

APPENDIX A
HYDROGEOLOGIC LIMITATIONS

HYDROGEOLOGICAL LIMITATIONS

1. The conclusions and recommendations submitted in this report are based in part upon the data obtained from a limited number of soil samples from widely spaced subsurface explorations. The nature and extent of variations between these explorations may not become evident until further investigation. If variations or other latent conditions then appear evident, it will be necessary to reevaluate the recommendations of this report.
2. The generalized soil profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed by interpretations of widely spaced explorations and samples; actual soil transitions are probably more gradual. For specific information, refer to the boring logs.
3. Water level readings have been made in the test pits, borings and/or observation wells at times and under conditions stated on the exploration logs. These data have been reviewed and interpretations have been made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall and other factors different from those prevailing at the time measurements were made.
4. Except as noted within the text of the report, no quantitative laboratory testing was performed as part of the site assessment. Where such analyses have been conducted by an outside laboratory, GZA GeoEnvironmental, Inc. (GZA) has relied upon the data provided, and has not conducted an independent evaluation of the reliability of these data.
5. The conclusions and recommendations contained in this report are based in part upon various types of chemical data and are contingent upon their validity. These data have been reviewed and interpretations made in the report. As indicated within the report, some of these data are preliminary "screening" level data, and should be confirmed with quantitative analyses if more specific information is necessary. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed by GZA, and the conclusions and recommendations presented therein modified accordingly.
6. Chemical analyses have been performed for specific parameters during the course of this study, as detailed in the text. It must be noted that additional constituents not searched for during the current study may be present in soil and groundwater at the site.
7. It is recommended that this firm be retained to provide further engineering services during design, implementation, and/or construction of any remedial measures, if necessary. This is to observe compliance with the concepts and recommendations contained herein and to allow design changes in the event that subsurface conditions differ from those anticipated.

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APPENDIX B

INFORMATION FROM REFERENCED REPORTS

TABLE 3

CITY OF DOVER
DPW SITE - ENVIRONMENTAL ASSESSMENT
WATER QUALITY DATA (2)

ANALYTES (1)	MCL (3) Nov-91	MW-1		MW-2		MW-3		MW-4		MW-5		MW-6		MW-7		MW-8		MW-9		TP-8 9/19/91	TP-9 9/19/91
		5/21/91	9/5/91	5/21/91	9/5/91	5/21/91	9/5/91	5/21/91	9/5/91	5/21/91	9/5/91	5/21/91	9/5/91	5/21/91	9/5/91	5/21/91	9/5/91	5/21/91	9/5/91		
VOCs (ug/l)																					
Trichloroethylene	5	2	1.1	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD
1,2-Dichloroethylene	70	2	1	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD
Benzene	5	BD	BD	BD	BD	6870	5470	BD	58.1	BD	BD	5480	>3400	BD	BD	BD	BD	BD	BD	BD	BD
Toluene	1000	BD	BD	BD	BD	>7500	20200	BD	BD	BD	BD	5300	300	BD	BD	BD	BD	BD	BD	BD	13.6
Ethylbenzene	700	BD	BD	BD	BD	3847	1440	BD	BD	BD	BD	2810	510	BD	BD	BD	BD	BD	BD	BD	BD
Total Xylenes	10000	BD	BD	BD	BD	19870	32410	BD	BD	BD	BD	12620	>5000	BD	BD	BD	BD	BD	BD	BD	4.4
Chlorobenzene	100	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	3.7
Methyl t-butyl Ether	NE	BD	BD	BD	BD	2800	2320	BD	BD	BD	BD	13500	3300	BD	BD	BD	BD	BD	BD	BD	3.5
TPH (mg/l)	NE	BD	BD	BD	BD	153	110	BD	10.3	1.4	BD	80	10	BD	BD	BD	BD	BD	BD	BD	<3.0
BASE/NEUTRALS (ug/l)																					
2-Methylnaphthalene	NE	ANP	ANP	ANP	BD	ANP	ANP	ANP	ANP	BD	ANP	ANP	50	ANP	ANP	ANP	ANP	ANP	ANP	ANP	ANP
Naphthalene	NE	ANP	ANP	ANP	BD	ANP	ANP	ANP	ANP	20	ANP	ANP	200	ANP	ANP	ANP	ANP	ANP	ANP	ANP	ANP
METALS (ug/l) (4)																					
Arsenic	50	ANP	ANP	BD	ANP	BD	ANP	BD	ANP	BD	ANP	BD	ANP	BD	ANP	ANP	ANP	ANP	ANP	ANP	ANP
Barium	2000	ANP	BD	BD	BD	680	BD	BD	550	360	BD	1600	BD	BD	BD	BD	BD	BD	BD	BD	210
Cadmium	5	ANP	BD	BD	BD	8	BD	BD	7	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD
Chromium	100	ANP	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD
Lead	15*	ANP	BD	BD	BD	60	BD	BD	1200	BD	BD	1600	BD	BD	BD	BD	BD	BD	BD	BD	BD
Mercury	2	ANP	BD	BD	BD	0.7	BD	BD	BD	0.6	BD	0.5	BD	BD	BD	BD	BD	BD	BD	BD	BD
Selenium	50	ANP	ANP	ANP	ANP	BD	ANP	BD	ANP	BD	ANP	BD	ANP	ANP	ANP	ANP	ANP	ANP	ANP	ANP	ANP
Silver	NE	ANP	BD	BD	BD	BD	BD	BD	BD	BD	140	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD
Sodium (mg/l)	250**	ANP	ANP	ANP	360	ANP	400	ANP	160	ANP	90	ANP	750	ANP	ANP	ANP	ANP	ANP	ANP	ANP	ANP
INORGANICS (mg/l)																					
Chloride	250**	ANP	550	ANP	1000	ANP	500	ANP	170	ANP	110	ANP	580	ANP	150	26	18	100	280	ANP	ANP

NOTES: 1. VOCs - Volatile Organic Compounds
TPH - Total Petroleum Hydrocarbons

2. BD - Below Laboratory Detection Limits.
MW - Monitoring Well

SW - Surface Water Sample from Cochecho River
TP - Groundwater Sample from Test Pits in WWTF Storage Area
ANP - Analyses Not Performed.

3. MCL - Maximum Contaminant Level as outlined in USEPA "Drinking Water Regulations and Health Advisories", November 1991.
NE indicates MCL not established

* indicates lead action level equal to 0.015 mg/l as established in USEPA "Drinking Water Regulations and Health Advisories" November 1991.

** Enforceable Secondary Maximum Contaminant Level for community public water system under NH Code of Administrative Rules Part Env-Ws 319.01
4. May 1991 samples and September 19, 1991 test pit samples, TP-8 and TP-9, were preserved in the field with nitric acid without filtering.
5. The results from May 1991 were all below the detection limit for VOCs & TPH. These wells were not analyzed for ABN, Chloride, Sodium or metals in May 1991.

From "Follow-Up Phase I Environmental Site Assessment" by Dunn Corporation, dated February 7, 1991

Table 6
Groundwater Quality Data
Volatile Organic Compounds

Sample ID:	Method 1 Standards	MW-2 Aqueous	MW-2 Aqueous	MW-2 Aqueous
Matrix:	NH GW-1 (GW-2)	9/20/96	10/4/96	10/1/98
Date Received:	ppb	µg/L	µg/L	µg/L
Units:		9/24/96	10/9/96	10/7/98
Date of Analysis:		CWC	TML	JDS
Analyst:		8260	8020	8060
EPA Method:		1	1	1
Dilution Factor:				

Note: Shaded Value indicates an exceedance of Method 1 Standards.

NA - Not Available

U - Not detected at the indicated detection limit

NAF - Not Analyzed For

* - Value is for Total Xylenes

Table 6
Groundwater Quality Data
Volatile Organic Compounds

Sample ID:	Method 1 Standards	MW-3A Aqueous	MW-3A Aqueous	MW-3A Aqueous
Matrix:	NH GW-1 (GW-2)	9/20/96	10/4/96	6/4/97
Date Received:		9/20/96	10/4/96	6/4/97
Units:	µg/L	µg/L	µg/L	µg/L
Date of Analysis:		9/26/96	10/9/96	6/4/97
Analyst:		CWC	TML	TML
EPA Method:		8260	8020	*8020(mod)
Dilution Factor:		10	10	100
Benzene	5 (2,000)	420	510	500
Naphthalene	20	20	NAF	900
Toluene	1,000	20	30	1,600
Ethylbenzene	700	10	10	400
1,2,4-Trimethylbenzene	NA	190	NAF	NAF
1,3,5-Trimethylbenzene	NA	100	NAF	NAF
o-Xylene	10000 (6,000)*	720	NAF	6,800
m,p-Xylene	10000 (6,000)*	730	NAF	11,000
MTBE	70	4600	3000	2000
Total Xylenes	10000 (6,000)	NAF	1500	NAF

Note: Shaded Value indicates an exceedance of Method 1 Standards.

NA - Not Available

U - Not detected at the indicated detection limit

NAF - Not Analyzed For

* - Value is for Total Xylenes

Table 6
Groundwater Quality Data
Volatile Organic Compounds

Sample ID:	Method 1	MW-5	MW-5
Matrix:	Standards	Aqueous	Aqueous
Date Received:	NH GW-1 (GW-2)	9/20/96	10/4/96
Units:	ppb	µg/L	µg/L
Date of Analysis:		9/26/96	10/9/96
Analyst:		CWC	TML
EPA Method:		8260	8020
Dilution Factor:		1	1

Note: Shaded Value indicates an exceedance of Method 1 Standards.

NA - Not Available

U - Not detected at the indicated detection limit

NAF - Not Analyzed For

* - Value is for Total Xylenes

Table 6
Groundwater Quality Data
Volatile Organic Compounds

Sample ID:	Method 1 Standards	MW-6 Aqueous	MW-6 Aqueous	MW-6 Aqueous	MW-6 Aqueous
Matrix:	NH GW-1 (GW-2)	9/20/96	10/4/96	6/4/97	10/1/98
Date Received:		9/20/96	10/4/96	6/4/97	10/1/98
Units:	µg/L	µg/L	µg/L	µg/L	µg/L
Date of Analysis:		9/27/96	10/9/96	6/4/97	10/7/98
Analyst:		CWC	TML	TML	JDS
EPA Method:		8260	8020	*8020(mod)	8260
Dilution Factor:		10	10	100	10
Benzene	5 (2,000)	2700	2500	1,100	1,600
sec-Butylbenzene	NA	10 U	NAF	NAF	20
Ethylbenzene	700	930	1,100	700	830
Isopropylbenzene	NA	50	NAF	NAF	60
p-Isopropyltoluene	NA	1	NAF	NAF	20
Naphthalene	20	300	NAF	1,000	300
n-Propylbenzene	NA	10 U	NAF	NAF	150
Toluene	1,000	420	70	100 U	40
1,2,4-Trimethylbenzene	NA	950	NAF	NAF	970
1,3,5-Trimethylbenzene	NA	190	NAF	NAF	290
o-Xylene	10000 (6,000)*	950	NAF	300	40
m,p-Xylene	10000 (6,000)*	2600	NAF	2,300	1,600
MTBE	70	800	500	2000 U	200
Total Xylenes	10000 (6,000)	NAF	2700	NAF	NAF

Note: Shaded Value indicates an exceedance of Method 1 Standards.

NA - Not Available

U - Not detected at the indicated detection limit

NAF - Not Analyzed For

* - Value is for Total Xylenes

Table 6
Groundwater Quality Data
Volatile Organic Compounds

Sample ID:	Method 1	MW-7	MW-7
Matrix:	Standards	Aqueous	Aqueous
Date Received:	NH GW-1 (GW-2)	9/20/96	10/4/96
Units:	ppb	µg/L	µg/L
Date of Analysis:		9/27/96	10/9/96
Analyst:		CWC	TML
EPA Method:		8260	8020
Dilution Factor:		1	1

Note: Shaded Value indicates an exceedance of Method 1 Standards.

NA - Not Available

U - Not detected at the indicated detection limit

NAF - Not Analyzed For

* - Value is for Total Xylenes

Table 6
Groundwater Quality Data
Volatile Organic Compounds

Sample ID:	Method 1 Standards	MW-8A Aqueous	MW-8A Aqueous
Matrix:	NH GW-1 (GW-2)	9/20/96	10/4/96
Date Received:	ppb	µg/L	µg/L
Units:		9/25/96	10/9/96
Date of Analysis:		CWC	TML
Analyst:		8260	8020
EPA Method:		1	1
Dilution Factor:			
Toluene	1,000	1	U
2-Butanone (MEK)	170	20	NAF

Note: Shaded Value indicates an exceedance of Method 1 Standards.

NA - Not Available

U - Not detected at the indicated detection limit

NAF - Not Analyzed For

* - Value is for Total Xylenes

**Table 6
Groundwater Quality Data
Volatile Organic Compounds**

Sample ID:	Method 1 Standards	MW-9 Aqueous	MW-9 Aqueous	MW-9 Aqueous	MW-9 Aqueous	
Matrix:	NH GW-1 (GW-2)	9/20/96	10/4/96	6/4/97	10/1/98	
Date Received:		µg/L	µg/L	µg/L	µg/L	
Units:	µg/L	9/25/96	10/9/96	6/4/97	10/7/98	
Date of Analysis:		CWC	TML	TML	JDS	
Analyst:		8260	8020	*8020(mod)	8260	
EPA Method:		10	10	1	10	
Dilution Factor:						
Benzene	5 (2,000)	4400	4100	2,100	690	
Ethylbenzene	700	250	240	200	120	
Isopropylbenzene	NA	10	U	NAF	20	
Naphthalene	20	110	NAF	150	100	
n-Propylbenzene	NA	10	U	NAF	60	
Toluene	1,000	120	110	45	10	
1,2,4-Trimethylbenzene	NA	170	NAF	NAF	130	
1,3,5-Trimethylbenzene	NA	10	NAF	NAF	10	
o-Xylene	10000 (6,000)*	30	NAF	47	10	U
m,p-Xylene	10000 (6,000)*	340	NAF	500	80	
MTBE	70	1200	900	220	100	U
Total Xylenes	10000 (6,000)	NAF	360	NAF	NAF	

Note: Shaded Value indicates an exceedance of Method 1 Standards.

NA - Not Available

U - Not detected at the indicated detection limit

NAF - Not Analyzed For

* - Value is for Total Xylenes

Table 6
Groundwater Quality Data
Volatile Organic Compounds

Sample ID:	Method 1 Standards	MW-10 Aqueous	MW-10 Aqueous	
Matrix:	NH GW-1 (GW-2)	9/20/96	10/4/96	
Date Received:	ppb	µg/L	µg/L	
Units:		9/25/96	10/9/96	
Date of Analysis:		CWC	TML	
Analyst:		8260	8020	
EPA Method:		1	1	
Dilution Factor:				
Toluene	1,000	1	U	8
total Xylenes	10000 (6,000)	NAF		12

Note: Shaded Value indicates an exceedance of Method 1 Standards.

NA - Not Available

U - Not detected at the indicated detection limit

NAF - Not Analyzed For

* - Value is for Total Xylenes

Table 6
Groundwater Quality Data
Volatile Organic Compounds

Sample ID: Matrix: Date Received: Units: Date of Analysis: Analyst: EPA Method: Dilution Factor:	Method 1 Standards NH GW-1 (GW-2) ppb	MW-11 Aqueous 9/20/96 µg/L 9/25/96 CWC 8260 1	MW-11 Aqueous 10/4/96 µg/L 10/9/96 TML 8020 1	MW-11 Aqueous 6/4/97 µg/L 6/4/97 TML *8020(mod) 1
Benzene	5 (2,000)	19	16	11
sec-Butylbenzene	NA	2	NAF	NAF
Chlorobenzene	100	6	1 U	NAF
1,4-Dichlorobenzene	75	1	NAF	NAF
Ethylbenzene	700	1 U	6	1
Isopropylbenzene	NA	5	NAF	NAF
p-Isopropyltoluene	NA	6	NAF	NAF
Naphthalene	20	75	NAF	65
1,2,4-Trimethylbenzene	NA	15	NAF	NAF
1,3,5-Trimethylbenzene	NA	1	NAF	NAF
o-Xylene	10000 (6,000)*	1	NAF	1 U
m,p-Xylene	10000 (6,000)*	6	NAF	3
2-Butanone (MEK)	170	20	NAF	NAF
Total Xylenes	10000 (6,000)	NAF	7	NAF

Note: Shaded Value indicates an exceedance of Method 1 Standards.

NA - Not Available

U - Not detected at the indicated detection limit

NAF - Not Analyzed For

* - Value is for Total Xylenes

Table 6
Groundwater Quality Data
Volatile Organic Compounds

Sample ID:	Method 1 Standards	MW-12 Aqueous	MW-12 Aqueous
Matrix:	NH GW-1 (GW-2)	6/4/97	10/1/98
Date Received:		6/4/97	10/1/98
Units:	µg/L	µg/L	µg/L
Date of Analysis:		6/9/97	10/7/98
Analyst:		JDS	JDS
EPA Method:		8260	8260
Dilution Factor:		100	100
Benzene	5 (2,000)	3,100	3,100
sec-Butylbenzene	NA	10	20
Ethylbenzene	700	2,000	1,700
Isopropylbenzene	NA	100	90
Naphthalene	20	300	360
Toluene	1,000	500	60
n-Propylbenzene	NA	200	200
1,2,4-Trimethylbenzene	NA	1,400	1,000
1,3,5-Trimethylbenzene	NA	200	190
o-Xylene	10000 (6000)*	1,000	80
m,p-Xylene	10000 (6000)*	5,400	2,900
MTBE	70	3,000	2,900

Note: Shaded Value indicates an exceedance of Method 1 Standards.

