982

RELATED CORRESPONDENCE

LEGAL DEPARTMENT

Consumers Power Company

Lawrence B Lindemer
Vice President and General Counsel

Judd L Bacon
Allen B Bass
O K Petersen
William E Wisner
Managing Attorneys

Robert J Byers
Howard E Clark
Besondy E Hagen
David A Mikelonis
Senior Attorneys

David E Barth
Francis X Berkemeier
J E Brunner
Julie A Canham-Rogers
H Richard Chambers
Charles D Dawson
James W Dempsey
John P Dickey
Catherine M Gleeson
George F Hill
Laurence H Horiszny
Susan Kirk
Wayne A Kirkby
Frank R Knox
James W Koessler
Frederic A Lubkin
Craig A Marks
Albert D McCallum
Paula H Mills
Robert M Neustifter
Vincent P Provenzano
David R Rood
Gregory A Sando
Jack D Shumate
A T Sidrys
Dennis L Viglione
Theodore J Vogel
Michael G Wilson
Attorneys

DOCKETED
USNRC

'84 MAY -3 A10:02

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

General Offices: 212 West Michigan Avenue, Jackson, MI 49201 • (517) 788-0550
Writer's Direct Dial Number • (517) 788-1257

April 30, 1984

Dr. Frederick P. Cowan
Atomic Safety & Licensing
Board Panel
6152 N. Verde Trail
Apt. B-125
Boca Raton, FL 33433

DOCKET NUMBER
PROD & UTIL FAC. 50-329 OL/OM
50-330 OL/OM

Mr. Charles Bechhoefer, Esq.
Atomic Safety & Licensing
Board Panel
U.S. Nuclear Regulatory Commission
East-West Towers
Room E-413
4350 East-West Highway
Bethesda, MD 20014

Dr. Jerry Harbour
Atomic Safety & Licensing
Board Panel
U.S. Nuclear Regulatory Commission
East-West Towers
Room E-454
4350 East-West Highway
Bethesda, MD 20014

Gentlemen:

Consumers Power Company has become aware of apparent discrepancies in records of several borings made during the 1977 investigation of the settlement of the administration building at Midland. I have attached copies of records illustrating the differences. The documents attached have previously been provided or made available to the parties either in the soils hearings or by inclusion in responses to questions under 10 CFR 50.54(f) or in the FSAR. At least two of the boring records in question were introduced into evidence by Mrs. Stamiris in the soils proceedings in 1981. (Stamiris Ex. 27, identified at Tr. 4290, introduced August 13, 1981 at Tr. 4339 and Stamiris Ex. 19, ID at Tr. 3437, introduced August 13, 1981 at Tr. 4339)

D503

The apparent discrepancies in each instance relate to a parameter used in the "standard penetration test." The Board may recall that the standard penetration test is carried out by driving a sampler into the ground with known force and counting the number of blows needed to penetrate a pre-determined distance in the soil. The number of blows is referred to as the "blow count," which provides an indication of the density of the soil. A force is administered to the sampler by dropping a weight attached to the boring mechanism from a specified height, referred to in the boring records as the "fall." (See the space designated "sample hammer weight/fall" five boxes down on left of boring records.) Some of the versions of the boring records show a fall of 18 inches; others show a fall of 30 inches. I am advised that the applicable ASTM specification would call for a fall of 30 inches.

The Company has reached no conclusions as to the cause or significance, if any, of the differences in the records, and the matter is under investigation.

Very truly yours,

James E. Brunner

CC OL/OM Service List

Revised 4/25/84

OM/OL SERVICE LIST

Mr. Frank J. Kelley, Esq.
Attorney General of the
State of Michigan
Ms. Carole Steinberg, Esq.
Assistant Attorney General
Environmental Protection Div.
720 Law Building
Lansing, MI 48913

Mr. Myron M. Cherry, Esq.
Cherry & Flynn
3 First National Plaza
Suite 3700
Chicago, IL 60602

Mr. Wendell H. Marshall
4625 S. Saginaw Road
Midland, MI 48640

Mr. Charles Bechhoefer, Esq.
Atomic Safety & Licensing
Board Panel
U.S. Nuclear Regulatory Commission
East-West Towers
Room E-413
4350 East-West Highway
Bethesda, MD 20014

Dr. Frederick P. Cowan
Atomic Safety & Licensing
Board Panel
6152 N. Verde Trail
Apt. B-125
Boca Raton, FL 33433

