

Jan. 1976

FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT
1975 - 890,000 KW INSTALLATION - UNIT NO: 1

COMPACTION PILE
SOIL STABILIZATION
PROGRAM

for

Two: Slopes near Intake Structures

EBASCO SERVICES INCORPORATED
TWO RECTOR STREET
NEW YORK

JANUARY 1976

1810909531

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Compaction Piles.

1. INTRODUCTION

In accordance with Specification FLO 9560.069, compaction piles were driven at the two prescribed locations north and south of the intake structure as indicated on Figure 1. The pile driving, which was subcontracted to Raymond International, began on October 3, 1975 and was completed on November 12, 1975. This report contains the following: a discussion of the goal of the compaction pile program; a description of driving technique with problems encountered; the results of the driving program; and conclusions. The appendix contains driving logs; pertinent drawings and photographs.

A third area, in the Emergency Cooling Water Canal under the barrier wall will undergo a similar program at a later date to be determined.

2. PURPOSE

The intent of the program was insitu densification of the subsurface silty sands below the Class II fill to elevation minus 58 in areas north and south of the intake structure. The material, contested by the NRC staff as being of insufficient density to resist a liquefaction type flow slide failure, was to be densified by soil displacement resulting from the pile driving.

3. DRIVING TECHNIQUE

3.1 Equipment Used

A 518 Linkbelt Crane modified for pile driving was used with a Raymond 04 single acting steam hammer (Photographs 1 and 2). The weight of the hammer ram of 15,000 pounds with a stroke of 39 inches produced a rated energy of 48,750 feet/pounds. The piles used were 18 inches square prestressed concrete piles of lengths varying from 74 feet to 80 feet. Wood cushions (Photograph 3) of 6 inch thickness were used to absorb some of the hammer energy at the pile head reducing the possibility of pile break-up under hard driving and more uniformly transmitting the driving energy to the pile.

3.2 Method

The original intent was to predrill all pile locations with one pass of a wet auger through the compacted backfill stopping at the silty sands below the fill. Compaction piles would then be driven to a minimum tip elevation of minus 58.

For 1st thick layer, soil displacement is
1.5 x 1.5 x 1.0 cft in a 15' x 15' x 1' cft volume of soil
 $\therefore \text{reid. density of soil} = \frac{15 \times 15 \times 8 - 22.75}{15 \times 15 - 1.5 \times 1.5} = \frac{187.25}{22.75} = 1.018$
only 1% increase in density?
See

Driving

In order to establish a working method of driving, Pile 4-1 was set up as a test pile. It was predrilled with one pass of the auger to the bottom of the compacted backfill. Driving was extremely difficult with blow counts reaching as high as 80 blows per foot. When the pile tip reached elevation minus 41, the pile ruptured completely at the head rendering it useless to any further driving (Photograph 4).

A second driving procedure was investigated with Pile 5-2 whereby the hole was predrilled to elevation minus 59 with two auger passes. Again, driving was extremely difficult with blow counts reaching 150 blows per foot after 8 feet of driving. To avoid the risk of permanent damage to this pile, two holes were drilled along the sides of the pile to eliminate some of the skin friction. The pile was then driven to elevation minus 63.4.

A third test pile (Pile 7-2) was set up to investigate the possibility of driving the pile in two sections. The lower section was 40 feet long and penetrated the insitu material. The upper 35 foot long section was used as a follower. This follower section was to be pulled out after the lower section reached its required tip elevation. Due to the excessive time required to set the pile in the splice box and the hard driving encountered which ruptured the splice box, the scheme was abandoned.

The final drilling - driving procedure established was to use one continuous pile satisfying the penetration requirement of elevation minus 58, to drill to a depth of 70 feet with a minimum of three auger passes and to set the pile in the hole and drive immediately.

The quick driving follow-through was to limit as much as possible the amount of sand falling in and filling the hole. The drilling depth elevation varied depending on the ground elevation. In the area north of the intake structure, two working elevations were established. The northernmost piles in this area were driven from a ground elevation of plus 18. These piles were predrilled 70 feet to elevation minus 52. The remaining piles in the area were driven from a working berm of elevation plus 11. These piles were drilled 70 feet to elevation minus 59. The working grade elevation for the area south of the intake structure is plus 15. All piles in this area were predrilled 70 feet to elevation minus 55.

In areas where hard drilling and driving was encountered, the number of auger passes was increased to no more than 5 auger passes. This was to ensure that the pile could be driven through the insitu material without breaking up in the backfill.

Before and after each pile was driven, elevation readings were taken on a plate (Photograph 5) to measure any ground heave.

4. RESULTS

A total of 74 piles were driven, including test piles. Table 1 of Figure 1 indicates lengths and tip elevations for all piles. The reason for the variation in tip elevations is that not all piles were of the same length nor were they all driven from the same elevation. In the area north of the intake structure all piles were 74 feet in length. These piles were already present at the site from previous work. The variation in pile lengths for the area south of the intake was due to the fact that these piles were broken during hard driving since they were recently fabricated and were not properly cured. Consequently, some of these piles broke up under continued heavy driving and had to be cut off below the ruptured portion and redriven when properly cured (Photographs 6, 7 and 8).

Piles 11-10, 12-6, and 13-5 were not driven to the required tip elevation due to pile excessive break-up caused by poor concrete.

Heave readings taken during the entire driving operation indicate that virtually no heave in areas adjacent to the pile driving had occurred. These readings are presented on the driving logs in the appendix.

At the completion of the pile driving Class I backfill was jetted down along the sides of the piles filling any void spaces left by the drilling. This procedure was used to backfill up to the pile cutoff. Backfilling from the cutoff to grade was done with Class I fill using mechanical hand tampers. The entire area was then compacted with several passes of a Raygo vibrating roller.

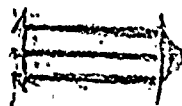
5. CONCLUSIONS

An estimate of the amount of material removed from the hole during the established predrilling procedure was made for one of the 74 foot piles. The estimated volume of material removed as a result of the drilling was 95 cubic feet. The volume of a 74 foot long pile is 167 cubic feet which results in a material displacement of 57 percent of the pile volume. It should be noted that most of the material removed from the hole by drilling came from the upper half of the hole. This is in the compacted fill material. Less material was removed from the insitu material portion of the hole making the compaction effects of the pile more pronounced in the insitu material where densification by material displacement was required by the NRC staff.

In addition, negligible heave readings indicate that all material displaced by the piles went directly into densifying the insitu material and not into increasing the volume of insitu material with no change in density.

The densification of the insitu silty sands through material displacements, in addition to the physical tie the piles provide between compacted fill and insitu material, will provide sufficient stability to the contested areas north and south of the intake structure. This work has increased the density of the insitu materials, thus further enhancing the safety against a straining of the insitu material when subjected to the design seismic loading.

? The completion of this work in these two areas fulfills our commitment to the NRC staff. A final report will be prepared when the compaction piles are driven beneath the barrier wall.



Appendix

EBASCO SERVICES INC.

PILE NO. 4-1

CLIENT DA POWER & LIGHT CO	STRUCTURE NORTH OF INTAKE		CONTRACTOR RAYMOND		HAMMER NO. CC 113	JO NO. 9560.039	DATE 10-3-
	TYPE PRESTRESSED CONCRETE				MAKE AND MODEL RAYMOND 0-0-0-0		
	TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE RATED 39 IN. MEAS. † IN.		
	LENGTH 74 FT. IN.		WEIGHT † LB.		WEIGHT OF RAM 15,000 LB.		
MODEL (IF USED)	DESCRIPTION				WEIGHT LB.		DESCRIPTION (SKETCH ON BACK)
	LENGTH FT. IN.		WEIGHT LB.				
SPECIFICATIONS (IF USED)	DESCRIPTION				WEIGHT LB.		
	LENGTH FT. IN.		WEIGHT LB.		DESCRIPTION (SKETCH ON BACK)		
	ELEV OF CUTOFF		ELEV OF GROUND +5 †		REMARKS		
	ELEV OF TIP -41 †		LG. CUTOFF TO TIP 74 FT. IN.		WET AUGER TO EL -47 STOPPED AT D=45' TO BUILD UP PRESSURE PILE BROKE UP AT D=46' OR EL. -41 GROUND EL. AT PILE LOCATION = EL. -45		

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME							
A.M. 2:20 P.M.				A.M. 3:15 P.M.				55 MIN.							
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40	60	50		60		70	
1	E	11		21		31		41	60	51		61		71	
	I	12		22		32		42	60	52		62		72	
	G	13		23		33		43	60	53		63		73	
	H	14		24		34		44	70	54		64		74	
3	T	15		25		35		45	73	55		65		75	
4	O	16		26		36		46	81	56		66		76	
	F	17		27		37		47	No READING	57		67		77	
5	P	18		28		38		48		58		68		78	
6	L	19		29		39		49		59		69		79	
7	E	20		30		40		50		60		70		80	
8															
9															
10															

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1	2	HEAVE READINGS	
LOCATION #1		PRE DRIVING - FT.	
1	11.03		
2	.07		
3	.03		
4	.07		
4		POST DRIVING - FT.	
1	10.83		
2	.86		
3	.81		
4	.79		

HEAVE - PLATE

PILE INSPECTOR

	Δ - FT
1	-0.20
2	-0.21
3	-0.22
4	-0.23

NOTE:

PLATE WAS PLACED IN A
POOR LOCATION ON END
DUMPED LOOSE MATERIAL
WHICH ACCOUNTS FOR THE
EXCESSIVE SETTLEMENT.

(Δ) INDICATES SETTLEMENT

EBASCO SERVICES INC.

PILE NO. 4-1a

FLORIDA POWER & LIGHT CO. STRUCTURE NORTH OF INTAKE CONTRACTOR RAYMOND PILE NO. 125 TO 130 CC 113 75.0.00 10-10-77

PRESTRESSED CONCRETE

TIP DIAMETER	18 IN.	BUTT DIAMETER	18 IN.
LENGTH	FT. IN.	WEIGHT	LB.

DESCRIPTION	LENGTH	FT.	IN.	WEIGHT	LB.
-------------	--------	-----	-----	--------	-----

DESCRIPTION	LENGTH	FT.	IN.	WEIGHT	LB.
-------------	--------	-----	-----	--------	-----

ELEV OF CUTOFF	+ 5.19	ELEV OF GROUND	+ 5 ±
ELEV OF TIP	- 68.81	LG. CUTOFF TO TIP	74 FT. IN.

HAMMER
STROKE
SPEED 59 IN. PER ST.
WEIGHT OF RAM
15,000 LB
WEIGHT
LB.
DESCRIPTION (SKETCH ON BACK)

RAYMOND 0-0-0-0

STROKE
SPEED 59 IN. PER ST.
WEIGHT OF RAM
15,000 LB

WEIGHT
LB.
DESCRIPTION (SKETCH ON BACK)

LOCATION SHIFTED 3' WEST OF BOREHOLE
PILE 4-1

STARTED DRIVING A.M. 1:05 P.M. FINISHED DRIVING A.M. 1:25 P.M. DRIVING TIME 20 MIN.

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40	18	50	33	60	16	70	17	80	
1	E	11		21		31		41	21	51	31	61	16	71	25	81	
2	G	12		22		32		42	24	52	28	62	18	72	20	82	
3	H	13		23		33		43	26	53	23	63	20	73		83	
4	F	14		24		34		44	26	54	18	64	21	74		84	
5	P	15		25		35		45	26	55	16	65	21	75		85	
6	L	16		26		36		46	26	56	13	66	20	76		86	
7	E	17		27		37		47	27	57	13	67	23	77		87	
8		18		28		38		48	28	58	15	68	35	78		88	
9		19		29		39		49	28	59	16	69	25	79		89	
10		20		30		40		50	28	60	16	70	25	80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES, DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- § JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, FLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

1	2.25
2	2.16
3	2.17
4	2.16

POST DRIVING - FT.

1	2.19
2	2.16
3	2.17
4	2.16

PILE INSPECTOR

Δ - FT

1	- 0.01
2	0.00
3	0.00
4	0.00

(-) INDICATES

LOCATION - 2

HI = 13.12

PRESTRESSED CONCRETE

HEAVE READINGS

PRE DRIVING - FT.

1	3.71
2	3.67
3	3.65
4	3.68

POST DRIVING - FT.

1	3.70
2	3.67
3	3.65
4	3.69

PILE INSPECTOR

Δ - FT

1	-0.01
2	0.00
3	0.00
4	0.00

(-) INDICATES
SETTLEMENT

HI=

LOCATION- 2

EBASCO SERVICES INC.

FILE NO. 4-3

FLORIDA POWER & LIGHT CO. STRUCTURE NORTH OF INTAKE RAYMOND PILE NO. CC 113 10-7-7

PRESTRESSED CONCRETE

TIP DIAMETER 18 IN. BUTT DIAMETER 18 IN.
LENGTH 74 FT. IN. WEIGHT 15,000 LB.

DESCRIPTION
LENGTH FT. IN. WEIGHT LB.

DESCRIPTION
LENGTH FT. IN. WEIGHT LB.
ELEV. OF CUTOFF + 11.55 ELEV. OF GROUND + 11.5
ELEV. OF TIP - 62.5 ± LG. CUTOFF TO TIP 74 FT. IN.

RAYMOND 0-0-0-0

STROKE 39 IN. WEIGHT 15,000 LB.

WEIGHT LB. DESCRIPTION (SKETCH ON BACK)

WET AUGER TO EL. - 62
PRESSURIZED BOILER AT D=56"
GRADE AT PILE LOCATION = + 11.5
PILE TIP AT EL. - 62.5

STARTED DRIVING 9:30 A.M. PM. FINISHED DRIVING 10:05 A.M. PM. DRIVING TIME 35 MIN.

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	53	60	25	70	27	80	
1	E	11		21		31		41		51	64	61	20	71	26	81	
2	G	12		22		32		42		52	80	62	20	72	20	82	
3	H	13		23		33		43		53	80	63	20	73	20	83	
4	O	14		24		34	WT	44		54	62	64	22	74		84	
5	F	15		25		35	OF	45		55	54	65	21	75		85	
6	P	16		26		36	H	46		56	43	66	24	76		86	
7	L	17		27		37	A	47		57	24	67	27	77		87	
8	E	18		28		38	m	48		58	33	68	24	78		88	
9		19		29		39	e	49		59	26	69	26	79		89	
10		20		30		40	R	50		60	26	70		80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- + FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CU. FT. OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- * NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, FLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

1 3.00
2 2.97
3 2.95
4 2.98

POST DRIVING - FT.

1 3.00
2 2.97
3 2.95
4 2.98

PILE INSPECTOR

Δ - FT

1 0.00
2 0.00
3 0.00
4 0.00

HI = 13.95

LOCATION - 2

EBASCO SERVICES INC.

FILE NO. 4-4

STRUCTURE: NORTH OF INTAKE
 CONTRACTOR: RAYMOND
 MAKE AND MODEL: RAYMOND 0-0-0-0

PRESTRESSED CONCRETE

TIP DIAMETER	18 IN.	BUTT DIAMETER	18 IN.
LENGTH	FT. IN.	WEIGHT	LB.

DESCRIPTION	
LENGTH	FT. IN. LB.

DESCRIPTION	
LENGTH	FT. IN. LB.

ELEV OF CUTOFF	+11.55	ELEV OF GROUND	+11 ±
ELEV OF TIP	-62.5 ±	LG. CUTOFF TO TIP	74 FT. IN.

STROKE	39 IN.	WEIGHT	15,000 LB.
WEIGHT OF RAIL		DESCRIPTION (SKECH ON BACK)	

REPRESSURIZED BOILER C D = 57
 PILE CRACKED C D = 56.5" H D = 53"
 RECUSSION PILE C D = 65"
 GRADE = +11 ±
 PILE TIP C = -63 ±

STARTED DRIVING 9.35 A.M. FINISHED DRIVING 10.35 A.M. DRIVING TIME 60 MIN.

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30	W	40		50	28	60	27	70	26	80	
1	E	11		21		31	OF	41		51		61		71		81	
2	C	12		22		32	H	42		52	30	62	29	72	30	82	
3	H	13		23		33	A	43		53	33	63	20	73	30	83	
4	O	14		24		34	m	44		54	60	64	21	74		84	
5	F	15		25		35	E	45		55	70	65	20	75		85	
6	P	16		26		36		46		56	60	66	20	76		86	
7	I	17		27		37		47		57	61	67	23	77		87	
8	L	18		28		38		48		58	60	68	26	78		88	
9		19		29		39		49		59	44	69	23	79		89	
10	V	20		30		40		50	5	60	27	70	30	80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
 NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CU. FT. OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, FLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

1 3.10
 2 3.10
 3 3.07
 4 3.10

POST DRIVING - FT.

1 3.12
 2 3.09
 3 3.06
 4 3.09

PILE INSPECTOR

Δ - FT

1 0.02
 2 -0.01
 3 -0.01
 4 -0.01

HI = 14:07

LOCATION - 2

(-) INDICATES

EBASCO SERVICES INC.

FILE NO. 4-5

FLORIDA POWER & LIGHT CO. - NORTH - OF INTAKE

RAYMOND

CC 113

NO. 10 95-10-037 10-8-7

PRESTRESSED CONCRETE

TIP DIAMETER 18 IN. BUTT DIAMETER 18 IN.

LENGTH FT. IN. WEIGHT LB.

DESCRIPTION

LENGTH FT. IN. WEIGHT LB.

DESCRIPTION

LENGTH FT. IN. WEIGHT LB.

ELEV. OF CUTOFF + 11.9 ELEV. OF GROUND + 12 ±

ELEV. OF TIP - 62.1 ± LG. CUTOFF TO TIP 74 FT. IN.

STROKE 39 IN. MEAS. IN.

WEIGHT OF RAM 15,000 LB.

WEIGHT LB. DESCR. (SEEK ON BACK)

REMARKS **

LUNCH BREAK 2:40

PRESTRESSED PILE DR 132

STARTED DRIVING 11:15 A.M. PM. FINISHED DRIVING A.M. 1:30 PM. DRIVING TIME 1:55 MIN.

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	WE	10		20		30		40		50		60	53	70	30	80	
1	1	11		21		31		41		51		61	40	71	25	81	
2	6	12		22		32		42		52		62	35	72	20	82	
	H												28				
		13		23		33		43		53		63	48	73	23	83	
4	D	14		24		34		44		54		64	21	74		84	
	F												23				
5	P	15		25		35		45		55		65	22	75		85	
	I												22				
6	L	16		26		36		46		56		66	20	76		86	
	E												22				
7		17		27		37		47		57		67	32	77		87	
													23				
8		18		28		38		48		58		68	33	78		88	
													22				
9		19		29		39		49		59		69	36	79		89	
													21				
10		20		30		40		50		60		70		80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HELVE READINGS

PRE DRIVING - FT.

1 3.12
2 3.09
3 3.06
4 3.10

POST DRIVING - FT.

1 3.12
2 3.09
3 3.05
4 3.09

PILE INSPECTOR

Δ - FT

1 0.00
2 0.00
3 -0.01
4 -0.01

(-) INDICATES SETTLEMENT

HI = 14.07

LOCATION - 2

EBASCO SERVICES INC.