NA - Not Available

U - Not detected at the indicated detection limit

NAF - Not Analyzed For

* - Value is for Total Xylenes

Table 6
Groundwater Quality Data
Volatile Organic Compounds

Sample ID:	Method 1	MW-13	MW-13
Matrix:	Standards	Aqueous	Aqueous
Date Received:	NH GW-1 (GW-2)	6/4/97	10/1/98
Units:	ppb	µg/L	µg/L
Date of Analysis:		6/11/97	10/7/98
Analyst:		JDS	JDS
EPA Method:		8260	8260
Dilution Factor:		1	1
Benzene	5 (2,000)	7	2
Chlorobenzene	100	7	4
Naphthalene	20	49	48
Toluene	1,000	1	U
o-Xylene	10000 (6000)*	1	1
m,p-Xylene	10000 (6000)*	1	1

Note: Shaded Value indicates an exceedance of Method 1 Standards.

NA - Not Available

U - Not detected at the indicated detection limit

NAF - Not Analyzed For

* - Value is for Total Xylenes

Table 6
Groundwater Quality Data
Volatile Organic Compounds

Sample ID:	Method 1	WP-1	WP-1
Matrix:	Standards	Aqueous	Aqueous
Date Received:	NH GW-1 (GW-2)	9/20/96	10/4/96
Units:	ppb	µg/L	µg/L
Date of Analysis:		9/25/96	10/9/96
Analyst:		CWC	TML
EPA Method:		8260	8020
Dilution Factor:		1	1
Naphthalene	20	1	NAF

Note: Shaded Value indicates an exceedance of Method 1 Standards.

NA - Not Available

U - Not detected at the indicated detection limit

NAF - Not Analyzed For

* - Value is for Total Xylenes

Table 6
Groundwater Quality Data
Volatile Organic Compounds

Sample ID:	Method 1 Standards NH GW-1 (GW-2) µg/L	WP-2		WP-2		WP-2	
Matrix:		Aqueous		Aqueous		Aqueous	
Date Received:		9/20/96		10/4/96		6/4/97	
Units:		µg/L		µg/L		µg/L	
Date of Analysis:		9/25/96		10/9/96		6/4/97	
Analyst:		CWC		TML		TML	
EPA Method:	8260		8020		*8020(mod)		
Dilution Factor:	1		1		1		
Benzene	5 (2,000)	41		20		200	
Toluene	1,000	NAF		NAF		1	
o-Xylene	10000 (6000)*	NAF		NAF		1	
Naphthalene	20	NAF		NAF		3	
MTBE	70	480		500		650	

Note: Shaded Value indicates an exceedance of Method 1 Standards.

NA - Not Available

U - Not detected at the indicated detection limit

NAF - Not Analyzed For

* - Value is for Total Xylenes

**Table 7
Groundwater Quality Data
Polynuclear Aromatic Hydrocarbons**

Sample ID:	Method 1 Standards	MW-9 Aqueous	MW-10 Aqueous	MW-11 Aqueous	MW-13 Aqueous
Matrix:	NH GW-1	9/20/96	9/20/96	9/20/96	6/4/97
Date Received:	ppb	µg/L	µg/L	µg/L	µg/L
Units:		9/24/96	9/24/96	9/24/96	6/5/97
Date of Extraction:		9/26/96	9/26/96	9/26/96	6/12/97
Date of Analysis:		TDS	TDS	TDS	TDS
Analyst:		8270	8270	8270	8270
EPA Method:					
Naphthalene	20	52	5	U	7.1
2-Methylnaphthalene	280	5	5	U	5
					U

NA - Not Available

U - Not detected at the indicated detection limit

Shaded Value indicates an exceedance of Method 1 Standards

Table 8
Surface Water Quality Data
Volatile Organic Compounds

Sample ID:	Method 1	SW-1	SW-2	SW-2	SW-2	SW-3	SW-3
Matrix:	Standard	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous
Date Received:	NH GW-1 (GW-2)	9/20/96	9/20/96	9/20/96	9/20/96	9/20/96	10/1/98
Units:	ppb	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Date of Analysis:		9/27/96	9/27/96	10/7/98	9/27/96	9/27/96	10/7/98
Analyst:		TML	TML	JDS	TML	TML	JDS
EPA Method:		8020	8020	8260	8020	8020	8260
Dilution Factor:		1	1	1	1	1	1

U - Not detected at the indicated detection limit
 Shaded Value indicates an exceedance of Method 1 Standards

TEST PIT LOG

DUNN GEOSCIENCE CORPORATION.
Village West, Box 7078
Laconia, NH 03246

DATE STARTED 9-11-91 TIME — JOB NO. 09791
 DATE FINISHED 9-11-91 TIME — TEST PIT NO. FTP-1
 CLIENT CITY of DOVER - DTW SITE DPW Garage Fuel Island
 SURFACE ELEVATION — EXCAVATOR DPW
 DATUM — EQUIPMENT Backhoe
 WATER ELEVATION NONE INSPECTOR Garret Grauskamp

FT. DEPTH	DENS.	MOIST.	DESCRIPTION OF SOIL	REMARKS
0			0-1' Browns, med. to coarse SAND, tr - med to coarse Gravel, dry.	PID = \emptyset strong petrol. odor from excavation
5			1-3' Olive-gray to Black, coarse SAND, tr - med. to coarse Gravel, dry/damp. Refuse: garden hose, copper pipe, framing wood (2x4), bricks	PID = 1830ppm
			3-7' Black, coarse SAND, tr - med. to coarse Gravel, damp. Refuse: framing wood, bricks	PID = 1808ppm
			7-10' Light to med. Blue-gray to Olive-gray CLAY, damp	NATURAL GROUND PID ~ 1100ppm
10				
			BOH - 10' NO LEDGE NO GROUNDWATER	
15			<u>SOIL SAMPLE</u> TP-1 is a composite sample of material from FTP-1, 1-10' and FTP-2, 1-10'.	

TEST PIT LOG

DUNN GEOSCIENCE CORPORATION
Village West, Box 7078
Laconia, NH 03246

DATE STARTED 9-11-91 TIME — JOB NO. 03781
DATE FINISHED 9-11-91 TIME — TEST PIT NO. FTP-2
CLIENT CITY OF DOVER - DPW SITE DPW Garage Fuel Island
SURFACE ELEVATION — EXCAVATOR DPW
DATUM — EQUIPMENT Bachwe
WATER ELEVATION 4.5' ± BGS INSPECTOR Garret Graustamp

DEPTH	DENS.	MOIST.	DESCRIPTION OF SOIL	REMARKS
0			0-1' Brown, med. to coarse SAND, tr + fine to med. Gravel, damp.	PTD = ϕ ppm
			1-2' Dark Brown to Olive-gray Brown med. to coarse SAND, tr - med. to coarse Gravel, damp	PTD = 4000 ppm
5			2-4.5' Black to Dark Brown, med to. coarse SAND, tr fine Gravel damp to moist Refuse: brick, wood, metal shrapnel	PTD = 2500 ppm
			4.5-10' Light to mod. Blue-gray CLAY Moist.	NATURAL GROUND
10				
			BOH = 10' NO LEDGE GROUNDWATER @ 4.5'	
15				
			SOIL SAMPLE: TP-1 is a composite sample of material from FTP-1 1-10' and FTP-2 1-10'.	

TEST PIT LOG

DUNN GEOSCIENCE CORPORATION
 Village West, Box 7078
 Laconia, NH 03246

DATE STARTED 9-11-91 TIME — JOB NO. 03781
 DATE FINISHED 9-11-91 TIME — TEST PIT NO. FTP-3
 CLIENT CITY OF DOVER - DPW SITE Cocheco River Fuel Island
 SURFACE ELEVATION — EXCAVATOR DPW
 DATUM — EQUIPMENT Backhoe
 WATER ELEVATION 6.5' ± BGS INSPECTOR Garret Gaustkamp

DEPTH	DENS.	MOIST.	DESCRIPTION OF SOIL	REMARKS
0			0-0.3' Asphalt	PTD = ϕ ppm no odor
			0-1.5' Light Brown, fine to coarse SAND little + fine Gravel, dry	
			1.5-2.0' Asphalt	PTD = 1886 ppm
			2.0-3.0' Black to med. Yellow-brown fine to coarse SAND, little + coarse Gravel (crushed stone included), dry	
5			3.0-5.0' Black to Brown-black, med. to coarse SAND, + - Gravel, damp. Refuse: brick	PTD = 1723 ppm
			5.0-9.0' Gray-olive to Light-olive fine SAND, wet	NATURAL GROUND
10			BOH = 9.0' NO LEDGE GROUNDWATER @ 6.5'	
15			<u>SOIL SAMPLE</u> TP-3 is a composite sample of material from FTP-3, 2-9' and FTP-4, 0-7.5'.	

TEST PIT LOG

DUNN GEOSCIENCE CORPORATION
 Village West, Box 7078
 Laconia, NH 03246

DATE STARTED 9-11-91 TIME — JOB NO. 08781
 DATE FINISHED 9-11-91 TIME — TEST PIT NO. FTP-4
 CLIENT CITY OF DOVER - DPW SITE Cocheco River Fuel Island
 SURFACE ELEVATION — EXCAVATOR DPW
 DATUM — EQUIPMENT Backhoe
 WATER ELEVATION 7' ± BGS INSPECTOR Garet Graustomp

DEPTH	DENS.	MOIST.	DESCRIPTION OF SOIL	REMARKS
0			0-7.5' Dusky Yellow Brown medium to coarse SAND, little coarse Gravel (includes crushed stone), trace cobbles and boulders to 21"	PID = 1782 ppm @ ~5 feet Fill to BOH
5				
10				
15				
			BOH = 7.5' NO LEDGE GROUNDWATER @ ~7'	
			<u>SOIL SAMPLE</u> TP-3 is a composite sample of material from FTP-3, 2-9' and FTP-4, 0-7.5'.	

TEST PIT LOG

DUNN GEOSCIENCE CORPORATION
 Village West, Box 7078
 Laconia, NH 03246

DATE STARTED 9/19/91 TIME — JOB NO. 08781
 DATE FINISHED 9/19/91 TIME — TEST PIT NO. TP-1
 CLIENT CITY OF DOVER - DPW SITE TREATMENT PLANT STORAGE
 SURFACE ELEVATION — EXCAVATOR DENNIS LIROTTI
 DATUM — EQUIPMENT BACKHOE
 WATER ELEVATION ± 8 Ft. BGS INSPECTOR MARK LEDGARD

(FT.) DEPTH	DENS.	MOIST.	DESCRIPTION OF SOIL	REMARKS
0			0-1' Yellow-Brown, fine to medium SAND	
			1-4' Olive-Gray, fine SAND, little gravel and cobbles to 5in. Dia., few silt	
5			4-5' Wood and ROOTS	① ②
			5-8' Olive-Gray, fine SAND, little gravel and cobbles to 5in. Dia., few silt	
10			8-12' Municipal Solid Waste (newspaper, bottles, wood, brick, metal, sand, gravel)	
			12-14' Light Olive-Gray, SILT and CLAY	Original Ground ± 12
15			END OF TEST PIT @ 14 FEET	
			① - Thruvac TIP Meter Readings all < 1000	
			② - LEATHER HOOKS @ 4-6 FT ON ONE SIDE OF TEST PIT WALL	

TEST PIT LOG

DUNN GEOSCIENCE CORPORATION

Village West, Box 7078

Laconia, NH 03246

DATE STARTED 9/19/91 TIME — JOB NO. 08781

DATE FINISHED 9/19/91 TIME — TEST PIT NO. TP-2

CLIENT CITY OF DOVER - DPW SITE TREATMENT PLANT STORAGE

SURFACE ELEVATION — EXCAVATOR DENNIS LITTLE

DATUM — EQUIPMENT BACKHOE

WATER ELEVATION ± 8 FT BGS INSPECTOR MARK LEDGARD

(FT.) DEPTH	DENS.	MOIST.	DESCRIPTION OF SOIL	REMARKS
0			2" Broken ASPHALT w/ Yel-Brown fine to coarse SAND, gravel & clay 2-6" Gray, fine SAND, little SILT 6-12" Grayish-White, fine - medium SAND 12-14" Roots & wood shavings	
			1.5-3' Brown, fine to medium SAND, few organic silts	
5			3-6' Olive-Gray, fine SAND, SILT and CLAY (Possible Dredgings)	
			6-11' Municipal Solid Waste (wood, metal, glass, rubber, sand and gravel) MIXED w/ sand, gravel and silt	
10			11-12' light Gray, SILT and CLAY	Original Ground ±
			END OF TEST PIT @ 12 FEET	
15			- Photovac TID Meter Readings < 100 M - 3 SOIL SAMPLES FROM 1.5-3' TEST PIT COMPOSITE SAMPLE (S11)	

TEST PIT LOG

DUNN GEOSCIENCE CORPORATION

Village West, Box 7078

Laconia, NH 03246

DATE STARTED 9/19/91 TIME — JOB NO. 08781

DATE FINISHED 9/19/91 TIME — TEST PIT NO. TP-3

CLIENT CITY OF DOVER - DPW SITE TREATMENT PLANT STORAGE

SURFACE ELEVATION — EXCAVATOR DENNIS LIROTTI

DATUM — EQUIPMENT BACKHOE

WATER ELEVATION ± 10 FT. BGS INSPECTOR MARK LEDGARD

(FT.) DEPTH	DENS.	MOIST.	DESCRIPTION OF SOIL	REMARKS
0			0-1' Red-Brown, fine to medium SAND, few fine gravel	
			1-2' Gray, f. SAND, little silt, few Cs - fg, Gbbler 5" Dia.	
			2-5' Brown, fine to medium SAND, few organic silt	
5			5' thin layer of Roots	
			5-9.5' Olive-Gray, fine SAND, silt and CLAY w/occasional Brick, metal & cloth pieces	
10			9.5-12' Municipal Solid Waste w/fine SAND, silt and gray Dredgings	
			12-14' LEATHER HIDES and Municipal Solid Waste	
15			14+1' Gray, silt and CLAY	Original Ground ±14
			END OF TEST PIT @ 14 FEET	
			- Probe use TIP Metal Readings < 1000	
			- Core in Site Sample from (ST-1)	

TEST PIT LOG

DUNN GEOSCIENCE CORPORATION
 Village West, Box 7078
 Laconia, NH 03246

DATE STARTED 9/19/91 TIME — JOB NO. 08781
 DATE FINISHED 9/19/91 TIME — TEST PIT NO. TP-4
 CLIENT CITY OF DOVER - DPW SITE TREATMENT PLANT STORAGE
 SURFACE ELEVATION — EXCAVATOR DENNIS LIROTTA
 DATUM — EQUIPMENT BACKHOE
 WATER ELEVATION None Observed INSPECTOR MARK LEDGARD

(FT.) DEPTH	DENS.	MOIST.	DESCRIPTION OF SOIL	REMARKS
0			0-1' Brown, f-m SAND, little silt, few Gs - fg	
			1-2' Brown, f-m SAND, few Organic Silt	
			2-5' Misc. fill (ie., rubber, metal, glass wood) mixed w/ f. SAND, SILT & CLAY DEBRIS	
5				Original Ground ± 5'
			5-11' light Olive - Yellow, fine SAND, few silt	
10				
			11-12' Gray, SILT & CLAY	
			END OF TEST PIT @ 12 FEET	
			-Thence TSP Meter Readings < 100M	
15				

TEST PIT LOG

DUNN GEOSCIENCE CORPORATION

Village West, Box 7078

Laconia, NH 03246

DATE STARTED 9/19/91 TIME — JOB NO. 08781

DATE FINISHED 9/19/91 TIME — TEST PIT NO. TP-5

CLIENT CITY OF DOVER - DPW SITE TREATMENT PLANT STORAGE

SURFACE ELEVATION — EXCAVATOR DENNIS LIROTTA

DATUM — EQUIPMENT BACKHOE

WATER ELEVATION ±11 FT. BGS INSPECTOR MARK LEDGARD

(FT.) DEPTH	DENS.	MOIST.	DESCRIPTION OF SOIL	REMARKS
0			0-1' Yellow-Brown, fine to coarse SAND & GRAVEL, few silt	
			1-4' Dark Gray, fine SAND, little m-c sand, and f-c gravel, few cobbles to 5 in. dia, few silt mixed w/ municipal solid waste (ie. rubber, glass, wood, metal)	
5			4-6' Decomposed Organic matter, wood pieces and logs	
			6-10' Dredgings of Gray, f SAND, SILT & CLAY	
10			10-11' light Olive, fine SAND, few silt	
			11-12' municipal solid waste (ie., glass, metal, leather Hides)	
			12'± Gray, SILT and CLAY	
			END OF TEST PIT @ 12 FEET	
			- Photovac TSP Meter Readings < 1 PPM	
15			- Collected SOIL SAMPLE FROM 6-8 FT. FOR CONTAMINATE SAMPLES (ST-1)	

TEST PIT LOG

DUNN GEOSCIENCE CORPORATION
 Village West, Box 7078
 Laconia, NH 03246

DATE STARTED 9/19/91 TIME — JOB NO. 08781
 DATE FINISHED 9/19/91 TIME — TEST PIT NO. TP-6
 CLIENT CITY OF DOVER - DPW SITE TREATMENT PLANT STORAGE
 SURFACE ELEVATION — EXCAVATOR DENNIS LIROTTI
 DATUM — EQUIPMENT BACKHOE
 WATER ELEVATION ± 10 FEET GGS INSPECTOR MARK LEDGARD