Mr. Michael Miller, Esq.
Isham, Lincoln & Beale
3 First National Plaza
Suite 5200
Chicago, IL 60602

Mr. D. F. Judd
Senior Project Manager
The Babcock & Wilcox Company
P.O. Box 1260
Lynchburg, VA 24505

Mr. Steve Gadler
2120 Carter Avenue
St. Paul, MN 55108

Atomic Safety & Licensing
Appeal Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Mr. William Clements (2)
Docketing & Services
U.S. Nuclear Regulatory Commission
Office of the Secretary
Washington, DC 20555

Ms. Mary Sinclair
5711 Summerset Street
Midland, MI 48640

Dr. Jerry Harbour
Atomic Safety & Licensing
Board Panel
U.S. Nuclear Regulatory Commission
East-West Towers
Room E-454
4350 East-West Highway
Bethesda, MD 20014

Atomic Safety & Licensing
Board Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Mr. William D. Paton, Esq.
Counsel for the NRC Staff
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Mr. Frederick C. Williams
Isham, Lincoln & Beale
1120 Connecticut Ave., N.W.
Suite 325
Washington, DC 20036

Ms. Barbara Stamiris
5795 North River Road
Route 3
Freeland, MI 48623

Ms. Lynne Bernabei
Government Accountability
Project of the Institute
for Policy Studies
1901 Q Street, N.W.
Washington, DC 20009

Mr. John DeMeester, Esq.
Dow Chemical Building
Michigan Division
Midland, MI 48640

Mr. James E. Brunner, Esq.
Consumers Power Company
212 West Michigan Avenue
Jackson, MI 49201

Mr. P. Robert Brown, Jr.
Clark, Klein & Beaumont
1600 First Federal Building
1001 Woodward Avenue
Detroit, MI 48226

BORING LOG

MIDLAND POWER PLANT | 7220-101 | 1 of 1 | D

SITE	COORDINATES		ANGLE FROM HORIZ	BEARING
Diesel Generator Building	S 5186	E305	90°	N.A.

BEGUN	COMPLETED	DRILLED	DRILL MAKE AND MODEL	HOLE SIZE	OVERBURDEN (FT.)	ROCK (FT.)	TOTAL DEPTH
9/29/77	9/30/77	Singleton (Abel Drilling)	CME-550	5"	N.A.	N.A.	31.5'

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	EL. TOP OF CASING	GROUND EL.	DEPTH/EL. GROUND WATER	DEPTH/EL. TOP OF ROCK
N.A.	N.A.	12	N.A.	629.4	See notes	N.A.

SAMPLE HAMMER WEIGHT/FALL	CASING LEFT IN HOLE: DIA./LENGTH	LOGGED BY:
140 lb/30 in.	None	Jerry B. Givens

SAMPLE TYPE AND DIAMETER	SAMPLER ADVANCE/CORE RUN	SAMPLE RECOVERY/CORE RECOVERY	SAMPLE BLOWS "N" / PERCENT CORE RECOVERY	PENETRATION BLOWS 1st 6"	2nd 6"	3rd 6"	ELEVATION	DEPTH	GRAPHIC LOG	SAMPLE	DESCRIPTION AND CLASSIFICATION	NOTES ON WATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, ETC.
							629.4	0				5" auger to 20.5', set casing, began drilling with 4" tricone roller bit and recirculating water.
											0-4.5' Silty to sandy Clay, gray, slight to low plasticity, (CL)(Fill)	
SS	1.5'	0.9'	21	17	10	11	624.9	4.5		1	4.5-7.4' Sand, tan, medium dense, slightly moist (Fill) (SP)	
SS	1.4	1.4'	34+	10	10	24/4	622.0	7.4		2		
SS	1.5'	0.8'	16	5	5	11	621.4	8		3	7.4-8' Concrete mudmat	
								10			8-25.5' Silty to sandy Clay, gray, little gravel, low moist. low plasticity, very stiff to hard (CL) (Fill)	Op 1 = 4 TSF Op 2 = (sand) Op 3 = sample breaks up at 3.5 TSF
SS	1.5'	0.5'	31	16	17	14				4		Op 4 = 4.5+ TSF Op 5 = sample crumbles, low moisture
SS	1.5'	0.6'	26	10	10	16		15		5		Op 6 = 4.5 TSF Op 7 = 4.5 TSF
SS	1.5'	0.9'	47	10	22	25				6		Op 8 = 4.5+ TSF
SS	1.5'	1.2'	65	15	25	36				7		
SS	1.5'	1.0'	57	16	25	32		20		8		
SS	1.5'	1.0'	58	20	33	25				9	23-24.2' Seam of clayey Sand, with trace organics, grayish brown	Op 9 (tip) = 4.5+ TSF
							603.9	25				
SS	1.5'	0.9'	107	30	44	63		25.5		10	24.2' Tan, medium sand seam, low moist.	Op 10 (sand) Op 11 (sand)
SS	1.5'	0.6'	113	38	45	64				11	25.5-31.5' Silty Sand, brown, medium grained, wet, very dense (SM)	
SS	1.0'	0.8'	102+	44	102		597.9	30 31.5		12		Hole caving in at 22' so used 3/4 bag quick gel
											Bottom of boring at 31.5'	Water level at 10.4' after drilling.
												Hole backfilled with soil after completion.

