

**COSCO/CPC SITE
GROUNDWATER REMEDIATION SYSTEM
EVALUATION/RE-DESIGN**

ATTACHMENT

E. Soil Vapor Investigation Results (2004)



New York State
Department of Environmental Conservation
Division of Environmental Remediation

Map Details

Created in ArcGIS 9.1

Created by E. Hausamann

Date of Last Revision: 06/15/2006

UNAUTHORIZED DUPLICATION
IS A VIOLATION OF APPLICABLE LAWS

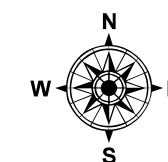
COSCO
Site #: 3-44-035
Rockland County
Village of Spring Valley

FIGURE 1

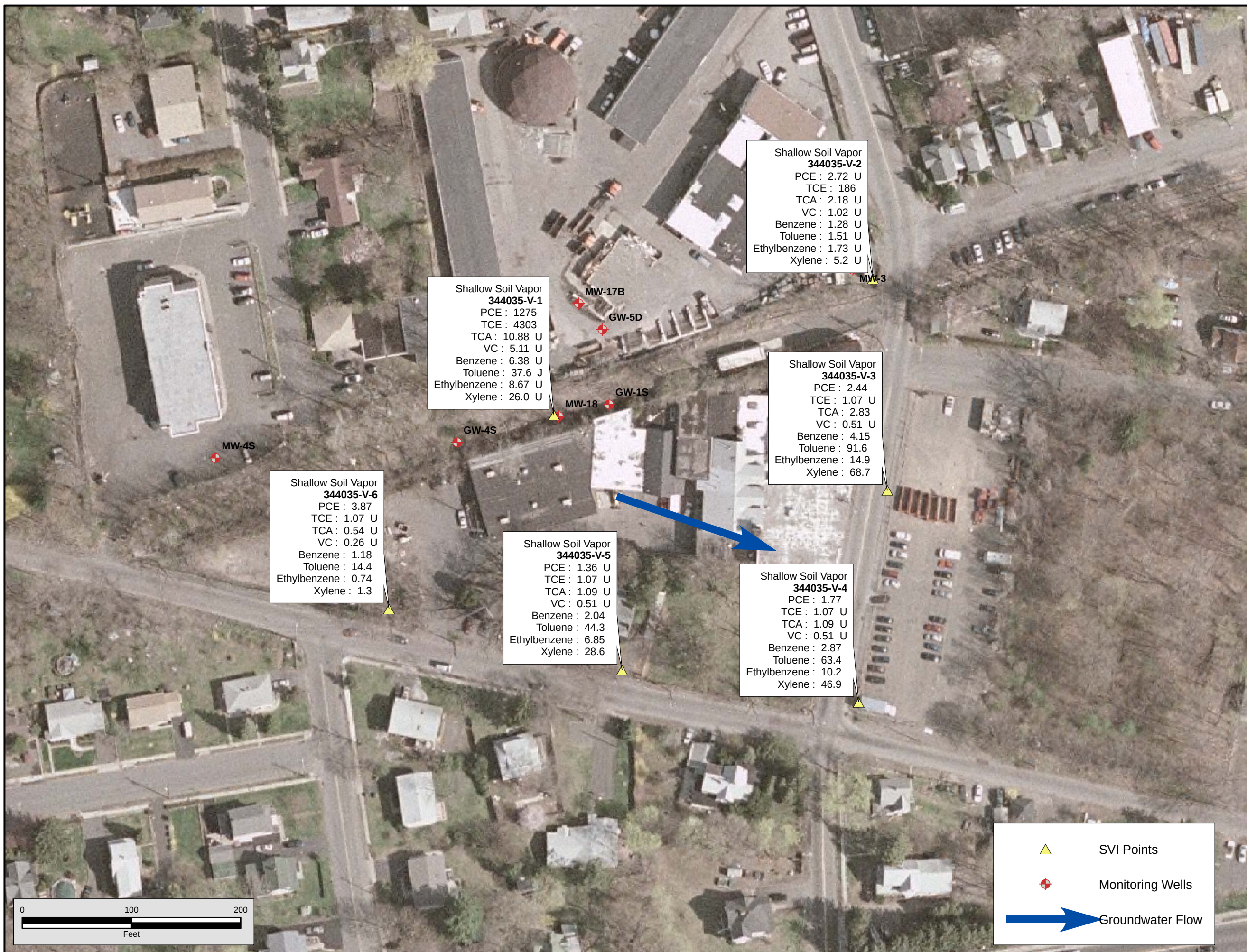
SVI Sample Locations
Soil Vapor Results

all results in ug/m3

Spring 2004
Aerial Photography



North American Datum 1983
UTM Zone 18N





New York State
Department of Environmental Conservation
Division of Environmental Remediation

Map Details

Created in ArcGIS 9.1
Created by E. Hausamann
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UNAUTHORIZED DUPLICATION
IS A VIOLATION OF APPLICABLE LAWS

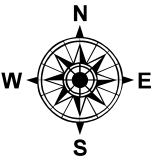
COSCO
Site #: 3-44-035
Rockland County
Village of Spring Valley

FIGURE 2

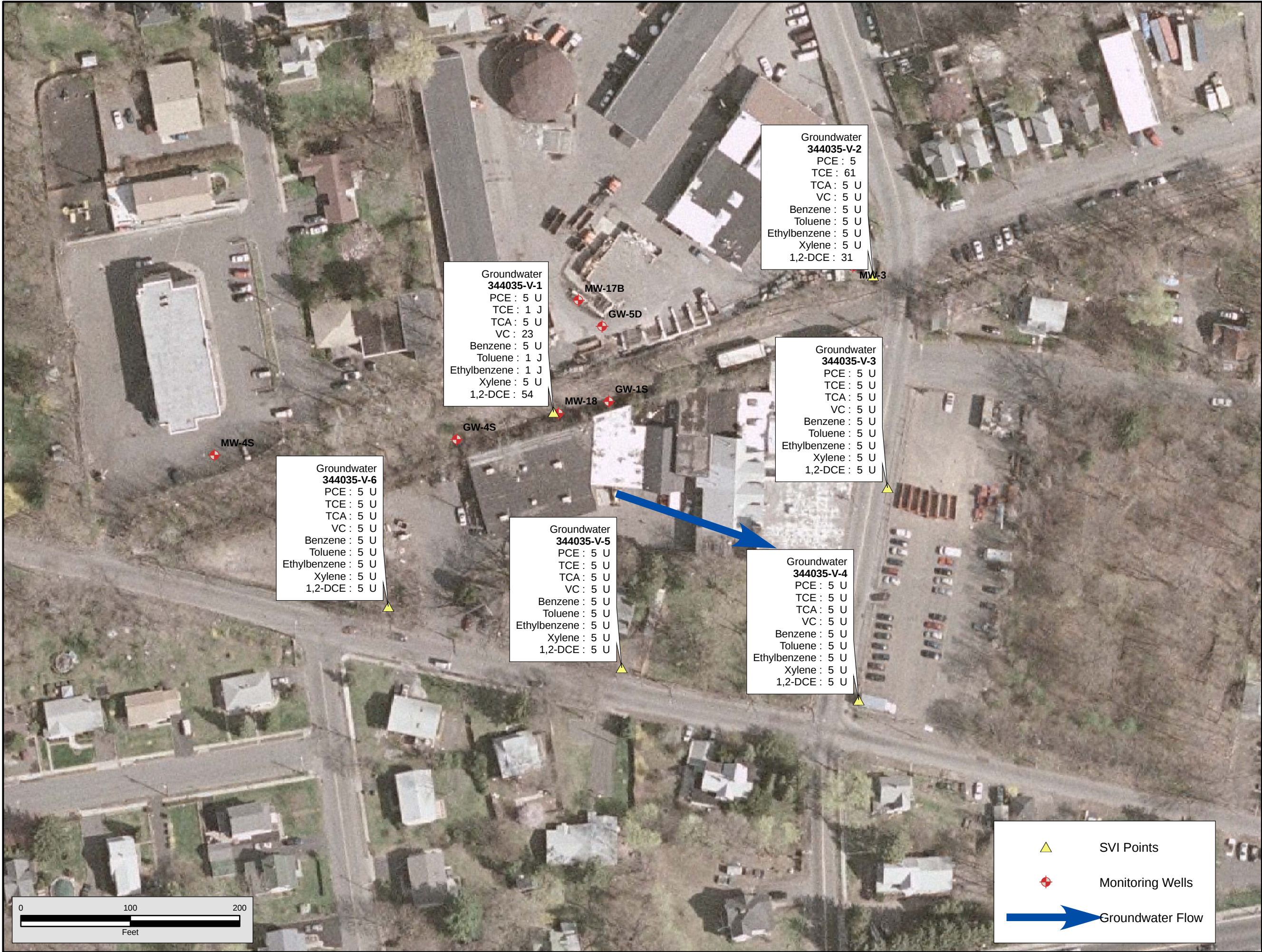
SVI Sample Locations
Groundwater Results

all results in ppb

Spring 2004
Aerial Photography



North American Datum 1983
UTM Zone 18N



**COSCO/CPC SITE
GROUNDWATER REMEDIATION SYSTEM
EVALUATION/RE-DESIGN**

**ATTACHMENT
F. Off-site Sampling Results & Boring Logs (2009)**



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OCTOBER 15, 2009 – SOIL BORING LOCATIONS

NYSDEC Site No. 3-44-035
15 West Street, Spring Valley, New York
Rockland County, New York