(FT.) DEPTH	DENS.	MOIST.	DESCRIPTION OF SOIL	REMARKS
0			0-6" Red-Brown, fine-coarse SAND, little f-c gravel	
5			0.5-5' Dk. Gray-Black, fine SAND, little fine-coarse gravel, little silt, little cobbles to 1/2 inch dia. Mixed w/ msw & CD (bricks, metal, glass, rubber, wood)	
			5-7' Logs, wood planks & misc. wood	
			7-9' Light Olive, fine SAND, few silt w/ clods of olive gray silt & clay (Dredgings)	
10			9-11' ASH w/ wood shavings and paper	
			11-12' light Olive Gray, fine SAND, little silt	Original Ground
			END OF TEST PIT @ 12 FEET	
			- Photovac TSP Meter READINGS < 1 PPM	
15				

TEST PIT LOG

DUNN GEOSCIENCE CORPORATION

Village West, Box 7078

Laconia, NH 03246

DATE STARTED 9/19/91 TIME — JOB NO. 08781

DATE FINISHED 9/19/91 TIME — TEST PIT NO. TP-7

CLIENT CITY OF DOVER - DPW SITE TREATMENT PLANT STORAGE

SURFACE ELEVATION — EXCAVATOR DENNIS LIROTTA

DATUM — EQUIPMENT BACKHOE

WATER ELEVATION ± 8 FT. BES INSPECTOR MARK LEDGARD

(FT.) DEPTH	DENS.	MOIST.	DESCRIPTION OF SOIL	REMARKS
0			0-1' Red-Brown, f-C SAND, little f-C gravel	
5			1-7' Dk. Gray, fine SAND, little f-C gravel, cobbles to 2 inch Dia., little silt mixed w/ MSW & CD (Bricks, Glass, Rubber, Wood, Paper)	
			7-8' Brown, loam	
			8-10' Leather Hides and Misc. MSW	
10			10-12' Light Olive-Gray, fine SAND, few silt	Original Ground
			END OF TEST PIT @ 12 FEET	
			- Photocopy TIP MEYER READINGS < 100PPM	
15			- Collected SOIL SAMPLE @ 7 FEET FOR COMPRESSIVE SAMPLE (ST-1)	

TEST PIT LOG

DUNN GEOSCIENCE CORPORATION
 Village West, Box 7078
 Laconia, NH 03246

DATE STARTED 9/19/91 TIME — JOB NO. 08781
 DATE FINISHED 9/19/91 TIME — TEST PIT NO. TP-8
 CLIENT CITY OF DOVER - DPW SITE TREATMENT PLANT STORAGE
 SURFACE ELEVATION — EXCAVATOR DENNIS LITTLE
 DATUM — EQUIPMENT BACKHOE
 WATER ELEVATION ± 8 FT. BES INSPECTOR MARK LEDGARD

(FT.) DEPTH	DENS.	MOIST.	DESCRIPTION OF SOIL	REMARKS
0			0-1' Yellow-Brown, fine - medium SAND	
			1-5' Olive-Gray, fine SAND, little silt, few coarse gravel & shells to 3 inch. dia.	
5			LAYER OF ASPHALT 0.5 FEET	
			5-8' Olive, fine SAND, little silt	
			LAYER OF DOM. 0.8 FEET (PEAT)	
			8-10' Dk. Olive Gray, fine SAND, little silt	Original Ground
10			END OF TEST PIT @ 10 FEET	
			- NO WATER TABLE READINGS NOT TAKEN DUE TO PEAT	
			- TEST PIT LOCATED DOWNGRADIENT OF WATERFILL PIT	
15			- COLLECTED WATER SAMPLE TP-8	

TEST PIT LOG
DUNN GEOSCIENCE CORPORATION
Village West, Box 707B
Laconia, NH 03246

DATE STARTED 9/19/91 TIME — JOB NO. 08781
DATE FINISHED 9/19/91 TIME — TEST PIT NO. TP-9
CLIENT CITY OF DOVER - DPW SITE TREATMENT PLANT STORAGE
SURFACE ELEVATION — EXCAVATOR DENNIS LIROTTA
DATUM — EQUIPMENT BACKHOE
WATER ELEVATION + 8 FT. BGS INSPECTOR MARK LEDGARD

(FT.) DEPTH	DENS.	MOIST.	DESCRIPTION OF SOIL	REMARKS
0			0-1' Yel. Fine - medium SAND	
			1-5' Olive Gray, fine SAND, little silt, few coarse gravel & pebbles to 5 inches dia.	
5			Layer of ASPHALT @ 5 FT.	
			5-8' Olive, fine SAND, little silt	
			Layer of ASPHALT @ 8 FT.	
			8-10' Dk. Olive Gray, fine SAND, little silt	
10			END OF TEST PIT @ 10 FEET	
15				

- Thence TIP MEASUREMENTS NOT TAKEN DUE TO TRAFFIC
- TEST PIT LOCATED UPGRADE OF SEWERAGE SYSTEM
- COLLECTED WATER SAMPLE TP-9

TEST PIT LOG

DUNN GEOSCIENCE CORPORATION
 Village West, Box 7078
 Laconia, NH 03246

DATE STARTED 9/19/91 TIME — JOB NO. 08781
 DATE FINISHED 9/19/91 TIME — TEST PIT NO. TP-11
 CLIENT CITY OF DOVER - DPW SITE TREATMENT PLANT STORAGE
 SURFACE ELEVATION — EXCAVATOR DENNIS LIROTTA
 DATUM — EQUIPMENT BACKHOE
 WATER ELEVATION ±4 FT. BGS INSPECTOR MARK LEDGARD

(FT.) DEPTH	DENS.	MOIST.	DESCRIPTION OF SOIL	REMARKS
0			0-6" LOAM w/GRASS ROOTS	
			6-12" Yel.-Br., fine-Medium SAND	
5			1-8' Dk. Gray, fine SAND and SILT mixed w/msw & CD, few pieces of leather Hides	
10			8-10' Gray SILT and CLAY	Original Ground
			END OF TEST PIT @ 10 FEET	
			-Photovac TEP Meter Readings < 1 PPM	
15				

DUNN GEOSCIENCE CORP.
Laconia, N. H. (603) 528-4005

TEST BORING / WELL CONSTRUCTION LOG

PROJECT *DOVER DPW FACILITY*

BORING NO. *B-1*

CLIENT *CITY OF DOVER*

SHEET *1 OF 1*

DRILLING CONTRACTOR *KENNEDY DRILLING*

JOB. NO. *08763*

PURPOSE *MONITORING Well INSTALLED*

ELEV. H.P. _____ GR. _____

GROUNDWATER DATA

DATE	W.L.	DATE	W.L.	TYPE	CASING	SAMPLE	CORE	WELL	DATUM
					<i>HSA</i>	<i>SS</i>	<i>-</i>	<i>PVC</i>	<i>STARTED: 5/7/91</i>
				DIAM	<i>4" ID</i>	<i>2 1/4"</i>	<i>-</i>	<i>2" ID</i>	<i>COMPLETED: 5/7/91</i>
				WEIGHT	<i>-</i>	<i>140lbs</i>	<i>-</i>	DRILLER	<i>KEVIN KENNEDY</i>
				FALL	<i>-</i>	<i>30'</i>	<i>-</i>	INSPECTOR	<i>MARK LEDGARD</i>

DEPTH FT.	SAMPLE NUMBER	BLOWS PER 6"	WELL CONSTRUCTION	IDENTIFICATION	REMARKS
0		5			
	<i>S-1 Rec. 6"</i>	<i>13 13 10</i>		<i>10YR 3/2, f-m SAND, few c. sand - f. gravel</i>	<i>OPPM TIP METER READING</i>
				<i>Bricks, gravel, ash, rubber fill on Augers</i>	
5	<i>S-2 Rec. 6"</i>	<i>8 15 10 9</i>		<i>2.5Y 4/4, f-m SAND w/ clay brick, ash, coal</i>	<i>OPPM TIP METER READING 5-6' Augers Grinding on Cabbles</i>
10	<i>S-3 Rec. 24"</i>	<i>1 2 1 2</i>		<i>5Y 4/3 - 5/1, SILT, little f. sand w/ 4" lenses of 5Y 3/2 f. sand, few silt</i>	<i>Drk illuvial accumulation of organic matter?, 2-3" dia.</i>
15	<i>S-4 Rec. 21"</i>	<i>7 4 7 4</i>		<i>4" 5Y 4/1, f-c SAND, few silt 9" 5Y 5/2, CLAY, little silt 4" 2.5Y 5/4, f-m SAND 4" 2.5Y 5/0, SILT, little clay</i>	<i>Collected Sample B-1 for laboratory analyses at a depth of 9.8-10.5'</i>
				<i>END OF BORING @ 16.8 FEET</i>	

LEGEND: SCREEN: RISER: SAND PACK: BENTONITE: BACKFILL:

DUNN GEOSCIENCE CORP.

Laconia, N. H. (603) 528-4005

TEST BORING / WELL CONSTRUCTION LOG

PROJECT *DOVER DPW FACILETT*

BORING NO. *B-2*

CLIENT *D CITY OF DOVER*

SHEET *1* OF *1*

DRILLING CONTRACTOR *KENNEDY DRILLING*

JOB. NO. *08763*

PURPOSE *MONITORING WELL INSTALLATION*

ELEV. H.P. GR.

GROUNDWATER DATA

CASING SAMPLE CORE WELL

DATUM

DATE	W.L.	DATE	W.L.	TYPE	CASING	SAMPLE	CORE	WELL	DATUM
					<i>HSA</i>	<i>SS</i>	<i>-</i>	<i>PVC</i>	<i>STARTED: 5/8/91</i>
				DIAM	<i>4" ID</i>	<i>2 1/4"</i>	<i>-</i>	<i>2" ID</i>	<i>COMPLETED: 5/8/91</i>
				WEIGHT	<i>-</i>	<i>140lbs</i>	<i>-</i>		<i>DRILLER KEVIN KENNEDY</i>
				FALL	<i>-</i>	<i>30"</i>	<i>-</i>		<i>INSPECTOR MARK LEDGARO</i>

DEPTH FT.	SAMPLE NUMBER	BLOWS PER 6"	WELL CONSTRUCTION	IDENTIFICATION	REMARKS
0	S-1 Rec. 8"	1 2 2 1		GRAVEL FILL	
5	S-1 Rec. 8"	1 2 2 1		FILL ASH, CENDERS, COAL, GLASS LAYERED W/ 10YR 3/6 f-m SAND	OPPM TIP METAR READING THROUGH FILL.
	S-2 Rec. 11"	2 2 2			
	S-3 Rec. 11"	1 2 2 4 4			
	S-4	2 1			
	S-5 Rec. 2"	4 4 3			
15	S-6 Rec. 22"	4 4 11 13		2" FILL 16" fine Sandy loam (Top Soil) 4" Highly Decomposed rock	Collected Sample B-2 FROM A DEPTH OF 14.5-15.5 FT.
				END OF BORING @ 16.5 FEET	

LEGEND: SCREEN: RISER: SAND PACK: BENTONITE: BACKFILL:

DUNN GEOSCIENCE CORP.
Ldconld, N.H.

TEST BORING / WELL CONSTRUCTION LOG

PROJECT DOVER DPW Facility

BORING NO. MW-1

CLIENT CITY OF DOVER

SHEET 1 OF 1

DRILLING CONTRACTOR KENNEDY DRILLING

JOB NO. 08763

PURPOSE MONITORING WELL INSTALLATION

ELEV. MP. GR.

GROUNDWATER

CASING

SAMPLE

CORE

WELL

DATUM

DATE

TIME

DEPTH

CASING

TYPE

HSA

SS

-

PVC

STARTED: 5/6/91

DIAMETER

4" ID

2 1/4"

-

2" ID

COMPLETED: 5/6/91

WEIGHT

140 lbs

-

DRILLER KEVIN KENNEDY

FALL

30"

-

INSPECTOR GARRET GRAASKAN

DEPTH FT.	SAMPLE NUMBER	BLOWS PER 6"	WELL CONSTRUCTION	IDENTIFICATION	REMARKS
			Cement	4" ASPHALT	
	S-1 R=0.9' (S-1B) (1.6-18')	18 17 9 8	Quartz sand	6" 5YR 4/4, m-c SAND, trace f. gravel, dry 2" 10YR 4/2-5/4, m-c SAND, trace f. gravel tar petroleum-base odor, dry As @ 1.0' in Return; trace petroleum odor at 4.0'.	10" Cobble below asphalt No ODOR, 0 ppm TIP 5 ppm TIP meter reading
5	S-2 R=1.1'	4 5 7 9	Quartz sand	10YR 4/2-5/4, f ^m SAND, trace f. Gravel dry to damp	0 ppm TIP METER READING NO ODOR
10	S-3 R=1.7'	7 6 10 18	Quartz sand	Mottled coloring 5YR 3/4 to 5Y 5/6 to 10YR 6/2 f SAND, wet @ ~9.0'	2 ppm TIP METER READING NO ODOR
15	S-4 R=0.4'	2 2 1 1	Quartz sand	10GY 5/2 f ^m SAND wet	<1 ppm TIP METER READING NO ODOR "Flowing Sand"
20	S-5 R=0.1'	9 14 18 21	Quartz sand	As @ 14.5' w/ trace f Gravel, wet. BOH = 20.0'	<1 ppm TIP METER READING NO ODOR

LEGEND - Screen: [diagonal lines] Sand: [dots] Gravel: [dots] Soil Backfill: [dots] Bentonite: [solid black] Cement Grout: [cross-hatch]

DUNN GEOSCIENCE CORP.
 Loudon, N.H.

TEST BORING / WELL CONSTRUCTION LOG

PROJECT DOVER DPW FACILITY

BORING NO. MW-2

CLIENT CITY OF DOVER

SHEET 1 OF 1

DRILLING CONTRACTOR KENNEDY DRILLING

JOB NO. 08763

PURPOSE MONITORING WELL INSTALLATION

ELEV. MP. GR.

GROUNDWATER

CASING

SAMPLE

CORE

WELL

DATUM

DATE	TIME	DEPTH	CASING	TYPE	HSA	SS	-	PVC	STARTED: 5/6/91
				DIAMETER	4" ID	2 1/4"	-	2" ID	COMPLETED: 5/6/91
				WEIGHT		140 LBS	-		DRILLER KEVIN KENNEDY
				FALL		30"	-		INSPECTOR GARRET GRASKAMP

DEPTH FT.	SAMPLE NUMBER	BLOWS PER 6"	WELL CONSTRUCTION	IDENTIFICATION	REMARKS	
0	S-1	22	Cement quartz sand Bentonite quartz sand	4" Asphalt	Irregular coloring 5Y 4/1, N2-N1, 5YR 4/4-3/4 fmc SAND, trace of Gravel, dry	< 2ppm TIP METER READING NO ODOR Coal pieces
	R=1.3'	49				
		54				
		38				
5	S-2	6	quartz sand	10 YR 5/4, fmc SAND, trace of Gravel	Damp, dense	Fill Natural < 2ppm TIP METER READING NO ODOR
	R=1.3'	27				
		28				
		24				
10	S-3	14	quartz sand	10 YR 5/4, fmc SAND, trace of Gravel	wet, dense, poorly sorted wet @ ~ 9'	< 2ppm TIP METER READING NO ODOR
	R=1.4'	24				
		26				
		31				
15		31	quartz sand	5Y 4/4 - 4/6, fmc SAND, trace of	Silt, trace of Gravel dry to damp	< 1ppm TIP METER READING TILL, NO ODOR perched water on top of till
		62				
		63				
		71				
20	S-5	31		10 YR 4/2, fmc SAND, trace of Gravel, wet	< 2ppm TIP METER	
	R=0.2'	68	19.4' to			
		102/0.3'	20.7'	BOH=20.7'	BEDROCK REFUSAL	

LEGEND - Screen: [Symbol] Sand: [Symbol] Gravel: [Symbol] Soil Backfill: [Symbol] Bentonite: [Symbol] Cement Grout: [Symbol]

DUNN GEOSCIENCE CORP.
Laconia, N.H.

TEST BORING / WELL CONSTRUCTION LOG

PROJECT DOVER DPW FACILITY

BORING NO. MW-3

CLIENT CITY OF DOVER

SHEET 1 OF 1

DRILLING CONTRACTOR KENNEDY DRILLING

JOB NO. 08763

PURPOSE MONITORING WELL INSTALLATION

ELEV. MP. GR.