SS = SPLIT SPOON ST = SHELBY TUBE
D = DENNISON P = PITCHER O = OTHER

SITE: Diesel Generator Building

HOLE NO. D

Revision 13
6/82

BORING LOG

PROJECT	JOB NO.	SHEET NO.	HOLE NO.
MIDLAND NUCLEAR PLANT	7220	1 of 1	D

SITE	COORDINATES	ANGLE FROM HORIZ.	BEARING
DIESEL GENERATOR BLDG.	S. 5156 E. 305	90°	—

GROUND	COMPLETED	DRILLER	DRILL MAKE AND MODEL	HOLE DIA.	OVERBURDEN (FT.)	ROCK (FT.)	TOTAL DEPTH
9/29/77	9/30/77	SINGLETON (NIBEL DRILL.)	CME-550	5"	—	—	31.5'

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	EL. TOP OF CASING	GROUND EL.	DEPTH/EL. GROUND WATER	DEPTH/EL. TOP OF ROCK
—	—	12	—	629.4	(SEE NOTES COL.)	—

SAMPLE HAMMER WEIGHT/FALL	CASING LEFT IN HOLE: DIA./LENGTH	LOGGED BY
140 #/18"	NONE	JERRY B. GIVENS

SAMPLE NUMBER & TYPE	SAMPLE RECOVERY	PENETRATION BLOWS (1st 6")	PENETRATION BLOWS (2nd 6")	PENETRATION BLOWS (3rd 6")	ELEVATION	DEPTH	GRAPHIC LOG	SAMPLE	DESCRIPTION AND CLASSIFICATION	NOTES ON: WATER LEVELS, WATER RETURNS, CHARACTER OF DRILLING, ETC.
					629.4					
									0'-2.5' SILTY TO SANDY CLAY, GREY, SLIGHT TO LOW PLASTICITY (CL)	5" AUGER TO 22.5', 3" CASING, BEGAN DRILLING WITH 4" TRI-CONE ROLLER BIT AND RECIRCULATING WATER
2	1.5'	0.9'	21	17	10	11	629.9	1		
									4.5'-7.4' SAND, TAN, MEDIUM DENSE, SLIGHTLY MOIST (BACKFILL) (SP)	
3	2.4'	1.4'	34	10	10	24	627	2		
4	1.5'	0.8'	16	5	5	11	621.4	3	8'-25.5' SILTY TO SANDY CLAY, GREY, LITTLE GRAVEL, LOW MOIST., LOW PLASTICITY, VERY STIFF TO HARD (CL)	Qp #1 = 4 TSF
5	1.5'	0.5'	31	16	17	14		4		Qp #2 = (SAND)
6	1.5'	0.6'	26	10	10	16		5		Qp #3 = SAMPLE CRACKS UP AT 3.5 TSF
7	1.5'	0.8'	47	10	22	25		6		Qp #4 = 4.5+ TSF
8	1.5'	1.2'	65	15	29	36		7		Qp #5 = SAMPLE CRUMBLES, LOW MOISTURE
9	1.5'	1.0'	57	16	25	32		8		Qp #6 = 4.5 TSF
10	1.5'	1.0'	50	20	33	25		9	23'-24.1' SEAM OF CLAYEY SAND W/ TRACE ORGANICS, GREYISH BRWN.	Qp #7 = 4.5 TSF
11	1.5'	1.0'	107	30	44	63	603.9	10	24.1' TAN MEDIUM SAND 3.5" THICK LENSE	Qp #8 = 4.5 TSF
12	1.5'	0.6'	113	35	49	64		11	25.5'-31.5' SILTY SAND, BROWN, MEDIUM GRAINED, WET, VERY DENSE (SM)	Qp #9 (TIP) = 4.5 TSF
13	1.0'	0.7'	102+	—	132	=	597.9			Qp #10 (SAND)
									TOTAL DEPTH = 31.5' EL. BOTTOM = 597.9	Qp #11 (SAND)
										HOLE CAVING @ 23' SO USED 3/4 BAG QUICK GEL
										WATER LEVEL AT 10.4 AFTER DRILLING
										HOLE BACKFILLED WITH SOIL AFTER COMPLETION