PILE NO. 4-6

FLORIDA POWER & LIGHT CO		STRUCTURE NORTH OF INTAKE		CONTRACTOR RAYMOND		PILING NO. CC 113		NO. NO. 7350.01		DATE 10-17-7	
PRESTRESSED CONCRETE											
TIP DIAMETER 18 IN.				BUTT DIAMETER 18 IN.				STROKE 39 IN.			
LENGTH FT. IN.				WEIGHT LB.				WEIGHT OF RAM 15,000 LB.			
DESCRIPTION											
LENGTH FT. IN.				WEIGHT LB.				WEIGHT LB.			
DESCRIPTION											
LENGTH FT. IN.				WEIGHT LB.				DESCRIPTION (SKETCH ON PAGE)			
ELEV OF CUTOFF + 14.66				ELEV OF GROUND + 18 T				DRILLED TO EL - 52			
ELEV OF TIP - 59.34				LG. CUTOFF TO TIP 74 FT.							

STARTED DRIVING 9:14 A.M.				FINISHED DRIVING 9:39 A.M.				DRIVING TIME 25 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	
1	E	11		21		31		41		60	36
2	G	12		22		32		42	P	61	43
3	H	13		23		33		43	L	62	47
4	T	14		24		34		44	D	63	50
5	O	15		25		35		45	S	64	51
6	F	16		26		36		46	H	65	50
7	P	17		27		37		47	A	66	42
8	L	18		28		38		48	M	67	35
9	E	19		29		39		49	E	68	23
10		20		30		40		50		69	29

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A SUIT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

1 4.21
2 4.21
3 4.18
4 4.20

POST DRIVING - FT.

1 4.21
2 4.21
3 4.18
4 4.19

PILE INSPECTOR

Δ - FT

1 0.00
2 0.00
3 0.00
4 0.00

(-) INDICATES

LOCATION - 4

HI = 22.43

EBASCO SERVICES INC.

PILE NO. 4-7

STRUCTURE POWER & LIGHT CO. NORTH OF INTAKE		PILE NO. RAYMOND		DATE CC 115 10-20-7	
PRESTRESSED CONCRETE		RAYMOND 0-0-0-0			
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE 39	
LENGTH FT. IN.		WEIGHT LB.		WEIGHT OF PILE 15,000 LB.	
DESCRIPTION		WEIGHT LB. DESCRIPTION (SEECH ON BACK)			
LENGTH FT. IN.		DESCRIPTION			
DESCRIPTION		DRILLED TO EL - 52			
LENGTH FT. IN.		ELEV OF GROUND +18 ±			
ELEV OF CUTOFF +14.46		ELEV OF TIP -59.54			
ELEV OF TIP -59.54		LG. CUTOFF TO TIP 74 FT. IN.			

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME							
A.M. 2:40 P.M.				A.M. P.M.				MIN.							
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50		60	27	70	17
1	E	11		21		31		41		51		61	34	71	18
2	G	12		22		32		42		52		62	45	72	17
3	H	13		23		33		43		53		63	42	73	20
4	O	14		24		34		44		54		64	34	74	30
5	E	15		25		35		45		55		65	39	75	37
6	P	16		26		36		46		56		66	25	76	40
7	I	17		27		37		47		57	2	67	22	77	
8	L	18		28		38		48		58	8	68	20	78	
9	E	19		29		39		49		59	19	69	16	79	
10		20		30		40		50		60		70		80	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1	2
HI = 22.35	
4	3

HEAVE READINGS

PPE DRIVING - FT.

- 1 4.00
- 2 4.01
- 3 3.98
- 4 3.96

POST DRIVING - FT.

- 1 4.03
- 2 4.02
- 3 3.98
- 4 3.96

PILE INSPECTOR

Δ - FT

- 1 0.00
- 2 0.01
- 3 0.03
- 4 0.00

LOCATION - 5

EBASCO SERVICES INC.

PILE NO. 4-8

FLORIDA POWER & LIGHT CO.		STRUCTURE NORTH OF INTAKE		RAYMOND		PILE NO. CC 113		JOB NO. 9330.05		DATE 10-20-7	
PRESTRESSED CONCRETE						RAYMOND O-O-O-O					
TOP DIAMETER 18 IN.		BUTT DIAMETER 13 IN.		STROKE 39 IN.		WEIGHT 15,000 LB.		DESCRIPTION (SKETCH ON BACK)			
LENGTH FT. IN.		WEIGHT LB.		WEIGHT LB.		DESCRIPTION (SKETCH ON BACK)					
DESCRIPTION		LENGTH FT. IN.		WEIGHT LB.		DESCRIPTION					
ELEV OF CUTOFF +14.89		ELEV OF GROUND +19±		ELEV OF TIP -59.11		LG. CUTOFF TO TIP 74 FT. IN.					

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME			
A.M. 1:13 P.M.				A.M. 1:50 P.M.				32 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	42
1	E	11		21		31		41		61	52
	L	12		22		32		42		62	61
	G	13		23		33		43		63	55
3	H	14		24		34		44		64	42
	T	15		25		35		45		65	31
4	O	16		26		36		46		66	24
	E	17		27		37		47		67	22
5	P	18		28		38		48		68	20
	I	19		29		39		49		69	19
6	L	20		30		40		50		70	
	E										
7											
8											
9											
10											

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

N
1

1	2
HI=22.35	
4	3

LOCATION - 5

HEAVE READINGS	
PRE DRIVING - FT.	
1	4.03
2	4.02
3	3.97
4	3.96
POST DRIVING - FT.	
1	4.03
2	4.01
3	3.98
4	3.96

PILE INSPECTOR

Δ - FT	
1	0.00
2	0.01
3	0.01
4	0.00

(-) INDICATES

UNIVERSITY OF MICHIGAN LIBRARY

5-1

POWER & LIGHT CO	STRUCTURE NORTH OF INTAKE	CONCRETE	RAYMOND	HANDED TO CC 113	10-3-75
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PRESTRESSED CONCRETE

TIP DIAMETER 18 IN.	BUTT DIAMETER 18 IN.
LENGTH FT. IN.	WEIGHT LB.
DESCRIPTION	
LENGTH FT. IN.	WEIGHT LB.
DESCRIPTION	
LENGTH FT. IN.	WEIGHT LB.
ELEV. OF CUTOFF 8.68	ELEV. OF GROUND +11 ±
ELEV. OF TIP -65.32	LG. CUTOFF TO TIP 74 FT. IN.

RAYMOND 0-0-0-0	
STROKE 39 IN.	WEIGHT 15 000 LB.
DESCRIPTION (SKETCH ON BACK)	
REMARKS	

STARTED DRIVING A.M. 2:35 P.M.				FINISHED DRIVING A.M. 3:00 P.M.				DRIVING TIME 25 MIN.			
NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.
W	10		20		30		40		50	3	60
E	11		21		31		41		51	6	61
G	12		22		32		42		52	15	62
H	13		23		33		43		53	10	63
T	14		24		34		44		54	15	64
O	15		25		35		45		55	26	65
F	16		26		36		46		56	29	66
P	17		27		37		47		57	24	67
L	18		28		38		48		58	21	68
E	19		29		39		49		59	26	69
V	20		30		40		50		60	27	70

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, SHOULDER, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1	2
HI = 14.07	
4	3

HEAVE READINGS

PRE DRIVING - FT.	
1	3.12
2	3.09
3	3.05
4	3.09
POST DRIVING - FT.	
1	3.12
2	3.09
3	3.05
4	3.09

PILE INSPECTOR

Δ - FT	
1	0.00
2	0.00
3	0.00
4	0.01

(-) INDICATES SETBACK

LOCATION - 2

POWER & LIGHT CO.		STRUCTURE NORTH OF INTAKE	CONTRACTOR RAYMOND	HAMMER NO. CC 113	DATE 9-10-73
PRESTRESSED CONCRETE			MAKE AND MODEL RAYMOND O-O-O-O		
PIN DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE ENTER 39 IN. MEAS. 1 IN.	
LENGTH FT. IN.		WEIGHT LB.		WEIGHT OF RAM 15,000 LB.	
DESCRIPTION			WEIGHT LB.		
LENGTH FT. IN.			WEIGHT LB.		
DESCRIPTION			ADJUSTED HAMMER AT 0 = 4.1		
LENGTH FT. IN.			WEIGHT LB.		
ELEV. OF CUTOFF +10.58			ELEV. OF GROUND +11 ±		
ELEV. OF TIP -63.42			LG. CUTOFF TO TIP 74 FT. IN.		
REMARKS #			STOPPED AT 01:40 STOPPED AT 03:50 FOR THE EVENING EXHAUSTED GROUND PILE 2 DE 40		

STARTED DRIVING				3:40				FINISHED DRIVING				4:30				DRIVING TIME			
10:40 A.M.				P.M.				11:00 A.M.				P.M.				70 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS		
0	W	10		20		30		40		50	60	60	3	70	16	80			
1	E	11		21		31		41		51	42	61	7	71	15	81			
2	I	12		22		32		42	5	52	22	62	7	72		82			
3	G	13		23		33		43	5	53	21	63	8	73		83			
4	H	14		24		34		44	25	54	20	64	9	74		84			
5	T	15		25		35		45	45	55	19	65	10	75		85			
6	O	16		26		36		46	70	56	22	66	13	76		86			
7	F	17		27		37		47	81	57	16	67	12	77		87			
8	P	18		28		38		48	110	58	14	68	18	78		88			
9	I	19		29		39		49	150	59	10	69	20	79		89			
10	L	20		30		40		50		60		70		80		90			

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1
2
HI = 13.33
4

HEAVE READINGS

PRE DRIVING - FT.	
1	2.39
2	2.36
3	2.32
4	2.36
POST DRIVING - FT.	
1	2.39
2	2.36
3	2.33
4	2.36

FILE INSPECTOR

Δ - FT	
1	0.00
2	0.00
3	0.01
4	0.00

LOCATION - 2

EBASCO SERVICES INC.

PILE NO. 5.3

STRUCTURE POWER & LIGHT CO. NORTH OF INTAKE		SOFT CAST RAYMOND		PATTERN NO. CC 113		NO. OF PILES 10		DATE 10-10-72	
PRESTRESSED CONCRETE				MAKE AND MODEL RAYMOND 0-0-0-0					
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE 39 IN.					
LENGTH FT. IN.		WEIGHT LB.		HEIGHT OF RAIL 15,000 LB.					
DESCRIPTION				WEIGHT LB.					
LENGTH FT. IN.				WEIGHT LB.					
DESCRIPTION				WEIGHT LB.					
LENGTH FT. IN.				WEIGHT LB.					
ELEV OF CUTOFF +10.47				ELEV OF GROUND +11.0±					
ELEV OF TIP -65.53				LG. CUTOFF TO TIP 74 FT. IN.					

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME			
A.M. 2.55 P.M.				A.M. 2.10 P.M.				15 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	
1	E	11		21		31		41		51	
	G	12		22		32		42		52	
	H	13		23		33		43		53	
3	T	14		24		34		44		54	
4	O	15		25		35		45		55	
	F	16		26		36		46		56	
5	P	17		27		37		47		57	
6	I	18		28		38		48		58	
	L	19		29		39		49		59	
7	E	20		30		40		50		60	
8											
9											
10											

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE: POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
§ JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1	2
HI = 13.12	
4	3

LOCATION - 2

HEAVE READINGS

PRE DRIVING - FT.

1 2.19
2 2.16
3 2.17
4 2.16

POST DRIVING - FT.

1 2.21
2 2.17
3 2.19
4 2.18

PILE INSPECTOR

Δ - FT

1 0.02
2 0.01
3 0.02
4 0.02

PLATE VERY CLOSE TO HAMMER.

EBASCO SERVICES INC.

PILE NO. 5-4

POWER & LIGHT CO. NORTH OF INTAKE

RAYMOND

HAMMER NO. 110 113
CC 113 7530.00 10-9-77

PRESTRESSED CONCRETE

RAYMOND 0-0-0-0

TIP DIAMETER 18 IN. BUTT DIAMETER 18 IN.
LENGTH FT. IN. WEIGHT LB.

DESCRIPTION
LENGTH FT. IN. WEIGHT LB.

DESCRIPTION
LENGTH FT. IN. WEIGHT LB.

ELEV OF CUTOFF +11.27 ELEV OF GROUND +11.2
ELEV OF TIP -62.73 LG. CUTOFF TO TIP 74 FT. IN.

HAMMER
STROKE
PATED 39 IN. MEAS. 2 IN.
WEIGHT OF RAM 15,000 LB.
WEIGHT LB.
DESCRIPTION (PLEASE PRINT ON BACK)
PRESSURIZED C D 581

STARTED DRIVING

A.M. 1:15 P.M.

FINISHED DRIVING

A.M. 2:45 P.M.

DRIVING TIME

30 MIN.

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0		10		20		30		40		50	10	60	23	70	23	80	
1	W	11		21		31		41		51	12	61	18	71	20	81	
2	E	12		22		32		42		52	31	62	17	72	15	82	
3	G	13		23		33		43		53	38	63	15	73	20	83	
4	H	14		24		34		44		54	44	64	17	74		84	
5	T	15		25		35		45		55	43	65	20	75		85	
6	O	16		26		36		46		56	40	66	18	76		86	
7	F	17		27		37		47		57	91	67	19	77		87	
8	P	18		28		38		48	2	58	53	68	26	78		88	
9	I	19		29		39		49	3	59	39	69	25	79		89	
10	L	20		30		40		50		60		70		80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
§ JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

1 2.39
2 2.36
3 2.33
4 2.36

POST DRIVING - FT.

1 2.39
2 2.36
3 2.33
4 2.36

PILE INSPECTOR

Δ - FT

1 0.00
2 0.00
3 0.00
4 0.00

HI = 13.23

LOCATION - 2

EBASCO SERVICES INC.

PILE NO. 5-5

STRUCTURE

CONTRACT

PROJECT NO.

DATE

TIME

POWER & LIGHT CO. NORTH OF INTAKE

RAYMOND

CE 113

95000

10-17

PRESTRESSED CONCRETE

RAYMOND 0-0-0-0

TIP DIAMETER 18 IN. BUTT DIAMETER 18 IN.

LENGTH FT. IN. WEIGHT LB.

DESCRIPTION

LENGTH FT. IN. WEIGHT LB.

DESCRIPTION

LENGTH FT. IN. WEIGHT LB.

ELEV OF CUTOFF +14.65 ELEV OF GROUND +18.4

ELEV OF TIP -59.35 LG. CUTOFF TO TIP 79 FT. IN

STROKE SIZED 39 IN. WEIGHT OF RAM 15,000 LB.

WEIGHT LB. DESCRIPTION (SKETCH ON BACK)

DRILLED TO BL - 52

STARTED DRIVING 10:18 A.M. PM. FINISHED DRIVING 11:55 A.M. PM. DRIVING TIME 37 MIN.

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40	WEIGHT	50	4	60	74	70	18	80	
1	E	11		21		31		41	OF	51	19	61	76	71	22	81	
2	G	12		22		32		42	PILE	52	20	62	57	72	23	82	
3	H	13		23		33		43	E	53	26	63	47	73	24	83	
4	O	14		24		34		44	HAIR/FE	54	40	64	47	74	24	84	
5	F	15		25		35		45		55	52	65	43	75	28	85	
6	P	16		26		36		46		56	53	66	33	76	34	86	
7	L	17		27		37		47		57	60	67	25	77		87	
8		18		28		38		48		58	73	68	20	78		88	
9		19		29		39		49		59	77	69	21	79		89	
10		20		30		40		50		60		70		80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND, SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

PELVE READINGS

PRE DRIVING - FT.

1 4.21
2 4.21
3 4.18
4 4.19

POST DRIVING - FT.

1 4.22
2 4.21
3 4.19
4 4.19

PILE INSPECTOR

Δ - FT

1 0.01
2 0.00
3 0.01
4 0.00

HI = 22.43

LOCATION - 4

EBASCO SERVICES INC.

FILE NO. 5-6

POWER-LIGHT CO.

STRUCTURE NORTH OF INTAKE

RAYMOND

CC 113

1960.01.10-10

PRESTRESSED CONCRETE

MAKE AND MODEL

RAYMOND C-O-O-O

TOP DIAMETER

18 IN.

BUTT DIAMETER

18 IN.

LENGTH

FT. IN.

WEIGHT

LB.

DESCRIPTION

LENGTH

FT. IN.

WEIGHT

LB.

DESCRIPTION

LENGTH

FT. IN.

WEIGHT

LB.

ELEV OF CUTOFF

+14.19

ELEV OF GROUND

+18±

ELEV OF TIP

-59.81

LG. CUTOFF TO TIP

74 FT.

IN.

STROKE

39 IN.

WEIGHT

15,000 LB.

WEIGHT

LB.

DESCRIPTION (SKETCH ON BACK)

DRILLED TO EL. -52

LOCATION MOVED 2' WEST

STARTED DRIVING

9:15 A.M.

P.M.

FINISHED DRIVING

10:42 A.M.

P.M.

DRIVING TIME

27 MIN.

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50		60	29	70	11	80	
1	E	11		21		31		41		51		61	29	71	10	81	
2	G	12		22		32		42		52		62	25	72	13	82	
3	H	13		23		33		43		53		63	23	73	12	83	
4	T	14		24		34		44		54		64	23	74	13	84	
5	O	15		25		35		45		55		65	16	75	33	85	
6	F	16		26		36		46		56		66	22	76	33	86	
7	P	17		27		37		47		57		67	12	77		87	
8	I	18		28		38		48		58		68	23	78		88	
9	L	19		29		39		49		59		69	11	79		89	
10	E	20		30		40		50		60		70		80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUIT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

1 3.99
2 4.01
3 3.98
4 3.95

POST DRIVING - FT.

1 3.99
2 4.01
3 3.98
4 3.95

PILE INSPECTOR

Δ - FT

1 0.00
2 0.00
3 0.00
4 0.00

HI = 22.35

LOCATION - 5

EBASCO SERVICES INC.

PILE NO. 5-7

CUT: A POWER & LIGHT CO		STRUCTURE: NORTH OF INTAKE		LOCATION: RAYMOND		DRAWN BY: CC 113		DATE: 10-23-77	
PRESTRESSED CONCRETE									
TIP DIAMETER: 18 IN.		BUTT DIAMETER: 18 IN.		STROKE: 39 IN.		VERS. 1		IN.	
LENGTH: FT. IN.		WEIGHT: LB.		WEIGHT OF PILE: 13,000 LB.		WEIGHT: LB.		DESCRIPTION (SKETCH ON BACK)	
DESCRIPTION:		LENGTH: FT. IN.		WEIGHT: LB.		DRILLED TO EL. -52			
DESCRIPTION:		LENGTH: FT. IN.		WEIGHT: LB.					
ELEV OF CUTOFF: +14.82		ELEV OF GROUND: +13.4		REMARKS: **					
ELEV OF TIP: -59.18		LG. CUTOFF TO TIP: 74 FT. IN.							