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DW-1

Lab Name: AES, Inc. Contract: NYSDEC-COSCO/West Street

Lab Code: AES Case No.: DEC1002 SAS No.: SDG No.: DW-1

Matrix (soil/water): WATER Lab Sample ID: 100108044-001A

Sample wt/vol: 5.0 (g/mL) ml Lab File ID: C0098.D

Level (low/med): Date Received: 1/8/10

% Moisture: not dec. 100 Date Analyzed: 1/14/10

GC Column: DB624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
75-71-8	Dichlorodifluoromethane	10	U	
74-87-3	Chloromethane	10	U	
75-01-4	Vinyl chloride	10	U	
74-83-9	Bromomethane	10	U	
75-00-3	Chloroethane	10	U	
75-69-4	Trichlorofluoromethane	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
76-13-1	1,1,2-Trichloro-1,2,2-tri	5.0	U	
75-15-0	Carbon disulfide	5.0	U	
67-64-1	Acetone	10	U	
79-20-9	Methyl Acetate	5.0	U	
75-09-2	Methylene Chloride	5.0	U	
156-60-5	trans-1,2-Dichloroethene	5.0	U	
1634-04-4	Methyl tert-butyl Ether	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
156-59-2	cis-1,2-Dichloroethene	5.0	U	
74-97-5	Bromochloromethane	5.0	U	
67-66-3	Chloroform	5.0	U	
110-82-7	Cyclohexane	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
78-93-3	2-Butanone	10	U	
108-87-2	Methyl Cyclohexane	5.0	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
71-43-2	Benzene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
106-93-4	1,2-Dibromoethane	5.0	U	
75-25-2	Bromoform	5.0	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DW-1

Lab Name: AES, Inc. Contract: NYSDEC-COSCO/West Street

Lab Code: AES Case No.: DEC1002 SAS No.: SDG No.: DW-1

Matrix (soil/water): WATER Lab Sample ID: 100108044-001A

Sample wt/vol: 5.0 (g/mL) ml Lab File ID: C0098.D

Level (low/med): Date Received: 1/8/10

% Moisture: not dec. 100 Date Analyzed: 1/14/10

GC Column: DB624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
108-10-1	4-Methyl-2-Pentanone	10	U	
108-88-3	Toluene	5.0	U	
127-18-4	Tetrachloroethene	3.5	J	
591-78-6	2-Hexanone	10	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethyl Benzene	5.0	U	
126777-61-2	m,p-Xylenes	5.0	U	
95-47-6	o-Xylene	5.0	U	
100-42-5	Styrene	5.0	U	
98-82-8	Isopropylbenzene	5.0	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
541-73-1	1,3-Dichlorobenzene	5.0	U	
106-46-7	1,4-Dichlorobenzene	5.0	U	
95-50-1	1,2-Dichlorobenzene	5.0	U	
96-12-8	1,2-Dibromo-3-Chloropropane	10	U	
120-82-1	1,2,4-Trichlorobenzene	5.0	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B-1

Lab Name: AES, Inc. Contract: NYSDEC-COSCO

Lab Code: AES Case No.: DEC0944 SAS No.: SDG No.: B-1

Matrix (soil/water): WATER Lab Sample ID: 091016053-001A

Sample wt/vol: 5.0 (g/mL) ml Lab File ID: E2044.D

Level (low/med): Date Received: 10/16/09

% Moisture: not dec. 100 Date Analyzed: 10/23/09

GC Column: DB624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
75-71-8	Dichlorodifluoromethane	10	U	
74-87-3	Chloromethane	10	U	
75-01-4	Vinyl chloride	10	U	
74-83-9	Bromomethane	10	U	
75-00-3	Chloroethane	10	U	
75-69-4	Trichlorofluoromethane	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
76-13-1	1,1,2-Trichloro-1,2,2-tri	5.0	U	
75-15-0	Carbon disulfide	5.0	U	
67-64-1	Acetone	11		
79-20-9	Methyl Acetate	5.0	U	
75-09-2	Methylene Chloride	5.0	U	
156-60-5	trans-1,2-Dichloroethene	5.0	U	
1634-04-4	Methyl tert-butyl Ether	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
156-59-2	cis-1,2-Dichloroethene	5.0	U	
74-97-5	Bromochloromethane	5.0	U	
67-66-3	Chloroform	5.0	U	
110-82-7	Cyclohexane	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
78-93-3	2-Butanone	10	U	
108-87-2	Methyl Cyclohexane	5.0	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
71-43-2	Benzene	5.0	U	
79-01-6	Trichloroethene	33		
78-87-5	1,2-Dichloropropane	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
106-93-4	1,2-Dibromoethane	5.0	U	
75-25-2	Bromoform	5.0	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B-1

Lab Name: AES, Inc. Contract: NYSDEC-COSCO

Lab Code: AES Case No.: DEC0944 SAS No.: _____ SDG No.: B-1

Matrix (soil/water): WATER Lab Sample ID: 091016053-001A

Sample wt/vol: 5.0 (g/mL) ml Lab File ID: E2044.D

Level (low/med): _____ Date Received: 10/16/09

% Moisture: not dec. 100 Date Analyzed: 10/23/09

GC Column: DB624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
108-10-1	4-Methyl-2-Pentanone	10	U	
108-88-3	Toluene	5.0	U	
127-18-4	Tetrachloroethene	5.0	U	
591-78-6	2-Hexanone	10	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethyl Benzene	5.0	U	
126777-61-2	m,p-Xylenes	5.0	U	
95-47-6	o-Xylene	5.0	U	
100-42-5	Styrene	5.0	U	
98-82-8	Isopropylbenzene	5.0	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
541-73-1	1,3-Dichlorobenzene	5.0	U	
106-46-7	1,4-Dichlorobenzene	5.0	U	
95-50-1	1,2-Dichlorobenzene	5.0	U	
96-12-8	1,2-Dibromo-3-Chloropropane	10	U	
120-82-1	1,2,4-Trichlorobenzene	5.0	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B-2

Lab Name: AES, Inc. Contract: NYSDEC-COSCO

Lab Code: AES Case No.: DEC0944 SAS No.: _____ SDG No.: B-1

Matrix (soil/water): WATER Lab Sample ID: 091016053-002A

Sample wt/vol: 5.0 (g/mL) ml Lab File ID: E2045.D

Level (low/med): _____ Date Received: 10/16/09

% Moisture: not dec. 100 Date Analyzed: 10/23/09

GC Column: DB624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
75-71-8	Dichlorodifluoromethane	10	U	
74-87-3	Chloromethane	10	U	
75-01-4	Vinyl chloride	10	U	
74-83-9	Bromomethane	10	U	
75-00-3	Chloroethane	10	U	
75-69-4	Trichlorofluoromethane	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
76-13-1	1,1,2-Trichloro-1,2,2-tri	5.0	U	
75-15-0	Carbon disulfide	5.0	U	
67-64-1	Acetone	43		
79-20-9	Methyl Acetate	5.0	U	
75-09-2	Methylene Chloride	5.0	U	
156-60-5	trans-1,2-Dichloroethene	5.0	U	
1634-04-4	Methyl tert-butyl Ether	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
156-59-2	cis-1,2-Dichloroethene	5.0	U	
74-97-5	Bromochloromethane	5.0	U	
67-66-3	Chloroform	5.0	U	
110-82-7	Cyclohexane	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-87-2	Methyl Cyclohexane	5.0	U	
78-93-3	2-Butanone	13		
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
71-43-2	Benzene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
106-93-4	1,2-Dibromoethane	5.0	U	
75-25-2	Bromoform	5.0	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B-2

Lab Name: AES, Inc. Contract: NYSDEC-COSCO

Lab Code: AES Case No.: DEC0944 SAS No.: _____ SDG No.: B-1

Matrix (soil/water): WATER Lab Sample ID: 091016053-002A

Sample wt/vol: 5.0 (g/mL) ml Lab File ID: E2045.D

Level (low/med): _____ Date Received: 10/16/09

% Moisture: not dec. 100 Date Analyzed: 10/23/09

GC Column: DB624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
108-10-1	4-Methyl-2-Pentanone		12	
108-88-3	Toluene		5.0	U
127-18-4	Tetrachloroethene		5.0	U
591-78-6	2-Hexanone		10	U
108-90-7	Chlorobenzene		5.0	U
100-41-4	Ethyl Benzene		5.0	U
126777-61-2	m,p-Xylenes		5.0	U
95-47-6	o-Xylene		5.0	U
100-42-5	Styrene		5.0	U
98-82-8	Isopropylbenzene		5.0	U
79-34-5	1,1,2,2-Tetrachloroethane		5.0	U
541-73-1	1,3-Dichlorobenzene		5.0	U
106-46-7	1,4-Dichlorobenzene		5.0	U
95-50-1	1,2-Dichlorobenzene		5.0	U
96-12-8	1,2-Dibromo-3-Chloropropane		10	U
120-82-1	1,2,4-Trichlorobenzene		5.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B-3