0033

95316874

SS = SPLIT SPOON; ST = SHELBY TUBE; B = BOOMHOUR; P = PITCHER; O = OTHER

SITE	HOLE NO.
DIESEL GENERATOR BLDG.	D

BORING LOG

Project	Midland Power Plant
Job No.	7220-101
Sheet No.	1 of 1
Hole No.	D
Site	Diesel Generator Building
Coordinates	S 5180 E 005
Angle from horiz.	90°
Begun	9/29/77
Completed	9/30/77
Driller	Singleton (Apel [illegible])
Drill make and model	CME-55?
Hole size	5"
Total depth	31.5'
Samples	11
Ground El.	629.4
Ground water	See notes
Sample hammer weight/fall	140 lb. / 18 inches
Casing left in hole	None
Logged by	Jerry D. Givens

Sample type	Sample advance*	Sample recovery*	Blows	1st 6"	2nd 6"	3rd 6"
SS	1.5	0.9	21	17	10	11
SS	1.4	1.4	34+	10	10	24/4
SS	1.5	0.8	16	5	5	11
SS	1.5	0.5	31	16	17	14
SS	1.5	0.6	26	10	10	16
SS	1.5	0.9	47	20	22	25
SS	1.5	1.2	65	15	29	36
SS	1.5	1.0	37	16	25	[illegible]
SS	1.5	1.0	56	20	31	25
SS	1.5	0.9	107	30	44	63
SS	1.5	0.6	113	38	49	64
SS	1.0	0.8	100+	44	100	

* In Feet

Elevation	Depth	Sample	Description and Classification	Notes
629.4	0		0-4.5' Silty to sandy Clay, grey, slight to low plasticity, (CL)(Fill)	5" auger to 20.[illegible] set casing, begin filling with 4[illegible] tricone roller bit and recirculating water.
624.9	4.5	1, 2	4.5-7.4' Sand, tan, medium dense, slightly moist (Fill) (SP)	
622.0	7.4		7.4-8' Concrete rubble	
621.4	8	3–9	8-25.5' Silty to sandy Clay, grey, little gravel, low moist. low plasticity, very stiff to hard (CL) (Fill)	Qp 1 = 4 TSF Qp 2 = (sand) Qp 3 = sample breaks up at 3.[illegible] TSF Qp 4 = 4.5+ TSF Qp 5 = sample crumbles, low moisture Qp 6 = 4.5 TSF Qp 7 = 4.5 TSF Qp 8 = 4.5+ TSF Qp 9 (tip) = 4.5+ TSF Qp 10 (sand) Qp 11 (sand)
			23-24.2' Seam of clayey Sand, with trace organics, grayish brown 24.2' Tan, medium sand seam, low moist.	
603.9	25.5	10, 11	25.5-31.5' Silty Sand, brown, medium grained, wet, very dense (SM)	Hole caving in at 23' so used 3/4 bag quick g[illegible]
597.9	31.5		Total depth = 31.5' El. Bottom = 597.9	Water level at 10.4' after drilling. Hole backfilled with soil after completion.

SS = Split spoon; ST = Shelby tube; ... = Other

Site: Diesel Generator Building — Hole No. D

2A-210-104

Revision 18
2/79

95316530

BORING LOG

Project	Job No.	Sheet No.	Hole No.
MIDLAND POWER PLANT	7220-10[illegible]	1 of 1	E

Site	Coordinates	Angle from horiz.	Bearing
Evaporator & Auxiliary Bldg.	At Footing E-C;	90°	

Begun	Completed	Driller	Drill make and model	Hole size	Overburden	Rock	Total depth
9/29/77	9/29/77	Singleton (Coal Drilling)	CME-55C	5"			36.5'

Core recovery	Core boxes	Samples	El. top of casing	Ground el.	Depth/el. ground water	Depth/el. top of rock
		14		631.0	See Notes	

