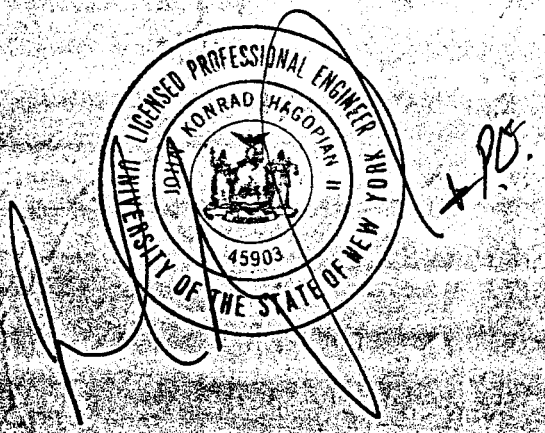
Binghamton Plastics (+ Dover Electron)

(Soil / MW installation / Gw / Soil gas)

Phase II Environmental Site Investigation

for

Dover Electronics



Prepared By:
Hagopian Engineering Associates
28 Alice Street
Binghamton, NY 13904
(607) 772-0012

August 29 1991

(Cover Page of Phase III)

Phase II Environmental Site Investigation

for

Dover Electronics

Prepared By:
Hagopian Engineering Associates
28 Alice Street
Binghamton, NY 13904
(607) 772-0012

Table of Contents

CONKLIN - DEM-EAST

TEST RESULTS

CONKLIN - DEM-EAST

Oil Sample	Sampling Date:	12/18/90	EPA 8080
Water Sample A.E.J.K Extraction by soil gas pump	Sampling Date:	12/18/90	EPA 601
Soil Gas SG-G	Sampling Date:	12/18/90	EPA 8010
Soil Gas M-X	Sampling Date:	4/3/91	EPA 8010
Soil Sample MW1	Sampling Date:	4/29/91	EPA 5030/8010
MW3 Soil	Sampling Date:	4/30/91	EPA 5030/8010
MW2 Soil	Sampling Date:	5/3/91	EPA 5030/8010
MW4 Soil	Sampling Date:	5/6/91	EPA 5030/8010
MW1 Water	Sampling Date:	6/4/91	EPA 8270
MW1 Water	Sampling Date:	6/4/91	EPA 8240
MW2 Water	Sampling Date:	6/4/91	EPA 8240
MW3 Water	Sampling Date:	6/4/91	EPA 8240
MW4 Water	Sampling Date:	6/4/91	EPA 8240
Trip Blank	Sampling Date:	6/4/91	EPA 8240

Empire Soils MW1 - MW4 Boring Logs April 29, 1991

Monitoring Well Development Log June 5, 1991

Map of Monitoring Well Locations 1 - 4

Map of Soil Gas Samples and Water Samples

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. · CORTLAND, N.Y. 13045
607-753-3403

Report Date: 1/17/91

Lab Log Number: N902938

LABORATORY REPORT

Client: **Hagopian Engineering Associates**
28 Alice Street
Binghamton, New York 13901

Site: Dover Station "G"
DEM East

Sample Description: Oil

Date of Sample: 12/18/90 by D. Wright, received 12/19/90

METHOD

Sample was dissolved in hexane, prepared for gas chromatography by method 3620 (SW-846), and analyzed by gas chromatography as per EPA 8080.

EPA 8080 RESULTS P.C.B's

ND (<0.5 mg/L)

ND - None detected greater than detection limits noted.

These analyses are certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

John H. Buck

John H. Buck, P.E.
Laboratory Director
NYS ELAP CERT 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. · CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: Hagopian Engineering Associates
Site: Dover, Conklin Avenue
Samples: Water

Report Date: 1/23/91
Sampling Date: 12/18/90
Sampled By: P.S.
Analysis Date: 12/18/90
Lab Log No: N902937

Purgeable Halocarbons (By EPA 601)

CAS No.	Compound	A *	E	J *
75-27-4	bromodichloromethane	ND	ND	ND
75-25-2	bromoform	ND	ND	ND
74-83-9	bromomethane	ND	2120	ND
56-23-5	carbon tetrachloride	ND	ND	ND
108-90-7	chlorobenzene	ND	ND	ND
75-00-3	chloroethane	ND	***	ND
100-75-8	2-chloroethylvinylether	ND	ND	ND
67-66-3	chloroform	ND	ND	13.4
74-87-3	chloromethane	ND	**	**
124-38-1	dibromochloromethane	ND	ND	ND
95-50-1	1,2-dichlorobenzene	ND	ND	ND
541-73-1	1,3-dichlorobenzene	ND	ND	ND
106-46-7	1,4-dichlorobenzene	ND	ND	ND
75-71-8	dichlorodifluoromethane	ND	ND	ND
75-34-3	1,1-dichloroethane	18.1	1740	5.8
107-06-2	1,2-dichloroethane	ND	ND	ND
75-35-4	1,1-dichloroethene	ND	604.	16.8
156-60-5	trans-1,2-dichloroethene	ND	64.8	3.0
78-87-5	1,2-dichloropropane	ND	ND	ND
10061-01-5	cis-1,3-dichloropropene	ND	ND	ND
10061-01-6	trans-1,3-dichloropropene	ND	ND	ND
75-09-2	methylene chloride	ND	ND	ND
79-34-5	1,1,2,2-tetrachloroethane	ND	ND	ND
127-18-4	tetrachloroethene	2.9	18.1	3.8
71-55-6	1,1,1-trichloroethane	74.8	2870	95.7
79-00-5	1,1,2-trichloroethane	ND	ND	ND
79-01-6	trichloroethene	481.	958.	4260
75-69-4	trichlorofluoromethane	149.	ND	ND
75-01-4	vinyl chloride	ND	16,400	8.2

All concentrations are reported as ug/L.
ND - None detected greater than detection limit of 1.0 ug/L.
* - Analyzed on 1/4/91. ** - Coeluted with Vinyl Chloride.
***- Coeluted with Bromomethane.

These analyses are certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

John H. Buck, P.E.
Laboratory Director
NYS ELAP CERT 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. · CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: Hagopian Engineering Associates
Site: Dover, Conklin Avenue
Samples: Water

Report Date: 1/23/91
Sampling Date: 12/18/90
Sampled By: P.S.
Analysis Date: 1/4/91
Lab Log No: N902937

Purgeable Halocarbons (By EPA 601)

CAS No.	Compound	K		
75-27-4	bromodichloromethane	ND		
75-25-2	bromoform	ND		
74-83-9	bromomethane	ND		
56-23-5	carbon tetrachloride	ND		
108-90-7	chlorobenzene	ND		
75-00-3	chloroethane	ND		
100-75-8	2-chloroethylvinylether	ND		
67-66-3	chloroform	ND		
74-87-3	chloromethane	*		
124-38-1	dibromochloromethane	ND		
95-50-1	1,2-dichlorobenzene	ND		
541-73-1	1,3-dichlorobenzene	ND		
106-46-7	1,4-dichlorobenzene	ND		
75-71-8	dichlorodifluoromethane	ND		
75-34-3	1,1-dichloroethane	79.7		
107-06-2	1,2-dichloroethane	ND		
75-35-4	1,1-dichloroethene	4.6		
156-60-5	trans-1,2-dichloroethene	ND		
78-87-5	1,2-dichloropropane	ND		
10061-01-5	cis-1,3-dichloropropene	ND		
10061-01-6	trans-1,3-dichloropropene	ND		
75-09-2	methylene chloride	ND		
79-34-5	1,1,2,2-tetrachloroethane	ND		
127-18-4	tetrachloroethene	1.1		
71-55-6	1,1,1-trichloroethane	3.6		
79-00-5	1,1,2-trichloroethane	ND		
79-01-6	trichloroethene	332.		
75-69-4	trichlorofluoromethane	ND		
75-01-4	vinyl chloride	25.4		

All concentrations are reported as ug/L.
ND - None detected greater than detection limit of 1.0 ug/L.
* - Coeluted with Vinyl Chloride.

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ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. · CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: Hagopian Engineering Assoc.
Report Date: 1/23/91
Sampling Date: 12/18/90
Site: Dover, Conklin Avenue
Sampled By: P.S.
Analysis Date: 1/4/91
Samples: Soil Vapor
Lab Log No: N902937

Soil Gas Vapor by EPA 8010 Instrumentation

Sample Description Air Volume (liters)	SG-F 17.2	SG-H 21.1	SG-I 19.9	SG-L 19.9
bromodichloromethane	ND	ND	ND	ND
bromoform	ND	ND	ND	ND
bromomethane	ND	ND	ND	ND
carbon tetrachloride	ND	ND	ND	ND
chlorobenzene	ND	ND	ND	ND
chloroethane	ND	ND	ND	ND
2-chloroethylvinylether	ND	ND	ND	ND
chloroform	ND	ND	ND	ND
dibromochloromethane	ND	ND	ND	ND
1,2-dichlorobenzene	ND	ND	ND	ND
1,3-dichlorobenzene	ND	ND	ND	ND
1,4-dichlorobenzene	ND	ND	ND	ND
dichlorodifluoromethane	ND	ND	ND	ND
1,1-dichloroethane	97.9	34.4	29.6	ND
1,2-dichloroethane	ND	ND	ND	ND
1,1-dichloroethene	ND	ND	ND	ND
trans-1,2-dichlorothene	ND	ND	ND	ND
1,2-dichloropropane	ND	ND	ND	ND
cis-1,3-dichloropropene	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	ND
methylene chloride	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	ND	ND	ND	ND
tetrachloroethene	14.0	240.	ND	ND
1,1,1-trichloroethane	1120	236.	249.	126.
1,1,2-trichloroethane	ND	ND	ND	ND
trichloroethene	1270	ND	193.	195.

All concentrations are reported as ug/m3.
ND - None detected greater than detection limit of 10 ug/m3.

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ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. · CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: Hagopian Engineering Assoc.
Report Date: 1/23/91
Sampling Date: 12/18/90
Site: Dover, Conklin Avenue
Sampled By: P.S.
Analysis Date: 12/18/90
Samples: Soil Vapor
Lab Log No: N902937

Soil Gas Vapor by EPA 8010 Instrumentation

Sample Description Air Volume (liters)	SG-G 19.9			
bromodichloromethane	ND			
bromoform	ND			
bromomethane	ND			
carbon tetrachloride	ND			
chlorobenzene	ND			
chloroethane	ND			
2-chloroethylvinylether	ND			
chloroform	ND			
dibromochloromethane	ND			
1,2-dichlorobenzene	ND			
1,3-dichlorobenzene	ND			
1,4-dichlorobenzene	ND			
dichlorodifluoromethane	ND			
1,1-dichloroethane	106.			
1,2-dichloroethane	ND			
1,1-dichloroethene	ND			
trans-1,2-dichlorothene	ND			
1,2-dichloropropane	ND			
cis-1,3-dichloropropene	ND			
trans-1,3-dichloropropene	ND			
methylene chloride	ND			
1,1,2,2-tetrachloroethane	ND			
tetrachloroethene	34.4			
1,1,1-trichloroethane	1410			
1,1,2-trichloroethane	ND			
trichloroethene	783.			

All concentrations are reported as ug/m3.
ND - None detected greater than detection limit of 10 ug/m3.

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100 TOMPKINS ST. · CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: Hagopian Engineering
Site: Dover - Conklin Avenue
Samples: Soil Gas Vapor

Report Date: 4/12/91
Sampling Date: 4/03/91
Sampled By: D. S.
Analysis Date: 4/10/91
Lab Log No: N910777

Soil Gas Vapor by EPA 8010 Instrumentation

Sample Description Air Volume (liters)	M 20.0	N 20.0	O 20.0	P 20.0
bromodichloromethane	ND	ND	ND	ND
bromoform	ND	ND	ND	ND
bromomethane	ND	ND	ND	ND
carbon tetrachloride	ND	ND	ND	ND
chlorobenzene	ND	ND	ND	ND
chloroethane	ND	ND	ND	ND
2-chloroethylvinylether	ND	ND	ND	ND
chloroform	ND	ND	ND	ND
dibromochloromethane	ND	ND	ND	ND
1,2-dichlorobenzene	ND	ND	ND	ND
1,3-dichlorobenzene	ND	ND	ND	ND
1,4-dichlorobenzene	ND	ND	ND	ND
dichlorodifluoromethane	ND	ND	ND	ND
1,1-dichloroethane	ND	ND	ND	ND
1,2-dichloroethane	ND	ND	ND	ND
1,1-dichloroethene	ND	ND	ND	ND
trans-1,2-dichlorothene	ND	ND	ND	ND
1,2-dichloropropane	ND	ND	ND	ND
cis-1,3-dichloropropene	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	ND
methylene chloride	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	ND	ND	ND	ND
tetrachloroethene	239.	ND	351.	ND
1,1,1-trichloroethane	681.	ND	ND	ND
1,1,2-trichloroethane	ND	ND	ND	ND
trichloroethene	133.	ND	168.	ND

All concentrations are reported as ug/m3.
ND - None detected greater than detection limit of 50 ug/m3.

These analyses are certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

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ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. · CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: Hagopian Engineering
Site: Dover - Conklin Avenue
Samples: Soil Gas Vapor

Report Date: 4/12/91
Sampling Date: 4/03/91
Sampled By: D. S.
Analysis Date: 4/10/91
Lab Log No: N910777

Soil Gas Vapor by EPA 8010 Instrumentation

Sample Description Air Volume (liters)	Q 20.0	R 20.0	S 20.0	T 20.0
bromodichloromethane	ND	ND	ND	ND
bromoform	ND	ND	ND	ND
bromomethane	ND	ND	ND	ND
carbon tetrachloride	ND	ND	ND	ND
chlorobenzene	ND	ND	ND	ND
chloroethane	ND	ND	ND	ND
2-chloroethylvinylether	ND	ND	ND	ND
chloroform	ND	ND	ND	ND
dibromochloromethane	ND	ND	ND	ND
1,2-dichlorobenzene	ND	ND	ND	ND
1,3-dichlorobenzene	ND	ND	ND	ND
1,4-dichlorobenzene	ND	ND	ND	ND
dichlorodifluoromethane	ND	ND	ND	ND
1,1-dichloroethane	ND	ND	ND	ND
1,2-dichloroethane	ND	ND	ND	ND
1,1-dichloroethene	ND	ND	ND	ND
trans-1,2-dichlorothene	ND	ND	ND	ND
1,2-dichloropropane	ND	ND	ND	ND
cis-1,3-dichloropropene	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	ND
methylene chloride	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	ND	ND	ND	ND
tetrachloroethene	312.	ND	ND	ND
1,1,1-trichloroethane	ND	ND	ND	ND
1,1,2-trichloroethane	ND	ND	ND	ND
trichloroethene	ND	ND	ND	ND

All concentrations are reported as ug/m3.
ND - None detected greater than detection limit of 50 ug/m3.

These analyses are certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

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100 TOMPKINS ST. · CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: Hagopian Engineering	Report Date:	4/12/91
	Sampling Date:	4/03/91
Site: Dover - Conklin Avenue	Sampled By:	D. S.
	Analysis Date:	4/10/91
Samples: Soil Gas Vapor	Lab Log No:	N910777

Soil Gas Vapor by EPA 8010 Instrumentation

Sample Description Air Volume (liters)	U 20.0	V 20.0	X 20.0	BLANK 20.0
bromodichloromethane	ND	ND	ND	ND
bromoform	ND	ND	ND	ND
bromomethane	ND	ND	ND	ND
carbon tetrachloride	ND	ND	ND	ND
chlorobenzene	ND	ND	ND	ND
chloroethane	ND	ND	ND	ND
2-chloroethylvinylether	ND	ND	ND	ND
chloroform	ND	ND	ND	ND
dibromochloromethane	ND	ND	ND	ND
1,2-dichlorobenzene	ND	ND	ND	ND
1,3-dichlorobenzene	ND	ND	ND	ND
1,4-dichlorobenzene	ND	ND	ND	ND
dichlorodifluoromethane	ND	ND	ND	ND
1,1-dichloroethane	ND	ND	ND	ND
1,2-dichloroethane	ND	ND	ND	ND
1,1-dichloroethene	ND	ND	ND	ND
trans-1,2-dichlorothene	ND	ND	ND	ND
1,2-dichloropropane	ND	ND	ND	ND
cis-1,3-dichloropropene	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	ND
methylene chloride	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	ND	ND	ND	ND
tetrachloroethene	ND	ND	ND	ND
1,1,1-trichloroethane	ND	ND	ND	ND
1,1,2-trichloroethane	ND	ND	ND	ND
trichloroethene	ND	ND	ND	ND

All concentrations are reported as ug/m3.
ND - None detected greater than detection limit of 50 ug/m3.

These analyses are certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

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100 TOMPKINS ST. · CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
28 Alice Street
Binghamton, NY 13901
Site: Dover, Conklin Avenue
Sample: Soil - MW-1 8-10'

Report Date: 6/04/91
Sampling Date: 4/29/91
Sampled By: P. Shaffner
Analysis Date: 5/06/91
Lab Log No: N910958

Purgeable Halocarbons (By EPA 5030 and 8010)

CAS No.	Compound	MW-1		
75-27-4	bromodichloromethane	ND		
75-25-2	bromoform	ND		
74-83-9	bromomethane	ND		
56-23-5	carbon tetrachloride	ND		
108-90-7	chlorobenzene	ND		
75-00-3	chloroethane	ND		
100-75-8	2-chloroethylvinylether	ND		
67-66-3	chloroform	ND		
74-87-3	chloromethane	ND		
124-38-1	dibromochloromethane	ND		
95-50-1	1,2-dichlorobenzene	ND		
541-73-1	1,3-dichlorobenzene	ND		
106-46-7	1,4-dichlorobenzene	ND		
75-71-8	dichlorodifluoromethane	ND		
75-34-3	1,1-dichloroethane	35.4		
107-06-2	1,2-dichloroethane	ND		
75-35-4	1,1-dichloroethene	9.9		
156-60-5	trans-1,2-dichloroethene	ND		
78-87-5	1,2-dichloropropane	ND		
10061-01-5	cis-1,3-dichloropropene	ND		
10061-01-6	trans-1,3-dichloropropene	ND		
75-09-2	methylene chloride	ND		
79-34-5	1,1,2,2-tetrachloroethane	ND		
127-18-4	tetrachloroethene	98.2		
71-55-6	1,1,1-trichloroethane	1,470		
79-00-5	1,1,2-trichloroethane	ND		
79-01-6	trichloroethene	2,070		
75-69-4	trichlorofluoromethane	ND		
75-01-4	vinyl chloride	ND		
Additional Compound:				
cis 1,2-Dichloroethene		511.		

All concentrations are reported as ug/Kg.
ND - None detected greater than detection limit of 1.0 ug/Kg.