GROUNDWATER

CASING SAMPLE CORE WELL

DATUM

DATE	TIME	DEPTH	CASING	TYPE	HSA	SS	—	PVC	STARTED: 5/6/91
				DIAMETER	4" ID	2 1/4"	—	2" ID	COMPLETED: 5/6/91
				WEIGHT		140 lbs	—		DRILLER KEVIN KENNEDY
				FALL		30"	—		INSPECTOR GARRET GRASKAN

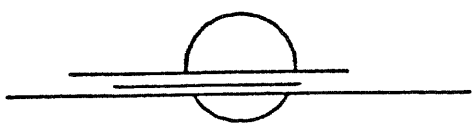
DEPTH FT.	SAMPLE NUMBER	BLOWS PER 6"	WELL CONSTRUCTION	IDENTIFICATION	REMARKS
5	S=1	21		10YR 5/4 to 3/2 fine SAND, trace ⊕ fm Gravel dry 5YR 4/2 mc SAND, little ⊕ fm Gravel	50 ± ppm TIP METE READING "OLD GAS" ODOR red brick piec
	R=0.9'	28			
		33			
5	S=2	3	natural	5YR 3/2 - 4/2 SILT and CLAY, stiff, wet BEDROCK	FILL NATURAL 50 ± ppm TIP ME READING strong "OLD GAS ODOR
	R=1.0'	3			
		100/0.3'			
10				BOH = 6.5' water @ ~5.7'	REFUSAL AT 6.5' BEDROCK
15					
20					

LEGEND - Screen: [diagonal lines] Sand: [dots] Gravel: [dots] Soil Backfill: [dots] Bentonite: [solid black] Cement Grout: [cross-hatch]

Project RIVER ST DPW - RI/PET		Boring # MW-3A
Client CITY OF DOVER		Sheet 1 of 1
Contractor NH BORINGS	Date Begun 9/4/96	Overburden Drilled 17'
Method AUER / SPLIT SPOON	Casing Size	Completed 9/4/96
Ground Elevation	PID HNU-PI-101 (11.72V)	Protection Level D
Logged By CMT	Checked By	Date
		Site DOVER DPW

Depth (ft)	PID Ambient Air	Sample #	Sample Interval	Rec Pen	Jar-Headspace (ppm)	Soil/Rock Description	Lithologic Symbol	Well Construction	SPT Blows/6 in. or RQD %					Elevation (ft)		
									0	20	40	60	80		100	
0	0.0		1/2'		90	LIGHT BROWN FINE MEDIUM SAND, NO COOK										
2																
4																
5			1.5' 2'		0.0	5.5-6.5: GREY/BROWN FINE MEDIUM SAND NO COOK 6.5-8.0: RED-BLACK DECKS 8.0-9.0: BROWN COAR. FINE GRASS SAND, NO COOK										
8																
10																
10.5		MW-3A	2' 1/2'		190	10-10.5: DARK BROWN SILTY FINE SAND DETRITUS COIN 10.5-10.8: DARK BROWN SILTY FINE SAND w/ SOME WOOD DECKS 10.8-12.0: GREY/BROWN STRATIFIED CLAY										
12																
14																
16			1/2'		80	SATURATED GREY SILTY CLAY WITH SOME ROCK FRAGMENTS C TOTAL DEPTH										
17						EOB @ 17.0'										

NOTES: - COMPLETED INSTALLATION OF MW-3A @ 15.0' WITH 10' SCREEN (2" DIA)
- SECURED WITH ROAD BOX



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TEST BORING / WELL CONSTRUCTION LOG

PROJECT DOVER DPW FACILITY

CLIENT CITY OF DOVER

DRILLING CONTRACTOR KENNEDY DRILLING

PURPOSE MONITORING WELL INSTALLATION

BORING NO. MW

SHEET 1 OF 1

JOB. NO. 0876

ELEV. H.P. GR.

GROUNDWATER DATA

DATE	W.L.	DATE	W.L.	TYPE	CASING	SAMPLE	CORE	WELL	DATUM
					HSA	SS	-	PVC	STARTED: 5/7/91
				DIAH	4" ID	2 1/4"	-	2" ID	COMPLETED: 5/7/91
				WEIGHT	-	140 lbs	-	DRILLER	KUJIN KENNEDY
				FALL	-	30"	-	INSPECTOR	MARK LEDGARD

DEPTH FT.	SAMPLE NUMBER	BLOWS PER 6"	WELL CONSTRUCTION	IDENTIFICATION	REMARKS
0		5		2" GRASS and ROOTS	1.4 PPM TIP METR READING
	S-1 Rec. 20"	5, 4, 3		18" SY 4/1, f-m SAND, little silt, glass, wood	
5	S-2 Rec. 24"	2, 3, 12, 12		18" SAME	1.0 PPM TIP METR READING
				6" SY 5/2 f. SAND, few silt	
10	S-3 Rec. 12"	2, 3, 8, 6		Wood, glass, paper fill; organic matter, w/ f. SAND and silt	15.9 PPM TIP METR READING
	S-4 Rec. 0"	15, 19, 23, 23		LEATHER/HIDES	
15				END OF BORING @ 15 FEET	HARD AUGERING 12' to 15'

LEGEND: SCREEN: [diagram] RISER: [diagram] SAND PACK: [diagram] BENTONITE: [diagram]

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TEST BORING / WELL CONSTRUCTION LOG

PROJECT *DOVER DPW FACILITY*

CLIENT *CITY OF DOVER*

DRILLING CONTRACTOR *KENNEDY DRILLING*

PURPOSE *MONITORING WELL INSTALLATION*

BORING NO. *M1*

SHEET *1 OF 1*

JOB. NO. *0876*

ELEV. *H.P.* | *GI*

GROUNDWATER DATA

DATE	W.L.	DATE	W.L.	TYPE	CASING	SAMPLE	CORE	WELL	DATUM
					<i>HSA</i>	<i>SS</i>	<i>-</i>	<i>PVC</i>	<i>STARTED: 5/7/</i>
				DIAH	<i>4" ID</i>	<i>2 1/4"</i>	<i>-</i>	<i>2" ID</i>	<i>COMPLETED: 5/7/</i>
				WEIGHT	<i>-</i>	<i>140lb</i>	<i>-</i>	DRILLER <i>KEVIN KENNE</i>	
				FALL	<i>-</i>	<i>30"</i>	<i>-</i>	INSPECTOR <i>MARK LEDGAR</i>	

DEPTH FT.	SAMPLE NUMBER	BLOWS PER 6"	WELL CONSTRUCTION	IDENTIFICATION	REMARKS
0	S-1 Rec. 12"	28 25 23 23		2.5Y 6/2, f-m SAND, few C. sand - f. gravel	OPPM TIP MET READING
	S-2 Augers			Black, f-m SAND, few silt, few C. sand	Augers SAMPLE
5	S-3 Rec. 24"	1 1 1 1		5Y 3/2, f. SAND, illuvial Black organic Mottles (4" dia.)	OPPM TIP METS READING
				12" 5Y 5/1, f. SAND, few silt	
10	S-4 Rec. 20"	3 2 1 2		10" 5Y 6/1, f. SAND, few silt 10" 5Y 4/2, f. SAND, few silt, D.O.M	OPPM TIP METS READING
15	S-5 Rec. 24"	1 1 1	2.5Y 5/0, CLAY, few silt	OPPM TIP METS READING	
			END OF BORING @ 16.5 FEET		

LEGEND: SCREEN: RISER: SAND PACK: BENTONITE: BACKFILL:

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TEST BORING / WELL CONSTRUCTION LOG

PROJECT *DOVER DPW FACILITY*

BORING NO. MW-6

CLIENT *CITY OF DOVER*

SHEET 1 OF 1

DRILLING CONTRACTOR *KEVIN KENNEDY*

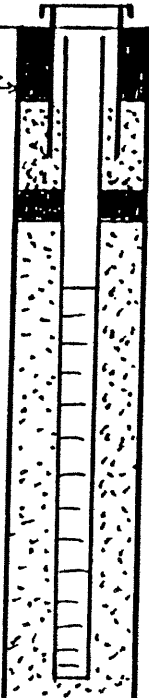
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




PURPOSE *MONITORING WELL INSTALLATION*

ELEV. H.P. GR.

GROUNDWATER DATA

DATE	W.L.	DATE	W.L.	TYPE	CASING	SAMPLE	CORE	WELL	DATUM
				DIAM	HSA	SS	-	PVC	STARTED: 5/7/91
				WEIGHT	4" ID	2 1/4"	-	2" ID	COMPLETED: 5/7/91
				FALL	-	140lbs	-	DRILLER	KEVIN KENNEDY
					-	30"	-	INSPECTOR	MARK LEDGARD

DEPTH FT.	SAMPLE NUMBER	BLOWS PER 6"	WELL CONSTRUCTION	IDENTIFICATION	REMARKS
0	S-1 Rec. 20"	9 6 6 6		6" SY 3/1, f-m SAND, few m-c sand, glass, brick 14" SY 3/1 f. SAND, few silt	1.0 PPM TIP METER READING Fill: end of spoon rubber, paper, leather
5	S-2 Rec. 20"	4 5 1 2		SY 3/1, f-m SAND, little silt	270 PPM TIP METER READING STRONG GAS ODOR NET AT 5'
10	S-3 Rec. 6"	14 40 12 11		2.5 SY 2/0, f-m SAND and 1" dia. CRUSHED STONE	50 PPM TIP METER READING STRONG GAS ODOR
				END OF BORING @ 11.5 FEET	

LEGEND: SCREEN:  RISER:  SAND PACK:  BENTONITE:  BACKFILL: 

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TEST BORING / WELL CONSTRUCTION LOG

PROJECT DOVER DPW FACILITY

BORING NO. M1

CLIENT CITY OF DOVER

SHEET 1 OF 1

DRILLING CONTRACTOR KENNEDY DRILLING

JOB. NO. 087

PURPOSE MONITORING WELL INSTALLATION

ELEV. H.P. GI

GROUNDWATER DATA

DATE	W.L.	DATE	W.L.	TYPE	CASING	SAMPLE	CORE	WELL	DATUM
					HSA	SS	-	PVC	STARTED: 5/8/9.
				DIAM	4" ID	2 1/4"	-	2" ID	COMPLETED: 5/8/9
				WEIGHT	-	140 lbs	-		DRILLER KEVIN KENN.
				FALL	-	30"	-		INSPECTOR MARK LEDGARD

DEPTH FT.	SAMPLE NUMBER	BLOWS PER 6"	WELL CONSTRUCTION	IDENTIFICATION	REMARKS	
0				3" ASPHALT		
	S-1	54		6" 10YR 3/2, f-c SAND, few C. gravel	1 PPM TIP METER READING	
	Rec. 12"	44		6" 10YR 5/6, f-c SAND, few C. gravel		
		30			BLACK, f-m SAND, few C. gravel	Auger SAMPLE
	S-2					
5	S-3	2		2" 2.5Y 5/4, fine SAND		
	Rec. 8"	4		4" 5Y 4/2, ASHFILL, CINOBARS w/ f-c sand	0.5 PPM TIP M. READING	
		5				
		4				
10	S-4	3		5Y 5/2, 5Y 5/4, fine SAND, little silt	0.5 PPM TIP METER READING	
	Rec. 19"	3				
		2				
		2				
15	S-5	8		6" 5Y 4/1, f-c SAND, CRUSHED STONE (1" dia)		
	Rec. 14"	20		6" 10YR 4/6, f-c SAND, few f. gravel	0.5 PPM TIP METER READING	
		17				
		18				
				END OF BORING @ 16.5 FEET		

LEGEND: SCREEN: [diagram] RISER: [diagram] SAND PACK: [diagram] BENTONITE: [diagram] BACKFILL: [diagram]

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TEST BORING / WELL CONSTRUCTION LOG

PROJECT DOVER DPW FACILITY

CLIENT CITY OF DOVER

DRILLING CONTRACTOR KENNEDY DRILLING

PURPOSE MONITORING WELL INSTALLATION

BORING NO. MW-

SHEET 1 OF 1

JOB. NO. 0876

ELEV. H.P. GR.

GROUNDWATER DATA

DATE	W.L.	DATE	W.L.	TYPE	CASING	SAMPLE	CORE	WELL	DATUM
				HSA	SS	-	-	PVC	STARTED: 5/8/91
				DIAM	4" ID	2 1/4"	-	2" ID	COMPLETED: 5/8/91
				WEIGHT	-	140 lbs	-		DRILLER KEVIN KENNEDY
				FALL	-	30"	-		INSPECTOR MARK LEGGARD

DEPTH FT.	SAMPLE NUMBER	BLOWS PER 6"	WELL CONSTRUCTION	IDENTIFICATION	REMARKS
0	S-1 Rec. 6"	4 6 5 4	CEMENT →	2.5Y 5/6, f-c SAND and GRAVEL SATURATED	0PPM TIP METER READING
5	S-2 Rec. 24"	2 2 3 3		3.5' CLAY ON AUGERS 2.5Y 5/3, 2.5Y 5/4, CLAY	0PPM TIP METER READING
10	S-3 Rec. 24"	1 1 1 3		2.5Y 5/0 CLAY w/LAST 6" 10YR 4/6, FINE SAND LENSES (1/8")	0PPM TIP METER READING
				END OF BORING @ 11.8 FEET	

LEGEND: SCREEN: [Symbol] DISPER: [Symbol]

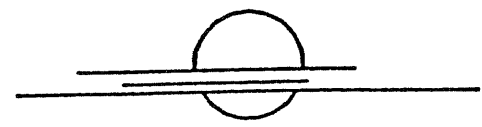
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DATE: [Symbol]

Project RIVER ST DPW - FE/PET		Boring # MN-8A
Client CITY OF DOUR		Sheet 1 of 1
Contractor NH BORING	Date Begun 9/5/96	Overburden Drilled 10'
Method AUGER / SW - SPOON	Casing Size	Completed 9/5/96
Ground Elevation	PID HNU-PI-101 (11.7 EV)	Protection Level Below Ground 6.0'
Logged By CMT	Checked By	Date
		Site Dour DPW

Depth (ft)	PID Ambient Air	Sample #	Sample Interval	Rec Pen	Jar-Headspace (ppm)	Soil/Rock Description	Lithologic Symbol	Well Construction	SPT					Elevation (ft)
									Blows/6 in.	or RQD %				
0				1.5	5	GREY/BROWN FINE MEDIUM SAND, SOME GRAVEL. PETROLEUM STAINING (Fill)			18	30	30	24		
2														
4														
6				6 1/2	6	DARK SILTY FINE MEDIUM SAND, SOME SILT								
8														
10				1.7	4	8.5-9.7: GREY SILTY FINE SAND 8.7-9.1: GREY SILT 9.1-10: GREY SILT w/ ROCK FRAGMENTS, ORGANIC COKE EOB @ 10'								

NOTES: **COMPLETED INSULATION OF MW-8A @ 10' WITH 8' SCREEN (2" DIA) - SECURED WITH CAP BOX**



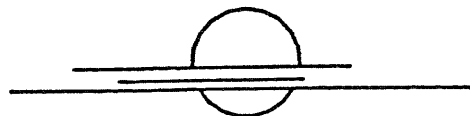
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Project	RIVER ST DPW - RE/PRET	Boring #	NW-9
Client	CITY OF DOVER	Sheet	1 of 1
Contractor	NH BORING	Date Begun	9/5/16
Method	AUGER / SPLIT SPOON	Completed	9/5/16
Ground Elevation	PID ^{HNW-PI-10'} (11.72v)	Protection Level	D
Logged By	CMT	Checked By	
		Date	
		Overburden Drilled	7'
		Rock Drilled	
		Below Ground	0.3'
		Site	Dover DPW

Depth (ft)	PID Ambient Air	Sample #	Sample Interval	Rec Pen	Jar-Headspace (ppm)	Soil/Rock Description	Lithologic Symbol	Well Construction	SPT					Elevation (ft)		
									Blows/6 in.	or RQD %						
									0	20	40	60	80	100		
0				1.2 2	2.0	3" SAND FINE MEDIUM SAND W/ SOME GRAVEL AND ORGANICS				2	5	7	6			
2																
4																
5		NW-9	X	1.5 2	6.0	3" SAND FINE SAND 2" GRAY SILT 1" GRAY CLAY 2" GRAY MEDIUM SILT 5" GRAY CLAYEY SILT				1	12	5	7			
8																
10				1.4 2	6.0	3" GRAY/BROWN CLAYEY SILT 1.5" SATURATED GRAY FINE MEDIUM SAND W/ SILT 1" GRAY CLAY 4" GRAY SANDY SILT 6" GRAY CLAY				1	5	3	13			
12																
14																
16				2.1 2	22	GRAY SATURATED CLAY										
17						EOB @ 17.0'										

NOTES: COMPLETED INSTALLATION OF NW-9 @ 15.0' WITH 10' SCREEN (2" DIA) - SECURED WITH ROAD BONE



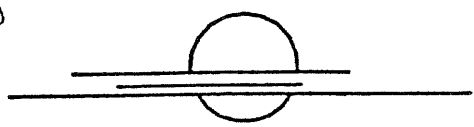
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GEOLOGY HYDROGEOLOGY GEOPHYSICS ENGINEERING

Project	River St DPW - RI/PET			Boring #	MW-10	
Client	CITY OF Dover			Sheet	1 of 1	
Contractor	NH Borings		Date Begun	2/5/96	Overburden Drilled	10'
Method	Number / SPLIT Spoon		Casing Size	Completed	7/5/96	Rock Drilled
Ground Elevation	PID		HNW-PI-101 (11.7 cv)		Protection Level	Below Ground 3.5'
Logged By	emt		Checked By	Date	Site Dover DPW	

Depth (ft)	PID Ambient Air	Sample #	Sample Interval	Rec Pen	Jar-Headspace (ppm)	Soil/Rock Description	Lithologic Symbol	Well Construction	SPT Blows/6 in. or RQD %					Elevation (ft)			
									0	20	40	60	80		100		
0						0-2' GREY FILL											
2					20	2-3' NO RECOVERY											
3						3-3.5' Brown Medium Sand											
3.5					2	3.5-4.0 GREY SILT w/ rock fragments AND SOIL STAINING @ BOTTOM STRANDS PETROLEUM OIL											
4																	
8																	
8						GREY/BROWN CLAY SOME BROWN SILTY SAND											
8					2 1/2	50											
10						BOB @ 10'											

NOTES: Low speed installation of MW-10 @ 10' with 8' screw (2" DIA) - Secured with Road Box



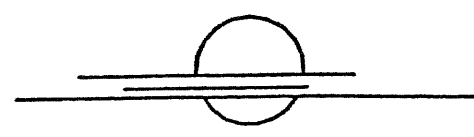
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Project	RIVER ST DPW - RI RET	Boring #	MW-11
Client	CITY OF DEVER	Sheet	_ of _
Contractor	NH Boring	Date Begun	9/5/90
Method	AUGER / SPLIT SPOON	Completed	9/6/90
Ground Elevation		Protection Level	D
Logged By	WNT	Checked By	
		Date	
		Site	Down DPW