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME			
11:34 A.M.				12:20 P.M.				46 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	IV	10		20		30		40	88	50	32
1	F	11		21		31		41	85	51	33
2	G	12		22		32		42	73	52	42
3	H	13		23		33		43	70	53	65
4	O	14		24		34		44	74	54	73
5	E	15		25		35		45	71	55	80
6	I	16		26		36		46	33	56	80
7	L	17		27		37		47	37	57	
8		18		28		38		48	35	58	
9		19		29		39		49	40	59	
10		20		30		40		50		60	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1	2
HI = 22.35	
4	3

HEAVE READINGS

PRE DRIVING - FT.

1 3.99
2 4.01
3 3.97
4 3.95

POST DRIVING - FT.

1 4.00
2 4.02
3 3.97
4 3.96

PILE INSPECTOR

A - FT

1 0.01
2 0.01
3 0.00
4 0.01

LOCATION - 5

EBASCO SERVICES INC.

PILE NO. 6-1

POWER & LIGHT CO

STRUCTURE NORTH OF INTAKE

RAYMOND

DATE 10-10-60

PRESTRESSED CONCRETE

RAYMOND 0-0-0-0

TIP DIAMETER 18 IN. BUTT DIAMETER 18 IN.

LENGTH FT. IN. WEIGHT LB.

DESCRIPTION

LENGTH FT. IN. WEIGHT LB.

DESCRIPTION

LENGTH FT. IN. WEIGHT LB.

ELEV OF CUTOFF + 10.40 ELEV OF GROUND (+ 11)

ELEV OF TIP - 63.60 LG. CUTOFF TO TIP (74 FT.) IN.

STARTED DRIVING 11:00 A.M. PM. FINISHED DRIVING 11:10 A.M. PM.

DRIVING TIME 10 MIN.

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	9	60	8	70	11	80	
1	E	11		21		31		41		51	12	61	6	71	11	81	
	G	12		22		32		42		52	13	62	6	72	11	82	
	H	13		23		33		43		53	12	63	6	73		83	
3	T	14		24		34		44		54	10	64	7	74		84	
4	F	15		25		35		45		55	10	65	6	75		85	
5	P	16		26		36		46		56	9	66	9	76		86	
6	L	17		27		37		47		57	11	67	8	77		87	
7		18		28		38		48		58	13	68	11	78		88	
8		19		29		39		49		59	11	69	11	79		89	
9		20		30		40		50		60	11	70		80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
 † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUILT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
 ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
 ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, FLUMBLINESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

1 2.55
2 2.31
3 2.78
4 2.33

POST DRIVING - FT.

1 2.56
2 2.52
3 2.78
4 2.33

PILE INSPECTOR

Δ - FT

1 0.01
2 0.01
3 0.00
4 0.00

HI = 13.75

LOCATION - 2

EBASCO SERVICES INC.

FILE NO. 6-2

STRUCTURE
A POWER & LIGHT CO. NORTH OF INTAKE

CONTRACTOR
RAYMOND

ORDER NO.
CC 113

DATE
10-13-74

PRESTRESSED CONCRETE

TIP DIAMETER	18 IN.	BUTT DIAMETER	18 IN.
LENGTH	FT. IN.	WEIGHT	LB.

DESCRIPTION	
LENGTH	FT. IN.
WEIGHT	LB.

DESCRIPTION	
LENGTH	FT. IN.
WEIGHT	LB.

ELEV OF CUTOFF	ELEV OF GROUND
+ 10.17	+ 11 ±
ELEV OF TIP	LG. CUTOFF TO TIP
- 63.82	74 FT. IN.

RAYMOND 0-0-0-0

STROKE	IN.	REMARKS	IN.
ENTER .39			
HEIGHT OF RAIL			

WEIGHT	LB.	DESCRIPTION (SKETCH ON BACK)

STARTED DRIVING	FINISHED DRIVING	DRIVING TIME
9:20 A.M. P.M.	9:35 A.M. P.M.	15 MIN.

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	1	60	11	70	21	80	
1	F	11		21		31		41		51	4	61	9	71	13	81	
2	G	12		22		32		42		52	10	62	9	72	13	82	
3	H	13		23		33		43		53	13	63	8	73	13	83	
4	O	14		24		34		44		54	14	64	11	74		84	
5	F	15		25		35		45		55	12	65	13	75		85	
6	P	16		26		36		46		56	10	66	15	76		86	
7	L	17		27		37		47		57	13	67	19	77		87	
8	E	18		28		38		48		58	13	68	16	78		88	
9		19		29		39		49		59	14	69	21	79		89	
10		20		30		40		50		60		70		80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

1	2.35
2	2.35
3	2.35
4	2.37

POST DRIVING - FT.

1	2.35
2	2.86
3	2.86
4	2.92

PILE INSPECTOR

Δ - FT

1	0.00
2	0.01
3	0.00
4	0.00

HI = 13.75

LOCATION - 2

EBASCO SERVICES INC.

FILE NO. 6-3

STRUCTURE NORTH OF INTAKE

RAYMOND

RAYMOND NO. 10-13-7

PRESTRESSED CONCRETE

RAYMOND 0-0-0-0

TIP DIAMETER	18 IN.	BUTT DIAMETER	18 IN.
LENGTH	FT. IN.	WEIGHT	LB.

STROKE	ENTER 39	IN.	WEIGHT	IN.
WEIGHT OF RAM	15,000 LB.			

DESCRIPTION			
LENGTH	FT. IN.	WEIGHT	LB.

WEIGHT	LB.	DESCRIPTION (SKETCH ON BACK)	
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DESCRIPTION			
LENGTH	FT. IN.	WEIGHT	LB.

ELEV OF CUTOFF	+10.72	ELEV OF GROUND	+11.1
ELEV OF TIP	-63.28	LG. CUTOFF TO TIP	74 FT. IN.

REMARKS			
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STARTED DRIVING	A.M. 2:40 PM	FINISHED DRIVING	A.M. 2:55 PM	DRIVING TIME	15 MIN.
-----------------	--------------	------------------	--------------	--------------	---------

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
1	11	21	31	41	51	61	71	81	91	101	111	121	131	141	151	161	171
2	12	22	32	42	52	62	72	82	92	102	112	122	132	142	152	162	172
3	13	23	33	43	53	63	73	83	93	103	113	123	133	143	153	163	173
4	14	24	34	44	54	64	74	84	94	104	114	124	134	144	154	164	174
5	15	25	35	45	55	65	75	85	95	105	115	125	135	145	155	165	175
6	16	26	36	46	56	66	76	86	96	106	116	126	136	146	156	166	176
7	17	27	37	47	57	67	77	87	97	107	117	127	137	147	157	167	177
8	18	28	38	48	58	68	78	88	98	108	118	128	138	148	158	168	178
9	19	29	39	49	59	69	79	89	99	109	119	129	139	149	159	169	179
10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, FLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

1 2.21
2 2.17
3 2.17
4 2.16

POST DRIVING - FT.

1 2.21
2 2.17
3 2.19
4 2.17

PILE INSPECTOR

Δ - FT

1 0.00
2 0.00
3 0.00
4 0.01

HI = 13.12

LOCATION - 2

STRUCTURE A POWER & LIGHT CO. NORTH OF INTAKE				CONTRACTOR RAYMOND		HAMMER NO. 100 13 CC 113 10-7-77	
PRESTRESSED CONCRETE				MAKE AND MODEL RAYMOND O-O-O-O			
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE 39 IN. WTS. 1 IN.			
LENGTH FT. IN.		WEIGHT LB.		WEIGHT OF RAM 15,000 LB.			
DESCRIPTION				WEIGHT LB.			
LENGTH FT. IN.		WEIGHT LB.		DESCRIPTION (SKECH ON BACK)			
DESCRIPTION				LOCATION MOVED SOUTH BY 10' 35' DIST.			
LENGTH FT. IN.		WEIGHT LB.		DRILLING ENCOUNTERED COPPER TUBING DURING DRILLING.			
ELEV OF CUTOFF +11.13		ELEV OF GROUND +12±		PUT IN IN-AGE CUSHION AT D=44'			
ELEV OF TIP -62.52		LG. CUTOFF TO TIP 74 FT. IN.		BUILD UP PRESSURE @ D=61'			

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME							
A.M. 3:00 P.M.				A.M. 3:35 P.M.				35 MIN.							
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	36	60	23	70	20
1	E	11		21		31		41		51	35	61	23	71	21
2	G	12		22		32		42		52	35	62	23	72	22
3	H	13		23		33		43		53	34	63	19	73	23
4	O	14		24		34		44		54	35	64	19	74	24
5	F	15		25		35		45		55	34	65	15	75	25
6	P	16		26		36		46	12	56	29	66	13	76	26
7	L	17		27		37		47	25	57	30	67	20	77	
8	E	18		28		38		48	34	58	26	68	13	78	28
9		19		29		39		49	33	59	23	69	21	79	29
10		20		30		40		50	40	60	30	70	22	80	30

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION).
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
§ JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, FLUMBLEGS, BANDING, DAMAGE, DRIVING SIDE, ETC.

1

2

4

3

HI = 13.33

LOCATION - 2

HEAVE READINGS	
PRE DRIVING - FT.	
1	2.37
2	2.36
3	2.33
4	2.36
POST DRIVING - FT.	
1	2.42
2	2.36
3	2.33
4	2.37

PILE INSPECTOR	
Δ - FT	
1	0.01
2	0.00
3	0.00
4	0.01

CLIENT: POWER & LIGHT CO		STRUCTURE: NORTH OF INTAKE		CONTRACTOR: RAYMOND		PILING CO. CC 115		JOB NO. 131000		DATE 10-7-7	
PRESTRESSED CONCRETE										MAKE AND MODEL: RAYMOND O-O-O-O	
TIP DIAMETER: 18 IN.		BUIT DIAMETER: 18 IN.		STROKE: 39 IN.		VITES: 1 IN.					
LENGTH: FT. IN.		WEIGHT: LB.		WEIGHT OF RAM: 15,000 LB.							
DESCRIPTION:				WEIGHT: LB.		DESCRIPTION (SKETCH ON BACK)					
LENGTH: FT. IN.				WEIGHT: LB.							
DESCRIPTION:											
LENGTH: FT. IN.				WEIGHT: LB.							
ELEV OF CUTOFF: +14.70				ELEV OF GROUND: +19±							
ELEV OF TIP: -59.30				LG. CUTOFF TO TIP: 74 FT. IN.							

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME			
A.M.				A.M.				23 MIN.			
1:22 PM.				1:45 PM.							
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	
1	E	11		21		31		41		51	
2	G	12		22		32		42		52	
3	H	13		23		33		43		53	
4	O	14		24		34		44		54	
5	F	15		25		35		45		55	
6	P	16		26		36		46		56	
7	L	17		27		37		47		57	
8	E	18		28		38		48		58	
9		19		29		39		49		59	
10		20		30		40		50		60	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND, SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1

2

HI = 22.43

4

3

LOCATION - 4

HEAVE READINGS

PRE DRIVING - FT.

1 4.22

2 4.21

3 4.19

4 4.19

POST DRIVING - FT.

1 NO

2 READING

3 TAKEN

4

PILE INSPECTOR

Δ - FT

1

2

3

4

REMARKS	DATE	NAME
		HAMMER

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

N
1

PILE INSPECTOR.

	$\Delta - F_T$
1	0.00
2	0.00
3	0.00
4	6.00

LOCATION- 4

POWER & LIGHT CO		STRUCTURE NORTH OF INTAKE		COLLECTOR RAYMOND		HAMMER CO. TOOL CO CC 113 12500 10-14	
PRESTRESSED CONCRETE				NAME AND MODEL RAYMOND 0-0-0-0			
TOP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		HAMMER STROKE 39 IN. VARS 1 IN. HEIGHT OF RAM 15,000 LB. WEIGHT LB. DESCRIPTION (SLITCH ON BACK)			
LENGTH FT. IN.		WEIGHT LB.					
DESCRIPTION				REMARKS **			
LENGTH FT. IN.		WEIGHT LB.					
DESCRIPTION				HARD DRILLING			
LENGTH FT. IN.		WEIGHT LB.					
ELEV OF CUTOFF +9.72		ELEV OF GROUND +12 $\frac{1}{2}$					
ELEV OF TIP -64.23		LG. CUTOFF TO TIP 74 FT. IN.					

STARTED DRIVING 11:10 A.M.				FINISHED DRIVING 11:20 A.M.				DRIVING TIME DOWN.							
P.M.				P.M.											
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	1	60		70	50
1	E	11		21		31		41		51	1	61	9	71	81
2	G	12		22		32		42		52	1	62	8	72	82
3	H	13		23		33		43		53	3	63	5	73	83
4	T	14		24		34		44		54	4	64	5	74	84
5	O	15		25		35		45		55	6	65	5	75	85
6	F	16		26		36		46		56	6	66	5	76	86
7	P	17		27		37		47		57	6	67	5	77	87
8	I	18		28		38		48		58	6	68	5	78	88
9	L	19		29		39		49		59	6	69	7	79	89
10	E	20		30		40		50		60	3	70	10	80	90

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
 † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
 (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
 ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
 ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, FLUMBUSS, BANDING, DAMAGE, DRIVING SHOE, ETC.

LOCATION - 3

1
2
HI = 16.22
4
3

HEAVE READINGS

PRE DRIVING - FT.	
1	4.95
2	5.04
3	5.03
4	4.94
POST DRIVING - FT.	
1	4.95
2	5.04
3	5.03
4	4.94

FILE INSPECTOR

Δ - FT	
1	0.00
2	0.00
3	0.00
4	0.00

A POWER & LIGHT CO

STRUCTURE NORTH OF INTAKE

CONTRACTOR RAYMOND

RAYMOND O-O-O-O

PRESTRESSED CONCRETE

TIP DIAMETER	18 IN.	BUTT DIAMETER	18 IN.
LENGTH	FT. IN.	WEIGHT	LB.
DESCRIPTION		WEIGHT	
LENGTH	FT. IN.	WEIGHT	
DESCRIPTION		WEIGHT	
LENGTH	FT. IN.	WEIGHT	
ELEV OF CUTOFF	ELEV OF GROUND + 12 1/2		
ELEV OF TIP	LG. CUTOFF TO TIP 7 1/4 FT. IN.		

STROKE	39 IN.	WEIGHT	15,000 LB.
WEIGHT	LB.	DESCRIPTION (SEEK ON BACK)	
TEST PILE - SPICED AT D: 35' WITH INTENTION OF PULLING OUT THE FOLLOWING			
STOPPED FOR EVENING AT D: 32'			
PILE ABANDONED			

STARTED DRIVING	3:20 PM.	FINISHED DRIVING	4:50 PM.	DRIVING TIME	70 MIN.
-----------------	----------	------------------	----------	--------------	---------

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0		10		20		30		40		50		60		70		80	
1		11		21		31		41		51		61		71		81	
2		12		22		32		42		52		62		72		82	
3		13		23		33		43		53		63		73		83	
4		14		24		34		44		54		64		74		84	
5		15		25		35		45		55		65		75		85	
6		16		26		36		46		56		66		76		86	
7		17		27		37		47		57		67		77		87	
8		18		28		38		48		58		68		78		88	
9		19		29		39		49		59		69		79		89	
10		20		30		40		50		60		70		80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- § JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

1 2.85
2 2.32
3 2.78
4 2.93

POST DRIVING - FT.

1
2
3
4

PILE INSPECTOR

Δ - FT

1
2
3
4

HI = 13.75

LOCATION - 2

SHAW-WALKER PILE DRIVING MACHINE

7-2a

POWER & LIGHT CO. STRUCTURE NORTH OF INTAKE CONTRACTOR RAYMOND HANCOCK CO. JO. NO. CC 113 950.00 10-19-7

PRESTRESSED CONCRETE

TIP DIAMETER	18 IN.	BUTT DIAMETER	18 IN.
LENGTH	FT. IN.	WEIGHT	LB.

DESCRIPTION	LENGTH	FT. IN.	WEIGHT	LB.
-------------	--------	---------	--------	-----

DESCRIPTION	LENGTH	FT. IN.	WEIGHT	LB.
-------------	--------	---------	--------	-----

ELEV OF CUTOFF	ELEV OF GROUND
+9.97	+11 ±
ELEV OF TIP	LG. CUTOFF TO TIP
-64.03	74 FT. IN

REMARKS

STROKE	IN.	WEIGHT	LB.
39		15,000	
WEIGHT OF RAM	DESCRIPTION (SKETCH ON BACK)		

LOCATION - 750' 3" SOUTH OF LOCATION 7-2
VERY HARD DRILLING

STARTED DRIVING	FINISHED DRIVING	DRIVING TIME
9:30 A.M. P.M.	9:40 A.M. P.M.	10 MIN.

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	3	60	8	70	13	80	
1	E	11		21		31		41		51	2	61	6	71	12	81	
2	G	12		22		32		42		52	4	62	6	72	13	82	
3	H	13		23		33		43		53	4	63	5	73	12	83	
4	O	14		24		34		44		54	6	64	5	74		84	
5	F	15		25		35		45		55	6	65	5	75		85	
6	P	16		26		36		46		56	6	66	6	76		86	
7	T	17		27		37		47		57	6	67	6	77		87	
8	L	18		28		38		48		58	3	68	8	78		88	
9	E	19		29		39		49		59	10	69	11	79		89	
10		20		30		40		50		60		70		80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
§ JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HI=16.22

HEAVE READINGS

PRE DRIVING - FT.

- 4.94
- 5.02
- 5.01
- 4.92

POST DRIVING - FT.

- 4.94
- 5.03
- 5.01
- 4.92

PILE INSPECTOR

Δ - FT

- 0.00
- 0.01
- 0.00
- 0.00

LOCATION - 3

POWER & LIGHT CO		STRUCTURE NORTH OF INTAKE		CONTRACTOR RAYMOND		HAMMER NO. CC 113		NO. CO. 932000		DATE 10-18-75	
PRESTRESSED CONCRETE						MAKE AND MODEL RAYMOND O-O-O-O					
T/P DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE RATED 39 IN.		WEIGHT OF RAM 15,000 LB					
LENGTH FT. IN.		WEIGHT LB.		WEIGHT LB.		DESCRIPTION (SKETCH ON BACK)					
DESCRIPTION											
LENGTH FT. IN.		WEIGHT LB.									
DESCRIPTION											
LENGTH FT. IN.		WEIGHT LB.									
ELEV. OF CUTOFF + 10.21		ELEV. OF GROUND + 11.1									
ELEV. OF TIP - 63.79		LG. CUTOFF TO TIP 74 FT. IN.									

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME							
A.M. 2:05 P.M.				A.M. 2:15 P.M.				10 MIN.							
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0		10		20		30		40		50		60		70	
1	VI E	11		21		31		41		51	1	61	3	71	14
2	G	12		22		32		42		52	2	62	7	72	16
3	H T	13		23		33		43		53	2	63	7	73	16
4	O E	14		24		34		44		54	3	64	10	74	
5	P	15		25		35		45		55	5	65	11	75	
6	I	16		26		36		46		56	8	66	15	76	
7	L E	17		27		37		47		57	6	67	17	77	
8		18		28		38		48		58	3	68	13	78	
9		19		29		39		49		59	11	69	20	79	
10		20		30		40		50		60	19	70	15	80	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND, SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
§ JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1
2

HI = 13.75

4
3

LOCATION - 2

HEAVE READINGS

PRE DRIVING - FT.