These analyses are certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

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Laboratory Director
NYS ELAP CERT 10795

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FIELD NOTES
DOVER - CONKLIN
MONITORING WELL #1
APRIL 29, 1991

SPLIT SPOON DEPTH	HNu BKGRD (PPM)	SPLIT SPOON READING (PPM)	HNu HDSPCE (PPM)	
0-2	0	0	N/A	
2-4	0	0	N/A	
Open Auger @ 4 ft.	0	N/A	0.5	
4-6	0	0	14	
6-8	0	0	12	
8-10	0	2	30-50	
10-12	0	2-3	30-40	
Open Auger @ 10 ft.	0	N/A	20-30	
12-14	0	0	30-40	
14-16	0	0	30	Poor spoon recover
16-18	0	0	20	Poor spoon recover
18-20	0	0.5	4	
20-22	0		1	

Notes:
(1) Headspace HNu readings taken in the field after the split spoon sample was obtained and the sample jar was heated

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100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: Hagopian Engineering Assoc.
28 Alice Street
Binghamton, NY 13901
Site: Dover - Conklin
Sample: Water - MW-1

Report Date: 7/24/91
Sampling Date: 6/04/91
Sampled By: P.Shaffner
Analysis Date: 7/12/91
Lab Log No: 9106045

TARGET COMPOUND LIST
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
83-32-9	Acenaphthene	5	ND
208-96-8	Acenaphthylene	5	ND
120-12-7	Anthracene	5	ND
92-87-5	Benzidene	50	ND
56-55-3	Benzo(a)anthracene	10	ND
50-32-8	Benzo(a)pyrene	5	ND
205-99-2	Benzo(b)fluoranthene	5	ND
191-24-2	Benzo(ghi)perylene	5	ND
207-08-9	Benzo(k)fluoranthene	5	ND
65-85-0	Benzoic Acid	50	ND
100-51-6	Benzyl Alcohol	20	ND
85-68-7	Benzyl butyl phthalate	5	ND
111-91-1	Bis(2-chloroethoxy)methane	10	ND
111-44-4	Bis(2-chloroethyl)ether	10	ND
39638-32-9	Bis(2-chloroisopropyl) ether	10	ND
117-81-7	Bis(2-ethylhexyl)phthalate	5	14.0
101-55-3	4-Bromophenylphenyl ether	5	ND
59-50-7	4-chloro-3-methylphenol	5	ND
106-47-8	4-Chloroaniline	20	ND
91-58-7	2-Chloronaphthalene	5	ND
95-57-8	2-Chlorophenol	5	ND
7005-72-3	4-Chlorophenyl phenyl ether	5	ND
218-01-9	Chrysene	5	ND
53-70-3	Dibenzo(a,h)anthracene	5	ND
132-64-9	Dibenzofuran	10	ND

Continued on page 2

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100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: Hagopian Engineering Assoc.
28 Alice Street
Binghamton, NY 13901
Site: Dover - Conklin
Sample: Water - MW-1

Report Date: 7/24/91
Sampling Date: 6/04/91
Sampled By: P.Shaffner
Analysis Date: 7/12/91
Lab Log No: 9106045

TARGET COMPOUND LIST
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
95-50-1	1,2-Dichlorobenzene	5	ND
541-73-1	1,3-Dichlorobenzene	5	ND
106-46-7	1,4-Dichlorobenzene	5	ND
91-94-1	3,3'-Dichlorobenzidine	20	ND
120-83-2	2,4-Dichlorophenol	5	ND
84-66-2	Diethyl phthalate	5	ND
105-67-9	2,4-Dimethylphenol	5	ND
131-11-3	Dimethyl phthalate	5	ND
84-74-2	Di-n-butyl phthalate	5	55.0
117-84-0	Di-n-octyl phthalate	5	ND
51-28-5	2,4-Dinitrophenol	50	ND
121-14-2	2,4-Dinitrotoluene	10	ND
606-20-2	2,6-Dinitrotoluene	5	ND
206-44-0	Fluoranthene	5	ND
86-73-7	Fluorene	5	ND
118-74-1	Hexachlorobenzene	5	ND
87-68-3	Hexachlorobutadiene	5	ND
77-47-4	Hexachlorocyclopentadiene	5	ND
67-72-1	Hexachloroethane	5	ND
193-39-5	Indeno(1,2,3-c,d)pyrene	5	ND
78-59-1	Isophorone	5	ND
534-52-1	2-Methyl-4,6-dinitrophenol	25	ND
91-57-6	2-Methylnaphthalene	10	ND
95-48-7	2-Methylphenol	10	ND
106-44-5	4-Methylphenol	10	ND

Continued on page 3

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. · CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: Hagopian Engineering Assoc.
28 Alice Street
Binghamton, NY 13901
Site: Dover - Conklin
Sample: Water - MW-1

Report Date: 7/24/91
Sampling Date: 6/04/91
Sampled By: P.Shaffner
Analysis Date: 7/12/91
Lab Log No: 9106045

TARGET COMPOUND LIST
(EPA 8270 GC/MS Methodology)

CAS No.	COMPOUND	DL	RESULT
91-20-3	Naphthalene	5	ND
88-74-4	2-Nitroaniline	50	ND
99-09-2	3-Nitroaniline	50	ND
100-01-06	4-Nitroaniline	50	ND
98-95-3	Nitrobenzene	5	ND
88-75-5	2-Nitrophenol	5	ND
100-02-7	4-Nitrophenol	5	ND
62-75-9	n-Nitrosodimethylamine	5	ND
621-64-7	n-Nitrosodi-n-propylamine	5	ND
86-30-6	n-nitrosodiphenylamine	5	ND
87-86-5	Pentachlorophenol	5	ND
85-01-8	Phenanthrene	10	ND
108-95-2	Phenol	5	ND
129-00-0	Pyrene	5	ND
120-82-1	1,2,4-Trichlorobenzene	5	ND
88-06-2	2,4,5-Trichlorophenol	10	ND
88-06-2	2,4,6-Trichlorophenol	5	ND

All concentrations are reported as ug/L. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
28 Alice Street
Binghamton, NY 13901
Site: Dover - Conklin Site
Sample: Water - MW-1

Report Date: 6/18/91
Sampling Date: 6/04/91
Sampled By: P. Shaffner
Analysis Date: 6/14/91
Lab Log No: 9106045

TARGET COMPOUND LIST
(EPA 8240 GC/MS Methodology)

CAS No.	Compound	DL	RESULT
75-27-4	bromodichloromethane	5	ND
75-25-2	bromoform	5	ND
74-83-9	bromomethane	10	ND
56-23-5	carbon tetrachloride	5	ND
108-90-7	chlorobenzene	5	ND
75-00-3	chloroethane	10	194
100-75-8	2-chloroethylvinylether	10	ND
67-66-3	chloroform	5	7.3
74-87-3	chloromethane	10	22.0
124-38-1	dibromochloromethane	5	ND
95-50-1	1,2-dichlorobenzene	5	ND
541-73-1	1,3-dichlorobenzene	5	ND
106-46-7	1,4-dichlorobenzene	5	ND
75-34-3	1,1-dichloroethane	5	2,450
75-35-4	1,1-dichloroethene	5	3,100
107-06-2	1,2-dichloroethane	5	ND
156-60-5	trans-1,2-dichloroethene	5	505
78-87-5	1,2-dichloropropane	5	ND
10061-01-5	cis-1,3-dichloropropene	5	ND
10061-02-6	trans-1,3-dichloropropene	5	ND
75-09-2	methylene chloride	5	ND
79-34-5	1,1,2,2-tetrachloroethane	5	ND
127-18-4	tetrachloroethene	5	149
71-55-6	1,1,1-trichloroethane	5	17,500
79-00-5	1,1,2-trichloroethane	5	12.0
79-01-6	trichloroethene	5	31,100
75-69-4	trichlorofluoromethane	5	ND
75-01-4	vinyl chloride	10	400

Continued on Page 2

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
28 Alice Street
Binghamton, NY 13901
Site: Dover - Conklin Site
Sample: Water - MW-1

Report Date: 6/18/91
Sampling Date: 6/04/91
Sampled By: P. Shaffner
Analysis Date: 6/14/91
Lab Log No: 9106045

TARGET COMPOUND LIST
(EPA 8240 GC/MS Methodology)

CAS No.	Compound	DL	RESULT
71-43-2	benzene	5	ND
100-41-1	ethylbenzene	5	7.0
108-88-3	toluene	5	64.0
1330-20-7	xylenes (m, o, & p)	5	21.0
67-64-1	acetone	100	ND
75-15-0	carbon disulfide	100	ND
78-93-3	2-butanone	100	ND
108-05-4	vinyl acetate	50	ND
108-10-1	4-methyl-2-pentanone	50	ND
591-78-6	2-hexanone	50	ND
100-42-5	styrene	5	ND
Additional Compound			
cis 1,2-dichloroethene			est. 30,300

All concentrations are reported as ug/L. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
28 Alice Street
Binghamton, NY 13901
Site: Dover, Conklin Avenue
Sample: Soil - MW-2 8-10'

Report Date: 6/04/91
Sampling Date: 5/03/91
Sampled By: M. Hofferbert
Analysis Date: 5/09/91
Lab Log No: N910958

Purgeable Halocarbons (By EPA 5030 and 8010)

CAS No.	Compound	MW-2		
75-27-4	bromodichloromethane	ND		
75-25-2	bromoform	ND		
74-83-9	bromomethane	ND		
56-23-5	carbon tetrachloride	ND		
108-90-7	chlorobenzene	ND		
75-00-3	chloroethane	ND		
100-75-8	2-chloroethylvinylether	ND		
67-66-3	chloroform	ND		
74-87-3	chloromethane	ND		
124-38-1	dibromochloromethane	ND		
95-50-1	1,2-dichlorobenzene	ND		
541-73-1	1,3-dichlorobenzene	ND		
106-46-7	1,4-dichlorobenzene	ND		
75-71-8	dichlorodifluoromethane	ND		
75-34-3	1,1-dichloroethane	ND		
107-06-2	1,2-dichloroethane	ND		
75-35-4	1,1-dichloroethene	ND		
156-60-5	trans-1,2-dichloroethene	ND		
78-87-5	1,2-dichloropropane	ND		
10061-01-5	cis-1,3-dichloropropene	ND		
10061-01-6	trans-1,3-dichloropropene	ND		
75-09-2	methylene chloride	ND		
79-34-5	1,1,2,2-tetrachloroethane	ND		
127-18-4	tetrachloroethene	ND		
71-55-6	1,1,1-trichloroethane	ND		
79-00-5	1,1,2-trichloroethane	ND		
79-01-6	trichloroethene	237.		
75-69-4	trichlorofluoromethane	ND		
75-01-4	vinyl chloride	ND		
Additional Compound: cis 1,2-Dichloroethene		1.7		

All concentrations are reported as ug/Kg.
ND - None detected greater than detection limit of 1.0 ug/Kg.

These analyses are certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

John H. Buck, P.E.
Laboratory Director
NYS ELAP CERT 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

FIELD NOTES
DOVER - CONKLIN
MONITORING WELL #2
MAY 3, 1991

SPLIT SPOON DEPTH	HNu BKGRD (PPM)	SPLIT SPOON READING (PPM)	HNu HDSPCE (PPM)
0-2	0	0	160
2-4	0	0	120
4-6	0	1	110
6-8	0	20	90
8-10	0	150	210
10-12	0	80	140
12-14	0	2	100
14-16	0	2	65
16-18	0	10	55
18-20	0	1	25
20-22	0	30	35
22-24	0	2	40
24-26	0	0	70
26-28	0	6	110
28-29.1	0	0	120
30.1-32	0	0	0
32-33.4	0	0	0

Notes:
(1) Headspace HNu readings taken in the field after the split spoon sample was obtained and the sample jar was heated.

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
28 Alice Street
Binghamton, NY 13901
Site: Dover - Conklin Site
Sample: Water - MW-2

Report Date: 6/18/91
Sampling Date: 6/04/91
Sampled By: P. Shaffner
Analysis Date: 6/14/91
Lab Log No: 9106045

TARGET COMPOUND LIST
(EPA 8240 GC/MS Methodology)

CAS No.	Compound	DL	RESULT
75-27-4	bromodichloromethane	5	ND
75-25-2	bromoform	5	ND
74-83-9	bromomethane	10	ND
56-23-5	carbon tetrachloride	5	ND
108-90-7	chlorobenzene	5	ND
75-00-3	chloroethane	10	ND
100-75-8	2-chloroethylvinylether	10	ND
67-66-3	chloroform	5	ND
74-87-3	chloromethane	10	ND
124-38-1	dibromochloromethane	5	ND
95-50-1	1,2-dichlorobenzene	5	ND
541-73-1	1,3-dichlorobenzene	5	ND
106-46-7	1,4-dichlorobenzene	5	ND
75-34-3	1,1-dichloroethane	5	ND
75-35-4	1,1-dichloroethene	5	ND
107-06-2	1,2-dichloroethane	5	ND
156-60-5	trans-1,2-dichloroethene	5	ND
78-87-5	1,2-dichloropropane	5	ND
10061-01-5	cis-1,3-dichloropropene	5	ND
10061-02-6	trans-1,3-dichloropropene	5	ND
75-09-2	methylene chloride	5	ND
79-34-5	1,1,2,2-tetrachloroethane	5	ND
127-18-4	tetrachloroethene	5	ND
71-55-6	1,1,1-trichloroethane	5	ND
79-00-5	1,1,2-trichloroethane	5	ND
79-01-6	trichloroethene	5	440
75-69-4	trichlorofluoromethane	5	ND
75-01-4	vinyl chloride	10	ND

Continued on Page 2

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. · CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
28 Alice Street
Binghamton, NY 13901
Site: Dover - Conklin Site
Sample: Water - MW-2

Report Date: 6/18/91
Sampling Date: 6/04/91
Sampled By: P. Shaffner
Analysis Date: 6/14/91
Lab Log No: 9106045

TARGET COMPOUND LIST
(EPA 8240 GC/MS Methodology)

CAS No.	Compound	DL	RESULT
71-43-2	benzene	5	ND
100-41-1	ethylbenzene	5	ND
108-88-3	toluene	5	ND
1330-20-7	xylenes (m, o, & p)	5	ND
67-64-1	acetone	100	ND
75-15-0	carbon disulfide	100	ND
78-93-3	2-butanone	100	ND
108-05-4	vinyl acetate	50	ND
108-10-1	4-methyl-2-pentanone	50	ND
591-78-6	2-hexanone	50	ND
100-42-5	styrene	5	ND

All concentrations are reported as ug/L. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. · CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
28 Alice Street
Binghamton, NY 13901
Site: Dover, Conklin Avenue
Sample: Soil - MW-3 10-12'

Report Date: 6/04/91
Sampling Date: 4/30/91
Sampled By: P. Shaffner
Analysis Date: 5/06/91
Lab Log No: N910958

Purgeable Halocarbons (By EPA 5030 and 8010)

CAS No.	Compound	MW-3		
75-27-4	bromodichloromethane	ND		
75-25-2	bromoform	ND		
74-83-9	bromomethane	ND		
56-23-5	carbon tetrachloride	ND		
108-90-7	chlorobenzene	ND		
75-00-3	chloroethane	ND		
100-75-8	2-chloroethylvinylether	ND		
67-66-3	chloroform	ND		
74-87-3	chloromethane	ND		
124-38-1	dibromochloromethane	ND		
95-50-1	1,2-dichlorobenzene	ND		
541-73-1	1,3-dichlorobenzene	ND		
106-46-7	1,4-dichlorobenzene	ND		
75-71-8	dichlorodifluoromethane	ND		
75-34-3	1,1-dichloroethane	ND		
107-06-2	1,2-dichloroethane	ND		
75-35-4	1,1-dichloroethene	ND		
156-60-5	trans-1,2-dichloroethene	ND		
78-87-5	1,2-dichloropropane	ND		
10061-01-5	cis-1,3-dichloropropene	ND		
10061-01-6	trans-1,3-dichloropropene	ND		
75-09-2	methylene chloride	ND		
79-34-5	1,1,2,2-tetrachloroethane	ND		
127-18-4	tetrachloroethene	ND		
71-55-6	1,1,1-trichloroethane	ND		
79-00-5	1,1,2-trichloroethane	ND		
79-01-6	trichloroethene	ND		
75-69-4	trichlorofluoromethane	ND		
75-01-4	vinyl chloride	ND		
Additional Compound:				
cis 1,2-Dichloroethene		ND		

All concentrations are reported as ug/Kg.
ND - None detected greater than detection limit of 1.0 ug/Kg.

These analyses are certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

John H. Buck, P.E.
Laboratory Director
NYS ELAP CERT 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

FIELD NOTES
DOVER - CONKLIN
MONITORING WELL #3
APRIL 30 AND MAY 1, 1991

SPLIT SPOON DEPTH	HNu BKGRD (PPM)	SPLIT SPOON READING (PPM)	HNu HDSPCE (PPM)	
Tuesday, April 30				
0-2	0	0	1	
2-4	0	0	30-40	
4-6	0	N/A	N/A	No spoon recovery
6-8	0	0	40	
8-10	0	0	30	
10-12	0	0	300	
Open Auger @ 10 ft.	0	N/A	0	
12-14	0	0	80	
14-16	0	N/A	120	
Open Auger @ 14 ft.	0	0	0	
16-18	0	0	0	
18-20	0	0	0	
20-22	0	0	1	
Wednesday, May 1				
22-24	0	0	120	
24-26	0	0	6	
26-28	0	N/A	12	
28-30	0	0	30-40	
30-32	0	0	210	
32-32.5	0	0	140	
34-36	0	0	40	
36-38	0	0	30	
38-39.2	0	0	6	
40-42	0	0	0	
42-44	0	0	3	
44-46	0	0	10	
46-47.8	0	0	50	
48-50	0	0	3	
50-52	0	0	30	
52-54	0	0	30	

Notes:
(1) Headspace HNu readings taken in the field after the split spoon sample was obtained and the sample jar was heated.

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. · CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
28 Alice Street
Binghamton, NY 13901
Site: Dover - Conklin Site
Sample: Water - MW-3

Report Date: 6/18/91
Sampling Date: 6/04/91
Sampled By: P. Shaffner
Analysis Date: 6/17/91
Lab Log No: 9106045

TARGET COMPOUND LIST
(EPA 8240 GC/MS Methodology)

CAS No.	Compound	DL	RESULT
75-27-4	bromodichloromethane	5	ND
75-25-2	bromoform	5	ND
74-83-9	bromomethane	10	ND
56-23-5	carbon tetrachloride	5	ND
108-90-7	chlorobenzene	5	ND
75-00-3	chloroethane	10	ND
100-75-8	2-chloroethylvinylether	10	ND
67-66-3	chloroform	5	ND
74-87-3	chloromethane	10	ND
124-38-1	dibromochloromethane	5	ND
95-50-1	1,2-dichlorobenzene	5	ND
541-73-1	1,3-dichlorobenzene	5	ND
106-46-7	1,4-dichlorobenzene	5	ND
75-34-3	1,1-dichloroethane	5	ND
75-35-4	1,1-dichloroethene	5	ND
107-06-2	1,2-dichloroethane	5	ND
156-60-5	trans-1,2-dichloroethene	5	ND
78-87-5	1,2-dichloropropane	5	ND
10061-01-5	cis-1,3-dichloropropene	5	ND
10061-02-6	trans-1,3-dichloropropene	5	ND
75-09-2	methylene chloride	5	ND
79-34-5	1,1,2,2-tetrachloroethane	5	ND
127-18-4	tetrachloroethene	5	ND
71-55-6	1,1,1-trichloroethane	5	ND
79-00-5	1,1,2-trichloroethane	5	ND
79-01-6	trichloroethene	5	ND
75-69-4	trichlorofluoromethane	5	ND
75-01-4	vinyl chloride	10	ND

Continued on Page 2

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
28 Alice Street
Binghamton, NY 13901
Site: Dover - Conklin Site
Sample: Water - MW-3

Report Date: 6/18/91
Sampling Date: 6/04/91
Sampled By: P. Shaffner
Analysis Date: 6/17/91
Lab Log No: 9106045

TARGET COMPOUND LIST
(EPA 8240 GC/MS Methodology)

CAS No.	Compound	DL	RESULT
71-43-2	benzene	5	ND
100-41-1	ethylbenzene	5	ND
108-88-3	toluene	5	ND
1330-20-7	xylenes (m, o, & p)	5	ND
67-64-1	acetone	100	ND
75-15-0	carbon disulfide	100	ND
78-93-3	2-butanone	100	ND
108-05-4	vinyl acetate	50	ND
108-10-1	4-methyl-2-pentanone	50	ND
591-78-6	2-hexanone	50	ND
100-42-5	styrene	5	ND

All concentrations are reported as ug/L. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
28 Alice Street
Binghamton, NY 13901
Site: Dover, Conklin Avenue
Sample: Soil - MW-4 6-8'

Report Date: 6/04/91
Sampling Date: 5/06/91
Sampled By: M. Hofferbert
Analysis Date: 5/09/91
Lab Log No: N910958

Purgeable Halocarbons (By EPA 5030 and 8010)

CAS No.	Compound	MW-4		
75-27-4	bromodichloromethane	ND		
75-25-2	bromoform	ND		
74-83-9	bromomethane	ND		
56-23-5	carbon tetrachloride	ND		
108-90-7	chlorobenzene	ND		
75-00-3	chloroethane	ND		
100-75-8	2-chloroethylvinylether	ND		
67-66-3	chloroform	ND		
74-87-3	chloromethane	ND		
124-38-1	dibromochloromethane	ND		
95-50-1	1,2-dichlorobenzene	ND		
541-73-1	1,3-dichlorobenzene	ND		
106-46-7	1,4-dichlorobenzene	ND		
75-71-8	dichlorodifluoromethane	ND		
75-34-3	1,1-dichloroethane	ND		
107-06-2	1,2-dichloroethane	ND		
75-35-4	1,1-dichloroethene	ND		
156-60-5	trans-1,2-dichloroethene	ND		
78-87-5	1,2-dichloropropane	ND		
10061-01-5	cis-1,3-dichloropropene	ND		
10061-01-6	trans-1,3-dichloropropene	ND		
75-09-2	methylene chloride	ND		
79-34-5	1,1,2,2-tetrachloroethane	ND		
127-18-4	tetrachloroethene	ND		
71-55-6	1,1,1-trichloroethane	ND		
79-00-5	1,1,2-trichloroethane	ND		
79-01-6	trichloroethene	ND		
75-69-4	trichlorofluoromethane	ND		
75-01-4	vinyl chloride	ND		
Additional Compound:				
cis 1,2-Dichloroethene		ND		

All concentrations are reported as ug/Kg.
ND - None detected greater than detection limit of 1.0 ug/Kg.