Sample hammer weight/fall	Casing left in hole: dia./length	Logged by
140 lb/30 inches	None	J. R. Givens

Sample type				Penetration blows			Elevation	Depth	Sample
							631.0	0	
							629.5	3.5	
SS	18	8	30	15	19	11	628.5	4.5	1
SS	18	13	23	12	11	12			2
SS	18	18	33	10	15	18	623.5	9.5	3
SS	18	18	30	10	15	15	621.0	12	4
SS	18	18	58	10	21	37	617.5	15.5	5
SS	18	18	56	13	24	32	615.0	18	6
							614.0	19	
SS	18	12	32	10	15	17	612.5	20.5	7
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					8
SS	18	12	29	11	14	15	608.5	24.5	9
SS	18	12	43	10	21	22	607.0	26	10
SS	18	12	59	15	24	35	605.0	28	11
SS	18	18	58	12	13	45			12
SS	18	12	88+	62	88		600.0	33	13
SS	12	12	81+	42	81		596.5	36.5	14

Description and Classification

0-3.5' Silty Sand, tan (Fill) (SP/SM)

3.5-4.5' Concrete mudmat

4.5-9.5' Clayey Sand to sandy Clay, gray, very stiff, slight to low plasticity, slight moisture (SC/CL) (Fill)

9.5-12.0' Clayey Silt, brown, peb pebbles to 1/2", rust stain, low moisture, low plasticity (ML)(Fill)

12.0-15.5' Silty Clay, brown with trace gray, low plasticity, low moisture, pebbles to 1/8", hard (CL)

15.5-18.0' Sand, gray, medium (Fill) grained, moist, trace silt, very dense (SP) (Fill)

18.0-19.0' Brown sandy Clay, with seams sand (CL) (Fill)

19.0-20.5' Gray Sand, dense (SP) (Fill)

20.5-24.5' Silty Clay, brown with reddish tint, very stiff (CL)

22.0' Brown (reddish tint gone)(Fill)

24.5-26.0' Sandy Clay to clayey Sand, with seams of sand, stones to 1 inch (Fill)

26.0-28.0' Silty Sand, dark gray, dense, trace to little organics (SM) (Fill)

28.0-31.5' Silty Clay, brown, hard (CL) (Fill)

29.5' Sand seam

31.5-33.0' Sandy Clay, brown, hard, (CL) tan sand, seam at 32.0'

33.0-36.5' Fine to medium Sand, brown, very dense, trace clay, low moisture (SP)

Total Depth 36.5'

Elevation Bottom 596.5

Notes

5" auger to 6.5'
Drilling with 4" tricone and recirculating water
Qp1=4.5- TSF
Qp2=4.5+ TSF
Qp3=4.5- TSF
Qp4=4.5+ TSF
Qp5 (none-sand)
Qp6=4.5+ TSF
Qp7=4.5+ TSF
Qp8=4 TSF
Qp9=4.5+ TSF
#8 Had problems with "donut" rubbing on rod when pounding. Told driller to stop and repair. After #8 redrove casing to 21.0' because water was rushing up sides and out hole.
Qp10 (sand)
Qp11=4.5+ TSF
Qp12 (sand)
Qp13 (sand)
Qp14 (sand)
Water at 5.4' while drilling
water level at 5.1' after drilling.

95316529

Site	Hole No.
Evaporator and Auxiliary Boiler Building	E

Stamins 27 ~~Inf~~.

BORING LOG

PROJECT: MIDLAND NUCLEAR PLANT	JOB NO. 7220	BORING NO. 1-1	SHEET NO.	HOLE NO. E
LOCATION: EVAPORATOR AND AUX. BOILER	AT FOOTING B-CA		HOLE FROM VERTICAL: 90°	DIRECTION: —
DATE: 5/22-27 9/20-27	COMPLETED DRILLING: SINGLETON (PSEL SPL)	DRILL MAKE AND MODEL: CME-55D	HOLE SIZE: 5"	HOLE INCLINATION: —
HOLE ELEVATION: —	CASING DIAMETER: —	CASING DEPTH: 14	DEPTH TO TOP OF CASING: —	GROUND EL. 653
DEPTH TO FIRST WATER: —	DEPTH CASED: —	DEPTH TO TOP OF ROCK: —	ESSENTIAL GROUND WATER: (SEE NOTES COL.)	TOTAL DEPTH: 36.5'
HAMMER WEIGHT AND DROP: 140#/18"	CASING LEFT IN HOLE: NONE	LOGGED BY: JERRY B. GIVENS		