Lab Name: AES, Inc. Contract: NYSDEC-COSCO

Lab Code: AES Case No.: DEC0944 SAS No.: SDG No.: B-1

Matrix (soil/water): WATER Lab Sample ID: 091016053-003A

Sample wt/vol: 5.0 (g/mL) ml Lab File ID: E2046.D

Level (low/med): Date Received: 10/16/09

% Moisture: not dec. 100 Date Analyzed: 10/23/09

GC Column: DB624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
75-71-8	Dichlorodifluoromethane	10	U	
74-87-3	Chloromethane	10	U	
75-01-4	Vinyl chloride	10	U	
74-83-9	Bromomethane	10	U	
75-00-3	Chloroethane	10	U	
75-69-4	Trichlorofluoromethane	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
76-13-1	1,1,2-Trichloro-1,2,2-tri	5.0	U	
75-15-0	Carbon disulfide	5.0	U	
67-64-1	Acetone	10	U	
79-20-9	Methyl Acetate	5.0	U	
75-09-2	Methylene Chloride	5.0	U	
156-60-5	trans-1,2-Dichloroethene	5.0	U	
1634-04-4	Methyl tert-butyl Ether	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
156-59-2	cis-1,2-Dichloroethene	5.0	U	
74-97-5	Bromochloromethane	5.0	U	
67-66-3	Chloroform	5.0	U	
110-82-7	Cyclohexane	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
78-93-3	2-Butanone	10	U	
108-87-2	Methyl Cyclohexane	5.0	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
71-43-2	Benzene	5.0	U	
79-01-6	Trichloroethene	11		
78-87-5	1,2-Dichloropropane	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
106-93-4	1,2-Dibromoethane	5.0	U	
75-25-2	Bromoform	5.0	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B-3

Lab Name: AES, Inc. Contract: NYSDEC-COSCO

Lab Code: AES Case No.: DEC0944 SAS No.: SDG No.: B-1

Matrix (soil/water): WATER Lab Sample ID: 091016053-003A

Sample wt/vol: 5.0 (g/mL) ml Lab File ID: E2046.D

Level (low/med): Date Received: 10/16/09

% Moisture: not dec. 100 Date Analyzed: 10/23/09

GC Column: DB624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
108-10-1	4-Methyl-2-Pentanone		10	U
108-88-3	Toluene		5.0	U
127-18-4	Tetrachloroethene		5.0	U
591-78-6	2-Hexanone		10	U
108-90-7	Chlorobenzene		5.0	U
100-41-4	Ethyl Benzene		5.0	U
126777-61-2	m,p-Xylenes		5.0	U
95-47-6	o-Xylene		5.0	U
100-42-5	Styrene		5.0	U
98-82-8	Isopropylbenzene		5.0	U
79-34-5	1,1,2,2-Tetrachloroethane		5.0	U
541-73-1	1,3-Dichlorobenzene		5.0	U
106-46-7	1,4-Dichlorobenzene		5.0	U
95-50-1	1,2-Dichlorobenzene		5.0	U
96-12-8	1,2-Dibromo-3-Chloropropane		10	U
120-82-1	1,2,4-Trichlorobenzene		5.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B-5

Lab Name: AES, Inc. Contract: NYSDEC-COSCO

Lab Code: AES Case No.: DEC0944 SAS No.: SDG No.: B-1

Matrix (soil/water): WATER Lab Sample ID: 091016053-004A

Sample wt/vol: 5.0 (g/mL) ml Lab File ID: E2047.D

Level (low/med): Date Received: 10/16/09

% Moisture: not dec. 100 Date Analyzed: 10/23/09

GC Column: DB624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
75-71-8	Dichlorodifluoromethane	10	U	
74-87-3	Chloromethane	10	U	
75-01-4	Vinyl chloride	10	U	
74-83-9	Bromomethane	10	U	
75-00-3	Chloroethane	10	U	
75-69-4	Trichlorofluoromethane	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
76-13-1	1,1,2-Trichloro-1,2,2-tri	5.0	U	
75-15-0	Carbon disulfide	5.0	U	
67-64-1	Acetone	10	U	
79-20-9	Methyl Acetate	5.0	U	
75-09-2	Methylene Chloride	5.0	U	
156-60-5	trans-1,2-Dichloroethene	5.0	U	
1634-04-4	Methyl tert-butyl Ether	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
156-59-2	cis-1,2-Dichloroethene	5.0	U	
74-97-5	Bromochloromethane	5.0	U	
67-66-3	Chloroform	5.0	U	
110-82-7	Cyclohexane	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
78-93-3	2-Butanone	10	U	
108-87-2	Methyl Cyclohexane	5.0	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
71-43-2	Benzene	5.0	U	
79-01-6	Trichloroethene	4.4	J	
78-87-5	1,2-Dichloropropane	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
106-93-4	1,2-Dibromoethane	5.0	U	
75-25-2	Bromoform	5.0	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B-5

Lab Name: AES, Inc. Contract: NYSDEC-COSCO

Lab Code: AES Case No.: DEC0944 SAS No.: SDG No.: B-1

Matrix (soil/water): WATER Lab Sample ID: 091016053-004A

Sample wt/vol: 5.0 (g/mL) ml Lab File ID: E2047.D

Level (low/med): Date Received: 10/16/09

% Moisture: not dec. 100 Date Analyzed: 10/23/09

GC Column: DB624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
108-10-1	4-Methyl-2-Pentanone	10	U	
108-88-3	Toluene	5.0	U	
127-18-4	Tetrachloroethene	5.0	U	
591-78-6	2-Hexanone	10	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethyl Benzene	5.0	U	
126777-61-2	m,p-Xylenes	5.0	U	
95-47-6	o-Xylene	5.0	U	
100-42-5	Styrene	5.0	U	
98-82-8	Isopropylbenzene	5.0	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
541-73-1	1,3-Dichlorobenzene	5.0	U	
106-46-7	1,4-Dichlorobenzene	5.0	U	
95-50-1	1,2-Dichlorobenzene	5.0	U	
96-12-8	1,2-Dibromo-3-Chloropropane	10	U	
120-82-1	1,2,4-Trichlorobenzene	5.0	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B-7

Lab Name: AES, Inc. Contract: NYSDEC-COSCO

Lab Code: AES Case No.: DEC0944 SAS No.: SDG No.: B-1

Matrix (soil/water): WATER Lab Sample ID: 091016053-005A

Sample wt/vol: 5.0 (g/mL) ml Lab File ID: E2048.D

Level (low/med): Date Received: 10/16/09

% Moisture: not dec. 100 Date Analyzed: 10/26/09

GC Column: DB624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
75-71-8	Dichlorodifluoromethane	10	U	
74-87-3	Chloromethane	10	U	
75-01-4	Vinyl chloride	10	U	
74-83-9	Bromomethane	10	U	
75-00-3	Chloroethane	10	U	
75-69-4	Trichlorofluoromethane	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
76-13-1	1,1,2-Trichloro-1,2,2-tri	5.0	U	
75-15-0	Carbon disulfide	5.0	U	
67-64-1	Acetone	10	U	
79-20-9	Methyl Acetate	5.0	U	
75-09-2	Methylene Chloride	5.0	U	
156-60-5	trans-1,2-Dichloroethene	5.0	U	
1634-04-4	Methyl tert-butyl Ether	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
156-59-2	cis-1,2-Dichloroethene	5.0	U	
74-97-5	Bromochloromethane	5.0	U	
67-66-3	Chloroform	5.0	U	
110-82-7	Cyclohexane	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
78-93-3	2-Butanone	10	U	
108-87-2	Methyl Cyclohexane	5.0	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
71-43-2	Benzene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
106-93-4	1,2-Dibromoethane	5.0	U	
75-25-2	Bromoform	5.0	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B-7

Lab Name: AES, Inc. Contract: NYSDEC-COSCO

Lab Code: AES Case No.: DEC0944 SAS No.: SDG No.: B-1

Matrix (soil/water): WATER Lab Sample ID: 091016053-005A

Sample wt/vol: 5.0 (g/mL) ml Lab File ID: E2048.D

Level (low/med): Date Received: 10/16/09

% Moisture: not dec. 100 Date Analyzed: 10/26/09

GC Column: DB624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
108-10-1	4-Methyl-2-Pentanone	10	U	
108-88-3	Toluene	5.0	U	
127-18-4	Tetrachloroethene	5.0	U	
591-78-6	2-Hexanone	10	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethyl Benzene	5.0	U	
126777-61-2	m,p-Xylenes	5.0	U	
95-47-6	o-Xylene	5.0	U	
100-42-5	Styrene	5.0	U	
98-82-8	Isopropylbenzene	5.0	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
541-73-1	1,3-Dichlorobenzene	5.0	U	
106-46-7	1,4-Dichlorobenzene	5.0	U	
95-50-1	1,2-Dichlorobenzene	5.0	U	
96-12-8	1,2-Dibromo-3-Chloropropane	10	U	
120-82-1	1,2,4-Trichlorobenzene	5.0	U	

WELL / BORING NO. **DW-1**

Site Name: COSCO Date Drilled: 11-17-09 ---11-24-09

Location: Monsey, NY Drilling Co.: Aztech Technologies, Inc.