These analyses are certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

John H. Buck, P.E.
Laboratory Director
NYS ELAP CERT 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

FIELD NOTES
DOVER - CONKLIN
MONITORING WELL #4
MAY 6 and 7, 1991

SPLIT SPOON DEPTH	HNu BKGRD (PPM)	SPLIT SPOON READING (PPM)	HNu HDSPCE (PPM)	
Monday, May 6				
0-2	0	0	0	
2-4	0	0	0	
4-6	0	0	0	
6-8	0	0	7	
8-10	0	0	3	
10-12	0	0	0	Negative HNu readi
12-14	0	0	0	Negative HNu readi
14-16	0	0	0	Negative HNu readi
16-18	0	0	0	Negative HNu readi
Tuesday, May 7				
18-20	0	0	0	

Notes:
(1) Headspace HNu readings taken in the field after the spli spoon sample was obtained and the sample jar was heated.

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
28 Alice Street
Binghamton, NY 13901
Site: Dover - Conklin Site
Sample: Water - MW-4

Report Date: 6/18/91
Sampling Date: 6/04/91
Sampled By: P. Shaffner
Analysis Date: 6/17/91
Lab Log No: 9106045

TARGET COMPOUND LIST
(EPA 8240 GC/MS Methodology)

CAS No.	Compound	DL	RESULT
75-27-4	bromodichloromethane	5	ND
75-25-2	bromoform	5	ND
74-83-9	bromomethane	10	ND
56-23-5	carbon tetrachloride	5	ND
108-90-7	chlorobenzene	5	ND
75-00-3	chloroethane	10	ND
100-75-8	2-chloroethylvinylether	10	ND
67-66-3	chloroform	5	ND
74-87-3	chloromethane	10	ND
124-38-1	dibromochloromethane	5	ND
95-50-1	1,2-dichlorobenzene	5	ND
541-73-1	1,3-dichlorobenzene	5	ND
106-46-7	1,4-dichlorobenzene	5	ND
75-34-3	1,1-dichloroethane	5	ND
75-35-4	1,1-dichloroethene	5	ND
107-06-2	1,2-dichloroethane	5	ND
156-60-5	trans-1,2-dichloroethene	5	ND
78-87-5	1,2-dichloropropane	5	ND
10061-01-5	cis-1,3-dichloropropene	5	ND
10061-02-6	trans-1,3-dichloropropene	5	ND
75-09-2	methylene chloride	5	ND
79-34-5	1,1,2,2-tetrachloroethane	5	ND
127-18-4	tetrachloroethene	5	ND
71-55-6	1,1,1-trichloroethane	5	ND
79-00-5	1,1,2-trichloroethane	5	ND
79-01-6	trichloroethene	5	ND
75-69-4	trichlorofluoromethane	5	ND
75-01-4	vinyl chloride	10	ND

Continued on Page 2

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. · CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
28 Alice Street
Binghamton, NY 13901
Site: Dover - Conklin Site
Sample: Water - MW-4

Report Date: 6/18/91
Sampling Date: 6/04/91
Sampled By: P. Shaffner
Analysis Date: 6/17/91
Lab Log No: 9106045

TARGET COMPOUND LIST
(EPA 8240 GC/MS Methodology)

CAS No.	Compound	DL	RESULT
71-43-2	benzene	5	ND
100-41-1	ethylbenzene	5	ND
108-88-3	toluene	5	ND
1330-20-7	xylenes (m, o, & p)	5	ND
67-64-1	acetone	100	ND
75-15-0	carbon disulfide	100	ND
78-93-3	2-butanone	100	ND
108-05-4	vinyl acetate	50	ND
108-10-1	4-methyl-2-pentanone	50	ND
591-78-6	2-hexanone	50	ND
100-42-5	styrene	5	ND

All concentrations are reported as ug/L. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. · CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
28 Alice Street
Binghamton, NY 13901
Site: Dover-Conklin & Kirkwood
Sample: Trip Blank

Report Date: 6/18/91
Sampling Date: 6/04/91
Sampled By: P. Shaffner
Analysis Date: 6/17/91
Lab Log No: 9106045

TARGET COMPOUND LIST
(EPA 8240 GC/MS Methodology)

CAS No.	Compound	DL	RESULT
75-27-4	bromodichloromethane	5	ND
75-25-2	bromoform	5	ND
74-83-9	bromomethane	10	ND
56-23-5	carbon tetrachloride	5	ND
108-90-7	chlorobenzene	5	ND
75-00-3	chloroethane	10	ND
100-75-8	2-chloroethylvinylether	10	ND
67-66-3	chloroform	5	ND
74-87-3	chloromethane	10	ND
124-38-1	dibromochloromethane	5	ND
95-50-1	1,2-dichlorobenzene	5	ND
541-73-1	1,3-dichlorobenzene	5	ND
106-46-7	1,4-dichlorobenzene	5	ND
75-34-3	1,1-dichloroethane	5	ND
75-35-4	1,1-dichloroethene	5	ND
107-06-2	1,2-dichloroethane	5	ND
156-60-5	trans-1,2-dichloroethene	5	ND
78-87-5	1,2-dichloropropane	5	ND
10061-01-5	cis-1,3-dichloropropene	5	ND
10061-02-6	trans-1,3-dichloropropene	5	ND
75-09-2	methylene chloride	5	ND
79-34-5	1,1,2,2-tetrachloroethane	5	ND
127-18-4	tetrachloroethene	5	ND
71-55-6	1,1,1-trichloroethane	5	ND
79-00-5	1,1,2-trichloroethane	5	ND
79-01-6	trichloroethene	5	ND
75-69-4	trichlorofluoromethane	5	ND
75-01-4	vinyl chloride	10	ND

Continued on Page 2

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. · CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
28 Alice Street
Binghamton, NY 13901
Site: Dover-Conklin & Kirkwood
Sample: Trip Blank

Report Date: 6/18/91
Sampling Date: 6/04/91
Sampled By: P. Shaffner
Analysis Date: 6/17/91
Lab Log No: 9106045

TARGET COMPOUND LIST
(EPA 8240 GC/MS Methodology)

CAS No.	Compound	DL	RESULT
71-43-2	benzene	5	ND
100-41-1	ethylbenzene	5	ND
108-88-3	toluene	5	ND
1330-20-7	xylenes (m, o, & p)	5	ND
67-64-1	acetone	100	ND
75-15-0	carbon disulfide	100	ND
78-93-3	2-butanone	100	ND
108-05-4	vinyl acetate	50	ND
108-10-1	4-methyl-2-pentanone	50	ND
591-78-6	2-hexanone	50	ND
100-42-5	styrene	5	ND

All concentrations are reported as ug/L. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

EMPIRE
SOILS INVESTIGATIONS INC.

SUBSURFACE INVESTIGATION

DOVER ELECTRONICS

BINGHAMTON, NEW YORK
DEM-EAST
CONKLIN AVE

FOR

Hagopian Engineering Associates

Binghamton, New York

JOB NO. GD-91-051

MAY 1991

105 CORONA AVENUE, GROTON, NY 13073, 607-898-5881

EMPIRE
SOILS INVESTIGATIONS INC.

May 28, 1991

Hagopian Engineering Associates
28 Alice Street
Binghamton, NY 13904

Attention: John K. Hagopian, II, P.E.

Reference: Dover Electronics
Conklin Avenue
Binghamton, New York

Gentlemen:

Enclosed is the Subsurface Investigation which is the complete record of the work our firm has performed for the above referenced project. This investigation consisted of drilling and installing one (1) 4" PVC monitoring well and three (3) 2" PVC monitoring wells. The boring layouts and utility clearances were performed by you.

Hollow stem augers were used to advance the borings and to stabilize the boreholes while split-spoon samples were collected from the underlying soils. Sampling was performed in accordance with the Standard Penetration Test. This is explained as well as other terms and symbols in the Key to Subsurface Logs, which is included with this report.

Borings were advanced to depths ranging from 20.0 to 54.0 feet. The recovered soil samples were retained by you. The information recorded on the driller's field logs is presented in the enclosed report.

Water level readings in the borings were recorded under the circumstances noted. These are short-term observations and may not reflect the true groundwater conditions. Groundwater levels vary due to seasonal fluctuations and prevailing climatic conditions.

EMPIRE
SOILS INVESTIGATIONS INC.

If you have any questions or if we can be of future service, please call me or contact Marvin L'Amoreaux at this office.

Sincerely,

EMPIRE SOILS INVESTIGATIONS, INC.

Steven J. Laramee
Central Division Drilling Manager

SJL:sdw
Enc. (3)
xc: file

GENERAL INFORMATION & KEY TO SUBSURFACE LOGS

The Subsurface Logs attached to this report present the observations and mechanical data collected by the driller at the site, supplemented by classification of the material removed from the borings as determined through visual identification by technicians in the laboratory. It is cautioned that the materials removed from the borings represent only a fraction of the total volume of the deposits at the site and may not necessarily be representative of the subsurface conditions between adjacent borings or between the sampled intervals. The data presented on the Subsurface Logs together with the recovered samples will provide a basis for evaluating the character of the subsurface conditions relative to the project. The evaluation must consider all the recorded details and their significance relative to each other. Often analyses of standard boring data indicate the need for additional testing or sampling procedures to more accurately evaluate the subsurface conditions. Any evaluation of the contents of this report and the recovered samples must be performed by Professionals. The information presented in the following defines some of the procedures and terms used on the Subsurface Logs to describe the conditions encountered.

1. The figures in the Depth column defines the scale of the Subsurface Log.

2. The sample column shows, graphically, the depth range from which a sample was recovered. See Table 1 for a description of the symbols used to signify the various types of samples.

3. The Sample No. is used for identification on sample containers and/or Laboratory Test Reports.

4. Blows on Sampler — shows the results of the "Penetration Test", recording the number of blows required to drive a split spoon sampler into the soil. The number of blows required for each six inches of penetration is recorded. The first 6 inches of penetration is considered to be a seating drive. The number of blows required for the second and third 6 inches of penetration is termed the penetration resistance, N. The outside diameter of the sampler, the hammer weight and the length of drop are noted at the bottom of the Subsurface Log.

5. Blows on Casing — shows the number of blows required to advance the casing a distance of 12 inches. The casing size, the hammer weight and the length of drop are noted at the bottom of the Subsurface Log. If the casing is advanced by means other than driving, the method of advancement will be indicated in the Notes column or under the Method of Investigation at the bottom of the Subsurface Log.

6. All recovered soil samples are reviewed in the laboratory by an engineering technician, geologist or geotechnical engineer, unless note otherwise. The visual descriptions are made on the basis of a combination of the driller's field descriptions and observations and the sample as received in the laboratory. The method of visual classification is based primarily on the Unified Soil Classification (ASTM D 2487-83) with regard to the particle size and plasticity. (See Table No. II) Additionally, the relative portion, by weight, of two or more soil types is described for granular soils in accordance with "Suggested Methods of Test for Identification of Soils" by D. M. Burmister, ASTM Special Technical Publication 479, June 1970. (See Table No. III) The description of the relative soil density or consistency is based upon the penetration records as defined on Table No. IV. The description of the soil moisture is based upon the relative wetness of the soil as recovered and is described as dry, moist, wet and saturated. Water introduced in the boring either naturally or during drilling may have affected the moisture condition of the recovered sample. Special terms are used as required to describe materials in greater detail; several such terms are listed in Table V. When sampling gravelly soils with a standard two inch diameter split spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter. The presence of boulders and large gravel is sometimes, but not necessarily, detected by an evaluation of the casing and samplers blows or through the "action" of the drill rig as reported by the driller.

7. The description of the rock shown is based on the recovered rock core and the driller's observations. The terms frequently used in the description are included in Table VI.

8. The stratification lines represent the approximate boundary between soil types and the transition may be gradual. Solid stratification lines are based on the driller's field observations.

9. Miscellaneous observations and procedures noted by the driller are shown in this column, including water level observations. It is important to realize the reliability of the water level observations depends upon the soil type (water does not readily stabilize in a hole through fine grained soils), and that drill water used to advance the boring may have influenced the observations. The ground water level typically will fluctuate seasonally. One or more perched or trapped water levels may exist in the ground seasonally. All the available readings should be evaluated. If definite conclusions cannot be made, it is often prudent to examine the conditions more thoroughly through test pit excavations or water observation wells.

10. The length of core run is defined as the length of penetration of the core barrel. Core recovery is the length of core recovered divided by the core run. The RQD (Rock Quality Designation) is the total pieces of NX core exceeding 4 inches in length divided by the core run. The size core barrel used is also noted.

DATE

STARTED 5-1-86

FINISHED 5-1-86

SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC.

SUBSURFACE LOG

HOLE NO. B-175

SURF. ELEV. 325.6

G. W. DEPTH See Note #1

Project

LOCATION

DEPTH-FT.	SAMPLES	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18-	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
0		1	2	2	3	5	10	TOPSOIL 3"	NOTE #1 G.W. at 2.0' completion G.W. at 2.2' 24 hrs. after completion
							15	Brown SILT, some Sand, trace clay (Moist - Loose)	
							50/.5'		
5								Gray SHALE, medium hard weathered, thin bedded some fractures	Run #1, 2.5' - 5.0' 95% Recovery 50% RQD

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10)

TABLE I

- Split Spoon Sample
- Shelby Tube Sample
- Auger or Test Pit Sample
- Rock Core

TABLE II

Identification of soil type is made on basis of an estimate of particle sizes, and in the case of fine grained soils also on basis of plasticity.

Soil Type	Soil Particle Size	
Boulder	> 12"	Coarse Grained (Granular)
Cobble	3" - 12"	
Gravel - Coarse	3" - ¾"	
- Fine	¾" - #4	
Sand - Coarse	#4 - #10	
- Medium	#10 - #40	
- Fine	#40 - #200	
Silt-Non Plastic (Granular) Clay-Plastic (Cohesive)	<#200	Fine Grained

TABLE III

The following terms are used in classifying soils consisting of mixtures of two or more soil types. The estimate is based on weight of total sample.

Term	Percent of Total Sample
"and"	35 - 50
"some"	20 - 35
"little"	10 - 20
"trace"	less than 10

(When sampling gravelly soils with a standard split spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter.)

TABLE IV

The relative compactness or consistency is described in accord with the following terms.

Granular Soils		Cohesive Soils	
Term	Blows per Foot, N	Term	Blows per Foot, N
Loose	< 11	Very Soft	< 3
Firm	11 - 30	Soft	3 - 5
Compact	31 - 50	Medium	6 - 15
Very Compact	> 51	Stiff	16 - 25
		Hard	> 26

(Large particles in the soils will often significantly influence the blows per foot recorded during the Penetration Test.)

TABLE V

Varved	- Horizontal uniform layers or seams of soil(s).
Layer	- Soil deposit more than 6" thick.
Seam	- Soil deposit less than 6" thick.
Parting	- Soil deposit less than ⅛" thick.
Laminated	- Irregular, horizontal and angled seams and partings of soil(s).

TABLE VI

Rock Classification Terms Term		Meaning
Hardness	Soft	Scratched by fingernail
	Medium Hard	Scratched easily by penknife
	Hard	Scratched with difficulty by penknife
	Very Hard	Cannot be scratched by penknife
Weathering	Very Weathered	Judged from the relative amounts of disintegration iron staining, core recovery, clay seams, etc.
	Weathered	
	Sound	
Bedding	Laminated	Natural breaks in Rock Layers (<1")
	Thin bedded	(1" - 4")
	Bedded	(4" - 12")
	Thick bedded	(12" - 36")
	Massive	(>36")

(Fracturing refers to natural breaks in the rock oriented at some angle to the rock layers.)

DATE
STARTED 4-29-91
FINISHED 4-29-91
SHEET 1 OF 1

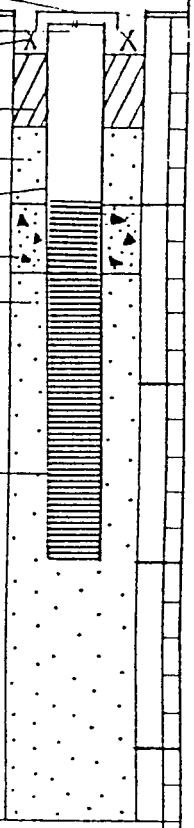
EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. B-1 MW-1
SURF. ELEV.
G. W. DEPTH See Notes

PROJECT Dover Electronics (ESI# GD-91-051)
LOCATION Conklin Avenue, Binghamton, New York

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION
0		1	4	4	1	5		FILL: Brown fine-medium GRAVEL, Some Asphalt (Dry)
			3					
		2	3	6	6	12		Brown fine-coarse GRAVEL, Some Silt (Wet-Firm)
			9					
5		3	5	6	9	15		Same
			9					
		4	7	8	8	16		Same
			14					
		5	10	11	10	21		Same
			16					
10		6	8	12	12	24		Same
			14					(Moist-Firm)
		7	20	40	19	59		Brown SILT, Some fine-medium Gravel (Moist-Very Compact)
			20					
15		8	12	18	18	36		Same (Moist-Compact)
			25					
		9	20	27	26	53		Same (Moist-Very Compact)
			24					
		10	13	18	14	32		Same (Moist-Compact)
			18					
20		11	11	27	18	45		Same
			21					
								Boring Terminated at 22.0'
25								

NOTES



Groundwater first encountered at 1.0' with augers at 4.0'.

Upon completion, no groundwater with augers at 19.0'.

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow. CLASSIFICATION Visual by Driller (M.W.)

C = No blows to drive ____ " casing ____ " with ____ lb. weight falling ____ "per blow.