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE RECOVERY	PENETRATION BLOWS 1ST 6"	2ND 6"	3RD 6"	ELEVATION	DEPTH	GRAPHIC LOG	SAMPLES	DESCRIPTION AND CLASSIFICATION	NOTES ON WATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, ETC.
						653					5" AUGER TO 2.5, DRILLING W/ TRI-CONE AND RE CIRCULATING MATE
										0'-3.5' SILTY SAND, TAN (BACKFILL) (SP/SM)	#1 Qp = 4.5+ TSF
						649.5				3.5'-5' CONCRETE (DONUT)	#2 Qp = 4.5+ TSF
S-1	1.5'	0.7'	30	15	19	11	649.5	4.5	1	5'-9.5' CLAYEY SAND TO SANDY CLAY, GREY, VERY STIFF, SLIGHT TO LOW PLASTICITY, SLIGHT MOISTURE (SC/CL)	#3 Qp = 4.5+ TSF
S-2	1.5'	1.1'	23	12	11	12			2		#4 Qp = 4.5+ TSF
S-3	1.5'	1.5'	33	10	15	16	643.5	9.5	3	9.5'-12' CLAYEY SILT, BROWN, PEBBLES TO 1/2", RUST STAIN, L. MOIST, L. PLAST. (CL)	#5 Qp = 4.5+ TS
S-4	1.5'	1.5'	30	10	15	15	641		4	12'-15.5' SILTY CLAY, BROWN W. TRACE GREY, LOW PLASTICITY, LOW MOISTURE, PEBBLES TO 1/2", HARD (CL)	#6 Qp = (NONE-SAN
S-5	1.5'	1.5'	58	10	21	37	637.5	15.5	5	15.5'-18' SAND, GREY, MEDIUM GRAINED, MOIST TR. SILT, VERY DENSE (SP)	#7 Qp = 4.5+ TSF
S-6	1.5'	1.5'	56	13	24	32	635	18	6	18'-19' SAND, GREY, SILTY W/ SILTY SAND (SM)	#8 Qp = 4 TSF
S-7	1.5'	1.0'	52	10	15	17	634	19	7	19'-22.5' GREY SAND, DENSE (SP)	#9 Qp = 4.5+ TSF
						632.5	22.5			22.5'-24.5' SILTY CLAY, BROWN W/ TRACE TINT VERY STIFF (CL)	#10 HAD PROBLEM WITH "DONUT"
							24.5			24.5'-27' BROWN (REDDISH TINT GONE)	PUSHING ON RED TIPPED POINDING TOLD DRILLER TO S-3 AND HEAR
S-8	1.5'	1.0'	29	11	14	15	628.5	27	8	27'-28' SANDY CLAY TO CLAYEY SAND W/ TRACE OF GRAVEL, STONES TO 1"	AFTER RE-PE DROVE CASING TO 21' BECAUSE WATER WAS RUNNING UP
S-9	1.5'	1.0'	43	10	21	22	627	28	9	28'-28' SILTY SAND, LOCAL GREY, DENSE, TR. TO LITTLE ORGANICS (SM)	AND OUT HOLE
S-10	1.5'	1.0'	59	15	24	35	625	31.5	10	28'-31.5' SILTY CLAY, BROWN, HARD (CL)	#10 Qp (SAND)
										32.5' SAND SEAM	#11 Qp = 4.5+ TS
S-11	1.5'	1.5'	55	12	13	45	621.5	33	11	31.5'-33' SANDY CLAY, BROWN, HARD (CL)	#12 Qp = (SAND
										33' SAND SEAM = 3"	#13 Qp = (SAND
S-12	.5'	1.0'	55+	62	65	—	620	33.5	12	33'-36.5' FINE TO MED. GRND. SP/SM) VERY DENSE, TRACE CLAY, LOW MOIST. (SP)	#14 Qp = (SAND
S-13	1.0'	1.0'	51+	52	61	—	616.5	36.5	13		WATER AT B. WHILE DRILLIN WATER LEVE AT 5.1' AFTE DRILLING
										TOTAL DEPTH = 36.5'	
										EL BOTTOM = 596.5	

* SPLIT SPOON, ST = SHELBY TUBE; ** DIAMOND; O = OTHER

SITE: EVAPORATOR AND AUX. BOILER BLDG.

HOLE NO. E