Client: NYSDEC - Central Office Driller: M. Harrington

Phone No.: Logged by: R. Hoose

Drilling Method: HSA/Core/Air Rotary (Dia): N/A Sampling Method: Split Spoon/Core (Dia): 2"

Drilled TD: 66' (Dia): 6.0" Sampled TD: Core to 59.5' (Dia): HQ

Well TD: 66' (Dia): 4.0" Well Type: PVC

Screen Interval: 51' - 61' = Screen
61' - 66' = Sump Slot Size: # 20 Slot Diameter: 4.0"

Cased Interval: 0.0 - 61' Type: PVC Diameter: 4.0"

Sand Pack Interval: 49' - 66' Type: # 1 Wellhead Prot: Stickup

Bentonite Seal Interval: 17' - 49' Type: Holeplug Grouted Interval: N/A

**EXPERTISE YOU CAN COUNT ON**5 McCreia Hill Road
Ballston Spa
New York 12020
Phone: 518-885-5383
Fax: 518-885-5385
www.aztechtech.com**KEY:**

Bentonite

Native Soil

Screen

0 Sand

Concrete

pvc Riser

Grip Cap

SITE PLAN:

See Site Map

DRAFT

Depth	Well Construction	Sample Recovery: Blows	PID (ppm):	Description / Soil Classification
0	6.0" ID Steel Casing			Location along RR spur behind building
5	Native soil cuttings			Soil description from auger cuttings
10				0.0' - 2.0' (+/-) Dark gray to black fine to coarse sand, some silt, little fine to coarse gravel
15	Cement/Bentonite Grout		17	2.0' (+/-) - 21' Brown fine to coarse sand, little silt, little fine to coarse gravel. 2.0'
20				No odor
25				Cuttings from 10' - 15' wet with clay component; mild non-petroleum odor
30				Rig Chatter @ 11'
35				Rig Chatter @ 17'
40	Bentonite Seal			
45				
50				
55	# 20 Slot Screen			
60	Sand Pack			
65	Sump			
70				
		S-1: (25' - 27') Blows: 100 / 0.4' Rec: 0.0' / 0.5'		21' - 25' Weathered sandstone 21'
		Run - 1: (30' - 31') Rec: 0.8' / 1.0'	RQD = 42 %	25' - 66' Brownish Red Sandstone 25'
		Run - 2: (31' - 36') Rec: 4.1' / 5.0'	RQD = 58 %	Sandstone composed of alternating zones of fine to coarse grained sand that grades into very coarse gravelly, conglomeratic zones
		Run - 3: (36' - 41') Rec: 5.0' / 5.0'	RQD = 94 %	Set 6.0" ID steel casing in place from grade to 30' below grade. Tremie grouted in place with 95/5 mixture of cement/bentonite grout. Grout allowed to set for 24 hours before advancing borehole into bedrock.
		Run - 4: (41' - 46') Rec: 5.0' / 5.0'	RQD = 89 %	Borehole producing > 5.0 GPM during air rotary advancement
		Run - 5: (46' - 51') Rec: 5.0' / 5.0'	RQD = 93 %	
		Run - 6: (51' - 54.5') Rec: 3.5' / 3.5'	RQD = 83 %	
		Run - 7: (54.5' - 56') Rec: 1.5' / 1.5'	RQD = 83 %	
		Run - 8: (56' - 59') Rec: 2.7' / 3.0'	RQD = 69 %	
		Run - 9: (59' - 59.5') Rec: 0.5' / 0.5'	RQD = 100 %	
				Advance core tooling to 59.5'; Ream corehole and advance 6.0" Roller Bit to 66' below grade; Install 4.0" ID PVC sump, well screen and riser.



Aztech Technologies, Inc.
 5 McCreia Hill Rd. Ballston Spa, New York 12020
 Phone: (518) 885-5383 Fax: (518) 885-5385

Boring Log

B-1

Project: SITE ID #3-44-035
 Client: NYSDEC - Central Office
 Location: Cosco - 15 West Street, Spring Valley, NY
 Drilling Co.: Aztech Technologies, Inc.
 Driller: R. Hammond
 Method: Geoprobe

Boring ID: B-1
 Casing Elevation: N/A
 Total Depth: 15
 Water Table Elevation: ~8 feet
 Start Date: 10/15/09
 End Date: 10/15/09

Screen Length: N/A
 Diameter: N/A
 PVC Type: N/A
 Slot Size: N/A
 Casing Length: N/A
 Diameter: N/A

Depth (Feet)	Sample ID	Sample Interval (feet)	PID Headspace (ppm)	Recovery / Penetration (")	Description	Depth (feet)	Lithology
1	S1	(0-5)'	0	(28/60)"	(0-0.3)' - ASPHALT	1	
2			0		(0.3-5.5)' - Dark Brown, very fine-grained SAND and SILT - dry, no petroleum odors.	2	
3			0		@3' - Color change to red-brown	3	
4			0			4	
5			0			5	
6	S2	(5-10)'	0	(60/60)"	(5.5-6)' - ASH	6	
7			0		(6-10)' - Red-brown, very fine-grained SAND and SILT - no petroleum odors	7	
8			0		Staining noted (6-6.5)'	8	
9			0		@ `8' - Groundwater encountered while drilling.	9	
10			0			10	
11	S3	(10-15)'	0	(60/60)"	(10-10.5)' - Brown, medium-grained SAND - wet, no petroleum odors	11	
12			0		(10.5-15+) - Red-brown SILT, some very fine-grained Sand, little clay - wet, no petroleum odors	12	
13			0			13	
14			0			14	
15			0		Groundwater sample collected for laboratory analysis by EPA 8260.	15	

Notes:

NA - Not Available
 " - inches

PID - photoionization detector
 ppm - parts per million
 ' - feet

Logged by: J. McCormick



Aztech Technologies, Inc.
5 McCrea Hill Rd. Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

Boring Log

B-2

Project: SITE ID #3-44-035
Client: NYSDEC - Central Office
Location: Cosco - 15 West Street, Spring Valley, NY
Drilling Co.: Aztech Technologies, Inc.
Driller: R. Hammond
Method: Geoprobe

Boring ID: B-2
Casing Elevation: N/A
Total Depth: 15
Water Table Elevation: ~8 feet
Start Date: 10/15/09
End Date: 10/15/09

Screen Length: N/A
Diameter: N/A
PVC Type: N/A
Slot Size: N/A
Casing Length: N/A
Diameter: N/A

Depth (Feet)	Sample ID	Sample Interval (feet)	PID Headspace (ppm)	Recovery / Penetration (")	Description	Depth (feet)	Lithology
1	S1	(0-5)'	0	(50/60)"	(0-1.5)' - ASPHALT/Road Base	1	
2			0		(1.5-10)' - Red-Brown SILT - dry, no petroleum odors.	2	
3			0			3	
4			0		@ ~ (4-5)' - As above, some Gravel - Harder	4	
5	S2	(5-10)'	0	(60/60)"		5	
6			0			6	
7			0		@ ~8' - Groundwater encountered while drilling.	7	
8			0			8	
9	S3	(10-15)'	0	(60/60)"		9	
10			0			10	
11			0		(10.5-11)' - Brown, medium-grained SAND - wet, no petroleum odors	11	
12			0		(11-15+) - Red-brown SILT, little gravel - wet, no petroleum odors	12	
13			0		Groundwater sample collected for laboratory analysis by EPA 8260.	13	
14			0			14	
15			0			15	

Notes:

NA - Not Available
" - inches

PID - photoionization detector
ppm - parts per million
' - feet

Logged by: J. McCormick



Aztech Technologies, Inc.
 5 McCrea Hill Rd. Ballston Spa, New York 12020
 Phone: (518) 885-5383 Fax: (518) 885-5385

Boring Log

B-3

Project: SITE ID #3-44-035
 Client: NYSDEC - Central Office
 Location: Cosco - 15 West Street, Spring Valley, NY
 Drilling Co.: Aztech Technologies, Inc.
 Driller: R. Hammond
 Method: Geoprobe

Boring ID: B-3
 Casing Elevation: N/A
 Total Depth: 13.5
 Water Table Elevation: ~8 feet
 Start Date: 10/15/09
 End Date: 10/15/09

Screen Length: N/A
 Diameter: N/A
 PVC Type: N/A
 Slot Size: N/A
 Casing Length: N/A
 Diameter: N/A

Depth (Feet)	Sample ID	Sample Interval (feet)	PID Headspace (ppm)	Recovery / Penetration (")	Description	Depth (feet)	Lithology
1	S1	(0-5)'	0	(32/60)"	(0-2)' - TOPSOIL	1	
2			0		(2-9)' - Red-Brown SILT and very fine-grained SAND, little gravel - dry, no petroleum odors.	2	
3			0			3	
4			0			4	
5			0		@ ~(5-9)' - As above - Harder	5	
6	S2	(5-10)'	0	(60/60)"		6	
7			0		@ ~8' - Groundwater encountered while drilling.	7	
8			0			8	
9			0		(9-10.5)' - Brown, medium-grained SAND - wet, no petroleum odors	9	
10			0			10	
11	S3	(10-15)'	0	(31/60)"	(10.5-12.5)' - Red-Brown SILT and very fine-grained SAND, little gravel, trace medium-grained sand - wet, no petroleum odors.	11	
12			0			12	
13			0		(12.5-13.5)' - Red-Brown TILL - dry, no petroleum odors.	13	
14			0		@ 13.5' - Probe Refusal.	14	
15			0		Groundwater sample collected for laboratory analysis by EPA 8260.	15	

Notes:

NA - Not Available
 " - inches

PID - photoionization detector
 ppm - parts per million
 ' - feet

Logged by: J. McCormick



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 Phone: (518) 885-5383 Fax: (518) 885-5385

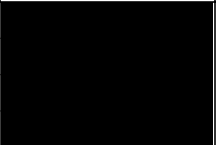
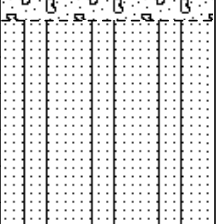
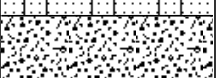
Boring Log

B-4

Project: SITE ID #3-44-035
 Client: NYSDEC - Central Office
 Location: Cosco - 15 West Street, Spring Valley, NY
 Drilling Co.: Aztech Technologies, Inc.
 Driller: R. Hammond
 Method: Geoprobe