METHOD OF INVESTIGATION 6¼" I.D. Hollow Stem Augers

B/T Form H

DATE
STARTED 5-03-91
FINISHED 5-03-91
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. B-2 MW-2
SURF. ELEV.
G. W. DEPTH See Notes

PROJECT Dover Electronics (ESI# GD-91-051)
LOCATION Conklin Avenue, Binghamton, New York

DEPTH FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION
0		1	12	12	12	24		GRAVEL 0.25'
			8					FILL: Brown SAND & GRAVEL, Some Silt (Moist)
		2	6	7	7	14		
			8					Brown SILT, Some medium-coarse Sand, little gravel
5		3	4	5	8	13		(Moist-Firm)
			7					
		4	10	11	16	27		Same
			12					
		5	8	12	15	27		Same
			15					
10		6	20	16	23	39		Same
			25					(Moist-Compact)
		7	10	16	20	36		Same
			24					
		8	19	35	28	63		Same
15			32					(Moist-Very Compact)
		9	42	47	43	90		Same
			56					
		10	6	22	32	54		Same
			46					
20		11	55	80	69	149		Same
			64					
		12	12	34	30	64		Same
			40					
25		13	7	30	36	66		Boulder from 29.0' to 30.1'
			30					
		14	53	49	65	114		Same
			71					
		15	15	19	100/.1'			Same
30								
		16	15/4"	19	21			Same
			40					
		17	53	44	100/.4'			Same
								Boulder at 33.7'
35								Boring Terminated at 34.5'

NOTES

Curb Box
Locking Cap
Grout
2" PVC Riser Pipe
Bentonite Pellets
1Q Sand
3Q Sand
2" PVC Well Screen, 0.010" Slot

20.
22.
23.
24.

5/6/91-7:30 A.M. Groundwater at 6.0', with augers at 34.0'.

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.
C = No blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.

CLASSIFICATION Visual by Driller (E.C.)

METHOD OF INVESTIGATION 5" I.D. Hollow Stem Augers

B-T Form H

DATE
STARTED 4-30-91
FINISHED 5-01-91
SHEET 1 OF 2

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. B-3 MW-3
SURF. ELEV.
G. W. DEPTH See Notes

PROJECT Dover Electronics
(ESI# GD-91-051)

LOCATION Conklin Avenue
Binghamton, New York
(Boring moved 1.5' South due to Fence)

DEPTH FEET	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION
0		1	5	12	12	24		GRAVEL 0.25'
			12					FILL: Brown SILT, SAND & GRAVEL (Moist)
		2	11	12	16	28		
			18					Brown SILT, GRAVEL, little sand (Moist-Firm)
5		3	15	17	16	33		No Recovery on Sample #3
			15					
		4	12	21	29	50		Brown SILT, GRAVEL, little sand (Moist-Compact)
			26					
		5	12	20	19	39		Same
10			26					
		6	11	19	40	59		Same (Moist-Very Compact)
			27					
		7	25	24	28	52		Same
			53					
		8	6	15	23	38		Same (Moist-Compact)
15			20					
		9	23	27	29	56		Brown SILT, Some to little medium-coarse Sand & Gravel (Moist-Very Compact)
			32					
		10	10	45	51	96		Same
			62					
20		11	49	57	49	106		Same
			58					
		12	20	21	19	40		Brown SILT, Some Gravel, little fine-coarse Sand (Moist-Compact)
			30					
25		13	17	24	27	51		Same
			28					
		14	26	37	44	81		Same (Moist-Very Compact)
			53					
		15	8	14	22	36		Same (Moist-Compact)
30			43					
		16	8	23	51	74		Same (Moist-Very Compact)
			83					
		17	51	100/.1'				Same
35		18	4	17	25	42		Same (Moist-Compact)
			26					
		19	150/.4'					Same
		20	22	98	100/.2'			Same
40								

NOTES

Curb Box
Locking Cap
Crushed Stone
Grout
2" PVC Riser Pipe
Bentonite Pellets
1Q Sand
3Q Sand

1.5'
36.0
39.0'
39.5'

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.
C = No blows to drive ____ " casing ____ " with ____ lb. weight falling ____ "per blow.
METHOD OF INVESTIGATION 5" I.D. Hollow Stem Augers

CLASSIFICATION Visual by Driller (E.C.)

DATE
STARTED 4-30-91
FINISHED 5-01-91
SHEET 2 OF 2

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. B-3 MW-3
SURF. ELEV.
G. W. DEPTH See Notes

PROJECT Dover Electronics
(ESI# GD-91-051)

LOCATION Conklin Avenue
Binghamton, New York
(Boring moved 1.5' South due to Fence)

DEPTH FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
40		21	8	14	18	32		Brown SILT, trace fine sand, gravel (Moist-Compact)	
			24						
		22	25	37	60	97		Brown-Grey, thin bedded SILT with fine sand & clay lenses (Moist to Wet-Very Compact)	2" PVC Well Screen, 0.010" Slot
			115						
45		23	4	17	36	53		Same	
			29						
		24	48	46	60	106		Same	
			100/.3'						
		25	4	9	15	24		Same	
			16						
50		26	4	6	8	14		(Moist to Wet-Compact) Same	3Q Sand
			17						
		27	11	22	37	59		Brown-Grey SILT (Moist-Very Compact)	
			37						
55								Boring Terminated at 54.0'	Groundwater first encountered at 42.0'. 5-1-91 Groundwater encountered at 49.5', with augers at 54.0'.
60									

N = No. blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.
C = No. blows to drive ____ " casing ____ " with ____ lb. weight falling ____ "per blow.

CLASSIFICATION Visual by Driller (E.C.)

METHOD OF INVESTIGATION 5" I.D. Hollow Stem Augers

B-T Form H

DATE
STARTED 5-06-91
FINISHED 5-06-91
SHEET 1 OF 1

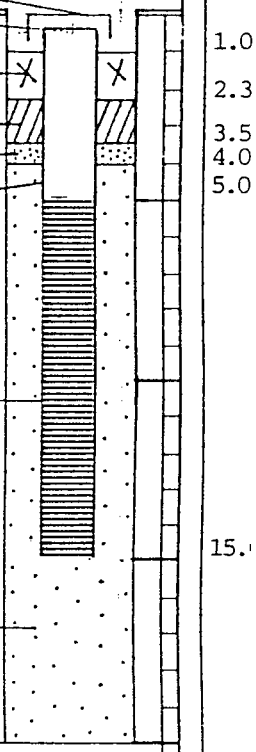
EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. B-4 MW-4
SURF. ELEV.
G. W. DEPTH See Notes

PROJECT Dover Electronics (ESI# GD-91-051)
LOCATION Conklin Avenue, Binghamton, New York

DEPTH	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION
0								TOPSOIL 0.25'
		1	3	7	8	15		POSSIBLE FILL: Brown SAND & GRAVEL, Some Silt (Moist-Firm)
			10					
		2	9	11	15	26		
			15					
5		3	4	12	22	34		Same (Wet-Compact) 7.0'
			16					
		4	16	30	15	45		
			14					
		5	8	12	15	27		Brown SILT, Some Sand & Gravel (Moist-Compact)
			12					Same (Moist-Firm)
10		6	10	26	18	44		Same (Moist-Compact)
			18					
		7	8	27	51	78		Same (Moist-Very Compact)
			66					
15		8	18	47	73	120		Same
			55					
		9	40	52	90	142		Same
			108					
		10	11	40	40	80		Same
			32					
20								Boring Terminated at 20.0'
25								

NOTES



7:15 A.M.
Groundwater at 3.9', with augers at 14.0'.

4:15 P.M.
Groundwater at 13.3', with augers at 14.0'.

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.
CLASSIFICATION Visual by Driller (E.C.)

C = No blows to drive ____ " casing ____ " with ____ lb. weight falling ____ "per blow.

METHOD OF INVESTIGATION 5" I.D. Hollow Stem Augers

B/T Form H

Monitoring Well Development Log
For Dover Electronics

D. Winckler
June 5, 1991

Time	Entry
0900	On site, Dan and Phil from Buck Labs set up and ready to begin development
1030	Completed development and sampling for MW #4 Conklin site, begun decon.
1045	Began development of MW #2, well ran dry, deconned.
1115	Began development of MW #3
1200	Broke for lunch, ran MW #3 dry, deconned.
1230	Back on site, samples taken from #2 and #3, began development of MW #1.
1400	Developed MW #1, samples taken.
1515	Secured site, lost approximately 1/2 hr. - 45 min. with gas pump problems. Moved to Kirkwood site.
1645	Developed MW #1, Kirkwood site. Samples taken.

Technical Well Data

Well desig.	Conductivity	Water Level	Well Depth	Temp C.
C-MW #1	463	4.26'	14.9'	6.7
C-MW #2	1050	18.03'	33.1'	8.1
C-MW #3	301	29.44'	47.74'	11.8
C-MW #4	766	3.87'	15.3'	21.5
K-MW #1	471	38.27'	53.9'	13.3

C - Conklin Site

K - Kirkwood Site

Conklin - DEM-East

Test Bore Location Drawing

Monitoring Well Locations

KIRKWOOD-NORTH

TEST RESULTS

KIRKWOOD-NORTH

Soil Gas K1 - K13, KS1 - KS7 trip blank Sampling Date 1/16/91, EPA 8010

Soil Gas K14 - K22, KS8 - KS10 Sampling Date 4/4/91, EPA 8010

MW1 soil sample Sampling Date 5/8/91, EPA 5030/8010

MW1 water sample Sampling Date 6/4/91 EPA 8240

Water sample from catch basin Sampling Date 6/13/91 EPA 5030/8010

BK6 - BK15 HNu sampling Sampling Date 6/13/91

Soil sample BK15 Sampling Date 6/13/91 EPA 8240

Empire Soils MW1 boring log May 7 - 9, 1991

Monitoring well development log June 5, 1991

Parratt Wolff boring logs BK6 - BK15

HEA field notes BK-6 - BK15

Map of soil gas borings and MW location

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: Hagopian Engineering
Site: Dover
Sample: Soil Gas Vapor

Report Date: 1/29/91
Sampling Date: 1/16/91
Sampled By: P.S.
Analysis Date: 1/23/91
Lab Log No: N910206

Soil Gas Vapor by EPA 8010 Instrumentation

Sample Description Air Volume (liters)	K-1 19.9	K-2 19.9	K-3 19.5	K-4 19.5
bromodichloromethane	ND	ND	ND	ND
bromoform	ND	ND	ND	ND
bromomethane	ND	ND	ND	ND
carbon tetrachloride	ND	ND	ND	ND
chlorobenzene	ND	ND	ND	ND
chloroethane	ND	ND	ND	ND
2-chloroethylvinylether	ND	ND	ND	ND
chloroform	ND	ND	ND	ND
dibromochloromethane	ND	ND	ND	ND
1,2-dichlorobenzene	ND	ND	ND	ND
1,3-dichlorobenzene	ND	ND	ND	ND
1,4-dichlorobenzene	ND	ND	ND	ND
dichlorodifluoromethane	ND	ND	ND	ND
1,1-dichloroethane	ND	ND	ND	ND
1,2-dichloroethane	ND	ND	ND	ND
1,1-dichloroethene	ND	ND	ND	ND
trans-1,2-dichlorothene	ND	ND	ND	ND
1,2-dichloropropane	ND	ND	ND	ND
cis-1,3-dichloropropene	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	ND
methylene chloride	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	ND	ND	ND	ND
tetrachloroethene	17,200	64,400	32,700	7,200
1,1,1-trichloroethane	ND	ND	ND	ND
1,1,2-trichloroethane	ND	ND	ND	ND
trichloroethene	70.0	ND	ND	ND

All concentrations are reported as ug/m3.
ND - None detected greater than detection limit of 50 ug/m3.

These analyses are certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

John H. Buck, P.E.
Laboratory Director
NYS ELAP CERT 10795

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LABORATORY REPORT

Client: Hagopian Engineering
Site: Dover
Sample: Soil Gas Vapor

Report Date: 1/29/91
Sampling Date: 1/16/91
Sampled By: P.S.
Analysis Date: 1/23/91
Lab Log No: N910206

Soil Gas Vapor by EPA 8010 Instrumentation

Sample Description Air Volume (liters)	K-5 20.9	K-6* 20.0	K-7 19.9	K-8 20.5
bromodichloromethane	ND	ND	ND	ND
bromoform	ND	ND	ND	ND
bromomethane	ND	ND	ND	ND
carbon tetrachloride	ND	ND	ND	ND
chlorobenzene	ND	ND	ND	ND
chloroethane	ND	ND	ND	ND
2-chloroethylvinylether	ND	ND	ND	ND
chloroform	ND	ND	ND	ND
dibromochloromethane	ND	ND	ND	ND
1,2-dichlorobenzene	ND	ND	ND	ND
1,3-dichlorobenzene	ND	ND	ND	ND
1,4-dichlorobenzene	ND	ND	ND	ND
dichlorodifluoromethane	ND	ND	ND	ND
1,1-dichloroethane	ND	ND	ND	ND
1,2-dichloroethane	ND	ND	ND	ND
1,1-dichloroethene	ND	ND	ND	ND
trans-1,2-dichlorothene	ND	ND	ND	ND
1,2-dichloropropane	ND	ND	ND	ND
cis-1,3-dichloropropene	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	ND
methylene chloride	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	ND	ND	ND	ND
tetrachloroethene	46,800	7,480	263,000	65,300
1,1,1-trichloroethane	ND	ND	ND	ND
1,1,2-trichloroethane	ND	ND	ND	ND
trichloroethene	ND	ND	147	ND

All concentrations are reported as ug/m3.
ND - None detected greater than detection limit of 50 ug/m3.
* - Sampled 1/17/91

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607-753-3403

LABORATORY REPORT

Client: Hagopian Engineering
Site: Dover
Sample: Soil Gas Vapor

Report Date: 1/29/91
Sampling Date: 1/16/91
Sampled By: P.S.
Analysis Date: 1/23/91
Lab Log No: N910206

Soil Gas Vapor by EPA 8010 Instrumentation

Sample Description Air Volume (liters)	K-9 11.8	K-10 19.9	K-11 19.5	K-12 19.5
bromodichloromethane	ND	ND	ND	ND
bromoform	ND	ND	ND	ND
bromomethane	ND	ND	ND	ND
carbon tetrachloride	ND	ND	ND	ND
chlorobenzene	ND	ND	ND	ND
chloroethane	ND	ND	ND	ND
2-chloroethylvinylether	ND	ND	ND	ND
chloroform	ND	ND	ND	ND
dibromochloromethane	ND	ND	ND	ND
1,2-dichlorobenzene	ND	ND	ND	ND
1,3-dichlorobenzene	ND	ND	ND	ND
1,4-dichlorobenzene	ND	ND	ND	ND
dichlorodifluoromethane	ND	ND	ND	ND
1,1-dichloroethane	ND	ND	ND	ND
1,2-dichloroethane	ND	ND	ND	ND
1,1-dichloroethene	ND	ND	ND	ND
trans-1,2-dichlorothene	ND	ND	ND	ND
1,2-dichloropropane	ND	ND	ND	ND
cis-1,3-dichloropropene	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	ND
methylene chloride	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	ND	ND	ND	ND
tetrachloroethene	46,200	36,900	70,200	17,600
1,1,1-trichloroethane	ND	ND	ND	ND
1,1,2-trichloroethane	ND	ND	ND	ND
trichloroethene	ND	ND	ND	ND

All concentrations are reported as ug/m3.
ND - None detected greater than detection limit of 50 ug/m3.

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LABORATORY REPORT

Client: Hagopian Engineering
Site: Dover
Sample: Soil Gas Vapor

Report Date: 1/29/91
Sampling Date: 1/17/91
Sampled By: P.S.
Analysis Date: 1/23/91
Lab Log No: N910206

Soil Gas Vapor by EPA 8010 Instrumentation

Sample Description Air Volume (liters)	K-13 19.9	KS-1 19.9	KS-2 19.9	KS-3 19.5
bromodichloromethane	ND	ND	ND	ND
bromoform	ND	ND	ND	ND
bromomethane	ND	ND	ND	ND
carbon tetrachloride	ND	ND	ND	ND
chlorobenzene	ND	ND	ND	ND
chloroethane	ND	ND	ND	ND
2-chloroethylvinylether	ND	ND	ND	ND
chloroform	ND	ND	ND	ND
dibromochloromethane	ND	ND	ND	ND
1,2-dichlorobenzene	ND	ND	ND	ND
1,3-dichlorobenzene	ND	ND	ND	ND
1,4-dichlorobenzene	ND	ND	ND	ND
dichlorodifluoromethane	ND	ND	ND	ND
1,1-dichloroethane	ND	ND	ND	ND
1,2-dichloroethane	ND	ND	ND	ND
1,1-dichloroethene	ND	ND	ND	ND
trans-1,2-dichlorothene	ND	ND	ND	ND
1,2-dichloropropane	ND	ND	ND	ND
cis-1,3-dichloropropene	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	ND
methylene chloride	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	ND	ND	ND	ND
tetrachloroethene	809	12,100	16,200	1,890
1,1,1-trichloroethane	ND	ND	ND	ND
1,1,2-trichloroethane	ND	ND	ND	ND
trichloroethene	ND	ND	ND	ND

All concentrations are reported as ug/m3.
ND - None detected greater than detection limit of 50 ug/m3.

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607-753-3403

LABORATORY REPORT

Client: Hagopian Engineering
Site: Dover
Sample: Soil Gas Vapor

Report Date: 1/29/91
Sampling Date: 1/17/91
Sampled By: P.S.
Analysis Date: 1/23/91
Lab Log No: N910206

Soil Gas Vapor by EPA 8010 Instrumentation

Sample Description Air Volume (liters)	KS-5 19.9	KS-6 19.9	KS-7 19.9	BLANK* 20.0
bromodichloromethane	ND	ND	ND	ND
bromoform	ND	ND	ND	ND
bromomethane	ND	ND	ND	ND
carbon tetrachloride	ND	ND	ND	ND
chlorobenzene	ND	ND	ND	ND
chloroethane	ND	ND	ND	ND
2-chloroethylvinylether	ND	ND	ND	ND
chloroform	ND	ND	ND	ND
dibromochloromethane	ND	ND	ND	ND
1,2-dichlorobenzene	ND	ND	ND	ND
1,3-dichlorobenzene	ND	ND	ND	ND
1,4-dichlorobenzene	ND	ND	ND	ND
dichlorodifluoromethane	ND	ND	ND	ND
1,1-dichloroethane	ND	ND	ND	ND
1,2-dichloroethane	ND	ND	ND	ND
1,1-dichloroethene	ND	ND	ND	ND
trans-1,2-dichlorothene	ND	ND	ND	ND
1,2-dichloropropane	ND	ND	ND	ND
cis-1,3-dichloropropene	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	ND
methylene chloride	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	ND	ND	ND	ND
tetrachloroethene	2,260	9,660	8,050	ND
1,1,1-trichloroethane	ND	ND	ND	ND
1,1,2-trichloroethane	ND	ND	ND	ND
trichloroethene	ND	ND	ND	ND

All concentrations are reported as ug/m3.
ND - None detected greater than detection limit of 50 ug/m3.
* - Sampled 1/16/91

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John H. Buck

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Laboratory Director
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ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: Hagopian Engineering
Site: Dover
Sample: Soil Gas Vapor

Report Date: 1/29/91
Sampling Date: 1/17/91
Sampled By: P.W.
Analysis Date: 1/23/91
Lab Log No: N910206

Soil Gas Vapor by EPA 8010 Instrumentation

Sample Description Air Volume (liters)	BLANK 20.0			
bromodichloromethane	ND			
bromoform	ND			
bromomethane	ND			
carbon tetrachloride	ND			
chlorobenzene	ND			
chloroethane	ND			
2-chloroethylvinylether	ND			
chloroform	ND			
dibromochloromethane	ND			
1,2-dichlorobenzene	ND			
1,3-dichlorobenzene	ND			
1,4-dichlorobenzene	ND			
dichlorodifluoromethane	ND			
1,1-dichloroethane	ND			
1,2-dichloroethane	ND			
1,1-dichloroethene	ND			
trans-1,2-dichlorothene	ND			
1,2-dichloropropane	ND			
cis-1,3-dichloropropene	ND			
trans-1,3-dichloropropene	ND			
methylene chloride	ND			
1,1,2,2-tetrachloroethane	ND			
tetrachloroethene	ND			
1,1,1-trichloroethane	ND			
1,1,2-trichloroethane	ND			
trichloroethene	ND			

All concentrations are reported as ug/m3.
ND - None detected greater than detection limit of 50 ug/m3.