Depth (ft)	PID Ambient Air	Sample #	Sample Interval	Rec Pen	Jar-Headspace (ppm)	Soil/Rock Description	Lithologic Symbol	SPT					Elevation (ft)	
								Blows/6 in. or RQD %						
0				1.5'	8	0-3-1.0: TAN MED. COARSE SAND & GRAVEL 3-1.5: BROWN FINE MED SAND SLIGHT ODOOR 5-2.0: HEAVILY STAINED FINE SAND w/ STONK ODOOR, SAME SILT @ BOTTOM								
2														
4														
6		MW-11	X	1 1/2'	20	6.0-6.2: BROWN FINE TO COARSE SAND 6.2-6.5: HEAVILY STAINED SILT 6.5-6.7: GREY SILT w/ ROCK FRAGS 6.7-7.0: GREY SILT w/ STONK NO ODOOR								
8														
10				1/2'		NO RECOVERY - SPOON WET								
12														
14				1 1/2'	8	SATURATED GREY SILTY SAND w/ ROCK FRAGMENTS, STONK PETROLEUM ODOOR ROBC @ 15'								
16														

NOTES: COMPLETED INSTALLATION OF MW-11 @ 13.0' WITH 10' SURROUND (4" DIA) - SECURED WITH LOCK BOX



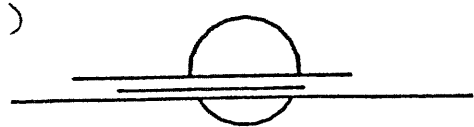
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Project RIVER STREET DPW - RI/PET		Boring # MW-12
Client CITY OF DOVER		Sheet 1 of 1
Contractor NH BORING	Date Begun 5/21/97	Overburden Drilled 15'
Method AUGER / SPUT SPOON	Casing Size	Completed 5/21/97
Ground Elevation	PID ^{HNU-PI-101} (11.7' ex)	Protection Level >
Logged By CMT	Checked By	Date
		Site DOVER DPW

Depth (ft)	PID Ambient Air	Sample #	Sample Interval	Rec Pen	Jar-Headspace (ppm)	Soil/Rock Description	Lithologic Symbol	Well Construction	SPT		Elevation (ft)	
									Blows/6 in.	or RQD %		
0	0		20" 24"		3.2	0-2" ASPHALT 2-5" CLEAN GRAY FINE SAND 5-7" DL BN F/M SAND & GRAVEL 7-15" BN F/M SILTY SAND 15-19" LT BN F/M SAND 19-20" STONE (1.5" DIA)		2" PVC RISE			9/9/8/16	
2												
4												
6		MW-12	24" 24"		30	0-2" DL BN F/M SAND & GRAVEL 2-5" GRAY CLAY W/ INTERBEDDED FINE SAND 3-24" GRAY CLAY						3/5/7/11
8												
10			24" 24"		24	0-24" GRAY CLAY 5-10"/13-24" MOIST LAYERS						3/4/8/12
12			24" 24"		14	0-3" GRAY SILTY CLAY 3-9" GRAY CLAY (MOIST/SOFT) 9-14" G/BN SILTY CLAY W/ ROCK FRAGS 14-16" MUST GRAY CLAY W/ TRACE TILL 16-20" GRAY CLAY, SOME SILT, SOME TILL 20-24" BN F/C GRAVEL (TILL)						4/16/17/17
14												
16			18" 24"		6.0	0-16" F/M/C GRAVEL (TILL) 16-22" LT BN F/M SILTY SAND, 2% FRAGS 22-24" WEATHERED ROCK						26/23/146/146
18						E.O.B. @ 17' - REFUSAL						

NOTES: COMPLETED INSTALLATION OF MW-12 @ 15' WITH 10' OF SCREEN (2" DIA) - SECURED WITH ROAD BOX



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FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

EDNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: STP Additions

LOCATION: Dover, N. H.

No. A-5

Started: 11-22-76

Completed: 11-23-76

Driller: Adams

blows/ft. casing

+	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	blows/ft. casing
	Drove 1½" I.D. X 5 ft. solid type sampler 0.0 to 5.0 ft.	Silt, Clay, Sand, Gravel and Wood Fill	10			
			18			
	Drove BX FC casing to 5 ft. and washed out.		9			
			12			
0.0			11			
0.0	Drove 1½" I.D. X 2 ft. split type sampler 5.0 to 7.0 ft.	Brown changing to gray, fine to medium SAND (SP) wet	1	S-1	5.0 to 7.0	
0.0			6			
	Advanced casing to 10 ft. and washed out.					17
						16
0.0						16
0.0	Drove 1½" I.D. X 2 ft. split type sampler. 10.0 to 12.0 ft.		5	S-2	10.0 to 12.0	
0.0			8			
	Advanced casing to 15' and washed out.					15
0.0						50
0.0		Gray, soft, CLAY (CL), wet		S-3	15.0 to 17.0	14
0.0	Drove 1½" I.D. X 2 ft. split type sampler 15.0 to 17.0 ft.		1			
0.0			2			

NOTES: Penetration of samplers 30" fall of 140 lb. drive hammer, and of casing by 18" fall of 300 lb. drive hammer. Blows = weight of hammer

GROUND WATER READINGS:

11-22-76 - 3:45 PM - m15 minutes after last last sample removal - water @ 11.9'
 11-23-76 - 7:00 AM - casing pulled back to 30 ft. water @ 2.6 ft.
 11-23-76 - 2:30 PM - helper put lath in hole - blocked

SOILS AND ROCK CLASSIFIED IN FIELD WITH LABORATORY ANALYSIS.

LOG COMPILED BY: *R. Adams*

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: STP Additions

LOCATION: Dover, N. H.

Boring No. A-5

Started:

Completed:

Driller:

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	blows/ casing *Recovery
17.0	Advanced casing to 20 ft. washed, by mistake, to 22.0 ft.					13
20.0						12
20.0	Washed with carbide bit					13
22.0						24
22.0	Drove 1½" I.D. X 2 ft. split type sampler 22.0 to 24.0 ft.		0	S-4	22.0 to 24.0	19
24.0	Advanced casing to 25' and washed out.		0			19
25.0						16
25.0	Drove 1½" I.D. X 2 ft. split type sampler 25.0 to 27.0 ft.		0	S-5	25.0 to 27.0	
27.0			0			
27.0	Advanced casing to 30' and washed out.					23
30.0						23
30.0	Drove 1½" I.D. X 2 ft. split type sampler 30.0 to 32.0 ft.		0	S-6	30.0 to 31.4	19
31.4			0			
32.0		Gray, loose, CLAY (CL) with thin Sand layers and occasional Gravel, wet	8	S-7	31.4 to 32.0	23
32.0	Advanced casing to 35' and washed out.					42
35.0						39
35.0	Drove 1½" I.D. X 2 ft. split type sampler 35.0 to 37.0 ft.	Gray, loose, gravelly, medium and fine SAND (SP) wet	24			
37.0	No sample recovered.		28			

FIELD REPORT TEST BORING

3.

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: **STP Additions** LOCATION: **Dover, N. H.**

Boring No. **A-5** Started: _____ Completed: _____ Driller: _____

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
37.0	Drove 1½" I.D. X 5 ft. solid type sampler 35.0 to 40.0 ft.	(see page 2)	23	S-8	35.0 to 40.0	
			17			
			20			
40.0	Drove 1½" I.D. X 5 ft. solid type sampler 40.0 to 45.0 ft.		13	S-9	40.0 to 45.0	
			17			
			45			
			170			
45.0	Drove 1½" I.D. X 5 ft. solid type sampler 45.0 to 47.5 ft. - Refusal 100 blows/no penetration		57	S-10	45.0 to 47.5	
			43			
			50			
47.5	Bottom of Exploration at refusal per instructions	200				

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: STP Additions

LOCATION: Dover, N. H.

Boring No. A-6 modified Started: 12-9-76

Completed: 12-10-76

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
1.0	Drilled with 3" flite augers to 5 ft.	Dark brown, Topsoil				
	1000 lbs. bit weight used	Brown, loose, silty, gravelly, SAND (SP-SM), barely moist to wet below 8'± Fill				
5.0	Drove 1½" I.D. X 2 ft. split type sampler 5.0 to 7.0 ft.		2	S-1	5.0 to 7.0	all of sampl.
7.0			4			
	Drilled with 3" flite augers to 10'	no gravel in material				
0.0	Drove 1½" I.D. X 2 ft. split type sampler 10.0 to 12.0 ft.		5	S-2	10.0 to 12.0	
2.0			10			
	Drilled with 3" flite augers to 15'					
5.0	Drove 1½" I.D. X 2 ft. split type sampler 15.0 to 17.0 ft.	Gray, loose, SAND (SP), wet with wood in sample	0	S-3	15.0 to 17.0	
7.0			4			

REMARKS: Penetration of samplers by 30" fall of 140 lb. drive hammer, of casing by 18" fall of 300 lb. drive hammer. blows = weight of hammer

GROUND WATER READINGS:

12-10-76 8:00AM Csg. @ 40' Water at 16.0 ft.
 12-10-76 11:10AM 15 min. after last sample Water at 20.5 ft.
 12-14-76 12:55PM Water at 8.0 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITH LABORATORY ANALYSIS.

LOG COMPILED BY: *R.R. Adams*

FIELD REPORT TEST BORING

2.

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

SUBJECT: STP Additions

LOCATION: Dover, N. P.

Log No. A-6 modified

Started:

Completed:

Driller:

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	blows/ft. casing * * * * *
7.0	Set EX FC casing to 15' and rove to 20' and washed out.					7
10.0	Drove 1½" I.D. X 2 ft. split type sampler 20.0 to 22.0 ft.	Gray, soft, CLAY (CL), wet	0	S-4	20.0 to 22.0	11
2.0			0			14
2.0	Advanced casing to 25' and washed out.					12
3.0	Drove 1½" I.D. X 2 ft. split type sampler 25.0 to 27.0 ft.		0	S-5	25.0 to 27.0	12
7.0			0			13
7.0	Advanced casing to 30' and washed out.					20
10.0	Drove 1½" I.D. X 2 ft. split type sampler 30.0 to 32.0 ft.		0	S-6	30.0 to 32.0	17
2.0			0			19
2.0	Advanced casing to 35' and washed out.					15
10.0	Drove 1½" I.D. X 2 ft. split type sampler 35.0 to 37.0 ft.		0	S-7	35.0 to 37.0	17
2.0			0			22
2.0	Advanced casing to 40' and washed out.					20

FIELD REPORT TEST BORING

3..

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

JECT: STP Additions

LOCATION: Dover, N. H.

ing No. A-6 modified Started:

Completed:

Driller:

PTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
0.0	Drove 1½" I.D. X 5 ft. solid type sampler 40.0 to 45.0 ft. - Piece of gravel blocked sample entry at about 43'	Gray, medium compact, slightly clayey, gravelly SAND (SP-SC), wet Till	washed			
			26	S-8	41.0 to 45.0	
			46			
			50			
			70			
5.0		24				
	Drove 1½" I.D. X 5 ft. solid type sampler 45.0 to 50.0 ft.		32	S-9	45.0 to 50.0	
			37			
			27			
			21			
0.0						11
	Drove 1½" I.D. X 5 ft. solid type sampler 50.0 to 55.0 ft.		13	S-10	50.0 to 55.0	
			24			
			27			
			18			
5.0						30
	Drove 1½" I.D. X 5 ft. solid type sampler 55.0 to 60.0 ft.		40	S-11	55.0 to 60.0	
			30			
			11			
			40			
0.0						50
	Drove 1½" I.D. X 5 ft. solid type sampler 60.0 to 63.1 ft. - Refusal 100 blows/no penetration		47	S-12	60.0 to 63.1	
			57			
3.1			Bottom of Exploration at Refusal			200

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. e.

CHARLESTOWN, N. H.

OBJECT: STF Additions

LOCATION: Dover, N. H.

Log No. A-13

Started: 11-23-76

Completed: 12-1-76

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery	
5.0	Drove 1½" I.D. X 5 ft. solid type sampler 0.0 to 5.0 ft.	Brown changing to gray, Gravel, Sand, Silt, Clay, Wood, etc. Fill	10	S-1	5.0 to 10.0		
			14				
			12				
			28				
			19				
10.0	Drove 1½" I.D. X 5 ft. solid type sampler 5.0 to 10.0 ft.		17				
			23				
			18				
			12				
13.0	Drove 1½" I.D. X 2 ft. split type sampler 10.0 to 12.0 ft.	(wood on top of sample) Mottled Gray, stiff, CLAY (CL), moist	11				S-2
			14				
			24				
14.7	Advanced casing to 14.5' with refusal, cleaned out and tried to drive 1½" I.D. solid sampler 100 blows with no penetration - Refusal		30	casing			
			26	casing			
14.7	Bottom of Exploration at Refusal		76	casing			

REMARKS: Penetration of samplers by 30" fall of 140 lb. drive hammer. and pf casing by 18" all of 300 lb. drive hammer.

GROUND WATER READINGS:
5 minutes after removing sampler: water at 7.1 ft.
12-7-76 1:30 PM water at 6.0 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITH LABORATORY ANALYSIS.

LOG COMPILED BY: *R.R. Adams*

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dover, N. H.

Boring No. A-14

Started: 12-15-76

Completed: 12-15-76

Driller: Beach

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% C Reco.
0.0	Drove 2" I.D. x 5 ft. solid type sampler 0.0 to 5.0 ft.	Ice	15	S-1	2.0 to 5.0	
2.0		Brown, loose, silty, SAND (SM), wet	15			
		Brown, compact, silty, gravelly, SAND (SM), wet Till	32			
5.0			50			
			55			
7.0	Drove 2" I.D. x 5 ft. solid type sampler 5.0 to 7.0 ft.		102	S-2	7.0 to 10.0	
			130			
	Drove 1 1/2" I.D. x 5 ft. solid type sampler to 10.0 ft.		140			
			92			
			50			
10.0			300			
10.1	1 1/2" I.D. sampler Refusal at 10.1 ft. 100 blows with no penetration Bottom of Exploration at Refusal					

MARKS: Penetration by 30" fall of 140 lb. drive hammer.

GROUND WATER READINGS:

10 minutes after completion: Water at 7.0 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY: *R. Adams*

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: STP Additions

LOCATION: Dover, N. H.

Log No. A-21

Started: 12-2-76

Completed: 12-8-76

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	blows/f. casing * * * * *
5.0	Drove 1½" I.D. X 5 ft. solid type sampler 5.0 to 5.0 ft. Drove BX FC casing to 5' and washed out.	Brown, black and gray, loose, Silt, Gravel, Sand, Wood, Plastic, Paper, etc., dump fill	4	S-1	5.0 to 10.0	* * * * *
			10			
			18			
			21			
			21			
7.0	Drove 1½" I.D. X 2 ft. split type sampler 5.0 to 7.0 ft. No sample recovered		4			
			7			
10.0	Drove 1½" I.D. X 5 ft. solid type sampler 5.0 to 10.0 ft. Advanced casing to 10' and washed out.		6			
			10			
			12			
			19			
			7			
15.0	Drove 1½" I.D. X 5 ft. solid type sampler 10.0 to 15.0 ft. No sample recovered (material too sloppy) Advanced casing to 15' and washed out.		9			
			11			
			13			
			5			
17.0	Drove 1½" I.D. X 2 ft. split type sampler 15.0 to 17.0 ft.	Gray, loose, SAND (SP), wet with wood (O.G. ?)	11	S-2	15.0 to 17.0	* * * * *

REMARKS: Penetration of samplers by 30" fall of 140 lb. drive hammer, of casing by 18" fall of 300 lb. drive hammer.

GROUND WATER READINGS:

12-2-76	4:20PM	Water at	7.0 ft.
12-3-76	7:15AM	" "	8.5 ft.
"	10:55AM	" "	5.5 ft.
12-7-76	10:50AM	" "	8.8 ft.
12-8-76	8:10AM	" "	8.6 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITH LABORATORY ANALYSIS.

LOG COMPILED BY: *R.R. Adams*

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: STP Additions LOCATION: Dover, N. H.

Boring No.	Started:	Completed:	Driller:	blows/ft		
DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	casin
7.0	Advanced casing to 20' and cleaned out.					22
9.0						32
20.0	Drove 1½" I.D. X 2 ft. split type sampler 20.0 to 22.0 ft.	Gray, moderately stiff, CLAY (CL) and brwon, loose, SAND (SP) with wood, wet	6	S-3	20.0 to 22.0	25
22.0			17			124
	Advanced casing to 25' and washed out.					114
25.0						200
	Drove 1½" I.D. X 5 ft. solid type sampler 25.0 to 30.0 ft.	Gray and Brown, medium compact, gravelly, SAND (SP), wet	57			
			231	S-4	25.0 to 30.0	
	Advanced casing to 30' and washed out.		41			
			48			
30.0			47			
	Drove 1½" I.D. X 5 ft. solid type sampler 30.0 to 35.0 ft.		25			
			19	S-5	30.0 to 35.0	
	Advanced casing to 35' and washed out.		25			
			39			
35.0			48			
			60			
	Drove 1½" I.D. X 5 ft. solid type sampler 35.0 to 39.6 ft. - Refusal 100 blows with no penetration		52	S-6	35.0 to 39.6	
			40			
			52			
39.6			67			
	Bottom of Exploration at Refusal					

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dover, N. H.

