg
101-55-3	4-Bromophenyl-phenylether	280	U	1900	280	ug/Kg
118-74-1	Hexachlorobenzene	300	U	1900	300	ug/Kg
1912-24-9	Atrazine	290	U	1900	290	ug/Kg
87-86-5	Pentachlorophenol	430	U	4700	430	ug/Kg
85-01-8	Phenanthrene	1300 J	J	1900	300	ug/Kg
120-12-7	Anthracene	330 J	J	1900	280	ug/Kg
86-74-8	Carbazole	290	U	1900	290	ug/Kg
84-74-2	Di-n-butylphthalate	290	U	1900	290	ug/Kg
206-44-0	Fluoranthene	2100		1900	280	ug/Kg
129-00-0	Pyrene	3400		1900	330	ug/Kg
85-68-7	Butylbenzylphthalate	300	U	1900	300	ug/Kg
91-94-1	3,3-Dichlorobenzidine	320	U J	1900	320	ug/Kg
56-55-3	Benzo(a)anthracene	1300 J	J	1900	260	ug/Kg
218-01-9	Chrysene	1400 J	J	1900	340	ug/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	360	U	1900	360	ug/Kg
117-84-0	Di-n-octyl phthalate	320	U	1900	320	ug/Kg
205-99-2	Benzo(b)fluoranthene	1900 J		1900	210	ug/Kg
207-08-9	Benzo(k)fluoranthene	600 J	J	1900	410	ug/Kg
50-32-8	Benzo(a)pyrene	1100 J	J	1900	300	ug/Kg

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6/27/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB07(2-4)	**SDG No.:**	X2736
Lab Sample ID:	X2736-03	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	12
Sample Wt/Vol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE031106.D	5	5/13/2006	5/15/2006	BE050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	370 J	J	1900	240	ug/Kg
53-70-3	Dibenz(a,h)anthracene	230	UJ	1900	230	ug/Kg
191-24-2	Benzo(g,h,i)perylene	960 J	J	1900	310	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	249.95	83 %	25 - 121		SPK: 30
13127-88-3	Phenol-d5	261.9	87 %	24 - 113		SPK: 30
4165-60-0	Nitrobenzene-d5	161.8	81 %	23 - 120		SPK: 20
321-60-8	2-Fluorobiphenyl	171.5	86 %	30 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	214.05	71 %	19 - 122		SPK: 30
1718-51-0	Terphenyl-d14	257.7	129 %	18 - 137		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	327476	5.04			
1146-65-2	Naphthalene-d8	1174378	6.88			
15067-26-2	Acenaphthene-d10	581857	9.63			
1517-22-2	Phenanthrene-d10	838863	12.01			
1719-03-5	Chrysene-d12	369858	16.27			
1520-96-3	Perylene-d12	124921	18.39			
TENTITIVE IDENTIFIED COMPOUNDS						
	ACP3.12	~~1600~~ R ~~A~~		3.12		ug/Kg
205-99-2	Benz[e]acephenanthrylene	1600	JN	18.32		ug/Kg

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6/27/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB07(2-4)RE	**SDG No.:**	X2736
Lab Sample ID:	X2736-03RE	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	12
Sample Wt/Wol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE031139.D	5	5/13/2006	5/17/2006	BE050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	~~380~~ R	~~U~~	1900	380	ug/Kg
108-95-2	Phenol	280	U	1900	280	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	300	U	1900	300	ug/Kg
95-57-8	2-Chlorophenol	300	U	1900	300	ug/Kg
95-48-7	2-Methylphenol	310	U	1900	310	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	300	U	1900	300	ug/Kg
98-86-2	Acetophenone	270	U	1900	270	ug/Kg
106-44-5	3+4-Methylphenols	300	U	1900	300	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	310	U	1900	310	ug/Kg
67-72-1	Hexachloroethane	320	U	1900	320	ug/Kg
98-95-3	Nitrobenzene	410	U	1900	410	ug/Kg
78-59-1	Isophorone	280	U	1900	280	ug/Kg
88-75-5	2-Nitrophenol	290	U	1900	290	ug/Kg
105-67-9	2,4-Dimethylphenol	300	U	1900	300	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	310	U	1900	310	ug/Kg
120-83-2	2,4-Dichlorophenol	350	U	1900	350	ug/Kg
91-20-3	Naphthalene	320	U	1900	320	ug/Kg
106-47-8	4-Chloroaniline	220	U	1900	220	ug/Kg
87-68-3	Hexachlorobutadiene	290	U	1900	290	ug/Kg
105-60-2	Caprolactam	300	U	1900	300	ug/Kg
59-50-7	4-Chloro-3-methylphenol	260	U	1900	260	ug/Kg
91-57-6	2-Methylnaphthalene	310	U	1900	310	ug/Kg
77-47-4	Hexachlorocyclopentadiene	300	U	1900	300	ug/Kg
88-06-2	2,4,6-Trichlorophenol	280	U	1900	280	ug/Kg
95-95-4	2,4,5-Trichlorophenol	290	U	4700	290	ug/Kg
92-52-4	1,1-Biphenyl	310	U	1900	310	ug/Kg
91-58-7	2-Chloronaphthalene	310	U	1900	310	ug/Kg
88-74-4	2-Nitroaniline	240	U	4700	240	ug/Kg
131-11-3	Dimethylphthalate	300	U	1900	300	ug/Kg
208-96-8	Acenaphthylene	300	U	1900	300	ug/Kg
606-20-2	2,6-Dinitrotoluene	260	U	1900	260	ug/Kg

do not report

U = Not Detected
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dm 6/27/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB07(2-4)RE	**SDG No.:**	X2736
Lab Sample ID:	X2736-03RE	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	12
Sample Wt/Vol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE031139.D	5	5/13/2006	5/17/2006	BE050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	240	U	4700	240	ug/Kg
83-32-9	Acenaphthene	330	U	1900	330	ug/Kg
51-28-5	2,4-Dinitrophenol	1600	UJ	4700	1600	ug/Kg
100-02-7	4-Nitrophenol	230	U	4700	230	ug/Kg
132-64-9	Dibenzofuran	310	U	1900	310	ug/Kg
121-14-2	2,4-Dinitrotoluene	280	U	1900	280	ug/Kg
84-66-2	Diethylphthalate	320	U	1900	320	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	300	U	1900	300	ug/Kg
86-73-7	Fluorene	320	U	1900	320	ug/Kg
100-01-6	4-Nitroaniline	320	U	4700	320	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	360	U	4700	360	ug/Kg
86-30-6	N-Nitrosodiphenylamine	310	U	1900	310	ug/Kg
101-55-3	4-Bromophenyl-phenylether	280	U	1900	280	ug/Kg
118-74-1	Hexachlorobenzene	300	U	1900	300	ug/Kg
1912-24-9	Atrazine	290	U	1900	290	ug/Kg
87-86-5	Pentachlorophenol	430	U	4700	430	ug/Kg
85-01-8	Phenanthrene	1400 J	J	1900	300	ug/Kg
120-12-7	Anthracene	330 J	J	1900	280	ug/Kg
86-74-8	Carbazole	290	U	1900	290	ug/Kg
84-74-2	Di-n-butylphthalate	290	U	1900	290	ug/Kg
206-44-0	Fluoranthene	280	U	1900	280	ug/Kg
129-00-0	Pyrene	3200		1900	330	ug/Kg
85-68-7	Butylbenzylphthalate	300	U	1900	300	ug/Kg
91-94-1	3,3-Dichlorobenzidine	320	UJ	1900	320	ug/Kg
56-55-3	Benzo(a)anthracene	1300 J	J	1900	260	ug/Kg
218-01-9	Chrysene	1400 J	J	1900	340	ug/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	360	U	1900	360	ug/Kg
117-84-0	Di-n-octyl phthalate	320	U	1900	320	ug/Kg
205-99-2	Benzo(b)fluoranthene	2100 J		1900	210	ug/Kg
207-08-9	Benzo(k)fluoranthene	630 J	J	1900	410	ug/Kg
50-32-8	Benzo(a)pyrene	1600 J	J	1900	300	ug/Kg

do not report

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

jam 6/27/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB07(2-4)RE	**SDG No.:**	X2736
Lab Sample ID:	X2736-03RE	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	12
Sample Wt/Wol:	30.1 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE031139.D	5	5/13/2006	5/17/2006	BE050506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	390 J	J	1900	240	ug/Kg
53-70-3	Dibenz(a,h)anthracene	230	UJ	1900	230	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1000 J	J	1900	310	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	249.5	83 %	25 - 121		SPK: 30
13127-88-3	Phenol-d5	263.1	88 %	24 - 113		SPK: 30
4165-60-0	Nitrobenzene-d5	162.75	81 %	23 - 120		SPK: 20
321-60-8	2-Fluorobiphenyl	172.45	86 %	30 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	219.25	73 %	19 - 122		SPK: 30
1718-51-0	Terphenyl-d14	247.95	124 %	18 - 137		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	387062	5.01			
1146-65-2	Naphthalene-d8	1368741	6.85			
15067-26-2	Acenaphthene-d10	670062	9.60			
1517-22-2	Phenanthrene-d10	961264	11.97			
1719-03-5	Chrysene-d12	442532	16.23			
1520-96-3	Perylene-d12	165077	18.36			

do not report

U = Not Detected
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N = Presumptive Evidence of a Compound

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/8/2006
Project:	Stuyvesant town form	**Date Received:**	5/10/2006
Client Sample ID:	ST17SB07(2-4)	**SDG No.:**	X2736
Lab Sample ID:	X2736-03	**Matrix:**	SOIL
		% Solids:	88.00

CAS No.	Analyte	Conc.	Qualifier	Units	DL	Dilution	Date Prep	Date Anal.	Method
7429-90-5	Aluminum	4140 J	E	mg/Kg	0.665	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-36-0	Antimony	0.373	UJ N	mg/Kg	0.373	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-38-2	Arsenic	5.780 J		mg/Kg	0.445	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-39-3	Barium	192 J	E	mg/Kg	0.082	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-41-7	Beryllium	0.252 J	B	mg/Kg	0.007	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-43-9	Cadmium	0.038	UJ	mg/Kg	0.038	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-70-2	Calcium	17700 J	E	mg/Kg	0.042	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-47-3	Chromium	10.8 J	NE	mg/Kg	0.100	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-48-4	Cobalt	5.110 J	B N	mg/Kg	0.110	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-50-8	Copper	43.9		mg/Kg	0.074	1	5/15/2006	5/18/2006	EPA SW-846 6010
7439-89-6	Iron	11500 J	E	mg/Kg	1.740	1	5/15/2006	5/18/2006	EPA SW-846 6010
7439-92-1	Lead	245		mg/Kg	0.327	1	5/15/2006	5/18/2006	EPA SW-846 6010
7439-95-4	Magnesium	1830 J	E	mg/Kg	1.080	1	5/15/2006	5/18/2006	EPA SW-846 6010
7439-96-5	Manganese	230 J	E	mg/Kg	0.032	1	5/15/2006	5/18/2006	EPA SW-846 6010
7439-97-6	Mercury	1.3	D	mg/Kg	0.066	10	5/17/2006	5/17/2006	EPA SW-846 7471
7440-02-0	Nickel	14.1 J	NE	mg/Kg	0.139	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-09-7	Potassium	1050 J	N	mg/Kg	6.020	1	5/15/2006	5/18/2006	EPA SW-846 6010
7782-49-2	Selenium	0.387	U	mg/Kg	0.387	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-22-4	Silver	2.400 J	N	mg/Kg	0.090	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-23-5	Sodium	485 J	B N	mg/Kg	29.3	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-28-0	Thallium	0.599	U	mg/Kg	0.599	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-62-2	Vanadium	20.0	N	mg/Kg	0.068	1	5/15/2006	5/18/2006	EPA SW-846 6010
7440-66-6	Zinc	159 J	N	mg/Kg	0.082	1	5/15/2006	5/18/2006	EPA SW-846 6010

Comments:

U = Not Detected
DL = Method Detection Limit or Instrument Detection Limit

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Spiked sample recovery not within control limits

6/28/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	5/8/2006
Project:	Stuyvesant town former MGP Pro	Date Received:	5/10/2006
Client Sample ID:	ST17SB07(2-4)	SDG No.:	X2736
Lab Sample ID:	X2736-03	Matrix:	SOIL
% Solids:	88.00		

Analyte	Result	Qualifier	RL	Units	DF	Date Analyzed	Method
Cyanide	~~0.82~~ 0.93		0.57	mg/Kg	1	5/15/2006	9012 Cyanide
Cyanide-Amenable	0.57	UJ	0.57	mg/Kg	1	5/17/2006	9012 Cyanide-Amenable

Comment

Jan 6/28/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/14/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	3/15/2006
Client Sample ID:	ST19SB01(0-0.2)	**SDG No.:**	X1965
Lab Sample ID:	X1965-05	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	23
Sample Wt/Vol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK004517.D	1	3/20/2006	VK030706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	5.6	U	32	5.6	ug/Kg
74-87-3	Chloromethane	5.5	U	32	5.5	ug/Kg
75-01-4	Vinyl chloride	5.3	U	32	5.3	ug/Kg
74-83-9	Bromomethane	13	U	32	13	ug/Kg
75-00-3	Chloroethane	14	U	32	14	ug/Kg
75-69-4	Trichlorofluoromethane	8.1	UJ	32	8.1	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	4.3	U	32	4.3	ug/Kg
75-35-4	1,1-Dichloroethene	3.7	U	32	3.7	ug/Kg
67-64-1	Acetone	22	U	160	22	ug/Kg
75-15-0	Carbon disulfide	2.4	U	32	2.4	ug/Kg
1634-04-4	Methyl tert-butyl Ether	2.4	U	32	2.4	ug/Kg
79-20-9	Methyl Acetate	~~5.6~~ R	~~U~~	~~32~~	5.6	ug/Kg
75-09-2	Methylene Chloride	12	U	32	12	ug/Kg
156-60-5	trans-1,2-Dichloroethene	4.1	U	32	4.1	ug/Kg
75-34-3	1,1-Dichloroethane	1.7	U	32	1.7	ug/Kg
110-82-7	Cyclohexane	2.1	U	32	2.1	ug/Kg
78-93-3	2-Butanone	18	U	160	18	ug/Kg
56-23-5	Carbon Tetrachloride	2.9	U	32	2.9	ug/Kg
156-59-2	cis-1,2-Dichloroethene	2.1	U	32	2.1	ug/Kg
67-66-3	Chloroform	2.3	U	32	2.3	ug/Kg
71-55-6	1,1,1-Trichloroethane	2.7	U	32	2.7	ug/Kg
108-87-2	Methylcyclohexane	2.7	U	32	2.7	ug/Kg
71-43-2	Benzene	2.6	U	32	2.6	ug/Kg
107-06-2	1,2-Dichloroethane	2.0	U	32	2.0	ug/Kg
79-01-6	Trichloroethene	2.0	U	32	2.0	ug/Kg
78-87-5	1,2-Dichloropropane	2.6	U	32	2.6	ug/Kg
75-27-4	Bromodichloromethane	2.2	U	32	2.2	ug/Kg
108-10-1	4-Methyl-2-Pentanone	13	U	160	13	ug/Kg
108-88-3	Toluene	2.6	U	32	2.6	ug/Kg
10061-02-6	t-1,3-Dichloropropene	2.4	U	32	2.4	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	2.1	U	32	2.1	ug/Kg
79-00-5	1,1,2-Trichloroethane	1.9	U	32	1.9	ug/Kg

U = Not Detected
RL = Reporting Limit
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E = Value Exceeds Calibration Range

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N = Presumptive Evidence of a Compound

JAM 5/16/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/14/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	3/15/2006
Client Sample ID:	ST19SB01(0-0.2)	**SDG No.:**	X1965
Lab Sample ID:	X1965-05	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	23
Sample Wt/Vol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK004517.D	1	3/20/2006	VK030706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	23	U	160	23	ug/Kg
124-48-1	Dibromochloromethane	1.5	U	32	1.5	ug/Kg
106-93-4	1,2-Dibromoethane	2.6	U	32	2.6	ug/Kg
127-18-4	Tetrachloroethene	4.7	U	32	4.7	ug/Kg
108-90-7	Chlorobenzene	2.4	U	32	2.4	ug/Kg
100-41-4	Ethyl Benzene	2.3	U	32	2.3	ug/Kg
126777-61-2	m/p-Xylenes	5.6	U	65	5.6	ug/Kg
95-47-6	o-Xylene	2.5	U	32	2.5	ug/Kg
100-42-5	Styrene	3.0	U	32	3.0	ug/Kg
75-25-2	Bromoform	2.0	U	32	2.0	ug/Kg
98-82-8	Isopropylbenzene	2.7	U	32	2.7	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	32	2.0	ug/Kg
541-73-1	1,3-Dichlorobenzene	3.6	U	32	3.6	ug/Kg
106-46-7	1,4-Dichlorobenzene	3.5	U	32	3.5	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.5	U	32	2.5	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	6.1	U	32	6.1	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	4.4	U	32	4.4	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	42.02	84 %	75 - 125		SPK: 50
1868-53-7	Dibromofluoromethane	46.56	93 %	75 - 125		SPK: 50
2037-26-5	Toluene-d8	46.68	93 %	75 - 125		SPK: 50
460-00-4	4-Bromofluorobenzene	37.42	75 %	75 - 125		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	176168	4.11			
540-36-3	1,4-Difluorobenzene	589733	4.55			
3114-55-4	Chlorobenzene-d5	507625	7.42			
3855-82-1	1,4-Dichlorobenzene-d4	113812	9.48			

U = Not Detected
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5/16/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/14/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	3/15/2006
Client Sample ID:	ST19SB01(0-0.2)	**SDG No.:**	X1965
Lab Sample ID:	X1965-05	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	23
Sample Wt/Vol:	30.2 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE029786.D	1	3/17/2006	3/20/2006	BE030906

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	88	U J	430	88	ug/Kg
108-95-2	Phenol	65	U	430	65	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	68	U	430	68	ug/Kg
95-57-8	2-Chlorophenol	68	U	430	68	ug/Kg
95-48-7	2-Methylphenol	71	U	430	71	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	69	U	430	69	ug/Kg
98-86-2	Acetophenone	62	U	430	62	ug/Kg
106-44-5	3+4-Methylphenols	67	U	430	67	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	71	U	430	71	ug/Kg
67-72-1	Hexachloroethane	73	U	430	73	ug/Kg
98-95-3	Nitrobenzene	93	U	430	93	ug/Kg
78-59-1	Isophorone	64	U	430	64	ug/Kg
88-75-5	2-Nitrophenol	66	U	430	66	ug/Kg
105-67-9	2,4-Dimethylphenol	68	U	430	68	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	70	U	430	70	ug/Kg
120-83-2	2,4-Dichlorophenol	79	U	430	79	ug/Kg
91-20-3	Naphthalene	73	U	430	73	ug/Kg
106-47-8	4-Chloroaniline	51	U	430	51	ug/Kg
87-68-3	Hexachlorobutadiene	66	U	430	66	ug/Kg
105-60-2	Caprolactam	69	U	430	69	ug/Kg
59-50-7	4-Chloro-3-methylphenol	59	U	430	59	ug/Kg
91-57-6	2-Methylnaphthalene	71	U	430	71	ug/Kg
77-47-4	Hexachlorocyclopentadiene	68	U	430	68	ug/Kg
88-06-2	2,4,6-Trichlorophenol	63	U	430	63	ug/Kg
95-95-4	2,4,5-Trichlorophenol	65	U	1100	65	ug/Kg
92-52-4	1,1-Biphenyl	70	U	430	70	ug/Kg
91-58-7	2-Chloronaphthalene	71	U	430	71	ug/Kg
88-74-4	2-Nitroaniline	54	U	1100	54	ug/Kg
131-11-3	Dimethylphthalate	69	U	430	69	ug/Kg
208-96-8	Acenaphthylene	69	U	430	69	ug/Kg
606-20-2	2,6-Dinitrotoluene	60	U	430	60	ug/Kg

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/14/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	3/15/2006
Client Sample ID:	ST19SB01(0-0.2)	**SDG No.:**	X1965
Lab Sample ID:	X1965-05	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	23
Sample Wt/Wol:	30.2 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE029786.D	1	3/17/2006	3/20/2006	BE030906

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	56	U	1100	56	ug/Kg
83-32-9	Acenaphthene	92 J	J	430	76	ug/Kg
51-28-5	2,4-Dinitrophenol	370	UJ	1100	370	ug/Kg
100-02-7	4-Nitrophenol	~~53~~ R	~~U~~	~~1100~~	53	ug/Kg
132-64-9	Dibenzofuran	71	U	430	71	ug/Kg
121-14-2	2,4-Dinitrotoluene	63	U	430	63	ug/Kg
84-66-2	Diethylphthalate	74	U	430	74	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	68	U	430	68	ug/Kg
86-73-7	Fluorene	72	U	430	72	ug/Kg
100-01-6	4-Nitroaniline	73	U	1100	73	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	83	U	1100	83	ug/Kg
86-30-6	N-Nitrosodiphenylamine	70	U	430	70	ug/Kg
101-55-3	4-Bromophenyl-phenylether	64	U	430	64	ug/Kg
118-74-1	Hexachlorobenzene	68	U	430	68	ug/Kg
1912-24-9	Atrazine	65	U	430	65	ug/Kg
87-86-5	Pentachlorophenol	99	U	1100	99	ug/Kg
85-01-8	Phenanthrene	850		430	68	ug/Kg
120-12-7	Anthracene	160 J	J	430	64	ug/Kg
86-74-8	Carbazole	100 J	J	430	65	ug/Kg
84-74-2	Di-n-butylphthalate	220 J	J	430	65	ug/Kg
206-44-0	Fluoranthene	1700		430	64	ug/Kg
129-00-0	Pyrene	1400		430	76	ug/Kg
85-68-7	Butylbenzylphthalate	82 J	J	430	69	ug/Kg
91-94-1	3,3-Dichlorobenzidine	73	U	430	73	ug/Kg
56-55-3	Benzo(a)anthracene	780		430	60	ug/Kg
218-01-9	Chrysene	870		430	77	ug/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	82	U	430	82	ug/Kg
117-84-0	Di-n-octyl phthalate	73	U	430	73	ug/Kg
205-99-2	Benzo(b)fluoranthene	1200		430	47	ug/Kg
207-08-9	Benzo(k)fluoranthene	480		430	94	ug/Kg
50-32-8	Benzo(a)pyrene	770		430	68	ug/Kg

U = Not Detected
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E = Value Exceeds Calibration Range

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5/16/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	3/14/2006
Project:	Stuyvesant town former MGP Proj06	Date Received:	3/15/2006
Client Sample ID:	ST19SB01(0-0.2)	SDG No.:	X1965
Lab Sample ID:	X1965-05	Matrix:	SOIL
Analytical Method:	8270	% Moisture:	23
Sample Wt/Wol:	30.2 g	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE029786.D	1	3/17/2006	3/20/2006	BE030906

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	150 J	J	430	54	ug/Kg
53-70-3	Dibenz(a,h)anthracene	54	U	430	54	ug/Kg
191-24-2	Benzo(g,h,i)perylene	240 J	J	430	71	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	143.45	48 %	25 - 121		SPK: 30
13127-88-3	Phenol-d5	163.46	54 %	24 - 113		SPK: 30
4165-60-0	Nitrobenzene-d5	109.83	55 %	23 - 120		SPK: 20
321-60-8	2-Fluorobiphenyl	138.15	69 %	30 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	161.3	54 %	19 - 122		SPK: 30
1718-51-0	Terphenyl-d14	150.19	75 %	18 - 137		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	211641	6.19			
1146-65-2	Naphthalene-d8	731015	8.34			
15067-26-2	Acenaphthene-d10	452931	11.55			
1517-22-2	Phenanthrene-d10	616399	14.32			
1719-03-5	Chrysene-d12	518208	19.29			
1520-96-3	Perylene-d12	349254	21.82			
TENTITIVE IDENTIFIED COMPOUNDS						
	ACP3.85	~~840~~ R	~~A~~	3.85		ug/Kg
4749-27-3	1-Propene, 3,3,3-trichloro-2-methy	180	JN	4.66		ug/Kg
	unknown10.58	230	J	10.58		ug/Kg
118-79-6	Phenol, 2,4,6-tribromo-	200	JN	12.99		ug/Kg
	unknown13.33	240	J	13.33		ug/Kg
2091-29-4	9-Hexadecenoic acid	190	JN	15.39		ug/Kg
203-64-5	4H-Cyclopenta[def]phenanthrene	170	JN	15.46		ug/Kg
84-65-1	9,10-Anthracenedione	210	JN	15.87		ug/Kg
	unknown17.12	140	J	17.12		ug/Kg
	unknown17.28	390	J	17.28		ug/Kg
77-90-7	Tributyl acetylcitrate	220	JN	17.58		ug/Kg
	unknown17.90	620	J	17.90		ug/Kg
72-54-8	1,1-Dichloro-2,2-bis(p-chlorophen	170	JN	17.94		ug/Kg

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5/16/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/14/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/15/2006**
Client Sample ID:	**ST19SB01(0-0.2)**	**SDG No.:**	**X1965**
Lab Sample ID:	**X1965-05**	**Matrix:**	**SOIL**
Analytical Method:	**8270**	**% Moisture:**	**23**
Sample Wt/Wol:	**30.2 g**	**Extract Vol:**	**1000 uL**

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE029786.D	1	3/17/2006	3/20/2006	BE030906

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TENTITIVE IDENTIFIED COMPOUNDS						
1000158-20-4	3-Butanone, 1,1-bis(4-chloropheny	780	JN	18.46		ug/Kg
510-15-6	Chlorobenzilate	220	JN	18.62		ug/Kg
1599-67-3	1-Docosene	140	JN	19.20		ug/Kg
4376-20-9	1,2-Benzenedicarboxylic acid, mon	1800	JN	19.47		ug/Kg
7683-64-9	Squalene	1500	JN	21.06		ug/Kg
198-55-0	Perylene	610	JN	21.62		ug/Kg
	unknown24.55	210	J	24.55		ug/Kg

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/14/2006
Project:	Stuyvesant town form	**Date Received:**	3/15/2006
Client Sample ID:	ST19SB01(0-0.2)	**SDG No.:**	X1965
Lab Sample ID:	X1965-05	**Matrix:**	SOIL
		% Solids:	76.60

CAS No.	Analyte	Conc.	Qualifier	Units	DL	Dilution	Date Prep	Date Anal.	Method
7429-90-5	Aluminum	10700	J	mg/Kg	0.76	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-36-0	Antimony	~~3.8~~ 7.8	UJ + N	mg/Kg	0.43	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-38-2	Arsenic	22.7		mg/Kg	0.51	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-39-3	Barium	76.9	J	mg/Kg	0.09	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-41-7	Beryllium	0.52	J	mg/Kg	0.01	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-43-9	Cadmium	1.1	J	mg/Kg	0.04	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-70-2	Calcium	2650	J	mg/Kg	0.05	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-47-3	Chromium	65.0	J	mg/Kg	0.11	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-48-4	Cobalt	4.1	J	mg/Kg	0.13	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-50-8	Copper	99.5		mg/Kg	0.08	1	3/17/2006	3/21/2006	EPA SW-846 6010
7439-89-6	Iron	19000		mg/Kg	2.0	1	3/17/2006	3/21/2006	EPA SW-846 6010
7439-92-1	Lead	1440		mg/Kg	0.38	1	3/17/2006	3/21/2006	EPA SW-846 6010
7439-95-4	Magnesium	1560	N	mg/Kg	1.2	1	3/17/2006	3/21/2006	EPA SW-846 6010
7439-96-5	Manganese	201	J N	mg/Kg	0.04	1	3/17/2006	3/21/2006	EPA SW-846 6010
7439-97-6	Mercury	0.773	D	mg/Kg	0.015	2	3/17/2006	3/20/2006	EPA SW-846 7471
7440-02-0	Nickel	23.4	J	mg/Kg	0.16	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-09-7	Potassium	696	J	mg/Kg	6.9	1	3/17/2006	3/21/2006	EPA SW-846 6010
7782-49-2	Selenium	3.1	J	mg/Kg	0.45	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-22-4	Silver	0.94	J	mg/Kg	0.10	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-23-5	Sodium	~~218~~ 653	UJ + N*	mg/Kg	37.6	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-28-0	Thallium	0.69	UJ	mg/Kg	0.69	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-62-2	Vanadium	99.2	J	mg/Kg	0.08	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-66-6	Zinc	109	J	mg/Kg	0.09	1	3/17/2006	3/21/2006	EPA SW-846 6010

Comments:

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N = Spiked sample recovery not within control li

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Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/14/2006**
Project:	**Stuyvesant Town Former MGP Pr**	**Date Received:**	**3/15/2006**
Client Sample ID:	**ST1SB01(0-0.2)**	**SDG No.:**	**X1965**
Lab Sample ID:	**X1965-05**	**Matrix:**	**SOIL**
% Solids:	**76.60**		

Analyte	Result	Qualifier	RL	Units	DF	Date Analyzed	Method
Cyanide	0.653	U	0.653	mg/Kg	1	3/16/2006	9012 Cyanide
Cyanide-Amenable	0.65	U	0.65	mg/Kg	1	3/16/2006	9012 Cyanide-Amenable

Comment

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Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/14/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	3/15/2006
Client Sample ID:	ST19SB01(2-4)	**SDG No.:**	X1965
Lab Sample ID:	X1965-04	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	12
Sample Wt/Vol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK004474.D	1	3/18/2006	VK030706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	4.9	U	28	4.9	ug/Kg
74-87-3	Chloromethane	4.8	U	28	4.8	ug/Kg
75-01-4	Vinyl chloride	4.7	U	28	4.7	ug/Kg
74-83-9	Bromomethane	12	U	28	12	ug/Kg
75-00-3	Chloroethane	12	U	28	12	ug/Kg
75-69-4	Trichlorofluoromethane	7.1	U	28	7.1	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	3.8	U	28	3.8	ug/Kg
75-35-4	1,1-Dichloroethene	3.3	U	28	3.3	ug/Kg
67-64-1	Acetone	19	U	140	19	ug/Kg
75-15-0	Carbon disulfide	2.1	U	28	2.1	ug/Kg
1634-04-4	Methyl tert-butyl Ether	2.1	U	28	2.1	ug/Kg
79-20-9	Methyl Acetate	~~4.9~~ R	~~U~~	~~28~~	4.9	ug/Kg
75-09-2	Methylene Chloride	~~13~~ 28 U	~~J~~	28	10	ug/Kg
156-60-5	trans-1,2-Dichloroethene	3.6	U	28	3.6	ug/Kg
75-34-3	1,1-Dichloroethane	1.5	U	28	1.5	ug/Kg
110-82-7	Cyclohexane	1.8	U	28	1.8	ug/Kg
78-93-3	2-Butanone	16	U	140	16	ug/Kg
56-23-5	Carbon Tetrachloride	2.5	U	28	2.5	ug/Kg
156-59-2	cis-1,2-Dichloroethene	1.8	U	28	1.8	ug/Kg
67-66-3	Chloroform	2.0	U	28	2.0	ug/Kg
71-55-6	1,1,1-Trichloroethane	2.4	U	28	2.4	ug/Kg
108-87-2	Methylcyclohexane	2.4	U	28	2.4	ug/Kg
71-43-2	Benzene	2.3	U	28	2.3	ug/Kg
107-06-2	1,2-Dichloroethane	1.7	U	28	1.7	ug/Kg
79-01-6	Trichloroethene	1.8	U	28	1.8	ug/Kg
78-87-5	1,2-Dichloropropane	2.3	U	28	2.3	ug/Kg
75-27-4	Bromodichloromethane	1.9	U	28	1.9	ug/Kg
108-10-1	4-Methyl-2-Pentanone	11	U	140	11	ug/Kg
108-88-3	Toluene	2.3	U	28	2.3	ug/Kg
10061-02-6	t-1,3-Dichloropropene	2.1	U	28	2.1	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	1.9	U	28	1.9	ug/Kg
79-00-5	1,1,2-Trichloroethane	1.7	U	28	1.7	ug/Kg

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5/16/06

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Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/14/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/15/2006**
Client Sample ID:	**ST19SB01(2-4)**	**SDG No.:**	**X1965**
Lab Sample ID:	**X1965-04**	**Matrix:**	**SOIL**
Analytical Method:	**8260**	**% Moisture:**	**12**
Sample Wt/Vol:	**1.0 Units: g**	**Soil Extract Vol:**	**uL**
Soil Aliquot Vol:	**uL**		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK004474.D	1	3/18/2006	VK030706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	20	U	140	20	ug/Kg
124-48-1	Dibromochloromethane	1.3	U	28	1.3	ug/Kg
106-93-4	1,2-Dibromoethane	2.3	U	28	2.3	ug/Kg
127-18-4	Tetrachloroethene	4.1	U	28	4.1	ug/Kg
108-90-7	Chlorobenzene	2.1	U	28	2.1	ug/Kg
100-41-4	Ethyl Benzene	2.0	U	28	2.0	ug/Kg
126777-61-2	m/p-Xylenes	4.9	U	57	4.9	ug/Kg
95-47-6	o-Xylene	2.2	U	28	2.2	ug/Kg
100-42-5	Styrene	2.6	U	28	2.6	ug/Kg
75-25-2	Bromoform	1.8	U	28	1.8	ug/Kg
98-82-8	Isopropylbenzene	2.4	U	28	2.4	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.8	U	28	1.8	ug/Kg
541-73-1	1,3-Dichlorobenzene	3.2	U	28	3.2	ug/Kg
106-46-7	1,4-Dichlorobenzene	3.1	U	28	3.1	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.2	U	28	2.2	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	5.4	U	28	5.4	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	3.9	U	28	3.9	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	47.31	95 %	75 - 125		SPK: 50
1868-53-7	Dibromofluoromethane	49.72	99 %	75 - 125		SPK: 50
2037-26-5	Toluene-d8	50.99	102 %	75 - 125		SPK: 50
460-00-4	4-Bromofluorobenzene	44.1	88 %	75 - 125		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	106210	4.11			
540-36-3	1,4-Difluorobenzene	354743	4.55			
3114-55-4	Chlorobenzene-d5	319000	7.43			
3855-82-1	1,4-Dichlorobenzene-d4	87195	9.48			

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Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/14/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	3/15/2006
Client Sample ID:	ST19SB01(2-4)	**SDG No.:**	X1965
Lab Sample ID:	X1965-04	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	12
Sample Wt/Vol:	30.0 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE029731.D	1	3/17/2006	3/19/2006	BE030906

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	77	UJ	370	77	ug/Kg
108-95-2	Phenol	57	U	370	57	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	59	U	370	59	ug/Kg
95-57-8	2-Chlorophenol	60	U	370	60	ug/Kg
95-48-7	2-Methylphenol	62	U	370	62	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	61	U	370	61	ug/Kg
98-86-2	Acetophenone	55	U	370	55	ug/Kg
106-44-5	3+4-Methylphenols	59	U	370	59	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	62	U	370	62	ug/Kg
67-72-1	Hexachloroethane	64	U	370	64	ug/Kg
98-95-3	Nitrobenzene	82	U	370	82	ug/Kg
78-59-1	Isophorone	56	U	370	56	ug/Kg
88-75-5	2-Nitrophenol	58	U	370	58	ug/Kg
105-67-9	2,4-Dimethylphenol	60	U	370	60	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	62	U	370	62	ug/Kg
120-83-2	2,4-Dichlorophenol	69	U	370	69	ug/Kg
91-20-3	Naphthalene	64	U	370	64	ug/Kg
106-47-8	4-Chloroaniline	45	U	370	45	ug/Kg
87-68-3	Hexachlorobutadiene	58	U	370	58	ug/Kg
105-60-2	Caprolactam	60	U	370	60	ug/Kg
59-50-7	4-Chloro-3-methylphenol	52	U	370	52	ug/Kg
91-57-6	2-Methylnaphthalene	63	U	370	63	ug/Kg
77-47-4	Hexachlorocyclopentadiene	60	UJ	370	60	ug/Kg
88-06-2	2,4,6-Trichlorophenol	55	U	370	55	ug/Kg
95-95-4	2,4,5-Trichlorophenol	57	U	940	57	ug/Kg
92-52-4	1,1-Biphenyl	62	U	370	62	ug/Kg
91-58-7	2-Chloronaphthalene	62	U	370	62	ug/Kg
88-74-4	2-Nitroaniline	48	U	940	48	ug/Kg
131-11-3	Dimethylphthalate	60	U	370	60	ug/Kg
208-96-8	Acenaphthylene	61	U	370	61	ug/Kg
606-20-2	2,6-Dinitrotoluene	53	U	370	53	ug/Kg

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Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/14/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	3/15/2006
Client Sample ID:	ST19SB01(2-4)	**SDG No.:**	X1965
Lab Sample ID:	X1965-04	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	12
Sample Wt/Vol:	30.0 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE029731.D	1	3/17/2006	3/19/2006	BE030906

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	49	U	940	49	ug/Kg
83-32-9	Acenaphthene	67	U	370	67	ug/Kg
51-28-5	2,4-Dinitrophenol	320	UJ	940	320	ug/Kg
100-02-7	4-Nitrophenol	~~47~~ R	~~U~~	~~940~~	47	ug/Kg
132-64-9	Dibenzofuran	62	U	370	62	ug/Kg
121-14-2	2,4-Dinitrotoluene	55	U	370	55	ug/Kg
84-66-2	Diethylphthalate	65	U	370	65	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	59	U	370	59	ug/Kg
86-73-7	Fluorene	63	U	370	63	ug/Kg
100-01-6	4-Nitroaniline	64	U	940	64	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	73	U	940	73	ug/Kg
86-30-6	N-Nitrosodiphenylamine	62	U	370	62	ug/Kg
101-55-3	4-Bromophenyl-phenylether	56	U	370	56	ug/Kg
118-74-1	Hexachlorobenzene	60	U	370	60	ug/Kg
1912-24-9	Atrazine	58	U	370	58	ug/Kg
87-86-5	Pentachlorophenol	87	U	940	87	ug/Kg
85-01-8	Phenanthrene	120 J		370	60	ug/Kg
120-12-7	Anthracene	57	U	370	57	ug/Kg
86-74-8	Carbazole	57	U	370	57	ug/Kg
84-74-2	Di-n-butylphthalate	57	U	370	57	ug/Kg
206-44-0	Fluoranthene	170 J		370	56	ug/Kg
129-00-0	Pyrene	150 J		370	66	ug/Kg
85-68-7	Butylbenzylphthalate	61	U	370	61	ug/Kg
91-94-1	3,3-Dichlorobenzidine	64	U	370	64	ug/Kg
56-55-3	Benzo(a)anthracene	78 J		370	53	ug/Kg
218-01-9	Chrysene	91 J		370	67	ug/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	100 J		370	72	ug/Kg
117-84-0	Di-n-octyl phthalate	64	U	370	64	ug/Kg
205-99-2	Benzo(b)fluoranthene	88 J		370	41	ug/Kg
207-08-9	Benzo(k)fluoranthene	83	UJ	370	83	ug/Kg
50-32-8	Benzo(a)pyrene	74 J		370	60	ug/Kg

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/14/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	3/15/2006
Client Sample ID:	ST19SB01(2-4)	**SDG No.:**	X1965
Lab Sample ID:	X1965-04	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	12
Sample Wt/Vol:	30.0 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE029731.D	1	3/17/2006	3/19/2006	BE030906

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	49 J	J	370	48	ug/Kg
53-70-3	Dibenz(a,h)anthracene	47	U	370	47	ug/Kg
191-24-2	Benzo(g,h,i)perylene	62	UJ	370	62	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	142.88	48 %	25 - 121		SPK: 30
13127-88-3	Phenol-d5	159.69	53 %	24 - 113		SPK: 30
4165-60-0	Nitrobenzene-d5	111.33	56 %	23 - 120		SPK: 20
321-60-8	2-Fluorobiphenyl	127.22	64 %	30 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	191.45	64 %	19 - 122		SPK: 30
1718-51-0	Terphenyl-d14	140.41	70 %	18 - 137		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	209438	6.21			
1146-65-2	Naphthalene-d8	712937	8.36			
15067-26-2	Acenaphthene-d10	433917	11.57			
1517-22-2	Phenanthrene-d10	612235	14.34			
1719-03-5	Chrysene-d12	525358	19.29			
1520-96-3	Perylene-d12	593175	21.85			
TENTATIVE IDENTIFIED COMPOUNDS						
	ACP3.87	~~790~~ R	~~A~~	3.87		ug/Kg
7683-64-9	Squalene	94	J	21.09		ug/Kg

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

5/16/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/14/2006**
Project:	**Stuyvesant town form**	**Date Received:**	**3/15/2006**
Client Sample ID:	**ST19SB01(2-4)**	**SDG No.:**	**X1965**
Lab Sample ID:	**X1965-04**	**Matrix:**	**SOIL**
		% Solids:	**88.00**

CAS No.	Analyte	Conc.	Qualifier	Units	DL	Dilution	Date Prep	Date Anal.	Method
7429-90-5	Aluminum	9500 J		mg/Kg	0.66	1	3/17/2006	3/21/2006	EPA SW-846 3010
7440-36-0	Antimony	12.5 J	N	mg/Kg	0.37	1	3/17/2006	3/21/2006	EPA SW-846 3010
7440-38-2	Arsenic	14.9		mg/Kg	0.45	1	3/17/2006	3/21/2006	EPA SW-846 3010
7440-39-3	Barium	41.1 J		mg/Kg	0.08	1	3/17/2006	3/21/2006	EPA SW-846 3010
7440-41-7	Beryllium	0.45 J		mg/Kg	0.01	1	3/17/2006	3/21/2006	EPA SW-846 3010
7440-43-9	Cadmium	0.04	UJ	mg/Kg	0.04	1	3/17/2006	3/21/2006	EPA SW-846 3010
7440-70-2	Calcium	776 J		mg/Kg	0.04	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-47-3	Chromium	13.9 J		mg/Kg	0.10	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-48-4	Cobalt	5.0 J		mg/Kg	0.11	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-50-8	Copper	30.9		mg/Kg	0.07	1	3/17/2006	3/21/2006	EPA SW-846 6010
7439-89-6	Iron	14100		mg/Kg	1.7	1	3/17/2006	3/21/2006	EPA SW-846 6010
7439-92-1	Lead	54.1		mg/Kg	0.33	1	3/17/2006	3/21/2006	EPA SW-846 6010
7439-95-4	Magnesium	1880	N	mg/Kg	1.1	1	3/17/2006	3/21/2006	EPA SW-846 6010
7439-96-5	Manganese	240 J	N	mg/Kg	0.03	1	3/17/2006	3/21/2006	EPA SW-846 6010
7439-97-6	Mercury	0.551		mg/Kg	0.007	1	3/17/2006	3/20/2006	EPA SW-846 7471
7440-02-0	Nickel	10.5 J		mg/Kg	0.14	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-09-7	Potassium	707 J		mg/Kg	6.0	1	3/17/2006	3/21/2006	EPA SW-846 6010
7782-49-2	Selenium	~~0.94~~ 1.1U		mg/Kg	0.39	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-22-4	Silver	0.09	UJ	mg/Kg	0.09	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-23-5	Sodium	~~357~~ 568 UJ	N*	mg/Kg	32.7	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-28-0	Thallium	0.60	UJ	mg/Kg	0.60	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-62-2	Vanadium	29.0 J		mg/Kg	0.07	1	3/17/2006	3/21/2006	EPA SW-846 6010
7440-66-6	Zinc	21.4 J		mg/Kg	0.08	1	3/17/2006	3/21/2006	EPA SW-846 6010

Comments:

jam 5/16/06

U = Not Detected
DL = Method Detection Limit or Instrument Detection Limit

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Spiked sample recovery not within control li[illegible]

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/14/2006**
Project:	**Stuyvesant Town Former MGP Pr**	**Date Received:**	**3/15/2006**
Client Sample ID:	~~**ST17SB01(2-4)**~~ ST19SB01 (2-4)	**SDG No.:**	**X1965**
Lab Sample ID:	**X1965-04**	**Matrix:**	**SOIL**
% Solids:	**88.00**		

Analyte	Result	Qualifier	RL	Units	DF	Date Analyzed	Method
Cyanide	0.568	U	0.568	mg/Kg	1	3/16/2006	9012 Cyanide
Cyanide-Amenable	0.57	U	0.57	mg/Kg	1	3/16/2006	9012 Cyanide-Amenable

Comment

JAM 5/16/06

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Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	3/17/2006
Client Sample ID:	ST19SB01(14-16)	**SDG No.:**	X2012
Lab Sample ID:	X2012-03	**Matrix:**	SOIL
Analytical Method:	8260	**% Moisture:**	13
Sample Wt/Wol:	1.0 Units: g	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK004579.D	1	3/21/2006	VK030706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	4.9	U	28	4.9	ug/Kg
74-87-3	Chloromethane	4.9	U	28	4.9	ug/Kg
75-01-4	Vinyl chloride	4.7	U	28	4.7	ug/Kg
74-83-9	Bromomethane	12	U	28	12	ug/Kg
75-00-3	Chloroethane	12	U	28	12	ug/Kg
75-69-4	Trichlorofluoromethane	7.1	U	28	7.1	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	3.8	U	28	3.8	ug/Kg
75-35-4	1,1-Dichloroethene	3.3	U	28	3.3	ug/Kg
67-64-1	Acetone	19	U	140	19	ug/Kg
75-15-0	Carbon disulfide	2.1	U	28	2.1	ug/Kg
1634-04-4	Methyl tert-butyl Ether	2.1	U	28	2.1	ug/Kg
79-20-9	Methyl Acetate	4.9	U	28	4.9	ug/Kg
75-09-2	Methylene Chloride	62	UJ ~~B~~	28	10	ug/Kg
156-60-5	trans-1,2-Dichloroethene	3.6	U	28	3.6	ug/Kg
75-34-3	1,1-Dichloroethane	1.5	U	28	1.5	ug/Kg
110-82-7	Cyclohexane	1.8	U	28	1.8	ug/Kg
78-93-3	2-Butanone	16	U	140	16	ug/Kg
56-23-5	Carbon Tetrachloride	2.5	U	28	2.5	ug/Kg
156-59-2	cis-1,2-Dichloroethene	1.8	U	28	1.8	ug/Kg
67-66-3	Chloroform	2.0	U	28	2.0	ug/Kg
71-55-6	1,1,1-Trichloroethane	2.4	U	28	2.4	ug/Kg
108-87-2	Methylcyclohexane	2.4	U	28	2.4	ug/Kg
71-43-2	Benzene	2.3	U	28	2.3	ug/Kg
107-06-2	1,2-Dichloroethane	1.7	U	28	1.7	ug/Kg
79-01-6	Trichloroethene	1.8	U	28	1.8	ug/Kg
78-87-5	1,2-Dichloropropane	2.3	U	28	2.3	ug/Kg
75-27-4	Bromodichloromethane	1.9	U	28	1.9	ug/Kg
108-10-1	4-Methyl-2-Pentanone	11	U	140	11	ug/Kg
108-88-3	Toluene	2.3	U	28	2.3	ug/Kg
10061-02-6	t-1,3-Dichloropropene	2.1	U	28	2.1	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	1.9	U	28	1.9	ug/Kg
79-00-5	1,1,2-Trichloroethane	1.7	U	28	1.7	ug/Kg

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
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N = Presumptive Evidence of a Compound

5/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/17/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/17/2006**
Client Sample ID:	**ST19SB01(14-16)**	**SDG No.:**	**X2012**
Lab Sample ID:	**X2012-03**	**Matrix:**	**SOIL**
Analytical Method:	**8260**	**% Moisture:**	**13**
Sample Wt/Wol:	**1.0 Units: g**	**Soil Extract Vol:**	**uL**
Soil Aliquot Vol:	**uL**		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK004579.D	1	3/21/2006	VK030706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	21	U	140	21	ug/Kg
124-48-1	Dibromochloromethane	1.3	U	28	1.3	ug/Kg
106-93-4	1,2-Dibromoethane	2.3	U	28	2.3	ug/Kg
127-18-4	Tetrachloroethene	4.2	U	28	4.2	ug/Kg
108-90-7	Chlorobenzene	2.1	U	28	2.1	ug/Kg
100-41-4	Ethyl Benzene	2.0	U	28	2.0	ug/Kg
126777-61-2	m/p-Xylenes	4.9	U	57	4.9	ug/Kg
95-47-6	o-Xylene	2.2	U	28	2.2	ug/Kg
100-42-5	Styrene	2.6	U	28	2.6	ug/Kg
75-25-2	Bromoform	1.8	U	28	1.8	ug/Kg
98-82-8	Isopropylbenzene	2.4	U	28	2.4	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.8	U	28	1.8	ug/Kg
541-73-1	1,3-Dichlorobenzene	3.2	U	28	3.2	ug/Kg
106-46-7	1,4-Dichlorobenzene	3.1	U	28	3.1	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.2	U	28	2.2	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	5.4	U	28	5.4	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	3.9	U	28	3.9	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	45.96	92 %	75 - 125		SPK: 50
1868-53-7	Dibromofluoromethane	46.23	92 %	75 - 125		SPK: 50
2037-26-5	Toluene-d8	46.46	93 %	75 - 125		SPK: 50
460-00-4	4-Bromofluorobenzene	40.54	81 %	75 - 125		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	145730	4.11			
540-36-3	1,4-Difluorobenzene	515923	4.56			
3114-55-4	Chlorobenzene-d5	467360	7.43			
3855-82-1	1,4-Dichlorobenzene-d4	117129	9.49			

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Jm 5/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/17/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/17/2006**
Client Sample ID:	**ST19SB01(14-16)**	**SDG No.:**	**X2012**
Lab Sample ID:	**X2012-03**	**Matrix:**	**SOIL**
Analytical Method:	**8270**	**% Moisture:**	**13**
Sample Wt/Wol:	**30.2 g**	**Extract Vol:**	**1000 uL**

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE029852.D	1	3/20/2006	3/22/2006	BE030906

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	78	U	380	78	ug/Kg
108-95-2	Phenol	57	U	380	57	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	60	U	380	60	ug/Kg
95-57-8	2-Chlorophenol	60	U	380	60	ug/Kg
95-48-7	2-Methylphenol	63	U	380	63	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	61	U	380	61	ug/Kg
98-86-2	Acetophenone	55	U	380	55	ug/Kg
106-44-5	3+4-Methylphenols	60	U	380	60	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	63	U	380	63	ug/Kg
67-72-1	Hexachloroethane	64	U	380	64	ug/Kg
98-95-3	Nitrobenzene	82	U	380	82	ug/Kg
78-59-1	Isophorone	57	U	380	57	ug/Kg
88-75-5	2-Nitrophenol	58	U	380	58	ug/Kg
105-67-9	2,4-Dimethylphenol	60	U	380	60	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	62	U	380	62	ug/Kg
120-83-2	2,4-Dichlorophenol	70	U	380	70	ug/Kg
91-20-3	Naphthalene	160 J	J	380	65	ug/Kg
106-47-8	4-Chloroaniline	45	U	380	45	ug/Kg
87-68-3	Hexachlorobutadiene	58	U	380	58	ug/Kg
105-60-2	Caprolactam	61	U	380	61	ug/Kg
59-50-7	4-Chloro-3-methylphenol	52	U	380	52	ug/Kg
91-57-6	2-Methylnaphthalene	63	U	380	63	ug/Kg
77-47-4	Hexachlorocyclopentadiene	60	U	380	60	ug/Kg
88-06-2	2,4,6-Trichlorophenol	56	U	380	56	ug/Kg
95-95-4	2,4,5-Trichlorophenol	58	U	950	58	ug/Kg
92-52-4	1,1-Biphenyl	62	U	380	62	ug/Kg
91-58-7	2-Chloronaphthalene	63	U	380	63	ug/Kg
88-74-4	2-Nitroaniline	48	U	950	48	ug/Kg
131-11-3	Dimethylphthalate	61	U	380	61	ug/Kg
208-96-8	Acenaphthylene	61	U	380	61	ug/Kg
606-20-2	2,6-Dinitrotoluene	53	U	380	53	ug/Kg

U = Not Detected
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5/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	3/17/2006
Client Sample ID:	ST19SB01(14-16)	**SDG No.:**	X2012
Lab Sample ID:	X2012-03	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	13
Sample Wt/Vol:	30.2 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE029852.D	1	3/20/2006	3/22/2006	BE030906

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	49	U	950	49	ug/Kg
83-32-9	Acenaphthene	67	U	380	67	ug/Kg
51-28-5	2,4-Dinitrophenol	320	U	950	320	ug/Kg
100-02-7	4-Nitrophenol	47	U J vm	950	47	ug/Kg
132-64-9	Dibenzofuran	62	U	380	62	ug/Kg
121-14-2	2,4-Dinitrotoluene	56	U	380	56	ug/Kg
84-66-2	Diethylphthalate	65	U	380	65	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	60	U	380	60	ug/Kg
86-73-7	Fluorene	64	U	380	64	ug/Kg
100-01-6	4-Nitroaniline	65	U	950	65	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	73	U	950	73	ug/Kg
86-30-6	N-Nitrosodiphenylamine	62	U	380	62	ug/Kg
101-55-3	4-Bromophenyl-phenylether	56	U	380	56	ug/Kg
118-74-1	Hexachlorobenzene	60	U	380	60	ug/Kg
1912-24-9	Atrazine	58	U	380	58	ug/Kg
87-86-5	Pentachlorophenol	88	U	950	88	ug/Kg
85-01-8	Phenanthrene	60	U	380	60	ug/Kg
120-12-7	Anthracene	57	U	380	57	ug/Kg
86-74-8	Carbazole	58	U	380	58	ug/Kg
84-74-2	Di-n-butylphthalate	58	U	380	58	ug/Kg
206-44-0	Fluoranthene	56	U	380	56	ug/Kg
129-00-0	Pyrene	67	U	380	67	ug/Kg
85-68-7	Butylbenzylphthalate	61	U	380	61	ug/Kg
91-94-1	3,3-Dichlorobenzidine	65	U	380	65	ug/Kg
56-55-3	Benzo(a)anthracene	53	U	380	53	ug/Kg
218-01-9	Chrysene	68	U	380	68	ug/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	73	U	380	73	ug/Kg
117-84-0	Di-n-octyl phthalate	64	U	380	64	ug/Kg
205-99-2	Benzo(b)fluoranthene	42	U	380	42	ug/Kg
207-08-9	Benzo(k)fluoranthene	83	U	380	83	ug/Kg
50-32-8	Benzo(a)pyrene	60	U	380	60	ug/Kg

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Dam 5/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/17/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/17/2006**
Client Sample ID:	**ST19SB01(14-16)**	**SDG No.:**	**X2012**
Lab Sample ID:	**X2012-03**	**Matrix:**	**SOIL**
Analytical Method:	**8270**	**% Moisture:**	**13**
Sample Wt/Wol:	**30.2 g**	**Extract Vol:**	**1000 uL**

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE029852.D	**1**	**3/20/2006**	**3/22/2006**	**BE030906**

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	48	U	380	48	ug/Kg
53-70-3	Dibenz(a,h)anthracene	47	U	380	47	ug/Kg
191-24-2	Benzo(g,h,i)perylene	62	U	380	62	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	148.51	50 %	25 - 121		SPK: 30
13127-88-3	Phenol-d5	161.73	54 %	24 - 113		SPK: 30
4165-60-0	Nitrobenzene-d5	111.36	56 %	23 - 120		SPK: 20
321-60-8	2-Fluorobiphenyl	130.58	65 %	30 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	179.75	60 %	19 - 122		SPK: 30
1718-51-0	Terphenyl-d14	155.21	78 %	18 - 137		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	182246	6.18			
1146-65-2	Naphthalene-d8	610969	8.33			
15067-26-2	Acenaphthene-d10	390505	11.53			
1517-22-2	Phenanthrene-d10	547735	14.29			
1719-03-5	Chrysene-d12	448834	19.24			
1520-96-3	Perylene-d12	498363	21.78			
TENTITIVE IDENTIFIED COMPOUNDS						
	ACP3.84	~~2900~~	R ~~A~~	3.84		ug/Kg
74339-53-0	Trichloroacetic acid, pentadecyl e	140	JN	19.17		ug/Kg
7683-64-9	Squalene	170	JN	21.02		ug/Kg
	unknown23.07	130	J	23.07		ug/Kg

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

5/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/17/2006
Project:	Stuyvesant town form	**Date Received:**	3/17/2006
Client Sample ID:	ST19SB01(14-16)	**SDG No.:**	X2012
Lab Sample ID:	X2012-03	**Matrix:**	SOIL
		% Solids:	87.40

CAS No.	Analyte	Conc.	Qualifier	Units	DL	Dilution	Date Prep	Date Anal.	Method
7429-90-5	Aluminum	7820 J		mg/Kg	0.67	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-36-0	Antimony	13.6 J	N*	mg/Kg	0.38	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-38-2	Arsenic	2.3 J		mg/Kg	0.45	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-39-3	Barium	42.8 J	N	mg/Kg	0.08	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-41-7	Beryllium	0.42 J		mg/Kg	0.01	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-43-9	Cadmium	0.04	U J	mg/Kg	0.04	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-70-2	Calcium	2170 J		mg/Kg	0.04	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-47-3	Chromium	16.1		mg/Kg	0.10	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-48-4	Cobalt	7.4	N	mg/Kg	0.11	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-50-8	Copper	30.4	N	mg/Kg	0.07	1	3/21/2006	3/24/2006	EPA SW-846 6010
7439-89-6	Iron	13800		mg/Kg	1.8	1	3/21/2006	3/24/2006	EPA SW-846 6010
7439-92-1	Lead	29.2	N	mg/Kg	0.33	1	3/21/2006	3/24/2006	EPA SW-846 6010
7439-95-4	Magnesium	2130		mg/Kg	1.1	1	3/21/2006	3/24/2006	EPA SW-846 6010
7439-96-5	Manganese	239 J		mg/Kg	0.03	1	3/21/2006	3/24/2006	EPA SW-846 6010
7439-97-6	Mercury	0.047 J		mg/Kg	0.007	1	3/21/2006	3/22/2006	EPA SW-846 7471
7440-02-0	Nickel	13.2 J		mg/Kg	0.14	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-09-7	Potassium	911 J		mg/Kg	6.1	1	3/21/2006	3/24/2006	EPA SW-846 6010
7782-49-2	Selenium	0.39	U	mg/Kg	0.39	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-22-4	Silver	~~0.57~~ 1.1 UJ	N	mg/Kg	0.09	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-23-5	Sodium	591 J	N*	mg/Kg	33.0	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-28-0	Thallium	0.60	UJ	mg/Kg	0.60	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-62-2	Vanadium	23.1 J		mg/Kg	0.07	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-66-6	Zinc	36.5 J	N	mg/Kg	0.08	1	3/21/2006	3/24/2006	EPA SW-846 6010

Comments:

U = Not Detected
DL = Method Detection Limit or Instrument Detection Limit

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Spiked sample recovery not within control limits

JAM 5/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/17/2006**
Project:	**Stuyvesant town former MGP Pro**	**Date Received:**	**3/17/2006**
Client Sample ID:	**ST19SB01(14-16)**	**SDG No.:**	**X2012**
Lab Sample ID:	**X2012-03**	**Matrix:**	**SOIL**
% Solids:	**87.40**		

Analyte	Result	Qualifier	RL	Units	DF	Date Analyzed	Method
Cyanide	0.572	U	0.572	mg/Kg	1	3/22/2006	9012 Cyanide
Cyanide-Amenable	0.57	U	0.57	mg/Kg	1	3/22/2006	9012 Cyanide-Amenable

Comment

5/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/17/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/17/2006**
Client Sample ID:	**ST19SB01(38-40)**	**SDG No.:**	**X2012**
Lab Sample ID:	**X2012-04**	**Matrix:**	**SOIL**
Analytical Method:	**8260**	**% Moisture:**	**12**
Sample Wt/Wol:	**1.0 Units: g**	**Soil Extract Vol:**	**uL**
Soil Aliquot Vol:	**uL**		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK004580.D	1	3/21/2006	VK030706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	4.8	U	28	4.8	ug/Kg
74-87-3	Chloromethane	4.8	U	28	4.8	ug/Kg
75-01-4	Vinyl chloride	4.6	U	28	4.6	ug/Kg
74-83-9	Bromomethane	11	U	28	11	ug/Kg
75-00-3	Chloroethane	12	U	28	12	ug/Kg
75-69-4	Trichlorofluoromethane	6.9	U	28	6.9	ug/Kg
76-13-1	1,1,2-Trichlorotrifluoroethane	3.7	U	28	3.7	ug/Kg
75-35-4	1,1-Dichloroethene	3.2	U	28	3.2	ug/Kg
67-64-1	Acetone	19	U	140	19	ug/Kg
75-15-0	Carbon disulfide	2.0	U	28	2.0	ug/Kg
1634-04-4	Methyl tert-butyl Ether	2.0	U	28	2.0	ug/Kg
79-20-9	Methyl Acetate	4.8	U	28	4.8	ug/Kg
75-09-2	Methylene Chloride	58	UJ ~~B~~	28	10	ug/Kg
156-60-5	trans-1,2-Dichloroethene	3.6	U	28	3.6	ug/Kg
75-34-3	1,1-Dichloroethane	1.5	U	28	1.5	ug/Kg
110-82-7	Cyclohexane	1.8	U	28	1.8	ug/Kg
78-93-3	2-Butanone	16	U	140	16	ug/Kg
56-23-5	Carbon Tetrachloride	2.5	U	28	2.5	ug/Kg
156-59-2	cis-1,2-Dichloroethene	1.8	U	28	1.8	ug/Kg
67-66-3	Chloroform	1.9	U	28	1.9	ug/Kg
71-55-6	1,1,1-Trichloroethane	2.3	U	28	2.3	ug/Kg
108-87-2	Methylcyclohexane	2.3	U	28	2.3	ug/Kg
71-43-2	Benzene	2.2	U	28	2.2	ug/Kg
107-06-2	1,2-Dichloroethane	1.7	U	28	1.7	ug/Kg
79-01-6	Trichloroethene	1.7	U	28	1.7	ug/Kg
78-87-5	1,2-Dichloropropane	2.2	U	28	2.2	ug/Kg
75-27-4	Bromodichloromethane	1.9	U	28	1.9	ug/Kg
108-10-1	4-Methyl-2-Pentanone	11	U	140	11	ug/Kg
108-88-3	Toluene	2.3	U	28	2.3	ug/Kg
10061-02-6	t-1,3-Dichloropropene	2.0	U	28	2.0	ug/Kg
10061-01-5	cis-1,3-Dichloropropene	1.8	U	28	1.8	ug/Kg
79-00-5	1,1,2-Trichloroethane	1.6	U	28	1.6	ug/Kg

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range
J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

JAM 5/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/17/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/17/2006**
Client Sample ID:	**ST19SB01(38-40)**	**SDG No.:**	**X2012**
Lab Sample ID:	**X2012-04**	**Matrix:**	**SOIL**
Analytical Method:	**8260**	**% Moisture:**	**12**
Sample Wt/Vol:	**1.0 Units: g**	**Soil Extract Vol:**	**uL**
Soil Aliquot Vol:	**uL**		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VK004580.D	1	3/21/2006	VK030706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	20	U	140	20	ug/Kg
124-48-1	Dibromochloromethane	1.3	U	28	1.3	ug/Kg
106-93-4	1,2-Dibromoethane	2.2	U	28	2.2	ug/Kg
127-18-4	Tetrachloroethene	4.1	U	28	4.1	ug/Kg
108-90-7	Chlorobenzene	2.0	U	28	2.0	ug/Kg
100-41-4	Ethyl Benzene	2.0	U	28	2.0	ug/Kg
126777-61-2	m/p-Xylenes	4.8	U	56	4.8	ug/Kg
95-47-6	o-Xylene	2.1	U	28	2.1	ug/Kg
100-42-5	Styrene	2.6	U	28	2.6	ug/Kg
75-25-2	Bromoform	1.7	U	28	1.7	ug/Kg
98-82-8	Isopropylbenzene	2.3	U	28	2.3	ug/Kg
79-34-5	1,1,2,2-Tetrachloroethane	1.7	U	28	1.7	ug/Kg
541-73-1	1,3-Dichlorobenzene	3.1	U	28	3.1	ug/Kg
106-46-7	1,4-Dichlorobenzene	3.0	U	28	3.0	ug/Kg
95-50-1	1,2-Dichlorobenzene	2.2	U	28	2.2	ug/Kg
96-12-8	1,2-Dibromo-3-Chloropropane	5.2	U	28	5.2	ug/Kg
120-82-1	1,2,4-Trichlorobenzene	3.8	U	28	3.8	ug/Kg
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	44.69	89 %	75 - 125		SPK: 50
1868-53-7	Dibromofluoromethane	44.55	89 %	75 - 125		SPK: 50
2037-26-5	Toluene-d8	45.35	91 %	75 - 125		SPK: 50
460-00-4	4-Bromofluorobenzene	42.07	84 %	75 - 125		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	143543	4.11			
540-36-3	1,4-Difluorobenzene	518786	4.56			
3114-55-4	Chlorobenzene-d5	490004	7.43			
3855-82-1	1,4-Dichlorobenzene-d4	135385	9.49			

U = Not Detected
RL = Reporting Limit
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5/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/17/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/17/2006**
Client Sample ID:	**ST19SB01(38-40)**	**SDG No.:**	**X2012**
Lab Sample ID:	**X2012-04**	**Matrix:**	**SOIL**
Analytical Method:	**8270**	**% Moisture:**	**12**
Sample Wt/Wol:	**30.0 g**	**Extract Vol:**	**1000 uL**

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE029853.D	1	3/20/2006	3/22/2006	BE030906

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	77	U	370	77	ug/Kg
108-95-2	Phenol	57	U	370	57	ug/Kg
111-44-4	bis(2-Chloroethyl)ether	59	U	370	59	ug/Kg
95-57-8	2-Chlorophenol	60	U	370	60	ug/Kg
95-48-7	2-Methylphenol	62	U	370	62	ug/Kg
108-60-1	2,2-oxybis(1-Chloropropane)	60	U	370	60	ug/Kg
98-86-2	Acetophenone	55	U	370	55	ug/Kg
106-44-5	3+4-Methylphenols	59	U	370	59	ug/Kg
621-64-7	N-Nitroso-di-n-propylamine	62	U	370	62	ug/Kg
67-72-1	Hexachloroethane	64	U	370	64	ug/Kg
98-95-3	Nitrobenzene	82	U	370	82	ug/Kg
78-59-1	Isophorone	56	U	370	56	ug/Kg
88-75-5	2-Nitrophenol	58	U	370	58	ug/Kg
105-67-9	2,4-Dimethylphenol	60	U	370	60	ug/Kg
111-91-1	bis(2-Chloroethoxy)methane	62	U	370	62	ug/Kg
120-83-2	2,4-Dichlorophenol	69	U	370	69	ug/Kg
91-20-3	Naphthalene	100 J	U	370	64	ug/Kg
106-47-8	4-Chloroaniline	45	U	370	45	ug/Kg
87-68-3	Hexachlorobutadiene	58	U	370	58	ug/Kg
105-60-2	Caprolactam	60	U	370	60	ug/Kg
59-50-7	4-Chloro-3-methylphenol	52	U	370	52	ug/Kg
91-57-6	2-Methylnaphthalene	63	U	370	63	ug/Kg
77-47-4	Hexachlorocyclopentadiene	60	U	370	60	ug/Kg
88-06-2	2,4,6-Trichlorophenol	55	U	370	55	ug/Kg
95-95-4	2,4,5-Trichlorophenol	57	U	940	57	ug/Kg
92-52-4	1,1-Biphenyl	62	U	370	62	ug/Kg
91-58-7	2-Chloronaphthalene	62	U	370	62	ug/Kg
88-74-4	2-Nitroaniline	48	U	940	48	ug/Kg
131-11-3	Dimethylphthalate	60	U	370	60	ug/Kg
208-96-8	Acenaphthylene	61	U	370	61	ug/Kg
606-20-2	2,6-Dinitrotoluene	53	U	370	53	ug/Kg

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

5/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/17/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/17/2006**
Client Sample ID:	**ST19SB01(38-40)**	**SDG No.:**	**X2012**
Lab Sample ID:	**X2012-04**	**Matrix:**	**SOIL**
Analytical Method:	**8270**	**% Moisture:**	**12**
Sample Wt/Wol:	**30.0 g**	**Extract Vol:**	**1000 uL**

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE029853.D	1	3/20/2006	3/22/2006	BE030906

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	49	U	940	49	ug/Kg
83-32-9	Acenaphthene	67	U	370	67	ug/Kg
51-28-5	2,4-Dinitrophenol	320	U	940	320	ug/Kg
100-02-7	4-Nitrophenol	47	U J	940	47	ug/Kg
132-64-9	Dibenzofuran	62	U	370	62	ug/Kg
121-14-2	2,4-Dinitrotoluene	55	U	370	55	ug/Kg
84-66-2	Diethylphthalate	65	U	370	65	ug/Kg
7005-72-3	4-Chlorophenyl-phenylether	59	U	370	59	ug/Kg
86-73-7	Fluorene	63	U	370	63	ug/Kg
100-01-6	4-Nitroaniline	64	U	940	64	ug/Kg
534-52-1	4,6-Dinitro-2-methylphenol	73	U	940	73	ug/Kg
86-30-6	N-Nitrosodiphenylamine	62	U	370	62	ug/Kg
101-55-3	4-Bromophenyl-phenylether	56	U	370	56	ug/Kg
118-74-1	Hexachlorobenzene	60	U	370	60	ug/Kg
1912-24-9	Atrazine	58	U	370	58	ug/Kg
87-86-5	Pentachlorophenol	87	U	940	87	ug/Kg
85-01-8	Phenanthrene	150 J		370	60	ug/Kg
120-12-7	Anthracene	59 J		370	57	ug/Kg
86-74-8	Carbazole	57	U	370	57	ug/Kg
84-74-2	Di-n-butylphthalate	57	U	370	57	ug/Kg
206-44-0	Fluoranthene	78 J		370	56	ug/Kg
129-00-0	Pyrene	74 J		370	66	ug/Kg
85-68-7	Butylbenzylphthalate	61	U	370	61	ug/Kg
91-94-1	3,3-Dichlorobenzidine	64	U	370	64	ug/Kg
56-55-3	Benzo(a)anthracene	53	U	370	53	ug/Kg
218-01-9	Chrysene	67	U	370	67	ug/Kg
117-81-7	bis(2-Ethylhexyl)phthalate	72	U	370	72	ug/Kg
117-84-0	Di-n-octyl phthalate	64	U	370	64	ug/Kg
205-99-2	Benzo(b)fluoranthene	41	U	370	41	ug/Kg
207-08-9	Benzo(k)fluoranthene	83	U	370	83	ug/Kg
50-32-8	Benzo(a)pyrene	60	U	370	60	ug/Kg

U = Not Detected
RL = Reporting Limit
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E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

Dan 5/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	3/17/2006
Client Sample ID:	ST19SB01(38-40)	**SDG No.:**	X2012
Lab Sample ID:	X2012-04	**Matrix:**	SOIL
Analytical Method:	8270	**% Moisture:**	12
Sample Wt/Wol:	30.0 g	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BE029853.D	1	3/20/2006	3/22/2006	BE030906

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	48	U	370	48	ug/Kg
53-70-3	Dibenz(a,h)anthracene	47	U	370	47	ug/Kg
191-24-2	Benzo(g,h,i)perylene	62	U	370	62	ug/Kg
SURROGATES						
367-12-4	2-Fluorophenol	153.33	51 %	25 - 121		SPK: 30
13127-88-3	Phenol-d5	168.84	56 %	24 - 113		SPK: 30
4165-60-0	Nitrobenzene-d5	112.89	56 %	23 - 120		SPK: 20
321-60-8	2-Fluorobiphenyl	135.75	68 %	30 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	194.13	65 %	19 - 122		SPK: 30
1718-51-0	Terphenyl-d14	148.51	74 %	18 - 137		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	191966	6.18			
1146-65-2	Naphthalene-d8	654991	8.33			
15067-26-2	Acenaphthene-d10	398853	11.53			
1517-22-2	Phenanthrene-d10	581238	14.29			
1719-03-5	Chrysene-d12	466766	19.24			
1520-96-3	Perylene-d12	539028	21.78			
TENTITIVE IDENTIFIED COMPOUNDS						
	ACP3.83	~~3000~~	R ~~AB~~	3.83		ug/Kg
1000197-14-1	4b,8-Dimethyl-2-isopropylphenant	490	JN	16.12		ug/Kg
	unknown16.70	510	J	16.70		ug/Kg
483-65-8	Phenanthrene, 1-methyl-7-(1-meth	280	JN	17.56		ug/Kg
1000282-98-2	Dichloroacetic acid, heptadecyl es	93	JN	19.17		ug/Kg

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

5/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/17/2006
Project:	Stuyvesant town form	**Date Received:**	3/17/2006
Client Sample ID:	ST19SB01(38-40)	**SDG No.:**	X2012
Lab Sample ID:	X2012-04	**Matrix:**	SOIL
		% Solids:	87.80

CAS No.	Analyte	Conc.	Qualifier	Units	DL	Dilution	Date Prep	Date Anal.	Method
7429-90-5	Aluminum	2040 J		mg/Kg	0.65	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-36-0	Antimony	6.9 J	N*	mg/Kg	0.37	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-38-2	Arsenic	~~0.86~~ 1.1U	+	mg/Kg	0.44	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-39-3	Barium	14.3 J	+ N	mg/Kg	0.08	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-41-7	Beryllium	0.20 J	+	mg/Kg	0.01	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-43-9	Cadmium	0.04	U	mg/Kg	0.04	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-70-2	Calcium	1030 J		mg/Kg	0.04	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-47-3	Chromium	9.2		mg/Kg	0.10	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-48-4	Cobalt	3.1	+ N	mg/Kg	0.11	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-50-8	Copper	6.7	N	mg/Kg	0.07	1	3/21/2006	3/24/2006	EPA SW-846 6010
7439-89-6	Iron	4310		mg/Kg	1.7	1	3/21/2006	3/24/2006	EPA SW-846 6010
7439-92-1	Lead	6.6	N	mg/Kg	0.32	1	3/21/2006	3/24/2006	EPA SW-846 6010
7439-95-4	Magnesium	1400		mg/Kg	1.1	1	3/21/2006	3/24/2006	EPA SW-846 6010
7439-96-5	Manganese	44.6 J		mg/Kg	0.03	1	3/21/2006	3/24/2006	EPA SW-846 6010
7439-97-6	Mercury	0.018 J		mg/Kg	0.007	1	3/21/2006	3/23/2006	EPA SW-846 7471
7440-02-0	Nickel	10.5 J		mg/Kg	0.14	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-09-7	Potassium	694 J		mg/Kg	5.9	1	3/21/2006	3/24/2006	EPA SW-846 6010
7782-49-2	Selenium	~~0.41~~ 1.1U	+	mg/Kg	0.38	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-22-4	Silver	~~0.16~~ 1.1 UJ	+ N	mg/Kg	0.09	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-23-5	Sodium	372 J	+ N*	mg/Kg	32.2	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-28-0	Thallium	0.59	UJ	mg/Kg	0.59	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-62-2	Vanadium	6.7 J		mg/Kg	0.07	1	3/21/2006	3/24/2006	EPA SW-846 6010
7440-66-6	Zinc	14.1 J	N	mg/Kg	0.08	1	3/21/2006	3/24/2006	EPA SW-846 6010

Comments:

U = Not Detected
DL = Method Detection Limit or Instrument Detection Limit

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Spiked sample recovery not within control limits

5/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/17/2006**
Project:	**Stuyvesant town former MGP Pro**	**Date Received:**	**3/17/2006**
Client Sample ID:	**ST19SB01(38-40)**	**SDG No.:**	**X2012**
Lab Sample ID:	**X2012-04**	**Matrix:**	**SOIL**
% Solids:	**87.80**		

Analyte	Result	Qualifier	RL	Units	DF	Date Analyzed	Method
Cyanide	0.569	U	0.569	mg/Kg	1	3/22/2006	9012 Cyanide
Cyanide-Amenable	0.57	U	0.57	mg/Kg	1	3/22/2006	9012 Cyanide-Amenable

Comment

5/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/15/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	3/17/2006
Client Sample ID:	STTB01	**SDG No.:**	X2012
Lab Sample ID:	X2012-06	**Matrix:**	WATER
Analytical Method:	8260	**% Moisture:**	100
Sample Wt/Vol:	5.0 Units: mL	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI003620.D	1	3/29/2006	VI032806

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.17	U	5.0	0.17	ug/L
74-87-3	Chloromethane	0.34	U	5.0	0.34	ug/L
75-01-4	Vinyl chloride	0.33	U	5.0	0.33	ug/L
74-83-9	Bromomethane	0.41	U	5.0	0.41	ug/L
75-00-3	Chloroethane	0.83	U	5.0	0.83	ug/L
75-69-4	Trichlorofluoromethane	0.22	U	5.0	0.22	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1.3	U	5.0	1.3	ug/L
75-35-4	1,1-Dichloroethene	0.42	U	5.0	0.42	ug/L
67-64-1	Acetone	6.9 J	J	25	2.3	ug/L
75-15-0	Carbon disulfide	0.40	U	5.0	0.40	ug/L
1634-04-4	Methyl tert-butyl Ether	0.28	U	5.0	0.28	ug/L
79-20-9	Methyl Acetate	0.20	U	5.0	0.20	ug/L
75-09-2	Methylene Chloride	0.43	U	5.0	0.43	ug/L
156-60-5	trans-1,2-Dichloroethene	0.40	U	5.0	0.40	ug/L
75-34-3	1,1-Dichloroethane	0.38	U	5.0	0.38	ug/L
110-82-7	Cyclohexane	0.36	U	5.0	0.36	ug/L
78-93-3	2-Butanone	1.1	U	25	1.1	ug/L
56-23-5	Carbon Tetrachloride	1.1	U	5.0	1.1	ug/L
156-59-2	cis-1,2-Dichloroethene	0.29	U	5.0	0.29	ug/L
67-66-3	Chloroform	0.33	U	5.0	0.33	ug/L
71-55-6	1,1,1-Trichloroethane	0.32	U	5.0	0.32	ug/L
108-87-2	Methylcyclohexane	0.34	U	5.0	0.34	ug/L
71-43-2	Benzene	0.39	U	5.0	0.39	ug/L
107-06-2	1,2-Dichloroethane	0.34	U	5.0	0.34	ug/L
79-01-6	Trichloroethene	0.46	U	5.0	0.46	ug/L
78-87-5	1,2-Dichloropropane	0.40	U	5.0	0.40	ug/L
75-27-4	Bromodichloromethane	0.33	U	5.0	0.33	ug/L
108-10-1	4-Methyl-2-Pentanone	1.6	U	25	1.6	ug/L
108-88-3	Toluene	0.36	U	5.0	0.36	ug/L
10061-02-6	t-1,3-Dichloropropene	0.32	U	5.0	0.32	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.36	U	5.0	0.36	ug/L
79-00-5	1,1,2-Trichloroethane	0.41	U	5.0	0.41	ug/L

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

5/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/15/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/17/2006**
Client Sample ID:	**STTB01**	**SDG No.:**	**X2012**
Lab Sample ID:	**X2012-06**	**Matrix:**	**WATER**
Analytical Method:	**8260**	**% Moisture:**	**100**
Sample Wt/Vol:	**5.0 Units: mL**	**Soil Extract Vol:**	**uL**
Soil Aliquot Vol:	**uL**		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI003620.D	1	3/29/2006	VI032806

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	1.7	U	25	1.7	ug/L
124-48-1	Dibromochloromethane	0.26	U	5.0	0.26	ug/L
106-93-4	1,2-Dibromoethane	0.32	U	5.0	0.32	ug/L
127-18-4	Tetrachloroethene	0.48	UJ	5.0	0.48	ug/L
108-90-7	Chlorobenzene	0.47	U	5.0	0.47	ug/L
100-41-4	Ethyl Benzene	0.45	U	5.0	0.45	ug/L
126777-61-2	m/p-Xylenes	1.2	U	10	1.2	ug/L
95-47-6	o-Xylene	0.46	U	5.0	0.46	ug/L
100-42-5	Styrene	0.41	U	5.0	0.41	ug/L
75-25-2	Bromoform	0.32	U	5.0	0.32	ug/L
98-82-8	Isopropylbenzene	0.44	U	5.0	0.44	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.30	U	5.0	0.30	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	5.0	0.50	ug/L
106-46-7	1,4-Dichlorobenzene	0.54	U	5.0	0.54	ug/L
95-50-1	1,2-Dichlorobenzene	0.44	U	5.0	0.44	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.38	U	5.0	0.38	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.46	U	5.0	0.46	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	44.16	88 %	72 - 119		SPK: 50
1868-53-7	Dibromofluoromethane	54.43	109 %	85 - 115		SPK: 50
2037-26-5	Toluene-d8	47.75	96 %	81 - 120		SPK: 50
460-00-4	4-Bromofluorobenzene	51.31	103 %	76 - 119		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	473025	3.73			
540-36-3	1,4-Difluorobenzene	905532	4.17			
3114-55-4	Chlorobenzene-d5	1033243	7.18			
3855-82-1	1,4-Dichlorobenzene-d4	738596	9.51			

U = Not Detected
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5/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/22/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/23/2006**
Client Sample ID:	**ST-TB02**	**SDG No.:**	**X2086**
Lab Sample ID:	**X2086-08**	**Matrix:**	**WATER**
Analytical Method:	**8260**	**% Moisture:**	**100**
Sample Wt/Vol:	**5.0 Units: mL**	**Soil Extract Vol:**	**uL**
Soil Aliquot Vol:	**uL**		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI003839.D	1	4/3/2006	VI040106

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.17	U	5.0	0.17	ug/L
74-87-3	Chloromethane	0.34	U	5.0	0.34	ug/L
75-01-4	Vinyl chloride	0.33	U	5.0	0.33	ug/L
74-83-9	Bromomethane	0.41	U	5.0	0.41	ug/L
75-00-3	Chloroethane	0.83	U	5.0	0.83	ug/L
75-69-4	Trichlorofluoromethane	0.22	U	5.0	0.22	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1.3	U	5.0	1.3	ug/L
75-35-4	1,1-Dichloroethene	0.42	U	5.0	0.42	ug/L
67-64-1	Acetone	2.3	U	25	2.3	ug/L
75-15-0	Carbon disulfide	0.40	U	5.0	0.40	ug/L
1634-04-4	Methyl tert-butyl Ether	0.28	U	5.0	0.28	ug/L
79-20-9	Methyl Acetate	0.20	UJ	5.0	0.20	ug/L
75-09-2	Methylene Chloride	0.43	U	5.0	0.43	ug/L
156-60-5	trans-1,2-Dichloroethene	0.40	U	5.0	0.40	ug/L
75-34-3	1,1-Dichloroethane	0.38	U	5.0	0.38	ug/L
110-82-7	Cyclohexane	0.36	U	5.0	0.36	ug/L
78-93-3	2-Butanone	1.1	U	25	1.1	ug/L
56-23-5	Carbon Tetrachloride	1.1	U	5.0	1.1	ug/L
156-59-2	cis-1,2-Dichloroethene	0.29	U	5.0	0.29	ug/L
67-66-3	Chloroform	0.33	U	5.0	0.33	ug/L
71-55-6	1,1,1-Trichloroethane	0.32	U	5.0	0.32	ug/L
108-87-2	Methylcyclohexane	0.34	U	5.0	0.34	ug/L
71-43-2	Benzene	0.39	U	5.0	0.39	ug/L
107-06-2	1,2-Dichloroethane	0.34	U	5.0	0.34	ug/L
79-01-6	Trichloroethene	0.46	U	5.0	0.46	ug/L
78-87-5	1,2-Dichloropropane	0.40	U	5.0	0.40	ug/L
75-27-4	Bromodichloromethane	0.33	UJ	5.0	0.33	ug/L
108-10-1	4-Methyl-2-Pentanone	1.6	U	25	1.6	ug/L
108-88-3	Toluene	0.36	U	5.0	0.36	ug/L
10061-02-6	t-1,3-Dichloropropene	0.32	U	5.0	0.32	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.36	U	5.0	0.36	ug/L
79-00-5	1,1,2-Trichloroethane	0.41	U	5.0	0.41	ug/L

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

5/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/22/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/23/2006**
Client Sample ID:	**ST-TB02**	**SDG No.:**	**X2086**
Lab Sample ID:	**X2086-08**	**Matrix:**	**WATER**
Analytical Method:	**8260**	**% Moisture:**	**100**
Sample Wt/Wol:	**5.0 Units: mL**	**Soil Extract Vol:**	**uL**
Soil Aliquot Vol:	**uL**		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI003839.D	1	4/3/2006	VI040106

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	1.7	U	25	1.7	ug/L
124-48-1	Dibromochloromethane	0.26	U	5.0	0.26	ug/L
106-93-4	1,2-Dibromoethane	0.32	U	5.0	0.32	ug/L
127-18-4	Tetrachloroethene	0.48	UJ	5.0	0.48	ug/L
108-90-7	Chlorobenzene	0.47	U	5.0	0.47	ug/L
100-41-4	Ethyl Benzene	0.45	U	5.0	0.45	ug/L
126777-61-2	m/p-Xylenes	1.2	U	10	1.2	ug/L
95-47-6	o-Xylene	0.46	U	5.0	0.46	ug/L
100-42-5	Styrene	0.41	U	5.0	0.41	ug/L
75-25-2	Bromoform	0.32	U	5.0	0.32	ug/L
98-82-8	Isopropylbenzene	0.44	U	5.0	0.44	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.30	U	5.0	0.30	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	5.0	0.50	ug/L
106-46-7	1,4-Dichlorobenzene	0.54	U	5.0	0.54	ug/L
95-50-1	1,2-Dichlorobenzene	0.44	U	5.0	0.44	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.38	U	5.0	0.38	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.46	U	5.0	0.46	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	52.82	106 %	72 - 119		SPK: 50
1868-53-7	Dibromofluoromethane	52.35	105 %	85 - 115		SPK: 50
2037-26-5	Toluene-d8	50.94	102 %	81 - 120		SPK: 50
460-00-4	4-Bromofluorobenzene	57.74	115 %	76 - 119		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	757219	3.76			
540-36-3	1,4-Difluorobenzene	1293611	4.19			
3114-55-4	Chlorobenzene-d5	1171270	7.21			
3855-82-1	1,4-Dichlorobenzene-d4	610987	9.54			

U = Not Detected
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5/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/15/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	3/24/2006
Client Sample ID:	ST-TB03	**SDG No.:**	X2110
Lab Sample ID:	X2110-06	**Matrix:**	WATER
Analytical Method:	8260	**% Moisture:**	100
Sample Wt/Wol:	5.0 Units: mL	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI003618.D	1	3/29/2006	VI032806

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.17	U	5.0	0.17	ug/L
74-87-3	Chloromethane	0.34	U	5.0	0.34	ug/L
75-01-4	Vinyl chloride	0.33	U	5.0	0.33	ug/L
74-83-9	Bromomethane	0.41	U	5.0	0.41	ug/L
75-00-3	Chloroethane	0.83	U	5.0	0.83	ug/L
75-69-4	Trichlorofluoromethane	0.22	U	5.0	0.22	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1.3	U	5.0	1.3	ug/L
75-35-4	1,1-Dichloroethene	0.42	U	5.0	0.42	ug/L
67-64-1	Acetone	3.2 J	U	25	2.3	ug/L
75-15-0	Carbon disulfide	0.40	U	5.0	0.40	ug/L
1634-04-4	Methyl tert-butyl Ether	0.28	U	5.0	0.28	ug/L
79-20-9	Methyl Acetate	0.20	U	5.0	0.20	ug/L
75-09-2	Methylene Chloride	0.43	U	5.0	0.43	ug/L
156-60-5	trans-1,2-Dichloroethene	0.40	U	5.0	0.40	ug/L
75-34-3	1,1-Dichloroethane	0.38	U	5.0	0.38	ug/L
110-82-7	Cyclohexane	0.36	U	5.0	0.36	ug/L
78-93-3	2-Butanone	1.1	U	25	1.1	ug/L
56-23-5	Carbon Tetrachloride	1.1	U	5.0	1.1	ug/L
156-59-2	cis-1,2-Dichloroethene	0.29	U	5.0	0.29	ug/L
67-66-3	Chloroform	0.33	U	5.0	0.33	ug/L
71-55-6	1,1,1-Trichloroethane	0.32	U	5.0	0.32	ug/L
108-87-2	Methylcyclohexane	0.34	U	5.0	0.34	ug/L
71-43-2	Benzene	0.39	U	5.0	0.39	ug/L
107-06-2	1,2-Dichloroethane	0.34	U	5.0	0.34	ug/L
79-01-6	Trichloroethene	0.46	U	5.0	0.46	ug/L
78-87-5	1,2-Dichloropropane	0.40	U	5.0	0.40	ug/L
75-27-4	Bromodichloromethane	0.33	U	5.0	0.33	ug/L
108-10-1	4-Methyl-2-Pentanone	1.6	U	25	1.6	ug/L
108-88-3	Toluene	0.36	U	5.0	0.36	ug/L
10061-02-6	t-1,3-Dichloropropene	0.32	U	5.0	0.32	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.36	U	5.0	0.36	ug/L
79-00-5	1,1,2-Trichloroethane	0.41	U	5.0	0.41	ug/L

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

5/2/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/15/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/24/2006**
Client Sample ID:	**ST-TB03**	**SDG No.:**	**X2110**
Lab Sample ID:	**X2110-06**	**Matrix:**	**WATER**
Analytical Method:	**8260**	**% Moisture:**	**100**
Sample Wt/Wol:	**5.0 Units: mL**	**Soil Extract Vol:**	**uL**
Soil Aliquot Vol:	**uL**		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI003618.D	1	3/29/2006	VI032806

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	1.7	U	25	1.7	ug/L
124-48-1	Dibromochloromethane	0.26	U	5.0	0.26	ug/L
106-93-4	1,2-Dibromoethane	0.32	U	5.0	0.32	ug/L
127-18-4	Tetrachloroethene	0.48	UJ	5.0	0.48	ug/L
108-90-7	Chlorobenzene	0.47	U	5.0	0.47	ug/L
100-41-4	Ethyl Benzene	0.45	U	5.0	0.45	ug/L
126777-61-2	m/p-Xylenes	1.2	U	10	1.2	ug/L
95-47-6	o-Xylene	0.46	U	5.0	0.46	ug/L
100-42-5	Styrene	0.41	U	5.0	0.41	ug/L
75-25-2	Bromoform	0.32	U	5.0	0.32	ug/L
98-82-8	Isopropylbenzene	0.44	U	5.0	0.44	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.30	U	5.0	0.30	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	5.0	0.50	ug/L
106-46-7	1,4-Dichlorobenzene	0.54	U	5.0	0.54	ug/L
95-50-1	1,2-Dichlorobenzene	0.44	U	5.0	0.44	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.38	U	5.0	0.38	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.46	U	5.0	0.46	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	40.37	81 %	72 - 119		SPK: 50
1868-53-7	Dibromofluoromethane	52.26	105 %	85 - 115		SPK: 50
2037-26-5	Toluene-d8	47.71	95 %	81 - 120		SPK: 50
460-00-4	4-Bromofluorobenzene	51.52	103 %	76 - 119		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	538704	3.73			
540-36-3	1,4-Difluorobenzene	1008351	4.16			
3114-55-4	Chlorobenzene-d5	1158248	7.18			
3855-82-1	1,4-Dichlorobenzene-d4	826043	9.52			

U = Not Detected
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E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

5/27/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/28/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/29/2006**
Client Sample ID:	**ST-TB04**	**SDG No.:**	**X2149**
Lab Sample ID:	**X2149-06**	**Matrix:**	**WATER**
Analytical Method:	**8260**	**% Moisture:**	**100**
Sample Wt/Wol:	**5.0 Units: mL**	**Soil Extract Vol:**	**uL**
Soil Aliquot Vol:	**uL**		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VH005898.D	1	4/25/2006	VH041806

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.17	U J	5.0	0.17	ug/L
74-87-3	Chloromethane	0.34	U	5.0	0.34	ug/L
75-01-4	Vinyl chloride	0.33	U	5.0	0.33	ug/L
74-83-9	Bromomethane	0.41	U	5.0	0.41	ug/L
75-00-3	Chloroethane	0.83	U	5.0	0.83	ug/L
75-69-4	Trichlorofluoromethane	0.22	U	5.0	0.22	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1.3	U	5.0	1.3	ug/L
75-35-4	1,1-Dichloroethene	0.42	U	5.0	0.42	ug/L
67-64-1	Acetone	2.3	U	25	2.3	ug/L
75-15-0	Carbon disulfide	0.40	U	5.0	0.40	ug/L
1634-04-4	Methyl tert-butyl Ether	0.28	U	5.0	0.28	ug/L
79-20-9	Methyl Acetate	0.20	U	5.0	0.20	ug/L
75-09-2	Methylene Chloride	0.43	U	5.0	0.43	ug/L
156-60-5	trans-1,2-Dichloroethene	0.40	U	5.0	0.40	ug/L
75-34-3	1,1-Dichloroethane	0.38	U	5.0	0.38	ug/L
110-82-7	Cyclohexane	0.36	U	5.0	0.36	ug/L
78-93-3	2-Butanone	1.1	U	25	1.1	ug/L
56-23-5	Carbon Tetrachloride	1.1	U	5.0	1.1	ug/L
156-59-2	cis-1,2-Dichloroethene	0.29	U	5.0	0.29	ug/L
67-66-3	Chloroform	0.33	U	5.0	0.33	ug/L
71-55-6	1,1,1-Trichloroethane	0.32	U	5.0	0.32	ug/L
108-87-2	Methylcyclohexane	0.34	U	5.0	0.34	ug/L
71-43-2	Benzene	0.39	U	5.0	0.39	ug/L
107-06-2	1,2-Dichloroethane	0.34	U	5.0	0.34	ug/L
79-01-6	Trichloroethene	0.46	U	5.0	0.46	ug/L
78-87-5	1,2-Dichloropropane	0.40	U	5.0	0.40	ug/L
75-27-4	Bromodichloromethane	0.33	U	5.0	0.33	ug/L
108-10-1	4-Methyl-2-Pentanone	1.6	U	25	1.6	ug/L
108-88-3	Toluene	0.36	U	5.0	0.36	ug/L
10061-02-6	t-1,3-Dichloropropene	0.32	U	5.0	0.32	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.36	U	5.0	0.36	ug/L
79-00-5	1,1,2-Trichloroethane	0.41	U J	5.0	0.41	ug/L

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jam 5/22/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/28/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/29/2006**
Client Sample ID:	**ST-TB04**	**SDG No.:**	**X2149**
Lab Sample ID:	**X2149-06**	**Matrix:**	**WATER**
Analytical Method:	**8260**	**% Moisture:**	**100**
Sample Wt/Wol:	**5.0 Units: mL**	**Soil Extract Vol:**	**uL**
Soil Aliquot Vol:	**uL**		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VH005898.D	1	4/25/2006	VH041806

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	1.7	UJ	25	1.7	ug/L
124-48-1	Dibromochloromethane	0.26	U	5.0	0.26	ug/L
106-93-4	1,2-Dibromoethane	0.32	U	5.0	0.32	ug/L
127-18-4	Tetrachloroethene	0.48	U	5.0	0.48	ug/L
108-90-7	Chlorobenzene	0.47	U	5.0	0.47	ug/L
100-41-4	Ethyl Benzene	0.45	U	5.0	0.45	ug/L
126777-61-2	m/p-Xylenes	1.2	U	10	1.2	ug/L
95-47-6	o-Xylene	0.46	U	5.0	0.46	ug/L
100-42-5	Styrene	0.41	U	5.0	0.41	ug/L
75-25-2	Bromoform	0.32	U	5.0	0.32	ug/L
98-82-8	Isopropylbenzene	0.44	U	5.0	0.44	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.30	U	5.0	0.30	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	5.0	0.50	ug/L
106-46-7	1,4-Dichlorobenzene	0.54	U	5.0	0.54	ug/L
95-50-1	1,2-Dichlorobenzene	0.44	U	5.0	0.44	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.38	U	5.0	0.38	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.46	UJ	5.0	0.46	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	55.49	111 %	72 - 119		SPK: 50
1868-53-7	Dibromofluoromethane	52.31	105 %	85 - 115		SPK: 50
2037-26-5	Toluene-d8	50.83	102 %	81 - 120		SPK: 50
460-00-4	4-Bromofluorobenzene	50.96	102 %	76 - 119		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	770647	4.94			
540-36-3	1,4-Difluorobenzene	1622953	5.55			
3114-55-4	Chlorobenzene-d5	1536770	9.30			
3855-82-1	1,4-Dichlorobenzene-d4	508028	11.77			

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5/22/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/2/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/8/2006
Client Sample ID:	ST-TB-5-2-06	**SDG No.:**	X2661
Lab Sample ID:	X2661-11	**Matrix:**	WATER
Analytical Method:	8260-LOW	**% Moisture:**	100
Sample Wt/Wol:	25.0 Units: mL	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VG002698.D	1	5/12/2006	VG050806

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.09	U	1.0	0.09	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	UJ	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19	ug/L
67-64-1	Acetone	1.6	UJ	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	UJ	1.0	0.16	ug/L
75-09-2	Methylene Chloride	2.1		1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	UJ	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	UJ	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	0.09	U	1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	UJ	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L
79-01-6	Trichloroethene	0.12	U	1.0	0.12	ug/L
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.11	U	1.0	0.11	ug/L

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jam 6/15/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/2/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/8/2006
Client Sample ID:	ST-TB-5-2-06	**SDG No.:**	X2661
Lab Sample ID:	X2661-11	**Matrix:**	WATER
Analytical Method:	8260-LOW	**% Moisture:**	100
Sample Wt/Wol:	25.0 Units: mL	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VG002698.D	1	5/12/2006	VG050806

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	0.12	U	1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m/p-Xylenes	0.24	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	UJ	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	0.12	U	1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	0.08	U	1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	9.85	99 %	72 - 119		SPK: 10
1868-53-7	Dibromofluoromethane	9.77	98 %	85 - 115		SPK: 10
2037-26-5	Toluene-d8	9.29	93 %	81 - 120		SPK: 10
460-00-4	4-Bromofluorobenzene	9.05	91 %	76 - 119		SPK: 10
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	244653	3.39			
540-36-3	1,4-Difluorobenzene	450402	4.02			
3114-55-4	Chlorobenzene-d5	491367	7.23			
3855-82-1	1,4-Dichlorobenzene-d4	267620	9.58			

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6/15/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/13/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST-TB-5-13-06	**SDG No.:**	X2867
Lab Sample ID:	X2867-09	**Matrix:**	WATER
Analytical Method:	8260	**% Moisture:**	100
Sample Wt/Vol:	5.0 Units: mL	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VD004121.D	1	5/22/2006	VD051106

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.17	U UJ	5.0	0.17	ug/L
74-87-3	Chloromethane	0.34	U UJ	5.0	0.34	ug/L
75-01-4	Vinyl chloride	0.33	U UJ	5.0	0.33	ug/L
74-83-9	Bromomethane	0.41	U UJ	5.0	0.41	ug/L
75-00-3	Chloroethane	0.83	U UJ	5.0	0.83	ug/L
75-69-4	Trichlorofluoromethane	0.22	U UJ	5.0	0.22	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1.3	U UJ	5.0	1.3	ug/L
75-35-4	1,1-Dichloroethene	0.42	U UJ	5.0	0.42	ug/L
67-64-1	Acetone	2.3	U UJ	25	2.3	ug/L
75-15-0	Carbon disulfide	0.40	U	5.0	0.40	ug/L
1634-04-4	Methyl tert-butyl Ether	0.28	U	5.0	0.28	ug/L
79-20-9	Methyl Acetate	0.20	U	5.0	0.20	ug/L
75-09-2	Methylene Chloride	0.43	U UJ	5.0	0.43	ug/L
156-60-5	trans-1,2-Dichloroethene	0.40	U	5.0	0.40	ug/L
75-34-3	1,1-Dichloroethane	0.38	U UJ	5.0	0.38	ug/L
110-82-7	Cyclohexane	0.36	U UJ	5.0	0.36	ug/L
78-93-3	2-Butanone	1.1	U UJ	25	1.1	ug/L
56-23-5	Carbon Tetrachloride	1.1	U	5.0	1.1	ug/L
156-59-2	cis-1,2-Dichloroethene	0.29	U	5.0	0.29	ug/L
67-66-3	Chloroform	0.33	U	5.0	0.33	ug/L
71-55-6	1,1,1-Trichloroethane	0.32	U	5.0	0.32	ug/L
108-87-2	Methylcyclohexane	0.34	U	5.0	0.34	ug/L
71-43-2	Benzene	0.39	U	5.0	0.39	ug/L
107-06-2	1,2-Dichloroethane	0.34	U	5.0	0.34	ug/L
79-01-6	Trichloroethene	0.46	U	5.0	0.46	ug/L
78-87-5	1,2-Dichloropropane	0.40	U	5.0	0.40	ug/L
75-27-4	Bromodichloromethane	0.33	U	5.0	0.33	ug/L
108-10-1	4-Methyl-2-Pentanone	1.6	U UJ	25	1.6	ug/L
108-88-3	Toluene	0.36	U	5.0	0.36	ug/L
10061-02-6	t-1,3-Dichloropropene	0.32	U	5.0	0.32	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.36	U	5.0	0.36	ug/L
79-00-5	1,1,2-Trichloroethane	0.41	U	5.0	0.41	ug/L

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EMM 7/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/13/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST-TB-5-13-06	**SDG No.:**	X2867
Lab Sample ID:	X2867-09	**Matrix:**	WATER
Analytical Method:	8260	**% Moisture:**	100
Sample Wt/Vol:	5.0 Units: mL	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VD004121.D	1	5/22/2006	VD051106

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	1.7	U UJ	25	1.7	ug/L
124-48-1	Dibromochloromethane	0.26	U	5.0	0.26	ug/L
106-93-4	1,2-Dibromoethane	0.32	U	5.0	0.32	ug/L
127-18-4	Tetrachloroethene	0.48	U UJ	5.0	0.48	ug/L
108-90-7	Chlorobenzene	0.47	U	5.0	0.47	ug/L
100-41-4	Ethyl Benzene	0.45	U UJ	5.0	0.45	ug/L
126777-61-2	m/p-Xylenes	1.2	U	10	1.2	ug/L
95-47-6	o-Xylene	0.46	U	5.0	0.46	ug/L
100-42-5	Styrene	0.41	U	5.0	0.41	ug/L
75-25-2	Bromoform	0.32	U	5.0	0.32	ug/L
98-82-8	Isopropylbenzene	0.44	U	5.0	0.44	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.30	U	5.0	0.30	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	5.0	0.50	ug/L
106-46-7	1,4-Dichlorobenzene	0.54	U	5.0	0.54	ug/L
95-50-1	1,2-Dichlorobenzene	0.44	U	5.0	0.44	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.38	U	5.0	0.38	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.46	U	5.0	0.46	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	46.9	94 %	72 - 119		SPK: 50
1868-53-7	Dibromofluoromethane	54.43	109 %	85 - 115		SPK: 50
2037-26-5	Toluene-d8	49.22	98 %	81 - 120		SPK: 50
460-00-4	4-Bromofluorobenzene	54.44	109 %	76 - 119		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	876863	4.56			
540-36-3	1,4-Difluorobenzene	1591441	5.25			
3114-55-4	Chlorobenzene-d5	1715157	9.50			
3855-82-1	1,4-Dichlorobenzene-d4	851897	11.85			

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J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

EMM 7/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/24/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/24/2006**
Client Sample ID:	**ST-FB01**	**SDG No.:**	**X2110**
Lab Sample ID:	**X2110-07**	**Matrix:**	**WATER**
Analytical Method:	**8260**	**% Moisture:**	**100**
Sample Wt/Wol:	**5.0 Units: mL**	**Soil Extract Vol:**	**uL**
Soil Aliquot Vol:	**uL**		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VD003377.D	1	4/19/2006	VD041606

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.17	U J	5.0	0.17	ug/L
74-87-3	Chloromethane	0.34	U J	5.0	0.34	ug/L
75-01-4	Vinyl chloride	0.33	U J	5.0	0.33	ug/L
74-83-9	Bromomethane	0.41	U J	5.0	0.41	ug/L
75-00-3	Chloroethane	~~0.83~~ R	~~U J~~	5.0	0.83	ug/L
75-69-4	Trichlorofluoromethane	0.22	U J	5.0	0.22	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1.3	U J	5.0	1.3	ug/L
75-35-4	1,1-Dichloroethene	0.42	U J	5.0	0.42	ug/L
67-64-1	Acetone	~~2.3~~ R	~~U J~~	25	2.3	ug/L
75-15-0	Carbon disulfide	0.40	U J	5.0	0.40	ug/L
1634-04-4	Methyl tert-butyl Ether	0.28	U J	5.0	0.28	ug/L
79-20-9	Methyl Acetate	~~0.20~~ R	~~U J~~	5.0	0.20	ug/L
75-09-2	Methylene Chloride	0.43	U J	5.0	0.43	ug/L
156-60-5	trans-1,2-Dichloroethene	0.40	U J	5.0	0.40	ug/L
75-34-3	1,1-Dichloroethane	0.38	U J	5.0	0.38	ug/L
110-82-7	Cyclohexane	0.36	U J	5.0	0.36	ug/L
78-93-3	2-Butanone	1.1	U	25	1.1	ug/L
56-23-5	Carbon Tetrachloride	1.1	U	5.0	1.1	ug/L
156-59-2	cis-1,2-Dichloroethene	0.29	U	5.0	0.29	ug/L
67-66-3	Chloroform	0.33	U	5.0	0.33	ug/L
71-55-6	1,1,1-Trichloroethane	0.32	U	5.0	0.32	ug/L
108-87-2	Methylcyclohexane	0.34	U	5.0	0.34	ug/L
71-43-2	Benzene	0.39	U	5.0	0.39	ug/L
107-06-2	1,2-Dichloroethane	0.34	U	5.0	0.34	ug/L
79-01-6	Trichloroethene	0.46	U	5.0	0.46	ug/L
78-87-5	1,2-Dichloropropane	0.40	U	5.0	0.40	ug/L
75-27-4	Bromodichloromethane	0.33	U	5.0	0.33	ug/L
108-10-1	4-Methyl-2-Pentanone	1.6	U	25	1.6	ug/L
108-88-3	Toluene	0.36	U	5.0	0.36	ug/L
10061-02-6	t-1,3-Dichloropropene	0.32	U	5.0	0.32	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.36	U	5.0	0.36	ug/L
79-00-5	1,1,2-Trichloroethane	0.41	U J	5.0	0.41	ug/L

U = Not Detected
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B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

5/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/24/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/24/2006**
Client Sample ID:	**ST-FB01**	**SDG No.:**	**X2110**
Lab Sample ID:	**X2110-07**	**Matrix:**	**WATER**
Analytical Method:	**8260**	**% Moisture:**	**100**
Sample Wt/Wol:	**5.0 Units: mL**	**Soil Extract Vol:**	**uL**
Soil Aliquot Vol:	**uL**		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VD003377.D	1	4/19/2006	VD041606

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	1.7	U J	25	1.7	ug/L
124-48-1	Dibromochloromethane	0.26	U	5.0	0.26	ug/L
106-93-4	1,2-Dibromoethane	0.32	U	5.0	0.32	ug/L
127-18-4	Tetrachloroethene	0.48	U J	5.0	0.48	ug/L
108-90-7	Chlorobenzene	0.47	U	5.0	0.47	ug/L
100-41-4	Ethyl Benzene	0.45	U	5.0	0.45	ug/L
126777-61-2	m/p-Xylenes	1.2	U	10	1.2	ug/L
95-47-6	o-Xylene	0.46	U	5.0	0.46	ug/L
100-42-5	Styrene	0.41	U	5.0	0.41	ug/L
75-25-2	Bromoform	0.32	U	5.0	0.32	ug/L
98-82-8	Isopropylbenzene	0.44	U	5.0	0.44	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.30	U	5.0	0.30	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	5.0	0.50	ug/L
106-46-7	1,4-Dichlorobenzene	0.54	U	5.0	0.54	ug/L
95-50-1	1,2-Dichlorobenzene	0.44	U	5.0	0.44	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.38	U	5.0	0.38	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.46	U J	5.0	0.46	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	45.97	92 %	72 - 119		SPK: 50
1868-53-7	Dibromofluoromethane	50.7	101 %	85 - 115		SPK: 50
2037-26-5	Toluene-d8	48.34	97 %	81 - 120		SPK: 50
460-00-4	4-Bromofluorobenzene	50.09	100 %	76 - 119		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	876707	3.74			
540-36-3	1,4-Difluorobenzene	1627386	4.17			
3114-55-4	Chlorobenzene-d5	1370511	7.17			
3855-82-1	1,4-Dichlorobenzene-d4	681780	9.48			

U = Not Detected
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Jam 5/27/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/24/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/24/2006**
Client Sample ID:	**ST-FB01**	**SDG No.:**	**X2110**
Lab Sample ID:	**X2110-07**	**Matrix:**	**WATER**
Analytical Method:	**8270**	**% Moisture:**	**100**
Sample Wt/Vol:	**990.0 mL**	**Extract Vol:**	**1000 uL**

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BB030563.D	1	3/28/2006	4/7/2006	BB040506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	1.7	UJ	10	1.7	ug/L
108-95-2	Phenol	1.3	U	10	1.3	ug/L
111-44-4	bis(2-Chloroethyl)ether	1.5	U	10	1.5	ug/L
95-57-8	2-Chlorophenol	1.2	U	10	1.2	ug/L
95-48-7	2-Methylphenol	1.5	U	10	1.5	ug/L
108-60-1	2,2-oxybis(1-Chloropropane)	1.2	U	10	1.2	ug/L
98-86-2	Acetophenone	1.2	U	10	1.2	ug/L
106-44-5	3+4-Methylphenols	1.3	U	10	1.3	ug/L
621-64-7	N-Nitroso-di-n-propylamine	1.4	U	10	1.4	ug/L
67-72-1	Hexachloroethane	1.2	U	10	1.2	ug/L
98-95-3	Nitrobenzene	1.6	U	10	1.6	ug/L
78-59-1	Isophorone	1.3	U	10	1.3	ug/L
88-75-5	2-Nitrophenol	1.4	U	10	1.4	ug/L
105-67-9	2,4-Dimethylphenol	1.2	U	10	1.2	ug/L
111-91-1	bis(2-Chloroethoxy)methane	1.4	UJ	10	1.4	ug/L
120-83-2	2,4-Dichlorophenol	1.4	U	10	1.4	ug/L
91-20-3	Naphthalene	1.4	U	10	1.4	ug/L
106-47-8	4-Chloroaniline	~~0.870~~ R	~~U~~	10	0.870	ug/L
87-68-3	Hexachlorobutadiene	1.4	U	10	1.4	ug/L
105-60-2	Caprolactam	1.3	U	10	1.3	ug/L
59-50-7	4-Chloro-3-methylphenol	1.4	U	10	1.4	ug/L
91-57-6	2-Methylnaphthalene	1.1	U	10	1.1	ug/L
77-47-4	Hexachlorocyclopentadiene	1.2	U	10	1.2	ug/L
88-06-2	2,4,6-Trichlorophenol	1.2	U	10	1.2	ug/L
95-95-4	2,4,5-Trichlorophenol	1.2	U	10	1.2	ug/L
92-52-4	1,1-Biphenyl	1.4	U	10	1.4	ug/L
91-58-7	2-Chloronaphthalene	1.4	U	10	1.4	ug/L
88-74-4	2-Nitroaniline	1.1	U	10	1.1	ug/L
131-11-3	Dimethylphthalate	1.3	U	10	1.3	ug/L
208-96-8	Acenaphthylene	1.3	UJ	10	1.3	ug/L
606-20-2	2,6-Dinitrotoluene	1.3	U	10	1.3	ug/L

donor report - use reanalysis

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jm 5/20/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/24/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	3/24/2006
Client Sample ID:	ST-FB01	**SDG No.:**	X2110
Lab Sample ID:	X2110-07	**Matrix:**	WATER
Analytical Method:	8270	**% Moisture:**	100
Sample Wt/Vol:	990.0 mL	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BB030563.D	1	3/28/2006	4/7/2006	BB040506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	1.0	UJ	10	1.0	ug/L
83-32-9	Acenaphthene	1.4	U	10	1.4	ug/L
51-28-5	2,4-Dinitrophenol	3.5	U	10	3.5	ug/L
100-02-7	4-Nitrophenol	3.1	U	10	3.1	ug/L
132-64-9	Dibenzofuran	1.3	U	10	1.3	ug/L
121-14-2	2,4-Dinitrotoluene	1.2	U	10	1.2	ug/L
84-66-2	Diethylphthalate	1.3	U	10	1.3	ug/L
7005-72-3	4-Chlorophenyl-phenylether	1.4	U	10	1.4	ug/L
86-73-7	Fluorene	1.4	U	10	1.4	ug/L
100-01-6	4-Nitroaniline	1.1	UJ	10	1.1	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	1.6	U	10	1.6	ug/L
86-30-6	N-Nitrosodiphenylamine	1.3	UJ	10	1.3	ug/L
101-55-3	4-Bromophenyl-phenylether	1.5	U	10	1.5	ug/L
118-74-1	Hexachlorobenzene	1.2	U	10	1.2	ug/L
1912-24-9	Atrazine	~~1.3~~ R	~~U~~	10	1.3	ug/L
87-86-5	Pentachlorophenol	1.6	U	10	1.6	ug/L
85-01-8	Phenanthrene	4.4 J	J	10	1.4	ug/L
120-12-7	Anthracene	1.4	U	10	1.4	ug/L
86-74-8	Carbazole	~~1.3~~ R	~~U~~	10	1.3	ug/L
84-74-2	Di-n-butylphthalate	1.3	U	10	1.3	ug/L
206-44-0	Fluoranthene	3.7 J	J	10	1.2	ug/L
129-00-0	Pyrene	7.1 J	J	10	1.5	ug/L
85-68-7	Butylbenzylphthalate	1.4	UJ	10	1.4	ug/L
91-94-1	3,3-Dichlorobenzidine	~~1.1~~ R	~~UJ~~	10	1.1	ug/L
56-55-3	Benzo(a)anthracene	4.2 J	J	10	1.1	ug/L
218-01-9	Chrysene	6.0 J	J	10	1.7	ug/L
117-81-7	bis(2-Ethylhexyl)phthalate	13 J	B	10	1.5	ug/L
117-84-0	Di-n-octyl phthalate	1.3	UJ	10	1.3	ug/L
205-99-2	Benzo(b)fluoranthene	20 J		10	0.760	ug/L
207-08-9	Benzo(k)fluoranthene	7.5 J	J	10	1.9	ug/L
50-32-8	Benzo(a)pyrene	7.7 J	J	10	1.2	ug/L

do not report - use reanalysis

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JM 5/20/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/24/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	3/24/2006
Client Sample ID:	ST-FB01	**SDG No.:**	X2110
Lab Sample ID:	X2110-07	**Matrix:**	WATER
Analytical Method:	8270	**% Moisture:**	100
Sample Wt/Vol:	990.0 mL	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BB030563.D	1	3/28/2006	4/7/2006	BB040506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	0.840	U J	10	0.840	ug/L
53-70-3	Dibenz(a,h)anthracene	~~0.870~~ R	~~U~~	10	0.870	ug/L
191-24-2	Benzo(g,h,i)perylene	4.9 J	J	10	1.1	ug/L
SURROGATES						
367-12-4	2-Fluorophenol	220.88	74 %	21 - 100		SPK: 30
13127-88-3	Phenol-d5	169.27	56 %	10 - 94		SPK: 30
	2-Chlorophenol-d4	243.66	81 %	20 - 130		SPK: 30
	1,2-Dichlorobenzene-d4	145.43	73 %	20 - 130		SPK: 20
4165-60-0	Nitrobenzene-d5	147.62	74 %	35 - 114		SPK: 20
321-60-8	2-Fluorobiphenyl	250.3	125 %	43 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	370.36	123 %	10 - 123		SPK: 30
1718-51-0	Terphenyl-d14	307.97	154 %	33 - 141		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	236636	6.77			
1146-65-2	Naphthalene-d8	867509	9.09			
15067-26-2	Acenaphthene-d10	343466	12.58			
1517-22-2	Phenanthrene-d10	737812	15.59			
1719-03-5	Chrysene-d12	323120	20.97			
1520-96-3	Perylene-d12	28844	24.47			
TENTITIVE IDENTIFIED COMPOUNDS						
	ACP3.20	12	A	3.20		ug/L
141-79-7	3-Penten-2-one, 4-methyl-	160	JB	3.78		ug/L
	unknown3.93	14	J	3.93		ug/L
	ACP4.58	5.7	AB	4.58		ug/L
	unknown16.00	9.5	J	16.00		ug/L
57-10-3	n-Hexadecanoic acid	2.9	J	16.79		ug/L
112-62-9	9-Octadecenoic acid (Z)-, methyl e	3.2	J	17.93		ug/L
1000131-35-8	E-9-Tetradecenoic acid	4.8	J	18.24		ug/L