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Laboratory Director
NYS ELAP CERT 10795

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ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: Hagopian Engineering

Site: Dover - Kirkwood

Samples: Soil Gas Vapor

Report Date: 4/12/91
Sampling Date: 4/04/91
Sampled By: D. S.
Analysis Date: 4/10/91
Lab Log No: N910777

Soil Gas Vapor by EPA 8010 Instrumentation

Sample Description Air Volume (liters)	K-14 20.0	K-15 20.0	K-16 20.0	K-17 20.0
bromodichloromethane	ND	ND	ND	ND
bromoform	ND	ND	ND	ND
bromomethane	ND	ND	ND	ND
carbon tetrachloride	ND	ND	ND	ND
chlorobenzene	ND	ND	ND	ND
chloroethane	ND	ND	ND	ND
2-chloroethylvinylether	ND	ND	ND	ND
chloroform	ND	ND	ND	ND
dibromochloromethane	ND	ND	ND	ND
1,2-dichlorobenzene	ND	ND	ND	ND
1,3-dichlorobenzene	ND	ND	ND	ND
1,4-dichlorobenzene	ND	ND	ND	ND
dichlorodifluoromethane	ND	ND	ND	ND
1,1-dichloroethane	ND	ND	ND	ND
1,2-dichloroethane	ND	ND	ND	ND
1,1-dichloroethene	ND	ND	ND	ND
trans-1,2-dichlorothene	ND	ND	ND	ND
1,2-dichloropropane	ND	ND	ND	ND
cis-1,3-dichloropropene	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	ND
methylene chloride	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	ND	ND	ND	ND
tetrachloroethene	4,440	512.	133.	800.
1,1,1-trichloroethane	ND	ND	ND	ND
1,1,2-trichloroethane	ND	ND	ND	ND
trichloroethene	ND	ND	ND	ND

All concentrations are reported as ug/m3.
ND - None detected greater than detection limit of 50 ug/m3.

These analyses are certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

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Laboratory Director
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100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

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LABORATORY REPORT

Client: Hagopian Engineering

Site: Dover - Kirkwood

Samples: Soil Gas Vapor

Report Date: 4/12/91
Sampling Date: 4/04/91
Sampled By: D. S.
Analysis Date: 4/10/91
Lab Log No: N910777

Soil Gas Vapor by EPA 8010 Instrumentation

Sample Description Air Volume (liters)	K-18 20.0	K-19 20.0	K-20 20.0	K-21 20.0
bromodichloromethane	ND	ND	ND	ND
bromoform	ND	ND	ND	ND
bromomethane	ND	ND	ND	ND
carbon tetrachloride	ND	ND	ND	ND
chlorobenzene	ND	ND	ND	ND
chloroethane	ND	ND	ND	ND
2-chloroethylvinylether	ND	ND	ND	ND
chloroform	ND	ND	ND	ND
dibromochloromethane	ND	ND	ND	ND
1,2-dichlorobenzene	ND	ND	ND	ND
1,3-dichlorobenzene	ND	ND	ND	ND
1,4-dichlorobenzene	ND	ND	ND	ND
dichlorodifluoromethane	ND	ND	ND	ND
1,1-dichloroethane	ND	ND	ND	ND
1,2-dichloroethane	ND	ND	ND	ND
1,1-dichloroethene	ND	ND	ND	ND
trans-1,2-dichlorothene	ND	ND	ND	ND
1,2-dichloropropane	ND	ND	ND	ND
cis-1,3-dichloropropene	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	ND
methylene chloride	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	ND	ND	ND	ND
tetrachloroethene	483.	ND	106.	1,100
1,1,1-trichloroethane	ND	ND	ND	ND
1,1,2-trichloroethane	ND	ND	ND	ND
trichloroethene	ND	ND	ND	ND

All concentrations are reported as ug/m3.
ND - None detected greater than detection limit of 50 ug/m3.

These analyses are certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

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100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: Hagopian Engineering

Site: Dover - Kirkwood

Samples: Soil Gas Vapor

Report Date: 4/12/91
Sampling Date: 4/04/91
Sampled By: D. S.
Analysis Date: 4/10/91
Lab Log No: N910777

Soil Gas Vapor by EPA 8010 Instrumentation

Sample Description Air Volume (liters)	K-22 20.0	KS-8 20.0	KS-9 20.0	KS-10 20.0
bromodichloromethane	ND	ND	ND	ND
bromoform	ND	ND	ND	ND
bromomethane	ND	ND	ND	ND
carbon tetrachloride	ND	ND	ND	ND
chlorobenzene	ND	ND	ND	ND
chloroethane	ND	ND	ND	ND
2-chloroethylvinylether	ND	ND	ND	ND
chloroform	ND	ND	ND	ND
dibromochloromethane	ND	ND	ND	ND
1,2-dichlorobenzene	ND	ND	ND	ND
1,3-dichlorobenzene	ND	ND	ND	ND
1,4-dichlorobenzene	ND	ND	ND	ND
dichlorodifluoromethane	ND	ND	ND	ND
1,1-dichloroethane	ND	ND	ND	ND
1,2-dichloroethane	ND	ND	ND	ND
1,1-dichloroethene	ND	ND	ND	ND
trans-1,2-dichlorothene	ND	ND	ND	ND
1,2-dichloropropane	ND	ND	ND	ND
cis-1,3-dichloropropene	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	ND
methylene chloride	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	ND	ND	ND	ND
tetrachloroethene	2,800,000	ND	68.	185.
1,1,1-trichloroethane	ND	ND	ND	ND
1,1,2-trichloroethane	ND	ND	ND	ND
trichloroethene	152.	ND	ND	ND

All concentrations are reported as ug/m3.
ND - None detected greater than detection limit of 50 ug/m3.

These analyses are certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

John H. Buck, P.E.
Laboratory Director
NYS ELAP CERT 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
28 Alice Street
Binghamton, NY 13901

Site: Dover, Kirwood
Sample: Soil - MW-1 4-6'

Report Date: 6/04/91
Sampling Date: 5/08/91
Sampled By: Hagopian
Date Received: 5/08/91
Analysis Date: 5/22/91
Lab Log No: N910595

Purgeable Halocarbons (By EPA 5030 and 8010)

CAS No.	Compound	MW-1		
75-27-4	bromodichloromethane	ND		
75-25-2	bromoform	ND		
74-83-9	bromomethane	ND		
56-23-5	carbon tetrachloride	ND		
108-90-7	chlorobenzene	ND		
75-00-3	chloroethane	ND		
100-75-8	2-chloroethylvinylether	ND		
67-66-3	chloroform	ND		
74-87-3	chloromethane	ND		
124-38-1	dibromochloromethane	ND		
95-50-1	1,2-dichlorobenzene	ND		
541-73-1	1,3-dichlorobenzene	ND		
106-46-7	1,4-dichlorobenzene	ND		
75-71-8	dichlorodifluoromethane	ND		
75-34-3	1,1-dichloroethane	ND		
107-06-2	1,2-dichloroethane	ND		
75-35-4	1,1-dichloroethene	ND		
156-60-5	trans-1,2-dichloroethene	ND		
78-87-5	1,2-dichloropropane	ND		
10061-01-5	cis-1,3-dichloropropene	ND		
10061-01-6	trans-1,3-dichloropropene	ND		
75-09-2	methylene chloride	ND		
79-34-5	1,1,2,2-tetrachloroethane	ND		
127-18-4	tetrachloroethene	372.		
71-55-6	1,1,1-trichloroethane	ND		
79-00-5	1,1,2-trichloroethane	ND		
79-01-6	trichloroethene	ND		
75-69-4	trichlorofluoromethane	ND		
75-01-4	vinyl chloride	ND		
Additional Compound:				
cis 1,2-Dichloroethene		ND		

All concentrations are reported as ug/Kg.
ND - None detected greater than detection limit of 1.0 ug/Kg.

These analyses are certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

John H. Buck

John H. Buck, P.E.
Laboratory Director
NYS ELAP CERT 10795

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LABORATORY NOTES
DOVER - KIRKWOOD
MONITORING WELL #1

SPLIT SPOON DEPTH	HNu BKGRD	HNu HDSPCE
0.5-2	0	11
2-4	0	35
4-6	0	90
6-8	0	0
8-10	0	0
10-12	0	0
12-14	0	0
14-16	0	0
16-18	0	0
18-20	0	0
20-22	0	0
22-24	0	0
24-26	0	0
26-28	0	0
28-30	0	0
30-32	0	0
32-34	0	0
34-36	0	0
36-38	0	0
38-40	0	0
40-42	0	0
42-44	0	0
44-46	0	0
46-48	0	0
48-50	0	0
50-52	0	0
52-54	0	0

Note: (1) Samples collected by Hagopian Engineering on May 7 and 8, 1991.
(2) Headspace HNu readings taken by Buck Environmental Laboratories on May 9, 1991, in the laboratory.

1

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LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
28 Alice Street
Binghamton, NY 13901
Site: Dover - Kirkwood Site
Sample: Water - MW-1

Report Date: 6/18/91
Sampling Date: 6/04/91
Sampled By: P. Shaffner
Analysis Date: 6/17/91
Lab Log No: 9106045

TARGET COMPOUND LIST
(EPA 8240 GC/MS Methodology)

CAS No.	Compound	DL	RESULT
75-27-4	bromodichloromethane	5	ND
75-25-2	bromoform	5	ND
74-83-9	bromomethane	10	ND
56-23-5	carbon tetrachloride	5	ND
108-90-7	chlorobenzene	5	ND
75-00-3	chloroethane	10	ND
100-75-8	2-chloroethylvinylether	10	ND
67-66-3	chloroform	5	ND
74-87-3	chloromethane	10	ND
124-38-1	dibromochloromethane	5	ND
95-50-1	1,2-dichlorobenzene	5	ND
541-73-1	1,3-dichlorobenzene	5	ND
106-46-7	1,4-dichlorobenzene	5	ND
75-34-3	1,1-dichloroethane	5	ND
75-35-4	1,1-dichloroethene	5	ND
107-06-2	1,2-dichloroethane	5	ND
156-60-5	trans-1,2-dichloroethene	5	ND
78-87-5	1,2-dichloropropane	5	ND
10061-01-5	cis-1,3-dichloropropene	5	ND
10061-02-6	trans-1,3-dichloropropene	5	ND
75-09-2	methylene chloride	5	ND
79-34-5	1,1,2,2-tetrachloroethane	5	ND
127-18-4	tetrachloroethene	5	48.0
71-55-6	1,1,1-trichloroethane	5	ND
79-00-5	1,1,2-trichloroethane	5	ND
79-01-6	trichloroethene	5	8.0
75-69-4	trichlorofluoromethane	5	ND
75-01-4	vinyl chloride	10	ND

Continued on Page 2

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
28 Alice Street
Binghamton, NY 13901
Site: Dover - Kirkwood Site
Sample: Water - MW-1

Report Date: 6/18/91
Sampling Date: 6/04/91
Sampled By: P. Shaffner
Analysis Date: 6/17/91
Lab Log No: 9106045

TARGET COMPOUND LIST
(EPA 8240 GC/MS Methodology)

CAS No.	Compound	DL	RESULT
71-43-2	benzene	5	11.0
100-41-1	ethylbenzene	5	ND
108-88-3	toluene	5	ND
1330-20-7	xylenes (m, o, & p)	5	ND
67-64-1	acetone	100	ND
75-15-0	carbon disulfide	100	ND
78-93-3	2-butanone	100	ND
108-05-4	vinyl acetate	50	ND
108-10-1	4-methyl-2-pentanone	50	ND
591-78-6	2-hexanone	50	ND
100-42-5	styrene	5	ND

All concentrations are reported as ug/L. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
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607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
Site: Dover - Kirkwood
Sample: Water - Catch Basin FROM at BK-9

Report Date: 7/10/91
Sampling Date: 6/13/91
Sampled By: D. Shearer
Analysis Date: 6/26/91
Lab Log No: 9106155

Purgeable Halocarbons (By EPA 5030 and 8010)

CAS No.	Compound	Water
75-27-4	bromodichloromethane	ND
75-25-2	bromoform	ND
74-83-9	bromomethane	ND
56-23-5	carbon tetrachloride	ND
108-90-7	chlorobenzene	ND
75-00-3	chloroethane	ND
100-75-8	2-chloroethylvinylether	ND
67-66-3	chloroform	ND
74-87-3	chloromethane	ND
124-38-1	dibromochloromethane	ND
95-50-1	1,2-dichlorobenzene	ND
541-73-1	1,3-dichlorobenzene	ND
106-46-7	1,4-dichlorobenzene	ND
75-71-8	dichlorodifluoromethane	ND
75-34-3	1,1-dichloroethane	ND
107-06-2	1,2-dichloroethane	ND
75-35-4	1,1-dichloroethene	ND
156-60-5	trans-1,2-dichloroethene	ND
78-87-5	1,2-dichloropropane	ND
10061-01-5	cis-1,3-dichloropropene	ND
10061-01-6	trans-1,3-dichloropropene	ND
75-09-2	methylene chloride	ND
79-34-5	1,1,2,2-tetrachloroethane	ND
127-18-4	tetrachloroethene	10,400
71-55-6	1,1,1-trichloroethane	ND
79-00-5	1,1,2-trichloroethane	ND
79-01-6	trichloroethene	327.
75-69-4	trichlorofluoromethane	ND
75-01-4	vinyl chloride	ND
Additional Compound:		
cis-1,2-dichloroethene		1,760

All concentrations are reported as ug/L.
ND - None detected greater than detection limit of 10.0 ug/L.

These analyses are certified as conforming to generally accepted laboratory practices and requirements of the New York State Health Department ELAP program.

John H. Buck, P.E.
Laboratory Director
NYS ELAP CERT 10795

BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. · CORTLAND, N.Y. 13045
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FIELD NOTES
DOVER - KIRKWOOD
BORE HOLE BK6

SPLIT SPOON DEPTH	HNu BKGRD (PPM)	HNu SPLIT SPOON (PPM)	HNu COOKED SAMPLE (PPM)
0-2′	0	0.5	0
2-4′	0	0.2	2.0
4-6′	0	0.2	0.2
6-8′	0	8.2	2.8
8-10′	0.2	0.2	0.2
10-12′	0.2	0.2	0.2
12-14′	0	0	0

FIELD NOTES
DOVER - KIRKWOOD
BORE HOLE BK7

SPLIT SPOON DEPTH	HNu BKGRD (PPM)	HNu SPLIT SPOON (PPM)	HNu COOKED SAMPLE (PPM)	
0-2′	0.1	0.1	0	
2-4′	0.1	0.1	0	
4-6′	0.1	0.1	0.3	Slight odor
6-8′	0.1	0.1	0	
8-10′	0.1	0.1	0	

FIELD NOTES
DOVER - KIRKWOOD
BORE HOLE BK8

SPLIT SPOON DEPTH	HNu BKGRD (PPM)	HNu SPLIT SPOON (PPM)	HNu COOKED SAMPLE (PPM)
0-2′	0.1	0.1	0.4
2-4′	0.1	0.1	0
4-5′	0.1	0.1	0

Note: Bore hole BK8 was terminated at 5′ after striking an underground electrical conduit.

1

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FIELD NOTES
DOVER - KIRKWOOD
BORE HOLE BK8A

SPLIT SPOON DEPTH	HNu BKGRD (PPM)	HNu SPLIT SPOON (PPM)	HNu COOKED SAMPLE (PPM)
4-5.3′	0.1	0.1	0.3
6-6.3′	0.1	0.1	0.3
8-10′	0.1	0.1	0

Note: Bore hole BK8A was a continuation of bore hole BK8.

FIELD NOTES
DOVER - KIRKWOOD
BORE HOLE BK9

SPLIT SPOON DEPTH	HNu BKGRD (PPM)	HNu SPLIT SPOON (PPM)	HNu COOKED SAMPLE (PPM)
0-2′	0.2	0.2	0.2
2-4′	0.2	0.2	0.2
4-6′	0.2	0.2	0.2
6-8′	0.2	0.2	0.2
8-10′	0.2	0.2	0.2

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FIELD NOTES
DOVER - KIRKWOOD
BORE HOLE BK10

SPLIT SPOON DEPTH	HNu BKGRD (PPM)	HNu SPLIT SPOON (PPM)	HNu COOKED SAMPLE (PPM)
0.5-2'	0.2	0.2	1.8
2-4'	0.2	0.2	42
4-6'	0.2	4.2	88
6-8'	0.2	2.2	23
8-10'	0.2	2.8	4.4
10-11.5'	0.2	1.8	33
12-14'	0.2	0.2	3.8
14-14.5'	0.2	1.2	5.6
16-18'	0.2	0.8	1.4
18-20'	0.2	0.2	0.8
20-22'	0.2	0.2	0.8
22-24'	0.2	0.8	2
24-26'	0.2	0.2	0.2

FIELD NOTES
DOVER - KIRKWOOD
BORE HOLE BK11

SPLIT SPOON DEPTH	HNu BKGRD (PPM)	HNu SPLIT SPOON (PPM)	HNu COOKED SAMPLE (PPM)
0-2'	0.3	0.3	3.0
2-4'	0.2	0.2	15.6
4-6'	0.2	3.0	40
6-8'	0.2	0.7	14
8-10'	0.2	0.7	2.2
10-12'	0.2	0.3	0.4
12-14'	0.2	0.3	0.3
14-16'	0.2	0.2	8.4

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FIELD NOTES
DOVER - KIRKWOOD
BORE HOLE BK12

SPLIT SPOON DEPTH	HNu BKGRD (PPM)	HNu SPLIT SPOON (PPM)	HNu COOKED SAMPLE (PPM)
0.5-2'	0.2	0.2	0.2
2-4'	0.2	0.2	0.2
4-6'	0.2	0.2	0.2
6-8'	0.2	0.2	0.2
8-10'	0.2	0.2	0.2

FIELD NOTES
DOVER - KIRKWOOD
BORE HOLE BK13

SPLIT SPOON DEPTH	HNu BKGRD (PPM)	HNu SPLIT SPOON (PPM)	HNu COOKED SAMPLE (PPM)
0-2'	0.2	0.2	0.2
2-4'	0.2	0.2	0.2
4-4.8'	0.2	0.2	0.2
6-6.9'	0.2	0.2	0.2
8-9'	0.2	0.2	0.2

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FIELD NOTES
DOVER - KIRKWOOD
BORE HOLE BK14

SPLIT SPOON DEPTH	HNu BKGRD (PPM)	HNu SPLIT SPOON (PPM)	HNu COOKED SAMPLE (PPM)
0.5-2′	0.2	0.2	0.2
2-4′	No recovery		
4-4.9′	0.2	0.2	0.2
6-7.3′	0.2	0.2	0.2
8-10′	0.2	0.2	0.2

FIELD NOTES
DOVER - KIRKWOOD
BORE HOLE BK15

SPLIT SPOON DEPTH	HNu BKGRD (PPM)	HNu SPLIT SPOON (PPM)	HNu COOKED SAMPLE (PPM)
0-2′	0.2	0.2	0.2
2-4′	0.2	0.2	0.2
4-6′	0.2	0.2	0.2
6-8′	0.2	0.2	0.2
8-10′	0.2	0.2	0.2

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BUCK ENVIRONMENTAL LABORATORIES INC.
ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES
Site: Dover - Kirkwood
Sample: Soil - BK-15 4'-6'

Report Date: 7/22/91
Sampling Date: 6/13/91
Sampled By: D. Shearer
Analysis Date: 6/22/91
Lab Log No: 9106155

TARGET COMPOUND LIST
(EPA 8240 GC/MS Methodology)

CAS No.	Compound	DL	RESULT
75-27-4	bromodichloromethane	10	ND
75-25-2	bromoform	10	ND
74-83-9	bromomethane	20	ND
56-23-5	carbon tetrachloride	10	ND
108-90-7	chlorobenzene	10	ND
75-00-3	chloroethane	20	ND
100-75-8	2-chloroethylvinylether	20	ND
67-66-3	chloroform	10	ND
74-87-3	chloromethane	20	ND
124-38-1	dibromochloromethane	10	ND
95-50-1	1,2-dichlorobenzene	10	ND
541-73-1	1,3-dichlorobenzene	10	ND
106-46-7	1,4-dichlorobenzene	10	ND
75-34-3	1,1-dichloroethane	10	ND
75-35-4	1,1-dichloroethene	10	ND
107-06-2	1,2-dichloroethane	10	ND
156-60-5	trans-1,2-dichloroethene	10	ND
78-87-5	1,2-dichloropropane	10	ND
10061-01-5	cis-1,3-dichloropropene	10	ND
10061-02-6	trans-1,3-dichloropropene	10	ND
75-09-2	methylene chloride	10	ND
79-34-5	1,1,2,2-tetrachloroethane	10	ND
127-18-4	tetrachloroethene	10	ND
71-55-6	1,1,1-trichloroethane	10	ND
79-00-5	1,1,2-trichloroethane	10	ND
79-01-6	trichloroethene	10	ND
75-69-4	trichlorofluoromethane	10	ND
75-01-4	vinyl chloride	20	ND

Continued on Page 2

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ACCREDITED ENVIRONMENTAL ANALYSIS
100 TOMPKINS ST. • CORTLAND, N.Y. 13045
607-753-3403

LABORATORY REPORT

Client: HAGOPIAN ENGINEERING ASSOCIATES

Site: Dover - Kirkwood
Sample: Soil - BK-15 4'-6'

Report Date: 7/22/91
Sampling Date: 6/13/91
Sampled By: D. Shearer
Analysis Date: 6/22/91
Lab Log No: 9106155

TARGET COMPOUND LIST
(EPA 8240 GC/MS Methodology)

CAS No.	Compound	DL	RESULT
71-43-2	benzene	10	ND
100-41-1	ethylbenzene	10	ND
108-88-3	toluene	10	ND
1330-20-7	xylenes (m, o, & p)	10	ND
67-64-1	acetone	200	ND
75-15-0	carbon disulfide	200	ND
78-93-3	2-butanone	200	ND
108-05-4	vinyl acetate	100	ND
108-10-1	4-methyl-2-pentanone	100	ND
591-78-6	2-hexanone	100	ND
100-42-5	styrene	10	ND

All concentrations are reported as ug/kg. ND indicates that no amount greater than the detection limit (DL) was detected.