Boring ID: B-4
 Casing Elevation: N/A
 Total Depth: 15
 Water Table Elevation: ~8 feet
 Start Date: 10/15/09
 End Date: 10/15/09

Screen Length: N/A
 Diameter: N/A
 PVC Type: N/A
 Slot Size: N/A
 Casing Length: N/A
 Diameter: N/A

Depth (Feet)	Sample ID	Sample Interval (feet)	PID Headspace (ppm)	Recovery / Penetration (")	Description	Depth (feet)	Lithology		
1	S1	(0-5)'	0	(50/60)"	(0-2)' - ASPHALT/Road Base	1			
2			(2-11)' - Red-Brown Fine- to Coarse-grained SAND, little gravel - dry, no petroleum odors.		0	2			
3					0	3			
4					0	4			
5					0	5			
6	S2	(5-10)'		0	(60/60)"		6		
7				0			7		
8				0			8		
9				0			9		
10				0			10		
11	S3	(10-15)'	0	(60/60)"	(11-14)' - Red-Brown SILT and very fine-grained SAND - dry, no petroleum odors	11			
12			0			(14-15)' - Red-Brown TILL - dry, no petroleum odors.		12	
13			0					13	
14			0		Boring Dry, no groundwater sample collected.			14	
15			0					15	

Notes:

NA - Not Available
 " - inches

PID - photoionization detector
 ppm - parts per million
 ' - feet

Logged by: J. McCormick



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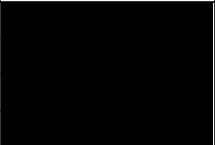
Boring Log

B-5

Project: SITE ID #3-44-035
Client: NYSDEC - Central Office
Location: Cosco - 15 West Street, Spring Valley, NY
Drilling Co.: Aztech Technologies, Inc.
Driller: R. Hammond
Method: Geoprobe

Boring ID: B-5
Casing Elevation: ~8 feet
Total Depth: 15
Water Table Elevation: N/A
Start Date: 10/15/09
End Date: 10/15/09

Screen Length: N/A
Diameter: N/A
PVC Type: N/A
Slot Size: N/A
Casing Length: N/A
Diameter: N/A

Depth (Feet)	Sample ID	Sample Interval (feet)	PID Headspace (ppm)	Recovery / Penetration (")	Description	Depth (feet)	Lithology
1	S1	(0-5)'	0	(40/60)"	(0-2)' - ASPHALT/Road Base	1	
2			0		(2-11)' - Red-Brown Fine- to Coarse-grained SAND, little gravel - dry, no petroleum odors.	2	
3			0			3	
4			0			4	
5			0			5	
6	S2	(5-10)'	0	(60/60)"	@ ~(8)' -Groundwater observed while drilling.	6	
7			0			7	
8			0			8	
9			0			9	
10			0			10	
11	S3	(10-15)'	0	(60/60)"	(11-13.5)' - Red-Brown SILT and very fine-grained SAND - dry, no petroleum odors	11	
12			0			12	
13			0			13	
14			0		(13.5-15)' - Red-Brown TILL - dry, no petroleum odors.	14	
15			0		Groundwater sample collected for laboratory analysis by EPA 8260.	15	

Notes:

NA - Not Available
" - inches

PID - photoionization detector
ppm - parts per million
' - feet

Logged by: J. McCormick



Aztech Technologies, Inc.
5 McCrea Hill Rd. Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

Boring Log

B-6

Project: SITE ID #3-44-035
Client: NYSDEC - Central Office
Location: Cosco - 15 West Street, Spring Valley, NY
Drilling Co.: Aztech Technologies, Inc.
Driller: R. Hammond
Method: Geoprobe

Boring ID: B-6
Casing Elevation: N/A
Total Depth: 13
Water Table Elevation: N/A
Start Date: 10/15/09
End Date: 10/15/09

Screen Length: N/A
Diameter: N/A
PVC Type: N/A
Slot Size: N/A
Casing Length: N/A
Diameter: N/A

Depth (Feet)	Sample ID	Sample Interval (feet)	PID Headspace (ppm)	Recovery / Penetration (")	Description	Depth (feet)	Lithology
1	S1	(0-5)'	0	(38/60)"	(0-2)' - ASPHALT/Road Base	1	
2			0		(2-5)' - Red-Brown Fine- to Coarse-grained SAND and GRAVEL - dry, no petroleum odors.	2	
3			0			3	
4			0			4	
5			0			5	
6	S2	(5-10)'	0	(45/60)"	(5-11)' - Red-Brown SILT, some very fine-grained SAND, little medium-grained sand - dry, no petroleum odors	6	
7			0			7	
8			0			8	
9			0			9	
10			0			10	
11	S3	(10-15)'	0	(60/60)"	(11-13)' - Red-Brown medium-grained SAND, little coarse-grained sand - dry, no petroleum odors.	11	
12			0		@ 13' - Probe refusal	12	
13			0		Boring dry, no groundwater sample collected.	13	
14			0			14	
15			0			15	

Notes:

NA - Not Available
" - inches

PID - photoionization detector
ppm - parts per million
' - feet

Logged by: J. McCormick



Aztech Technologies, Inc.
5 McCrea Hill Rd. Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

Boring Log

B-7

Project: SITE ID #3-44-035
Client: NYSDEC - Central Office
Location: Cosco - 15 West Street, Spring Valley, NY
Drilling Co.: Aztech Technologies, Inc.
Driller: R. Hammond
Method: Geoprobe

Boring ID: B-7
Casing Elevation: N/A
Total Depth: 15
Water Table Elevation: ~ 8'
Start Date: 10/15/09
End Date: 10/15/09

Screen Length: N/A
Diameter: N/A
PVC Type: N/A
Slot Size: N/A
Casing Length: N/A
Diameter: N/A

Depth (Feet)	Sample ID	Sample Interval (feet)	PID Headspace (ppm)	Recovery / Penetration (")	Description	Depth (feet)	Lithology
1	S1	(0-5)'	0	(36/60)"	(0-1)' - Road Base	1	
2			0		(1-10)' - Red-Brown SILT and very fine-grained SAND - dry, no petroleum odors.	2	
3			0			3	
4			0			4	
5			0			5	
6	S2	(5-10)'	0	(49/60)"		6	
7			0		@ ~(8)' - Groundwater observed while drilling (softer - 8-9)'	7	
8			0			8	
9			0			9	
10			0		(10-15)' - Red-Brown SILT and very fine-grained SAND, some Clay - wet, no petroleum odors.	10	
11	S3	(10-15)'	0	(60/60)"		11	
12			0		Groundwater sample collected for laboratory analysis by EPA 8260.	12	
13			0			13	
14			0			14	
15			0			15	

Notes:

NA - Not Available
" - inches

PID - photoionization detector
ppm - parts per million
' - feet

Logged by: J. McCormick



Aztech Technologies, Inc.
 5 McCreia Hill Rd. Ballston Spa, New York 12020
 Phone: (518) 885-5383 Fax: (518) 885-5385

Boring Log

B-8

Project: SITE ID #3-44-035
 Client: NYSDEC - Central Office
 Location: Cosco - 15 West Street, Spring Valley, NY
 Drilling Co.: Aztech Technologies, Inc.
 Driller: R. Hammond
 Method: Geoprobe

Boring ID: B-8
 Casing Elevation: N/A
 Total Depth: 13
 Water Table Elevation: N/A
 Start Date: 10/15/09
 End Date: 10/15/09

Screen Length: N/A
 Diameter: N/A
 PVC Type: N/A
 Slot Size: N/A
 Casing Length: N/A
 Diameter: N/A

Depth (Feet)	Sample ID	Sample Interval (feet)	PID Headspace (ppm)	Recovery / Penetration (")	Description	Depth (feet)	Lithology
1	S1	(0-5)'	0	(36/60)"	(0-1.5)' - Road Base	1	
2			0		(1.5-4)' - Red-Brown SILT, some Clay - dry, no petroleum odors.	2	
3			0			3	
4			0		(4-7)' - Red-Brown SILT, very fine-grained SAND, and GRAVEL - dry, poorly sorted, till-like, no petroleum odors.	4	
5	S2	(5-10)'	0	(49/60)"		5	
6			0			6	
7			0		(7-8)' - Brown medium-grained SAND, some coarse-grained Sand - dry, no petroleum odors.	7	
8			0		(8-13)' - Red-Brown SILT, very fine-grained SAND, and GRAVEL - dry, poorly sorted, till-like, no petroleum odors.	8	
9	S3	(10-15)'	0	(60/60)"		9	
10			0			10	
11			0		Boring dry, no groundwater sample collected.	11	
12			0		@13' - Probe Refusal	12	
13			0			13	
14			0			14	
15			0			15	

Notes:

NA - Not Available
 " - inches

PID - photoionization detector
 ppm - parts per million
 ' - feet

Logged by: J. McCormick



Aztech Technologies, Inc.
5 McCreia Hill Rd. Ballston Spa, New York 12020
Phone: (518) 885-5383 Fax: (518) 885-5385

Boring Log

B-9

Project: SITE ID #3-44-035
Client: NYSDEC - Central Office
Location: Cosco - 15 West Street, Spring Valley, NY
Drilling Co.: Aztech Technologies, Inc.
Driller: R. Hammond
Method: Geoprobe

Boring ID: B-9
Casing Elevation: N/A
Total Depth: 15
Water Table Elevation: N/A
Start Date: 10/15/09
End Date: 10/15/09