Do not report - use reanalysis

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Jam 5/20/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/24/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	3/24/2006
Client Sample ID:	ST-FB01RE	**SDG No.:**	X2110
Lab Sample ID:	X2110-07RE	**Matrix:**	WATER
Analytical Method:	8270	**% Moisture:**	100
Sample Wt/Vol:	990.0 mL	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BB030606.D	1	3/28/2006	4/9/2006	BB040506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	1.7	U J	10	1.7	ug/L
108-95-2	Phenol	1.3	U	10	1.3	ug/L
111-44-4	bis(2-Chloroethyl)ether	1.5	U	10	1.5	ug/L
95-57-8	2-Chlorophenol	1.2	U	10	1.2	ug/L
95-48-7	2-Methylphenol	1.5	U	10	1.5	ug/L
108-60-1	2,2-oxybis(1-Chloropropane)	1.2	U	10	1.2	ug/L
98-86-2	Acetophenone	1.2	U	10	1.2	ug/L
106-44-5	3+4-Methylphenols	1.3	U	10	1.3	ug/L
621-64-7	N-Nitroso-di-n-propylamine	1.4	U	10	1.4	ug/L
67-72-1	Hexachloroethane	1.2	U	10	1.2	ug/L
98-95-3	Nitrobenzene	1.6	U	10	1.6	ug/L
78-59-1	Isophorone	1.3	U	10	1.3	ug/L
88-75-5	2-Nitrophenol	1.4	U	10	1.4	ug/L
105-67-9	2,4-Dimethylphenol	1.2	U	10	1.2	ug/L
111-91-1	bis(2-Chloroethoxy)methane	1.4	U J	10	1.4	ug/L
120-83-2	2,4-Dichlorophenol	1.4	U	10	1.4	ug/L
91-20-3	Naphthalene	1.4	U	10	1.4	ug/L
106-47-8	4-Chloroaniline	~~0.870~~ R	~~U~~	10	0.870	ug/L
87-68-3	Hexachlorobutadiene	1.4	U	10	1.4	ug/L
105-60-2	Caprolactam	1.3	U	10	1.3	ug/L
59-50-7	4-Chloro-3-methylphenol	1.4	U	10	1.4	ug/L
91-57-6	2-Methylnaphthalene	1.1	U	10	1.1	ug/L
77-47-4	Hexachlorocyclopentadiene	1.2	U	10	1.2	ug/L
88-06-2	2,4,6-Trichlorophenol	1.2	U	10	1.2	ug/L
95-95-4	2,4,5-Trichlorophenol	1.2	U	10	1.2	ug/L
92-52-4	1,1-Biphenyl	1.4	U	10	1.4	ug/L
91-58-7	2-Chloronaphthalene	1.4	U	10	1.4	ug/L
88-74-4	2-Nitroaniline	1.1	U	10	1.1	ug/L
131-11-3	Dimethylphthalate	1.3	U	10	1.3	ug/L
208-96-8	Acenaphthylene	1.3	U J	10	1.3	ug/L
606-20-2	2,6-Dinitrotoluene	1.3	U	10	1.3	ug/L

U = Not Detected
RL = Reporting Limit
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E = Value Exceeds Calibration Range

J = Estimated Value
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N = Presumptive Evidence of a Compound

5/20/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/24/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	3/24/2006
Client Sample ID:	ST-FB01RE	**SDG No.:**	X2110
Lab Sample ID:	X2110-07RE	**Matrix:**	WATER
Analytical Method:	8270	**% Moisture:**	100
Sample Wt/Vol:	990.0 mL	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BB030606.D	1	3/28/2006	4/9/2006	BB040506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	1.0	UJ	10	1.0	ug/L
83-32-9	Acenaphthene	1.4	U	10	1.4	ug/L
51-28-5	2,4-Dinitrophenol	3.5	U	10	3.5	ug/L
100-02-7	4-Nitrophenol	3.1	U	10	3.1	ug/L
132-64-9	Dibenzofuran	1.3	U	10	1.3	ug/L
121-14-2	2,4-Dinitrotoluene	1.2	U	10	1.2	ug/L
84-66-2	Diethylphthalate	1.3	U	10	1.3	ug/L
7005-72-3	4-Chlorophenyl-phenylether	1.4	U	10	1.4	ug/L
86-73-7	Fluorene	1.4	U	10	1.4	ug/L
100-01-6	4-Nitroaniline	1.1	UJ	10	1.1	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	1.6	U	10	1.6	ug/L
86-30-6	N-Nitrosodiphenylamine	1.3	UJ	10	1.3	ug/L
101-55-3	4-Bromophenyl-phenylether	1.5	U	10	1.5	ug/L
118-74-1	Hexachlorobenzene	1.2	U	10	1.2	ug/L
1912-24-9	Atrazine	~~1.3~~ R	~~U~~	10	1.3	ug/L
87-86-5	Pentachlorophenol	1.6	U	10	1.6	ug/L
85-01-8	Phenanthrene	3.8 J	J	10	1.4	ug/L
120-12-7	Anthracene	1.4	U	10	1.4	ug/L
86-74-8	Carbazole	~~1.3~~ R	~~U~~	10	1.3	ug/L
84-74-2	Di-n-butylphthalate	1.3	U	10	1.3	ug/L
206-44-0	Fluoranthene	3.6 J	J	10	1.2	ug/L
129-00-0	Pyrene	6.9 J	J	10	1.5	ug/L
85-68-7	Butylbenzylphthalate	1.4	UJ	10	1.4	ug/L
91-94-1	3,3-Dichlorobenzidine	~~1.1~~ R	~~UJ~~	10	1.1	ug/L
56-55-3	Benzo(a)anthracene	3.7 J	J	10	1.1	ug/L
218-01-9	Chrysene	6.0 J	J	10	1.7	ug/L
117-81-7	bis(2-Ethylhexyl)phthalate	14 J	B	10	1.5	ug/L
117-84-0	Di-n-octyl phthalate	1.3	UJ	10	1.3	ug/L
205-99-2	Benzo(b)fluoranthene	20 J		10	0.760	ug/L
207-08-9	Benzo(k)fluoranthene	7.9 J	J	10	1.9	ug/L
50-32-8	Benzo(a)pyrene	8.5 J	J	10	1.2	ug/L

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

jam 5/20/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/24/2006**
Project:	**Stuyvesant town former MGP Proj06**	**Date Received:**	**3/24/2006**
Client Sample ID:	**ST-FB01RE**	**SDG No.:**	**X2110**
Lab Sample ID:	**X2110-07RE**	**Matrix:**	**WATER**
Analytical Method:	**8270**	**% Moisture:**	**100**
Sample Wt/Wol:	**990.0 mL**	**Extract Vol:**	**1000 uL**

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BB030606.D	1	3/28/2006	4/9/2006	BB040506

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	0.840	UJ	10	0.840	ug/L
53-70-3	Dibenz(a,h)anthracene	~~0.870~~ R	~~U~~	10	0.870	ug/L
191-24-2	Benzo(g,h,i)perylene	5.6 J	J	10	1.1	ug/L
SURROGATES						
367-12-4	2-Fluorophenol	226.18	75 %	21 - 100		SPK: 30
13127-88-3	Phenol-d5	184.53	62 %	10 - 94		SPK: 30
	2-Chlorophenol-d4	253.14	84 %	20 - 130		SPK: 30
	1,2-Dichlorobenzene-d4	146.68	73 %	20 - 130		SPK: 20
4165-60-0	Nitrobenzene-d5	144.13	72 %	35 - 114		SPK: 20
321-60-8	2-Fluorobiphenyl	222.89	111 %	43 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	363.28	121 %	10 - 123		SPK: 30
1718-51-0	Terphenyl-d14	309.91	155 %	33 - 141		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	309273	6.73			
1146-65-2	Naphthalene-d8	1233790	9.04			
15067-26-2	Acenaphthene-d10	497480	12.53			
1517-22-2	Phenanthrene-d10	1001914	15.53			
1719-03-5	Chrysene-d12	466984	20.91			
1520-96-3	Perylene-d12	30435	24.36			

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JAM 5/20/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	3/24/2006
Project:	Stuyvesant town form	**Date Received:**	3/24/2006
Client Sample ID:	ST-FB01	**SDG No.:**	X2110
Lab Sample ID:	X2110-07	**Matrix:**	WATER
		% Solids:	0.00

CAS No.	Analyte	Conc.	Qualifier	Units	DL	Dilution	Date Prep	Date Anal.	Method
7429-90-5	Aluminum	~~112~~	~~J~~ 200U	ug/L	5.310	1	3/29/2006	3/30/2006	EPA SW-846 6010
7440-36-0	Antimony	3.170	U	ug/L	3.170	1	3/29/2006	3/30/2006	EPA SW-846 6010
7440-38-2	Arsenic	3.320	U	ug/L	3.320	1	3/29/2006	3/30/2006	EPA SW-846 6010
7440-39-3	Barium	0.723	UJ	ug/L	0.723	1	3/29/2006	3/30/2006	EPA SW-846 6010
7440-41-7	Beryllium	~~0.780~~	~~J~~ 5.0U	ug/L	0.090	1	3/29/2006	3/30/2006	EPA SW-846 6010
7440-43-9	Cadmium	0.327	UJ	ug/L	0.327	1	3/29/2006	3/30/2006	EPA SW-846 6010
7440-70-2	Calcium	1.170	UJ	ug/L	1.170	1	3/29/2006	3/30/2006	EPA SW-846 6010
7440-47-3	Chromium	0.343	UJ	ug/L	0.343	1	3/29/2006	3/30/2006	EPA SW-846 6010
7440-48-4	Cobalt	0.370	U	ug/L	0.370	1	3/29/2006	3/30/2006	EPA SW-846 6010
7440-50-8	Copper	3.640	U	ug/L	3.640	1	3/29/2006	3/30/2006	EPA SW-846 6010
7439-89-6	Iron	27.0	U	ug/L	27.0	1	3/29/2006	3/30/2006	EPA SW-846 6010
7439-92-1	Lead	2.180	U	ug/L	2.180	1	3/29/2006	3/30/2006	EPA SW-846 6010
7439-95-4	Magnesium	8.300	U	ug/L	8.300	1	3/29/2006	3/30/2006	EPA SW-846 6010
7439-96-5	Manganese	0.106	UJ	ug/L	0.106	1	3/29/2006	3/30/2006	EPA SW-846 6010
7439-97-6	Mercury	~~0.1000~~	~~J~~ 0.20U	ug/L	0.030	1	3/29/2006	3/30/2006	EPA SW-846 7470
7440-02-0	Nickel	1.560	UJ	ug/L	1.560	1	3/29/2006	3/30/2006	EPA SW-846 6010
7440-09-7	Potassium	61.8	UJ	ug/L	61.8	1	3/29/2006	3/30/2006	EPA SW-846 6010
7782-49-2	Selenium	3.040	U	ug/L	3.040	1	3/29/2006	3/30/2006	EPA SW-846 6010
7440-22-4	Silver	1.640	UJ	ug/L	1.640	1	3/29/2006	3/30/2006	EPA SW-846 6010
7440-23-5	Sodium	332	UJ	ug/L	332	1	3/29/2006	3/30/2006	EPA SW-846 6010
7440-28-0	Thallium	3.050	U	ug/L	3.050	1	3/29/2006	3/30/2006	EPA SW-846 6010
7440-62-2	Vanadium	0.701	UJ	ug/L	0.701	1	3/29/2006	3/30/2006	EPA SW-846 6010
7440-66-6	Zinc	0.611	UJ	ug/L	0.611	1	3/29/2006	3/30/2006	EPA SW-846 6010

Comments:

jam 5/19/06

U = Not Detected
DL = Method Detection Limit or Instrument Detection Limit

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Spiked sample recovery not within control limits

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**3/24/2006**
Project:	**Stuyvesant town former MGP Pro**	**Date Received:**	**3/24/2006**
Client Sample ID:	**ST-FB01**	**SDG No.:**	**X2110**
Lab Sample ID:	**X2110-07**	**Matrix:**	**WATER**
% Solids:	**0.00**		

Analyte	Result	Qualifier	RL	Units	DF	Date Analyzed	Method
Cyanide	0.010	U	0.010	mg/L	1	3/28/2006	9012 Cyanide
Cyanide-Amenable	0.01	U	0.01	mg/L	1	3/28/2006	9012 Cyanide-Amenable

Comment

Jam 5/20/06

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Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/5/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/8/2006
Client Sample ID:	ST-FB02	**SDG No.:**	X2661
Lab Sample ID:	X2661-06	**Matrix:**	WATER
Analytical Method:	8260-LOW	**% Moisture:**	100
Sample Wt/Wol:	25.0 Units: mL	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VG002701.D	1	5/12/2006	VG050806

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.09	U	1.0	0.09	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	UJ	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19	ug/L
67-64-1	Acetone	7.6	J	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	UJ	1.0	0.16	ug/L
75-09-2	Methylene Chloride	1.7		1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	UJ	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	UJ	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	0.09	U	1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	UJ	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L
79-01-6	Trichloroethene	0.12	U	1.0	0.12	ug/L
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.11	U	1.0	0.11	ug/L

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N = Presumptive Evidence of a Compound

JAm 6/15/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/5/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/8/2006
Client Sample ID:	ST-FB02	**SDG No.:**	X2661
Lab Sample ID:	X2661-06	**Matrix:**	WATER
Analytical Method:	8260-LOW	**% Moisture:**	100
Sample Wt/Vol:	25.0 Units: mL	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VG002701.D	1	5/12/2006	VG050806

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	0.12	U	1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m/p-Xylenes	0.42	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	UJ	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	0.12	U	1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	0.08	U	1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	10.12	101 %	72 - 119		SPK: 10
1868-53-7	Dibromofluoromethane	10.63	106 %	85 - 115		SPK: 10
2037-26-5	Toluene-d8	9.61	96 %	81 - 120		SPK: 10
460-00-4	4-Bromofluorobenzene	8.89	89 %	76 - 119		SPK: 10
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	225063	3.39			
540-36-3	1,4-Difluorobenzene	401926	4.02			
3114-55-4	Chlorobenzene-d5	433712	7.23			
3855-82-1	1,4-Dichlorobenzene-d4	238012	9.58			
TENTITIVE IDENTIFIED COMPOUNDS						
000275-51-4	Azulene	1.6	JN	11.34		ug/L

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Jam 4/15/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/5/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/8/2006
Client Sample ID:	ST-FB02	**SDG No.:**	X2661
Lab Sample ID:	X2661-06	**Matrix:**	WATER
Analytical Method:	8270	**% Moisture:**	100
Sample Wt/Vol:	970.0 mL	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BB031258.D	1	5/10/2006	5/11/2006	BB042806

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	1.7	UJ	10	1.7	ug/L
108-95-2	Phenol	1.3	U	10	1.3	ug/L
111-44-4	bis(2-Chloroethyl)ether	1.5	U	10	1.5	ug/L
95-57-8	2-Chlorophenol	1.2	U	10	1.2	ug/L
95-48-7	2-Methylphenol	1.5	U	10	1.5	ug/L
108-60-1	2,2-oxybis(1-Chloropropane)	1.3	U	10	1.3	ug/L
98-86-2	Acetophenone	1.3	U	10	1.3	ug/L
106-44-5	3+4-Methylphenols	1.3	U	10	1.3	ug/L
621-64-7	N-Nitroso-di-n-propylamine	1.4	U	10	1.4	ug/L
67-72-1	Hexachloroethane	1.2	U	10	1.2	ug/L
98-95-3	Nitrobenzene	1.6	U	10	1.6	ug/L
78-59-1	Isophorone	1.3	U	10	1.3	ug/L
88-75-5	2-Nitrophenol	1.4	U	10	1.4	ug/L
105-67-9	2,4-Dimethylphenol	1.2	U	10	1.2	ug/L
111-91-1	bis(2-Chloroethoxy)methane	1.4	U	10	1.4	ug/L
120-83-2	2,4-Dichlorophenol	1.5	U	10	1.5	ug/L
91-20-3	Naphthalene	2.3 J	J	10	1.4	ug/L
106-47-8	4-Chloroaniline	0.880	U	10	0.880	ug/L
87-68-3	Hexachlorobutadiene	1.4	U	10	1.4	ug/L
105-60-2	Caprolactam	1.3	U	10	1.3	ug/L
59-50-7	4-Chloro-3-methylphenol	1.4	U	10	1.4	ug/L
91-57-6	2-Methylnaphthalene	1.1	U	10	1.1	ug/L
77-47-4	Hexachlorocyclopentadiene	1.2	U	10	1.2	ug/L
88-06-2	2,4,6-Trichlorophenol	1.2	U	10	1.2	ug/L
95-95-4	2,4,5-Trichlorophenol	1.3	U	10	1.3	ug/L
92-52-4	1,1-Biphenyl	1.4	U	10	1.4	ug/L
91-58-7	2-Chloronaphthalene	1.4	U	10	1.4	ug/L
88-74-4	2-Nitroaniline	1.1	U	10	1.1	ug/L
131-11-3	Dimethylphthalate	1.3	U	10	1.3	ug/L
208-96-8	Acenaphthylene	1.3	U	10	1.3	ug/L
606-20-2	2,6-Dinitrotoluene	1.3	U	10	1.3	ug/L

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6/15/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/5/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/8/2006
Client Sample ID:	ST-FB02	**SDG No.:**	X2661
Lab Sample ID:	X2661-06	**Matrix:**	WATER
Analytical Method:	8270	**% Moisture:**	100
Sample Wt/Vol:	970.0 mL	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BB031258.D	1	5/10/2006	5/11/2006	BB042806

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	1.0	U	10	1.0	ug/L
83-32-9	Acenaphthene	1.4	U	10	1.4	ug/L
51-28-5	2,4-Dinitrophenol	3.6	U	10	3.6	ug/L
100-02-7	4-Nitrophenol	3.2	U	10	3.2	ug/L
132-64-9	Dibenzofuran	1.3	U	10	1.3	ug/L
121-14-2	2,4-Dinitrotoluene	1.2	U	10	1.2	ug/L
84-66-2	Diethylphthalate	1.4	U	10	1.4	ug/L
7005-72-3	4-Chlorophenyl-phenylether	1.4	U	10	1.4	ug/L
86-73-7	Fluorene	1.4	U	10	1.4	ug/L
100-01-6	4-Nitroaniline	1.1	U	10	1.1	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	1.7	U	10	1.7	ug/L
86-30-6	N-Nitrosodiphenylamine	1.3	U	10	1.3	ug/L
101-55-3	4-Bromophenyl-phenylether	1.5	U	10	1.5	ug/L
118-74-1	Hexachlorobenzene	1.3	U	10	1.3	ug/L
1912-24-9	Atrazine	1.3	U	10	1.3	ug/L
87-86-5	Pentachlorophenol	1.6	U	10	1.6	ug/L
85-01-8	Phenanthrene	2.4 J	J	10	1.5	ug/L
120-12-7	Anthracene	1.4	U	10	1.4	ug/L
86-74-8	Carbazole	1.3	U	10	1.3	ug/L
84-74-2	Di-n-butylphthalate	1.3	U	10	1.3	ug/L
206-44-0	Fluoranthene	1.2	U	10	1.2	ug/L
129-00-0	Pyrene	1.5	U	10	1.5	ug/L
85-68-7	Butylbenzylphthalate	1.5	U	10	1.5	ug/L
91-94-1	3,3-Dichlorobenzidine	1.1	U	10	1.1	ug/L
56-55-3	Benzo(a)anthracene	1.1	U	10	1.1	ug/L
218-01-9	Chrysene	1.7	U	10	1.7	ug/L
117-81-7	bis(2-Ethylhexyl)phthalate	2.1 J	J	10	1.6	ug/L
117-84-0	Di-n-octyl phthalate	1.3	U	10	1.3	ug/L
205-99-2	Benzo(b)fluoranthene	0.770	U	10	0.770	ug/L
207-08-9	Benzo(k)fluoranthene	1.9	U	10	1.9	ug/L
50-32-8	Benzo(a)pyrene	1.2	U	10	1.2	ug/L

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

JM 6/15/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/5/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/8/2006
Client Sample ID:	ST-FB02	**SDG No.:**	X2661
Lab Sample ID:	X2661-06	**Matrix:**	WATER
Analytical Method:	8270	**% Moisture:**	100
Sample Wt/Vol:	970.0 mL	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BB031258.D	1	5/10/2006	5/11/2006	BB042806

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	0.850	U	10	0.850	ug/L
53-70-3	Dibenz(a,h)anthracene	0.890	U	10	0.890	ug/L
191-24-2	Benzo(g,h,i)perylene	1.1	U	10	1.1	ug/L
SURROGATES						
367-12-4	2-Fluorophenol	119.8	40 %	21 - 100		SPK: 30
13127-88-3	Phenol-d5	95.32	32 %	10 - 94		SPK: 30
4165-60-0	Nitrobenzene-d5	155	78 %	35 - 114		SPK: 20
321-60-8	2-Fluorobiphenyl	139.9	70 %	43 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	197.46	66 %	10 - 123		SPK: 30
1718-51-0	Terphenyl-d14	170.16	85 %	33 - 141		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	613320	7.02			
1146-65-2	Naphthalene-d8	2441903	9.68			
15067-26-2	Acenaphthene-d10	1293354	13.73			
1517-22-2	Phenanthrene-d10	1810857	17.23			
1719-03-5	Chrysene-d12	1556257	23.48			
1520-96-3	Perylene-d12	1528131	27.01			
TENTITIVE IDENTIFIED COMPOUNDS						
	ACP4.24	~~22~~ R	~~AB~~	4.24		ug/L
3892-00-0	Pentadecane, 2,6,10-trimethyl-	2.4	JN	16.08		ug/L
301-02-0	9-Octadecenamide, (Z)-	~~4.1~~ R	~~JB~~	22.27		ug/L
1599-67-3	1-Docosene	2.5	JB JN	23.28		ug/L
638-58-4	Tetradecanamide	~~5.3~~ R	~~J~~	23.89		ug/L
112-84-5	13-Docosenamide, (Z)-	~~68~~ R	~~JB~~	25.49		ug/L
6311-48-4	Dibenzylidene 4,4-biphenylenedia	4.1	JB JN	33.40		ug/L

U = Not Detected
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N = Presumptive Evidence of a Compound

Jan 6/15/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/5/2006
Project:	Stuyvesant town form	**Date Received:**	5/8/2006
Client Sample ID:	ST-FB02	**SDG No.:**	X2661
Lab Sample ID:	X2661-06	**Matrix:**	WATER
		% Solids:	0.00

CAS No.	Analyte	Conc.	Qualifier	Units	DL	Dilution	Date Prep	Date Anal.	Method
7429-90-5	Aluminum	~~17.5~~ 200U	~~J~~ ~~NE~~	ug/L	5.3	1	5/15/2006	5/17/2006	EPA SW-846 6010
7440-36-0	Antimony	3.2	UJ	ug/L	3.2	1	5/15/2006	5/17/2006	EPA SW-846 6010
7440-38-2	Arsenic	3.3	U	ug/L	3.3	1	5/15/2006	5/17/2006	EPA SW-846 6010
7440-39-3	Barium	0.72	UJ N	ug/L	0.72	1	5/15/2006	5/17/2006	EPA SW-846 6010
7440-41-7	Beryllium	0.09	U	ug/L	0.09	1	5/15/2006	5/17/2006	EPA SW-846 6010
7440-43-9	Cadmium	0.33	UJ N	ug/L	0.33	1	5/15/2006	5/17/2006	EPA SW-846 6010
7440-70-2	Calcium	~~9.3~~ 5000U	~~J~~ ~~E~~	ug/L	1.2	1	5/15/2006	5/17/2006	EPA SW-846 6010
7440-47-3	Chromium	0.34	U E	ug/L	0.34	1	5/15/2006	5/17/2006	EPA SW-846 6010
7440-48-4	Cobalt	~~2.5~~ 50U	~~J~~	ug/L	0.37	1	5/15/2006	5/17/2006	EPA SW-846 6010
7440-50-8	Copper	3.6	U	ug/L	3.6	1	5/15/2006	5/17/2006	EPA SW-846 6010
7439-89-6	Iron	30.0	UJ N	ug/L	30.0	1	5/15/2006	5/17/2006	EPA SW-846 6010
7439-92-1	Lead	30.8 J	J	ug/L	2.8	1	5/15/2006	5/17/2006	EPA SW-846 6010
7439-95-4	Magnesium	8.3	U	ug/L	8.3	1	5/15/2006	5/17/2006	EPA SW-846 6010
7439-96-5	Manganese	2.5 J	J	ug/L	0.11	1	5/15/2006	5/17/2006	EPA SW-846 6010
7439-97-6	Mercury	0.0400 J	J	ug/L	0.030	1	5/11/2006	5/11/2006	EPA SW-846 7470
7440-02-0	Nickel	~~3.8~~ 40U	~~J~~	ug/L	1.6	1	5/15/2006	5/17/2006	EPA SW-846 6010
7440-09-7	Potassium	61.8	U E	ug/L	61.8	1	5/15/2006	5/17/2006	EPA SW-846 6010
7782-49-2	Selenium	51.2 J	*	ug/L	3.0	1	5/15/2006	5/17/2006	EPA SW-846 6010
7440-22-4	Silver	1.6	U N*	ug/L	1.6	1	5/15/2006	5/17/2006	EPA SW-846 6010
7440-23-5	Sodium	~~525~~ 5000U	~~J~~ E	ug/L	332	1	5/15/2006	5/17/2006	EPA SW-846 6010
7440-28-0	Thallium	6.4 J	J N	ug/L	3.1	1	5/15/2006	5/17/2006	EPA SW-846 6010
7440-62-2	Vanadium	~~2.0~~ 50U	~~J~~	ug/L	0.70	1	5/15/2006	5/17/2006	EPA SW-846 6010
7440-66-6	Zinc	19.6 J	J N	ug/L	0.61	1	5/15/2006	5/17/2006	EPA SW-846 6010

Comments:

U = Not Detected
DL = Method Detection Limit or Instrument Detection Limit

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Spiked sample recovery not within control limits

6/21/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**5/5/2006**
Project:	**Stuyvesant town former MGP Pro**	**Date Received:**	**5/8/2006**
Client Sample ID:	**ST-FB02**	**SDG No.:**	**X2661**
Lab Sample ID:	**X2661-06**	**Matrix:**	**WATER**
% Solids:	**0.00**		

Analyte	Result	Qualifier	RL	Units	DF	Date Analyzed	Method
Cyanide	0.010	U	0.010	mg/L	1	5/11/200(	9012 Cyanide
Cyanide-Amenable	0.01	U	0.01	mg/L	1	5/11/200(	9012 Cyanide-Amenable

Comment

Jam 6/22/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST-FB03	**SDG No.:**	X2867
Lab Sample ID:	X2867-01	**Matrix:**	WATER
Analytical Method:	8260	**% Moisture:**	100
Sample Wt/Vol:	5.0 Units: mL	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VD004119.D	1	5/22/2006	VD051106

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.17	U UJ	5.0	0.17	ug/L
74-87-3	Chloromethane	0.34	U UJ	5.0	0.34	ug/L
75-01-4	Vinyl chloride	0.33	U UJ	5.0	0.33	ug/L
74-83-9	Bromomethane	0.41	U UJ	5.0	0.41	ug/L
75-00-3	Chloroethane	0.83	U UJ	5.0	0.83	ug/L
75-69-4	Trichlorofluoromethane	0.22	U UJ	5.0	0.22	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1.3	U UJ	5.0	1.3	ug/L
75-35-4	1,1-Dichloroethene	0.42	U UJ	5.0	0.42	ug/L
67-64-1	Acetone	2.3	U UJ	25	2.3	ug/L
75-15-0	Carbon disulfide	0.40	U	5.0	0.40	ug/L
1634-04-4	Methyl tert-butyl Ether	0.28	U	5.0	0.28	ug/L
79-20-9	Methyl Acetate	0.20	U [redacted]	5.0	0.20	ug/L
75-09-2	Methylene Chloride	0.43	U UJ	5.0	0.43	ug/L
156-60-5	trans-1,2-Dichloroethene	0.40	U	5.0	0.40	ug/L
75-34-3	1,1-Dichloroethane	0.38	U UJ	5.0	0.38	ug/L
110-82-7	Cyclohexane	0.36	U UJ	5.0	0.36	ug/L
78-93-3	2-Butanone	1.1	U UJ	25	1.1	ug/L
56-23-5	Carbon Tetrachloride	1.1	U	5.0	1.1	ug/L
156-59-2	cis-1,2-Dichloroethene	0.29	U	5.0	0.29	ug/L
67-66-3	Chloroform	0.33	U	5.0	0.33	ug/L
71-55-6	1,1,1-Trichloroethane	0.32	U	5.0	0.32	ug/L
108-87-2	Methylcyclohexane	0.34	U	5.0	0.34	ug/L
71-43-2	Benzene	0.39	U	5.0	0.39	ug/L
107-06-2	1,2-Dichloroethane	0.34	U	5.0	0.34	ug/L
79-01-6	Trichloroethene	0.46	U	5.0	0.46	ug/L
78-87-5	1,2-Dichloropropane	0.40	U	5.0	0.40	ug/L
75-27-4	Bromodichloromethane	0.33	U	5.0	0.33	ug/L
108-10-1	4-Methyl-2-Pentanone	1.6	U UJ	25	1.6	ug/L
108-88-3	Toluene	0.36	U	5.0	0.36	ug/L
10061-02-6	t-1,3-Dichloropropene	0.32	U	5.0	0.32	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.36	U	5.0	0.36	ug/L
79-00-5	1,1,2-Trichloroethane	0.41	U	5.0	0.41	ug/L

U = Not Detected
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EMM 7/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST-FB03	**SDG No.:**	X2867
Lab Sample ID:	X2867-01	**Matrix:**	WATER
Analytical Method:	8260	**% Moisture:**	100
Sample Wt/Vol:	5.0 Units: mL	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VD004119.D	1	5/22/2006	VD051106

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	1.7	U UJ	25	1.7	ug/L
124-48-1	Dibromochloromethane	0.26	U	5.0	0.26	ug/L
106-93-4	1,2-Dibromoethane	0.32	U	5.0	0.32	ug/L
127-18-4	Tetrachloroethene	0.48	U UJ	5.0	0.48	ug/L
108-90-7	Chlorobenzene	0.47	U	5.0	0.47	ug/L
100-41-4	Ethyl Benzene	0.45	U UJ	5.0	0.45	ug/L
126777-61-2	m/p-Xylenes	1.2	U	10	1.2	ug/L
95-47-6	o-Xylene	0.46	U	5.0	0.46	ug/L
100-42-5	Styrene	0.41	U	5.0	0.41	ug/L
75-25-2	Bromoform	0.32	U	5.0	0.32	ug/L
98-82-8	Isopropylbenzene	0.44	U	5.0	0.44	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.30	U	5.0	0.30	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	5.0	0.50	ug/L
106-46-7	1,4-Dichlorobenzene	0.54	U	5.0	0.54	ug/L
95-50-1	1,2-Dichlorobenzene	0.44	U	5.0	0.44	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.38	U	5.0	0.38	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.46	U	5.0	0.46	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	46.17	92 %	72 - 119		SPK: 50
1868-53-7	Dibromofluoromethane	50.61	101 %	85 - 115		SPK: 50
2037-26-5	Toluene-d8	48.45	97 %	81 - 120		SPK: 50
460-00-4	4-Bromofluorobenzene	55.05	110 %	76 - 119		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	908497	4.55			
540-36-3	1,4-Difluorobenzene	1595694	5.24			
3114-55-4	Chlorobenzene-d5	1716614	9.50			
3855-82-1	1,4-Dichlorobenzene-d4	825488	11.85			

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EHM 7/17/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST-FB03	**SDG No.:**	X2867
Lab Sample ID:	X2867-01	**Matrix:**	WATER
Analytical Method:	8270	**% Moisture:**	100
Sample Wt/Wol:	980.0 mL	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BB031442.D	1	5/20/2006	5/23/2006	BB052206

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
100-52-7	Benzaldehyde	1.7	U UJ	10	1.7	ug/L
108-95-2	Phenol	1.3	U	10	1.3	ug/L
111-44-4	bis(2-Chloroethyl)ether	1.5	U	10	1.5	ug/L
95-57-8	2-Chlorophenol	1.2	U	10	1.2	ug/L
95-48-7	2-Methylphenol	1.5	U	10	1.5	ug/L
108-60-1	2,2-oxybis(1-Chloropropane)	1.2	U	10	1.2	ug/L
98-86-2	Acetophenone	1.3	U	10	1.3	ug/L
106-44-5	3+4-Methylphenols	1.3	U	10	1.3	ug/L
621-64-7	N-Nitroso-di-n-propylamine	1.4	U	10	1.4	ug/L
67-72-1	Hexachloroethane	1.2	U	10	1.2	ug/L
98-95-3	Nitrobenzene	1.6	U	10	1.6	ug/L
78-59-1	Isophorone	1.3	U	10	1.3	ug/L
88-75-5	2-Nitrophenol	1.4	U	10	1.4	ug/L
105-67-9	2,4-Dimethylphenol	1.2	U	10	1.2	ug/L
111-91-1	bis(2-Chloroethoxy)methane	1.4	U	10	1.4	ug/L
120-83-2	2,4-Dichlorophenol	1.5	U	10	1.5	ug/L
91-20-3	Naphthalene	1.4	U	10	1.4	ug/L
106-47-8	4-Chloroaniline	0.880	U	10	0.880	ug/L
87-68-3	Hexachlorobutadiene	1.4	U	10	1.4	ug/L
105-60-2	Caprolactam	1.3	U	10	1.3	ug/L
59-50-7	4-Chloro-3-methylphenol	1.4	U	10	1.4	ug/L
91-57-6	2-Methylnaphthalene	1.1	U	10	1.1	ug/L
77-47-4	Hexachlorocyclopentadiene	1.2	U	10	1.2	ug/L
88-06-2	2,4,6-Trichlorophenol	1.2	U	10	1.2	ug/L
95-95-4	2,4,5-Trichlorophenol	1.2	U	10	1.2	ug/L
92-52-4	1,1-Biphenyl	1.4	U	10	1.4	ug/L
91-58-7	2-Chloronaphthalene	1.4	U	10	1.4	ug/L
88-74-4	2-Nitroaniline	1.1	U	10	1.1	ug/L
131-11-3	Dimethylphthalate	1.3	U	10	1.3	ug/L
208-96-8	Acenaphthylene	1.3	U	10	1.3	ug/L
606-20-2	2,6-Dinitrotoluene	1.3	U	10	1.3	ug/L

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EHM 7/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town former MGP Proj06	**Date Received:**	5/18/2006
Client Sample ID:	ST-FB03	**SDG No.:**	X2867
Lab Sample ID:	X2867-01	**Matrix:**	WATER
Analytical Method:	8270	**% Moisture:**	100
Sample Wt/Vol:	980.0 mL	**Extract Vol:**	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BB031442.D	1	5/20/2006	5/23/2006	BB052206

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
99-09-2	3-Nitroaniline	1.0	U	10	1.0	ug/L
83-32-9	Acenaphthene	1.4	U	10	1.4	ug/L
51-28-5	2,4-Dinitrophenol	3.6	U	10	3.6	ug/L
100-02-7	4-Nitrophenol	3.2	U	10	3.2	ug/L
132-64-9	Dibenzofuran	1.3	U	10	1.3	ug/L
121-14-2	2,4-Dinitrotoluene	1.2	U	10	1.2	ug/L
84-66-2	Diethylphthalate	1.4	U	10	1.4	ug/L
7005-72-3	4-Chlorophenyl-phenylether	1.4	U	10	1.4	ug/L
86-73-7	Fluorene	1.4	U	10	1.4	ug/L
100-01-6	4-Nitroaniline	1.1	U	10	1.1	ug/L
534-52-1	4,6-Dinitro-2-methylphenol	1.6	U	10	1.6	ug/L
86-30-6	N-Nitrosodiphenylamine	1.3	U	10	1.3	ug/L
101-55-3	4-Bromophenyl-phenylether	1.5	U	10	1.5	ug/L
118-74-1	Hexachlorobenzene	1.2	U	10	1.2	ug/L
1912-24-9	Atrazine	1.3	U	10	1.3	ug/L
87-86-5	Pentachlorophenol	1.6	U	10	1.6	ug/L
85-01-8	Phenanthrene	1.4	U	10	1.4	ug/L
120-12-7	Anthracene	1.4	U	10	1.4	ug/L
86-74-8	Carbazole	1.3	U	10	1.3	ug/L
84-74-2	Di-n-butylphthalate	1.3	U	10	1.3	ug/L
206-44-0	Fluoranthene	1.2	U	10	1.2	ug/L
129-00-0	Pyrene	1.5	U	10	1.5	ug/L
85-68-7	Butylbenzylphthalate	1.5	U	10	1.5	ug/L
91-94-1	3,3-Dichlorobenzidine	1.1	U	10	1.1	ug/L
56-55-3	Benzo(a)anthracene	1.1	U	10	1.1	ug/L
218-01-9	Chrysene	1.7	U	10	1.7	ug/L
117-81-7	bis(2-Ethylhexyl)phthalate	1.6	U	10	1.6	ug/L
117-84-0	Di-n-octyl phthalate	1.3	U	10	1.3	ug/L
205-99-2	Benzo(b)fluoranthene	0.760	U	10	0.760	ug/L
207-08-9	Benzo(k)fluoranthene	1.9	U	10	1.9	ug/L
50-32-8	Benzo(a)pyrene	1.2	U	10	1.2	ug/L

U = Not Detected
RL = Reporting Limit
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E = Value Exceeds Calibration Range

J = Estimated Value
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N = Presumptive Evidence of a Compound

EHM 7/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	Date Collected:	5/17/2006
Project:	Stuyvesant town former MGP Proj06	Date Received:	5/18/2006
Client Sample ID:	ST-FB03	SDG No.:	X2867
Lab Sample ID:	X2867-01	Matrix:	WATER
Analytical Method:	8270	% Moisture:	100
Sample Wt/Vol:	980.0 mL	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BB031442.D	1	5/20/2006	5/23/2006	BB052206

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
193-39-5	Indeno(1,2,3-cd)pyrene	0.840	U	10	0.840	ug/L
53-70-3	Dibenz(a,h)anthracene	0.880	U	10	0.880	ug/L
191-24-2	Benzo(g,h,i)perylene	1.1	U	10	1.1	ug/L
SURROGATES						
367-12-4	2-Fluorophenol	155.95	52 %	21 - 100		SPK: 30
13127-88-3	Phenol-d5	127.99	43 %	10 - 94		SPK: 30
4165-60-0	Nitrobenzene-d5	147.24	74 %	35 - 114		SPK: 20
321-60-8	2-Fluorobiphenyl	155.18	78 %	43 - 116		SPK: 20
118-79-6	2,4,6-Tribromophenol	216.14	72 %	10 - 123		SPK: 30
1718-51-0	Terphenyl-d14	171.03	86 %	33 - 141		SPK: 20
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	429292	6.87			
1146-65-2	Naphthalene-d8	1732468	9.53			
15067-26-2	Acenaphthene-d10	812742	13.57			
1517-22-2	Phenanthrene-d10	1199015	17.05			
1719-03-5	Chrysene-d12	1020032	23.30			
1520-96-3	Perylene-d12	1009862	26.74			
TENTITIVE IDENTIFIED COMPOUNDS						
	~~ACP4.12~~	~~36~~	~~A~~	~~4.12~~		~~ug/L~~ R
506-52-5	1-Hexacosanol	3.0	J N	23.12		ug/L
112-84-5	~~13-Docosenamide, (Z)-~~	~~3.4~~	~~JB N~~	~~25.26~~		~~ug/L~~ R
7683-64-9	~~Squalene~~	~~4.1~~	~~JB N~~	~~25.48~~		~~ug/L~~ R

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

EHM 7/18/06

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	GEI Consultants	**Date Collected:**	5/17/2006
Project:	Stuyvesant town form	**Date Received:**	5/18/2006
Client Sample ID:	ST-FB03	**SDG No.:**	X2867
Lab Sample ID:	X2867-01	**Matrix:**	WATER
		% Solids:	0.00

CAS No.	Analyte	Conc.	Qualifier	Units	DL	Dilution	Date Prep	Date Anal.	Method
7429-90-5	Aluminum	5.310	U	ug/L	5.310	1	5/22/2006	5/25/2006	EPA SW-846 6010
7440-36-0	Antimony	3.170	U	ug/L	3.170	1	5/22/2006	5/25/2006	EPA SW-846 6010
7440-38-2	Arsenic	3.320	U	ug/L	3.320	1	5/22/2006	5/25/2006	EPA SW-846 6010
7440-39-3	Barium	~~2.300~~ 200U	J E	ug/L	0.723	1	5/22/2006	5/25/2006	EPA SW-846 6010
7440-41-7	Beryllium	~~0.160~~ 5.0U	J	ug/L	0.090	1	5/22/2006	5/25/2006	EPA SW-846 6010
7440-43-9	Cadmium	~~0.770~~ 5.0U	J	ug/L	0.327	1	5/22/2006	5/25/2006	EPA SW-846 6010
7440-70-2	Calcium	27.3 J	J E	ug/L	1.170	1	5/22/2006	5/25/2006	EPA SW-846 6010
7440-47-3	Chromium	4.410 J	J	ug/L	0.343	1	5/22/2006	5/25/2006	EPA SW-846 6010
7440-48-4	Cobalt	~~1.200~~ 50U	J	ug/L	0.370	1	5/22/2006	5/25/2006	EPA SW-846 6010
7440-50-8	Copper	8.080 J	J	ug/L	3.640	1	5/22/2006	5/25/2006	EPA SW-846 6010
7439-89-6	Iron	62.3 J	J	ug/L	27.0	1	5/22/2006	5/25/2006	EPA SW-846 6010
7439-92-1	Lead	2.180	U	ug/L	2.180	1	5/22/2006	5/25/2006	EPA SW-846 6010
7439-95-4	Magnesium	8.300	U	ug/L	8.300	1	5/22/2006	5/25/2006	EPA SW-846 6010
7439-96-5	Manganese	1.370 J	J	ug/L	0.106	1	5/22/2006	5/25/2006	EPA SW-846 6010
7439-97-6	Mercury	0.0300	U	ug/L	0.030	1	5/22/2006	5/22/2006	EPA SW-846 7470
7440-02-0	Nickel	5.620 J	J	ug/L	1.560	1	5/22/2006	5/25/2006	EPA SW-846 6010
7440-09-7	Potassium	61.8	UJ N	ug/L	61.8	1	5/22/2006	5/25/2006	EPA SW-846 6010
7782-49-2	Selenium	3.040	U	ug/L	3.040	1	5/22/2006	5/25/2006	EPA SW-846 6010
7440-22-4	Silver	1.860 J	J	ug/L	1.640	1	5/22/2006	5/25/2006	EPA SW-846 6010
7440-23-5	Sodium	801 J	J E	ug/L	332	1	5/22/2006	5/25/2006	EPA SW-846 6010
7440-28-0	Thallium	3.050	U	ug/L	3.050	1	5/22/2006	5/25/2006	EPA SW-846 6010
7440-62-2	Vanadium	~~1.810~~ 50U	J	ug/L	0.701	1	5/22/2006	5/25/2006	EPA SW-846 6010
7440-66-6	Zinc	27.6 J	E	ug/L	0.611	1	5/22/2006	5/25/2006	EPA SW-846 6010

Comments:

U = Not Detected
DL = Method Detection Limit or Instrument Detection Limit

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Spiked sample recovery not within control limits

Jm 7/19/06

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Report of Analysis

Client:	**GEI Consultants**	**Date Collected:**	**5/17/2006**
Project:	**Stuyvesant town former MGP Pro**	**Date Received:**	**5/18/2006**
Client Sample ID:	**ST-FB03**	**SDG No.:**	**X2867**
Lab Sample ID:	**X2867-01**	**Matrix:**	**WATER**
% Solids:	**0.00**		

Analyte	Result	Qualifier	RL	Units	DF	Date Analyzed	Method
Cyanide	0.01	U	0.01	mg/L	1	5/23/2006	9012 Cyanide
Cyanide-Amenable	0.01	U	0.01	mg/L	1	5/23/2006	9012 Cyanide-Amenable

Comment

dam 7/9/06

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X1965
Reviewer: Lorie MacKinnon/GEI Consultants
Date: May 25, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST17SB01 (0-0.2)	X1965-01	VOC, SVOC
ST17SB02 (0-0.2)	X1965-02	VOC, SVOC
ST17SB02 (2-4)	X1965-03	VOC, SVOC
ST19SB01 (2-4)	X1965-04	VOC, SVOC
ST19SB01 (0-0.2)	X1965-05	VOC, SVOC
ST17SB04 (0-0.2)	X1965-06	VOC, SVOC
ST17SB04 (2-4)	X1965-07	VOC, SVOC

Associated QC Samples:	Field and Trip Blanks:	ST-TB01 (reported in X2012)
	Field Duplicate pair:	None associated

The above-listed soil samples were collected on March 13 and 14, 2006 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260B and semivolatile organic compounds (SVOCs) by SW-846 method 8270C. The data validation was based on the USEPA CLP National Functional Guidelines for Organic Review (January 2005) and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8260B, SOP No. HW-24, Revision 1, June 1999 and USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8270C, SOP No. HW-22, Revision 2, June 2001.

The organic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
• Initial and Continuing Calibrations
• Blanks
* • Surrogate Recoveries
• Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results

	•	Internal Standards
	•	Laboratory Control Sample (LCS) Results
NA	•	Field Duplicate Results
*	•	Moisture Content
	•	Quantitation Limits and Data Assessment
*	•	Sample Quantitation and Compound Identification

* - All criteria were met.

NA - A field duplicate pair was not associated with this sample group.

All results are usable for project objectives with the exception of select tentatively identified compounds (TICs) which were rejected due to method blank contamination and methyl acetate and 4-nitrophenol in all samples which were rejected due to continuing calibration percent differences (%Ds) greater than 90.

Qualifications applied to the data as a result of sampling error are discussed below.

- The positive results for acetone in samples ST17SB02 (2-4) and ST17SB04 (2-4) were qualified as nondetect (U) at the quantitation limit due to trip blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC and SVOC results which were below the lowest calibration standard and quantitation limit. These results were qualified as estimated (J) in the associated samples by the laboratory. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

- The positive and nondetect results for trichlorofluoromethane in samples ST17SB01 (0-0.2), ST17SB02 (0-0.2), ST17SB02 (2-4), ST19SB01 (0-0.2), ST17SB04 (0-0.2), and ST17SB04 (2-4), 2,4-dinitrophenol and phenanthrene in samples ST17SB02 (0-0.2), ST19SB01 (2-4), and ST17SB04 (0-0.2), and 2,4-nitrophenol in samples ST17SB01 (0-0.2), ST17SB02 (2-4), ST19SB01 (0-0.2), and ST17SB04 (2-4) were qualified as estimated (UJ) due to continuing calibration nonconformances. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The nondetect results for methyl acetate and 4-nitrophenol in all samples were rejected (R)

due to continuing calibration percent differences (%Ds) greater than 90. The results are not usable for project objectives. This qualification may have a major impact on the data usability.

- The positive results for methylene chloride in samples ST19SB01 (2-4), ST17SB04 (0-0.2), and ST17SB04 (2-4) were qualified as nondetect (U) at the reported values due to laboratory blank contamination. The results can be used for project objectives as nondetects with elevated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for benzaldehyde, hexachlorocyclopentadiene, indeno(123-cd)pyrene, benzo(k)fluoranthene, and benzo(ghi)perylene in sample ST19SB01 (2-4) were qualified as estimated (J/UJ) due to low recoveries in the MS/MSD analyses. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The nondetect results for benzadehyde in all samples were qualified as estimated (UJ) due to low recovery in the LCS analysis. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the VOC and SVOC analyses.

Holding Times and Sample Preservation

All criteria were met in the VOC and SVOC analyses.

GC/MS Tunes

All criteria were met in the VOC and SVOC analyses.

Initial and Continuing Calibrations

Compounds that did not meet criteria in the VOC and SVOC continuing calibrations are summarized in the following tables.

Instrument ID MSVOAK Compound	CC 3/18/06	CC 3/20/06
methyl acetate	XXX (195%)	XXX (211%)
trichlorofluoromethane		XX (41.5%)
Samples Affected	ST19SB01 (2-4)	ST17SB01 (0-0.2), ST17SB02 (0-0.2), ST17SB02 (2-4), ST19SB01 (0-0.2), ST17SB04 (0-0.2), ST17SB04 (2-4)

Instrument ID BNAE Compound	CC 3/18/06	CC 3/20/06	CC 3/24/06
2,4-dinitrophenol	XX (54.7%)	XX (76.4%)	XX (63.5%)
4-nitrophenol	XXX (102%)	XXX (96.8%)	XX (41.0%)
phenanthrene	XX (43.4%)		
benzaldehyde			XX (55.0%)
benzo(k)fluoranthene			
Samples Affected	ST17SB02 (0-0.2), ST19SB01 (2-4), ST17SB04 (0-0.2)	ST17SB01 (0-0.2), ST17SB02 (2-4), ST19SB01 (0-0.2), ST17SB04 (2-4)	ST17SB04 (2-4)DL

X = Initial calibration (IC) relative standard deviation (%RSD) > 50 for 1,4-dioxane, (%RSD) > 40 for poor response compounds: acetone, 2-butanone, carbon disulfide, chloroethane, chloromethane, dichlorodifluoromethane, 1,2-dichloropropane, cis-1,2-dichloroethene, methylene chloride, methyl tert-butyl ether, trans-1,2-dichloroethene, 4-methyl-2-pentanone, 2-hexanone, trichlorofluoromethane, %RSD > 20 for all other compounds ; estimate (J) positive result. If regression was performed and correlation coefficient (r) < 0.990; estimate (J/UJ) positive and nondetect results.

XX = Continuing calibration (CC) percent difference (%D) > 50 for 1,4-dioxane, (%D) > 40 for poor response compounds: acetone, 2-butanone, carbon disulfide, chloroethane, chloromethane, dichlorodifluoromethane, 1,2-dichloropropane, cis-1,2-dichloroethene, methylene chloride, methyl tert-butyl ether, trans-1,2-dichloroethene, 4-methyl-2-pentanone, 2-hexanone, trichlorofluoromethane, %D > 25 for all other compounds; estimate (J/UJ) positive and nondetect results.

XXX = Continuing calibration (CC) percent difference (%D) > 90; estimate (J) positive results and reject (R) nondetect results.

+ = Response factor (RRF) < 0.05 for VOC except <0.01 for compounds listed above as poor response compounds ; Estimate (J) positive results and reject (R) nondetect results.

The positive and nondetect results for trichlorofluoromethane in samples ST17SB01 (0-0.2), ST17SB02 (0-0.2), ST17SB02 (2-4), ST19SB01 (0-0.2), ST17SB04 (0-0.2), and ST17SB04 (2-4), 2,4-dinitrophenol and phenanthrene in samples ST17SB02 (0-0.2), ST19SB01 (2-4), and ST17SB04

(0-0.2), and 2,4-nitrophenol in samples ST17SB01 (0-0.2), ST17SB02 (2-4), ST19SB01 (0-0.2), and ST17SB04 (2-4) were estimated (UJ) due to continuing calibration nonconformances.

The nondetect results for methyl acetate and 4-nitrophenol in all samples were rejected (R) due to continuing calibration percent differences (%Ds) greater than 90.

Validation actions were not required for the affected compound results in sample ST17SB04 (2-4) DL as these affected results were not reported from the diluted analyses.

Blanks

Target compounds were not detected in the SVOC method blanks.

The following table summarizes the VOC method and associated trip blank contamination.

Compound	Type of Blank	Associated Samples	Maximum Concentration	Blank Action Level
Methylene chloride	Method	All soil samples	21 ug/kg (105 ug/kg with soil prep factor)	210 ug/kg
Acetone	ST-TB01	All soil samples	6.9 ug/L	13.8 u/L, 69 ug/kg

Blank Actions
The blank action level is 1X Max Conc for VOC/2X for common contaminant and 1X for SVOC/5X common contaminant
If the sample concentration $\leq$ RL and $\leq$ blank action level, qualify the result as not detected (U) at the RL.
If the sample concentration > RL and $\leq$ blank action level, qualify the result as not detected (U) at the reported value.
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.

The positive results for methylene chloride in samples ST19SB01 (2-4), ST17SB04 (0-0.2), and ST17SB04 (2-4) were qualified as nondetect (U) at the reported values due to laboratory blank contamination.

The positive results for acetone in samples ST17SB02 (2-4) and ST17SB04 (2-4) were qualified as nondetect (U) at the quantitation limit due to field blank contamination.

Tentatively identified compounds (TICs) were detected in the SVOC method blank. TICs, which were detected in these samples at levels less than ten times those in the method blank, were rejected (R).

Surrogate Recoveries

All criteria were met in the VOC and SVOC analyses for samples analyzed without dilution.

MS/MSD Results

The laboratory performed MS/MSD analyses on a non-project sample for the VOC analyses. Validation actions were not taken due to differences in matrix, type, etc.

The SVOC MS/MSD analyses were performed on sample ST19SB01 (2-4). The following table lists the recoveries and/or RPDs outside of control limits.

Compound	Recovery (%)	RPD (%)	Control Limits	Validation Actions
4-nitrophenol	39, 37	-	45-95/50	Validation actions were not required as the result for 4-nitrophenol was rejected due to calibration nonconformances.
benzo(k)fluoranthene	0, 0	-	43-125/50	As the result was detected below the MDL, the result for benzo(k)fluoranthene was estimated (UJ).
benzaldehyde hexachlorocyclopentadiene indeno(123-cd)pyrene benzo(ghi)perylene	15, 16 17, 18 20, 20 MSD 38	- - - -	20-150/50 20-107/50 42-124/50 39-130/50	Estimate (J/UJ) the positive and nondetect results for benzaldehyde, hexachlorocyclopentadiene, indeno(123-cd)pyrene, and benzo(ghi)perylene in sample ST19SB01 (2-4).

- Within control limits

Internal Standards

All criteria were met in the VOC analyses.

The area for SVOC internal standard Perylene-d12 (23.2%) was below the control limits in sample ST17SB04 (2-4)DL. Validation action was not required on this basis as the affected compounds were not reported from this diluted analysis.

LCS Results

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the VOC and SVOC analyses.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
methylene chloride	200	70-130	All samples	Validation actions were not required as all results were nondetect or qualified as nondetect at the QL due to blank contamination.
benzaldehyde	15	20-150	All samples	Estimate (UJ) the nondetect results for benzadehyde in all soil samples.

Field Duplicate Results

A field duplicate pair was not associated with this sample group.

Moisture Content

All criteria were met.

Quantitation Limits and Data Assessment

Results were reported which were below the lowest calibration standard level (RL) and above the method detection limit (MDL) in the VOC and SVOC analyses. These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration.

The following table lists the sample dilutions and/or reanalyses which were performed and reported.

The volatile analysis utilized one gram of sample to 5 ml, instead of the typical 5 grams to 5 ml. Quantitation limits are elevated accordingly for all VOC samples.

Sample	VOC Analysis Reported	SVOC Analysis Reported
ST17SB02 (0-0.2)	NR	A five-fold dilution only was analyzed. QLs were elevated accordingly.
ST17SB04 (0-0.2)	NR	A five-fold dilution only was analyzed. QLs were elevated accordingly.
ST17SB04 (2-4)	NR	Report result for fluoranthene from the 5-fold dilution. Report all other compound results from the undiluted analysis.

NR- Dilution/reanalysis not required

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted in the VOC and SVOC analyses.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X1965
Reviewer: Lorie MacKinnon/GEI Consultants
Date: May 25, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST17SB01 (0-0.2)	X1965-01	Metals, Cyanide
ST17SB02 (0-0.2)	X1965-02	Metals, Cyanide
ST17SB02 (2-4)	X1965-03	Metals, Cyanide
ST19SB01 (2-4)	X1965-04	Metals, Cyanide
ST19SB01 (0-0.2)	X1965-05	Metals, Cyanide
ST17SB04 (0-0.2)	X1965-06	Metals, Cyanide
ST17SB04 (2-4)	X1965-07	Metals, Cyanide
Associated QC Samples:	Field Blanks:	None associated
	Field Duplicate pair:	None associated

The above-listed soil samples were collected on March 13 and 14, 2006 and were analyzed for metals by SW-846 methods 6010B and 7471A and Total and Amenable Cyanide (CN) by SW-846 method 9012. The data validation was based on the USEPA CLP National Functional Guidelines for Inorganic Review (October 2004) and the USEPA Region II Standard Operating Procedure (SOP) for CLP Inorganic Review (January 1992), modified to accommodate the SW-846 methodologies.

The inorganic data were evaluated based on the following parameters:

*	• Data Completeness
*	• Holding Times and Sample Preservation
*	• Instrument Calibration
	• Contract Required Detection Limit (CRDL) Standard Recoveries
	• Blank Analysis Results
	• Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Results
	• Matrix Spike (MS) Results
*	• Laboratory Duplicate Results
NA	• Field Duplicate Results
*	• Laboratory Control Sample (LCS) Results

- ICP Serial Dilution Analysis Results
* • Moisture Content
- Detection Limits Results
* • Sample Quantitation Results

* - All criteria were met for this parameter.
NA - A field duplicate pair was not associated with this sample group.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives.

Qualifications were not applied to the data as a result of sampling error.

Qualifications applied to the data as a result of analytical error are discussed below.

- The positive results for antimony in samples ST19SB01 (2-4) and ST17SB04 (2-4) and selenium in samples ST17SB02 (0-0.2), ST19SB01 (0-0.2), and ST17SB04 (2-4) were qualified as estimated (J) due to laboratory blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive result for calcium in sample ST17SB04 (0-0.2) was qualified as estimated (J) as the result exceeded the instrument calibration range. The result can be used for project objectives as an estimated value which may have a minor impact on the data usability.

- The positive results for antimony in samples ST17SB01 (0-0.2), ST17SB02 (0-0.2), ST17SB02 (2-4), and ST19SB01 (0-0.2), cadmium in sample ST17SB02 (0-0.2), cobalt and vanadium in sample ST17SB04 (0-0.2), selenium in samples ST17SB01 (0-0.2), ST17SB02 (2-4), ST19SB01 (2-4), and ST17SB04 (0-0.2), and sodium in samples ST17SB01 (0-0.2), ST17SB02 (2-4), ST19SB01 (2-4), and ST19SB01 (0-0.2) were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for antimony in samples ST17SB01 (0-0.2), ST17SB02 (0-0.2), ST17SB02 (2-4), and ST19SB01 (0-0.2), silver and thallium in all samples, arsenic in samples ST17SB02 (0-0.2), ST17SB02 (2-4), and ST17SB04 (0-0.2), and cadmium in samples ST17SB01 (0-0.2), ST17SB02 (2-4), ST19SB01 (2-4), ST17SB04 (0-0.2), and ST17SB04 (2-4) were qualified as estimated (J/UJ) due to negative bias seen in the instrument blank analysis. The results may be biased low. The result can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may

have a minor impact on the data usability.

- The positive and nondetect results for cadmium and thallium in all samples and vanadium in sample ST17SB04 (0-0.2) were qualified as estimated (J/UJ) due to negative interferences seen in the ICSA analysis. The results may be biased low. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive results for beryllium in sample ST17SB01 (0-0.2), beryllium and nickel in samples ST19SB01 (2-4) and ST17SB04 (2-4), beryllium and silver in samples ST17SB02 (0-0.2) and ST19SB01 (0-0.2), beryllium, nickel, and silver in sample ST17SB02 (2-4), and beryllium, copper, and nickel in sample ST17SB04 (0-0.2) were qualified as estimated (J) due to positive interferences seen in the ICSA analysis. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive and nondetect results for antimony, barium, silver, sodium, and zinc were qualified as estimated (J/UJ) in all samples due to recoveries in the MS/MSD analyses which were below control limits. The results may be biased low. These results are usable for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor effect on the data usability.

- The positive and nondetects results for aluminum, barium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, vanadium, and zinc were qualified as estimated (J/UJ) in all soil samples due to high percent differences (%Ds) in the ICP serial dilution analysis. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

- Potential uncertainty exists for the following results which were detected above the method detection limit (MDL) but below the low calibration check standard:

Barium:	ST17SB04 (0-0.2)
Beryllium:	All samples
Cobalt:	ST17SB01 (0-0.2), ST17SB02 (0-0.2), ST17SB02 (2-4), ST19SB01 (2-4), ST19SB01 (0-0.2)
Potassium:	ST17SB04 (0-0.2)
Sodium:	ST17SB02 (0-0.2), ST17SB02 (2-4), ST19SB01 (0-0.2), ST17SB04 (2-4)

This positive result was qualified as estimated (J) and can be used for project objectives as an estimated value which may have a minor effect on the data usability.

The validation recommendations listed above were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables.

Holding Times and Sample Preservation

All criteria were met in the metals and wet chemistry analyses.

Instrument Calibration

All criteria were met in the metals and wet chemistry analyses.

CRDL Standard Recoveries

The following table lists the recoveries which were outside the control limits of 70-130 in the low level standard and the resulting validation actions. The affected analyte level range was determined as 2x the CRDL standard level analyzed due to differences between the reported laboratory QL and the low level standard levels analyzed.

Analyte	Recovery (%)	Associated Samples	Actions
Mercury	170	All samples	Validation action was not required as the affected result were greater than the affected analyte range.

Blank Analysis Results

The following table summarizes the metals laboratory blank contamination associated with all samples.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Aluminum	Instrument	-90.6 ug/L, -9.1mg/kg	-90.6 mg/kg
Antimony	Instrument	13.3 ug/L, 1.33 mg/kg -13.6 ug/L, -1.36 mg/kg	13.3 mg/kg -13.6 mg/kg
Arsenic	Instrument	-8.6 ug/L, -0.86 mg/kg	-8.6 mg/kg

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Cadmium	Instrument Method	0.8 ug/L, 0.08 mg/kg -0.089 mg/kg	0.8 mg/kg -0.89 mg/kg
Calcium	Instrument	-243 ug/L, -24.3 mg/kg	-243 mg/kg
Chromium	Instrument	0.9 ug/L, 0.09 mg/kg -1.1 ug/L, -0.11 mg/kg	0.9 mg/kg -1.1 mg/kg
Cobalt	Instrument Method	0.4 ug/L, 0.04 mg/kg -0.292 mg/kg	0.4 mg/kg -2.92 mg/kg
Magnesium	Instrument	-81.2 ug/L, -8.1 mg/kg	-81.2 mg/kg
Manganese	Instrument	0.2 ug/L, 0.02 mg/kg -0.4 ug/L, -0.04 mg/kg	0.2 mg/kg -0.4 mg/kg
Mercury	Instrument	0.125 ug/L, 0.006 mg/kg	0.060 mg/kg
Nickel	Instrument	1.8 ug/L, 0.18 mg/kg	1.8 mg/kg
Selenium	Instrument	8.3 ug/L, 0.83 mg/kg	8.3 mg/kg
Silver	Instrument	-6.1 ug/L, -0.61mg/kg	-6.1 mg/kg
Sodium	Instrument	371 ug/L, 37.1mg/kg	371 mg/kg
Thallium	Instrument	-7.9 ug/L, -0.79mg/kg	-7.9 mg/kg
Vanadium	Instrument	3.0 ug/L, 0.30 mg/kg -2.1ug/L, -0.21mg/kg	3.0 mg/kg -2.1 mg/kg
Zinc	Instrument	1.0 ug/L, 0.10 mg/kg -4.1ug/L, -0.41mg/kg	1.0 mg/kg -4.1 mg/kg

Blank Actions

For blank contamination < QL; If the sample result is < QL report the result as nondetect (U) at the QL.
For blank contamination ≥ QL; If the sample result is ≥ QL and < the blank level, report the sample result as nondetect (U).
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.
For negative blank contamination ≥2 MDL; professional judgement was taken to estimate (J/UJ) those results which were less than 10x the maximum blank level detected

The positive results for antimony in samples ST17SB01 (0-0.2), ST17SB02 (0-0.2), ST17SB02 (2-4), and ST19SB01 (0-0.2), cadmium in sample ST17SB02 (0-0.2), cobalt and vanadium in sample ST17SB04 (0-0.2), selenium in samples ST17SB01 (0-0.2), ST17SB02 (2-4), ST19SB01 (2-4), and ST17SB04 (0-0.2), and sodium in samples ST17SB01 (0-0.2), ST17SB02 (2-4), ST19SB01 (2-4), and ST19SB01 (0-0.2) were qualified as nondetect (U) at the QL due to laboratory blank contamination.

The positive results for antimony in samples ST19SB01 (2-4) and ST17SB04 (2-4) and selenium in samples ST17SB02 (0-0.2), ST19SB01 (0-0.2), and ST17SB04 (2-4) were qualified as estimated (J) due to laboratory blank contamination.

The positive and nondetect results for antimony in samples ST17SB01 (0-0.2), ST17SB02 (0-0.2), ST17SB02 (2-4), and ST19SB01 (0-0.2), silver and thallium in all samples, arsenic in samples ST17SB02 (0-0.2), ST17SB02 (2-4), and ST17SB04 (0-0.2), and cadmium in samples ST17SB01 (0-0.2), ST17SB02 (2-4), ST19SB01 (2-4), ST17SB04 (0-0.2), and ST17SB04 (2-4) were estimated (J/UJ) due to negative bias seen in the instrument blank analysis.

ICP ICS Results

All recovery criteria were met in the ICSAB analysis.

Positive results for barium, beryllium, cobalt, copper, nickel, silver, and sodium and negative results for cadmium, thallium, and vanadium were observed in the ICSA solution analysis associated with all samples. The levels of interferents in samples were reviewed. Iron was present in samples ST17SB01 (0-0.2) (110%), ST17SB02 (0-0.2) (108%), ST17SB02 (2-4) (184%), ST19SB01 (2-4) (129%), ST19SB01 (0-0.2) (151%), ST17SB04 (0-0.2) (376%), and ST17SB04 (2-4) (129%) at greater than that of the level in the ICSA solution. The following table lists the estimated interferences and the resulting validation actions.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST17SB01 (0-0.2)	Barium	428	1.65	Interference <10% sample level; no action taken.
	Beryllium	2.8	0.39	Estimate (J) the positive result for beryllium.
	Cadmium	ND	-4.6	Estimate (UJ) the nondetect result for cadmium.
	Cobalt	32.7	1.5	Interference <10% sample level; no action taken.
	Copper	263	11.1	Interference <10% sample level; no action taken.
	Nickel	128	12.1	Interference <10% sample level; no action taken.
	Silver	ND	5.5	Validation action was not required.
	Sodium	ND	670	Validation action was not required.
	Thallium	ND	-11.6	Estimate (UJ) the nondetect result for thallium.
	Vanadium	244	-9.2	Interference <10% sample level; no action taken.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST17SB02 (0-0.2)	Barium	462	1.6	Interference <10% sample level; no action taken.
	Beryllium	2.8	0.38	Estimate (J) the positive result for beryllium.
	Cadmium	2.5	-4.5	Estimate (UJ) the nondetect result for cadmium.
	Cobalt	36.6	1.5	Interference <10% sample level; no action taken.
	Copper	324	10.9	Interference <10% sample level; no action taken.
	Nickel	147	11.9	Interference <10% sample level; no action taken.
	Silver	1.8	5.4	Estimate (J) the positive result for silver.
	Sodium	8939	658	Interference <10% sample level; no action taken.
	Thallium	ND	-11.3	Estimate (UJ) the nondetect result for thallium.
	Vanadium	296	-9.1	Interference <10% sample level; no action taken.
ST17SB02 (2-4)	Barium	498	2.76	Interference <10% sample level; no action taken.
	Beryllium	3.4	0.64	Estimate (J) the positive result for beryllium.
	Cadmium	ND	-7.7	Estimate (UJ) the nondetect result for cadmium.
	Cobalt	45.2	2.6	Interference <10% sample level; no action taken.
	Copper	277	18.6	Interference <10% sample level; no action taken.
	Nickel	122	20.2	Estimate (J) the positive result for nickel.
	Silver	1.0	9.2	Estimate (J) the positive result for silver.
	Sodium	ND	1121	Validation action was not required.
	Thallium	ND	-19.3	Estimate (UJ) the nondetect result for thallium.
	Vanadium	276	-15.4	Interference <10% sample level; no action taken.
ST19SB01 (2-4)	Barium	361	1.94	Interference <10% sample level; no action taken.
	Beryllium	4.0	0.45	Estimate (J) the positive result for beryllium.
	Cadmium	ND	-5.42	Estimate (UJ) the nondetect result for cadmium.
	Cobalt	44.0	1.81	Interference <10% sample level; no action taken.
	Copper	272	13.0	Interference <10% sample level; no action taken.
	Nickel	92	14.2	Estimate (J) the positive result for nickel.
	Silver	ND	6.5	Validation action was not required.
	Sodium	ND	786	Validation action was not required.
	Thallium	ND	-13.5	Estimate (UJ) the nondetect result for thallium.
	Vanadium	255	-10.8	Interference <10% sample level; no action taken.
ST19SB01 (0-0.2)	Barium	589	2.27	Interference <10% sample level; no action taken.
	Beryllium	4.0	0.53	Estimate (J) the positive result for beryllium.
	Cadmium	8.5	-6.3	Estimate (J) the positive result for cadmium.
	Cobalt	31.7	2.11	Interference <10% sample level; no action taken.
	Copper	762	15.2	Interference <10% sample level; no action taken.
	Nickel	179	16.6	Interference <10% sample level; no action taken.
	Silver	7.2	7.6	Estimate (J) the positive result for silver.
	Sodium	ND	920	Validation action was not required.
	Thallium	ND	-15.9	Estimate (UJ) the nondetect result for thallium.
	Vanadium	760	-12.7	Interference <10% sample level; no action taken.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST17SB04 (0-0.2)	Barium	150	5.6	Interference <10% sample level; no action taken.
	Beryllium	1.2	1.32	Estimate (J) the positive result for beryllium.
	Cadmium	ND	-15.8	Estimate (UJ) the nondetect result for cadmium.
	Cobalt	ND	5.3	Validation action was not required.
	Copper	46.2	38.0	Estimate (J) the positive result for copper.
	Nickel	54	41.4	Estimate (J) the positive result for nickel.
	Silver	ND	18.8	Validation action was not required.
	Sodium	ND	2290	Validation action was not required.
	Thallium	ND	-39.5	Estimate (UJ) the nondetect result for thallium.
	Vanadium	ND	-31.6	Estimate (UJ) the nondetect result for vanadium.
ST17SB04 (2-4)	Barium	876	1.95	Interference <10% sample level; no action taken.
	Beryllium	3.7	0.46	Estimate (J) the positive result for beryllium.
	Cadmium	ND	-5.5	Estimate (UJ) the nondetect result for cadmium.
	Cobalt	60	1.8	Interference <10% sample level; no action taken.
	Copper	388	13.1	Interference <10% sample level; no action taken.
	Nickel	122	14.2	Estimate (J) the positive result for nickel.
	Silver	ND	6.5	Validation action was not required.
	Sodium	8030	792	Interference <10% sample level; no action taken.
	Thallium	ND	-13.6	Estimate (UJ) the nondetect result for thallium.
	Vanadium	160	-10.9	Interference <10% sample level; no action taken.

MS Results

The laboratory performed the MS/MSD on sample ST19SB01 (14-16) for ICP metals, on sample ST19SB01 (38-40) for mercury, and on sample ST17SB03 (2-4) for cyanide. The following table lists the analytes which exhibited recoveries outside of the control limits of 75 - 125% and the resulting validation actions.

Analyte	Recovery (%)	Actions
Antimony	63.7, 56.6	Estimate (J/UJ) the positive and nondetect results for antimony in all soil samples.
Barium	MSD 72.6	Estimate (J/UJ) the positive and nondetect results for barium in all soil samples.
Silver	71.6, 69.9	Estimate (J/UJ) the positive and nondetect results for silver in all soil samples.
Sodium	22.5, 31.7	Estimate (J/UJ) the positive and nondetect results for sodium in all soil samples.
Zinc	69.5, 65.3	Estimate (J/UJ) the positive and nondetect results for zinc in all soil samples.

Laboratory Duplicate Results

The laboratory performed the laboratory duplicate analysis on sample ST19SB01 (14-16) for ICP metals, on sample ST19SB01 (38-40) for mercury, and on sample ST17SB03 (2-4) for cyanide. All criteria were met.

Field Duplicate Results

A field duplicate pair was not associated with this sample group.

LCS Results

All criteria were met in the metals and wet chemistry analyses.

ICP Serial Dilution (ISD) Analysis Results

The laboratory performed a serial dilution analysis on sample ST19SB01 (14-16). The following table lists the analyte which exhibited a %D above the control limit of 10 and the resulting validation actions.

Analyte	%D	Actions
Aluminum	34.3%	Estimate (J/UJ) the positive and nondetect results for aluminum in all samples.
Barium	29.6%	Estimate (J/UJ) the positive and nondetect results for barium in all samples.
Calcium	28.4%	Estimate (J/UJ) the positive and nondetect results for calcium in all samples.
Chromium	33.1%	Estimate (J/UJ) the positive and nondetect results for chromium in all samples.
Cobalt	48.8%	Estimate (J/UJ) the positive and nondetect results for cobalt in all samples.
Copper	28.6%	Estimate (J/UJ) the positive and nondetect results for copper in all samples.
Iron	32.1%	Estimate (J/UJ) the positive and nondetect results for iron in all samples.
Lead	42.6%	Estimate (J/UJ) the positive and nondetect results for lead in all samples.
Magnesium	29.0%	Estimate (J/UJ) the positive and nondetect results for magnesium in all samples.
Manganese	26.6%	Estimate (J/UJ) the positive and nondetect results for manganese in all samples.
Nickel	38.2%	Estimate (J/UJ) the positive and nondetect results for nickel in all samples.
Potassium	27.1%	Estimate (J/UJ) the positive and nondetect results for potassium in all samples.

Analyte	%D	Actions
Vanadium	28.3%	Estimate (J/UJ) the positive and nondetect results for vanadium in all samples.
Zinc	35.7%	Estimate (J/UJ) the positive and nondetect results for zinc in all samples.

Moisture Content

All criteria were met.

Detection Limits Results

Dilutions were performed for mercury in samples ST19SB01 (0-0.2) (2-fold) and ST17SB04 (2-4) (2-fold) to bring the results within the instrument range.

Due to the high level of calcium in sample ST17SB04 (0-0.2), the laboratory reanalyzed the sample at a 10-fold dilution. The ICP dilution results did not match those of the undiluted sample and the validator believed that the laboratory inadvertently diluted and reported a different sample. The over-calibrated result for calcium was therefore reported from the undiluted analysis and estimated (J).

Positive results which were above the MDL but below the RL were flagged by the laboratory with a "J". These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration: barium and potassium in sample ST17SB04 (0-0.2), beryllium in all samples, cobalt in samples ST17SB01 (0-0.2), ST17SB02 (0-0.2), ST17SB02 (2-4), ST19SB01 (2-4), and ST19SB01 (0-0.2), and sodium in samples ST17SB02 (0-0.2), ST17SB02 (2-4), ST19SB01 (0-0.2), and ST17SB04 (2-4).

Sample Quantitation Results

Sample calculations were spot-checked; no discrepancies were noted .

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2012
Reviewer: Lorie MacKinnon/GEI Consultants
Date: May 25, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST17SB03 (2-4)	X2012-01	VOC, SVOC
ST17SB03 (0-0.2)	X2012-02	VOC, SVOC
ST19SB01 (14-16)	X2012-03	VOC, SVOC
ST19SB01 (38-48)	X2012-04	VOC, SVOC
ST14SB02 (0-0.2)	X2012-05	VOC, SVOC
ST-TB01	X2012-06	VOC

Associated QC Samples:	Field and Trip Blanks:	ST-TB01
	Field Duplicate pair:	None associated

The above-listed soil samples were collected on March 15 and 17, 2006 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260B and semivolatile organic compounds (SVOCs) by SW-846 method 8270C. The data validation was based on the USEPA CLP National Functional Guidelines for Organic Review (January 2005) and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8260B, SOP No. HW-24, Revision 1, June 1999 and USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8270C, SOP No. HW-22, Revision 2, June 2001.

The organic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
• Initial and Continuing Calibrations
• Blanks
* • Surrogate Recoveries
• Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
* • Internal Standards

	•	Laboratory Control Sample (LCS) Results
NA	•	Field Duplicate Results
*	•	Moisture Content
	•	Quantitation Limits and Data Assessment
*	•	Sample Quantitation and Compound Identification

* - All criteria were met.
NA - A field duplicate pair was not associated with this sample group.

All results are usable for project objectives with the exception of select tentatively identified compounds (TICs) which were rejected due to method blank contamination.

Qualifications were not applied to the data as a result of sampling error.

Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC and SVOC results which were below the lowest calibration standard and quantitation limit. These results were qualified as estimated (J) in the associated samples by the laboratory. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

- The positive results for methylene chloride in all soil samples were qualified as nondetect (U) at the reported values due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The blank-qualified nondetect results for methylene chloride in all soil samples were qualified as estimated (UJ) due to high recoveries in the LCS analysis. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The nondetect results for benzadehyde, 4-chloro-3-methyphenol, and 4-nitrophenol in all soil samples were qualified as estimated (UJ) due to low recoveries in the LCS analysis. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the VOC and SVOC analyses.

Holding Times and Sample Preservation

All criteria were met in the VOC and SVOC analyses.

GC/MS Tunes

All criteria were met in the VOC and SVOC analyses.

Initial and Continuing Calibrations

All criteria were met in the VOC initial and continuing calibrations.

Compounds that did not meet criteria in the SVOC initial and continuing calibrations are summarized in the following tables.

Instrument ID BNAE Compound	CC 3/23/06	CC 3/25/06
4-nitrophenol	XX (46.0%)	
benzaldehyde		XX (57.8%)
n-nitroso-di-n-propylamine		XX (37.7%)
benzo(k)fluoranthene		XX (39.6%)
Samples Affected	QC samples	ST14SB02 (0-0.2) DL

X = Initial calibration (IC) relative standard deviation (%RSD) > 50 for 1,4-dioxane, (%RSD) > 40 for poor response compounds, and %RSD > 20 for all other compounds ; estimate (J) positive result. If regression was performed and correlation coefficient (r) < 0.990; estimate (J/UJ) positive and nondetect results.

XX = Continuing calibration (CC) percent difference (%D) > 50 for 1,4-dioxane, (%D) > 40 for poor response compounds, and %D > 25 for all other compounds; estimate (J/UJ) positive and nondetect results.

XXX = Continuing calibration (CC) percent difference (%D) > 90; estimate (J) positive results and reject (R) nondetect results.

+ = Response factor (RRF) < 0.05 except <0.01 for poor response compounds; Estimate (J) positive results and reject (R) nondetect results.

Validation actions were not required for the affected analytes in sample ST14SB02 (0-0.2)DL as the results were not reported from the diluted analyses.

Blanks

Target compounds were not detected in the SVOC method blanks.

The following table summarizes the VOC method and trip blank contamination.

Compound	Type of Blank	Associated Samples	Maximum Concentration	Blank Action Level
Methylene chloride	Method	All soil samples	15 ug/kg (75 ug/kg with soil prep factor)	150 ug/kg
Acetone	Trip Blank	All soil samples	6.9 ug/L	13.8 ug/L

Blank Actions
The blank action level is 1X Max Conc for VOC/2X for common contaminant and 1X for SVOC/5X common contaminant
If the sample concentration $\leq$ RL and $\leq$ blank action level, qualify the result as not detected (U) at the RL.
If the sample concentration > RL and $\leq$ blank action level, qualify the result as not detected (U) at the reported value.
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.

The positive results for methylene chloride in all samples were qualified as nondetect (U) at the reported value due to laboratory blank contamination.

Validation actions were not required due to field blank contamination.

Tentatively identified compounds (TICs) were detected in the SVOC method blank. TICs, which were detected in these samples at levels less than ten times those in the method blank, were rejected (R).

Surrogate Recoveries

All criteria were met in the VOC and SVOC analyses.

MS/MSD Results

The laboratory performed MS/MSD analyses on non-project samples for the VOC and SVOC analyses. Validation actions were not taken due to differences in matrix, type, etc.

Internal Standards

All criteria were met in the VOC and SVOC analyses.

LCS Results

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the VOC and SVOC analyses.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
chloroethane	140	70-130	ST-TB01	Validation actions were not required as the result was nondetect and therefore not affected by the potential high bias.
methylene chloride	170	70-130	All soil samples	Estimate (UJ) the blank-qualified nondetect results for methylene chloride in all soil samples.
benzaldehyde 4-chloro-3-methylphenol 4-nitrophenol	12 53 42	20-150 60-100 45-95	All samples	Estimate (UJ) the nondetect results for benzadehyde, 4-chloro-3-methyphenol, and 4-nitrophenol in all soil samples.

Field Duplicate Results

A field duplicate pair was not associated with this sample group.

Moisture Content

All criteria were met.

Quantitation Limits and Data Assessment

Results were reported which were below the lowest calibration standard level (RL) and above the method detection limit (MDL) in the VOC and SVOC analyses. These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration.

The low level volatile analysis utilized one gram of sample to 5 ml, instead of the typical 5 grams to 5 ml. Quantitation limits are elevated five-fold accordingly.

The following table lists the sample dilutions which were performed and reported.

Sample	VOC Analysis Reported	SVOC Analysis Reported
ST14SB02 (0-0.2)	NR	Report results for fluoranthene and pyrene from the 5-fold dilution. Report all other compound results from the undiluted analysis.

NR- Dilution/reanalysis not required

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted in the VOC and SVOC analyses.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2012
Reviewer: Lorie MacKinnon/GEI Consultants
Date: June 7, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST17SB03 (2-4)	X2012-01	Metals, Cyanide
ST17SB03 (0-0.2)	X2012-02	Metals, Cyanide
ST19SB01 (14-16)	X2012-03	Metals, Cyanide
ST19SB01 (38-48)	X2012-04	Metals, Cyanide
ST14SB02 (0-0.2)	X2012-05	Metals, Cyanide
Associated QC Samples:	Field Blanks:	None associated
	Field Duplicate pair:	None associated

The above-listed soil samples were collected on March 15 and 17, 2006 and were analyzed for metals by SW-846 methods 6010B and 7471A and Total and Amenable Cyanide (CN) by SW-846 method 9012. The data validation was based on the USEPA CLP National Functional Guidelines for Inorganic Review (October 2004) and the USEPA Region II Standard Operating Procedure (SOP) for CLP Inorganic Review (January 1992), modified to accommodate the SW-846 methodologies.

The inorganic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Instrument Calibration
* • Contract Required Detection Limit (CRDL) Standard Recoveries
• Blank Analysis Results
• Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Results
• Matrix Spike (MS) Results
* • Laboratory Duplicate Results
NA • Field Duplicate Results
* • Laboratory Control Sample (LCS) Results
• ICP Serial Dilution Analysis Results
* • Moisture Content

- Detection Limits Results
* • Sample Quantitation Results

* - All criteria were met for this parameter.

NA- A field duplicate pair was not associated with this sample group.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives.

Qualifications were not applied to the data as a result of sampling error.

Qualifications applied to the data as a result of analytical error are discussed below.

- The positive results for arsenic in samples ST17SB03 (2-4), ST19SB01 (14-16), and ST14SB02 (0-0.2), mercury in samples ST19SB01 (14-16) and ST19SB01 (38-48), and selenium in samples ST17SB03 (2-4) and ST17SB03 (0-0.2) were qualified as estimated (J) due to laboratory blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive results for arsenic in sample ST19SB01 (38-48), selenium in samples ST19SB01 (38-48) and ST14SB02 (0-0.2), and silver in all samples were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The nondetect results for thallium in all samples were qualified as estimated (UJ) due to negative bias seen in the instrument blank analysis. The results may be biased low. The results can be used for project objectives as nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive and nondetect results for cadmium and thallium in samples ST17SB03 (2-4), ST17SB03 (0-0.2), ST19SB01 (14-16), and ST14SB02 (0-0.2) were qualified as estimated (J/UJ) due to negative interferences seen in the ICSA analysis. The results may be biased low. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive results for beryllium, cobalt, copper, nickel, selenium, and sodium in ST17SB03 (2-4), beryllium, nickel, selenium, sodium, and zinc in sample ST17SB03 (0-0.2), beryllium, nickel, sodium, and zinc in sample ST19SB01 (14-16), and beryllium and nickel in sample

ST14SB02(0-0.2) were qualified as estimated (J) due to positive interferences seen in the ICSA analysis. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive and nondetect results for antimony, barium, silver, sodium, and zinc were qualified as estimated (J/UJ) in all samples due to recoveries in the MS/MSD analyses which were below control limits. The results may be biased low. These results are usable for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor effect on the data usability.

- The positive and nondetects results for aluminum, barium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, vanadium, and zinc were qualified as estimated (J/UJ) in all soil samples due to high percent differences (%Ds) in the ICP serial dilution analysis. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

- Potential uncertainty exists for the following results which were detected above the method detection limit (MDL) but below the low calibration check standard:

Antimony:	ST17SB03 (2-4)
Barium:	ST19SB01 (38-48)
Beryllium:	All samples
Cobalt:	ST19SB01 (38-48)
Potassium:	ST17SB03 (0-0.2)
Sodium:	ST17SB03 (2-4), ST17SB03 (0-0.2), ST19SB01 (38-48)

The positive results were qualified as estimated (J) and can be used for project objectives as estimated values which may have a minor effect on the data usability.

The validation recommendations listed above were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables.

Holding Times and Sample Preservation

All criteria were met in the metals and wet chemistry analyses.

Instrument Calibration

All criteria were met in the metals and wet chemistry analyses.

CRDL Standard Recoveries

All criteria were met.

Blank Analysis Results

The following table summarizes the metals laboratory blank contamination associated with all samples.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Aluminum	Instrument	40.9 ug/L, 4.1 mg/kg	40.9 mg/kg
Arsenic	Instrument	6.6 ug/L, 0.66 mg/kg	6.6 mg/kg
Cadmium	Instrument	0.5 ug/L, 0.05 mg/kg	0.50 mg/kg
Calcium	Instrument	4.5 ug/L, 0.45 mg/kg -2.9 ug/L, -0.29mg/kg	4.5 mg/kg -2.9 mg/kg
Chromium	Instrument	-1.0 ug/L, -0.1 mg/kg	-1.0 mg/kg
Manganese	Instrument	0.3 ug/L, 0.03 mg/kg	0.3 mg/kg
Mercury 3/22	Instrument	0.097 ug/L, 0.0048 mg/kg	0.048 mg/kg
Nickel	Instrument	2.0 ug/L, 0.20 mg/kg	2.0 mg/kg
Selenium	Instrument	7.6 ug/L, 0.76 mg/kg	7.6 mg/kg
Silver	Instrument	2.7 ug/L, 0.27 mg/kg	2.7 mg/kg
Thallium	Instrument	-9.1 ug/L, -0.91mg/kg	-9.1 mg/kg
Vanadium	Instrument	2.7 ug/L, 0.27 mg/kg	2.7 mg/kg
Mercury 3/23	Instrument	0.122 ug/L, 0.006 mg/kg	0.061 mg/kg

Blank Actions

For blank contamination < QL; If the sample result is < QL report the result as nondetect (U) at the QL.
For blank contamination $\geq$ QL; If the sample result is $\geq$ QL and < the blank level, report the sample result as nondetect (U).
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.
For negative blank contamination $\geq$2 MDL; professional judgement was taken to estimate (J/UJ) those results which were less than 10x the maximum blank level detected

The positive results for arsenic in sample ST19SB01 (38-48), selenium in samples ST19SB01 (38-48) and ST14SB02 (0-0.2), and silver in all samples were qualified as nondetect (U) at the QL due to laboratory blank contamination.

The positive results for arsenic in samples ST17SB03 (2-4), ST19SB01 (14-16), and ST14SB02 (0-0.2), mercury in samples ST19SB01 (14-16) and ST19SB01 (38-48), and selenium in samples ST17SB03 (2-4) and ST17SB03 (0-0.2) were qualified as estimated (J) due to laboratory blank contamination.

The nondetect results for thallium in all samples were estimated (UJ) due to negative bias seen in the instrument blank analysis.

ICP ICS Results

All recovery criteria were met in the ICSAB analysis.

Positive results for barium, beryllium, cobalt, copper, nickel, selenium, silver, sodium, and zinc and negative results for cadmium, thallium, and vanadium were observed in the ICSA solution analysis associated with all samples. The levels of interferents in samples were reviewed. Iron was present in samples ST17SB03 (2-4) (189%), ST17SB03 (0-0.2) (168%), ST19SB01 (14-16) (138%), and ST14SB02 (0-0.2) (153%) at greater than that of the level in the ICSA solution. The following table lists the estimated interferences and the resulting validation actions.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST17SB03 (2-4)	Barium	1214	4.2	Interference <10% sample level; no action taken.
	Beryllium	3.4	0.64	Estimate (J) the positive result for beryllium.
	Cadmium	ND	-4.7	Estimate (UJ) the nondetect result for cadmium.
	Cobalt	57.8	5.7	Estimate (J) the positive result for cobalt.
	Copper	73.6	24.2	Estimate (J) the positive result for copper.
	Nickel	123	19.8	Estimate (J) the positive result for nickel.
	Selenium	14.5	19.1	Estimate (J) the positive result for selenium.
	Silver	ND	5.9	Validation action was not required.
	Sodium	796	816	Estimate (J) the positive result for sodium.
	Thallium	ND	-39.9	Estimate (UJ) the nondetect result for thallium.
	Vanadium	233	-12.9	Interference <10% sample level; no action taken.
	Zinc	1553	73.3	Interference <10% sample level; no action taken.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST17SB03 (0-0.2)	Barium	711	3.7	Interference <10% sample level; no action taken.
	Beryllium	4.7	0.57	Estimate (J) the positive result for beryllium.
	Cadmium	ND	-4.2	Estimate (UJ) the nondetect result for cadmium.
	Cobalt	55	5.0	Interference <10% sample level; no action taken.
	Copper	277	21.5	Interference <10% sample level; no action taken.
	Nickel	113	17.6	Estimate (J) the positive result for nickel.
	Selenium	12	17.0	Estimate (J) the positive result for selenium.
	Silver	ND	5.2	Validation action was not required.
	Sodium	1793	726	Estimate (J) the positive result for sodium.
	Thallium	ND	-35.4	Estimate (UJ) the nondetect result for thallium.
	Vanadium	413	-11.4	Interference <10% sample level; no action taken.
	Zinc	430	65.2	Estimate (J) the positive result for zinc.
ST19SB01 (14-16)	Barium	374	3.0	Interference <10% sample level; no action taken.
	Beryllium	3.7	0.47	Estimate (J) the positive result for beryllium.
	Cadmium	ND	-3.5	Estimate (UJ) the nondetect result for cadmium.
	Cobalt	65	4.1	Interference <10% sample level; no action taken.
	Copper	266	17.7	Interference <10% sample level; no action taken.
	Nickel	116	14.5	Estimate (J) the positive result for nickel.
	Selenium	2.7 U	13.9	Validation action was not required.
	Silver	ND	4.3	Validation action was not required.
	Sodium	5165	596	Estimate (J) the positive result for sodium.
	Thallium	ND	-29.1	Estimate (UJ) the nondetect result for thallium.
	Vanadium	202	-9.4	Interference <10% sample level; no action taken.
	Zinc	319	53.5	Estimate (J) the positive result for zinc.
ST14SB02 (0-0.2)	Barium	2314	3.4	Interference <10% sample level; no action taken.
	Beryllium	4.0	0.52	Estimate (J) the positive result for beryllium.
	Cadmium	ND	-3.8	Estimate (UJ) the nondetect result for cadmium.
	Cobalt	64	3.8	Interference <10% sample level; no action taken.
	Copper	400	19.6	Interference <10% sample level; no action taken.
	Nickel	140	16.1	Estimate (J) the positive result for nickel.
	Selenium	ND	15.5	Validation action was not required.
	Silver	ND	4.7	Validation action was not required.
	Sodium	7439	661	Interference <10% sample level; no action taken.
	Thallium	ND	-32.3	Estimate (UJ) the nondetect result for thallium.
	Vanadium	193	-10.4	Interference <10% sample level; no action taken.
	Zinc	1363	59.4	Interference <10% sample level; no action taken.

MS Results

The laboratory performed the MS/MSD on sample ST19SB01 (14-16) for ICP metals, on sample ST19SB01 (38-40) for mercury, and on sample ST17SB03 (2-4) for cyanide. The following table lists

the analytes which exhibited recoveries outside of the control limits of 75 - 125% and the resulting validation actions.

Analyte	Recovery (%)	Actions
Antimony	63.7, 56.6	Estimate (J/UJ) the positive and nondetect results for antimony in all soil samples.
Barium	MSD 72.6	Estimate (J/UJ) the positive and nondetect results for barium in all soil samples.
Silver	71.6, 69.9	Estimate (J/UJ) the positive and nondetect results for silver in all soil samples.
Sodium	22.5, 31.7	Estimate (J) the positive results for sodium in all soil samples.
Zinc	69.5, 65.3	Estimate (J/UJ) the positive and nondetect results for zinc in all soil samples.

Laboratory Duplicate Results

The laboratory performed the laboratory duplicate analysis on sample ST19SB01 (14-16) for ICP metals, on sample ST19SB01 (38-40) for mercury, and on sample ST17SB03 (2-4) for cyanide. All criteria were met.

Field Duplicate Results

A field duplicate pair was not associated with this sample group.

LCS Results

All criteria were met in the metals and LCS analyses.

ICP Serial Dilution (ISD) Analysis Results

The laboratory performed a serial dilution analysis on sample ST19SB01 (14-16) for ICP metals and on ST19SB01 (38-40) for mercury. The following table lists the analyte which exhibited a %D above the control limit of 10 and the resulting validation actions.

Analyte	%D	Actions
Aluminum	34.3%	Estimate (J/UJ) the positive and nondetect results for aluminum in all samples.
Barium	29.6%	Estimate (J/UJ) the positive and nondetect results for barium in all samples.
Calcium	28.4%	Estimate (J/UJ) the positive and nondetect results for calcium in all samples.
Chromium	33.1%	Estimate (J/UJ) the positive and nondetect results for chromium in all samples.

Analyte	%D	Actions
Cobalt	48.8%	Estimate (J/UJ) the positive and nondetect results for cobalt in all samples.
Copper	28.6%	Estimate (J/UJ) the positive and nondetect results for copper in all samples.
Iron	32.1%	Estimate (J/UJ) the positive and nondetect results for iron in all samples.
Lead	42.6%	Estimate (J/UJ) the positive and nondetect results for lead in all samples.
Magnesium	29.0%	Estimate (J/UJ) the positive and nondetect results for magnesium in all samples.
Manganese	26.6%	Estimate (J/UJ) the positive and nondetect results for manganese in all samples.
Nickel	38.2%	Estimate (J/UJ) the positive and nondetect results for nickel in all samples.
Potassium	27.1%	Estimate (J/UJ) the positive and nondetect results for potassium in all samples.
Vanadium	28.3%	Estimate (J/UJ) the positive and nondetect results for vanadium in all samples.
Zinc	35.7%	Estimate (J/UJ) the positive and nondetect results for zinc in all samples.

Moisture Content

All criteria were met.

Detection Limits Results

Dilutions were performed for mercury in samples ST17SB03 (0-0.2) (5-fold) and ST14SB02 (0-0.2) (2-fold) to bring the results within the instrument range.

Positive results which were above the MDL but below the RL were flagged by the laboratory with a "J". These results were qualified as estimated (J) due to uncertainty at the low end of calibration: antimony in sample ST17SB03 (2-4), barium in sample ST19SB01 (38-48), beryllium in all samples, cobalt in sample ST19SB01 (38-48), potassium in sample ST17SB03 (0-0.2), and sodium in samples ST17SB03 (2-4), ST17SB03 (0-0.2), and ST19SB01 (38-48).

Sample Quantitation Results

Sample calculations were spot-checked; no discrepancies were noted .

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2086
Reviewer: Lorie MacKinnon/GEI Consultants
Date: May 25, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST17SB04 (27-29)	X2086-01	VOC, SVOC
ST17SB04 (47-48)	X2086-02	VOC, SVOC
ST17SB04 (49-51)	X2086-03	VOC, SVOC
ST17SB01 (23.5-25)	X2086-04	VOC, SVOC
ST17SB01 (31-33)	X2086-07	VOC, SVOC
ST-TB02	X2086-08	VOC
Associated QC Samples:	Field Blanks:	ST-TB02
	Field Duplicate pair:	ST17SB04 (47-48)/ST17SB04 (49-51)

The above-listed soil samples were collected on March 21 and 22, 2006 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260B and semivolatile organic compounds (SVOCs) by SW-846 method 8270C. The data validation was based on the USEPA CLP National Functional Guidelines for Organic Review (January 2005) and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8260B, SOP No. HW-24, Revision 1, June 1999 and USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8270C, SOP No. HW-22, Revision 2, June 2001.

The organic data were evaluated based on the following parameters:

* • Data Completeness
• Holding Times and Sample Preservation
* • Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
• Initial and Continuing Calibrations
• Blanks
* • Surrogate Recoveries
• Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
* • Internal Standards

- Laboratory Control Sample (LCS) Results
- Field Duplicate Results
* • Moisture Content
- Quantitation Limits and Data Assessment
* • Sample Quantitation and Compound Identification

* - All criteria were met.

All results are usable for project objectives with the exception of select tentatively identified compounds (TICs) which were rejected due to method blank contamination or were reported as target compounds in another fraction, benzaldehyde in sample ST17SB04 (49-51) due to continuing calibration percent difference which exceeded 90, and benzaldehyde in all samples with the exception of ST17SB01 (23.5-25) and 3,3'-dichlorobenzidine in all samples which were rejected due to recoveries less than 10 in the LCS analysis.

Qualifications applied to the data as a result of sampling error are discussed below.

- The positive results for benzene, toluene, ethylbenzene, m/p-xylenes, and o-xylene in samples ST17SB04 (47-48) and ST17SB04 (49-51) were qualified as estimated (J) due to high relative percent difference (RPD) in the evaluation of the field duplicate pair. The results can be used for project objectives as estimated values. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC and SVOC results which were below the lowest calibration standard and quantitation limit. These results were qualified as estimated (J) in the associated samples by the laboratory. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive results for benzene, toluene, ethylbenzene, m/p-xylenes, o-xylenes, and styrene in sample ST17SB04 (27-29) and the nondetect results for acetone and trichloroethene in sample ST17SB04 (49-51) were qualified as estimated (J/UJ) due to an exceedance in holding time. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

- The VOC tentatively identified compounds, dibenzofuran in sample ST17SB04 (49-51), naphthalene, reported in samples ST17SB04 (27-29), ST17SB04 (47-48), ST17SB04 (49-

51), and ST17SB01 (23.5-25) and 2-methylnaphthalene in samples ST17SB04 (27-29) and ST17SB01 (23.5-25) and SVOC tentatively identified compounds, toluene, ethylbenzene, and o-xylene reported in sample ST17SB04 (27-29), were rejected (R) as they were reported as target compounds in the other fractions.

- The nondetect results for benzaldehyde in samples ST17SB04 (49-51) and ST17SB04 (27-29) were rejected (R) due to continuing calibration percent difference greater than 90. The results are not usable for project objectives. This qualification may have a major impact on the data usability.

- The positive result for benzaldehyde in sample ST17SB01 (23.5-25) was qualified as estimated (J) due to continuing calibration percent difference greater than 90. The result can be used for project objectives as an estimated value. This qualification may have a minor impact on the data usability.

- The nondetect results for methyl acetate, bromodichloromethane, and tetrachloroethene in sample ST-TB02 were qualified as estimated (UJ) due to initial calibration nonconformances. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for 2-butanone, trichloroethene, chloroethane, trichlorofluoromethane, and tetrachloroethene in sample ST17SB04 (27-29) and 2-butanone, chloroethane, trichlorofluoromethane, and tetrachloroethene ST17SB04 (49-51) were qualified as estimated (J/UJ) due to continuing calibration nonconformances. The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive results for acetone and trichloroethene in sample ST17SB04 (27-29) and bis(2-ethylhexyl)phthalate in samples ST17SB04 (27-29), ST17SB04 (49-51), ST17SB01 (23.5-25), and ST17SB01 (31-33) were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The positive results for methylene chloride in samples ST17SB04 (47-48), ST17SB01 (23.5-25), and ST17SB01 (31-33) were qualified as nondetect (U) at the reported values due to laboratory blank contamination. The results can be used for project objectives as nondetects with elevated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive result for acetone in sample ST17SB01 (23.5-25) was qualified as estimated (J) due to high recoveries in the MS/MSD analyses. The result can be used for project objectives

as an estimated value. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for carbon disulfide, carbon tetrachloride, bromodichloromethane, trans-1,3-dichloropropene, cis-1,3-dichloropropene, dibromochloromethane, bromoform, 1,2,4-trichlorobenzene, 2-butanone, and benzaldehyde in sample ST17SB01 (23.5-25) were qualified as estimated (J/UJ) due to low recoveries in the MS/MSD analyses. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive result for acetone in sample ST17SB01 (23.5-25) and the blank-qualified nondetect results for methylene chloride in samples ST17SB04 (47-48), ST17 SB01 (23.5-25), and ST17SB01 (31-33) were qualified as estimated (J/UJ) due to high recoveries in the LCS analysis. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive result for carbazole in sample ST17SB04 (27-29) was qualified as estimated (J) due to low recovery in the LCS analysis. The result can be used for project objectives as an estimated value. This qualification may have a minor impact on the data usability.

- The nondetect results for hexachloroethane and atrazine in all samples were qualified as estimated (UJ) due to low recoveries in the LCS analysis. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The nondetect results for benzaldehyde in all samples with the exception of ST17SB01 (23.5-25) and 3,3'-dichlorobenzidine in all samples were rejected (R) due to recoveries less than 10 in the LCS analysis. The results are not usable for project objectives. This qualification may have a major impact on the data usability.

- The positive result for benzaldehyde in sample ST17SB01 (23.5-25) was qualified as estimated (J) due to recovery less than 10 in the LCS analysis. The result may be biased low. The result can be used for project objectives as an estimated value. This qualification may have a minor impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the VOC and SVOC analyses.

Holding Times and Sample Preservation

All criteria were met in the SVOC analyses.

The 10-fold dilution analysis for VOC sample ST17SB04 (27-29) was performed 17 days outside of the required holding time. The positive results for benzene, toluene, ethylbenzene, m/p-xylenes, o-xylenes, and styrene were reported from the 10-fold dilution in sample ST17SB04 (27-29) and were estimated (J).

The laboratory re-extracted VOC sample ST17SB04 (49-51) 22 days outside of holding time due to blank contamination. The nondetect results for acetone and trichloroethene in sample ST17SB04 (49-51) only were reported from this analysis. These results were estimated (UJ).

GC/MS Tunes

All criteria were met in the VOC and SVOC analyses.

Initial and Continuing Calibrations

Compounds that did not meet criteria in the VOC and SVOC initial and continuing calibrations are summarized in the following tables.

Instrument ID MSVOAH Compound	IC 4/18/06	CC 4/21/06
chloroethane	X (r=0.985)	
carbon disulfide	X (r=0.984)	
trichlorofluoromethane		XX (59.8%)
methyl acetate		XX (46.4%)
1,1-dichloroethane		XX (25.9%)
chloroethane		XX (107.4%)
bromoform		XX (26.6%)
1,2,4-trichlorobenzene		XX (27.4%)
Samples Affected	ST17SB04 (27-29) 10-fold, ST17SB04 (49-51) RE	ST17SB04 (27-29) 10-fold DL

Instrument ID MSVOAI Compound	CC 03/30/06
2-butanone	XX (48.9%)
trichloroethene	XX (45.2%)
chloroethane	XX (58.5%)
trichlorofluoromethane	XX (51.9%)
tetrachloroethene	XX (34.3%)
Samples Affected	ST17SB04 (27-29), ST17SB04 (49-51)

Instrument ID MSVOAI Compound	IC 04/01/06
methyl acetate	X (r=0.940)
bromodichloromethane	X (r=0.985)
tetrachloroethane	X (r=0.884)
Samples Affected	ST-TB02

Instrument ID BNAA Compound	CC 03/27/06	CC 03/29/06
benzaldehyde	XX (140%)	
hexachlorobenzene		XX (25.3%)
Samples Affected	ST17SB04 (27-29), ST17SB04 (49-51), ST17SB01 (23.5-25)	ST17SB04 (27-29) DL1, DL2, DL3

X = Initial calibration (IC) relative standard deviation (%RSD) > 50 for 1,4-dioxane, (%RSD) > 40 for poor response compounds: acetone, 2-butanone, carbon disulfide, chloroethane, chloromethane, dichlorodifluoromethane, 1,2-dichloropropane, cis-1,2-dichloroethene, methylene chloride, methyl tert-butyl ether, trans-1,2-dichloroethene, 4-methyl-2-pentanone, 2-hexanone, trichlorofluoromethane, %RSD > 20 for all other compounds ; estimate (J) positive result. If regression was performed and correlation coefficient (r) < 0.990; estimate (J/UJ) positive and nondetect results.

XX = Continuing calibration (CC) percent difference (%D) > 50 for 1,4-dioxane, (%D) > 40 for poor response compounds: acetone, 2-butanone, carbon disulfide, chloroethane, chloromethane, dichlorodifluoromethane, 1,2-dichloropropane, cis-1,2-dichloroethene, methylene chloride, methyl tert-butyl ether, trans-1,2-dichloroethene, 4-methyl-2-pentanone, 2-hexanone, trichlorofluoromethane, %D >

25 for all other compounds; estimate (J/UJ) positive and nondetect results.

XXX = Continuing calibration (CC) percent difference (%D) > 90; estimate (J) positive results and reject (R) nondetect results.

+ = Response factor (RRF) < 0.05 for VOC except <0.01 for compounds listed above as poor response compounds ; Estimate (J) positive results and reject (R) nondetect results.

The nondetect results for methyl acetate, bromodichloromethane, and tetrachloroethene in sample ST-TB02 were estimated (UJ) due to initial calibration nonconformances.

The positive and nondetect results for 2-butanone, trichloroethene, chloroethane, trichlorofluoromethane, and tetrachloroethene in sample ST17SB04 (27-29) and 2-butanone, chloroethane, trichlorofluoromethane, and tetrachloroethene ST17SB04 (49-51) were estimated (J/UJ) due to continuing calibration nonconformances.

The nondetect results for benzaldehyde in samples ST17SB04 (27-29) and ST17SB04 (49-51) were rejected and the positive result for benzaldehyde in sample ST17SB01 (23.5-25) was estimated (J) due to %D which exceeded 90.

Validation actions were not required for the affected compounds in samples ST17SB04 (27-29) 10-fold and ST17SB04 (49-51) RE as the results were not reported from these analyses.

Blanks

The following table summarizes the VOC and SVOC method blank contamination. Contamination was not detected in the associated trip blank sample.

Compound	Type of Blank	Associated Samples	Maximum Concentration	Blank Action Level
Methylene chloride	Method	ST17SB04 (47-48), ST17SB01 (23.5-25), ST17SB01 (31-33)	38 ug/kg, 190 (equivalent soil level)	380 ug/kg
Trichloroethene	Medium Method	ST17SB04 (27-29), ST17SB04 (49-51)	560 ug/kg	560 ug/kg
Tetrachloroethene	Method	ST17SB04 (49-51) RE	550 ug/kg	550 ug/kg
Acetone	Medium Method	ST17SB04 (27-29), ST17SB04 (49-51)	540 ug/kg	1080 ug/kg
bis(2-ethylhexyl)phthalate	Method	All soil samples	120 ug/kg	600 ug/kg

Blank Actions

The blank action level is 1X Max Conc for VOC/2X for common contaminant and 1X for SVOC/5X common contaminant

If the sample concentration $\leq$ RL and $\leq$ blank action level, qualify the result as not detected (U) at the RL.

If the sample concentration > RL and $\leq$ blank action level, qualify the result as not detected (U) at the reported value.

For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.

The positive results for acetone and trichloroethene in sample ST17SB04 (27-29) and bis(2-ethylhexyl)phthalate in samples ST17SB04 (27-29), ST17SB04 (49-51), ST17SB01 (23.5-25), and ST17SB01 (31-33) were qualified as nondetect (U) at the RL due to laboratory blank contamination.

The positive results for methylene chloride in samples ST17SB04 (47-48), ST17SB01 (23.5-25), and ST17SB01 (31-33) were qualified as nondetect (U) at the reported values due to laboratory blank contamination.

Tentatively identified compounds (TICs) were detected in the SVOC method blank. TICs, which were detected in these samples at levels less than ten times those in the method blank, were rejected (R).

Validation actions were not required for acetone and trichloroethene in sample ST17SB04 (49-51) and tetrachloroethene in sample ST17SB04 (49-51) as these compounds were not reported from the analyses.

Surrogate Recoveries

All criteria were met in the VOC and SVOC analyses for samples analyzed without dilution.

MS/MSD Results

The MS/MSD analyses were performed on sample ST17SB01 (23.5-25) for VOC and SVOC. The following table lists the recoveries and/or RPDs outside of control limits.

Compound	Recovery (%)	RPD (%)	Control Limits	Validation Actions
methyl acetate 4-nitrophenol	628, 628 103, 98	- 	37-150/20 45-95/50	Validation actions were not required as the results were nondetect and therefore not affected by the potential high bias.
acetone	184, 184	-	56-176/20	Estimate (J) the positive result for acetone in sample ST17SB01 (23.5-25).

Compound	Recovery (%)	RPD (%)	Control Limits	Validation Actions
carbon disulfide	58, 67	-	70-148/20	Estimate (J/UJ) the positive and nondetect results for the affected compounds in sample ST17SB01 (23.5-25).
carbon tetrachloride	52, 54	-	79-138/20	
bromodichloromethane	47, 54	-	78-130/20	
trans-1,3-dichloropropene	38, 43	-	82-139/20	
cis-1,3-dichloropropene	36, 38	-	80-137/20	
dibromochloromethane	38, 45	-	76-129/20	
bromoform	29, 36	22	69-125/20	
1,2,4-trichlorobenzene	MS 58	-	67-155/20	
2-butanone	-	24	53-156/20	
benzaldehyde	14, 13	-	20-150/50	

- Within control limits

Internal Standards

All criteria were met in the VOC and SVOC analyses.

LCS Results

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the VOC and SVOC analyses.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
chloroethane	140	70-130	ST17SB04 (27-29)DL, ST17SB04 (49-51)RE	Validation actions were not required as the affected results were not reported from these analyses.
bromomethane chloroethane acetone methyl acetate trichloroethene	145 175, 190 150, 150 145, 145 140, 135	70-130	ST-TB02	Validation actions were not required as results were nondetect and therefore not affected by the potential high bias.
acetone	140	70-130	ST17SB04 (47-48), ST17SB01 (23.5-25), ST17SB01 (31-33)	Estimate (J) the positive result for acetone in sample ST17SB01 (23.5-25).
methylene chloride	335	70-130	ST17SB04 (47-48), ST17SB01 (23.5-25), ST17SB01 (31-33)	Estimate (UJ) the blank-qualified nondetect results for methylene chloride in samples ST17SB04 (47-48), ST17SB01 (23.5-25), and ST17SB01 (31-33).

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
benzaldehyde 3,3'-dichlorobenzidine	5 0	20-150 31-111	All samples	Reject (R) the nondetect results for benzaldehyde in all samples with the exception of ST17SB01 (23.5-25) and 3,3'-dichlorobenzidine in all samples. Estimate (J) the positive results for benzaldehyde in sample ST17SB01 (23.5-25).
hexachloroethane atrazine	42 26	43-101 37-122	All samples	Estimate (UJ) the nondetect results for hexachloroethane and atrazine in all samples.
4-nitrophenol	97	45-95	All samples	Validation actions were not required as results were nondetect and therefore not affected by the potential high bias.
carbazole	171	54-117	All samples	Estimate (J) the positive result for carbazole in sample ST17SB04 (27-29).

Field Duplicate Results

Samples ST17SB04 (47-48) and ST17SB04 (49-51) were submitted as the field duplicate pair with this sample group. The following table summarizes the RPDs of the detected analytes, which were not acceptable. The results for benzene, toluene, ethylbenzene, m/p-xylenes, and o-xylene in samples ST17SB04 (47-48) and ST17SB04 (49-51) were estimated (J).

Analyte	ST17SB04 (47-48) (ug/kg)	ST17SB04 (49-51) (ug/kg)	RPD (%)
benzene	19	370	180
toluene	15	500	188
ethylbenzene	7.0	280	190
m/p-xylenes	9.6	360	190
o-xylene	3.4	150	191

For soil results > 5xQL and RPDs >50; estimate (J) results in the field duplicate pair.
For soil results < 5xQL; the sample and duplicate results must be within 2xQL.

Moisture Content

All criteria were met.

Quantitation Limits and Data Assessment

Results were reported which were below the lowest calibration standard level (RL) and above the method detection limit (MDL) in the VOC and SVOC analyses. These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration.

The following table lists the sample dilutions and/or reanalyses which were performed and reported. The low level volatile analysis utilized one gram of sample to 5 ml, instead of the typical 5 grams to 5 ml. Quantitation limits are elevated accordingly for the low level VOC analyses.

Sample	VOC Analysis Reported	SVOC Analysis Reported
ST17SB04 (27-29)	Medium Level analysis was performed. QLs elevated by factor of 125. Report results for benzene, toluene, ethylbenzene, m/p-xylenes, o-xylene, and styrene from the 10-fold dilution. Report all other compound results from the straight analysis.	Report results for 2-methylnaphthalene, acenaphthylene, acenaphthene, dibenzofuran, fluorene, indeno(123-cd)pyrene, anthracene, carbazole, benzo(a)anthracene, chrysene, benzo(k)fluoranthene, benzo(a)pyrene, and benzo(ghi)perylene from the 10-fold dilution. Report results for naphthalene, fluoranthene, pyrene, and benzo(b)fluoranthene from the 50-fold dilution. Report result for phenanthrene from the 200-fold dilution. Report all other compound results from the 2-fold dilution.
ST17SB04 (49-51)	Medium Level analysis was performed. QLs elevated by factor of 125. The sample was re-extracted due to contamination detected in the original analysis. Report results for acetone and trichloroethene from the re-extraction analysis only.	NR

NR- Dilution/reanalysis not required

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted in the VOC and SVOC analyses.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2086
Reviewer: Lorie MacKinnon/GEI Consultants
Date: May 25, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST17SB04 (27-29)	X2086-01	Metals, Cyanide
ST17SB04 (47-48)	X2086-02	Metals, Cyanide
ST17SB04 (49-51)	X2086-03	Metals, Cyanide
ST17SB01 (23.5-25)	X2086-04	Metals, Cyanide
ST17SB01 (31-33)	X2086-07	Metals, Cyanide
Associated QC Samples:	Field Blanks:	None associated
	Field Duplicate pair:	ST17SB04 (47-48)/ST17SB04 (49-51)

The above-listed soil samples were collected on March 21 and 22, 2006 and were analyzed for metals by SW-846 methods 6010B and 7471A and Total and Amenable Cyanide (CN) by SW-846 method 9012. The data validation was based on the USEPA CLP National Functional Guidelines for Inorganic Review (October 2004) and the USEPA Region II Standard Operating Procedure (SOP) for CLP Inorganic Review (January 1992), modified to accommodate the SW-846 methodologies.

The inorganic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Instrument Calibration
* • Contract Required Detection Limit (CRDL) Standard Recoveries
  • Blank Analysis Results
  • Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Results
  • Matrix Spike (MS) Results
* • Laboratory Duplicate Results
  • Field Duplicate Results
* • Laboratory Control Sample (LCS) Results
  • ICP Serial Dilution Analysis Results

* • Moisture Content
• Detection Limits Results
* • Sample Quantitation Results

* - All criteria were met for this parameter.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives with the exception of silver in samples ST17SB04 (47-48), ST17SB04 (49-51), and ST17SB01 (31-33) which were rejected due to recoveries in the MS/MSD analyses which were below 30.

Qualifications applied to the data as a result of sampling error are discussed below.