Log No. A-28

Started: 12-1-76

Completed: 12-2-76

Driller: Adams

PTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	Blows/f casing
5.0	Drove 1½" I.D X 5 ft. solid type sampler 0.0 to 5.0 ft. Drove BX FC casing to 5' and washed out.	Grits, dark brown, silty, gravelly, SAND to dark gray of the same, wood, paper, plastic, etc. Fill (dump)	6	S-1	5.0 to 10.0	
			10			
			9			
			16			
			12			
7.0	Drove 1½" I.D. X 2 ft. split type sampler 5.0 to 7.0 ft. No sample recovered		9			
			13			
10.0	Drove 1½" I.D. X 5 ft. solid type sampler 7.0 to 10.0 ft. Advanced casing to 10' and washed out		7			
			9			
			25			
10.3	Drove 1½" I.D. X 2 ft. split type sampler 10.0 to 12.0 ft.	Brown and Gray, layers of SILT, CLAY & SAND (ML, CL & SP), wet	12	S-2	10.0 to 12.0	
			19			
14.0	Advanced casing to 15' and washed out.					40
						32
15.0	Drove 1½" I.D. X 2 ft. split type sampler 15.0 to 17.0 ft.	Gray, soft, CLAY, (CL), wet		S-3	15.0 to 17.0	
			2			
17.0			8			21

REMARKS: Penetration of samplers by 30" fall of 140 lb. drive hammer, and of casing by 18" fall of 300 lb. drive hammer.

GROUND WATER READINGS:
 12-1-76 4:10PM Water at 8.8 ft.
 12-2-76 8:30AM " " 9.1 ft.
 12-7-76 1:30PM " " 8.7 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITH LABORATORY ANALYSIS.

LOG COMPILED BY: *RR Adams*

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

JECT: STP Additions

LOCATION: Dover, N. H.

ig No. A-28

Started:

Completed:

Driller:

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	blows/casing # of blows below casing
17.0	Advanced casing to 20' and washed out.	(see page 1)				30
						31
						28
0.0	Drove 1½" I.D. X 2 ft. split type sampler 20.0 to 22.0 ft.		1	S-4	20.0 to 22.0	
2.0			6			
	Advanced casing to 25' and washed out. tough going at end of casing					37
						38
5.0						29
	Drove 1½" I.D X 5 ft. solid type sampler 25.0 to 30.0 ft.	Gray, medium compact, clayey, gravelly, SAND (SC), wet Till	43	S-5	25.0 to 30.0	
			57			
	Advanced casing to 30' and washed out.		38			
			28			
			28			
0.0	Drove 1½" I.D. X 5 ft. solid type sampler 30.0 to 35.0 ft.		95			
			30			
	Advanced casing to 35' and washed out, casing is sprung 10' from bottom		60	S-6	30.0 to 35.0	
			39			
5.0			27			

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: STP Additions

LOCATION: Dover, N. H.

Log No. A-28

Started:

Completed:

Driller:

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
35.0	Drove 1½" I.D. X 5 ft. solid type sampler 35.0 to 40.0 ft.	(see page 2)	26	S-7	35.0 to 40.0	
			33			
			31			
			42			
40.0			59			
	Drove 1½" I.D. X 5 ft. solid type sampler 40.0 to 42.2 ft. - refusal 100 blows/no penetration	Fractured rock 42 to 42.2 see S-8	55	S-8	40.0 to 42.2	
			190			
42.2			1000			
	Bottom of Exploration at Refusal					

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: STP Additions

LOCATION: Dover, N. H.

Boring No. A-33

Started: 12-14-76

Completed: 12-14-76

Driller: Adams

EPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Cor. Recovery
5.0	Drove 2" I.D. X 5 ft. solid type sampler 0.0 to 5.0 ft.	Black and Brown, SILT, GRAVEL, SAND, WOOD, PAPER, etc. dump fill	11	S-1	8.0 to 10.0	
			8			
			35			
			17			
			8			
8.0	Drove 2" I.D. X 5 ft. solid type sampler 5.0 to 10.0 ft.		7			
			13			
			13			
10.0		Gray, medium compact, to compact, slightly silty, gravelly, SAND (SP-SM), wet	36			
			86			
11.0	Drove 1½" I.D. X 5 ft. solid type sampler 10.0 to 15.0 ft.	Brown, compact, silty, gravelly, SAND (SM), wet Till	61	S-2	11.0 to 15.0	
			55			
66						
78						
160						
15.0	Drove 1½" I.D. X 5 ft. solid type sampler 15.0 to 20.0 ft.		36			
			42			

MARKS: Penetration by 30" fall of 140 lb. drive hammer.

GROUND WATER READINGS: Water at 1.3 ft. all through operations and after.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY: *R. Adams*

FIELD REPORT TEST BORING

2.

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: STP Additions

LOCATION: Dover, N. H.

Boring No. A-33

Started:

Completed:

Driller:

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
7.0		(see page 1)	100	S-3	15.0 to 20.0	
			228			
			200			
0.0	Drove 1½" I.D. X 5 ft. solid type sampler 20.0 to 25.0 ft. Hole caving badly		78	S-4	20.0 to 25.0	
			140			
			175			
			153			
5.0	Drove AX Rod probe 25.0 to 43.0 ft. Unable to pull back and exchange 5 ft. rods for 10 ft. ones due to cave		250			
			50			
			55			
			67			
			74			
			90			
			134			
			130			
			177			
			230			
			162			
			160			
			136			
	109					
	122					
	93					
	100					
	133					
13.0	Bottom of Exploration depth considered sufficient		76			

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: STP Additions

LOCATION: Dover, N. H.

Boring No. A-35

Started: 12-15-76

Completed: 12-15-76

Driller: Beach

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recover.			
5.0	Drove 2" I.D. X 5 ft. solid type sampler 0.0 to 5.0 ft.	Black and gray, loose, CLAY, WOOD, SILT, PEAT, and SAND interbedded, (CL, ML, PT & SP), wet	3	S-1	8.0 to 10.0				
			6						
			1						
			2						
			1						
10.0	Drove 2" I.D. X 5 ft. solid type sampler 5.0 to 10.0 ft.		1						
			3						
			3						
12.0	Drove 2" I.D. X 5 ft. solid type sampler 10.0 to 12.0 ft. - Refusal 100 blows/no penetration		11				S-2	10.0 to 12.0	
			27						
	Tried to drive 1 1/2" I.D. sampler 100 blows with no penetration Bottom of Exploration at Refusal		65						
			276						

REMARKS: Penetration by 30" fall of 140 lb. drive hammer.

GROUND WATER READINGS: Water at 1.0 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY: *R.R. Adams*

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: STP Additions LOCATION: Dover, N. H.

10 ft. towards A-31 from A-35

Log No. A-55L Started: 12-15-76 Completed: 12-15-76 Driller: Beach

PTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
5.0	Drove 2" I.D. X 5 ft. solid type sampler 0.0 to 5.0 ft.	Brown, black and gray, loose, CLAY, WOOD, SILT, PEAT and SAND interbedded (CL, ML, PT & SP), wet Fill	13	S-3	11.0 to 15.0	
			2			
			6			
			6			
			5			
			8			
			40			
			4			
			3			
			10			
10.0	Drove 2" I.D. X 5 ft. solid type sampler 5.0 to 10.0 ft.		13			
			80			
11.0	Drove 2" I.D. X 5 ft. solid type sampler 10.0 to 15.0 ft.	Gray and brown, loose, gravelly, SAND (SP), wet - some wood present	143			
			45			
			13			
			5			
15.0	Drove 1 1/2" I.D. X 5 ft. solid type sampler 15.0 to 20.0 ft.		4			

REMARKS: Penetration by 30" fall of 140 lb. drive hammer.

GROUND WATER READINGS: Water at 0.9 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY: *R.R. Adams*

FIELD REPORT TEST BORING

2.

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. e.

CHARLESTOWN, N. H.

OBJECT: STP Additions

LOCATION: Dover, N. H.

Boring No. A-55B

Started:

Completed:

Driller:

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Cor Recovery
17.0	No sample recovered (did not shear and wait for swelling)	Gray, soft, CLAY (CL), wet	5	S-4	20.0 to 24.0	
			6			
20.0	Drove 1½" I.D. X 5 ft. solid type sampler 20.0 to 25.0 ft.		7			
			6			
			7			
			9			
24/0			10			
25.0	Drove 1½" I.D. X 5 ft. solid type sampler 25.0 to 30.0 ft.	Gray, stiff, gravelly, CLAY (CL), wet	85	S-5	25.0 to 28.0	
			136			
			80			
			55			
28.0		Gray, compact, clayey, gravelly, SAND (SP-SC), wet Till	54	S-6	28.0 to 30.0	
30.0	Drove AX Rod probe 30.0 to 34.1 ft. - Refusal 100 blows with no penetration		32			
			20			
			17			
			31			
			100			
34.1	Bottom of Exploration at Refusal		400			

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dover, N.H.

Boring No. C-1

Started: 4-18-77

Completed: 4-19-77

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
1.0	Drove 1 1/2" I.D. solid type sampler 0.0 to 5.0 ft.	Sand and gravel	0	S-1	1.0 to 5.0	
		Dark brown, compact, SILT (ML), barely moist.	10			
			22			
			33			
5.0			41			
5.4	Drove 1 1/2" I.D. split type sampler 5.0 to 7.0 ft		45	S-2	5.4 to 6.0	
6.0		Dark brown, compact, sandy gravelly, SILT (ML), barely moist.	32			
7.0	Drilled with 3" flite augers	Brownish-gray, soft, CLAY (CI), moist to wet with depth Gray at about 13 ft.				
10.0	Drove 1 1/2" I.D. split type sampler 10.0 to 12.0 ft.		7	S-3	10.0 to 12.0	
12.0	Drilled with 3" flite auger.		6			
15.0	Drove 1 1/2" I.D. split type sampler 15.0 to 17.0		0	S-4	15.0 to 17.0	

REMARKS: Penetration of samplers by 30" fall of 140 lb. drive hammer.

GROUND WATER READINGS:

4-18-77 at 4:40 PM

Water at 10.0 ft.

Hole at 30.0 ft.

4-19-77 at 8:00 AM

Water at 8.7 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY:

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: STP Additions

LOCATION: Dover, N.H.

Boring No. C-1 Started: 4-18-77 Completed: 4-19-77 Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Con. Recovery
17.0	Drilled with 3" flite augers					
19.0						
20.0		Gray, loose, clayey, gravelly SAND (SC), wet.			20.0 to 21.2	
21.2	Drove 1 1/2" I.D. split type sampler 20.0 to 30.0 ft.		7	S-5		
22.0		Brown, compact, silty, gravelly, SAND (SK), wet. ?	63	S-6	21.2 to 22.0	
25.0						
		Gray, compact, gravelly, clayey, SAND (SC), wet, Basal till	24			
			26			
			55	S-7	25.0 to 30.0	
			82			
30.0			124			
	Drilled with 3" flite augers to refusal at 43.5 ft. Bottom of explorations at refusal					

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

CHARLESTOWN, N. H.

RODNEY R. ADAMS, c.p.g.

PROJECT: STP Additions

LOCATION: Dover, N.H.

Boring No. C-2 Started: 4-20-77 Completed: 4-20-77 Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
5.0	Drove 1 1/2" I.D. solid type sampler 0.0 to 5.0 ft.	Brown, loose, gravelly, SAND (S ^h), with occasional SILT. Dry to wet below 5 ft.	9	S-1	-0.0 to 5.5	
			18			
			9			
			9			
5.5	Drove 1 1/2" I.D. split type sampler 5.0 to 7.0 ft.	Brown, soft, clay (CL), moist.	11	S-2	5.5 to 7.0	
7.0			10			
	Drilled with 3" flite auger		13			
10.0				S-3	10.2 to 11.3	
10.2	Drove 1 1/2" I.D. split type sampler 10.2 to 12.0 ft.	Gray, soft, CLAY (CL), with some sand & gravel, wet.	3	S-4	11.3 to 12.0	
11.3			33			
12.0	Drilled with 3" flite augers.	Brown, compact, silty, gravelly, SAND (S ^h), moist to wet. TILL		S-5	15.0 to 17.0	
15.0	Drove 1 1/2" I.D. split type sampler 15.0 to 17.0		63			
17.0	Drilled with 3" flite augers.		52			

REMARKS: Penetration of samplers by 30" fall of 140 lb. drive hammer.

GROUND WATER READINGS: 4-20-77 at 11:40 AM

Water at 5.7 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY:

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dover, N.H.

Boring No. C-2

Started: 4-20-77

Completed: 4-20-77

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Cc Recov
20.0	Drove 1 1/2" I.D. solid type type sampler. Refusal-100 blows, no penetration.	Highly fractured rock.	70	S-6	21.5 to 22.2	
21.5			100			
22.2			500			
	Bottom of exploration at refusal.					

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dover, N.H.

Boring No. C-3

Started: 4-19-77

Completed: 4-19-77

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery			
2.0	Drove 1 1/2" I.D. solid type sampler 2.0 to 2.0 ft. Lost most of sample	Sand and gravel	8	S-1	7.0 to 9.0				
			10						
5.0		Brown-gray, soft, SILT & CLAY (ML & CL), moist to wet.	8						
			9						
			10						
			11						
7.0	Drove 1 1/2" I.D. split type sampler 5.0 to 7.0 ft. Lost sample. Drilled with 3" flite augers to 7.0 ft.		10						
9.0	Drove 1 1/2" I.D. split type sampler 7.0 to 9.0 ft.		1						
10.0	Drilled with 3" flite augers.	Gray, soft, CLAY (CL), with occasional brown silt layers at about 1/2" thick, wet.					S-2	10.0 to 11.0	
11.0	Drove 1 1/2" I.D. split type sampler 10.0 to 12.0 ft.		0						
12.0		Brown, medium compact, silty, gravelly, SAND (SM), wet. TILL?	11				S-3	11.0 to 12.0	
13.9	Drilled with 3" flite augers. Refusal at about 13.9 ft. 2000 lbs. on bit.								
	Bottom of exploration at refusal.								

REMARKS: ~~Penetration of samplers by 30" fall of 140 lb. drive hammer.~~

GROUND WATER READINGS: 4-20-77 at 8:10 AM

Water at 2.4 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY:

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dover, N.H.

Boring No. C-5		Started: 4-19-77	Completed: 4-19-77	Driller: Adams		
DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
5.0	Drove 1 1/2" I.D. solid type sampler 0.0 to 5.0 ft.		4	S-1	5.0 to 6.8	
			8			
			5			
			4			
			4			
7.0	Drove 1 1/2" I.D. split type sampler 5.0 to 7.0 ft.	Gray with black organics, loose gravelly, SAND (SP), wet.	9	S-2	10.0 to 11.0	
			19			
10.0	Drilled with 3" flite augers.			S-3	11.0 to 12.0	
11.0	Drove 1 1/2" I.D. split type sampler 10.0 to 12.0 ft.	Gray, clayey, soft, CLAY (CL) with occasional brown silt layers, wet.	10	S-4	15.5 to 17.0	
			10			
12.0	Drilled with 3" flite augers.					
15.0						
15.5	Drove 1 1/2" I.D. split type sampler 15.0 to 17.0 ft.					
17.0		Gray, medium compact, clayey, gravelly, SAND (S'), wet. TILL.	16	S-4	15.5 to 17.0	
			52			

REMARKS: Penetration of samplers... by 30" fall of 140 lb. drive... hammer.

GROUND WATER READINGS:

4-19-77 at 4:15 PM--Water at 2.2 ft.
4-20-77 at 8:10 AM--Water at 1.0 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY:.....

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: STP Additions

LOCATION: Dover, N.H.

Borehole No. C-5

Started: 4-19-77

Completed: 4-19-77

Driller: ADAMS

H	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery	
7.0	Drilled with 3" flite augers.		26	S-5	20.0 to 22.2		
			40				
20.0			120				
22.2	Drove 1 1/2" I.D. solid type sampler 20.0 to 22.2, 100 blows-no penetration. Lost most of sample.						
	Bottom of exploration at refusal.						

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.

CHARLESTOWN, N. H.

PROJECT: STF Additions

LOCATION: Dover, N.H.

Moved 7 ft. west

Boring No. C-6

Started: 4-23-77

Completed: 4-29-77

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Cor. Recove.			
5.0	Drove 1 1/2" I.D. solid type sampler 0.0 to 5.0 ft. Refusal at 3.5 ft. 100 blow no penetration. Moved 7 ft. west started new boring.	Brown, compact, clay (CL), with occasional sand layers, moist.	7	S-1	5.0 to 7.0				
			9						
			20						
			24						
			50						
7.0	Drove 1 1/2" I.D. split type sampler 5.0 to 7.0 ft.		57						
7.0	Drilled with 3" flite auger	Gray, compact, clayey, gravelly, SAND (SL), moist TILL	74						
9.0	Drove 1 1/2" I.D. solid type sampler 9.0 to 14.0 ft.		69				S-2	9.0 to 14.0	
14.0	Drilled with 3" flite augers		39						
			39						
			53						
			55						
15.0	Drove 1 1/2" I.D. solid type sampler 15.0 to 20.0 ft. Drilled with 3" flite augers to 20.0 ft.		14						
			17						

REMARKS: Penetration by 30" fall of 140 lb. drive hammer.

GROUND WATER READINGS:

4-29-77 at 1:35 PM

Water at 7.4 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY:

J. F. Wash

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

PROJECT: ~~SUB~~ Additions

LOCATION: Dover, N.H.