Screen Length: N/A
Diameter: N/A
PVC Type: N/A
Slot Size: N/A
Casing Length: N/A
Diameter: N/A

Depth (Feet)	Sample ID	Sample Interval (feet)	PID Headspace (ppm)	Recovery / Penetration (")	Description	Depth (feet)	Lithology
1	S1	(0-5)'	0	(36/60)"	(0-1)' - Road Base	1	
2			0		(1-8)' - Brown, fine-to coarse-grained SAND, SILT and GRAVEL - dry, no petroleum odors.	2	
3			0			3	
4			0			4	
5			0			5	
6	S2	(5-10)'	0	(49/60)"		6	
7			0			7	
8			0		(8-9.5)' - Brown, medium- to coarse-grained SAND - dry, no petroleum odors.	8	
9			0			9	
10			0		(9.5-10)' - Brown, fine-to coarse-grained SAND, SILT and GRAVEL - dry, no petroleum odors.	10	
11	S3	(10-15)'	0	(60/60)"	(10-13)' - Light Brown, SILT with sub-angular Gravel - dry, hard, no petroleum odors.	11	
12			0			12	
13			0		(13-14)' - Brown, SILT and CLAY - dry, hard, no petroleum odors.	13	
14			0		(14-15)' - Light Brown, SILT with sub-angular Gravel - dry, hard, no petroleum odors.	14	
15			0			15	

Notes:

NA - Not Available
" - inches

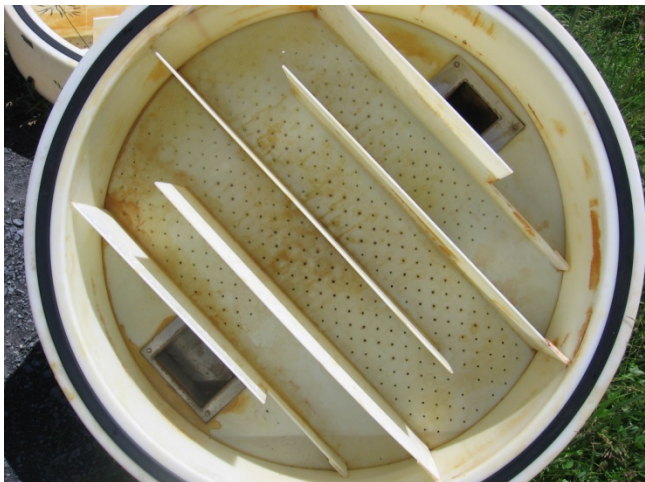
PID - photoionization detector
ppm - parts per million
' - feet

Logged by: J. McCormick

**COSCO/CPC SITE
GROUNDWATER REMEDIATION SYSTEM
EVALUATION/RE-DESIGN**

**ATTACHMENT
G.Information on Air Stripper Available for Re-Use**

**USED AIR STRIPPER
AVAILABLE FOR COSTCO**



2300-P Series

Model Pictured: 2331-P

Basic system includes the following components: Sump tank, cover, and trays, Polyethylene; TEFC air blower sized to number of trays; Blower inlet screen and damper; Mist eliminator, stainless steel; Water inlet spray nozzle; Water level sight tube; Gaskets; Latches; Internal piping, Schedule 80 PVC.

Options chosen for model pictured:

- ☒ Air pressure gauge
- ☐ Gravity discharge
- ☒ Steel frame
- ☒ EXP blower motors
- ☐ Discharge and/or feed pump, TEFC or EXP
- ☐ Blower start/stop panel only
- ☐ Main disconnect switch
- ☐ Standard NEMA 3R system control panel with alarm interlocks, motor starter, relays, alarm light, UL listed
- ☐ NEMA 3R control panel with level controls for pumps, alarm interlocks, motor starters, relays, alarm light, UL listed
- ☒ PurgePanel™: NEMA 4X enclosure, small blower, pressure switch, and a small explosion-proof enclosure (NEMA 7)
- ☐ Control panel IS components for remote mounted NEMA 3R panel, UL listed
- ☐ NEMA 7 and/or custom control panel
- ☐ Strobe alarm light
- ☐ Alarm horn
- ☒ Low air pressure alarm switch
- ☒ High water level alarm switch
- ☒ Discharge pump level switch
- ☐ Water pressure gauges
- ☐ Digital water flow indicator and totalizer
- ☒ Air flow meter
- ☐ Temperature gauges
- ☐ Line sampling ports
- ☐ Air blower silencer
- ☐ Auto dialer
- ☐ Automatic operation components for multiple wells
- ☐ Other custom requirements (Please call)



The full range of options are available to meet your project's specifications.

Models	flow rate	# trays	width	length	height	cfm
2311-P	1-50gpm	1	5'2"	3'7"	4'2"	300
	0.2-11m³/hr		1.6m	1.1m	1.2m	510m³/hr
2321-P	1-50gpm	2	5'2"	3'7"	4'11"	300
	0.2-11m³/hr		1.6m	1.1m	1.4m	510m³/hr
2331-P	1-50gpm	3	5'2"	3'7"	5'8"	300
	0.2-11m³/hr		1.6m	1.1m	1.7m	510m³/hr
2341-P	1-50gpm	4	5'2"	3'7"	6'5"	300
	0.2-11m³/hr		1.6m	1.1m	2m	510m³/hr



S\N: EEI 1045

Date: 6/13/2008

Status: In Stock; Air Stripper Only

Description: Shallow Tray Model 2341P Poly Air Stripper

Flow Rate: 1-50GPM

Trays: 4

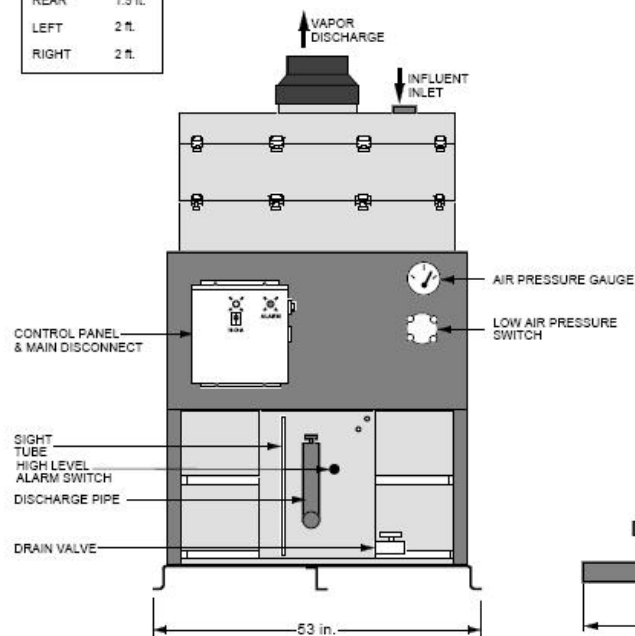
CFM: 300



MINIMUM CLEARANCE

FRONT	1.5 ft.
TOP	12 in.
REAR	1.5 ft.
LEFT	2 ft.
RIGHT	2 ft.

FRONT



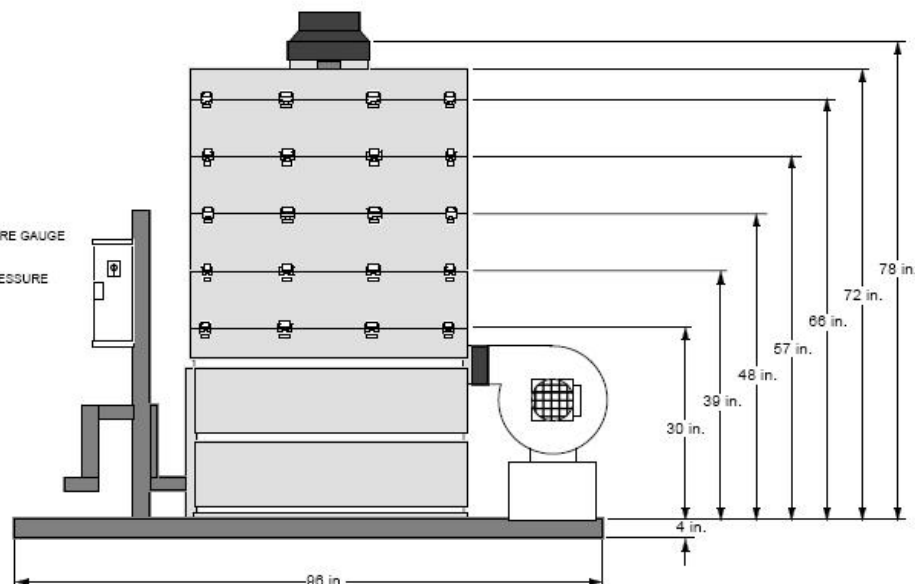
BASIC SYSTEM

- ✓ SUMP TANK
- ✓ STRIPPER TRAYS
- ✓ BLOWER
- ✓ MIST ELIMINATOR
- ✓ PIPING
- ✓ SPRAY NOZZLE
- ✓ WATER LEVEL SIGHT TUBE
- ✓ GASKETS
- ✓ LATCHES

OPTIONAL ITEMS

- ✓ SKID & STANCHION
- ✓ AIR PRESSURE GAUGE
- ✓ GRAVITY DISCHARGE PIPING
- ✓ DISCHARGE PUMP
- ✓ FEED PUMP
- ✓ ADDITIONAL BLOWER
- ✓ EXPLOSION-PROOF MOTOR(S)
- ✓ LOCAL DISCONNECT NEMA 7
- ✓ CONTROL PANEL
- ✓ MAIN DISCONNECT SWITCH
- ✓ I.S. COMPONENTS/REMOTE MOUNT
- ✓ INTERMITTENT OPERATION
- ✓ STROBE LIGHT
- ✓ ALARM HORN
- ✓ POWER Lapse INDICATOR
- ✓ AIR PRESSURE ALARM SWITCH(ES)
- ✓ HIGH WATER LEVEL ALARM SWITCH
- ✓ DISCHARGE PUMP LEVEL SWITCH
- ✓ WATER PRESSURE GAUGE(S)
- ✓ DIGITAL WATER FLOW INDICATOR
- ✓ AIR FLOW METER
- ✓ TEMPERATURE GAUGE(S)
- ✓ LINE SAMPLING PORT(S)
- ✓ AIR BLOWER SILENCER
- ✓ WASHER WAND
- ✓ AUTO DIALER

RIGHT SIDE



NOTE: THIS DRAWING IS REPRESENTATIVE OF A STANDARD SHALLOWTRAY CONFIGURATION, AND IS NOT INTENDED FOR ENGINEERING DESIGN OR LAYOUT. ACTUAL ARRANGEMENT AND DIMENSIONS MAY VARY DEPENDING ON BLOWER SELECTION OR OTHER ACCESSORIES. PLEASE CONTACT NEEP FOR DETAILED DESIGN INFORMATION.