1 2.36
2 2.82
3 2.78
4 2.83

POST DRIVING - FT.

1 2.25
2 2.82
3 2.76
4 2.83

PILE INSPECTOR

Δ - FT

1 - 0.01
2 0.00
3 0.00
4 0.00

STRUCTURE POWER & LIGHT CO. NORTH OF INTAKE		CELL NO. RAYMOND		HAMMER NO. CC 113		DATE DEC 10 1963	
PRESTRESSED CONCRETE				NAME AND MODEL RAYMOND O-O-O-O			
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE 59 IN.			
LENGTH FT. IN.		WEIGHT LB.		WEIGHT OF RAM 15,000 LB.			
DESCRIPTION				WEIGHT LB.			
LENGTH FT. IN.				DESCRIPTION (SKETCH ON BACK)			
DESCRIPTION							
LENGTH FT. IN.				ENCOUNTERED HARD DRILLING			
ELEV OF CUTOFF +10.34				ELEV OF GROUND +11 ±			
ELEV OF TIP -63.66				LG CUTOFF TO TIP 74 FT. IN.			

STARTED DRIVING 9:55 A.M.				FINISHED DRIVING 10:15 A.M.				DRIVING TIME 20 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0		10		20		30		40		50	
1	W	11		21		31	22	41	14	51	11
2	F	12		22		32	32	42	12	52	12
3	C	13		23		33	23	43	12	53	12
4	H	14		24		34	26	44	10	54	13
5	P	15		25		35	26	45	13	55	11
6	I	16		26		36	24	46	13	56	11
7	L	17		27		37	20	47	13	57	22
8	E	18		28		38	13	48	14	58	23
9		19		29		39	26	49	12	59	23
10		20		30		40	22	50	16	60	20

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND, SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SIDE, ETC.

1

2

HI = 13.75

4

3

HEAVE READINGS	
PRE DRIVING - FT.	
1	2.85
2	2.86
3	2.86
4	2.92
POST DRIVING - FT.	
1	2.95
2	2.81
3	2.78
4	2.83

PILE INSPECTOR	
Δ - FT	
1	0.01
2	0.05
3	0.06
4	6.01

INSTRUMENT IN ERROR

LOCATION - 2

CLIENT: POWER & LIGHT CO.		STRUCTURE: NORTH OF INTAKE		LOCATION: RAYMOND		HAMMER NO.: CC 113		DATE: 10-16-7	
PRESTRESSED CONCRETE				MAKE AND MODEL: RAYMOND O-O-O-O					
TIP DIAMETER: 18 IN.		BUTT DIAMETER: 18 IN.		HAMMER: STROKE 39 IN. VESS. 1 IN.		WEIGHT OF RAIL: 15,000 LB.			
LENGTH: FT. IN.		WEIGHT: LB.							
DESCRIPTION:				WEIGHT: LB.		DESCRIPTION (SKETCH ON BACK):			
LENGTH: FT. IN.		WEIGHT: LB.							
DESCRIPTION:				REMARKS:		DRILLED TO EL - 52			
LENGTH: FT. IN.		WEIGHT: LB.							
ELEV OF CUTOFF: +15.04		ELEV OF GROUND: +18.4							
ELEV OF TIP: -58.96		LG. CUTOFF TO TIP: 74 FT. IN.							

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME								
A.M. 2:30 P.M.				A.M. 3:48 P.M.				18 MIN.								
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	
0	W	10		20		30		40		50	15	60	10	70	14	80
1	E	11		21		31		41		51	16	61	10	71	15	81
2	L	12		22		32		42		52	16	62	10	72	15	82
3	H	13		23		33		43		53	16	63	11	73	12	83
4	T	14		24		34		44		54	17	64	10	74	23	84
5	O	15		25		35		45		55	15	65	11	75	22	85
6	P	16		26		36		46		56	14	66	13	76	34	26
7	I	17		27		37		47		57	12	67	13	77		87
8	L	18		28		38		48		58	12	68	13	78		88
9	F	19		29		39		49		59	9	69	13	79		89
10		20		30		40		50		60		70		80		90

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
 NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
 † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
 (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
 ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
 §§ JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1 2
 HI = 22.85
 4 3

HEAVE READINGS	
PRE DRIVING - FT.	
1	4.58
2	4.56
3	4.55
4	4.56
POST DRIVING - FT.	
1	4.53
2	4.56
3	4.55
4	4.56

PILE INSPECTOR	
Δ - FT	
1	0.00
2	0.00
3	0.00
4	0.00

LOCATION - 4

POWER & LIGHT CO		STRUCTURE NORTH OF INTAKE		CONTRACTOR RAYMOND		HARVEY CO. NO. 113		DATE 7-10-2-7	
PRESTRESSED CONCRETE						RAYMOND 0-0-0-0			
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE 39 IN.		WEIGHT OF RAM 15,000 LB.		WEIGHT LB.	
LENGTH FT. IN.		WEIGHT LB.		DESCRIPTION (SKETCH ON BACK)					
DESCRIPTION		LENGTH FT. IN.		WEIGHT LB.					
DESCRIPTION		LENGTH FT. IN.		WEIGHT LB.					
ELEV OF CUTOFF +14.34		ELEV OF GROUND +18 ±		REMARKS					
ELEV OF TIP -59.66		LG. CUTOFF TO TIP 74 FT. IN.							

STARTED DRIVING 10:15 A.M.				FINISHED DRIVING 10:30 A.M.				DRIVING TIME 15 MIN.								
P.M.				P.M.												
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	
0	W	10		20		30		40		50	13	60	11	70	10	80
1	E	11		21		31		41		51	17	61	12	71	10	81
2	G	12		22		32		42		52	19	62	13	72	11	82
3	U	13		23		33		43	3	53	14	63	12	73	7	83
4	O	14		24		34		44	2	54	14	64	13	74	12	84
5	F	15		25		35		45	11	55	12	65	14	75	10	85
6	P	16		26		36		46	17	56	12	66	17	76	21	86
7	L	17		27		37		47	20	57	10	67	19	77		87
8		18		28		38		48	23	58	10	68	13	78		88
9		19		29		39		49	23	59	11	69	10	79		89
10		20		30		40		50		60		70		80		90

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
 † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
 (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
 ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
 ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1
2

HI = 22.35

4
3

HEAVE READINGS

PRE DRIVING - FT.

1 3.99
 2 4.01
 3 3.93
 4 3.95

POST DRIVING - FT.

1 3.99
 2 4.01
 3 3.97
 4 3.95

PILE INSPECTOR

Δ - FT

1 0.00
 2 0.00
 3 -0.01
 4 0.00

LOCATION - 5

(-) INDICATES SETTLEMENT

POWER & LIGHT CO.		STRUCTURE NORTH OF INTAKE		EQUIPMENT RAYMOND		PILE NO. CC 113	
PRESTRESSED CONCRETE				MAKE AND MODEL RAYMOND O-O-O-O			
TIP DIAMETER 18 IN.		BUFT DIAMETER 18 IN.		STROKE 39 IN.			
LENGTH FT. IN.		WEIGHT LB.		WEIGHT OF RAIL 15,000 LB.			
DESCRIPTION				WEIGHT LB.			
LENGTH FT. IN.		WEIGHT LB.		DESCRIPTION (SKETCH ON BACK)			
DESCRIPTION				HARD DRILLING			
LENGTH FT. IN.		WEIGHT LB.					
ELEV. OF CUTOFF +9.55		ELEV. OF GROUND +11±					
ELEV. OF TIP -64.45		LG. CUTOFF TO TIP 74 FT. IN.					

TIME		STARTED DRIVING				FINISHED DRIVING				DRIVING TIME					
		A.M. 3:10 P.M.				A.M. 3:25 P.M.				15 MIN.					
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	4	60	13	70	13
1	F	11		21		31		41		51	5	61	6	71	13
2	G	12		22		32		42		52	5	62	7	72	14
3	H	13		23		33		43		53	5	63	7	73	14
4	O	14		24		34		44		54	9	64	6	74	14
5	F	15		25		35		45		55	6	65	10	75	
6	P	16		26		36		46		56	6	66	10	76	
7	T	17		27		37		47		57	8	67	11	77	
8	L	18		28		38		48		58	3	68	12	78	
9		19		29		39		49		59	3	69	12	79	
10	V	20		30		40		50	3	60	10	70	13	80	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
 † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUFT SECTION.
 (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
 ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
 ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, RACK, CONDITION OF CUSHIONS, PLUMBNESS,
 BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

1 4.95
2 5.04
3 5.03
4 4.93

POST DRIVING - FT.

1 4.95
2 5.05
3 5.03
4 4.93

PILE INSPECTOR

Δ - FT

1 0.00
2 0.01
3 0.00
4 0.00

HI = 16.22

LOCATION - 3

STRUCTURE A POWER & LIGHT CO		NORTH OF INTAKE		LOCATION RAYMOND		PILE NO. CC 113	
PRESTRESSED CONCRETE				NAME AND MODEL RAYMOND O-O-O-O			
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE 39 IN.			
LENGTH FT. IN.		WEIGHT LB.		WEIGHT OF RAM 15,000 LB.			
DESCRIPTION				WEIGHT LB.			
LENGTH FT. IN.				DESCRIPTION (SKETCH ON BACK)			
ELEV. OF CUT-OFF +9.68				ELEV. OF GROUND +11 ±			
ELEV. OF TIP -64.32				LG. CUT-OFF TO TIP 74 FT.			

STARTED DRIVING						FINISHED DRIVING						DRIVING TIME					
A.M. 2:00 PM.						A.M. 2:10 PM.						10 MIN.					
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS		
0	W	10		20		30		40		50	3	60	9	70	11	80	
1	G	11		21		31		41		51	2	61	6	71	17	81	
	G	12		22		32		42		52	3	62	6	72	16	82	
	H	13		23		33		43		53	3	63	5	73		83	
	T	14		24		34		44		54	4	64	5	74		84	
3	O	15		25		35		45		55	6	65	6	75		85	
4	F	16		26		36		46		56	6	66	6	76		86	
5	P	17		27		37		47		57	7	67	10	77		87	
6	I	18		28		38		48	2	58	8	68	9	78		88	
7	E	19		29		39		49	2	59	12	69	10	79		89	
8		20		30		40		50		60		70		80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
 NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
 † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CU. FT. OF WOOD BY WEIGHING A BUTT SECTION.
 (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
 ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
 ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, FLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HI = 16.22

HEAVE READINGS

PRE DRIVING - FT.

1 4.95
 2 5.04
 3 5.03
 4 4.94

POST DRIVING - FT.

1 4.95
 2 5.04
 3 5.03
 4 4.92

PILE INSPECTOR

Δ - FT

1 0.00
 2 0.00
 3 0.00
 4 0.01

STRUCTURE POWER & LIGHT CO		NORTH OF INTAKE		CONTRACTOR RAYMOND		HAMMER NO. 103 CC 113	
PRESTRESSED CONCRETE				MAKE AND MODEL RAYMOND O-O-O-O			
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE 39 IN.			
LENGTH FT. IN.		WEIGHT LB.		WEIGHT OF RAM 15,000 LB.			
DESCRIPTION				WEIGHT LB.			
LENGTH FT. IN.				DESCRIPTION (SKETCH CL. BACK)			
DESCRIPTION				STOPPED FOR LUNCH @ 12:45			
LENGTH FT. IN.				ENCOUNTERED HARD DRILLING			
ELEV OF CUTOFF +10.42				ELEV OF GROUND +11 ±			
ELEV OF TIP -63.53				LG. CUTOFF TO TIP 74 FT. IN			

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME			
11:55 A.M.				12:45 P.M.				20 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	
1	E	11		21		31		41		51	
2	G	12		22		32		42		52	
3	H	13		23		33		43		53	
4	T	14		24		34		44		54	
5	O	15		25		35		45		55	
6	F	16		26		36		46		56	
7	P	17		27		37		47		57	
8	I	18		28		38		48		58	
9	L	19		29		39		49		59	
10	E	20		30		40		50		60	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
 NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND, SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
 (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BENDING, DAMAGE, DRIVING SHOE, ETC.

N

1

2

4

3

HI = 13.75

LOCATION - 2

HEAVE READINGS

PRE DRIVING - FT.

- 1 2.86
- 2 2.52
- 3 2.73
- 4 2.93

POST DRIVING - FT.

- 1 2.36
- 2 2.32
- 3 2.78
- 4 2.93

PILE INSPECTOR

Δ - FT

- 1 0.00
- 2 0.00
- 3 0.00
- 4 0.00

POWER & LIGHT CO		STRUCTURE NORTH OF INTAKE		CONTRACTOR RAYMOND		HATCHER NO. CC 115		NO. 15 738-25-10-15	
PRESTRESSED CONCRETE						RAYMOND 0-0-0-0			
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		HAMMER		STROKE			
LENGTH FT. IN.		WEIGHT LB.				SPEED 39 IN. PER S. 15			
DESCRIPTION		WEIGHT		REMARKS		WEIGHT OF RAM 15,000 LB.			
LENGTH FT. IN.		WEIGHT LB.				WEIGHT LB. DESCRIPTION (SEE INSTRUCTIONS)			
DESCRIPTION		WEIGHT		REMARKS		WEIGHT LB. DESCRIPTION (SEE INSTRUCTIONS)			
LENGTH FT. IN.		WEIGHT LB.				WEIGHT LB. DESCRIPTION (SEE INSTRUCTIONS)			
ELEV OF CUTOFF +14.90		ELEV OF GROUND +18±		REMARKS		WEIGHT LB. DESCRIPTION (SEE INSTRUCTIONS)			
ELEV OF TIP -59.10		LG. CUTOFF TO TIP 74 FT. IN.				WEIGHT LB. DESCRIPTION (SEE INSTRUCTIONS)			

STARTED DRIVING 10:30 A.M.				FINISHED DRIVING 10:47 A.M.				DRIVING TIME 17 MIN.									
		PM.				PM.											
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50		60	6	70	10	80	
1	E	11		21		31		41		51		61	7	71	14	81	
2	G	12		22		32		42		52		62	7	72	14	82	
3	H	13		23		33		43		53	1	63	8	73	19	83	
4	O	14		24		34		44		54	1	64	8	74	25	84	
5	E	15		25		35		45		55	2	65	9	75	25	85	
6	P	16		26		36		46		56	2	66	11	76	27	86	
7	I	17		27		37		47		57	2	67	13	77	28	87	
8	L	18		28		38		48		58	4	68	15	78		88	
9	E	19		29		39		49		59	4	69	15	79		89	
10	V	20		30		40		50		60	6	70	16	80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
 † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
 ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
 ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

12

HI = 27.55

43

HEAVE READINGS	
PRE DRIVING - FT.	
1	4.62
2	4.62
3	4.59
4	4.60
POST DRIVING - FT.	
1	4.67
2	4.61
3	4.59
4	4.60

PILE INSPECTOR	
Δ - FT	
1	0.00
2	0.01
3	0.00
4	0.00

LOCATION - 4

(-) INDICATES SETTLEMENT

CLIENT: DA POWER & LIGHT CO		STRUCTURE: NORTH OF INTAKE		CONTRACTOR: RAYMOND		HAMMER NO.: CC 113		JOB NO.: 9530.067		DATE: 10-16-71	
PRESTRESSED CONCRETE						MAKE AND MODEL: RAYMOND O-O-O-O					
TOP DIAMETER: 18 IN.		BUTT DIAMETER: 18 IN.		HAMMER		STROKE: 39 IN.		MEAS. 1 IN.			
LENGTH: FT. IN.		WEIGHT: LB.				WEIGHT OF RAIL: 15,000 LB.					
DESCRIPTION:						WEIGHT: LB.		DESCRIPTION (SEECH ON BACK):			
LENGTH: FT. IN.						WEIGHT: LB.					
DESCRIPTION:											
LENGTH: FT. IN.						WEIGHT: LB.					
ELEV OF CUTOFF: +14.57				ELEV OF GROUND: +18±							
ELEV OF TIP: -59.53				LG. CUTOFF TO TIP: 74 FT. IN.							

STARTED DRIVING: 3:16 PM						FINISHED DRIVING: 3:25 PM						DRIVING TIME: 19 MIN.					
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
1	11	21	31	41	51	61	71	81	91	101	111	121	131	141	151	161	171
2	12	22	32	42	52	62	72	82	92	102	112	122	132	142	152	162	172
3	13	23	33	43	53	63	73	83	93	103	113	123	133	143	153	163	173
4	14	24	34	44	54	64	74	84	94	104	114	124	134	144	154	164	174
5	15	25	35	45	55	65	75	85	95	105	115	125	135	145	155	165	175
6	16	26	36	46	56	66	76	86	96	106	116	126	136	146	156	166	176
7	17	27	37	47	57	67	77	87	97	107	117	127	137	147	157	167	177
8	18	28	38	48	58	68	78	88	98	108	118	128	138	148	158	168	178
9	19	29	39	49	59	69	79	89	99	109	119	129	139	149	159	169	179
10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND, SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOCK, ETC.

1

2

3

4

HI = 22.85

LOCATION - 4

2

3

HEAVE READINGS

PRE DRIVING - FT.

1 4.55

2 4.55

3 4.55

4 4.56

POST DRIVING - FT.

1 4.59

2 4.57

3 4.55

4 4.56

PILE INSPECTOR

Δ - FT

1 0.00

2 0.01

3 0.00

4 0.00

STRUCTURE NORTH OF INTAKE COLLECTOR RAYMOND
 POWER & LIGHT CO. CC 113 7557-0010-14-7

PRESTRESSED CONCRETE

TIP DIAMETER	18 IN.	BUTT DIAMETER	18 IN.
LENGTH	FT. IN.	WEIGHT	LB.
DESCRIPTION		WEIGHT LB.	
LENGTH		WEIGHT	
DESCRIPTION		WEIGHT	
LENGTH		WEIGHT	
ELEV OF CUTOFF +10.46		ELEV OF GROUND +11 ±	
ELEV OF TIP -63.54		LG. CUTOFF TO TIP 74 FT. IN.	