- The positive results for lead in samples ST17SB04 (47-48) and ST17SB04 (49-51) were qualified as estimated (J) due to high relative percent difference (RPD) in the evaluation of the field duplicate pair. The results can be used for project objectives as estimated values. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- The positive results for arsenic in samples ST17SB04 (27-29) and ST17SB01 (23.5-25) were qualified as estimated (J) due to laboratory blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive results for antimony in sample ST17SB01 (23.5-25), arsenic, nickel, and vanadium in samples ST17SB04 (47-48) and ST17SB04 (49-51), and beryllium in all samples were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The nondetect results for cadmium in all samples and thallium in samples ST17SB04 (47-48), ST17SB04 (49-51), ST17SB01 (23.5-25), and ST17SB01 (31-33) were qualified as estimated (UJ) due to negative bias seen in the instrument blank analysis. The results may be biased low. The result can be used for project objectives as nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive and nondetect results for antimony, cadmium, and vanadium in sample ST17SB04 (27-29) and antimony and cadmium in sample ST17SB01 (23.5-25) were qualified

as estimated (UJ) due to negative interferences seen in the ICSA analysis. The results may be biased low. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive results for cobalt, copper, nickel, silver, and zinc in sample ST17SB04 (27-29) and cobalt, nickel, and silver in sample ST17SB01 (23.5-25) were qualified as estimated (J) due to positive interferences seen in the ICSA analysis. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive and nondetect results for antimony, copper, lead, and selenium in all samples and the positive results for silver in samples ST17SB04 (27-29) and ST17SB01 (23.5-25) were qualified as estimated (J/UJ) due to recoveries in the MS/MSD analyses which were below control limits. The results may be biased low. These results are usable for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor effect on the data usability.

- The nondetect results for silver in samples ST17SB04 (47-48), ST17SB04 (49-51), and ST17SB01 (31-33) were rejected (R) due to recoveries in the MS/MSD analyses which were below 30. These results are not usable for project objectives which may have a major effect on the data usability.

- The positive results for potassium in all samples were qualified as estimated (J) due to recoveries in the MS/MSD analyses which were above the control limits. The results may be biased high. These results are usable for project objectives as estimated values which may have a minor effect on the data usability.

- The positive results for total and amenable cyanide in sample ST17SB04 (27-29) were qualified as estimated (J) as the results were above the instrument calibration range. These results are usable for project objectives as estimated values which may have a minor effect on the data usability.

- The positive and nondetects results for aluminum, barium, calcium, copper, iron, lead, manganese, mercury, vanadium, and zinc were qualified as estimated (J/UJ) in all soil samples due to high percent differences (%Ds) in the ICP serial dilution analysis. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

- Potential uncertainty exists for the following results which were detected above the method

detection limit (MDL) but below the low calibration check standard:

Barium:	ST17SB04 (47-48), ST17SB04 (49-51), ST17SB01 (31-33)
Cobalt:	ST17SB04 (49-51), ST17SB01 (23.5-25), ST17SB01 (31-33)
Magnesium:	ST17SB01 (31-33)
Mercury:	ST17SB01 (31-33)
Potassium:	ST17SB04 (47-48), ST17SB04 (49-51), ST17SB01 (31-33)
Silver:	ST17SB01 (23.5-25)
Sodium:	ST17SB04 (27-29), ST17SB04 (49-51), ST17SB01 (31-33)

This positive result was qualified as estimated (J) and can be used for project objectives as an estimated value which may have a minor effect on the data usability.

The validation recommendations listed above were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables.

Holding Times and Sample Preservation

All criteria were met in the metals and wet chemistry analyses.

Instrument Calibration

All criteria were met in the metals and wet chemistry analyses.

CRDL Standard Recoveries

All criteria were met.

Blank Analysis Results

The following table summarizes the metals laboratory blank contamination associated with all samples.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Aluminum	Instrument	80.1 ug/L, 8.0 mg/kg	80.1 mg/kg
Antimony	Instrument	4.9 ug/L, 0.49 mg/kg	4.9 mg/kg

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Arsenic	Instrument	8.4 ug/L, 0.8 mg/kg	8.4 mg/kg
Beryllium	Instrument	0.2 ug/L, 0.02 mg/kg	0.2 mg/kg
Cadmium	Method	-0.087 mg/kg	-0.87 mg/kg
Calcium	Instrument	7.6 ug/L, 0.76 mg/kg -1.5 ug/L, -0.15 mg/kg	7.6 mg/kg -1.5 mg/kg
Manganese	Instrument	0.3 ug/L, 0.03 mg/kg	0.3 mg/kg
Nickel	Instrument	2.1 ug/L, 0.21 mg/kg	2.1 mg/kg
Thallium	Method	-1.1 mg/kg	-11 mg/kg
Vanadium	Instrument	1.3 ug/L, 0.13 mg/kg	1.3 mg/kg
Zinc	Instrument	-1.4 ug/L, -0.14 mg/kg	-1.4 mg/kg

Blank Actions

For blank contamination < QL; If the sample result is < QL report the result as nondetect (U) at the QL.
For blank contamination ≥ QL; If the sample result is ≥ QL and < the blank level, report the sample result as nondetect (U).
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.
For negative blank contamination ≥2 MDL; professional judgement was taken to estimate (J/UJ) those results which were less than 10x the maximum blank level detected

The positive results for antimony in sample ST17SB01 (23.5-25), arsenic, nickel, and vanadium in samples ST17SB04 (47-48) and ST17SB04 (49-51), and beryllium in all samples were qualified as nondetect (U) at the QL due to laboratory blank contamination.

The positive results for arsenic in samples ST17SB04 (27-29) and ST17SB01 (23.5–25) were qualified as estimated (J) due to laboratory blank contamination.

The nondetect results for cadmium in all samples and thallium in samples ST17SB04 (47-48), ST17SB04 (49-51), ST17SB01 (23.5-25), and ST17SB01 (31-33) were estimated (UJ) due to negative bias seen in the instrument blank analysis.

ICP ICS Results

All recovery criteria were met in the ICSAB analysis.

Positive results for barium, beryllium, cobalt, copper, nickel, silver, and zinc and negative results for antimony, cadmium, and vanadium were observed in the ICSA solution analysis associated with all samples. The levels of interferents in samples were reviewed. Iron was present in samples

ST17SB04 (27-29) (613%) and ST17SB01 (23.5-25) (103%) at greater than that of the level in the ICSA solution. The following table lists the estimated interferences and the resulting validation actions.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST17SB04 (27-29)	Antimony	ND	-41.1	Estimate (UJ) the nondetect result for antimony.
	Barium	1012	15.3	Interference <10% sample level; no action taken.
	Beryllium	4.4 U	2.7	Validation action was not required.
	Cadmium	ND	-17.8	Estimate (UJ) the nondetect result for cadmium.
	Cobalt	93	27.0	Estimate (J) the positive result for cobalt.
	Copper	698	71.1	Estimate (J) the positive result for copper.
	Nickel	168	73.6	Estimate (J) the positive result for nickel.
	Silver	28	23.3	Estimate (J) the positive result for silver.
	Vanadium	154	-42.3	Estimate (J) the positive result for vanadium.
	Zinc	2082	245	Estimate (J) the positive result for zinc.
ST1701 (23.5-25)	Antimony	21 U	-6.9	Estimate (UJ) the nondetect result for antimony.
	Barium	340	2.6	Interference <10% sample level; no action taken.
	Beryllium	3.2 U	0.45	Validation action was not required.
	Cadmium	ND	-3.0	Estimate (UJ) the nondetect result for cadmium.
	Cobalt	35	4.5	Estimate (J) the positive result for cobalt.
	Copper	371	11.9	Interference <10% sample level; no action taken.
	Nickel	53	12.4	Estimate (J) the positive result for nickel.
	Silver	4.0	3.9	Estimate (J) the positive result for silver.
	Vanadium	139	-7.1	Interference <10% sample level; no action taken.
	Zinc	886	41.2	Interference <10% sample level; no action taken.

MS Results

The laboratory performed the MS/MSD on sample ST17SB01 (23.5-25) for metals and cyanide. The following table lists the analytes which exhibited recoveries outside of the control limits of 75 - 125% and the resulting validation actions.

Analyte	Recovery (%)	Actions
Antimony	71, 66.1	Estimate (J/UJ) the positive and nondetect results for antimony in all soil samples.
Copper	73.3, 73.0	Estimate (J/UJ) the positive and nondetect results for copper in all soil samples.
Lead	28.4, 35.8	Estimate (J/UJ) the positive and nondetect results for lead in all soil samples.
Potassium	126.2, 125.4	Estimate (J) the positive results for potassium in all soil samples.

Analyte	Recovery (%)	Actions
Selenium	51.4, 52.2	Estimate (J/UJ) the positive and nondetect results for selenium in all soil samples.
Silver	2.9, 3.5	Post-digestion spike was below control limits. Reject (R) the nondetect results for silver in samples ST17SB04 (47-48), ST17SB04 (49-51), and ST17SB01 (31-33). Estimate (J) the positive results for silver in samples ST17SB04 (27-29) and ST17SB01 (23.5-25).

Laboratory Duplicate Results

The laboratory performed the laboratory duplicate analysis on sample ST17SB01 (23.5-25) for metals and cyanide. All criteria were met.

Field Duplicate Results

Samples ST17SB04 (47-48) and ST17SB04 (49-51) were submitted as the field duplicate pair with this sample group. The following table summarizes the RPDs of the detected analytes, all of which were acceptable with the exception of lead. The positive results for lead in samples ST17SB04 (47-48) and ST17SB04 (49-51) were qualified as estimated (J).

Analyte	ST17SB04 (47-48) (mg/kg)	ST17SB04 (49-51) (mg/kg)	RPD (%)
Aluminum	613	686	11.2
Arsenic	1.1	0.72	41.8
Barium	13.2	18.9	35.5
Beryllium	0.09	0.15	50.0
Calcium	6650	7510	12.1
Chromium	1.0 U	2.0	NC, Within 2xQL
Cobalt	5.0 U	1.5	NC, Within 2xQL
Copper	6.0	6.3	4.9
Iron	1660	1940	15.6
Lead	10	3.5	96.3
Magnesium	2400	2390	0.4

Analyte	ST17SB04 (47-48) (mg/kg)	ST17SB04 (49-51) (mg/kg)	RPD (%)
Manganese	162	165	1.8
Nickel	2.4	3.1	25.4
Potassium	414	499	18.6
Sodium	344U	89.2	NC, Within 2xQL
Vanadium	2.3	2.6	12.2
Zinc	8.7	9.7	10.9

For soil results > 5xQL and RPDs >50; estimate (J) results in the field duplicate pair.
For soil results < 5xQL; the sample and duplicate results must be within 2xQL.

LCS Results

All criteria were met in the metals and LCS analyses.

ICP Serial Dilution (ISD) Analysis Results

The laboratory performed a serial dilution analysis on sample ST17SB01 (23.5-25). The following table lists the analyte which exhibited a %D above the control limit of 10 and the resulting validation actions.

Analyte	%D	Actions
Aluminum	22.7%	Estimate (J/UJ) the positive and nondetect results for aluminum in all samples.
Barium	20.2%	Estimate (J/UJ) the positive and nondetect results for barium in all samples.
Calcium	21.6%	Estimate (J/UJ) the positive and nondetect results for calcium in all samples.
Copper	16.6%	Estimate (J/UJ) the positive and nondetect results for copper in all samples.
Iron	21.9%	Estimate (J/UJ) the positive and nondetect results for iron in all samples.
Lead	25.7%	Estimate (J/UJ) the positive and nondetect results for lead in all samples.
Manganese	17.1%	Estimate (J/UJ) the positive and nondetect results for manganese in all samples.
Mercury	10.6%	Estimate (J/UJ) the positive and nondetect results for mercury in all samples.
Vanadium	24.7%	Estimate (J/UJ) the positive and nondetect results for vanadium in all samples.
Zinc	17.0%	Estimate (J/UJ) the positive and nondetect results for zinc in all samples.

Moisture Content

All criteria were met.

Detection Limits Results

Dilutions were performed for mercury in samples ST17SB04 (27-29) (10-fold) and ST17SB01 (23.5-25) (10-fold) to bring the results within the instrument range.

The result for total cyanide in sample ST17SB04 (27-29) was over the instrument calibration range but was not reanalyzed at a dilution. The results for cyanide and amenable cyanide in sample ST17SB04 (27-29) were estimated (J).

Due to the negative interference seen in the sodium result for sample ST17SB04 (47-48), the laboratory reanalyzed the sample at a 10-fold dilution. The result for sodium in sample ST17SB04 (47-48) was reported from the 10-fold dilution.

Positive results which were above the MDL but below the RL were flagged by the laboratory with a "J". These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration: barium in samples ST17SB04 (47-48), ST17SB04 (49-51), and ST17SB01 (31-33), cobalt in samples ST17SB04 (49-51), ST17SB01 (23.5-25), and ST17SB01 (31-33), magnesium and mercury in samples ST17SB01 (31-33), potassium in samples ST17SB04 (47-48), ST17SB04 (49-51), and ST17SB01 (31-33), silver in sample ST17SB01 (23.5-25), and sodium in samples ST17SB04 (27-29), ST17SB04 (49-51), and ST17SB01 (31-33).

Sample Quantitation Results

Sample calculations were spot-checked; no discrepancies were noted .

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2110
Reviewer: Lorie MacKinnon/GEI Consultants
Date: May 25, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST17SB03 (8-9)	X2110-01	VOC, SVOC
ST17SB03 (51-52)	X2110-02	VOC, SVOC
ST17SB02 (25-27)	X2110-03	VOC, SVOC
ST17SB02 (30-31)	X2110-04	VOC, SVOC
ST-TB03	X2110-06	VOC, SVOC
ST-FB01	X2110-07	VOC

Associated QC Samples:	Field or Trip Blanks:	ST-TB03, ST-FB01
	Field Duplicate pair:	None associated

The above-listed soil samples, field blank, and trip blank sample were collected on March 15, 23, and 24, 2006 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260B and semivolatile organic compounds (SVOCs) by SW-846 method 8270C. The data validation was based on the USEPA CLP National Functional Guidelines for Organic Review (January 2005) and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8260B, SOP No. HW-24, Revision 1, June 1999 and USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8270C, SOP No. HW-22, Revision 2, June 2001.

The organic data were evaluated based on the following parameters:

* • Data Completeness
• Holding Times and Sample Preservation
* • Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
• Initial and Continuing Calibrations
• Blanks
• Surrogate Recoveries
* • Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
• Internal Standards

- Laboratory Control Sample (LCS) Results

NA • Field Duplicate Results

* • Moisture Content

- Quantitation Limits and Data Assessment
- Sample Quantitation and Compound Identification

* - All criteria were met.

NA - A field duplicate pair was not associated with this sample group.

All results are usable for project objectives with the exception of select tentatively identified compounds (TICs) which were rejected due to method blank contamination or were reported as target compounds in another fraction, acetone and methyl acetate in sample ST-FB01 and benzo(k)fluoranthene in sample ST17SB03 (8-9) which were rejected due to high continuing calibration percent differences, chloroethane, 4-chloroaniline, atrazine, carbazole, and 3,3'-dichlorobenzidine in sample ST-FB01 which were rejected due to LCS recoveries less than 10, and dibenzo(ah)anthracene which was rejected in sample ST-FB01 due to extremely low internal standard area.

Qualifications applied to the data as a result of sampling error are discussed below.

- The positive results for acetone in sample ST17SB02 (25-27), fluoranthene, pyrene, and benzo(a)anthracene in sample ST17SB03 (8-9), and benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, and benzo(ghi)perylene in sample ST17SB02 (25-27) were qualified as nondetect (U) at the QL due to field blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The positive results for phenanthrene, fluoranthene, and pyrene in sample ST17SB02 (25-27) were qualified as estimated (J) due to field blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC and SVOC results which were below the lowest calibration standard and quantitation limit. These results were qualified as estimated (J) in the associated samples by the laboratory. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

- The nondetect results for sample ST-FB01 were qualified as estimated (UJ) due to an exceedance in holding time. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive results for tetrachloroethene in samples ST17SB03 (8-9) and ST17SB02 (25-27) were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The positive results for methylene chloride in samples ST17SB03 (8-9) and ST17SB02 (25-27) were qualified as nondetect (U) at the reported values due to laboratory blank contamination. The results can be used for project objectives as nondetects with elevated quantitation limits. This qualification may have a minor impact on the data usability.

- The VOC tentatively identified compound, naphthalene, reported in sample ST17SB02 (25-27) and SVOC tentatively identified compound, ethylbenzene, reported in sample ST17SB03 (8-9) were rejected (R) as they were reported as target compounds in the other fractions.

- The nondetect results for bromomethane, chloroethane, 1,1-dichloroethene, carbon disulfide, and 1,1-dichloroethane in sample ST-FB01, and methylene chloride, trans-1,2-dichloroethene, 1,1-dichloroethene, and benzadehyde in samples ST17SB03 (51-52) and ST17SB02 (30-31) were qualified as estimated (UJ) due to initial calibration nonconformances. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The following positive and nondetect results were qualified as estimated (J/UJ) due to continuing calibration nonconformances: tetrachloroethene, bromomethane, chloroethane, trichlorofluoromethane, 1,1,2-trichlorotrifluoroethane, 1,1-dichloroethene, carbon disulfide, 1,1-dichloroethane, and cyclohexane in sample ST-FB01; tetrachloroethene in sample ST-TB03; benzaldehyde and n-nitroso-di-n-propylamine in samples ST17SB03 (8-9) and ST17SB02 (25-27); and 3-nitroaniline, 4-nitrophenol, and carbazole in samples ST17SB03 (51-52) and ST17SB02 (30-31). The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The blank-qualified nondetect result for benzo(k)fluoranthene in sample ST17SB02 (25-27) was qualified as estimated (UJ) due to continuing calibration %D greater than 90. The direction of the bias cannot be determined from this nonconformance. The results can be used

for project objectives as a nondetect with estimated quantitation limit. This qualification may have a minor impact on the data usability.

- The nondetect results for acetone and methyl acetate in sample ST-FB01 and benzo(k)fluoranthene in sample ST17SB03 (8-9) were rejected (R) due to continuing calibration %D greater than 90. The results are not usable for project objectives which may have a major impact on the data usability.

- The positive and nondetect results for pyrene, butybenzylphthalate, benzo(a)anthracene, chrysene, bis (2-ethylhexyl)phthalate, di-n-octylphthalate, and indeno(123-cd)pyrene were qualified as estimated (J/UJ) in sample ST-FB01 due to low internal standard areas. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive results for benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, and benzo(a)pyrene were qualified as estimated (J) in sample ST-FB01 due to extremely low internal standard area. The results can be used for project objectives as estimated values. This qualification may have a minor impact on the data usability.

- The nondetect result for dibenzo(ah)anthracene was rejected (R) in sample ST-FB01 due to extremely low internal standard area. The result is not usable for project objectives. This qualification may have a major impact on the data usability.

- The positive results for chrysene, bis(2-ethylhexyl)phthalate, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, and benzo(ghi)perylene in sample ST-FB01, carbazole and fluoranthene in sample ST17SB02 (25-27), and the blank-qualified nondetect results for methylene chloride in samples ST17SB03 (8-9), ST17SB02 (25-27) were qualified as estimated (UJ) due to high recoveries in the LCS analysis. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The nondetect results for bromomethane, trichlorofluoromethane, 1,1,2-trichlorotrifluoromethane, 1,1-dichloroethene, carbon disulfide, trans-1,2-dichloroethene, 1,1-dichloroethane, and cyclohexane in sample ST-FB01, methylene chloride in samples ST17SB03 (51-52) and ST17SB02 (30-31), and benzaldehyde, bis(chloroethoxy)methane, acenaphthylene, 3-nitroaniline, 4-nitroaniline, and n-nitrosodiphenylamine in sample ST-FB01 were qualified as estimated (UJ) due to low recoveries in the LCS analysis. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The nondetect results for chloroethane, 4-chloroaniline, atrazine, carbazole, and 3,3'-dichlorobenzidine in sample ST-FB01 were rejected (R) due to recoveries less than 10 in the

LCS analysis. The results are not usable for project objectives. This qualification may have a major impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the VOC and SVOC analyses.

Holding Times and Sample Preservation

All criteria were met in the SVOC analyses.

The analysis for sample ST-FB01 was performed 12 days outside of the required holding time. The nondetect results for ST-FB01 were estimated (UJ).

GC/MS Tunes

All criteria were met in the VOC and SVOC analyses.

Initial and Continuing Calibrations

Compounds that did not meet criteria in the VOC and SVOC initial and continuing calibrations are summarized in the following tables.

Instrument ID MSVOAD Compound	IC 4/16/06	CC 4/19/06
bromomethane	X (r=0.868)	XX (55.3%)
chloroethane	X (r=0.556)	XX (47.0%)
1,1-dichloroethene	X (r=0.774)	XX (31.1%)
acetone	X (r=0.698)	XXX (139.2%)
carbon disulfide	X (r=0.674)	XX (53.9%)
1,1-dichloroethane	X (r=0.671)	XX (27.2%)
tetrachloroethene		XX (44.0%)
trichlorofluoromethane		XX (49.0%)
1,1,2-trichlorotrifluoroethane		XX (43.9%)

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Instrument ID MSVOAD Compound	IC 4/16/06	CC 4/19/06
methyl acetate		XXX (189.4%)
cyclohexane		XX (55.9%)
Samples Affected	All samples listed	ST-FB01

Instrument ID MSVOAI Compound	CC 03/29/06
tetrachloroethene	XX (27.9%)
Samples Affected	ST-TB03

Instrument ID MSVOAK Compound	IC 03/31/06
methylene chloride	X (r=0.972)
trans-1,2-dichloroethene	X (r=0.977)
1,1-dichloroethane	X (r=0.984)
Samples Affected	ST17SB03 (51-52), ST17SB02 (30-31)

Instrument ID BNAE Compound	CC 03/29/06
benzo(k)fluoranthene	XXX (133.3%)
benzaldehyde	XX (60%)
n-nitroso-di-n-propylamine	XX (36.1%)
Samples Affected	ST17SB03 (8-9), ST17SB02 (25-27)

Instrument ID BNAE Compound	IC 03/30/06	CC 03/31/06
benzaldehyde	X (r=0.978)	

Instrument ID BNAE Compound	IC 03/30/06	CC 03/31/06
3-nitroaniline		XX (43.0%)
4-nitrophenol		XX (49.6%)
carbazole		XX (40.1%)
Samples Affected	All listed	ST17SB03 (51-52), ST17SB02 (30-31)

X = Initial calibration (IC) relative standard deviation (%RSD) > 50 for 1,4-dioxane, (%RSD) > 40 for poor response compounds: acetone, 2-butanone, carbon disulfide, chloroethane, chloromethane, dichlorodifluoromethane, 1,2-dichloropropane, cis-1,2-dichloroethene, methylene chloride, methyl tert-butyl ether, trans-1,2-dichloroethene, 4-methyl-2-pentanone, 2-hexanone, trichlorofluoromethane, %RSD > 20 for all other compounds ; estimate (J) positive result. If regression was performed and correlation coefficient (r) < 0.990; estimate (J/UJ) positive and nondetect results.

XX = Continuing calibration (CC) percent difference (%D) > 50 for 1,4-dioxane, (%D) > 40 for poor response compounds: acetone, 2-butanone, carbon disulfide, chloroethane, chloromethane, dichlorodifluoromethane, 1,2-dichloropropane, cis-1,2-dichloroethene, methylene chloride, methyl tert-butyl ether, trans-1,2-dichloroethene, 4-methyl-2-pentanone, 2-hexanone, trichlorofluoromethane, %D > 25 for all other compounds; estimate (J/UJ) positive and nondetect results.

XXX = Continuing calibration (CC) percent difference (%D) > 90; estimate (J) positive results and reject (R) nondetect results.

+ = Response factor (RRF) < 0.05 for VOC except <0.01 for compounds listed above as poor response compounds ; Estimate (J) positive results and reject (R) nondetect results.

The nondetect results for bromomethane, chloroethane, 1,1-dichloroethene, carbon disulfide, and 1,1-dichloroethane in sample ST-FB01, and methylene chloride, trans-1,2-dichloroethene, 1,1-dichloroethene, and benzadehyde in samples ST17SB03 (51-52) and ST17SB02 (30-31) were estimated (UJ) due to initial calibration nonconformances.

The positive and nondetect results for tetrachloroethene, bromomethane, chloroethane, trichlorofluoromethane, 1,1,2-trichlorotrifluoroethane, 1,1-dichloroethene, carbon disulfide, methyl acetate, 1,1-dichloroethane, and cyclohexane in sample ST-FB01, tetrachloroethene in sample ST-TB03, benzaldehyde and n-nitroso-di-n-propylamine in samples ST17SB03 (8-9) and ST17SB02 (25-27), and 3-nitroaniline, 4-nitrophenol, and carbazole in samples ST17SB03 (51-52) and ST17SB02 (30-31) were estimated (J/UJ) due to continuing calibration nonconformances.

The nondetect results for acetone and methyl acetate in sample ST-FB01 and benzo(k)fluoranthene in sample ST17SB03 (8-9) were rejected (R) due to continuing calibration %D greater than 90. The blank-qualified nondetect result for benzo(k)fluoranthene in sample ST17SB02 (25-27) was estimated (UJ) due to the high %D.

Blanks

The following table summarizes the VOC and SVOC method, field, and trip blank contamination.

Compound	Type of Blank	Associated Samples	Maximum Concentration	Blank Action Level
Methylene chloride	Method	ST17SB03 (8-9), ST17SB02 (25-27)	14 ug/kg (70 ug/kg 1gram gram sample equivalent)	140 ug/kg
Tetrachloroethene	Method	ST17SB03 (8-9), ST17SB02 (25-27)	2.0 ug/kg (10 ug/kg 1 gram soil equivalent)	10 ug/kg
Acetone	Trip Blank	All samples	3.2 ug/L	6.4 ug/L
bis(2-ethylhexyl)phthalate	Method	All soil samples	88 ug/kg	440 ug/kg
bis(2-ethylhexyl)phthalate	Method	ST-FB02, ST-FB02RE	14 ug/L	70 ug/L
Phenanthrene	Field blank	All samples	3.8 ug/L, 125.4 ug/kg	125.4 ug/kg
Fluoranthene	Field blank	All samples	3.6 ug/L, 118.8 ug/kg	118.8 ug/kg
Pyrene	Field blank	All samples	6.9 ug/L, 227.7 ug/kg	227.7 ug/kg
Benzo(a)anthracene	Field blank	All samples	3.7 ug/L, 122 ug/kg	122 ug/kg
Chrysene	Field blank	All samples	6.0 ug/L, 198 ug/kg	198 ug/kg
bis(2-ethylhexyl)phthalate	Field blank	All samples	14 ug/L, 462 ug/kg	2310 ug/kg
benzo(b)fluoranthene	Field blank	All samples	20 ug/L, 660 ug/kg	660 ug/kg
benzo(k)fluoranthene	Field blank	All samples	7.9 ug/L, 261 ug/kg	261 ug/kg
benzo(a)pyrene	Field blank	All samples	8.5 ug/L, 281 ug/kg	281 ug/kg
benzo(ghi)perylene	Field blank	All samples	5.6 ug/L, 185 ug/kg	185 ug/kg

Blank Actions
The blank action level is 1X Max Conc for VOC/2X for common contaminant and 1X for SVOC/5X common contaminant
If the sample concentration $\leq$ RL and $\leq$ blank action level, qualify the result as not detected (U) at the RL.
If the sample concentration > RL and $\leq$ blank action level, qualify the result as not detected (U) at the reported value.
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.

The positive results for tetrachloroethene in samples ST17SB03 (8-9) and ST17SB02 (25-27) were qualified as nondetect (U) at the RL due to laboratory blank contamination.

The positive results for methylene chloride in samples ST17SB03 (8-9) and ST17SB02 (25-27) were qualified as nondetect (U) at the reported values due to laboratory blank contamination.

Tentatively identified compounds (TICs) were detected in the SVOC method blank. TICs, which were detected in these samples at levels less than ten times those in the method blank, were rejected

(R).

The positive results for acetone in sample ST17SB02 (25-27), fluoranthene, pyrene, and benzo(a)anthracene in sample ST17SB03 (8-9), and benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, and benzo(ghi)perylene in sample ST17SB02 (25-27) were qualified as nondetect (U) at the RL due to field blank contamination.

The positive results for phenanthrene, fluoranthene, and pyrene in sample ST17SB02 (25-27) were qualified as estimated (J) due to field blank contamination detected.

Surrogate Recoveries

All criteria were met in the VOC analyses.

The following table summarizes the surrogate recoveries that failed to meet the acceptance criteria in the SVOC analyses:

Sample ID	Percent Recovery						Action
	PH-d5	2-FPh	246-TBP	NBZ	2-FBP	Ter-d14	
ST-FB01	-	-	-	-	125%	154%	No action required, results were reported from the reanalysis were reported.
ST-FB01 RE	-	-	-	-	-	155%	Validation actions were not required as only one surrogate recovery was outside of limits.

- Within control limits

MS/MSD Results

The MS/MSD analyses were performed on a non-project sample for the VOC and SVOC analyses. Validation actions were not required due to differences in matrix, type, etc.

Internal Standards

All criteria were met in the VOC analyses.

The following table lists the internal standard areas found outside of the control limits and the resultant actions in the SVOC analyses.

Sample	Internal Standard	Recovery (%)	Validation Actions
ST-FB01	Chrysene-d12	43.3	Validation actions were not required; results from the reanalysis were reported.
ST-FB01	Perylene-d12	6.4	Validation actions were not required; results from the reanalysis were reported.
ST-FB01 RE	Chrysene-d12	44.6	Estimate (J/UJ) the positive and nondetect results for pyrene, butybenzylphthalate, benzo(a)anthracene, chrysene, bis (2-ethylhexyl)phthalate, di-n-octylphthalate, and indeno(123-cd)pyrene. Validation action was not required for 3,3'-dichlorobenzidine as the result was subsequently rejected due to LCS recovery.
ST-FB01 RE	Perylene-d12	5.3	Estimate (J) the positive results for benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, and benzo(a)pyrene. Reject (R) the nondetect result for dibenzo(ah)anthracene.

LCS Results

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the VOC and SVOC analyses.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
chloroethane	0, 0	70-130	ST-FB01	Reject (R) the nondetect result for chloroethane in sample ST-FB01.
bromomethane trichlorofluoromethane 1,1,2-trichlorotrifluoroethane 1,1-dichloroethene carbon disulfide trans-1,2-dichloroethene 1,1-dichloroethane cyclohexane	31, 32 55 25 46 23, 55 60 50 20, 55	70-130	ST-FB01	Estimate (UJ) the nondetect results for the affected compounds in sample ST-FB01.
acetone methyl acetate	240, 270 160, 300	70-130	ST-FB01	Validation actions were not required as results were nondetect and therefore not affected by the potential high bias.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
chloroethane	140	70-130	ST-TB03	Validation actions were not required as results were nondetect and therefore not affected by the potential high bias.
methylene chloride	155	70-130	ST17SB03 (8-9), ST17SB02 (25-27)	Estimate (UJ) the blank-qualified nondetect results for methylene chloride in the associated samples.
methylene chloride	60	70-130	ST17SB03 (51-52), ST17SB02 (30-31)	Estimate (UJ) the nondetect results for methylene chloride in the associated samples.
4-chloroaniline atrazine carbazole 3,3-dichlorobenzidine	2 0 3 0	20-84 20-150 57-115 33-121	ST-FB01, ST-FB01 RE	Reject (R) the nondetect results for the affected compounds in samples ST-FB01 and ST-FB01 RE.
benzaldehyde bis (chloroethoxy)methane acenaphthylene 3-nitroaniline 4-nitroaniline n-nitrosodiphenylamine	11 22 50 11 30 13	20-150 65-100 60-98 25-96 41-126 70-115	ST-FB01, ST-FB01 RE	Estimate (UJ) the nondetect results for the affected compounds in samples ST-FB01 and ST-FB01RE.
phenol 2,4,6-trichlorophenol 2,4,5-trichlorophenol 2,6-dinitrotoluene 2,4-dinitrotoluene 4,6-dinitro-2-methylphenol	70 106 106 106 106 112	18-37 45-99 43-102 60-103 57-103 35-105	ST-FB01, ST-FB01 RE	Validation actions were not required as results were nondetect and therefore not affected by the potential high bias.
chrysene bis(2-ethylhexyl)phthalate benzo(b)fluoranthene benzo(k)fluoranthene benzo(a)pyrene dibenzo(ah)anthracene benzo(ghi)perylene	110 154 320 680 360 620 400	57-108 58-123 49-116 52-111 58-102 53-127 42-121	ST-FB01, ST-FB01 RE	Estimate (J) the positive results for chrysene, bis(2-ethylhexyl)phthalate, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, and benzo(ghi)perylene in samples ST-FB01 and ST-FB01RE. Validation action was not required for dibenz(ah)anthracene as the result was rejected due to poor IS area.
carbazole fluoranthene	118 106	54-117 55-105	All soil samples	Estimate (J) the positive results for carbazole and fluoranthene in sample ST17SB02 (25-27).

Field Duplicate Results

A field duplicate pair was not associated with this sample group.

Moisture Content

All criteria were met.

Quantitation Limits and Data Assessment

Results were reported which were below the lowest calibration standard level (RL) and above the method detection limit (MDL) in the VOC and SVOC analyses. These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration.

Due to surrogate recovery outliers in the initial analysis of SVOC sample ST-FB01, the laboratory re-analyzed the sample. As surrogate recoveries were better in the reanalysis, those results were reported by the validator.

The volatile analysis utilized one gram of sample to 5 ml, instead of the typical 5 grams to 5 ml. Quantitation limits are elevated accordingly.

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted in the VOC and SVOC analyses.

The VOC tentatively identified compound, naphthalene, reported in sample ST17SB02 (25-27), was rejected (R). Semivolatile target compound list (TCL) compounds should not be reported as VOC TICs.

The SVOC tentatively identified compound, ethylbenzene, reported in sample ST17SB03 (8-9), was rejected (R). Volatile TCL compounds should not be reported as SVOC TICs.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2110
Reviewer: Lorie MacKinnon/GEI Consultants
Date: May 25, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST17SB03 (8-9)	X2110-01	Metals, Cyanide, Amenable Cyanide
ST17SB03 (51-52)	X2110-02	Metals, Cyanide, Amenable Cyanide
ST17SB02 (25-27)	X2110-03	Metals, Cyanide, Amenable Cyanide
ST17SB02 (30-31)	X2110-04	Metals, Cyanide, Amenable Cyanide
ST-FB01	X2110-07	Metals, Cyanide, Amenable Cyanide

Associated QC Samples:	Field or Trip Blanks:	ST-FB01
	Field Duplicate pair:	None associated

The above-listed soil samples and field blank sample were collected on March 23 and 24, 2006 and were analyzed for metals by SW-846 methods 6010B, 7470A, and 7471A and Total and Amenable Cyanide (CN) by SW-846 method 9012. The data validation was based on the USEPA CLP National Functional Guidelines for Inorganic Review (October 2004) and the USEPA Region II Standard Operating Procedure (SOP) for CLP Inorganic Review (January 1992), modified to accommodate the SW-846 methodologies.

The inorganic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Instrument Calibration
• Contract Required Detection Limit (CRDL) Standard Recoveries
• Blank Analysis Results
• Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Results
• Matrix Spike (MS) Results
* • Laboratory Duplicate Results
NA • Field Duplicate Results
* • Laboratory Control Sample (LCS) Results
• ICP Serial Dilution Analysis Results

* • Moisture Content
• Detection Limits Results
* • Sample Quantitation Results

* - All criteria were met for this parameter.
NA - A field duplicate pair was not associated with this sample group.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives with the exception of silver in all soil samples which was rejected due to extremely low MS/MSD recoveries.

Qualifications were not applied to the data as a result of sampling error.

Qualifications applied to the data as a result of analytical error are discussed below.

- The positive results for beryllium in sample ST17SB02 (25-27) and lead in sample ST17SB02 (30-31) were qualified as estimated (J) due to laboratory blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive results for antimony in sample ST17SB02 (30-31), beryllium in samples ST17SB03 (8-9), ST17SB03 (51-52), and ST17SB02 (30-31), mercury in sample ST17SB03 (51-52), and aluminum, beryllium, and mercury in sample ST-FB01 were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for barium in sample ST17SB02 (30-31), cadmium in all soil samples, sodium in samples ST17SB03 (8-9), ST17SB03 (51-52), and ST17SB02 (30-31), zinc in sample ST17SB02 (30-31), and barium, cadmium, calcium, chromium, manganese, nickel, potassium, silver, sodium, vanadium, and zinc in sample ST-FB01 were qualified as estimated (J/UJ) due to negative bias seen in the instrument blank analysis. The results may be biased low. The result can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The nondetect results antimony in samples ST17SB03 (8-9), ST17SB03 (51-52), and ST17SB02 (25-27) were qualified as estimated (UJ) due to negative interferences seen in the ICSA analysis. The results may be biased low. The results can be used for project objectives as nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The following positive results were qualified as estimated (J) due to positive interferences seen in the ICSA analysis: cadmium and sodium in sample ST17SB03 (8-9), cadmium, copper, nickel, and sodium in sample ST17SB03 (51-52), and cadmium, copper, and nickel in sample ST17SB02 (25-27). The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive and nondetect results for antimony and potassium were qualified as estimated (J/UJ) in all soil samples due to recoveries in the MS/MSD analyses which were below control limits. The results may be biased low. These results are usable for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor effect on the data usability.

- The nondetect results for silver were rejected (R) in all soil samples due to recoveries in the MS/MSD analyses which were below 30. These results are not usable for project objectives which may have a major effect on the data usability.

- The positive and nondetects results for calcium and copper were qualified as estimated (J/UJ) in all soil samples due to high percent differences (%Ds) in the ICP serial dilution analysis. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

- Potential uncertainty exists for the following results which were detected above the method detection limit (MDL) but below the low calibration check standard:

Arsenic:	ST17SB03 (51-52)
Barium:	ST17SB02 (30-31)
Cadmium:	ST17SB03 (8-9), ST17SB03 (51-52), ST17SB02 (25-27)
Cobalt:	ST17SB03 (8-9), ST17SB02 (30-31)
Sodium:	ST17SB03 (8-9), ST17SB03 (51-52), ST17SB02 (30-31)

  This positive result was qualified as estimated (J) and can be used for project objectives as an estimated value which may have a minor effect on the data usability.

The validation recommendations listed above were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables.

Holding Times and Sample Preservation

All criteria were met in the metals and wet chemistry analyses.

Instrument Calibration

All criteria were met in the metals and wet chemistry analyses.

CRDL Standard Recoveries

The following table lists the recoveries which were outside the control limits of 70-130 in the low level standard and the resulting validation actions. The affected analyte level range was determined as 2x the CRDL standard level analyzed due to differences between the reported laboratory QL and the low level standard levels analyzed.

Analyte	Recovery (%)	Associated Samples	Actions
Mercury	140	ST-FB01	Validation action was not required as the result was greater than the affected analyte range.
Iron	133.3	All samples	Validation action was not required as the affected results were greater than the affected analyte range.

Blank Analysis Results

The following table summarizes the metals laboratory blank contamination associated with all samples.

Analyte	Type of Blank	Maximum Concentration	10X Aqueous Blank Level (ug/L)	10X Blank Soil Level (mg/kg)
Aluminum	Instrument	145.8 ug/L, 14.6 mg/kg	1458	145.8
Antimony	Instrument	7.6 ug/L, 0.76 mg/kg	76	7.6
Barium	Instrument	-32 ug/L, -3.2 mg/kg	-320	-32
Beryllium	Instrument	1.6 ug/L, 0.16 mg/kg	16	1.6
Cadmium	Instrument	-1.7 ug/L, -0.17 mg/kg	-17	-1.7
Calcium	Instrument	5.4 ug/L, 0.54 mg/kg -10.4 ug/L, -1.0 mg/kg	54 -104	5.4 -10.4
Chromium	Instrument	4.5 ug/L, 0.45 mg/kg -1.0 ug/L, -0.10 mg/kg	45 -10	4.5 -1.0

Analyte	Type of Blank	Maximum Concentration	10X Aqueous Blank Level (ug/L)	10X Blank Soil Level (mg/kg)
Cobalt	Instrument	0.5 ug/L, 0.05 mg/kg	5	0.5
Copper	Instrument Method soil	4.5 ug/L, 0.45 mg/kg -2.5 ug/L, -0.25 mg/kg	45 NA	4.5 -2.5
Lead	Instrument	4.3 ug/L, 0.43 mg/kg	43	4.3
Manganese	Instrument	0.2 ug/L, 0.02 mg/kg -0.7 ug/L, -0.07 mg/kg	2.0 -7.0	0.2 -0.7
Mercury Soil	Method	0.007 mg/kg	NA	0.07
Mercury Aqueous	Instrument	0.12 ug/L	1.2 ug/L	NA
Nickel	Instrument	-6.0 ug/L, -0.60 mg/kg	-60	-6.0
Potassium	Instrument	-123 ug/L, -12.3 mg/kg	-1230	-123
Silver	Instrument	-6.2 ug/L, -0.62 mg/kg	-62	-6.2
Sodium	Instrument	-585 ug/L, -58.5 mg/kg	-5850	-585
Thallium	Instrument	5.2 ug/L. 0.52 mg/kg	52	5.2
Vanadium	Instrument	-4.8 ug/L, -0.48 mg/kg	-48	-4.8
Zinc	Instrument	11.7 ug/L, 1.17 mg/kg -20.8 ug/L, -2.1 mg/kg	117 -208	11.7 -20.8

Blank Actions

For blank contamination < QL; If the sample result is < QL report the result as nondetect (U) at the QL.
For blank contamination ≥ QL; If the sample result is ≥ QL and < the blank level, report the sample result as nondetect (U).
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.
For negative blank contamination ≥2 MDL; professional judgement was taken to estimate (J/UJ) those results which were less than 10x the maximum blank level detected

The positive results for antimony in sample ST17SB02 (30-31), beryllium in samples ST17SB03 (8-9), ST17SB03 (51-52), and ST17SB02 (30-31), mercury in sample ST17SB03 (51-52), and aluminum, beryllium, and mercury in sample ST-FB01 were qualified as nondetect (U) at the QL due to laboratory blank contamination.

The positive results for beryllium in sample ST17SB02 (25-27) and lead in sample ST17SB02 (30-31) were qualified as estimated (J) due to laboratory blank contamination.

The positive and nondetect results for barium in sample ST17SB02 (30-31), cadmium in all soil samples, sodium in samples ST17SB03 (8-9), ST17SB03 (51-52), and ST17SB02 (30-31), zinc in sample ST17SB02 (30-31), and barium, cadmium, calcium, chromium, manganese, nickel, potassium,

silver, sodium, vanadium, and zinc in sample ST-FB01 were estimated (J/UJ) due to negative bias seen in the instrument blank analysis.
Validation actions were not required for silver due to the blank contamination detected as the results for silver were subsequently rejected due to poor MS/MSD recoveries.

The laboratory instrument blank results were greater than the field blank contamination levels detected. The positive results in the field blank sample were qualified as nondetect and not used to assess possible field blank contamination.

ICP ICS Results

Silver (122.9%) was recovered above the control limits in the ICSAB analysis associated with all samples. Validation actions were not required on this basis as results were nondetect and subsequently rejected due to poor MS/MSD recoveries.

Positive results for beryllium, cadmium, cobalt, copper, nickel, potassium, sodium, vanadium, and zinc and negative results for antimony, barium, and silver were observed in the ICSA solution analysis associated with all samples. The levels of interferents in samples were reviewed. Iron was present in samples ST17SB03 (8-9) (84%), ST17SB03 (51-52) (91%), and ST17SB02 (25-27) (163%) at levels similar to those in the ICSA solution. The following table lists the estimated interferences and the resulting validation actions.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST17SB03 (8-9)	Antimony	ND	-52.8	Estimate (UJ) the nondetect result for antimony.
	Barium	597	-4.4	Interference <10% sample level; no action taken.
	Beryllium	3.3	0.26	Interference <10% sample level; no action taken.
	Cadmium	0.9	1.5	Estimate (J) the positive result for cadmium.
	Cobalt	45	2.6	Interference <10% sample level; no action taken.
	Copper	230	13.5	Interference <10% sample level; no action taken.
	Nickel	201	17.6	Interference <10% sample level; no action taken.
	Potassium	11,727	61.9	Interference <10% sample level; no action taken.
	Silver	ND	-31.4	Validation action was not required; result was rejected.
	Sodium	1798	471	Estimate (J) the positive result for sodium.
	Vanadium	136	7.8	Interference <10% sample level; no action taken.
	Zinc	379	3.6	Interference <10% sample level; no action taken.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST17SB03 (51-52)	Antimony	ND	-57.2	Estimate (UJ) the nondetect result for antimony.
	Barium	1,200	-4.7	Interference <10% sample level; no action taken.
	Beryllium	4.3	0.28	Interference <10% sample level; no action taken.
	Cadmium	0.4	1.6	Estimate (J) the positive result for cadmium
	Cobalt	55	2.8	Interference <10% sample level; no action taken.
	Copper	81.3	14.7	Estimate (J) the positive result for copper.
	Nickel	142	19.0	Estimate (J) the positive result for nickel.
	Potassium	21,938	67.1	Interference <10% sample level; no action taken.
	Silver	ND	-34.0	Validation action was not required; result was rejected.
	Sodium	2884	511	Estimate (J) the positive result for sodium.
	Vanadium	159	8.5	Interference <10% sample level; no action taken.
	Zinc	216	3.9	Interference <10% sample level; no action taken.
ST17SB02 (25-27)	Antimony	ND	-103	Estimate (UJ) the nondetect result for antimony.
	Barium	491	-8.5	Interference <10% sample level; no action taken.
	Beryllium	5.9	0.50	Interference <10% sample level; no action taken.
	Cadmium	2.8	2.9	Estimate (J) the positive result for cadmium.
	Cobalt	71	5.05	Interference <10% sample level; no action taken.
	Copper	263	26.2	Estimate (J) the positive result for copper.
	Nickel	168	34.1	Estimate (J) the positive result for nickel.
	Potassium	19,679	120.1	Interference <10% sample level; no action taken.
	Silver	ND	-61.0	Validation action was not required; result was rejected.
	Sodium	14,444	914	Interference <10% sample level; no action taken.
	Vanadium	236	15.1	Interference <10% sample level; no action taken.
	Zinc	631	7.0	Interference <10% sample level; no action taken.

MS Results

The laboratory performed the MS/MSD on sample ST17SB03 (51-52) for ICP metals, on sample ST17SB02 (30-31), and on a non-project sample for cyanide. The following table lists the analytes which exhibited recoveries outside of the control limits of 75 - 125% and the resulting validation actions.

Analyte	Recovery (%)	Actions
Potassium	61.0, 62.3	Estimate (J/UJ) the positive and nondetect results for potassium in all samples.
Silver	6.2, 0	The post-digestion spike was below control limits also. Reject (R) the nondetect results for silver in all soil samples.
Antimony	MSD 68.1	Estimate (J/UJ) the positive and nondetect results for antimony in all soil samples.

Laboratory Duplicate Results

The laboratory performed the duplicate analysis on sample ST17SB03 (51-52) for ICP metals, on sample ST17SB02 (30-31), and on a non-project sample for cyanide. All criteria were met.

Field Duplicate Results

A field duplicate sample was not associated with this sample group.

LCS Results

All criteria were met in the metals and LCS analyses.

ICP Serial Dilution (ISD) Analysis Results

The laboratory performed the ISD analysis on sample ST17SB03 (51-52) for ICP metals and on sample ST17SB02 (30-31) for mercury. The following table lists the analyte which exhibited a %D above the control limit of 10 and the resulting validation actions.

Analyte	%D	Actions
Calcium	10.5%	Estimate (J/UJ) the positive and nondetect results for calcium in all samples.
Copper	18.0%	Estimate (J/UJ) the positive and nondetect results for copper in all samples.

Moisture Content

All criteria were met.

Detection Limits Results

Dilutions were not required. Positive results which were above the MDL but below the RL were flagged by the laboratory with a "J". These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration: arsenic in sample ST17SB03 (51-52), barium in sample ST17SB02 (30-31), cadmium in samples ST17SB03 (8-9), ST17SB03 (51-52), and ST17SB02 (25-27), cobalt in samples ST17SB03 (8-9) and ST17SB02 (30-31), and sodium in samples ST17SB03 (8-9), ST17SB03 (51-52), and ST17SB02 (30-31).

Sample Quantitation Results

Sample calculations were spot-checked; no discrepancies were noted.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2149
Reviewer: Lorie MacKinnon/GEI Consultants
Date: May 25, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST14SB01 (12-16)	X2149-01	VOC, SVOC
ST14SB01 (28-32)	X2149-02	VOC, SVOC
ST14SB01 (36-39.8)	X2149-03	VOC, SVOC
ST14SBXX	X2149-04	VOC, SVOC
ST14SB01 (24-28)	X2149-05	VOC, SVOC
ST-TB04	X2149-06	VOC
Associated QC Samples:	Field or Trip Blanks:	ST-TB04, ST-FB01 (reported in 2110)
	Field Duplicate pair:	ST14SB01 (36-39.8)/ST14SBXX

The above-listed soil samples and trip blank sample were collected on March 28, 2006 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260B and semivolatile organic compounds (SVOCs) by SW-846 method 8270C. The data validation was based on the USEPA CLP National Functional Guidelines for Organic Review (January 2005) and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8260B, SOP No. HW-24, Revision 1, June 1999 and USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8270C, SOP No. HW-22, Revision 2, June 2001.

The organic data were evaluated based on the following parameters:

* • Data Completeness
• Holding Times and Sample Preservation
* • Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
• Initial and Continuing Calibrations
• Blanks
* • Surrogate Recoveries
• Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
• Internal Standards

- Laboratory Control Sample (LCS) Results
- Field Duplicate Results
* • Moisture Content
- Quantitation Limits and Data Assessment
- Sample Quantitation and Compound Identification

* - All criteria were met.

All results are usable for project objectives with the exception of select tentatively identified compounds (TICs) which were rejected due to method blank contamination or were reported as target compounds in another fraction and hexachlorocyclopentadiene and 2,4-dinitrophenol in sample ST14SB01 (12-16) which were rejected due to MS/MSD recoveries less than 10.

Qualifications applied to the data as a result of sampling error are discussed below.

- The positive results for benzene and ethyl benzene in samples ST14SB01 (36-39.8) and ST14SBXX were qualified as estimated (J) due to high relative percent difference (RPD) in the evaluation of the field duplicate pair. The results can be used for project objectives as estimated values. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC and SVOC results which were below the lowest calibration standard and quantitation limit. These results were qualified as estimated (J) in the associated samples by the laboratory. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

- The nondetect results for sample ST-TB04 were qualified as estimated (UJ) due to an exceedance in holding time. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive results for bis(2-ethylhexyl)phthalate in samples ST14SB01 (12-16), ST14SB01 (28-32), and ST14SB01 (36-39.8) were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The VOC tentatively identified compound, naphthalene, reported in samples ST14SB01 (36-

39.8) and ST14SBXX and SVOC tentatively identified compound, ethylbenzene, reported in samples ST14SB01 (36-39.8) and ST14SBXX, were rejected (R) as they were reported as target compounds in the other fractions.

- The nondetect results for chloroethane and carbon disulfide in sample ST-TB04, methylene chloride, trans-1,2-dichloroethene, and 1,1-dichloroethane in samples ST14SB01 (12-16), ST14SB01 (28-32), ST14SB01 (36-39.8), and ST14SBXX, acetone, methyl acetate, methylene chloride, 2-butanone, cyclohexane, 1,1,2,2-tetrachloroethane, and 1,2,4-trichlorobenzene in sample ST14SB01 (24-28), and benzaldehyde in all samples were qualified as estimated (UJ) due to initial calibration nonconformances. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The following positive and nondetect results were qualified as estimated (J/UJ) due to continuing calibration nonconformances: methyl acetate and acetone in samples ST14SB01 (12-16), ST14SB01 (28-32), ST14SB01 (36-39.8), and ST14SBXX, indeno(123-cd)pyrene in samples ST14SB01 (12-16) and ST14SB01 (28-32) and n-nitroso-di-n-propylamine, indeno(123-cd)pyrene, dibenzo(ah)anthracene, and benzo(ghi)perylene in sample ST14SB01 (24-28). The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The nondetect results for hexachlorocyclopentadiene and 2,4-dinitrophenol in sample ST14SB01 (12-16) were rejected (R) due to MS/MSD recoveries less than 10. The results are not usable for project objectives. This qualification may have a major impact on the data usability.

- The nondetect results for benzaldehyde, hexachloroethane, 4,6-dinitro-2-methylphenol, and fluoranthene in sample ST14SB01 (12-16) were qualified as estimated (J/UJ) due to low recoveries in the MS/MSD. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The nondetect results for benzaldehyde in samples ST14SB01 (12-16), ST14SB01 (28-32), ST14SB01 (36-39.8), and ST14SBXX were qualified as estimated (UJ) due to low recovery in the LCS analysis. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the VOC and SVOC analyses.

Holding Times and Sample Preservation

All criteria were met in the SVOC analyses.

The analysis for sample ST-TB04 was performed 14 days outside of the required holding time. The nondetect results for ST-TB04 were estimated (UJ).

GC/MS Tunes

All criteria were met in the VOC and SVOC analyses.

Initial and Continuing Calibrations

Compounds that did not meet criteria in the VOC and SVOC initial and continuing calibrations are summarized in the following tables.

Instrument ID MSVOAH Compound	IC 04/18/06
chloroethane	X (r=0.985)
carbon disulfide	X (r=0.984)
Samples Affected	ST-TB04

Instrument ID MSVOAH Compound	IC 3/31/06	CC 04/05/06
methylene chloride	X (r=0.972)	
trans-1,2-dichloroethene	X (r=0.977)	
1,1-dichloroethane	X (r=0.984)	
methyl acetate		XX (41.3%)
acetone		XX (54.5%)
Samples Affected	All samples listed	ST14SB01 (12-16), ST14SB01 (28-32), ST14SB01 (36-39.8), ST14SBXX

Instrument ID MSVOAH Compound	IC 04/06/06
acetone	X (r=0.965)
methyl acetate	X (r=0.965)
methylene chloride	X (r=0.989)
2-butanone	X (r=0.958)
cyclohexane	X (r=0.983)
1,1,2,2-tetrachloroethane	X (r=0.976)
1,2,4-trichlorobenzene	X (r=0.988)
Samples Affected	ST14SB01 (24-28)

Instrument ID BNAF Compound	IC 04/10/06	CC 04/12/06	CC 04/14/06
benzaldehyde	X (r=0.980)		
n-nitroso-di-n-propylamine			XX (28.8%)
indeno(123-cd)pyrene		XX (49.9%)	XX (41.4%)
dibenzo(ah)anthracene			XX (29.5%)
benzo(ghi)perylene			XX (34.2%)
Samples Affected	All samples	ST14SB01 (12-16), ST14SB01 (28-32)	ST14SB01 (24-28)

X = Initial calibration (IC) relative standard deviation (%RSD) > 50 for 1,4-dioxane, (%RSD) > 40 for poor response compounds: acetone, 2-butanone, carbon disulfide, chloroethane, chloromethane, dichlorodifluoromethane, 1,2-dichloropropane, cis-1,2-dichloroethene, methylene chloride, methyl tert-butyl ether, trans-1,2-dichloroethene, 4-methyl-2-pentanone, 2-hexanone, trichlorofluoromethane, %RSD > 20 for all other compounds ; estimate (J) positive result. If regression was performed and correlation coefficient (r) < 0.990; estimate (J/UJ) positive and nondetect results.

XX = Continuing calibration (CC) percent difference (%D) > 50 for 1,4-dioxane, (%D) > 40 for poor response compounds: acetone, 2-butanone, carbon disulfide, chloroethane, chloromethane, dichlorodifluoromethane, 1,2-dichloropropane, cis-1,2-dichloroethene, methylene chloride, methyl tert-butyl ether, trans-1,2-dichloroethene, 4-methyl-2-pentanone, 2-hexanone, trichlorofluoromethane, %D > 25 for all other compounds; estimate (J/UJ) positive and nondetect results.

XXX = Continuing calibration (CC) percent difference (%D) > 90; estimate (J) positive results and reject (R) nondetect results.

+ = Response factor (RRF) < 0.05 for VOC except <0.01 for compounds listed above as poor response compounds ; Estimate (J) positive results and reject (R) nondetect results.

The nondetect results for chloroethane and carbon disulfide in sample ST-TB04, methylene chloride, trans-1,2-dichloroethene, and 1,1-dichloroethane in samples ST14SB01 (12-16), ST14SB01 (28-32), ST14SB01 (36-39.8), and ST14SBXX, acetone, methyl acetate, methylene chloride, 2-butanone, cyclohexane, 1,1,2,2-tetrachloroethane, and 1,2,4-trichlorobenzene in sample ST14SB01 (24-28), and benzaldehyde in all samples were estimated (UJ) due to initial calibration nonconformances.

The following positive and nondetect results were estimated (J/UJ) due to continuing calibration nonconformances: methyl acetate and acetone in samples ST14SB01 (12-16), ST14SB01 (28-32), ST14SB01 (36-39.8), and ST14SBXX, indeno(123-cd)pyrene in samples ST14SB01 (12-16) and ST14SB01 (28-32) and n-nitroso-di-n-propylamine, indeno(123-cd)pyrene, dibenzo(ah)anthracene, and benzo(ghi)perylene in sample ST14SB01 (24-28).

Blanks

Contaminants were not detected in the VOC method and trip blank samples.

The following table summarizes the SVOC method blank contamination.

Compound	Type of Blank	Associated Samples	Maximum Concentration	Blank Action Level
bis (2-ethylhexyl)phthalate	Method	ST14SB01 (12-16), ST14SB01 (28-32), ST14SB01 (36-39.8), ST14SBXX	350 ug/kg	1750 ug/kg

Target compounds were not detected in the associated field blank sample ST-FB01 (reported in case X2110). The following table summarizes the associated SVOC field blank contamination.

Compound	Type of Blank	Associated Samples	Maximum Concentration	Blank Action Level
Phenanthrene	Field blank	All samples	3.8 ug/L, 125.4 ug/kg	125.4 ug/kg
Fluoranthene	Field blank	All samples	3.6 ug/L, 118.8 ug/kg	118.8 ug/kg
Pyrene	Field blank	All samples	6.9 ug/L, 227.7 ug/kg	227.7 ug/kg
Benzo(a)anthracene	Field blank	All samples	3.7 ug/L, 122 ug/kg	122 ug/kg
Chrysene	Field blank	All samples	6.0 ug/L, 198 ug/kg	198 ug/kg
bis(2-ethylhexyl)phthalate	Field blank	All samples	14 ug/L, 462 ug/kg	2310 ug/kg

Compound	Type of Blank	Associated Samples	Maximum Concentration	Blank Action Level
benzo(b)fluoranthene	Field blank	All samples	20 ug/L, 660 ug/kg	660 ug/kg
benzo(k)fluoranthene	Field blank	All samples	7.9 ug/L, 261 ug/kg	261 ug/kg
benzo(a)pyrene	Field blank	All samples	8.5 ug/L, 281 ug/kg	281 ug/kg
benzo(ghi)perylene	Field blank	All samples	5.6 ug/L, 185 ug/kg	185 ug/kg

Blank Actions
The blank action level is 1X Max Conc for VOC/2X for common contaminant and 1X for SVOC/5X common contaminant
If the sample concentration ≤ RL and ≤ blank action level, qualify the result as not detected (U) at the RL.
If the sample concentration > RL and ≤ blank action level, qualify the result as not detected (U) at the reported value.
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.

The positive results for bis(2-ethylhexyl)phthalate in samples ST14SB01 (12-16), ST14SB01 (28-32), and ST14SB01 (36-39.8) were qualified as nondetect (U) at the RL due to laboratory blank contamination.

Tentatively identified compounds (TICs) were detected in the SVOC method blank. TICs, which were detected in these samples at levels less than ten times those in the method blank, were rejected (R).

Validation actions were not required on the basis of field blank contamination.

Surrogate Recoveries

All criteria were met in the VOC and SVOC analyses.

MS/MSD Results

The MS/MSD analyses were performed on a non-project sample for the VOC analyses. Validation actions were not required due to differences in matrix, type, etc.

The MS/MSD analyses were performed on sample ST14SB01 (12-16) for the SVOCs. The following table lists the recoveries and/or RPDs outside of control limits.

Compound	Recovery (%)	RPD (%)	Control Limits	Validation Actions
benzaldehyde hexachloroethane 4,6-dinitro-2-methylphenol fluoranthene	15, 14 42, 39 15, 15 45, 52	-	20-150/50 43-101/50 40-105/50 55-105/50	Estimate (UJ) the nondetect results for benzaldehyde, hexachloroethane, 4,6-dinitro-2-methylphenol, and fluoranthene in sample ST14SB01 (12-16).
hexachlorocyclopentadiene 2,4-dinitrophenol	4, 3 8, 9	-	20-107/50 26-131/50	Reject (R) the nondetect results for hexachlorocyclopentadiene and 2,4-dinitrophenol in sample ST14SB01 (12-16).
pyrene butylbenzylphthalate bis(2-ethylhexyl)phthalate dibenz(ah)anthracene benzo(ghi)perylene	MSD 181 MS 132 MS 129 MS 139 MS 155	-	20-150/50 55-120/50 54-124/50 41-130/50 39-130/50	Validation actions were not required as the affected results in sample ST14SB01 (12-16) were nondetect and therefore not affected by the potential high bias.

- Within control limits

Internal Standards

All criteria were met in the VOC analyses.

Several internal standard areas were outside of the control limits in the MS and MSD performed on SVOC sample ST14SB01 (12-16). Validation actions were not required as the internal standard areas were acceptable in the unspiked sample.

LCS Results

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the VOC and SVOC analyses.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
chloroethane	140	70-130	ST-TB04	Validation action was not required as the result was nondetect and therefore not affected by the potential high bias.
benzaldehyde	16	20-150	ST14SB01 (12-16), ST14SB01 (28-32), ST14SB01 (36-39.8), ST14SBXX	Estimate (UJ) the nondetect results for benzaldehyde in the associated samples.

Field Duplicate Results

Samples ST14SB01 (36-39.8) and ST14SBXX were submitted as the field duplicate pair with this sample group. The following table summarizes the RPDs of the detected analytes, all of which were acceptable with the exception of benzene and ethyl benzene. The results for benzene and ethyl benzene in samples ST14SB01 (36-39.8) and ST14SBXX were estimated (J).

Analyte	ST14SB01 (36-39.8) (ug/kg)	ST14SBXX (ug/kg)	RPD (%)
benzene	85	210	84.7
ethylbenzene	130	300	79.1
m/p-xylenes	7.4	15	NC, Within 2xQL
o-xylene	7.0	18	NC, Within 2xQL
isopropylbenzene	30 U	4.1	NC, Within 2xQL
naphthalene	230	490	72.2, Within 2xQL
Bis (2-ethylhexyl)phthalate	97	400 U	NC, Within 2xQL

For soil results > 5xQL and RPDs >50; estimate (J) results in the field duplicate pair.
For soil results < 5xQL; the sample and duplicate results must be within 2xQL.

Moisture Content

All criteria were met.

Quantitation Limits and Data Assessment

Results were reported which were below the lowest calibration standard level (RL) and above the method detection limit (MDL) in the VOC and SVOC analyses. These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration.

The volatile analysis utilized one gram of sample to 5 ml, instead of the typical 5 grams to 5 ml. Quantitation limits are elevated accordingly.

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted in the VOC and SVOC analyses.

The VOC tentatively identified compound, naphthalene, reported in samples ST14SB01 (36-39.8) and ST14SBXX, were rejected (R). Semivolatile target compound list (TCL) compounds should not be reported as VOC TICs.

The SVOC tentatively identified compound, ethylbenzene, reported in samples ST14SB01 (36-39.8) and ST14SBXX were rejected (R). Volatile TCL compounds should not be reported as SVOC TICs.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2149
Reviewer: Lorie MacKinnon/GEI Consultants
Date: May 25, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST14SB01 (12-16)	X2149-01	Metals, Cyanide, Amenable Cyanide
ST14SB01 (28-32)	X2149-02	Metals, Cyanide, Amenable Cyanide
ST14SB01 (36-39.8)	X2149-03	Metals, Cyanide, Amenable Cyanide
ST14SBXX	X2149-04	Metals, Cyanide, Amenable Cyanide
ST14SB01 (24-28)	X2149-05	Metals, Cyanide, Amenable Cyanide
Associated QC Samples:	Field or Trip Blanks:	ST-FB01 (reported in X2110)
	Field Duplicate pair:	ST14SB01 (36-39.8)/ST14SBXX

The above-listed soil samples were collected on March 28, 2006 and were analyzed for metals by SW-846 methods 6010B and 7471A and Total and Amenable Cyanide (CN) by SW-846 method 9012. The data validation was based on the USEPA CLP National Functional Guidelines for Inorganic Review (October 2004) and the USEPA Region II Standard Operating Procedure (SOP) for CLP Inorganic Review (January 1992), modified to accommodate the SW-846 methodologies.

The inorganic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Instrument Calibration
• Contract Required Detection Limit (CRDL) Standard Recoveries
• Blank Analysis Results
• Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Results
• Matrix Spike (MS) Results
* • Laboratory Duplicate Results
* • Field Duplicate Results
* • Laboratory Control Sample (LCS) Results
• ICP Serial Dilution Analysis Results

* • Moisture Content
• Detection Limits Results
* • Sample Quantitation Results

* - All criteria were met for this parameter.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives with the exception of silver in all samples which were rejected due to extremely low MS/MSD recoveries.

Qualifications were not applied to the data as a result of sampling error.

Qualifications applied to the data as a result of analytical error are discussed below.

- The positive result for sodium in sample ST14SB01 (24-28) was qualified as estimated (J) due to recovery in the CRDL standard analyses which was above control limits. The result may be biased high. The result is usable for project objectives as an estimated value which which may have a minor effect on the data usability.

- The positive results for arsenic in samples ST14SB01 (28-32), ST14SB01 (36-39.8), and ST14SBXX, mercury in sample ST14SB01 (24-28), and thallium in sample ST14SB01 (28-32) were qualified as estimated (J) due to laboratory blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive results for beryllium in samples ST14SB01 (12-16), ST14SB01 (28-32), ST14SB01 (36-39.8), and ST14SBXX, thallium in samples ST14SB01 (36-39.8) and ST14SBXX, and arsenic and beryllium in sample ST14SB01 (24-28) were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for antimony, cadmium, and selenium in sample ST14SB01 (12-16), antimony and cadmium in samples ST14SB01 (28-32), ST14SB01 (36-39.8), and ST14SBXX, lead in samples ST14SB01 (36-39.8) and ST14SBXX, and selenium and sodium in sample ST14SB01 (24-28) were qualified as estimated (J/UJ) due to negative bias seen in the instrument blank analysis. The results may be biased low. The result can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The following positive and nondetect results were qualified as estimated (J/UJ) due to negative interferences seen in the ICSA analysis: antimony in all samples, selenium in samples ST14SB01 (28-32), ST14SB01 (36-39.8), and ST14SBXX, and cadmium and selenium in sample ST14SB01 (24-28). The results may be biased low. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The following positive results were qualified as estimated (J) due to positive interferences seen in the ICSA analysis: copper, nickel, and sodium in samples ST14SB01 (28-32), ST14SB01 (36-39.8), ST14SBXX, and ST14SB01 (24-28) and arsenic, nickel, and sodium in sample ST14SB01 (12-16). The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive and nondetect results for antimony and potassium were qualified as estimated (J/UJ) in all samples due to recoveries in the MS/MSD analyses which were below control limits. The results may be biased low. These results are usable for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor effect on the data usability.

- The nondetect results for silver were rejected (R) in all samples due to recoveries in the MS/MSD analyses which were below 30. These results are not usable for project objectives which may have a major effect on the data usability.

- The positive and nondetects results for calcium and copper were qualified as estimated (J/UJ) in all soil samples due to high percent differences (%Ds) in the ICP serial dilution analysis. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

- Potential uncertainty exists for the following results which were detected above the method detection limit (MDL) but below the laboratory reporting limit:

  Cobalt: ST14SB01 (28-32)
  Sodium: ST14SB01 (28-32), ST14SB01 (36-39.8), ST14SBXX, ST14SB01 (24-28)

  This positive result was qualified as estimated (J) and can be used for project objectives as an estimated value which may have a minor effect on the data usability.

The validation recommendations listed above were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables.

Holding Times and Sample Preservation

All criteria were met in the metals and wet chemistry analyses.

Instrument Calibration

All criteria were met in the metals and wet chemistry analyses.

CRDL Standard Recoveries

The following table lists the recoveries which were outside the control limits of 70-130 in the low level standard and the resulting validation actions. The affected analyte level range was determined as 2x the CRDL standard level analyzed due to differences between the reported laboratory QL and the low level standard levels analyzed.

Analyte	Recovery (%)	Associated Samples	Actions
Mercury	145	ST14SB01 (24-28)	Validation action was not required as the affected result was greater than the affected analyte range.
Sodium	136.2	ST14SB01 (24-28)	Estimate (J) the positive result for sodium in sample ST14SB01 (24-28).

Blank Analysis Results

The following table summarizes the metals laboratory blank contamination associated with sample ST14SB01 (12-16).

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Aluminum	Instrument	85.7 ug/L, 8.57 mg/kg	85.7 mg/kg
Antimony	Instrument	-11.9 ug/L, -1.2 mg/kg	-11.9 mg/kg
Arsenic	Instrument	4.2 ug/L, 0.42 mg/kg	4.2 mg/kg
Barium	Instrument	8.9 ug/L, 0.89 mg/kg -17.7 ug/L, -1.7 mg/kg	8.9 mg/kg -17.7 mg/kg

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Beryllium	Instrument	1.3 ug/L, 0.13 mg/kg -0.60 ug/L, -0.06 mg/kg	1.3 mg/kg -0.60 mg/kg
Cadmium	Instrument	2.2 ug/L, 0.22 mg/kg -1.3 ug/L, -0.13 mg/kg	2.2 mg/kg -1.3 mg/kg
Calcium	Instrument	9.0 ug/L, 0.90 mg/kg -8.4 ug/L, -0.84 mg/kg	9.0 mg/kg -8.4 mg/kg
Chromium	Instrument	0.90 ug/L, 0.09 mg/kg -3.7 ug/L, -0.37 mg/kg	0.90 mg/kg -3.7 mg/kg
Copper	Instrument	-3.9 ug/L, -0.39 mg/kg	-3.9 mg/kg
Lead	Instrument	4.5 ug/L, 0.45 mg/kg	4.5 mg/kg
Nickel	Instrument	-3.9 ug/L, -0.39 mg/kg	-3.9 mg/kg
Selenium	Instrument	8.3 ug/L, 0.83 mg/kg -9.5 ug/L, -0.95 mg/kg	8.3 mg/kg -9.5 mg/kg
Silver	Instrument	9.9 ug/L, 0.99 mg/kg	9.9 mg/kg
Vanadium	Instrument	-4.3 ug/L, -0.43 mg/kg	-4.3 mg/kg
Zinc	Instrument	1.2 ug/L, 0.12 mg/kg -8.2 ug/L, -0.82 mg/kg	1.2 mg/kg -8.2 mg/kg

The following table summarizes the metals laboratory blank contamination associated with samples ST14SB01 (28-32), ST14SB01 (36-39.8), and ST14SBXX.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Aluminum	Instrument	90 ug/L, 9.0 mg/kg	90 mg/kg
Antimony	Instrument Method	-10.7 ug/L, -1.1 mg/kg 0.46 mg/kg	-10.7 mg/kg 4.6 mg/kg
Arsenic	Instrument	5.2 ug/L, 0.52 mg/kg	5.2 mg/kg
Barium	Instrument Method	-6.6 ug/L, -0.66 mg/kg 0.66 mg/kg	-6.6 mg/kg 6.6 mg/kg
Beryllium	Method	0.070 mg/kg	0.70 mg/kg
Cadmium	Method Instrument	0.18 mg/kg -1.9 ug/L, -0.19 mg/kg	1.8 mg/kg -1.9 mg/kg
Calcium	Instrument	19.4 ug/L, 1.9 mg/kg -10.9 ug/L, -1.1 mg/kg	19.4 mg/kg -10.9 mg/kg
Chromium	Instrument	-3.0 ug/L, -0.30 mg/kg	-3.0 mg/kg

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Cobalt	Instrument	-3.1 ug/L, -0.31 mg/kg	-3.1 mg/kg
Iron	Instrument	27.5 ug/L, 2.75 mg/kg	27.5 mg/kg
Lead	Instrument	-4.4 ug/L, -0.44 mg/kg	-4.4 mg/kg
Magnesium	Instrument	15.0 ug/L, 1.5 mg/kg	15 mg/kg
Manganese	Instrument	-1.9 ug/L, -0.19 mg/kg	-1.9 mg/kg
Mercury	Instrument	0.123 ug/L, 0.006 mg/kg	0.06 mg/kg
Nickel	Instrument	-5.9 ug/L, -0.59 mg/kg	-5.9 mg/kg
Potassium	Instrument	64.7 ug/L, 6.47 mg/kg	64.7 mg/kg
Selenium	Method	0.514 mg/kg	5.1 mg/kg
Silver	Method	-0.41 mg/kg	-4.1 mg/kg
Thallium	Instrument	8.7 ug/L, 0.87 mg/kg	8.7 mg/kg
Vanadium	Instrument	-4.3 ug/L, -0.43 mg/kg	-4.3 mg/kg
Zinc	Instrument	-3.0 ug/L, -0.30 mg/kg	-3.0 mg/kg

The following table summarizes the metals laboratory blank contamination associated with sample ST14SB01 (24-28).

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Aluminum	Instrument	62 ug/L, 6.2 mg/kg	62 mg/kg
Antimony	Instrument	-7.3 ug/L, -0.73 mg/kg	-7.3 mg/kg
Arsenic	Instrument	8.3 ug/L, 0.83 mg/kg	8.3 mg/kg
Barium	Instrument	-4.0 ug/L, -0.40 mg/kg	-4.0 mg/kg
Beryllium	Instrument	-0.3 ug/L, -0.03 mg/kg	-0.30 mg/kg
Calcium	Instrument	36 ug/L, 3.6 mg/kg -8.4 ug/L, -0.84 mg/kg	36 mg/kg -8.4 mg/kg
Cobalt	Instrument	-3.3 ug/L, -0.33 mg/kg	-3.3 mg/kg
Copper	Instrument	-5.9 ug/L, -0.59 mg/kg	-5.9 mg/kg
Iron	Instrument	42.8 ug/L, 4.3 mg/kg	42.8 mg/kg
Magnesium	Instrument	8.4 ug/L, 0.84 mg/kg	8.4 mg/kg

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Manganese	Instrument	-2.9 ug/L, -0.29 mg/kg	-2.9 mg/kg
Mercury	Instrument	0.123 ug/L, 0.006 mg/kg	0.06 mg/kg
Nickel	Instrument	-5.4 ug/L, -0.54 mg/kg	-5.4 mg/kg
Potassium	Instrument	-131 ug/L, 13.1 mg/kg	-131 mg/kg
Selenium	Instrument	-7.6 ug/L, -0.76 mg/kg	-7.6 mg/kg
Silver	Instrument	-1.7 ug/L, -0.17 mg/kg	-1.7 mg/kg
Sodium	Instrument	-727 ug/L, -72.7 mg/kg	-727 mg/kg
Thallium	Instrument	8.7 ug/L, 0.87 mg/kg	8.7 mg/kg
Vanadium	Instrument	-4.5 ug/L, -0.45 mg/kg	-4.5 mg/kg
Zinc	Instrument	-10.1 ug/L, -1.01 mg/kg	-10.1 mg/kg

Blank Actions

For blank contamination < QL; If the sample result is < QL report the result as nondetect (U) at the QL.
For blank contamination $\geq$ QL; If the sample result is $\geq$ QL and < the blank level, report the sample result as nondetect (U).
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.
For negative blank contamination $\geq$2 MDL; professional judgement was taken to estimate (J/UJ) those results which were less than 10x the maximum blank level detected

The positive results for beryllium in sample ST14SB01 (12-16), ST14SB01 (28-32), ST14SB01 (36-39.8), and ST14SBXX, thallium in samples ST14SB01 (36-39.8) and ST14SBXX, and arsenic and beryllium in sample ST14SB01 (24-28) were qualified as nondetect (U) at the QL due to laboratory blank contamination.

The positive results for arsenic in samples ST14SB01 (28-32), ST14SB01 (36-39.8), and ST14SBXX, mercury in sample ST14SB01 (24-28), and thallium in sample ST14SB01 (28-32) were qualified as estimated (J) due to laboratory blank contamination.

The positive and nondetect results for antimony, cadmium, and selenium in sample ST14SB01 (12-16), antimony and cadmium in samples ST14SB01 (28-32), ST14SB01 (36-39.8), and ST14SBXX, lead in samples ST14SB01 (36-39.8) and ST14SBXX, and selenium and sodium in sample ST14SB01 (24-28) were estimated (J/UJ) due to negative bias seen in the instrument blank analysis.

Validation actions were not required for silver on the basis of the negative blank contamination detected as the results were subsequently rejected due to poor MS/MSD recoveries.

ICP ICS Results

All recovery criteria were met in the ICSAB analysis.

Positive results for arsenic, barium, beryllium, cadmium, cobalt, copper, nickel, potassium, selenium, sodium, vanadium, and zinc and negative results for antimony and silver were observed in the ICSA solution analysis associated with sample ST14SB01 (12-16). Positive results for beryllium, cadmium, cobalt, copper, nickel, potassium, sodium, vanadium, and zinc and negative results for antimony, barium, selenium, and silver were observed in the ICSA solution analysis associated with samples ST14SB01 (28-32), ST14SB01 (36-39.8), and ST14SBXX. Positive results for beryllium, copper, nickel, potassium, silver, sodium, and vanadium and negative results for antimony, cadmium, and selenium were observed in the ICSA solution analysis associated with sample ST14SB01 (24-28). The levels of interferents in samples were reviewed. Iron was present in samples ST14SB01 (12-16) (167%), ST14SB01 (28-32) (100%), ST14SB01 (36-39.8) (110%), ST14SBXX (110%), and ST14SB01 (24-28) (110%) at greater than that of the level in the ICSA solution. The following table lists the estimated interferences and the resulting validation actions.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST14SB01 (12-16)	Antimony	ND	-48.3	Estimate (UJ) the nondetect result for antimony.
	Arsenic	96	10.2	Estimate (J) the positive result for arsenic.
	Barium	2035	15.7	Interference <10% sample level; no action taken.
	Beryllium	4.6 U	1.3	Validation action was not required.
	Cadmium	ND	5.7	Validation action was not required.
	Cobalt	61	5.3	Interference <10% sample level; no action taken.
	Copper	1487	21.4	Interference <10% sample level; no action taken.
	Nickel	206	30.4	Estimate (J) the positive result for nickel.
	Potassium	18,204	170	Interference <10% sample level; no action taken.
	Selenium	ND	7.5	Validation action was not required.
	Silver	ND	-2.8	No action, result rejected due to MS/MSD recovery.
	Sodium	7954	855	Estimate (J) the positive result for sodium.
	Vanadium	216	11.7	Interference <10% sample level; no action taken.
	Zinc	1541	7.0	Interference <10% sample level; no action taken.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST14SB01 (28-32)	Antimony	ND	-48	Estimate (UJ) the nondetect result for antimony.
	Barium	1130	-3.3	Interference <10% sample level; no action taken.
	Beryllium	3.2 U	0.59	Validation action was not required.
	Cadmium	ND	1.1	Validation action was not required.
	Cobalt	46	2.5	Interference <10% sample level; no action taken.
	Copper	82	14.8	Estimate (J) the positive result for copper.
	Nickel	153	17.4	Estimate (J) the positive result for nickel.
	Potassium	21,214	226	Interference <10% sample level; no action taken.
	Selenium	ND	-5.6	Estimate (UJ) the nondetect result for selenium.
	Silver	ND	-5.0	No action, result rejected due to MS/MSD recovery.
	Sodium	2665	927	Estimate (J) the positive result for sodium.
	Vanadium	158	7.0	Interference <10% sample level; no action taken.
	Zinc	210	6.1	Interference <10% sample level; no action taken.
ST14SB01 (36-39.8)	Antimony	ND	-53.2	Estimate (UJ) the nondetect result for antimony.
	Barium	724	-3.6	Interference <10% sample level; no action taken.
	Beryllium	2.8 U	0.65	Validation action was not required.
	Cadmium	ND	1.21	Validation action was not required.
	Cobalt	52	2.75	Interference <10% sample level; no action taken.
	Copper	151	16.3	Estimate (J) the positive result for copper.
	Nickel	133	19.1	Estimate (J) the positive result for nickel.
	Potassium	18,071	249	Interference <10% sample level; no action taken.
	Selenium	ND	-6.2	Estimate (UJ) the nondetect result for selenium.
	Silver	ND	-5.1	No action, result rejected due to MS/MSD recovery.
	Sodium	4114	1020	Estimate (J) the positive result for sodium.
	Vanadium	150	7.7	Interference <10% sample level; no action taken.
	Zinc	296	6.7	Interference <10% sample level; no action taken.
ST14SBXX	Antimony	ND	-53	Estimate (UJ) the nondetect result for antimony.
	Barium	630	-3.6	Interference <10% sample level; no action taken.
	Beryllium	2.7 U	0.65	Validation action was not required.
	Cadmium	ND	1.2	Validation action was not required.
	Cobalt	50	2.75	Interference <10% sample level; no action taken.
	Copper	148	16.3	Estimate (J) the positive result for copper.
	Nickel	127	19.1	Estimate (J) the positive result for nickel.
	Potassium	16,872	249	Interference <10% sample level; no action taken.
	Selenium	ND	-6.2	Estimate (UJ) the nondetect result for selenium.
	Silver	ND	-5.1	No action, result rejected due to MS/MSD recovery.
	Sodium	3629	1020	Estimate (J) the positive result for sodium.
	Vanadium	142	7.7	Interference <10% sample level; no action taken.
	Zinc	305	6.7	Interference <10% sample level; no action taken.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST14SB01 (24-28)	Antimony	107	-46.1	Estimate (J) the positive result for antimony.
	Beryllium	4.5 U	0.57	Validation action was not required.
	Cadmium	ND	-3.6	Estimate (J) the positive result for cadmium.
	Copper	104	13.2	Estimate (J) the positive result for copper.
	Nickel	185	18.3	Estimate (J) the positive result for nickel.
	Potassium	26,682	162.8	Interference <10% sample level; no action taken.
	Selenium	ND	-8.9	Estimate (UJ) the nondetect result for selenium.
	Silver	ND	1.76	Validation action was not required.
	Sodium	2158	350	Estimate (J) the positive result for sodium.
	Vanadium	196	6.6	Interference <10% sample level; no action taken.

MS Results

The laboratory reported MS/MSD analyses performed on non-project samples for the metals. The results were not used to qualify these samples due to differences in matrix, type, etc. The laboratory performed the MS/MSD on sample ST17SB03 (51-52) for ICP metals (reported in case number X2110), on sample ST17SB02 (30-31) (reported in case number X2110) for mercury, and on sample ST14SB01 (12-16) for cyanide. The following table lists the analytes which exhibited recoveries outside of the control limits of 75 - 125% and the resulting validation actions.

Analyte	Recovery (%)	Actions
Potassium	61.0, 62.3	Estimate (J/UJ) the positive and nondetect results for potassium in all samples.
Silver	6.2, 0	Post-digestion spike below control limits also. Reject (R) the nondetect results for silver in all soil samples.
Antimony	MSD 68.1	Estimate (J/UJ) the positive and nondetect results for antimony in all soil samples.

Laboratory Duplicate Results

The laboratory reported duplicate analyses performed on non-project samples for the metals. The results were not used to qualify these samples due to differences in matrix, type, etc. The laboratory performed the duplicate on sample ST17SB03 (51-52) for ICP metals (reported in case number X2110), on sample ST17SB02 (30-31) (reported in case number X2110) for mercury, and on sample ST14SB01 (12-16) for cyanide. All criteria were met.

Field Duplicate Results

Samples ST14SB01 (36-39.8) and ST14SBXX were submitted as the field duplicate pair with this sample group. The following table summarizes the RPDs of the detected analytes, all of which were acceptable.

Analyte	ST14SB01 (36-39.8) (mg/kg)	ST14SBXX (mg/kg)	RPD (%)
Aluminum	5580	5840	4.6
Arsenic	2.12	2.34	9.9
Barium	88.0	81.7	7.4
Beryllium	0.334	0.35	4.7
Calcium	19,900	22,000	10.0
Chromium	13.0	12.9	0.8
Cobalt	6.31	6.50	3.0
Copper	18.4	19.2	4.2
Iron	12,000	12,900	7.2
Lead	4.73	5.23	10
Magnesium	7820	8190	4.6
Manganese	358	404	12.1
Mercury	0.023	0.022	4.4
Nickel	16.2	16.5	1.8
Potassium	2200	2190	0.5
Sodium	500	471	6.0
Thallium	0.815	0.882	7.9
Vanadium	18.2	18.4	1.1
Zinc	35.9	39.6	9.8

For soil results > 5xQL and RPDs >50; estimate (J) results in the field duplicate pair.
For soil results < 5xQL; the sample and duplicate results must be within 2xQL.

LCS Results

All criteria were met in the metals and wet chemistry analyses.

ICP Serial Dilution (ISD) Analysis Results

The laboratory reported duplicate analyses performed on non-project samples for the ICP metals. The results were not used to qualify these samples due to differences in matrix, type, etc. The laboratory performed the ST14SBXX for mercury and on sample ST17SB03 (51-52) for ICP metals (reported in case number X2110). The following table lists the analyte which exhibited a %D above the control limit of 10 and the resulting validation actions.

Analyte	%D	Actions
Calcium	10.5%	Estimate (J/UJ) the positive and nondetect results for calcium in all samples.
Copper	18.0%	Estimate (J/UJ) the positive and nondetect results for copper in all samples.

Moisture Content

All criteria were met.

Detection Limits Results

A dilution was performed for mercury in sample ST14SB01 (12-16) (5-fold) to bring the results within the instrument range.

Positive results which were above the MDL but below the RL were flagged by the laboratory with a "J". These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration: cobalt in sample ST14SB01 (28-32) and sodium in samples ST14SB01 (28-32), ST14SB01 (36-39.8), ST14SBXX, and ST14SB01 (24-28).

Sample Quantitation Results

Sample calculations were spot-checked; no discrepancies were noted.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2228
Reviewer: Lorie MacKinnon/GEI Consultants
Date: May 25, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST14SB04 (2-4)	X2228-01	VOC, SVOC
ST17SB05 (0-0.2)	X2228-03	VOC, SVOC
ST17SB05 (2-4)	X2228-04	VOC, SVOC
Associated QC Samples:	Field Blanks:	None associated
	Field Duplicate pair:	None associated

The above-listed soil samples were collected on April 3 and 4, 2006 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260B and semivolatile organic compounds (SVOCs) by SW-846 method 8270C. The data validation was based on the USEPA CLP National Functional Guidelines for Organic Review (January 2005) and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8260B, SOP No. HW-24, Revision 1, June 1999 and USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8270C, SOP No. HW-22, Revision 2, June 2001.

The organic data were evaluated based on the following parameters:

*	• Data Completeness
*	• Holding Times and Sample Preservation
*	• Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
	• Initial and Continuing Calibrations
	• Blanks
	• Surrogate Recoveries
	• Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
	• Internal Standards
	• Laboratory Control Sample (LCS) Results
NA	• Field Duplicate Results
*	• Moisture Content

	•	Quantitation Limits and Data Assessment
*	•	Sample Quantitation and Compound Identification

* - All criteria were met.

NA- A field duplicate pair was not associated with this sample group.

All results are usable for project objectives with the exception of select tentatively identified compounds (TICs) which were rejected due to method blank contamination.

Qualifications were not applied to the data as a result of sampling error.

Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC and SVOC results which were below the lowest calibration standard and quantitation limit. These results were qualified as estimated (J) in the associated samples by the laboratory. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

- The positive and nondetect results for methyl acetate, acetone, methylene chloride, 2-butanone, cyclohexane, 1,1,2,2-tetrachloroethane, and 1,2,4-trichlorobenzene in samples ST14SB04 (2-4) and ST17SB05 (0-2), trans-1,2-dichloroethane in sample ST17SB05 (2-4), and benzaldehyde in all samples were qualified as estimated (J/UJ) due to initial calibration nonconformances. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive result for indeno(123-cd)pyrene in sample ST14SB04 (2-4) was qualified as estimated (J) due to continuing calibration nonconformances. The direction of the bias cannot be determined from this nonconformance. The result can be used for project objectives as an estimated value. This qualification may have a minor impact on the data usability.

- The nondetect results for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol in sample ST17SB05 (2-4) were qualified as estimated (UJ) due to low recoveries in the MS/MSD analyses. The result may be biased low. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive results for indeno(123-cd)pyrene, dibenz(ah)anthracene, and benzo(ghi)perylene in sample ST17SB05 (2-4) were qualified as estimated (J) due to high recoveries in the

MS/MSD analyses. The result may be biased high. The result can be used for project objectives as estimated values. This qualification may have a minor impact on the data usability.

- The nondetect results for trichlorofluoromethane, methyl acetate, and acetone in sample ST17SB05 (2-4). were qualified as estimated (UJ) due to low recoveries in the LCS analyses. The results may be biased low. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive results for benzo(b)fluoranthene, benzo(k)fluorathene, benzo(a)pyrene, dibenzo(ah)anthracene, and benzo(ghi)perylene were qualified as estimated (J) due to low internal standard area. The results can be used for project objectives as estimated values. This qualification may have a minor impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the VOC and SVOC analyses.

Holding Times and Sample Preservation

All criteria were met in the VOC and SVOC analyses.

GC/MS Tunes

All criteria were met in the VOC and SVOC analyses.

Initial and Continuing Calibrations

Compounds that did not meet criteria in the VOC and SVOC initial and continuing calibrations are summarized in the following tables.

Instrument ID MSVOAK Compound	IC 04/6/06
methyl acetate	X (r=0.965)
acetone	X (r=0.965)

Instrument ID MSVOAK Compound	IC 04/6/06
methylene chloride	X (r=0.989)
2-butanone	X (r=0.958)
cyclohexane	X (r=0.983)
1,1,2,2-tetrachloroethane	X (r=0.976)
1,2,4-trichlorobenzene	X (r=0.988)
Samples Affected	ST14SB04 (2-4), ST17SB05 (0-2)

Instrument ID MSVOAK Compound	IC 04/10/06
trans-1,2- dichloroethene	X (r=0.956)
Samples Affected	ST17SB05(2-4)

Instrument ID BNAE Compound	IC 04/04/06
benzaldehye	X (r=0.956)
Samples Affected	All samples

Instrument ID BNAE Compound	IC 04/19/06	CC 04/26/06
benzaldehye	X (r=0.956)	
indeno(123-cd)prene		XX (28.5%)
Samples Affected	ST14SB04(2-4) DL	ST14SB04(2-4) DL

X = Initial calibration (IC) relative standard deviation (%RSD) > 50 for 1,4-dioxane, (%RSD) > 40 for poor response compounds: acetone, 2-butanone, carbon disulfide, chloroethane, chloromethane, dichlorodifluoromethane, 1,2-dichloropropane, cis-1,2-dichloroethene, methylene chloride, methyl tert-butyl ether, trans-1,2-dichloroethene, 4-methyl-2-pentanone, 2-hexanone, trichlorofluoromethane, %RSD > 20 for all other compounds ; estimate (J) positive result. If regression was performed and correlation coefficient (r) < 0.990; estimate (J/UJ) positive and nondetect results.

XX = Continuing calibration (CC) percent difference (%D) > 50 for 1,4-dioxane, (%D) > 40 for poor response compounds: acetone, 2-butanone, carbon disulfide, chloroethane, chloromethane, dichlorodifluoromethane, 1,2-dichloropropane, cis-1,2-dichloroethene, methylene chloride, methyl tert-butyl ether, trans-1,2-dichloroethene, 4-methyl-2-pentanone, 2-hexanone, trichlorofluoromethane, %D > 25 for all other compounds; estimate (J/UJ) positive and nondetect results.

XXX = Continuing calibration (CC) percent difference (%D) > 90; estimate (J) positive results and reject (R) nondetect results.

+ = Response factor (RRF) < 0.05 for VOC except <0.01 for compounds listed above as poor response compounds ; Estimate (J) positive results and reject (R) nondetect results.

The positive and nondetect results for methyl acetate, acetone, methylene chloride, 2-butanone, cyclohexane, 1,1,2,2-tetrachloroethane, and 1,2,4-trichlorobenzene in samples ST14SB04 (2-4) and ST17SB05 (0-2), trans-1,2-dichloroethane in sample ST17SB05 (2-4), and benzaldehyde in all samples were estimated (UJ) due to initial calibration nonconformances.

The positive result for indeno(123-cd)pyrene in sample ST14SB04 (2-4) DL was estimated (J) due to continuing calibration nonconformance.

Validation actions were not required for sample ST14SB04 (2-4) due to initial calibration nonconformances as the affected compound results were not reported from the diluted analysis.

Blanks

Target compound contaminants were not detected in the VOC and SVOC method blanks.

Tentatively identified compounds (TICs) were detected in the SVOC method blank. TICs, which were detected in these samples at levels less than ten times those in the method blank, were rejected (R).

Surrogate Recoveries

All criteria were met in the VOC analyses for samples analyzed without dilution.

The surrogate recoveries met the acceptance criteria in the SVOC analyses performed with less than five-fold dilutions, with the exception of terphenyl-d14 (159%) in sample ST14SB04 (2-4). Validation actions were not required on this basis as only one surrogate was outside of control limits in the SVOC sample fraction.

MS/MSD Results

The MS/MSD analyses were performed on sample ST17SB05 (2-4) for VOCs and SVOCs. The following table lists the recoveries and/or RPDs outside of control limits.

Compound	Recovery (%)	RPD (%)	Control Limits	Validation Actions
chloromethane vinyl chloride chloroethane	140, 142 132, 135 128, 135	-	52-128/20 70-130/20 66-123/20	Validation actions were not required as the result was nondetect.
3-nitroaniline 4-nitroaniline carbazole butylbenzyl phthalate 3,3'-dichlorobenzidine bis(2-ethylhexyl)phthalate	MS 111 126, 132 168, 189 142, 137 121, 126 153, 142	-	27-88/50 41-115/50 54-117/50 55-120/50 31-111/50 54-124/50	Validation actions were not required as the results were nondetect and therefore not affected by the potential high bias.
2,4-dinitrophenol 4,6-dinitro-2-methylphenol	16, 16 31, 27	-	26-131/50 40-105/50	Estimate (UJ) the nondetect results for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol in sample ST17SB05 (2-4).
indeno(123-cd)pyrene dibenzo(ah)anthracene benzo(ghi)perylene	147, 131 132, 132 168, 158	-	42-124/50 41-130/50 39-130/50	Estimate (J) the positive results for indeno(123-cd)pyrene, dibenzo(ah)anthracene, and benzo(ghi)perylene in sample ST17SB05 (2-4).

- Within control limits

Internal Standards

All criteria were met in the VOC analyses.

The following table lists the internal standard areas found outside of the control limits and the resultant actions in the SVOC analyses.

Sample	Internal Standard	Recovery (%)	Validation Actions
ST14SB04 (2-4)	perylene-d12	47.9	Validation actions were not required; results from the dilution analysis were reported.
ST14SB04 (2-4) DL	perylene-d12	12.5	Estimate (J) the positive results for benzo(b)fluoranthene, benzo(k)fluorathene, benzo(a)pyrene, dibenzo(ah)anthracene, and benzo(ghi)perylene.

LCS Results

The following table lists the compound recoveries found outside of the laboratory established control

limits in the LCS analyses and the resultant actions in the VOC and SVOC analyses.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
chloromethane methyl acetate acetone methylene chloride trans-1,2-dichloroethene 2-butanone	140 145 150 150 135 150	70-130	ST14SB04 (2-4), ST17SB05 (0-0.2)	Validation actions were not required as results were nondetect and therefore not affected by the potential high bias.
trichlorofluoromethane methyl acetate acetone	55 47 62	70-130	ST17SB05 (2-4)	Estimate (UJ) the nondetect results for trichlorofluoromethane, methyl acetate, and acetone in sample ST17SB05 (2-4).
carbazole 3,3'-dichlorobenzidine	165 112	54-117 31-111	All samples	Validation actions were not required as results were nondetect and therefore not affected by the potential high bias.

Field Duplicate Results

A field duplicate pair was not associated with this sample group.

Moisture Content

All criteria were met.

Quantitation Limits and Data Assessment

Results were reported which were below the lowest calibration standard level (RL) and above the method detection limit (MDL) in the VOC and SVOC analyses. These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration.

The volatile analysis utilized one gram of sample to 5 ml, instead of the typical 5 grams to 5 ml. Quantitation limits are elevated accordingly for all VOC samples.

The following table lists the sample analyses which were performed and reported.

Sample	VOC Analysis Reported	SVOC Analysis Reported
ST14SB04 (2-4)	NR	Report results for fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(123-cd)pyrene, dibenz(ah)anthracene, and benzo(ghi)perylene from the 10-fold dilution analysis. Report all other results from the undiluted analysis.

NR- Dilution/reanalysis not required

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted in the VOC and SVOC analyses.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2228
Reviewer: Lorie MacKinnon/GEI Consultants
Date: May 25, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST14SB04 (2-4)	X2228-01	Metals, Cyanide, Amenable Cyanide
ST17SB05 (0-0.2)	X2228-03	Metals, Cyanide, Amenable Cyanide
ST17SB05 (2-4)	X2228-04	Metals, Cyanide, Amenable Cyanide
Associated QC Samples:	Field Blanks:	None associated
	Field Duplicate pair:	None associated

The above-listed soil samples were collected on April 3 and 4, 2006 and were analyzed for metals by SW-846 methods 6010B and 7471A and Total and Amenable Cyanide (CN) by SW-846 method 9012. The data validation was based on the USEPA CLP National Functional Guidelines for Inorganic Review (October 2004) and the USEPA Region II Standard Operating Procedure (SOP) for CLP Inorganic Review (January 1992), modified to accommodate the SW-846 methodologies.

The inorganic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Instrument Calibration
• Contract Required Detection Limit (CRDL) Standard Recoveries
• Blank Analysis Results
• Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Results
• Matrix Spike (MS) Results
* • Laboratory Duplicate Results
NA • Field Duplicate Results
* • Laboratory Control Sample (LCS) Results
• ICP Serial Dilution Analysis Results
* • Moisture Content
• Detection Limits Results
* • Sample Quantitation Results

* - All criteria were met for this parameter.

NA - A field duplicate pair was not associated with this sample group.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives.

Qualifications were not applied to the data as a result of sampling error.

Qualifications applied to the data as a result of analytical error are discussed below.

- The positive and nondetect results for positive and nondetect results for cadmium, silver, and sodium in all samples, antimony in samples ST14SB04 (2-4) and ST17SB05 (0-0.2), and cobalt and nickel in sample ST17SB05 (0-0.2) were qualified as estimated (J/UJ) due to negative bias seen in the instrument blank analysis. The results may be biased low. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive and nondetect results for antimony, selenium, and silver in samples ST14SB04 (2-4) and ST17SB05 (2-4) were qualified as estimated (J/UJ) due to negative interferences seen in the ICSA analysis. The results may be biased low. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive results for beryllium, cadmium, nickel, and sodium were qualified as estimated (J) due to positive interferences seen in the ICSA analysis. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive and nondetect results for antimony, silver, potassium, sodium, and mercury were qualified as estimated (J/UJ) in all samples due to recoveries in the MS/MSD analyses which were below control limits. The results may be biased low. These results are usable for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor effect on the data usability.

- The positive and nondetects results for aluminum, barium, calcium, iron, lead, magnesium, manganese, mercury, and zinc were qualified as estimated (J/UJ) in all soil samples due to high percent differences (%Ds) in the ICP serial dilution analysis. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

- Potential uncertainty exists for the following results which were detected above the method detection limit (MDL) but below the laboratory reporting limit:

Beryllium:	All samples
Cadmium:	All samples
Cobalt:	All samples
Sodium:	All samples
Antimony:	ST14SB04 (2-4)
Barium:	ST17SB05 (0-0.2)
Calcium:	ST17SB05 (0-0.2)
Magnesium:	ST17SB05 (0-0.2)
Potassium:	ST17SB05 (0-0.2)

  The positive results were qualified as estimated (J) and can be used for project objectives as estimated values which may have a minor effect on the data usability.

The validation recommendations listed above were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables.

Holding Times and Sample Preservation

All criteria were met in the metals and wet chemistry analyses.

Instrument Calibration

All criteria were met in the metals and wet chemistry analyses.

CRDL Standard Recoveries

The following table lists the recoveries which were outside the control limits of 70-130 in the low level standard and the resulting validation actions. The affected analyte level range was determined as 2x the CRDL standard level analyzed due to differences between the reported laboratory QL and the low level standard levels analyzed.

Analyte	Recovery (%)	Associated Samples	Actions
Mercury	45, 55	All samples	Validation action was not required as the affected results were greater than the affected analyte range.

Blank Analysis Results

The following table summarizes the metals laboratory blank contamination associated with all samples.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Aluminum	Instrument	31.4 ug/L, 3.1 mg/kg	31.4 mg/kg
Antimony	Instrument	-10.7 ug/L, -1.07 mg/kg	-10.7 mg/kg
Barium	Instrument	-6.6 ug/L, -0.66 mg/kg	-6.6 mg/kg
Cadmium	Instrument	-1.9 ug/L, -0.19 mg/kg	-1.9 mg/kg
Calcium	Instrument	15.3 ug/L, 1.5 mg/kg -10.9 ug/L, -1.09 mg/kg	15.3 mg/kg -10.9 mg/kg
Chromium	Instrument	-3.0 ug/L, -0.30 mg/kg	-3.0 mg/kg
Cobalt	Instrument	-3.1 ug/L, -0.31 mg/kg	-3.1 mg/kg
Lead	Instrument	-4.4 ug/L, -0.44 mg/kg	-4.4 mg/kg
Magnesium	Instrument	15.0 ug/L, 1.5 mg/kg -14.9 ug/L, -1.49 mg/kg	15.0 mg/kg -14.9 mg/kg
Manganese	Instrument	-1.9 ug/L, -0.19 mg/kg	-1.9 mg/kg
Nickel	Instrument	-5.9 ug/L, -0.59 mg/kg	-5.9 mg/kg
Potassium	Method Instrument	7.58 mg/kg -97 ug/L, -9.7 mg/kg	75.8 mg/kg -97 mg/kg
Silver	Instrument	-2.4 ug/L, -0.24 mg/kg	-2.4 mg/kg
Sodium	Instrument	-538 ug/L, -53.8 mg/kg	-538 mg/kg
Thallium	Instrument	8.7 ug/L, 0.87 mg/kg	8.7 mg/kg
Vanadium	Instrument	-4.3 ug/L, -0.43 mg/kg	-4.3 mg/kg
Zinc	Instrument	-3.0 ug/L, -0.30 mg/kg	-3.0 mg/kg

Blank Actions

For blank contamination < QL; If the sample result is < QL report the result as nondetect (U) at the QL.
For blank contamination $\geq$ QL; If the sample result is $\geq$ QL and < the blank level, report the sample result as nondetect (U).

For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.
For negative blank contamination ≥2 MDL; professional judgement was taken to estimate (J/UJ) those results which were less than 10x the maximum blank level detected

The positive and nondetect results for cadmium, silver, and sodium in all samples, antimony in samples ST14SB04 (2-4) and ST17SB05 (0-0.2), and cobalt and nickel in sample ST17SB05 (0-0.2) were estimated (J/UJ) due to negative bias seen in the instrument blank analysis.

ICP ICS Results

All recovery criteria were met in the ICSAB analysis.

Positive results for beryllium, cadmium, cobalt, copper, nickel, potassium, sodium, vanadium, and zinc and negative results for antimony, barium, selenium, and silver were observed in the ICSA solution analysis associated with all samples. The levels of interferents in samples were reviewed. Iron was present in samples ST14SB (2-4) (108%) and ST17SB05 (2-4) (130%) at greater than that of the level in the ICSA solution. The following table lists the estimated interferences and the resulting validation actions.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST14SB04 (2-4)	Antimony	16.8	-52.3	Estimate (J) the positive result for antimony.
	Barium	544	-3.6	Interference <10% sample level; no action taken.
	Beryllium	3.4	0.64	Estimate (J) the positive result for beryllium.
	Cadmium	0.7	1.2	Estimate (J) the positive result for cadmium.
	Cobalt	48.2	2.7	Interference <10% sample level; no action taken.
	Copper	283	16	Interference <10% sample level; no action taken.
	Nickel	110	18.8	Estimate (J) the positive result for nickel.
	Potassium	10,064	244	Interference <10% sample level; no action taken.
	Selenium	ND	-6.0	Estimate (UJ) the nondetect result for selenium.
	Silver	ND	-5.0	Estimate (UJ) the nondetect result for silver.
	Sodium	2062	1001	Estimate (J) the positive result for sodium.
	Vanadium	176	7.6	Interference <10% sample level; no action taken.
	Zinc	576	6.6	Interference <10% sample level; no action taken.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST17SB05 (2-4)	Antimony	144	-62.9	Estimate (J) the positive result for antimony.
	Barium	7830	-4.3	Interference <10% sample level; no action taken.
	Beryllium	2.4	0.77	Estimate (J) the positive result for beryllium.
	Cadmium	3.3	1.4	Estimate (J) the positive result for cadmium.
	Cobalt	48	3.3	Interference <10% sample level; no action taken.
	Copper	336	19.2	Interference <10% sample level; no action taken.
	Nickel	149	22.6	Estimate (J) the positive result for nickel.
	Potassium	12,301	294	Interference <10% sample level; no action taken.
	Selenium	ND	-7.3	Estimate (UJ) the nondetect result for selenium.
	Silver	ND	-6.0	Estimate (UJ) the nondetect result for silver.
	Sodium	4642	1205	Estimate (J) the positive result for sodium.
	Vanadium	218	9.1	Interference <10% sample level; no action taken.
	Zinc	3315	7.9	Interference <10% sample level; no action taken.

MS Results

The laboratory performed the MS/MSD on sample ST17SB05 (2-4) for the metals analyses and on ST14SB04(2-4) and ST17SB05 (2-4) for cyanide. The following table lists the analytes which exhibited recoveries outside of the control limits of 75 - 125% and the resulting validation actions.

Analyte	Recovery (%)	Actions
Antimony	54.4, 53.8	Estimate (J/UJ) the positive and nondetect results for antimony in all soil samples.
Silver	42.5, 41.2	Estimate (J/UJ) the positive and nondetect results for silver in all soil samples.
Potassium	MSD 73.7	Estimate (J/UJ) the positive and nondetect results for potassium in all soil samples.
Sodium	MSD 70.8	Estimate (J/UJ) the positive and nondetect results for sodium in all soil samples.
Mercury	27.2, 40.7	Estimate (J/UJ) the positive and nondetect results for mercury in all soil samples.

Laboratory Duplicate Results

The laboratory performed the laboratory duplicate analysis on sample ST17SB05 (2-4) for the metals analyses and on ST14SB04(2-4) and ST17SB05 (2-4) for cyanide. All criteria were met.

Field Duplicate Results

A field duplicate pair was not associated with this sample group.

LCS Results

All criteria were met in the metals and wet chemistry analyses.

ICP Serial Dilution (ISD) Analysis Results

The laboratory performed a serial dilution analysis on sample ST17SB05 (2-4). The following table lists the analytes which exhibited %Ds above the control limit of 10 and the resulting validation actions.

Analyte	%D	Actions
Aluminum	13.0%	Estimate (J/UJ) the positive and nondetect results for aluminum in all samples.
Barium	12.0%	Estimate (J/UJ) the positive and nondetect results for barium in all samples.
Calcium	21.1%	Estimate (J/UJ) the positive and nondetect results for calcium in all samples.
Iron	15.2%	Estimate (J/UJ) the positive and nondetect results for iron in all samples.
Lead	16.8%	Estimate (J/UJ) the positive and nondetect results for lead in all samples.
Magnesium	14.7%	Estimate (J/UJ) the positive and nondetect results for magnesium in all samples.
Manganese	11.9%	Estimate (J/UJ) the positive and nondetect results for manganese in all samples.
Mercury	36.9%	Estimate (J/UJ) the positive and nondetect results for mercury in all samples.
Zinc	15.2%	Estimate (J/UJ) the positive and nondetect results for zinc in all samples.

Moisture Content

All criteria were met.

Detection Limits Results

A dilution was performed for mercury on sample ST17SB05 (2-4) (5-fold) to bring the results within the instrument range.

Positive results which were above the MDL but below the RL were flagged by the laboratory with a "J". These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration: beryllium, cadmium, cobalt, and sodium in all samples, antimony in sample ST14SB04 (2-4), and barium, calcium, magnesium, and potassium in sample ST17SB05 (0-0.2).

Sample Quantitation Results

Sample calculations were spot-checked; no discrepancies were noted.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2382
Reviewer: Lorie MacKinnon/GEI Consultants
Date: May 25, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST14SB04 (15-17)	X2382-01	VOC, SVOC
ST14SB04 (53-55)	X2382-02	VOC, SVOC
ST14SB03 (13-15)	X2382-05	VOC, SVOC
ST14SB03 (15-17)	X2382-06	VOC, SVOC
ST14SB03 (35-37)	X2382-08	VOC, SVOC
ST14SB03 (55-57)	X2382-09	VOC, SVOC
ST14SB03 (71-73)	X2382-10	VOC, SVOC
Associated QC Samples:	Field Blanks:	None associated
	Field Duplicate pair:	ST14SB03 (13-15)/ST14SB03 (15-17)

The above-listed soil samples were collected on April 11 and 13, 2006 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260B and semivolatile organic compounds (SVOCs) by SW-846 method 8270C. The data validation was based on the USEPA CLP National Functional Guidelines for Organic Review (January 2005) and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8260B, SOP No. HW-24, Revision 1, June 1999 and USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8270C, SOP No. HW-22, Revision 2, June 2001.

The organic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
  • Initial and Continuing Calibrations
  • Blanks
  • Surrogate Recoveries
  • Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results

- Internal Standards
- Laboratory Control Sample (LCS) Results
- Field Duplicate Results
* • Moisture Content
- Quantitation Limits and Data Assessment
- Sample Quantitation and Compound Identification

* - All criteria were met.

All results are usable for project objectives with the exception of select tentatively identified compounds (TICs) which were rejected due to method blank contamination or were reported as target compounds in another fraction and indeno(123-cd)pyrene in samples ST14SB04 (53-55), ST14SB03 (55-57), ST14SB03 (13-15), and ST14SB03 (15-17) which were rejected due to high continuing calibration percent differences.

Qualifications applied to the data as a result of sampling error are discussed below.

- The positive results for benzene in samples ST14SB03 (13-15) and ST14SB03 (15-17) were qualified as estimated (J) due to high relative percent difference (RPD) in the evaluation of the field duplicate pair. The results can be used for project objectives as estimated values. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC and SVOC results which were below the lowest calibration standard and quantitation limit. These results were qualified as estimated (J) in the associated samples by the laboratory. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

- The VOC tentatively identified compound, naphthalene, reported in sample ST14SB03 (55-57) and SVOC tentatively identified compound, ethylbenzene, reported in samples ST14SB03 (13-15) and ST14SB03 (15-17), were rejected (R) as they were reported as target compounds in the other fractions.

- The nondetect results for indeno(123-cd)pyrene in samples ST14SB04 (53-55), ST14SB03 (55-57), ST14SB03 (13-15), and ST14SB03 (15-17) were rejected (R) due to continuing calibration percent differences greater than 90. The results are not usable for project

objectives. This qualification may have a major impact on the data usability.

- The nondetect results for benzaldehyde in all samples were qualified as estimated (UJ) due to initial calibration nonconformances. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The following positive and nondetect results were qualified as estimated (J/UJ) due to continuing calibration nonconformances: carbazole in samples ST14SB04 (15-17), ST14SB03 (35-37), and ST14SB03 (71-73), methyl acetate in sample ST14SB04 (53-55), n-nitroso-di-n-propyamine, dibenzo(ah)anthracene, and benzo(ghi)perylene in samples ST14SB04 (53-55), and ST14SB03 (55-57), and dibenzo(ah)anthracene, and benzo(ghi)perylene in samples ST14SB03 (13-15) and ST14SB03 (15-17). The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for VOC sample ST14SB03 (35-37) were qualified as estimated (J/UJ) due to low surrogate recovery. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for isopropylbenzene, 1,1,2,2-tetrachloroethene, 1,3-dichlorobenzene, 1,2-dichlorobenzene, 1,2-dibromo-3-chloropropane, and 1,2,4-trichlorobenzene in samples ST14SB03 (15-17) and ST14SB03 (35-37) were qualified as estimated (J/UJ) due to low internal standard areas. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the VOC and SVOC analyses.

Holding Times and Sample Preservation

All criteria were met in the VOC and SVOC analyses.

GC/MS Tunes

All criteria were met in the VOC and SVOC analyses.

Initial and Continuing Calibrations

Compounds that did not meet criteria in the VOC and SVOC initial and continuing calibrations are summarized in the following tables.

Instrument ID MSVOAI Compound	CC 04/22/06
methyl acetate	XX (43.3%)
Samples Affected	ST14SB04 (53-55), ST14SB03 (15-17), ST14SB03 (35-37)

Instrument ID BNAE Compound	IC 4/19/06	CC 4/24/06
benzaldehyde	X (r=0.977)	
carbazole		XX (50.3%)
Samples Affected	All samples listed	ST14SB04 (15-17), ST14SB03 (35-37), ST14SB03 (71-73)

Instrument ID MSVOAI Compound	IC 04/10/06	CC 04/18/06 12:20	CC 04/18/06 16:45
benzaldehyde	X (r=0.980)		
n-nitroso-di-n-propylamine		XX (76.7%)	
indeno(123-cd)pyrene		XXX (157.2%)	XXX (168.7%)
dibenzo(ah)anthracene		XX (67.1%)	XX (66.3%)
benzo(ghi)perylene		XX (83.1%)	XX (79.9%)
Samples Affected	All listed	ST14SB04 (53-55), ST14SB03 (55-57)	ST14SB03 (13-15), ST14SB03 (15-17)

X = Initial calibration (IC) relative standard deviation (%RSD) > 50 for 1,4-dioxane, (%RSD) > 40 for poor

response compounds: acetone, 2-butanone, carbon disulfide, chloroethane, chloromethane, dichlorodifluoromethane, 1,2-dichloropropane, cis-1,2-dichloroethene, methylene chloride, methyl tert-butyl ether, trans-1,2-dichloroethene, 4-methyl-2-pentanone, 2-hexanone, trichlorofluoromethane, %RSD > 20 for all other compounds ; estimate (J) positive result. If regression was performed and correlation coefficient (r) < 0.990; estimate (J/UJ) positive and nondetect results.

XX = Continuing calibration (CC) percent difference (%D) > 50 for 1,4-dioxane, (%D) > 40 for poor response compounds: acetone, 2-butanone, carbon disulfide, chloroethane, chloromethane, dichlorodifluoromethane, 1,2-dichloropropane, cis-1,2-dichloroethene, methylene chloride, methyl tert-butyl ether, trans-1,2-dichloroethene, 4-methyl-2-pentanone, 2-hexanone, trichlorofluoromethane, %D > 25 for all other compounds; estimate (J/UJ) positive and nondetect results.

XXX = Continuing calibration (CC) percent difference (%D) > 90; estimate (J) positive results and reject (R) nondetect results.

+ = Response factor (RRF) < 0.05 for VOC except <0.01 for compounds listed above as poor response compounds ; Estimate (J) positive results and reject (R) nondetect results.

The nondetect results for benzaldehyde in all samples were estimated (UJ) due to initial calibration nonconformances.

The following positive and nondetect results were estimated (J/UJ) due to continuing calibration nonconformances: carbazole in samples ST14SB04 (15-17), ST14SB03 (35-37), and ST14SB03 (71-73), methyl acetate in samples ST14SB04 (53-55), ST14SB03 (15-17), and ST14SB03 (35-37), n-nitroso-di-n-propyamine, dibenzo(ah)anthracene, and benzo(ghi)perylene in samples ST14SB04 (53-55), and ST14SB03 (55-57), and dibenzo(ah)anthracene, and benzo(ghi)perylene in samples ST14SB03 (13-15) and ST14SB03 (15-17).