POWER: 3Ø, 460 Volts, 3 WIRE + GROUND 60 Hz

CONNECTION INFORMATION

ITEM	SIZE
GRAVITY DISCHARGE	3"Ø SOCKET, PVC60
DISCHARGE PUMP	1 1/4"Ø FNPT
WATER INLET	1-1/4"Ø FNPT
AIR EXHAUST NOZZLE	8"Ø STUB W/8"x5" CPLG

STRIPPER CONSTRUCTION:

ROTATIONALLY MOLDED (43"Ø)
LOW DENSITY POLYETHYLENE (LDPE)

 NORTH EAST ENVIRONMENTAL PRODUCTS, INC. 7 COMMERCE AVENUE WEST LEBANON, NEW HAMPSHIRE 03784 PHONE: 603-288-7061 FAX: 603-288-7063 www.neepystems.com		DRAWING NAME: © 2002 NEEP®	
		ShallowTray® Model 2341-P	
TOLERANCES UNLESS OTHERWISE SPECIFIED: ± 1 INCH		DRAWING #: Proposal #Typical	
DRAWN: DCS		CUSTOMER: NEEPSYSTEMS.com	
DATE: 03/04/02		SCALE: NT8	SHEET: 1 OF 1

**COSCO/CPC SITE
GROUNDWATER REMEDIATION SYSTEM
EVALUATION/RE-DESIGN**

**ATTACHMENT
H. Model Calculations for Shallow Tray Air Stripper**

Ease of Stripping

Max	High	Med	Low	Min

Most Frequently Modeled Contaminants

Note: these contaminants also appear in the tables below, if you select a contaminant in both places it will appear twice on the data entry grid.

☐ -- benzene	☐ -- toluene	☐ -- p-xylene
☐ -- ethylbenzene	☒ -- trichloroethylene (TCE)	☐ -- methyl-t-Butyl ether (MTBE)
☒ -- tetrachloroethylene (PERC,PCE)	☐ -- naphthalene	☒ -- c-1,2-dichloroethylene
☐ -- 1,1-dichloroethylene	☐ -- vinyl chloride (chloroethylene)	☐ -- 1,1,1-trichloroethane
☐ -- 1,1-dichloroethane	☐ -- BTEX (as benzene)	☐ -- t-1,2-dichloroethylene
☐ -- 1,2-dichloroethane	☐ -- TPH (as benzene)	☐ -- methylene chloride
☐ -- chloroform (trichloromethane)	☐ -- acetone	

System Performance Estimate

Client and Proposal Information:

**COSCO GW REMEDIATION
SPRING VALLEY, NY
25 GPM AVG FLOW
Old (UV/OX) DESIGN CONCs**

Series chosen:	2300-P
Water Flow Rate:	25.0 GPM US
Air Flow Rate:	300 CFM
Water Temp:	55 °F
Air Temp:	55 °F
A / W Ratio:	90 :1
Safety Factor:	0%
Water Discharge Temp.	55.0 °F

		SELECTED MODEL												
		Untreated Influent		Model P 2311		Model P 2321		Model P 2331		Model P 2341		Model P 2351		
Contaminant		Effluent Target	Effluent		Effluent		Effluent		Effluent		Effluent			
			Lbs/hr	ppmv	Lbs/hr	ppmv	Lbs/hr	ppmv	Lbs/hr	ppmv	Lbs/hr	ppmv		
				% removal		% removal		% removal		% removal		% removal		
Induced Draft														
cis-1,2-DCE		530 ppb	98 ppb		18 ppb		3 ppb		<1 ppb		<1 ppb		<1 ppb	
Solubility 8,690 ppm		5 ppb	0.01	1.18	0.01	1.40	0.01	1.44	0.01	1.44	0.01	1.44	0.01	1.44
Mwt 96.94	156-59-2			81.56 %		96.60 %		99.37 %		99.88 %		99.98 %		99.98 %
Trichloroethylene		1800 ppb	114 ppb		7 ppb		<1 ppb		<1 ppb		<1 ppb		<1 ppb	
Solubility 1100 ppm		5 ppb	0.02	3.39	0.02	3.60	0.02	3.62	0.02	3.62	0.02	3.62	0.02	3.62
Mwt 131.5	79-01-6			93.66 %		99.60 %		99.97 %		100.00 %		100.00 %		100.00 %
Tetrachloroethylene		1200 ppb	65 ppb		4 ppb		<1 ppb		<1 ppb		<1 ppb		<1 ppb	
Solubility 150 ppm		5 ppb	0.01	1.81	0.02	1.91	0.02	1.91	0.02	1.91	0.02	1.91	0.02	1.91
Mwt 165.83	127-18-4			94.57 %		99.71 %		99.98 %		100.00 %		100.00 %		100.00 %
Vinyl Chloride		530 ppb	8 ppb		<1 ppb		<1 ppb		<1 ppb		<1 ppb		<1 ppb	
Solubility 1100 ppm		1 ppb	0.01	2.21	0.01	2.24	0.01	2.24	0.01	2.24	0.01	2.24	0.01	2.24
Mwt 62.5	75-01-4			98.42 %		99.98 %		100.00 %		100.00 %		100.00 %		100.00 %

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Report Generated: 9/13/2010

Modeler VIMP Jan09



System Performance Estimate

Client and Proposal Information:

**COSCO GW REMEDIATION
SPRING VALLEY, NY
45 GPM MAX. FLOW
New (A.S.) DESIGN CONCs**

Series chosen:	2300-P
Water Flow Rate:	45.0 GPM US
Air Flow Rate:	300 CFM
Water Temp:	55 °F
Air Temp:	55 °F
A / W Ratio:	50 :1
Safety Factor:	0 %
Water Discharge Temp.	55.0 °F

			Model P 2311		Model P 2321		Model P 2331		SELECTED MODEL		Model P 2351	
		Untreated Influent	Effluent		Effluent		Effluent		Effluent		Effluent	
Contaminant		Effluent Target	Lbs/hr	ppmv	Lbs/hr	ppmv	Lbs/hr	ppmv	Lbs/hr	ppmv	Lbs/hr	ppmv
			% removal		% removal		% removal		% removal		% removal	
			Induced Draft									
cis-1,2-DCE		150 ppb	50 ppb		17 ppb		6 ppb		2 ppb		<1 ppb	
Solubility 8,690 ppm		5 ppb	0.00	0.49	0.00	0.65	0.00	0.71	0.00	0.73	0.00	0.73
Mwt 96.94	156-59-2		66.40 %		88.71 %		96.21 %		98.72 %		99.57 %	
Trichloroethylene		500 ppb	123 ppb		30 ppb		7 ppb		2 ppb		<1 ppb	
Solubility 1100 ppm		5 ppb	0.01	1.36	0.01	1.70	0.01	1.78	0.01	1.80	0.01	1.81
Mwt 131.5	79-01-6		75.46 %		93.98 %		98.52 %		99.64 %		99.91 %	
Tetrachloroethylene		500 ppb	108 ppb		23 ppb		5 ppb		1 ppb		<1 ppb	
Solubility 150 ppm		5 ppb	0.01	1.12	0.01	1.37	0.01	1.42	0.01	1.43	0.01	1.43
Mwt 165.83	127-18-4		78.41 %		95.34 %		98.99 %		99.78 %		99.95 %	
Vinyl Chloride		150 ppb	16 ppb		2 ppb		<1 ppb		<1 ppb		<1 ppb	
Solubility 1100 ppm		2 ppb	0.00	1.02	0.00	1.13	0.00	1.14	0.00	1.14	0.00	1.14
Mwt 62.5	75-01-4		89.37 %		98.87 %		99.88 %		99.99 %		100.00 %	
Total	ppb	1300 ppb	297 ppb		72 ppb		18 ppb		5 ppb		1 ppb	
Total	VOC Lbs/hr - ppmv		0.02	4.00	0.03	4.85	0.03	5.05	0.03	5.10	0.03	5.11
Total			77.15 %		94.46 %		98.59 %		99.63 %		99.90 %	

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Report Generated: 9/9/2010

Modeler VIMP Jan09

QED Air Stripper Model ver. 2.01**Old (UV/OX) DESIGN CONCS****Site Data**25 GPM; 210 CFM; 2.8 FT²