REMARKS: ENCOUNTERED HARD DRILLING

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME							
A.M. 1:00 PM				A.M. 1:15 PM				15 MIN.							
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	3	60	13	70	29
1	E	11		21		31		41		51	4	61	10	71	22
2	G	12		22		32		42		52	5	62	9	72	21
3	H	13		23		33		43		53	7	63	9	73	23
4	O	14		24		34		44		54	7	64	11	74	24
5	F	15		25		35		45		55	8	65	12	75	25
6	P	16		26		36		46	2	56	3	66	11	76	26
7	L	17		27		37		47	2	57	11	67	14	77	27
8	E	18		28		38		48	2	58	11	68	15	78	28
9		19		29		39		49	3	59	12	69	18	79	29
10	V	20		30		40		50		60		70		80	30

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
 NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
 † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
 (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
 ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
 ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, FLUMBISS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.		POST DRIVING - FT.	
1	4.95	1	4.95
2	5.04	2	5.04
3	5.03	3	5.03
4	4.94	4	4.93

HI = 16.22

LOCATION - 3

PILE INSPECTOR

Δ - FT	
1	0.00
2	0.00
3	0.00
4	0.00

POWER-LIGHT CO. STRUCTURE NORTH OF INTAKE

CONTRACTOR RAYMOND

HAMMER NO. 20 NO. 1049
CC 113 923003 10-15

PRESTRESSED CONCRETE

MAKE AND MODEL

RAYMOND O-O-O-O

TIP DIAMETER	18 IN.	BUTT DIAMETER	18 IN.
LENGTH	FT. IN.	WEIGHT	LB.

STROKE	RATED 39	IN.	UTS	IN.
WEIGHT OF RAM	15,000 LB.			

DESCRIPTION			
LENGTH	FT. IN.	WEIGHT	LB.

WEIGHT	LB.	DESCRIPTION (SKETCH ON BACK)	
--------	-----	------------------------------	--

DESCRIPTION			
LENGTH	FT. IN.	WEIGHT	LB.

DRILLED TO EL. - 52

ELEV OF CUTOFF	+14.93	ELEV OF GROUND	+18.4
ELEV OF TIP	-59.07	LG. CUTOFF TO TIP	74 FT. IN.

STARTED DRIVING 11:17 A.M. P.M. FINISHED DRIVING 11:30 A.M. P.M. DRIVING TIME 13 MIN.

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0		10		20		30		40		50		60	6	70	12	80	
1	W	11		21		31		41		51		61	8	71	11	81	
2	E	12		22		32		42		52		62	8	72	15	82	
3	G	13		23		33		43		53		63	8	73	21	83	
4	H	14		24		34		44		54		64	8	74	13	84	
5	T	15		25		35		45		55		65	10	75	17	85	
6	F	16		26		36		46		56	2	66	11	76	17	86	
7	P	17		27		37		47		57	2	67	11	77		87	
8	L	18		28		38		48		58	3	68	14	78		88	
9	E	19		29		39		49		59	3	69	11	79		89	
10		20		30		40		50		60	6	70	9	80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
 † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
 (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
 ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
 ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

1 4.53
 2 4.56
 3 4.54
 4 4.55

POST DRIVING - FT.

1 4.57
 2 4.54
 3 4.54
 4 4.55

PILE INSPECTOR

Δ - FT

1 -0.01
 2 0.00
 3 6.00
 4 0.00

HI = 22.35

LOCATION - 4

(-) INDICATES SETTLEMENT

OWNER: POWER & LIGHT CO. STRUCTURE: NORTH OF INTAKE CONTRACTOR: RAYMOND NUMBER NO.: CC 113 JOB NO.: 9520.01 DATE: 10-18-72

PRESTRESSED CONCRETE				HAMMER	RAYMOND 0-0-0-0			
TOP DIAMETER 18 IN.		BUFT DIAMETER 18 IN.			STROKE 39 IN. WEIGHT 15,000 LB.			
LENGTH		WEIGHT		REMARKS	WEIGHT		DESCRIPTION (SKETCH ON BACK)	
FT. IN.		LB.			LB.			
DESCRIPTION				REMARKS				
LENGTH		WEIGHT						
FT. IN.		LB.						
DESCRIPTION				REMARKS				
LENGTH		WEIGHT						
FT. IN.		LB.						
ELEV OF CUTOFF +15.16		ELEV OF GROUND +18.4						
ELEV OF TIP -53.34		LG. CUTOFF TO TIP 7 1/2 FT. IN.						

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME			
A.M.				A.M.				12 M.M.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40	3	50	5
1	E	11		21		31		41	5	51	14
2	6	12		22		32		42	2	52	6
3	H	13		23		33		43	7	53	10
4	7	14		24		34		44	7	54	23
5	O	15		25		35		45	2	55	3
6	P	16		26		36		46	1	56	9
7	L	17		27		37		47	1	57	12
8	E	18		28		38		48	3	58	15
9		19		29		39		49	4	59	13
10		20		30		40		50	2	60	4
									4		14

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUFT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1	2	HEAVE READINGS	
HI = 22.35		PRE DRIVING - FT.	
		1	4.57
		2	4.54
		3	4.59
		4	4.56
		POST DRIVING - FT.	
		1	4.58
		2	4.56
		3	4.55
		4	4.56
LOCATION - 4		PILE INSPECTOR	
		Δ - FT	
		1	0.01
		2	0.00
		3	0.01
		4	0.00

CONTINUOUS FILE DRIVING RECORD (FOR USE WITH "HULLS" OR "LOGS" - "PILERS" ONLY)

DRIVEN BY: J. B. HULLS, INC.

10-1

CLIENT: FLORIDA POWER & LIGHT CO.		STRUCTURE: NORTH OF INTAKE		CONTRACTOR: RAYMOND		PILING NO.: CC 113		NO. OF PILES: 33		DATE: 10-16	
PILE TYPE: PRESTRESSED CONCRETE										MAKE AND MODEL: RAYMOND O-O-O-O	
TIP DIAMETER: 18 IN.		BUIT DIAMETER: 18 IN.		STROKE: 39 IN.		WEIGHT OF RAM: 15,000 LB.		WEIGHT: LB.		DESCRIPTION (SKETCH ON JACK)	
LENGTH: FT. IN.		WEIGHT: LB.		REMARKS: DRILLED TO EL. - 52							
DESCRIPTION:		LENGTH: FT. IN.		WEIGHT: LB.							
DESCRIPTION:		LENGTH: FT. IN.		WEIGHT: LB.							
ELEV OF CUTOFF: +15.31		ELEV OF GROUND: +18.4		REMARKS: DRILLED TO EL. - 52							
ELEV OF TIP: -53.69		LG. CUTOFF TO TIP: 74 FT. IN.									

STARTED DRIVING: A.M. 12:45 P.M. FINISHED DRIVING: A.M. 1:00 P.M. DRIVING TIME: 15 MIN.

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0		10		20		30		40	17	50	10	60	8	70	12	80	
1	W	11		21		31		41	19	51	10	61	9	71	16	81	
	E																
	I	12		22		32		42	18	52	9	62	9	72	31	82	
	G																
3	H	13		23		33		43	19	53	3	63	3	73	27	83	
	J																
4	O	14		24		34		44	18	54	4	64	10	74	26	84	
	F																
5	P	15		25		35		45	17	55	4	65	11	75	26	85	
	I																
6	L	16		26		36		46	15	56	3	66	16	76	27	86	
	E																
7		17		27		37		47	16	57	5	67	16	77		87	
8		18		28		38	9	48	13	58	5	68	15	78		88	
9		19		29		39	11	49	12	59	7	69	13	79		89	
10		20		30		40		50		60		70		80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND, SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUIT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
§ JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1 2
HI = 22.35
4 3

LOCATION - 4

HEAVE READINGS

PRE DRIVING - FT.

1 4.57
2 4.56
3 4.54
4 4.55

POST DRIVING - FT.

1 4.57
2 4.56
3 4.54
4 4.56

PILE INSPECTOR

Δ - FT

1 6.00
2 0.00
3 0.00
4 0.01

EL 1000 CHANGES 4-10

11-1

POWER & LIGHT CO. STRUCTURE SOUTH OF INTAKE CO. RAYMOND HAMMER NO. 10 CC 113 73-10-11-7

PRESTRESSED CONCRETE

RAYMOND 0-0-0-0

TIP DIAMETER	18 IN.	BUTT DIAMETER	18 IN.
LENGTH	FT. IN.	WEIGHT	LB.

STROKE	39	IN.	15.000 LB.
WEIGHT	LB.	DESCRIPTION (SKETCH ON BACK)	

DESCRIPTION	LENGTH	FT. IN.	WEIGHT	LB.
-------------	--------	---------	--------	-----

DESCRIPTION	LENGTH	FT. IN.	WEIGHT	LB.
-------------	--------	---------	--------	-----

ELEV OF CUTOFF	+14.15'	ELEV OF GROUND	+15'
ELEV OF TIP	-60.35'	LG. CUTOFF TO TIP	75 FT. IN.

DRILLED TO 70' 5 TIMES

STARTED DRIVING A.M. 2:25 P.M. FINISHED DRIVING A.M. 2:40 P.M. DRIVING TIME 15 MIN.

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0		10		20		30		40		50		60	32	70	43	80	
1	W	11		21		31		41		51		61	39	71	46	81	
2	E	12		22		32		42		52		62	43	72	40	82	
3	G	13		23		33		43		53		63	46	73	41	83	
4	H	14		24		34		44		54		64	44	74	41	84	
5	T	15		25		35		45		55		65	43	75	41	85	
6	O	16		26		36		46		56	10	66	51	76		86	
7	F	17		27		37		47		57	17	67	55	77		87	
8	P	18		28		38		48		58	16	68	43	78		88	
9	I	19		29		39		49		59		69	47	79		89	
10	L	20		30		40		50		60		70		80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKES DURING DRIVING.
- § JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

- 4.41
- 4.37
- 4.28
- 4.37

POST DRIVING - FT.

- 4.41
- 4.32
- 4.28
- 4.37

PILE INSPECTOR

Δ - FT

- 0.00
- 0.00
- 0.00
- 0.00

HI = 19.58

LOCATION - 9

POWER & LIGHT CO		STRUCTURE SOUTH OF INTAKE		CONTRACTOR RAYMOND		PROJECT NO. CC 113	
PRESTRESSED CONCRETE				RAYMOND O-O-O-O			
TIP DIAMETER 18 IN.		BUIT DIAMETER 18 IN.		HAMMER STROKE RATED 39 IN. WEIS # WEIGHT OF RAM 15,000 LB.			
LENGTH FT. IN.		WEIGHT LB.					
DESCRIPTION				WEIGHT LB.			
LENGTH FT. IN.		WEIGHT LB.		REMARKS DRILLED TO 75' 5 TIMES WAS STOPPED TO REPAIR PLANTER IN BOOM DEPT 50'			
DESCRIPTION							
LENGTH FT. IN.		WEIGHT LB.					
ELEV OF CUTOFF +13.96		ELEV OF GROUND +15'					
ELEV OF TIP -61.04		LG. CUTOFF TO TP 75 FT. IN.					

STARTED DRIVING						FINISHED DRIVING						DRIVING TIME					
A.M. 1:15 P.M.						A.M. 1:55 P.M.						40 MIN.					
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS		
0	W	10		20		30		40		50		60	34	70	64		
1	E	11		21		31		41		51		61	29	71	51		
2	G	12		22		32		42		52		62	35	72	44		
3	H	13		23		33		43		53		63		73	35		
4	O	14		24		34		44		54	4	64	37	74	35		
5	F	15		25		35		45		55	14	65	41	75	30		
6	P	16		26		36		46		56	14	66	41	76	30		
7	I	17		27		37		47		57	25	67	49	77			
8	L	18		28		38		48		58	25	68	52	78			
9		19		29		39		49		59	27	69	57	79			
10		20		30		40		50		60	27	70	52	80			

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND, SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUIT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
§ JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1
2

HI = 19.58

4
3

LOCATION - 9

HEAVE READINGS

PRE DRIVING - FT.

1 4.41
2 4.32
3 4.23
4 4.36

POST DRIVING - FT.

1 4.41
2 4.32
3 4.23
4 4.36

PILE INSPECTOR

Δ - FT
1 0.00
2 0.00
3 0.00
4 0.00

STRUCTURE FLORIDA POWER & LIGHT CO		LOCATION SOUTH OF INTAKE		CONTRACTOR RAYMOND		PILE NO. CC 113		DATE 11/11/73	
PRESTRESSED CONCRETE				RAYMOND 0-0-0-0					
TOP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		HAMMER STROKE 39 IN. MEAS. 15,000 LB.		WEIGHT 15,000 LB.		DESCRIPTION (SEECH ON BACK)	
LENGTH FT. IN.		WEIGHT LB.							
DESCRIPTION				REMARKS		WEIGHT LB.		DESCRIPTION (SEECH ON BACK)	
LENGTH FT. IN.		WEIGHT LB.							
DESCRIPTION				REMARKS		WEIGHT LB.		DESCRIPTION (SEECH ON BACK)	
LENGTH FT. IN.		WEIGHT LB.							
ELEV OF CUTOFF +14.01		ELEV OF GROUND +15'		REMARKS		WEIGHT LB.		DESCRIPTION (SEECH ON BACK)	
ELEV OF TIP -60.99		LG. CUTOFF TO TIP 75 FT. IN.							

STARTED DRIVING 11:45 A.M.				FINISHED DRIVING A.M.				DRIVING TIME 12:05 P.M.				20 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0		10		20		30		40		50		60	13	70	77
1	W	11		21		31		41		51		61	17	71	81
	E														
	I	12		22		32		42		52		62	17	72	82
	G														
	H	13		23		33		43		53		63	21	73	83
	J														
4	O	14		24		34		44		54		64	24	74	84
	F														
5	P	15		25		35		45		55		65	33	75	85
6	L	16		26		36		46		56		66	33	76	86
7	E	17		27		37		47		57	2	67	44	77	87
8		18		28		38		48		58	8	68	60	78	88
9		19		29		39		49		59	12	69	73	79	89
10		20		30		40		50		60	12	70	74	80	90

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SAGE, ETC.

1
2
HI = 19.58
4
3

HEAVE READINGS

PRE DRIVING - FT.

1	4.41
2	4.32
3	4.23
4	4.36

POST DRIVING - FT.

1	4.41
2	4.32
3	4.23
4	4.36

LOCATION - 9

PILE INSPECTOR

A - FT

1	0.00
2	0.00
3	0.00
4	0.00

POWER & LIGHT CO. STRUCTURE SOUTH OF INTAKE CONTRACTOR RAYMOND. HANDED TO CC 113 9360.00 11/7/77

PRESTRESSED CONCRETE				RAYMOND C.O.O.O			
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE 39 IN. WEIGHT 15,000 LB.			
LENGTH FT. IN.		WEIGHT LB.		WEIGHT LB. DESCRIPTION (SEECH ON BACK)			
DESCRIPTION				DRILL 4 TIMES TO 65', 1 TIME TO 70'			
LENGTH FT. IN.		WEIGHT LB.		* STOPPED TO REMOVE COLLAR @ 54.3'			
DESCRIPTION				* STOPPED DRIVING & PILE CRACKED @ 73.5'			
LENGTH FT. IN.		WEIGHT LB.		* STOPPED TO DRILL PILE 65' TO 70'			
ELEV OF CUTOFF +15.14		ELEV OF GROUND +15'					
ELEV OF TIP -59.86		LG. CUTOFF TO TIP 75 FT. IN.					

STARTED DRIVING A.M. 2:50 PM				FINISHED DRIVING A.M. 3:50 PM				DRIVING TIME 60 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	
1	E	11		21		31		41		51	
2	G	12		22		32		42		52	
3	H	13		23		33		43		53	
4	T	14		24		34		44		54	
5	O	15		25		35		45		55	
6	F	16		26		36		46		56	
7	I	17		27		37		47		57	
8	L	18		28		38		48		58	
9	E	19		29		39		49		59	
10		20		30		40		50		60	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CU. FT. OF WOOD BY WEIGHING A BUILT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
§ JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, FLUMBUSS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1 2		HEAVE READINGS	
HI=		PRE DRIVING - FT.	
4 3		1 3.77	
		2 3.72	
		3 3.32	
		4 3.90	
		POST DRIVING - FT.	
		1 3.77	
		2 3.72	
		3 3.82	
		4 3.90	

PILE INSPECTOR	
Δ - FT	
1	0.00
2	0.00
3	0.00
4	0.00

LOCATION - 7

STRUCTURE SOUTH OF INTAKE		LOCATION RAYMOND		PAPER NO. CC 113		JOB NO. 7552.CA. 11/6/75	
MATERIAL PRESTRESSED CONCRETE				MAKE AND MODEL RAYMOND 0-0-0-0			
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE 59 IN.			
LENGTH FT. IN.		WEIGHT LB.		WEIGHT OF RAM 15,000 LB.			
DESCRIPTION				WEIGHT LB.			
LENGTH FT. IN.		WEIGHT LB.		DESCRIPTION (SKETCH ON BACK)			
DESCRIPTION							
LENGTH FT. IN.		WEIGHT LB.					
ELEV. OF CUTOFF +14.28'		ELEV. OF GROUND +15'					
ELEV. OF TIP -60.72'		LG. CUTOFF TO TIP 75 FT. IN.					

STARTED DRIVING A.M. 4:00 PM.				FINISHED DRIVING A.M. 4:20 PM.				DRIVING TIME 20 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0		10		20		30		40		50	
1	W	11		21		31		41		51	
2	E	12		22		32		42		52	
3	I	13		23		33		43		53	
4	G	14		24		34		44		54	
5	H	15		25		35		45		55	
6	T	16		26		36		46		56	
7	O	17		27		37		47		57	
8	F	18		28		38		48		58	
9	P	19		29		39		49		59	
10	L	20		30		40		50		60	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- + FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- + NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1
2

HI = 1937

4
3

HEAVE READINGS	
PRE DRIVING - FT.	
1	3.85
2	3.78
3	3.88
4	3.95
POST DRIVING - FT.	
1	3.85
2	3.78
3	3.88
4	3.95

PILE INSPECTOR	
Δ - FT	
1	0.00
2	0.00
3	0.00
4	0.00

POWER & LIGHT CO		STRUCTURE: SOUTH OF INTAKE		LOCATION: RAYMOND		HAMMER CO. 38 13 CC 113 7380.00 11-3-7	
PILE: PRESTRESSED CONCRETE				MAKE AND MODEL: RAYMOND 0-0-0-0			
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE 39 IN. MEAS 1 IN.			
LENGTH . FT. IN.		WEIGHT 1 LB.		WEIGHT OF RAM 15,000 LB.			
DESCRIPTION				WEIGHT LB. DESCRIPTION (SKETCH ON BACK)			
LENGTH FT. IN.		WEIGHT LB.					
DESCRIPTION				DRILLED 3 TIMES			
LENGTH FT. IN.		WEIGHT LB.		PILE TOP BEHIND, BUT BELOW GROUND			
ELEV OF CUTOFF +15.06		ELEV OF GROUND +15'		26 STROKES PER MINUTE			
ELEV OF TIP -64.94		LG. CUTOFF TO TIP 80 FT. IN.					

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME							
A.M. 4:10 PM.				A.M. 4:35 PM.				25 MIN.							
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50		60	16	70	62
1	E	11		21		31		41		51		61	17	71	63
	G	12		22		32		42		52		62	21	72	66
	H												31	73	68
3	T	15		23		33		43		53		63	41	74	71
4	O	14		24		34		44		54		64	41	74	71
	F												52	75	73
5	P	15		25		35		45		55		65	52	75	73
6	I	16		26		36		46		56		66	57	76	75
	L												62	77	77
7	E	17		27		37		47		57	6	67	67	77	81
8		18		28		38		48		58		68	67	78	82
9		19		29		39		49		59	10	61	61	79	83
10		20		30		40		50		60	13	79	79	80	84

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
 † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
 ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
 §§ JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, FLUMBLINESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1
 2
 HI = 19.03
 4
 3

HEAVE READINGS

PRE DRIVING - FT.