These analyses are certified as conforming to generally accepted laboratory practices, the analytical method cited, requirements of the New York State Health Department ELAP program, and the New York State Department of Environmental Conservation.

John H. Buck, P.E.
Laboratory Director

EMPIRE
SOILS INVESTIGATIONS INC.

SUBSURFACE INVESTIGATION

DOVER ELECTRONICS

KIRKWOOD, NEW YORK
NORTH

FOR

Hagopian Engineering Associates

Binghamton, New York

JOB NO. GD-91-053

MAY 1991

105 CORONA AVENUE, GROTON, NY 13073, 607-898-5881

EMPIRE
SOILS INVESTIGATIONS INC.

May 28, 1991

Hagopian Engineering Associates
28 Alice Street
Binghamton, NY 13904

Attention: John K. Hagopian, II, P.E.

Reference: Dover Electronics
Kirkwood, New York

Gentlemen:

Enclosed is the Subsurface Investigation which is the complete record of the work our firm has performed for the above referenced project. This investigation consisted of drilling and installing one (1) 2" PVC monitoring well. The boring layout and utility clearances were performed by you.

Hollow stem augers were used to advance the boring and to stabilize the borehole while split-spoon samples were collected from the underlying soils. Sampling was performed in accordance with the Standard Penetration Test. This is explained as well as other terms and symbols in the Key to Subsurface Logs, which is included with this report.

The boring was advanced to a depth of 54.0 feet. The recovered soil samples were retained by you. The information recorded on the driller's field log is presented in the enclosed report.

Water level readings in the boring were recorded under the circumstances noted. These are short-term observations and may not reflect the true groundwater conditions. Groundwater levels vary due to seasonal fluctuations and prevailing climatic conditions.

105 CORONA AVENUE, GROTON, NY 13073, 607-898-5881

EMPIRE
SOILS INVESTIGATIONS INC

If you have any questions or if we can be of future service, please call me or contact Marvin L'Amoreaux at this office.

Sincerely,

EMPIRE SOILS INVESTIGATIONS, INC.

Steven J. Laramee
Central Division Drilling Manager

SJL:sdw
Enc. (3)
xc: file

GENERAL INFORMATION & KEY TO SUBSURFACE LOGS

The Subsurface Logs attached to this report present the observations and mechanical data collected by the driller at the site, supplemented by classification of the material removed from the borings as determined through visual identification by technicians in the laboratory. It is cautioned that the materials removed from the borings represent only a fraction of the total volume of the deposits at the site and may not necessarily be representative of the subsurface conditions between adjacent borings or between the sampled intervals. The data presented on the Subsurface Logs together with the recovered samples will provide a basis for evaluating the character of the subsurface conditions relative to the project. The evaluation must consider all the recorded details and their significance relative to each other. Often analyses of standard boring data indicate the need for additional testing or sampling procedures to more accurately evaluate the subsurface conditions. Any evaluation of the contents of this report and the recovered samples must be performed by Professionals. The information presented in the following defines some of the procedures and terms used on the Subsurface Logs to describe the conditions encountered.

1. The figures in the Depth column defines the scale of the Subsurface Log.

2. The sample column shows, graphically, the depth range from which a sample was recovered. See Table 1 for a description of the symbols used to signify the various types of samples.

3. The Sample No. is used for identification on sample containers and/or Laboratory Test Reports.

4. Blows on Sampler — shows the results of the "Penetration Test", recording the number of blows required to drive a split spoon sampler into the soil. The number of blows required for each six inches of penetration is recorded. The first 6 inches of penetration is considered to be a seating drive. The number of blows required for the second and third 6 inches of penetration is termed the penetration resistance, N. The outside diameter of the sampler, the hammer weight and the length of drop are noted at the bottom of the Subsurface Log.

5. Blows on Casing — shows the number of blows required to advance the casing a distance of 12 inches. The casing size, the hammer weight and the length of drop are noted at the bottom of the Subsurface Log. If the casing is advanced by means other than driving, the method of advancement will be indicated in the Notes column or under the Method of Investigation at the bottom of the Subsurface Log.

6. All recovered soil samples are reviewed in the laboratory by an engineering technician, geologist or geotechnical engineer, unless note otherwise. The visual descriptions are made on the basis of a combination of the driller's field descriptions and observations and the sample as received in the laboratory. The method of visual classification is based primarily on the Unified Soil Classification (ASTM D 2487-83) with regard to the particle size and plasticity. (See Table No. II) Additionally, the relative portion, by weight, of two or more soil types is described for granular soils in accordance with "Suggested Methods of Test for Identification of Soils" by D. M. Burmister, ASTM Special Technical Publication 479, June 1970. (See Table No. III) The description of the relative soil density or consistency is based upon the penetration records as defined on Table No. IV. The description of the soil moisture is based upon the relative wetness of the soil as recovered and is described as dry, moist, wet and saturated. Water introduced in the boring either naturally or during drilling may have affected the moisture condition of the recovered sample. Special terms are used as required to describe materials in greater detail; several such terms are listed in Table V. When sampling gravelly soils with a standard two inch diameter split spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter. The presence of boulders and large gravel is sometimes, but not necessarily, detected by an evaluation of the casing and samplers blows or through the "action" of the drill rig as reported by the driller.

7. The description of the rock shown is based on the recovered rock core and the driller's observations. The terms frequently used in the description are included in Table VI.

8. The stratification lines represent the approximate boundary between soil types and the transition may be gradual. Solid stratification lines are based on the driller's field observations.

9. Miscellaneous observations and procedures noted by the driller are shown in this column, including water level observations. It is important to realize the reliability of the water level observations depends upon the soil type (water does not readily stabilize in a hole through fine grained soils), and that drill water used to advance the boring may have influenced the observations. The ground water level typically will fluctuate seasonally. One or more perched or trapped water levels may exist in the ground seasonally. All the available readings should be evaluated. If definite conclusions cannot be made, it is often prudent to examine the conditions more thoroughly through test pit excavations or water observation wells.

10. The length of core run is defined as the length of penetration of the core barrel. Core recovery is the length of core recovered divided by the core run. The RQD (Rock Quality Designation) is the total pieces of NX core exceeding 4 inches in length divided by the core run. The size core barrel used is also noted.

DATE
STARTED 5-1-86
FINISHED 5-1-86
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS INC.

SUBSURFACE LOG

HOLE NO. B-175
SURF. ELEV. 325.6
G. W. DEPTH See Note #1

Project _____ LOCATION _____

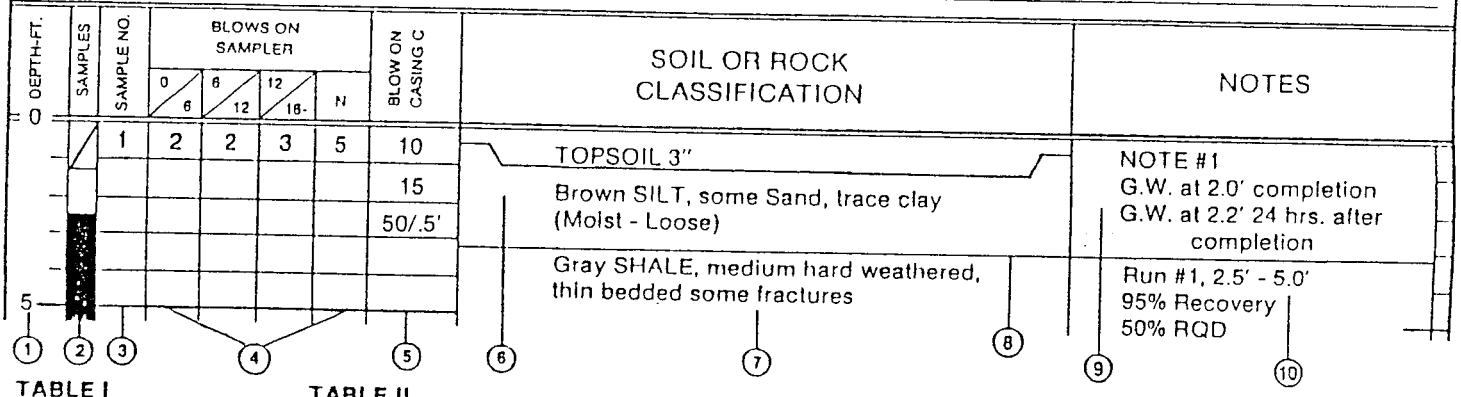


TABLE I

- Split Spoon Sample
- Shelby Tube Sample
- Auger or Test Pit Sample
- Rock Core

TABLE II

Identification of soil type is made on basis of an estimate of particle sizes, and in the case of fine grained soils also on basis of plasticity.

Soil Type	Soil Particle Size	
Boulder	> 12"	Coarse Grained (Granular)
Cobble	3" - 12"	
Gravel - Coarse	3" - ¾"	
- Fine	¾" - #4	
Sand - Coarse	#4 - #10	
- Medium	#10 - #40	
- Fine	#40 - #200	
Silt-Non Plastic (Granular) Clay-Plastic (Cohesive)	<#200	Fine Grained

TABLE III

The following terms are used in classifying soils consisting of mixtures of two or more soil types. The estimate is based on weight of total sample.

Term	Percent of Total Sample
"and"	35 - 50
"some"	20 - 35
"little"	10 - 20
"trace"	less than 10

(When sampling gravelly soils with a standard split spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter.)

TABLE IV

The relative compactness or consistency is described in accord with the following terms.

Granular Soils		Cohesive Soils	
Term	Blows per Foot, N	Term	Blows per Foot, N
Loose	< 11	Very Soft	< 3
Firm	11 - 30	Soft	3 - 5
Compact	31 - 50	Medium	6 - 15
Very Compact	> 51	Stiff	16 - 25
		Hard	> 26

(Large particles in the soils will often significantly influence the blows per foot recorded during the Penetration Test.)

TABLE V

Varved	- Horizontal uniform layers or seams of soil(s).
Layer	- Soil deposit more than 6" thick.
Seam	- Soil deposit less than 6" thick.
Parting	- Soil deposit less than ⅛" thick.
Laminated	- Irregular, horizontal and angled seams and partings of soil(s).

TABLE VI

Rock Classification Terms		
Term		Meaning
Hardness	Soft	Scratched by fingernail
	Medium Hard	Scratched easily by penknife
	Hard	Scratched with difficulty by penknife
	Very Hard	Cannot be scratched by penknife
Weathering	Very Weathered	Judged from the relative amounts of disintegration iron staining, core recovery, clay seams, etc.
	Weathered	
	Sound	
Bedding	Laminated	Natural breaks in Rock Layers (<1")
	Thin bedded	(1" - 4")
	Bedded	(4" - 12")
	Thick bedded	(12" - 36")
	Massive	(>36")

(Fracturing refers to natural breaks in the rock oriented at some angle to the rock layers.)

DATE
STARTED 5-07-91
FINISHED 5-09-91
SHEET 1 OF 2

EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. MW-1
SURF. ELEV.
G. W. DEPTH See Notes

PROJECT Dover Electronics (ESI# GD-91-053)
LOCATION Kirkwood, New York

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION
0								ASPHALT 0.4'
		1	12	16	16	32		FILL: SAND & GRAVEL, Some Silt (Moist)
		2	22	18	23	41		Same
			24					
5		3	7	20	20	40		Brown SILT, medium-coarse SAND & GRAVEL (Moist-Compact)
			32					
		4	32	24	48	72		(Moist-Very Compact)
			100/.0'					
		5	6	12	12	24		Brown SILT, Some fine-coarse Sand & Gravel (Moist-Firm)
10			17					
		6	8	73	22	95		Same
			24					(Moist-Very Compact)
		7	24	27	28	55		Same
			29					
15		8	10	19	21	40		Same
			26					(Moist-Compact)
		9	40	56	55	111		Same
			100/.3'					(Moist-Very Compact)
		10	9	21	22	43		Same
20			30					(Moist-Compact)
		11	5	14	18	32		Same
			22					
		12	24	32	29	61		Same
			33					(Moist-Very Compact)
25		13	6	17	18	35		Same (Moist-Compact)
			26					26.0'
		14	36	40	31	71		Brown SILT, Sand & GRAVEL (Moist-Very Compact)
			61					
		15	36	23	33	56		Brown SILT, SAND & GRAVEL, ROCK FRAGMENTS (Moist-Very Compact)
30			39					
		16	9	20	44	64		Same
			70					
		17	106	54	86	143		Same
			119					
35		18	7	17	27	44		Same (Moist-Compact)
			44					
		19	84	75	100/.4'			Same
		20	7	20	54	74		Same (Moist-Very Compact)
40			34					

NOTES

Curb Box
Lock Cap
Grout
Bentonite Pellets
39.0'

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 " per blow.
C = No blows to drive _____ " casing _____ " with _____ lb. weight falling _____ " per blow.
METHOD OF INVESTIGATION: 5" I.D. Hollow Stem Augers

CLASSIFICATION Visual by Driller (E.C.)

B/T Form H

DATE
STARTED 5-07-91
FINISHED 5-09-91
SHEET 2 OF 2

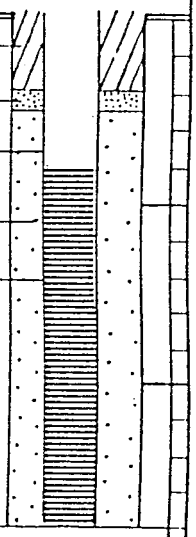
EMPIRE SOILS INVESTIGATIONS INC. SUBSURFACE LOG

HOLE NO. MW-1
SURF. ELEV.
G. W. DEPTH See Notes

PROJECT Dover Electronics (ESI# GD-91-053)
LOCATION Kirkwood, New York

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION
40		21	6	32	45	77		Grey SILT, SAND & GRAVEL (Moist-Very Compact)
			55					
		22	60	66	70	136		Same
			55					44.0'
		23	8	9	15	24		SILT LAYER 45.0'
45			31					
		24	98	47	53	100		Grey SILT, SAND & GRAVEL (Moist-Very Compact)
			56					
		25	5	20	20	40		Grey SILT, little sand, gravel (Moist-Compact)
			19					
50		26	4	14	11	25		Grey layered SILT, little fine-medium sand
			16					
		27	11	14	15	29		Grey SILT, SAND & GRAVEL (Moist-Firm)
			18					Grey SILT, fine-medium SAND (Moist-Firm)
55								Boring Terminated at 54.0'

NOTES



5-8-91-7:00 A.M.
No groundwater with augers at 14.0'.

5-8-91-12:00 P.M.
No groundwater with augers at 34.0'.

5-9-91-7:15 A.M.
Groundwater at 46.1', with augers at 48.0'.

N = No blows to drive 2 " spoon 12 " with 140 lb. pin wt. falling 30 "per blow.
CLASSIFICATION Visual by Driller (E.C.)

C = No blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.

METHOD OF INVESTIGATION: 5" I.D. Hollow Stem Augers

B/T Form H

Monitoring Well Development Log
For Dover Electronics

D. Winckler
June 5, 1991

Time	Entry
0900	On site, Dan and Phil from Buck Labs set up and ready to begin development
1030	Completed development and sampling for MW #4 Conklin site, began decon.
1045	Began development of MW #2, well ran dry, deconned.
1115	Began development of MW #3
1200	Broke for lunch, ran MW #3 dry, deconned.
1230	Back on site, samples taken from #2 and #3, began development of MW #1.
1400	Developed MW #1, samples taken.
1515	Secured site, lost approximately 1/2 hr. - 45 min. with gas pump problems. Moved to Kirkwood site.
1645	Developed MW #1, Kirkwood site. Samples taken.

Technical Well Data

Well desig.	Conductivity	Water Level	Well Depth	Temp C.
C-MW #1	463	4.26'	14.9'	6.7
C-MW #2	1050	18.03'	33.1'	8.1
C-MW #3	301	29.44'	47.74'	11.8
C-MW #4	766	3.87'	15.3'	21.5
K-MW #1	471	38.27'	53.9'	13.3

C - Conklin Site

K - Kirkwood Site

TEST BORINGS

DOVER ELECTRONICS

KIRKWOOD INDUSTRIAL PARK

BINGHAMTON, NEW YORK

parratt wolff inc
FISHER RD., EAST SYRACUSE, N.Y. 13057
TELEPHONE AREA CODE 315/437-1429
FAX 315/437-1770

June 20, 1991

Hagopian Engineering Associates
28 Alice Street
Binghamton, New York 13904

Re: 91165
Dover Electronics
Kirkwood Industrial Park
Binghamton, New York

Gentlemen:

Enclosed are the logs of eleven test borings made for you for the above project.

Soil samples from these borings have been delivered to your office under separate cover.

The borings were made at the locations requested and drilling was done in accordance with ASTM method D-1586 for split barrel sampling in soils.

All eleven borings revealed similar subsurface soil conditions. A brown-gray, dry to moist silt with subordinate amounts of fine to coarse gravel and fine to coarse sand extends from the surface to a depth of 4 to 6 feet.

Below and extending to depth lies a gray-brown, moist silt with clay, minor amounts of fine to coarse sand and fine to coarse gravel. This unit is stained with brown organic matter.

Interbedded with this unit are layers of wet, brown, fine to coarse gravel and fine to coarse sand. These are infrequent and do not appear to be very extensive.

Although most of the holes were dry, groundwater was encountered in some borings at depths ranging from 1.0 to 4.0 feet below the ground surface.

Thank you for this opportunity to work with you.