Boring No. C-6 Started: 4-23-77 Completed: 4-29-77 Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
			16	S-3	29.0 to 29.0	
			29			
			24			
			7			
20.0	Drove 1 1/2" I.D. solid type sampler 20.0 to 25.0 ft. Drilled with 3" flite augers.		30	S-4	20.0 to 25.0	
			30			
			66			
			111			
25.0	Drove 1 1/2" I.D. solid type sampler 25.0 to 30.0 ft.		25			
			70			
			67	S-5	25.0 to 30.0	
			97			
			110			
30.0	Drove 1 1/2" I.D. solid type sampler 30.0 to 35.0 ft.		54			
			95			
			325	S-6	30.0 to 35.0	
			120			
			155			
35.0	Bottom of explorations per instructions.					

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dover, N.H.

Boring No. C-7		Started: 4-21-77		Completed: 4-22-77		Driller: Adams	
DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery	
1.0	Drove 1 1/2" I.D. solid type sampler 0.0 to 5.0 ft.	Topsoil	3	S-1	5.0 to 7.0		
5.0		Grayish brown, compact, dessicated CLAY (CL), barely moist.	6				
			16				
			30				
			51				
7.0	Drove 1 1/2" I.D. split type sampler 5.0 to 7.0 ft.		57				
7.0	Drilled with 3" flite augers.		60				
9.5		Color changes to brown		S-2	9.5 to 11.5		
11.5	Drove 1 1/2" I.D. split type sampler 9.5 to 11.5 ft		17				
	Pocket pentrometer 3.3 tons by square ft.		30				
11.5	Drilled with 3" flite augers.						
15.0				S-3	15.0 to 17.0		
	Drove 1 1/2" I.D. split type sampler 15.0 to 17.0 ft. Pocket pentrometer 2.3 tons/squa e ft.		12				
			16				

REMARKS: Penetration of samples by 30" fall of 140 lb. drive hammer.

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GROUND WATER READINGS: 4-22-77 at 11:45 AM

Water at 27.0 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY:.....

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: SEP Additions

LOCATION: Dover, N. H.

Boring No. C-7

Started: 4-21-77

Completed: 4-22-77

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
17.0	Drilled with 3" flite augers.					
20.0	Drove 1 1/2" J.D. split type sampler 20.0 to 22.0 ft	Becomes softt.	5	S-4	20.0 to 22.0	
22.0	Drilled with 3" flite augers		12			
25.0	Drove 1 1/2" I.D. split type sampler 25.0 to 27.0 ft.		5	S-5	25.0 to 27.0	
27.0	Drilled with 3" flite augers.	Mostly gray	6			
28.5						
30.0	Drove 1 1/2" I.D. split type sampler 30.0 to 32.0 ft.	Brown compact, silty, gravelly, SAND (S ₆), wet TILL	30	S-6	30.0 to 32.0	
32.0	Drilled with 3" flite augers.		50			
35.0	Drove 1 1/2" I.D. solid type sampler 35.0 to 42.0 ft.		26			
			61			
			78	S-7	35.0 to 40.0	

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.
STP Additions

Dover, N.H.

CHARLESTOWN, N. H.

PROJECT: C-7 LOCATION: 4-21-77 4-22-77 Adams
 Boring No. Started: Completed: Driller:

PTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
40.0			71			
42.0	Drove 1 1/2" I.D. solid type sampler 42.0 to 47.0 ft.		18			
			27			
			39	S-8	42.0 to 47.0	
			77			
47.0			80			
48.0	Drove 1 1/2" I.D. solid type sampler 47.0 to 52.0 ft.		90			
		Gray compact, clayey, gravelly SAND (SC), moist. Basal till	180			
			80	S-9	48.0 to 52.0	
			133			
52.0	Bottom of exploration Depth considered sufficient		182			

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dover, N.H.

Boring No. C-8

Started: 5-2-77

Completed: 5-3-77

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery			
1.5	Drove 2" I.D. solid type sampler 0.0 to 1.5 ft.	Topsoil	5						
5.0		Brown, stiff to moderately stiff. Desiccated CLAY (CL), moist.	11	S-1	5.0 to 10.0				
			27						
			45						
			63						
			74						
10.0	Drove 1 1/2" I.D. solid type sampler 5.0 to 10.0 ft. Drove EX-FC casing to 10.0 ft. and washed out.		36						
			74						
			80						
			80						
			80						
15.0	Drove 1 1/2" I.D. solid type sampler 10.0 to 15.0 ft. Advanced casing to 15.0 ft. and washed out.		10	S-2	10.0 to 15.0				
			17						
			20						
			25						
			32						
16.7	Drove 1 1/2" I.D. solid type sampler 15.0 to 20.0 ft. Advanced casing to 20.0 ft. and washed out.	Brown, compact, silty, gravelly, sandy (SW), moist till	10						
			13						

REMARKS: Penetration by 30" fall of 140 lb. drive hammer.

GROUND WATER READINGS:

5-3-77 at 9:45 A.M. - 15 minutes after: Sampling to 33.3 ft. -- water at 11.2 ft.

5-3-77 at 11:15 A.M. - casing pulled and 25 minutes later -- water at 18.6 ft.

MATERIALS AND ROCK CLASSIFIED IN FLD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY: J. F. Walsh

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: STP Additions

LOCATION: Dover, N.H.

Ring No. C-8

Started: 5-2-77

Completed: 5-2-77

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Co Recov
20.0	Drove 1 1/2" I.D. solid type sampler 20.0 to 25.0 ft. Advanced casing to 25.0 ft. and washed out.		14	S-3	15.0 to 16.7	
			33			
			63			
			48			
			20			
			55			
25.0	Drove 1 1/2" I.D. solid type sampler 25.0 to 30.0 ft. Advanced casing to 30.0 ft. and washed out.		130	S-4	20.0 to 25.0	
			128			
			40			
			63			
30.0	Drove 1 1/2" I.D. solid type sampler 30.0 to 33.3 ft. Refusal at 33.3 ft. 100 blows no penetration.		140	S-5	25.0 to 30.0	
			474			
			331			
			163			
33.3	Bottom of exploration at refusal.		400	S-6	30.0 to 33.3	
			390			
			800			

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dover, N.H.

Boring No. C-9

Started: 6-21-77

Completed: 4-21-77

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
5.0	Drove 1 1/2" I.D. Solid type sampler 0.0 to 5.0 ft.	Brown and gray, loose to medium compact, thin bedded FINE SANDS(SU), with Iron oxide stains, barely moist to wet with depth.	3	S-1	0.0 to 5.0	
			9			
			18			
			30			
			33			
7.0	Drove 1 1/2" I.D. split type sampler 5.0 to 5.0 ft. Drilled with 3" flite augers to 7.1 ft.		21	S-2	5.0 to 7.0	
			39			
9.8	Drove 1 1/2" I.D. solid type sampler 7.0 to 9.8 ft. Tried augers, refusal 1000 lbs. on bit.	Brown, compact, silty, gravelly, SAND (SM), moist Till	40	S-3	7.0 to 9.8	
			90			
			178			
	Bottom of exploration at refusal.					

REMARKS:..... Penetration of samplers by 30" fall of 140 lb. drive hammer.

GROUND WATER READINGS:

No water in boring.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY:.....

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dover, N.H.

Boring No. C-10

Started: 4-20-77

Completed: 4-21-77

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
5.0	Drove 1 1/2" I.D. solid type sampler 0.0 to 5.0 ft. Drilled with flite augers to 5.0 ft.	FILL	28	S-1	5.0 to 10.0	
			53			
		20				
		15				
		16				
		9				
		2				
		2				
		10				
10.0		?	5			
15.0	Drove 1 1/2" I.D. solid type sampler 10.0 to 15.0 ft. Lost most of sample. Drilled with 3" flite augers to 15.0 ft. On trying to lower sampler, fill caves in at 9 ft. Drove BX-PC casing to 15.0 ft. and cleaned out.	Brown, medium compact, silty, gravelly, SAND (SM), wet. TILL	2	S-2	10.0 ? to 15.0	
			16			
			22			
	30					
16.0	Drove 1 1/2" I.D. solid type sampler 15.0 to 20.0 ft	Gray, medium compact, clayey, gravelly, SAND (SI), wet TILL	80			

REMARKS: Penetration of sampler by 30" fall of 140-lb. drive hammer.

GROUND WATER READINGS:

4-20-77 at 4:40 PM -- Water at 6.5 ft.

4-21-77 at 7:00 AM -- Water at 6.0 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY:

FIELD REPORT TEST BORING
GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: STP Additions

LOCATION: Dover, N.H.

Boring No. C-10

Started: 4-20-77

Completed: 4-21-77

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
			32			
			37	S-3	16.0 to 20.0	
			33			
			31			
20.0	Drove 1 1/2" I.D. solid type sampler 20.0 to 25.0 ft.		33			
			35			
22.5	22.5 to 25.0 ft.	Highly fractured rock.	36	S-4	20.0 to 22.5	
			66			
				313	S-5	22.5 to 25.0
25.0	Bottom of exploration Depth considered sufficient		113			

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dove~~4~~, N.H.

Boring No. C-12

Started: 5-3-77

Completed: 5-3-77

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
1.0	Drove 2" I.D. solid type sampler 0.0 to 1.0 ft.	Topsoil	3			
5.0		Brown, thinly bedded, stiff, desiccated CLAY (CL), barely moist.	12	S-1	5.0 to 10.0	
			18			
			28			
			70			
			41			
10.0	Drove 1 1/2" I.D. solid type sampler 5.0 to 10.0 ft. Drove BK-FC casing to 10.0 ft. and washed out.		105			
			108			
			124			
			120			
15.0	Drove 1 1/2" I.D. solid type sampler 10.0 to 15.0 ft. Lost sample, re-drove with trap in shoe advanced casing to 15.0 ft and washed out.		15			
			24			
			33			
15.0			43			
			64			
15.2	Drove 1 1/2" I.D. solid type sampler, refusal at 15.2 ft. 100 blows no penetration.		100			

REMARKS: Penetration by 30" fall of 140 lb. drive hammer.

GROUND WATER READINGS:

5-3-77 at 4:22 PM--casing pulled 1/2 hour after water at 6.1 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY: J. F. Wash

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dover, N.h.

Boring No. C-13

Started: 4-22-77

Completed: 4-26-77

Driller: A. Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
	Drove 1 1/2" I.D. solid type sampler 0.0 to 5.0 ft.	Brown, compact, dessicated clay (CL), moist.	5			
			6			
			17			
			37			
5.0	Drove 1 1/2" I.D. split type sampler 5.0 to 7.0 ft.		49			
			48	S-1	5.0 to 7.0	
7.0	Drilled with 3" flite augers.		43			
9.5	Drove 1 1/2" I.D. split type sampler 9.5 to 11.5 ft.		15			
			29	S-2	9.5 to 11.5	
11.5	Drilled with 3" flite augers.					
15.0	Drove 1 1/2" I.D. split type sampler 15.0 to 17.0 ft.		12			
			20	S-3	15.0 to 17.0	
17.0	Drilled with 3" flite augers					

REMARKS: penetration by 30" fall of 140 lb. drive hammer.

GROUND WATER READINGS:

4-26-77 at 9:00 AM -- Water at 1.0 ft.

4-26-77 at 12:40 PM -- Water at 25.7 ft.

4-28-77 at 2:25 PM -- Water at 12.9 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY:

J. F. Walsh

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dover, F.H.

Boring No. C-13

Started: 4-22-77

Completed: 4-26-77

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% C. Recov
20.0	Drove 1 1/2" I.D. split type sampler 20.0 to 22.0 ft.	Very thin sand layers in sample.	6	S-4	20.0 to 22.0	
22.0	Drilled with 3" flite augers.		12			
23.5		Brown, compact, silty, gravelly, SAND (SM), barely moist. TILL		S-5	24.5 to 26.2	
24.5	Drove 1 1/2" I.D. split type sampler 24.5 to 26.2.		48			
26.2	Refusal-100 blows no penetration-1 ton on bit- refusal.		303			
	Bottom of exploration at refusal.					

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

CHARLESTOWN, N. H.

RODNEY R. ADAMS, c.p.g.

PROJECT: STP Additions

LOCATION: Down N. P.P.

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
2.0	Drove 2" I.D. solid type sampler 0.0 to 2.0 ft.	Topsoil	2			
			2			
5.0		Brown, compact, dessicated, CLAY (CL), moist.	13	S-1	5.0 to 7.0	
			27			
			45			
7.0	Drove 1 1/2" I.D. solid type sampler 5.0 to 10.0 ft.		37			
			61			
10.0		Brown, compact, silty, gravelly, SAND (SM), damp FILL	102	S-2	7.0 to 10.0	
			95			
			85			
			62			
15.0	Drove 1 1/2" I.D. solid type sampler 10.0 to 15.0 ft.		64	S-3	10.0 to 15.0	
			55			
			69			
			110			
			136			
15.7	Refusal 100 blows--no penetration.	Rock in bottom of sample 15.5 ft. to 15.7 ft.			15.0 to 15.7	

REMARKS: Penetration by 30 lb. fall of 140 lb. drive hammer:

GROUND WATER READINGS:

4-28-77 at 2:30 P.M.--Dry to 15.1 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY:

J. F. Walsh

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

CHARLESTOWN, N. H.

RODNEY R. ADAMS, c.p.g.

PROJECT: STP Additions

LOCATION: Dover, N.F.

Boring No. C-17

Started: 5-4-77

Completed: 5-5-77

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
5.0	Drove 2" I.D. solid type sampler 0.0 to 5.0 ft.	FILL	33			
			64			
			30			
			18			
			9			
8.0	Drove 1 1/2" I.D. solid type sampler 5.0 to 8.0 ft. Drove BX-FC casing to 10.0 ft. and washed out.	Dark brown with black, loose SAND with organics, wet. TWISSILL	2			
			2			
			10			
10.0		Brown topsoil, loose fine SAND (SU), wet.	22	S-1	8.0 to 10.0	
			22			
12.8	Drove 1 1/2" I.D. solid type sampler 10.0 to 12.8 ft. Advanced casing to 15.0 ft. and washed out.	Black with brown, very loose, peat and SAND (PT & SU), wet.	2	S-2	10.0 to 12.8	
			2			
			2			
15.0		Brown, loose, gravelly, SAND (SP), wet.	18	S-3	12.8 to 15.0	
			26			
			10			
	Drove 1 1/2" I.D. solid type sampler 15.0 to 20.0 ft. Advanced casing to 20.0 ft. and washed out.	Gray, soft, CLAY (CL), wet.	200 lbs.			

REMARKS: Penetration by 30" fall of 140 lb. drive hammer.

GROUND WATER READINGS:

5-4-77 at 4:30 PW-casing filled.
 5-5-77 at 7:00 AW-down 0.1 ft.
 5-5-77 at 10:00 AW-casing pulled, etc.
 Water at 5.2 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY: J. F. Walsh

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: STP Additions LOCATION: Dover, N.H.

Log No. C-17 Started: 5-4-77 Completed: 5-5-77 Driller: Adams

PTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
20.0			200	S-4	15.0 to 20.0	
			200			
			200			
			200			
			200			
24.3	Drove 1 1/2" I.D. solid type sampler 20.0 to 25.0 ft. Advanced casing to 25.0 ft. and washed out.		200	S-5	20.0 to 24.3	
			200			
			200			
25.0		Gray, soft, gravelly, CLAY (CL)	26	S-6	24.3 to 25.0	
30.0	Drove 1 1/2" I.D. solid type sampler 25.0 to 30.0 ft. Advanced casing to 30.0 ft. and washed out.	Gray, loose to medium compact, clayey, gravelly, SAND (SC), wet Basal Tipl	43	S-7	25.0 to 30.0	
			30			
			29			
			21			
			27			
35.0	Drove 1 1/2" I.D. solid type sampler 30.0 to 35.0 ft. Advanced casing to 35.0 ft. and cleaned out.		23	S-8	30.0 to 35.0	
			35			
			40			
			55			
	Drove 1 1/2" I.D. solid type sampler 35.0 to 40.0 ft. Advanced casing to 40.0 ft. and washed out.		75			
			46			

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: STP Additions

LOCATION: Dover, N.H.

Boring No. C-17

Started: 5-4-77

Completed: 5-5-77

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Cor Recover
40.0			144	S-9	35.0 to 40.0	
			54			
			73			
			93			
45.0	Drove 1 1/2" I.D. solid type sampler 40.0 to 45.0 ft. Lost sample, re-drove with basket trap in shoe. Sample lost-trap ruined. Advanced casing to 45.0 ft. and washed out.		94	S-10	45.0 to 50.0	
			50			
			100			
			54			
50.0	Drove 1 1/2" I.D. solid type sampler 45.0 to 50.0 ft. Advanced casing to 50.0 ft. and washed out.		52	S-11	50.0 to 55.0	
			9			
			20			
			21			
55.0	Drove 1 1/2" I.D. solid type sampler 50.0 to 55.0 ft.		27	S-12	55.0 to 58.7	
			4			
			44			
			60			
58.7			67			
			66			
			142			
			96			
			110			
	Bottom of exploration at refusal.		114			

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.

CHARLESTOWN, N. H.

PROJECT: Site Investigations

LOCATION: Dover, N.H.