1 4.21
2 4.25
3 4.32
4 4.29

POST DRIVING - FT.

1 4.21
2 4.25
3 4.32
4 4.19

PILE INSPECTOR

A - FT

1 0.00
2 0.00
3 0.00
4 0.00

STRUCTURE POWER & LIGHT CO. SOUTH OF INTAKE		CONTRACTOR RAYMOND		PILE NO. CC 113		DATE 11-3-79	
PRESTRESSED CONCRETE				MAKE AND MODEL RAYMOND O-O-O-O			
TIP DIAMETER 13 IN.		BUTT DIAMETER 18 IN.		STROKE 39 IN.			
LENGTH FT. IN.		WEIGHT LB.		WEIGHT OF PILE 13,000 LB.			
DESCRIPTION				WEIGHT LB.			
LENGTH FT. IN.		WEIGHT LB.		DESCRIPTION (SKETCH ON BACK)			
DESCRIPTION				* STOPPED DRIVING AT 70' AND 73' BLOWS			
LENGTH FT. IN.		WEIGHT LB.		6" WOOD. PILE CAP USED			
DESCRIPTION				DRILLED 4 TIMES			
ELEV. OF CUTOFF + 15.11		ELEV. OF GROUND + 15'					
ELEV. OF TIP - 64.89		LG. CUTOFF TO TIP 80 FT. IN.					

STARTED DRIVING 10:50 A.M.				FINISHED DRIVING 11:10 A.M.				DRIVING TIME 20 MIN.							
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50		60	13	70	26
1	E	11		21		31		41		51		61	16	71	28
2	G	12		22		32		42		52		62	20	72	31
3	H	13		23		33		43		53		63	26	73	35
4	O	14		24		34		44		54		64	32	74	40
5	F	15		25		35		45		55		65	37	75	42
6	P	16		26		36		46		56		66	38	76	38
7	L	17		27		37		47		57		67	50	77	28
8		18		28		38		48		58		68	70	78	36
9		19		29		39		49		59		69	32	79	24
10		20		30		40		50		60		70	105	80	205

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, FLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1
2

HI = 19.03

4
3

HEAVE READINGS	
PRE DRIVING - FT.	
1	4.21
2	4.15
3	4.32
4	4.29
POST DRIVING - FT.	
1	4.21
2	4.15
3	4.32
4	4.29

PILE INSPECTOR	
Δ - FT	
1	0.00
2	0.00
3	0.03
4	0.00

LOCATION - 6

LOUISIANA POWER & LIGHT CO. STRUCTURE SOUTH OF INTAKE RAYMOND MAKE AND MODEL RAYMOND 0-0-0-0

PRESTRESSED CONCRETE

TIP DIAMETER	18 IN.	BUTT DIAMETER	18 IN.
LENGTH	FT. IN.	WEIGHT	LB.

DESCRIPTION	
LENGTH	FT. IN.
WEIGHT	LB.

DESCRIPTION	
LENGTH	FT. IN.
WEIGHT	LB.

ELEV OF CUTOFF	+12.39	ELEV OF GROUND	+15±
ELEV OF TIP	-59.61'	LG. CUTOFF TO TIP	72 FT. IN.

STROKE	39 IN.	WEIGHT	15,000 LB.
WEIGHT OF RAM		DESCRIPTION (SKETCH ON BACK)	

TEST USING "GREEN" PILE

STARTED DRIVING	10:10 A.M.	FINISHED DRIVING		DRIVING TIME	
-----------------	------------	------------------	--	--------------	--

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50		60	11	70	INITIAL	80	
1	E	11		21		31		41		51		61	16	71	SAGGING	81	
2	G	12		22		32		42		52		62	13	72	DRILL	82	
3	L	13		23		33		43		53		63	13	73	7-20-21	83	
4	O	14		24		34		44		54		64	PILE	74	21 BLOWS	84	
5	F	15		25		35		45		55		65	3-1-2	75	1-1-1	85	
6	P	16		26		36		46		56		66	1-1-1	76	2-1-1	86	
7	L	17		27		37		47		57		67	ATTENT	77		87	
8	E	18		28		38		48		58		68	TO GROUND	78		88	
9		19		29		39		49		59		69	FILE	79		89	
10		20		30		40		50		60		70	SHOULDER	80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- + FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- * NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

1
2
3
4

POST DRIVING - FT.

1
2
3
4

PILE INSPECTOR

Δ - FT

1
2
3
4

HI=

LOCATION-

A POWER LIGHT CO. SOUTH OF INTAKE RAYMOND POWER CO. 113 7320.03/11/3/75

PRESTRESSED CONCRETE				HAMMER	RAYMOND 0-0-0-0				
TOP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.			STROKE				
LENGTH FT. IN.		WEIGHT LB.			RATED 39 IN. MEAS. 1 IN.				
DESCRIPTION					WEIGHT OF RAM 15,000 LB.				
LENGTH FT. IN.		WEIGHT LB.		REMARKS	WEIGHT LB.				
DESCRIPTION					DESCRIPTION (SKETCH ON BACK)				
ELEV OF CUTOFF +13.59		ELEV OF GROUND +15'			* STOPPED TO REMOVE SUPPORT '50.5'				
ELEV OF TIP -66.41		LG. CUTOFF TO TIP 80 FT. IN.			1' WOOD CUSHION				
				DRILLED 6 TIMES TO 70'					

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME			
A.M. 3:00 P.M.				A.M. 3:30 P.M.				30 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	
1	E	11		21		31		41		51	
2	C	12		22		32		42		52	
3	H	13		23		33		43		53	
4	P	14		24		34		44		54	
5	F	15		25		35		45		55	
6	L	16		26		36		46		56	
7		17		27		37		47		57	
8		18		28		38		48		58	
9		19		29		39		49		59	
10		20		30		40		50		60	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
 † FOR WOOD PILES, DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
 ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
 ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

LOCATION - 6

HI = 19.03

HEAVE READINGS

PRE DRIVING - FT.	
1	4.31
2	4.25
3	4.32
4	4.29
POST DRIVING - FT.	
1	4.21
2	4.25
3	4.32
4	4.28

PILE INSPECTOR

Δ - FT

1	0.00
2	0.00
3	0.00
4	-0.01

(-) INDICATES SETTLEMENT

POWER & LIGHT CO. STRUCTURE SOUTH OF INTAKE LOCATION RAYMOND HAMMER CO. 1313 CC 113 11-10-75

PRESTRESSED CONCRETE

TIP DIAMETER 18 IN.	BUTT DIAMETER 18 IN.	HAMMER	STROKE
LENGTH FT. IN.	WEIGHT LB.		FEET 39 IN. MEAS. IN.
DESCRIPTION		REMARKS	WEIGHT LB.
LENGTH FT. IN.			DESCRIPTION (SKETCH ON BACK)
DESCRIPTION		REMARKS	FILE MARKS - DEEP CONCRETE
LENGTH FT. IN.			FILE MARKS - DEEP CONCRETE
ELEV. OF CUTOFF +11.92'		REMARKS	FILE RE-FT. 0 ON 11-12-75
ELEV. OF TIP -48.03			FILE RE-FT. 0 ON 11-12-75
ELEV. OF GROUND +12'		REMARKS	FILE RE-FT. 0 ON 11-12-75
LG. CUTOFF TO TIP 60 FT. IN.			FILE RE-FT. 0 ON 11-12-75

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME			
A.M.				P.M.				M.M.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	
1	F	11		21		31		41		51	
2	6	12		22		32		42		52	
3	H	13		23		33		43		53	
4	T	14		24		34		44		54	
5	O	15		25		35		45		55	
6	F	16		26		36		46		56	
7	P	17		27		37		47		57	
8	I	18		28		38		48		58	
9	L	19		29		39		49		59	
10	E	20		30		40		50		60	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBING, BINDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.	1 4.64
	2 4.67
	3 4.69
	4 4.70
POST DRIVING - FT.	1 NO
	2 READING
	3
	4

LOCATION - 6

PILE INSPECTOR

Δ - FT

1 2 3 4

X

* - PILE BREAKING AGAIN 11/12/75

** - MORE BREAKAGE

11-11

LOUISIANA POWER & LIGHT CO.		STRUCTURE SOUTH OF INTAKE		CONTRACTOR RAYMOND		PILE NO. CC 115		DATE 10-28-78	
PRESTRESSED CONCRETE						NAME AND MODEL RAYMOND O-O-O-O			
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE 39 IN.		WEIGHT OF RAM 15,000 LB.		WEIGHT LB.	
LENGTH FT. IN.		WEIGHT LB.		DESCRIPTION		DESCRIPTION (SKETCH ON BACK)			
ELEV OF CUTOFF +9.86		ELEV OF GROUND +12 ±		ELEV OF TIP -64.14		LG. CUTOFF TO TIP 76 FT. IN.			

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME			
A.M. 12:45 P.M.				A.M. 1:22 P.M.				37 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40	23	50	94
1	E	11		21		31		41	25	51	94
2	G	12		22		32		42	27	52	37
3	H	13		23		33		43	25	53	73
4	O	14		24		34		44	23	54	65
5	F	15		25		35		45	33	55	60
6	P	16		26		36		46	44	56	59
7	L	17		27		37		47	55	57	51
8		18		28		38		48	21	58	45
9		19		29		39		49	27	59	40
10		20		30		40		50		60	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOCK, ETC.

1 2
HI = 19.46
4 3

HEAVE READINGS

PRE DRIVING - FT.

1 4.65
2 4.67
3 4.67
4 4.70

POST DRIVING - FT.

1 4.64
2 4.67
3 4.67
4 4.70

PILE INSPECTOR

Δ - FT

1 -0.01
2 0.00
3 0.00
4 0.00

LOCATION - 6

(-) INDICATES SETTLEMENT



CONTINUOUS PILE DRIVING RECORD (FOR USE WITH AIR-OPERATED AND DROP HAMMERS ONLY)

12-1

STRUCTURE A POWER LIGHT CO SOUTH OF INTAKE		CONTRACTOR RAYMOND		PILE NO. CC 113		JOB NO. 9310.00111-11-7	
TYPE PRESTRESSED CONCRETE				NAME AND MODEL RAYMOND 0-0-0-0			
TIP DIAMETER 13 IN.		BUTT DIAMETER 13 IN.		STROKE 39 IN.			
LENGTH FT. IN.		WEIGHT LB.		WEIGHT OF RAIL 15,000 LB.			
DESCRIPTION				WEIGHT LB.			
LENGTH FT. IN.		WEIGHT LB.		DESCRIPTION (SKETCH ON BACK)			
DESCRIPTION				* LOW STEAM DRILLED TO 65' 4 TIMES TO 70' 1 TIME			
LENGTH FT. IN.		WEIGHT LB.		* STOPPED TO BUILD STEAM (C 5)			
ELEV OF CUTOFF +14.63		ELEV OF GROUND +15'		* WEDGE CAME OUT OF HAMMER C 5.5'			
ELEV OF TIP -60.37		LG. CUTOFF TO TIP 75 FT. IN.		* KEY WEDGE CAME OUT AGAIN C 62.5'			

STARTED DRIVING 9:25 A.M.				FINISHED DRIVING 10:25 A.M.				DRIVING TIME 60 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	
1	E	11		21		31		41		51	
2	G	12		22		32		42		52	
3	H	13		23		33		43		53	
4	F	14		24		34		44		54	
5	P	15		25		35		45		55	
6	T	16		26		36		46		56	
7	L	17		27		37		47		57	
8	E	18		28		38		48		58	
9		19		29		39		49		59	
10		20		30		40		50		60	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1	2
HI = 19.85	
4	3

HEAVE READINGS

PPE DRIVING - FT.

1 2.41
2 4.32
3 4.27
4 4.36

POST DRIVING - FT.

1 4.41
2 4.32
3 4.28
4 4.36

PILE INSPECTOR

Δ - FT

1 0.00
2 0.00
3 0.01
4 0.00

LOCATION - 9

STRUCTURE A POWER & LIGHT CO. SOUTH OF INTAKE		CONTRACTOR RAYMOND		HATCH NO. 130 NO		DATE 12-2-7	
PRESTRESSED CONCRETE				RAYMOND 0-0-0-0			
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE 39 IN.			
LENGTH FT. IN.		WEIGHT LB.		WEIGHT OF RAM 15,000 LB.			
DESCRIPTION				WEIGHT LB.			
LENGTH FT. IN.				DESCRIPTION (SAY ON BACK)			
DESCRIPTION				* DRILLED 4 TIMES TO 65', 1 TIME TO 70' * HAMMER BONE - LOT OF PRESURE Low STREAM & GETS TO 66' * * * STOPPED @ 66' TO PILE-UP SYSTEM			
ELEV OF CUTOFF +14.04		ELEV OF GROUND +15'		REMARKS			
ELEV OF TIP -60.96'		LG. CUTOFF TO TIP 75 FT.					

STARTED DRIVING						FINISHED DRIVING						DRIVING TIME					
A.M. 3:00 P.M.						A.M. 4:10 P.M.						70 MIN.					
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50		60	53	70	40	80	
1	E	11		21		31		41		51		61	53	71	32	81	
2	G	12		22		32		42		52		62	56	72	31	82	
3	H	13		23		33		43		53		63	55	73	36	83	
4	O	14		24		34		44		54		64	55	74	38	84	
5	F	15		25		35		45		55		65	55	75	38	85	
6	P	16		26		36		46		56	12	66	70	76	38	86	
7	L	17		27		37		47		57	23	67	60	77		87	
8	E	18		28		38		48		58	33	68	40	78		88	
9		19		29		39		49		59	33	69	44	79		89	
10		20		30		40		50		60	45	70	35	80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION).
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1
2

HI = 19.62

4
3

LOCATION - 9

PEAVE READINGS	
PRE DRIVING - FT.	
1	4.44
2	4.36
3	4.30
4	4.40
POST DRIVING - FT.	
1	4.46
2	4.35
3	4.30
4	4.39

FILE INSPECTOR	
Δ - FT	
1	40.02
2	0.01
3	0.03
4	0.01

POWER-LIGHT CO.		STRUCTURE SOUTH OF INTAKE		RAYMOND		HAMMER NO. CC 113		DATE 11-10-7	
PRESTRESSED CONCRETE									
TIP DIAMETER 18 IN.		BUIT DIAMETER 18 IN.		STROKE 39 IN.		WEIGHT 15,000 LB.		WEIGHT OF RAM 15,000 LB.	
LENGTH FT. IN.		WEIGHT LB.		REMARKS		DESCRIPTION (SKETCH ON BACK)			
DESCRIPTION		LENGTH FT. IN.		WEIGHT LB.		2 TIMES TO 50' 1 TIME TO 75' STOP AT 75'			
ELEV OF CUTOFF + 14.02'		ELEV OF GROUND + 15'		ELEV OF TIP - 60.93		LG. CUTOFF TO TIP 75 FT. IN.		5' STOPPED TO REMOVE COLLAR AT 50'	
ELEV OF TIP - 60.93		LG. CUTOFF TO TIP 75 FT. IN.		4' STOPPED AT 60' TO REIN. STOPPED		HOW STOPPED TO BUILD STRAIN E 75'			

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME							
9:45 A.M.				10:25 A.M.				40 MIN.							
P.M.				P.M.											
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	4	60	67	70	80
1	S	11		21		31		41		51	10	61	73	71	81
2	G	12		22		32		42		52	15	62	75	72	82
3	H	13		23		33		43		53	21	63	77	73	83
4	F	14		24		34		44		54	27	64	79	74	84
5	P	15		25		35		45		55	32	65	81	75	85
6	L	16		26		36		46		56	37	66	82	76	86
7	E	17		27		37		47		57	47	67	84	77	87
8		18		28		38		48		58	57	68	87	78	88
9		19		29		39		49		59	63	69	89	79	89
10		20		30		40		50		60		70		80	90

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
 † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
 ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
 ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1
 2
 HI = 19.67
 4
 3

HEAVE READINGS

PRE DRIVING - FT.

1 3.94
2 3.70
3 3.94
4 3.93

POST DRIVING - FT.

1 3.74
2 3.73
3 3.94
4 3.98

PILE INSPECTOR

Δ - FT.	
1	0.00
2	0.00
3	0.00
4	0.00

12-4

OWNER: A POWER & LIGHT CO. STRUCTURE: SOUTH OF INTAKE CONTRACTOR: RAYMOND HAMMER NO. CC 113

PRESTRESSED CONCRETE

TIP DIAMETER 18 IN. BUTT DIAMETER 18 IN.

LENGTH FT. IN. WEIGHT LB.

DESCRIPTION

LENGTH FT. IN. WEIGHT LB.

DESCRIPTION

LENGTH FT. IN. WEIGHT LB.

ELEV OF CUTOFF + 13.92 ELEV OF GROUND + 15.1

ELEV OF TIP - 61.08' LG. CUTOFF TO TIP 75 FT. IN.

STROKE 39 IN. MEAS. IN.

WEIGHT OF RAM 15,000 LB.

WEIGHT LB. DESCRIPTION (ENTER ON BACK)

PILES CAST 10/13, PILE TOP

DRILLED 4 TIMES TO 65' 1 TIME TO 75'

W STOPPED TO REMOVE COLLAR

W STOPPED TO CORRECT SPACING

STARTED DRIVING 11:50 A.M. FINISHED DRIVING 12:30 P.M. DRIVING TIME 40 MIN.

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	7	60	63	70	43	80	
1	E	11		21		31		41		51	8	61	76	71	33	81	
2	G	12		22		32		42		52	12	62	89	72	35	82	
3	H	13		23		33		43		53	15	63	30	73	39	83	
4	F	14		24		34		44		54	19	64	84	74	37	84	
5	P	15		25		35		45		55	45	65	73	75	35	85	
6	L	16		26		36		46		56	56	66	74	76		86	
7	E	17		27		37		47		57	69	67	77	77		87	
8		18		28		38		48		58	65	68	78	78		88	
9		19		29		39		49		59	67	69	79	79		89	
10		20		30		40		50		60	67	70	73	80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- § JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

1 3.73
2 3.72
3 3.32
4 3.89

POST DRIVING - FT.

1 3.73
2 3.72
3 3.82
4 3.89

PILE INSPECTOR

Δ - FT

1 0.00
2 0.00
3 0.00
4 0.00

HI=19.34

LOCATION - 7

STRUCTURE A POWER & LIGHT CO. SOUTH OF INTAKE		HAMMER NO. RAYMOND CC 113	
PRESTRESSED CONCRETE		MAKE AND MODEL RAYMOND O-O-O-O	
TIP DIAMETER 18 IN.	BUTT DIAMETER 18 IN.	STROKE 39 IN.	WEIGHT 15,000 LB.
LENGTH FT. IN.	WEIGHT LB.	DESCRIPTION (SKETCH ON BACK)	
DESCRIPTION		WEIGHT LB.	
LENGTH FT. IN.		DESCRIPTION (SKETCH ON BACK)	
DESCRIPTION		WEIGHT LB.	
LENGTH FT. IN.		DESCRIPTION (SKETCH ON BACK)	
ELEV OF CUTOFF +14.76'		ELEV OF GROUND + 15	
ELEV OF TIP -60.24		LG. CUTOFF TO TIP 75 FT.	