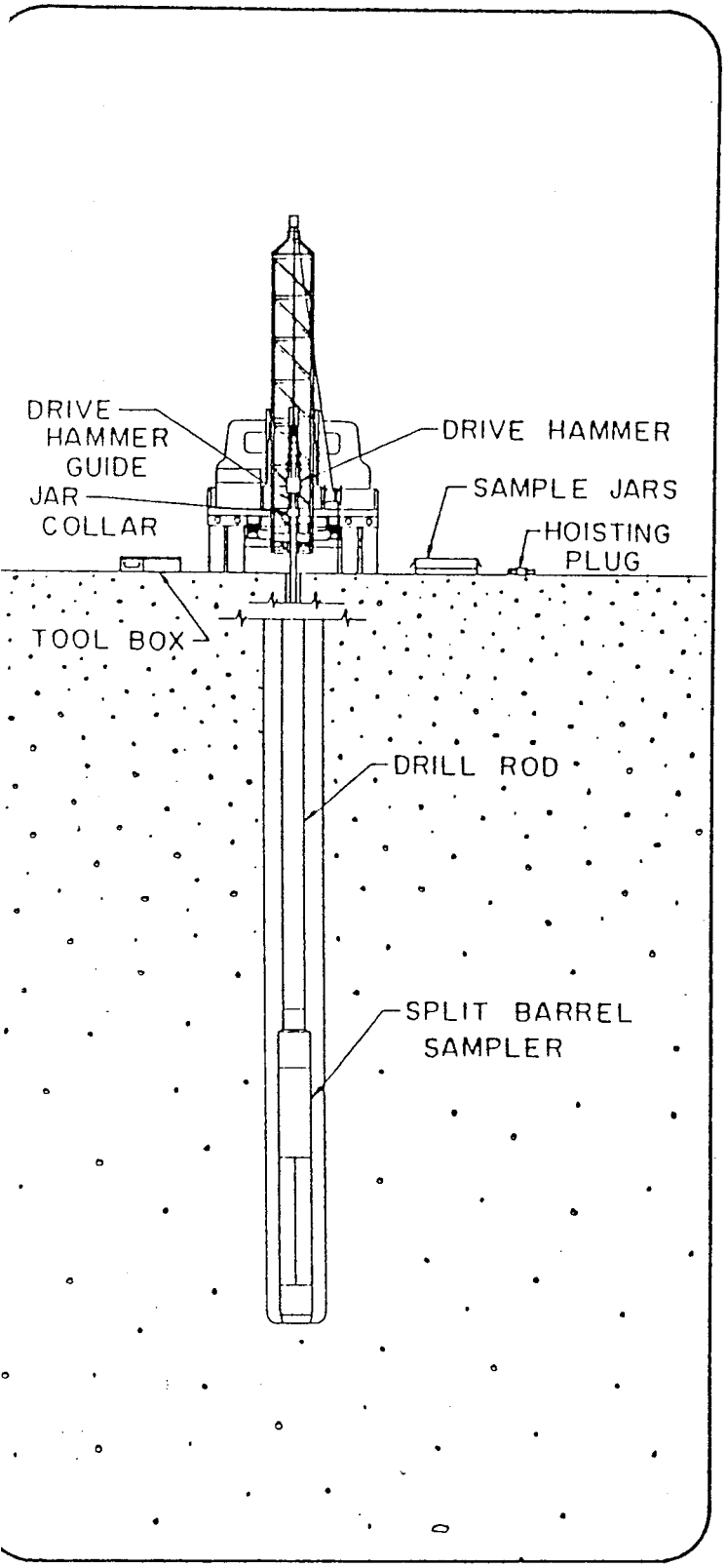
Very truly yours,

PARRATT - WOLFF, INC.

Greg R. Flick

Greg R. Flick
Engineering Geologist
GRF/lnc
encs:

parratt wolff inc
FISHER RD., EAST SYRACUSE, N.Y. 13057
TELEPHONE AREA CODE 315/437-1429



Split barrel sampling

The following excerpts are from "Standard Method for penetration test and split-barrel sampling of soils."[1] (ASTM designation: D-1586-67 AASHO Designation: T-206-70.)

1. Scope

1.1 This method describes a procedure for using a split-barrel sampler to obtain respresentative samples of soil for identification purposes and other laboratory tests, and to obtain a measure of the resistance of the soil to penetration of the sampler.

2. Apparatus

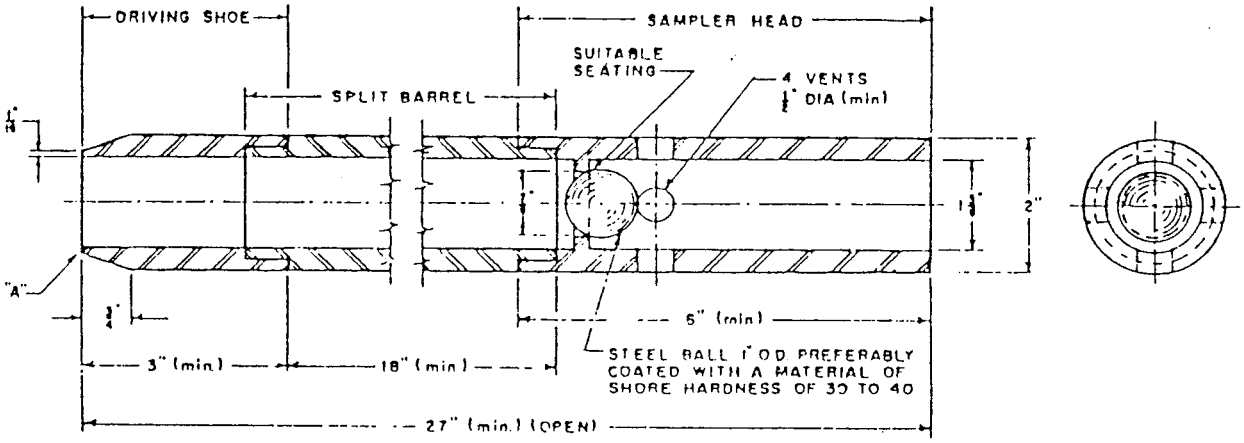
2.1 Drilling Equipment — Any drilling equipment shall be acceptable that provides a reasonably clean hole before insertion of the sampler to ensure that the penetration test is performed on undisturbed soil, and that will permit the driving of the sampler to obtain the sample and penetration record in accordance with the procedure described in 3. Procedure. To avoid "whips" under the blows of the hammer, it is recommended that the drill rod have stiffness equal to or greater than the A-rod. An "A" rod is a hollow drill rod or "steel" having an outside diameter of 1-5/8 in. or 41.2 mm and an inside diameter of 1-1/8 in. or 28.5 mm, through which the rotary motion of drilling is transferred from the drilling motor to the cutting bit. A stiffer drill rod is suggested for holes deeper than 50 ft (15m). The hole shall be limited in diameter to between 2-1/4 and 6 in. (57.2 and 152mm).

2.2 Split-Barrel Sampler — The sampler shall be constructed with the dimensions indicated (in Fig. 1.) The drive shoe shall be of hardened steel and shall be replaced or repaired when it becomes dented or distorted. The coupling head shall have four 1/2-in. (12.7-mm) (minimum diameter) vent ports and shall contain a ball check valve. If sizes other than the 2-in. (50.8-mm) sampler are permitted, the size shall be conspicuously noted on all penetration records.

2.3 Drive Weight Assembly — The assembly shall consist of a 140-lb (63.5-kg) weight, a driving head, and a guide permitting a free fall of 30 in. (0.76 m). Special precautions shall be taken to ensure that the energy of the falling weight is not reduced by friction between the drive weight and the guides.

2.4 Accessory Equipment — Labels, data sheets, sample jars, paraffin, and other necessary supplies should accompany the sampling equipment.

SOIL SAMPLING - METHODS



Note 1 — Split barrel may be 1-1/2 in. inside diameter provided it contains a liner of 16-gage wall thickness.

Note 2 — Core retainers in the driving shoe to prevent loss of sample are permitted.

Note 3 — The corners at A may be slightly rounded.

Table of Metric Equivalents.

In.	Mm	Cm	In.	Mm	Cm
1/16 (16 gage)	1.5	...	2	...	5.08
1/2	12.7	...	3	...	7.62
3/4	19.0	1.90	6	...	15.24
7/8	22.2	2.22	18	...	45.72
1-3/8	34.9	3.49	27	68.58	
1-1/2	38.1	3.81			

Fig. 1 — Standard Split Barrel Sampler Assembly

3. Procedure

3.1 Clear out the hole to sampling elevation using equipment that will ensure that the material to be sampled is not disturbed by the operation. In saturated sands and silts withdraw the drill bit slowly to prevent loosening of the soil around the hole. Maintain the water level in the hole at or above ground water level.

3.2 In no case shall a bottom-discharge bit be permitted. (Side-discharge bits are permissible.) The process of jetting through an open-tube sampler and then sampling when the desired depth is reached shall not be permitted. Where casing is used, it may not be driven below sampling elevation. Record any loss of circulation or excess pressure in drilling fluid during advancing of holes.

3.3 With the sampler resting on the bottom of the hole, drive the sampler with blows from the 140-lb (63.5 kg) hammer falling 30 in. (0.76 m) until either 18 in. (0.45 m) have been penetrated or 100 blows have been applied.

3.4 Repeat this operation at intervals not longer than 5 ft (1.5 m) in homogeneous strata and at every change of strata.

3.5 Record the number of blows required to effect each 6 in. (0.15 m) of penetration or fractions thereof. The first 6 in. (0.15 m) is considered to be a seating drive. The number of blows required for the second and third 6 in. (0.15 m) of penetration added is termed the penetration resistance, N. If the sampler is driven less than 18 in. (0.45 m), the penetration resistance is that for the last 1 ft (0.30 m) of penetration (if less than 1 ft (0.30 m) is penetrated, the logs shall state the number of blows and the fraction of 1 ft (0.30 m) penetrated).

3.6 Bring the sampler to the surface and open. Describe carefully typical samples of soils recovered as to composition, structure, consistency, color, and condition; then put into jars without ramming. Seal them with wax or hermetically seal to prevent evaporation of the soil moisture. Affix labels to the jar or make notations on the covers (or both) bearing job designation, boring number, sample number, depth penetration record, and length of recovery. Protect samples against extreme temperature changes.

4. Report

4.1 Data obtained in borings shall be recorded in the field and shall include the following:

4.1.1 Name and location of job,

4.1.2 Date of boring — start, finish,

4.1.3 Boring number and coordinate, if available,

4.1.4 Surface elevation, if available,

4.1.5 Sample number and depth,

4.1.6 Method of advancing sampler, penetration and recovery lengths,

4.1.7 Type and size of sampler,

4.1.8 Description of soil,

4.1.9 Thickness of layer,

4.1.10 Depth to water surface; to loss of water; to artesian head; time at which reading was made,

4.1.11 Type and make of machine,

4.1.12 Size of casing, depth of cased hole,

4.1.13 Number of blows per 6 in. (0.15 m)

4.1.14 Names of crewmen, and

4.1.15 Weather, remarks.

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[1] Under the standardization procedure of the Society, this method is under the jurisdiction of the ASTM Committee D-18 on Soil and Rock for Engineering Purposes. A list of members may be found in the ASTM Year Book.

Current edition accepted October 20, 1967. Originally issued, 1958. Replaces D-1586-64T.

parratt wolff inc
FISHER RD., EAST SYRACUSE, N.Y. 13057
TELEPHONE AREA CODE 315/437-1429

GENERAL NOTES

1. Soil boring logs, notes and other data shown are the results of personal observations and interpretations made by Parratt-Wolff, Inc.

Exploration records prepared by our drilling foreman in the field form the basis of all logs, and samples of subsurface materials retained by the driller are observed by technical personnel in our laboratory to check field classifications.

2. Explanation of the classifications and terms:

a. Bedrock — Natural solid mineral matter occurring in great thickness and extent in its natural location. It is classified according to geological type and structure (joints, bedding, etc.) and described as solid, weathered, broken or fragmented depending on its condition.

b. Soils — Sediments or other unconsolidated accumulations of particles produced by the physical and chemical disintegration of rocks and which may or may not contain organic matter.

PENETRATION RESISTANCE

COHESIONLESS SOILS

Blows Per Ft.	Relative Density
0 to 4	Very Loose
4 to 10	Loose
10 to 30	Medium Dense
30 to 50	Dense
Over 50	Very Dense

COHESIVE SOILS

Blows Per Ft.	Consistency
0 to 2	Very Soft
2 to 4	Soft
4 to 8	Medium Stiff
8 to 15	Stiff
15 to 30	Very Stiff
Over 30	Hard

Size Component Terms

Boulder	Larger than 8 inches	
Cobble	8 inches to 3 inches	
Gravel — coarse	3 inches to 1 inch	
— medium	1 inch to 3/8 inch	
— fine	3/8 inch to 4.76 mm	
Sand — coarse	4.76 mm to 2.00 mm	(#10 sieve)
— medium	2.00 mm to 0.42 mm	(#40 sieve)
— fine	0.42 mm to 0.074 mm	(#200 sieve)
Silt and Clay	Finer than 0.074 mm	

Proportion By Weight

Major component is shown with all letters capitalized.

Minor component percentage terms of total sample are:

and . . . 35 to 50 percent
some . 20 to 35 percent
little . . 10 to 20 percent
trace . . 1 to 10 percent

c. Gradation Terms — The terms coarse, medium and fine are used to describe gradation of Sand and Gravel.

d. The terms used to describe the various soil components and proportions are arrived at by visual estimates of the recovered soil samples. Other terms are used when the recovered samples are not truly representative of the natural materials, such as soil containing numerous cobbles and boulders which cannot be sampled, thinly stratified soils, organic soils, and fills.

e. Ground water — The measurement was made during exploration work or immediately after completion, unless otherwise noted. The depth recorded is influenced by exploration methods, soil type and weather conditions during exploration. Where no water was observed it is so indicated. It is anticipated that the ground water will rise during periods of wet weather. In addition, perched ground water above the water levels indicated (or above the bottom of the hole where no ground water is indicated) may be encountered at changes in soil strata or top of rock.

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TELEPHONE AREA CODE 315/437-1429

A BRIEF DESCRIPTION OF THE UNIFIED SOIL SYSTEM

The Unified Classification System is an engineering soil classification that is an outgrowth of the Air-Field classification developed by Casagrande.

The system incorporates the textural characteristics of a soil into the engineering classification. All soils are classified into fifteen groups, each group being designated by two letters. These letters are as follows: G—gravel, S—sand, M—Non plastic or low plasticity fines, C—plastic fines, Pt—peat, humus and swamp soils, O—organic, W—well graded, P—poorly graded, L—low liquid limit, H—high liquid limit.

GW and SW Groups

These groups comprise well graded gravelly and sandy soils which contain less than 5% of non plastic fines passing a #200 sieve. Fines which are present must not noticeably change the strength characteristics of the coarse grain fraction and must not interfere with its free draining characteristics. In areas subject to frost action the material should not contain more than about 3% of soil grains smaller than .02 millimeters in size.

GP and SP Groups

These groups are poorly graded gravels and sands containing less than 5% non plastic fines. They may consist of uniform gravels, uniform sands, or non uniform mixtures of very coarse material and very fine sand with intermediate sizes lacking. Materials of this latter type are sometimes referred to as skip graded, cap graded, or step graded.

GM and SM Groups

In general, these groups include gravels or sands which contain more than 12% of fines having little or no plasticity. The plasticity index and liquid limit of a soil in either of these groups plot below the "A" line on a plasticity chart. Gradation is not important and both low grade and poorly graded materials are included. Some sands and gravels in these groups may have a binder composed of natural cementing agents so proportioned that the mixture shows negligible swelling or shrinkage. Thus, the dry strength is provided by a small amount of soil binder or dry cementation of calcareous materials or iron oxide. A fine fraction of non cemented materials may be composed of silts or rock flour types having little or no plasticity, and the mixture will exhibit no dry strength.

GC and SC Groups

These groups comprise gravelly or sandy soils with more than 12% of fines which exhibit either low or high plasticity. The plasticity index and liquid limit of a soil in either of these groups plot above the "A" line on the plasticity chart. Gradation of these materials is not important. Plasticity of the binder fraction has more influence on the behavior of the soils than does the variation in gradation. A fine fraction is generally composed of clays.

ML and MH Groups

These groups include predominantly silty materials and micaceous or diatomaceous soils. An arbitrary division between the two groups has been established with a liquid limit of 50. Soils in these groups are sandy silts, clayey silts or organic silts with relatively low plasticity. Also included are loessial soils and rock flours. Micaceous and diatomaceous soils generally fall within the MH group, but may extend into the ML group when their liquid limit is less than 50. The same is true for certain types of kaolin clays and some illite clays having relatively low plasticity.

CL and CH Groups

The CL and CH groups embrace clays with low and high liquid limits respectively. They are primarily inorganic clays. Low plasticity clays are classified as CL and are usually lean clays, sandy clays, and silty clays. The medium plasticity and high plasticity clays are classified as CH. These include fat clays, gumbo clays, certain volcanic clays and bentonite.

OL and OH Groups

The soils in these groups are characterized by the presence of organic matter including organic silts and clays. They have a plasticity range that corresponds with the ML and MH groups.

Pt Group

Highly organic soils which are very compressible have undesirable construction characteristics and are classified in one group with the symbol Pt. Peat, humus and swamp soils with a highly organic texture are typical of the group. Particles of leaves, grass, branches of bushes and other fibrous vegetable matter are common components of these soils.

Borderline Classification

Soils in the GW, SW, GP and SP groups are non plastic materials having less than 5% passing the #200 sieve, while GM, SM, GC, and SC soils have more than 12% passing the #200 sieve. When these coarse grain materials contain between 5% and 12% of fines they are classified as borderline, and are designated by the dual symbol such as GW-GM. Similarly coarse grain soils which have less than 5% passing the #200 sieve, but which are not free draining or in which the fine fraction exhibits plasticity are also classed as borderline and are given a dual symbol. Still another type of borderline classification occurs when a liquid limit of a fine grain soil is less than 29 and the plasticity index lies in the range of four to seven. These limits are indicated by the shaded area on the plasticity chart.

Silty and Clayey

In the Unified System, these terms are used to describe soils whose Atterberg limits plot below and above the "A" line on the plasticity chart. The adjectives silty and clayey are used to describe soils whose limits plot close to the "A" line.