The nondetect results for indeno(123-cd)pyrnene in samples ST14SB04 (53-55), ST14SB03 (55-57), ST14SB03 (13-15), and ST14SB03 (15-17) were rejected due to %Ds which exceeded 90.

Validation action was not required for methyl acetate in samples ST14SB03 (15-17)and ST14SB03 (35-37) as the reanalysis results were reported for these samples.

Blanks

Contaminants were not detected in the VOC method blanks.

The following table summarizes the SVOC method blank contamination.

Compound	Type of Blank	Associated Samples	Maximum Concentration	Blank Action Level
bis (2-ethylhexyl)phthalate	Method	ST14SB04 (15-17), ST14SB03 (35-37), ST13SB03 (71-73)	68 ug/kg	680 ug/kg

Blank Actions
The blank action level is 1X Max Conc for VOC/2X for common contaminant and 1X for SVOC/5X common contaminant
If the sample concentration ≤ RL and ≤ blank action level, qualify the result as not detected (U) at the RL.
If the sample concentration > RL and ≤ blank action level, qualify the result as not detected (U) at the reported value.
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.

As bis(2-ethylhexyl)phthalate was not detected in the samples, validation actions were not required.

Tentatively identified compounds (TICs) were detected in the SVOC method blank. TICs, which were detected in these samples at levels less than ten times those in the method blank, were rejected (R).

Surrogate Recoveries

All criteria were met in the SVOC analyses for samples analyzed without dilution.

The following table summarizes the surrogate recoveries that failed to meet the acceptance criteria in the VOC analyses:

Sample ID	Percent Recovery				Action
	Tol-d8 75-125	DBFM 75-125	BFB 75-125	DCE 75-125	
ST14SB03 (15-17)	50%	-	65%	-	Validation action was not required; surrogate recoveries were within control limits in the reanalysis. Reanalysis results were reported.
ST14SB03 (35-37)	36%	-	56%	127%	Validation action was not required; surrogate recoveries were better in the reanalysis. Reanalysis results were reported.
ST14SB03 (35-37)RE	55%	-	-	-	Estimate (J/UJ) the positive and nondetect results.

- Within control limits

Tol-d8 - Toluene-d8
DBFM - Dibromofluoromethane
BFB - Bromofluorobenzene
DCE - 1,2-Dichloroethane-d4

MS/MSD Results

The MS/MSD analyses were performed on sample ST14SB03 (71-73) for VOCs. The following table lists the recoveries and/or RPDs outside of control limits.

Compound	Recovery (%)	RPD (%)	Control Limits	Validation Actions
methyl acetate	MSD 167	-	37-150/20	Validation actions were not required as the result was nondetect.
tetrachloroethene	MSD 153	-	68-45/20	Validation actions were not required as the result was nondetect.

- Within control limits

The MS/MSD analyses were performed on sample ST14SB03 (55-57) for SVOCs. The following table lists the recoveries and/or RPDs outside of control limits.

Compound	Recovery (%)	RPD (%)	Control Limits	Validation Actions
indeno(123-cd)pyrene	219, 219	-	42-124/50	Validation actions were not required as the result was nondetect.
benzo(ghi)perylene	143, 157	-	39-130/50	Validation actions were not required as the result was nondetect.
dibenz(ah)anthracene	MSD 138	-	41-130/50	Validation actions were not required as the result was nondetect.

- Within control limits

Internal Standards

All criteria were met in the SVOC analyses.

The following table lists the internal standard areas found outside of the control limits and the resultant actions in the VOC analyses.

Sample	Internal Standard	Recovery (%)	Validation Actions
ST14SB03 (15-17)	1,4-difluorobenzene chlorobenzene-d5 1,4-dichlorobenzene-d4	49.2 30.2 21.6	Validation actions were not required; results from the reanalysis were reported.

Sample	Internal Standard	Recovery (%)	Validation Actions
ST14SB03 (15-17) RE	1,4-dichlorobenzene-d4	49.9	Estimate (J/UJ) the positive and nondetect results for isopropylbenzene, 1,1,2,2-tetrachloroethene, 1,3-dichlorobenzene, 1,2-dichlorobenzene, 1,2-dibromo-3-chloropropane, and 1,2,4-trichlorobenzene.
ST14SB03 (35-37)	chlorobenzene-d5 1,4-dichlorobenzene-d4	32.2 18.6	Validation actions were not required; results from the reanalysis were reported.
ST14SB03 (35-37) RE	1,4-dichlorobenzene-d4	40.8	Estimate (J/UJ) the positive and nondetect results for isopropylbenzene, 1,1,2,2-tetrachloroethene, 1,3-dichlorobenzene, 1,2-dichlorobenzene, 1,2-dibromo-3-chloropropane, and 1,2,4-trichlorobenzene.

LCS Results

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the VOC and SVOC analyses.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
methyl acetate	140	70-130	ST14SB03 (71-73)	Validation actions were not required as results were nondetect and therefore not affected by the potential high bias.
carbazole	118	54-117	ST14SB04 (15-17), ST14SB03 (35-37), ST13SB03 (71-73)	Validation actions were not required as results were nondetect and therefore not affected by the potential high bias.
4-nitrophenol 4,6-dinitro-2-methylphenol indeno(123-cd)pyrene dibenz(ah)anthracene benzo(gh)perylene	97 106 247 141 159	45-95 40-105 42-124 41-130 39-130	ST14SB04 (53-55), ST14SB03 (13-15), ST14SB03 (15-17), ST14SB03 (55-57)	Validation actions were not required as results were nondetect and therefore not affected by the potential high bias.

Field Duplicate Results

Samples ST14SB03 (13-15) and ST14SB03 (15-17) were submitted as the field duplicate pair with

this sample group. The following table summarizes the RPDs of the detected analytes, all of which were acceptable with the exception of benzene. The results for benzene in samples ST14SB03 (13-15) and ST14SB03 (15-17) were estimated (J).

Analyte	ST14SB03 (13-15) (ug/kg)	ST14SB03 (15-17) (ug/kg)	RPD (%)
benzene	120	37	105.7
toluene	4.0	35 U	NC, Within 2xQL
ethylbenzene	5.0	35 U	NC, Within 2xQL
naphthalene	440	480	8.7
fluoranthene	490 U	94	NC, Within 2xQL
pyrene	490 U	90	NC, Within 2xQL

For soil results > 5xQL and RPDs >50; estimate (J) results in the field duplicate pair.
For soil results < 5xQL; the sample and duplicate results must be within 2xQL.

Moisture Content

All criteria were met.

Quantitation Limits and Data Assessment

Results were reported which were below the lowest calibration standard level (RL) and above the method detection limit (MDL) in the VOC and SVOC analyses. These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration.

The following table lists the sample reanalyses which were performed and reported.

Sample	VOC Analysis Reported	SVOC Analysis Reported
ST14SB03 (15-17)	NR	Samples were reanalyzed due to poor internal standard areas in the initial analysis. Results from the reanalysis were reported as IS areas were better.
ST14SB03 (35-37)	NR	Samples were reanalyzed due to poor internal standard areas in the initial analysis. Results from the reanalysis were reported as IS areas were better.

NR- Dilution/reanalysis not required

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted in the VOC and SVOC analyses.

The VOC tentatively identified compound, naphthalene, reported in sample ST14SB03 (55-57), were rejected (R). Semivolatile target compound list (TCL) compounds should not be reported as VOC TICs.

The SVOC tentatively identified compound, ethylbenzene, reported in samples ST14SB03 (13-15) and ST14SB03 (15-17) were rejected (R). Volatile TCL compounds should not be reported as SVOC TICs.

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2382
Reviewer: Lorie MacKinnon/GEI Consultants
Date: May 25, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST14SB04 (15-17)	X2382-01	Metals, Cyanide
ST14SB04 (53-55)	X2382-02	Metals, Cyanide
ST14SB03 (13-15)	X2382-05	Metals, Cyanide
ST14SB03 (15-17)	X2382-06	Metals, Cyanide
ST14SB03 (35-37)	X2382-08	Metals, Cyanide
ST14SB03 (55-57)	X2382-09	Metals, Cyanide
ST14SB03 (71-73)	X2382-10	Metals, Cyanide
Associated QC Samples:	Field Blanks:	None associated
	Field Duplicate pair:	ST14SB03 (13-15)/ST14SB03 (15-17)

The above-listed soil samples were collected on April 11 and 13, 2006 and were analyzed for metals by SW-846 methods 6010B and 7471A and Total and Amenable Cyanide (CN) by SW-846 method 9012. The data validation was based on the USEPA CLP National Functional Guidelines for Inorganic Review (October 2004) and the USEPA Region II Standard Operating Procedure (SOP) for CLP Inorganic Review (January 1992), modified to accommodate the SW-846 methodologies.

The inorganic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Instrument Calibration
• Contract Required Detection Limit (CRDL) Standard Recoveries
• Blank Analysis Results
• Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Results
• Matrix Spike (MS) Results
* • Laboratory Duplicate Results
• Field Duplicate Results

* • Laboratory Control Sample (LCS) Results
• ICP Serial Dilution Analysis Results
* • Moisture Content
• Detection Limits Results
• Sample Quantitation Results

* - All criteria were met for this parameter.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives.

Qualifications were not applied to the data as a result of sampling error.

- The positive results for copper and mercury in samples ST14SB03 (13-15) and ST14SB03 (15-17) were qualified as estimated (J) due to high relative percent differences (RPDs) in the evaluation of the field duplicate pair. The results can be used for project objectives as estimated values. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- The positive results for thallium in sample ST14SB03 (71-73) and arsenic in samples ST14SB03 (13-15), ST14SB03 (15-17), and ST14SB03 (55-57) were qualified as estimated (J) due to laboratory blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive results for cadmium in all samples, sodium in sample ST14SB03 (35-37), and arsenic in sample ST14SB04 (53-55) were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for arsenic in samples ST14SB04 (15-17), ST14SB03 (35-37), and ST14SB03 (71-73), cobalt in samples ST14SB04 (15-17), ST14SB03 (35-37), ST14SB03 (71-73), ST14SB04 (53-55), ST14SB03 (13-15), and ST14SB03 (15-17), beryllium in samples ST14SB03 (35-37), ST14SB03 (71-73), ST14SB04 (53-55), ST14SB03 (13-15), ST14SB03 (15-17), and ST14SB03 (55-57), copper in sample ST14SB04 (53-55), and silver in samples ST14SB04 (53-55), ST14SB03 (13-15), ST14SB03 (15-17), and ST14SB03 (55-57) were qualified as estimated (J/UJ) due to negative bias seen in the instrument blank analysis. The results may be biased low. The result can be used for project

objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The following positive and nondetect results were qualified as estimated (J/UJ) due to negative interferences seen in the ICSA analysis: antimony, arsenic, barium, cobalt, and silver in sample ST14SB04 (15-17), antimony and arsenic in sample ST14SB03 (35-37), antimony, arsenic, and beryllium in sample ST14SB03 (71-73), and selenium in samples ST14SB03 (13-15), ST14SB03 (15-17), and ST14SB03 (55-57). The results may be biased low. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The following positive results were qualified as estimated (J) due to positive interferences seen in the ICSA analysis: copper, nickel, and sodium in samples ST14SB04 (15-17) and ST14SB03 (55-57) and nickel and sodium in samples ST14SB03 (71-73), ST14SB03 (13-15), and ST14SB03 (15-17). The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive and nondetect results for antimony, barium, copper, potassium, zinc, cobalt, mercury were qualified as estimated (J/UJ) in all samples due to recoveries in the MS/MSD analyses which were below control limits. The results may be biased low. These results are usable for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor effect on the data usability.

- The positive and nondetects results for aluminum, calcium, cobalt, copper, iron, magnesium, nickel, potassium, and sodium were qualified as estimated (J) in all soil samples due to high percent differences (%Ds) in the ICP serial dilution analysis. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

- Potential uncertainty exists for the following results which were detected above the method detection limit (MDL) but below the laboratory reporting limit:

Barium:	ST14SB04 (15-17)
Beryllium:	All samples
Cobalt:	ST14SB04 (15-17), ST14SB04 (53-55), ST14SB03 (13-15)
Mercury :	ST14SB03 35-37)
Sodium:	ST14SB04 (53-55), ST14SB03 (13-15)

The positive results were qualified as estimated (J) and can be used for project objectives as estimated values which may have a minor effect on the data usability.

The validation recommendations listed above were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables.

Holding Times and Sample Preservation

All criteria were met in the metals and wet chemistry analyses.

Instrument Calibration

All criteria were met in the metals and wet chemistry analyses.

CRDL Standard Recoveries

The following table lists the recoveries which were outside the control limits of 70-130 in the low level standard and the resulting validation actions. The affected analyte level range was determined as 2x the CRDL standard level analyzed due to differences between the reported laboratory QL and the low level standard levels analyzed.

Analyte	Recovery (%)	Associated Samples	Actions
Calcium Magnesium	139.2 134.9	ST14SB04 (53-55), ST14SB03 (13-15), ST14SB03 (15-17), ST14SB03 (55-57)	Validation action was not required as the affected results were greater than the affected analyte range.

Blank Analysis Results

The following table summarizes the metals laboratory blank contamination associated with samples ST14SB04 (15-17), ST14SB03 (35-37), and ST14SB03 (71-73).

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Aluminum	Instrument	33.5 ug/L, 3.35 mg/kg -14 ug/L, -1.4 mg/kg	33.5 mg/kg -14 mg/kg
Antimony	Instrument	9.9 ug/L, 0.99 mg/kg	9.9 mg/kg
Arsenic	Instrument	-8.0 ug/L,-0.8 mg/kg	-8.0 mg/kg

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Barium	Instrument	-13.0 ug/L, -1.3 mg/kg	-13 mg/kg
Beryllium	Instrument	-0.4 ug/L, -0.04 mg/kg	-0.4 mg/kg
Cadmium	Instrument	1.7 ug/L, 0.17 mg/kg	1.7 mg/kg
Calcium	Instrument	26.4 ug/L, 2.6 mg/kg –6.0 ug/L, -0.6 mg/kg	26.4 mg/kg -6.0 mg/kg
Chromium	Instrument	-3.3 ug/L, -0.33 mg/kg	-3.3 mg/kg
Cobalt	Method	-0.625 mg/kg	-6.2 mg/kg
Copper	Instrument	-5.4 ug/L, -0.54 mg/kg	-5.4 mg/kg
Manganese	Method	-0.54 mg/kg	-5.4 mg/kg
Nickel	Instrument	-7.4 ug/L, -0.74 mg/kg	-7.4 mg/kg
Potassium	Instrument	80.9 ug/L, 8.1 mg/kg	80.9 mg/kg
Sodium	Instrument	431.6 ug/L, 43.2 mg/kg	432 mg/kg
Thallium	Instrument	4.8 ug/L, 0.48 mg/kg	4.8 mg/kg
Vanadium	Instrument	-6.8 ug/L, -0.68 mg/kg	-6.8 mg/kg
Zinc	Instrument	-6.3 ug/L, -0.63 mg/kg	-6.3 mg/kg

The following table summarizes the metals laboratory blank contamination associated with samples ST14SB04 (53-55), ST14SB03 (13-15), ST14SB03 (15-17), and ST14SB03 (55-57).

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Aluminum	Instrument	19.5 ug/L, 1.95 mg/kg -138.4 ug/L, -13.8 mg/kg	19.5 mg/kg -138 mg/kg
Antimony	Instrument	4.8 ug/L, 0.48 mg/kg	4.8 mg/kg
Arsenic	Instrument	9.3 ug/L, 0.93 mg/kg	9.3 mg/kg
Barium	Instrument	1.0 ug/L, 0.10 mg/kg -0.77 ug/L, -0.08 mg/kg	1.0 mg/kg -0.77 mg/kg
Beryllium	Instrument	-1.4 ug/L, -14 mg/kg	-1.4 mg/kg
Cadmium	Instrument	0.4 ug/L, 0.04 mg/kg -1.5 ug/L, -0.15 mg/kg	0.4 mg/kg -1.5 mg/kg
Calcium	Instrument	7.9 ug/L, 0.79 mg/kg -20 ug/L, -2.0 mg/kg	7.9 mg/kg -20 mg/kg
Chromium	Instrument	-6.1 ug/L, -0.61 mg/kg	-6.1 mg/kg

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Cobalt	Instrument	-7.7 ug/L, -0.77 mg/kg	-7.7 mg/kg
Copper	Instrument	-11.9 ug/L, -1.2 mg/kg	-11.9 mg/kg
Iron	Instrument	99.2 ug/L, 9.9 mg/kg	99 mg/kg
Magnesium	Instrument	-41.5 ug/L, -4.15 mg/kg	-41.5 mg/kg
Manganese	Instrument	-3.7 ug/L, -37 mg/kg	-37 mg/kg
Nickel	Instrument	-8.1 ug/L, -0.81 mg/kg	-8.1 mg/kg
Potassium	Instrument	-489 ug/L, 48.9 mg/kg	-489 mg/kg
Silver	Instrument	-7.4 ug/L, -0.74 mg/kg	-7.4 mg/kg
Vanadium	Instrument	-7.0 ug/L, -0.70 mg/kg	-7.0 mg/kg
Zinc	Instrument	-6.2 ug/L, -0.62 mg/kg	-6.2 mg/kg

Blank Actions

For blank contamination < QL; If the sample result is < QL report the result as nondetect (U) at the QL.
For blank contamination ≥ QL; If the sample result is ≥ QL and < the blank level, report the sample result as nondetect (U).
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.
For negative blank contamination ≥2 MDL; professional judgement was taken to estimate (J/UJ) those results which were less than 10x the maximum blank level detected

The positive results for cadmium in all samples, sodium in sample ST14SB03 (35-37), and arsenic in sample ST14SB04 (53-55) were qualified as nondetect (U) at the QL due to laboratory blank contamination.

The positive results for thallium in sample ST14SB03 (71-73) and arsenic in samples ST14SB03 (13-15), ST14SB03 (15-17), and ST14SB03 (55-57) were qualified as estimated (J) due to laboratory blank contamination.

The positive and nondetect results for arsenic in samples ST14SB04 (15-17), ST14SB03 (35-37), and ST14SB03 (71-73), cobalt in samples ST14SB04 (15-17), ST14SB03 (35-37), ST14SB03 (71-73), ST14SB04 (53-55), ST14SB03 (13-15), and ST14SB03 (15-17), beryllium in samples ST14SB03 (35-37), ST14SB03 (71-73), ST14SB04 (53-55), ST14SB03 (13-15), ST14SB03 (15-17), and ST14SB03 (55-57), copper in sample ST14SB04 (53-55), and silver in samples ST14SB04 (53-55), ST14SB03 (13-15), ST14SB03 (15-17), and ST14SB03 (55-57) were estimated (J/UJ) due to negative bias seen in the instrument blank analysis.

ICP ICS Results

All recovery criteria were met in the ICSAB analysis.

Positive results for beryllium, cadmium, copper, nickel, potassium, sodium, vanadium, and zinc and negative results for barium, selenium, and silver were observed in the ICSA solution analysis associated with samples ST14SB04 (53-55), ST14SB03 (13-15), ST14SB03 (15-17), and ST14SB03 (55-57). Positive results for cadmium, copper, nickel, potassium, sodium, and vanadium and negative results for antimony, arsenic, barium, beryllium, cobalt, and silver were observed in the ICSA solution analysis associated with samples ST14SB04 (15-17), ST14SB03 (35-37), and ST14SB03 (71-73). The levels of interferents in samples were reviewed. Iron was present in samples ST14SB04 (15-17) (157%), ST14SB03 (13-15) (147%), ST14SB03 (15-17) (150%), STSB03 (35-37) (112%), ST14SB03 (55-57) (190%), and ST14SB03 (71-73) (109%) at greater than that of the level in the ICSA solution. The following table lists the estimated interferences and the resulting validation actions.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST14SB04 (15-17)	Antimony	ND	-79.6	Estimate (UJ) the nondetect result for antimony.
	Arsenic	40	-11.9	Estimate (J) the positive result for arsenic.
	Barium	148	-16.8	Estimate (J) the positive result for barium.
	Beryllium	3.6	-0.27	Interference <10% sample level; no action taken.
	Cadmium	2.8 U	4.2	Validation action was not required.
	Cobalt	50	-5.0	Estimate (J) the positive result for cobalt.
	Copper	80.5	14.1	Estimate (J) the positive result for copper.
	Nickel	123	18.4	Estimate (J) the positive result for nickel.
	Potassium	15,969	118.5	Interference <10% sample level; no action taken.
	Silver	ND	-5.6	Estimate (UJ) the nondetect result for silver.
	Sodium	5446	1199	Estimate (J) the positive result for sodium.
	Vanadium	186	3.6	Interference <10% sample level; no action taken.
ST14SB03 (35-37)	Antimony	ND	-56.8	Estimate (UJ) the nondetect result for antimony.
	Arsenic	3 U	-8.5	Estimate (UJ) the nondetect result for arsenic.
	Barium	667	-12.0	Interference <10% sample level; no action taken.
	Beryllium	3.0	-0.19	Interference <10% sample level; no action taken.
	Cadmium	2.1 U	3.0	Validation action was not required.
	Cobalt	51	-3.6	Interference <10% sample level; no action taken.
	Copper	150	10.1	Interference <10% sample level; no action taken.
	Nickel	139	13.1	Interference <10% sample level; no action taken.
	Potassium	20,333	84.6	Interference <10% sample level; no action taken.
	Silver	ND	-4.0	Interference <10% sample level; no action taken.
	Sodium	2871 U	855.7	Validation action was not required.
	Vanadium	142	2.6	Interference <10% sample level; no action taken.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST14SB03 (71-73)	Antimony	ND	-55.3	Estimate (UJ) the nondetect result for antimony.
	Arsenic	ND	-8.3	Estimate (UJ) the nondetect result for arsenic.
	Barium	613	-11.7	Interference <10% sample level; no action taken.
	Beryllium	1.3	-0.19	Estimate (J) the positive result for beryllium.
	Cadmium	2.0 U	2.9	Validation action was not required.
	Cobalt	59.1	-3.5	Interference <10% sample level; no action taken.
	Copper	140	9.8	Interference <10% sample level; no action taken.
	Nickel	114	12.8	Estimate (J) the positive result for nickel.
	Potassium	34,800	82.3	Interference <10% sample level; no action taken.
	Silver	ND	-3.9	Interference < ½ QL; no action taken.
	Sodium	6987	833	Estimate (J) the positive result for sodium.
	Vanadium	170	2.5	Interference <10% sample level; no action taken.
ST14SB03 (13-15)	Barium	1909	-7.1	Interference <10% sample level; no action taken.
	Beryllium	3.0	0.25	Interference <10% sample level; no action taken.
	Cadmium	1.9 U	2.9	Validation action was not required.
	Copper	427	17.8	Interference <10% sample level; no action taken.
	Nickel	108	25.7	Estimate (J) the positive result for nickel.
	Potassium	5918	115	Interference <10% sample level; no action taken.
	Selenium	ND	-7.6	Estimate (UJ) the nondetect result for selenium.
	Silver	ND	-1.9	Interference < ½ QL; no action taken.
	Sodium	3,155	697	Estimate (J) the positive result for sodium.
	Vanadium	151	9.8	Interference <10% sample level; no action taken.
	Zinc	455	9.7	Interference <10% sample level; no action taken.
ST14SB03 (15-17)	Barium	2662	-7.2	Interference <10% sample level; no action taken.
	Beryllium	4.3	0.26	Interference <10% sample level; no action taken.
	Cadmium	2.1 U	3.0	Validation action was not required.
	Copper	897	18.2	Interference <10% sample level; no action taken.
	Nickel	143	26.2	Estimate (J) the positive result for nickel.
	Potassium	7203	117.6	Interference <10% sample level; no action taken.
	Selenium	ND	-7.8	Estimate (UJ) the nondetect result for selenium.
	Silver	ND	-2.0	Interference < ½ QL; no action taken.
	Sodium	5354	711	Estimate (J) the positive result for sodium.
	Vanadium	183	10	Interference <10% sample level; no action taken.
	Zinc	487	9.9	Interference <10% sample level; no action taken.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST14SB03 (55-57)	Barium	1212	-9.1	Interference <10% sample level; no action taken.
	Beryllium	4.1	0.32	Interference <10% sample level; no action taken.
	Cadmium	3.0 U	3.8	Validation action was not required.
	Copper	215	23.0	Estimate (J) the positive result for copper.
	Nickel	225	33.2	Estimate (J) the positive result for nickel.
	Potassium	39,674	149	Interference <10% sample level; no action taken.
	Selenium	ND	-10	Estimate (UJ) the nondetect result for selenium.
	Silver	ND	-2.5	Interference < ½ QL; no action taken.
	Sodium	5301	901	Estimate (J) the positive result for sodium.
	Vanadium	294	12.7	Interference <10% sample level; no action taken.
	Zinc	526	12.5	Interference <10% sample level; no action taken.

MS Results

The laboratory performed the MS/MSD on sample ST14SB03 (71-73) for the ICP metals analyses and on ST14SB04(53-55) for mercury and cyanide. The following table lists the analytes which exhibited recoveries outside of the control limits of 75 - 125% and the resulting validation actions.

Analyte	Recovery (%)	Actions
Antimony	64.2, 54.6	Estimate (J/UJ) the positive and nondetect results for antimony in all soil samples.
Barium	23.3, 24.0	Estimate (J) the positive results for barium in all soil samples.
Copper	74.8, 74.0	Estimate (J/UJ) the positive and nondetect results for copper in all soil samples.
Potassium	11.6, 11.0	Estimate (J) the positive results for potassium in all soil samples.
Zinc	56.3, 54.1	Estimate (J/UJ) the positive and nondetect results for zinc in all soil samples.
Cobalt	MSD 74.3	Estimate (J/UJ) the positive and nondetect results for cobalt in all soil samples.
Mercury	56.0, 55.0	Estimate (J/UJ) the positive and nondetect results for mercury in all soil samples.

Laboratory Duplicate Results

The laboratory performed the laboratory duplicate analysis on sample ST14SB03 (71-73) for the ICP metals analyses and on ST14SB04(53-55) for mercury and cyanide. All criteria were met.

Field Duplicate Results

Samples ST14SB03 (13-15) and ST14SB03 (15-17) were submitted as the field duplicate pair with this sample group. The following table summarizes the RPDs of the detected analytes, all of which

were acceptable with the exception of copper and mercury. The positive results for copper and mercury in samples ST14SB03 (13-15) and ST14SB03 (15-17) were qualified as estimated (J).

Analyte	ST14SB03 (13-15) (mg/kg)	ST14SB03 (15-17) (mg/kg)	RPD (%)
Aluminum	5650	7070	22.3
Antimony	14.2	0.45 U	NC, Within 2xQL
Arsenic	11.7	10.9	7.1
Barium	287	366	24.2
Beryllium	0.446	0.596	28.8
Cadmium	0.281	0.286	1.8
Calcium	7720	9080	16.2
Chromium	13.8	15.4	11.0
Cobalt	6.49	7.24	10.9
Copper	64.2	123	62.8
Iron	19,500	18,100	7.4
Lead	689	565	19.8
Magnesium	1320	1380	4.4
Manganese	251	295	16.1
Mercury	1.5	0.735	68.4
Nickel	16.2	19.6	19.0
Potassium	889	989	10.6
Sodium	474	735	43.2
Vanadium	22.7	25.1	10.0
Zinc	68.4	66.9	2.2
Total Cyanide	5.71	5.48	4.1
Amenable Cyanide	1.2	0.70 U	NC, Within 2xQL

For soil results > 5xQL and RPDs >50; estimate (J) results in the field duplicate pair.
For soil results < 5xQL; the sample and duplicate results must be within 2xQL.

LCS Results

All criteria were met in the metals and wet chemistry analyses.

ICP Serial Dilution (ISD) Analysis Results

The laboratory performed a serial dilution analysis on sample ST14SB03 (71-73). The following table lists the analytes which exhibited %Ds above the control limit of 10 and the resulting validation actions.

Analyte	%D	Actions
Aluminum	11.3%	Estimate (J/UJ) the positive and nondetect results for aluminum in all samples.
Calcium	15.1%	Estimate (J/UJ) the positive and nondetect results for calcium in all samples.
Cobalt	36.3%	Estimate (J/UJ) the positive and nondetect results for cobalt in all samples.
Copper	10.9%	Estimate (J/UJ) the positive and nondetect results for copper in all samples.
Iron	12.3%	Estimate (J/UJ) the positive and nondetect results for iron in all samples.
Magnesium	13.0%	Estimate (J/UJ) the positive and nondetect results for magnesium in all samples.
Nickel	16.7%	Estimate (J/UJ) the positive and nondetect results for nickel in all samples.
Potassium	11.3%	Estimate (J/UJ) the positive and nondetect results for potassium in all samples.
Sodium	17.7%	Estimate (J/UJ) the positive and nondetect results for sodium in all samples.

Moisture Content

All criteria were met.

Detection Limits Results

Dilutions were performed for mercury in samples ST14SB03 (13-15) (5-fold) and ST14SB03 (15-17) (2-fold) to bring the results within the instrument range.

Positive results which were above the MDL but below the RL were flagged by the laboratory with a "J". These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration: barium in sample ST14SB04 (15-17), beryllium in all samples, cobalt in samples ST14SB04 (15-17), ST14SB04 (53-55), and ST14SB03 (13-15), mercury in sample ST14SB03 35-37), and sodium in samples ST14SB04 (53-55) and ST14SB03 (13-15).

Sample Quantitation Results

Sample calculations were spot-checked; no discrepancies were noted in the metals results. The total cyanide results for samples ST14SB03 (13-15) and ST14SB03 (15-17) were not calculated using the percent solids. The validator revised the cyanide results.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2411
Reviewer: Lorie MacKinnon/GEI Consultants
Date: June 7, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST14SB03 (84-86)	X2411-01	VOC, SVOC
ST14SB05 (19-21)	X2411-02	VOC, SVOC
ST14SB05 (23-25)	X2411-03	VOC, SVOC
ST14SB05 (25-27)	X2411-04	VOC, SVOC
ST14SB05 (48-49)	X2411-05	VOC, SVOC
Associated QC Samples:	Field Blanks:	None associated
	Field Duplicate pair:	None associated

The above-listed soil samples were collected on April 14 and 17, 2006 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260B and semivolatile organic compounds (SVOCs) by SW-846 method 8270C. The data validation was based on the USEPA CLP National Functional Guidelines for Organic Review (January 2005) and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8260B, SOP No. HW-24, Revision 1, June 1999 and USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8270C, SOP No. HW-22, Revision 2, June 2001.

The organic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
• Initial and Continuing Calibrations
• Blanks
• Surrogate Recoveries
• Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
* • Internal Standards

	•	Laboratory Control Sample (LCS) Results
NA	•	Field Duplicate Results
*	•	Moisture Content
	•	Quantitation Limits and Data Assessment
	•	Sample Quantitation and Compound Identification

* - All criteria were met.
NA - A field duplicate pair was not associated with this sample group.

All results are usable for project objectives with the exception of select tentatively identified compounds (TICs) which were rejected due to method blank contamination or were reported as target compounds in another fraction and benzo(k)fluoranthene in sample ST14SB03 (84-86) which were rejected due to high continuing calibration percent differences.

Qualifications were not applied to the data as a result of sampling error.

Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC and SVOC results which were below the lowest calibration standard and quantitation limit. These results were qualified as estimated (J) in the associated samples by the laboratory. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

- The VOC tentatively identified compounds, naphthalene, 2-methylnaphthalene, and acenaphthene, reported in samples ST14SB05 (19-21) and ST14SB05 (23-25), naphthalene, 2-methylnaphthalene, and dibenzofuran in sample ST14SB05 (25-27), and naphthalene in sample ST14SB05 (48-49), were rejected (R) as they were reported as target compounds in the other fractions.

- The SVOC tentatively identified compounds, ethylbenzene and o-xylene reported in sample ST14SB05 (23-25) and toluene and o-xylene reported in sample ST14SB05 (25-27), were rejected (R) as they were reported as target compounds in the other fractions.

- The nondetect result for benzo(k)fluoranthene in sample ST14SB03 (84-86) was rejected (R) due to continuing calibration percent difference greater than 90. The result is not usable for project objectives. This qualification may have a major impact on the data usability.

- The nondetect results for methyl acetate in samples ST14SB05 (19-21), ST14SB05 (23-25), and ST14SB05 (25-27) and benzaldehyde in all samples were qualified as estimated (UJ) due

to initial calibration nonconformances. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The following positive and nondetect results were qualified as estimated (J/UJ) due to continuing calibration nonconformances: methyl acetate in sample ST14SB03 (84-86), carbazole in all samples, and 3-nitroaniline in sample ST14SB05 (48-49). The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The nondetect results for benzaldehyde and hexachloroethane in sample ST14SB05 (48-49) were qualified as estimated (UJ) due to low recoveries in the MS/MSD analyses. The results may be biased low. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The nondetect results for tetrachloroethene in samples ST14SB05 (19-21), ST14SB05 (23-25), and ST14SB05 (25-27) were qualified as estimated (UJ) due to low recovery in the LCS analyses. The results may be biased low and can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive results for carbazole in samples ST14SB05 (19-21), ST14SB05 (23-25), and ST14SB05 (25-27) were qualified as estimated (J) due to high recovery in the LCS analyses. The results may be biased high and can be used for project objectives as estimated values. This qualification may have a minor impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the VOC and SVOC analyses.

Holding Times and Sample Preservation

All criteria were met in the VOC and SVOC analyses.

GC/MS Tunes

All criteria were met in the VOC and SVOC analyses.

Initial and Continuing Calibrations

Compounds that did not meet criteria in the VOC and SVOC initial and continuing calibrations are summarized in the following tables.

Instrument ID MSVOAI Compound	CC 04/22/06
methyl acetate	XX (43.3%)
Samples Affected	ST14SB03 (84-86)

Instrument ID MSVOAI Compound	IC 04/26/06
methyl acetate	X (r=0.982)
Samples Affected	ST14SB05 (19-21), ST14SB05 (23-25), ST14SB05 (25-27)

Instrument ID BNAA Compound	IC 04/14/06	CC 04/19/06 17:11	CC 04/20/06 12:02	CC 04/20/06 17:41
benzaldehyde	X (r=0.963)			
benzo(k)fluoranthene			XXX (133%)	XXX (133%)
carbazole		XX (41.6%)	XX (55.5%)	XX (56.1%)
Samples Affected	All listed	ST14SB05 (19-21), ST14SB05 (23-25), ST14SB05 (25-27)	ST14SB03 (84-86)	ST14SB05 (19-21)DL, ST14SB05 (23-25)DL, ST14SB05 (25-27)DL

Instrument ID BNAE Compound	IC 4/19/06	CC 4/24/06
benzaldehyde	X (r=0.977)	

Instrument ID BNAE Compound	IC 4/19/06	CC 4/24/06
3-nitroaniline		XX (40.1%)
carbazole		XX (50.3%)
Samples Affected	All samples listed	ST14SB05 (48-49)

X = Initial calibration (IC) relative standard deviation (%RSD) > 50 for 1,4-dioxane, (%RSD) > 40 for poor response compounds, and %RSD > 20 for all other compounds ; estimate (J) positive result. If regression was performed and correlation coefficient (r) < 0.990; estimate (J/UJ) positive and nondetect results.

XX = Continuing calibration (CC) percent difference (%D) > 50 for 1,4-dioxane, (%D) > 40 for poor response compounds, and %D > 25 for all other compounds; estimate (J/UJ) positive and nondetect results.

XXX = Continuing calibration (CC) percent difference (%D) > 90; estimate (J) positive results and reject (R) nondetect results.

+ = Response factor (RRF) < 0.05 except <0.01 for poor response compounds; Estimate (J) positive results and reject (R) nondetect results.

The nondetect results for methyl acetate in samples ST14SB05 (19-21), ST14SB05 (23-25), and ST14SB05 (25-27) and benzaldehyde in all samples were estimated (UJ) due to initial calibration nonconformances.

The following positive and nondetect results were estimated (J/UJ) due to continuing calibration nonconformances: methyl acetate in sample ST14SB03 (84-86), carbazole in all samples, and 3-nitroaniline in sample ST14SB05 (48-49).

The nondetect results for benzo(k)fluoranthene in sample ST14SB03 (84-86) was rejected due to %Ds which exceeded 90.

Validation actions were not required for carbazole and benzo(k)fluoranthene in samples ST14SB05 (19-21)DL, ST14SB05 (23-25)DL, and ST14SB05 (25-27)DL as these analytes were not reported from the diluted analyses.

Blanks

Contaminants were not detected in the VOC method blanks.

The following table summarizes the SVOC method blank contamination.

Compound	Type of Blank	Associated Samples	Maximum Concentration	Blank Action Level
bis (2-ethylhexyl)phthalate	Method	ST14SB05 (48-49)	68 ug/kg	340 ug/kg

Blank Actions
The blank action level is 1X Max Conc for VOC/2X for common contaminant and 1X for SVOC/5X common contaminant
If the sample concentration ≤ RL and ≤ blank action level, qualify the result as not detected (U) at the RL.
If the sample concentration > RL and ≤ blank action level, qualify the result as not detected (U) at the reported value.
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.

As bis(2-ethylhexyl)phthalate was not detected in the sample, validation action was not required.

Tentatively identified compounds (TICs) were detected in the SVOC method blank. TICs, which were detected in these samples at levels less than ten times those in the method blank, were rejected (R).

Surrogate Recoveries

All criteria were met in the VOC and SVOC analyses for samples.

MS/MSD Results

The MS/MSD analyses were performed on a non-project sample for VOCs. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

The MS/MSD analyses were performed on sample ST14SB05 (48-49) for SVOCs. The following table lists the recoveries and/or RPDs outside of control limits.

Compound	Recovery (%)	RPD (%)	Control Limits	Validation Actions
Benzaldehyde	MS 4	164	20-150/50	As recovery was acceptable in the MSD, estimate (UJ), rather than reject, the nondetect result for benzaldehyde in sample ST14SB05 (48-49).
Hexachloroethane	MS 30	90	43-101/50	Estimate (UJ) the nondetect result for hexachloroethane in sample ST14SB05 (48-49).
3-Nitroaniline	MS 105	-	27-88/50	Validation action was not required as the result was nondetect.
Carbazole	126, 121	-	54-117/50	Validation action was not required as the result was nondetect.
Bis(2-chloroethyl)ether	-	53	37-114/50	Validation action was not required as the result was nondetect.

- Within control limits

Internal Standards

All criteria were met in the VOC and SVOC analyses.

LCS Results

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the VOC and SVOC analyses.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
methyl acetate	140	70-130	ST14SB05 (48-49)	Validation action was not required as the result was nondetect and therefore not affected by the potential high bias.
tetrachloroethene	65	70-130	ST14SB05 (19-21), ST14SB05 (23-25), ST14SB05 (25-27)	Estimate (UJ) the nondetect results for tetrachloroethene in the associated samples.
carbazole	129 118	54-117	All samples	Estimate (J) the positive results for carbazole in samples ST14SB05 (19-21), ST14SB05 (23-25), and ST14SB05 (25-27).
3-nitroaniline	100	27-88	ST14SB03 (84-86), ST14SB05 (19-21), ST14SB05 (23-25), ST14SB05 (25-27)	Validation actions were not required as results were nondetect and therefore not affected by the potential high bias.

Field Duplicate Results

A field duplicate pair was not associated with this sample group.

Moisture Content

All criteria were met.

Quantitation Limits and Data Assessment

Results were reported which were below the lowest calibration standard level (RL) and above the method detection limit (MDL) in the VOC and SVOC analyses. These results were qualified by the

laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration.

The low level volatile analysis utilized one gram of sample to 5 ml, instead of the typical 5 grams to 5 ml. Quantitation limits are elevated by five-fold accordingly.

The following table lists the sample analyses which were performed and reported.

Sample	VOC Analysis Reported	SVOC Analysis Reported
ST14SB05 (19-21)	Medium Level analysis was performed. QLs elevated by factor of 125.	Report results for naphthalene, fluorene, phenanthrene, fluoranthene, and pyrene from the 100-fold dilution. Report all other compound results from the 10-fold dilution.
ST14SB05 (23-25)	Medium Level analysis was performed. QLs elevated by factor of 125.	Report results for naphthalene, phenanthrene, fluoranthene, and pyrene from the 10-fold dilution. Report all other compound results from the 2-fold dilution.
ST14SB05 (25-27)	Medium Level analysis was performed. QLs elevated by factor of 125.	Report results for naphthalene and phenanthrene from the 5-fold dilution. Report all other compound results from the straight analysis.

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted in the VOC and SVOC analyses.

The VOC tentatively identified compounds, naphthalene, 2-methylnaphthalene, and acenaphthene, reported in samples ST14SB05 (19-21) and ST14SB05 (23-25), naphthalene, 2-methylnaphthalene, and dibenzofuran in sample ST14SB05 (25-27), and naphthalene in sample ST14SB05 (48-49), were rejected (R). Semivolatile target compound list (TCL) compounds should not be reported as VOC TICs.

The SVOC tentatively identified compounds, ethylbenzene and o-xylene reported in sample ST14SB05 (23-25) and toluene and o-xylene reported in sample ST14SB05 (25-27), were rejected (R). Volatile TCL compounds should not be reported as SVOC TICs.

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2411
Reviewer: Lorie MacKinnon/GEI Consultants
Date: June 7, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST14SB03 (84-86)	X2411-01	Metals, Cyanide
ST14SB05 (19-21)	X2411-02	Metals, Cyanide
ST14SB05 (23-25)	X2411-03	Metals, Cyanide
ST14SB05 (25-27)	X2411-04	Metals, Cyanide
ST14SB05 (48-49)	X2411-05	Metals, Cyanide
Associated QC Samples:	Field Blanks:	None associated
	Field Duplicate pair:	None associated

The above-listed soil samples were collected on April 14 and 17, 2006 and were analyzed for metals by SW-846 methods 6010B and 7471A and Total and Amenable Cyanide (CN) by SW-846 method 9012. The data validation was based on the USEPA CLP National Functional Guidelines for Inorganic Review (October 2004) and the USEPA Region II Standard Operating Procedure (SOP) for CLP Inorganic Review (January 1992), modified to accommodate the SW-846 methodologies.

The inorganic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Instrument Calibration
• Contract Required Detection Limit (CRDL) Standard Recoveries
• Blank Analysis Results
• Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Results
• Matrix Spike (MS) Results
* • Laboratory Duplicate Results
NA • Field Duplicate Results
* • Laboratory Control Sample (LCS) Results
• ICP Serial Dilution Analysis Results

* • Moisture Content
• Detection Limits Results
• Sample Quantitation Results

* - All criteria were met for this parameter.

NA - A field duplicate pair was not associated with this sample group.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives.

Qualifications were not applied to the data as a result of sampling error.

Qualifications applied to the data as a result of analytical error are discussed below.

- The positive results for arsenic in samples ST14SB05 (19-21), ST14SB05 (23-25), ST14SB05 (25-27), and ST14SB05 (48-49) were qualified as estimated (J) due to laboratory blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive results for antimony in samples ST14SB05 (25-27) and ST14SB05 (48-49) and arsenic in sample ST14SB03 (84-86) were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for beryllium, cadmium, silver, and sodium in all samples and cobalt in samples ST14SB05 (19-21) and ST14SB05 (25-27) were qualified as estimated (J/UJ) due to negative bias seen in the instrument blank analysis. The results may be biased low. The result can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The nondetect results for selenium in all samples were qualified as estimated (UJ) due to negative interferences seen in the ICSA analysis. The results may be biased low. The results can be used for project objectives as nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive results for cadmium, nickel, and sodium in samples ST14SB03 (84-86), ST14SB05 (19-21), and ST14SB05 (23-25), beryllium, cadmium, copper, nickel, and sodium in sample ST14SB05 (25-27), and cadmium, copper, nickel, and sodium in sample ST14SB05 (48-49) were qualified as estimated (J) due to positive interferences seen in the ICSA analysis.

The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive and nondetect results for antimony, barium, copper, potassium, zinc, cobalt, mercury were qualified as estimated (J/UJ) in all samples due to recoveries in the MS/MSD analyses which were below control limits. The results may be biased low. These results are usable for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor effect on the data usability.

- The positive results for aluminum, calcium, cobalt, copper, iron, magnesium, nickel, potassium, and sodium were qualified as estimated (J) in all soil samples due to high percent differences (%Ds) in the ICP serial dilution analysis. The results can be used for project objectives as estimated values. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

- Potential uncertainty exists for the following results which were detected above the method detection limit (MDL) but below the laboratory reporting limit: beryllium, cadmium, and sodium in all samples. The positive results were qualified as estimated (J) and can be used for project objectives as estimated values which may have a minor effect on the data usability.

The validation recommendations listed above were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables.

Holding Times and Sample Preservation

All criteria were met in the metals and wet chemistry analyses.

Instrument Calibration

All criteria were met in the metals and wet chemistry analyses.

CRDL Standard Recoveries

The following table lists the recoveries which were outside the control limits of 70-130 in the low level standard and the resulting validation actions. The affected analyte level range was determined as 2x the CRDL standard level analyzed due to differences between the reported laboratory QL and the low level standard levels analyzed.

Analyte	Recovery (%)	Associated Samples	Actions
Calcium	139.2	All samples	Validation action was not required as the affected results were greater than the affected analyte range.
Magnesium	134.9	All samples	Validation action was not required as the affected results were greater than the affected analyte range.

Blank Analysis Results

The following table summarizes the metals laboratory blank contamination associated with all samples.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Aluminum	Instrument	21.0 ug/L, 2.1 mg/kg -138 ug/L, -13.8 mg/kg	21.0 mg/kg -138 mg/kg
Antimony	Instrument	4.8 ug/L, 0.48 mg/kg	4.8 mg/kg
Arsenic	Instrument	9.3 ug/L, 0.93 mg/kg	9.3 mg/kg
Barium	Method	-0.774 mg/kg	-7.7 mg/kg
Beryllium	Instrument	-1.4 ug/L, -0.14 mg/kg	-1.4 mg/kg
Cadmium	Instrument	0.4 ug/L, 0.04 mg/kg -1.5 ug/L, -0.15 mg/kg	0.40 mg/kg -1.5 mg/kg
Calcium	Instrument	7.9 ug/L, 0.79 mg/kg -20 ug/L, -2.0 mg/kg	7.9 mg/kg -20 mg/kg
Chromium	Instrument	-6.1 ug/L, -0.61mg/kg	-6.1 mg/kg
Cobalt	Instrument	-7.7 ug/L, -0.77 mg/kg	-7.7 mg/kg
Copper	Instrument	-11.9 ug/L, -1.19 mg/kg	-11.9 mg/kg
Iron	Instrument	99.2 ug/L, 9.9 mg/kg	99.2 mg/kg
Magnesium	Instrument	-41.5 ug/L, -4.15 mg/kg	-41.5 mg/kg
Manganese	Instrument	-3.7 ug/L, -0.37 mg/kg	-3.7 mg/kg
Nickel	Instrument	-8.1 ug/L, -0.81 mg/kg	-8.1 mg/kg
Potassium	Instrument	-489 ug/L, -48.9 mg/kg	-489 mg/kg
Silver	Instrument	-7.4 ug/L, -0.74 mg/kg	-7.4 mg/kg

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Sodium	Instrument	-594 ug/L, -59.4 mg/kg	-594 mg/kg
Vanadium	Instrument	-7.0 ug/L, -0.70 mg/kg	-7.0 mg/kg
Zinc	Instrument	-6.2 ug/L, -0.62 mg/kg	-6.2 mg/kg

For blank contamination < QL; If the sample result is < QL report the result as nondetect (U) at the QL.
For blank contamination ≥ QL; If the sample result is ≥ QL and < the blank level, report the sample result as nondetect (U).
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.
For negative blank contamination ≥2 MDL; professional judgement was taken to estimate (J/UJ) those results which were less than 10x the maximum blank level detected

The positive results for antimony in samples ST14SB05 (25-27) and ST14SB05 (48-49) and arsenic in sample ST14SB03 (84-86) were qualified as nondetect (U) at the QL due to laboratory blank contamination.

The positive results for arsenic in samples ST14SB05 (19-21), ST14SB05 (23-25), ST14SB05 (25-27), and ST14SB05 (48-49) were qualified as estimated (J) due to laboratory blank contamination.

The positive and nondetect results for beryllium, cadmium, silver, and sodium in all samples and cobalt in samples ST14SB05 (19-21) and ST14SB05 (25-27) were estimated (J/UJ) due to negative bias seen in the instrument blank analysis.

ICP ICS Results

All recovery criteria were met in the ICSAB analysis.

Positive results for beryllium, cadmium, copper, nickel, potassium, sodium, vanadium, and zinc and negative results for barium, selenium, and silver were observed in the ICSA solution analysis associated with all samples. The levels of interferents in samples were reviewed. Iron was present in samples ST14SB03 (84-86) (123%), ST14SB05 (19-21) (126%), ST14SB05 (23-25) (135%), ST14SB05 (25-27) (119%), and ST14SB05 (48-49) (180%) at greater than that of the level in the ICSA solution. The following table lists the estimated interferences and the resulting validation actions.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST14SB03 (84-86)	Barium	530	-5.9	Interference <10% sample level; no action taken.
	Beryllium	2.2	0.21	Interference <10% sample level; no action taken.
	Cadmium	1.5	2.5	Estimate (J) the positive result for cadmium.
	Copper	594	14.9	Interference <10% sample level; no action taken.
	Nickel	169	21.5	Estimate (J) the positive result for nickel.
	Potassium	26917	96.4	Interference <10% sample level; no action taken.
	Selenium	ND	-6.4	Estimate (UJ) the nondetect result for selenium.
	Silver	ND	-1.6	Interference <½ QL; no action taken.
	Sodium	4989	583	Estimate (J) the positive result for sodium.
	Vanadium	175	8.2	Interference <10% sample level; no action taken.
	Zinc	432	8.1	Interference <10% sample level; no action taken.
ST14SB05 (19-21)	Barium	740	-6.0	Interference <10% sample level; no action taken.
	Beryllium	2.7	0.21	Interference <10% sample level; no action taken.
	Cadmium	1.7	2.5	Estimate (J) the positive result for cadmium.
	Copper	163	15.2	Interference <10% sample level; no action taken.
	Nickel	138	22.1	Estimate (J) the positive result for nickel.
	Potassium	25214	98.8	Interference <10% sample level; no action taken.
	Selenium	ND	-6.6	Estimate (UJ) the nondetect result for selenium.
	Silver	ND	-1.6	Interference <½ QL; no action taken.
	Sodium	1152	597	Estimate (J) the positive result for sodium.
	Vanadium	189	8.4	Interference <10% sample level; no action taken.
	Zinc	370	8.3	Interference <10% sample level; no action taken.
ST14SB05 (23-25)	Barium	848	-6.5	Interference <10% sample level; no action taken.
	Beryllium	2.6	0.23	Interference <10% sample level; no action taken.
	Cadmium	1.8	2.7	Estimate (J) the positive result for cadmium.
	Copper	206	16.3	Interference <10% sample level; no action taken.
	Nickel	147	23.6	Estimate (J) the positive result for nickel.
	Potassium	29340	106	Interference <10% sample level; no action taken.
	Selenium	ND	-7.0	Estimate (UJ) the nondetect result for selenium.
	Silver	ND	-1.8	Interference <½ QL; no action taken.
	Sodium	1197	640	Estimate (J) the positive result for sodium.
	Vanadium	204	9.0	Interference <10% sample level; no action taken.
	Zinc	479	8.9	Interference <10% sample level; no action taken.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST14SB05 (25-27)	Barium	501	-5.7	Interference <10% sample level; no action taken.
	Beryllium	1.9	0.20	Estimate (J) the positive result for beryllium.
	Cadmium	1.6	2.4	Estimate (J) the positive result for cadmium.
	Copper	143	14.4	Estimate (J) the positive result for copper.
	Nickel	127	20.8	Estimate (J) the positive result for nickel.
	Potassium	21300	93.3	Interference <10% sample level; no action taken.
	Selenium	ND	-6.2	Estimate (UJ) the nondetect result for selenium.
	Silver	ND	-1.5	Interference <½ QL; no action taken.
	Sodium	2396	564	Estimate (J) the positive result for sodium.
	Vanadium	193	8.0	Interference <10% sample level; no action taken.
	Zinc	315	7.8	Interference <10% sample level; no action taken.
ST14SB05 (48-49)	Barium	758	-8.6	Interference <10% sample level; no action taken.
	Beryllium	3.7	0.31	Interference <10% sample level; no action taken.
	Cadmium	2.4	3.6	Estimate (J) the positive result for cadmium.
	Copper	219	21.8	Estimate (J) the positive result for copper.
	Nickel	145	31.5	Estimate (J) the positive result for nickel.
	Potassium	29630	141	Interference <10% sample level; no action taken.
	Selenium	ND	-9.4	Estimate (UJ) the nondetect result for selenium.
	Silver	ND	-2.3	Interference <½ QL; no action taken.
	Sodium	1911	853	Estimate (J) the positive result for sodium.
	Vanadium	272	12.1	Interference <10% sample level; no action taken.
	Zinc	554	11.9	Interference <10% sample level; no action taken.

MS Results

The laboratory performed MS/MSD analyses on non-project samples for ICP metals and mercury. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

The MS/MSD on sample ST14SB03 (71-73) for the ICP metals, sample ST14SB04(53-55) for mercury (both reported in case number X2382), and on sample ST14SB03 (84-86) for cyanide were used to evaluate accuracy. The following table lists the analytes which exhibited recoveries outside of the control limits of 75 - 125% and the resulting validation actions.

Analyte	Recovery (%)	Actions
Antimony	64.2, 54.6	Estimate (J/UJ) the positive and nondetect results for antimony in all soil samples.
Barium	23.3, 24.0	Estimate (J) the positive results for barium in all soil samples.
Copper	74.8, 74.0	Estimate (J/UJ) the positive and nondetect results for copper in all soil samples.

Analyte	Recovery (%)	Actions
Potassium	11.6, 11.0	Estimate (J) the positive results for potassium in all soil samples.
Zinc	56.3, 54.1	Estimate (J/UJ) the positive and nondetect results for zinc in all soil samples.
Cobalt	MSD 74.3	Estimate (J/UJ) the positive and nondetect results for cobalt in all soil samples.
Mercury	56.0, 55.0	Estimate (J/UJ) the positive and nondetect results for mercury in all soil samples.

Laboratory Duplicate Results

The laboratory performed duplicate analyses on non-project samples for ICP metals and mercury. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

The duplicate on sample ST14SB03 (71-73) for the ICP metals, sample ST14SB04(53-55) for mercury (both reported in case number X2382), and on sample ST14SB03 (84-86) for cyanide were used to evaluate laboratory precision. All criteria were met.

Field Duplicate Results

A field duplicate pair was not associated with this sample set.

LCS Results

All criteria were met in the metals and wet chemistry analyses.

ICP Serial Dilution (ISD) Analysis Results

The laboratory performed the serial dilution analyses on non-project samples for ICP metals and mercury. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

The serial dilution on sample ST14SB03 (71-73) for the ICP metals analyses and on ST14SB04(53-55) for mercury (both reported in case number X2382) were associated with this sample group. The following table lists the analytes which exhibited %Ds above the control limit of 10 and the resulting validation actions.

Analyte	%D	Actions
Aluminum	11.3%	Estimate (J) the positive results for aluminum in all samples.
Calcium	15.1%	Estimate (J) the positive results for calcium in all samples.

Analyte	%D	Actions
Cobalt	36.3%	Estimate (J) the positive results for cobalt in all samples.
Copper	10.9%	Estimate (J) the positive results for copper in all samples.
Iron	12.3%	Estimate (J) the positive results for iron in all samples.
Magnesium	13.0%	Estimate (J) the positive results for magnesium in all samples.
Nickel	16.7%	Estimate (J) the positive results for nickel in all samples.
Potassium	11.3%	Estimate (J) the positive results for potassium in all samples.
Sodium	17.7%	Estimate (J) the positive results for sodium in all samples.

Moisture Content

All criteria were met.

Detection Limits Results

Dilutions were not required.

Positive results which were above the MDL but below the RL were flagged by the laboratory with a "J". These results were qualified as estimated (J) due to uncertainty at the low end of calibration: beryllium, cadmium, and sodium in all samples.

Sample Quantitation Results

Sample calculations were spot-checked; no discrepancies were noted in the metals results. The total and amenable cyanide results for samples ST14SB05 (19-21) and ST14SB05 (23-25) were not calculated using the percent solids. The validator revised the cyanide results.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2521
Reviewer: Lorie MacKinnon/GEI Consultants
Date: June 7, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST17SB05 (25-27)	X2521-01	VOC, SVOC
ST17SB05 (27-29)	X2521-02	VOC, SVOC
ST17SB05 (49-51)	X2521-03	VOC, SVOC
Associated QC Samples:	Field Blanks:	None associated
	Field Duplicate pair:	None associated

The above-listed soil samples were collected on April 24, 2006 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260B and semivolatile organic compounds (SVOCs) by SW-846 method 8270C. The data validation was based on the USEPA CLP National Functional Guidelines for Organic Review (January 2005) and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8260B, SOP No. HW-24, Revision 1, June 1999 and USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8270C, SOP No. HW-22, Revision 2, June 2001.
The organic data were evaluated based on the following parameters:

*	• Data Completeness
*	• Holding Times and Sample Preservation
*	• Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
	• Initial and Continuing Calibrations
	• Blanks
*	• Surrogate Recoveries
	• Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
	• Internal Standards
	• Laboratory Control Sample (LCS) Results
NA	• Field Duplicate Results
*	• Moisture Content

- Quantitation Limits and Data Assessment
- Sample Quantitation and Compound Identification

* - All criteria were met.

NA- A field duplicate pair was not associated with this sample group.

All results are usable for project objectives with the exception of select tentatively identified compounds (TICs) which were rejected due to method blank contamination, benzaldehyde in sample ST17SB05 (25-27) which was rejected (R) due to percent difference greater than 90 in the continuing calibration standard, and n-nitroso-di-n-propylamine in samples ST17SB05 (27-29) and ST17SB05 (49-51) which were rejected (R) due to recovery less than 10 in the LCS analyses.

Qualifications were not applied to the data as a result of sampling error.

Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC and SVOC results which were below the lowest calibration standard and quantitation limit. These results were qualified as estimated (J) in the associated samples by the laboratory. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

- The nondetect results for carbon disulfide, methyl tert-butyl ether, methylene chloride, trans-1,2-dichloroethene, 1,1-dichloroethane, cis-1,2-dichloroethene, and cyclohexane in samples ST17SB05 (27-29) and ST17SB05 (49-51) and benzaldehyde in samples ST17SB05 (27-29) and ST17SB05 (49-51) were qualified as estimated (UJ) due to initial calibration nonconformances. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for acetone in sample ST17SB05 (49-51), 1,1-dichloroethene and carbon disulfide in sample ST17SB05 (25-27), and 4-nitrophenol, indeno(123-cd)pyrene, dibenzo(ah)anthracene, benzo(ghi)perylene, and benzo(b)fluoranthene in sample ST17SB05 (25-27) were qualified as estimated (J/UJ) due to continuing calibration nonconformances. The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values and nondetect with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The nondetect result for benzaldehyde in sample ST17SB05 (25-27) was rejected (R) due to percent difference greater than 90 in the continuing calibration standard. The result is not

usable for project objectives. This qualification may have a major impact on the data usability.

- The VOC tentatively identified compounds, naphthalene and 2-methylnaphthalene, reported in sample ST17SB05 (27-29), were rejected (R) as they were reported as target compounds in the other fraction.

- The positive result for indeno(123-cd)pyrene and the nondetect result for 2,4-dinitrophenol in sample ST17SB05 (27-29) were qualified as estimated (J/UJ) due to low recoveries in the MS/MSD analyses. The results may be biased low. The results can be used for project objectives as an estimated value and nondetect with estimated quantitation limit. This qualification may have a minor impact on the data usability.

- The positive result for carbon disulfide in sample ST17SB05 (27-29) was qualified as estimated (J) due to high recovery in the LCS analyses. The result may be biased high. The result can be used for project objectives as an estimated value. This qualification may have a minor impact on the data usability.

- The nondetect results for n-nitroso-di-n-propylamine in samples ST17SB05 (27-29) and ST17SB05 (49-51) were rejected (R) due to recovery less than 10 in the LCS analyses. The results are not usable for project objectives. This qualification may have a major impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the VOC and SVOC analyses.

Holding Times and Sample Preservation

All criteria were met in the VOC and SVOC analyses.

GC/MS Tunes

All criteria were met in the VOC and SVOC analyses.

Initial and Continuing Calibrations

Compounds that did not meet criteria in the VOC and SVOC initial and continuing calibrations are summarized in the following tables.

Instrument ID MSVOAK Compound	IC 04/26/06	CC 5/01/06
carbon disulfide	X (r=0.989)	
methyl tert-butyl ether	X (r=0.964)	
methylene chloride	X (r=0.945)	
trans-1,2-dichloroethene	X (r=0.915)	
1,1-dichloroethane	X (r=0.969)	
cis-1,2-dichloroethene	X (r=0.872)	
cyclohexane	X (r=0.893)	
acetone		XX (42.5%)
Samples Affected	ST17SB05 (27-29), ST17SB05 (49-51)	ST17SB05 (49-51)

Instrument ID MSVOAK Compound	CC 05/05/06
1,1-dichloroethene	XX (36.7%)
carbon disulfide	XX (40.1%)
Samples Affected	ST17SB05 (25-27)

Instrument ID BNAE Compound	IC 04/19/06
benzaldehye	X (r=0.977)
Samples Affected	ST17SB05 (27-29), ST17SB05 (49-51)

Instrument ID BNAF Compound	IC 04/20/06	CC 5/04/06
benzaldehyde	X (r=0.916)	
indeno(123-cd)pyrene		XX (60.5%)
benzo(b)fluoranthene		XX (51.2%)

Instrument ID BNAF Compound	IC 04/20/06	CC 5/04/06
dibenz(ah)anthracene		XX (33.3%)
benzo(ghi)perylene		XX (44.4%)
benzaldehyde		XXX (125%)
4-nitrophenol		XX (63.5%)
Samples Affected	ST17SB05 (25-27)	ST17SB05 (25-27)

X = Initial calibration (IC) relative standard deviation (%RSD) > 50 for 1,4-dioxane, (%RSD) > 40 for poor response compounds, and %RSD > 20 for all other compounds ; estimate (J) positive result. If regression was performed and correlation coefficient (r) < 0.990; estimate (J/UJ) positive and nondetect results.

XX = Continuing calibration (CC) percent difference (%D) > 50 for 1,4-dioxane, (%D) > 40 for poor response compounds, and %D > 25 for all other compounds; estimate (J/UJ) positive and nondetect results.

XXX = Continuing calibration (CC) percent difference (%D) > 90; estimate (J) positive results and reject (R) nondetect results.

+ = Response factor (RRF) < 0.05 except <0.01 for poor response compounds; Estimate (J) positive results and reject (R) nondetect results.

The nondetect results for carbon disulfide, methyl tert-butyl ether, methylene chloride, trans-1,2-dichloroethene, 1,1-dichloroethane, cis-1,2-dichloroethene, and cyclohexane in samples ST17SB05 (27-29) and ST17SB05 (49-51) and benzaldehyde in samples in samples ST17SB05 (27-29) and ST17SB05 (49-51) were estimated (UJ) due to initial calibration nonconformances.

The nondetect results for acetone in sample ST17SB05 (49-51), 1,1-dichloroethene and carbon disulfide in sample ST17SB05 (25-27), and 4-nitrophenol, indeno(123-cd)pyrene, dibenzo(ah)anthracene, benzo(ghi)perylene, and benzo(b)fluoranthene in sample ST17SB05 (25-27) were estimated (UJ) due to continuing calibration nonconformances.

The nondetect result for benzaldehyde in sample ST17SB05 (25-27) was rejected due to percent difference greater than 90 in the continuing calibration standard.

Blanks

Contaminants were not detected in the VOC method blanks.

The following table summarizes the SVOC method blank contamination.

Compound	Type of Blank	Associated Samples	Maximum Concentration	Blank Action Level
di-n-butylphthalate	Method	ST17SB05 (27-29), ST17SB05 (49-51)	66 ug/kg	330 ug/kg

Blank Actions
The blank action level is 1X Max Conc for VOC/2X for common contaminant and 1X for SVOC/5X common contaminant
If the sample concentration ≤ RL and ≤ blank action level, qualify the result as not detected (U) at the RL.
If the sample concentration > RL and ≤ blank action level, qualify the result as not detected (U) at the reported value.
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.

As di-n-butylphthalate was not detected in the samples, validation actions were not required.

Tentatively identified compounds (TICs) were detected in the SVOC method blank. TICs, which were detected in these samples at levels less than ten times those in the method blank, were rejected (R).

Surrogate Recoveries

All criteria were met in the VOC and SVOC analyses.

MS/MSD Results

The laboratory performed the MS/MSD on a non-project sample for the VOC analyses. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

The MS/MSD analyses were performed on sample ST17SB05 (27-29) for SVOCs. The following table lists the recoveries and/or RPDs outside of control limits.

Compound	Recovery (%)	RPD (%)	Control Limits	Validation Actions
2,4-dinitrophenol	MS 24	61	26-131/50	Estimate (UJ) the nondetect result for 2,4-dinitrophenol in sample ST17SB05 (27-29).
carbazole	162, 169	-	54-117/50	Validation actions were not required as the result was nondetect.
indeno(123-cd)pyrene	34, 30	-	42-124/50	Estimate (J) the positive result for indeno(123-cd)pyrene in sample ST17SB05 (27-29).

- Within control limits

Internal Standards

All criteria were met in the VOC analyses.

SVOC internal standard areas were below the control limits in the analysis of samples ST17SB05 (27-29) MS and MSD. Validation actions were not required as internal standard criteria were met in the unspiked sample analysis.

LCS Results

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the VOC and SVOC analyses.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
methylene chloride trans-1,2-dichloroethene	145 140	70-130	ST17SB05 (25-27)	Validation actions were not required as results were nondetect and therefore not affected by the potential high bias.
1,1,2-trichlorotrifluoroethane 1,1-dichloroethene carbon disulfide	140 155 165	70-130	ST17SB05 (27-29)	Estimate (J) the positive result for carbon disulfide in sample ST17SB05 (27-29). The remaining results were nondetect and therefore not affected by the potential high bias.
N-nitroso-di-n-propylamine	5	20-150	ST17SB05 (27-29), ST17SB05 (49-51)	Reject (R) the nondetect results for n-nitroso-di-n-propylamine in samples ST17SB05 (27-29) and ST17SB05 (49-51).
Carbazole	141	54-117	ST17SB05 (27-29), ST17SB05 (49-51)	Validation actions were not required as results were nondetect and therefore not affected by the potential high bias.

Field Duplicate Results

A field duplicate pair was not associated with this sample group.

Moisture Content

All criteria were met.

Quantitation Limits and Data Assessment

Results were reported which were below the lowest calibration standard level (RL) and above the method detection limit (MDL) in the VOC and SVOC analyses. These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of

calibration.

The low level volatile analysis utilized one gram of sample to 5 ml, instead of the typical 5 grams to 5 ml. Quantitation limits are elevated by a factor of five accordingly for all VOC samples.

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted in the VOC and SVOC analyses.

The VOC tentatively identified compound, naphthalene and 2-methylnaphthalene, reported in sample ST17SB05 (27-29), were rejected (R). Semivolatile target compound list (TCL) compounds should not be reported as VOC TICs.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2521
Reviewer: Lorie MacKinnon/GEI Consultants
Date: June 7, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST17SB05 (27-29)	X2521-02	Metals, Cyanide
ST17SB05 (49-51)	X2521-03	Metals, Cyanide
Associated QC Samples:	Field Blanks:	None associated
	Field Duplicate pair:	None associated

The above-listed soil samples were collected on April 24, 2006 and were analyzed for metals by SW-846 methods 6010B and 7471A and Total and Amenable Cyanide (CN) by SW-846 method 9012. The data validation was based on the USEPA CLP National Functional Guidelines for Inorganic Review (October 2004) and the USEPA Region II Standard Operating Procedure (SOP) for CLP Inorganic Review (January 1992), modified to accommodate the SW-846 methodologies.

The inorganic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Instrument Calibration
• Contract Required Detection Limit (CRDL) Standard Recoveries
• Blank Analysis Results
• Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Results
• Matrix Spike (MS) Results
* • Laboratory Duplicate Results
NA • Field Duplicate Results
* • Laboratory Control Sample (LCS) Results
• ICP Serial Dilution Analysis Results
* • Moisture Content
• Detection Limits Results
• Sample Quantitation Results

* - All criteria were met for this parameter.

NA - A field duplicate pair was not associated with this sample group.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives.

Qualifications were not applied to the data as a result of sampling error.

Qualifications applied to the data as a result of analytical error are discussed below.

- The positive results for arsenic in sample ST17SB05 (49-51) and thallium in sample ST17SB05 (27-29) were qualified as estimated (J) due to laboratory blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive results for beryllium and silver in samples ST17SB05 (27-29) and ST17SB05 (49-51) were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for selenium and silver in samples ST17SB05 (27-29) and ST17SB05 (49-51) were qualified as estimated (J/UJ) due to both negative bias seen in the instrument blank analysis and blank contamination detected. The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive results for arsenic, cobalt, copper, nickel, and zinc in sample ST17SB05 (27-29) and arsenic, copper, nickel, and zinc in sample ST17SB05 (49-51) were qualified as estimated (J) due to positive interferences seen in the ICSA analysis. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive and nondetect results for cadmium, selenium, and silver in samples ST17SB05 (27-29) and ST17SB05 (49-51) were qualified as estimated (J/UJ) due to negative interferences seen in the ICSA analysis. The results may be biased low. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive result for antimony in sample ST17SB05 (27-29) was qualified as estimated (J) due to both positive and negative interferences seen in the ICSA analysis. The direction of the bias cannot be determined. The result can be used for project objectives as an estimated value which may have a minor impact on the data usability.

- The positive and nondetect results for antimony, barium, copper, potassium, zinc, cobalt, mercury were qualified as estimated (J/UJ) in all samples due to recoveries in the MS/MSD analyses which were below control limits. The results may be biased low. These results are usable for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor effect on the data usability.

- The positive and nondetects results for aluminum, calcium, cobalt, copper, iron, magnesium, nickel, potassium, and sodium were qualified as estimated (J) in all soil samples due to high percent differences (%Ds) in the ICP serial dilution analysis. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

The validation recommendations listed above were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables.

Holding Times and Sample Preservation

All criteria were met in the metals and wet chemistry analyses.

Instrument Calibration

All criteria were met in the metals and wet chemistry analyses.

CRDL Standard Recoveries

The following table lists the recoveries which were outside the control limits of 70-130 in the low level standard and the resulting validation actions. The affected analyte level range was determined as 2x the CRDL standard level analyzed due to differences between the reported laboratory QL and the low level standard levels analyzed.

Analyte	Recovery (%)	Associated Samples	Actions
Sodium	62.2, 150	All samples	Validation action was not required as the affected results were greater than the affected analyte range.
Iron	51.9	All samples	Validation action was not required as the affected results were greater than the affected analyte range.
Potassium	132.0	All samples	Validation action was not required as the affected results were greater than the affected analyte range.

Blank Analysis Results

The following table summarizes the metals laboratory blank contamination associated with all samples.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Aluminum	Instrument	8.6 ug/L, 0.86 mg/kg -70 ug/L, -7.0 mg/kg	8.6 mg/kg -70 mg/kg
Antimony	Instrument	7.3 ug/L, 0.73 mg/kg	7.3 mg/kg
Arsenic	Instrument	8.5 ug/L, 0.85 mg/kg	8.5 mg/kg
Barium	Instrument	-7.4 ug/L, -0.74 mg/kg	-7.4 mg/kg
Beryllium	Instrument	0.2 ug/L, 0.02 mg/kg	0.20 mg/kg
Cadmium	Instrument	1.1 ug/L, 0.11 mg/kg	1.1 mg/kg
Calcium	Instrument	-14.9 ug/L, -1.5 mg/kg	-14.9 mg/kg
Cobalt	Instrument	-4.4 ug/L, -0.44 mg/kg	-4.4 mg/kg
Iron	Instrument	-99.2 ug/L,- 9.9 mg/kg	-99.2 mg/kg
Magnesium	Instrument	-28.6 ug/L, -2.86 mg/kg	-28.6 mg/kg
Manganese	Instrument	-3.6 ug/L, -0.36 mg/kg	-3.6 mg/kg
Nickel	Instrument	2.6 ug/L, 0.26 mg/kg	2.6 mg/kg
Selenium	Instrument	7.5 ug/L, 0.75 mg/kg -7.1 ug/L, -0.71 mg/kg	7.5 mg/kg -7.1 mg/kg
Silver	Instrument Method	5.3 ug/L, 0.53 mg/kg -0.939 mg/kg	5.3 mg/kg -9.4 mg/kg
Sodium	Method	-72.1 mg/kg	-720 mg/kg

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Thallium	Instrument	4.6 ug/L, 0.46 mg/kg	4.6 mg/kg
Vanadium	Instrument	1.6 ug/L, 0.16 mg/kg	1.6 mg/kg
Zinc	Instrument	1.2 ug/L, 0.12 mg/kg -2.7 ug/L, -0.27 mg/kg	1.2 mg/kg -2.7 mg/kg

For blank contamination < QL; If the sample result is < QL report the result as nondetect (U) at the QL.
For blank contamination ≥ QL; If the sample result is ≥ QL and < the blank level, report the sample result as nondetect (U).
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.
For negative blank contamination ≥2 MDL; professional judgement was taken to estimate (J/UJ) those results which were less than 10x the maximum blank level detected

The positive results for beryllium and silver in samples ST17SB05 (27-29) and ST17SB05 (49-51) were qualified as nondetect (U) at the QL due to laboratory blank contamination.

The positive results for arsenic in sample ST17SB05 (49-51) and thallium in sample ST17SB05 (27-29) were qualified as estimated (J) due to laboratory blank contamination.

The positive and nondetect results for selenium and silver in samples ST17SB05 (27-29) and ST17SB05 (49-51) were estimated (J/UJ) due to both negative bias seen in the instrument blank analysis and positive blank contamination detected.

ICP ICS Results

All recovery criteria were met in the ICSAB analysis.

Positive results for arsenic, beryllium, cobalt, copper, nickel, sodium, and zinc and negative results for cadmium, selenium, silver, and vanadium were observed in the ICSA solution analysis associated with all samples. Both positive and negative results for antimony and barium were observed in the ICSA solution analysis associated with all samples. The levels of interferents in samples were reviewed. Iron was present in samples ST17SB05 (27-29) (180%) and ST17SB05 (49-51) (97%) at equal to or greater than that of the level in the ICSA solution. The following table lists the estimated interferences and the resulting validation actions.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST17SB05 (27-29)	Antimony	92.9	-12.8/15.8	Estimate (J) the positive result for antimony.
	Arsenic	92.9	10.6	Estimate (J) the positive result for arsenic.
	Barium	315	3.6/-9.2	Interference <10% sample level; no action taken.
	Beryllium	ND	1.1	Validation action was not required.
	Cadmium	ND	-4.9	Estimate (UJ) the nondetect result for cadmium.
	Cobalt	60	5.8	Estimate (J) the positive result for cobalt.
	Copper	199	23.2	Estimate (J) the positive result for copper.
	Nickel	139	22.3	Estimate (J) the positive result for nickel.
	Selenium	18.2	-19.1	Estimate (J) the positive result for selenium.
	Silver	ND	-8.3	Estimate (UJ) the nondetect result for silver.
	Vanadium	285	-10.3	Interference <10% sample level; no action taken.
	Zinc	510	70.4	Estimate (J) the positive result for zinc.
	Sodium	10726	911	Interference <10% sample level; no action taken.
ST17SB05 (49-51)	Antimony	148	-6.9/8.5	Interference <10% sample level; no action taken.
	Arsenic	17.4	5.7	Estimate (J) the positive result for arsenic.
	Barium	319	-4.9/1.9	Interference <10% sample level; no action taken.
	Beryllium	ND	0.6	Validation action was not required.
	Cadmium	ND	-2.6	Estimate (UJ) the nondetect result for cadmium.
	Cobalt	74	3.1	Interference <10% sample level; no action taken.
	Copper	107	12.5	Estimate (J) the positive result for copper.
	Nickel	112	12.0	Estimate (J) the positive result for nickel.
	Selenium	15.5	-10.3	Estimate (J) the positive result for selenium.
	Silver	ND	-4.5	Estimate (UJ) the nondetect result for silver.
	Vanadium	124	-5.5	Interference <10% sample level; no action taken.
	Zinc	255	37.9	Estimate (J) the positive result for zinc.
	Sodium	12136	491	Interference <10% sample level; no action taken.

MS Results

The laboratory performed MS/MSD analyses on non-project samples for ICP metals and cyanide. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

The MS/MSD on sample ST14SB03 (71-73) for the ICP metals analyses (reported in case number X2382), sample ST17SB05 (49-51) for mercury, and sample ST14SB03 (84-86) for cyanide (reported in case number X2411) were used to evaluate accuracy. The following table lists the analytes which exhibited recoveries outside of the control limits of 75 - 125% and the resulting validation actions.

Analyte	Recovery (%)	Actions
Antimony	64.2, 54.6	Estimate (J/UJ) the positive and nondetect results for antimony in all soil samples.

Analyte	Recovery (%)	Actions
Barium	23.3, 24.0	Estimate (J) the positive results for barium in all soil samples.
Copper	74.8, 74.0	Estimate (J/UJ) the positive and nondetect results for copper in all soil samples.
Potassium	11.6, 11.0	Estimate (J) the positive results for potassium in all soil samples.
Zinc	56.3, 54.1	Estimate (J/UJ) the positive and nondetect results for zinc in all soil samples.
Cobalt	MSD 74.3	Estimate (J/UJ) the positive and nondetect results for cobalt in all soil samples.
Mercury	30.7, 33.7	Estimate (J/UJ) the positive and nondetect results for mercury in all soil samples.

Laboratory Duplicate Results

The laboratory performed duplicate analyses on non-project samples for ICP metals and cyanide. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

The duplicate on sample ST14SB03 (71-73) for the ICP metals analyses (reported in case number X2382), sample ST17SB05 (49-51) for mercury, and sample ST14SB03 (84-86) for cyanide (reported in case number X2411) were used to evaluate precision. All criteria were met.

Field Duplicate Results

A field duplicate pair was not associated with this sample set.

LCS Results

All criteria were met in the metals and wet chemistry analyses.

ICP Serial Dilution (ISD) Analysis Results

The laboratory performed the serial dilution analyses on non-project samples for the ICP metals. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

The serial dilution on sample ST14SB03 (71-73) for the ICP metals analyses (reported in case number X2382) and sample ST17SB05 (49-51) for mercury were used to evaluate accuracy. The following table lists the analytes which exhibited %Ds above the control limit of 10 and the resulting validation actions.

Analyte	%D	Actions
Aluminum	11.3%	Estimate (J/UJ) the positive and nondetect results for aluminum in all samples.
Calcium	15.1%	Estimate (J/UJ) the positive and nondetect results for calcium in all samples.
Cobalt	36.3%	Estimate (J/UJ) the positive and nondetect results for cobalt in all samples.
Copper	10.9%	Estimate (J/UJ) the positive and nondetect results for copper in all samples.
Iron	12.3%	Estimate (J/UJ) the positive and nondetect results for iron in all samples.
Magnesium	13.0%	Estimate (J/UJ) the positive and nondetect results for magnesium in all samples.
Nickel	16.7%	Estimate (J/UJ) the positive and nondetect results for nickel in all samples.
Potassium	11.3%	Estimate (J/UJ) the positive and nondetect results for potassium in all samples.
Sodium	17.7%	Estimate (J/UJ) the positive and nondetect results for sodium in all samples.

Moisture Content

All criteria were met.

Detection Limits Results

A dilution was performed for mercury in sample ST17SB05 (27-29) (5-fold) to bring the result within the instrument range.

Sample Quantitation Results

Sample calculations were spot-checked; no discrepancies were noted in the metals results. The total cyanide results for sample ST17SB05 (27-29) was not calculated using the percent solids. The validator revised the cyanide results.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2580
Reviewer: Lorie MacKinnon/GEI Consultants
Date: June 7, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST17SB05-2 (35-37)	X2580-03	VOC, SVOC
ST17SB05-2 (37-39)	X2580-04	VOC, SVOC
ST17SB05-2 (5-7)	X2580-07	VOC, SVOC
Associated QC Samples:	Field Blanks:	None associated
	Field Duplicate pair:	None associated

The above-listed soil samples were collected on April 26, 2006 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260B and semivolatile organic compounds (SVOCs) by SW-846 method 8270C. The data validation was based on the USEPA CLP National Functional Guidelines for Organic Review (January 2005) and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8260B, SOP No. HW-24, Revision 1, June 1999 and USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8270C, SOP No. HW-22, Revision 2, June 2001.
The organic data were evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times and Sample Preservation
*	•	Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
	•	Initial and Continuing Calibrations
	•	Blanks
*	•	Surrogate Recoveries
	•	Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
	•	Internal Standards
	•	Laboratory Control Sample (LCS) Results
NA	•	Field Duplicate Results
*	•	Moisture Content

- Quantitation Limits and Data Assessment
* • Sample Quantitation and Compound Identification

* - All criteria were met.

NA- A field duplicate pair was not associated with this sample group.

All results are usable for project objectives with the exception of select tentatively identified compounds (TICs) which were rejected due to method blank contamination and benzaldehyde in samples ST17SB05-2 (35-37) and ST17SB05-2 (5-7) which were rejected (R) due to continuing calibration percent difference greater than 90.

Qualifications were not applied to the data as a result of sampling error.

Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC and SVOC results which were below the lowest calibration standard and quantitation limit. These results were qualified as estimated (J) in the associated samples by the laboratory. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

- The nondetect result for benzaldehyde in sample ST17SB05-2 (37-39) was qualified as estimated (UJ) due to initial calibration nonconformances. The result can be used for project objectives as a nondetects with estimated quantitation limit. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for 1,1-dichloroethene and carbon disulfide in all samples, indeno(123-cd)pyrene, benzo(b)fluoranthene, dibenzo(ah)anthracene, benzo(ghi)perylene, and 4-nitrophenol in samples ST17SB05-2 (35-37), and indeno(123-cd)pyrene and 4-nitrophenol in sample ST17SB05-2 (5-7) were qualified as estimated (J/UJ) due to continuing calibration nonconformances. The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The nondetect result for benzaldehyde in samples ST17SB05-2 (35-37) and ST17SB05-2 (5-7) were rejected (R) due to continuing calibration percent difference greater than 90. The results are not usable for project objectives. This qualification may have a major impact on the data usability.

- The nondetect result for 4-nitrophenol in sample ST17SB05-2 (37-39) was qualified as estimated (UJ) due to low recovery in the LCS analyses. The result may be biased low. The result can be used for project objectives as a nondetect with an estimated quantitation limit. This qualification may have a minor impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the VOC and SVOC analyses.

Holding Times and Sample Preservation

All criteria were met in the VOC and SVOC analyses.

GC/MS Tunes

All criteria were met in the VOC and SVOC analyses.

Initial and Continuing Calibrations

Compounds that did not meet criteria in the VOC and SVOC initial and continuing calibrations are summarized in the following tables.

Instrument ID MSVOAK Compound	CC 05/05/06
1,1-dichloroethene	XX (36.7%)
carbon disulfide	XX (40.1%)
Samples Affected	All samples

Instrument ID BNAB Compound	IC 04/10/06
benzaldehye	X (r=0.825)
Samples Affected	ST17SB05-2 (37-39)

Instrument ID BNAF Compound	IC 04/10/06	CC 5/04/06
benzaldehyde	X (r=0.952)	
indeno(123-cd)pyrene		XX (60.5%)
benzo(b)fluoranthene		XX (51.2%)
dibenz(ah)anthracene		XX (33.3%)
benzo(ghi)perylene		XX (44.4%)
benzaldehyde		XXX (125%)
4-nitrophenol		XX (53.7%)
Samples Affected	ST17SB05-2 (35-37), ST17SB05-2 (5-7)	ST17SB05-2 (35-37), ST17SB05-2 (5-7)

Instrument ID BNAF Compound	IC 05/05/06	CC 05/08/06
benzaldehye	X (r=0.916)	
indeno(123-cd)pyrene		XX (33.5%)
Samples Affected	ST17SB05-2 (5-7) DL	ST17SB05-2 (5-7) DL

X = Initial calibration (IC) relative standard deviation (%RSD) > 50 for 1,4-dioxane, (%RSD) > 40 for poor response compounds, and %RSD > 20 for all other compounds ; estimate (J) positive result. If regression was performed and correlation coefficient (r) < 0.990; estimate (J/UJ) positive and nondetect results.

XX = Continuing calibration (CC) percent difference (%D) > 50 for 1,4-dioxane, (%D) > 40 for poor response compounds, and %D > 25 for all other compounds; estimate (J/UJ) positive and nondetect results.

XXX = Continuing calibration (CC) percent difference (%D) > 90; estimate (J) positive results and reject (R) nondetect results.

+ = Response factor (RRF) < 0.05 except <0.01 for poor response compounds; Estimate (J) positive results and reject (R) nondetect results.

The nondetect results for benzaldehyde in sample ST17SB05-2 (37-39) was estimated (UJ) due to initial calibration nonconformances.

The nondetect results for 1,1-dichloroethene and carbon disulfide in all samples, indeno(123-cd)pyrene, benzo(b)fluoranthene, dibenzo(ah)anthracene, benzo(ghi)perylene, and 4-nitrophenol in samples ST17SB05-2 (35-37), and indeno(123-cd)pyrene and 4-nitrophenol in sample ST17SB05-2 (5-7) were estimated (UJ) due to continuing calibration nonconformances.

The nondetect results for benzaldehyde in samples ST17SB05-2 (35-37) and ST17SB05-2 (5-7) were rejected (R) due to continuing calibration percent difference greater than 90.

Validation actions were not required for benzo(b)fluoranthene, dibenzo(ah)anthracene, and benzo(ghi)perylene in sample ST17SB05-2 (5-7) due to continuing calibration conconformances as these results were reported from the diluted analysis due to better IS areas.

Blanks

Target compound contaminants were not detected in the VOC and SVOC method blanks.

Tentatively identified compounds (TICs) were detected in the SVOC method blank. TICs, which were detected in these samples at levels less than ten times those in the method blank, were rejected (R).

Surrogate Recoveries

All criteria were met in the VOC and SVOC analyses.

MS/MSD Results

The laboratory performed the MS/MSD on non-project samples for the VOC and SVOC analyses. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

Internal Standards

All criteria were met in the VOC analyses.

The following table lists the internal standard areas found outside of the control limits and the resultant actions in the SVOC analyses.

Sample	Internal Standard	Recovery (%)	Validation Actions
ST17SB05-2 (5-7)	chrysene-d12 perylene-d12	48.5 29.8	Validation actions were not required. The sample was re-analyzed at a five-fold dilution with acceptable IS areas. The affected results were reported from the 5-fold dilution.

LCS Results

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the VOC and SVOC analyses.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
methylene chloride trans-1,2-dichloroethene	145 140	70-130	All samples	Validation actions were not required as results were nondetect and therefore not affected by the potential high bias.
4-nitrophenol	36	45-95	ST17SB05-2 (37-39)	Estimate (UJ) the nondetect result for 4-nitrophenol in sample ST17SB05-2 (37-39).

Field Duplicate Results

A field duplicate pair was not associated with this sample group.

Moisture Content

All criteria were met.

Quantitation Limits and Data Assessment

Results were reported which were below the lowest calibration standard level (RL) and above the method detection limit (MDL) in the VOC and SVOC analyses. These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration.

The volatile analysis utilized one gram of sample to 5 ml, instead of the typical 5 grams to 5 ml. Quantitation limits are elevated 5-fold accordingly for all VOC samples.

The following table lists the sample analyses which were performed and reported.

Sample	VOC Analysis Reported	SVOC Analysis Reported
ST17SB05-2 (5-7)	NR	Due to high compound levels and poor internal standard areas in the initial analysis, the sample was reanalyzed at a 5-fold dilution. Report the results for fluoranthene, pyrene, butylbenzylphthalate, benzo(a)anthracene, 3,3'-dichlorobenzidine, chrysene, bis(2-ethylhexyl)phthalate, di-n-octylphthalate, indeno(123-cd)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, dibenzo(ah)anthracene, and benzo(ghi)perylene from the 5-fold dilution. Report the remaining compound results from the straight analysis.

NR- Dilution/reanalysis not required

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted in the VOC and SVOC analyses.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2580
Reviewer: Lorie MacKinnon/GEI Consultants
Date: June 7, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST17SB05-2 (35-37)	X2580-03	Metals, Cyanide
ST17SB05-12 (5-7)	X2580-07	Metals, Cyanide

Associated QC Samples:	Field Blanks:	None associated
	Field Duplicate pair:	None associated

The above-listed soil samples were collected on April 26, 2006 and were analyzed for metals by SW-846 methods 6010B and 7471A and Total and Amenable Cyanide (CN) by SW-846 method 9012. The data validation was based on the USEPA CLP National Functional Guidelines for Inorganic Review (October 2004) and the USEPA Region II Standard Operating Procedure (SOP) for CLP Inorganic Review (January 1992), modified to accommodate the SW-846 methodologies.

The inorganic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Instrument Calibration
• Contract Required Detection Limit (CRDL) Standard Recoveries
• Blank Analysis Results
• Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Results
• Matrix Spike (MS) Results
* • Laboratory Duplicate Results
NA • Field Duplicate Results
* • Laboratory Control Sample (LCS) Results
• ICP Serial Dilution Analysis Results
* • Moisture Content
• Detection Limits Results
* • Sample Quantitation Results

* - All criteria were met for this parameter.
NA - A field duplicate pair was not associated with this sample group.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives.

Qualifications were not applied to the data as a result of sampling error.

Qualifications applied to the data as a result of analytical error are discussed below.

- The positive results for silver in samples ST17SB05-2 (35-37) and ST17SB05-2 (5-7) were qualified as estimated (J) due to low recovery in the CRDL standard analysis. The results may be biased low. These results are usable for project objectives as estimated values which may have a minor effect on the data usability.

- The positive result for cadmium in sample ST17SB05-2 (5-7) was qualified as estimated (J) due to laboratory blank contamination detected. The result may be biased high. The result can be used for project objectives as an estimated value which may have a minor impact on the data usability.

- The positive results for beryllium in samples ST17SB05-2 (35-37) and ST17SB05-2 (5-7) and cadmium in sample ST17SB05-2 (35-37) were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The nondetect results for antimony, selenium, and thallium in samples ST17SB05-2 (35-37) and ST17SB05-2 (5-7) were qualified as estimated (UJ) due to negative interferences seen in the ICSA analysis. The results may be biased low. The results can be used for project objectives as nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive results for copper, nickel, silver, and sodium in sample ST17SB05-2 (35-37) and cadmium, nickel, silver, and sodium in sample ST17SB05-2 (5-7) were qualified as estimated (J) due to positive interferences seen in the ICSA analysis. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive and nondetect results for antimony, barium, copper, potassium, zinc, cobalt, mercury were qualified as estimated (J/UJ) in all samples due to recoveries in the MS/MSD analyses which were below control limits. The results may be biased low. These results are

usable for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor effect on the data usability.

- The positive and nondetects results for aluminum, calcium, cobalt, copper, iron, magnesium, nickel, potassium, and sodium were qualified as estimated (J) in all soil samples due to high percent differences (%Ds) in the ICP serial dilution analysis. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

- Potential uncertainty exists for the following results which were detected above the method detection limit (MDL) but below the laboratory reporting limit: cobalt and sodium in sample ST17SB05-2 (5-7). The positive results were qualified as estimated (J) and can be used for project objectives as estimated values which may have a minor effect on the data usability.

The validation recommendations listed above were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables.

Holding Times and Sample Preservation

All criteria were met in the metals and wet chemistry analyses.

Instrument Calibration

All criteria were met in the metals and wet chemistry analyses.

CRDL Standard Recoveries

The following table lists the recoveries which were outside the control limits of 70-130 in the low level standard and the resulting validation actions. The affected analyte level range was determined as 2x the CRDL standard level analyzed due to differences between the reported laboratory QL and the low level standard levels analyzed.

Analyte	Recovery (%)	Associated Samples	Actions
Mercury	135	All samples	Validation action was not required as the affected results were greater than the affected analyte range.
Silver	50.8	All samples	Estimate (J) the positive results for silver in all samples.

Blank Analysis Results

The following table summarizes the metals laboratory blank contamination associated with all samples.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level
Aluminum	Instrument	91.6 ug/L, 9.16 mg/kg	91.6 mg/kg
Antimony	Instrument	6.2 ug/L, 0.62 mg/kg	6.2 mg/kg
Barium	Instrument	9.4 ug/L, 0.94 mg/kg	9.4 mg/kg
Beryllium	Instrument	0.7 ug/L, 0.07 mg/kg	0.7 mg/kg
Cadmium	Instrument	0.6 ug/L, 0.06 mg/kg	0.60 mg/kg
Calcium	Instrument	-12.3 ug/L, -1.23 mg/kg	-12.3 mg/kg
Chromium	Instrument	2.2 ug/L, 0.22 mg/kg	2.2 mg/kg
Manganese	Instrument	-2.6 ug/L, -0.26 mg/kg	-2.6 mg/kg
Nickel	Instrument	-3.5 ug/L, -0.35 mg/kg	-3.5 mg/kg
Vanadium	Instrument	-1.5 ug/L, -0.15 mg/kg	-1.5 mg/kg
Zinc	Instrument	-2.2 ug/L, -0.22 mg/kg	-2.2 mg/kg

For blank contamination < QL; If the sample result is < QL report the result as nondetect (U) at the QL.
For blank contamination ≥ QL; If the sample result is ≥ QL and < the blank level, report the sample result as nondetect (U).
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.
For negative blank contamination ≥2 MDL; professional judgement was taken to estimate (J/UJ) those results which were less than 10x the maximum blank level detected

The positive results for beryllium in samples ST17SB05-2 (35-37) and ST17SB05-2 (5-7) and cadmium in sample ST17SB05-2 (35-37) were qualified as nondetect (U) at the QL due to laboratory blank contamination.

The positive result for cadmium in sample ST17SB05-2 (5-7) was qualified as estimated (J) due to laboratory blank contamination.

ICP ICS Results

All recovery criteria were met in the ICSAB analysis.

Positive results for barium, beryllium, cadmium, copper, nickel, potassium, silver, sodium, vanadium, zinc, cobalt, and lead and negative results for antimony, selenium, and thallium were observed in the ICSA solution analysis associated with all samples. The levels of interferents in samples were reviewed. Iron was present in samples ST17SB05-2 (35-37) (122%) and ST17SB05-2 (5-7) (98%) at equal to or greater than that of the level in the ICSA solution. The following table lists the estimated interferences and the resulting validation actions.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST17SB05-2 (35-37)	Antimony	ND	-40.5	Estimate (UJ) the nondetect result for antimony.
	Barium	429	13.8	Interference <10% sample level; no action taken.
	Beryllium	ND	1.2	Validation action was not required
	Cadmium	ND	1.5	Validation action was not required
	Copper	148	15.3	Estimate (J) the positive result for copper.
	Nickel	169	19.8	Estimate (J) the positive result for nickel.
	Potassium	27874	143	Interference <10% sample level; no action taken.
	Selenium	ND	-8.1	Estimate (UJ) the nondetect result for selenium.
	Silver	29	12.2	Estimate (J) the positive result for silver.
	Sodium	6107	691	Estimate (J) the positive result for sodium.
	Vanadium	160	8.3	Interference <10% sample level; no action taken.
	Zinc	355	24.4	Interference <10% sample level; no action taken.
	Cobalt	66	1.5	Interference <10% sample level; no action taken.
	Lead	140	4.1	Interference <10% sample level; no action taken.
	Thallium	ND	-11.8	Estimate (UJ) the nondetect result for thallium.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST17SB05-2 (5-7)	Antimony	ND	-32.5	Estimate (UJ) the nondetect result for antimony.
	Barium	3741	11.1	Interference <10% sample level; no action taken.
	Beryllium	ND	0.96	Validation action was not required
	Cadmium	6.0	1.2	Estimate (J) the positive result for cadmium.
	Copper	326	12.3	Interference <10% sample level; no action taken.
	Nickel	137	15.9	Estimate (J) the positive result for nickel.
	Potassium	10232	115	Interference <10% sample level; no action taken.
	Selenium	ND	-6.5	Estimate (UJ) the nondetect result for selenium.
	Silver	24.1	9.8	Estimate (J) the positive result for silver.
	Sodium	3615	555	Estimate (J) the positive result for sodium.
	Vanadium	196	6.7	Interference <10% sample level; no action taken.
	Zinc	2331	19.6	Interference <10% sample level; no action taken.
	Cobalt	37	1.18	Interference <10% sample level; no action taken.
	Lead	2894	3.3	Interference <10% sample level; no action taken.
	Thallium	ND	-9.5	Estimate (UJ) the nondetect result for thallium.

MS Results

The laboratory performed MS/MSD analyses on non-project samples for ICP metals and mercury. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

The MS/MSD on sample ST14SB03 (71-73) for the ICP metals, sample ST14SB04(53-55) for mercury (both reported in case number X2382), and sample ST17SB05-2 (35-37) for cyanide were used to evaluate accuracy. The following table lists the analytes which exhibited recoveries outside of the control limits of 75 - 125% and the resulting validation actions.

Analyte	Recovery (%)	Actions
Antimony	64.2, 54.6	Estimate (J/UJ) the positive and nondetect results for antimony in all soil samples.
Barium	23.3, 24.0	Estimate (J) the positive results for barium in all soil samples.
Copper	74.8, 74.0	Estimate (J/UJ) the positive and nondetect results for copper in all soil samples.
Potassium	11.6, 11.0	Estimate (J) the positive results for potassium in all soil samples.
Zinc	56.3, 54.1	Estimate (J/UJ) the positive and nondetect results for zinc in all soil samples.
Cobalt	MSD 74.3	Estimate (J/UJ) the positive and nondetect results for cobalt in all soil samples.
Mercury	56.0, 55.0	Estimate (J/UJ) the positive and nondetect results for mercury in all soil samples.

Laboratory Duplicate Results

The laboratory performed duplicate analyses on non-project samples for ICP metals and mercury. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

The duplicate on sample ST14SB03 (71-73) for the ICP metals, sample ST14SB04(53-55) for mercury (both reported in case number X2382), and sample ST17SB05-2 (35-37) for cyanide were used to evaluate precision. All criteria were met.

Field Duplicate Results

A field duplicate pair was not associated with this sample set.

LCS Results

All criteria were met in the metals and wet chemistry analyses.

ICP Serial Dilution (ISD) Analysis Results

The laboratory performed the serial dilution analyses on non-project samples for ICP metals and mercury. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

The serial dilution on sample ST14SB03 (71-73) for the ICP metals analyses and on ST14SB04(53-55) for mercury (both reported in case number X2382) was used to evaluate accuracy. The following table lists the analytes which exhibited %Ds above the control limit of 10 and the resulting validation actions.

Analyte	%D	Actions
Aluminum	11.3%	Estimate (J/UJ) the positive and nondetect results for aluminum in all samples.
Calcium	15.1%	Estimate (J/UJ) the positive and nondetect results for calcium in all samples.
Cobalt	36.3%	Estimate (J/UJ) the positive and nondetect results for cobalt in all samples.
Copper	10.9%	Estimate (J/UJ) the positive and nondetect results for copper in all samples.
Iron	12.3%	Estimate (J/UJ) the positive and nondetect results for iron in all samples.
Magnesium	13.0%	Estimate (J/UJ) the positive and nondetect results for magnesium in all samples.
Nickel	16.7%	Estimate (J/UJ) the positive and nondetect results for nickel in all samples.
Potassium	11.3%	Estimate (J/UJ) the positive and nondetect results for potassium in all samples.

Analyte	%D	Actions
Sodium	17.7%	Estimate (J/UJ) the positive and nondetect results for sodium in all samples.

Moisture Content

All criteria were met.

Detection Limits Results

Dilutions were not required.

Positive results which were above the MDL but below the RL were flagged by the laboratory with a "J". These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration: cobalt and sodium in sample ST17SB05-2 (5-7).

Sample Quantitation Results

Sample calculations were spot-checked; no discrepancies were noted.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2661
Reviewer: Lorie MacKinnon/GEI Consultants
Date: June 23, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST14SB08 (27-29)	X2661-02	VOC, SVOC
ST14SB08 (35-37)	X2661-03	VOC, SVOC
ST14SB08 (50-51)	X2661-04	VOC, SVOC
ST14SB08 (43-45)	X2661-05	VOC, SVOC
ST-FB02	X2661-06	VOC, SVOC
ST14SB06-2 (24-25)	X2661-08	VOC, SVOC
ST14SB06-2 (31-33)	X2661-10	VOC, SVOC
ST-TB-5-2-06	X2661-11	VOC

Associated QC Samples:	Field and Trip Blanks:	ST-FB02
	Field Duplicate pair:	None associated

The above-listed soil samples, field blank, and trip blank sample were collected on May 2, 3, 4, and 5, 2006 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260B and semivolatile organic compounds (SVOCs) by SW-846 method 8270C. The data validation was based on the USEPA CLP National Functional Guidelines for Organic Review (January 2005) and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8260B, SOP No. HW-24, Revision 1, June 1999 and USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8270C, SOP No. HW-22, Revision 2, June 2001.

The organic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
• Initial and Continuing Calibrations
• Blanks
* • Surrogate Recoveries

	•	Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
	•	Internal Standards
	•	Laboratory Control Sample (LCS) Results
NA	•	Field Duplicate Results
*	•	Moisture Content
	•	Quantitation Limits and Data Assessment
	•	Sample Quantitation and Compound Identification

* - All criteria were met.

NA - A field duplicate pair was not associated with this sample group.

All results are usable for project objectives with the exception of select tentatively identified compounds (TICs) which were rejected due to method blank contamination and benzaldehyde in sample ST14SB08 (43-45) and ST14SB06-2 (24-25) and benzo(k)fluoranthene in sample ST14SB08 (43-45) which were rejected due to %Ds which exceeded 90.

Qualifications were not applied to the data as a result of sampling error.

Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC and SVOC results which were below the lowest calibration standard and quantitation limit. These results were qualified as estimated (J) in the associated samples by the laboratory. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

- The VOC tentatively identified compounds, naphthalene and 2-methylnaphthalene, in sample ST14SB06-2 (24-25) and SVOC tentatively identified compounds, ethylbenzene and p-xylene in sample ST14SB06-2 (24-25) and p-xylene and o-xylene in sample ST14SB06-2 (31-33), were rejected (R) as they were reported as target compounds in the other fractions.
- The positive result for methylene chloride in sample ST14SB06-2 (31-33) was qualified as nondetect (U) at the reported value due to laboratory blank contamination. The result can be used for project objectives as an elevated quantitation limit. This qualification may have a minor impact on the data usability.

- The positive result for methylene chloride in sample ST14SB08 (43-45) was qualified as nondetect (U) at the reporting limit due to laboratory blank contamination. The result can be used for project objectives as a nondetect. This qualification may have a minor impact on the data usability.

- The positive result for benzo(k)fluoranthene in sample ST14SB06-2 (24-25) was estimated (J) due to %D which exceeded 90. The result can be used for project objectives as an estimated value. This qualification may have a minor impact on the data usability.

- The nondetect results for benzaldehyde in samples ST14SB08 (43-45) and ST14SB06-2 (24-25) and benzo(k)fluoranthene in sample ST14SB08 (43-45) were rejected due to %Ds which exceeded 90 were rejected (R) due to continuing calibration percent differences greater than 90. The results are not usable for project objectives. This qualification may have a major impact on the data usability.

- The nondetect results for carbon tetrachloride in samples ST-TB-5-2-06 and ST-FB02, trichlorofluoromethane, 1,1-dichloroethene, carbon disulfide, and methyl acetate in sample ST14SB06-2 (24-25), and benzaldehyde in samples ST14SB08 (27-29), ST14SB08 (35-37), ST14SB08 (50-51), ST14SB06-2 (31-33), and ST-FB02 were qualified as estimated (UJ) due to initial calibration nonconformances. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The following positive and nondetect results were qualified as estimated (J/UJ) due to continuing calibration nonconformances: 1,1,2,2-tetrachloroethane in samples ST-TB-5-2-06 and ST-FB02, tetrachloroethene and trichlorofluoromethane in sample ST14SB06-2 (24-25), chloroethane in samples ST14SB08 (27-29), ST14SB08 (35-37), and ST14SB08 (50-51), methylene chloride in sample ST14SB06-2 (31-33), chloroethane, methylene chloride, and tetrachloroethene in sample ST14SB08 (43-45), benzaldehyde in sample ST-FB02, and 3,3'-dichlorobenzidine, indeno(123-cd)pyrene, and benzo(ghi)perylene in samples ST14SB08 (43-45), ST14SB06-2 (31-33), and ST14SB06-2 (24-25). The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The nondetect results for 2,4-dinitrophenol, 4-nitrophenol, 4,6-dinitro-2-methylphenol, indeno(123-cd)pyrene, and benzo(ghi)perylene in sample ST14SB08 (27-29) were qualified as estimated (UJ) due to low recoveries in the MS/MSD analyses. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for isophorone, 2,4-dimethylphenol, butylbenzylphthalate, 3,3'-dichlorobenzidine, bis(2-ethylhexyl)phthalate, di-n-octylphthalate, indeno(123-cd)pyrene, benzo(k)fluoranthene, dibenz(ah)anthracene, benzo(ghi)perylene, benzo(b)fluoranthene and benzo(a)perylene were qualified as estimated (J/UJ) in sample ST14SB06-2 (24-25) due to low internal standard areas. The results can be used for project objectives as estimated values

and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The blank-qualified nondetect result for methylene chloride in sample ST14SB06-2 (31-33) and the positive results for carbazole and benzo(k)fluoranthene in sample ST14SB06-2 (24-25) were qualified as estimated (J/UJ) due to high recoveries in the LCS analysis. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The following nondetect results for were qualified as estimated (UJ) due to low recoveries in the LCS analysis: 1,1,2-trichlorotrifluoroethane, methylcyclohexane, acetone, methyl acetate, 2-butanone, and 1,1,2,2-tetrachloroethane in samples ST-TB-5-2-06 and ST-FB02; chloromethane, vinyl chloride, chloroethane, trichlorofluoroethane, 1,1-dichloroethene, acetone, carbon disulfide, methylene chloride, and 2-butanone in sample ST14SB06-2 (24-25); dichlorodifluoromethane, chloroethane, trichlorotrifluoromethane, and carbon tetrachloride in sample ST14SB06-2 (31-33); and 4-nitrophenol in samples ST14SB08 (27-29), ST14SB08 (35-37), and ST14SB08 (50-51). The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive result for carbazole in sample ST14SB06-2 (24-25) was qualified as estimated as the result was over the instrument calibration limit. The result can be used for project objectives as an estimated values. This qualification may have a minor impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the VOC and SVOC analyses.

Holding Times and Sample Preservation

All criteria were met in the VOC and SVOC analyses.

GC/MS Tunes

All criteria were met in the VOC and SVOC analyses.

Initial and Continuing Calibrations

Compounds that did not meet criteria in the VOC and SVOC initial and continuing calibrations are summarized in the following tables.

Instrument ID MSVOAG Compound	IC 05/08/06	CC 5/12/06
carbon tetrachloride	X (r=0.987)	
1,1,2,2-tetrachloroethane		XX (25.1%)
Samples Affected	ST-TB-5-2-06, ST-FB02	TB-5-2-06, ST-FB02

Instrument ID MSVOAH Compound	IC 05/13/06	CC 5/14/06
trichlorofluoromethane	X (r=0.963)	XX (66.4%)
1,1-dichloroethene	X (r=0.976)	
carbon disulfide	X (r=0.971)	
methyl acetate	X (r=0.978)	
tetrachloroethene		XX (32.3%)
Samples Affected	ST14SB06-2 (24-25), ST14SB06-2 (24-25)DL	ST14SB06-2 (24-25), ST14SB06-2 (24-25)DL

Instrument ID MSVOAK Compound	CC 05/06/06	CC 05/14/06	CC 5/15/06
chloroethane	XX (57.3%)		XX (54.5%)
methylene chloride		XX (59.2%)	XX (63.2%)
tetrachloroethene			XX (26.1%)
Samples Affected	ST14SB08 (27-29), ST14SB08 (35-37), ST14SB08 (50-51)	ST14SB06-2 (31-33)	ST14SB08 (43-45)

Instrument ID BNAB Compound	IC 04/28/06	CC 5/11/06
benzaldehyde	X (r=0.825)	XX (64.5%)
Samples Affected	ST14SB08 (27-29), ST14SB08 (35-37), ST14SB08 (50-51), ST-FB02	ST-FB02

Instrument ID BNAE Compound	IC 05/05/06	CC 05/12/06	CC 5/15/06
3,3'-dichlorobenzidine	X (r=0.917)	XX (52.9%)	XX (43.8%)
indeno(123-cd)pyrene		XX (30.6%)	XX (51.2%)
benzo(ghi)perylene		XX (28.4%)	XX (41.1%)
benzaldehyde		XXX (125%)	XXX (125%)
benzo(k)fluoranthene		XXX (125%)	XXX (125%)
dibenzo(ah)anthracene			XX (34.8%)
Samples Affected	All samples listed	ST14SB08 (43-45), ST14SB06-2 (31-33), ST14SB06-2 (24-25), ST14SB06-2 (24-25)DL	ST14SB06-2 (24-25)DL2

Instrument ID BNAE Compound	IC 6/1/05
benzaldehyde	X (r=0.977)
Samples Affected	ST14SB06-2 (31-33)DL

X = Initial calibration (IC) relative standard deviation (%RSD) > 50 for 1,4-dioxane, (%RSD) > 40 for poor response compounds, and %RSD > 20 for all other compounds ; estimate (J) positive result. If regression was performed and correlation coefficient (r) < 0.990; estimate (J/UJ) positive and nondetect results.

XX = Continuing calibration (CC) percent difference (%D) > 50 for 1,4-dioxane, (%D) > 40 for poor response compounds, and %D > 25 for all other compounds; estimate (J/UJ) positive and nondetect results.

XXX = Continuing calibration (CC) percent difference (%D) > 90; estimate (J) positive results and reject (R) nondetect results.

+ = Response factor (RRF) < 0.05 except <0.01 for poor response compounds; Estimate (J) positive results and reject (R) nondetect results.

The nondetect results for carbon tetrachloride in samples ST-TB-5-2-06 and ST-FB02, trichlorofluoromethane, 1,1-dichloroethene, carbon disulfide, and methyl acetate in sample

ST14SB06-2 (24-25), and benzaldehyde in samples ST14SB08 (27-29), ST14SB08 (35-37), ST14SB08 (50-51), ST14SB06-2 (31-33)DL and ST-FB02 were estimated (UJ) due to initial calibration nonconformances.

The following positive and nondetect results were estimated (J/UJ) due to continuing calibration nonconformances: 1,1,2,2-tetrachloroethane in samples ST-TB-5-2-06 and ST-FB02, tetrachloroethene and trichlorofluoromethane in sample ST14SB06-2 (24-25), chloroethane in samples ST14SB08 (27-29), ST14SB08 (35-37), and ST14SB08 (50-51), methylene chloride in sample ST14SB06-2 (31-33), chloroethane, methylene chloride, and tetrachloroethene in sample ST14SB08 (43-45), benzaldehyde in sample ST-FB02, and 3,3'-dichlorobenzidine, indeno(123-cd)pyrene, and benzo(ghi)perylene in samples ST14SB08 (43-45), ST14SB06-2 (31-33), and ST14SB06-2 (24-25).

The nondetect results for benzaldehyde in samples ST14SB08 (43-45) and ST14SB06-2 (24-25) and benzo(k)fluoranthene in sample ST14SB08 (43-45) were rejected due to %Ds which exceeded 90. The positive result for benzo(k)fluoranthene in sample ST14SB06-2 (24-25) was qualified as estimated (J) due to %D which exceeded 90.

Blanks

The following table summarizes the VOC and SVOC method, field, and and trip blank contamination.

Compound	Type of Blank	Associated Samples	Maximum Concentration	Blank Action Level
Methylene chloride	Method	ST14SB06-2 (31-33)	27 ug/kg (equivalent sample 135 ug/kg)	270 ug/kg
Methylene chloride	Method	ST14SB08 (43-45)	12 ug/kg (equivalent sample 60 ug/kg)	120 ug/kg
Acetone	ST-FB02	All soil samples	7.6 ug/L	15.2 ug/L
Methylene chloride	ST-TB-5-2-06	All soil samples	2.1 ug/L	4.2 ug/L
Naphthalene	ST-FB02	All soil samples	2.3 ug/L, 76.6 ug/kg	76.6 ug/kg
Phenanthrene	ST-FB02	All soil samples	2.4 ug/L, 79.9 ug/kg	79.9 ug/kg
bis(2-ethylhexyl)phthalate	ST-FB02	All soil samples	2.1 ug/L, 69.9 ug/kg	349.5 ug/kg

Blank Actions
The blank action level is 1X Max Conc for VOC/2X for common contaminant and 1X for SVOC/5X common contaminant
If the sample concentration $\leq$ RL and $\leq$ blank action level, qualify the result as not detected (U) at the RL.
If the sample concentration > RL and $\leq$ blank action level, qualify the result as not detected (U) at the reported value.
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.

The positive result for methylene chloride in sample ST14SB06-2 (31-33) was qualified as nondetect (U) at the reported value due to laboratory blank contamination.

The positive result for methylene chloride in sample ST14SB08 (43-45) was qualified as nondetect (U) at the reporting limit due to laboratory blank contamination.

Validation actions were not required due to field blank contamination.

Tentatively identified compounds (TICs) were detected in the SVOC method blank. TICs, which were detected in these samples at levels less than ten times those in the method blank, were rejected (R).

Surrogate Recoveries

All criteria were met in the VOC and SVOC analyses without dilution.

MS/MSD Results

The laboratory performed MS/MSD analyses on a non-project sample for the VOC analyses. Validation actions were not taken due to differences in matrix, type, etc.

The MS/MSD analyses were performed on sample ST14SB08 (27-29) for SVOC. The following table lists the recoveries and/or RPDs outside of control limits.

Compound	Recovery (%)	RPD (%)	Control Limits	Validation Actions
2,4-dinitrophenol	18, 15	-	26-131/50	Estimate (UJ) the nondetect results for the affected compounds in sample ST14SB08 (27-29).
4-nitrophenol	31, 29	-	45-95/50	
4,6-dinitro-2-methylphenol	35, 37	-	40-105/50	
indeno(123-cd)pyrene	16, 16	-	42-124/50	
benzo(ghi)perylene	36, 34	-	39-130/50	

- Within control limits

Internal Standards

All criteria were met in the VOC analyses.

The following table lists the internal standard areas found outside of the control limits and the resultant actions in the SVOC analyses.

Sample	Internal Standard	Recovery (%)	Validation Actions
ST14SB06-2 (24-25) 10-fold	Naphthalene-d8	11.4	Estimate (J) the positive results for isophorone and 2,4-dimethylphenol. Validation action was not required for naphthalene and 2-methylnaphthalene as the results were reported from diluted analyses with acceptable affected IS area. The remaining affected nondetect results were reported from the 100-fold dilution as the results would be rejected in the 10x analysis.
ST14SB06-2 (24-25) 10-fold	Chrysene-d12	46.3	Estimate (J/UJ) the positive and nondetect results for butylbenzylphthalate, 3,3'-dichlorobenzidine, bis (2-ethylhexyl)phthalate, di-n-octylphthalate, and indeno(123-cd)pyrene.
ST14SB06-2 (24-25) 10-fold	Perylene-d12	24.0	Estimate (J) the positive results for benzo(k)fluoranthene, dibenz(ah)anthracene, and benzo(ghi)perylene.
ST14SB06-2 (24-25) 100-fold	Perylene-d12	26.0	Estimate (J) the positive results for benzo(b)fluoranthene and benzo(a)perylene.
ST14SB06-2 (24-25) 500-fold	Perylene-d12	22.3	Validation actions were not required as affected results were not reported from this dilution.