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME									
11:45 A.M.				P.M.				A.M. 12:05 P.M.				20 MIN.					
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50		60	31	70	32	80	
1	E	11		21		31		41		51		61	36	71	27	81	
2	G	12		22		32		42		52		62	37	72	27	82	
3	H	13		23		33		43		53		63	38	73	27	83	
4	T	14		24		34		44		54		64	40	74	27	84	
5	O	15		25		35		45		55	8	65	35	75	27	85	
6	F	16		26		36		46		56	12	66	35	76	27	86	
7	L	17		27		37		47		57	24	67	37	77	27	87	
8	E	18		28		38		48		58	17	68	37	78	27	88	
9		19		29		39		49		59	17	69	37	79	27	89	
10		20		30		40		50		60	30	70	35	80	27	90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
 NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- § JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1
2
4
3

HI = 19.37

HEAVE READINGS	
PRE DRIVING - FT.	
1	4.13
2	4.11
3	4.15
4	4.24
POST DRIVING - FT.	
1	4.13
2	4.11
3	4.15
4	4.24

Δ - FT	
1	0.00
2	0.00
3	0.00
4	0.00

LOCATION - 7

12-6

POWER-LIGHT CO. STRUCTURE SOUTH OF INTAKE RAYMOND MAKE AND MODEL RAYMOND 0-0-0-0

PRESTRESSED CONCRETE

TIP DIAMETER	13 IN.	BUTT DIAMETER	18 IN.
LENGTH	FT. IN.	WEIGHT	LB.
DESCRIPTION		WEIGHT	
LENGTH		WEIGHT	
DESCRIPTION		WEIGHT	
LENGTH		WEIGHT	
ELEV. OF CUTOFF		ELEV. OF GROUND	
ELEV. OF TIP		LG. CUTOFF TO TIP	

REMARKS: DRILLED 4 TIMES TO 60', 1 TIME TO 65'. * REMOVED COLLAR AT 57' 6". ** PILE BECAME C. 54.5'. MANY STONES PRESENT TO SURFACE DURING DRIVING. PILE STOPPED TO DRIVE C. 54.5'.

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME							
A.M.				A.M.				MIN.							
11/17/75				2:00 P.M.				2:33 P.M.							
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	50	60	71	70	80
1	E	11		21		31		41		51	72	61	120	71	81
2	G	12		22		32		42		52	33	62	153	72	82
3	H	13		23		33		43		53	32	63		73	83
4	O	14		24		34		44		54	85	64	116	74	84
5	P	15		25		35		45		55	80	65	115	75	85
6	I	16		26		36		46		56	22	66	110	76	86
7	L	17		27		37		47		57	27	67		77	87
8		18		28		38		48		58	33	68		78	88
9		19		29		39		49		59	107	69		79	89
10		20		30		40		50		60	28	70		80	90

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
§ JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

1	2
HI=	
4	3

POST DRIVING - FT.

1	2
3	4
NO READINGS	

PILE INSPECTOR

Δ - FT

1 2 3 4

X

PILE STOPPED 11/17/75
PILE DRIVING ADJUSTED TO 17
PILE BEHAVING FROM 54.5'

LOCATION -

12-7

NO. 1 POWER & LIGHT CO. STRUCTURE SOUTH OF INTAKE RAYMOND MAKE AND MODEL RAYMOND O-O-O-O

PRESTRESSED CONCRETE

TIP DIAMETER	18 IN.	BUTT DIAMETER	18 IN.
LENGTH	FT. IN.	WEIGHT	LB.
DESCRIPTION		WEIGHT	
LENGTH		WEIGHT	
DESCRIPTION		WEIGHT	
LENGTH		WEIGHT	
ELEV OF CUTOFF		ELEV OF GROUND	
ELEV OF TIP		LG. CUTOFF TO TIP	

STARTED DRIVING A.M. 1:25 P.M. FINISHED DRIVING A.M. 1:40 P.M. DRIVING TIME 15 MIN.

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50		60	12	70	27	80	
1	E	11		21		31		41		51		61	16	71	35	81	
2	E	12		22		32		42		52		62	20	72	27	82	
3	H	13		23		33		43		53		63	24	73	31	83	
4	O	14		24		34		44		54		64	27	74	27	84	
5	F	15		25		35		45		55		65	34	75	35	85	
6	P	16		26		36		46		56		66	31	76	22	86	
7	L	17		27		37		47		57		67	29	77	24	87	
8	T	18		28		38		48		58		68	10	78	14	88	
9		19		29		39		49		59		69	31	79	14	89	
10		20		30		40		50		60		70	29	80	19	90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PPE DRIVING - FT.

- 1 4.71
- 2 4.75
- 3 4.31
- 4 4.78

POST DRIVING - FT.

- 1 4.71
- 2 4.75
- 3 4.81
- 4 4.78

PILE INSPECTOR

Δ - FT

- 1 0.00
- 2 0.00
- 3 0.00
- 4 0.00

HI = 19.57

LOCATION - 6

CONCRETE PILES

12-8

OWNER POWER & LIGHT CO	STRUCTURE SOUTH OF INTAKE	SECTION RAYMOND	PILE NO. CC 113	JO NO. 75-000-11-3-7
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PRESTRESSED CONCRETE		MAKE AND MODEL RAYMOND 0-0-0-0
TIP DIAMETER 18 IN.	BUTT DIAMETER 18 IN.	STROKE RATED 39 IN. MEAS 15
LENGTH FT. IN.	WEIGHT LB.	WEIGHT OF RAM 15,000 LB.
DESCRIPTION	WEIGHT LB.	DESCRIPTION (SEE BACK)
LENGTH FT. IN.	WEIGHT LB.	
DESCRIPTION		
LENGTH FT. IN.	WEIGHT LB.	
ELEV OF CUTOFF 11.95	ELEV OF GROUND + 15'	
ELEV OF TIP - 60.05'	LG. CUTOFF TO TIP 72 FT. IN.	

STARTED DRIVING 11:40 A.M.	FINISHED DRIVING 1:15 A.M.	DRIVING TIME 95 MIN.
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FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	N	10		20		30		40		50	4	60	94	70		80	
1	E	11		21		31		41		51	1	61	95	71		81	
2	G	12		22		32		42		52	4	62	94	72		82	
3	H	13		23		33		43		53	4	63	94	73		83	
4	O	14		24		34		44		54	17	64	76	74		84	
5	F	15		25		35		45		55	11	65	53	75		85	
6	T	16		26		36		46		56	45	66	47	76		86	
7		17		27		37		47		57	73	67	9	77		87	
8		18		28		38		48		58	62	68	10	78		88	
9		19		29		39		49		59	106	69	13	79		89	
10		20		30		40		50		60	81	70	17	80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND, SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
§ JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1	2
HI = 19.57	
4	3

HEAVE READINGS	
PRE DRIVING - FT.	
1	4.21
2	4.25
3	4.32
4	4.29
POST DRIVING - FT.	
1	4.21
2	4.25
3	4.32
4	4.29

PILE INSPECTOR

Δ - FT	
1	0.00
2	0.00
3	0.00
4	0.00

*** PILE BEARS DRIVING STOPPED

LOCATION - 6

11-4-75 - PILE CUT @ 77' AND RE-DRIVEN

POWER & LIGHT CO. STRUCTURE SOUTH OF INTAKE CONTRACTOR RAYMOND HAMMER NO. CC 113 NO. OF PILES 10-24-78

PRESTRESSED CONCRETE

TIP DIAMETER 18 IN.	CUTT DIAMETER 18 IN.
LENGTH FT. IN.	WEIGHT LB.
DESCRIPTION	
LENGTH FT. IN.	WEIGHT LB.
DESCRIPTION	
LENGTH FT. IN.	WEIGHT LB.
ELEV OF CUTOFF +10.36	ELEV OF GROUND +12.1
ELEV OF TIP -63.64	LG. CUTOFF TO TIP 74 FT. IN.

STROKE 39 IN. MEAS 15,000 LB. WEIGHT LB. DESCRIPTION (SKETCH ON BACK)

STARTED DRIVING 9:06 A.M.				FINISHED DRIVING 9:31 A.M.				DRIVING TIME 25 MIN.							
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50		60	43	70	38
1	F	11		21		31		41		51		61	39	71	35
2	G	12		22		32		42		52	11	62	37	72	35
3	H	13		23		33		43		53	4	63	36	73	33
4	7	14		24		34		44		54	15	64	36	74	31
5	O	15		25		35		45		55	110	65	34	75	30
6	F	16		26		36		46		56	110	66	35	76	
7	P	17		27		37		47		57	10	67	33	77	
8	I	18		28		38		48		58	35	68	35	78	
9	L	19		29		39		49		59	57	69	33	79	
10	E	20		30		40		50		60	47	70	33	80	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
 † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUIT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
 ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
 ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMPSNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.	
1	4.64
2	4.67
3	4.69
4	4.70
POST DRIVING - FT.	
1	NO
2	READING
3	
4	

LOCATION - 6

PILE INSPECTOR

Δ - FT

1 2 3 4

X

CONTINUOUS PILE-DRIVING RECORD (FOR USE WITH STEEL-PILES AND DROP HAMMERS ONLY)

ED 1000 SER. 123 100

FILE 15-1

A POWER & LIGHT CO		STRUCTURE SOUTH OF INTAKE		CONTRACTOR RAYMOND		HAMMER CO. CC 113		DATE 10-10-50	
PRESTRESSED CONCRETE				RAYMOND 0-0-0-0					
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE 39 IN.		WEIGHT 15,000 LB.		DESCRIPTION (CHECK ON BACK)	
LENGTH FT. IN.		WEIGHT LB.		DRILLED 4 TIMES TO GO, 1 TIME TO		PILE CALY 19/31		STOPPED TO REPAIR COLLAR 8/25	
DESCRIPTION		LENGTH FT. IN.		WEIGHT LB.		ELEV OF CUTOFF +13.44'		ELEV OF GROUND +15'	
DESCRIPTION		LENGTH FT. IN.		WEIGHT LB.		ELEV OF TIP -61.56'		LG. CUTOFF TO TIP 75 FT. IN.	

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME			
A.M. 1:50 P.M.				A.M. 2:15 P.M.				25 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0		10		20		30		40		50	
1		11		21		31		41		51	
2		12		22		32		42		52	
3		13		23		33		43		53	
4		14		24		34		44		54	
5		15		25		35		45		55	
6		16		26		36		46		56	
7		17		27		37		47		57	
8		18		28		38		48		58	
9		19		29		39		49		59	
10		20		30		40		50		60	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- # IF WOOD, STATE KIND, SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- + FOR WOOD PILES, DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUIT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- * NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1	2
HI = 19.69	
4	3

HELVE READINGS

PRE DRIVING - FT.

- 3.95
- 3.95
- 3.95
- 3.95

POST DRIVING - FT.

- 3.95
- 3.95
- 3.95
- 3.95

PRE INSPECTOR

Δ - FT

- 0.00
- 0.00
- 0.00
- 0.00

LOCATION - 8

CONTRACTOR POWER & LIGHT CO.		STRUCTURE SOUTH OF INTAKE		CONTRACTOR RAYMOND		PILE NO. CC 115		DATE 7-28-50		TIME 11-30-50	
PRESTRESSED CONCRETE						MAKE AND MODEL RAYMOND O-O-O-O					
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		HAMMER STROKE 39 IN. MEAS. IN.		WEIGHT OF RAM 15,000 LB.					
LENGTH FT. IN.		WEIGHT LB.									
DESCRIPTION				WEIGHT LB.		DESCRIPTION (SEECH ON PAGE)					
LENGTH FT. IN.											
DESCRIPTION				REMARKS		GRILLED TO 60' 4 TIMES 3 TO 33 1/4"					
LENGTH FT. IN.											
ELEV. OF CUTOFF +14.05				ELEV. OF GROUND +15'		STOPPED TO TAKE CORRECTION BY 3 P.M.					
ELEV. OF TIP -60.75				LG. CUTOFF TO TIP 75 FT. IN							

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME							
A.M. 12:50 P.M.				A.M. 1:10 P.M.				2.0 MIN.							
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
1	11	21	31	41	51	61	71	81	91	101	111	121	131	141	151
2	12	22	32	42	52	62	72	82	92	102	112	122	132	142	152
3	13	23	33	43	53	63	73	83	93	103	113	123	133	143	153
4	14	24	34	44	54	64	74	84	94	104	114	124	134	144	154
5	15	25	35	45	55	65	75	85	95	105	115	125	135	145	155
6	16	26	36	46	56	66	76	86	96	106	116	126	136	146	156
7	17	27	37	47	57	67	77	87	97	107	117	127	137	147	157
8	18	28	38	48	58	68	78	88	98	108	118	128	138	148	158
9	19	29	39	49	59	69	79	89	99	109	119	129	139	149	159
10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
 NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND, SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
 † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
 (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
 ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
 § JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1
2
3
4

HI = 19.69

HEAVE READINGS	
PRE DRIVING - FT.	
1	3.97
2	3.90
3	3.94
4	3.98
POST DRIVING - FT.	
1	3.97
2	3.90
3	3.94
4	3.98

PILE INSPECTOR	
Δ - FT	
1	0.00
2	0.00
3	0.00
4	0.00

LOCATION - 8

DRIVER: **DA POWER & LIGHT CO** STRUCTURE: **SOUTH OF INTAKE** CONTRACTOR: **RAYMOND** HAMMER CO.: **JO CO** NO.: **CC-113** DATE: **11-7-75**

PRESTRESSED CONCRETE				RAYMOND O-O-O-O			
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE 39 IN. MEAS: IN.			
LENGTH FT. IN.		WEIGHT LB.		WEIGHT OF RAM 15,000 LB.			
DESCRIPTION				WEIGHT LB. DESCRIPTION (SEEK ON BACK)			
LENGTH FT. IN.		WEIGHT LB.					
DESCRIPTION							
LENGTH FT. IN.		WEIGHT LB.					
ELEV OF CUTOFF +13.76'		ELEV OF GROUND +15'					
ELEV OF TIP -61.24'		LG. CUTOFF TO TIP 75 FT. IN.					

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME							
A.M. 1:15 PM.				A.M. 1:50 PM.				15 MIN.							
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50		60	40	70	42
1	E	11		21		31		41		51		61	33	71	43
2	6	12		22		32		42		52	1	62	53	72	43
3	H	13		23		33		43		53	2	63	53	73	43
4	P	14		24		34		44		54	7	64	46	74	42
5	F	15		25		35		45		55	7	65	40	75	40
6	P	16		26		36		46		56	10	66	33	76	38
7	L	17		27		37		47		57	10	67	31	77	37
8	E	18		28		38		48		58	15	68	23	78	34
9		19		29		39		49		59	20	69	34	79	31
10		20		30		40		50		60	31	70	42	80	28

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- * FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- * NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- * JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBLINESS, BINDING, DAMAGE, DRIVING SHOE, ETC.

12

HI = 19.34

43

HEAVE READINGS	
PRE DRIVING - FT.	
1	3.73
2	3.72
3	3.82
4	3.99
POST DRIVING - FT.	
1	3.78
2	3.72
3	3.82
4	3.89

FILE INSPECTOR	
Δ - FT	
1	0.05
2	0.05
3	0.05
4	0.05

LOCATION - 7

LOUISIANA POWER & LIGHT CO. SOUTH OF INTAKE
 STRUCTURE: PRESTRESSED CONCRETE
 COLLECTOR: RAYMOND
 HAMMER NO.: CC 113
 DATE: 1950.06.11.6.25

TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.	
LENGTH FT. IN.		WEIGHT LB.	
DESCRIPTION			
LENGTH FT. IN.		WEIGHT LB.	
DESCRIPTION			
LENGTH FT. IN.		WEIGHT LB.	
ELEV OF CUTOFF +14.31		ELEV OF GROUND +15	
ELEV OF TIP -60.69		L.S. CUTOFF TO TIP 75 FT. IN.	

STARTED DRIVING A.M. 2:55 P.M. FINISHED DRIVING A.M. 3:10 P.M. DRIVING TIME 15 MIN.

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0		10		20		30		40		50		60	45	70	24	80	
1		11		21		31		41		51		61	45	71	22	81	
2		12		22		32		42		52		62	45	72	26	82	
3		13		23		33		43		53		63	5	73	24	83	
4		14		24		34		44		54		64	11	74	20	84	
5		15		25		35		45		55		65	23	75	20	85	
6		16		26		36		46		56		66	23	76	22	86	
7		17		27		37		47		57		67	11	77	21	87	
8		18		28		38		48		58		68	45	78	20	88	
9		19		29		39		49		59		69	35	79	22	89	
10		20		30		40		50		60		70	22	80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
 † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
 (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
 ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
 ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBBOES, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

1	4.13
2	4.10
3	4.15
4	4.23

POST DRIVING - FT.

1	4.18
2	4.10
3	4.15
4	4.23

PILE INSPECTOR

Δ - FT.

1	0.00
2	0.03
3	0.03
4	0.00

LOCATION - 7

RAYMOND 0-0-0-0

FILE NO. 13-5

STRUCTURE		CONTRACTOR		PILING CO.		DATE	
A POWER LIGHT CO		SOUTH OF INTAKE		RAYMOND		CC 113	
PRESTRESSED CONCRETE				RAYMOND 0-0-0-0			
TIP DIAMETER		BUTT DIAMETER		STROKE		IN.	
18 IN.		18 IN.		39		IN.	
LENGTH		WEIGHT		WEIGHT OF RAM		LB.	
FT. IN.		LB.		15,000		LB.	
DESCRIPTION				WEIGHT			
LENGTH				DESCRIPTION (Sketch on back)			
FT. IN.				LB.			
DESCRIPTION				DRILLED TO 70' 5 TIMES			
LENGTH				CASE BROKE AS PILE WAS LOWERED			
FT. IN.				* STOOD TO REMOVE COLLAR			
ELEV OF CUTOFF				* PILE BRACE			
+14.8'				* PILE CRUMBLER			
ELEV OF TIP				39 BLOWS / MIN TO 45 BLOWS / MIN			
-56.2'				70 FT. IN.			

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME			
A.M. 3:20 P.M.				A.M. 3:30 P.M.				10 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	
1	E	11		21		31		41		51	
2	6	12		22		32		42		52	
3	7	13		23		33		43		53	
4	0	14		24		34		44		54	
5	F	15		25		35		45		55	
6	7	16		26		36		46		56	
7	L	17		27		37		47		57	
8		18		28		38		48		58	
9		19		29		39		49		59	
10		20		30		40		50		60	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGE OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- + FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- + NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, FLUMBLISS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1	2
HI = 13.19	
4	3

LOCATION - 6

HEAVE READINGS

PRE DRIVING - FT.