SOIL CLASSIFICATION SYSTEM

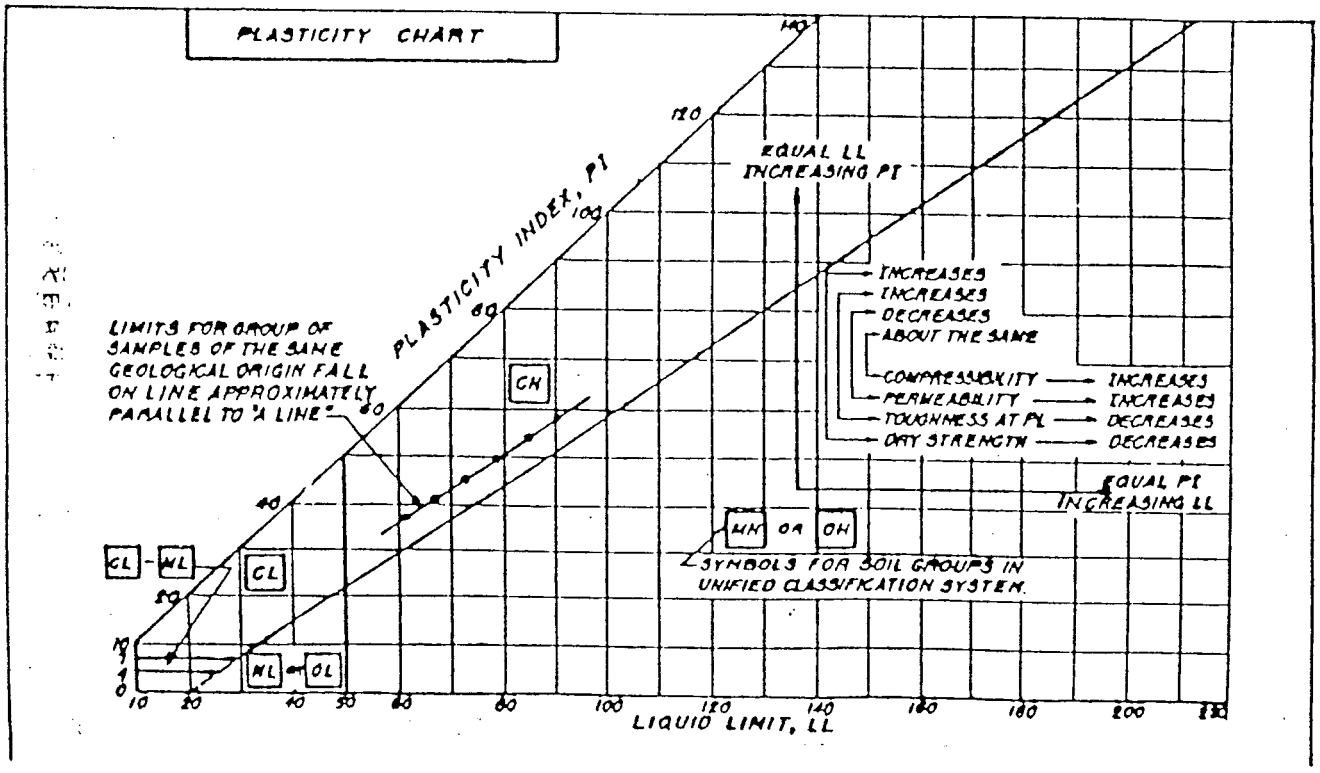
MAJOR DIVISIONS			GROUP SYMBOLS		TYPICAL NAMES
COARSE GRAINED SOILS (More than 50% of material is LARGER than No. 200 sieve size)	GRAVELS (More than 50% of coarse fraction is LARGER than the No. 4 sieve size)	CLEAN GRAVELS (Little or no fines)		GW	Well graded gravels, gravel - sand mixtures, little or no fines.
				GP	Poorly graded gravels or gravel - sand mixtures, little or no fines.
		GRAVELS WITH FINES (Appreciable amt. of fines)		GM	Silty gravels, gravel - sand - silt mixtures.
				GC	Clayey gravels, gravel - sand - clay mixtures.
	SANDS (More than 50% of coarse fraction is SMALLER than the No. 4 sieve size)	CLEAN SANDS (Little or no fines)		SW	Well graded sands, gravelly sands, little or no fines.
				SP	Poorly graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES (Appreciable amt. of fines)		SM	Silty sands, sand-silt mixtures.
				SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS (More than 50% of material is SMALLER than No. 200 sieve size)	SILTS AND CLAYS (Liquid limit LESS than 50)			ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
				OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS (Liquid limit GREATER than 50)			MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
				CH	Inorganic clays of high plasticity, fat clays.
				OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS				Pt	Peat and other highly organic soils.

BOUNDARY CLASSIFICATIONS: Soils possessing characteristics of two groups are designated by combinations of group symbols.

PARTICLE SIZE LIMITS

SILT OR CLAY	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		
No. 200	No. 40	No. 10	No. 4	¾ in.	3 in.	(12 in.)	

U.S STANDARD SIEVE SIZE



parratt wolff inc

TEST BORING LOG

FISHER ROAD
EAST SYRACUSE, N.Y. 13057

PROJECT: Dover Electronics
LOCATION: Kirkwood Industrial Park, Binghamton, New York
DATE STARTED: 6/13/91 DATE COMPLETED: 6/13/91

HOLE NO. B-6
SURF. EL.
JOB NO. 91165
GROUND WATER DEPTH
WHILE DRILLING Dry
BEFORE CASING REMOVED Dry
AFTER CASING REMOVED Dry

N — NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" — ASTM D-1586, STANDARD PENETRATION TEST

C — NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING
"/OR — % CORE RECOVERY

CASING TYPE - HOLLOW STEM AUGER

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NUMBER	C	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.5'-	1		15		ASPHALT	0.5'
	2.0'			14/15	29	Brown moist very stiff to hard SILT, little fine to coarse gravel, little fine to coarse sand	3.0'
	2.0'-	2		17/19			
	3.4'			50-.4'			
5.0	4.0'-	3		23/39			
	6.0'			46/50	85	Gray-brown moist hard SILT, little fine to medium gravel, trace fine to coarse sand, trace clay	
	6.0'-	4		26/44			
	8.0'			34/38	78		
	8.0'-	5		22/27			
10.0	10.0'			24/28	51		
	10.0'-	6		13/20			
	12.0'			67/75	87		
	12.0'-	7		50/30			
	14.0'			51/61	81		
15.0						Bottom of Boring	14.0'

parratt wolff inc

TEST BORING LOG

FISHER ROAD
EAST SYRACUSE, N.Y. 13057

PROJECT Dover Electronics
LOCATION Kirkwood Industrial Park
Binghamton, New York
DATE STARTED 6/13/91 DATE COMPLETED 6/13/91

HOLE NO. B-7
SURF. EL.
JOB NO. 91165
GROUND WATER DEPTH
WHILE DRILLING Dry
BEFORE CASING REMOVED Dry
AFTER CASING REMOVED Dry

N — NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" — ASTM D-1586, STANDARD PENETRATION TEST

C — NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING
"/OR — % CORE RECOVERY

CASING TYPE - HOLLOW STEM AUGER

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NUMBER	C	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		3/36		Brown moist hard SILT, little fine to coarse gravel, little fine to coarse sand, trace clay	
	2.0'			43/17	79		
	2.0'-	2		10/20			
	4.0'			15/18	35		4.0'
5.0	4.0'-	3		7/5		Gray-brown moist stiff to hard SILT, some fine to coarse gravel, trace clay, trace fine to coarse sand	
	6.0'			6/12	11		
	6.0'-	4		13/21			
	8.0'			18/20	39		
	8.0'-	5		18/22			
10.0	10.0'			24/27	46		
						Bottom of Boring	10.0'

parratt wolff inc

TEST BORING LOG

FISHER ROAD
EAST SYRACUSE, N.Y. 13057

PROJECT Dover Electronics
LOCATION Kirkwood Industrial Park
Binghamton, New York
DATE STARTED 6/13/91 DATE COMPLETED 6/13/91

HOLE NO. B-8
SURF. EL.
JOB NO. 91165
GROUND WATER DEPTH
WHILE DRILLING 4.0'
BEFORE CASING REMOVED Dry
AFTER CASING REMOVED Hole caved at 4.0'

N — NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" — ASTM D-1586, STANDARD PENETRATION TEST

C — NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING "/OR — % CORE RECOVERY

CASING TYPE - HOLLOW STEM AUGER

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NUMBER	C	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		15/18		Brown-gray dry dense fine to coarse SAND, little silt, little fine to coarse gravel, trace clay	2.0'
	2.0'			27/13	45		
	2.0'-	2		8/7		Brown-gray moist stiff SILT and fine to coarse SAND, little fine to medium sand, trace clay	4.0'
WL ▼	4.0'			5/3	12		
5.0	4.0'-	3		5/100		Brown wet very dense coarse to fine GRAVEL, little silt, trace fine to coarse sand	
	5.0'					Auger Refusal	5.0'
						Bottom of Boring	5.0'

parratt wolff inc

TEST BORING LOG

FISHER ROAD
EAST SYRACUSE, N.Y. 13057

PROJECT Dover Electronics
LOCATION Kirkwood Industrial Park
Binghamton, New York
DATE STARTED 6/13/91 DATE COMPLETED 6/13/91

HOLE NO. B-8A
SURF. EL.
JOB NO. 91165
GROUND WATER DEPTH
WHILE DRILLING Dry
BEFORE CASING REMOVED Dry
AFTER CASING REMOVED Dry

N — NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" — ASTM D-1586, STANDARD PENETRATION TEST

C — NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING "/OR — % CORE RECOVERY

CASING TYPE - HOLLOW STEM AUGER

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NUMBER	C	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
						Drilled to 4.0' without sampling	4.0'
5.0	4.0'-	1		17/21		Brown-gray dry hard SILT, little fine to coarse gravel, little fine to coarse sand, trace clay	6.0'
	5.3'			100-.3'			
	6.0'-	2		100-.3'		Brown dry very dense coarse to fine GRAVEL, little fine to coarse sand	8.0'
	6.3'						
	8.0'-	3		22/20		Gray moist hard SILT, little fine to medium gravel, little fine to coarse sand, trace clay	
10.0	10.0'			17/27	37	Bottom of Boring	10.0'

parratt wolff inc

TEST BORING LOG

FISHER ROAD
EAST SYRACUSE, N.Y. 13057

PROJECT Dover Electronics
LOCATION Kirkwood Industrial Park
Binghamton, New York
DATE STARTED 6/13/91 DATE COMPLETED 6/13/91

HOLE NO. B-9
SURF. EL.
JOB NO. 91165
GROUND WATER DEPTH
WHILE DRILLING Dry
BEFORE CASING REMOVED Dry
AFTER CASING REMOVED Dry

N — NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" — ASTM D-1586, STANDARD PENETRATION TEST

C — NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING
"/OR — % CORE RECOVERY

CASING TYPE - HOLLOW STEM AUGER

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NUMBER	C	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.5'-	1		32		ASPHALT	0.5'
	2.0'			48/56	104	Brown-gray moist to dry hard SILT, some to little fine to coarse gravel, little fine to coarse sand, trace clay	
	2.0'-	2		35/30			
	4.0'			28/30	58		
5.0	4.0'-	3		108/72			
	6.0'			40/48	112		
	6.0'-	4		37/49			
	8.0'			64/82	113		
	8.0'-	5		37/91			
10.0	10.0'			111/114	202		
						Bottom of Boring	10.0'

parratt wolff inc

TEST BORING LOG

FISHER ROAD
EAST SYRACUSE, N.Y. 13057

PROJECT Dover Electronics
LOCATION Kirkwood Industrial Park
Binghamton, New York
DATE STARTED 6/13/91 DATE COMPLETED 6/13/91

HOLE NO. B-10
SURF. EL.
JOB NO. 91165

GROUND WATER DEPTH
WHILE DRILLING Dry
BEFORE CASING REMOVED Dry
AFTER CASING REMOVED Dry

N — NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" — ASTM D-1586, STANDARD PENETRATION TEST

C — NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING "/OR — % CORE RECOVERY

CASING TYPE - HOLLOW STEM AUGER

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NUMBER	C	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.5'-	1		16		Brown-gray moist to dry hard SILT, some to little fine to coarse gravel, little fine to coarse sand, trace clay	
	2.0'			27/32	59		
	2.0'-	2		38/57			
	4.0'			67/74	124		
5.0	4.0'-	3		13/34			
	6.0'			51/36	85		
	6.0'-	4		24/24			
	8.0'			29/32	53		
	8.0'-	5		44/50			
10.0	10.0'			62/71	112		
	10.0'-	6		14/51			
	11.5'			100	151		
	12.0'-	7		27/32			
	14.0'			29/23	61		
15.0	14.0'-	8		100			
	14.5'						
	16.0'-	9		24/27			
	18.0'			28/30	55		
	18.0'-	10		32/40			
20.0	20.0'			47/48	87		
	20.0'-	11		32/37			
	22.0'			48/41	85		
	22.0'-	12		28/50			
	24.0'			42/48	92		
25.0	24.0'-	13		23/30			
	26.0'			38/46	68		
						Bottom of Boring	26.0'
30.0							

parratt wolff inc

TEST BORING LOG

FISHER ROAD
EAST SYRACUSE, N.Y. 13057

PROJECT Dover Electronics
LOCATION Kirkwood Industrial Park
Binghamton, New York
DATE STARTED 6/13/91 DATE COMPLETED 6/13/91

HOLE NO. B-11
SURF. EL.
JOB NO. 91165
GROUND WATER DEPTH
WHILE DRILLING Dry
BEFORE CASING REMOVED Dry
AFTER CASING REMOVED Dry

N — NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" — ASTM D-1586, STANDARD PENETRATION TEST

C — NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING
"/OR — % CORE RECOVERY

CASING TYPE - HOLLOW STEM AUGER

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NUMBER	C	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		5/16		Brown-gray moist hard SILT, some fine to coarse gravel, little fine to coarse sand, trace clay	
	2.0'			26/67	42		
	2.0'-	2		100/41			
	4.0'			38/44	79		
5.0	4.0'-	3		67/72			
	6.0'			75/73	147		
	6.0'-	4		100/74			
	8.0'			82/50	156		
	8.0'-	5		20/27			
10.0	10.0'			32/34	59		
	10.0'-	6		22/23			
	12.0'			32/38	55		
	12.0'-	7		32/32			
	14.0'			40/48	72		
15.0	14.0'-	8		36/72			
	16.0'			100/41	172		
						Bottom of Boring	16.0'
20.0							

parratt wolff inc

TEST BORING LOG

FISHER ROAD
EAST SYRACUSE, N.Y. 13057

PROJECT Dover Electronics
LOCATION Kirkwood Industrial Park
Binghamton, New York
DATE STARTED 6/14/91 DATE COMPLETED 6/14/91

HOLE NO. B-12
SURF. EL.
JOB NO. 91165
GROUND WATER DEPTH
WHILE DRILLING 2.0'
BEFORE CASING REMOVED Dry
AFTER CASING REMOVED Hole caved at 3.5'

N — NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" — ASTM D-1586, STANDARD PENETRATION TEST

C — NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING
"/OR — % CORE RECOVERY

CASING TYPE - HOLLOW STEM AUGER

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NUMBER	C	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.5'-	1		5		ASPHALT	0.5'
WL ▼	2.0'			6/7	13	Brown wet stiff SILT and fine to coarse GRAVEL, little fine to coarse sand	2.0'
	2.0'-	2		24/28			
	4.0'			43/46	71		
5.0	4.0'-	3		26/35		Brown-gray moist to dry hard SILT, some to little fine to coarse gravel, little fine to coarse sand, trace clay	
	6.0'			50/48	85		
	6.0'-	4		42/50			
	8.0'			51/57	101		
	8.0'-	5		47/51			
10.0	10.0'			57/67	108		
						Bottom of Boring	10.0'

parratt wolff inc

TEST BORING LOG

FISHER ROAD
EAST SYRACUSE, N.Y. 13057

PROJECT: Dover Electronics
LOCATION: Kirkwood Industrial Park, Binghamton, New York
DATE STARTED: 6/14/91 DATE COMPLETED: 6/14/91

HOLE NO. B-13
SURF. EL.
JOB NO. 91165

GROUND WATER DEPTH
WHILE DRILLING Dry
BEFORE CASING REMOVED Dry
AFTER CASING REMOVED Dry

N — NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" — ASTM D-1586, STANDARD PENETRATION TEST

C — NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING
"/OR — % CORE RECOVERY

CASING TYPE - HOLLOW STEM AUGER

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NUMBER	C	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		3/15		Brown moist hard SILT, some fine to coarse gravel, little fine to coarse sand, trace clay	
	2.0'			17/21	32		
	2.0'-	2		19/27			2.0'
	4.0'			23/22	50	Brown-gray moist hard SILT, some to little fine to coarse gravel, little to trace fine to coarse sand, trace clay	
5.0	4.0'-	3		27/50-.3'			
	4.8'						
	6.0'-	4		17/50-.4'			
	6.9'						
	8.0'-	5		47/50			
10.0	9.0'					Bottom of Boring	9.0'

parratt wolff inc

TEST BORING LOG

FISHER ROAD
EAST SYRACUSE, N.Y. 13057

PROJECT Dover Electronics
LOCATION Kirkwood Industrial Park
Binghamton, New York
DATE STARTED 6/14/91 DATE COMPLETED 6/14/91

HOLE NO. B-14
SURF. EL.
JOB NO. 91165

GROUND WATER DEPTH
WHILE DRILLING 1.0'
BEFORE CASING REMOVED 1.0'
AFTER CASING REMOVED Hole caved at 1.0'

N — NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING
30" — ASTM D-1586, STANDARD PENETRATION TEST

C — NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING
"/OR — % CORE RECOVERY

CASING TYPE - HOLLOW STEM AUGER

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NUMBER	C	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
WL ▼	0.5'-	1		9		ASPHALT	0.5'
	2.0'			9/20	29	Brown wet medium dense fine to coarse SAND and fine to coarse GRAVEL, little silt, trace boulders	4.0'
	2.0'-	2	No	50-.4'			
	2.4'		Rec				
5.0	4.0'-	3		17/50-.4'		Brown-gray wet very dense fine to coarse SAND, some fine to coarse gravel, some silt, trace clay	6.0'
	4.9'						
	6.0'-	4		17/37			
	7.3'			50-.3'		Brown wet hard SILT, some fine to coarse gravel, little fine to coarse sand, trace clay	
	8.0'-	5		37/40			
10.0	10.0'			48/50	88	Bottom of Boring	10.0'

parratt wolff inc

TEST BORING LOG

FISHER ROAD
EAST SYRACUSE, N.Y. 13057

PROJECT Dover Electronics
LOCATION Kirkwood Industrial Park
Binghamton, New York
DATE STARTED 6/14/91 DATE COMPLETED 6/14/91

HOLE NO. B-15
SURF. EL.
JOB NO. 91165
GROUND WATER DEPTH
WHILE DRILLING Dry
BEFORE CASING REMOVED Dry
AFTER CASING REMOVED Dry

N — NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" — ASTM D-1586, STANDARD PENETRATION TEST

C — NO. OF BLOWS TO DRIVE CASING 12" W/ # HAMMER FALLING
"/OR — % CORE RECOVERY

CASING TYPE - HOLLOW STEM AUGER

SHEET 1 OF 1

DEPTH	SAMPLE DEPTH	SAMPLE NUMBER	C	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0.0'-	1		8/8		Brown dry to moist very stiff SILT, some fine to coarse gravel, little fine to coarse sand	
	2.0'			13/15	21		
	2.0'-	2		8/9			
	4.0'			10/8	19		4.0'
5.0	4.0'-	3		9/14		Brown moist hard SILT, some fine to coarse gravel, some fine to coarse sand, trace clay	
	6.0'			37/28	51		6.0'
	6.0'-	4		9/9		Brown moist medium dense fine to coarse SAND, little silt, little fine to coarse gravel, trace clay	
	8.0'			10/17	19		8.0'
	8.0'-	5		21/20		Brown dry hard SILT and fine to coarse SAND, some fine to coarse gravel	
10.0	10.0'			22/21	42	Bottom of Boring	10.0'

June 13, 1991 Dover Electronics, Kirkwood
D. Winckler

8:00 Met Scott Rodabaugh from NYS DEC. Reviewed test hole locations at loading dock. Scott requested water sample to be taken from catch basin. Test highest HNu meter reading sample and first non-detectable sample after for each test hole. Minimum depth 10' or second non-detectable sample beyond non-detectable. Scott departs 8:10.

8:20 Dan and Phil from Buck Labs arrive; Parrott/Wolff (drillers; Arnold, Justin) on site.

11:54 On BK-8 hit spoon refusal at 5' sampled to 4'. Suspect we hit protective tile of elect. conduit. Moved TH #8 to new location designated BK-8A. New location approved by John Mack of Dover.

1:00 JKH stopped by to review location of BK10 - BK15. Reviewed updated utility plan as provided by John Mack of Dover.

3:15 Completed BK6, BK7, BK8, BK8A, and BK11. Commencing BK9; no detectable odors.

4:30 Completed BK9, no detectable odors. Commenced BK10.

7:00 BK10 taken to 26'. Still detectable levels out of auger. Secured site.

June 14, 1991

7:00 Drillers on site. BK12 taken to 4'. Awaiting Dan from Buck Labs.

7:15 Buck Labs on site. Water level 2'-0" on BK12.

8:00 BK12 completed at 10'; no detectable levels. Commenced BK13.

9:00 Completed BK13 at 10'; no detectable levels. Commenced BK14.

9:20 No recovery at 2' - 4' on BK14 due to large cobbles.

10:30 Completed BK14 at 10'; no detectable levels. Commenced BK15.

11:30 Completed BK15 at 10'; no detectable levels. Secured site.