LCS Results

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the VOC and SVOC analyses.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
1,1,2-trichlorotrifluoroethane methylcyclohexane acetone methyl acetate 2-butanone 1,1,2,2-tetrachloroethane	65, 63 67 53 63 59 65	70-125	ST-TB-5-2-06, ST-FB02	Estimate (UJ) the nondetect results for the affected compounds in samples ST-TB-5-2-06 and ST-FB02.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
chloromethane vinyl chloride chloroethane trichlorofluoromethane 1,1-dichloroethene acetone carbon disulfide methylene chloride 2-butanone	60, 65 65, 65 65 65, 60 55, 65 51 38, 50 65 63	70-130	ST14SB06-2 (24-25)	Estimate (UJ) the nondetect results for the affected compounds in sample ST14SB06-2 (24-25).
tetrachlorethene	155, 145	70-130	ST14SB06-2 (24-25)	Validation actions were not required as the result was nondetect and therefore not affected by the potential high bias.
methyl acetate acetone	160 140	70-130	ST14SB08 (27-29), ST14SB08 (35-37), ST14SB08 (50-51)	Validation actions were not required as the results were nondetect and therefore not affected by the potential high bias.
dichlorodifluoromethane chloroethane trichlorofluoromethane carbon tetrachloride	65 60 50 65	70-130	ST14SB06-2 (31-33)	Estimate (UJ) the nondetect results for the affected compounds in sample ST14SB06-2 (31-33).
methylene chloride	305	70-130	ST14SB06-2 (31-33)	Estimate (UJ) the blank-qualified nondetect result for methylene chloride in sample ST14SB06-2 (31-33).
methylene chloride	175	70-130	ST14SB08 (43-45)	Validation actions were not required as the result was nondetect and therefore not affected by the potential high bias.
4-nitrophenol	36	45-95	ST14SB08 (27-29), ST14SB08 (35-37), ST14SB08 (50-51)	Estimate (UJ) the nondetect results for 4-nitrophenol in the associated samples.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
3-nitroaniline 4-nitroaniline carbazole 3,3'-dichlorobenzidine benzo(k)fluoranthene	112 118 176 124 129	27-88 41-115 54-117 31-111 43-125	ST14SB08 (43-45), ST14SB06-2 (24-25), ST14SB06-2 (31-33)	Estimate (J) the positive results for carbazole and benzo(k)fluoranthene in sample ST14SB06-2 (24-25). Validation actions were not required for the remaining compounds in the associated samples as they were nondetect and therefore not affected by the potential high bias.

Field Duplicate Results

A field duplicate pair was not associated with this sample group.

Moisture Content

All criteria were met.

Quantitation Limits and Data Assessment

Results were reported which were below the lowest calibration standard level (RL) and above the method detection limit (MDL) in the VOC and SVOC analyses. These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration.

The low level volatile analysis utilized one gram of sample to 5 ml, instead of the typical 5 grams to 5 ml. Quantitation limits are elevated five-fold accordingly. The following table lists the sample dilutions which were performed and reported.

Sample	VOC Analysis Reported	SVOC Analysis Reported
ST14SB06-2 (31-33)	NR	Report result for naphthalene from the 5-fold dilution. Due to high %D in the continuing calibration standard associated with the undiluted analysis which would result in compound rejections, report the nondetect results for benzaldehyde, and benzo(k)fluoranthene from the 5-fold dilution. Report all other compound results from the undiluted analysis.

Sample	VOC Analysis Reported	SVOC Analysis Reported
ST14SB06-2 (24-25)	A medium level analysis with a 10-fold dilution. Resulting dilution factor is 1250-fold. Report all results with the exception of ethylbenzene, m,p-xylene, and o-xylene which are reported from the medium level 250-fold dilution analysis.	Due to poor IS area in the 10-fold dilution which would result in compound rejections, report the nondetect results for acetophenone, nitrobenzene, 2-nitrophenol, bis(2-chloroethoxy)methane, 2,4-dichlorophenol, 4-chloroaniline, hexachlorobutadiene, caprolactam, and 4-chloro-3-methylphenol from the 100-fold dilution. Report the results for 2-methylnaphthalene, acenaphthylene, dibenzofuran, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, and benzo(a)pyrene from the 100-fold dilution. Report the result for naphthalene from the 500-fold dilution analysis. Report all other results from the 10-fold dilution.

NR- Dilution/reanalysis not required

The result for carbazole was over-calibrated in the 10-fold dilution of sample ST14SB06-2 (24-25) but was not detected in the 100-fold dilution analysis. The over-calibrated result for carbazole was reported from the 10-fold dilution and was estimated (J) as the result was over the calibration range.

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted in the VOC and SVOC analyses.

The VOC tentatively identified compounds, naphthalene and 2-methylnaphthalene, reported in sample ST14SB06-2 (24-25), were rejected (R). Semivolatile target compound list (TCL) compounds should not be reported as VOC TICs.

The SVOC tentatively identified compounds, ethylbenzene and p-xylene in sample ST14SB06-2 (24-25) and p-xylene and o-xylene in sample ST14SB06-2 (31-33), were rejected (R). Volatile TCL compounds should not be reported as SVOC TICs.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2661
Reviewer: Lorie MacKinnon/GEI Consultants
Date: June 24, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST14SB08 (27-29)	X2661-02	Metals, Cyanide
ST14SB08 (35-37)	X2661-03	Metals, Cyanide
ST14SB08 (50-51)	X2661-04	Metals, Cyanide
ST14SB08 (43-45)	X2661-05	Metals, Cyanide
ST-FB02	X2661-06	Metals, Cyanide
ST14SB06-2 (24-25)	X2661-08	Metals, Cyanide
ST14SB06-2 (31-33)	X2661-10	Metals, Cyanide

Associated QC Samples:	Field and Trip Blanks:	ST-FB02
	Field Duplicate pair:	None associated

The above-listed soil samples and field blank sample were collected on May 2, 3, 4, and 5, 2006 and were analyzed for metals by SW-846 methods 6010B and 7471A and Total and Amenable Cyanide (CN) by SW-846 method 9012. The data validation was based on the USEPA CLP National Functional Guidelines for Inorganic Review (October 2004) and the USEPA Region II Standard Operating Procedure (SOP) for CLP Inorganic Review (January 1992), modified to accommodate the SW-846 methodologies.

The inorganic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
• Instrument Calibration
• Contract Required Detection Limit (CRDL) Standard Recoveries
• Blank Analysis Results
• Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Results
• Matrix Spike (MS) Results
* • Laboratory Duplicate Results
NA • Field Duplicate Results

* • Laboratory Control Sample (LCS) Results
• ICP Serial Dilution Analysis Results
* • Moisture Content
• Detection Limits Results
* • Sample Quantitation Results

* - All criteria were met for this parameter.

NA - A field duplicate pair was not associated with this sample group.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives.

Qualifications applied to the data as a result of sampling error are discussed below.

- The positive results for lead in samples ST14SB08 (27-29), ST14SB08 (35-37), ST14SB08 (50-51), ST14SB06-2 (24-25), and ST14SB06-2 (31-33), mercury in samples ST14SB06-2 (24-25) and ST14SB06-2 (31-33), and zinc in samples ST14SB08 (35-37), ST14SB08 (43-45), and ST14SB06-2 (24-25) were qualified as estimated (J) due to field blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive result for lead in sample ST14SB08 (43-45) was qualified as nondetect (U) at the QL due to field blank contamination. The result can be used for project objectives as a nondetect. This qualification may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- The positive result for mercury and the nondetect result for iron in sample ST-FB02 were qualified as estimated (J/UJ) due to low recoveries in the CRDL analyses. The results may be biased low and can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive results for thallium in samples ST14SB08 (35-37) and ST14SB08 (43-45) were qualified as estimated (J) due to laboratory blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive results for antimony in samples ST14SB08 (35-37) and ST14SB08 (50-51), arsenic in sample ST14SB08 (27-29), beryllium in samples ST14SB08 (27-29) and

ST14SB08 (50-51), cobalt in sample ST14SB08 (35-37), selenium in samples ST14SB08 (27-29) and ST14SB08 (50-51), and aluminum, calcium, cobalt, nickel, sodium, and vanadium in sample ST-FB02 were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for antimony and cadmium in all soil samples, beryllium and cobalt in samples ST14SB08 (27-29), ST14SB08 (35-37), ST14SB08 (50-51), ST14SB08 (43-45), and ST14SB06-2 (24-25), copper in sample ST14SB08 (35-37), silver in samples ST14SB08 (27-29), ST14SB08 (35-37), and ST14SB08 (50-51), and antimony, barium, cadmium, iron, lead, manganese, thallium, and zinc in sample ST-FB02 were qualified as estimated (J/UJ) due to negative bias seen in the instrument blank analysis. The results may be biased low. The result can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive and nondetect results for antimony, arsenic, and cadmium in samples ST14SB06-2 (24-25) and ST14SB06-2 (31-33), arsenic, beryllium, cadmium, silver, vanadium, and antimony in sample ST14SB08 (27-29), and arsenic, beryllium, cadmium, silver, and antimony in sample ST14SB08 (50-51) were qualified as estimated (J/UJ) due to negative interferences seen in the ICSA analysis. The results may be biased low. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive results for copper, nickel, and sodium in samples ST14SB06-2 (24-25) and ST14SB06-2 (31-33) and copper, nickel, sodium, and zinc in samples ST14SB08 (27-29) and ST14SB08 (50-51) were qualified as estimated (J) due to positive interferences seen in the ICSA analysis. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive and nondetect results for antimony, potassium, and sodium in all soil samples and barium, nickel, silver and zinc in samples ST14SB08 (27-29), ST14SB08 (35-37), ST14SB08 (43-45), ST14SB06-2 (24-25), and ST14SB06-2 (31-33) were qualified as estimated (J/UJ) in all samples due to recoveries in the MS/MSD analyses which were below control limits. The results may be biased low. These results are usable for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor effect on the data usability.

- The positive and nondetect results for aluminum, barium, calcium, chromium, cobalt, copper, iron, magnesium, manganese, potassium, and zinc in all samples and nickel in samples ST14SB08 (27-29), ST14SB08 (35-37), ST14SB08 (43-45), ST14SB06-2 (24-25), and

ST14SB06-2 (31-33) were qualified as estimated (J) in all soil samples due to high percent differences (%Ds) in the ICP serial dilution analysis. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

- Potential uncertainty exists for the following results which were detected above the method detection limit (MDL) but below the laboratory reporting limit: antimony in sample ST14SB06-2 (24-25), arsenic in sample ST14SB06-2 (31-33), barium in samples ST14SB08 (35-37) and ST14SB08 (43-45), beryllium in samples ST14SB08 (43-45), ST14SB06-2 (24-25), and ST14SB06-2 (31-33), cobalt in samples ST14SB08 (43-45) and ST14SB06-2 (24-25), manganese, mercury, and zinc in sample ST-FB02, silver in samples ST14SB08 (27-29), and sodium in samples ST14SB08 (35-37), ST14SB08 (43-45), and ST14SB06-2 (24-25). The positive results were qualified as estimated (J) and can be used for project objectives as estimated values which may have a minor effect on the data usability.

The validation recommendations listed above were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables.

Holding Times and Sample Preservation

All criteria were met in the metals and wet chemistry analyses.

Instrument Calibration

All criteria were met in the metals and wet chemistry analyses.

It should be noted that several analytes were recovered above the control limits of 90-110 in the continuing calibration verification (CCV) samples CCV5, CCV6, CCV7, and CCV8 analyzed on 05/17/06. Validation actions were not required as these calibration standards did not bracket the project samples analyses.

CRDL Standard Recoveries

The following table lists the recoveries which were outside the control limits of 70-130 in the low level standard and the resulting validation actions. The affected analyte level range was determined as 2x the CRDL standard level analyzed due to differences between the reported laboratory QL and

the low level standard levels analyzed.

Analyte	Recovery (%)	Associated Samples	Actions
Iron	54.0, 60.4	ST14SB08 (27-29), ST14SB08 (35-37), ST14SB08 (50-51)	Validation action was not required as the affected results were greater than the affected analyte range.
Mercury	25.0	ST-FB02	Estimate (J) the positive result for mercury in sample ST-FB02.
Iron	52.6	ST-FB02	Estimate (UJ) the nondetect result for iron in sample ST-FB02.
Sodium	149.6	ST-FB02	Validation action was not required as the affected results were greater than the affected analyte range.

Blank Analysis Results

The following table summarizes the metals laboratory blank contamination associated with samples ST14SB08 (27-29), ST14SB08 (35-37), and ST14SB08 (50-51).

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Aluminum	Instrument	26.2 ug/L, 2.6 mg/kg	26.2 mg/kg	No validation actions required.
Antimony	Instrument	6.2 ug/L, 0.62 mg/kg -11.9 ug/L, -1.2 mg/kg	6.2 mg/kg -11.9 mg/kg	(U) at RL ST14SB08 (35-37) and ST14SB08 (50-51) Estimate (J/UJ) all associated samples.
Arsenic	Instrument	7.2 ug/L, 0.72 mg/kg	7.2 mg/kg	(U) at RL ST14SB08 (27-29)
Barium	Instrument	1.7 ug/L, 0.17 mg/kg	1.7 mg/kg	No validation actions required.
Beryllium	Instrument	0.2 ug/L, 0.02 mg/kg -1.5 ug/L, -0.15 mg/kg	0.2 mg/kg -1.5 mg/kg	(U) at RL ST14SB08 (27-29) and ST14SB08 (50-51) Estimate (UJ) all associated samples.
Cadmium	Instrument	1.9 ug/L, 0.19 mg/kg -2.3 ug/L, -0.23 mg/kg	1.9 mg/kg -2.3 mg/kg	Estimate (UJ) all associated samples.
Calcium	Instrument	18.8 ug/L, 1.9 mg/kg -18.5 ug/L, -1.8 mg/kg	18.8 mg/kg -18.5 mg/kg	No validation actions required.
Chromium	Instrument	-2.7 ug/L, -0.27 mg/kg	-2.7 mg/kg	No validation actions required.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Cobalt	Instrument	1.4 ug/L, 0.14 mg/kg -6.1 ug/L, -0.61 mg/kg	1.4 mg/kg -6.1 mg/kg	(U) at RL ST14SB08 (35-37) Estimate (J/UJ) all associated samples.
Copper	Instrument	-9.3 ug/L, -0.93 mg/kg	-9.3 mg/kg	Estimate (J) ST14SB08 (35-37).
Iron	Instrument	-96.5 ug/L, -9.7 mg/kg	-96.5 mg/kg	No validation actions required.
Lead	Instrument	3.4 ug/L, 0.34 mg/kg	3.4 mg/kg	No validation actions required.
Magnesium	Instrument	26.9 ug/L, 2.7 mg/kg	26.9 mg/kg	No validation actions required.
Manganese	Instrument	-14.2 ug/L, -1.4 mg/kg	-14.2 mg/kg	No validation actions required.
Mercury	Instrument	0.134 ug/L, 0.0067 mg/kg	0.067 mg/kg	No validation actions required.
Nickel	Instrument	1.9 ug/L, 0.19 mg/kg -2.7 ug/L, -0.27 mg/kg	1.9 mg/kg -2.7 mg/kg	No validation actions required.
Selenium	Instrument	8.7 ug/L, 0.87 mg/kg	8.7 mg/kg	(U) at RL ST14SB08 (27-29) and ST14SB08 (50-51)
Silver	Instrument	-5.1 ug/L, -0.51 mg/kg	-5.1 mg/kg	Estimate (J/UJ) all associated samples.
Thallium	Instrument	5.6 ug/L, 0.56 mg/kg	5.6 mg/kg	Estimate (J) ST14SB08 (35-37)
Vanadium	Instrument	1.9 ug/L, 0.19 mg/kg -3.0 ug/L, -0.3 mg/kg	1.9 mg/kg -3.0 mg/kg	No validation actions required.
Zinc	Instrument	0.9 ug/L, 0.09 mg/kg -5.3 ug/L, -0.53 mg/kg	0.9 mg/kg -5.3 mg/kg	No validation actions required.

The following table summarizes the metals laboratory blank contamination associated with samples ST14SB08 (43-45), ST14SB06-2 (24-25), and ST14SB06-2 (31-33).

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Aluminum	Instrument	18.4 ug/L, 1.8 mg/kg	18.4 mg/kg	No validation actions required.
Antimony	Instrument	-7.3 ug/L, -0.73 mg/kg	-7.3 mg/kg	Estimate (J/UJ) all associated samples.
Arsenic	Instrument	-6.2 ug/L, -0.62 mg/kg	-6.2 mg/kg	Estimate (J/UJ) all associated samples.
Barium	Instrument	-9.7 ug/L, -0.97 mg/kg	-9.7 mg/kg	No validation actions required.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Beryllium	Instrument	-0.3 ug/L, -0.03 mg/kg	-0.3 mg/kg	Estimate (J) ST14SB08 (43-45) and ST14SB06-2 (24-25)
Cadmium	Instrument	-3.7 ug/L, -0.37 mg/kg	-3.7 mg/kg	Estimate (UJ) all associated samples.
Calcium	Instrument	-7.5 ug/L, -0.75 mg/kg 13.7 ug/L, 1.4 mg/kg	-7.5 mg/kg 13.7 mg/kg	No validation actions required.
Cobalt	Instrument	-3.9 ug/L, -0.39 mg/kg	-3.9 mg/kg	Estimate (J) ST14SB08 (43-45) and ST14SB06-2 (24-25)
Lead	Instrument	3.4 ug/L, 0.34 mg/kg	3.4 mg/kg	No validation actions required.
Magnesium	Instrument	11.5 ug/L, 1.2 mg/kg	11.5 mg/kg	No validation actions required.
Manganese	Instrument	-3.9 ug/L, -0.39 mg/kg	-3.9 mg/kg	No validation actions required.
Nickel	Instrument	-3.4 ug/L, -0.34 mg/kg	-3.4 mg/kg	No validation actions required.
Thallium	Instrument	8.1 ug/L, 0.81 mg/kg	8.1 mg/kg	Estimate (J) ST14SB08 (43-45)
Vanadium	Instrument	-3.4 ug/L, -0.34 mg/kg	-3.4 mg/kg	No validation actions required.
Zinc	Instrument	-12.7 ug/L, -1.3 mg/kg	-12.7 mg/kg	No validation actions required.

The following table summarizes the metals laboratory blank contamination associated with the field blank sample ST-FB02.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Aluminum	Instrument	-15.5 ug/L/20.3 ug/L	-155/203 ug/L	(U) at RL ST-FB02
Antimony	Method Instrument	4.09 ug/L -17.5 ug/L	40.9 ug/L -175 ug/L	Estimate (UJ) ST-FB02
Arsenic	Instrument	4.4 ug/L	44 ug/L	No action required.
Barium	Instrument	-7.6 ug/L	-76 ug/L	Estimate (UJ) ST-FB02
Beryllium	Method	0.14 ug/L	1.4 ug/L	No action required.
Cadmium	Method	-2.4 ug/L	-24 ug/L	Estimate (UJ) ST-FB02
Calcium	Instrument	-6.1ug/L/31.0 ug/L	-61 ug/L, 310 ug/L	(U) at RL ST-FB02
Chromium	Instrument	0.9 ug/L	9.0 ug/L	No action required.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Cobalt	Instrument	3.5 ug/L	35 ug/L	(U) at RL ST-FB02
Iron	Instrument	-95 ug/L	-950 ug/L	Estimate (UJ) ST-FB02
Lead	Instrument	-3.3 ug/L	-33 ug/L	Estimate (J) ST-FB02
Magnesium	Instrument	45 ug/L	450 ug/L	No action required.
Manganese	Instrument	-2.6 ug/L/1.4 ug/L	-26 ug/L/14 ug/L	Estimate (J) ST-FB02
Nickel	Instrument	7.1 ug/L	71 ug/L	(U) at RL ST-FB02
Selenium	Instrument	9.6 ug/L	96 ug/L	Estimate (J) ST-FB02
Sodium	Instrument	1451 ug/L	14510 ug/L	(U) at RL ST-FB02
Thallium	Instrument	-6.8 ug/L	-68 ug/L	Estimate (J) ST-FB02
Vanadium	Instrument	3.7 ug/L	37 ug/L	(U) at RL ST-FB02
Zinc	Instrument	-1.4 ug/L/5.4 ug/L	-14 ug/L/54 ug/L	Estimate (J) ST-FB02

The laboratory instrument blank results for aluminum, calcium, cobalt, nickel, sodium, and vanadium were greater than the field blank contamination levels detected. The positive results in the field blank sample were qualified as nondetect and not used to assess possible field blank contamination.

The following table summarizes the metals field blank contamination associated with all samples.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Lead	ST-FB02	30.8 ug/L, 3.1 mg/kg	30.8 mg/kg	(U) at RL ST14SB08 (43-45) Estimate (J) results for lead in samples ST14SB08 (27-29), ST14SB08 (35-37), ST14SB08 (50-51), ST14SB06-2 (24-25), and ST14SB06-2 (31-33).
Manganese	ST-FB02	2.5 ug/L, 0.25 mg/kg	2.5 mg/kg	No validation actions required.
Mercury	ST-FB02	0.040 ug/L, 0.002 mg/kg	0.020 mg/kg	Estimate (J) ST14SB06-2 (24-25) and ST14SB06-2 (31-33).
Selenium	ST-FB02	51.2 ug/L, 5.1 mg/kg	51.2 mg/kg	No validation actions required.
Thallium	ST-FB02	2.0 ug/L, 0.20 mg/kg	2.0 mg/kg	No validation actions required.
Zinc	ST-FB02	19.6 ug/L, 1.96 mg/kg	19.6 mg/kg	Estimate (J) ST14SB08 (35-37), ST14SB08 (43-45), and ST14SB06-2 (24-25).

For blank contamination < QL; If the sample result is < QL report the result as nondetect (U) at the QL.
For blank contamination ≥ QL; If the sample result is ≥ QL and < the blank level, report the sample result as nondetect (U).
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.
For negative blank contamination ≥2 MDL; professional judgement was taken to estimate (J/UJ) those results which were less than 10x the maximum blank level detected

ICP ICS Results

All recovery criteria were met in the ICSAB analysis.

Positive results for barium, copper, nickel, selenium, sodium, thallium, and zinc, negative results for cadmium, vanadium, and antimony, and both positive and negative results for arsenic, beryllium, cobalt, and silver were observed in the ICSA solution analysis associated with samples ST14SB08 (27-29), ST14SB08 (35-37), and ST14SB08 (50-51). Positive results for beryllium, cobalt, copper, nickel, potassium, selenium, silver, sodium, zinc, and arsenic, negative results for barium, vanadium, and antimony, and both positive and negative results for cadmium were observed in the ICSA solution analysis associated with sample ST-FB02. Positive results for copper, nickel, potassium, sodium, vanadium, and beryllium, negative results for antimony, arsenic, barium, cadmium, zinc, and silver, and both positive and negative results for lead were observed in the ICSA solution analysis associated with samples ST14SB08 (43-45), ST14SB06-2 (24-25), and ST14SB06-2 (31-33).

The levels of interferents in samples were reviewed. Iron was present in samples ST14SB08 (27-29) (102%), ST14SB08 (50-51) (113%), ST14SB06-2 (24-25) (93%), and ST14SB06-2 (31-33) (122%) at greater than that of the level in the ICSA solution. The following table lists the estimated interferences and the resulting validation actions.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST14SB08 (27-29)	Arsenic	1.2 U	8.8/-8.1	Estimate (UJ) the nondetect result for arsenic.
	Barium	415	3.1	Interference <10% sample level; no action taken.
	Beryllium	2.1 U	0.56/-0.88	Estimate (UJ) the nondetect result for beryllium.
	Cadmium	ND	-4.4	Estimate (UJ) the nondetect result for cadmium.
	Cobalt	54	4.2/-1.4	Interference <10% sample level; no action taken.
	Copper	97	12.9	Estimate (J) the positive result for copper.
	Nickel	105	13.5	Estimate (J) the positive result for nickel.
	Selenium	ND	9.2	Action was not required as result was nondetect.
	Silver	1.3	2.7/-2.3	Estimate (J) the positive result for silver.
	Sodium	5834	887	Estimate (J) the positive result for sodium.
	Thallium	ND	7.2	Action was not required as result was nondetect.
	Vanadium	110	-11.6	Estimate (J) the positive result for vanadium.
	Zinc	225	45	Estimate (J) the positive result for zinc.
	Antimony	80	-11.4	Estimate (J) the positive result for antimony.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST14SB08 (50-51)	Arsenic	3.6 U	9.9/-9.2	Estimate (UJ) the nondetect result for arsenic.
	Barium	499	3.5	Interference <10% sample level; no action taken.
	Beryllium	1.0 U	0.63/-0.99	Estimate (UJ) the nondetect result for beryllium.
	Cadmium	ND	-5.0	Estimate (UJ) the nondetect result for cadmium.
	Cobalt	57	4.7/-1.6	Interference <10% sample level; no action taken.
	Copper	128	14.6	Estimate (J) the positive result for copper.
	Nickel	108	14.9	Estimate (J) the positive result for nickel.
	Selenium	U	10.4	Action was not required as result was nondetect.
	Silver	ND	3.0/-2.6	Estimate (UJ) the nondetect result for silver.
	Sodium	6494	983	Estimate (J) the positive result for sodium.
	Thallium	1.5 U	8.1	Action was not required as result was nondetect.
	Vanadium	168	-13.1	Interference <10% sample level; no action taken.
	Zinc	282	50.9	Estimate (J) the positive result for zinc.
	Antimony	56	-12.9	Estimate (UJ) the nondetect result for antimony.
ST14SB06-2 (24-25)	Antimony	27.8	-35.3	Estimate (J) the positive result for antimony.
	Arsenic	24.9	-4.7	Estimate (J) the positive result for arsenic.
	Barium	365	-6.7	Interference <10% sample level; no action taken.
	Cadmium	ND	-2.8	Estimate (UJ) the nondetect result for cadmium.
	Copper	75	10	Estimate (J) the positive result for copper.
	Lead	45	-4.0/4.2	Interference <10% sample level; no action taken.
	Nickel	108	15.2	Estimate (J) the positive result for nickel.
	Potassium	7195	152	Interference <10% sample level; no action taken.
	Sodium	1870	618	Estimate (J) the positive result for sodium.
	Vanadium	181	5.2	Interference <10% sample level; no action taken.
	Zinc	172	-9.5	Interference <10% sample level; no action taken.
	Beryllium	2.4	0.18	Interference <10% sample level; no action taken.
	Silver	16	-1.5	Interference <10% sample level; no action taken.
ST14SB06-2 (31-33)	Antimony	ND	-46.4	Estimate (UJ) the nondetect result for antimony.
	Arsenic	6.0	-6.2	Estimate (J) the positive result for arsenic.
	Barium	326	-8.8	Interference <10% sample level; no action taken.
	Cadmium	ND	-3.7	Estimate (UJ) the nondetect result for cadmium.
	Copper	127	13.2	Estimate (J) the positive result for copper.
	Lead	74	-5.4/5.5	Interference <10% sample level; no action taken.
	Nickel	149	19.9	Estimate (J) the positive result for nickel.
	Potassium	24812	199	Interference <10% sample level; no action taken.
	Sodium	5619	811	Estimate (J) the positive result for sodium.
	Vanadium	170	6.8	Interference <10% sample level; no action taken.
	Zinc	255	-12.4	Interference <10% sample level; no action taken.
	Beryllium	3.6	0.23	Interference <10% sample level; no action taken.
	Silver	21	-1.95	Interference <10% sample level; no action taken.

MS Results

The laboratory performed MS/MSD analyses on non-project samples for ICP metals and mercury. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

The MS/MSD on samples ST14SB06-2 (35-37) (reported in case number X2736) and ST14SB08 (50-51) for the ICP metals were reported. The following table lists the analytes which exhibited recoveries outside of the control limits of 75 - 125% and the resulting validation actions.

Analyte	MS Sample	Recovery (%)	Actions
Antimony	ST14SB08 (50-51) ST14SB06-2 (35-37)	55.7, 51.8 39.8, 37.8	Estimate (J/UJ) the positive and nondetect results for antimony in all soil samples.
Barium	ST14SB08 (50-51)	61.1, 62.1	Estimate (J) the positive results for barium in all soil samples with the exception of ST14SB08 (50-51).
Potassium	ST14SB08 (50-51) ST14SB06-2 (35-37)	74.9, 73.9 -15.8, -18.3	Estimate (J) the positive results for potassium in all soil samples.
Sodium	ST14SB08 (50-51) ST14SB06-2 (35-37)	47.5, 39.4 59.3, 56.7	Estimate (J/UJ) the positive and nondetect results for sodium in all soil samples.
Nickel	ST14SB06-2 (35-37)	40.1, 39.7	Estimate (J) the positive results for nickel in all soil samples with the exception of ST14SB08 (50-51).
Silver	ST14SB06-2 (35-37)	36.3, 35.5	Estimate (J) the positive results for silver in all soil samples with the exception of ST14SB08 (50-51).
Zinc	ST14SB06-2 (35-37)	71.5, 70.9	Estimate (J) the positive results for zinc in all soil samples with the exception of ST14SB08 (50-51).

Laboratory Duplicate Results

The laboratory performed duplicate analyses on non-project samples for mercury and cyanide. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

The duplicate on samples ST14SB06-2 (35-37) (reported in case number X2736) and ST14SB08 (50-51) for the ICP metals were reported. All criteria were met.

Field Duplicate Results

A field duplicate pair was not associated with this sample set.

LCS Results

All criteria were met in the metals and wet chemistry analyses.

ICP Serial Dilution (ISD) Analysis Results

The laboratory performed serial dilution analyses on non-project samples for mercury. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

The serial dilutions on samples ST14SB06-2 (35-37) (reported in case number X2736) and ST14SB08 (50-51) for the ICP metals analyses were associated with this sample group. The following table lists the analytes which exhibited %Ds above the control limit of 10 and the resulting validation actions.

Analyte	%D	ISD Sample	Actions
Aluminum	26.6% 21.6%	ST14SB08 (50-51) ST14SB06-2 (35-37)	Estimate (J) the positive results for aluminum in all samples.
Barium	20.5% 18.1%	ST14SB08 (50-51) ST14SB06-2 (35-37)	Estimate (J) the positive results for barium in all samples.
Calcium	19.2% 29.8%	ST14SB08 (50-51) ST14SB06-2 (35-37)	Estimate (J) the positive results for calcium in all samples.
Chromium	20.6% 16.3%	ST14SB08 (50-51) ST14SB06-2 (35-37)	Estimate (J) the positive results for chromium in all samples.
Cobalt	76.9%	ST14SB08 (50-51)	Estimate (J) the positive results for cobalt in all samples.
Copper	16.2%	ST14SB08 (50-51)	Estimate (J) the positive results for copper in all samples.
Iron	17.7% 26.0%	ST14SB08 (50-51) ST14SB06-2 (35-37)	Estimate (J) the positive results for iron in all samples.
Magnesium	14.2% 24.9%	ST14SB08 (50-51) ST14SB06-2 (35-37)	Estimate (J) the positive results for magnesium in all samples.
Manganese	16.8% 26.3%	ST14SB08 (50-51) ST14SB06-2 (35-37)	Estimate (J) the positive results for manganese in all samples.
Nickel	22.9%	ST14SB06-2 (35-37)	Estimate (J) the positive results for nickel in all samples with the exception of ST14SB08 (50-51) which exhibited an acceptable %D.
Potassium	18.2%	ST14SB08 (50-51)	Estimate (J) the positive results for potassium in all samples.
Zinc	16.1%	ST14SB08 (50-51)	Estimate (J) the positive results for zinc in all samples.

Moisture Content

All criteria were met.

Detection Limits Results

Di utions were not required.

Positive results which were above the MDL but below the RL were flagged by the laboratory with a "J". These results were qualified as estimated (J) due to uncertainty at the low end of calibration: antimony in sample ST14SB06-2 (24-25), arsenic in sample ST14SB06-2 (31-33), barium in samples ST14SB08 (35-37) and ST14SB08 (43-45), beryllium in samples ST14SB08 (43-45), ST14SB06-2 (24-25), and ST14SB06-2 (31-33), cobalt in samples ST14SB08 (43-45) and ST14SB06-2 (24-25). manganese, mercury, and zinc in sample ST-FB02, silver in samples ST14SB08 (27-29), and sodium in samples ST14SB08 (35-37), ST14SB08 (43-45), and ST14SB06-2 (24-25).

Sample Quantitation Results

Sample calculations were spot-checked; no discrepancies were noted in the metals results.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2736
Reviewer: Lorie MacKinnon/GEI Consultants
Date: July 22, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST17SB06 (0-0.2)	X2736-01	VOC, SVOC
ST17SB06 (2-4)	X2736-02	VOC, SVOC
ST17SB07 (2-4)	X2736-03	VOC, SVOC
ST14SB06-2 (35-37)	X2736-04	VOC, SVOC
ST14SB06-2 (53-55)	X2736-07	VOC, SVOC
ST14SB06-2 (56-57)	X2736-09	VOC, SVOC
ST14SB06-2 (57-58)	X2736-10	VOC, SVOC

Associated QC Samples:	Field or Trip Blanks:	ST-FB02 (reported in X2661)
	Field Duplicate pair:	ST17SB06 (2-4)/ST17SB07 (2-4)

The above-listed soil samples were collected on May 8, 10, and 11, 2006 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260B and semivolatile organic compounds (SVOCs) by SW-846 method 8270C. The data validation was based on the USEPA CLP National Functional Guidelines for Organic Review (January 2005) and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8260B, SOP No. HW-24, Revision 1, June 1999 and USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8270C, SOP No. HW-22, Revision 2, June 2001.

The organic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
• Initial and Continuing Calibrations
• Blanks
• Surrogate Recoveries
• Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results

- Internal Standards
- Laboratory Control Sample (LCS) Results
* • Field Duplicate Results
* • Moisture Content
- Quantitation Limits and Data Assessment
* • Sample Quantitation and Compound Identification

* - All criteria were met.

All results are usable for project objectives with the exception of select tentatively identified compounds (TICs) which were rejected due to method blank contamination, benzaldehyde in all samples and benzo(k)fluoranthene in samples ST17SB06 (0-0.2) and ST14SB06-2 (53-55) which were rejected (R) due to due to continuing calibration %D greater than 90, benzo(k)fluoranthene and dibenzo(ah)anthracene for ST17SB06 (0-0.2) which were rejected due to internal standard area less than 25, benzaldehyde, hexachlorocyclopentadiene, 3-nitroaniline, and carbazole in sample ST17SB06 (0-0.2) which were rejected due to MS recoveries less than 10 and benzo(k)fluoranthene in samples ST17SB06 (0-0.2) and ST14SB06-2 (53-55) which were rejected (R) due to recovery less than 10 in the LCS analyses.

Qualifications applied to the data as a result of sampling error are discussed below.

- The positive results for naphthalene in sample ST14SB06-2 (57-58) and phenanthrene in sample ST14SB06-2 (56-57) were qualified as nondetect (U) at the reporting limit (RL) due to field blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC and SVOC results which were below the lowest calibration standard and quantitation limit. These results were qualified as estimated (J) in the associated samples by the laboratory. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

- The positive results for methylene chloride in all samples were qualified as nondetect (U) at the reported levels due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The nondetect results for benzaldehyde in all samples and benzo(k)fluoranthene in samples

ST17SB06 (0-0.2) and ST14SB06-2 (53-55) were rejected (R) due to due to continuing calibration %D greater than 90. The results are not usable for project objectives. This qualification may have a major impact on the data usability.

- The positive results for benzo(k)fluoranthene in samples ST17SB06 (2-4) and ST17SB07 (2-4) were qualified as estimated (J) due to due to continuing calibration %D greater than 90 The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values. This qualification may have a minor impact on the data usability.

- The following positive and nondetect results were qualified as estimated (J/UJ) due to continuing calibration nonconformances: methylene chloride in samples ST17SB06 (0-0.2) and ST17SB06 (2-4), methylene chloride, tetrachloroethene, and chloroethane in sample ST17SB07 (2-4), chloroethane and methylene chloride in samples ST14SB06-2 (35-37), ST14SB06-2 (56-57), and ST14SB06-2 (57-58), bromomethane, chloroethane, and methylene chloride in sample ST14SB06-2 (53-55), indeno(123-cd)pyrene and benzo(ghi)perylene in samples ST17SB06 (0-0.2), ST17SB06 (2-4), and ST17SB07 (2-4), dibenzo(an)anthracene in samples ST17SB06 (2-4) and ST17SB07 (2-4), n-nitroso-di-n-propylamine in sample ST14SB06-2 (53-55), and caprolactam, indeno(123-cd)pyrene, benzo(ghi)perylene, 4-nitrophenol, and n-nitroso-di-n-propylamine in samples ST14SB06-2 (35-37), ST14SB06-2 (56-57), and ST14SB06-2 (57-58). The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, dibenzo(ah)anthracene, and benzo(ghi)perylene in samples ST17SB06 (2-4) and ST17SB07 (2-4), and pyrene, butylbenzylphthalate, benzo(a)anthracene, 3,3'-dichlorobenzidine, chrysene, bis(2-ethylhexyl)phthalate, di-n-octylphthalate, indeno(123-cd)pyrene, benzo(b)fluoranthene, benzo(a)pyrene, and benzo(ghi)perylene in sample ST17SB06 (0-0.2) were qualified as estimated (J/UJ) due to low internal standard areas. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The nondetect results for benzo(k)fluoranthene and dibenzo(ah)anthracene for ST17SB06 (0-0.2) were rejected (R) due to IS area recoveries less than 25. The results are not usable for project objectives. This qualification may have a major impact on the data usability.

- The nondetect results for benzaldehyde, hexachlorocyclopentadiene, 3-nitroaniline, and carbazole in sample ST17SB06 (0-0.2) were rejected (R) due to MS/MSD recoveries less than 10. The results are not usable for project objectives. This qualification may have a major impact on the data usability.

- The positive result for pyrene in sample ST17SB06 (0-0.2) was qualified as estimated (J) due to high recoveries in the MS/MSD. The result can be used for project objectives as an estimated value and may be biased high. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for 2,4-dintrophenol, 4-nitrophenol, and indeno(123-cd)pyrene in sample ST14SB06-2 (35-37) and 2-nitrophenol, 2,4-dinitrotoluene, fluoranthene, indeno(123-cd)pyrene, benzo(b)fluoranthene, and benzo(ghi)perylene in sample ST17SB06 (0-0.2) were qualified as estimated (J/UJ) due to low recoveries in the MS/MSD. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive results for benzo(k)fluoranthene in samples ST17SB06 (2-4) and ST17SB07 (2-4) were qualified as estimated (J) due to recovery less than 10 in the LCS analyses. The results may be biased low and can be used for project objectives as estimated values. This qualification may have a minor impact on the data usability.

- The nondetect results for benzo(k)fluoranthene in samples ST17SB06 (0-0.2) and ST14SB06-2 (53-55) were rejected (R) due to recovery less than 10 in the LCS analyses. The results are not usable for project objectives. This qualification may have a major impact on the data usability.

- The blank-qualified results for methylene chloride in all samples were qualified as estimated (UJ) due to high recoveries in the LCS analyses. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The nondetect results for dichlorodifluoromethane, chloroethane, trichlorofluoromethane, and carbon tetrachloride in samples ST17SB06 (0-2) and ST17SB06 (2-4), chloroethane in samples ST14SB06-2 (35-37), ST13SB06-2 (56-57), and ST14SB06-2 (57-58), 3,3'-dichlorobenzidine in samples ST17SB06 (0-0.2), ST17SB06 (2-4), and ST17SB07 (2-4), and 4-nitrophenol in samples ST14SB06-2 (35-37), ST13SB06-2 (56-57), and ST14SB06-2 (57-58) were qualified as estimated (UJ) due to low recoveries in the LCS analyses. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category

B deliverables for the VOC and SVOC analyses.

Holding Times and Sample Preservation

All criteria were met in the VOC and SVOC analyses.

GC/MS Tunes

All criteria were met in the VOC and SVOC analyses.

Initial and Continuing Calibrations

Compounds that did not meet criteria in the VOC and SVOC initial and continuing calibrations are summarized in the following tables.

Instrument ID MSVOAK Compound	CC 5/14/06	CC 05/15/06
methylene chloride	XX (59.4%)	XX (63.2%)
tetrachloroethene		XX (26.1%)
chloroethane		XX (54.5%)
Samples Affected	ST17SB06 (0-0.2), ST17SB06 (2-4)	ST17SB07 (2-4)

Instrument ID MSVOAK Compound	CC 5/16/06	CC 05/18/06
methylene chloride	XX (57.4%)	XX (78.2%)
tetrachloroethene		
chloroethane	XX (42.5%)	XX (55.5%)
bromomethane		XX (31.9%)
Samples Affected	ST14SB06-2 (35-37), ST14SB06-2 (56-57), ST14SB06-2 (57-58)	ST14SB06-2 (53-55)

Instrument ID BNAE Compound	IC 05/05/06	CC 05/15/06	CC 05/16/06	CC 05/19/06
benzaldehyde	X (r=0.917)	XXX (125%)	XXX (133.3%)	XXX (125%)

Instrument ID BNAE Compound	IC 05/05/06	CC 05/15/06	CC 05/16/06	CC 05/19/06
indeno(123-cd)pyrene		XX (51.8%)	XX (48.2%)	
dibenzo(ah)anthracene		XX (34.6%)	XX (31.6%)	
benzo(ghi)perylene		XX (40.5%)	XX (35.9%)	
benzo(k)fluoranthene		XXX (125%)	XXX (133.3%)	XXX (125%)
2,4-dinitrophenol			XX (44.5%)	
n-nitroso-di-n-propylamine				XX (28.0%)
Samples Affected	All samples listed	ST17SB06 (0-0.2), ST17SB06 (2-4), ST17SB07 (2-4)	ST17SB06 (0-0.2)RE, ST17SB06 (2-4)RE, ST17SB07 (2-4)RE	ST14SB06-2 (53-55)

Instrument ID BNAF Compound	IC 05/05/06	CC 05/15/06
benzaldehyde	X (r=0.916)	XXX (133%)
caprolactam		XX (66.2%)
indeno(123-cd)pyrene		XX (28.0%)
benzo(ghi)perylene		XX (28.5%)
4-nitrophenol		XX (75.0%)
n-nitroso-di-n-propylamine		XX (27.7%)
Samples Affected	All samples listed	ST14SB06-2 (35-37), ST14SB06-2 (56-57), ST14SB06-2 (57-58)

X = Initial calibration (IC) relative standard deviation (%RSD) > 50 for 1,4-dioxane, (%RSD) > 40 for poor response compounds, and %RSD > 20 for all other compounds ; estimate (J) positive result. If regression was performed and correlation coefficient (r) < 0.990; estimate (J/UJ) positive and nondetect results.

XX = Continuing calibration (CC) percent difference (%D) > 50 for 1,4-dioxane, (%D) > 40 for poor response compounds, and %D > 25 for all other compounds; estimate (J/UJ) positive and nondetect results.

XXX = Continuing calibration (CC) percent difference (%D) > 90; estimate (J) positive results and reject (R) nondetect results.

+ = Response factor (RRF) < 0.05 except <0.01 for poor response compounds; Estimate (J) positive results and reject (R) nondetect results.

Validation actions were not required for benzaldehyde due to initial calibration nonconformances. The nondetect results for benzaldehyde in all samples were subsequently rejected due to continuing calibration %D greater than 90.

The following positive and nondetect results were estimated (J/UJ) due to continuing calibration nonconformances: methylene chloride in samples ST17SB06 (0-0.2) and ST17SB06 (2-4), methylene chloride, tetrachloroethene, and chloroethane in sample ST17SB07 (2-4), chloroethane and methylene chloride in samples ST14SB06-2 (35-37), ST14SB06-2 (56-57), and ST14SB06-2 (57-58), bromomethane, chloroethane, and methylene chloride in sample ST14SB06-2 (53-55), indeno(123-cd)pyrene and benzo(ghi)perylene in samples ST17SB06 (0-0.2), ST17SB06 (2-4), and ST17SB07 (2-4), dibenzo(an)anthracene in samples ST17SB06 (2-4) and ST17SB07 (2-4), n-nitroso-di-n-propylamine in sample ST14SB06-2 (53-55), and caprolactam, indeno(123-cd)pyrene, benzo(ghi)perylene, 4-nitrophenol, and n-nitroso-di-n-propylamine in samples ST14SB06-2 (35-37), ST14SB06-2 (56-57), and ST14SB06-2 (57-58).

The nondetects results for benzaldehyde in all samples and benzo(k)fluoranthene in samples ST17SB06 (0-0.2) and ST14SB06-2 (53-55) were rejected (R) due to due to continuing calibration %D greater than 90. The positive results for benzo(k)fluoranthene in samples ST17SB06 (2-4) and ST17SB07 (2-4) were estimated (J) due to due to continuing calibration %D greater than 90.

Validation actions were not required for SVOC samples ST17SB06 (0-0.2)RE, ST17SB06 (2-4)RE, and ST17SB07 (2-4)RE as the original analyses were reported. Validation action was not required for dibenzo(ah)anthracene in sample ST17SB06 (0-0.2) as the result was subsequently rejected due to low IS area.

Blanks

The following table summarizes the VOC and SVOC method and associated field blank contamination. Target compounds were not detected in the SVOC method blank samples.

Compound	Type of Blank	Associated Samples	Maximum Concentration	Blank Action Level
Methylene chloride	Method	All samples	29 ug/kg, equivalent in 1 gram sample 145 ug/kg	290 ug/kg
Acetone	ST-FB02	All soil samples	7.6 ug/L	15.2 ug/L
Naphthalene	ST-FB02	All soil samples	2.3 ug/L, 76.6 ug/kg	76.6 ug/kg
Phenanthrene	ST-FB02	All soil samples	2.4 ug/L, 79.9 ug/kg	79.9 ug/kg
bis(2-ethylhexyl)phthalate	ST-FB02	All soil samples	2.1 ug/L, 69.9 ug/kg	349.5 ug/kg

Blank Actions
The blank action level is 1X Max Conc for VOC/2X for common contaminant and 1X for SVOC/5X common contaminant

Blank Actions
The blank action level is 1X Max Conc for VOC/2X for common contaminant and 1X for SVOC/5X common contaminant
If the sample concentration ≤ RL and ≤ blank action level, qualify the result as not detected (U) at the RL.
If the sample concentration > RL and ≤ blank action level, qualify the result as not detected (U) at the reported value.
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.

The positive results for methylene chloride in all samples were qualified as nondetect (U) at the RL due to laboratory blank contamination.

The positive results for naphthalene in sample ST14SB06-2 (57-58) and phenanthrene in sample ST14SB06-2 (56-57) were qualified as nondetect (U) at the RL due to field blank contamination.

Tentatively identified compounds (TICs) were detected in the SVOC method blank. TICs, which were detected in these samples at levels less than ten times those in the method blank, were rejected (R).

Surrogate Recoveries

All criteria were met in the VOC analyses.

The following table summarizes the surrogate recoveries that failed to meet the acceptance criteria in the SVOC analyses:

Sample ID	Percent Recovery						Action
	PH-d5	2-Fph	246-TBP	NBZ	2-FBP	Ter-d14 18-137	
ST17SB06 (0-0.2)	-	-	-	-	-	168%	Validation actions were not required as only one surrogate recovery was outside of limits.
ST17SB06 (0-0.2) RE	-	-	-	-	-	158%	Validation actions were not required as only one surrogate recovery was outside of limits.

- Within control limits

SVOC surrogate Terphenyl-d14 was recovered below control limits in MS and MSD performed on sample ST17SB06 (0-0.2). Validation action was not required as the surrogate recoveries were within control limits in the unspiked sample.

MS/MSD Results

The MS/MSD analyses were performed on sample ST14SB06-2 (35-37) for VOC and SVOC. The following table lists the recoveries and/or RPDs outside of control limits.

Compound	Recovery (%)	RPD (%)	Control Limits	Validation Actions
methyl acetate tetrachloroethene trichloroethene	174, 203 146, 155 MSD 133	- - -	37-150/20 68-145/20 81-129/24	Validation actions were not required as the affected results in sample ST14SB06-2 (35-37) were nondetect and therefore not affected by the potential high bias.
2,4-dinitrophenol 4-nitrophenol indeno(123-cd)pyrene	23, 21 20, 20 40, 37	- - -	26-131/50 45-95/50 42-124/50	Estimate (UJ) the nondetect results for 2,4-dintrophenol, 4-nitrophenol, and indeno(123-cd)pyrene in sample ST14SB06-2 (35-37).

- Within control limits

The MS/MSD analyses also were performed on sample ST17SB06 (0-0.2) for VOC and SVOC. The following table lists the recoveries and/or RPDs outside of control limits.

Compound	Recovery (%)	RPD (%)	Control Limits	Validation Actions
benzaldehyde hexachlorocyclopentadiene 3-nitroaniline carbazole	0, 0 0, 0 0, 0 0, 0	- - - -	20-150/50 20-107/50 27-88/50 54-117/50	Reject (R) the nondetect results for benzaldehyde, hexachlorocyclopentadiene, 3-nitroaniline, and carbazole in sample ST17SB06 (0-0.2).
3,3'-dichlorobenzidine 4-nitroaniline butylbenzylphthalate bis(2-ethylhexyl)phthalate benzo(k)fluoranthene dibenz(ah)anthracene butylbenzyl phthalate	129, 124 124, 124 147, 129 MS 139 MS 135 MSD 106 MSD 129	- -- - - - 109 -	31-111/50 41-115/50 55-120/50 54-124/50 43-125/50 41-130/50 55-120/50	Validation actions were not required as the affected results in sample ST17SB06 (0-0.2) were nondetect and therefore not affected by the potential high bias.
2-nitrophenol 2,4-dinitrotoluene fluoranthene indeno(123-cd)pyrene benzo(b)fluoranthene benzo(ghi)perylene	43, 36 44, 37 MSD 35 33, 31 MSD 35 MSD 65	- - 51 - 68 65	52-116/50 56-104/50 55-105/50 42-124/50 42-126/50 39-130/50	Estimate (J/UJ) the positive and nondetect results for 2-nitrophenol, 2,4-dinitrotoluene, fluoranthene, indeno(123-cd)pyrene, benzo(b)fluoranthene, and benzo(ghi)perylene in sample ST17SB06 (0-0.2).
pyrene	229, 171	-	20-150/50	Estimate (J) the positive result for pyrene in sample ST17SB06 (0-0.2).

- Within control limits

Internal Standards

All criteria were met in the VOC analyses.

The following table lists the internal standard areas found outside of the control limits and the resultant actions in the SVOC analyses.

Sample	Internal Standard	Recovery (%)	Validation Actions
ST17SB06 (2-4)	Perylene-d12	28.9	Estimate (J/UJ) the positive and nondetect results for benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, dibenzo(ah)anthracene, and benzo(ghi)perylene.
ST17SB07 (2-4)	Perylene-d12	26.8	Estimate (J/UJ) the positive and nondetect results for benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, dibenzo(ah)anthracene, and benzo(ghi)perylene.
ST17SB06 (0-0.2)	Chrysene-d12	42.9	Estimate (J/UJ) the positive and nondetect results for pyrene, butylbenzylphthalate, benzo(a)anthracene, 3,3'-dichlorobenzidine, chrysene, bis(2-ethylhexyl)phthalate, di-n-octylphthalate, and indeno(123-cd)pyrene.
ST17SB06 (0-0.2)	Perylene-d12	22.1	Estimate (J) the positive results for benzo(b)fluoranthene, benzo(a)pyrene, and benzo(ghi)perylene. Reject (R) the nondetect results for benzo(k)fluoranthene and dibenzo(ah)anthracene.

LCS Results

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the VOC and SVOC analyses.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
dichlorodifluoromethane chloroethane trichlorofluoromethane carbon tetrachloride	65 60 50 65	70-130	ST17SB06 (0-2), ST17SB06 (2-4)	Estimate (UJ) the nondetect results for dichlorodifluoromethane, chloroethane, trichlorofluoromethane, and carbon tetrachloride in samples ST17SB06 (0-2) and ST17SB06 (2-4)

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
methylene chloride	305 175 270 265	70-130	All samples	Estimate (UJ) the blank-qualified results for methylene chloride in all samples.
chloroethane	60	70-130	ST14SB06-2 (35-37), ST13SB06-2 (56-57), ST14SB06-2 (57-58)	Estimate (UJ) the nondetect results for chloroethane in samples ST14SB06-2 (35-37), ST13SB06-2 (56-57), and ST14SB06-2 (57-58).
trans-1,2-dichloroethene	135	70-130	ST14SB06-2 (35-37), ST13SB06-2 (56-57), ST14SB06-2 (57-58)	Validation action was not required as the affected results were nondetect and therefore not affected by the potential high bias.
3-nitroaniline 4-nitroaniline carbazole	124 118 176	27-88 41-115 54-117	ST17SB06 (0-0.2), ST17SB06 (2-4), ST17SB07 (2-4)	Validation action was not required as the affected results were nondetect and therefore not affected by the potential high bias.
3,3'-dichlorobenzidine	14	31-111	ST17SB06 (0-0.2), ST17SB06 (2-4), ST17SB07 (2-4)	Estimate (UJ) the nondetect results for 3,3'-dichlorobenzidine in the associated samples.
benzo(k)fluoranthene	0 0	43-125	ST17SB06 (0-0.2), ST17SB06 (2-4), ST17SB07 (2-4) ST14SB06-2 (53-55)	Reject (R) the nondetect results for benzo(k)fluoranthene in samples ST17SB06 (0-0.2) and ST14SB06-2 (53-55). Estimate (J) the positive results for benzo(k)fluoranthene in samples ST17SB06 (2-4) and ST17SB07 (2-4).
3-nitroaniline 4-nitroaniline carbazole 3,3'-dichlorobenzidine	118 124 182 118	27-88 41-115 54-117 31-111	ST14SB06-2 (53-55)	Validation action was not required as the affected results were nondetect and therefore not affected by the potential high bias.
4-nitrophenol	19	45-95	ST14SB06-2 (35-37), ST13SB06-2 (56-57), ST14SB06-2 (57-58)	Estimate (UJ) the nondetect results for 4-nitrophenol in the associated samples.

Field Duplicate Results

Samples ST17SB06 (2-4) and ST17SB07 (2-4) were submitted as the field duplicate pair with this sample group. The following table summarizes the RPDs of the detected analytes, all of which were acceptable.

Analyte	ST17SB06 (2-4) (ug/kg)	ST17SB07 (2-4) (ug/kg)	RPD (%)
m/p-xylene	5.0 U	8.7	NC, Within 2xQL
phenanthrene	2300	1300	55.5, Within 2xQL
anthracene	610	330	59.6, Within 2xQL
fluoranthene	2900	2100	32.0
pyrene	4700	3400	32.1
benzo(a)anthracene	1800	1300	32.2
chrysene	1800	1400	25.0
benzo(b)fluoranthene	2700	1900	34.8
benzo(k)fluoranthene	930	600	43.1
benzo(a)pyrene	2200	1100	66.7, Within 2xQL
indeno(123-cd)pyrene	490	370	27.9
benzo(ghi)perylene	1300	960	30.0

For soil results > 5xQL and RPDs >50; estimate (J) results in the field duplicate pair.
For soil results < 5xQL; the sample and duplicate results must be within 2xQL.

Moisture Content

All criteria were met.

Quantitation Limits and Data Assessment

Results were reported which were below the lowest calibration standard level (RL) and above the method detection limit (MDL) in the VOC and SVOC analyses. These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration.

The volatile analysis utilized one gram of sample to 5 ml, instead of the typical 5 grams to 5 ml. Quantitation limits are elevated accordingly.

The following table lists the sample dilutions and/or reanalyses which were performed and reported.

Sample	VOC Analysis Reported	SVOC Analysis Reported
ST17SB06 (0-0.2)	NR	Due to poor IS areas, the sample was reanalyzed. Matrix interference was confirmed. The original analysis was reported. A 10-fold dilution only was analyzed.
ST17SB06 (2-4)	NR	Due to poor IS areas, the sample was reanalyzed. Matrix interference was confirmed. The original analysis was reported. A 5-fold dilution only was analyzed.
ST17SB07 (2-4)	NR	Due to poor IS areas, the sample was reanalyzed. Matrix interference was confirmed. The original analysis was reported. A 5-fold dilution only was analyzed.

NR- Dilution/reanalysis not required

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted in the VOC and SVOC analyses.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2736
Reviewer: Lorie MacKinnon/GEI Consultants
Date: July 22, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST17SB06 (0-0.2)	X2736-01	Metals, Cyanide
ST17SB06 (2-4)	X2736-02	Metals, Cyanide
ST17SB07 (2-4)	X2736-03	Metals, Cyanide
ST14SB06-2 (35-37)	X2736-04	Metals, Cyanide
ST14SB06-2 (57-58)	X2736-10	Metals, Cyanide
Associated QC Samples:	Field Blanks:	ST-FB02 (reported in X2661)
	Field Duplicate pair:	ST17SB06 (2-4)/ST17SB07 (2-4)

The above-listed soil samples were collected on May 8, 10, and 11, 2006 and were analyzed for metals by SW-846 methods 6010B and 7471A and Total and Amenable Cyanide (CN) by SW-846 method 9012. The data validation was based on the USEPA CLP National Functional Guidelines for Inorganic Review (October 2004) and the USEPA Region II Standard Operating Procedure (SOP) for CLP Inorganic Review (January 1992), modified to accommodate the SW-846 methodologies.

The inorganic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
• Instrument Calibration
• Contract Required Detection Limit (CRDL) Standard Recoveries
• Blank Analysis Results
• Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Results
• Matrix Spike (MS) Results
* • Laboratory Duplicate Results
• Field Duplicate Results
* • Laboratory Control Sample (LCS) Results
• ICP Serial Dilution Analysis Results
* • Moisture Content

- Detection Limits Results
- Sample Quantitation Results

* - All criteria were met for this parameter.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives.

Qualifications applied to the data as a result of sampling error are discussed below.

- The positive and nondetect results for antimony in samples ST17SB06 (2-4) and ST17SB07 (2-4) were qualified as estimated (J/UJ) due to high relative percent difference (RPD) in the evaluation of the field duplicate pair. The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive results for mercury in sample ST14SB06-2 (35-37) and lead in samples ST14SB06-2 (35-37) and ST14SB06-2 (57-58) were qualified as estimated (J) due to field blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive result for selenium in sample ST14SB06-2 (35-37) was qualified as nondetect (U) at the QL due to field blank contamination. The result can be used for project objectives as a nondetect. This qualification may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- The positive result for mercury in sample ST14SB06-2 (57-58) was qualified as estimated (J) due to low recoveries in the CRDL analyses. The result may be biased low and can be used for project objectives as an estimated value which may have a minor impact on the data usability.

- The positive results for thallium in sample ST14SB06-2 (35-37) and beryllium in sample ST14SB06-2 (57-58) were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for antimony in samples ST17SB06 (0-0.2), ST17SB07 (2-4), and ST14SB06-2 (35-37), arsenic and cadmium in samples ST17SB06 (0-0.2), ST17SB06 (2-4), ST17SB07 (2-4), and ST14SB06-2 (35-37), beryllium in samples

ST17SB06 (0-0.2), ST17SB06 (2-4), and ST17SB07 (2-4), cobalt in sample ST17SB06 (0-0.2), and cadmium, silver, and sodium in sample ST14SB06-2 (57-58) were qualified as estimated (J/UJ) due to negative bias seen in the instrument blank analysis. The results may be biased low. The result can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive and nondetect results for antimony, arsenic, and cadmium in samples ST17SB06 (2-4), ST17SB07 (2-4), and ST14SB06-2 (35-37) and cadmium in sample ST14SB06-2 (57-58) were qualified as estimated (J/UJ) due to negative interferences seen in the ICSA analysis. The results may be biased low. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive results for nickel, sodium, and beryllium in sample ST17SB06 (2-4), nickel, sodium, and beryllium in sample ST17SB07 (2-4), copper and sodium in sample ST14SB06-2 (35-37), and nickel in sample ST14SB06-2 (57-58) were qualified as estimated (J) due to positive interferences seen in the ICSA analysis. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive and nondetect results for antimony, potassium, sodium, nickel, silver, and zinc in all soil samples were qualified as estimated (J/UJ) in all samples due to recoveries in the MS/MSD analyses which were below control limits. The results may be biased low. These results are usable for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor effect on the data usability.

- The positive and nondetect results for aluminum, barium, calcium, chromium, iron, magnesium, manganese, and nickel in all samples were qualified as estimated (J/UJ) in all soil samples due to high percent differences (%Ds) in the ICP serial dilution analysis. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

- The nondetect results for amenable cyanide in samples ST17SB06 (0-0.2) and ST17SB07 (2-4) were qualified as estimated (UJ) due to lack of raw data submitted. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- Potential uncertainty exists for the following results which were detected above the method detection limit (MDL) but below the laboratory reporting limit: arsenic in samples ST17SB06 (0-0.2) and ST14SB06-2 (35-37), barium, potassium, and silver in sample ST17SB06 (0-0.2),

beryllium in samples ST17SB06 (0-0.2), ST17SB06 (2-4), ST17SB07 (2-4), and ST14SB06-2 (35-37), cobalt in samples ST17SB06 (0-0.2) and ST17SB07 (2-4), and sodium in samples ST17SB06 (0-0.2), ST17SB06 (2-4), and ST17SB07 (2-4). The positive results were qualified as estimated (J) and can be used for project objectives as estimated values which may have a minor effect on the data usability.

The validation recommendations listed above were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables.

Holding Times and Sample Preservation

All criteria were met in the metals and wet chemistry analyses.

Instrument Calibration

All criteria were met in the metals and wet chemistry analyses.

It should be noted that several analytes were recovered outside of the control limits of 90-110 in the continuing calibration verification (CCV) samples CCV2 and CCV3 analyzed on 05/22/06. Validation actions were not required as these calibration standards did not bracket the project samples analyses.

CRDL Standard Recoveries

The following table lists the recoveries which were outside the control limits of 70-130 in the low level standard and the resulting validation actions. The affected analyte level range was determined as 2x the CRDL standard level analyzed due to differences between the reported laboratory QL and the low level standard levels analyzed.

Analyte	Recovery (%)	Associated Samples	Actions
Mercury	35, 65	ST14SB06-2 (57-58)	Estimate (J) the positive result for mercury in sample ST14SB06-2 (57-58).
Silver	146.5	ST14SB06-2 (57-58)	Validation action was not required as the affected result was nondetect and therefore not affected by the potential high bias.

Analyte	Recovery (%)	Associated Samples	Actions
Sodium	67.1	ST14SB06-2 (57-58)	Validation action was not required as the affected result was greater than the affected analyte range.

Blank Analysis Results

The following table summarizes the metals laboratory blank contamination associated with samples ST17SB06 (0-0.2), ST17SB06 (2-4), ST17SB07 (2-4), and ST14SB06-2 (35-37).

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Aluminum	Instrument	18.4 ug/L, 1.8 mg/kg	18.4 mg/kg	No validation actions required.
Antimony	Instrument	-7.3 ug/L, -0.73 mg/kg	-7.3 mg/kg	Estimate (UJ) ST17SB06 (0-0.2), ST17SB07 (2-4), and ST14SB06-2 (35-37)
Arsenic	Instrument	-6.2 ug/L, -0.62 mg/kg	-6.2 mg/kg	Estimate (J/UJ) all associated samples.
Barium	Instrument	-9.7 ug/L, -0.97 mg/kg	-9.7 mg/kg	No validation actions required.
Beryllium	Instrument	-0.3 ug/L, -0.03 mg/kg	-0.3 mg/kg	Estimate (J) ST17SB06 (0-0.2), ST17SB06 (2-4), and ST17SB07 (2-4)
Cadmium	Instrument	-3.7 ug/L, -0.37 mg/kg	-3.7 mg/kg	Estimate (UJ) all associated samples.
Calcium	Instrument	-7.5 ug/L, -0.75 mg/kg 13.7 ug/L, 1.4 mg/kg	-7.5 mg/kg 13.7 mg/kg	No validation actions required.
Cobalt	Instrument	-3.9 ug/L, -0.39 mg/kg	-3.9 mg/kg	Estimate (J) ST17SB06 (0-0.2)
Lead	Instrument	3.4 ug/L, 0.34 mg/kg	3.4 mg/kg	No validation actions required.
Magnesium	Instrument	11.5 ug/L, 1.2 mg/kg	11.5 mg/kg	No validation actions required.
Manganese	Instrument	-3.9 ug/L, -0.39 mg/kg	-3.9 mg/kg	No validation actions required.
Nickel	Instrument	-3.4 ug/L, -0.34 mg/kg	-3.4 mg/kg	No validation actions required.
Thallium	Instrument	8.1 ug/L, 0.81 mg/kg	8.1 mg/kg	(U) at RL ST14SB06-2 (35-37)
Vanadium	Instrument	-3.4 ug/L, -0.34 mg/kg	-3.4 mg/kg	No validation actions required.
Zinc	Instrument	-12.7 ug/L, -1.3 mg/kg	-12.7 mg/kg	No validation actions required.

The following table summarizes the metals laboratory blank contamination associated with sample ST14SB06-2 (57-58).

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Aluminum	Instrument	62.7 ug/L, 6.3 mg/kg	62.7 mg/kg	No validation actions required.
Antimony	Instrument	7.4 ug/L, 0.74 mg/kg	7.4 mg/kg	No validation actions required.
Barium	Instrument	-3.5 ug/L, -0.35 mg/kg	-3.5 mg/kg	No validation actions required.
Beryllium	Method	0.052 mg/kg	0.52 mg/kg	(U) at RL ST14SB06-2 (57-58)
Cadmium	Instrument	-1.7 ug/L, -0.17 mg/kg	-1.7 mg/kg	Estimate (J) ST14SB06-2 (57-58)
Calcium	Instrument	-15.8 ug/L, -1.6 mg/kg	-15.8 mg/kg	No validation actions required.
Chromium	Instrument	-3.1 ug/L, -0.31 mg/kg	-3.1 mg/kg	No validation actions required.
Cobalt	Instrument	-4.6 ug/L, -0.46 mg/kg	-4.6 mg/kg	No validation actions required.
Copper	Instrument	-5.8 ug/L, -0.58 mg/kg	-5.8 mg/kg	No validation actions required.
Iron	Instrument	36.8 ug/L, 3.7 mg/kg	36.8 mg/kg	No validation actions required.
Magnesium	Instrument	-24.8 ug/L, -2.5 mg/kg	-24.8 mg/kg	No validation actions required.
Manganese	Method	-0.13 mg/kg	-1.3 mg/kg	No validation actions required.
Nickel	Instrument	-2.8 ug/L, -0.28 mg/kg	-2.8 mg/kg	No validation actions required.
Potassium	Instrument	-282 ug/L, -28.2 mg/kg	-282 mg/kg	No validation actions required.
Silver	Instrument	-4.8 ug/L, -0.48 mg/kg	-4.8 mg/kg	Estimate (UJ) ST14SB06-2 (57-58)
Sodium	Instrument	-1312 ug/L, -131 mg/kg	-1312 mg/kg	Estimate (J) ST14SB06-2 (57-58)
Vanadium	Instrument	-3.7 ug/L, -0.4 mg/kg	-3.7 mg/kg	No validation actions required.

The following table summarizes the metals field blank contamination associated with all samples.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Lead	ST-FB02	30.8 ug/L, 3.1 mg/kg	30.8 mg/kg	Estimate (J) ST14SB06-2 (35-37) and ST14SB06-2 (57-58)
Manganese	ST-FB02	2.5 ug/L, 0.25 mg/kg	2.5 mg/kg	No validation actions required.
Mercury	ST-FB02	0.040 ug/L, 0.002 mg/kg	0.020 mg/kg	Estimate (J) ST14SB06-2 (35-37)

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Selenium	ST-FB02	51.2 ug/L, 5.1 mg/kg	51.2 mg/kg	(U) at RL ST14SB06-2 (35-37)
Thallium	ST-FB02	6.4 ug/L, 0.64 mg/kg	6.4 mg/kg	No validation actions required.
Zinc	ST-FB02	19.6 ug/L, 1.96 mg/kg	19.6 mg/kg	No validation actions required.

For blank contamination < QL; If the sample result is < QL report the result as nondetect (U) at the QL.
For blank contamination ≥ QL; If the sample result is ≥ QL and < the blank level, report the sample result as nondetect (U).
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.
For negative blank contamination ≥2 MDL; professional judgement was taken to estimate (J/UJ) those results which were less than 10x the maximum blank level detected

ICP ICS Results

All recovery criteria were met in the ICSAB analysis.

Positive results for copper, nickel, potassium, sodium, vanadium, and beryllium, negative results for antimony, arsenic, barium, cadmium, zinc, and silver, and both positive and negative results for lead were observed in the ICSA solution analysis associated with samples ST17SB06 (0-0.2), ST17SB06 (2-4), ST17SB07 (2-4), and ST14SB06-2 (35-37). Positive results for beryllium, cobalt, copper, nickel, potassium, sodium, and vanadium, negative results for barium, cadmium, and lead, and both positive and negative results for antimony, silver, and zinc were observed in the ICSA solution analysis associated with sample ST14SB06-2 (57-58).

The levels of interferents in samples were reviewed. Iron was present in samples ST17SB06 (2-4) (146%), ST17SB07 (2-4) (119%), ST14SB06-2 (35-37) (129%), and ST14SB06-2 (57-58) (117%) at greater than that of the level in the ICSA solution. The following table lists the estimated interferences and the resulting validation actions.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST17SB06 (2-4)	Antimony	150	-55.5	Estimate (J) the positive result for antimony.
	Arsenic	55	-7.4	Estimate (J) the positive result for arsenic.
	Barium	2777	-10.5	Interference <10% sample level; no action taken.
	Cadmium	ND	-4.4	Estimate (UJ) the nondetect result for cadmium.
	Copper	434	15.8	Interference <10% sample level; no action taken.
	Lead	2537	-6.4/6.6	Interference <10% sample level; no action taken.
	Nickel	184	23.8	Estimate (J) the positive result for nickel.
	Potassium	10280	238	Interference <10% sample level; no action taken.
	Sodium	3388	971	Estimate (J) the positive result for sodium.
	Vanadium	157	8.2	Interference <10% sample level; no action taken.
	Zinc	2097	-14.9	Interference <10% sample level; no action taken.
	Beryllium	2.1	0.28	Estimate (J) the positive result for beryllium.
	Silver	26.7	-2.3	Interference <10% sample level; no action taken.
ST17SB07 (2-4)	Antimony	ND	-45.2	Estimate (UJ) the nondetect result for antimony.
	Arsenic	50.9	-6.1	Estimate (J) the positive result for arsenic.
	Barium	1687	-8.6	Interference <10% sample level; no action taken.
	Cadmium	ND	-3.6	Estimate (UJ) the nondetect result for cadmium.
	Copper	386	12.9	Interference <10% sample level; no action taken.
	Lead	2160	-5.2/5.4	Interference <10% sample level; no action taken.
	Nickel	124	19.4	Estimate (J) the positive result for nickel.
	Potassium	9263	194	Interference <10% sample level; no action taken.
	Sodium	4266	791	Estimate (J) the positive result for sodium.
	Vanadium	176	6.67	Interference <10% sample level; no action taken.
	Zinc	1397	-12.1	Interference <10% sample level; no action taken.
	Beryllium	2.2	0.23	Estimate (J) the positive result for beryllium.
	Silver	21	-1.9	Interference <10% sample level; no action taken.
ST14SB06-2 (35-37)	Antimony	ND	-49.0	Estimate (UJ) the nondetect result for antimony.
	Arsenic	9.2	-6.6	Estimate (J) the positive result for arsenic.
	Barium	578	-9.3	Interference <10% sample level; no action taken.
	Cadmium	ND	-3.9	Estimate (UJ) the nondetect result for cadmium.
	Copper	100	13.9	Estimate (J) the positive result for copper.
	Lead	72	-5.7/5.8	Interference <10% sample level; no action taken.
	Nickel	355	21.0	Interference <10% sample level; no action taken.
	Potassium	26975	210	Interference <10% sample level; no action taken.
	Sodium	7917	858	Estimate (J) the positive result for sodium.
	Vanadium	179	7.2	Interference <10% sample level; no action taken.
	Zinc	240	-13.1	Interference <10% sample level; no action taken.
	Beryllium	3.9	0.24	Interference <10% sample level; no action taken.
	Silver	22.8	-2.1	Interference <10% sample level; no action taken.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST14SB06-2 (57-58)	Antimony	ND	-21/28.5	Interference <½ QL; no action taken.
	Barium	1065	-1.6	Interference <10% sample level; no action taken.
	Beryllium	ND	0.87	Validation action was not required.
	Cadmium	ND	-3.0	Estimate (UJ) the nondetect result for cadmium.
	Cobalt	61.5	1.5	Interference <10% sample level; no action taken.
	Copper	156	12.6	Interference <10% sample level; no action taken.
	Lead	57	-4.3	Interference <10% sample level; no action taken.
	Nickel	179	20.6	Estimate (J) the positive result for nickel.
	Potassium	31418	173	Interference <10% sample level; no action taken.
	Silver	ND	-3.5/1.6	Interference <½ QL; no action taken.
	Sodium	12269	862	Interference <10% sample level; no action taken.
	Vanadium	184	9.6	Interference <10% sample level; no action taken.
	Zinc	304	-18.4/4.3	Interference <10% sample level; no action taken.

MS Results

The MS/MSD was performed on sample ST14SB06-2 (35-37) for metals and cyanide. The following table lists the analytes which exhibited recoveries outside of the control limits of 75 - 125% and the resulting validation actions.

Analyte	Recovery (%)	Actions
Antimony	39.8, 37.8	Estimate (J/UJ) the positive and nondetect results for antimony in all soil samples.
Potassium	-15.8, -18.3	Estimate (J) the positive results for potassium in all soil samples.
Sodium	59.3, 56.7	Estimate (J) the positive results for sodium in all soil samples.
Nickel	40.1, 39.7	Estimate (J) the positive results for nickel in all soil samples .
Silver	36.3, 35.5	Estimate (J/UJ) the positive and nondetect results for silver in all soil samples.
Zinc	71.5, 70.9	Estimate (J) the positive results for zinc in all soil samples.

Laboratory Duplicate Results

The laboratory duplicate was performed on sample ST14SB06-2 (35-37) for metals and cyanide. All criteria were met.

Field Duplicate Results

Samples ST17SB06 (2-4) and ST17SB07 (2-4) were submitted as the field duplicate pair with this sample group. The following table summarizes the RPDs of the detected analytes, all of which were

acceptable with the exception of antimony. The positive and nondetect results for antimony in samples ST17SB06 (2-4) and ST17SB07 (2-4) were qualified as estimated (J/UJ).

Analyte	ST17SB06 (2-4) (mg/kg)	ST17SB07 (2-4) (mg/kg)	RPD (%)
Aluminum	4350	4140	4.9
Antimony	17.0	0.37 U	NC, Not within 2xQL
Arsenic	6.2	5.8	7.2
Barium	314	192	48.2
Beryllium	0.23	0.25	7.8
Calcium	17000	17700	4.0
Chromium	13.3	10.8	20.7
Cobalt	9.9	5.1	63.8, Within 2xQL
Copper	49.0	43.9	11.0
Iron	13900	11500	18.9
Lead	287	245	15.8
Magnesium	1930	1830	5.3
Manganese	251	230	8.7
Mercury	1.7	1.3	26.7
Nickel	20.7	14.1	37.9
Potassium	1160	1050	10
Silver	3.02	2.4	22.2
Sodium	383	485	23.5
Vanadium	17.8	20.0	11.6
Zinc	237	159	39.4
Cyanide	1.33	0.93	35.4

For soil results > 5xQL and RPDs >50; estimate (J) results in the field duplicate pair.
For soil results < 5xQL; the sample and duplicate results must be within 2xQL.

LCS Results

All criteria were met in the metals and wet chemistry analyses.

ICP Serial Dilution (ISD) Analysis Results

The serial dilution was performed on sample ST14SB06-2 (35-37). The following table lists the analytes which exhibited %Ds above the control limit of 10 and the resulting validation actions.

Analyte	%D	Actions
Aluminum	21.6%	Estimate (J) the positive results for aluminum in all samples.
Barium	18.1%	Estimate (J) the positive results for barium in all samples.
Calcium	29.8%	Estimate (J) the positive results for calcium in all samples.
Chromium	16.3%	Estimate (J) the positive results for chromium in all samples.
Iron	26.0%	Estimate (J) the positive results for iron in all samples.
Magnesium	24.9%	Estimate (J) the positive results for magnesium in all samples.
Manganese	26.3%	Estimate (J) the positive results for manganese in all samples.
Nickel	22.9%	Estimate (J) the positive results for nickel in all samples.

Moisture Content

All criteria were met.

Detection Limits Results

Due to high levels of mercury in the initial analyses, 10-fold dilutions were performed on samples ST17SB06 (2-4) and ST17SB07 (2-4) for mercury.

Positive results which were above the MDL but below the RL were flagged by the laboratory with a "J". These results were qualified as estimated (J) due to uncertainty at the low end of calibration: arsenic in samples ST17SB06 (0-0.2) and ST14SB06-2 (35-37), barium, potassium, and silver in sample ST17SB06 (0-0.2), beryllium in samples ST17SB06 (0-0.2), ST17SB06 (2-4), ST17SB07 (2-4), and ST14SB06-2 (35-37), cobalt in samples ST17SB06 (0-0.2) and ST17SB07 (2-4), and sodium in samples ST17SB06 (0-0.2), ST17SB06 (2-4), and ST17SB07 (2-4).

Sample Quantitation Results

Sample calculations were spot-checked; no discrepancies were noted in the metals results.

Upon review of the cyanide results, the validator found that although the total result for cyanide in sample ST17SB06 (0-0.2) was reported to be nondetect at 0.52 mg/kg, the result should have been

detected at 0.53 mg/kg. The validator edited the total cyanide result for ST17SB06 (0-0.2). Upon further review, it was found that the detected total cyanide results for samples ST17SB06 (2-4) and ST17SB07 (2-4) were not calculated with the percent solids. The validator calculated the results for total cyanide for samples ST17SB06 (2-4) and ST17SB07 (2-4) on a dry weight basis.

Although the total cyanide was detected at a low level in samples ST17SB06 (0-0.2) and ST17SB07 (2-4), the laboratory did not submit the amenable cyanide analysis for those samples. The nondetect results for amenable cyanide in samples ST17SB06 (0-0.2) and ST17SB07 (2-4) were estimated (UJ) due to lack of data submitted.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2867
Reviewer: Lisa McDonagh/GEI Consultants
Date: July 20, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST17-FB03	X2867-01	VOC, SVOC
ST17SB06(50-51)	X2867-02	VOC, SVOC
ST17SB06(35-37)-BOT	X2867-03	VOC, SVOC
ST17SB06(35-37)-TOP	X2867-04	VOC, SVOC
ST17SB06(29-31)	X2867-05	VOC, SVOC
ST17SB06(27–29)	X2867-06	VOC, SVOC
ST17SB06(21-23)	X2867-07	VOC, SVOC
ST17SB06(17-19)	X2867-08	VOC, SVOC
ST-TB-5-13-06	X2867-09	VOC

Associated QC Samples: Field or Trip Blanks: ST17-FB03 , ST-TB-5-13-06
Field Duplicate pair: None associated

The above-listed soil samples, field blank, and trip blank sample were collected on May 13, 16, 17 and 18, 2006 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260B and semivolatile organic compounds (SVOCs) by SW-846 method 8270C. The data validation was based on the USEPA CLP National Functional Guidelines for Organic Review (January 2005) and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8260B, SOP No. HW-24, Revision 1, June 1999 and USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8270C, SOP No. HW-22, Revision 2, June 2001.

The organic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
• Initial and Continuing Calibrations
• Blanks

*	•	Surrogate Recoveries
	•	Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
*	•	Internal Standards
	•	Laboratory Control Sample (LCS) Results
NA	•	Field Duplicate Results
*	•	Moisture Content
	•	Quantitation Limits and Data Assessment
	•	Sample Quantitation and Compound Identification

* - All criteria were met.

NA - A field duplicate pair was not associated with this sample group.

All results are usable for project objectives with the exception of select tentatively identified compounds (TICs) which were rejected due to method blank contamination, indeno(1,2,3-cd)pyrene in samples ST17SB06(35-37)-BOT and ST17SB06(29-31) which were rejected due to high continuing calibration percent differences.

Qualifications were not applied to the data as a result of sampling error.
Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC and SVOC results which were below the lowest calibration standard and quantitation limit. These results were qualified as estimated (J) in the associated samples by the laboratory. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

- The positive result for methylene chloride in sample ST17SB06(50-51) was qualified as nondetect (U) at the QL due to laboratory blank contamination. The result can be used for project objectives as nondetect. This qualification may have a minor impact on the data usability.

- The positive results for methylene chloride in samples ST17SB06(35-37)-BOT, ST17SB06(35-37)-TOP, ST17SB06(29-31) and ST17SB06(27–29) were qualified as nondetect (U) at the reported values due to laboratory blank contamination. The results can be used for project objectives as nondetects with elevated quantitation limits. This qualification may have a minor impact on the data usability.

- The nondetect results for chloroethane, trichlorofluorommethane, 1,1,2-trichlorotrifluoroethane, 1,1-dichloroethene, acetone, ethylbenzene and tetrachloroethene in samples ST17-FB03 and ST-TB-5-13-06 , benzaldehyde in samples ST17-FB03,

ST17SB06(50-51), ST17SB06(35-37)-BOT, ST17SB06(35-37)-TOP, ST17SB06(29-31) and ST17SB06(27–29) were qualified as estimated (UJ) due to initial calibration nonconformances. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The following positive and nondetect results were qualified as estimated (J/UJ) due to continuing calibration nonconformances: methylene chloride in samples ST17SB06(50-51), ST17SB06(35-37)-TOP and ST17SB06(27–29) and bromomethane and chloroethane in samples ST17SB06(35-37)-BOT and ST17SB06(29-31), 1,1-dichloroethene, acetone, methylene chloride, 1,1-dichloroethane, tetrachloroethene and vinyl chloride in samples ST17-FB03 and ST-TB-5-13-06, benzaldehyde, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene and benzo(g,h,i)perylene in samples ST17SB06(35-37)-BOT and ST17SB06(29-31) . The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. These qualifications may have a minor impact on the data usability.

- The nondetect results for indeno(1,2,3-cd)pyrene in samples ST17SB06(35-37)-BOT and ST17SB06(29-31) were rejected (R)due to continuing calibration %D greater than 90. The results are not usable for project objectives which may have a major impact on the data usability.

- The following SVOC nondetect result was qualified as estimated (UJ) due to MS/MSD %recovery which was below the control limits and a %RPD which was above the control limit: 2,4-dinitrophenol in sample ST17SB06(50-51) can be used for project objectives as an estimated value. The qualification may have a minor impact on the data usability.

- The nondetect results for dichlorodifluoromethane, chloromethane, vinyl chloride, bromomethane, chloroethane, trichlorofluoromethane, acetone, methyl acetate, methylene chloride, 1,1-dichloroethane, cyclohexane, 2-butanone, 4-methyl-2-pentanone, 2-hexanone, tetrachloroethene and ethylbenzene in samples ST17-FB03 and ST-TB-5-13-06, chloroethane in samples ST17SB06(50-51), ST17SB06(35-37)-TOP and ST17SB06(27–29) were qualified as estimated (UJ) due to low recoveries in the LCS analysis. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive result for acetone in sample ST17SB06(35-37)-BOT was qualified as estimated (J) due to high recoveries in the LCS analysis. The result can be used for project objectives as an estimated value . This qualification may have a minor impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the VOC and SVOC analyses.

Holding Times and Sample Preservation

All criteria were met in the VOC and SVOC analyses.

GC/MS Tunes

All criteria were met in the VOC and SVOC analyses.

Initial and Continuing Calibrations

Compounds that did not meet criteria in the VOC and SVOC initial and continuing calibrations are summarized in the following tables.

Instrument ID MSVOAD Compound	IC 5/11/06	CC 5/22/06
vinyl chloride		XX(27.4%)
chloroethane	X(R=0.904)	
trichlorofluoromethane	X(R=0.822)	
1,1,2-trichlorotrifluoroethane	X(R=0.983)	
1,1-dichloroethene	X(R=0.973)	XX(27.1%)
methyl acetate		
methylene chloride		XX(48.0%)
1,1-dichloroethane		XX(26.6%)
tetrachloroethene	X(R=0.903)	XX(34.0%)
ethylbenzene	X(R=0.982)	
Samples Affected	All samples listed	ST17-FB03 ST-TB-5-13-06

Instrument ID MSVOAK Compound	IC 5/4/06	CC 5/22/06	CC 5/25/06
bromomethane			XX (38.7%)
chloroethane			XX (57.7%)
methylene chloride		XX (52.1%)	
Samples Affected	All samples listed	ST17SB06(50-51), ST17SB06(35-37)-TOP ST17SB06(27–29)	ST17SB06(35-37)-BOT ST17SB06(29-31)

Instrument ID BNAB Compound	CC 5/22/06
benzaldehyde	X (R=0.872)
Samples Affected	ST17-FB03

Instrument ID BNAF Compound	IC 5/22/06	CC 5/26/06
benzaldehyde	X (R=0.966)	
2,4-dinitrophenol	X(49.8%)	
pentachlorophenol	X(25.0%)	
indeno(1,2,3-cd)pyrene		XXX (131%)
benzo(b)fluoranthene		XX (48%)
benzo(k)fluoranthene		XX (48%)
dibenzo(a,h)anthracene		XX (39%)
benzo(g,h,i)perylene		XX (38%)
Samples Affected	All listed	ST17SB06(35-37)-BOT ST17SB06(29-31)

X = Initial calibration (IC) relative standard deviation (%RSD) > 50 for 1,4-dioxane, (%RSD) > 40 for poor response compounds, and %RSD > 20 for all other compounds ; estimate (J) positive result. If regression was performed and correlation coefficient ® < 0.990; estimate (J/UJ) positive and nondetect results.

XX = Continuing calibration (CC) percent difference (%D) > 50 for 1,4-dioxane, (%D) > 40 for poor response compounds, and %D > 25 for all other compounds; estimate (J/UJ) positive and nondetect results.

XXX = Continuing calibration (CC) percent difference (%D) > 90; estimate (J) positive results and reject (R) nondetect results.

+ = Response factor (RRF) < 0.05 except <0.01 for poor response compounds; Estimate (J) positive results and reject (R) nondetect results.

The nondetect results for chloroethane, trichlorofluorommethane, 1,1,2-trichlorotrifluoroethane, 1,1-dichloroethene, acetone, ethylbenzene and tetrachloroethene in samples ST17-FB03 and ST-TB-5-13-06 , benzaldehyde in samples ST17-FB03, ST17SB06(50-51), ST17SB06(35-37)-BOT, ST17SB06(35-37)-TOP, ST17SB06(29-31) and ST17SB06(27–29) were qualified as estimated (UJ) due to initial calibration nonconformances.

The following positive and nondetect results were qualified as estimated (J/UJ) due to continuing calibration nonconformances: methylene chloride in samples ST17SB06(50-51), ST17SB06(35-37)-TOP and ST17SB06(27–29) and bromomethane and chloroethane in samples ST17SB06(35-37)-BOT and ST17SB06(29-31), 1,1-dichloroethene, acetone, methylene chloride, 1,1-dichloroethane, tetrachloroethene and vinyl chloride in samples ST17-FB03 and ST-TB-5-13-06, benzaldehyde, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene and benzo(g,h,i)perylene in samples ST17SB06(35-37)-BOT and ST17SB06(29-31) .

The nondetect results for indeno(1,2,3-cd)pyrene in samples ST17SB06(35-37)-BOT and ST17SB06(29-31) were rejected (R) due to continuing calibration %D greater than 90.

Blanks

The following table summarizes the VOC and SVOC method, field, and trip blank contamination.

Compound	Type of Blank	Associated Samples	Maximum Concentration	Blank Action Level
methylene chloride	Method	ST17SB06(50-51) ST17SB06(35-37)-TOP ST17SB06(27–29)	15 ug/kg	30 ug/kg
methylene chloride	Method	ST17SB06(35-37)-BOT ST17SB06(29-31)	17 ug/kg	34 ug/kg
4-nitrophenol 4,6-dinitro-2-methylphenol 4-bromophenylphenylether pentachlorophenol	Method	ST17SB06(35-37)-BOT ST17SB06(29-31)	110 ug/kg 230 ug/kg 150 ug/kg 180 ug/kg	110 ug/kg 230 ug/kg 150 ug/kg 180 ug/kg

Blank Actions
The blank action level is 1X Max Conc for VOC/2X for common contaminant and 1X for SVOC/5X common contaminant
If the sample concentration ≤ RL and ≤ blank action level, qualify the result as not detected (U) at the RL.
If the sample concentration > RL and ≤ blank action level, qualify the result as not detected (U) at the reported value.
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.

Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

The positive result for methylene chloride in sample ST17SB06(50-51) was qualified as nondetect (U) at the QL due to laboratory blank contamination.

The positive results for methylene chloride in samples ST17SB06(35-37)-BOT, ST17SB06(35-37)-TOP, ST17SB06(29-31) and ST17SB06(27–29) were qualified as nondetect (U) at the reported values due to laboratory blank contamination.

Surrogate Recoveries

All criteria were met in the VOC and SVOC analyses.

MS/MSD Results

Matrix spike samples were not submitted for the VOC analyses. The laboratory submitted MS/MSD performed on a non-project sample. These results were not used to qualify VOC samples in X2867.

An MS/MSD was performed on sample ST17SB06(50-51) for the SVOC analyses. The following table lists the SVOC analyte MS/MSD recoveries and/or %RPDs which were outside of the laboratory established control limits.

Compound	MS/MSD %R	RPD %	QC Limits	Validation Action
2,4-dinitrophenol	17, 19	-	26-131	Estimate (UJ) the nondetect result for 2,4-dinitrophenol in sample ST17SB06(50-51) .
fluoranthene	111, -	-	55-105	Qualifications were not required.
benzo(a)anthracene	105, -	-	60-100	Qualifications were not required.

- Within control limits

An MS/MSD was performed on sample ST17SB06(35-37)-BOT for the SVOC analyses. The following table lists the SVOC analyte MS/MSD recoveries and/or %RPDs which were outside of the laboratory established control limits.

Compound	MS/MSD %R	RPD %	QC Limits	Validation Action
indeno(1,2,3-cd)pyrene	150, 141	-	42-124	Qualifications were not required.
2,4-dinitrophenol	-, 67	58	26-131, <50	Qualifications were not required.

Internal Standards

All criteria were met in the VOC and SVOC analyses.

LCS Results

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the VOC and SVOC analyses.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
phenol	44	18-37	ST17-FB03	Qualifications were not required.
4,6-dinitro-2-methylphenol indeno(1,2,3-cd)pyrene	112 159	40-105 42-124	ST17SB06(35-37)-BOT ST17SB06(29-31)	Qualifications were not required.
dichlorodifluoromethane chloromethane vinyl chloride bromomethane chloroethane trichlorofluoromethane acetone methyl acetate methylene chloride 1,1-dichloroethane cyclohexane 2-butanone 4-methyl-2-pentanone 2-hexanone tetrachloroethene ethylbenzene	40, 48 36, 50 37, 48 55, - 36, 50 50, - 50, 61 46, - 65, - 65, - 60, - 63, - 65, - 68, - 55, - 65, -	70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130 70-130	ST17-FB03 ST-TB-5-13-06	Estimate (UJ) the nondetect results for dichlorodifluoromethane chloromethane, vinyl chloride bromomethane, chloroethane trichlorofluoromethane acetone, methyl acetate methylene chloride 1,1-dichloroethane cyclohexane, 2-butanone 4-methyl-2-pentanone 2-hexanone, tetrachloroethene and ethylbenzene in the associated samples.
chloroethane methyl tert-butyl ether methylene chloride trans-1,2-dichloroethene	55 135 165 145	70-130 70-130 70-130 70-130	ST17SB06(50-51) ST17SB06(35-37)-TOP ST17SB06(27–29)	Estimate (UJ) the nondetect results for chloroethane in the associated samples.
methyl acetate acetone methyl tert-butyl ether methylene chloride trans-1,2-dichloroethene	165 150 140 215 140	70-130 70-130 70-130 70-130 70-130	ST17SB06(35-37)-BOT ST17SB06(29-31)	Estimate (J) positive results for acetone in sample ST17SB06(35-37)-BOT.

Field Duplicate Results

A field duplicate pair was not associated with this sample group.

Moisture Content

All criteria were met.

Quantitation Limits and Data Assessment

Results were reported which were below the lowest calibration standard level (RL) and above the method detection limit (MDL) in the VOC and SVOC analyses. These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration.

The volatile analysis utilized one gram of sample to 5 ml, instead of the typical 5 grams to 5 ml. Quantitation limits are elevated accordingly.

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted in the VOC and SVOC analyses.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X2867
Reviewer: Lorie MacKinnon/GEI Consultants
Date: July 21, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST-FB03	X2867-01	Metals, Cyanide
ST17SB06 (50-51)	X2867-02	Metals, Cyanide
ST17SB06 (35-37) TOP	X2867-04	Metals, Cyanide
ST17SB06 (27-29)	X2867-06	Metals, Cyanide
Associated QC Samples:	Field Blanks:	ST-FB03
	Field Duplicate pair:	None associated

The above-listed soil samples and field blank sample were collected on May 17 and 18, 2006 and were analyzed for metals by SW-846 methods 6010B, 7470A, and 7471A and Total and Amenable Cyanide (CN) by SW-846 method 9012. The data validation was based on the USEPA CLP National Functional Guidelines for Inorganic Review (October 2004) and the USEPA Region II Standard Operating Procedure (SOP) for CLP Inorganic Review (January 1992), modified to accommodate the SW-846 methodologies.

The inorganic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
• Instrument Calibration
• Contract Required Detection Limit (CRDL) Standard Recoveries
• Blank Analysis Results
• Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Results
• Matrix Spike (MS) Results
* • Laboratory Duplicate Results
NA • Field Duplicate Results
* • Laboratory Control Sample (LCS) Results
• ICP Serial Dilution Analysis Results
* • Moisture Content

- Detection Limits Results
* • Sample Quantitation Results

* - All criteria were met for this parameter.

NA - A field duplicate pair was not associated with this sample group.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives.

Qualifications applied to the data as a result of sampling error are discussed below.

- The positive results for nickel in samples ST17SB06 (35-37) TOP and ST17SB06 (27-29) and zinc in all soil samples were qualified as estimated (J) due to field blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive result for sodium in sample ST17SB06 (35-37) TOP was qualified as nondetect (U) at the QL due to field blank contamination. The result can be used for project objectives as a nondetect. This qualification may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- The positive and nondetect results for mercury in all soil samples, sodium in sample ST17SB06 (35-37) TOP, and potassium in sample ST-FB03 were qualified as estimated (J/UJ) due to low recoveries in the CRDL analyses. The results may be biased low and can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive result for sodium in sample ST-FB03 was qualified as estimated (J) due to high recovery in the CRDL analysis. The result may be biased high and can be used for project objectives as an estimated value which may have a minor impact on the data usability.

- The positive results for antimony in samples ST17SB06 (50-51) and ST17SB06 (27-29), beryllium in all soil samples, and barium, beryllium, cadmium, cobalt, and vanadium in sample ST-FB03 were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The positive results for calcium, chromium, iron, manganese, silver, and sodium in sample

ST-FB03 were qualified as estimated (J) due to laboratory blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive and nondetect results for zinc in sample ST-FB03, cadmium, cobalt, silver, and sodium in all soil samples and copper in samples ST17SB06 (35-37) TOP and ST17SB06 (27-29) were qualified as estimated (J/UJ) due to negative bias seen in the instrument blank analysis. The results may be biased low. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive and nondetect results for antimony, cadmium, lead, silver, and zinc in sample ST17SB06 (27-29) were qualified as estimated (J/UJ) due to negative interferences seen in the ICSA analysis. The results may be biased low. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive results for cobalt, copper, nickel, sodium, and vanadium in sample ST17SB06 (27-29) were qualified as estimated (J) due to positive interferences seen in the ICSA analysis. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive and nondetect results for antimony, potassium, sodium, nickel, silver, and zinc were qualified as estimated (J/UJ) in all samples due to recoveries in the MS/MSD analyses which were below control limits. The results may be biased low. These results are usable for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor effect on the data usability.

- The positive and nondetect results for aluminum, barium, calcium, chromium, iron, magnesium, manganese, and nickel were qualified as estimated (J/UJ) in all soil samples due to high percent differences (%Ds) in the ICP serial dilution analysis. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

- Potential uncertainty exists for the following results which were detected above the method detection limit (MDL) but below the laboratory reporting limit: calcium, chromium, copper, iron, manganese, nickel, silver, and sodium in sample ST-FB03, arsenic, mercury, and potassium in sample ST17SB06 (35-37) TOP, barium in samples ST17SB06 (35-37) TOP and ST17SB06 (27-29), and cobalt in all soil samples. The positive results were qualified as estimated (J) and can be used for project objectives as estimated values which may have a

minor effect on the data usability.

The validation recommendations listed above were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables.

Holding Times and Sample Preservation

All criteria were met in the metals and wet chemistry analyses.

Instrument Calibration

All criteria were met in the metals and wet chemistry analyses.

It should be noted that several analytes were recovered outside the control limits of 90-110 in the continuing calibration verification (CCV) samples CCV2 and CCV3 analyzed on 05/22/06. Validation actions were not required as these calibration standards did not bracket the project samples analyses.

CRDL Standard Recoveries

The following table lists the recoveries which were outside the control limits of 70-130 in the low level standard and the resulting validation actions. The affected analyte level range was determined as 2x the CRDL standard level analyzed due to differences between the reported laboratory QL and the low level standard levels analyzed.

Analyte	Recovery (%)	Associated Samples	Actions
Mercury	35.0	All soil samples	Estimate (J) the positive results for mercury in all soil samples.
Silver	146.5	All soil samples	Validation actions were not required as the affected results for silver were nondetect and therefore not affected by the potential high bias.
Sodium	67.1	All soil samples	Estimate (UJ) the nondetect result for sodium in sample ST17SB06 (35-37) TOP.
Potassium	65.8	ST-FB03	Estimate (UJ) the nondetect result for potassium in sample ST-FB03.

Analyte	Recovery (%)	Associated Samples	Actions
Sodium	138.4	ST-FB03	Estimate (J) the positive result for sodium in sample ST-FB03.

Blank Analysis Results

The following table summarizes the metals laboratory blank contamination associated with all soil samples.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Aluminum	Instrument	62.7 ug/L, 6.3 mg/kg	62.7 mg/kg	No validation actions required
Antimony	Instrument	12.3 ug/L, 1.2 mg/kg	12.3 mg/kg	(U) at RL ST17SB06 (50-51) and ST17SB06 (27-29)
Barium	Instrument	-3.5 ug/L, -0.35 mg/kg	-3.5 mg/kg	No validation actions required
Beryllium	Instrument	0.6 ug/L, 0.06 mg/kg	0.6 mg/kg	(U) at RL all soil samples
Cadmium	Instrument	-1.7 ug/L, -0.17mg/kg	-1.7 mg/kg	Estimate (UJ) all associated samples
Calcium	Instrument	-15.8 ug/L, -1.6 mg/kg	-15.8 mg/kg	No validation actions required
Chromium	Instrument	-3.1ug/L, -0.31mg/kg	-3.1 mg/kg	No validation actions required
Cobalt	Instrument	-4.6 ug/L, -0.46 mg/kg	-4.6 mg/kg	Estimate (J) all soil samples
Copper	Instrument	-5.8 ug/L, -0.58 mg/kg	-5.8 mg/kg	Estimate (J) ST17SB06 (35-37) TOP and ST17SB06 (27-29)
Iron	Instrument	36.8 ug/L, 3.7 mg/kg -49.4 ug/L, -4.9 mg/kg	36.8 mg/kg -49.4 mg/kg	No validation actions required.
Magnesium	Instrument	-24.8 ug/L, -2.5 mg/kg	-24.8 mg/kg	No validation actions required.
Manganese	Instrument	-1.4 ug/L, -0.14 mg/kg	-1.4 mg/kg	No validation actions required.
Nickel	Instrument	-2.8 ug/L, -0.28 mg/kg	-2.8 mg/kg	No validation actions required.
Potassium	Instrument	-282 ug/L, -28.2 mg/kg	-282 mg/kg	No validation actions required.
Silver	Instrument	-4.8 ug/L, -0.48 mg/kg	-4.8 mg/kg	Estimate (UJ) all soil samples.
Sodium	Instrument	-1312 ug/L, -131.2 mg/kg	-1312 mg/kg	Estimate (J/UJ) all soil samples
Vanadium	Instrument	-3.7 ug/L, -0.37 mg/kg	-3.7 mg/kg	No validation actions required.

The following table summarizes the metals laboratory blank contamination associated with the field blank sample ST-FB03.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Aluminum	Instrument	6.4 ug/L	64 ug/L	No action required.
Barium	Instrument	3.1 ug/L	31 ug/L	(U) at RL ST-FB03
Beryllium	Instrument	0.2 ug/L	2.0 ug/L	(U) at RL ST-FB03
Cadmium	Instrument	1.2 ug/L	12 ug/L	(U) at RL ST-FB03
Calcium	Instrument	10.6 ug/L	106 ug/L	Estimate (J) ST-FB03
Chromium	Instrument	0.7 ug/L	7.0 ug/L	Estimate (J) ST-FB03
Cobalt	Instrument	1.6 ug/L	16 ug/L	(U) at RL ST-FB03
Iron	Instrument	53.1ug/L	531ug/L	Estimate (J) ST-FB03
Manganese	Instrument	1.0 ug/L	10 ug/L	Estimate (J) ST-FB03
Silver	Instrument	1.7 ug/L	17 ug/L	Estimate (J) ST-FB03
Sodium	Method	371 ug/L	3710 ug/L	Estimate (J) ST-FB03
Thallium	Instrument	8.1 ug/L	81 ug/L	Validation action not required.
Vanadium	Instrument	2.2 ug/L	22 ug/L	(U) at RL ST-FB03
Zinc	Instrument	-4.7 ug/L	-47 ug/L	Estimate (J) ST-FB03

The laboratory instrument blank results for barium, beryllium, cadmium, cobalt, and vanadium were greater than the field blank contamination levels detected. The positive results in the field blank sample were qualified as nondetect and not used to assess possible field blank contamination.

The following table summarizes the metals field blank contamination associated with all samples.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Calcium	ST-FB03	27.3 ug/L, 2.7 mg/kg	27.3 mg/kg	No validation actions required.
Chromium	ST-FB03	4.4 ug/L, 0.44 mg/kg	4.4 mg/kg	No validation actions required.
Copper	ST-FB03	8.08 ug/L, 0.81mg/kg	8.1 mg/kg	No validation actions required.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Iron	ST-FB03	62.3 ug/L, 6.2 mg/kg	62.3 mg/kg	No validation actions required.
Manganese	ST-FB03	1.37 ug/L, 0.14 mg/kg	1.37 mg/kg	No validation actions required.
Nickel	ST-FB03	5.6 ug/L, 0.56 mg/kg	5.6 mg/kg	Estimate (J) ST17SB06 (35-37) TOP and ST17SB06 (27-29).
Silver	ST-FB03	1.86 ug/L, 0.19 mg/kg	1.86 mg/kg	No validation actions required.
Sodium	ST-FB03	801ug/L, 80 mg/kg	801mg/kg	(U) at RL ST17SB06 (35-37) TOP.
Zinc	ST-FB03	27.6 ug/L, 2.8 mg/kg	27.6 mg/kg	Estimate (J) all soil samples.

For blank contamination < QL; If the sample result is < QL report the result as nondetect (U) at the QL.
For blank contamination ≥ QL; If the sample result is ≥ QL and < the blank level, report the sample result as nondetect (U).
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.
For negative blank contamination ≥2 MDL; professional judgement was taken to estimate (J/UJ) those results which were less than 10x the maximum blank level detected

ICP ICS Results

All recovery criteria were met in the ICSAB analysis.

Positive results for arsenic, barium, beryllium, cadmium, cobalt, copper, lead, nickel, potassium, sodium, thallium, and vanadium, negative results for silver and zinc, and both positive and negative results for antimony were observed in the ICSA solution analysis associated with sample ST-FB03. Positive results for beryllium, cobalt, copper, nickel, potassium, sodium, and vanadium, negative results for barium, cadmium, and lead, and both positive and negative results for antimony, silver, and zinc were observed in the ICSA solution analysis associated with all soil samples.

The levels of interferents in samples were reviewed. Calcium was present in sample ST17SB06 (27-29) (156%) at greater than that of the level in the ICSA solution. The following table lists the estimated interferences and the resulting validation actions.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
ST17SB06 (27-29)	Antimony	ND	-28/38	Estimate (UJ) the nondetect result for antimony.
	Barium	174	-2.2	Interference <10% sample level; no action taken.
	Beryllium	ND	1.1	Validation action was not required.
	Cadmium	ND	-4.1	Estimate (UJ) the nondetect result for cadmium.
	Cobalt	17.3	2.0	Estimate (J) the positive result for cobalt.
	Copper	39.1	16.8	Estimate (J) the positive result for copper.
	Lead	51	-5.8	Estimate (J) the positive result for lead.
	Nickel	52	27.5	Estimate (J) the positive result for nickel.
	Potassium	7987	231	Interference <10% sample level; no action taken.
	Silver	ND	-4.7/2.2	Estimate (UJ) the nondetect result for silver.
	Sodium	7160	1150	Estimate (J) the positive result for sodium.
	Vanadium	83	12.8	Estimate (J) the positive result for vanadium.
	Zinc	118	-24.5/5.8	Estimate (J) the positive result for zinc.

MS Results

The laboratory performed MS/MSD analyses on non-project samples for metals. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

An MS was performed on sample ST17SB06 (50-51) for cyanide. All criteria were met.

The MS/MSD on sample ST14SB06-2 (35-37) (reported in case number X2736) was used to evaluate precision and accuracy for metals. The following table lists the analytes which exhibited recoveries outside of the control limits of 75 - 125% and the resulting validation actions.

Analyte	Recovery (%)	Actions
Antimony	39.8, 37.8	Estimate (J/UJ) the positive and nondetect results for antimony in all soil samples.
Potassium	-15.8, -18.3	Estimate (J) the positive results for potassium in all soil samples.
Sodium	59.3, 56.7	Estimate (J) the positive results for sodium in all soil samples.
Nickel	40.1, 39.7	Estimate (J) the positive results for nickel in all soil samples.
Silver	36.3, 35.5	Estimate (J/UJ) the positive and nondetect results for silver in all soil samples.
Zinc	71.5, 70.9	Estimate (J) the positive results for zinc in all soil samples.

Laboratory Duplicate Results

The laboratory performed duplicate analyses on non-project samples for metals. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

A laboratory duplicate analysis was performed on sample ST17SB06 (50-51) for cyanide. The duplicate on sample ST14SB06-2 (35-37) (reported in case number X2736) was used to evaluate precision. All criteria were me in these analyses.

Field Duplicate Results

A field duplicate pair was not associated with this sample set.

LCS Results

All criteria were met in the metals and wet chemistry analyses.

ICP Serial Dilution (ISD) Analysis Results

The laboratory performed serial dilution analyses on non-project samples for metals. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

The serial dilutions on sample ST14SB06-2 (35-37) (reported in case number X2736) was associated with this sample group. The following table lists the analytes which exhibited %Ds above the control limit of 10 and the resulting validation actions.

Analyte	%D	Actions
Aluminum	21.6%	Estimate (J) the positive results for aluminum in all samples.
Barium	18.1%	Estimate (J) the positive results for barium in all samples.
Calcium	29.8%	Estimate (J) the positive results for calcium in all samples.
Chromium	16.3%	Estimate (J) the positive results for chromium in all samples.
Iron	26.0%	Estimate (J) the positive results for iron in all samples.
Magnesium	24.9%	Estimate (J) the positive results for magnesium in all samples.
Manganese	26.3%	Estimate (J) the positive results for manganese in all samples.
Nickel	22.9%	Estimate (J) the positive results for nickel in all samples.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X3142
Reviewer: Lisa McDonagh/GEI Consultants
Date: July 31, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
STRI-ST17-MWDD05	X3142-01	VOC, SVOC
STRI-ST17-MWD05	X3142-02	VOC, SVOC
STRI-ST17-MWS05	X3142-03	VOC, SVOC
STRI-ST17-MWDD06	X3142-04	VOC, SVOC
STRI-GWS-TB01	X3142-05	VOC
STRI-ST17-MWD06	X3142-06	VOC, SVOC
STRI-ST17-MWS06	X3142-07	VOC, SVOC
STRI-GWS-TB02	X3142-08	VOC

Associated QC Samples: Field or Trip Blanks: STRI-GWS-TB01, STRI-GWS-TB02
Field Duplicate pair: None associated

The above-listed aqueous samples and trip blank samples were collected on June 1 and 5, 2006 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260B and semivolatile organic compounds (SVOCs) by SW-846 method 8270C. The data validation was based on the USEPA CLP National Functional Guidelines for Organic Review (January 2005) and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8260B, SOP No. HW-24, Revision 1, June 1999 and USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8270C, SOP No. HW-22, Revision 2, June 2001.

The organic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
• Initial and Continuing Calibrations
• Blanks

*	•	Surrogate Recoveries
NA	•	Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
*	•	Internal Standards
	•	Laboratory Control Sample (LCS) Results
NA	•	Field Duplicate Results
	•	Quantitation Limits and Data Assessment
	•	Sample Quantitation and Compound Identification

* - All criteria were met.

NA - A field duplicate pair and/or matrix spike samples were not associated with this sample group.

All results are usable for project objectives with the exception of select tentatively identified compounds (TICs) which were rejected due to method blank contamination or were reported as target compounds in another fraction.

Qualifications were not applied to the data as a result of sampling error.
Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC and SVOC results which were below the lowest calibration standard and quantitation limit. These results were qualified as estimated (J) in the associated samples by the laboratory. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R)

- The VOC tentatively identified compound, naphthalene and 2-methylnaphthalene , reported in samples STRI-ST17-MWD05 and STRI-ST17-MWDD06 were rejected (R) as they were reported as target compounds in the other fractions.

- The positive results for acetone in sample STRI-ST17-MWS05 was qualified as nondetect (U) at the reported value due to laboratory blank contamination. The result can be used for project objectives as nondetect with an elevated quantitation limit. This qualification may have a minor impact on the data usability.

- The following positive and nondetect results were qualified as estimated (J/UJ) due to continuing calibration nonconformances: 1,1,1-trichloroethane and acetone in sample STRI-GWS-TB02 , indeno(1,2,3-cd)pyrene in sample STRI-ST17-MWS06 and 4-nitroaniline and indeno(1,2,3-cd)pyrene in samples STRI-ST17-MWDD05, STRI-ST17-MWDD06 and STRI-ST17-MWD06. The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. These qualifications may have a minor

impact on the data usability.

- The positive result for isopropylbenzene in sample STRI-ST17-MWD05 was qualified as estimated (J) due to high recoveries in the LCS analysis. The result can be used for project objectives as estimated value This qualification may have a minor impact on the data usability.

- The nondetect result for dichlorodifluoromethane in samples STRI-ST17-MWS05 and STRI-GWS-TB01 were qualified as estimated (UJ) due to low recoveries in the LCS analysis. The results can be used for project objectives as estimated quantitation limits. These qualifications may have a minor impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the VOC and SVOC analyses.

Holding Times and Sample Preservation

All criteria were met in the VOC and SVOC analyses.

GC/MS Tunes

All criteria were met in the VOC and SVOC analyses.

Initial and Continuing Calibrations

Compounds that did not meet criteria in the VOC and SVOC initial and continuing calibrations are summarized in the following tables.

Instrument ID MSVOAF Compound	IC 5/25/06	CC 6/10/06
1,1,1-trichloroethane		XX (25.4%)
acetone		XX (65.4%)
Samples Affected	All samples listed	STRI-GWS-TB02

Instrument ID BNAE Compound	IC 6/1/06	CC 6/10/06	CC 6/12/06
benzaldehyde	X(r=0.977)		
4-nitroaniline			XX(41.1%)
benzidine	X(r=0.986)		
indeno(1,2,3-cd)pyrene		XX(36.8%)	XX(28.6%)
Samples Affected	All listed	STRI-ST17-MWS06	STRI-ST17-MWDD05 STRI-ST17-MWDD06 STRI-ST17-MWD06

X = Initial calibration (IC) relative standard deviation (%RSD) > 50 for 1,4-dioxane, (%RSD) > 40 for poor response compounds, and %RSD > 20 for all other compounds ; estimate (J) positive result. If regression was performed and correlation coefficient (r) < 0.990; estimate (J/UJ) positive and nondetect results.

XX = Continuing calibration (CC) percent difference (%D) > 50 for 1,4-dioxane, (%D) > 40 for poor response compounds, and %D > 25 for all other compounds; estimate (J/UJ) positive and nondetect results.

XXX = Continuing calibration (CC) percent difference (%D) > 90; estimate (J) positive results and reject (R) nondetect results.

+ = Response factor (RRF) < 0.05 except <0.01 for poor response compounds; Estimate (J) positive results and reject (R) nondetect results.

The following positive and nondetect results were qualified as estimated (J/UJ) due to continuing calibration nonconformances: 1,1,1-trichloroethane and acetone in sample STRI-GWS-TB02 , indeno(1,2,3-cd)pyrene in sample STRI-ST17-MWS06 and 4-nitroaniline and indeno(1,2,3-cd)pyrene in samples STRI-ST17-MWDD05, STRI-ST17-MWDD06 and STRI-ST17-MWD06.

Blanks

All criteria were met in the SVOC analyses.

The following table summarizes the VOC method and trip blank contamination.

Compound	Type of Blank	Associated Samples	Maximum Concentration	Blank Action Level
acetone methylene chloride	Method	STRI-GWS-TB02	23 ug/L 2.7 ug/L	46 ug/L 5.4 ug/L
acetone	Method	STRI-ST17-MWDD05 STRI-ST17-MWD05 STRI-ST17-MWDD06 STRI-ST17-MWD06 STRI-ST17-MWS06	15 ug/L	30 ug/L

Compound	Type of Blank	Associated Samples	Maximum Concentration	Blank Action Level
acetone 2-butanone	Method	STRI-ST17-MWS05 STRI-GWS-TB01	26 ug/L 3.1 ug/L	52 ug/L 6.2 ug/L

Blank Actions
The blank action level is 1X Max Conc for VOC/2X for common contaminant and 1X for SVOC/5X common contaminant
If the sample concentration ≤ RL and ≤ blank action level, qualify the result as not detected (U) at the RL.
If the sample concentration > RL and ≤ blank action level, qualify the result as not detected (U) at the reported value.
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.

Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

The positive results for acetone in sample STRI-ST17-MWS05 was qualified as nondetect (U) at the reported value due to laboratory blank contamination.

Surrogate Recoveries

All criteria were met in the VOC and SVOC analyses.

MS/MSD Results

Matrix spike samples were not submitted with X3142.

Internal Standards

All criteria were met in the VOC and SVOC analyses.

LCS Results

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the VOC and SVOC analyses.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
acetone	147	70-125	STRI-GWS-TB02	Qualifications were not required.
acetone isopropylbenzene	133, - - , 127	70-125 70-125	STRI-ST17-MWDD05 STRI-ST17-MWD05 STRI-ST17-MWDD06 STRI-ST17-MWD06 STRI-ST17-MWS06	Estimate (J) the positive result for isopropylbenzene in sample STRI-ST17-MWD05.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
dichlorodifluoromethane	67	70-125	STRI-ST17-MWS05 STRI-GWS-TB01	Estimate (UJ) the nondetect results for dichlorodifluoromethane in the associated samples.
acetone tetrachloroethene	133 140	70-125 70-125	STRI-ST17-MWS05 STRI-GWS-TB01	Qualifications were not required.
carbazole	152	57-115	all samples X3142	Qualifications were not required.

Field Duplicate Results

A field duplicate pair was not associated with this sample group.

Quantitation Limits and Data Assessment

Results were reported which were below the lowest calibration standard level (RL) and above the method detection limit (MDL) in the VOC and SVOC analyses. These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration.

The following tables list the sample dilutions which were performed and reported. Quantitation limits were elevated accordingly.

Sample	VOC Analysis/Dilution Reported	SVOC Analysis/Dilution Reported
STRI-ST17-MWD05	1-fold dilution 5-fold dilution. Report cis-1,2-dichloroethene from the 5-fold dilution.	NA

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted in the VOC and SVOC analyses.

Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

The VOC tentatively identified compound, naphthalene and 2-methylnaphthalene , reported in samples STRI-ST17-MWD05 and STRI-ST17-MWDD06 , were rejected (R). Semivolatile target compound list (TCL) compounds should not be reported as VOC TICs.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X3142
Reviewer: Lorie MacKinnon/GEI Consultants
Date: July 21, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
STRI-ST17-MWDD05	X3142-01	Total Metals, Cyanide
STRI-ST17-MWD05	X3142-02	Total Metals, Cyanide
STRI-ST17-MWS05	X3142-03	Total Metals, Cyanide
STRI-ST17-MWDD06	X3142-04	Total Metals, Cyanide
STRI-ST17-MWD06	X3142-06	Total Metals, Cyanide
STRI-ST17-MWS06	X3142-07	Total Metals, Cyanide
STRI-ST17-MWD05 Dis	X3142-10	Dissolved Metals
STRI-ST17-MWS05 Dis	X3142-11	Dissolved Metals
STRI-ST17-MWDD06 Dis	X3142-12	Dissolved Metals
STRI-ST17-MWS06 Dis	X3142-14	Dissolved Metals

Associated QC Samples:	Field Blanks:	STRI-GWS-FB, STRI-GWS-FB Dis (reported in X3209)
	Field Duplicate pair:	None associated

The above-listed aqueous samples were collected on June 5, 2006 and were analyzed for total and dissolved metals by SW-846 methods 6010B and 7470A and Total and Amenable Cyanide (CN) by SW-846 method 9012. The data validation was based on the USEPA CLP National Functional Guidelines for Inorganic Review (October 2004) and the USEPA Region II Standard Operating Procedure (SOP) for CLP Inorganic Review (January 1992), modified to accommodate the SW-846 methodologies.

The inorganic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Instrument Calibration
  • Contract Required Detection Limit (CRDL) Standard Recoveries
  • Blank Analysis Results

- Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Results
- Matrix Spike (MS) Results
- * Laboratory Duplicate Results
- NA Field Duplicate Results
- * Laboratory Control Sample (LCS) Results
- ICP Serial Dilution Analysis Results
- Comparison of Total and Dissolved Metals
- Detection Limits Results
- Sample Quantitation Results

* - All criteria were met for this parameter.

NA - A field duplicate pair was not associated with this sample group.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives.

Qualifications applied to the data as a result of sampling error are discussed below.

- The positive results for chromium in sample STRI-ST17-MWD05 and zinc in samples STRI-ST17-MWDD05, STRI-ST17-MWD05, STRI-ST17-MWS05, STRI-ST17-MWDD06, STRI-ST17-MWD06, STRI-ST17-MWS06, STRI-ST17-MWS06 Dis were qualified as estimated (J) due to field blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive results for zinc in samples STRI-ST17-MWD05 Dis, STRI-ST17-MWS05 Dis, and STRI-ST17-MWDD06 Dis were qualified as nondetect (U) at the QL due to field blank contamination. The result can be used for project objectives as a nondetect. This qualification may have a minor impact on the data usability.

- The positive results for magnesium, potassium, and sodium in samples STRI-ST17-MWD05 and STRI-ST17-MWD05 Dis and calcium, magnesium, and potassium in samples STRI-ST17-MWDD06 and STRI-ST17-MWDD06 Dis were qualified as estimated (J) as the dissolved results exceeded those of the total by more than 10%. The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- The positive results for aluminum in samples STRI-ST17-MWDD05, STRI-ST17-MWD06, STRI-ST17-MWS06, STRI-ST17-MWD05 Dis, and STRI-ST17-MWS05 Dis, antimony in samples STRI-ST17-MWD05, STRI-ST17-MWD06, STRI-ST17-MWS06, and STRI-ST17-MWS06 Dis, arsenic in samples STRI-ST17-MWDD06 and STRI-ST17-MWD05 Dis, barium, beryllium, cobalt, and vanadium in all samples, chromium in samples STRI-ST17-MWDD05, STRI-ST17-MWS05, STRI-ST17-MWDD06, STRI-ST17-MWD06, STRI-ST17-MWS06, STRI-ST17-MWD05 Dis, STRI-ST17-MWS05 Dis, STRI-ST17-MWDD06 Dis, and STRI-ST17-MWS06 Dis, copper in samples STRI-ST17-MWS05, STRI-ST17-MWDD06, STRI-ST17-MWS06, and STRI-ST17-MWD05 Dis, mercury in samples STRI-ST17-MWDD05, STRI-ST17-MWD05, STRI-ST17-MWS05, STRI-ST17-MWDD06, STRI-ST17-MWD06, STRI-ST17-MWS06, and STRI-ST17-MWS05 Dis, nickel in samples STRI-ST17-MWD05, STRI-ST17-MWS05, STRI-ST17-MWDD06, STRI-ST17-MWD06, STRI-ST17-MWS06, STRI-ST17-MWD05 Dis, STRI-ST17-MWDD06 Dis, and STRI-ST17-MWS06 Dis, and silver in samples STRI-ST17-MWDD06 Dis were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The positive results for arsenic in samples STRI-ST17-MWD05 and STRI-ST17-MWS06 and copper in sample STRI-ST17-MWD05 were qualified as estimated (J) due to laboratory blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive and nondetect results for antimony, cobalt, mercury, and thallium in all samples, chromium in samples STRI-ST17-MWDD05, STRI-ST17-MWS05, STRI-ST17-MWDD06, STRI-ST17-MWS06, STRI-ST17-MWD05 Dis, STRI-ST17-MWS05 Dis, STRI-ST17-MWDD06 Dis, and STRI-ST17-MWS06 Dis, and zinc in samples STRI-ST17-MWDD05, STRI-ST17-MWDD06, STRI-ST17-MWD06, STRI-ST17-MWS06, STRI-ST17-MWD05 Dis, STRI-ST17-MWS05 Dis, STRI-ST17-MWDD06 Dis, and STRI-ST17-MWS06 Dis were qualified as estimated (J/UJ) due to negative bias seen in the instrument blank analysis. The results may be biased low. The result can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The nondetect results for antimony, silver, and thallium in samples STRI-ST17-MWDD06 and STRI-ST17-MWDD06 Dis were qualified as estimated (UJ) due to negative interferences seen in the ICSA analysis. The results may be biased low. The results can be used for project objectives as nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive results for zinc in samples STRI-ST17-MWDD06 and STRI-ST17-MWDD06 Dis were qualified as estimated (J) due to positive interferences seen in the ICSA analysis. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive and nondetect results for barium and manganese in samples STRI-ST17-MWDD05, STRI-ST17-MWD05, STRI-ST17-MWS05, STRI-ST17-MWDD06, STRI-ST17-MWD06, and STRI-ST17-MWS06 were qualified as estimated (J/UJ) in all samples due to recoveries in the MS/MSD analyses which were below control limits. The results may be biased low. These results are usable for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor effect on the data usability.

- The positive results for aluminum in samples STRI-ST17-MWD05, STRI-ST17-MWS05, and STRI-ST17-MWDD06 were qualified as estimated (J) due to recoveries in the MS/MSD analyses which were above control limits. The results may be biased high. These results are usable for project objectives as estimated values which may have a minor effect on the data usability.

- The positive and nondetect results for calcium, potassium, and sodium in samples STRI-ST17-MWDD05, STRI-ST17-MWD05, STRI-ST17-MWS05, STRI-ST17-MWDD06, STRI-ST17-MWD06, and STRI-ST17-MWS06 and calcium, magnesium, manganese, and zinc in samples STRI-ST17-MWD05 Dis, STRI-ST17-MWS05 Dis, STRI-ST17-MWDD06 Dis, and STRI-ST17-MWS06 Dis were qualified as estimated (J/UJ) due to high percent differences (%Ds) in the ICP serial dilution analyses. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

- Potential uncertainty exists for the following results which were detected above the method detection limit (MDL) but below the laboratory reporting limit: iron in sample STRI-ST17-MWDD06 Dis. The positive result was qualified as estimated (J) and can be used for project objectives as an estimated value which may have a minor effect on the data usability.

- The nondetect results for amenable cyanide in samples STRI-ST17-MWD05 and STRI-ST17-MWS05 were qualified as estimated (UJ) due to lack of raw data submitted. The result can be used for project objectives as a nondetect with an estimated quantitation limit. This qualification may have a minor impact on the data usability.

The validation recommendations listed above were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables.

Holding Times and Sample Preservation

All criteria were met in the metals and wet chemistry analyses.

Instrument Calibration

All criteria were met in the metals and wet chemistry analyses.

CRDL Standard Recoveries

The following table lists the recoveries which were outside the control limits of 70-130 in the low level standard and the resulting validation actions. The affected analyte level range was determined as 2x the CRDL standard level analyzed due to differences between the reported laboratory QL and the low level standard levels analyzed.

Analyte	Recovery (%)	Associated Samples	Actions
Potassium	68.8	All samples	Validation actions were not required as all results were greater than the affected range.
Sodium	68.8	All samples	Validation actions were not required as all results were greater than the affected range.

Blank Analysis Results

The following table summarizes the metals laboratory blank contamination associated with all samples.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Aluminum	Instrument	11.0 ug/L	110 ug/L	(U) at RL STRI-ST17-MWDD05, STRI-ST17-MWD06, STRI-ST17-MWS06, STRI-ST17-MWD05 Dis, and STRI-ST17-MWS05 Dis

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Antimony	Instrument	8.0 ug/L -10.1 ug/L	80.0 ug/L -101 ug/L	(U) at RL STRI-ST17-MWD05, STRI-ST17-MWD06, STRI-ST17-MWS06, and STRI-ST17-MWS06 Dis Estimate (J/UJ) all samples
Arsenic	Instrument	3.9 ug/L	39 ug/L	(U) at RL STRI-ST17-MWDD06 and STRI-ST17-MWD05 Dis Estimate (J) STRI-ST17-MWD05 and STRI-ST17-MWS06
Barium	Instrument	13 ug/L -4.0 ug/L	130 ug/L -40 ug/L	(U) at RL all samples
Beryllium	Instrument	0.3 ug/L	3.0 ug/L	(U) at RL all samples
Cadmium	Instrument	0.9 ug/L	9.0 ug/L	No validation actions required
Calcium	Instrument	10.8 ug/L	108 ug/L	No validation actions required
Chromium	Instrument	1.1 ug/L -0.6 ug/L	11ug/L -6.0 ug/L	(U) at RL STRI-ST17-MWDD05, STRI-ST17-MWS05, STRI-ST17-MWDD06, STRI-ST17-STRI-ST17-MWD06, STRI-ST17-MWS06, STRI-ST17-MWD05 Dis, STRI-ST17-MWS05 Dis, STRI-ST17-MWDD06 Dis, and STRI-ST17-MWS06 Dis Estimate (UJ) STRI-ST17-MWDD05, STRI-ST17-MWS05, STRI-ST17-MWDD06, STRI-ST17-MWS06, STRI-ST17-MWD05 Dis, STRI-ST17-MWS05 Dis, STRI-ST17-MWDD06 Dis, and STRI-ST17-MWS06 Dis
Cobalt	Instrument	3.7 ug/L -0.9 ug/L	37 ug/L -9.0 ug/L	(U) at RL all samples (UJ) all samples
Copper	Instrument	4.2 ug/L	42.0 ug/L	(U) at RL STRI-ST17-MWS05, STRI-ST17-MWDD06, STRI-ST17-MWS06, and STRI-ST17-MWD05 Dis Estimate (J) STRI-ST17-MWD05
Manganese	Instrument	2.4 ug/L -1.1ug/L	24 ug/L -11 ug/L	No validation actions required
Mercury 6/12/06	Instrument	0.11 ug/L -0.19 ug/L	1.1 ug/L -1.9 ug/L	(U) at RL all total metals samples (UJ) all total metals samples
Mercury 6/15/06	Instrument	0.040 ug/L -0.062 ug/L	0.40 ug/L -0.62 ug/L	(U) at RL STRI-ST17-MWS05 Dis (UJ) all dissolved metals samples

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Nickel	Instrument	2.6 ug/L	26 ug/L	(U) at RL STRI-ST17-MWD05, STRI-ST17-MWS05, STRI-ST17-MWDD06, STRI-ST17-MWD06, STRI-ST17-MWS06, STRI-ST17-MWD05 Dis, STRI-ST17-MWDD06 Dis, and STRI-ST17-MWS06 Dis
Potassium	Instrument	68.6 ug/L	686 ug/L	No validation actions required
Silver	Instrument	2.4 ug/L	24 ug/L	(U) at RL STRI-ST17-MWDD06 Dis
Sodium	Instrument	578 ug/L	5780 ug/L	No validation actions required
Thallium	Method	-6.22 ug/L	-62 ug/L	(UJ) all samples
Vanadium	Instrument	3.4 ug/L	34 ug/L	(U) at the RL all samples
Zinc	Instrument	-6.6 ug/L	-66 ug/L	Estimate (J/UJ) STRI-ST17-MWDD05, STRI-ST17-MWDD06, STRI-ST17-MWD06, STRI-ST17-MWS06, STRI-ST17-MWD05 Dis, STRI-ST17-MWS05 Dis, STRI-ST17-MWDD06 Dis, and STRI-ST17-MWS06 Dis

The following table summarizes the metals field blank contamination associated with all samples.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Calcium	STRI-GWS-FB	69.7 ug/L	697 ug/L	No validation actions required.
Chromium	STRI-GWS-FB	2.55 ug/L	25.5 ug/L	Estimate (J) STRI-ST17-MWD05
Zinc	STRI-GWS-FB	15.0 ug/L	150 ug/L	Estimate (J) all total metals samples
Aluminum	STRI-GWS-FB Dis	20.5 ug/L	205 ug/L	No validation actions required.
Antimony	STRI-GWS-FB Dis	14.8 ug/L	148 ug/L	No validation actions required.
Calcium	STRI-GWS-FB Dis	395 ug/L	3950 ug/L	No validation actions required.
Mercury	STRI-GWS-FB Dis	0.05 ug/L	0.5 ug/L	No validation actions required.
Zinc	STRI-GWS-FB Dis	30.4 ug/L	304 ug/L	(U) at RL ST17-MWD05 Dis, ST17-MWS05 Dis, and ST17-MWDD06 Dis. Estimate (J) ST17-MWS06 Dis

For blank contamination < QL; If the sample result is < QL report the result as nondetect (U) at the QL.
For blank contamination $\geq$ QL; If the sample result is $\geq$ QL and < the blank level, report the sample result as nondetect (U).
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which

were less than 10x the maximum blank level detected.
For negative blank contamination ≥2 MDL; professional judgement was taken to estimate (J/UJ) those results which were less than 10x the maximum blank level detected

ICP ICS Results

All recovery criteria were met in the ICSAB analysis.

Positive results for beryllium, cobalt, copper, nickel, potassium, selenium, sodium, vanadium, and zinc, negative results for antimony, cadmium, silver, and thallium, and both positive and negative results for barium were observed in the ICSA solution analysis associated with all samples.
The levels of interferents in samples were reviewed. Magnesium was present in samples STRI-ST17-MWDD06 (126%) and STRI-ST17-MWDD06 Dis (141%) at greater than that of the level in the ICSA solution. The following table lists the estimated interferences and the resulting validation actions.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
STRI-ST17-MWDD06	Antimony	ND	-60	Estimate (UJ) the nondetect result for antimony.
	Barium	178	-2.6/17.5	Interference <10% sample level; no action taken.
	Beryllium	ND	0.54	Validation action was not required.
	Cadmium	ND	-1.9	Interference < ½ QL; no action taken.
	Cobalt	ND	6.3	Validation action was not required.
	Copper	ND	14.2	Validation action was not required.
	Nickel	ND	23.8	Validation action was not required.
	Potassium	128000	200	Interference <10% sample level; no action taken.
	Selenium	ND	5.9	Validation action was not required.
	Silver	ND	-11.5	Estimate (UJ) the nondetect result for silver.
	Sodium	3590000	712	Interference <10% sample level; no action taken.
	Thallium	ND	-7.4	Estimate (UJ) the nondetect result for thallium.
	Vanadium	ND	14.5	Validation action was not required.
	Zinc	40.2	55.3	Estimate (J) the positive result for zinc.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
STRI-ST17-MWDD06 Dis	Antimony	ND	-67	Estimate (UJ) the nondetect result for antimony.
	Barium	ND	-3.0/19.6	Validation action was not required.
	Beryllium	ND	0.61	Validation action was not required.
	Cadmium	ND	-2.1	Interference < ½ QL; no action taken.
	Cobalt	ND	7.0	Validation action was not required.
	Copper	ND	15.9	Validation action was not required.
	Nickel	ND	26.6	Validation action was not required.
	Potassium	142000	224	Interference <10% sample level; no action taken.
	Selenium	ND	6.6	Validation action was not required.
	Silver	ND	-12.8	Estimate (UJ) the nondetect result for silver.
	Sodium	3750000	797	Interference <10% sample level; no action taken.
	Thallium	ND	-8.3	Estimate (UJ) the nondetect result for thallium.
	Vanadium	ND	16.2	Validation action was not required.
	Zinc	24.1	61.9	Estimate (J) the positive result for zinc.

MS Results

The laboratory performed MS/MSD analyses on non-project samples for ICP metals. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

An MS was performed on sample STRI-ST17-MWDD06 for mercury and STRI-ST17-MWDD05 for cyanide. All criteria were met in the cyanide MS performed.

The MS/MSDs on samples STRI-ST17-MWD03 and STRI-ST17-MWD03 Dis (reported in case number X3206) were used to evaluate precision and accuracy for metals. All criteria were met in the MS/MSD associated with the dissolved metals samples. The following table lists the analytes which exhibited recoveries outside of the control limits of 75 - 125% and the resulting validation actions.

Analyte	Recovery (%)	QC Sample	Actions
Aluminum	154.7, 160.4	MWD03	Estimate (J) the positive results for aluminum in samples STRI-ST17-MWD05, STRI-ST17-MWS05, and STRI-ST17-MWDD06.
Barium	62.5, 68.9	MWD03	Estimate (UJ) the nondetect results for barium in all total metals samples.
Manganese	-114.7, -110.8	MWD03	Estimate (J) the positive results for manganese in all total metals samples.
Mercury	MSD 125.5	MWDD06	Validation actions were not required as mercury was nondetect in all samples and therefore not affected by the potential high bias.

Laboratory Duplicate Results

The laboratory performed laboratory duplicate analyses on non-project samples for ICP metals. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

Duplicate analyses were performed on sample STRI-ST17-MWDD06 for mercury and STRI-ST17-MWDD05 for cyanide. The duplicates on samples STRI-ST17-MWD03 and STRI-ST17-MWD03 Dis (reported in case number X3206) were used to evaluate precision and accuracy for metals. All criteria were met in these analyses.

Field Duplicate Results

A field duplicate pair was not associated with this sample set.

LCS Results

All criteria were met in the metals and wet chemistry analyses.

ICP Serial Dilution (ISD) Analysis Results

The laboratory performed serial dilution analyses on non-project samples for ICP metals. These results were not used to qualify the samples due to differences in sample type, matrix, etc. A serial dilution analysis was performed on sample STRI-ST17-MWDD06 for mercury. All criteria were met.

The serial dilutions on samples STRI-ST17-MWD03 and STRI-ST17-MWD03 Dis (reported in case number X3206) were associated with this sample group. The following table lists the analytes which exhibited %Ds above the control limit of 10 and the resulting validation actions.

Analyte	ISD Sample	%D	Actions
Calcium	MWD03 Dis	17.8	Estimate (J) the positive results for calcium in all dissolved metals samples.
Magnesium	MWD03 Dis	14.3	Estimate (J) the positive results for magnesium in all dissolved metals samples.
Manganese	MWD03 Dis	12.3	Estimate (J) the positive results for manganese in all dissolved metals samples.
Zinc	MWD03 Dis	73.1	Estimate (J/UJ) the positive and nondetect results for zinc in all dissolved metals samples.
Calcium	MWD03	10.5	Estimate (J) the positive results for calcium in all total metals samples.

Analyte	ISD Sample	%D	Actions
Potassium	MWD03	13.5	Estimate (J) the positive results for potassium in all total metals samples.
Sodium	MWD03	12.4	Estimate (J) the positive results for sodium in all total metals samples.

Comparison of Total and Dissolved Metals

The following table lists the analytes in which the dissolved metals result exceeded that of the total metals by more than 10%.

Sample	Analyte	%D	Actions
STRI-ST17-MWD05	Magnesium Potassium Sodium	13.3 16.9 22.2	Estimate (J) the positive results for magnesium, potassium, and sodium in samples STRI-ST17-MWD05 and STRI-ST17-MWD05 Dis.
STRI-ST17-MWDD06	Calcium Magnesium Potassium	10.4 11.8 10.9	Estimate (J) the positive results for calcium, magnesium, and potassium in samples STRI-ST17-MWDD06 and STRI-ST17-MWDD06 Dis.

Detection Limits Results

Additional10-fold dilutions were performed for samples STRI-ST17-MWDD05, STRI-ST17-MWD06, and STRI-ST17-MWDD06 Dis due to high levels of sodium. The results of both analyses were combined by the validator in order to report all results within the calibration range and with the lowest possible quantitation limits.

Positive results which were above the MDL but below the RL were flagged by the laboratory with a "J". This result was qualified as estimated (J) due to uncertainty at the low end of calibration: iron in sample STRI-ST17-MWDD06 Dis.

Sample Quantitation Results

Sample calculations were spot-checked; no discrepancies were noted in the metals and cyanide results.

Although the total cyanide was detected at a low level in samples STRI-ST17-MWD05 and STRI-ST17-MWS05, the laboratory did not submit the amenable cyanide analysis for this sample. The nondetect results for amenable cyanide in samples STRI-ST17-MWD05 and STRI-ST17-MWS05 were estimated (UJ) due to lack of data submitted.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X3159
Reviewer: Lisa McDonagh/GEI Consultants
Date: July 20, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
STRI-ST14-MWDD01	X3159-01	VOC, SVOC
STRI-ST14-MWD01	X3159-02	VOC, SVOC
STRI-ST14-MWS01	X3159-03	VOC, SVOC
STRI-ST14-MWDD02	X3159-04	VOC, SVOC
STRI-GWS-TB03	X3159-05	VOC
STRI-ST14-MWS02	X3159-06	VOC, SVOC
STRI-DUP01	X3159-07	VOC, SVOC
STRI-GWS-TB04	X3159-08	VOC

Associated QC Samples: Field or Trip Blanks: STRI-GWS-TB03, STRI-GWS-TB04
Field Duplicate pair: STRI-ST14-MWDD02/STRI-DUP01

The above-listed aqueous samples and trip blank samples were collected on June 1 and 6, 2006 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260B and semivolatile organic compounds (SVOCs) by SW-846 method 8270C. The data validation was based on the USEPA CLP National Functional Guidelines for Organic Review (January 2005) and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8260B, SOP No. HW-24, Revision 1, June 1999 and USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8270C, SOP No. HW-22, Revision 2, June 2001.

The organic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
• Initial and Continuing Calibrations

	•	Blanks
	•	Surrogate Recoveries
NA	•	Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
*	•	Internal Standards
	•	Laboratory Control Sample (LCS) Results
	•	Field Duplicate Results
	•	Quantitation Limits and Data Assessment
	•	Sample Quantitation and Compound Identification

* - All criteria were met.

NA - A field duplicate pair was not associated with this sample group.

All results are usable for project objectives with the exception of select tentatively identified compounds (TICs) which were rejected due to method blank contamination, the VOC tentatively identified compound, naphthalene , reported in sample STRI-ST14-MWS01 and 2-methylnaphthalene in sample STRI-ST14-MWS02 and the SVOC tentatively identified compound, ethylbenzene, o-xylene and p-xylene in sample STRI-ST14-MWDD01, ethylbenzene and o-xylene in sample STRI-ST14-MWD01, toluene, ethylbenzene, 1,3-dimethylbenzene and o-xylene in samples STRI-ST14-MWDD02 and STRI-ST14-MWS02 and ethylbenzene, 1,3-dimethylbenzene and o-xylene in sample STRI-DUP01 were rejected (R) as they were reported as target compounds in the other fractions and benzo(k)fluoranthene in sample STRI-ST14-MWDD01 which was rejected due to high continuing calibration percent difference.

Qualifications applied to the data as a result of sampling error are discussed below.

- The following SVOC positive results were qualified as estimated (J) due to field duplicate %RPDs which were above the required limits: naphthalene in samples STRI-ST14-MWDD02 and STRI-DUP01.

Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC and SVOC results which were below the lowest calibration standard and quantitation limit. These results were qualified as estimated (J) in the associated samples by the laboratory. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

- The VOC tentatively identified compound, naphthalene , reported in sample STRI-ST14-MWS01 and 2-methylnaphthalene in sample STRI-ST14-MWS02 and the SVOC tentatively

identified compound, ethylbenzene, o-xylene and p-xylene in sample STRI-ST14-MWDD01, ethylbenzene and o-xylene in sample STRI-ST14-MWD01, toluene, ethylbenzene, 1,3-dimethylbenzene and o-xylene in samples STRI-ST14-MWDD02 and STRI-ST14-MWS02 and ethylbenzene, 1,3-dimethylbenzene and o-xylene in sample STRI-DUP01 were rejected (R) as they were reported as target compounds in the other fractions.

- The positive results for methylene chloride in sample STRI-ST14-MWS02 was qualified as nondetect (U) at the reported value due to laboratory blank contamination. The result can be used for project objectives as nondetect with an elevated quantitation limit. This qualification may have a minor impact on the data usability.

- The nondetect results for chloroethane, 1,1,2-trichlorotrifluoroethane, acetone, 2-butanone, carbon tetrachloride, 4-methyl-2-pentanone, 2-hexanone, 1,2-dibromoethane, bromoform and 1,2-dibromo-3-chloropropane in samples STRI-ST14-MWDD01, STRI-ST14-MWD01, STRI-ST14-MWS01, STRI-ST14-MWDD02, STRI-ST14-MWS02 and STRI-DUP01 were qualified as estimated (UJ) due to initial calibration nonconformances. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The following positive and nondetect results were qualified as estimated (J/UJ) due to continuing calibration nonconformances: dibromochloromethane in samples STRI-ST14-MWDD01, STRI-ST14-MWD01, STRI-ST14-MWDD02, STRI-ST14-MWS02 and STRI-DUP01, tetrachloroethene in sample STRI-ST14-MWS01, benzo(k)fluoranthene and caprolactam in samples STRI-ST14-MWD01, STRI-ST14-MWS01, STRI-ST14-MWDD02, STRI-ST14-MWS02 and STRI-DUP01, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene and benzo(g,h,i)perylene in sample STRI-ST14-MWDD01. The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated quantitation limits. These qualifications may have a minor impact on the data usability.

- The nondetect result for benzo(k)fluoranthene in sample STRI-ST14-MWDD01 was rejected (R) due to continuing calibration %D greater than 90. The result is not usable for project objectives which may have a major impact on the data usability.

- The positive and/or nondetect VOC results in samples STRI-ST14-MWD01, STRI-ST14-MWDD02 and STRI-DUP01 were qualified as estimated (J/UJ) due to surrogate recoveries which were outside of the control limits. The positive results can be used for project objectives as estimated values and the nondetects with estimated quantitation limits. These qualifications may have a minor impact on the data usability.

- The nondetect results for tetrachloroethene in sample STRI-ST14-MWS01 and 4 -chloro-3-

methylphenol in all SVOC samples X3159 were qualified as estimated (UJ) due to low recoveries in the LCS analysis. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the VOC and SVOC analyses.

Holding Times and Sample Preservation

All criteria were met in the SVOC and SVOC analyses.

GC/MS Tunes

All criteria were met in the VOC and SVOC analyses.

Initial and Continuing Calibrations

Compounds that did not meet criteria in the VOC and SVOC initial and continuing calibrations are summarized in the following tables.

Instrument ID MSVOAG Compound	IC 5/26/06	CC 6/12/06	CC 6/13/06
chloroethane	X (r=0.934)		
1,1,2-trichlorotrifluoroethane	X(r=0.974)		
acetone	X(r=0.900)		
2-butanone	X(r=0.918)		
carbon tetrachloride	X (r=0.978)		
4-methyl-2-pentanone	X(r=0.939)		
2-hexanone	X(r=0.935)		
dibromochloromethane		XX(26.2%)	

Instrument ID MSVOAG Compound	IC 5/26/06	CC 6/12/06	CC 6/13/06
1,2-dibromoethane	X(r=0.989)		
bromoform	X (r=0.988)		
tetrachloroethene			XX(40.8%)
1,2-dibromo-3-chloropropane	X(r=0.957)		
Samples Affected	All samples listed	STRI-ST14-MWDD01 STRI-ST14-MWD01 STRI-ST14-MWDD02 STRI-ST14-MWS02 STRI-DUP01	STRI-ST14-MWS01

Instrument ID MSVOAF Compound	IC 6/12/06	CC 6/13/06	CC 6/14/06
caprolactam		XX(62.3%)	
indeno(1,2,3-cd)pyrene			XX(45.4%)
dibenzo(a,h)anthracene			XX(34.1%)
benzo(g,h,i)perylene			XX(45.2%)
benzo(k)fluoranthene		XX(48.0%)	XXX(133%)
Samples Affected	All samples listed	STRI-ST14-MWD01 STRI-ST14-MWS01 STRI-ST14-MWDD02 STRI-ST14-MWS02 STRI-DUP01	STRI-ST14-MWDD01

X = Initial calibration (IC) relative standard deviation (%RSD) > 50 for 1,4-dioxane, (%RSD) > 40 for poor response compounds, and %RSD > 20 for all other compounds ; estimate (J) positive result. If regression was performed and correlation coefficient (r) < 0.990; estimate (J/UJ) positive and nondetect results.

XX = Continuing calibration (CC) percent difference (%D) > 50 for 1,4-dioxane, (%D) > 40 for poor response compounds, and %D > 25 for all other compounds; estimate (J/UJ) positive and nondetect results.

XXX = Continuing calibration (CC) percent difference (%D) > 90; estimate (J) positive results and reject (R) nondetect results.

+ = Response factor (RRF) < 0.05 except <0.01 for poor response compounds; Estimate (J) positive results and reject (R) nondetect results.

The nondetect results for chloroethane, 1,1,2-trichlorotrifluoroethane, acetone, 2-butanone, carbon tetrachloride, 4-methyl-2-pentanone, 2-hexanone, 1,2-dibromoethane, bromoform and 1,2-dibromo-3-chloropropane in samples STRI-ST14-MWDD01, STRI-ST14-MWD01, STRI-ST14-MWS01, STRI-ST14-MWDD02, STRI-ST14-MWS02 and STRI-DUP01 were qualified as estimated (UJ) due to initial calibration nonconformances.

The following positive and nondetect results were qualified as estimated (J/UJ) due to continuing calibration nonconformances: dibromochloromethane in samples STRI-ST14-MWDD01, STRI-ST14-MWD01, STRI-ST14-MWDD02, STRI-ST14-MWS02 and STRI-DUP01, tetrachloroethene in sample STRI-ST14-MWS01, benzo(k)fluoranthene and caprolactam in samples STRI-ST14-MWD01, STRI-ST14-MWS01, STRI-ST14-MWDD02, STRI-ST14-MWS02 and STRI-DUP01, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene and benzo(g,h,i)perylene in sample STRI-ST14-MWDD01. The direction of the bias cannot be determined from this nonconformance.

The nondetect result for benzo(k)fluoranthene in sample STRI-ST14-MWDD01 was rejected (R)due to continuing calibration %D greater than 90.

Blanks

The following table summarizes the VOC and SVOC method and trip blank contamination.

Compound	Type of Blank	Associated Samples	Maximum Concentration	Blank Action Level
methylene chloride	Method	STRI-ST14-MWDD01 STRI-ST14-MWD01 STRI-ST14-MWDD02 STRI-ST14-MWS02 STRI-DUP01	0.72 ug/L	1.4 ug/L
acetone	Method	STRI-GWS-TB03 STRI-GWS-TB04	15 ug/L	30 ug/L

Blank Actions
The blank action level is 1X Max Conc for VOC/2X for common contaminant and 1X for SVOC/5X common contaminant
If the sample concentration ≤ RL and ≤ blank action level, qualify the result as not detected (U) at the RL.
If the sample concentration > RL and ≤ blank action level, qualify the result as not detected (U) at the reported value.
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.

Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

The positive results for methylene chloride in sample STRI-ST14-MWS02 was qualified as nondetect (U) at the reported value due to laboratory blank contamination.

Surrogate Recoveries

The following tables summarize the surrogate recoveries that failed to meet the acceptance criteria in the VOC and SVOC analyses:

Sample ID	Percent Recovery				Action
	Tol-d8	BFB 36-133	DCE	DBRFLM 85-115	
STRI-ST14-MWD01	-	-	-	80%	Estimate (J/UJ) the positive and/or nondetect results.
STRI-ST14-MWDD02	-	131%	-	78%	Estimate (J/UJ) the positive and/or nondetect results.
STRI-DUP01	-	144%	-	80%	Estimate (J/UJ) the positive and/or nondetect results.

Tol-d8 - Toluene-d8
BFB - Bromofluorobenzene
DCE - 1,2-Dichloroethane-d4
DBRFLM-Dibromofluoromethane

Sample ID	Percent Recovery						Action
	PH-d5	2-FPh	246-TBP 10-123	NBZ 35-114	2-FBP 43-116	Ter-d14 33-141	
STRI-ST14-MWDD01	-	-	124%	-	-	-	Qualifications were not required.
STRI-ST14-MWDD01DL(100X)	-	-	138%	-	134%	-	Qualifications were not required.
STRI-ST14-MWD01 DL(50X)	-	-	127%	-	129%	-	Qualifications were not required.
STRI-ST14-MWDD02DL(100X)	-	-	-	2%	-	-	Qualifications were not required.
STRI-DUP01DL(100X)	-	-	167%	141%	162%	169%	Qualifications were not required.

- Within control limits

MS/MSD Results

The MS/MSD analyses were performed on a non-project sample for the VOC and SVOC analyses. Validation actions were not required due to differences in matrix, type, etc.

Internal Standards

All criteria were met in the VOC and SVOC analyses.

LCS Results

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the VOC and SVOC analyses.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
acetone isopropylbenzene	133, - -, 127	70-125 70-125	STRI-GWS-TB03 STRI-GWS-TB04	Estimate (J) the positive results for the affected compounds in sample STRI-GWS-TB04.
chloroethane trichlorofluoromethane acetone methyl acetate	150 130 158 130	70-125 70-125 70-125 70-125	STRI-ST14-MWDD01 STRI-ST14-MWD01 STRI-ST14-MWDD02 STRI-ST14-MWS02 STRI-DUP01	Qualifications were not required.
chloroethane trichlorofluoromethane 1,1,2-trichlorotrifluoroethane acetone tetrachloroethene	140 127 127 129 65	70-125 70-125 70-125 70-125 70-125	STRI-ST14-MWS01	Estimate (UJ) the nondetect result for tetrachloroethene in the associated sample.
4-chloro-3-methylphenol	30	39-101	all samples X3159	Estimate (UJ) the nondetect results for 4-chloro-3-methylphenol in the associated samples.

Field Duplicate Results

Samples STRI-ST14-MWDD02 and STRI-DUP01 were submitted as the field duplicate pair with this sample group. The following table summarizes the VOC and SVOC RPDs of the detected analytes, all of which met criteria with the exception of naphthalene. The results for naphthalene in samples STRI-ST14-MWDD02 and STRI-DUP01 were estimated (J).

Analyte	STRI-ST14-MWDD02 (ug/kg)	STRI-DUP01 (ug/kg)	RPD (%)
cyclohexane	8.3	11	28
benzene	6800	7700	12
toluene	140	140	0
ethylbenzene	1200	1000	18
m,p-xylenes	320	370	14
o-xylene	440	470	6
styrene	40	45	12
isopropylbenzene	22	25	13
phenol	31	30	3
naphthalene	2600	4000	**42**
2-methylnaphthalene	33	35	6
1,1-biphenyl	7.6	8.3	9
acenaphthylene	41	45	9
acenaphthene	14	16	13
dibenzofuran	8.7	8.9	2
fluorene	8.0	8.3	4
phenanthrene	7.5	7.9	5
anthracene	2.2	ND	NC, within 1XQL
carbazole	49	46	6

NC - Not calculable
For aqueous results > 5xQL and RPDs >30; estimate (J) results in the field duplicate pair.
For aqueous results < 5xQL; the sample and duplicate results must be within 1xQL.

Quantitation Limits and Data Assessment

Results were reported which were below the lowest calibration standard level (RL) and above the method detection limit (MDL) in the VOC and SVOC analyses. These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration.

The following tables list the sample dilutions which were performed and reported. Quantitation limits were elevated accordingly.

Sample	VOC Analysis/Dilution Reported	SVOC Analysis/Dilution Reported
STRI-ST14-MWDD01	1-fold dilution 100-fold dilution. Report benzene, toluene, ethylbenzene, m,p-xylenes, o-xylene from the 100-fold dilution.	Final extract volume of 1.0 ml and 10-fold dilution performed. Final extract volume of 1.0 ml and 100-fold dilution performed. Report naphthalene from the 100-fold dilution.
STRI-ST14-MWD01	1-fold dilution. 20-fold dilution. Report ethylbenzene from the 20-fold dilution. 100-fold dilution. 500-fold dilution. Report benzene from the 500-fold dilution.	Final extract volume of 1.0 ml and 1-fold dilution performed. Final extract volume of 1.0 ml and 50-fold dilution performed. Report naphthalene from the 50-fold dilution.
STRI-ST14-MWDD02	1-fold dilution. 20-fold dilution. Report toluene, m,p-xylenes and o-xylene from the 20-fold dilution. 100-fold dilution. Report benzene and ethylbenzene from the 100-fold dilution. 500-fold dilution.	Final extract volume of 1.0 ml and 1-fold dilution performed. Final extract volume of 1.0 ml and 100-fold dilution performed. Report naphthalene from the 100-fold dilution.
STRI-ST14-MWS02	1-fold dilution. 20-fold dilution. Report benzene, toluene, ethylbenzene, m,p-xylenes and o-xylene from the 20-fold dilution.	NA
STRI-DUP01	1-fold dilution. 20-fold dilution. Report toluene, m,p-xylenes, o-xylene and styrene from the 20-fold dilution. 400-fold dilution. Report benzene and ethylbenzene from the 400-fold dilution.	Final extract volume of 1.0 ml and 1-fold dilution performed. Final extract volume of 1.0 ml and 100-fold dilution performed. Report naphthalene from the 100-fold dilution.

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted in the VOC and SVOC analyses.

The VOC tentatively identified compound, naphthalene, reported in sample STRI-ST14-MWS01, and 2-methylnaphthalene reported in sample STRI-ST14-MWS02 were rejected (R). Semivolatile target compound list (TCL) compounds should not be reported as VOC TICs.

The SVOC tentatively identified compound, ethylbenzene, o-xylene and p-xylene reported in sample STRI-ST14-MWDD01, ethylbenzene and o-xylene reported in sample STRI-ST14-MWD01 , toluene, ethylbenzene, 1,3-dimethylbenzene and o-xylene reported in sample STRI-ST14-MWDD02, toluene, ethylbenzene, 1,3-dimethylbenzene and o-xylene reported in sample STRI-ST14-MWS02 and ethylbenzene, 1,3-dimethylbenzene and o-xylene reported in sample STRI-DUP01 , were rejected (R). Volatile TCL compounds should not be reported as SVOC TICs.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X3159
Reviewer: Lorie MacKinnon/GEI Consultants
Date: July 21, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
STRI-ST14-MWDD01	X3159-01	Total Metals, Cyanide
STRI-ST14-MWD01	X3159-02	Total Metals, Cyanide
STRI-ST14-MWS01	X3159-03	Total Metals, Cyanide
STRI-ST14-MWDD02	X3159-04	Total Metals, Cyanide
STRI-ST14-MWS02	X3159-06	Total Metals, Cyanide
STRI-DUP01	X3159-07	Total Metals, Cyanide
STRI-ST14-MWD01 Dis	X3159-09	Dissolved Metals
STRI-ST14-MWDD02 Dis	X3159-10	Dissolved Metals
STRI-ST14-MWS02 Dis	X3159-11	Dissolved Metals
STRI-DUP01 Dis	X3159-12	Dissolved Metals

Associated QC Samples:	Field Blanks:	STRI-GWS-FB, STRI-GWS-FB Dis (reported in X3209)
	Field Duplicate pair:	STRI-ST14-MWDD02/STRI-DUP01

The above-listed aqueous samples were collected on June 6, 2006 and were analyzed for total and dissolved metals by SW-846 methods 6010B and 7470A and Total and Amenable Cyanide (CN) by SW-846 method 9012. The data validation was based on the USEPA CLP National Functional Guidelines for Inorganic Review (October 2004) and the USEPA Region II Standard Operating Procedure (SOP) for CLP Inorganic Review (January 1992), modified to accommodate the SW-846 methodologies.

The inorganic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Instrument Calibration
  • Contract Required Detection Limit (CRDL) Standard Recoveries
  • Blank Analysis Results

- Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Results
- Matrix Spike (MS) Results
* • Laboratory Duplicate Results
- Field Duplicate Results
* • Laboratory Control Sample (LCS) Results
- ICP Serial Dilution Analysis Results
- Comparison of Total and Dissolved Metals
- Detection Limits Results
* • Sample Quantitation Results

* - All criteria were met for this parameter.

NA - A field duplicate pair was not associated with this sample group.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives.

Qualifications applied to the data as a result of sampling error are discussed below.

- The positive results for cyanide in samples STRI-ST14-MWDD02 and STRI-DUP01 and chromium and iron in samples STRI-ST14-MWDD02 Dis and STRI-DUP01 Dis were qualified as estimated (J) due to high relative percent differences (RPDs) in the evaluation of the field duplicate pairs. The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive results for chromium in samples STRI-ST14-MWD01 and STRI-DUP01 and zinc in samples STRI-ST14-MWD01, STRI-ST14-MWS01, STRI-ST14-MWDD02, STRI-ST14-MWS02, and STRI-DUP01 were qualified as estimated (J) due to field blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive results for chromium in samples STRI-ST14-MWS01, STRI-ST14-MWDD02, and STRI-ST14-MWS02 and zinc in samples STRI-ST14-MWDD01, STRI-ST14-MWD01 Dis, STRI-ST14-MWDD02 Dis, and STRI-DUP01 Dis were qualified as nondetect (U) at the QL due to field blank contamination. The result can be used for project objectives as a nondetect. This qualification may have a minor impact on the data usability.

- The positive results for zinc in sample STRI-ST14-MWS02 Dis was qualified as nondetect

(U) at the reported value due to field blank contamination. The result can be used for project objectives as an elevated quantitation limit. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for barium, calcium, chromium, iron, magnesium, manganese, potassium, silver, sodium, thallium, and zinc in samples STRI-ST14-MWS02 and STRI-ST14-MWS02 Dis and calcium, chromium, magnesium, potassium, and sodium in samples STRI-DUP01 and STRI-DUP01 Dis were qualified as estimated (J/UJ) as the dissolved results exceeded those of the total by more than 10%. The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- The positive results for aluminum in samples STRI-ST14-MWDD01, STRI-ST14-MWS01, STRI-ST14-MWS02, STRI-ST14-MWD01 Dis, STRI-ST14-MWDD02 Dis, STRI-ST14-MWS02 Dis, and STRI-DUP01 Dis, antimony in samples STRI-ST14-MWD01, STRI-ST14-MWDD02, STRI-DUP01, and STRI-ST14-MWS02 Dis, and mercury in samples STRI-ST14-MWD01, STRI-ST14-MWDD02, and STRI-ST14-MWS02 were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for antimony, arsenic, cadmium, chromium, cobalt, nickel, silver, vanadium, and zinc in all samples and mercury in samples STRI-ST14-MWDD01, STRI-ST14-MWD01, STRI-ST14-MWS01, STRI-ST14-MWDD02, STRI-ST14-MWS02, and STRI-DUP01 were qualified as estimated (J/UJ) due to negative bias seen in the instrument blank analysis. The results may be biased low. The result can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive and nondetect results for barium and manganese in samples STRI-ST14-MWDD01, STRI-ST14-MWD01, STRI-ST14-MWS01, STRI-ST14-MWDD02, STRI-ST14-MWS02, and STRI-DUP01 were qualified as estimated (J/UJ) in all samples due to recoveries in the MS/MSD analyses which were below control limits. The results may be biased low. These results are usable for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor effect on the data usability.

- The positive results for aluminum in samples STRI-ST14-MWD01, STRI-ST14-MWDD02,

and STRI-DUP01 were qualified as estimated (J) due to recoveries in the MS/MSD analyses which were above control limits. The results may be biased high. These results are usable for project objectives as estimated values which may have a minor effect on the data usability.

- The positive and nondetect results for calcium, magnesium, manganese, and zinc in samples STRI-ST14-MWD01 Dis, STRI-ST14-MWDD02 Dis, STRI-ST14-MWS02 Dis, and STRI-DUP01 Dis and calcium, potassium, and sodium in samples STRI-ST14-MWDD01, STRI-ST14-MWD01, STRI-ST14-MWS01, STRI-ST14-MWDD02, STRI-ST14-MWS02, and STRI-DUP01 total were qualified as estimated (J/UJ) due to high percent differences (%Ds) in the ICP serial dilution analyses. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

- Potential uncertainty exists for the following results which were detected above the method detection limit (MDL) but below the laboratory reporting limit:

Barium:	STRI-ST14-MWD01, STRI-ST14-MWS02, STRI-ST14-MWD01 Dis, STRI-ST14-MWS02 Dis
Beryllium:	STRI-ST14-MWS02 Dis
Cadmium:	STRI-ST14-MWS02 Dis
Chromium:	STRI-ST14-MWS01, STRI-ST14-MWDD02, STRI-ST14-MWS02, STRI-ST14-MWDD02 Dis,
Cobalt:	STRI-ST14-MWDD02, STRI-DUP01, STRI-ST14-MWDD02 Dis, STRI-ST14-MWS02 Dis, STRI-DUP01 Dis
Copper:	STRI-ST14-MWDD01, STRI-ST14-MWD01, STRI-ST14-MWS01, STRI-ST14-MWDD02, STRI-ST14-MWS02, STRI-DUP01, STRI-ST14-MWS02 Dis
Lead:	STRI-ST14-MWS02
Nickel:	STRI-ST14-MWD01, STRI-DUP01, STRI-ST14-MWS02 Dis, STRI-DUP01 Dis
Vanadium:	STRI-DUP01, STRI-ST14-MWS02 Dis
Zinc:	STRI-ST14-MWDD01, STRI-ST14-MWD01 Dis, STRI-ST14-MWDD02 Dis, STRI-DUP01 Dis

The positive result was qualified as estimated (J) and can be used for project objectives as an estimated value which may have a minor effect on the data usability.

The validation recommendations listed above were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables.

Holding Times and Sample Preservation

All criteria were met in the metals and wet chemistry analyses.

Instrument Calibration

All criteria were met in the metals and wet chemistry analyses.

CRDL Standard Recoveries

The following table lists the recoveries which were outside the control limits of 70-130 in the low level standard and the resulting validation actions. The affected analyte level range was determined as 2x the CRDL standard level analyzed due to differences between the reported laboratory QL and the low level standard levels analyzed.

Analyte	Recovery (%)	Associated Samples	Actions
Potassium	66.8	All samples	Validation actions were not required as all results were greater than the affected range.

Blank Analysis Results

The following table summarizes the metals laboratory blank contamination associated with all samples.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Aluminum	Instrument	10.6 ug/L	106 ug/L	(U) at RL STRI-ST14-MWDD01, STRI-ST14-MWS01, STRI-ST14-MWS02, STRI-ST14-MWD01 Dis, STRI-ST14-MWDD02 Dis, STRI-ST14-MWS02 Dis, STRI-DUP01 Dis

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Antimony	Instrument	6.6 ug/L -12.2 ug/L	66 ug/L -122 ug/L	(U) at RL STRI-ST14-MWD01, STRI-ST14-MWDD02, STRI-DUP01, STRI-ST14-MWS02 Dis Estimate (UJ) all samples
Arsenic	Instrument	-9.4 ug/L	-94 ug/L	Estimate (J/UJ) all samples
Barium	Instrument	-5.3 ug/L	-53 ug/L	No validation actions required
Cadmium	Instrument	-3.5 ug/L	-35 ug/L	Estimate (J/UJ) all samples
Calcium	Instrument	16.3 ug/L -12.3 ug/L	163 ug/L -123 ug/L	No validation actions required
Chromium	Instrument	-3.7 ug/L	-37 ug/L	Estimate (J/UJ) all samples
Cobalt	Instrument	-5.4 ug/L	-54 ug/L	Estimate (J/UJ) all samples
Magnesium	Instrument	-27.8 ug/L	-278 ug/L	No validation actions required
Manganese	Instrument	-3.4 ug/L	-34 ug/L	No validation actions required
Mercury 6/12/06	Instrument	0.11 ug/L -0.19 ug/L	1.1 ug/L -1.9 ug/L	(U) at RL STRI-ST14-MWD01 and STRI-ST14-MWDD02 Estimate (UJ) STRI-ST14-MWDD01, STRI-ST14-MWD01, STRI-ST14-MWS01, STRI-ST14-MWDD02
Mercury 6/12/06	Instrument Method	0.05 ug/L -0.066 ug/L	0.50 ug/L -0.66	(U) at RL STRI-ST14-MWS02 Estimate (UJ) STRI-ST14-MWS02, STRI-DUP01
Mercury 6/15/06	Instrument	0.040 ug/L	0.40 ug/L	No validation actions required
Nickel	Instrument	-5.0 ug/L	-50 ug/L	Estimate (J/UJ) all samples
Potassium	Instrument	-236 ug/L	-2360 ug/L	No validation actions required
Silver	Instrument	-6.4 ug/L	-64 ug/L	Estimate (J/UJ) all samples
Sodium	Instrument	-1440 ug/L	-14440 ug/L	No validation actions required
Thallium	Instrument	3.7 ug/L	37 ug/L	No validation actions required
Vanadium	Instrument	-5.9 ug/L	-59 ug/L	Estimate (J/UJ) all samples
Zinc	Instrument	-9.4 ug/L	-94 ug/L	Estimate (J) all samples

The following table summarizes the metals field blank contamination associated with all samples.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Calcium	STRI-GWS-FB	69.7 ug/L	697 ug/L	No validation actions required.
Chromium	STRI-GWS-FB	2.55 ug/L	25.5 ug/L	(U) at RL STRI-ST14-MWS01, STRI-ST14-MWDD02, and STRI-ST14-MWS02 Estimate (J) STRI-ST14-MWD01 and STRI-DUP01
Zinc	STRI-GWS-FB	15.0 ug/L	150 ug/L	(U) at RL STRI-ST14-MWDD01 Estimate (J) STRI-ST14-MWD01, STRI-ST14-MWS01, STRI-ST14-MWDD02, STRI-ST14-MWS02, and STRI-DUP01
Aluminum	STRI-GWS-FB Dis	20.5 ug/L	205 ug/L	No validation actions required.
Antimony	STRI-GWS-FB Dis	14.8 ug/L	148 ug/L	No validation actions required.
Calcium	STRI-GWS-FB Dis	395 ug/L	3950 ug/L	No validation actions required.
Mercury	STRI-GWS-FB Dis	0.05 ug/L	0.5 ug/L	No validation actions required.
Zinc	STRI-GWS-FB Dis	30.4 ug/L	304 ug/L	(U) at RL STRI-ST14-MWD01 Dis, STRI-ST14-MWDD02 Dis, STRI-DUP01 Dis (U) at reported value STRI-ST14-MWS02 Dis

For blank contamination < QL; If the sample result is < QL report the result as nondetect (U) at the QL.
For blank contamination ≥ QL; If the sample result is ≥ QL and < the blank level, report the sample result as nondetect (U).
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.
For negative blank contamination ≥2 MDL; professional judgement was taken to estimate (J/UJ) those results which were less than 10x the maximum blank level detected

ICP ICS Results

All recovery criteria were met in the ICSAB analysis.

Positive results for beryllium, copper, nickel, potassium, sodium, vanadium, and zinc and negative

results for antimony, arsenic, barium, cadmium, lead, selenium, silver, and thallium were observed in the ICSA solution analysis associated with all samples.

The levels of interferents in samples were reviewed. Validation actions were not required as sample interferent levels were less than those of the ICSA solution.

MS Results

The laboratory performed MS/MSD analyses on non-project samples for ICP metals. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

An MS was performed on sample STRI-ST14-MWDD01 for cyanide and STRI-ST17-MWDD06 for mercury (reported in X3142). All criteria were met in the cyanide MS performed.

The MS/MSDs on samples STRI-ST17-MWD03 and STRI-ST17-MWD03 Dis (reported in case number X3206) were used to evaluate precision and accuracy for metals. All criteria were met in the MS/MSD associated with the dissolved metals samples. The following table lists the analytes which exhibited recoveries outside of the control limits of 75 - 125% and the resulting validation actions.

Analyte	Recovery (%)	QC Sample	Actions
Aluminum	154.7, 160.4	MWD03	Estimate (J) the positive results for aluminum in samples STRI-ST14-MWD01, STRI-ST14-MWDD02, and STRI-DUP01.
Barium	62.5, 68.9	MWD03	Estimate (J) the positive results for barium in all total metals samples.
Manganese	-114.7, -110.8	MWD03	Estimate (J) the positive results for manganese in all total metals samples.
Mercury	MSD 125.5	MWDD06	Validation actions were not required as mercury was nondetect in all samples and therefore not affected by the potential high bias.

Laboratory Duplicate Results

The laboratory performed laboratory duplicate analyses on non-project samples for ICP metals. These results were not used to qualify the samples due to differences in sample type, matrix, etc.

Duplicate analyses were performed on sample STRI-ST17-MWDD06 (reported in X3142-04) for mercury and STRI-ST17-MWDD01 for cyanide. The duplicates on samples STRI-ST17-MWD03 and STRI-ST17-MWD03 Dis (reported in case number X3206) were used to evaluate precision and

accuracy for metals. All criteria were met in these analyses.

Field Duplicate Results

Samples STRI-ST14-MWDD02 and STRI-DUP01 were submitted as the field duplicate pair with this sample group. The following table summarizes the RPDs of the detected analytes, all of which were within the acceptable criteria, with the exception of cyanide. The positive results for cyanide were estimated (J) in samples STRI-ST14-MWDD02 and STRI-DUP01.

Analyte	STRI-ST14-MWDD02 (ug/L)	STRI-DUP01 (ug/L)	RPD (%)
Aluminum	810	849	4.7
Barium	604	641	5.9
Calcium	73600	79900	8.2
Chromium	14.1	10 U	NC, Within QL
Cobalt	1.49	1.65	10.2
Copper	8.7	14.5	50, Within QL
Iron	3700	4040	8.8
Magnesium	22900	25000	8.8
Manganese	316	345	8.8
Nickel	2.98	40 U	NC, Within RL
Potassium	44500	47400	6.3
Sodium	269000	284000	5.4
Vanadium	0.75	50 U	NC, Within RL
Zinc	27.9	29.5	5.6
Total Cyanide	0.39 mg/L	0.68 mg/L	54
Amenable Cyanide	0.39 mg/L	0.45 mg/L	14.3

Samples STRI-ST14-MWDD02 Dis and STRI-DUP01 Dis were submitted as the field duplicate pair with this sample group. The following table summarizes the RPDs of the detected analytes, all of which were within the acceptable criteria, with the exception of chromium and iron. The positive results for chromium and iron were estimated (J) in samples STRI-ST14-MWDD02 Dis and STRI-DUP01 Dis.

Analyte	STRI-ST14-MWDD02 Dis (ug/L)	STRI-DUP01 Dis (ug/L)	RPD (%)
Barium	630	608	3.6
Calcium	81600	79300	2.9
Chromium	19.1	0.74	185.1, Not within QL
Cobalt	0.92	0.79	15.2
Iron	685	417	48.6
Magnesium	25500	24500	4.0
Manganese	325	316	2.8
Nickel	6.47	40 U	NC, Within QL
Potassium	49800	48200	3.3
Sodium	308000	29600	4.0
Zinc	17.6	19.0	7.7

For aqueous results > 5xQL and RPDs >30; estimate (J) results in the field duplicate pair.
For aqueous results < 5xQL; the sample and duplicate results must be within QL.

LCS Results

All criteria were met in the metals and wet chemistry analyses.

ICP Serial Dilution (ISD) Analysis Results

The laboratory performed serial dilution analyses on non-project samples for ICP metals. These results were not used to qualify the samples due to differences in sample type, matrix, etc. A serial dilution analysis was performed on sample STRI-ST17-MWDD06 (reported in X3142-04) for mercury. All criteria were met.

The serial dilutions on samples STRI-ST17-MWD03 and STRI-ST17-MWD03 Dis (reported in case number X3206) were associated with this sample group for ICP metals. The following table lists the analytes which exhibited %Ds above the control limit of 10 and the resulting validation actions.

Analyte	ISD Sample	%D	Actions
Calcium	MWD03 Dis	17.8	Estimate (J) the positive results for calcium in all dissolved metals samples.
Magnesium	MWD03 Dis	14.3	Estimate (J) the positive results for magnesium in all dissolved metals samples.
Manganese	MWD03 Dis	12.3	Estimate (J) the positive results for manganese in all dissolved metals samples.
Zinc	MWD03 Dis	73.1	Estimate (J/UJ) the positive and nondetect results for zinc in all dissolved metals samples.
Calcium	MWD03	10.5	Estimate (J) the positive results for calcium in all total metals samples.
Potassium	MWD03	13.5	Estimate (J) the positive results for potassium in all total metals samples.
Sodium	MWD03	12.4	Estimate (J) the positive results for sodium in all total metals samples.

Comparison of Total and Dissolved Metals

The following table lists the analytes in which the dissolved metals result exceeded that of the total metals by more than 10%.

Sample	Analyte	%D	Actions
STRI-ST14-MWS02	barium calcium chromium iron magnesium manganese potassium silver sodium thallium zinc	10.5 11.0 NC 88.0 16.6 19.1 14.3 NC 22.3 NC 42.1	Estimate (J/UJ) the positive and nondetect results for barium, calcium, chromium, iron, magnesium, manganese, potassium, silver, sodium, thallium, and zinc in samples STRI-ST14-MWS02 and STRI-ST14-MWS02 Dis.
STRI-DUP01	calcium chromium magnesium potassium sodium	10.9 35.5 11.4 11.9 14.5	Estimate (J) the positive results for calcium, chromium, magnesium, potassium, and sodium in samples STRI-DUP01 and STRI-DUP01 Dis.

NC- Not calculable as one result is nondetect

Detection Limits Results

Dilutions were not required.

Positive results which were above the MDL but below the RL were flagged by the laboratory with a "J". This result was qualified as estimated (J) due to uncertainty at the low end of calibration:

Barium:	STRI-ST14-MWD01, STRI-ST14-MWS02, STRI-ST14-MWD01 Dis, STRI-ST14-MWS02 Dis
Beryllium:	STRI-ST14-MWS02 Dis
Cadmium:	STRI-ST14-MWS02 Dis
Chromium:	STRI-ST14-MWS01, STRI-ST14-MWDD02, STRI-ST14-MWS02, STRI-ST14-MWDD02 Dis,
Cobalt:	STRI-ST14-MWDD02, STRI-DUP01, STRI-ST14-MWDD02 Dis, STRI-ST14-MWS02 Dis, STRI-DUP01 Dis
Copper:	STRI-ST14-MWDD01, STRI-ST14-MWD01, STRI-ST14-MWS01, STRI-ST14-MWDD02, STRI-ST14-MWS02, STRI-DUP01, STRI-ST14-MWS02 Dis
Lead:	STRI-ST14-MWS02
Nickel:	STRI-ST14-MWD01, STRI-DUP01, STRI-ST14-MWS02 Dis, STRI-DUP01 Dis
Vanadium:	STRI-DUP01, STRI-ST14-MWS02 Dis
Zinc:	STRI-ST14-MWDD01, STRI-ST14-MWD01 Dis, STRI-ST14-MWDD02 Dis, STRI-DUP01 Dis

Sample Quantitation Results

Sample calculations were spot-checked; no discrepancies were noted in the metals and cyanide results.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X3206
Reviewer: Lorie MacKinnon/GEI Consultants
Date: July 22, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
STRI-ST17-MWD03	X3206-01	VOC, SVOC
STRI-ST17-MWDD03	X3206-04	VOC, SVOC
STRI-ST17-MWS03	X3206-05	VOC, SVOC
STRI-ST17-MWS04	X3206-06	VOC, SVOC
STRI-ST17-MWD04	X3206-07	VOC, SVOC
STRI-ST17-MWDD04	X3206-08	VOC, SVOC
STRI-ST19-MWS05	X3206-09	VOC, SVOC
STRI-BGOO-MWD06	X3206-10	VOC, SVOC
STRI-BGOO-MWS06	X3206-11	VOC, SVOC
STRI-DUP02	X3206-12	VOC, SVOC
GWS-TB05	X3206-13	VOC, SVOC
GWS-TB06	X3206-14	VOC, SVOC
GWS-TB07	X3206-15	VOC, SVOC

Associated QC Samples:	Field and Trip Blanks:	STRI-GWS-FB (reported in X3209), GWS-TB05, GWS-TB06, GWS-TB07
	Field Duplicate pair:	STRI-ST17-MWD04/STRI-DUP02

The above-listed aqueous samples and trip blank samples were collected on June 7, 2006 were collected on March 15, 23, and 24, 2006 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260B and semivolatile organic compounds (SVOCs) by SW-846 method 8270C. The data validation was based on the USEPA CLP National Functional Guidelines for Organic Review (January 2005) and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8260B, SOP No. HW-24, Revision 1, June 1999 and USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8270C, SOP No. HW-22, Revision 2, June 2001. The organic data were evaluated based on the following parameters:

*	•	Data Completeness
	•	Holding Times and Sample Preservation
*	•	Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
	•	Initial and Continuing Calibrations
	•	Blanks
	•	Surrogate Recoveries
	•	Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
*	•	Internal Standards
	•	Laboratory Control Sample (LCS) Results
	•	Field Duplicate Results
	•	Quantitation Limits and Data Assessment
	•	Sample Quantitation and Compound Identification

* - All criteria were met.

All results are usable for project objectives with the exception of select tentatively identified compounds (TICs) which were rejected due to method blank contamination or were reported as target compounds in another fraction.

Qualifications applied to the data as a result of sampling error are discussed below.

- The positive and nondetect results for isopropylbenzene, benzene, and ethylbenzene in samples STRI-ST17-MWD04 and STRI-DUP02 were qualified as estimated (J/UJ) due to high relative percent difference (RPD) in the evaluation of the field duplicate pair. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC and SVOC results which were below the lowest calibration standard and quantitation limit. These results were qualified as estimated (J) in the associated samples by the laboratory. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

- The positive and nondetect results for SVOC sample STRI-ST17-MWDD04 were qualified as estimated (J/UJ) due to an exceedance in holding time. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This

qualification may have a minor impact on the data usability.

- The positive result for acetone in sample STRI-ST17-MWS04 was qualified as nondetect (U) at the reported value due to laboratory blank contamination. The results can be used for project objectives as a nondetect with elevated quantitation limit. This qualification may have a minor impact on the data usability.

- The VOC tentatively identified compound, naphthalene, reported in samples STRI-ST17-MWD03 and STRI-ST17-MWDD04 and SVOC tentatively identified compound, ethylbenzene, reported in sample STRI-DUP02, were rejected (R) as they were reported as target compounds in the other fractions.

- The nondetect results for benzaldehyde in all samples and chloroethane, 1,1,2-trichlorotrifluoroethane, acetone, methyl acetate, 2-butanone, carbon tetrachloride, 4-methyl-2-pentanone, 2-hexanone, 1,2-dibromoethane, bromoform, and 1,2-dibromo-3-chloropropane in samples STRI-ST17-MWD03, STRI-ST17-MWDD03, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, STRI-BGOO-MWS06, and STRI-DUP02 were qualified as estimated (UJ) due to initial calibration nonconformances. The results can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The following positive and nondetect results were qualified as estimated (J/UJ) due to continuing calibration nonconformances: chloroethane, 1,1,2-trichlorotrifluoroethane, and acetone in samples STRI-ST17-MWDD03, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, and STRI-BGOO-MWS06, dibromomethane in samples STRI-ST17-MWD03 and STRI-DUP02, benzo(ghi)perylene in samples STRI-ST17-MWDD03, STRI-ST17-MWS03, STRI-ST17-MWS04, STRI-ST17-MWD04, STRI-BGOO-MWD06, STRI-BGOO-MWS06, and STRI-DUP02, indeno(123-cd)perylene and carbazole in sample STRI-ST19-MWS05, and 2-methylnaphthalene, indeno(123-cd)perylene, dibenzo(ah)anthracene, and benzo(ghi)perylene in sample STRI-ST17-MWDD04. The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for acetone, methyl acetate, 2-butanone, 2-hexanone, naphththalene, and benzo(k)fluoranthene in sample STRI-ST17-MWD03 were qualified as estimated (J/UJ) due to low recoveries in the MS/MSD analyses. The results may be biased low. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive and blank-qualified results for acetone in sample STRI-ST17-MWS04 and carbazole in samples STRI-ST17-MWD04 and STRI-DUP02 were qualified as estimated (J/UJ) due to high recoveries in the LCS analysis. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

- The nondetect results for dichlorodifluoromethane in samples STRI-ST17-MWS03 and STRI-ST17-MWS04, acetone in samples STRI-ST17-MWDD03, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, and STRI-BGOO-MWS06, acetone and methyl acetate in samples STRI-DUP02 and STRI-ST17-MWD03, and dimethylphthalate in all samples were qualified as estimated (UJ) due to low recoveries in the LCS analysis. The results may be biased low and can be used for project objectives as nondetects with estimated quantitation limits. This qualification may have a minor impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the VOC and SVOC analyses.

Holding Times and Sample Preservation

All criteria were met in the VOC analyses.

Due to extremely poor surrogate recoveries, which would result in compound rejections, in the original analysis of SVOC sample STRI-ST17-MWDD04, the sample was re-extracted five days outside of the required holding time. The re-extraction results were reported. The positive and nondetect results for SVOC sample STRI-ST17-MWDD04 were estimated (J/UJ).

GC/MS Tunes

All criteria were met in the VOC and SVOC analyses.

Initial and Continuing Calibrations

Compounds that did not meet criteria in the VOC and SVOC initial and continuing calibrations are summarized in the following tables.

Instrument ID MSVOAG Compound	IC 5/26/06	CC 6/14/06
chloroethane	X (r=0.934)	XX (47.2%)
1,1,2-trichlorotrifluoroethane	X (r=0.974)	XX (56.5%)
acetone	X (r=0.900)	XX (50.3%)
methyl acetate	X (r=0.979)	
2-butanone	X (r=0.918)	
carbon tetrachloride	X (r=0.978)	
4-methyl-2-pentanone	X (r=0.939)	
2-hexanone	X (r=0.935)	
1,2-dibromoethane	X (r=0.989)	
bromoform	X (r=0.988)	
1,2-dibromo-3-chloropropane	X (r=0.957)	
Samples Affected	STRI-ST17-MWD03, STRI-ST17-MWDD03, STRI-ST17-MWS03 DL, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, STRI-BGOO-MWS06, STRI-DUP02, STRI-DUP02DL	STRI-ST17-MWDD03, STRI-ST17-MWS03 DL, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, STRI-BGOO-MWS06

Instrument ID MSVOAG Compound	IC 6/15/06	CC 6/16/06
dibromochloromethane	XX (33.8%)	
acetone		XX (60.2%)
2-butanone		XX (42.9%)
Samples Affected	STRI-ST17-MWD03, STRI-DUP02	STRI-DUP02DL

Instrument ID BNAE Compound	IC 06/01/06	CC 03/31/06
benzaldehyde	X (r=0.977)	

Instrument ID BNAE Compound	IC 06/01/06	CC 03/31/06
benzo(ghi)perylene		XX (33.4%)
Samples Affected	All samples	STRI-ST17-MWDD03, STRI-ST17-MWS03, STRI-ST17-MWS04, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-BGOO-MWD06, STRI-BGOO-MWS06, STRI-DUP02

Instrument ID BNAE Compound	CC 06/15/06	CC 06/21/06
benzo(ghi)perylene		XX (32.9%)
indeno(123-cd)pyrene	XX (38.7%)	XX (45.7%)
carbazole	XX (44.0%)	
2-methylnaphthalene		XX (34.1%)
dibenzo(ah)anthracene		XX (28.1%)
Samples Affected	STRI-ST19-MWS05	STRI-ST17-MWDD04 RE

X = Initial calibration (IC) relative standard deviation (%RSD) > 50 for 1,4-dioxane, (%RSD) > 40 for poor response compounds, and %RSD > 20 for all other compounds ; estimate (J) positive result. If regression was performed and correlation coefficient (r) < 0.990; estimate (J/UJ) positive and nondetect results.

XX = Continuing calibration (CC) percent difference (%D) > 50 for 1,4-dioxane, (%D) > 40 for poor response compounds, and %D > 25 for all other compounds; estimate (J/UJ) positive and nondetect results.

XXX = Continuing calibration (CC) percent difference (%D) > 90; estimate (J) positive results and reject (R) nondetect results.

+ = Response factor (RRF) < 0.05 except <0.01 for poor response compounds; Estimate (J) positive results and reject (R) nondetect results.

The nondetect results for benzaldehyde in all samples and chloroethane, 1,1,2-trichlorotrifluoroethane, acetone, methyl acetate, 2-butanone, carbon tetrachloride, 4-methyl-2-pentanone, 2-hexanone, 1,2-dibromoethane, bromoform, and 1,2-dibromo-3-chloropropane in samples STRI-ST17-MWD03, STRI-ST17-MWDD03, STRI-ST17-MWS03 DL, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, STRI-BGOO-MWS06, and STRI-DUP02 were estimated (UJ) due to initial calibration nonconformances.

The positive and nondetect results for chloroethane, 1,1,2-trichlorotrifluoroethane, and acetone in samples STRI-ST17-MWDD03, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-

MWS05, STRI-BGOO-MWD06, and STRI-BGOO-MWS06, dibromomethane in samples STRI-ST17-MWD03 and STRI-DUP02, benzo(ghi)perylene in samples STRI-ST17-MWDD03, STRI-ST17-MWS03, STRI-ST17-MWS04, STRI-ST17-MWD04, STRI-BGOO-MWD06, STRI-BGOO-MWS06, and STRI-DUP02, indeno(123-cd)perylene and carbazole in sample STRI-ST19-MWS05, and 2-methylnaphthalene, indeno(123-cd)perylene, dibenzo(ah)anthracene, and benzo(ghi)perylene in sample STRI-ST17-MWDD04 were estimated (J/UJ) due to continuing calibration nonconformances.

Validation actions were not required for STRI-ST17-MWS03DL and STRI-DUP02DL as the affected analytes were not reported from these analyses.

Blanks

The following table summarizes the VOC and SVOC method, field, and trip blank contamination.

Compound	Type of Blank	Associated Samples	Maximum Concentration	Blank Action Level
2-Butanone	Method	STRI-ST17-MWS03, STRI-ST17-MWS04	3.1 ug/L	6.2 ug/L3.1 ug
Acetone	Method	STRI-ST17-MWS03, STRI-ST17-MWS04	26 ug/L	52 ug/L
bis(2-ethylhexyl)phthalate	Method	All soil samples	88 ug/kg	440 ug/kg
Acetone	Method	TB05, TB06, TB07	15 ug/L	30 ug/L

Blank Actions
The blank action level is 1X Max Conc for VOC/2X for common contaminant and 1X for SVOC/5X common contaminant
If the sample concentration $\leq$ RL and $\leq$ blank action level, qualify the result as not detected (U) at the RL.
If the sample concentration > RL and $\leq$ blank action level, qualify the result as not detected (U) at the reported value.
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.

The positive result for acetone in sample STRI-ST17-MWS04 was qualified as nondetect (U) at the reported value due to laboratory blank contamination.

Tentatively identified compounds (TICs) were detected in the SVOC method blank. TICs, which were detected in these samples at levels less than ten times those in the method blank, were rejected (R).

Surrogate Recoveries

VOC surrogate dibromofluoromethane was recovered below control limits in MS and MSD

performed on sample STRI-ST17-MWD03. Validation action was not required as the surrogate recoveries were within control limits in the unspiked sample.

The following table summarizes the surrogate recoveries that failed to meet the acceptance criteria in the SVOC analyses:

Sample ID	Percent Recovery						Action
	PH-d5 10-94	2-Fph 21-100	246-TBP	NBZ	2-FBP	Ter-d14	
STRI-ST17-MWDD04	3%	5%	-	-	-	-	No action required, results were reported from the re-extraction were reported.
STRI-ST17-MWDD04 RE	-	18%	-	-	-	-	Validation actions were not required as only one surrogate recovery was outside of limits.

- Within control limits

MS/MSD Results

The MS/MSD analyses were performed on sample STRI-ST17-MWD03 for VOC and SVOC. The following table lists the recoveries and/or RPDs outside of control limits.

Compound	Recovery (%)	RPD (%)	Control Limits	Validation Actions
acetone	25, 40	46	70-125/20	Estimate (J/UJ) the positive and nondetect results for acetone, methyl acetate, 2-butanone, 2-hexanone, naphthalene, and benzo(k)fluoranthene in sample STRI-ST17-MWD03.
methyl acetate	53, 61	-	70-125/20	
2-butanone	MS 67	-	70-125/20	
2-hexanone	MS 60	27	70-125/20	
naphthalene	56, 50	-	57-99/50	
benzo(k)fluoranthene	MS 50	-	51-111/50	

Compound	Recovery (%)	RPD (%)	Control Limits	Validation Actions
chloroethane	160, 160	-	70-125/20	Validation action was not required as the results were nondetect and therefore not affected by the potential high bias.
trichlorofluoromethane	140, 133	-	70-125/20	
1,1,2-trichlorotrifluoroethane	147, 167	-	70-125/20	
carbon tetrachloride	127, 133	-	70-125/20	
bromoform	127, 147	-	70-125/20	
1,2-dibromo-3-chloropropane	127, 153	-	70-125/20	
1,1-dichloroethene	MSD 140	-	68-131/21	
1,1,1-trichloroethane	MSD 127	-	70-125/20	
methylcyclohexane	MSD 127	24	70-125/20	
bromodichloromethane	MSD 133	-	70-125/20	
4-methyl-2-pentanone	-	29	70-125/20	
trans-1,3-dichloropropene	MSD 127	-	70-125/20	
cis-1,3-dichloropropene	MSD 127	-	70-125/20	
dibromochloromethane	MSD 133	-	70-125/20	
1,2-dibromoethane	MSD 127	-	70-125/20	
1,1,2,2-tetrachloroethane	MSD 127	-	70-125/20	
1,2-dichlorobenzene	MSD 127	-	70-125/20	
1,2,4-trichlorobenzene	MSD 127	-	70-125/20	
carbazole	152, 152	-	57-115/50	

- Within control limits

Internal Standards

All criteria were met in the VOC and SVOC analyses.

LCS Results

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the VOC and SVOC analyses.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
acetone	133	70-125	GWS-TB05, GWS-TB06, GWS-TB07	Validation actions were not required as results were nondetect and therefore not affected by the potential high bias.
isopropylbenzene	127	70-125		

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
dichlorodifluoromethane	67	70-125	STRI-ST17-MWS03, STRI-ST17-MWS04	Estimate (UJ) the nondetect results for dichlorodifluoromethane in the associated samples.
acetone	133	70-125	STRI-ST17-MWS03, STRI-ST17-MWS04	Estimate (UJ) the blank-qualified result for acetone in sample STRI-ST17-MWS04.
tetrachloroethene	140	70-125	STRI-ST17-MWS03, STRI-ST17-MWS04	Validation actions were not required as results were nondetect and therefore not affected by the potential high bias.
chloroethane trichlorofluoromethane 1,1,2-trichlorotrifluoroethane 1,1-dichloroethene carbon disulfide methyl tert-butyl ether chloroform 1,1,1-trichloroethane carbon tetrachloride 1,1,2,2-tetrachloroethane	170 140 180 130 130 130 140 130 130 130	70-125 70-125 70-125 74-126 70-125 75-125 70-125 70-125 70-125 70-125	STRI-ST17-MWDD03, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, STRI-BGOO-MWS06, STRI-ST17-MWS03DL	Validation actions were not required as results were nondetect and therefore not affected by the potential high bias.
acetone	58	70-125	STRI-ST17-MWDD03, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, STRI-BGOO-MWS06, STRI-ST17-MWS03DL	Estimate (UJ) the nondetect results for acetone in the associated samples.
chloroethane trichlorofluoromethane 1,1,2-trichlorotrifluoroethane carbon tetrachloride bromodichloromethane cis-1,3-dichloropropene dibromochloromethane bromoform	173 147 153 133 127 127 127 127	70-125 70-125 70-125 70-125 70-125 70-125 70-125 70-125	STRI-DUP02, STRI-ST17-MWD03	Validation actions were not required as results were nondetect and therefore not affected by the potential high bias.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
acetone methyl acetate	53 61	70-125 70-125	STRI-DUP02, STRI-ST17-MWD03	Estimate (UJ) the nondetect results for acetone and methyl acetate in the associated samples.
chloroethane trichlorofluoromethane 1,1,2-trichlorotrifluoroethane carbon tetrachloride dibromochloromethane bromoform	147 127 167 127 127 127	70-125 70-125 70-125 70-125 70-125 70-125	STRI-DUP02DL	Validation actions were not required as the affected compounds were not reported from the dilution.
dimethylphthalate	48	58-105	All samples	Estimate (UJ) the nondetect results for dimethylphthalate in all samples.
carbazole	144	57-115	All samples	Estimate (J) the positive results for carbazole in samples STRI-ST17-MWD04 and STRI-DUP02.
carbazole	152	57-115	STRI-ST17-MWDD04RE	Validation actions were not required as the result was nondetect and therefore not affected by the potential high bias.

Field Duplicate Results

Samples STRI-ST17-MWD04 and STRI-DUP02 were submitted as the field duplicate pair with this sample group. The following table summarizes the RPDs of the detected analytes, all of which were acceptable with the exception of isopropylbenzene, benzene, and ethylbenzene. The results for isopropylbenzene, benzene, and ethylbenzene in samples STRI-ST17-MWD04 and STRI-DUP02 were estimated (J/UJ).

Analyte	STRI-ST17-MWD04 (ug/L)	STRI-DUP02 (ug/L)	RPD (%)
cyclohexane	0.54	0.58	7.1
methylcyclohexane	0.89	0.81	9.4
m/p-xylene	3.3	3.5	5.9
o-xylene	1.5	1.4	6.9

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X3206
Reviewer: Lorie MacKinnon/GEI Consultants
Date: July 21, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
STRI-ST17-MWD03	X3206-01	Total Metals, Cyanide
STRI-ST17-MWDD03	X3206-04	Total Metals, Cyanide
STRI-ST17-MWS03	X3206-05	Total Metals, Cyanide
STRI-ST17-MWS04	X3206-06	Total Metals, Cyanide
STRI-ST17-MWD04	X3206-07	Total Metals, Cyanide
STRI-ST17-MWDD04	X3206-08	Total Metals, Cyanide
STRI-ST19-MWS05	X3206-09	Total Metals, Cyanide
STRI-BGOO-MWD06	X3206-10	Total Metals, Cyanide
STRI-BGOO-MWS06	X3206-11	Total Metals, Cyanide
STRI-DUP02	X3206-12	Total Metals, Cyanide
STRI-ST17-MWD03 Dis	X3206-16	Dissolved Metals
STRI-ST17-MWDD03 Dis	X3206-19	Dissolved Metals
STRI-ST17-MWS03 Dis	X3206-20	Dissolved Metals
STRI-ST17-MWDD04 Dis	X3206-21	Dissolved Metals
STRI-BGOO-MWD06 Dis	X3206-22	Dissolved Metals
STRI-BGOO-MWS06 Dis	X3206-23	Dissolved Metals
STRI-DUP02 Dis	X3206-24	Dissolved Metals

Associated QC Samples:	Field Blanks:	STRI-GWS-FB, STRI-GWS-FB Dis (reported in X3209)
	Field Duplicate pair:	STRI-ST17-MWD04/STRI-DUP02

The above-listed aqueous samples were collected on June 7, 2006 and were analyzed for total and dissolved metals by SW-846 methods 6010B and 7470A and Total and Amenable Cyanide (CN) by SW-846 method 9012. The data validation was based on the USEPA CLP National Functional Guidelines for Inorganic Review (October 2004) and the USEPA Region II Standard Operating Procedure (SOP) for CLP Inorganic Review (January 1992), modified to accommodate the SW-846 methodologies.

The inorganic data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times and Sample Preservation
* • Instrument Calibration
  • Contract Required Detection Limit (CRDL) Standard Recoveries
  • Blank Analysis Results
  • Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Results
  • Matrix Spike (MS) Results
* • Laboratory Duplicate Results
  • Field Duplicate Results
* • Laboratory Control Sample (LCS) Results
  • ICP Serial Dilution Analysis Results
  • Comparison of Total and Dissolved Metals
  • Detection Limits Results
  • Sample Quantitation Results

* - All criteria were met for this parameter.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives.

Qualifications applied to the data as a result of sampling error are discussed below.

- The positive results for chromium in samples STRI-ST17-MWD04 and STRI-DUP02 were qualified as estimated (J) due to high relative percent difference (RPD) in the evaluation of the field duplicate pair. The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive results for chromium in samples STRI-ST17-MWDD03, STRI-ST17-MWD04, STRI-BGOO-MWS06, and STRI-DUP02 and zinc in samples STRI-ST17-MWD03, STRI-ST17-MWDD03, STRI-ST17-MWS03, STRI-ST17-MWS04, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, STRI-DUP02, STRI-ST17-MWD03 Dis, STRI-ST17-MWDD03 Dis, STRI-ST17-MWS03 Dis, STRI-ST17-MWDD04 Dis, STRI-BGOO-MWD06 Dis, STRI-BGOO-MWS06 Dis, and STRI-DUP02 Dis were qualified as estimated (J) due to field blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive results for chromium in samples STRI-ST17-MWD03, STRI-ST17-MWS03, STRI-ST17-MWS04, STRI-ST17-MWDD04, STRI-ST19-MWS05, and STRI-BGOO-MWD06 were qualified as nondetect (U) at the QL due to field blank contamination. The result can be used for project objectives as a nondetect. This qualification may have a minor impact on the data usability.

- The positive results for magnesium, potassium, sodium, and zinc in samples STRI-ST17-MWS03 and STRI-ST17-MWS03Dis and zinc in samples STRI-ST17-MWD03, STRI-ST17-MWD03 Dis, STRI-ST17-MWDD03, STRI-ST17-MWDD03 Dis, STRI-ST17-MWDD04, STRI-ST17-MWDD04 Dis, STRI-BGOO-MWD06, STRI-BGOO-MWD06 Dis, STRI-DUP02 and STRI-DUP02 Dis were qualified as estimated (J/UJ) as the dissolved results exceeded those of the total by more than 10%. The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- The positive results for aluminum in samples STRI-ST17-MWD03, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, STRI-BGOO-MWS06, STRI-DUP02, STRI-ST17-MWD03 Dis, STRI-ST17-MWDD03 Dis, STRI-ST17-MWS03 Dis, STRI-ST17-MWDD04 Dis, STRI-BGOO-MWS06 Dis, and STRI-DUP02 Dis, antimony in samples STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-BGOO-MWD06, STRI-BGOO-MWS06, STRI-ST17-MWS03 Dis, and STRI-BGOO-MWD06 Dis, and mercury in samples STRI-ST19-MWS05 and STRI-BGOO-MWS06 were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for antimony, arsenic, cadmium, chromium, cobalt, copper, nickel, silver, thallium, vanadium, and mercury in all samples, zinc in samples STRI-ST17-MWD03, STRI-ST17-MWDD03, STRI-ST17-MWS03, STRI-ST17-MWS04, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, STRI-DUP02, STRI-ST17-MWD03 Dis, STRI-ST17-MWDD03 Dis, STRI-ST17-MWS03 Dis, STRI-ST17-MWDD04 Dis, STRI-BGOO-MWD06 Dis, and STRI-DUP02 Dis, and barium in samples STRI-ST17-MWDD03, STRI-ST17-MWDD03 Dis, and STRI-ST17-MWS03 Dis were qualified as estimated (J/UJ) due to negative bias seen in the instrument blank analysis. The results may be biased low. The result can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The nondetect results for arsenic, cadmium, lead, selenium, silver, and thallium in samples

STRI-ST17-MWS04, STRI-BGOO-MWS06, and STRI-BGOO-MWS06 Dis were qualified as estimated (UJ) due to negative interferences seen in the ICSA analysis. The results may be biased low. The results can be used for project objectives as nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive results for zinc in samples STRI-ST17-MWS04 and STRI-BGOO-MWS06 Dis and copper, nickel, and zinc in sample STRI-BGOO-MWS06 were qualified as estimated (J) due to positive interferences seen in the ICSA analysis. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive results for barium and manganese in samples STRI-ST17-MWD03, STRI-ST17-MWDD03, STRI-ST17-MWS03, STRI-ST17-MWS04, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, STRI-BGOO-MWS06, and STRI-DUP02 were qualified as estimated (J) in all samples due to recoveries in the MS/MSD analyses which were below control limits. The results may be biased low. These results are usable for project objectives as estimated values which may have a minor effect on the data usability.

- The positive results for aluminum in samples STRI-ST17-MWDD03, STRI-ST17-MWS03, and STRI-ST17-MWS04 were qualified as estimated (J) due to recoveries in the MS/MSD analyses which were above control limits. The results may be biased high. These results are usable for project objectives as estimated values which may have a minor effect on the data usability.

- The positive and nondetect results for calcium, magnesium, manganese, and zinc in samples STRI-ST17-MWD03 Dis, STRI-ST17-MWDD03 Dis, STRI-ST17-MWS03 Dis, STRI-ST17-MWDD04 Dis, STRI-BGOO-MWD06 Dis, STRI-BGOO-MWS06 Dis, and STRI-DUP02 Dis and calcium, potassium, and sodium in samples STRI-ST17-MWD03, STRI-ST17-MWDD03, STRI-ST17-MWS03, STRI-ST17-MWS04, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, STRI-BGOO-MWS06, and STRI-DUP02 were qualified as estimated (J/UJ) due to high percent differences (%Ds) in the ICP serial dilution analyses. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

- The nondetect result for amenable cyanide in sample STRI-ST17-MWDD04 was qualified as estimated (UJ) due to lack of raw data submitted. The result can be used for project objectives as a nondetect with an estimated quantitation limit. This qualification may have a minor impact on the data usability.

- Potential uncertainty exists for the following results which were detected above the method detection limit (MDL) but below the laboratory reporting limit:

Barium:	STRI-ST17-MWDD03, STRI-ST17-MWS03, STRI-ST17-MWS04, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, STRI-BGOO-MWS06, STRI-DUP02, STRI-ST17-MWD03 Dis, STRI-ST17-MWDD03 Dis, STRI-ST17-MWS03 Dis, STRI-ST17-MWDD04 Dis, STRI-BGOO-MWD06 Dis, STRI-BGOO-MWS06 Dis, STRI-DUP02 Dis
Chromium:	STRI-ST17-MWD03, STRI-ST17-MWS03, STRI-ST17-MWS04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, STRI-ST17-MWD03 Dis, STRI-ST17-MWS03 Dis, STRI-ST17-MWDD04 Dis, STRI-BGOO-MWD06 Dis, STRI-BGOO-MWS06 Dis, STRI-DUP02 Dis
Cobalt:	STRI-ST17-MWD03, STRI-ST17-MWD03 Dis
Copper:	STRI-ST17-MWD03, STRI-ST17-MWS03, STRI-BGOO-MWS06, STRI-ST17-MWDD03 Dis
Lead:	STRI-ST17-MWD03
Nickel:	STRI-ST17-MWDD03, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-BGOO-MWD06, STRI-BGOO-MWS06, STRI-ST17-MWDD03 Dis
Vanadium:	STRI-ST17-MWD03

  The positive result was qualified as estimated (J) and can be used for project objectives as an estimated value which may have a minor effect on the data usability.

The validation recommendations listed above were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables.

Holding Times and Sample Preservation

All criteria were met in the metals and wet chemistry analyses.

Instrument Calibration

All criteria were met in the metals and wet chemistry analyses.

CRDL Standard Recoveries

The following table lists the recoveries which were outside the control limits of 70-130 in the low level standard and the resulting validation actions. The affected analyte level range was determined as 2x the CRDL standard level analyzed due to differences between the reported laboratory QL and the low level standard levels analyzed.

Analyte	Recovery (%)	Associated Samples	Actions
Potassium	66.8	All samples	Validation actions were not required as all results were greater than the affected range.

Blank Analysis Results

The following table summarizes the metals laboratory blank contamination associated with all samples.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Aluminum	Instrument	28.0 ug/L	280 ug/L	(U) STRI-ST17-MWD03, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, STRI-BGOO-MWS06, STRI-DUP02, STRI-ST17-MWD03 Dis, STRI-ST17-MWDD03 Dis, STRI-ST17-MWS03 Dis, STRI-ST17-MWDD04 Dis, STRI-BGOO-MWS06 Dis, STRI-DUP02 Dis
Antimony	Instrument	6.6 ug/L -17.2 ug/L	66 ug/L -172 ug/L	(U) STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-BGOO-MWD06, STRI-BGOO-MWS06, STRI-ST17-MWS03 Dis, STRI-BGOO-MWD06 Dis Estimate (UJ) all samples
Arsenic	Instrument	-9.4 ug/L	-94 ug/L	Estimate (J/UJ) all samples
Barium	Instrument	-5.3 ug/L	-53 ug/L	(J) STRI-ST17-MWDD03, STRI-ST17-MWDD03 Dis, STRI-ST17-MWS03 Dis
Cadmium	Instrument	-3.7 ug/L	-37 ug/L	Estimate (UJ) all samples
Calcium	Instrument	16.3 ug/L -12.3 ug/L	163 ug/L -123 ug/L	No validation actions required
Chromium	Instrument	-4.3 ug/L	-43 ug/L	Estimate (J/UJ) all samples

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Cobalt	Instrument	-5.6 ug/L	-56 ug/L	Estimate (J/UJ) all samples
Copper	Instrument	-8.4 ug/L	-84 ug/L	Estimate (J/UJ) all samples
Magnesium	Instrument	-27.8 ug/L 14.1 ug?L	-278 ug/L 141 ug/L	No validation actions required
Manganese	Instrument	-3.4 ug/L	-34 ug/L	No validation actions required
Mercury 6/13/06	Instrument Method	0.07 ug/L -0.078 ug/L	0.70 ug/L -0.78 ug/L	(UJ) STRI-ST17-MWD03 Dis, STRI-ST17-MWDD03 Dis, STRI-ST17-MWS03 Dis, STRI-ST17-MWDD04 Dis, STRI-BGOO-MWD06 Dis, STRI-BGOO-MWS06 Dis, STRI-DUP02 Dis
Mercury 6/14/06	Instrument	0.17 ug/L -0.19 ug/L	1.7 ug/L -1.9 ug/L	(U) STRI-ST19-MWS05 and STRI-BGOO-MWS06 (UJ) STRI-ST17-MWD03, STRI-ST17-MWDD03, STRI-ST17-MWS03, STRI-ST17-MWS04, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, STRI-BGOO-MWS06, STRI-DUP02
Nickel	Instrument	-5.0 ug/L	-50 ug/L	Estimate (J/UJ) all samples
Potassium	Instrument	-423 ug/L	-4230 ug/L	No validation actions required
Silver	Instrument	-8.5 ug/L	-85 ug/L	Estimate (J/UJ) all samples
Sodium	Instrument	-1678 ug/L	-16780 ug/L	No validation actions required
Thallium	Instrument	3.7 ug/L -6.8 ug/L	37 ug/L -68 ug/L	Estimate (J/UJ) all samples
Vanadium	Instrument	-6.7 ug/L	-67 ug/L	Estimate (J/UJ) all samples
Zinc	Instrument	-9.5 ug/L	-95 ug/L	Estimate (J/UJ) STRI-ST17-MWD03, STRI-ST17-MWDD03, STRI-ST17-MWS03, STRI-ST17-MWS04, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, STRI-DUP02, STRI-ST17-MWD03 Dis, STRI-ST17-MWDD03 Dis, STRI-ST17-MWS03 Dis, STRI-ST17-MWDD04 Dis, STRI-BGOO-MWD06 Dis, STRI-DUP02 Dis

The following table summarizes the metals field blank contamination associated with all samples.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Calcium	STRI-GWS-FB	69.7 ug/L	697 ug/L	No validation actions required.
Chromium	STRI-GWS-FB	2.55 ug/L	25.5 ug/L	(U) at RL STRI-ST17-MWD03, STRI-ST17-MWS03, STRI-ST17-MWS04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06 Estimate (J) STRI-ST17-MWDD03, STRI-ST17-MWD04, STRI-BGOO-MWS06, STRI-DUP02
Zinc	STRI-GWS-FB	15.0 ug/L	150 ug/L	Estimate (J) STRI-ST17-MWD03, STRI-ST17-MWDD03, STRI-ST17-MWS03, STRI-ST17-MWS04, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, STRI-DUP02
Aluminum	STRI-GWS-FB Dis	20.5 ug/L	205 ug/L	No validation actions required.
Antimony	STRI-GWS-FB Dis	14.8 ug/L	148 ug/L	No validation actions required.
Calcium	STRI-GWS-FB Dis	395 ug/L	3950 ug/L	No validation actions required.
Mercury	STRI-GWS-FB Dis	0.05 ug/L	0.5 ug/L	No validation actions required.
Zinc	STRI-GWS-FB Dis	30.4 ug/L	304 ug/L	(J) STRI-ST17-MWD03 Dis, STRI-ST17-MWDD03 Dis, STRI-ST17-MWS03 Dis, STRI-ST17-MWDD04 Dis, STRI-BGOO-MWD06 Dis, STRI-BGOO-MWS06 Dis, STRI-DUP02 Dis

For blank contamination < QL; If the sample result is < QL report the result as nondetect (U) at the QL.
For blank contamination ≥ QL; If the sample result is ≥ QL and < the blank level, report the sample result as nondetect (U).
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.
For negative blank contamination ≥2 MDL; professional judgement was taken to estimate (J/UJ) those results which were less than 10x the maximum blank level detected

ICP ICS Results

All recovery criteria were met in the ICSAB analysis.

Positive results for beryllium, copper, nickel, potassium, sodium, vanadium, and zinc and negative results for antimony, arsenic, barium, cadmium, lead, selenium, silver, and thallium were observed in the ICSA solution analysis associated with all samples. Sample interferent levels were reviewed. Calcium was present in samples STRI-ST17-MWS04 (122%), STRI-BGOO-MWS06 (112%), and

STRI-BGOO-MWS06 Dis (109%) at greater than that of the level in the ICSA solution. The following table lists the estimated interferences and the resulting validation actions.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
STRI-ST17-MWS04	Antimony	ND	-24.9	Interference < ½ QL; no action taken.
	Arsenic	ND	-10.7	Estimate (UJ) the nondetect result for arsenic.
	Barium	85.6	-2.7	Interference <10% sample level; no action taken.
	Beryllium	ND	0.33	Validation action was not required.
	Cadmium	ND	-3.3	Estimate (UJ) the nondetect result for cadmium.
	Copper	ND	10.2	Validation action was not required.
	Lead	ND	-4.0	Estimate (UJ) the nondetect result for lead.
	Nickel	ND	21.9	Validation action was not required.
	Potassium	108000	231	Interference <10% sample level; no action taken.
	Selenium	ND	-7.8	Estimate (UJ) the nondetect result for selenium.
	Silver	ND	-9.2	Estimate (UJ) the nondetect result for silver.
	Sodium	405000	923	Interference <10% sample level; no action taken.
	Thallium	ND	-5.6	Estimate (UJ) the nondetect result for thallium.
	Vanadium	ND	8.0	Validation action was not required.
	Zinc	42.2	52.8	Estimate (J) the positive result for zinc.
STRI-BGOO-MWS06	Antimony	ND	-23.0	Interference < ½ QL; no action taken.
	Arsenic	ND	-9.9	Estimate (UJ) the nondetect result for arsenic.
	Barium	158	-2.5	Interference <10% sample level; no action taken.
	Beryllium	ND	0.30	Validation action was not required.
	Cadmium	ND	-3.0	Estimate (UJ) the nondetect result for cadmium.
	Copper	4.9	9.4	Estimate (J) the positive result for copper
	Lead	ND	-3.7	Estimate (UJ) the nondetect result for lead.
	Nickel	4.2	20.2	Estimate (J) the positive result for nickel.
	Potassium	89,400	213	Interference <10% sample level; no action taken.
	Selenium	ND	-7.2	Estimate (UJ) the nondetect result for selenium.
	Silver	ND	-8.5	Estimate (UJ) the nondetect result for silver.
	Sodium	678000	850	Interference <10% sample level; no action taken.
	Thallium	ND	-5.15	Estimate (UJ) the nondetect result for thallium.
	Vanadium	ND	7.4	Validation action was not required.
	Zinc	319	48.6	Estimate (J) the positive result for zinc.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
STRI-BGOO-MWS06 Dis	Antimony	ND	-22.3	Interference < ½ QL; no action taken.
	Arsenic	ND	-9.6	Estimate (UJ) the nondetect result for arsenic.
	Barium	139	-2.4	Interference <10% sample level; no action taken.
	Beryllium	ND	0.29	Validation action was not required.
	Cadmium	ND	-2.9	Estimate (UJ) the nondetect result for cadmium.
	Copper	ND	9.2	Validation action was not required.
	Lead	ND	-3.6	Estimate (UJ) the nondetect result for lead.
	Nickel	ND	19.6	Validation action was not required.
	Potassium	87,000	207	Interference <10% sample level; no action taken.
	Selenium	ND	-7.0	Estimate (UJ) the nondetect result for selenium.
	Silver	ND	-8.3	Estimate (UJ) the nondetect result for silver.
	Sodium	654000	827	Interference <10% sample level; no action taken.
	Thallium	ND	-5.0	Estimate (UJ) the nondetect result for thallium.
	Vanadium	ND	7.2	Validation action was not required.
	Zinc	255	47.3	Estimate (J) the positive result for zinc.

MS Results

MS/MSDs were performed on samples STRI-ST17-MWD03 and STRI-ST17-MWD03 Dis for the metals and an MS was performed on sample STRI-ST17-MWD03 for cyanide. All criteria were met in the dissolved metals and cyanide analyses. The following table lists the analytes which exhibited recoveries outside of the control limits of 75 - 125% and the resulting validation actions.

Analyte	Recovery (%)	QC Sample	Actions
Aluminum	154.7, 160.4	MWD03	Estimate (J) the positive results for aluminum in samples STRI-ST17-MWDD03, STRI-ST17-MWS03, and STRI-ST17-MWS04.
Barium	62.5, 68.9	MWD03	Estimate (J) the positive results for barium in all total metals samples.
Manganese	-114.7, -110.8	MWD03	Estimate (J) the positive results for manganese in all total metals samples.

Laboratory Duplicate Results

Laboratory duplicates were performed on samples STRI-ST17-MWD03 and STRI-ST17-MWD03 Dis for the metals and on sample STRI-ST17-MWD03 for cyanide. All criteria were met in the these analyses.

Field Duplicate Results

Samples STRI-ST17-MWD04 and STRI-DUP02 were submitted as the field duplicate pair with this sample group. The following table summarizes the RPDs of the detected analytes, all of which were within the acceptable criteria, with the exception of chromium. The positive results for chromium were estimated (J) in samples STRI-ST17-MWD04 and STRI-DUP02.

Analyte	STRI-ST17-MWD04 (ug/L)	STRI-DUP02 (ug/L)	RPD (%)
Barium	105	103	1.9
Calcium	137000	135000	1.5
Chromium	22.5	12.1	60
Iron	344	445	25.6
Magnesium	110000	109000	1.0
Manganese	468	462	1.2
Nickel	4.20	40 U	NC, Within QL
Potassium	78000	77400	0.8
Sodium	292000	284000	2.8
Zinc	29.9	24.9	18.2
Total Cyanide	477.4	516.3	7.8

NC - Not calculable as one result is nondetect.
For aqueous results > 5xQL and RPDs >30; estimate (J) results in the field duplicate pair.
For aqueous results < 5xQL; the sample and duplicate results must be within QL.

LCS Results

All criteria were met in the metals and wet chemistry analyses.

ICP Serial Dilution (ISD) Analysis Results

Serial dilutions were performed on samples STRI-ST17-MWD03 and STRI-ST17-MWD03 Dis. following table lists the analytes which exhibited %Ds above the control limit of 10 and the resulting validation actions.

Sample	Analyte	%D	Actions
STRI-DUP02	zinc	36.9	Estimate (J) the positive results for zinc in samples STRI-DUP02 and STRI-DUP02 Dis.

Detection Limits Results

Dilutions were not required.

Positive results which were above the MDL but below the RL were flagged by the laboratory with a "J". This result was qualified as estimated (J) due to uncertainty at the low end of calibration:

Barium:	STRI-ST17-MWDD03, STRI-ST17-MWS03, STRI-ST17-MWS04, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06, STRI-BGOO-MWS06, STRI-DUP02, STRI-ST17-MWD03 Dis, STRI-ST17-MWDD03 Dis, STRI-ST17-MWS03 Dis, STRI-ST17-MWDD04 Dis, STRI-BGOO-MWD06 Dis, STRI-BGOO-MWS06 Dis, STRI-DUP02 Dis
Chromium:	STRI-ST17-MWD03, STRI-ST17-MWS03, STRI-ST17-MWS04, STRI-ST17-MWDD04, STRI-ST19-MWS05, STRI-BGOO-MWD06 STRI-ST17-MWD03 Dis, STRI-ST17-MWS03 Dis, STRI-ST17-MWDD04 Dis, STRI-BGOO-MWD06 Dis, STRI-BGOO-MWS06 Dis, STRI-DUP02 Dis
Cobalt:	STRI-ST17-MWD03, STRI-ST17-MWD03 Dis
Copper:	STRI-ST17-MWD03, STRI-ST17-MWS03, STRI-BGOO-MWS06, STRI-ST17-MWDD03 Dis
Lead:	STRI-ST17-MWD03
Nickel:	STRI-ST17-MWDD03, STRI-ST17-MWD04, STRI-ST17-MWDD04, STRI-BGOO-MWD06, STRI-BGOO-MWS06, STRI-ST17-MWDD03 Dis
Vanadium:	STRI-ST17-MWD03

Sample Quantitation Results

Sample calculations were spot-checked; no discrepancies were noted in the metals and cyanide results.

Although the total cyanide was detected at a low level in sample STRI-ST17-MWDD04, the laboratory did not submit the amenable cyanide analysis for this sample. The nondetect result for amenable cyanide in sample STRI-ST17-MWDD04 was estimated (UJ) due to lack of data submitted.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X3209
Reviewer: Lisa McDonagh/GEI Consultants
Date: July 28, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
STRI-ST14-MWDD05	X3209-01	VOC, SVOC
STRI-ST14-MWD05	X3209-04	VOC, SVOC
STRI-ST14-MW10	X3209-05	VOC, SVOC
STRI-ST14-MWDD03	X3209-06	VOC, SVOC
STRI-ST14-MW36	X3209-07	VOC, SVOC
STRI-GWS-FB	X3209-08	VOC, SVOC
STRI-GWS-TB08	X3209-09	VOC
STRI-GWS-TB09	X3209-10	VOC
STRI-BG00-MWS07	X3209-11	VOC, SVOC
STRI-BG00-MWD07	X3209-12	VOC, SVOC
STRI-ST19-MWD05	X3209-13	VOC, SVOC
STRI-GWS-TB10	X3209-14	VOC

Associated QC Samples: Field or Trip Blanks: STRI-GWS-FB, STRI-GWS-TB08, STRI-GWS-TB09, STRI-GWS-TB10
Field Duplicate pair: none

The above-listed aqueous samples and trip blank samples were collected on June 1, 8 and 9, 2006 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260B and semivolatile organic compounds (SVOCs) by SW-846 method 8270C. The data validation was based on the USEPA CLP National Functional Guidelines for Organic Review (January 2005) and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8260B, SOP No. HW-24, Revision 1, June 1999 and USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data Acquired using SW-846 Method 8270C, SOP No. HW-22, Revision 2, June 2001.

The organic data were evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times and Sample Preservation
*	•	Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
	•	Initial and Continuing Calibrations
	•	Blanks
	•	Surrogate Recoveries
	•	Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
	•	Internal Standards
	•	Laboratory Control Sample (LCS) Results
NA	•	Field Duplicate Results
	•	Quantitation Limits and Data Assessment
	•	Sample Quantitation and Compound Identification

* - All criteria were met.

NA - A field duplicate pair was not associated with this sample group.

All results are usable for project objectives with the exception of select tentatively identified compounds (TICs) which were rejected due to method blank contamination, the VOC tentatively identified compound, naphthalene and 2-methylnaphthalene, reported in sample STRI-ST14-MWDD03, and acenaphthene reported in sample STRI-ST14-MW36 and the SVOC tentatively identified compound, toluene, ethylbenzene, 1,3-dimethylbenzene and p-xylene reported in sample STRI-ST14-MWDD03 were rejected (R) as they were reported as target compounds in the other fractions.

Qualifications were not applied to the data as a result of sampling error.
Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC and SVOC results which were below the lowest calibration standard and quantitation limit. These results were qualified as estimated (J) in the associated samples by the laboratory. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

- The VOC tentatively identified compound, naphthalene and 2-methylnaphthalene, reported in sample STRI-ST14-MWDD03, and acenaphthene reported in sample STRI-ST14-MW36 and the SVOC tentatively identified compound, toluene, ethylbenzene, 1,3-dimethylbenzene and p-xylene reported in sample STRI-ST14-MWDD03 were rejected (R) as they were reported as target compounds in the other fractions.

- The positive results for methylene chloride in sample STRI-ST14-MW10 was qualified as nondetect (U) at the reported value due to trip blank contamination. The result can be used for project objectives as nondetect with an elevated quantitation limit. This qualification may have a minor impact on the data usability.

- The nondetect results for chloroethane, 1,1,2-trichlorotrifluoroethane, acetone, methyl acetate, 2-butanone, carbon tetrachloride, 4-methyl-2-pentanone, 2-hexanone, 1,2-dibromoethane, bromoform and 1,2-dibromo-3-chloropropane in samples STRI-ST14-MWDD05, STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-GWS-FB, STRI-BG00-MWS07, STRI-BG00-MWD07, STRI-ST19-MWD05 and STRI-GWS-TB10 and benzaldehyde in samples STRI-ST14-MWDD05, STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-GWS-FB, STRI-BG00-MWS07, STRI-BG00-MWD07, STRI-ST19-MWD05 and STRI-GWS-TB10 were qualified as estimated (UJ) due to initial calibration nonconformances. The results can be used for project objectives as nondetects with estimated quantitation limits. These qualifications may have a minor impact on the data usability.

- The following positive and nondetect results were qualified as estimated (J/UJ) due to continuing calibration nonconformances: acetone and 2-butanone in samples STRI-ST14-MWDD05, STRI-ST14-MWDD03 and STRI-ST19-MWD05, benzo(a)anthracene, indeno(1,2,3-cd)pyrene and carbazole in sample STRI-GWS-FB, indeno(1,2,3-cd)pyrene and carbazole in samples STRI-ST14-MWDD05, STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BG00-MWS07, STRI-BG00-MWD07 and STRI-ST19-MWD05. The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated quantitation limits. These qualifications may have a minor impact on the data usability.

- The positive and/or nondetect VOC results in samples STRI-ST14-MW10, STRI-GWS-TB08, STRI-GWS-TB09 and STRI-BG00-MWS07 were qualified as estimated (J/UJ) due to surrogate recoveries which were outside of the control limits and the positive VOC results in sample STRI-ST14-MWDD03 were qualified as estimated (J) due to surrogate recoveries which were above the control limits . The positive results can be used for project objectives as estimated values and the nondetects with estimated quantitation limits. These qualifications may have a minor impact on the data usability.

- The following VOC positive and/or nondetect results were qualified as estimated (J/UJ) due to MS/MSD %recovery which were outside the control limits and/or %RPDs which were above the control limit: dichlorodifluoromethane, chloromethane, bromomethane, tetrachloroethene, acetone, methyl acetate, 2-butanone and 2-hexanone in sample STRI-ST14-MWDD05 and the SVOC positive results was qualified as estimated (J) due to MS/MSD %recovery which was above the control limit: pyrene in sample STRI-ST14-MWDD05. The positive results can be used for project objectives as estimated values and the nondetects with estimated quantitation limits. These qualifications may have a minor impact on the data usability

- The positive and nondetect results for pyrene, butylbenzylphthalate, 3,3'-dichlorobenzidine, benzo(a)anthracene, chrysene, bis (2-ethylhexyl)phthalate, di-n-octylphthalate, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(123-cd)pyrene, dibenzo (a,h)anthracene and benzo(g,h,i)perylene were qualified as estimated (J/UJ) in sample STRI-ST14-MW10 and the positive and nondetect results for benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(123-cd)pyrene, dibenzo(a,h)anthracene and benzo(g,h,i)perylene were qualified as estimated (J/UJ) in sample STRI-ST14-MW36 due to low internal standard areas. The positive results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. These qualifications may have a minor impact on the data usability.

- The nondetect results for dichlorodifluoromethane in samples STRI-GWS-TB08 and STRI-GWS-TB09, acetone and methyl acetate in samples STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MW36, STRI-BG00-MWS07, STRI-BG00-MWD07 and STRI-GWS-TB10 and dimethylphthalate in all samples X3209 were qualified as estimated (UJ) due to low recoveries in the LCS analysis and the positive result for carbazole in sample STRI-ST14-MWDD03 was qualified as estimated (J) due to high recovery in the LCS analysis . The positive results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. These qualifications may have a minor impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the VOC and SVOC analyses.

Holding Times and Sample Preservation

All criteria were met in the VOC and SVOC analyses.

GC/MS Tunes

All criteria were met in the VOC and SVOC analyses.

Initial and Continuing Calibrations

Compounds that did not meet criteria in the VOC and SVOC initial and continuing calibrations are summarized in the following tables.

Instrument ID MSVOAG Compound	IC 5/26/06	CC 6/15/06	CC 6/16/06
chloroethane	X (r=0.934)		
1,1,2-trichlorotrifluoroethane	X(r=0.974)		
acetone	X(r=0.900)		XX(60.2%)
methyl acetate	X(r=0.979)		
2-butanone	X(r=0.918)		XX(42.9%)
carbon tetrachloride	X (r=0.978)		
4-methyl-2-pentanone	X(r=0.939)		
2-hexanone	X(r=0.935)		
1,2-dibromoethane	X(r=0.989)		
bromoform	X (r=0.988)		
1,2-dibromo-3-chloropropane	X(r=0.957)		
Samples Affected	All samples listed	STRI-ST14-MWD05 STRI-ST14-MW10 STRI-ST14-MW36 STRI-GWS-FB STRI-BG00-MWS07 STRI-BG00-MWD07 STRI-GWS-TB10	STRI-ST14-MWDD03 STRI-ST19-MWD05 STRI-ST14-MWDD05

Instrument ID MSVOAG Compound	IC 5/26/06	CC 6/17/06
chloroethane	X (r=0.934)	XX(84.3%)
trichlorotrifluoromethane		XX(59.7%)
1,1,2-trichlorotrifluoroethane	X(r=0.974)	XX(45.6%)
acetone	X(r=0.900)	
methyl acetate	X(r=0.979)	
2-butanone	X(r=0.918)	
carbon tetrachloride	X (r=0.978)	
4-methyl-2-pentanone	X(r=0.939)	
2-hexanone	X(r=0.935)	
1,2-dibromoethane	X(r=0.989)	
bromoform	X (r=0.988)	
1,2-dibromo-3-chloropropane	X(r=0.957)	
Samples Affected	All samples listed	STRI-ST14-MWDD03DL

Instrument ID BNAE Compound	IC 6/1/06	CC 6/16/06	CC 6/16/06
benzaldehyde	X(r=0.977)		
benzo(a)anthracene		XX(46.3%)	
indeno(1,2,3-cd)pyrene		XX(33.0%)	XX(29.6%)
carbazole		XX(27.7%)	XX(29.1%)

Instrument ID BNAE Compound	IC 6/1/06	CC 6/16/06	CC 6/16/06
Samples Affected	All samples listed	STRI-GWS-FB	STRI-ST14-MWDD05 STRI-ST14-MWD05 STRI-ST14-MW10 STRI-ST14-MWDD03 STRI-ST14-MW36 STRI-BG00-MWS07 STRI-BG00-MWD07 STRI-ST19-MWD05

X = Initial calibration (IC) relative standard deviation (%RSD) > 50 for 1,4-dioxane, (%RSD) > 40 for poor response compounds, and %RSD > 20 for all other compounds ; estimate (J) positive result. If regression was performed and correlation coefficient (R)< 0.990; estimate (J/UJ) positive and nondetect results.

XX = Continuing calibration (CC) percent difference (%D) > 50 for 1,4-dioxane, (%D) > 40 for poor response compounds, and %D > 25 for all other compounds; estimate (J/UJ) positive and nondetect results.

XXX = Continuing calibration (CC) percent difference (%D) > 90; estimate (J) positive results and reject (R) nondetect results.

+ = Response factor (RRF) < 0.05 except <0.01 for poor response compounds; Estimate (J) positive results and reject (R) nondetect results.

The nondetect results for chloroethane, 1,1,2-trichlorotrifluoroethane, acetone, methyl acetate, 2-butanone, carbon tetrachloride, 4-methyl-2-pentanone, 2-hexanone, 1,2-dibromoethane, bromoform and 1,2-dibromo-3-chloropropane in samples STRI-ST14-MWDD05, STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-GWS-FB, STRI-BG00-MWS07, STRI-BG00-MWD07 and STRI-ST19-MWD05 and benzaldehyde in samples STRI-ST14-MWDD05, STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-GWS-FB, STRI-BG00-MWS07, STRI-BG00-MWD07 and STRI-ST19-MWD05 were qualified as estimated (UJ) due to initial calibration nonconformances.

The following positive and nondetect results were qualified as estimated (J/UJ) due to continuing calibration nonconformances: acetone and 2-butanone in samples STRI-ST14-MWDD05, STRI-ST14-MWDD03 and STRI-ST19-MWD05, benzo(a)anthracene, indeno(1,2,3-cd)pyrene and carbazole in sample STRI-GWS-FB, indeno(1,2,3-cd)pyrene and carbazole in samples STRI-ST14-MWDD05, STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BG00-MWS07, STRI-BG00-MWD07 and STRI-ST19-MWD05.

Blanks

The following table summarizes the VOC and SVOC method , field and trip blank contamination.

Compound	Type of Blank	Associated Samples	Maximum Concentration	Blank Action Level
acetone 2-butanone	Method	STRI-GWS-TB08 STRI-GWS-TB09	2.6 ug/L 3.1 ug/L	5.2 ug/L 6.2 ug/L
methylene chloride	trip	all samples X3209	8.4 ug/L	16.8 ug/L

Blank Actions
The blank action level is 1X Max Conc for VOC/2X for common contaminant and 1X for SVOC/5X common contaminant
If the sample concentration ≤ RL and ≤ blank action level, qualify the result as not detected (U) at the RL.
If the sample concentration > RL and ≤ blank action level, qualify the result as not detected (U) at the reported value.
For sample results greater than the blank contamination level professional judgement was taken to estimate (J) those results which were less than 10x the maximum blank level detected.

Tentatively identified compounds (TICs), which were detected in samples at levels less than ten times those in the associated SVOC method blanks, were rejected (R).

The positive results for methylene chloride in sample STRI-ST14-MW10 was qualified as nondetect (U) at the reported value due to trip blank contamination.

Surrogate Recoveries

All criteria were met in the SVOC analyses.

The following tables summarize the surrogate recoveries that failed to meet the acceptance criteria in the VOC analyses:

Sample ID	Percent Recovery				Action
	Tol-d8 81-120	BFB 76-119	DCE 72-119	DBRFLM 85-115	
STRI-ST14-MW10	-	-	64%	-	Estimate (J/UJ) the positive and/or nondetect results.
STRI-ST14-MWDD03	-	135%	-	-	Estimate (J) the positive results.
STRI-GWS-TB08	80%	-	-	-	Estimate (J/UJ) the positive and/or nondetect results.
STRI-GWS-TB09	-	-	-	84%	Estimate (J/UJ) the positive and/or nondetect results.