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
5.0	Drove 1 1/2" I.D. solid type sampler 0.0 to 5.0 ft.	Brown, compact, dessicated CLAY (CL), moist.	1	S-1	5.0 to 7.0	
			3			
			24			
			57			
			75			
7.0	Drove 1 1/2" I.D. split t type sampler 6.0 to 7.0 ft.		62			
			57			
9.5	Drilled with 3" flite augers to 9.5 ft.					
11.5	Drove 1 1/2" I.D. split type sampler 9.5 to 11.5 ft.		12	S-2	9.5 to 11.5	
			31			
15.0	Drove 1 1/2" I.D. solid type sampler 11.5 to 15.0 ft.	Brown, very compact, silty, gravelly, SAND (SM), damp. TILL	80	S-3	11.5 to 15.0	
			133			
			190			
			332			
15.4	Drove 1 1/2" I.D. solid type sampler-refusal		10			

REMARKS: Penetration by 30" fall
of 140 lb. drive hammer.
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GROUND WATER READINGS:
4-26-77 at 4:00 PM-- Water at 7.8 ft.
4-26-77 at 2:25 PM-- Water at 1.2 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY: J. F. Walsh

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dover, N.H.

Boring No. 2-19

Started: 4-27-77

Completed: 5-27-77

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery			
1.5	Probe 2" I.D. solid type sampler 0.0 to 1.5 ft.	Topsoil	3	S-1	1.5 to 5.0				
			18						
5.0	Probe 1 1/2" I.D. solid type sampler 5.0 to 8.6 ft. Refusal-100 blows no penetration.	Brown, compact, silty, gravelly, SAND (SM), damp TILL	112						
			109						
			126						
			80						
			98						
			147						
8.6	Bottom of explorations at refusal.		167				S-2	5.0 to 8.6	

REMARKS: Penetration by 30" fall of 140 lb. drive hammer.

GROUND WATER READINGS:

4-27-77 at 10:25 AM--Water at 8.5 ft.

4-28-77 at 2:25 PM--Water at 8.2 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY:

J. F. Walsh

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

SUBJECT: STP Additions

LOCATION: Dover, N. H.

Boring No. A-9

Started: 11-19-76

Completed: 11-19-76

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	blows/ft. casing
1.0	Drove 1½" I.D. X 5 ft. solid type sampler 0.0 to 5.0 ft.	Dark brown, sandy, Topsoil	14			
5.0	Drove EX FC casing to 5' and washed out.	Brown, loose, slightly silty, fine and medium SAND (SU - SP), moist to wet	13	S-1	5.0 to 7.0	
			8			
			9			
			11			
7.0	Drove 1½" I.D. X 2 ft. split type sampler 5.0 to 7.0 ft.		3			
10.0	Advanced casing to 10' and washed out.		4			8
						9
12.0	Drove 1½" I.D. X 5 ft. split type sampler 10.0 to 12.0 ft.	color to gray at 11.2'± with trace of organics	3	S-2	10.0 to 12.0	13
14.0	Advanced casing to 15' and washed out.		6			
						15
15.0		Gray, loose, gravelly, SAND (SP), wet				26
16.0	Drove 1½" I.D. X 2 ft. split type sampler 15.0 to 17.0 ft.	(see page 2)	11	S-3	15.0 to 16.0	
17.0			3	S-4	16.0 to 17.0	

REMARKS: Penetration of samplers by 30" fall of 140 lb. drive hammer, and of casing by 18" fall of 300 lb. drive hammer. blows = weight of hammer

GROUND WATER READINGS:

60 minutes after completion: water @ 17.0 ft.
11-22-76 - 11:00 AM - water @ 4.9 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY: *R. Adams*

FIELD REPORT TEST BORING

2.

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: STP Additions

LOCATION: Dover, N. H.

Boring No. A-9

Started:

Completed:

Driller:

blows/

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	blows/casings XXXX XXXX	
7.0							
	Advanced casing to 20' and washed out.	Gray, soft, CLAY (CL), wet		S-5	20.0 to 22.0	17	
							16
0.0							15
	Drove 1½" I.D. X 2 ft. split type sampler 20.0 to 22.0 ft.		0				
			0				
2.0					S-6	25.0 to 27.0	20
	Advanced casing to 25' and cleaned out.						18
							18
5.0					S-7	30.0 to 35.0	
	Drove 1½" I.D. X 2 ft. split type sampler 25.0 to 27.0 ft.		0				
		0					
7.0						21	
	Advanced casing to 30' and washed out.					21	
10.0						20	
	Drove 1½" I.D. X 5 ft. solid type sampler. 30.0 to 35.0 ft.		0				
			0				
			0				
			5				
			6				
35.0	Bottom of Exploration per instructions						

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dover, N. H.

Log No. A-11

Started: 11-18-76

Completed: 11-19-76

Driller: Adams

blows/f

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	casing * * * * * Recovery
1.0	Drove 1½" I.D. X 5 ft. solid type sampler 0.0 to 5.0 ft.	Dark brown, sandy, Topsoil	4			
		Brown, loose, fine SAND (SU), moist to wet	6			
	Drove BX FC casing to 5 ft. and washed out.		8			
			10			
5.0			11			
	Drove 1½" I.D. X 2 ft. split type sampler 5.0 to 7.0 ft.		4	S-1	5.0 to 7.0	
7.0			4			
	Advanced casing to 10' and washed out.	pieces of wood in wash water (bark?)				6
						8
0.0						7
	Drove 1½" I.D. X 5 ft. split type sampler 10.0 to 12.0 ft.		4	S-2	10.0 to 12.0	
2.0			5			
	Advanced casing to 15' and washed out.					13
4.0						10
5.0		Gray, soft, CLAY (CL), wet				8
	Drove 1½" I.D. X 2 ft. split type sampler 15.0 to 17.0 ft.		2/3	S-3	15.0 to 17.0	
7.0			2 1/3			

REMARKS: Penetration of samplers by 30" fall of 140 lb. drive hammer, and of casing by 18" fall of 300 lb. drive hammer.

blows = weight of hammer

GROUND WATER READINGS:

7:30 AM, 11-19-76 csg. @ 30' - Water @ 3.3 ft.
 11:00 AM, 11-22-76 = Water @ 3.0 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITH LABORATORY ANALYSIS.

LOG COMPILED BY: *R.R. Adams*

FIELD REPORT TEST BORING

2..

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

ECT: STP Addition

LOCATION: Dover, N. H.

g No. A-11

Started:

Completed:

Driller:

TH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	blows/casing
.0	Advanced casing to 20' and cleaned out.					4
.0	Drove 1½" I.D. X 2 ft. split type sampler 20.0 to 22.0 ft.		2	S-4	20.0 to 22.0	5
.0	Advanced casing to 25' and cleaned out.		4			4
.0	Drove 1½" I.D. X 2 ft. split type sampler 25.0 to 27.0 ft.		0	S-5	25.0 to 27.0	12
.0	Advanced casing to 30' and washed out.		3			10
.0	Drove 1½" I.D. X 5 ft. solid ltype sampler 30.0 to 35.0 ft.		4	S-6	30.0 to 35.0	11
			5			11
		slightly sandy with some gravel in Clay 33 to 35'	5			10
			40			
.0	Bottom of Exploration per instructions		28			

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.

CHARLESTOWN, N. H.

PROJECT: Dover STP Additions

LOCATION: Dover, N.H.

Boring No. D-1

Started: 5-10-78

Completed: 5-10-78

Driller: Holmes

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
5.0	Drove 1 1/2" I.D. solid type sampler 0.0 to 5.0 ft. Cleaned out to 5.0 ft. with 3" flite augers.	Brown, stiff, CLAY, (CL), moist.	3	S-1	0.0 to 5.0	
			13			
			33			
			46			
7.0	Drove 1 1/2" I.D. split type sampler 5.0 to 7.0 ft. Cleaned out to 10.0 ft. with 3" flite augers.		55	S-2		
			15			
			17			
10.0						
12.0	Drove 1 1/2" I.D. split type sampler, 1st 0.8 ft. gray clay.	Gray, CLAY (CL), moist	6	S-3		
			23			
15.0	Cleaned out 3" flite augers	Gray, loose, clayey, gravelly, SAND (SP&SC), moist.				
17.0	Drove 1 1/2" I.D. split type sampler 15.0 to 17.0 3" flite augers		18	S-4		
			23			
20.0						
22.0	Drove 1 1/2" I.D. split type sampler 20.0 to 25.0 3" flite augers		18			
			12			
25.0						
30.0	Drove 1 1/2" I.D. solid type sampler 25.0 to 30.0 ft.	Loose grading to compact	18			
			45			
			85			
			106			
			88			
	Bottom of exploration depth considered sufficient per phone with T. Grumbling.					

REMARKS:.....

GROUND WATER READINGS:

5-10-78--4:25 PM

Water at 5.8 ft.

5-11-78--7:25 AM

Water at 5.1 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY: *J. Y. Walsh*

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dover, N.H.

Boring No. D-2

Started: 5-23-78

Completed: 5-24-78

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
5.0	Drove 5.0 fti solid type sampler from 0.0 to 5.0 ft. Advanced hole to 5.0 ft. with 3" flite augers	Grayish brown, compact, CLAY, mottled, moist.	8	S-1	0.0 to 13.5	
			17			
			36			
			43			
			52			
7.0	Drove 1 1/2" I.D. split type sampler 5.0 to 7.0 ft.		14	S-2		
			23			
10.0	Advanced hole to 10.0 ft. with 3" flite augers.					
12.0	Drove 1 1/2" I.D. split type sampler from 10.0 to 12.0 ft.		13	S-3		
			19			
15.0	Advanced hole from 10.0 to 15.0 ft. with 3" flite augers.	Brownish gray, soft, CLAY, wet.		S-4	13.5 to 19.0	
			3			
			4			

REMARKS:.....

GROUND WATER READINGS:

5-24-78--7:30 AM--Water at 9.6 ft.

5-24-78--5:00 PM--Water at 9.8 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY: J. F. Water

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

OBJECT: STP Additions

LOCATION: Dover, N.H.

Boring No. D-2

Started: 5-23-78

Completed: 5-24-78

Driller: Holmes

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
17.0	Advanced hole from 15.0 to 20.0 ft. with 3" flite augers	Grayish brown, compact, gravelly, SAND, wet.				
20.0	Drove 1 1/2" I.D. split type sampler from 20.0 to 22.0 ft.		28	S-5	19.0 to 21.0	
22.0		Brownish, gray, compact, clayey, gravelly, SAND, Wet, glacial Till	29	S-6	21.0 to 24.0	
25.0	Advanced hole from 20.0 to 25.0 ft. with 3" flite augers.	Grayish brown, compact, gravelly, silty, SAND, heavy mottling, wet				
27.0	Drove 1 1/2" I.D. split type sampler from 25.0 to 27.0 ft.		34	S-7	24.0 to 33.8	
27.0	Advanced hole from 25.0 to 30.0 with 3" flite augers.	45				
30.0			45	S-8		
30.0	Drove 1 1/2" I.D. split type sampler from 30.0 to 32.0 ft.		57			
32.0	Advanced hole from 30.0 to 35.0 ft. with 3" flite augers.					
35.0			43	S-9		
37.0	Drove 1 1/2" I.D. split type sampler from 35.0 to 37.0 ft.		61			
38.0	Refusal to augers at 38.0 ft.					
38.0	100 blows, 140 lb. hammer, no penetration.					

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.

CHARLESTOWN, N. H.

PROJECT: Dover STP Additions

LOCATION: Dover, N.H.

Boring No. D-4

Started: 5-11-78

Completed: 5-11-78

Driller: Holmes

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
5.0	Drove 1 1/2" I.D. solid type sampler 0.0 to 5.0 ft. Advanced hole with 3" flite augers.	Gravel and sand Fill Brown, stiff, CLAY (UL), moist	8			
			14			
			74			
			17			
			15			
7.0	Drove 1 1/2" I.D. split type sampler 5.0 to 7.0 ft. 3" flite augers	Gray, soft, CLAY (CI), wet	2	S-1	5.0 to 10.0	
			2			
10.0	Drove 1 1/2" I.D. split type sampler 10.0 to 12.0 ft.	Grayish brown, soft CLAY (CL), wet, bedded with thin sand layers.	12	S-2	10.0 to 11.0	
			45			
2.0	3" flite augers. Refusal at augers	Brown, loose, clayey, gravelly, SAND, wet.		S-3	11.0 to 13.7	
3.7	Tried to drive 1 1/2" I.D. solid type sampler. 100 blows--no penetration. Bottom of exploration at refusal.					

REMARKS:.....

GROUND WATER READINGS:

5-11-78--12:37

Water at 2.7 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY: *J. F. Wash*

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.

CHARLESTOWN, N. H.

PROJECT: STP Additions LOCATION: Dover, N.H.

Boring No. D-5 Started: 6-6-78 Completed: 6-6-78 Driller: Holmes

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
5.0	Drove 1 1/2", 5 ft. solid type sampler 0.0 to 5.0 ft. Advanced hole from 0.0 to 5.0 with 3" flite augers.	Brownish gray, soft, CLAY, wet.	2	S-1	0.0 to 6.4	
			3			
			4			
			5			
			5			
7.0	Drove 1 1/2" I.D. split type sampler 5.0 to 7.0 ft.	Grayish brow, soft, CLAY, heavy mottling, wet. (Transition to Glacial Till below)	3	S-2	4.4 to 9.1	
9.1	Advanced hole from 5.0 to 9.1 ft. Refusal to augers. 100 blows with 140 lb. drive hammer, no penetration.		5	S-3		
	Bottom of exploration at refusal.	Brown Till from about 7.1 ft. to 9.1 ft.				

REMARKS:.....

GROUND WATER READINGS:
 6-6-78--3:30 PM Water at 3.0 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY: *J. Y. Walsh*

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dover, N.H.

Boring No. D-6

Started: 5-22-78

Completed: 5-23-78

Driller: Holmes

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
5.0	Drove 1 1/2" I.D. solid type sampler 0.0 to 5.0 ft. Advanced hole to 5.0 ft. with 3" flite augers.	Brown, loose, gravelly SAND, Random Fill	6			
			16			
			17			
			17			
			23			
7.0	Drove 1 1/2" I.D. split type sampler 5.0 to 7.0 ft. Advanced hole to 10.0 ft. with 3" flite augers.	Grayish brown, stiff, CLAY, moist.	16	S-1	0.0 to 5.3	
			30			
12.0	Drove 1 1/2" I.D. split type sampler 10.0 to 12.0 ft. Advanced hole to 15.0 ft. with 3" flite augers.	Grayish brown, compact, gravelly, silty, SAND mottled, wet. Glacial Till	112	S-2	5.3 to 9.0	
			84			
17.0	Drove 1 1/2" I.D. split type sampler from 15.0 to 17.0 ft. Advanced hole to 20.0 ft. with 3" flite augers.		35	S-3	9.0 to 20.3	
			55			
20.3	Drove solid type sampler to 20.3 ft. 100 blows-no penetration.					

REMARKS:.....

GROUND WATER READINGS:

5-23-78--7:15 AM Water at 4.1 ft.

5-23-78--4:30 PM Water at 4.2 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY: J. Y. Walsh

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c.p.g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dover, N.H.

Boring No. D-7

Started: 5-11-78

Completed: 5-19-78

Driller: Adams

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
5.0	Drove 1 1/2" I.D. solid type sampler 0.0 to 5.0 ft. Advanced hole with 3" flite augers	Random sandy fill	3	S-1	0.0 to 7.0	
			5			
			5			
			6			
			18			
7.0	Drove 1 1/2" I.D. split type sampler 5.0 to 7.0 ft.		20			
			23			
10.0	Advanced with flite augers.	Grayish brown, soft, SAND, wet.				
12.0	Drove 1 1/2" I.D. split type sampler 10.0 to 12.0 ft. Lost sample coming out of hole.		2			
			6			
15.0	Drove 1 1/2" I.D. solid type sampler 12.0 to 15.0 ft. Advanced with flite augers.	Brownish gray, soft, gravelly SAND, wet.	9	S-2	7.0 to 14.0	
			9			
			25			
15.0	Drove 1 1/2" I.D. split type sampler 15.0 to 17.0 ft.	Brownish gray, soft, CLAY, mottled, wet.	12	S-3	14.0 to 16.0	

REMARKS:.....

GROUND WATER READINGS:

3:30 PM-Water at 8.4 ft.
 5-18-78--7:45 AM-Water at 8.5 ft.
 5-19-78--7:30 AM-Water at 7.9 ft.
 Caved at 12.5 ft.

MATERIALS AND ROCK CLASSIFIED IN FIELD WITHOUT LABORATORY ANALYSIS.

LOG COMPILED BY: J. F. Walsh

FIELD REPORT TEST BORING

GRANITE STATE EXPLORATIONS

RODNEY R. ADAMS, c. p. g.

CHARLESTOWN, N. H.

PROJECT: STP Additions

LOCATION: Dover, N.H.

Boring No. D-7

Started: 5-11-78

Completed: 5-19-78

Driller: Holmes

DEPTH	OPERATIONS	MATERIALS CLASSIFICATION	Blows Per Ft. Spoon	Sample No.	Sample Range	% Core Recovery
7.0	Advanced hole from 17.0 to 20.0 with 3" flite augers		20	S-4	16.0 to 21.0	
20.0	Drove 1 1/2" I.D. split type sampler 20.0 to 22.0 ft.	Gray, soft, gravelly, clayey, SAND, mottled, wet.	18	S-5	21.0 to 26.0	
22.0	22.0 ft. to 25.0 ft. with flite augers.		65			
25.0	Drove 1 1/2" I.D. split type sampler 25.0 to 27.0 ft.	Grayish brown, compact, clayey, gravelly, SAND, mottled, wet. Glacial Till	20	S-6	26.0 to 50.0	
27.0	27.0 to 30.0 with flite augers		23			
30.0	Drove 1 1/2" I.D. split type sampler 30.0 to 32.0 ft.		18			
32.0	32.0 to 36.0 with flite augers.		22			
36.0	Drove 1 1/2" I.D. solid type sampler 36.0 to 41.0 ft.		26			