Name: Dharma Iyer

e-mail: iegpllc@aol.com

Project: COSCO GROUNDWATER TREATMENT SYSTEM

Units: English

Altitude: 450 ft

Air Temp: 55 F

Flow: 25 gpm

Water Temp: 55 F

Stripper: EZ-Tray 4.x - [Click for details](#)

Stripper Air Flow: 210 cfm

Stripper Max Flow: 50 gpm

Water Results

Contaminant	Influent (ppb)	Target (ppb)	4-Tray Results (ppb)	4-Tray % Removal	6-Tray Results (ppb)	6-Tray % Removal
trichloroethylene (TCE)	1800	5	1.9	99.894	< 1	100.000
tetrachloroethylene (PERC,PCE)	1200	5	< 1	100.000	< 1	100.000
c-1,2-dichloroethylene	530	5	1.6	99.698	< 1	100.000
vinyl chloride (chloroethylene)	530	2	< 1	100.000	< 1	100.000

Air Results

Contaminant	4-Tray (ppmV)	4-Tray (lb/hr)	6-Tray (ppmV)	6-Tray (lb/hr)
trichloroethylene (TCE)	5.1096	0.02251	5.1150	0.02253
tetrachloroethylene (PERC,PCE)	2.7013	0.01502	2.7018	0.01502
c-1,2-dichloroethylene	2.0350	0.00661	2.0409	0.00663
vinyl chloride (chloroethylene)	3.1657	0.00663	3.1663	0.00663

QED Air Stripper Model ver. 2.01

New (A.S.) DESIGN CONCS

Site Data

25 GPM; 210 CFM; 2.8 FT²

Name: Dharma Iyer

e-mail: iegpllc@aol.com

Project: COSCO GROUNDWATER TREATMENT SYSTEM

Units: English

Altitude: 450 ft

Air Temp: 55 F

Flow: 25 gpm

Water Temp: 55 F

Stripper: EZ-Tray 4.x - [Click for details](#)

Stripper Air Flow: 210 cfm

Stripper Max Flow: 50 gpm

Water Results

Contaminant	Influent (ppb)	Target (ppb)	4-Tray Results (ppb)	4-Tray % Removal	6-Tray Results (ppb)	6-Tray % Removal
trichloroethylene (TCE)	500	5	< 1	100.000	< 1	100.000
tetrachloroethylene (PERC,PCE)	500	5	< 1	100.000	< 1	100.000
c-1,2-dichloroethylene	150	5	< 1	100.000	< 1	100.000
vinyl chloride (chloroethylene)	5	2	< 1	100.000	< 1	100.000

Air Results

Contaminant	4-Tray (ppmV)	4-Tray (lb/hr)	6-Tray (ppmV)	6-Tray (lb/hr)
trichloroethylene (TCE)	1.4193	0.00625	1.4208	0.00626
tetrachloroethylene (PERC,PCE)	1.1256	0.00626	1.1258	0.00626
c-1,2-dichloroethylene	0.5759	0.00187	0.5776	0.00188
vinyl chloride (chloroethylene)	0.0299	0.00006	0.0299	0.00006

QED Air Stripper Model ver. 2.01**Old (UV/OX) DESIGN CONCS****Site Data**45 GPM; 210 CFM; 2.8 FT²

Name: Dharma Iyer

e-mail: iegpllc@aol.com

Project: COSCO GROUNDWATER TREATMENT SYSTEM

Units: English

Altitude: 450 ft

Air Temp: 55 F

Flow: 45 gpm

Water Temp: 55 F

Stripper: EZ-Tray 4.x - [Click for details](#)

Stripper Air Flow: 210 cfm

Stripper Max Flow: 50 gpm

Water Results

Contaminant	Influent (ppb)	Target (ppb)	4-Tray Results (ppb)	4-Tray % Removal	6-Tray Results (ppb)	6-Tray % Removal
trichloroethylene (TCE)	1800	5	11.1	99.383	< 1	100.000
tetrachloroethylene (PERC,PCE)	1200	5	1.4	99.883	< 1	100.000
c-1,2-dichloroethylene	530	5	8.3	98.434	1.1	99.792
vinyl chloride (chloroethylene)	530	2	< 1	100.000	< 1	100.000

Air Results

Contaminant	4-Tray (ppmV)	4-Tray (lb/hr)	6-Tray (ppmV)	6-Tray (lb/hr)
trichloroethylene (TCE)	9.1506	0.04031	9.2026	0.04054
tetrachloroethylene (PERC,PCE)	4.8575	0.02701	4.8631	0.02704
c-1,2-dichloroethylene	3.6167	0.01176	3.6664	0.01192
vinyl chloride (chloroethylene)	5.6921	0.01193	5.6990	0.01194

QED Air Stripper Model ver. 2.01**New (A.S.) DESIGN CONCS****Site Data**45 GPM; 210 CFM; 2.8 FT²

Name: Dharma Iyer

e-mail: iegpllc@aol.com

Project: COSCO GROUNDWATER TREATMENT SYSTEM

Units: English

Altitude: 450 ft

Air Temp: 55 F

Flow: 45 gpm

Water Temp: 55 F

Stripper: EZ-Tray 4.x - [Click for details](#)

Stripper Air Flow: 210 cfm

Stripper Max Flow: 50 gpm

Water Results

Contaminant	Influent (ppb)	Target (ppb)	4-Tray Results (ppb)	4-Tray % Removal	6-Tray Results (ppb)	6-Tray % Removal
trichloroethylene (TCE)	500	5	3.1	99.380	< 1	100.000
tetrachloroethylene (PERC,PCE)	500	5	< 1	100.000	< 1	100.000
c-1,2-dichloroethylene	150	5	2.4	98.400	< 1	100.000
vinyl chloride (chloroethylene)	5	2	< 1	100.000	< 1	100.000

Air Results

Contaminant	4-Tray (ppmV)	4-Tray (lb/hr)	6-Tray (ppmV)	6-Tray (lb/hr)
trichloroethylene (TCE)	2.5418	0.01120	2.5563	0.01126
tetrachloroethylene (PERC,PCE)	2.0240	0.01125	2.0263	0.01127
c-1,2-dichloroethylene	1.0236	0.00333	1.0377	0.00337
vinyl chloride (chloroethylene)	0.0537	0.00011	0.0538	0.00011

QED Air Stripper Model ver. 2.01**Old (UV/OX) DESIGN CONCS****Site Data**45 GPM; 320 CFM; 2.8 FT²

Name: Dharma Iyer

e-mail: iegpllc@aol.com

Project: 1 COSCO GROUNDWATER TREATMENT SYSTEM

Units: English

Altitude: 450 ft

Air Temp: 55 F

Flow: 45 gpm

Water Temp: 55 F

Stripper: EZ-Tray 6.x - [Click for details](#)

Stripper Air Flow: 320 cfm

Stripper Max Flow: 65 gpm

Water Results

Contaminant	Influent (ppb)	Target (ppb)	4-Tray Results (ppb)	4-Tray % Removal	6-Tray Results (ppb)	6-Tray % Removal
trichloroethylene (TCE)	1800	5	2.9	99.839	< 1	100.000
tetrachloroethylene (PERC,PCE)	1200	5	< 1	100.000	< 1	100.000
c-1,2-dichloroethylene	530	5	2.4	99.547	< 1	100.000
vinyl chloride (chloroethylene)	530	2	< 1	100.000	< 1	100.000

Air Results

Contaminant	4-Tray (ppmV)	4-Tray (lb/hr)	6-Tray (ppmV)	6-Tray (lb/hr)
trichloroethylene (TCE)	6.0327	0.04049	6.0419	0.04056
tetrachloroethylene (PERC,PCE)	3.1907	0.02703	3.1915	0.02704
c-1,2-dichloroethylene	2.4004	0.01189	2.4105	0.01194
vinyl chloride (chloroethylene)	3.7391	0.01194	3.7402	0.01194

QED Air Stripper Model ver. 2.01**New (A.S.) DESIGN CONCS****Site Data**45 GPM; 320 CFM; 2.8 FT²

Name: Dharma Iyer

e-mail: iegpllc@aol.com

Project: COSCO GROUNDWATER TREATMENT SYSTEM

Units: English

Altitude: 450 ft

Air Temp: 55 F

Flow: 45 gpm

Water Temp: 55 F

Stripper: EZ-Tray 6.x - [Click for details](#)

Stripper Air Flow: 320 cfm

Stripper Max Flow: 65 gpm

Water Results

Contaminant	Influent (ppb)	Target (ppb)	4-Tray Results (ppb)	4-Tray % Removal	6-Tray Results (ppb)	6-Tray % Removal
trichloroethylene (TCE)	500	5	< 1	100.000	< 1	100.000
tetrachloroethylene (PERC,PCE)	500	5	< 1	100.000	< 1	100.000
c-1,2-dichloroethylene	150	5	< 1	100.000	< 1	100.000
vinyl chloride (chloroethylene)	5	2	< 1	100.000	< 1	100.000

Air Results

Contaminant	4-Tray (ppmV)	4-Tray (lb/hr)	6-Tray (ppmV)	6-Tray (lb/hr)
trichloroethylene (TCE)	1.6758	0.01125	1.6783	0.01127
tetrachloroethylene (PERC,PCE)	1.3295	0.01126	1.3298	0.01127
c-1,2-dichloroethylene	0.6794	0.00336	0.6822	0.00338
vinyl chloride (chloroethylene)	0.0353	0.00011	0.0353	0.00011