	Tol-d8 81-120	BFB 76-119	DCE 72-119	DBRFLM 85-115	
STRI-BG00-MWS07	-	-	69%	-	Estimate (J/UJ) the positive and/or nondetect results.
STRI-BG00-MWS07RE	165%	182%	-	75%	Estimate (J/UJ) the positive and/or nondetect results.

Tol-d8 - Toluene-d8
BFB - Bromofluorobenzene
DCE - 1,2-Dichloroethane-d4
DBRFLM-Dibromofluoromethane

MS/MSD Results

The MS/MSD analyses were performed on sample STRI-ST14-MWDD05 for the VOC and SVOC analyses. The following table lists the VOC and SVOC recoveries and/or RPDs outside of control limits.

Compound	Recovery (%)	RPD (%)	Control Limits	Validation Actions
dichlorodifluoromethane	67, -	-	70-125	Estimate (UJ) the nondetect results for dichlorodifluoromethane, chloromethane, bromomethane, tetrachloroethene, acetone, methyl acetate, 2-butanone and 2-hexanone in sample STRI-ST14-MWDD05.
chloromethane	56, 61	-	70-125	
bromomethane	63, -	-	70-125	
tetrachloroethene	61, 63	-	70-125	
acetone	-, 27	94	70-125/20	
methyl acetate	-, 44	58	70-125/20	
2-butanone	-, 56	53	70-125/20	
2-hexanone	-, 61	49	70-125/20	
1,1,2-trichlorotrifluoroethane	147, 133	-	70-125	Qualifications were not required.
chloroethane	-, 127	-	70-125	
benzene	-, -	19	17	Qualifications were not required.
1,2-dichloroethane	-, -	26	20	
1,2-dichloropropene	-, -	21	20	
4-methyl-2-pentanone	-, -	39	20	
1,1,2-trichloroethane	-, -	21	20	
1,2-dibromoethane	-, -	26	20	

Compound	Recovery (%)	RPD (%)	Control Limits	Validation Actions
Phenol	74, 78	-	18-37	Estimate (J) the positive result for pyrene in sample STRI-ST14-MWDD05.
bis(2-chloroethyl)ether	96, 102	-	47-94	
carbazole	178, 182	-	57-115	
pyrene	120, 124	-	50-110	
butylbenzylphthalate	132, 136	-	57-115	
bis(2-ethylhexyl)phthalate	130, 136	-	58-123	
2-chlorophenol	-, 90	-	45-87	
2-methylphenol	-, 96	-	28-89	
2,4,6-trichlorophenol	-, 100	-	45-99	
2,6-dinitrotoluene	-, 106	-	60-103	
benzo(a)anthracene	-, 106	-	60-105	

- Within control limits

Internal Standards

The following table lists the internal standard areas found outside of the control limits and the resultant actions in the VOC and SVOC analyses.

Sample	Internal Standard	Rec (%)	Validation Actions
STRI-BG00-MWS07RE	Pentafluorobenzene 1,4-Difluorobenzene	47 38	Validation actions were not required; results from the original analysis were reported.
STRI-ST14-MW10	Chrysene-d12 Perylene-d12	49.8 29	Estimate (J/UJ) the positive and/or nondetect results associated with the internal standards.
STRI-ST14-MW36	Perylene-d12	48	Estimate (J/UJ) the positive and/or nondetect results associated with the internal standards.
STRI-ST14-MW10RE	Perylene-d12	24	Validation actions were not required; results from the original analysis were reported.
STRI-ST14-MW36RE	Perylene-d12	34	Validation actions were not required; results from the original analysis were reported.

LCS Results

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the VOC and SVOC analyses.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
dichlorodifluoromethane	67	70-125	STRI-GWS-TB08 STRI-GWS-TB09	Estimate (UJ) the nondetect result for dichlorodifluoromethane in the associated samples.
acetone tetrachloroethene	133 140	70-125 70-125	STRI-GWS-TB08 STRI-GWS-TB09	Qualifications were not required.
chloroethane trichlorofluoromethane 1,1,2-trichlorotrifluoroethane carbon tetrachloride bromodichloromethane cis-1,3-dichloropropene dibromochloromethane bromoform	173 147 153 133 127 127 127 127	70-125 70-125 70-125 70-125 70-125 70-125 70-125 70-125	STRI-ST14-MWD05 STRI-ST14-MW10 STRI-ST14-MW36 STRI-GWS-FB STRI-BG00-MWS07 STRI-BG00-MWD07 STRI-GWS-TB10	Qualifications were not required.
acetone methyl acetate	53 61	70-125 70-125	STRI-ST14-MWD05 STRI-ST14-MW10 STRI-ST14-MW36 STRI-GWS-FB STRI-BG00-MWS07 STRI-BG00-MWD07 STRI-GWS-TB10	Estimate (UJ) the nondetect results for acetone and methyl acetate in the associated samples.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
cloroethane trichlorofluoromethane 1,1,2-trichlorotrifluoroethane carbon tetrachloride dibromochloromethane bromoform	147 127 167 127 127 127	70-125 70-125 70-125 70-125 70-125 70-125	STRI-ST14-MWDD05 STRI-ST14-MWDD03 STRI-ST19-MWD05	Qualifications were not required.
chloromethane bromomethane 1,1-dichloroethane tetrachloroethene chlorobenzene	57 65 67 59 73	70-125 70-125 70-125 70-125 70-125	STRI-ST14-MWDD03DL	Qualifications were not required.
dichlorodifluoromethane chloromethane acetone carbon disulfide methyl acetate 1,1-dichloroethane 2-butanone cis-1,2-dichloroethene cyclohexane tetrachloroethene chlorobenzene	67 57 67 67 61 65 68 65 66 63 73	70-125 70-125 70-125 70-125 70-125 70-125 70-125 70-125 70-125 70-125 70-125	STRI-ST14-MWDD03DL	Qualifications were not required.
dimethylphthalate	54	58-105	all samples X3209	Estimate (UJ) the nondetect results for dimethylphthalate in the associated samples.
carbazole	140	57-115	all samples X3209	Estimate (J) the positive result for carbazole in sample STRI-ST14-MWDD03.

Field Duplicate Results

A field duplicate pair was not associated with this sample group.

Quantitation Limits and Data Assessment

Results were reported which were below the lowest calibration standard level (RL) and above the method detection limit (MDL) in the VOC and SVOC analyses. These results were qualified by the laboratory (J). These results were qualified as estimated (J) due to uncertainty at the low end of calibration.

The following tables list the sample dilutions which were performed and reported. Quantitation limits were elevated accordingly.

Sample	VOC Analysis/Dilution Reported	SVOC Analysis/Dilution Reported
STRI-ST14-MWDD03	1-fold dilution 20-fold dilution. Report toluene, ethylbenzene, m,p-xylenes and o-xylene from the 20-fold dilution.	Final extract volume of 1.0 ml and 1-fold dilution performed. Final extract volume of 1.0 ml and 10-fold dilution performed. Report naphthalene from the 10-fold dilution.

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted in the VOC and SVOC analyses.

The VOC tentatively identified compound, naphthalene and 2-methylnaphthalene, reported in sample STRI-ST14-MWDD03, and acenaphthene reported in sample STRI-ST14-MW36 were rejected (R). Semivolatile target compound list (TCL) compounds should not be reported as VOC TICs.

The SVOC tentatively identified compound, toluene, ethylbenzene, 1,3-dimethylbenzene and p-xylene reported in sample STRI-ST14-MWDD03 were rejected (R). Volatile TCL compounds should not be reported as SVOC TICs.

Data Usability Summary Report

Project: Stuyvesant Town RI, Manhattan, New York
Laboratory: Chemtech, Mountainside, NJ
Report No.: X3209
Reviewer: Lorie MacKinnon/GEI Consultants
Date: July 21, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
STRI-ST14-MWDD05	X3209-01	Total Metals, Cyanide
STRI-ST14-MWD05	X3209-04	Total Metals, Cyanide
STRI-ST14-MW10	X3209-05	Total Metals, Cyanide
STRI-ST14-MWDD03	X3209-06	Total Metals, Cyanide
STRI-ST14-MW36	X3209-07	Total Metals, Cyanide
STRI-GWS-FB	X3209-08	Total Metals, Cyanide
STRI-BGOO-MWS07	X3209-11	Total Metals, Cyanide
STRI-BGOO-MWD07	X3209-12	Total Metals, Cyanide
STRI-ST19-MWD05	X3209-13	Total Metals, Cyanide
STRI-ST14-MWDD05 Dis	X3209-15	Dissolved Metals
STRI-ST14-MWD05 Dis	X3209-18	Dissolved Metals
STRI-ST14-MWDD03 Dis	X3209-19	Dissolved Metals
STRI-ST14-MW36 Dis	X3209-20	Dissolved Metals
STRI-BGOO-MWD07 Dis	X3209-21	Dissolved Metals
STRI-GWS-FB Dis	X3209-22	Dissolved Metals

Associated QC Samples: Field Blanks: STRI-GWS-FB, STRI-GWS-FB Dis
Field Duplicate pair: None associated

The above-listed aqueous samples and field blank samples were collected on June 8 and 9, 2006 and were analyzed for total and dissolved metals by SW-846 methods 6010B and 7470A and Total and Amenable Cyanide (CN) by SW-846 method 9012. The data validation was based on the USEPA CLP National Functional Guidelines for Inorganic Review (October 2004) and the USEPA Region II Standard Operating Procedure (SOP) for CLP Inorganic Review (January 1992), modified to accommodate the SW-846 methodologies.

The inorganic data were evaluated based on the following parameters:

* • Data Completeness

* • Holding Times and Sample Preservation
• Instrument Calibration
• Contract Required Detection Limit (CRDL) Standard Recoveries
• Blank Analysis Results
• Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Results
* • Matrix Spike (MS) Results
* • Laboratory Duplicate Results
NA • Field Duplicate Results
* • Laboratory Control Sample (LCS) Results
• ICP Serial Dilution Analysis Results
• Comparison of Total and Dissolved Metals
• Detection Limits Results
• Sample Quantitation Results

* - All criteria were met for this parameter.

NA - A field duplicate pair was not associated with this sample group.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives.

Qualifications applied to the data as a result of sampling error are discussed below.

- The positive results for chromium in samples STRI-ST14-MWDD05 and STRI-ST14-MWDD03 and zinc in samples STRI-ST14-MWD05, STRI-ST14-MWDD03, STRI-STRI-MW36, STRI-ST14-MW36 dis and STRI-BGOO-MWD07 dis were qualified as estimated (J) due to field blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive results for zinc in samples STRI-ST14-MWDDO5, STRI-BGOO-MWS07, STRI-BGOO-MWD07, and STRI-ST19-MWDO5 were qualified as nondetect (U) at the QL due to field blank contamination. The result can be used for project objectives as a nondetect. This qualification may have a minor impact on the data usability.

- The positive results for zinc in samples STRI-ST14-MWDD05 dis, STRI-ST14-MWDO5 dis, and STRI-ST14-MWDDO3 dis were qualified as nondetect (U) at the reported value due to field blank contamination. The result can be used for project objectives as elevated quantitation limits. This qualification may have a minor impact on the data usability.

- The positive and nondetect results for barium, calcium, magnesium, potassium, and sodium in samples STRI-ST14-MWDD05 and STRI-ST14-MWDD05 Dis, magnesium in samples STRI-ST14-MWD05 and STRI-ST14-MWD05 Dis, chromium and sodium in samples STRI-ST14-MW36 and STRI-ST14-MW36 Dis, and potassium and zinc in samples STRI-BGOO-MWD07 and STRI-BGOO-MWD07 Dis were qualified as estimated (J/UJ) as the dissolved results exceeded those of the total by more than 10%. The direction of the bias cannot be determined from this nonconformance. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- The positive results for aluminum in samples STRI-ST14-MWDD05, STRI-ST14-MW10, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis, and STRI-GWS-FB, antimony in samples STRI-ST14-MWDD03, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MW36 Dis, STRI-BGOO-MWD07 Dis, and STRI-GWS-FB, arsenic in samples STRI-ST14-MWD05 and STRI-BGOO-MWS07, barium in samples STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-BGOO-MWD07 Dis, STRI-GWS-FB and STRI-GWS-FB Dis, beryllium in samples STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, STRI-BGOO-MWD07 Dis, STRI-GWS-FB and STRI-GWS-FB Dis, cadmium in samples STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, STRI-BGOO-MWD07 Dis, STRI-GWS-FB and STRI-GWS-FB Dis, chromium in samples STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-BGOO-MWD07 Dis, and STRI-GWS-FB Dis, cobalt in samples STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, STRI-BGOO-MWD07 Dis, STRI-GWS-FB and STRI-GWS-FB Dis, mercury in samples STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD05 Dis, nickel in samples STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis, manganese in samples STRI-GWS-FB and STRI-GWS-FB Dis, magnesium in sample and STRI-GWS-FB Dis, silver in samples STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03

Dis, STRI-ST14-MW36 Dis, STRI-BGOO-MWD07 Dis, STRI-GWS-FB and STRI-GWS-FB Dis, sodium in samples STRI-GWS-FB and STRI-GWS-FB Dis , and vanadium in samples STRI-ST14-MWDD05, STRI-ST14-MWDD05 Dis, STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, STRI-BGOO-MWD07 Dis, STRI-GWS-FB and STRI-GWS-FB Dis were qualified as nondetect (U) at the QL due to laboratory blank contamination. The results can be used for project objectives as nondetects. This qualification may have a minor impact on the data usability.

- The positive results for arsenic and chromium in sample STRI-ST14-MWDD03, mercury in sample STRI-ST19-MWD05, and calcium in sample STRI-GWS-FB were qualified as estimated (J) due to laboratory blank contamination detected. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive and nondetect results for cadmium, cobalt, thallium, and zinc in samples STRI-ST14-MWDD05 and STRI-ST14-MWDD05 Dis, mercury in sample STRI-ST14-MWDD05, cadmium, cobalt, manganese, and zinc in samples STRI-GWS-FB and STRI-GWS-FB Dis, barium in sample STRI-GWS-FB, cadmium in samples STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis, cobalt in samples STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis, lead in samples STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis, thallium in samples STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis, and zinc in samples STRI-ST14-MWD05, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis were qualified as estimated (J/UJ) due to negative bias seen in the instrument blank analysis. The results may be biased low. The result can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive and nondetect results for thallium in samples STRI-ST14-MWDD03, STRI-

ST14-MW-36, STRI-ST14-MWDD03 Dis, and STRI-ST14-MW36 Dis and lead in samples STRI-ST14-MWDD03, STRI-ST14-MWDD03 Dis, and STRI-ST14-MW36 Dis were qualified as estimated (UJ) due to negative interferences seen in the ICSA analysis. The results may be biased low. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits which may have a minor impact on the data usability.

- The positive results for copper and zinc in samples STRI-ST14-MWDD03, STRI-ST14-MW-36, and STRI-ST14-MW36 Dis were qualified as estimated (J) due to positive interferences seen in the ICSA analysis. The results may be biased high. The results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive and nondetect results for barium, calcium, and magnesium in all dissolved metals samples and calcium and magnesium in all total metals samples were qualified as estimated (J/UJ) due to high percent differences (%Ds) in the ICP serial dilution analyses. The results can be used for project objectives as estimated values and nondetects with estimated quantitation limits. The direction of the bias cannot be determined from this nonconformance. This qualification may have a minor impact on the data usability.

- Potential uncertainty exists for the following results which were detected above the method detection limit (MDL) but below the laboratory reporting limit:

Aluminum:	STRI-GWS-FB Dis
Antimony:	STRI-GWS-FB Dis
Arsenic:	STRI-ST14-MWDD05 Dis
Calcium:	STRI-GWS-FB, STRI-GWS-FB Dis
Chromium:	STRI-GWS-FB, STRI-ST14-MWDD05 Dis
Cobalt:	STRI-ST14-MWDD05, STRI-ST14-MWDD05 Dis
Copper:	STRI-ST14-MWD05, STRI-ST14-MWDDO3, STRI-ST14-MW36, STRI-BGOO-MWD07, STRI-ST14-MWDD05 dis, STRI-ST14-MWD05 dis, STRI-ST14-MW36 dis, STRI-BGOO-MWD07 dis
Mercury:	STRI-GWS-FB Dis
Lead:	STRI-ST14-MWDDO3
Nickel:	STRI-ST14-MWDD05
Zinc:	STRI-GWS-FB

The positive result was qualified as estimated (J) and can be used for project objectives as an estimated value which may have a minor effect on the data usability.

- The nondetect results for amenable cyanide in samples STRI-ST14-MWDD03 and STRI-BGOO-MWS07 were qualified as estimated (UJ) due to lack of raw data submitted. The

result can be used for project objectives as a nondetect with an estimated quantitation limit. This qualification may have a minor impact on the data usability.

The validation recommendations listed above were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables.

Holding Times and Sample Preservation

All criteria were met in the metals and wet chemistry analyses.

Instrument Calibration

All criteria were met in the wet chemistry analyses.

It should be noted that over two hour elapsed between the continuing calibration verification (CCV) samples CCV1 and CCV2 analyzed in the ICP metals analysis on 6/15/06. Validation actions were not required on this basis as the calibration standard frequency was met.

CRDL Standard Recoveries

The following table lists the recoveries which were outside the control limits of 70-130 in the low level standard and the resulting validation actions. The affected analyte level range was determined as 2x the CRDL standard level analyzed due to differences between the reported laboratory QL and the low level standard levels analyzed.

Analyte	Recovery (%)	Associated Samples	Actions
Mercury	150	STRI-ST14-MWDD05	Validation actions were not required as the affected result was nondetect and therefore not affected by the potential high bias.

Blank Analysis Results

The following table summarizes the metals laboratory blank contamination associated ICP samples STRI-ST14-MWDD05 and STRI-ST14-MWDD05 Dis and mercury sample STRI-ST14-MWDD05 only.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Aluminum	Instrument	35.8 ug/L	358 ug/L	(U) at RL STRI-ST14-MWDD05
Antimony	Instrument	3.5 ug/L	35 ug/L	No validation actions required
Barium	Instrument	-3.9 ug/L	-39 ug/L	No validation actions required
Beryllium	Instrument	0.3 ug/L	3.0 ug/L	No validation actions required
Cadmium	Method	-2.1 ug/L	-21ug/L	(UJ) STRI-ST14-MWDD05 and STRI-ST14-MWDD05 Dis
Calcium	Instrument	20 ug/L	200 ug/L	No validation actions required
Cobalt	Instrument	-1.6 ug/L	-16 ug/L	(J) STRI-ST14-MWDD05 and STRI-ST14-MWDD05 Dis
Magnesium	Instrument	60.2 ug/L	602 ug/L	No validation actions required
Manganese	Instrument	-2.1ug/L	-21 ug/L	No validation actions required
Mercury 6/12/06	Instrument	0.17 ug/L -0.19 ug/L	1.7 ug/L -1.9 ug/L	(UJ) STRI-ST14-MWDD05
Potassium	Instrument	673 ug/L	6730 ug/L	No validation actions required
Sodium	Instrument	2893 ug/L	28930 ug/L	No validation actions required
Thallium	Method	-9.8 ug/L	-98 ug/L	(UJ) STRI-ST14-MWDD05 and STRI-ST14-MWDD05 Dis
Vanadium	Instrument	1.9 ug/L	19 ug/L	(U) at RL STRI-ST14-MWDD05 and STRI-ST14-MWDD05 Dis
Zinc	Instrument	-6.3 ug/L	-63 ug/L	Estimate (UJ) STRI-ST14-MWDD05 and STRI-ST14-MWDD05 Dis

The following table summarizes the metals laboratory blank contamination associated with samples STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis .

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Aluminum	Instrument	14.1 ug/L	141 ug/L	(U) at RL STRI-ST14-MW10, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis
Antimony	Instrument	11.7 ug/L	117 ug/L	(U) at RL STRI-ST14-MWDD03, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis
Arsenic	Instrument	4.2 ug/L	42 ug/L	(U) at RL STRI-ST14-MWD05 and STRI-BGOO-MWS07 Estimate (J) STRI-ST14-MWDD03
Barium	Instrument Method	10.2 ug/L -3.3 ug/L	102 ug/L -33 ug/L	(U) at RL STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-BGOO-MWD07 Dis
Beryllium	Instrument	0.7 ug/L	7.0 ug/L	(U) at RL STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis
Cadmium	Instrument	2.2 ug/L -2.1 ug/L	22 ug/L -2.1 ug/L	(U) at RL STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis Estimate (UJ) all associated samples
Calcium	Instrument	11.3 ug/L -4.5 ug/L	113 ug/L -45 ug/L	No validation actions required
Chromium	Instrument	1.9 ug/L	19 ug/L	(U) at RL STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, and STRI-BGOO-MWD07 Dis Estimate (J) STRI-ST14-MWDD03

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Cobalt	Instrument Method	2.9 ug/L -1.1 ug/L	29 ug/L -11 ug/L	(U) at RL STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis Estimate (UJ) all associated samples
Lead	Instrument	-4.5 ug/L	-45 ug/L	Estimate (J/UJ) STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis
Magnesium	Method	49.8 ug/L	498 ug/L	No validation actions required
Manganese	Instrument Method	2.8 ug/L -2.0 ug/L	28 ug/L -20 ug/L	No validation actions required
Mercury 6/15/06	Instrument	0.04 ug/L	0.40 ug/L	(U) at RL STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD05 Dis Estimate (J) STRI-ST19-MWD05
Nickel	Instrument	2.1 ug/L	21 ug/L	(U) at RL STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis
Potassium	Method	596 ug/L	5960 ug/L	No validation actions required
Silver	Instrument	3.6 ug/L	36 ug/L	(U) at RL STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis
Sodium	Method	2540 ug/L	25400 ug/L	No validation actions required

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Thallium	Method	-9.8 ug/L	-98 ug/L	Estimate (J/UJ) STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis
Vanadium	Instrument	4.2 ug/L	42 ug/L	(U) at the RL STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis
Zinc	Method	-6.0 ug/L	-60 ug/L	Estimate (J/UJ) STRI-ST14-MWD05, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis.

The following table summarizes the metals laboratory blank contamination associated with the field blank samples STRI-GWS-FB and STRI-GWS-FB Dis.

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Aluminum	Instrument	14.1 ug/L	141 ug/L	(U) at RL STRI-GWS-FB
Antimony	Instrument	11.7 ug/L	117 ug/L	(U) at RL STRI-GWS-FB
Arsenic	Instrument	4.2 ug/L	42 ug/L	No validation actions required
Barium	Instrument Method	10.2 ug/L -3.3 ug/L	102 ug/L -33 ug/L	(U) at RL STRI-GWS-FB and STRI-GWS-FB Dis Estimate (UJ) STRI-GWS-FB
Beryllium	Instrument	0.7 ug/L	7.0 ug/L	(U) at RL STRI-GWS-FB and STRI-GWS-FB Dis
Cadmium	Instrument	2.2 ug/L -2.1 ug/L	22 ug/L -2.1 ug/L	(U) at RL STRI-GWS-FB and STRI-GWS-FB Dis Estimate (UJ) STRI-GWS-FB and STRI-GWS-FB Dis

Analyte	Type of Blank	Maximum Concentration	10X Blank Level	Validation Actions
Calcium	Instrument	11.3 ug/L -4.5 ug/L	113 ug/L -45 ug/L	Estimate (J) STRI-GWS-FB
Chromium	Instrument	1.9 ug/L	19 ug/L	(U) at RL STRI-GWS-FB Dis
Cobalt	Instrument Method	2.9 ug/L -1.1 ug/L	2.9 ug/L -11 ug/L	(U) at RL STRI-GWS-FB and STRI-GWS-FB Dis Estimate (UJ) STRI-GWS-FB and STRI-GWS-FB Dis
Lead	Instrument	-4.5 ug/L	-45 ug/L	No validation actions required
Magnesium	Method	49.8 ug/L	498 ug/L	(U) at RL STRI-GWS-FB Dis
Manganese	Instrument Method	2.8 ug/L -2.0 ug/L	28 ug/L -20 ug/L	(U) at RL STRI-GWS-FB and STRI-GWS-FB Dis Estimate (UJ) STRI-GWS-FB and STRI-GWS-FB Dis
Mercury 6/15/06	Instrument	0.04 ug/L	0.40 ug/L	No validation actions required
Nickel	Instrument	2.1 ug/L	21 ug/L	No validation actions required
Potassium	Method	596 ug/L	5960 ug/L	No validation actions required
Silver	Instrument	3.6 ug/L	36 ug/L	(U) at RL STRI-GWS-FB and STRI-GWS-FB Dis
Sodium	Method	2540 ug/L	25400 ug/L	(U) at RL STRI-GWS-FB and STRI-GWS-FB Dis
Thallium	Method	-9.8 ug/L	-98 ug/L	No validation actions required
Vanadium	Instrument	4.2 ug/L	42 ug/L	(U) at RL STRI-GWS-FB and STRI-GWS-FB Dis
Zinc	Method	-6.0 ug/L	-60 ug/L	Estimate (J) STRI-GWS-FB and STRI-GWS-FB Dis

The laboratory instrument blank results for aluminum, antimony, barium, beryllium, cadmium, cobalt, manganese, silver, sodium, and vanadium were greater than the total field blank contamination levels detected. The positive results for aluminum, antimony, barium, beryllium, cadmium, cobalt, manganese, silver, sodium, and vanadium in the total field blank sample were qualified as nondetect and not used to assess possible field blank contamination.

The laboratory instrument blank results for barium, beryllium, cadmium, chromium, cobalt,

analysis associated with samples STRI-ST14-MWDD05 and STRI-ST14-MWDD05 Dis. Positive results for barium, beryllium, cadmium, cobalt, copper, nickel, potassium, sodium, vanadium, and zinc and negative results for antimony, silver, thallium, and lead were observed in the ICSA solution analysis associated with samples STRI-ST14-MWD05, STRI-ST14-MW10, STRI-ST14-MWDD03, STRI-ST14-MW36, STRI-BGOO-MWS07, STRI-BGOO-MWD07, STRI-ST19-MWD05, STRI-ST14-MWD05 Dis, STRI-ST14-MWDD03 Dis, STRI-ST14-MW36 Dis, and STRI-BGOO-MWD07 Dis.

The levels of interferents in samples were reviewed. Magnesium or calcium were present in samples STRI-ST14-MWDD03 (143%), STRI-ST14-MW36 (120%), STRI-ST14-MWDD03 Dis (126%), and STRI-ST14-MW36 Dis (128%) at greater than that of the level in the ICSA solution. The following table lists the estimated interferences and the resulting validation actions.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
STRI-ST14-MWDD03	Antimony	ND	-16.3	Interference < ½ QL; no action taken.
	Barium	364	15.3	Interference <10% sample level; no action taken.
	Beryllium	ND	0.9	Validation action was not required.
	Cadmium	ND	1.2	Validation action was not required.
	Cobalt	ND	5.6	Validation action was not required.
	Copper	15.3	14.9	Estimate (J) the positive result for copper.
	Nickel	ND	26.9	Validation action was not required.
	Potassium	197000	240	Interference <10% sample level; no action taken.
	Silver	ND	-3.6	Interference < ½ QL; no action taken.
	Sodium	3520000	1137	Interference <10% sample level; no action taken.
	Vanadium	ND	18	Validation action was not required.
	Zinc	52.8	56.9	Estimate (J) the positive result for zinc.
	Thallium	ND	-13	Estimate (UJ) the nondetect result for thallium.
	Lead	3.3	-4.0	Estimate (J) the positive result for lead.
STRI-ST14-MW36	Antimony	ND	-13.7	Interference < ½ QL; no action taken.
	Barium	302	12.8	Interference <10% sample level; no action taken.
	Beryllium	ND	0.74	Validation action was not required.
	Cadmium	ND	1.0	Validation action was not required.
	Cobalt	ND	4.7	Validation action was not required.
	Copper	8.4	12.5	Estimate (J) the positive result for copper.
	Nickel	ND	22.6	Validation action was not required.
	Potassium	18400	202	Interference <10% sample level; no action taken.
	Silver	ND	-3.0	Interference < ½ QL; no action taken.
	Sodium	58100	954	Interference <10% sample level; no action taken.
	Vanadium	ND	15.1	Validation action was not required.
	Zinc	38.6	47.8	Estimate (J) the positive result for zinc.
	Thallium	ND	-10.9	Estimate (UJ) the nondetect result for thallium.
	Lead	68.2	-3.4	Interference <10% sample level; no action taken.

Sample	Analyte	Sample Result (ug/L)	Estimated Interference (ug/L)	Actions
STRI-ST14-MWDD03 Dis	Antimony	ND	-14.4	Interference < ½ QL; no action taken.
	Barium	295	13.5	Interference <10% sample level; no action taken.
	Beryllium	ND	0.78	Validation action was not required.
	Cadmium	ND	1.1	Validation action was not required.
	Cobalt	ND	4.9	Validation action was not required.
	Copper	ND	13.1	Validation action was not required.
	Nickel	ND	23.7	Validation action was not required.
	Potassium	193000	212	Interference <10% sample level; no action taken.
	Silver	ND	-3.2	Interference < ½ QL; no action taken.
	Sodium	3070000	1002	Interference <10% sample level; no action taken.
	Vanadium	ND	15.9	Validation action was not required.
	Zinc	ND	50.1	Validation action was not required.
	Thallium	ND	-11.5	Estimate (UJ) the nondetect result for thallium.
	Lead	ND	-3.5	Estimate (UJ) the nondetect result for lead.
STRI-ST14-MW36 Dis	Antimony	ND	-14.6	Interference < ½ QL; no action taken.
	Barium	269	13.7	Interference <10% sample level; no action taken.
	Beryllium	ND	0.80	Validation action was not required.
	Cadmium	ND	1.1	Validation action was not required.
	Cobalt	ND	5.0	Validation action was not required.
	Copper	4.7	13.3	Estimate (J) the positive result for copper.
	Nickel	ND	24.1	Validation action was not required.
	Potassium	20100	215	Interference <10% sample level; no action taken.
	Silver	ND	-3.2	Interference < ½ QL; no action taken.
	Sodium	65400	1018	Interference <10% sample level; no action taken.
	Vanadium	ND	16.1	Validation action was not required.
	Zinc	32.2	50.9	Estimate (J) the positive result for zinc.
	Thallium	ND	-11.6	Estimate (UJ) the nondetect result for thallium.
	Lead	ND	-3.6	Estimate (UJ) the nondetect result for lead.

MS Results

The MS/MSD analyses were performed on samples STRI-ST14-MWDD05 and STRI-ST14-MWDD04 Dis for metals and cyanide. All criteria were met.

Laboratory Duplicate Results

The laboratory duplicate analyses were performed on samples STRI-ST14-MWDD05 and STRI-ST14-MWDD04 Dis for metals and cyanide. All criteria were met.

Field Duplicate Results

A field duplicate pair was not associated with this sample set.

LCS Results

All criteria were met in the metals and wet chemistry analyses.

ICP Serial Dilution (ISD) Analysis Results

The serial dilutions were performed on samples STRI-ST14-MWDD05 and STRI-ST14-MWDD04 Dis for metals. The following table lists the analytes which exhibited %Ds above the control limit of 10 and the resulting validation actions.

Analyte	ISD Sample	%D	Actions
Barium	STRI-ST14-MWDD05 Dis	10.1	Estimate (J/UJ) the positive and nondetect results for barium in all dissolved metals samples.
Calcium	STRI-ST14-MWDD05 Dis	15.7	Estimate (J/UJ) the positive and nondetect results for calcium in all dissolved metals samples.
Magnesium	STRI-ST14-MWDD05 Dis	14.8	Estimate (J/UJ) the positive and nondetect results for magnesium in all dissolved metals samples.
Calcium	STRI-ST14-MWDD05	14.1	Estimate (J/UJ) the positive and nondetect results for calcium in all total metals samples.
Magnesium	STRI-ST14-MWDD05	14.4	Estimate (J/UJ) the positive and nondetect results for magnesium in all total metals samples.

Comparison of Total and Dissolved Metals

The following table lists the analytes in which the dissolved metals result exceeded that of the total metals by more than 10%.

Sample	Analyte	%D	Actions
STRI-ST14-MWDD05	Barium Calcium Magnesium Potassium Sodium	16.2 18.0 19.1 18.7 19.2	Estimate (J) the positive results for barium, calcium, magnesium, potassium, and sodium in samples STRI-ST14-MWDD05 and STRI-ST14-MWDD05 Dis.
STRI-ST14-MWD05	Magnesium	10.1	Estimate (J) the positive results for magnesium in samples STRI-ST14-MWD05 and STRI-ST14-MWD05 Dis.

Sample	Analyte	%D	Actions
STRI-ST14-MW36	Chromium Sodium	NC 12.6	Estimate (J/UJ) the positive and results for chromium and sodium in samples STRI-ST14-MW36 and STRI-ST14-MW36 Dis.
STRI-BGOO-MWD07	Potassium Zinc	11.6 NC	Estimate (J/UJ) the positive and results for potassium and zinc in samples STRI-BGOO-MWD07 and STRI-BGOO-MWD07 Dis.

NC - Not calculable as one result was nondetect

Detection Limits Results

A 10-fold dilution was performed for sample STRI-ST14-MWDD03 due to high levels of sodium and potassium. A 10-fold dilution was performed for sample STRI-ST14-MWDD03 Dis due to the high levels of sodium. The results of both analyses were combined by the validator in order to report all results within the calibration range and with the lowest possible quantitation limits.

Positive results which were above the MDL but below the RL were flagged by the laboratory with a "J". This result was qualified as estimated (J) due to uncertainty at the low end of calibration:

Aluminum:	STRI-GWS-FB Dis
Antimony:	STRI-GWS-FB Dis
Arsenic:	STRI-ST14-MWDD05 Dis
Calcium:	STRI-GWS-FB, STRI-GWS-FB Dis
Chromium:	STRI-GWS-FB, STRI-ST14-MWDD05 Dis
Cobalt:	STRI-ST14-MWDD05, STRI-ST14-MWDD05 Dis
Copper:	STRI-ST14-MWD05, STRI-ST14-MWDDO3, STRI-ST14-MW36, STRI-BGOO-MWD07, STRI-ST14-MWDD05 dis, STRI-ST14-MWD05 dis, STRI-ST14-MW36 dis, STRI-BGOO-MWD07 dis
Mercury:	STRI-GWS-FB Dis
Lead:	STRI-ST14-MWDDO3
Nickel:	STRI-ST14-MWDD05
Zinc:	STRI-GWS-FB

Sample Quantitation Results

Sample calculations were spot-checked; no discrepancies were noted in the metals and cyanide results.

Although the total cyanide was detected at a low level in samples STRI-ST14-MWDD03 and STRI-BGOO-MWS07, the laboratory did not submit the amenable cyanide analysis for this sample. The nondetect results for amenable cyanide in samples STRI-ST14-MWDD03 and STRI-BGOO-MWS07 were estimated (UJ) due to lack of data submitted.

Data Usability Summary Report

Project: Stuyvesent
Laboratory: Air Toxics, LTD., Folsom, CA
Report No.: 0603437
Reviewer: Lisa McDonagh/GEI Consultants
Date: May 22, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
IA1E14-1	0603437-01A	Modified TO-15
IA2E14-1	0603437-02A	Modified TO-15
IA3E14-1	0603437-03A	Modified TO-15
IA4E14-1	0603437-04A	Modified TO-15
IA5E14-1	0603437-05A	Modified TO-15
IA6E14-1	0603437-06A	Modified TO-15
IA7E14-1	0603437-07A	Modified TO-15
IA10E14-1	0603437-08A	Modified TO-15
AMB-2	0603437-09A	Modified TO-15
AMB-4	0603437-10A	Modified TO-15
ST19SV01	0603437-11A	Modified TO-15, D1945
ST17SV01	0603437-12A	Modified TO-15, D1945
ST17SV02	0603437-13A	Modified TO-15, D1945
ST17SV02Duplicate(LAB)	0603437-14A	Modified TO-15, D1945
ST17SV04	0603437-15A	Modified TO-15, D1945

Associated QC Samples: Field/Trip Blanks: none
Field Duplicate pair: IA6E14-1/IA10E14-1

The above listed samples were collected on March 16, 2006 and were analyzed for volatile organic compounds (VOCs) by modified EPA Method TO-15 and natural gas analysis by modified ASTM D-1945. The data validation was based on the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, January 2005 and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data modified to accommodate the EPA Method TO-15 and natural gas analysis by ASTM D-1945.

The organic data were evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times and Sample Preservation
*	•	Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
*	•	Initial and Continuing Calibrations
*	•	Blanks
*	•	Surrogate Recoveries
NA	•	Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
*	•	Internal Standards
	•	Laboratory Control Sample (LCS) Results
*	•	Laboratory Duplicate Results
*	•	Field Duplicate Results
	•	Quantitation Limits and Data Assessment
*	•	Sample Quantitation and Compound Identification

* - All criteria were met.

All results are usable for project objectives.

Qualifications were not applied to the data as a result of sampling error.
Qualifications were applied to the data as a result of analytical error.

- The following nondetect TO-15 results were qualified as estimated (UJ) due to LCS recovery which was below control limits: trans-1,3-dichloropropene in all samples 0603437. The results may be biased low. The nondetect results can be used for project objectives as estimated quantitation limits. These qualifications may have a minor impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the modified EPA Method TO-15 and ASTM D-1945 analyses.

The Chain of Custody (COC) information for sample ST17SV01 did not match the entry on the sample tag with regard to sample identification. The discrepancy was noted in the Sample Receipt Confirmation email/fax and the information on the COC was used to process and the report the sample.

Holding Times and Sample Preservation

All criteria were met in the modified EPA Method TO-15 and ASTM D-1945 analyses.

GC/MS Tunes

All criteria were met in the modified EPA Method TO-15 analyses.

Initial and Continuing Calibrations

All criteria were met in the modified EPA Method TO-15 and ASTM D-1945 analyses.

Blanks

All criteria were met in the modified EPA Method TO-15 and ASTM D-1945 analyses.

Surrogate Recoveries

All criteria were met in the modified EPA Method TO-15 analyses.

Internal Standards

All criteria were met in the modified EPA Method TO-15 analyses.

LCS Results

All criteria were met in the modified ASTM D-1945 analyses.

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the modified EPA Method TO-15 analyses

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
trans-1,3-dichloropropene	59	70-130	IA1E14-1, IA2E14-1, IA3E14-1, IA4E14-1, IA5E14-1, IA6E14-1, IA7E14-1, IA10E14-1	Estimate (UJ) the nondetect results for trans-1,3-dichloropropene in the associated samples.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
trans-1,3-dichloropropene	58	70-130	AMB-2, AMB-4, ST19SV01, ST17SV01, ST17SV02, ST17SV02Dulicate, ST17SV04	Estimate (UJ) the nondetect results for trans-1,3-dichloropropene in the associated samples.

Laboratory Duplicate Results

Sample ST17SV04 was the ASTM D-1945 laboratory duplicate with this sample group. All criteria were met in the ASTM D-1945analyses.

Sample ST17SV02 was the modified EPA Method TO-15 laboratory duplicate with this sample group. All criteria were met in the modified EPA Method TO-15 analyses.

Samples ST17SV02 and ST17SV02Duplicate were the modified EPA Method TO-15 lab duplicate pair with this sample group. The following table summarizes the TO-15 RPDs of the detected analytes, which met criteria.

Analyte	ST17SV02 (ppbv)	ST17SV02Duplicate (ppbv)	RPD (%)
carbon disulfide	1.2	1.1	9
benzene	1.7	1.6	6
toluene	1.1	1.1	0
tetrachloroethene	1.8	1.7	6

NC - Not calculable
For air results > 5xQL and RPDs >30%; estimate (J) results in the lab duplicate pair.
For air results < 5xQL; the sample and duplicate results must be within QL.

Field Duplicate Results

Samples IA6E14-1 and IA10E14-1 were the modified EPA Method TO-15 field duplicate pair with this sample group. The following table summarizes the TO-15 RPDs of the detected analytes, which met criteria.

Analyte	IA6E14-1 (ppbv)	IA10E14-1 (ppbv)	RPD (%)
ethanol	13	14	7
toluene	2.7	2.3	16

NC - Not calculable
For air results > 5xQL and RPDs >30%; estimate (J) results in the field duplicate pair.
For air results < 5xQL; the sample and duplicate results must be within QL.

Quantitation Limits

The following tables list the sample dilutions which were performed and reported. Quantitation limits were elevated accordingly.

Sample	TO-15 Analysis/Dilution Factor
IA1E14-1	1.75
IA2E14-1	1.75
IA3E14-1	1.39
IA4E14-1	1.68
IA5E14-1	1.75
IA6E14-1	2.68
IA7E14-1	1.75
IA10E14-1	2.68
AMB-2	1.61
AMB-4	1.49
ST19SV01	1.75
ST17SV01	1.75
ST17SV02	1.68

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Sample	TO-15 Analysis/Dilution Factor
ST17SV02Dulicate	1.49
ST17SV04	1.79

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted.

Data Usability Summary Report

Project: Stuyvesent
Laboratory: Air Toxics, LTD., Folsom, CA
Report No.: 0603485
Reviewer: Lisa McDonagh/GEI Consultants
Date: May 22, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST14SG05	0603485-01A	Modified TO-15, D1945
ST14SG02	0603485-02A	Modified TO-15, D1945
ST14SG01	0603485-03A	Modified TO-15, D1945

Associated QC Samples: Field/Trip Blanks: none
Field Duplicate pair: ST14SG05/ST14SG01

The above listed samples were collected on March 17, 2006 and were analyzed for volatile organic compounds (VOCs) by modified EPA Method TO-15 and natural gas analysis by modified ASTM D-1945. The data validation was based on the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, January 2005 and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data modified to accommodate the EPA Method TO-15 and natural gas analysis by ASTM D-1945.

The organic data were evaluated based on the following parameters:

*	• Data Completeness
*	• Holding Times and Sample Preservation
*	• Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
*	• Initial and Continuing Calibrations
*	• Blanks
*	• Surrogate Recoveries
NA	• Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
*	• Internal Standards
	• Laboratory Control Sample (LCS) Results
	• Field Duplicate Results
	• Quantitation Limits and Data Assessment
*	• Sample Quantitation and Compound Identification

* - All criteria were met.

All results are usable for project objectives.

Qualifications were not applied to the data as a result of sampling error.
Qualifications were applied to the data as a result of analytical error.

- The following TO-15 nondetect results were qualified as estimated (UJ) due to LCS recoveries which were outside of the control limits: trans-1,3-dichloropropene in all samples 0603485. The nondetect results can be used for project objectives as estimated quantitation limits. These qualifications may have a minor impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the modified EPA Method TO-15 and ASTM D-1945 analyses.

Holding Times and Sample Preservation

All criteria were met in the modified EPA Method TO-15 and ASTM D-1945 analyses.

GC/MS Tunes

All criteria were met in the modified EPA Method TO-15 analyses.

Initial and Continuing Calibrations

All criteria were met in the modified EPA Method TO-15 and ASTM D-1945 analyses.

Blanks

All criteria were met in the modified EPA Method TO-15 and ASTM D-1945 analyses.

Surrogate Recoveries

All criteria were met in the modified EPA Method TO-15 analyses.

Internal Standards

All criteria were met in the modified EPA Method TO-15 analyses.

LCS Results

All criteria were met in the modified ASTM D-1945 analyses.

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the modified EPA Method TO-15 analyses

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
trans-1,3-dichloropropene	58	70-130	all samples 0603485	Estimate (UJ) the nondetect results for trans-1,3-dichloropropene in the associated samples.

Field Duplicate Results

Samples ST14SG05 and ST14SG01 were the modified EPA Method TO-15 and D-1945 field duplicate pair with this sample group. The following table summarizes the TO-15 RPDs of the detected analytes, which met criteria with the exception of ethanol, acetone, 2-propanol, chloroform, cyclohexane, 2,2,4-trimethylpentane, heptane, toluene, tetrachloroethene, m,p-xylene, o-xylene, propylbenzene, 1,3-butadiene, 2-butanone and helium.

Analyte	ST14SG05 (ppbv)	ST14SG01 (ppbv)	RPD (%)
freon12	1.6	1.9	17
ethanol	56	ND	NC
acetone	21	41	**64**
2-propanol	3.8	ND	NC
carbon disulfide	5.9	7.6	25
methyl tert-butyl ether	2.6	2.1	21
hexane	6.7	9.4	5
chloroform	1.2	24	**181**
cyclohexane	1.9	3.0	**45**
2,2,4,-trimethylpentane	3.4	4.7	**32**
benzene	8.1	9.4	15

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Analyte	ST14SG05 (ppbv)	ST14SG01 (ppbv)	RPD (%)
heptane	3.2	4.5	**34**
toluene	37	27	**31**
tetrachloroethene	3.2	36	**167**
ethylbenzene	4.3	3.2	29
m,p-xylene	16	9.5	**51**
o-xylene	4.9	3.5	**33**
propylbenzene	0.84	ND	**NC**
4-ethyltoluene	3.9	3.0	26
1,3,5-trimethylbenzene	1.8	2.1	15
1,2,4-trimethylbenzene	5.2	5.2	0
1,3-butadiene	ND	2.8	**NC**
2-butanone	ND	4.6	**NC**
helium	0.60	14	**183**

NC - Not calculable
For air results > 5xQL and RPDs >30%; estimate (J) results in the field duplicate pair.
For air results < 5xQL; the sample and duplicate results must be within QL.

Quantitation Limits

The following tables list the sample dilutions which were performed and reported. Quantitation limits were elevated accordingly.

Sample	TO-15 Analysis/Dilution Factor
ST14SG05	1.46
ST14SG02	1.79
ST14SG01	1.79

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted.

Data Usability Summary Report

Project: Stuyvesent
Laboratory: Air Toxics, LTD., Folsom, CA
Report No.: 0603662
Reviewer: Lisa McDonagh/GEI Consultants
Date: May 22, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST14SG01	0603662-01A	Modified TO-15, D1945
ST14SG01Duplicate	0603662-01AA	Modified TO-15, D1945

Associated QC Samples: Field/Trip Blanks: none
Field Duplicate pair: none

The above listed samples were collected on March 27, 2006 and were analyzed for volatile organic compounds (VOCs) by modified EPA Method TO-15 and natural gas analysis by modified ASTM D-1945. The data validation was based on the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, January 2005 and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data modified to accommodate the EPA Method TO-15 and natural gas analysis by ASTM D-1945.

The organic data were evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times and Sample Preservation
*	•	Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
*	•	Initial and Continuing Calibrations
*	•	Blanks
*	•	Surrogate Recoveries
NA	•	Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
*	•	Internal Standards
	•	Laboratory Control Sample (LCS) Results
*	•	Laboratory Duplicate Results

NA	•	Field Duplicate Results
	•	Quantitation Limits and Data Assessment
*	•	Sample Quantitation and Compound Identification

* - All criteria were met.

All results are usable for project objectives.

Qualifications were not applied to the data as a result of sampling error.
Qualifications were applied to the data as a result of analytical error.

- The following TO-15 nondetect results were qualified as estimated (UJ) due to LCS recoveries which were outside of the control limits: trans-1,3-dichloropropene in all samples 0603662. The nondetect results can be used for project objectives as estimated quantitation limits. These qualifications may have a minor impact on the data usability.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the modified EPA Method TO-15 and ASTM D-1945 analyses.

Holding Times and Sample Preservation

All criteria were met in the modified EPA Method TO-15 and ASTM D-1945 analyses.

GC/MS Tunes

All criteria were met in the modified EPA Method TO-15 analyses.

Initial and Continuing Calibrations

All criteria were met in the modified EPA Method TO-15 and ASTM D-1945 analyses.

Blanks

All criteria were met in the modified EPA Method TO-15 and ASTM D-1945 analyses.

Surrogate Recoveries

All criteria were met in the modified EPA Method TO-15 analyses.

Internal Standards

All criteria were met in the modified EPA Method TO-15 analyses.

LCS Results

All criteria were met in the modified ASTM D-1945 analyses.

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the modified EPA Method TO-15 analyses

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
trans-1,3-dichloropropene	56	70-130	all samples 0603662	Estimate (UJ) the nondetect results for trans-1,3-dichloropropene in the associated samples.

Lab Duplicate Results

All criteria were met in the modified ASTM D-1945 analyses.

Samples ST14SG01 was the modified EPA Method TO-15 lab duplicate with this sample group. The following table summarizes the TO-15 RPDs of the detected analytes, which met criteria.

Analyte	ST14SG01 (ppbv)	ST14SG01Duplicate (ppbv)	RPD (%)
acetone	39	42	7
carbon disulfide	240	250	4
methyl tert-butyl ether	4.4	4.8	9
hexane	170	180	6
2-butanone	6.1	6.0	2
chloroform	64	64	0
cyclohexane	24	25	4
benzene	41	41	0
heptane	130	140	7
toluene	140	140	0

Stuyvesent

Analyte	ST14SG01 (ppbv)	ST14SG01Duplicate (ppbv)	RPD (%)
tetrachloroethene	290	280	4
ethylbenzene	73	72	1
m,p-xylene	150	150	0
o-xylene	140	140	0
cumene	27	27	0
propylbenzene	66	66	0
4-ethyltoluene	190	190	0
1,3,5-trimethylbenzene	160	160	0
1,2,4-trimethylbenzene	200	200	0

NC - Not calculable
For air results > 5xQL and RPDs >30%; estimate (J) results in the lab duplicate pair.
For air results < 5xQL; the sample and duplicate results must be within QL.

Field Duplicate Results

Field duplicate samples were not submitted with 0603662.

Quantitation Limits

The following tables list the sample dilutions which were performed and reported. Quantitation limits were elevated accordingly.

Sample	TO-15 Analysis/Dilution Factor
ST14SG01	5.79
ST14SG01Duplicate	5.79

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted.

Data Usability Summary Report

Project: Stuyvesent
Laboratory: Air Toxics, LTD., Folsom, CA
Report No.: 0604167
Reviewer: Lisa McDonagh/GEI Consultants
Date: May 22, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST14SV04	0604167-01A	Modified TO-15, D1945
ST17SV05	0604167-02A	Modified TO-15, D1945
ST14SV05	0604167-03A	Modified TO-15, D1945
ST14SV03	0604167-04A	Modified TO-15, D1945

Associated QC Samples: Field/Trip Blanks: none
Field Duplicate pair: none

The above listed samples were collected on April 6, 2006 and were analyzed for volatile organic compounds (VOCs) by modified EPA Method TO-15 and natural gas analysis by modified ASTM D-1945. The data validation was based on the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, January 2005 and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data modified to accommodate the EPA Method TO-15 and natural gas analysis by ASTM D-1945.

The organic data were evaluated based on the following parameters:

*	• Data Completeness
*	• Holding Times and Sample Preservation
*	• Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
*	• Initial and Continuing Calibrations
*	• Blanks
*	• Surrogate Recoveries
NA	• Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
*	• Internal Standards
	• Laboratory Control Sample (LCS) Results

*	•	Laboratory Duplicate Results
*	•	Field Duplicate Results
	•	Quantitation Limits and Data Assessment
*	•	Sample Quantitation and Compound Identification

* - All criteria were met.

All results are usable for project objectives.

Qualifications were not applied to the data as a result of sampling error.
Qualifications were not applied to the data as a result of analytical error.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the modified EPA Method TO-15 and ASTM D-1945 analyses.

The date of sample collection noted on the Chain of Custody and on the sample tag appeared to be inaccurate by a factor of one month. The discrepancy was noted in the Sample Receipt Confirmation email/fax.

The Chain of Custody (COC) information for sample ST14SV04 did not match the information on the canister with regard to canister identification. The information on the canister was used to process and report the sample.

Holding Times and Sample Preservation

All criteria were met in the modified EPA Method TO-15 and ASTM D-1945 analyses.

GC/MS Tunes

All criteria were met in the modified EPA Method TO-15 analyses.

Initial and Continuing Calibrations

All criteria were met in the modified EPA Method TO-15 and ASTM D-1945 analyses.

Blanks

All criteria were met in the modified EPA Method TO-15 and ASTM D-1945 analyses.

Surrogate Recoveries

All criteria were met in the modified EPA Method TO-15 analyses.

Internal Standards

All criteria were met in the modified EPA Method TO-15 analyses.

LCS Results

All criteria were met in the modified ASTM D-1945 analyses.

The following table lists the compound recoveries found outside of the laboratory established control limits in the LCS analyses and the resultant actions in the modified EPA Method TO-15 analyses.

Compound	Recovery (%)	Control Limits	Associated Samples	Actions
alpha-chlorotoluene	131	70-130	all samples 0604167	Alpha-chlorotoluene not detected in the associated samples. Qualifications were not required.

Laboratory Duplicate Results

Samples ST14SV04 was the ASTM D-1945 laboratory duplicate pair with this sample group. All criteria were met in the ASTM D-1945analyses. Lab duplicate samples were not submitted with the modified EPA Method TO-15 analyses.

Field Duplicate Results

Field duplicate samples were not submitted with 0604167.

Quantitation Limits

The following tables list the sample dilutions which were performed and reported. Quantitation limits were elevated accordingly.

Sample	TO-15 Analysis/Dilution Factor
ST14SV04	2.17
ST17SV05	1.83
ST14SV05	1.87
ST14SV03	2.06

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted.

Stuyvesant

Data Usability Summary Report

Project: Stuyvesant Town
Laboratory: Air Toxics, LTD., Folsom, CA
Report No.: 0605513
Reviewer: Lisa McDonagh/GEI Consultants
Date: June 29, 2006

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
ST17SV06	0605513-01A	Modified TO-15, D1945
Associated QC Samples:	Field/Trip Blanks: none Field Duplicate pair: none	

The above listed sample was collected on May 9, 2006 and was analyzed for volatile organic compounds (VOCs) by modified EPA Method TO-15 and natural gas analysis by modified ASTM D-1945. The data validation was based on the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, January 2005 and the USEPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data modified to accommodate the EPA Method TO-15 and natural gas analysis by ASTM D-1945.

The organic data were evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times and Sample Preservation
*	•	Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
*	•	Initial and Continuing Calibrations
*	•	Blanks
*	•	Surrogate Recoveries
NA	•	Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
*	•	Internal Standards
*	•	Laboratory Control Sample (LCS) Results
*	•	Field Duplicate Results
	•	Quantitation Limits and Data Assessment
*	•	Sample Quantitation and Compound Identification

* - All criteria were met.

All results are usable for project objectives.

Qualifications were not applied to the data as a result of sampling error.
Qualifications were not applied to the data as a result of analytical error.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP Category B deliverables for the modified EPA Method TO-15 and ASTM D-1945 analyses.

Holding Times and Sample Preservation

All criteria were met in the modified EPA Method TO-15 and ASTM D-1945 analyses.

GC/MS Tunes

All criteria were met in the modified EPA Method TO-15 analyses.

Initial and Continuing Calibrations

All criteria were met in the modified EPA Method TO-15 and ASTM D-1945 analyses.

Blanks

All criteria were met in the modified EPA Method TO-15 and ASTM D-1945 analyses.

Surrogate Recoveries

All criteria were met in the modified EPA Method TO-15 analyses.

Internal Standards

All criteria were met in the modified EPA Method TO-15 analyses.

LCS Results

All criteria were met in the modified EPA Method TO-15 and ASTM D-1945 analyses.

Field Duplicate Results

Field duplicate samples were not submitted with 0605513.

Quantitation Limits

The following tables list the sample dilutions which were performed and reported. Quantitation limits were elevated accordingly.

Sample	TO-15 and D-1945 Analysis /Dilution Factor
ST17SV06	1.79

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted.

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV06

Lab ID#: 0605513A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.90	Not Detected	4.4	Not Detected
Freon 114	0.90	Not Detected	6.2	Not Detected
Chloromethane	3.6	Not Detected	7.4	Not Detected
Vinyl Chloride	0.90	Not Detected	2.3	Not Detected
1,3-Butadiene	0.90	Not Detected	2.0	Not Detected
Bromomethane	0.90	Not Detected	3.5	Not Detected
Chloroethane	0.90	Not Detected	2.4	Not Detected
Freon 11	0.90	Not Detected	5.0	Not Detected
Ethanol	3.6	6.9	6.7	13
Freon 113	0.90	Not Detected	6.8	Not Detected
1,1-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Acetone	3.6	25	8.5	59
2-Propanol	3.6	Not Detected	8.8	Not Detected
Carbon Disulfide	0.90	7.5	2.8	23
3-Chloropropene	3.6	Not Detected	11	Not Detected
Methylene Chloride	0.90	Not Detected	3.1	Not Detected
Methyl tert-butyl ether	0.90	Not Detected	3.2	Not Detected
trans-1,2-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Hexane	0.90	6.5	3.2	23
1,1-Dichloroethane	0.90	Not Detected	3.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.90	4.5	2.6	13
cis-1,2-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Tetrahydrofuran	0.90	Not Detected	2.6	Not Detected
Chloroform	0.90	1.6	4.4	7.6
1,1,1-Trichloroethane	0.90	Not Detected	4.9	Not Detected
Cyclohexane	0.90	1.4	3.1	4.9
Carbon Tetrachloride	0.90	Not Detected	5.6	Not Detected
2,2,4-Trimethylpentane	0.90	Not Detected	4.2	Not Detected
Benzene	0.90	3.4	2.8	11
1,2-Dichloroethane	0.90	Not Detected	3.6	Not Detected
Heptane	0.90	2.7	3.7	11
Trichloroethene	0.90	1.4	4.8	7.8
1,2-Dichloropropane	0.90	Not Detected	4.1	Not Detected
1,4-Dioxane	3.6	Not Detected	13	Not Detected
Bromodichloromethane	0.90	Not Detected	6.0	Not Detected
cis-1,3-Dichloropropene	0.90	Not Detected	4.1	Not Detected
4-Methyl-2-pentanone	0.90	Not Detected	3.7	Not Detected
Toluene	0.90	2.3	3.4	8.8
trans-1,3-Dichloropropene	0.90	Not Detected	4.1	Not Detected
1,1,2-Trichloroethane	0.90	Not Detected	4.9	Not Detected

EMM 6/29/06

0007

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Client Sample ID: ST17SV06

Lab ID#: 0605513A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.90	3.2	6.1	22
2-Hexanone	3.6	Not Detected	15	Not Detected
Dibromochloromethane	0.90	Not Detected	7.6	Not Detected
1,2-Dibromoethane (EDB)	0.90	Not Detected	6.9	Not Detected
Chlorobenzene	0.90	Not Detected	4.1	Not Detected
Ethyl Benzene	0.90	Not Detected	3.9	Not Detected
m,p-Xylene	0.90	Not Detected	3.9	Not Detected
o-Xylene	0.90	Not Detected	3.9	Not Detected
Styrene	0.90	Not Detected	3.8	Not Detected
Bromoform	0.90	Not Detected	9.2	Not Detected
Cumene	0.90	Not Detected	4.4	Not Detected
1,1,2,2-Tetrachloroethane	0.90	Not Detected	6.1	Not Detected
Propylbenzene	0.90	Not Detected	4.4	Not Detected
4-Ethyltoluene	0.90	Not Detected	4.4	Not Detected
1,3,5-Trimethylbenzene	0.90	Not Detected	4.4	Not Detected
1,2,4-Trimethylbenzene	0.90	Not Detected	4.4	Not Detected
1,3-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
1,4-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
alpha-Chlorotoluene	0.90	Not Detected	4.6	Not Detected
1,2-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
1,2,4-Trichlorobenzene	3.6	Not Detected	26	Not Detected
Hexachlorobutadiene	3.6	Not Detected	38	Not Detected
Naphthalene	3.6	Not Detected	19	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Thiophene	110-02-1	NA	Not Detected
Isopentane	78-78-4	78%	12 N J
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
2-Methylpentane	107-83-5	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	101	70-130

EHM 6/29/06

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Client Sample ID: ST17SV06

Lab ID#: 0605513B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

[redacted]

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.018	0.021

Container Type: 6 Liter Summa Canister

EHM
6/29/04

0007

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Client Sample ID: AMB-2

Lab ID#: 0603437A-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	032515	Date of Collection: 3/14/06
Dil. Factor:	1.61	Date of Analysis: 3/24/06 09:37 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.80	Not Detected	4.0	Not Detected
Freon 114	0.80	Not Detected	5.6	Not Detected
Chloromethane	3.2	Not Detected	6.6	Not Detected
Vinyl Chloride	0.80	Not Detected	2.0	Not Detected
1,3-Butadiene	0.80	Not Detected	1.8	Not Detected
Bromomethane	0.80	Not Detected	3.1	Not Detected
Chloroethane	0.80	Not Detected	2.1	Not Detected
Freon 11	0.80	Not Detected	4.5	Not Detected
Ethanol	3.2	3.5	6.1	6.6
Freon 113	0.80	Not Detected	6.2	Not Detected
1,1-Dichloroethene	0.80	Not Detected	3.2	Not Detected
Acetone	3.2	Not Detected	7.6	Not Detected
2-Propanol	3.2	Not Detected	7.9	Not Detected
Carbon Disulfide	0.80	Not Detected	2.5	Not Detected
3-Chloropropene	3.2	Not Detected	10	Not Detected
Methylene Chloride	0.80	Not Detected	2.8	Not Detected
Methyl tert-butyl ether	0.80	Not Detected	2.9	Not Detected
trans-1,2-Dichloroethene	0.80	Not Detected	3.2	Not Detected
Hexane	0.80	Not Detected	2.8	Not Detected
1,1-Dichloroethane	0.80	Not Detected	3.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.80	Not Detected	2.4	Not Detected
cis-1,2-Dichloroethene	0.80	Not Detected	3.2	Not Detected
Tetrahydrofuran	0.80	Not Detected	2.4	Not Detected
Chloroform	0.80	Not Detected	3.9	Not Detected
1,1,1-Trichloroethane	0.80	Not Detected	4.4	Not Detected
Cyclohexane	0.80	Not Detected	2.8	Not Detected
Carbon Tetrachloride	0.80	Not Detected	5.1	Not Detected
Benzene	0.80	Not Detected	2.6	Not Detected
1,2-Dichloroethane	0.80	Not Detected	3.2	Not Detected
Heptane	0.80	Not Detected	3.3	Not Detected
Trichloroethene	0.80	Not Detected	4.3	Not Detected
1,2-Dichloropropane	0.80	Not Detected	3.7	Not Detected
1,4-Dioxane	3.2	Not Detected	12	Not Detected
Bromodichloromethane	0.80	Not Detected	5.4	Not Detected
cis-1,3-Dichloropropene	0.80	Not Detected	3.6	Not Detected
4-Methyl-2-pentanone	0.80	Not Detected	3.3	Not Detected
Toluene	0.80	0.94	3.0	3.6
trans-1,3-Dichloropropene	0.80	Not Detected VJ	3.6	Not Detected UJ
1,1,2-Trichloroethane	0.80	Not Detected	4.4	Not Detected
Tetrachloroethene	0.80	Not Detected	5.5	Not Detected

EMM 5/22/06

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: AMB-2

Lab ID#: 0603437A-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	0603516	Date of Collection: 3/16/06
Dil. Factor:	1.61	Date of Analysis: 3/20/06 08:37 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.2	Not Detected	13	Not Detected
Dibromochloromethane	0.80	Not Detected	6.8	Not Detected
1,2-Dibromoethane (EDB)	0.80	Not Detected	6.2	Not Detected
Chlorobenzene	0.80	Not Detected	3.7	Not Detected
Ethyl Benzene	0.80	Not Detected	3.5	Not Detected
m,p-Xylene	0.80	Not Detected	3.5	Not Detected
o-Xylene	0.80	Not Detected	3.5	Not Detected
Styrene	0.80	Not Detected	3.4	Not Detected
Bromoform	0.80	Not Detected	8.3	Not Detected
Cumene	0.80	Not Detected	4.0	Not Detected
1,1,2,2-Tetrachloroethane	0.80	Not Detected	5.5	Not Detected
Propylbenzene	0.80	Not Detected	4.0	Not Detected
4-Ethyltoluene	0.80	Not Detected	4.0	Not Detected
1,3,5-Trimethylbenzene	0.80	Not Detected	4.0	Not Detected
1,2,4-Trimethylbenzene	0.80	Not Detected	4.0	Not Detected
1,3-Dichlorobenzene	0.80	Not Detected	4.8	Not Detected
1,4-Dichlorobenzene	0.80	Not Detected	4.8	Not Detected
alpha-Chlorotoluene	0.80	Not Detected	4.2	Not Detected
1,2-Dichlorobenzene	0.80	Not Detected	4.8	Not Detected
1,2,4-Trichlorobenzene	3.2	Not Detected	24	Not Detected
Hexachlorobutadiene	3.2	Not Detected	34	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
2,2,4-Trimethylpentane	540-84-1	NA	Not Detected
Thiophene	110-02-1	NA	Not Detected
Isopentane	78-78-4	NA	Not Detected
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
2-Methylpentane	107-83-5	NA	Not Detected
Naphthalene	91-20-3	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	107	70-130

EMM 5/22/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: AMB-4

Lab ID#: 0603437A-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: [illegible]	Date of Collection: 3/15/06
Dil. Factor: 1.48	Date of Analysis: 3/24/06 03:55 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.74	Not Detected	3.7	Not Detected
Freon 114	0.74	Not Detected	5.2	Not Detected
Chloromethane	3.0	Not Detected	6.2	Not Detected
Vinyl Chloride	0.74	Not Detected	1.9	Not Detected
1,3-Butadiene	0.74	Not Detected	1.6	Not Detected
Bromomethane	0.74	Not Detected	2.9	Not Detected
Chloroethane	0.74	Not Detected	2.0	Not Detected
Freon 11	0.74	Not Detected	4.2	Not Detected
Ethanol	3.0	3.2	5.6	6.0
Freon 113	0.74	Not Detected	5.7	Not Detected
1,1-Dichloroethene	0.74	Not Detected	3.0	Not Detected
Acetone	3.0	Not Detected	7.1	Not Detected
2-Propanol	3.0	Not Detected	7.3	Not Detected
Carbon Disulfide	0.74	Not Detected	2.3	Not Detected
3-Chloropropene	3.0	Not Detected	9.3	Not Detected
Methylene Chloride	0.74	Not Detected	2.6	Not Detected
Methyl tert-butyl ether	0.74	Not Detected	2.7	Not Detected
trans-1,2-Dichloroethene	0.74	Not Detected	3.0	Not Detected
Hexane	0.74	Not Detected	2.6	Not Detected
1,1-Dichloroethane	0.74	Not Detected	3.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.74	Not Detected	2.2	Not Detected
cis-1,2-Dichloroethene	0.74	Not Detected	3.0	Not Detected
Tetrahydrofuran	0.74	Not Detected	2.2	Not Detected
Chloroform	0.74	Not Detected	3.6	Not Detected
1,1,1-Trichloroethane	0.74	Not Detected	4.1	Not Detected
Cyclohexane	0.74	Not Detected	2.6	Not Detected
Carbon Tetrachloride	0.74	Not Detected	4.7	Not Detected
Benzene	0.74	Not Detected	2.4	Not Detected
1,2-Dichloroethane	0.74	Not Detected	3.0	Not Detected
Heptane	0.74	Not Detected	3.0	Not Detected
Trichloroethene	0.74	Not Detected	4.0	Not Detected
1,2-Dichloropropane	0.74	Not Detected	3.4	Not Detected
1,4-Dioxane	3.0	Not Detected	11	Not Detected
Bromodichloromethane	0.74	Not Detected	5.0	Not Detected
cis-1,3-Dichloropropene	0.74	Not Detected	3.4	Not Detected
4-Methyl-2-pentanone	0.74	Not Detected	3.0	Not Detected
Toluene	0.74	Not Detected	2.8	Not Detected
trans-1,3-Dichloropropene	0.74	Not Detected UJ	3.4	Not Detected UJ
1,1,2-Trichloroethane	0.74	Not Detected	4.1	Not Detected
Tetrachloroethene	0.74	Not Detected	5.0	Not Detected

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AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: AMB-4

Lab ID#: 0603437A-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	Released	Date of Collection: 3/15/06
Dil. Factor:	1.49	Date of Analysis: 3/22/06 12:58 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.0	Not Detected	12	Not Detected
Dibromochloromethane	0.74	Not Detected	6.3	Not Detected
1,2-Dibromoethane (EDB)	0.74	Not Detected	5.7	Not Detected
Chlorobenzene	0.74	Not Detected	3.4	Not Detected
Ethyl Benzene	0.74	Not Detected	3.2	Not Detected
m,p-Xylene	0.74	Not Detected	3.2	Not Detected
o-Xylene	0.74	Not Detected	3.2	Not Detected
Styrene	0.74	Not Detected	3.2	Not Detected
Bromoform	0.74	Not Detected	7.7	Not Detected
Cumene	0.74	Not Detected	3.7	Not Detected
1,1,2,2-Tetrachloroethane	0.74	Not Detected	5.1	Not Detected
Propylbenzene	0.74	Not Detected	3.7	Not Detected
4-Ethyltoluene	0.74	Not Detected	3.7	Not Detected
1,3,5-Trimethylbenzene	0.74	Not Detected	3.7	Not Detected
1,2,4-Trimethylbenzene	0.74	Not Detected	3.7	Not Detected
1,3-Dichlorobenzene	0.74	Not Detected	4.5	Not Detected
1,4-Dichlorobenzene	0.74	Not Detected	4.5	Not Detected
alpha-Chlorotoluene	0.74	Not Detected	3.8	Not Detected
1,2-Dichlorobenzene	0.74	Not Detected	4.5	Not Detected
1,2,4-Trichlorobenzene	3.0	Not Detected	22	Not Detected
Hexachlorobutadiene	3.0	Not Detected	32	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
2,2,4-Trimethylpentane	540-84-1	NA	Not Detected
Thiophene	110-02-1	NA	Not Detected
Isopentane	78-78-4	NA	Not Detected
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
2-Methylpentane	107-83-5	NA	Not Detected
Naphthalene	91-20-3	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	100	70-130

EHM 5/22/06

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA1E14-1

Lab ID#: 0603437A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	0512603	Date of Collection: 5/16/06
Dil. Factor:	1.75	Date of Analysis: 5/25/06 03:21 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.88	9.1	4.3	45
Freon 114	0.88	Not Detected	6.1	Not Detected
Chloromethane	3.5	Not Detected	7.2	Not Detected
Vinyl Chloride	0.88	Not Detected	2.2	Not Detected
1,3-Butadiene	0.88	Not Detected	1.9	Not Detected
Bromomethane	0.88	Not Detected	3.4	Not Detected
Chloroethane	0.88	Not Detected	2.3	Not Detected
Freon 11	0.88	Not Detected	4.9	Not Detected
Ethanol	3.5	20	6.6	37
Freon 113	0.88	Not Detected	6.7	Not Detected
1,1-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Acetone	3.5	7.2	8.3	17
2-Propanol	3.5	Not Detected	8.6	Not Detected
Carbon Disulfide	0.88	Not Detected	2.7	Not Detected
3-Chloropropene	3.5	Not Detected	11	Not Detected
Methylene Chloride	0.88	Not Detected	3.0	Not Detected
Methyl tert-butyl ether	0.88	Not Detected	3.2	Not Detected
trans-1,2-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Hexane	0.88	Not Detected	3.1	Not Detected
1,1-Dichloroethane	0.88	Not Detected	3.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.88	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected
Chloroform	0.88	Not Detected	4.3	Not Detected
1,1,1-Trichloroethane	0.88	Not Detected	4.8	Not Detected
Cyclohexane	0.88	Not Detected	3.0	Not Detected
Carbon Tetrachloride	0.88	Not Detected	5.5	Not Detected
Benzene	0.88	Not Detected	2.8	Not Detected
1,2-Dichloroethane	0.88	Not Detected	3.5	Not Detected
Heptane	0.88	Not Detected	3.6	Not Detected
Trichloroethene	0.88	Not Detected	4.7	Not Detected
1,2-Dichloropropane	0.88	Not Detected	4.0	Not Detected
1,4-Dioxane	3.5	Not Detected	13	Not Detected
Bromodichloromethane	0.88	Not Detected	5.9	Not Detected
cis-1,3-Dichloropropene	0.88	Not Detected	4.0	Not Detected
4-Methyl-2-pentanone	0.88	Not Detected	3.6	Not Detected
Toluene	0.88	Not Detected	3.3	Not Detected
trans-1,3-Dichloropropene	0.88	Not Detected UJ	4.0	Not Detected UJ
1,1,2-Trichloroethane	0.88	Not Detected	4.8	Not Detected
Tetrachloroethene	0.88	Not Detected	5.9	Not Detected

EMM 5/31/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA1E14-1

Lab ID#: 0603437A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	[illegible]	Date of Collection: 5/16/06
Dil. Factor:	1.75	Date of Analysis: 5/22/06 07:51 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.5	Not Detected	14	Not Detected
Dibromochloromethane	0.88	Not Detected	7.4	Not Detected
1,2-Dibromoethane (EDB)	0.88	Not Detected	6.7	Not Detected
Chlorobenzene	0.88	Not Detected	4.0	Not Detected
Ethyl Benzene	0.88	Not Detected	3.8	Not Detected
m,p-Xylene	0.88	Not Detected	3.8	Not Detected
o-Xylene	0.88	Not Detected	3.8	Not Detected
Styrene	0.88	Not Detected	3.7	Not Detected
Bromoform	0.88	Not Detected	9.0	Not Detected
Cumene	0.88	Not Detected	4.3	Not Detected
1,1,2,2-Tetrachloroethane	0.88	Not Detected	6.0	Not Detected
Propylbenzene	0.88	Not Detected	4.3	Not Detected
4-Ethyltoluene	0.88	Not Detected	4.3	Not Detected
1,3,5-Trimethylbenzene	0.88	Not Detected	4.3	Not Detected
1,2,4-Trimethylbenzene	0.88	Not Detected	4.3	Not Detected
1,3-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
1,4-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
alpha-Chlorotoluene	0.88	Not Detected	4.5	Not Detected
1,2-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
1,2,4-Trichlorobenzene	3.5	Not Detected	26	Not Detected
Hexachlorobutadiene	3.5	Not Detected	37	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
2,2,4-Trimethylpentane	540-84-1	NA	Not Detected
Thiophene	110-02-1	NA	Not Detected
Butane, 2-methyl-	78-78-4	80%	6.2 N J
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
2-Methylpentane	107-83-5	NA	Not Detected
Naphthalene	91-20-3	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	102	70-130

EMM 5/22/06

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA2E14-1

Lab ID#: 0603437A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: [illegible]	Date of Collection: 3/16/06
Dil. Factor: 1.75	Date of Analysis: 3/24/06 04:15 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.88	Not Detected	4.3	Not Detected
Freon 114	0.88	Not Detected	6.1	Not Detected
Chloromethane	3.5	Not Detected	7.2	Not Detected
Vinyl Chloride	0.88	Not Detected	2.2	Not Detected
1,3-Butadiene	0.88	Not Detected	1.9	Not Detected
Bromomethane	0.88	Not Detected	3.4	Not Detected
Chloroethane	0.88	Not Detected	2.3	Not Detected
Freon 11	0.88	Not Detected	4.9	Not Detected
Ethanol	3.5	20	6.6	38
Freon 113	0.88	Not Detected	6.7	Not Detected
1,1-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Acetone	3.5	4.4	8.3	10
2-Propanol	3.5	Not Detected	8.6	Not Detected
Carbon Disulfide	0.88	Not Detected	2.7	Not Detected
3-Chloropropene	3.5	Not Detected	11	Not Detected
Methylene Chloride	0.88	Not Detected	3.0	Not Detected
Methyl tert-butyl ether	0.88	Not Detected	3.2	Not Detected
trans-1,2-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Hexane	0.88	Not Detected	3.1	Not Detected
1,1-Dichloroethane	0.88	Not Detected	3.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.88	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected
Chloroform	0.88	Not Detected	4.3	Not Detected
1,1,1-Trichloroethane	0.88	Not Detected	4.8	Not Detected
Cyclohexane	0.88	Not Detected	3.0	Not Detected
Carbon Tetrachloride	0.88	Not Detected	5.5	Not Detected
Benzene	0.88	0.88	2.8	2.8
1,2-Dichloroethane	0.88	Not Detected	3.5	Not Detected
Heptane	0.88	Not Detected	3.6	Not Detected
Trichloroethene	0.88	Not Detected	4.7	Not Detected
1,2-Dichloropropane	0.88	Not Detected	4.0	Not Detected
1,4-Dioxane	3.5	Not Detected	13	Not Detected
Bromodichloromethane	0.88	Not Detected	5.9	Not Detected
cis-1,3-Dichloropropene	0.88	Not Detected	4.0	Not Detected
4-Methyl-2-pentanone	0.88	Not Detected	3.6	Not Detected
Toluene	0.88	10	3.3	39
trans-1,3-Dichloropropene	0.88	Not Detected UJ	4.0	Not Detected UJ
1,1,2-Trichloroethane	0.88	Not Detected	4.8	Not Detected
Tetrachloroethene	0.88	Not Detected	5.9	Not Detected

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EMM 5/22/06

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA2E14-1

Lab ID#: 0603437A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	[illegible]	Date of Collection: [illegible]
Dil. Factor:	1.15	Date of Analysis: [illegible]

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.5	Not Detected	14	Not Detected
Dibromochloromethane	0.88	Not Detected	7.4	Not Detected
1,2-Dibromoethane (EDB)	0.88	Not Detected	6.7	Not Detected
Chlorobenzene	0.88	Not Detected	4.0	Not Detected
Ethyl Benzene	0.88	Not Detected	3.8	Not Detected
m,p-Xylene	0.88	0.90	3.8	3.9
o-Xylene	0.88	Not Detected	3.8	Not Detected
Styrene	0.88	Not Detected	3.7	Not Detected
Bromoform	0.88	Not Detected	9.0	Not Detected
Cumene	0.88	Not Detected	4.3	Not Detected
1,1,2,2-Tetrachloroethane	0.88	Not Detected	6.0	Not Detected
Propylbenzene	0.88	Not Detected	4.3	Not Detected
4-Ethyltoluene	0.88	Not Detected	4.3	Not Detected
1,3,5-Trimethylbenzene	0.88	Not Detected	4.3	Not Detected
1,2,4-Trimethylbenzene	0.88	Not Detected	4.3	Not Detected
1,3-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
1,4-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
alpha-Chlorotoluene	0.88	Not Detected	4.5	Not Detected
1,2-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
1,2,4-Trichlorobenzene	3.5	Not Detected	26	Not Detected
Hexachlorobutadiene	3.5	Not Detected	37	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
2,2,4-Trimethylpentane	540-84-1	NA	Not Detected
Thiophene	110-02-1	NA	Not Detected
Isopentane	78-78-4	NA	Not Detected
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
2-Methylpentane	107-83-5	NA	Not Detected
Naphthalene	91-20-3	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	100	70-130

EMM 5/22/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA3E14-1

Lab ID#: 0603437A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.70	Not Detected	3.4	Not Detected
Freon 114	0.70	Not Detected	4.8	Not Detected
Chloromethane	2.8	Not Detected	5.7	Not Detected
Vinyl Chloride	0.70	Not Detected	1.8	Not Detected
1,3-Butadiene	0.70	Not Detected	1.5	Not Detected
Bromomethane	0.70	Not Detected	2.7	Not Detected
Chloroethane	0.70	Not Detected	1.8	Not Detected
Freon 11	0.70	Not Detected	3.9	Not Detected
Ethanol	2.8	19	5.2	36
Freon 113	0.70	Not Detected	5.3	Not Detected
1,1-Dichloroethene	0.70	Not Detected	2.8	Not Detected
Acetone	2.8	6.5	6.6	15
2-Propanol	2.8	Not Detected	6.8	Not Detected
Carbon Disulfide	0.70	Not Detected	2.2	Not Detected
3-Chloropropene	2.8	Not Detected	8.7	Not Detected
Methylene Chloride	0.70	Not Detected	2.4	Not Detected
Methyl tert-butyl ether	0.70	Not Detected	2.5	Not Detected
trans-1,2-Dichloroethene	0.70	Not Detected	2.8	Not Detected
Hexane	0.70	Not Detected	2.4	Not Detected
1,1-Dichloroethane	0.70	Not Detected	2.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.70	0.74	2.0	2.2
cis-1,2-Dichloroethene	0.70	Not Detected	2.8	Not Detected
Tetrahydrofuran	0.70	Not Detected	2.0	Not Detected
Chloroform	0.70	Not Detected	3.4	Not Detected
1,1,1-Trichloroethane	0.70	Not Detected	3.8	Not Detected
Cyclohexane	0.70	Not Detected	2.4	Not Detected
Carbon Tetrachloride	0.70	Not Detected	4.4	Not Detected
Benzene	0.70	Not Detected	2.2	Not Detected
1,2-Dichloroethane	0.70	Not Detected	2.8	Not Detected
Heptane	0.70	Not Detected	2.8	Not Detected
Trichloroethene	0.70	Not Detected	3.7	Not Detected
1,2-Dichloropropane	0.70	Not Detected	3.2	Not Detected
1,4-Dioxane	2.8	Not Detected	10	Not Detected
Bromodichloromethane	0.70	Not Detected	4.6	Not Detected
cis-1,3-Dichloropropene	0.70	Not Detected	3.2	Not Detected
4-Methyl-2-pentanone	0.70	Not Detected	2.8	Not Detected
Toluene	0.70	2.2	2.6	8.4
trans-1,3-Dichloropropene	0.70	Not Detected VJ	3.2	Not Detected VJ
1,1,2-Trichloroethane	0.70	Not Detected	3.8	Not Detected
Tetrachloroethene	0.70	Not Detected	4.7	Not Detected

EMM 5/22/06

0037

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA3E14-1

Lab ID#: 0603437A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	[illegible]	Date of Collection: [illegible]
Dil. Factor:	1.38	Date of Analysis: [illegible]

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	2.8	Not Detected	11	Not Detected
Dibromochloromethane	0.70	Not Detected	5.9	Not Detected
1,2-Dibromoethane (EDB)	0.70	Not Detected	5.3	Not Detected
Chlorobenzene	0.70	Not Detected	3.2	Not Detected
Ethyl Benzene	0.70	Not Detected	3.0	Not Detected
m,p-Xylene	0.70	Not Detected	3.0	Not Detected
o-Xylene	0.70	Not Detected	3.0	Not Detected
Styrene	0.70	Not Detected	3.0	Not Detected
Bromoform	0.70	Not Detected	7.2	Not Detected
Cumene	0.70	Not Detected	3.4	Not Detected
1,1,2,2-Tetrachloroethane	0.70	Not Detected	4.8	Not Detected
Propylbenzene	0.70	Not Detected	3.4	Not Detected
4-Ethyltoluene	0.70	Not Detected	3.4	Not Detected
1,3,5-Trimethylbenzene	0.70	Not Detected	3.4	Not Detected
1,2,4-Trimethylbenzene	0.70	Not Detected	3.4	Not Detected
1,3-Dichlorobenzene	0.70	Not Detected	4.2	Not Detected
1,4-Dichlorobenzene	0.70	Not Detected	4.2	Not Detected
alpha-Chlorotoluene	0.70	Not Detected	3.6	Not Detected
1,2-Dichlorobenzene	0.70	Not Detected	4.2	Not Detected
1,2,4-Trichlorobenzene	2.8	Not Detected	21	Not Detected
Hexachlorobutadiene	2.8	Not Detected	30	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
2,2,4-Trimethylpentane	540-84-1	NA	Not Detected
Thiophene	110-02-1	NA	Not Detected
Isopentane	78-78-4	NA	Not Detected
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
2-Methylpentane	107-83-5	NA	Not Detected
Naphthalene	91-20-3	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	101	70-130

EMM 5/22/06

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA4E14-1

Lab ID#: 0603437A-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	[illegible]	Date of Collection: [illegible]
Dil. Factor:	[illegible]	Date of Analysis: [illegible]

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.84	Not Detected	4.2	Not Detected
Freon 114	0.84	Not Detected	5.9	Not Detected
Chloromethane	3.4	Not Detected	6.9	Not Detected
Vinyl Chloride	0.84	Not Detected	2.1	Not Detected
1,3-Butadiene	0.84	Not Detected	1.8	Not Detected
Bromomethane	0.84	Not Detected	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.84	Not Detected	4.7	Not Detected
Ethanol	3.4	34	6.3	65
Freon 113	0.84	Not Detected	6.4	Not Detected
1,1-Dichloroethene	0.84	Not Detected	3.3	Not Detected
Acetone	3.4	5.3	8.0	13
2-Propanol	3.4	4.3	8.2	11
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	3.4	Not Detected	10	Not Detected
Methylene Chloride	0.84	Not Detected	2.9	Not Detected
Methyl tert-butyl ether	0.84	Not Detected	3.0	Not Detected
trans-1,2-Dichloroethene	0.84	Not Detected	3.3	Not Detected
Hexane	0.84	0.92	3.0	3.2
1,1-Dichloroethane	0.84	Not Detected	3.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	Not Detected	2.5	Not Detected
cis-1,2-Dichloroethene	0.84	Not Detected	3.3	Not Detected
Tetrahydrofuran	0.84	Not Detected	2.5	Not Detected
Chloroform	0.84	Not Detected	4.1	Not Detected
1,1,1-Trichloroethane	0.84	Not Detected	4.6	Not Detected
Cyclohexane	0.84	Not Detected	2.9	Not Detected
Carbon Tetrachloride	0.84	Not Detected	5.3	Not Detected
Benzene	0.84	0.92	2.7	2.9
1,2-Dichloroethane	0.84	Not Detected	3.4	Not Detected
Heptane	0.84	Not Detected	3.4	Not Detected
Trichloroethene	0.84	Not Detected	4.5	Not Detected
1,2-Dichloropropane	0.84	Not Detected	3.9	Not Detected
1,4-Dioxane	3.4	Not Detected	12	Not Detected
Bromodichloromethane	0.84	Not Detected	5.6	Not Detected
cis-1,3-Dichloropropene	0.84	Not Detected	3.8	Not Detected
4-Methyl-2-pentanone	0.84	Not Detected	3.4	Not Detected
Toluene	0.84	8.3	3.2	31
trans-1,3-Dichloropropene	0.84	Not Detected UJ	3.8	Not Detected UJ
1,1,2-Trichloroethane	0.84	Not Detected	4.6	Not Detected
Tetrachloroethene	0.84	Not Detected	5.7	Not Detected

EMM 5/22/06

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA4E14-1

Lab ID#: 0603437A-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.4	Not Detected	14	Not Detected
Dibromochloromethane	0.84	Not Detected	7.2	Not Detected
1,2-Dibromoethane (EDB)	0.84	Not Detected	6.4	Not Detected
Chlorobenzene	0.84	Not Detected	3.9	Not Detected
Ethyl Benzene	0.84	Not Detected	3.6	Not Detected
m,p-Xylene	0.84	1.3	3.6	5.6
o-Xylene	0.84	Not Detected	3.6	Not Detected
Styrene	0.84	Not Detected	3.6	Not Detected
Bromoform	0.84	Not Detected	8.7	Not Detected
Cumene	0.84	Not Detected	4.1	Not Detected
1,1,2,2-Tetrachloroethane	0.84	Not Detected	5.8	Not Detected
Propylbenzene	0.84	Not Detected	4.1	Not Detected
4-Ethyltoluene	0.84	Not Detected	4.1	Not Detected
1,3,5-Trimethylbenzene	0.84	Not Detected	4.1	Not Detected
1,2,4-Trimethylbenzene	0.84	Not Detected	4.1	Not Detected
1,3-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
1,4-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
alpha-Chlorotoluene	0.84	Not Detected	4.3	Not Detected
1,2-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
1,2,4-Trichlorobenzene	3.4	Not Detected	25	Not Detected
Hexachlorobutadiene	3.4	Not Detected	36	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
2,2,4-Trimethylpentane	540-84-1	NA	Not Detected
Thiophene	110-02-1	NA	Not Detected
Butane, 2-methyl-	78-78-4	86%	8.7 N J
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
2-Methylpentane	107-83-5	NA	Not Detected
Naphthalene	91-20-3	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	100	70-130

EMM 5/22/06

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA5E14-1

Lab ID#: 0603437A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	[illegible]	Date of Collection: 5/16/06
Dil. Factor:	1.75	Date of Analysis: 5/22/06 [illegible]

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.88	Not Detected	4.3	Not Detected
Freon 114	0.88	Not Detected	6.1	Not Detected
Chloromethane	3.5	Not Detected	7.2	Not Detected
Vinyl Chloride	0.88	Not Detected	2.2	Not Detected
1,3-Butadiene	0.88	Not Detected	1.9	Not Detected
Bromomethane	0.88	Not Detected	3.4	Not Detected
Chloroethane	0.88	Not Detected	2.3	Not Detected
Freon 11	0.88	Not Detected	4.9	Not Detected
Ethanol	3.5	27	6.6	50
Freon 113	0.88	Not Detected	6.7	Not Detected
1,1-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Acetone	3.5	4.2	8.3	10
2-Propanol	3.5	5.0	8.6	12
Carbon Disulfide	0.88	Not Detected	2.7	Not Detected
3-Chloropropene	3.5	Not Detected	11	Not Detected
Methylene Chloride	0.88	Not Detected	3.0	Not Detected
Methyl tert-butyl ether	0.88	Not Detected	3.2	Not Detected
trans-1,2-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Hexane	0.88	Not Detected	3.1	Not Detected
1,1-Dichloroethane	0.88	Not Detected	3.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.88	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected
Chloroform	0.88	Not Detected	4.3	Not Detected
1,1,1-Trichloroethane	0.88	Not Detected	4.8	Not Detected
Cyclohexane	0.88	Not Detected	3.0	Not Detected
Carbon Tetrachloride	0.88	Not Detected	5.5	Not Detected
Benzene	0.88	Not Detected	2.8	Not Detected
1,2-Dichloroethane	0.88	Not Detected	3.5	Not Detected
Heptane	0.88	Not Detected	3.6	Not Detected
Trichloroethene	0.88	Not Detected	4.7	Not Detected
1,2-Dichloropropane	0.88	Not Detected	4.0	Not Detected
1,4-Dioxane	3.5	Not Detected	13	Not Detected
Bromodichloromethane	0.88	Not Detected	5.9	Not Detected
cis-1,3-Dichloropropene	0.88	Not Detected	4.0	Not Detected
4-Methyl-2-pentanone	0.88	Not Detected	3.6	Not Detected
Toluene	0.88	2.5	3.3	9.6
trans-1,3-Dichloropropene	0.88	Not Detected VJ	4.0	Not Detected VJ
1,1,2-Trichloroethane	0.88	Not Detected	4.8	Not Detected
Tetrachloroethene	0.88	Not Detected	5.9	Not Detected

EMM 5/22/06

0069

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA5E14-1

Lab ID#: 0603437A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	[illegible]	Date of Collection:	[illegible]
Dil. Factor:	1.75	Date of Analysis:	[illegible]

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.5	Not Detected	14	Not Detected
Dibromochloromethane	0.88	Not Detected	7.4	Not Detected
1,2-Dibromoethane (EDB)	0.88	Not Detected	6.7	Not Detected
Chlorobenzene	0.88	Not Detected	4.0	Not Detected
Ethyl Benzene	0.88	Not Detected	3.8	Not Detected
m,p-Xylene	0.88	Not Detected	3.8	Not Detected
o-Xylene	0.88	Not Detected	3.8	Not Detected
Styrene	0.88	Not Detected	3.7	Not Detected
Bromoform	0.88	Not Detected	9.0	Not Detected
Cumene	0.88	Not Detected	4.3	Not Detected
1,1,2,2-Tetrachloroethane	0.88	Not Detected	6.0	Not Detected
Propylbenzene	0.88	Not Detected	4.3	Not Detected
4-Ethyltoluene	0.88	Not Detected	4.3	Not Detected
1,3,5-Trimethylbenzene	0.88	Not Detected	4.3	Not Detected
1,2,4-Trimethylbenzene	0.88	Not Detected	4.3	Not Detected
1,3-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
1,4-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
alpha-Chlorotoluene	0.88	Not Detected	4.5	Not Detected
1,2-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
1,2,4-Trichlorobenzene	3.5	Not Detected	26	Not Detected
Hexachlorobutadiene	3.5	Not Detected	37	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
2,2,4-Trimethylpentane	540-84-1	NA	Not Detected
Thiophene	110-02-1	NA	Not Detected
Isopentane	78-78-4	NA	Not Detected
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
2-Methylpentane	107-83-5	NA	Not Detected
Naphthalene	91-20-3	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	99	70-130

EHM 5/22/06

0070

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA6E14-1

Lab ID#: 0603437A-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	060522r12	Date of Collection: 3/16/06
Dil. Factor:	2.55	Date of Analysis: 3/23/06 01:16 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	1.3	Not Detected	6.6	Not Detected
Freon 114	1.3	Not Detected	9.4	Not Detected
Chloromethane	5.4	Not Detected	11	Not Detected
Vinyl Chloride	1.3	Not Detected	3.4	Not Detected
1,3-Butadiene	1.3	Not Detected	3.0	Not Detected
Bromomethane	1.3	Not Detected	5.2	Not Detected
Chloroethane	1.3	Not Detected	3.5	Not Detected
Freon 11	1.3	Not Detected	7.5	Not Detected
Ethanol	5.4	13	10	24
Freon 113	1.3	Not Detected	10	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.3	Not Detected
Acetone	5.4	Not Detected	13	Not Detected
2-Propanol	5.4	Not Detected	13	Not Detected
Carbon Disulfide	1.3	Not Detected	4.2	Not Detected
3-Chloropropene	5.4	Not Detected	17	Not Detected
Methylene Chloride	1.3	Not Detected	4.6	Not Detected
Methyl tert-butyl ether	1.3	Not Detected	4.8	Not Detected
trans-1,2-Dichloroethene	1.3	Not Detected	5.3	Not Detected
Hexane	1.3	Not Detected	4.7	Not Detected
1,1-Dichloroethane	1.3	Not Detected	5.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.3	Not Detected	4.0	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.3	Not Detected
Tetrahydrofuran	1.3	Not Detected	4.0	Not Detected
Chloroform	1.3	Not Detected	6.5	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	7.3	Not Detected
Cyclohexane	1.3	Not Detected	4.6	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.4	Not Detected
Benzene	1.3	Not Detected	4.3	Not Detected
1,2-Dichloroethane	1.3	Not Detected	5.4	Not Detected
Heptane	1.3	Not Detected	5.5	Not Detected
Trichloroethene	1.3	Not Detected	7.2	Not Detected
1,2-Dichloropropane	1.3	Not Detected	6.2	Not Detected
1,4-Dioxane	5.4	Not Detected	19	Not Detected
Bromodichloromethane	1.3	Not Detected	9.0	Not Detected
cis-1,3-Dichloropropene	1.3	Not Detected	6.1	Not Detected
4-Methyl-2-pentanone	1.3	Not Detected	5.5	Not Detected
Toluene	1.3	2.7	5.0	10
trans-1,3-Dichloropropene	1.3	Not Detected UJ	6.1	Not Detected UJ
1,1,2-Trichloroethane	1.3	Not Detected	7.3	Not Detected
Tetrachloroethene	1.3	Not Detected	9.1	Not Detected

EMM 5/22/06

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA6E14-1

Lab ID#: 0603437A-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	060519	Date of Collection: 5/16/06	
Dil. Factor:	2.56	Date of Analysis: 5/22/06 10:16 PM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	5.4	Not Detected	22	Not Detected
Dibromochloromethane	1.3	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.3	Not Detected	10	Not Detected
Chlorobenzene	1.3	Not Detected	6.2	Not Detected
Ethyl Benzene	1.3	Not Detected	5.8	Not Detected
m,p-Xylene	1.3	Not Detected	5.8	Not Detected
o-Xylene	1.3	Not Detected	5.8	Not Detected
Styrene	1.3	Not Detected	5.7	Not Detected
Bromoform	1.3	Not Detected	14	Not Detected
Cumene	1.3	Not Detected	6.6	Not Detected
1,1,2,2-Tetrachloroethane	1.3	Not Detected	9.2	Not Detected
Propylbenzene	1.3	Not Detected	6.6	Not Detected
4-Ethyltoluene	1.3	Not Detected	6.6	Not Detected
1,3,5-Trimethylbenzene	1.3	Not Detected	6.6	Not Detected
1,2,4-Trimethylbenzene	1.3	Not Detected	6.6	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	8.0	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	8.0	Not Detected
alpha-Chlorotoluene	1.3	Not Detected	6.9	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	8.0	Not Detected
1,2,4-Trichlorobenzene	5.4	Not Detected	40	Not Detected
Hexachlorobutadiene	5.4	Not Detected	57	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
2,2,4-Trimethylpentane	540-84-1	NA	Not Detected
Thiophene	110-02-1	NA	Not Detected
Butane, 2-methyl-	78-78-4	10%	12 N J
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
2-Methylpentane	107-83-5	NA	Not Detected
Naphthalene	91-20-3	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	102	70-130

EMM 5/22/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA10E14-1

Lab ID#: 0603437A-08A

Field duplicate of IA6E14-1

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	060317	Date of Collection: 3/7/06
Dil. Factor:	2.55	Date of Analysis: 3/18/06 [9:37 PM]

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Freon 12	1.3	Not Detected	6.6	Not Detected	
Freon 114	1.3	Not Detected	9.4	Not Detected	
Chloromethane	5.4	Not Detected	11	Not Detected	
Vinyl Chloride	1.3	Not Detected	3.4	Not Detected	
1,3-Butadiene	1.3	Not Detected	3.0	Not Detected	
Bromomethane	1.3	Not Detected	5.2	Not Detected	
Chloroethane	1.3	Not Detected	3.5	Not Detected	
Freon 11	1.3	Not Detected	7.5	Not Detected	
Ethanol	5.4	14	10	27	
Freon 113	1.3	Not Detected	10	Not Detected	
1,1-Dichloroethene	1.3	Not Detected	5.3	Not Detected	
Acetone	5.4	Not Detected	13	Not Detected	
2-Propanol	5.4	Not Detected	13	Not Detected	
Carbon Disulfide	1.3	Not Detected	4.2	Not Detected	
3-Chloropropene	5.4	Not Detected	17	Not Detected	
Methylene Chloride	1.3	Not Detected	4.6	Not Detected	
Methyl tert-butyl ether	1.3	Not Detected	4.8	Not Detected	
trans-1,2-Dichloroethene	1.3	Not Detected	5.3	Not Detected	
Hexane	1.3	Not Detected	4.7	Not Detected	
1,1-Dichloroethane	1.3	Not Detected	5.4	Not Detected	
2-Butanone (Methyl Ethyl Ketone)	1.3	Not Detected	4.0	Not Detected	
cis-1,2-Dichloroethene	1.3	Not Detected	5.3	Not Detected	
Tetrahydrofuran	1.3	Not Detected	4.0	Not Detected	
Chloroform	1.3	Not Detected	6.5	Not Detected	
1,1,1-Trichloroethane	1.3	Not Detected	7.3	Not Detected	
Cyclohexane	1.3	Not Detected	4.6	Not Detected	
Carbon Tetrachloride	1.3	Not Detected	8.4	Not Detected	
Benzene	1.3	Not Detected	4.3	Not Detected	
1,2-Dichloroethane	1.3	Not Detected	5.4	Not Detected	
Heptane	1.3	Not Detected	5.5	Not Detected	
Trichloroethene	1.3	Not Detected	7.2	Not Detected	
1,2-Dichloropropane	1.3	Not Detected	6.2	Not Detected	
1,4-Dioxane	5.4	Not Detected	19	Not Detected	
Bromodichloromethane	1.3	Not Detected	9.0	Not Detected	
cis-1,3-Dichloropropene	1.3	Not Detected	6.1	Not Detected	
4-Methyl-2-pentanone	1.3	Not Detected	5.5	Not Detected	
Toluene	1.3	2.3	5.0	8.8	
trans-1,3-Dichloropropene	1.3	Not Detected	6.1	Not Detected	UJ
1,1,2-Trichloroethane	1.3	Not Detected	7.3	Not Detected	
Tetrachloroethene	1.3	Not Detected	9.1	Not Detected	

EMM 5/22/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA10E14-1

field duplicate of IA6E14-1

Lab ID#: 0603437A-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	060525r5	Date of Collection: 5/19/06
Dil. Factor:	2.55	Date of Analysis: 5/25/06 07:27 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	5.4	Not Detected	22	Not Detected
Dibromochloromethane	1.3	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.3	Not Detected	10	Not Detected
Chlorobenzene	1.3	Not Detected	6.2	Not Detected
Ethyl Benzene	1.3	Not Detected	5.8	Not Detected
m,p-Xylene	1.3	Not Detected	5.8	Not Detected
o-Xylene	1.3	Not Detected	5.8	Not Detected
Styrene	1.3	Not Detected	5.7	Not Detected
Bromoform	1.3	Not Detected	14	Not Detected
Cumene	1.3	Not Detected	6.6	Not Detected
1,1,2,2-Tetrachloroethane	1.3	Not Detected	9.2	Not Detected
Propylbenzene	1.3	Not Detected	6.6	Not Detected
4-Ethyltoluene	1.3	Not Detected	6.6	Not Detected
1,3,5-Trimethylbenzene	1.3	Not Detected	6.6	Not Detected
1,2,4-Trimethylbenzene	1.3	Not Detected	6.6	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	8.0	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	8.0	Not Detected
alpha-Chlorotoluene	1.3	Not Detected	6.9	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	8.0	Not Detected
1,2,4-Trichlorobenzene	5.4	Not Detected	40	Not Detected
Hexachlorobutadiene	5.4	Not Detected	57	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
2,2,4-Trimethylpentane	540-84-1	NA	Not Detected
Thiophene	110-02-1	NA	Not Detected
Butane, 2-methyl-	78-78-4	10%	9.3 N J
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
2-Methylpentane	107-83-5	NA	Not Detected
Naphthalene	91-20-3	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	103	70-130

EMM 5/22/06

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA7E14-1

Lab ID#: 0603437A-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: [illegible] Date of Collection: 3/16/06
Dil. Factor: 1.76 Date of Analysis: 3/22/06 01:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.88	Not Detected	4.3	Not Detected
Freon 114	0.88	Not Detected	6.1	Not Detected
Chloromethane	3.5	Not Detected	7.2	Not Detected
Vinyl Chloride	0.88	Not Detected	2.2	Not Detected
1,3-Butadiene	0.88	Not Detected	1.9	Not Detected
Bromomethane	0.88	Not Detected	3.4	Not Detected
Chloroethane	0.88	Not Detected	2.3	Not Detected
Freon 11	0.88	Not Detected	4.9	Not Detected
Ethanol	3.5	130	6.6	240
Freon 113	0.88	Not Detected	6.7	Not Detected
1,1-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Acetone	3.5	8.2	8.3	19
2-Propanol	3.5	4.7	8.6	12
Carbon Disulfide	0.88	Not Detected	2.7	Not Detected
3-Chloropropene	3.5	Not Detected	11	Not Detected
Methylene Chloride	0.88	Not Detected	3.0	Not Detected
Methyl tert-butyl ether	0.88	Not Detected	3.2	Not Detected
trans-1,2-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Hexane	0.88	Not Detected	3.1	Not Detected
1,1-Dichloroethane	0.88	Not Detected	3.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.88	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected
Chloroform	0.88	Not Detected	4.3	Not Detected
1,1,1-Trichloroethane	0.88	Not Detected	4.8	Not Detected
Cyclohexane	0.88	Not Detected	3.0	Not Detected
Carbon Tetrachloride	0.88	Not Detected	5.5	Not Detected
Benzene	0.88	Not Detected	2.8	Not Detected
1,2-Dichloroethane	0.88	Not Detected	3.5	Not Detected
Heptane	0.88	Not Detected	3.6	Not Detected
Trichloroethene	0.88	Not Detected	4.7	Not Detected
1,2-Dichloropropane	0.88	Not Detected	4.0	Not Detected
1,4-Dioxane	3.5	Not Detected	13	Not Detected
Bromodichloromethane	0.88	Not Detected	5.9	Not Detected
cis-1,3-Dichloropropene	0.88	Not Detected	4.0	Not Detected
4-Methyl-2-pentanone	0.88	Not Detected	3.6	Not Detected
Toluene	0.88	2.9	3.3	11
trans-1,3-Dichloropropene	0.88	Not Detected UJ	4.0	Not Detected UJ
1,1,2-Trichloroethane	0.88	Not Detected	4.8	Not Detected
Tetrachloroethene	0.88	Not Detected	5.9	Not Detected

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EMM 5/22/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: IA7E14-1

Lab ID#: 0603437A-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	060525r6	Date of Collection:	5/18/06
Dil. Factor:	1.75	Date of Analysis:	5/24/06 12:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.5	Not Detected	14	Not Detected
Dibromochloromethane	0.88	Not Detected	7.4	Not Detected
1,2-Dibromoethane (EDB)	0.88	Not Detected	6.7	Not Detected
Chlorobenzene	0.88	Not Detected	4.0	Not Detected
Ethyl Benzene	0.88	Not Detected	3.8	Not Detected
m,p-Xylene	0.88	1.2	3.8	5.3
o-Xylene	0.88	Not Detected	3.8	Not Detected
Styrene	0.88	Not Detected	3.7	Not Detected
Bromoform	0.88	Not Detected	9.0	Not Detected
Cumene	0.88	Not Detected	4.3	Not Detected
1,1,2,2-Tetrachloroethane	0.88	Not Detected	6.0	Not Detected
Propylbenzene	0.88	Not Detected	4.3	Not Detected
4-Ethyltoluene	0.88	Not Detected	4.3	Not Detected
1,3,5-Trimethylbenzene	0.88	Not Detected	4.3	Not Detected
1,2,4-Trimethylbenzene	0.88	Not Detected	4.3	Not Detected
1,3-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
1,4-Dichlorobenzene	0.88	10	5.3	62
alpha-Chlorotoluene	0.88	Not Detected	4.5	Not Detected
1,2-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
1,2,4-Trichlorobenzene	3.5	Not Detected	26	Not Detected
Hexachlorobutadiene	3.5	Not Detected	37	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
2,2,4-Trimethylpentane	540-84-1	NA	Not Detected
Thiophene	110-02-1	NA	Not Detected
Butane, 2-methyl-	78-78-4	72%	5.5 N J
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
2-Methylpentane	107-83-5	NA	Not Detected
Naphthalene	91-20-3	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	103	70-130

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AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SG01

Lab ID#: 0603485A-03A

MODIFIED EPA METHOD TO-15 GCMS FULL SCAN

[redacted]

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.90	1.9	4.4	9.3
Freon 114	0.90	Not Detected	6.2	Not Detected
Chloromethane	3.6	Not Detected	7.4	Not Detected
Vinyl Chloride	0.90	Not Detected	2.3	Not Detected
1,3-Butadiene	0.90	2.8 J	2.0	6.2 J
Bromomethane	0.90	Not Detected	3.5	Not Detected
Chloroethane	0.90	Not Detected	2.4	Not Detected
Freon 11	0.90	Not Detected	5.0	Not Detected
Ethanol	3.6	Not Detected UJ	6.7	Not Detected UJ
Freon 113	0.90	Not Detected	6.8	Not Detected
1,1-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Acetone	3.6	41 J	8.5	97 J
2-Propanol	3.6	Not Detected UJ	8.8	Not Detected UJ
Carbon Disulfide	0.90	7.6	2.8	24
3-Chloropropene	3.6	Not Detected	11	Not Detected
Methylene Chloride	0.90	Not Detected	3.1	Not Detected
Methyl tert-butyl ether	0.90	2.1	3.2	7.5
trans-1,2-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Hexane	0.90	9.4	3.2	33
1,1-Dichloroethane	0.90	Not Detected	3.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.90	4.6 J	2.6	14 J
cis-1,2-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Tetrahydrofuran	0.90	Not Detected	2.6	Not Detected
Chloroform	0.90	24 J	4.4	120 J
1,1,1-Trichloroethane	0.90	Not Detected	4.9	Not Detected
Cyclohexane	0.90	3.0 J	3.1	10 J
Carbon Tetrachloride	0.90	Not Detected	5.6	Not Detected
2,2,4-Trimethylpentane	0.90	4.7 J	4.2	22 J
Benzene	0.90	9.4	2.8	30
1,2-Dichloroethane	0.90	Not Detected	3.6	Not Detected
Heptane	0.90	4.5 J	3.7	18 J
Trichloroethene	0.90	Not Detected	4.8	Not Detected
1,2-Dichloropropane	0.90	Not Detected	4.1	Not Detected
1,4-Dioxane	3.6	Not Detected	13	Not Detected
Bromodichloromethane	0.90	Not Detected	6.0	Not Detected
cis-1,3-Dichloropropene	0.90	Not Detected	4.1	Not Detected
4-Methyl-2-pentanone	0.90	Not Detected	3.7	Not Detected
Toluene	0.90	27 J	3.4	100 J
trans-1,3-Dichloropropene	0.90	Not Detected UJ	4.1	Not Detected UJ
1,1,2-Trichloroethane	0.90	Not Detected	4.9	Not Detected

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AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SG01

Lab ID#: 0603485A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.90	36 J	6.1	240 J
2-Hexanone	3.6	Not Detected	15	Not Detected
Dibromochloromethane	0.90	Not Detected	7.6	Not Detected
1,2-Dibromoethane (EDB)	0.90	Not Detected	6.9	Not Detected
Chlorobenzene	0.90	Not Detected	4.1	Not Detected
Ethyl Benzene	0.90	3.2	3.9	14
m,p-Xylene	0.90	9.5 J	3.9	41 J
o-Xylene	0.90	3.5 J	3.9	15 J
Styrene	0.90	Not Detected	3.8	Not Detected
Bromoform	0.90	Not Detected	9.2	Not Detected
Cumene	0.90	Not Detected	4.4	Not Detected
1,1,2,2-Tetrachloroethane	0.90	Not Detected	6.1	Not Detected
Propylbenzene	0.90	Not Detected UJ	4.4	Not Detected UJ
4-Ethyltoluene	0.90	3.0	4.4	15
1,3,5-Trimethylbenzene	0.90	2.1	4.4	10
1,2,4-Trimethylbenzene	0.90	5.2	4.4	26
1,3-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
1,4-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
alpha-Chlorotoluene	0.90	Not Detected	4.6	Not Detected
1,2-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
1,2,4-Trichlorobenzene	3.6	Not Detected	26	Not Detected
Hexachlorobutadiene	3.6	Not Detected	38	Not Detected
Naphthalene	3.6	Not Detected	19	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Thiophene	110-02-1	NA	Not Detected
Butane, 2-methyl-	78-78-4	86%	59 N J
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
Pentane, 2-methyl-	107-83-5	87%	30 N J

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	109	70-130
4-Bromofluorobenzene	103	70-130

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0075

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AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SG01

Lab ID#: 0603485B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.018	14 J

Container Type: 6 Liter Summa Canister

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field duplicate of ST14SG01

Client Sample ID: ST14SG05

Lab ID#: 0603485A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.73	1.6	3.6	7.9
Freon 114	0.73	Not Detected	5.1	Not Detected
Chloromethane	2.9	Not Detected	6.0	Not Detected
Vinyl Chloride	0.73	Not Detected	1.9	Not Detected
1,3-Butadiene	0.73	Not Detected UJ	1.6	Not Detected UJ
Bromomethane	0.73	Not Detected	2.8	Not Detected
Chloroethane	0.73	Not Detected	1.9	Not Detected
Freon 11	0.73	Not Detected	4.1	Not Detected
Ethanol	2.9	56 J	5.5	110 J
Freon 113	0.73	Not Detected	5.6	Not Detected
1,1-Dichloroethene	0.73	Not Detected	2.9	Not Detected
Acetone	2.9	21 J	6.9	49 J
2-Propanol	2.9	3.8 J	7.2	9.3 J
Carbon Disulfide	0.73	5.9	2.3	18
3-Chloropropene	2.9	Not Detected	9.1	Not Detected
Methylene Chloride	0.73	Not Detected	2.5	Not Detected
Methyl tert-butyl ether	0.73	2.6	2.6	9.5
trans-1,2-Dichloroethene	0.73	Not Detected	2.9	Not Detected
Hexane	0.73	6.7	2.6	24
1,1-Dichloroethane	0.73	Not Detected	3.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.73	Not Detected UJ	2.2	Not Detected UJ
cis-1,2-Dichloroethene	0.73	Not Detected	2.9	Not Detected
Tetrahydrofuran	0.73	Not Detected	2.2	Not Detected
Chloroform	0.73	1.2 J	3.6	6.1 J
1,1,1-Trichloroethane	0.73	Not Detected	4.0	Not Detected
Cyclohexane	0.73	1.9 J	2.5	6.6 J
Carbon Tetrachloride	0.73	Not Detected	4.6	Not Detected
2,2,4-Trimethylpentane	0.73	3.4 J	3.4	16 J
Benzene	0.73	8.1	2.3	26
1,2-Dichloroethane	0.73	Not Detected	3.0	Not Detected
Heptane	0.73	3.2 J	3.0	13 J
Trichloroethene	0.73	Not Detected	3.9	Not Detected
1,2-Dichloropropane	0.73	Not Detected	3.4	Not Detected
1,4-Dioxane	2.9	Not Detected	10	Not Detected
Bromodichloromethane	0.73	Not Detected	4.9	Not Detected
cis-1,3-Dichloropropene	0.73	Not Detected	3.3	Not Detected
4-Methyl-2-pentanone	0.73	Not Detected	3.0	Not Detected
Toluene	0.73	37 J	2.8	140 J
trans-1,3-Dichloropropene	0.73	Not Detected UJ	3.3	Not Detected UJ
1,1,2-Trichloroethane	0.73	Not Detected	4.0	Not Detected

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0007

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AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SG05

Lab ID#: 0603485A-01A

field duplicate of ST14SG01

MODIFIED EPA METHOD TO-15 CCMS FULL SCAN

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.73	3.2 J	5.0	22 J
2-Hexanone	2.9	Not Detected	12	Not Detected
Dibromochloromethane	0.73	Not Detected	6.2	Not Detected
1,2-Dibromoethane (EDB)	0.73	Not Detected	5.6	Not Detected
Chlorobenzene	0.73	Not Detected	3.4	Not Detected
Ethyl Benzene	0.73	4.3	3.2	19
m,p-Xylene	0.73	16 J	3.2	70 J
o-Xylene	0.73	4.9 J	3.2	21 J
Styrene	0.73	Not Detected	3.1	Not Detected
Bromoform	0.73	Not Detected	7.5	Not Detected
Cumene	0.73	Not Detected	3.6	Not Detected
1,1,2,2-Tetrachloroethane	0.73	Not Detected	5.0	Not Detected
Propylbenzene	0.73	0.84 J	3.6	4.1 J
4-Ethyltoluene	0.73	3.9	3.6	19
1,3,5-Trimethylbenzene	0.73	1.8	3.6	8.9
1,2,4-Trimethylbenzene	0.73	5.2	3.6	25
1,3-Dichlorobenzene	0.73	Not Detected	4.4	Not Detected
1,4-Dichlorobenzene	0.73	Not Detected	4.4	Not Detected
alpha-Chlorotoluene	0.73	Not Detected	3.8	Not Detected
1,2-Dichlorobenzene	0.73	Not Detected	4.4	Not Detected
1,2,4-Trichlorobenzene	2.9	Not Detected	22	Not Detected
Hexachlorobutadiene	2.9	Not Detected	31	Not Detected
Naphthalene	2.9	Not Detected	15	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Thiophene	110-02-1	NA	Not Detected
Butane, 2-methyl-	78-78-4	78%	48 N J
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
Pentane, 2-methyl-	107-83-5	87%	21 N J

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	95	70-130

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0008

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AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

field duplicate of ST14SG01

Client Sample ID: ST14SG05

Lab ID#: 0603485B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	9032407b	Date of Collection:	3/17/06
Dil. Factor:	1.46	Date of Analysis:	3/24/06 10:23 AM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.015	0.60 J

Container Type: 6 Liter Summa Canister

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0007

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SG02

Lab ID#: 0603485A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20327r14	Date of Collection: 3/7/06	
Dil. Factor:	1.79	Date of Analysis: 3/27/06 07:15 PM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.90	1.9	4.4	9.3
Freon 114	0.90	Not Detected	6.2	Not Detected
Chloromethane	3.6	Not Detected	7.4	Not Detected
Vinyl Chloride	0.90	Not Detected	2.3	Not Detected
1,3-Butadiene	0.90	Not Detected	2.0	Not Detected
Bromomethane	0.90	Not Detected	3.5	Not Detected
Chloroethane	0.90	Not Detected	2.4	Not Detected
Freon 11	0.90	Not Detected	5.0	Not Detected
Ethanol	3.6	57	6.7	110
Freon 113	0.90	Not Detected	6.8	Not Detected
1,1-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Acetone	3.6	18	8.5	44
2-Propanol	3.6	Not Detected	8.8	Not Detected
Carbon Disulfide	0.90	7.5	2.8	23
3-Chloropropene	3.6	Not Detected	11	Not Detected
Methylene Chloride	0.90	Not Detected	3.1	Not Detected
Methyl tert-butyl ether	0.90	3.3	3.2	12
trans-1,2-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Hexane	0.90	8.0	3.2	28
1,1-Dichloroethane	0.90	Not Detected	3.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.90	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Tetrahydrofuran	0.90	Not Detected	2.6	Not Detected
Chloroform	0.90	1.6	4.4	7.6
1,1,1-Trichloroethane	0.90	Not Detected	4.9	Not Detected
Cyclohexane	0.90	2.6	3.1	9.0
Carbon Tetrachloride	0.90	Not Detected	5.6	Not Detected
2,2,4-Trimethylpentane	0.90	4.0	4.2	18
Benzene	0.90	9.5	2.8	30
1,2-Dichloroethane	0.90	Not Detected	3.6	Not Detected
Heptane	0.90	3.3	3.7	13
Trichloroethene	0.90	Not Detected	4.8	Not Detected
1,2-Dichloropropane	0.90	Not Detected	4.1	Not Detected
1,4-Dioxane	3.6	Not Detected	13	Not Detected
Bromodichloromethane	0.90	Not Detected	6.0	Not Detected
cis-1,3-Dichloropropene	0.90	Not Detected	4.1	Not Detected
4-Methyl-2-pentanone	0.90	Not Detected	3.7	Not Detected
Toluene	0.90	39	3.4	140
trans-1,3-Dichloropropene	0.90	Not Detected UJ	4.1	Not Detected UJ
1,1,2-Trichloroethane	0.90	Not Detected	4.9	Not Detected

EMM 5/21/06

0042

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SG02

Lab ID#: 0603485A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	603A16	Date of Collection:	3/17/06
Dil. Factor:	1.79	Date of Analysis:	3/21/06 01:12 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.90	4.5	6.1	30
2-Hexanone	3.6	Not Detected	15	Not Detected
Dibromochloromethane	0.90	Not Detected	7.6	Not Detected
1,2-Dibromoethane (EDB)	0.90	Not Detected	6.9	Not Detected
Chlorobenzene	0.90	Not Detected	4.1	Not Detected
Ethyl Benzene	0.90	5.1	3.9	22
m,p-Xylene	0.90	17	3.9	74
o-Xylene	0.90	6.1	3.9	26
Styrene	0.90	Not Detected	3.8	Not Detected
Bromoform	0.90	Not Detected	9.2	Not Detected
Cumene	0.90	Not Detected	4.4	Not Detected
1,1,2,2-Tetrachloroethane	0.90	Not Detected	6.1	Not Detected
Propylbenzene	0.90	Not Detected	4.4	Not Detected
4-Ethyltoluene	0.90	4.5	4.4	22
1,3,5-Trimethylbenzene	0.90	1.9	4.4	9.3
1,2,4-Trimethylbenzene	0.90	5.9	4.4	29
1,3-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
1,4-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
alpha-Chlorotoluene	0.90	Not Detected	4.6	Not Detected
1,2-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
1,2,4-Trichlorobenzene	3.6	Not Detected	26	Not Detected
Hexachlorobutadiene	3.6	Not Detected	38	Not Detected
Naphthalene	3.6	Not Detected	19	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Thiophene	110-02-1	NA	Not Detected
Butane, 2-methyl-	78-78-4	86%	53 N J
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
Pentane, 2-methyl-	107-83-5	83%	23 N J

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	110	70-130
4-Bromofluorobenzene	96	70-130

EMH 5/21/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SG02

Lab ID#: 0603485B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	060348[illegible]
Dil. Factor:	1.73

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.018	0.67

Container Type: 6 Liter Summa Canister

EMM 5/21/06

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SG01 (ST14SV01)

Lab ID#: 0603662A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	f040326	**Date of Collection:**	3/27/06
Dil. Factor:	5.79	**Date of Analysis:**	4/4/06 07:42 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	2.9	Not Detected	14	Not Detected
Freon 114	2.9	Not Detected	20	Not Detected
Chloromethane	12	Not Detected	24	Not Detected
Vinyl Chloride	2.9	Not Detected	7.4	Not Detected
1,3-Butadiene	2.9	Not Detected	6.4	Not Detected
Bromomethane	2.9	Not Detected	11	Not Detected
Chloroethane	2.9	Not Detected	7.6	Not Detected
Freon 11	2.9	Not Detected	16	Not Detected
Ethanol	12	Not Detected	22	Not Detected
Freon 113	2.9	Not Detected	22	Not Detected
1,1-Dichloroethene	2.9	Not Detected	11	Not Detected
Acetone	12	39	28	92
2-Propanol	12	Not Detected	28	Not Detected
Carbon Disulfide	2.9	240	9.0	760
3-Chloropropene	12	Not Detected	36	Not Detected
Methylene Chloride	2.9	Not Detected	10	Not Detected
Methyl tert-butyl ether	2.9	4.4	10	16
trans-1,2-Dichloroethene	2.9	Not Detected	11	Not Detected
Hexane	2.9	170	10	600
1,1-Dichloroethane	2.9	Not Detected	12	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.9	6.1	8.5	18
cis-1,2-Dichloroethene	2.9	Not Detected	11	Not Detected
Tetrahydrofuran	2.9	Not Detected	8.5	Not Detected
Chloroform	2.9	64	14	310
1,1,1-Trichloroethane	2.9	Not Detected	16	Not Detected
Cyclohexane	2.9	24	10	83
Carbon Tetrachloride	2.9	Not Detected	18	Not Detected
2,2,4-Trimethylpentane	2.9	Not Detected	14	Not Detected
Benzene	2.9	41	9.2	130
1,2-Dichloroethane	2.9	Not Detected	12	Not Detected
Heptane	2.9	130	12	550
Trichloroethene	2.9	Not Detected	16	Not Detected
1,2-Dichloropropane	2.9	Not Detected	13	Not Detected
1,4-Dioxane	12	Not Detected	42	Not Detected
Bromodichloromethane	2.9	Not Detected	19	Not Detected
cis-1,3-Dichloropropene	2.9	Not Detected	13	Not Detected
4-Methyl-2-pentanone	2.9	Not Detected	12	Not Detected
Toluene	2.9	140	11	540
trans-1,3-Dichloropropene	2.9	Not Detected UJ	13	Not Detected UJ
1,1,2-Trichloroethane	2.9	Not Detected	16	Not Detected

EMM 5/21/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SG01 (ST14SV01)

Lab ID#: 0603662A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	[illegible]	Date of Collection:	[illegible]
Dil. Factor:	5.73	Date of Analysis:	[illegible]

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	2.9	290	20	2000
2-Hexanone	12	Not Detected	47	Not Detected
Dibromochloromethane	2.9	Not Detected	25	Not Detected
1,2-Dibromoethane (EDB)	2.9	Not Detected	22	Not Detected
Chlorobenzene	2.9	Not Detected	13	Not Detected
Ethyl Benzene	2.9	73	12	320
m,p-Xylene	2.9	150	12	640
o-Xylene	2.9	140	12	590
Styrene	2.9	Not Detected	12	Not Detected
Bromoform	2.9	Not Detected	30	Not Detected
Cumene	2.9	27	14	140
1,1,2,2-Tetrachloroethane	2.9	Not Detected	20	Not Detected
Propylbenzene	2.9	66	14	320
4-Ethyltoluene	2.9	190	14	940
1,3,5-Trimethylbenzene	2.9	160	14	800
1,2,4-Trimethylbenzene	2.9	200	14	1000
1,3-Dichlorobenzene	2.9	Not Detected	17	Not Detected
1,4-Dichlorobenzene	2.9	Not Detected	17	Not Detected
alpha-Chlorotoluene	2.9	Not Detected	15	Not Detected
1,2-Dichlorobenzene	2.9	Not Detected	17	Not Detected
1,2,4-Trichlorobenzene	12	Not Detected	86	Not Detected
Hexachlorobutadiene	12	Not Detected	120	Not Detected
Naphthalene	12	Not Detected	61	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Thiophene	110-02-1	NA	Not Detected
Butane, 2-methyl-	78-78-4	80%	140 N J
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
Pentane, 2,3-dimethyl-	565-59-3	38%	85 N J
Pentane, 2-methyl-	107-83-5	90%	140 N J

Container Type: 6 Liter Summa Canister

EMM 5/21/06

0008

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SG01 (ST14SV01)

Lab ID#: 0603662B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	Date of Collection:
Dil. Factor:	Date of Analysis:

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.022	Not Detected

Container Type: 6 Liter Summa Canister

EMM 5/21/06

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Laboratory duplicate — Not a field sample

Client Sample ID: ST14SG01 Duplicate

Lab ID#: 0603662A-01AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	0603627	Date of Collection: 12/7/05
Dil. Factor:	5.79	Date of Analysis: 6/13/06 05:27 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	2.9	Not Detected	14	Not Detected
Freon 114	2.9	Not Detected	20	Not Detected
Chloromethane	12	Not Detected	24	Not Detected
Vinyl Chloride	2.9	Not Detected	7.4	Not Detected
1,3-Butadiene	2.9	Not Detected	6.4	Not Detected
Bromomethane	2.9	Not Detected	11	Not Detected
Chloroethane	2.9	Not Detected	7.6	Not Detected
Freon 11	2.9	Not Detected	16	Not Detected
Ethanol	12	Not Detected	22	Not Detected
Freon 113	2.9	Not Detected	22	Not Detected
1,1-Dichloroethene	2.9	Not Detected	11	Not Detected
Acetone	12	42	28	99
2-Propanol	12	Not Detected	28	Not Detected
Carbon Disulfide	2.9	250	9.0	790
3-Chloropropene	12	Not Detected	36	Not Detected
Methylene Chloride	2.9	Not Detected	10	Not Detected
Methyl tert-butyl ether	2.9	4.8	10	17
trans-1,2-Dichloroethene	2.9	Not Detected	11	Not Detected
Hexane	2.9	180	10	630
1,1-Dichloroethane	2.9	Not Detected	12	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.9	6.0	8.5	18
cis-1,2-Dichloroethene	2.9	Not Detected	11	Not Detected
Tetrahydrofuran	2.9	Not Detected	8.5	Not Detected
Chloroform	2.9	64	14	310
1,1,1-Trichloroethane	2.9	Not Detected	16	Not Detected
Cyclohexane	2.9	25	10	86
Carbon Tetrachloride	2.9	Not Detected	18	Not Detected
2,2,4-Trimethylpentane	2.9	Not Detected	14	Not Detected
Benzene	2.9	41	9.2	130
1,2-Dichloroethane	2.9	Not Detected	12	Not Detected
Heptane	2.9	140	12	570
Trichloroethene	2.9	Not Detected	16	Not Detected
1,2-Dichloropropane	2.9	Not Detected	13	Not Detected
1,4-Dioxane	12	Not Detected	42	Not Detected
Bromodichloromethane	2.9	Not Detected	19	Not Detected
cis-1,3-Dichloropropene	2.9	Not Detected	13	Not Detected
4-Methyl-2-pentanone	2.9	Not Detected	12	Not Detected
Toluene	2.9	140	11	540
trans-1,3-Dichloropropene	2.9	Not Detected UJ	13	Not Detected UJ
1,1,2-Trichloroethane	2.9	Not Detected	16	Not Detected

EMM 5/21/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Laboratory duplicate – Not a field sample

Client Sample ID: ST14SG01 Duplicate

Lab ID#: 0603662A-01AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	m10127	Date of Collection: 3/27/06
Dil. Factor:	2.79	Date of Analysis: 4/4/06 01:27 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	2.9	280	20	1900
2-Hexanone	12	Not Detected	47	Not Detected
Dibromochloromethane	2.9	Not Detected	25	Not Detected
1,2-Dibromoethane (EDB)	2.9	Not Detected	22	Not Detected
Chlorobenzene	2.9	Not Detected	13	Not Detected
Ethyl Benzene	2.9	72	12	310
m,p-Xylene	2.9	150	12	650
o-Xylene	2.9	140	12	590
Styrene	2.9	Not Detected	12	Not Detected
Bromoform	2.9	Not Detected	30	Not Detected
Cumene	2.9	27	14	130
1,1,2,2-Tetrachloroethane	2.9	Not Detected	20	Not Detected
Propylbenzene	2.9	66	14	320
4-Ethyltoluene	2.9	190	14	930
1,3,5-Trimethylbenzene	2.9	160	14	790
1,2,4-Trimethylbenzene	2.9	200	14	980
1,3-Dichlorobenzene	2.9	Not Detected	17	Not Detected
1,4-Dichlorobenzene	2.9	Not Detected	17	Not Detected
alpha-Chlorotoluene	2.9	Not Detected	15	Not Detected
1,2-Dichlorobenzene	2.9	Not Detected	17	Not Detected
1,2,4-Trichlorobenzene	12	Not Detected	86	Not Detected
Hexachlorobutadiene	12	Not Detected	120	Not Detected
Naphthalene	12	Not Detected	61	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Thiophene	110-02-1	NA	Not Detected
Butane, 2-methyl-	78-78-4	80%	150 N J
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
Pentane, 2,3-dimethyl-	565-59-3	25%	87 N J
Pentane, 2-methyl-	107-83-5	90%	140 N J

Container Type: 6 Liter Summa Canister

EMM 5/01/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SG01 Duplicate

Lab ID#: 0603662B-01AA

Laboratory duplicate – Not a field sample

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.022	Not Detected

Container Type: 6 Liter Summa Canister

EMM 5/20/10

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SV03

Lab ID#: 0604167A-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1e4151.D	Date of Collection: 4/4/06
Dil. Factor:	2.48	Date of Analysis: 4/14/06 08:01 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	1.0	2.0	5.1	9.9
Freon 114	1.0	Not Detected	7.2	Not Detected
Chloromethane	4.1	Not Detected	8.5	Not Detected
Vinyl Chloride	1.0	Not Detected	2.6	Not Detected
1,3-Butadiene	1.0	Not Detected	2.3	Not Detected
Bromomethane	1.0	Not Detected	4.0	Not Detected
Chloroethane	1.0	2.1	2.7	5.5
Freon 11	1.0	Not Detected	5.8	Not Detected
Ethanol	4.1	Not Detected	7.8	Not Detected
Freon 113	1.0	Not Detected	7.9	Not Detected
1,1-Dichloroethene	1.0	Not Detected	4.1	Not Detected
Acetone	4.1	29	9.8	69
2-Propanol	4.1	Not Detected	10	Not Detected
Carbon Disulfide	1.0	240	3.2	760
3-Chloropropene	4.1	Not Detected	13	Not Detected
Methylene Chloride	1.0	5.2	3.6	18
Methyl tert-butyl ether	1.0	3.1	3.7	11
trans-1,2-Dichloroethene	1.0	Not Detected	4.1	Not Detected
Hexane	1.0	31	3.6	110
1,1-Dichloroethane	1.0	Not Detected	4.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.0	3.5	3.0	10
cis-1,2-Dichloroethene	1.0	Not Detected	4.1	Not Detected
Tetrahydrofuran	1.0	Not Detected	3.0	Not Detected
Chloroform	1.0	340	5.0	1700
1,1,1-Trichloroethane	1.0	Not Detected	5.6	Not Detected
Cyclohexane	1.0	5.8	3.5	20
Carbon Tetrachloride	1.0	Not Detected	6.5	Not Detected
2,2,4-Trimethylpentane	1.0	12	4.8	57
Benzene	1.0	5.5	3.3	17
1,2-Dichloroethane	1.0	Not Detected	4.2	Not Detected
Heptane	1.0	43	4.2	180
Trichloroethene	1.0	Not Detected	5.5	Not Detected
1,2-Dichloropropane	1.0	Not Detected	4.8	Not Detected
1,4-Dioxane	4.1	Not Detected	15	Not Detected
Bromodichloromethane	1.0	12	6.9	84
cis-1,3-Dichloropropene	1.0	Not Detected	4.7	Not Detected
4-Methyl-2-pentanone	1.0	Not Detected	4.2	Not Detected
Toluene	1.0	43	3.9	160
trans-1,3-Dichloropropene	1.0	Not Detected	4.7	Not Detected
1,1,2-Trichloroethane	1.0	Not Detected	5.6	Not Detected

Emm 5/9/06

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SV03

Lab ID#: 0604167A-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	1.0	220	7.0	1500
2-Hexanone	4.1	Not Detected	17	Not Detected
Dibromochloromethane	1.0	Not Detected	8.8	Not Detected
1,2-Dibromoethane (EDB)	1.0	Not Detected	7.9	Not Detected
Chlorobenzene	1.0	Not Detected	4.7	Not Detected
Ethyl Benzene	1.0	18	4.5	81
m,p-Xylene	1.0	42	4.5	180
o-Xylene	1.0	14	4.5	60
Styrene	1.0	Not Detected	4.4	Not Detected
Bromoform	1.0	Not Detected	11	Not Detected
Cumene	1.0	2.0	5.1	9.9
1,1,2,2-Tetrachloroethane	1.0	Not Detected	7.1	Not Detected
Propylbenzene	1.0	3.0	5.1	14
4-Ethyltoluene	1.0	12	5.1	58
1,3,5-Trimethylbenzene	1.0	4.8	5.1	24
1,2,4-Trimethylbenzene	1.0	12	5.1	58
1,3-Dichlorobenzene	1.0	Not Detected	6.2	Not Detected
1,4-Dichlorobenzene	1.0	Not Detected	6.2	Not Detected
alpha-Chlorotoluene	1.0	Not Detected	5.3	Not Detected
1,2-Dichlorobenzene	1.0	Not Detected	6.2	Not Detected
1,2,4-Trichlorobenzene	4.1	Not Detected	30	Not Detected
Hexachlorobutadiene	4.1	Not Detected	44	Not Detected
Naphthalene	4.1	Not Detected	22	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Thiophene	110-02-1	NA	Not Detected
Butane, 2-methyl-	78-78-4	80%	27 N J
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
Pentane, 2-methyl-	107-83-5	68%	38 N J

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	99	70-130

Entry 5/31/06

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SV03

Lab ID#: 0604167B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.021	Not Detected

Container Type: 6 Liter Summa Canister

EHM 5/21/06

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SV04

Lab ID#: 0604167A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	043011	Date of Collection: 4/5/06	
Dil. Factor:	2.17	Date of Analysis: 4/13/06 9:15 PM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	1.1	Not Detected	5.4	Not Detected
Freon 114	1.1	Not Detected	7.6	Not Detected
Chloromethane	4.3	Not Detected	9.0	Not Detected
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
1,3-Butadiene	1.1	Not Detected	2.4	Not Detected
Bromomethane	1.1	Not Detected	4.2	Not Detected
Chloroethane	1.1	Not Detected	2.9	Not Detected
Freon 11	1.1	Not Detected	6.1	Not Detected
Ethanol	4.3	Not Detected	8.2	Not Detected
Freon 113	1.1	Not Detected	8.3	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Acetone	4.3	Not Detected	10	Not Detected
2-Propanol	4.3	Not Detected	11	Not Detected
Carbon Disulfide	1.1	2.9	3.4	9.0
3-Chloropropene	4.3	Not Detected	14	Not Detected
Methylene Chloride	1.1	Not Detected	3.8	Not Detected
Methyl tert-butyl ether	1.1	Not Detected	3.9	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Hexane	1.1	Not Detected	3.8	Not Detected
1,1-Dichloroethane	1.1	Not Detected	4.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.1	Not Detected	3.2	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Tetrahydrofuran	1.1	Not Detected	3.2	Not Detected
Chloroform	1.1	1.9	5.3	9.2
1,1,1-Trichloroethane	1.1	Not Detected	5.9	Not Detected
Cyclohexane	1.1	Not Detected	3.7	Not Detected
Carbon Tetrachloride	1.1	Not Detected	6.8	Not Detected
2,2,4-Trimethylpentane	1.1	Not Detected	5.1	Not Detected
Benzene	1.1	Not Detected	3.5	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.4	Not Detected
Heptane	1.1	Not Detected	4.4	Not Detected
Trichloroethene	1.1	Not Detected	5.8	Not Detected
1,2-Dichloropropane	1.1	Not Detected	5.0	Not Detected
1,4-Dioxane	4.3	Not Detected	16	Not Detected
Bromodichloromethane	1.1	Not Detected	7.3	Not Detected
cis-1,3-Dichloropropene	1.1	Not Detected	4.9	Not Detected
4-Methyl-2-pentanone	1.1	Not Detected	4.4	Not Detected
Toluene	1.1	Not Detected	4.1	Not Detected
trans-1,3-Dichloropropene	1.1	Not Detected	4.9	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	5.9	Not Detected

EMM 5/11/06

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SV04

Lab ID#: 0604167A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	1.1	7.5	7.4	51
2-Hexanone	4.3	Not Detected	18	Not Detected
Dibromochloromethane	1.1	Not Detected	9.2	Not Detected
1,2-Dibromoethane (EDB)	1.1	Not Detected	8.3	Not Detected
Chlorobenzene	1.1	Not Detected	5.0	Not Detected
Ethyl Benzene	1.1	Not Detected	4.7	Not Detected
m,p-Xylene	1.1	Not Detected	4.7	Not Detected
o-Xylene	1.1	Not Detected	4.7	Not Detected
Styrene	1.1	Not Detected	4.6	Not Detected
Bromoform	1.1	Not Detected	11	Not Detected
Cumene	1.1	Not Detected	5.3	Not Detected
1,1,2,2-Tetrachloroethane	1.1	Not Detected	7.4	Not Detected
Propylbenzene	1.1	Not Detected	5.3	Not Detected
4-Ethyltoluene	1.1	Not Detected	5.3	Not Detected
1,3,5-Trimethylbenzene	1.1	Not Detected	5.3	Not Detected
1,2,4-Trimethylbenzene	1.1	Not Detected	5.3	Not Detected
1,3-Dichlorobenzene	1.1	Not Detected	6.5	Not Detected
1,4-Dichlorobenzene	1.1	Not Detected	6.5	Not Detected
alpha-Chlorotoluene	1.1	Not Detected	5.6	Not Detected
1,2-Dichlorobenzene	1.1	Not Detected	6.5	Not Detected
1,2,4-Trichlorobenzene	4.3	Not Detected	32	Not Detected
Hexachlorobutadiene	4.3	Not Detected	46	Not Detected
Naphthalene	4.3	Not Detected	23	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Thiophene	110-02-1	NA	Not Detected
Isopentane	78-78-4	NA	Not Detected
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
2-Methylpentane	107-83-5	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	96	70-130

EHM 5/31/06

0008

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SV04

Lab ID#: 0604167B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.022	Not Detected

Container Type: 6 Liter Summa Canister

EMT 5/21/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SV04 Duplicate

Laboratory duplicate-
Not a field sample

Lab ID#: 0604167B-01AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.022	Not Detected

Container Type: 6 Liter Summa Canister

EMM 5/31/06

0012

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SV05

Lab ID#: 0604167A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1e1515	Date of Collection: 4/4/06	
Dil. Factor:	1.87	Date of Analysis: 4/14/06 12:23 AM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.94	Not Detected	4.6	Not Detected
Freon 114	0.94	Not Detected	6.5	Not Detected
Chloromethane	3.7	Not Detected	7.7	Not Detected
Vinyl Chloride	0.94	Not Detected	2.4	Not Detected
1,3-Butadiene	0.94	Not Detected	2.1	Not Detected
Bromomethane	0.94	Not Detected	3.6	Not Detected
Chloroethane	0.94	Not Detected	2.5	Not Detected
Freon 11	0.94	Not Detected	5.2	Not Detected
Ethanol	3.7	Not Detected	7.0	Not Detected
Freon 113	0.94	Not Detected	7.2	Not Detected
1,1-Dichloroethene	0.94	Not Detected	3.7	Not Detected
Acetone	3.7	11	8.9	27
2-Propanol	3.7	Not Detected	9.2	Not Detected
Carbon Disulfide	0.94	31	2.9	96
3-Chloropropene	3.7	Not Detected	12	Not Detected
Methylene Chloride	0.94	Not Detected	3.2	Not Detected
Methyl tert-butyl ether	0.94	Not Detected	3.4	Not Detected
trans-1,2-Dichloroethene	0.94	Not Detected	3.7	Not Detected
Hexane	0.94	Not Detected	3.3	Not Detected
1,1-Dichloroethane	0.94	Not Detected	3.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.94	3.3	2.8	9.7
cis-1,2-Dichloroethene	0.94	Not Detected	3.7	Not Detected
Tetrahydrofuran	0.94	Not Detected	2.8	Not Detected
Chloroform	0.94	1.8	4.6	8.6
1,1,1-Trichloroethane	0.94	Not Detected	5.1	Not Detected
Cyclohexane	0.94	Not Detected	3.2	Not Detected
Carbon Tetrachloride	0.94	Not Detected	5.9	Not Detected
2,2,4-Trimethylpentane	0.94	Not Detected	4.4	Not Detected
Benzene	0.94	2.9	3.0	9.1
1,2-Dichloroethane	0.94	Not Detected	3.8	Not Detected
Heptane	0.94	Not Detected	3.8	Not Detected
Trichloroethene	0.94	3.5	5.0	19
1,2-Dichloropropane	0.94	Not Detected	4.3	Not Detected
1,4-Dioxane	3.7	Not Detected	13	Not Detected
Bromodichloromethane	0.94	Not Detected	6.3	Not Detected
cis-1,3-Dichloropropene	0.94	Not Detected	4.2	Not Detected
4-Methyl-2-pentanone	0.94	Not Detected	3.8	Not Detected
Toluene	0.94	3.7	3.5	14
trans-1,3-Dichloropropene	0.94	Not Detected	4.2	Not Detected
1,1,2-Trichloroethane	0.94	Not Detected	5.1	Not Detected

EHM 5/31/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SV05

Lab ID#: 0604167A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 041115	Date of Collection: 5/14/06
Dil. Factor: 1.87	Date of Analysis: 5/15/06 03:29 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.94	10	6.3	69
2-Hexanone	3.7	Not Detected	15	Not Detected
Dibromochloromethane	0.94	Not Detected	8.0	Not Detected
1,2-Dibromoethane (EDB)	0.94	Not Detected	7.2	Not Detected
Chlorobenzene	0.94	Not Detected	4.3	Not Detected
Ethyl Benzene	0.94	Not Detected	4.0	Not Detected
m,p-Xylene	0.94	1.1	4.1	4.8
o-Xylene	0.94	Not Detected	4.1	Not Detected
Styrene	0.94	Not Detected	4.0	Not Detected
Bromoform	0.94	Not Detected	9.7	Not Detected
Cumene	0.94	Not Detected	4.6	Not Detected
1,1,2,2-Tetrachloroethane	0.94	Not Detected	6.4	Not Detected
Propylbenzene	0.94	Not Detected	4.6	Not Detected
4-Ethyltoluene	0.94	Not Detected	4.6	Not Detected
1,3,5-Trimethylbenzene	0.94	Not Detected	4.6	Not Detected
1,2,4-Trimethylbenzene	0.94	Not Detected	4.6	Not Detected
1,3-Dichlorobenzene	0.94	Not Detected	5.6	Not Detected
1,4-Dichlorobenzene	0.94	Not Detected	5.6	Not Detected
alpha-Chlorotoluene	0.94	Not Detected	4.8	Not Detected
1,2-Dichlorobenzene	0.94	Not Detected	5.6	Not Detected
1,2,4-Trichlorobenzene	3.7	Not Detected	28	Not Detected
Hexachlorobutadiene	3.7	Not Detected	40	Not Detected
Naphthalene	3.7	Not Detected	20	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Thiophene	110-02-1	NA	Not Detected
Isopentane	78-78-4	NA	Not Detected
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
2-Methylpentane	107-83-5	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	98	70-130

EMM 5/31/06

0050

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST14SV05

Lab ID#: 0604167B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.019	Not Detected

Container Type: 6 Liter Summa Canister

EMM 5/21/06

0022

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV01

Lab ID#: 0603437A-12A

MODIFIED EPA METHOD TO-15 GCMS FULL SCAN

File Name:	[illegible]	Date of Collection:	[illegible]
Dil. Factor:	1.75	Date of Analysis:	[illegible]

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.88	0.88	4.3	4.4
Freon 114	0.88	Not Detected	6.1	Not Detected
Chloromethane	3.5	Not Detected	7.2	Not Detected
Vinyl Chloride	0.88	Not Detected	2.2	Not Detected
1,3-Butadiene	0.88	Not Detected	1.9	Not Detected
Bromomethane	0.88	Not Detected	3.4	Not Detected
Chloroethane	0.88	Not Detected	2.3	Not Detected
Freon 11	0.88	Not Detected	4.9	Not Detected
Ethanol	3.5	Not Detected	6.6	Not Detected
Freon 113	0.88	Not Detected	6.7	Not Detected
1,1-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Acetone	3.5	Not Detected	8.3	Not Detected
2-Propanol	3.5	Not Detected	8.6	Not Detected
Carbon Disulfide	0.88	19	2.7	58
3-Chloropropene	3.5	Not Detected	11	Not Detected
Methylene Chloride	0.88	Not Detected	3.0	Not Detected
Methyl tert-butyl ether	0.88	Not Detected	3.2	Not Detected
trans-1,2-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Hexane	0.88	22	3.1	78
1,1-Dichloroethane	0.88	Not Detected	3.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.88	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected
Chloroform	0.88	4.4	4.3	22
1,1,1-Trichloroethane	0.88	Not Detected	4.8	Not Detected
Cyclohexane	0.88	7.4	3.0	25
Carbon Tetrachloride	0.88	Not Detected	5.5	Not Detected
Benzene	0.88	60	2.8	190
1,2-Dichloroethane	0.88	Not Detected	3.5	Not Detected
Heptane	0.88	8.2	3.6	33
Trichloroethene	0.88	Not Detected	4.7	Not Detected
1,2-Dichloropropane	0.88	Not Detected	4.0	Not Detected
1,4-Dioxane	3.5	Not Detected	13	Not Detected
Bromodichloromethane	0.88	Not Detected	5.9	Not Detected
cis-1,3-Dichloropropene	0.88	Not Detected	4.0	Not Detected
4-Methyl-2-pentanone	0.88	Not Detected	3.6	Not Detected
Toluene	0.88	6.9	3.3	26
trans-1,3-Dichloropropene	0.88	Not Detected UJ	4.0	Not Detected UJ
1,1,2-Trichloroethane	0.88	Not Detected	4.8	Not Detected
Tetrachloroethene	0.88	17	5.9	120

EMM 5/22/06

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AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV01

Lab ID#: 0603437A-12A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	f060324	Date of Collection: 3/16/06	
Dil. Factor:	1.75	Date of Analysis: 3/25/06 04:29 PM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.5	Not Detected	14	Not Detected
Dibromochloromethane	0.88	Not Detected	7.4	Not Detected
1,2-Dibromoethane (EDB)	0.88	Not Detected	6.7	Not Detected
Chlorobenzene	0.88	Not Detected	4.0	Not Detected
Ethyl Benzene	0.88	1.8	3.8	7.9
m,p-Xylene	0.88	2.1	3.8	9.3
o-Xylene	0.88	1.2	3.8	5.2
Styrene	0.88	Not Detected	3.7	Not Detected
Bromoform	0.88	Not Detected	9.0	Not Detected
Cumene	0.88	Not Detected	4.3	Not Detected
1,1,2,2-Tetrachloroethane	0.88	Not Detected	6.0	Not Detected
Propylbenzene	0.88	Not Detected	4.3	Not Detected
4-Ethyltoluene	0.88	Not Detected	4.3	Not Detected
1,3,5-Trimethylbenzene	0.88	Not Detected	4.3	Not Detected
1,2,4-Trimethylbenzene	0.88	0.97	4.3	4.8
1,3-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
1,4-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
alpha-Chlorotoluene	0.88	Not Detected	4.5	Not Detected
1,2-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
1,2,4-Trichlorobenzene	3.5	Not Detected	26	Not Detected
Hexachlorobutadiene	3.5	Not Detected	37	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Pentane, 2,2,4-trimethyl-	540-84-1	53%	15 N J
Thiophene	110-02-1	NA	Not Detected
Butane, 2-methyl-	78-78-4	80%	48 N J
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
Pentane, 2-methyl-	107-83-5	87%	38 N J
Naphthalene	91-20-3	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	102	70-130

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EMM 5/22/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV01

Lab ID#: 0603437B-12A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.018	Not Detected

Container Type: 6 Liter Summa Canister

EHM 5/22/06

0012

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV02

Lab ID#: 0603437A-13A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	[illegible]	Date of Collection:	[illegible]
Dil. Factor:	1.63	Date of Analysis:	[illegible]

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.84	Not Detected	4.2	Not Detected
Freon 114	0.84	Not Detected	5.9	Not Detected
Chloromethane	3.4	Not Detected	6.9	Not Detected
Vinyl Chloride	0.84	Not Detected	2.1	Not Detected
1,3-Butadiene	0.84	Not Detected	1.8	Not Detected
Bromomethane	0.84	Not Detected	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.84	Not Detected	4.7	Not Detected
Ethanol	3.4	Not Detected	6.3	Not Detected
Freon 113	0.84	Not Detected	6.4	Not Detected
1,1-Dichloroethene	0.84	Not Detected	3.3	Not Detected
Acetone	3.4	Not Detected	8.0	Not Detected
2-Propanol	3.4	Not Detected	8.2	Not Detected
Carbon Disulfide	0.84	1.2	2.6	3.6
3-Chloropropene	3.4	Not Detected	10	Not Detected
Methylene Chloride	0.84	Not Detected	2.9	Not Detected
Methyl tert-butyl ether	0.84	Not Detected	3.0	Not Detected
trans-1,2-Dichloroethene	0.84	Not Detected	3.3	Not Detected
Hexane	0.84	Not Detected	3.0	Not Detected
1,1-Dichloroethane	0.84	Not Detected	3.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	Not Detected	2.5	Not Detected
cis-1,2-Dichloroethene	0.84	Not Detected	3.3	Not Detected
Tetrahydrofuran	0.84	Not Detected	2.5	Not Detected
Chloroform	0.84	Not Detected	4.1	Not Detected
1,1,1-Trichloroethane	0.84	Not Detected	4.6	Not Detected
Cyclohexane	0.84	Not Detected	2.9	Not Detected
Carbon Tetrachloride	0.84	Not Detected	5.3	Not Detected
Benzene	0.84	1.7	2.7	5.4
1,2-Dichloroethane	0.84	Not Detected	3.4	Not Detected
Heptane	0.84	Not Detected	3.4	Not Detected
Trichloroethene	0.84	Not Detected	4.5	Not Detected
1,2-Dichloropropane	0.84	Not Detected	3.9	Not Detected
1,4-Dioxane	3.4	Not Detected	12	Not Detected
Bromodichloromethane	0.84	Not Detected	5.6	Not Detected
cis-1,3-Dichloropropene	0.84	Not Detected	3.8	Not Detected
4-Methyl-2-pentanone	0.84	Not Detected	3.4	Not Detected
Toluene	0.84	1.1	3.2	4.1
trans-1,3-Dichloropropene	0.84	Not Detected VJ	3.8	Not Detected VJ
1,1,2-Trichloroethane	0.84	Not Detected	4.6	Not Detected
Tetrachloroethene	0.84	1.8	5.7	12

EMM 5/22/06

0205

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV02

Lab ID#: 0603437A-13A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	[illegible]	Date of Collection: [illegible]
Dil. Factor:	1.68	Date of Analysis: [illegible]

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.4	Not Detected	14	Not Detected
Dibromochloromethane	0.84	Not Detected	7.2	Not Detected
1,2-Dibromoethane (EDB)	0.84	Not Detected	6.4	Not Detected
Chlorobenzene	0.84	Not Detected	3.9	Not Detected
Ethyl Benzene	0.84	Not Detected	3.6	Not Detected
m,p-Xylene	0.84	Not Detected	3.6	Not Detected
o-Xylene	0.84	Not Detected	3.6	Not Detected
Styrene	0.84	Not Detected	3.6	Not Detected
Bromoform	0.84	Not Detected	8.7	Not Detected
Cumene	0.84	Not Detected	4.1	Not Detected
1,1,2,2-Tetrachloroethane	0.84	Not Detected	5.8	Not Detected
Propylbenzene	0.84	Not Detected	4.1	Not Detected
4-Ethyltoluene	0.84	Not Detected	4.1	Not Detected
1,3,5-Trimethylbenzene	0.84	Not Detected	4.1	Not Detected
1,2,4-Trimethylbenzene	0.84	Not Detected	4.1	Not Detected
1,3-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
1,4-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
alpha-Chlorotoluene	0.84	Not Detected	4.3	Not Detected
1,2-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
1,2,4-Trichlorobenzene	3.4	Not Detected	25	Not Detected
Hexachlorobutadiene	3.4	Not Detected	36	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
2,2,4-Trimethylpentane	540-84-1	NA	Not Detected
Thiophene	110-02-1	NA	Not Detected
Butane, 2-methyl-	78-78-4	59%	4.4 N J
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
Pentane, 2-methyl-	107-83-5	35%	6.0 N J
Naphthalene	91-20-3	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	102	70-130

EMM 5/22/06

0206

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV02

Lab ID#: 0603437B-13A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.017	Not Detected

Container Type: 6 Liter Summa Canister

EMM 5/22/06

0017

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Laboratory Duplicate – Not a field sample

Client Sample ID: ST17SV02 Duplicate

Lab ID#: 0603437A-13AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3326r.D	Date of Collection: 3/14/06	
Dil. Factor:	1.25	Date of Analysis: 3/26/06 05:10 PM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)		Rpt. Limit (uG/m3)	Amount (uG/m3)	
Freon 12	0.84	Not Detected		4.2	Not Detected	
Freon 114	0.84	Not Detected		5.9	Not Detected	
Chloromethane	3.4	Not Detected		6.9	Not Detected	
Vinyl Chloride	0.84	Not Detected		2.1	Not Detected	
1,3-Butadiene	0.84	Not Detected		1.8	Not Detected	
Bromomethane	0.84	Not Detected		3.3	Not Detected	
Chloroethane	0.84	Not Detected		2.2	Not Detected	
Freon 11	0.84	Not Detected		4.7	Not Detected	
Ethanol	3.4	Not Detected		6.3	Not Detected	
Freon 113	0.84	Not Detected		6.4	Not Detected	
1,1-Dichloroethene	0.84	Not Detected		3.3	Not Detected	
Acetone	3.4	Not Detected		8.0	Not Detected	
2-Propanol	3.4	Not Detected		8.2	Not Detected	
Carbon Disulfide	0.84	1.1		2.6	3.5	
3-Chloropropene	3.4	Not Detected		10	Not Detected	
Methylene Chloride	0.84	Not Detected		2.9	Not Detected	
Methyl tert-butyl ether	0.84	Not Detected		3.0	Not Detected	
trans-1,2-Dichloroethene	0.84	Not Detected		3.3	Not Detected	
Hexane	0.84	Not Detected		3.0	Not Detected	
1,1-Dichloroethane	0.84	Not Detected		3.4	Not Detected	
2-Butanone (Methyl Ethyl Ketone)	0.84	Not Detected		2.5	Not Detected	
cis-1,2-Dichloroethene	0.84	Not Detected		3.3	Not Detected	
Tetrahydrofuran	0.84	Not Detected		2.5	Not Detected	
Chloroform	0.84	Not Detected		4.1	Not Detected	
1,1,1-Trichloroethane	0.84	Not Detected		4.6	Not Detected	
Cyclohexane	0.84	Not Detected		2.9	Not Detected	
Carbon Tetrachloride	0.84	Not Detected		5.3	Not Detected	
Benzene	0.84	1.6		2.7	5.2	
1,2-Dichloroethane	0.84	Not Detected		3.4	Not Detected	
Heptane	0.84	Not Detected		3.4	Not Detected	
Trichloroethene	0.84	Not Detected		4.5	Not Detected	
1,2-Dichloropropane	0.84	Not Detected		3.9	Not Detected	
1,4-Dioxane	3.4	Not Detected		12	Not Detected	
Bromodichloromethane	0.84	Not Detected		5.6	Not Detected	
cis-1,3-Dichloropropene	0.84	Not Detected		3.8	Not Detected	
4-Methyl-2-pentanone	0.84	Not Detected		3.4	Not Detected	
Toluene	0.84	1.1		3.2	4.0	
trans-1,3-Dichloropropene	0.84	Not Detected	UJ	3.8	Not Detected	UJ
1,1,2-Trichloroethane	0.84	Not Detected		4.6	Not Detected	
Tetrachloroethene	0.84	1.7		5.7	11	

EAM 5/22/06

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@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV02 Duplicate

Laboratory duplicate – not a field sample

Lab ID#: 0603437A-13AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	0603A10	Date of Collection:	3/14/06
Dil. Factor:	1.26	Date of Analysis:	3/23/06 08:12 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.4	Not Detected	14	Not Detected
Dibromochloromethane	0.84	Not Detected	7.2	Not Detected
1,2-Dibromoethane (EDB)	0.84	Not Detected	6.4	Not Detected
Chlorobenzene	0.84	Not Detected	3.9	Not Detected
Ethyl Benzene	0.84	Not Detected	3.6	Not Detected
m,p-Xylene	0.84	Not Detected	3.6	Not Detected
o-Xylene	0.84	Not Detected	3.6	Not Detected
Styrene	0.84	Not Detected	3.6	Not Detected
Bromoform	0.84	Not Detected	8.7	Not Detected
Cumene	0.84	Not Detected	4.1	Not Detected
1,1,2,2-Tetrachloroethane	0.84	Not Detected	5.8	Not Detected
Propylbenzene	0.84	Not Detected	4.1	Not Detected
4-Ethyltoluene	0.84	Not Detected	4.1	Not Detected
1,3,5-Trimethylbenzene	0.84	Not Detected	4.1	Not Detected
1,2,4-Trimethylbenzene	0.84	Not Detected	4.1	Not Detected
1,3-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
1,4-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
alpha-Chlorotoluene	0.84	Not Detected	4.3	Not Detected
1,2-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
1,2,4-Trichlorobenzene	3.4	Not Detected	25	Not Detected
Hexachlorobutadiene	3.4	Not Detected	36	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
2,2,4-Trimethylpentane	540-84-1	NA	Not Detected
Thiophene	110-02-1	NA	Not Detected
Butane, 2-methyl-	78-78-4	53%	4.3 N J
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
Pentane, 2-methyl-	107-83-5	50%	6.2 N J
Naphthalene	91-20-3	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	91	70-130
4-Bromofluorobenzene	103	70-130

EMM 5/22/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV03

Lab ID#: 0603437A-14A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3x3a611	Date of Collection: 3/15/06	
Dil. Factor:	1.48	Date of Analysis: 3/22/06 [illegible] PM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.74	0.84	3.7	4.2
Freon 114	0.74	Not Detected	5.2	Not Detected
Chloromethane	3.0	Not Detected	6.2	Not Detected
Vinyl Chloride	0.74	Not Detected	1.9	Not Detected
1,3-Butadiene	0.74	Not Detected	1.6	Not Detected
Bromomethane	0.74	Not Detected	2.9	Not Detected
Chloroethane	0.74	Not Detected	2.0	Not Detected
Freon 11	0.74	Not Detected	4.2	Not Detected
Ethanol	3.0	5.2	5.6	9.7
Freon 113	0.74	Not Detected	5.7	Not Detected
1,1-Dichloroethene	0.74	Not Detected	3.0	Not Detected
Acetone	3.0	4.8	7.1	11
2-Propanol	3.0	3.3	7.3	8.0
Carbon Disulfide	0.74	9.1	2.3	28
3-Chloropropene	3.0	Not Detected	9.3	Not Detected
Methylene Chloride	0.74	Not Detected	2.6	Not Detected
Methyl tert-butyl ether	0.74	3.8	2.7	14
trans-1,2-Dichloroethene	0.74	Not Detected	3.0	Not Detected
Hexane	0.74	10	2.6	36
1,1-Dichloroethane	0.74	Not Detected	3.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.74	Not Detected	2.2	Not Detected
cis-1,2-Dichloroethene	0.74	Not Detected	3.0	Not Detected
Tetrahydrofuran	0.74	Not Detected	2.2	Not Detected
Chloroform	0.74	Not Detected	3.6	Not Detected
1,1,1-Trichloroethane	0.74	Not Detected	4.1	Not Detected
Cyclohexane	0.74	7.8	2.6	27
Carbon Tetrachloride	0.74	Not Detected	4.7	Not Detected
Benzene	0.74	4.8	2.4	15
1,2-Dichloroethane	0.74	Not Detected	3.0	Not Detected
Heptane	0.74	5.5	3.0	22
Trichloroethene	0.74	Not Detected	4.0	Not Detected
1,2-Dichloropropane	0.74	Not Detected	3.4	Not Detected
1,4-Dioxane	3.0	Not Detected	11	Not Detected
Bromodichloromethane	0.74	Not Detected	5.0	Not Detected
cis-1,3-Dichloropropene	0.74	Not Detected	3.4	Not Detected
4-Methyl-2-pentanone	0.74	Not Detected	3.0	Not Detected
Toluene	0.74	26	2.8	99
trans-1,3-Dichloropropene	0.74	Not Detected UJ	3.4	Not Detected UJ
1,1,2-Trichloroethane	0.74	Not Detected	4.1	Not Detected
Tetrachloroethene	0.74	26	5.0	180

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AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV03

Lab ID#: 0603437A-14A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	060511	Date of Collection:	5/1/06
Dil. Factor:	1.49	Date of Analysis:	5/5/06 07:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.0	Not Detected	12	Not Detected
Dibromochloromethane	0.74	Not Detected	6.3	Not Detected
1,2-Dibromoethane (EDB)	0.74	Not Detected	5.7	Not Detected
Chlorobenzene	0.74	Not Detected	3.4	Not Detected
Ethyl Benzene	0.74	1.6	3.2	7.1
m,p-Xylene	0.74	3.7	3.2	16
o-Xylene	0.74	1.5	3.2	6.4
Styrene	0.74	Not Detected	3.2	Not Detected
Bromoform	0.74	Not Detected	7.7	Not Detected
Cumene	0.74	Not Detected	3.7	Not Detected
1,1,2,2-Tetrachloroethane	0.74	Not Detected	5.1	Not Detected
Propylbenzene	0.74	Not Detected	3.7	Not Detected
4-Ethyltoluene	0.74	Not Detected	3.7	Not Detected
1,3,5-Trimethylbenzene	0.74	Not Detected	3.7	Not Detected
1,2,4-Trimethylbenzene	0.74	0.92	3.7	4.5
1,3-Dichlorobenzene	0.74	Not Detected	4.5	Not Detected
1,4-Dichlorobenzene	0.74	Not Detected	4.5	Not Detected
alpha-Chlorotoluene	0.74	Not Detected	3.8	Not Detected
1,2-Dichlorobenzene	0.74	Not Detected	4.5	Not Detected
1,2,4-Trichlorobenzene	3.0	Not Detected	22	Not Detected
Hexachlorobutadiene	3.0	Not Detected	32	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Pentane, 2,2,4-trimethyl-	540-84-1	59%	9.5 N J
Thiophene	110-02-1	NA	Not Detected
Butane, 2-methyl-	78-78-4	80%	82 N J
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
Pentane, 2-methyl-	107-83-5	90%	28 N J
Naphthalene	91-20-3	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	104	70-130

EMM 5/22/06

0238

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV03

Lab ID#: 0603437B-14A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	9032219b	Date of Collection:	3/16/06
Dil. Factor:	1.49	Date of Analysis:	3/22/06 02:07 PM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.015	Not Detected

Container Type: 6 Liter Summa Canister

EHM 5/22/06

0022

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV04

Lab ID#: 0603437A-15A

MODIFIED EPA METHOD TO-15 GCMS FULL SCAN

File Name:	[illegible]	Date of Collection: [illegible]
Dil. Factor:	1.79	Date of Analysis: [illegible]

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Freon 12	0.90	Not Detected	4.4	Not Detected	
Freon 114	0.90	Not Detected	6.2	Not Detected	
Chloromethane	3.6	Not Detected	7.4	Not Detected	
Vinyl Chloride	0.90	Not Detected	2.3	Not Detected	
1,3-Butadiene	0.90	Not Detected	2.0	Not Detected	
Bromomethane	0.90	Not Detected	3.5	Not Detected	
Chloroethane	0.90	Not Detected	2.4	Not Detected	
Freon 11	0.90	Not Detected	5.0	Not Detected	
Ethanol	3.6	Not Detected	6.7	Not Detected	
Freon 113	0.90	Not Detected	6.8	Not Detected	
1,1-Dichloroethene	0.90	Not Detected	3.5	Not Detected	
Acetone	3.6	36	8.5	87	
2-Propanol	3.6	Not Detected	8.8	Not Detected	
Carbon Disulfide	0.90	77	2.8	240	
3-Chloropropene	3.6	Not Detected	11	Not Detected	
Methylene Chloride	0.90	Not Detected	3.1	Not Detected	
Methyl tert-butyl ether	0.90	Not Detected	3.2	Not Detected	
trans-1,2-Dichloroethene	0.90	Not Detected	3.5	Not Detected	
Hexane	0.90	4.6	3.2	16	
1,1-Dichloroethane	0.90	Not Detected	3.6	Not Detected	
2-Butanone (Methyl Ethyl Ketone)	0.90	8.9	2.6	26	
cis-1,2-Dichloroethene	0.90	Not Detected	3.5	Not Detected	
Tetrahydrofuran	0.90	Not Detected	2.6	Not Detected	
Chloroform	0.90	2.1	4.4	10	
1,1,1-Trichloroethane	0.90	Not Detected	4.9	Not Detected	
Cyclohexane	0.90	1.3	3.1	4.6	
Carbon Tetrachloride	0.90	Not Detected	5.6	Not Detected	
Benzene	0.90	5.0	2.8	16	
1,2-Dichloroethane	0.90	Not Detected	3.6	Not Detected	
Heptane	0.90	2.5	3.7	10	
Trichloroethene	0.90	Not Detected	4.8	Not Detected	
1,2-Dichloropropane	0.90	Not Detected	4.1	Not Detected	
1,4-Dioxane	3.6	Not Detected	13	Not Detected	
Bromodichloromethane	0.90	Not Detected	6.0	Not Detected	
cis-1,3-Dichloropropene	0.90	Not Detected	4.1	Not Detected	
4-Methyl-2-pentanone	0.90	1.2	3.7	5.1	
Toluene	0.90	11	3.4	42	
trans-1,3-Dichloropropene	0.90	Not Detected	4.1	Not Detected	VJ
1,1,2-Trichloroethane	0.90	Not Detected	4.9	Not Detected	
Tetrachloroethene	0.90	23	6.1	160	

VJ VJ

EMM 5/22/06

0267

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV04

Lab ID#: 0603437A-15A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	060512	Date of Collection:	5/4/06
Dil. Factor:	1.73	Date of Analysis:	5/12/06 7:35 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.6	4.0	15	16
Dibromochloromethane	0.90	Not Detected	7.6	Not Detected
1,2-Dibromoethane (EDB)	0.90	Not Detected	6.9	Not Detected
Chlorobenzene	0.90	Not Detected	4.1	Not Detected
Ethyl Benzene	0.90	2.3	3.9	10
m,p-Xylene	0.90	5.1	3.9	22
o-Xylene	0.90	2.4	3.9	10
Styrene	0.90	1.1	3.8	4.8
Bromoform	0.90	Not Detected	9.2	Not Detected
Cumene	0.90	1.4	4.4	7.1
1,1,2,2-Tetrachloroethane	0.90	Not Detected	6.1	Not Detected
Propylbenzene	0.90	Not Detected	4.4	Not Detected
4-Ethyltoluene	0.90	5.1	4.4	25
1,3,5-Trimethylbenzene	0.90	2.2	4.4	10
1,2,4-Trimethylbenzene	0.90	8.6	4.4	42
1,3-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
1,4-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
alpha-Chlorotoluene	0.90	Not Detected	4.6	Not Detected
1,2-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
1,2,4-Trichlorobenzene	3.6	Not Detected	26	Not Detected
Hexachlorobutadiene	3.6	Not Detected	38	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
2,2,4-Trimethylpentane	540-84-1	NA	Not Detected
Thiophene	110-02-1	NA	Not Detected
Butane, 2-methyl-	78-78-4	72%	10 N J
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
2-Methylpentane	107-83-5	NA	Not Detected
Naphthalene	91-20-3	70%	7.0 N J

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	91	70-130
4-Bromofluorobenzene	104	70-130

EMM 5/22/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV04

Lab ID#: 0603437B-15A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

[redacted]

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.018	Not Detected

Container Type: 6 Liter Summa Canister

EMH 5/24/06

0027

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Laboratory Duplicate
- Not a field sample

Client Sample ID: ST17SV04 Duplicate

Lab ID#: 0603437B-15AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.018	Not Detected

Container Type: 6 Liter Summa Canister

EDM 5/22/06

0032

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV05

Lab ID#: 0604167A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	060516s	Date of Collection: 4/5/06
Dil. Factor:	1.85	Date of Analysis: 4/12/06 10:19 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.92	Not Detected	4.5	Not Detected
Freon 114	0.92	Not Detected	6.4	Not Detected
Chloromethane	3.7	Not Detected	7.6	Not Detected
Vinyl Chloride	0.92	Not Detected	2.3	Not Detected
1,3-Butadiene	0.92	Not Detected	2.0	Not Detected
Bromomethane	0.92	Not Detected	3.6	Not Detected
Chloroethane	0.92	Not Detected	2.4	Not Detected
Freon 11	0.92	1.7	5.1	9.8
Ethanol	3.7	Not Detected	6.9	Not Detected
Freon 113	0.92	Not Detected	7.0	Not Detected
1,1-Dichloroethene	0.92	Not Detected	3.6	Not Detected
Acetone	3.7	4.0	8.7	9.5
2-Propanol	3.7	Not Detected	9.0	Not Detected
Carbon Disulfide	0.92	21	2.8	66
3-Chloropropene	3.7	Not Detected	11	Not Detected
Methylene Chloride	0.92	Not Detected	3.2	Not Detected
Methyl tert-butyl ether	0.92	1.3	3.3	4.8
trans-1,2-Dichloroethene	0.92	Not Detected	3.6	Not Detected
Hexane	0.92	1.7	3.2	6.1
1,1-Dichloroethane	0.92	Not Detected	3.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.92	2.1	2.7	6.2
cis-1,2-Dichloroethene	0.92	Not Detected	3.6	Not Detected
Tetrahydrofuran	0.92	Not Detected	2.7	Not Detected
Chloroform	0.92	34	4.5	170
1,1,1-Trichloroethane	0.92	Not Detected	5.0	Not Detected
Cyclohexane	0.92	Not Detected	3.1	Not Detected
Carbon Tetrachloride	0.92	Not Detected	5.8	Not Detected
2,2,4-Trimethylpentane	0.92	Not Detected	4.3	Not Detected
Benzene	0.92	1.8	2.9	5.7
1,2-Dichloroethane	0.92	Not Detected	3.7	Not Detected
Heptane	0.92	1.1	3.7	4.5
Trichloroethene	0.92	Not Detected	4.9	Not Detected
1,2-Dichloropropane	0.92	Not Detected	4.2	Not Detected
1,4-Dioxane	3.7	Not Detected	13	Not Detected
Bromodichloromethane	0.92	1.6	6.1	11
cis-1,3-Dichloropropene	0.92	Not Detected	4.2	Not Detected
4-Methyl-2-pentanone	0.92	Not Detected	3.7	Not Detected
Toluene	0.92	10	3.4	38
trans-1,3-Dichloropropene	0.92	Not Detected	4.2	Not Detected
1,1,2-Trichloroethane	0.92	Not Detected	5.0	Not Detected

EMM 5/21/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV05

Lab ID#: 0604167A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	041114	Date of Collection: 4/4/06
Dil. Factor:	1.83	Date of Analysis: 4/13/06 12:19 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.92	46	6.2	310
2-Hexanone	3.7	Not Detected	15	Not Detected
Dibromochloromethane	0.92	Not Detected	7.8	Not Detected
1,2-Dibromoethane (EDB)	0.92	Not Detected	7.0	Not Detected
Chlorobenzene	0.92	Not Detected	4.2	Not Detected
Ethyl Benzene	0.92	1.9	4.0	8.4
m,p-Xylene	0.92	4.5	4.0	20
o-Xylene	0.92	1.8	4.0	7.6
Styrene	0.92	Not Detected	3.9	Not Detected
Bromoform	0.92	Not Detected	9.4	Not Detected
Cumene	0.92	Not Detected	4.5	Not Detected
1,1,2,2-Tetrachloroethane	0.92	Not Detected	6.3	Not Detected
Propylbenzene	0.92	Not Detected	4.5	Not Detected
4-Ethyltoluene	0.92	1.6	4.5	8.0
1,3,5-Trimethylbenzene	0.92	Not Detected	4.5	Not Detected
1,2,4-Trimethylbenzene	0.92	3.0	4.5	15
1,3-Dichlorobenzene	0.92	Not Detected	5.5	Not Detected
1,4-Dichlorobenzene	0.92	Not Detected	5.5	Not Detected
alpha-Chlorotoluene	0.92	Not Detected	4.7	Not Detected
1,2-Dichlorobenzene	0.92	Not Detected	5.5	Not Detected
1,2,4-Trichlorobenzene	3.7	Not Detected	27	Not Detected
Hexachlorobutadiene	3.7	Not Detected	39	Not Detected
Naphthalene	3.7	Not Detected	19	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Thiophene	110-02-1	NA	Not Detected
Isopentane	78-78-4	NA	Not Detected
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
2-Methylpentane	107-83-5	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	97	70-130

EMM 5/21/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV05

Lab ID#: 0604167B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.018	Not Detected

Container Type: 6 Liter Summa Canister

EHM 5/31/06

0017

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV06

Lab ID#: 0605513A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 060417r — Date of Collection: 5/9/06 [illegible]
Dil. Factor: 1.78 — Date of Analysis: 5/24/06 11:00 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.90	Not Detected	4.4	Not Detected
Freon 114	0.90	Not Detected	6.2	Not Detected
Chloromethane	3.6	Not Detected	7.4	Not Detected
Vinyl Chloride	0.90	Not Detected	2.3	Not Detected
1,3-Butadiene	0.90	Not Detected	2.0	Not Detected
Bromomethane	0.90	Not Detected	3.5	Not Detected
Chloroethane	0.90	Not Detected	2.4	Not Detected
Freon 11	0.90	Not Detected	5.0	Not Detected
Ethanol	3.6	6.9	6.7	13
Freon 113	0.90	Not Detected	6.8	Not Detected
1,1-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Acetone	3.6	25	8.5	59
2-Propanol	3.6	Not Detected	8.8	Not Detected
Carbon Disulfide	0.90	7.5	2.8	23
3-Chloropropene	3.6	Not Detected	11	Not Detected
Methylene Chloride	0.90	Not Detected	3.1	Not Detected
Methyl tert-butyl ether	0.90	Not Detected	3.2	Not Detected
trans-1,2-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Hexane	0.90	6.5	3.2	23
1,1-Dichloroethane	0.90	Not Detected	3.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.90	4.5	2.6	13
cis-1,2-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Tetrahydrofuran	0.90	Not Detected	2.6	Not Detected
Chloroform	0.90	1.6	4.4	7.6
1,1,1-Trichloroethane	0.90	Not Detected	4.9	Not Detected
Cyclohexane	0.90	1.4	3.1	4.9
Carbon Tetrachloride	0.90	Not Detected	5.6	Not Detected
2,2,4-Trimethylpentane	0.90	Not Detected	4.2	Not Detected
Benzene	0.90	3.4	2.8	11
1,2-Dichloroethane	0.90	Not Detected	3.6	Not Detected
Heptane	0.90	2.7	3.7	11
Trichloroethene	0.90	1.4	4.8	7.8
1,2-Dichloropropane	0.90	Not Detected	4.1	Not Detected
1,4-Dioxane	3.6	Not Detected	13	Not Detected
Bromodichloromethane	0.90	Not Detected	6.0	Not Detected
cis-1,3-Dichloropropene	0.90	Not Detected	4.1	Not Detected
4-Methyl-2-pentanone	0.90	Not Detected	3.7	Not Detected
Toluene	0.90	2.3	3.4	8.8
trans-1,3-Dichloropropene	0.90	Not Detected	4.1	Not Detected
1,1,2-Trichloroethane	0.90	Not Detected	4.9	Not Detected

EMM 6/29/06

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV06

Lab ID#: 0605513A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 052417 Date of Collection: 5/9/06
Dil. Factor: 1.79 Date of Analysis: 5/24/06 11:00 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.90	3.2	6.1	22
2-Hexanone	3.6	Not Detected	15	Not Detected
Dibromochloromethane	0.90	Not Detected	7.6	Not Detected
1,2-Dibromoethane (EDB)	0.90	Not Detected	6.9	Not Detected
Chlorobenzene	0.90	Not Detected	4.1	Not Detected
Ethyl Benzene	0.90	Not Detected	3.9	Not Detected
m,p-Xylene	0.90	Not Detected	3.9	Not Detected
o-Xylene	0.90	Not Detected	3.9	Not Detected
Styrene	0.90	Not Detected	3.8	Not Detected
Bromoform	0.90	Not Detected	9.2	Not Detected
Cumene	0.90	Not Detected	4.4	Not Detected
1,1,2,2-Tetrachloroethane	0.90	Not Detected	6.1	Not Detected
Propylbenzene	0.90	Not Detected	4.4	Not Detected
4-Ethyltoluene	0.90	Not Detected	4.4	Not Detected
1,3,5-Trimethylbenzene	0.90	Not Detected	4.4	Not Detected
1,2,4-Trimethylbenzene	0.90	Not Detected	4.4	Not Detected
1,3-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
1,4-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
alpha-Chlorotoluene	0.90	Not Detected	4.6	Not Detected
1,2-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
1,2,4-Trichlorobenzene	3.6	Not Detected	26	Not Detected
Hexachlorobutadiene	3.6	Not Detected	38	Not Detected
Naphthalene	3.6	Not Detected	19	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
Thiophene	110-02-1	NA	Not Detected
Isopentane	78-78-4	78%	12 N J
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
2-Methylpentane	107-83-5	NA	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	101	70-130

EMA 6/29/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST17SV06

Lab ID#: 0605513B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

File Name:	90524055	Date of Collection: 5/9/06
Dil. Factor:	1.79	Date of Analysis: 5/24/06 08:30 AM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.018	0.021

Container Type: 6 Liter Summa Canister

EHM
6/29/06

0007

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST19SV01

Lab ID#: 0603437A-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	m03607	Date of Collection: 3/15/06
Dil. Factor:	1.75	Date of Analysis: 3/20/06 03:46 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Freon 12	0.88	Not Detected	4.3	Not Detected	
Freon 114	0.88	Not Detected	6.1	Not Detected	
Chloromethane	3.5	Not Detected	7.2	Not Detected	
Vinyl Chloride	0.88	Not Detected	2.2	Not Detected	
1,3-Butadiene	0.88	Not Detected	1.9	Not Detected	
Bromomethane	0.88	Not Detected	3.4	Not Detected	
Chloroethane	0.88	Not Detected	2.3	Not Detected	
Freon 11	0.88	Not Detected	4.9	Not Detected	
Ethanol	3.5	Not Detected	6.6	Not Detected	
Freon 113	0.88	Not Detected	6.7	Not Detected	
1,1-Dichloroethene	0.88	Not Detected	3.5	Not Detected	
Acetone	3.5	Not Detected	8.3	Not Detected	
2-Propanol	3.5	Not Detected	8.6	Not Detected	
Carbon Disulfide	0.88	7.5	2.7	24	
3-Chloropropene	3.5	Not Detected	11	Not Detected	
Methylene Chloride	0.88	Not Detected	3.0	Not Detected	
Methyl tert-butyl ether	0.88	Not Detected	3.2	Not Detected	
trans-1,2-Dichloroethene	0.88	Not Detected	3.5	Not Detected	
Hexane	0.88	3.6	3.1	13	
1,1-Dichloroethane	0.88	Not Detected	3.5	Not Detected	
2-Butanone (Methyl Ethyl Ketone)	0.88	1.2	2.6	3.4	
cis-1,2-Dichloroethene	0.88	Not Detected	3.5	Not Detected	
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected	
Chloroform	0.88	6.9	4.3	34	
1,1,1-Trichloroethane	0.88	Not Detected	4.8	Not Detected	
Cyclohexane	0.88	0.98	3.0	3.4	
Carbon Tetrachloride	0.88	Not Detected	5.5	Not Detected	
Benzene	0.88	5.4	2.8	17	
1,2-Dichloroethane	0.88	Not Detected	3.5	Not Detected	
Heptane	0.88	9.0	3.6	37	
Trichloroethene	0.88	Not Detected	4.7	Not Detected	
1,2-Dichloropropane	0.88	Not Detected	4.0	Not Detected	
1,4-Dioxane	3.5	Not Detected	13	Not Detected	
Bromodichloromethane	0.88	Not Detected	5.9	Not Detected	
cis-1,3-Dichloropropene	0.88	Not Detected	4.0	Not Detected	
4-Methyl-2-pentanone	0.88	Not Detected	3.6	Not Detected	
Toluene	0.88	24	3.3	92	
trans-1,3-Dichloropropene	0.88	Not Detected	4.0	Not Detected	UJ
1,1,2-Trichloroethane	0.88	Not Detected	4.8	Not Detected	
Tetrachloroethene	0.88	59	5.9	400	

UJ

EMM 5/22/06

0149

@ AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST19SV01

Lab ID#: 0603437A-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	f032[illegible]T	Date of Collection: 3/15/06
Dil. Factor:	1.75	Date of Analysis: 3/22/06 02:31 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.5	Not Detected	14	Not Detected
Dibromochloromethane	0.88	Not Detected	7.4	Not Detected
1,2-Dibromoethane (EDB)	0.88	Not Detected	6.7	Not Detected
Chlorobenzene	0.88	Not Detected	4.0	Not Detected
Ethyl Benzene	0.88	3.5	3.8	15
m,p-Xylene	0.88	10	3.8	44
o-Xylene	0.88	4.0	3.8	17
Styrene	0.88	Not Detected	3.7	Not Detected
Bromoform	0.88	Not Detected	9.0	Not Detected
Cumene	0.88	Not Detected	4.3	Not Detected
1,1,2,2-Tetrachloroethane	0.88	Not Detected	6.0	Not Detected
Propylbenzene	0.88	Not Detected	4.3	Not Detected
4-Ethyltoluene	0.88	2.7	4.3	13
1,3,5-Trimethylbenzene	0.88	1.4	4.3	7.0
1,2,4-Trimethylbenzene	0.88	3.8	4.3	18
1,3-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
1,4-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
alpha-Chlorotoluene	0.88	Not Detected	4.5	Not Detected
1,2-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
1,2,4-Trichlorobenzene	3.5	Not Detected	26	Not Detected
Hexachlorobutadiene	3.5	Not Detected	37	Not Detected

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ppbv
2,2,4-Trimethylpentane	540-84-1	38%	5.8 N J
Thiophene	110-02-1	NA	Not Detected
Isopentane	78-78-4	NA	Not Detected
Indene	95-13-6	NA	Not Detected
Indan	496-11-7	NA	Not Detected
2,3-Dimethylpentane	565-59-3	NA	Not Detected
2-Methylpentane	107-83-5	NA	Not Detected
Naphthalene	91-20-3	90%	10 N J

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	103	70-130

EMM 5/22/06

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: ST19SV01

Lab ID#: 0603437B-11A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1945

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.018	Not Detected

Container Type: 6 Liter Summa Canister

EMM
5/22/06

0007

Appendix H

Background Statistical Analysis

Appendix H - Table 1
Typical Background Concentrations of Metals and PAHs in Soil
Stuyvesant Town Remedial Investigation Report
New York, NY

Compounds	Background Concentration Range (mg/kg)	Arithmetic Means (mg/kg)
	PAHs	
2-Methylnaphthalene	0.017 - 0.64	0.151
Acenaphthene	0.024 - 0.34	0.201
Acenaphthylene	0.018 - 1.10	0.173
Anthracene	0.029 - 5.70	0.351
Benz(a)anthracene	0.048 - 15.00	1.319
Benzo(a)pyrene	0.040 - 13.00	1.323
Benzo(b)fluoranthene	0.049 - 12.00	1.435
Benzo(g,h,i)perylene	0.200 - 5.90	0.891
Benzo(k)fluoranthene	0.043 - 25.00	1.681
Chrysene	0.038 - 21.00	1.841
Dibenz(a,h)anthracene	0.020 - 2.90	0.388
Fluoranthene	0.110 - 39.00	3.047
Fluorene	0.022 - 3.30	0.214
Indeno(1,2,3-c,d)pyrene	0.093 - 6.00	0.987
Naphthalene	0.018 - 0.66	0.125
Phenanthrene	0.071 - 36.00	1.838
Pyrene	0.082 - 11.00	2.398
Total PAHs	2.292 - 166.65	18.361
Compounds	**Background Concentration Range (mg/kg)**	**Arithmetic Means (mg/kg)**
	Metals	
Aluminum	700 - > 10,000	72,000
Antimony	<1 - 8.8	0.66
Arsenic	<0.1 - 97	7.2
Barium	10 - 5,000	580
Beryllium	<1 - 15	0.92
Cadmium3	0.01 - 22	-
Calcium	100 - 320,000	24,000
Chromium	1 - 2,000	54
Cobalt	<3 - 70	9.1
Copper	<1 - 700	25
Iron	100 - 100,000	26,000
Lead	<10 - 700	19
Magnesium	50 - >100,000	9,000
Manganese	<2 - 7,000	550
Mercury	0.01 - 4.6	0.09
Nickel	<5 - 700	19
Potassium	50 - 63,000	15,000
Selenium	<0.1 - 4.3	0.39
Silver3	0.01 - 5	0.05
Sodium	<500 - 100,000	12,000
Thallium	70 - 20,000	2,900
Vanadium	<7 - 500	80
Zinc	<5 - 2,900	60

Notes:

1 Bradley, B.H., et al. 1994. “Background Levels of Polycyclic Aromatic Hydrocarbons (PAH) and Selected Metals in New England Urban Soils,” Journal of Soil Contamination, 3(4), p. 349-361.

2 H.T. Shacklette and J.G. Boerngen, USGS Professional Paper 1270, 1984.

3 USEPA, *Metals in Soils: A Brief Summary* , 1980.

4 "-" Not presented in source

Appendix B:
Background Statistical Analysis (with associated report tables)

From

Site Characterization Report
Former Consolidated Edison Manufactured Gas Plants
Stuyvesant Town Housing Development
Former East 14th Street Station (NYSDEC Site No. V00535)
Former East 17th Street Station (NYSDEC Site No. V00541)
Former East 19th Street Station (NYSDEC Site No. V00542)
New York, New York
VCA Index # D2-0003-02-08

By

Haley & Aldrich, Inc.
Parsippany, New Jersey

For

Consolidated Edison Company of New York, Inc.
Long Island City, New York

File No. 29455-014, 29462-014, 29463-014
October 2004
Revised April 2005

APPENDIX B

Background Statistical Analysis

Appendix B

Background Statistical Analysis

Introduction

A statistical analysis was conducted to calculate Site-Specific Background Values (SSBV) for individual analytes detected in the six background soil borings (00BG001 through 00BG006). Four to seven soil samples were collected from each of the six background soil borings and a total of thirty-eight soil samples were collected to characterize background soil conditions. Most of the soil borings extended to approximately 50 feet bgs to provide Stuyvesant Town and Peter Cooper Village with background data. Soil samples were analyzed for Target Compound List (TCL) volatile organic compounds plus ten tentatively identifies compounds (TICs) (VOC+10) by EPA Method SW8260B, TCL semivolatile organic compounds plus 20 TICs (SVOC+20) by EPA Method SW8270C, 23 Target Analyte List (TAL) metals by EPA Methods SW6010 and SW7471 and inorganic compounds including cyanide by EPA Method SW9012. The SSBV for Stuyvesant Town and Peter Cooper Village were derived using the NYSDEC Recommended Soil Cleanup Objectives (RSCO) (Technical and Administrative Guidance Memorandum (TAGM) #4046, last revised 1/24/94) and applicable United States Environmental Protection Agency guidance for evaluating background data. Background data evaluation procedures were obtained from *Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites* (EPA OSWER 9285.6-10, December 2002). The 95% Upper Confidence Limits (UCLs) of the mean concentrations of sixty-one detected background analytes were used to establish the SSBV.

Summary of Results

Comparison of the means of all data sets (see Procedure section below) indicated that the data sets were similar with the exception of SVOCs. Therefore, the three layers (surface, fill and glacial lacustrine) were combined (0 – 50) for VOCs, metals, and cyanide, but only two layers were combined (0 – 15) for SVOCs. The SVOC data from 15 – 50 is not comparable to the upper layers. As noted in Section 4, both SVOC and VOC soil data for this report was evaluated using RSCO criteria. SSBV numbers were only utilized for metals and cyanide at the former MGP facilities.

The 95% UCLs were calculated using the Land Method, as recommended in the December 2002 USEPA document. The Site-Specific Background Values were calculated from the mean concentrations of sixty-one detected background analytes. Sixteen of these values exceeded the comparative NYSDEC RSCO value.

Procedure

The background sample data set consisted of detected compounds from soil borings 00BG001 through 00BG006. Where a non-detect value existed, one-half of the reporting detection limit (RDL) was used for calculation purposes. These data were initially divided into three layers: 0 – 0.2 (surface), 0 – 15 (fill), and 15 – 50 (glacial lacustrine). The data were temporarily combined in order to determine the best fit distribution (normal or lognormal) for the data. The temporary combination was necessary in order to have a sufficient number of samples with which to perform the goodness-of-fit analysis.

The goodness-of-fit was judged using the Chi-Square test and resulted in nearly all of the samples fitting the lognormal distribution, and the data were accordingly log-transformed. All

calculations henceforth were performed on either the normal or the log-transformed data sets (which are normally distributed), as appropriate. The arithmetic means and standard deviations of each layer by individual analyte were then calculated with the formulas shown:

$$\bar{x} = \frac{\sum_{i=1}^{n} x_i}{n} \qquad s = \sqrt{\frac{\sum_{i=1}^{n} (x_i - \bar{x})^2}{n-1}}$$

The next step was to determine if the initial, temporary combination of the layers would be acceptable as a permanent data set. The procedure to make this judgment was based on the equivalence of means evaluation. This specifically tested if the difference in the sample means (individual layer means) varied if sampling events were to be repeated. First, the 0 – 0.2 and 0.2 – 15 data sets were compared using the Student t-test.

The Student t-test is used to assess if the difference of means itself, $\bar{x}_1 - \bar{x}_2$, will possess a normal distribution with zero mean. Two hypotheses are generated for the test. The anticipated result of the Student t-test is to accept or reject the alternative hypothesis at a certain confidence level. To accept a hypothesis does not necessarily conclude that the hypothesis is true, but rather, concludes that it is *practical* to *assume* it is true until further evidence is presented to the contrary. The confidence interval "CI" (e.g. 95%) allows the acceptance of the alternative hypothesis with a "100 – CI" (e.g. 5%) probability of incorrectly accepting the hypothesis. The assumptions of the test are that the two distributions, x_1 and x_2, possess independent normal distributions and standard deviations. The original data were either fitted to a normal distribution or log-transformed to fit a normal distribution.

The first step of the Student t-test is to derive the hypotheses to test. The null and alternative hypotheses were selected:

$H_0 : \bar{x}_1 = \bar{x}_2$ Null (the two means are similar)

$H_1 : \bar{x}_1 \neq \bar{x}_2$ Alternative (the two means are dissimilar)

The standard deviation of the combined test group was then calculated:

$$s_g = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}}$$

The Student t-test value was calculated using the following formula, with s_g as the group standard deviation:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{s_g \sqrt{\frac{1}{n_1} - \frac{1}{n_2}}}$$

The calculated t-test value was then compared to a given value in standard tables of the t distribution. The given value was based on the number of samples and a 95% confidence interval. The 95% confidence interval allows the acceptance of the alternative hypothesis with a 5% probability of incorrectly accepting the wrong hypothesis. The calculated value

was then compared to the given value found in the table. If the calculated value was below the given value, the alternative hypothesis (H_1) was rejected, that is, the two means were not dissimilar. If the calculated value was above the given value, the alternative hypothesis was accepted.

If the alternative hypothesis was rejected, the data sets were similar and able to be combined. Once data from the two layers were combined, the Student t-test procedure was repeated with the combined 0-0 - 0.2 and 0.2 – 15 layers as one data set and the 15 – 50 layer as the second data set.

Using the combined data, a one-sided 95% UCL was calculated using the Land method. The Land method uses the H-statistic, found in standard tables of h values, in its calculations. The formula below illustrates the UCL calculation, with $\bar{x}_g$ as the group arithmetic mean.

$$UCL = e^{\left(\bar{x}_g + \frac{s^2}{2} + h\frac{s}{\sqrt{n-1}}\right)}$$

Conclusion

The comparison of the means indicated that the alternative hypothesis should be rejected and it was practical to assume that the means of all data sets were similar, except for the SVOCs. Therefore, the three layers were combined (0 – 50) for VOCs, metals, and cyanide, but only two layers were combined (0 – 15) for SVOCs. The SVOC data from 15 – 50 is not comparable to the upper layers. The 95% UCLs were calculated with the whole data set of the two or three layers using the Land Method, as recommended in the December 2002 USEPA document. The Site-Specific Background Values were calculated from the mean concentrations of sixty-one detected background analytes. Sixteen of these values exceeded the comparative NYSDEC RSCO value.

The UCL results for the VOC group need to be qualified in order to fully understand the meaning. There are few detects in the VOC group and no exceedances of the RSCO. Therefore, the 95% UCL is based mostly on one-half of the RDL, an arbitrary value. The UCL in these situations where few detects are available are not a reliable indication of background criteria. The VOC 95% UCL values thus can be considered almost insignificant.

TABLE VII
SUMMARY OF DETECTED COMPOUNDS IN BACKGROUND SURFACE SOIL
Former Con Edison Manufactured Gas Plants within Stuyvesant Town
NY, NY

Location		00BG001	00BG002	00BG003	00BG004	00BG005	00BG006
Sample ID		00BG001-00	00BG002-00	00BG003-00	00BG004-00	00BG005-00	00BG006-00
Date		2/9/2004	2/6/2004	2/6/2004	2/9/2004	2/5/2004	2/16/2004
Depth	Screen Level	0 to 0.2	0 to 0.2	0 to 0.2	0 to 0.2	0 to 0.2	0 to 0.2
Matrix	NYSDEC-RSCO	Soil	Soil	Soil	Soil	Soil	Soil
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOCs							
ACETONE	0.2	--	0.039 J	0.067 J	--	0.07	0.058 J
BENZENE	0.06	--	--	--	--	--	0.024
TOLUENE	1.5	0.0029 J	--	0.0018 J	--	--	0.0084
TOTAL CONCENTRATION OF VOCs	10	0.0029	0.039	0.0688	---	0.07	0.0904
SVOCs							
1,3-DICHLOROBENZENE	1.6	--	--	--	--	0.017 J	--
1,4-DICHLOROBENZENE	8.5	--	--	--	--	0.021 J	--
2-METHYLNAPHTHALENE	36.4	0.013 J	--	0.013 J	0.025 J	0.088 J	--
4-METHYLPHENOL	0.9	0.018 J	--	--	0.0074 J	0.01 J	--
ACENAPHTHENE	50	0.037 J	0.01 J	0.036 J	0.08 J	0.08 J	0.012 J
ACENAPHTHYLENE	41	0.024 J	--	0.02 J	0.11 J	0.29 J	0.016 J
ANTHRACENE	50	0.16 J	0.033 J	0.18 J	0.26 J	0.35 J	0.036 J
BENZO(A)ANTHRACENE	0.224	0.61	0.1	0.69	0.78	1	0.14
BENZO(A)PYRENE	0.061	0.56	0.093 J	0.64 J	0.57	1	0.13
BENZO(B)FLUORANTHENE	1.1	0.45	0.074	0.54	0.46	0.73	0.13
BENZO(G,H,I)PERYLENE	50	0.34 J	0.059 J	0.36 J	0.41	0.45 J	0.089 J
BENZO(K)FLUORANTHENE	1.1	0.66	0.1	0.69	0.76	1.1	0.16
BIS(2-ETHYLHEXYL)PHTHALATE	50	--	0.41 J	1.6	--	1.2	0.67
CARBAZOLE	N/A	0.096 J	0.015 J	0.081 J	0.11 J	0.17 J	0.025 J
CHRYSENE	0.4	0.72	0.12 J	0.78	0.83	1.1	0.18 J
DIBENZ(A,H)ANTHRACENE	0.014	--	0.015 J	0.16	0.16 J	0.048	0.025 J
DIBENZOFURAN	6.2	0.016 J	--	0.019 J	0.046 J	0.11 J	--
DIETHYL PHTHALATE	7.1	--	0.086 J	--	--	--	--
DI-N-BUTYLPHTHALATE	8.1	0.2 J	--	0.11 J	0.079 J	0.19 J	--
FLUORANTHENE	50	1.3	0.23 J	1.2	1.5	2.2	0.3 J
FLUORENE	50	0.035 J	--	0.044 J	0.091 J	0.16 J	0.012 J
INDENO(1,2,3-CD)PYRENE	3.2	0.29	0.056	0.34	0.38	0.48	0.084
NAPHTHALENE	13	0.024 J	--	0.024 J	0.049 J	0.13 J	0.012 J
PHENANTHRENE	50	0.67	0.16 J	0.62	1.1	1.8	0.18 J
PHENOL	0.03	0.11 J	--	--	--	--	--
PYRENE	50	1.2	0.2 J	1.1	1.4	2.1 J	0.28 J
TOTAL CONCENTRATION OF SVOCs	500	7.533	1.761	9.247	9.2074	14.824	2.481
METALS							
ALUMINUM	N/A	12900 J	11100 J	12400 J	4970 J	9030	8970 J
ARSENIC	7.5	24.6	15.6	15.3	5.5	9.4	25.4
BARIUM	300	111	45.9 J	146	104	155	45.3 J
BERYLLIUM	0.16	0.71	0.28 J	0.57 J	0.25 J	0.68	0.28 J
CADMIUM	1	0.62 J	0.21 J	0.99 J	0.1 J	1 J	0.47 J
CALCIUM	N/A	8730 J	2090	5500	5910 J	4260 J	4460
CHROMIUM	10	157	21.9	175	13	117	80.1
COBALT	30	4.9 J	2.8 J	6.1 J	3.7 J	4.9 J	2.1 J
COPPER	25	54.5 J	31	72.8	30.7 J	67.4 J	73.9
IRON	2000	18000	14600 J	17400 J	9270	16900	13000
LEAD	N/A	159 J	47.5	202	89.1 J	155 J	86.5
MAGNESIUM	N/A	4140	1150 J	2430	1840	1760	1500
MANGANESE	N/A	317	176	337	192	234 J	144
MERCURY	0.1	1.2 J	0.28	0.64	0.74 J	0.68 J	0.44
NICKEL	13	23.2	8.1 J	25.8	10.2	20.2	10.5
POTASSIUM	N/A	636 J	269 J	784 J	526 J	508 J	554 J
SILVER	N/A	0.72 J	--	1.1 J	--	0.67 J	--
SODIUM	N/A	--	--	202 J	--	--	--
VANADIUM	150	67.7	28.9	75	16.3	67.8	41.2
ZINC	20	107	53.2	139	95.1	85.7	52.9
INORGANICS							
CYANIDE	N/A	--	--	--	--	--	--

For a summary of notes and abbreviations, refer to the notes page in the beginning of the Tables Section

TABLE VII
SUMMARY OF DETECTED COMPOUNDS IN BACKGROUND SURFACE SOIL
Former Con Edison Manufactured Gas Plants within Stuyvesant Town
NY, NY

Location Sample ID Date Depth Matrix Unit	Statistical Analysis			
	Minimum Value	Maximum Value	Number of Detections	Percentage of Exceedances of NYSDEC-RSCO
VOCs				
ACETONE	0.039	0.07	4	--
BENZENE	0.024	0.024	1	--
TOLUENE	0.0018	0.0084	3	--
TOTAL CONCENTRATION OF VOCs				
SVOCs				
1,3-DICHLOROBENZENE	0.017	0.017	1	--
1,4-DICHLOROBENZENE	0.021	0.021	1	--
2-METHYLNAPHTHALENE	0.013	0.088	4	--
4-METHYLPHENOL	0.0074	0.018	3	--
ACENAPHTHENE	0.01	0.08	6	--
ACENAPHTHYLENE	0.016	0.29	5	--
ANTHRACENE	0.033	0.35	6	--
BENZO(A)ANTHRACENE	0.1	1	6	66.67%
BENZO(A)PYRENE	0.093	1	6	100.00%
BENZO(B)FLUORANTHENE	0.074	0.73	6	--
BENZO(G,H,I)PERYLENE	0.059	0.45	6	--
BENZO(K)FLUORANTHENE	0.1	1.1	6	16.67%
BIS(2-ETHYLHEXYL)PHTHALATE	0.41	1.6	4	--
CARBAZOLE	0.015	0.17	6	--
CHRYSENE	0.12	1.1	6	66.67%
DIBENZ(A,H)ANTHRACENE	0.015	0.16	5	100.00%
DIBENZOFURAN	0.016	0.11	4	--
DIETHYL PHTHALATE	0.086	0.086	1	--
DI-N-BUTYLPHTHALATE	0.079	0.2	4	--
FLUORANTHENE	0.23	2.2	6	--
FLUORENE	0.012	0.16	5	--
INDENO(1,2,3-CD)PYRENE	0.056	0.48	6	--
NAPHTHALENE	0.012	0.13	5	--
PHENANTHRENE	0.16	1.8	6	--
PHENOL	0.11	0.11	1	100.00%
PYRENE	0.2	2.1	6	--
TOTAL CONCENTRATION OF SVOCs				
METALS				
ALUMINUM	4970	12900	6	--
ARSENIC	5.5	25.4	6	83.33%
BARIUM	45.3	155	6	--
BERYLLIUM	0.25	0.71	6	100.00%
CADMIUM	0.1	1	6	16.67%
CALCIUM	2090	8730	6	--
CHROMIUM	13	175	6	100.00%
COBALT	2.1	6.1	6	--
COPPER	30.7	73.9	6	100.00%
IRON	9270	18000	6	100.00%
LEAD	47.5	202	6	--
MAGNESIUM	1150	4140	6	--
MANGANESE	144	337	6	--
MERCURY	0.28	1.2	6	100.00%
NICKEL	8.1	26.8	6	50.00%
POTASSIUM	269	784	6	--
SILVER	0.67	1.1	3	--
SODIUM	202	202	1	--
VANADIUM	16.3	75	6	--
ZINC	52.9	139	6	100.00%
INORGANICS				
CYANIDE				--

For a summary of notes and abbreviations, refer to the notes page in the beginning of the Tables Section

TABLE IX
BACKGROUND - SUMMARY OF DETECTED COMPOUNDS IN SUBSURFACE SOIL
Former Con Edison Manufactured Gas Plants within Stuyvesant Town
NY, NY

Location		00BG001	00BG001	00BG001	00BG001	00BG001	00BG001	00BG002	00BG002
Sample ID		00BG001-02	00BG001-04	00BG001-07	00BG001-15	00BG001-35	00BG001-50	00BG002-02	00BG002-04
Date		2/9/2004	2/9/2004	2/23/2004	2/23/2004	2/24/2004	2/24/2004	2/6/2004	2/6/2004
Depth	Screen Level	0 to 2	2 to 4	5 to 7	13 to 15	33 to 35	48 to 50	0 to 2	2 to 4
Matrix	NYSDEC-RSCO	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOCs									
2-BUTANONE	0.3	--	0.0053 J	--	0.012 J	--	--	--	--
ACETONE	0.2	0.031 J	0.051 J	0.057 J	0.077 J	0.046 J	0.028 J	0.069 J	0.068 J
BENZENE	0.06	--	0.0009 J	0.0025	0.0026	--	--	--	--
CARBON DISULFIDE	2.7	--	--	0.0057	0.0021 J	--	--	--	--
CIS-1,2-DICHLOROETHENE	N/A	--	--	--	--	--	--	--	--
ETHYLBENZENE	5.5	--	--	--	--	--	--	--	--
METHYLENE CHLORIDE	0.1	--	--	--	--	--	--	--	--
TETRACHLOROETHENE	1.4	--	--	--	--	--	--	--	--
TOLUENE	1.5	0.0021 J	0.0066	0.0026 J	0.0028 J	--	--	--	--
TRICHLOROETHYLENE	0.7	--	--	--	--	--	--	--	--
XYLENES (TOTAL)	1.2	--	--	0.002 J	0.002 J	--	--	--	--
TOTAL CONCENTRATION OF VOCs	10	0.0331	0.0638	0.0709	0.0985	0.046	0.028	0.069	0.068
SVOCs									
2,4-DIMETHYLPHENOL	N/A	--	--	--	--	--	--	--	--
2-METHYLNAPHTHALENE	36.4	--	0.0083 J	0.41 J	0.19 J	--	--	--	0.011 J
2-METHYLPHENOL	0.1	--	--	--	--	--	--	--	--
4-METHYLPHENOL	0.9	--	--	--	0.015 J	--	--	--	--
ACENAPHTHENE	50	--	--	0.18 J	0.29 J	--	--	--	0.02 J
ACENAPHTHYLENE	41	--	0.018 J	1	0.43	--	--	--	0.05 J
ANTHRACENE	50	--	0.022 J	1.2	1.1	--	--	0.0093 J	0.13 J
BENZO(A)ANTHRACENE	0.224	0.05	0.091	2.2	1.8	--	--	0.032 J	0.32
BENZO(A)PYRENE	0.061	0.038	0.081	2.2	1.6	--	--	0.031 J	0.27 J
BENZO(B)FLUORANTHENE	1.1	0.037	0.054	1.4	1.2	--	--	0.023 J	0.21
BENZO(G,H,I)PERYLENE	50	--	0.06 J	1.4	0.94	--	--	0.019 J	0.16 J
BENZO(K)FLUORANTHENE	1.1	0.044	0.1	2	1.5	--	--	0.035 J	0.29
BIS(2-ETHYLHEXYL)PHTHALATE	50	--	--	0.21 J	0.53	--	--	0.17 J	0.54
BUTYLBENZYLPHTHALATE	50	--	--	--	--	--	--	--	--
CARBAZOLE	N/A	--	--	0.32 J	0.27 J	--	--	--	0.072 J
CHRYSENE	0.4	0.054 J	0.095 J	2.2	2	--	--	0.037 J	0.39 J
DIBENZ(A,H)ANTHRACENE	0.014	--	--	0.4	0.27	--	--	--	0.079
DIBENZOFURAN	6.2	--	--	0.53 J	0.3 J	--	--	--	0.016 J
DIETHYL PHTHALATE	7.1	--	--	--	--	--	--	--	--
DI-N-BUTYLPHTHALATE	8.1	--	--	--	--	--	--	--	0.11 J
FLUORANTHENE	50	0.051 J	0.15 J	4.1	3.9	--	--	0.06 J	0.61
FLUORENE	50	--	--	0.64 J	0.49	--	--	--	0.026 J
INDENO(1,2,3-CD)PYRENE	3.2	--	0.044	1.2	0.91	--	--	0.018 J	0.14
NAPHTHALENE	13	--	0.024 J	0.91	0.43	--	--	--	0.027 J
PHENANTHRENE	50	0.044 J	0.094 J	4.7	3.9	--	--	0.039 J	0.45
PHENOL	0.03	--	--	--	--	--	--	--	--
PYRENE	50	0.084 J	0.14 J	3.8	4	--	--	0.057 J	0.59
TOTAL CONCENTRATION OF SVOCs	500	0.432	0.9813	31	26.065	--	--	0.5303	4.511
METALS									
ALUMINUM	N/A	9390 J	6080 J	8690	7470	5440	6420	7590 J	8350 J
ARSENIC	7.5	9.4	2.4	8.8	5.3	--	0.9 J	5.9	3.7
BARIUM	300	54.7	43 J	101	645	88.9	110	77.2	50.4 J
BERYLLIUM	0.16	0.5	0.34 J	0.38 J	0.38 J	0.39 J	0.38 J	0.35 J	0.37 J
CADMIUM	1	--	--	--	0.15 J	--	--	0.12 J	0.17 J
CALCIUM	N/A	1160 J	2820 J	27000	17200	5650	9760	1300	1610
CHROMIUM	10	19.6	15	25.2	14.8	13.9	13.3	22.6	33.3
COBALT	30	5.5 J	4.6 J	3.8 J	4.4 J	5.8 J	6.6 J	4.8 J	6.1 J
COPPER	25	30.1 J	18.3 J	23.1	19.9	9.2	15	34.9	41.9
IRON	2000	18300	12500	9400	11200	11500	13400	12500 J	15600 J
LEAD	N/A	23.5 J	65.1 J	80.7	244	6.3	4.9	42.2	23.1
MAGNESIUM	N/A	2150	1610	3760	2790	4420	4780	1620	2030
MANGANESE	N/A	427	258	232	227	281	279	477	338
MERCURY	0.1	0.32 J	0.1 J	0.55	0.05	--	--	0.12	0.17
NICKEL	13	11.3	10	10	11.6	16.1	16.3	10	12.7
POTASSIUM	N/A	654 J	409 J	449 J	895 J	1400 J	2500 J	507 J	656 J
SILVER	N/A	--	--	--	--	--	--	--	--
SODIUM	N/A	--	--	427 J	509 J	243 J	172 J	102 J	135 J
VANADIUM	150	28.3	17.4	26.8	20	16.3	18.2	28.3	31.1
ZINC	20	38.1	48.9	75.6	338	22.8	40.4	43.9	44.4
INORGANICS									
CYANIDE	N/A	--	--	--	3.3	--	48.1	--	--

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TABLE IX
BACKGROUND - SUMMARY OF DETECTED COMPOUNDS IN SUBSURFACE SOIL
Former Con Edison Manufactured Gas Plants within Stuyvesant Town
NY, NY

Location	OCBG002	OCBG002	OCBG002	OCBG002	OCBG002	OCBG003	OCBG003	OCBG003	OCBG003
Sample ID	OCBG002-17	OCBG002-19	OCBG002-19DUP	OCBG002-33	OCBG002-50	OCBG003-07	OCBG003-15	OCBG003-30	OCBG003-30DUP
Date	3/4/2004	3/4/2004	3/4/2004	3/5/2004	3/5/2004	2/26/2004	2/26/2004	2/26/2004	2/26/2004
Depth	15 to 17	17 to 19	17 to 19	31 to 33	48 to 50	5 to 7	13 to 15	28 to 30	28 to 30
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOCs									
2-BUTANONE	--	--	--	--	--	--	0.013 J	0.01 J	0.012 J
ACETONE	--	--	--	--	--	--	0.035 J	0.034 J	0.043 J
BENZENE	--	--	0.0018	--	--	0.0017	0.0006 J	--	--
CARBON DISULFIDE	--	--	--	--	--	--	0.0072	0.0085	0.0041 J
CIS-1,2-DICHLOROETHENE	--	0.0007 J	--	--	--	--	--	--	--
ETHYLBENZENE	--	--	--	--	--	--	--	--	--
METHYLENE CHLORIDE	--	--	--	--	--	--	--	--	--
TETRACHLOROETHENE	--	--	--	--	--	--	--	--	--
TOLUENE	--	--	--	--	--	0.002 J	--	--	--
TRICHLOROETHYLENE	--	--	--	--	--	--	--	--	--
XYLENES (TOTAL)	--	--	--	--	--	--	--	--	--
TOTAL CONCENTRATION OF VOCs	---	0.0007	0.0018	---	---	0.0037	0.0558	0.0525	0.0591
SVOCs									
2,4-DIMETHYLPHENOL	--	--	--	--	--	--	--	--	--
2-METHYLNAPHTHALENE	--	--	--	--	--	--	0.039 J	--	--
2-METHYLPHENOL	--	--	--	--	--	--	--	--	--
4-METHYLPHENOL	--	--	--	--	--	--	--	--	--
ACENAPHTHENE	--	--	--	--	--	0.0097 J	0.041 J	--	--
ACENAPHTHYLENE	--	--	--	--	--	0.014 J	--	--	--
ANTHRACENE	0.027 J	--	--	--	--	0.052 J	0.035 J	--	--
BENZO(A)ANTHRACENE	0.068	--	--	--	--	0.23	0.019 J	--	--
BENZO(A)PYRENE	--	--	--	--	--	0.2	0.0098 J	--	--
BENZO(B)FLUORANTHENE	--	--	--	--	--	0.18	0.01 J	--	--
BENZO(G,H,I)PERYLENE	--	--	--	--	--	0.13 J	--	--	--
BENZO(K)FLUORANTHENE	--	--	--	--	--	0.22	0.012 J	--	--
BIS(2-ETHYLHEXYL)PHTHALATE	0.12 J	--	--	--	--	0.25 J	0.084 J	--	0.13 J
BUTYLBENZYLPHTHALATE	--	--	--	--	--	--	--	--	--
CARBAZOLE	--	--	--	--	--	0.019 J	--	--	--
CHRYSENE	0.006 J	--	0.011 J	--	--	0.26 J	0.022 J	--	0.012 J
DIBENZ(A,H)ANTHRACENE	--	--	--	--	--	--	--	--	--
DIBENZOFURAN	--	--	--	--	--	--	--	--	--
DIETHYL PHTHALATE	--	--	--	--	--	--	--	--	--
DI-N-BUTYLPHTHALATE	--	--	--	--	--	--	--	--	--
FLUORANTHENE	0.11 J	--	--	--	--	0.45	0.019 J	--	0.014 J
FLUORENE	--	--	--	--	--	0.012 J	0.015 J	--	--
INDENO(1,2,3-CD)PYRENE	--	--	--	--	--	0.12	--	--	--
NAPHTHALENE	--	--	--	--	--	0.012 J	0.024 J	--	0.01 J
PHENANTHRENE	0.098 J	--	--	--	--	0.21 J	0.004 J	--	0.015 J
PHENOL	--	--	--	--	--	--	--	--	--
PYRENE	0.17 J	--	--	--	--	0.38 J	0.041 J	--	0.016 J
TOTAL CONCENTRATION OF SVOCs	0.679	---	0.011	---	---	2.7487	0.4548	---	0.197
METALS									
ALUMINUM	2780	2660	2880	3250	2540	9460	5960	7900	6810
ARSENIC	1.8	--	--	--	--	8.1	2.6 J	--	3.2 J
BARIUM	62.7	19.7 J	30.6 J	40.4 J	21.1 J	121	61.1	90.9	53.2
BERYLLIUM	0.14 J	0.16 J	0.23 J	0.31 J	0.24 J	0.5	0.34 J	0.56	0.37 J
CADMIUM	0.12 J	--	--	--	--	0.2 J	--	--	--
CALCIUM	2820	584 J	850 J	1240 J	1980	4780	16700	1540	6340
CHROMIUM	7.6	8.5	7.8	9.8	8.5	55.4	12.2	18.3	16.5
COBALT	2.8 J	3.1 J	2.9 J	3.9 J	2.9 J	5.3 J	5.2 J	7.1 J	5.4 J
COPPER	8.4	7.1	8.1	7.1 J	6.4 J	42.4	17.1	22.8	15.2
IRON	5000	4960	5510	8480	7100	14500	11200	15300	15500
LEAD	21.1 J	2.4 J	4.6 J	3.9	3.4	114	80.6	5.4	53.6
MAGNESIUM	1040 J	1070 J	1560	1990	2050	2330	3970	3700	3340
MANGANESE	149	383	592	271	161	282	285	144	333
MERCURY	0.05	--	--	--	--	0.39	0.26	--	0.15
NICKEL	9.9	11.4	11	13.6	11.7	16.6	12.7	14.9	14.5
POTASSIUM	517 J	399 J	396 J	1120 J	690 J	922 J	846 J	3710	1450
SILVER	--	--	--	--	--	--	--	--	--
SODIUM	101 J	112 J	110 J	120 J	94.3 J	--	191 J	134 J	217 J
VANADIUM	7.3 J	7 J	7.8 J	10.6 J	9.3 J	40.9	15.5	26	19
ZINC	81.3	11.6	19.9	14.9	12.7	98.9	24.7	43.3	34.5
INORGANICS									
CYANIDE	--	--	--	--	--	--	--	--	--

For a summary of notes and abbreviations, refer to the notes page in the beginning of the Tables Section

TABLE IX
BACKGROUND - SUMMARY OF DETECTED COMPOUNDS IN SUBSURFACE SOIL
Former Con Edison Manufactured Gas Plants within Stuyvesant Town
NY, NY

Location	00BG003	00BG004	00BG004	00BG004	00BG004	00BG004	00BG004	00BG004	00BG005
Sample ID	00BG003-50	00BG004-02	00BG004-04	00BG004-09DUP	00BG004-09FF	00BG004-15	00BG004-31	00BG004-50	00BG005-07
Date	2/27/2004	2/9/2004	2/9/2004	3/10/2004	3/10/2004	3/10/2004	3/11/2004	3/11/2004	2/16/2004
Depth	48 to 50	0 to 2	2 to 4	7 to 9	7 to 9	13 to 15	29 to 31	48 to 50	5 to 7
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOCs									
2-BUTANONE	--	--	--	--	--	--	--	--	--
ACETONE	0.03 J	--	0.03 J	--	--	--	0.018	0.034	0.033 J
BENZENE	0.0015	--	0.0012	--	--	--	--	0.0008 J	0.0019
CARBON DISULFIDE	--	--	--	--	--	0.001 J	--	--	0.001 J
CIS-1,2-DICHLOROETHENE	--	--	--	--	--	--	--	--	--
ETHYLBENZENE	--	--	--	--	--	--	--	--	0.0006 J
METHYLENE CHLORIDE	--	--	--	--	--	--	--	--	--
TETRACHLOROETHENE	--	--	--	--	--	--	--	0.0026	--
TOLUENE	--	--	0.0057	--	--	--	--	--	0.0015 J
TRICHLOROETHYLENE	--	--	--	--	--	--	--	0.002	--
XYLENES (TOTAL)	--	--	--	--	--	--	--	--	0.0026 J
TOTAL CONCENTRATION OF VOCs	0.0315	---	0.0369	---	---	0.001	0.018	0.0394	0.0406
SVOCs									
2,4-DIMETHYLPHENOL	--	--	--	--	--	0.013 J	--	--	--
2-METHYLNAPHTHALENE	--	0.0081 J	0.021 J	0.19 J	0.043 J	0.057 J	--	--	0.068 J
2-METHYLPHENOL	--	--	--	--	--	0.02 J	--	--	--
4-METHYLPHENOL	--	--	--	0.063 J	0.078 J	1.5	--	--	--
ACENAPHTHENE	--	0.016 J	0.058 J	0.34 J	0.32 J	0.026 J	--	--	0.026 J
ACENAPHTHYLENE	--	--	0.086 J	0.59	0.21 J	--	--	--	0.18 J
ANTHRACENE	--	0.063 J	0.18 J	1.3	0.25 J	0.17 J	--	--	0.12 J
BENZO(A)ANTHRACENE	--	0.27	0.6	2.6	0.17	0.09	--	--	0.35
BENZO(A)PYRENE	--	0.21	0.49	2.3	0.18	0.041 J	--	--	0.41
BENZO(B)FLUORANTHENE	--	0.23	0.38	1.9	0.16	0.054	--	--	0.32
BENZO(G,H,I)PERYLENE	--	0.17 J	0.35 J	1.4	0.12 J	0.031 J	--	--	0.29 J
BENZO(K)FLUORANTHENE	--	0.26	0.62	2.1 J	0.15 J	0.06 J	--	--	0.39
BIS(2-ETHYLHEXYL)PHTHALATE	0.088 J	--	--	0.2 J	0.12 J	--	0.24 J	--	1
BUTYLBENZYLPHTHALATE	--	--	--	--	--	--	--	--	0.15 J
CARBAZOLE	--	0.028 J	0.069 J	0.44	--	0.033 J	--	--	0.036 J
CHRYSENE	--	0.31 J	0.66	2.8	0.2 J	0.12 J	--	--	0.42
DIBENZ(A,H)ANTHRACENE	--	--	0.13 J	0.61	0.033 J	--	--	--	0.063
DIBENZOFURAN	--	0.009 J	0.035 J	0.33 J	0.43	0.059 J	--	--	0.022 J
DIETHYL PHTHALATE	--	--	--	--	--	--	--	--	0.1 J
DI-N-BUTYLPHTHALATE	--	--	--	--	--	--	--	--	--
FLUORANTHENE	--	0.45	1	5.9	0.46	0.57	--	--	0.6
FLUORENE	--	--	0.06 J	0.54	0.7	0.5	--	--	0.041 J
INDENO(1,2,3-CD)PYRENE	--	0.17	0.32	1.3	0.11	0.026 J	--	--	0.25
NAPHTHALENE	--	0.021 J	0.039 J	0.32 J	--	0.068 J	--	--	0.11 J
PHENANTHRENE	--	0.27 J	0.75	5.5	1.1	1	--	--	0.37 J
PHENOL	--	--	--	--	--	0.12 J	--	--	--
PYRENE	--	0.47	1.1	4.6	0.38 J	0.54	--	--	0.64 J
TOTAL CONCENTRATION OF SVOCs	0.088	2.9551	6.948	35.323	5.214	5.098	0.24	---	5.956
METALS									
ALUMINUM	5910 J	7300 J	6000 J	NT	5350	5060	1790	9280	7190 J
ARSENIC	1.6	23.4	6.2	NT	2.3 J	11.7 J	--	1.2 J	5.1
BARIUM	40.3 J	54.4	100	NT	151	226	54.6	178	135
BERYLLIUM	1.2	0.28 J	0.39 J	NT	0.46 J	0.46 J	0.1 J	0.59	0.35 J
CADMIUM	0.22 J	--	0.11 J	NT	--	--	--	--	0.21 J
CALCIUM	1380	2410 J	8030 J	NT	11400	12000	552 J	7530	10800
CHROMIUM	24.9	20.8	14	NT	14.8	10.4	23.4	24.1	39.9
COBALT	16.9	2.9 J	4.9 J	NT	5.8 J	4.4 J	2.2 J	9.2 J	4.4 J
COPPER	12.5 J	62.6 J	36 J	NT	21.2	25.7	4.7 J	18.9	35.8
IRON	17700 J	11500	11700	NT	16700 J	13100 J	4400	18800	12500
LEAD	10 J	78.9 J	156 J	NT	44.5	536	2.4	6.6	147
MAGNESIUM	2550	1490	2340	NT	2630 J	1790 J	827 J	7090	2080
MANGANESE	283 J	150	337	NT	376 J	170 J	32.8	401	268
MERCURY	--	0.38 J	0.56 J	NT	0.09	3.3	--	--	0.46
NICKEL	14.7	7.6 J	13.4	NT	12.5	12.2	5.6 J	28.5	14.2
POTASSIUM	912 J	437 J	631 J	NT	1870 J	807 J	266 J	3470	866 J
SILVER	--	--	--	NT	--	0.21 J	--	--	--
SODIUM	186 J	103 J	113 J	NT	209 J	524 J	142 J	185 J	151 J
VANADIUM	34.5	22.2	19	NT	21.2	21.5	9.3 J	26.4	27.7
ZINC	60.1	46.2	105	NT	64.3	28.6	9.4	43.4	76.6
INORGANICS									
CYANIDE	--	--	--	NT	--	--	--	--	--

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TABLE IX
BACKGROUND - SUMMARY OF DETECTED COMPOUNDS IN SUBSURFACE SOIL
Former Con Edison Manufactured Gas Plants within Stuyvesant Town
NY, NY

Location	00BG005	00BG005	00BG005	00BG006	00BG006	00BG006
Sample ID	00BG005-15	00BG005-29	00BG005-51	00BG006-09	00BG006-14	00BG006-30
Date	2/16/2004	2/16/2004	2/16/2004	2/16/2004	2/16/2004	2/17/2004
Depth	15 to 15	27 to 29	49 to 51	7 to 9	13 to 15	28 to 30
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
VOCs						
2-BUTANONE	--	--	--	--	--	--
ACETONE	0.044 J	0.025 J	0.032 J	0.1 J	0.13 J	0.02 J
BENZENE	0.0012 J	--	0.0012 J	0.0039	--	0.0067
CARBON DISULFIDE	0.0011 J	0.0027 J	--	--	0.0016 J	0.0013 J
CIS-1,2-DICHLOROETHENE	--	--	--	--	--	0.0015 J
ETHYLBENZENE	--	--	--	--	--	--
METHYLENE CHLORIDE	--	--	0.0059 J	--	0.0075 J	--
TETRACHLOROETHENE	--	--	--	--	--	--
TOLUENE	--	--	--	0.0031 J	0.0022 J	0.0019 J
TRICHLOROETHYLENE	--	--	--	--	--	--
XYLENES (TOTAL)	--	--	--	--	--	--
TOTAL CONCENTRATION OF VOCs	0.0463	0.0277	0.0391	0.1069	0.1413	0.0314
SVOCs						
2,4-DIMETHYLPHENOL	--	--	--	--	--	--
2-METHYLNAPHTHALENE	0.06 J	--	--	0.028 J	0.013 J	--
2-METHYLPHENOL	--	--	--	--	--	--
4-METHYLPHENOL	--	--	--	--	0.063 J	--
ACENAPHTHENE	--	--	--	0.088 J	0.014 J	--
ACENAPHTHYLENE	--	--	--	0.1 J	0.01 J	--
ANTHRACENE	--	--	--	0.26 J	0.026 J	--
BENZO(A)ANTHRACENE	--	--	--	0.84	0.038 J	--
BENZO(A)PYRENE	--	--	--	0.78	0.032 J	--
BENZO(B)FLUORANTHENE	--	--	--	0.58	0.022 J	--
BENZO(G,H,I)PERYLENE	--	--	--	0.48	0.017 J	--
BENZO(K)FLUORANTHENE	--	--	--	0.83	0.036 J	--
BIS(2-ETHYLHEXYL)PHTHALATE	0.18 J	0.2 J	0.12 J	0.82	0.11 J	0.22 J
BUTYLBENZYLPHTHALATE	--	--	--	0.16 J	--	--
CARBAZOLE	--	--	--	0.084 J	--	--
CHRYSENE	--	--	--	0.81	0.051 J	--
DIBENZ(A,H)ANTHRACENE	--	--	--	0.15	--	--
DIBENZOFURAN	0.014 J	--	--	0.055 J	--	--
DIETHYL PHTHALATE	--	--	--	--	--	--
DI-N-BUTYLPHTHALATE	--	--	--	--	--	--
FLUORANTHENE	0.014 J	--	--	1.7	0.048 J	--
FLUORENE	--	--	--	0.088 J	--	--
INDENO(1,2,3-CD)PYRENE	--	--	--	0.46	--	--
NAPHTHALENE	0.042 J	--	--	0.067 J	0.02 J	--
PHENANTHRENE	0.038 J	--	--	1.1	0.046 J	--
PHENOL	--	--	--	--	--	--
PYRENE	0.014 J	--	--	1.6 J	0.089 J	--
TOTAL CONCENTRATION OF SVOCs	0.363	0.2	0.12	11.08	0.635	0.22
METALS						
ALUMINUM	7710 J	4050 J	7260 J	6190 J	10200 J	2530
ARSENIC	3.7	--	1.7	5.8	3.1	--
BARIUM	78.4	20.3 J	124	113	73	23 J
BERYLLIUM	0.38 J	0.15 J	0.42 J	0.31 J	0.54	0.28 J
CADMIUM	--	--	--	0.15 J	--	--
CALCIUM	5220	552 J	17900	13500	7720	351 J
CHROMIUM	11.8	13.4	16.9	18.1	19.4	12.6
COBALT	4.7 J	2.4 J	7.8 J	4.4 J	7.2 J	1.7 J
COPPER	15.7	6.5	19.4	36.2	26.9	8.5
IRON	13300	6060	17200	11800	19200	6080
LEAD	83.1	3.8	7.5	115	95.7	2.9
MAGNESIUM	2470	1400	7100	3950	3880	1070 J
MANGANESE	214	48.7	464	327	374	34.5
MERCURY	0.18	--	--	0.21	0.21	--
NICKEL	13.5	11.9	22.5	12	19.5	9.7
POTASSIUM	684 J	652 J	1720	944 J	1940	485 J
SILVER	--	--	--	--	--	--
SODIUM	180 J	166 J	271 J	163 J	430 J	96.3 J
VANADIUM	17.4	9 J	19.4	23.6	27	11 J
ZINC	35.3	15.2	39	132	47.1	10.1
INORGANICS						
CYANIDE	--	--	--	--	--	--

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TABLE IX
BACKGROUND - SUMMARY OF DETECTED COMPOUNDS IN SUBSURFACE SOIL
Former Con Edison Manufactured Gas Plants within Stuyvesant Town
NY, NY

Location Sample ID Date Depth Matrix Unit	Statistical Analysis			
	Maximum Value	Minimum Value	Number of Detections	Percentage of Exceedances of NYSDEC-RSCO
VOCs				
2-BUTANONE	0.013	0.0053	5	–
ACETONE	0.13	0.018	22	–
BENZENE	0.0067	0.0006	14	–
CARBON DISULFIDE	0.0085	0.001	11	–
CIS-1,2-DICHLOROETHENE	0.0015	0.0007	2	–
ETHYLBENZENE	0.0006	0.0006	1	–
METHYLENE CHLORIDE	0.0075	0.0059	2	–
TETRACHLOROETHENE	0.0026	0.0026	1	–
TOLUENE	0.0066	0.0015	10	–
TRICHLOROETHYLENE	0.002	0.002	1	–
XYLENES (TOTAL)	0.0026	0.002	3	–
TOTAL CONCENTRATION OF VOCs				
SVOCs				
2,4-DIMETHYLPHENOL	0.013	0.013	1	–
2-METHYLNAPHTHALENE	0.41	0.0081	14	–
2-METHYLPHENOL	0.02	0.02	1	–
4-METHYLPHENOL	1.5	0.015	5	20.00%
ACENAPHTHENE	0.34	0.0097	13	–
ACENAPHTHYLENE	1	0.01	11	–
ANTHRACENE	1.3	0.0093	16	–
BENZO(A)ANTHRACENE	2.6	0.019	17	52.94%
BENZO(A)PYRENE	2.3	0.0098	16	68.75%
BENZO(B)FLUORANTHENE	1.9	0.01	16	18.75%
BENZO(G,H,I)PERYLENE	1.4	0.017	14	–
BENZO(K)FLUORANTHENE	2.1	0.012	16	18.75%
BIS(2-ETHYLHEXYL)PHTHALATE	1	0.084	19	–
BUTYLBENZYLPHTHALATE	0.16	0.15	2	–
CARBAZOLE	0.44	0.019	10	–
CHRYSENE	2.8	0.011	19	31.58%
DIBENZ(A,H)ANTHRACENE	0.61	0.033	8	100.00%
DIBENZOFURAN	0.53	0.009	11	–
DIETHYL PHTHALATE	0.1	0.1	1	–
DI-N-BUTYLPHTHALATE	0.11	0.11	1	–
FLUORANTHENE	5.9	0.014	19	–
FLUORENE	0.7	0.012	11	–
INDENO(1,2,3-CD)PYRENE	1.3	0.018	13	–
NAPHTHALENE	0.91	0.01	15	–
PHENANTHRENE	5.5	0.015	19	–
PHENOL	0.12	0.12	1	100.00%
PYRENE	4.6	0.014	19	–
TOTAL CONCENTRATION OF SVOCs				
METALS				
ALUMINUM	10200	1790	31	–
ARSENIC	23.4	0.9	22	22.73%
BARIUM	645	19.7	31	3.23%
BERYLLIUM	1.2	0.1	31	90.32%
CADMIUM	0.22	0.11	9	–
CALCIUM	27000	351	31	–
CHROMIUM	55.4	7.6	31	83.87%
COBALT	16.9	1.7	31	–
COPPER	62.6	4.7	31	32.26%
IRON	19200	4400	31	100.00%
LEAD	536	2.4	31	–
MAGNESIUM	7100	827	31	–
MANGANESE	592	32.8	31	–
MERCURY	3.3	0.05	18	83.33%
NICKEL	28.5	5.6	31	41.94%
POTASSIUM	3710	266	31	–
SILVER	0.21	0.21	1	–
SODIUM	524	94.3	28	–
VANADIUM	40.9	7	31	–
ZINC	338	9.4	31	77.42%
INORGANICS				
CYANIDE	48.1	3.3	2	–

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