- 1 3.92
- 2 3.54
- 3 3.89
- 4 3.97

POST DRIVING - FT.

- 1 3.92
- 2 3.84
- 3 3.89
- 4 3.97

PILE INSPECTOR

Δ - FT

- 1 0.00
- 2 0.00
- 3 0.00
- 4 0.00

COMPRESSOR SERVICES INC.

FILE 13-6

STRUCTURE POWER & LIGHT CO	SOUTH OF INTAKE	CONTRACTOR RAYMOND	HAMMER NO. CC 115	LOG NO. 950000	PAGE 10-4-7
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PRESTRESSED CONCRETE

TIP DIAMETER 18 IN.	BUTT DIAMETER 18 IN.	STROKE ENTER 39 IN. STES 1
LENGTH FT. IN.	WEIGHT LB.	WEIGHT OF RAIL 15,000 LB.
DESCRIPTION	WEIGHT LB.	DESCRIPTION (SKETCH ON BACK)
LENGTH FT. IN.	WEIGHT LB.	
DESCRIPTION		
LENGTH FT. IN.	WEIGHT LB.	
ELEV OF CUTOFF +15.25'	ELEV OF GROUND 15.0	
ELEV OF TIP -64.75'	LG. CUTOFF TO TIP 80 FT. IN.	

STARTED DRIVING A.M. 2:30 P.M.	FINISHED DRIVING A.M. 2:55 P.M.	DRIVING TIME 25 MIN.
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NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.
0	10		20		30		40		50		60		70		80		90
1	11		21		31		41		51		61		71		81		91
2	12		22		32		42		52		62		72		82		92
3	13		23		33		43		53		63		73		83		93
4	14		24		34		44		54		64		74		84		94
5	15		25		35		45		55		65		75		85		95
6	16		26		36		46		56		66		76		86		96
7	17		27		37		47		57		67		77		87		97
8	18		28		38		48		58		68		78		88		98
9	19		29		39		49		59		69		79		89		99
10	20		30		40		50		60		70		80		90		100

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
§ JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PPE DRIVING - FT.

1 4.71
2 4.75
3 4.51
4 4.78

POST DRIVING - FT.

1 4.71
2 4.75
3 4.51
4 4.78

PILE INSPECTOR

Δ - FT

1 0.00
2 0.00
3 0.00
4 0.00

HI = 19.57

LOCATION - 6

PROJECT NO. 13-7

OWNER: POWER & LIGHT CO. STRUCTURE: SOUTH OF INTAKE CONTRACTOR: RAYMOND HAMMER NO. 100 NO. 115 1750.000 11-4-7

PRESTRESSED CONCRETE				RAYMOND 0-0-0-0			
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE 39 IN.		WEIGHT OF RAM 15,000 LB.	
LENGTH FT. IN.		WEIGHT LB.		WEIGHT LB.		DESCRIPTION (SKETCH ON BACK)	
DESCRIPTION				DRILLED 5 TIMES TO 75'			
LENGTH FT. IN.				WEIGHT LB.			
DESCRIPTION				* STOPPED TO REMOVE PILE PROTECTOR & E			
LENGTH FT. IN.				WEIGHT LB.			
ELEV OF CUTOFF +14.65				ELEV OF GROUND +15			
ELEV OF TIP -66.35				LG. CUTOFF TO TIP 80 FT. IN.			

STARTED DRIVING 9:05 A.M. FINISHED DRIVING 9:35 A.M. DRIVING TIME 30 MIN.

FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50		60	21	70	17	80	
1	E	11		21		31		41		51		61	25	71	35	81	
2	G	12		22		32		42		52		62	13	72	53	82	
3	H	13		23		33		43		53	4	63	29	73	32	83	
4	O	14		24		34		44		54	10	64	29	74	32	84	
5	F	15		25		35		45		55	13	65	16	75	30	85	
6	P	16		26		36		46		56	6	66	15	76	30	86	
7	L	17		27		37		47		57	10	67	15	77	34	87	
8	E	18		28		38		48		58	14	68	15	78	37	88	
9		19		29		39		49		59	13	69	15	79	30	89	
10		20		30		40		50		60	17	70	17	80		90	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION. NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
 † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
 ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
 ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HI = 19.57

LOCATION - 6

HEAVE READINGS

PRE DRIVING - FT.	
1	4.72
2	4.75
3	4.82
4	4.78
POST DRIVING - FT.	
1	4.72
2	4.75
3	4.81
4	4.78

PILE INSPECTOR

Δ - FT	
1	0.00
2	0.00
3	-0.01
4	0.00

(-) INDICATES SETTLEMENT

POWER & LIGHT CO		STRUCTURE	SOUTH OF INTAKE		LOCATION	RAYMOND		HAMMER NO.	113		DATE	11-10-27			
PRESTRESSED CONCRETE															
TIP DIAMETER				18 IN.		BUTT DIAMETER				18 IN.		HAMMER			
LENGTH				FT.		IN.		WEIGHT				LB.		STROKE	
														39 IN.	
														WEIGHT OF RAIL	
														15,000 LB.	
DESCRIPTION														WEIGHT	
														LB.	
LENGTH				FT.		IN.		WEIGHT				LB.		REMARKS	
														4 TIMES TO 55', 1 TIME TO 60'	
														* STOPPED TO SW-0 STEAM 12:21	
ELEV OF CUTOFF				+ 13.51'		ELEV OF GROUND				+ 15'					
ELEV OF TIP				- 61.49'		LG. CUTOFF TO TIP				75 FT.		IN.			

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME							
11:20 A.M.				11:45 A.M.				25 MIN.							
PM.				PM.											
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	12	60	41	70	31
1	E	11		21		31		41		51	15	61	32	71	21
2	G	12		22		32		42		52	33	62	23	72	22
3	H	13		23		33		43		53	55	63	25	73	23
4	O	14		24		34		44		54	83	64	25	74	22
5	F	15		25		35		45		55	91	65	27	75	22
6	I	16		26		36		46		56	93	66	28	76	22
7	L	17		27		37		47		57	70	67	15	77	21
8		18		28		38		48		58	65	68	13	78	25
9		19		29		39		49		59	51	69	13	79	29
10		20		30		40		50		60	51	70	26	80	90

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND, SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES, DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
§ JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, FLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1

2

HI=19.69

4

3

HEAVE READINGS

PRE DRIVING - FT.

1 3.94

2 3.90

3 3.94

4 3.98

POST DRIVING - FT.

1 3.94

2 3.90

3 3.94

4 3.98

LOCATION - 8

PILE INSPECTOR

Δ - FT

1 0.00

2 0.00

3 0.00

4 0.00

BEASCO SERVICES, INC.

FILE NO. 14-2

POWER & LIGHT CO.		STRUCTURE SOUTH OF INTAKE		CONTRACTOR RAYMOND		HAMMER CO. CC 113		JO 15 7320.003	
Pile TYPE PRESTRESSED CONCRETE									
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE SIZED 39 IN.		WEIGHT OF RAM 15,000 LB.		WEIGHT 15,000 LB.	
LENGTH FT. IN.		WEIGHT LB.		DESCRIPTION (SKETCH ON BACK)					
DESCRIPTION		LENGTH FT. IN.		WEIGHT LB.					
DESCRIPTION		LENGTH FT. IN.		WEIGHT LB.					
ELEV. OF CUTOFF +13.44'		ELEV. OF GROUND +15'		ELEV. OF TIP -61.56'		LG. CUTOFF TO TIP 75 FT.			
ELEV. OF TIP -61.56'		LG. CUTOFF TO TIP 75 FT.							

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME			
A.M. 2:00 P.M.				A.M. 2:20 P.M.				20 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40	6	50	41
1	F	11		21		31		41	7	51	36
2	G	12		22		32		42	10	52	34
3	H	13		23		33		43	14	53	29
4	I	14		24		34		44	24	54	26
5	P	15		25		35		45	27	55	22
6	T	16		26		36		46	33	56	17
7	E	17		27		37		47	35	57	16
8		18		28		38		48	38	58	23
9		19		29		39		49	51	59	22
10		20		30		40		50	51	60	22

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, SCULPERS, BARK, CONDITION OF CUSHIONS, FLUMBLESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

1 3.73
2 3.72
3 3.92
4 3.99

*POST DRIVING - FT.

1 3.79
2 3.72
3 3.82
4 3.90

PILE INSPECTOR

Δ - FT

1 0.01
2 0.00
3 0.00
4 0.01

HI = 19.39

LOCATION - 7

EASCO SERVICES INC.

FILE NO. 14-3

POWER & LIGHT CO		STRUCTURE SOUTH OF INTAKE		CONTRACTOR RAYMOND		HARPER CO. CC 115		NO. 10 9360.06		DATE 11-6-71	
PRESTRESSED CONCRETE						RAYMOND 0-0-0-0					
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE 39 IN.		MEAS. 1		IN.			
LENGTH FT. IN.		WEIGHT LB.		WEIGHT LB.		DESCRIPTION (SKETCH ON BACK)					
DESCRIPTION				15,000 LB.							
LENGTH FT. IN.		WEIGHT LB.									
DESCRIPTION											
LENGTH FT. IN.		WEIGHT LB.									
ELEV OF CUTOFF +14.11'		ELEV OF GROUND +15'									
ELEV OF TIP -60.37'		LG. CUTOFF TO TIP 75 FT.									

STARTED DRIVING				FINISHED DRIVING				DRIVING TIME			
A.M. 1:40 P.M.				A.M. 1:55 P.M.				15 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40	22	50	22
1	E	11		21		31		41	23	51	19
2	G	12		22		32		42	42	52	17
3	H	13		23		33		43	44	53	16
4	O	14		24		34		44	27	54	13
5	F	15		25		35		45	55	55	13
6	P	16		26		36		46	47	56	13
7	I	17		27		37		47	58	57	13
8	L	18		28		38		48	7	58	15
9	E	19		29		39		49	18	59	13
10		20		30		40		50	25	60	13

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, FLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1	2
HI = 19.37	
4	3

HEAVE READINGS

PRE DRIVING - FT.

1 4.18
2 4.11
3 4.15
4 4.24

POST DRIVING - FT.

1 4.18
2 4.10
3 4.15
4 4.22

PILE INSPECTOR

Δ - FT

1 0.00
2 -0.03
3 0.00
4 -0.00

(-) INDICATES SETTLEMENT

LOCATION - 7

ESASCO SERVICES INC.

FILE NO. 14-4

CLIENT A POWER & LIGHT CO		STRUCTURE SOUTH OF INTAKE		CONTRACTOR RAYMOND		HAMMER NO. CC 113		NO. OF 7330.000		DATE 11-5-7	
Pile PRESTRESSED CONCRETE						MAKE AND MODEL RAYMOND O.O.O.O					
TIP DIAMETER 18 IN.		BUIT DIAMETER 18 IN.		STROKE 39 IN.		MEAS. #		IN.			
LENGTH FT. IN.		WEIGHT LB.		WEIGHT OF RAM 15,000 LB.							
DESCRIPTION				WEIGHT LB.		DESCRIPTION (SKETCH ON BACK)					
LENGTH FT. IN.		WEIGHT LB.									
DESCRIPTION											
LENGTH FT. IN.		WEIGHT LB.									
ELEV OF CUTOFF +14.28'		ELEV OF GROUND +15'									
ELEV OF TIP -60.72'		LG. CUTOFF TO TIP 75 FT. IN.									

STARTED DRIVING 11:50 A.M.				FINISHED DRIVING 12:10 P.M.				DRIVING TIME 20 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	
1	E	11		21		31		41		51	
2	G	12		22		32		42		52	
3	H	13		23		33		43		53	
4	T	14		24		34		44		54	
5	O	15		25		35		45		55	
6	F	16		26		36		46		56	
7	P	17		27		37		47		57	
8	I	18		28		38		48		58	
9	L	19		29		39		49		59	
10	C	20		30		40		50		60	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUIT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

1	2
HI = 19.19	
4	3

HELVE READINGS

PRE DRIVING - FT.

1 3.97
2 3.84
3 3.89
4 3.97

POST DRIVING - FT.

1 3.72
2 3.84
3 3.89
4 3.97

PILE INSPECTOR

Δ - FT

1 0.00
2 0.00
3 0.00
4 0.00

LOCATION - 7

EBASCO SERVICES INC.

FILE NO. 14-5

DA. POWER & LIGHT CO.		STRUCTURE SOUTH OF INTAKE		CONTRACTOR RAYMOND		HAMMER NO. CC 115		JOINT 9580.00		DATE 11-4-	
PRESTRESSED CONCRETE											
TIP DIAMETER 18 IN.				BUTT DIAMETER 18 IN.				MAKE AND MODEL RAYMOND O-O-O-O			
LENGTH FT. IN.				WEIGHT LB.				STROKES 39 IN. MEAS. IN.			
DESCRIPTION				WEIGHT LB.				DESCRIPTION (SKETCH ON BACK)			
LENGTH FT. IN.				WEIGHT LB.				WEIGHT OF RAM 15,000 LB.			
DESCRIPTION				WEIGHT LB.				DESCRIPTION (SKETCH ON BACK)			
LENGTH FT. IN.				WEIGHT LB.				WEIGHT OF RAM 15,000 LB.			
ELEV OF CUTOFF +13.8'				ELEV OF GROUND +15'				WEIGHT LB.			
ELEV OF TIP -61.2'				LG. CUTOFF TO TIP 75 FT. IN.				DESCRIPTION (SKETCH ON BACK)			

STARTED DRIVING 11:35 A.M. P.M.				FINISHED DRIVING 11:55 A.M. P.M.				DRIVING TIME 20 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0		10		20		30		40		50	
1		11		21		31		41		51	
2		12		22		32		42		52	
3		13		23		33		43		53	
4		14		24		34		44		54	
5		15		25		35		45		55	
6		16		26		36		46		56	
7		17		27		37		47		57	
8		18		28		38		48		58	
9		19		29		39		49		59	
10		20		30		40		50		60	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- § JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, FLUMBNESS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

1 4.72
2 4.75
3 4.31
4 4.78

POST DRIVING - FT.

1 4.71
2 4.75
3 4.91
4 4.78

PILE INSPECTOR

Δ - FT

1 -0.01
2 0.00
3 0.00
4 0.00

(-) INDICATES SETTLEMENT

LOCATION - 6

EBASCO SERVICES INC.

FILE NO. 15-1

CLIENT: OSBA POWER & LIGHT CO. STRUCTURE: SOUTH OF INTAKE. CONTRACTOR: RAYMOND. HAMMER NO.: CC 113. DATE: 11-7-78.

PRESTRESSED CONCRETE

TIP DIAMETER	18 IN.	BUIT DIAMETER	18 IN.
LENGTH	FT. IN.	WEIGHT	LB.
DESCRIPTION			
LENGTH	FT. IN.	WEIGHT	LB.
DESCRIPTION			
LENGTH	FT. IN.	WEIGHT	LB.
ELEV OF CUTOFF	+13.72'	ELEV OF GROUND	+15'
ELEV OF TIP	-61.28'	LG. CUTOFF TO TIP	75 FT. IN.

MAKE AND MODEL		RAYMOND 0-0-0-0	
STROKE			
SIZE 39		IN.	MEAS. FT.
WEIGHT OF RAM		15,000 LB.	
WEIGHT		DESCRIPTION (Sketch on back)	

SQUARE TOP PILES CAST 10-25-78
 * STEPPED TO REMOVE COLLAR & 5"
 DRILL 4 TIMES TO 60', 1 TIME TO 80'

STARTED DRIVING 11:00 A.M.				FINISHED DRIVING 11:00 A.M.				DRIVING TIME 20 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	W	10		20		30		40		50	
1	E	11		21		31		41		51	
2	G	12		22		32		42		52	
3	H	13		23		33		43		53	
4	T	14		24		34		44		54	
5	O	15		25		35		45		55	
6	F	16		26		36		46		56	
7	P	17		27		37		47		57	
8	I	18		28		38		48		58	
9	L	19		29		39		49		59	
10	E	20		30		40		50		60	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
 NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
 † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUIT SECTION.
 (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
 ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
 ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, FLUMBNESS, BANDING, DAMAGE, DRIVING SPACE, ETC.

1
 2
 HI = 19.34
 4
 3

HEAVE READINGS	
PRE DRIVING - FT.	
1	3.73
2	3.72
3	3.82
4	3.89
POST DRIVING - FT.	
1	3.73
2	3.72
3	3.82
4	3.89

PILE INSPECTOR	
Δ - FT	
1	0.00
2	0.03
3	0.00
4	0.00

LOCATION - 7

ESASCO SERVICES INC.

FILE NO. 15-2

STRUCTURE SOUTH OF INTAKE		CONTRACTOR RAYMOND		HAMMER NO. 113 17560.000	
PRESTRESSED CONCRETE				MAKE AND MODEL RAYMOND 0-0-0-0	
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE 39 IN.	
LENGTH FT. IN.		WEIGHT LB.		WEIGHT OF RAM 15,000 LB.	
DESCRIPTION				WEIGHT LB.	
LENGTH FT. IN.		WEIGHT LB.		DESCRIPTION (SKETCH ON BACK)	
DESCRIPTION				DRILLED 2 TIMES TO 60', 1 TIME TO 75'	
LENGTH FT. IN.		WEIGHT LB.		* STOPPED TO REMOVE COLLAR	
ELEV OF CUTOFF +14.75'		ELEV OF GROUND +15'			
ELEV OF TIP -60.25'		LG. CUTOFF TO TIP 75 FT.			

STARTED DRIVING 9:45 A.M.				FINISHED DRIVING 10:05 A.M.				DRIVING TIME 20 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0	4	10		20		30		40	7	50	10
1	1	11		21		31		41	7	51	21
2	6	12		22		32		42	8	52	21
3	7	13		23		33		43	10	53	23
4	0	14		24		34		44	11	54	23
5	P	15		25		35		45	15	55	20
6	L	16		26		36		46	8	56	15
7	E	17		27		37		47	12	57	14
8		18		28		38		48	21	58	17
9		19		29		39		49	10	59	20
10		20		30		40		50	15	60	22

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
† FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION.
(CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, FLUMBUSS, BANDING, DAMAGE, DRIVING SHOE, ETC.

HEAVE READINGS

PRE DRIVING - FT.

1 3.92
2 3.24
3 3.39
4 3.97

POST DRIVING - FT.

1 3.52
2 3.84
3 3.89
4 3.97

PILE INSPECTOR

Δ - FT

1 0.00
2 0.00
3 0.00
4 0.00

HI = 19.19

LOCATION - 7

FILE NO. 15-3

CLIENT IDA POWER & LIGHT CO		STRUCTURE SOUTH OF INTAKE		CONTRACTOR RAYMOND		HAMMER NO. CC 113		JOB NO. 7510.000		PAGE 11-4-7	
TYPE PRESTRESSED CONCRETE						MAKE AND MODEL RAYMOND 0-0-0-0					
TIP DIAMETER 18 IN.			EUTT DIAMETER 18 IN.			STROKE RATED 39 IN.			MEAS : IN.		
LENGTH FT. IN.			WEIGHT LB.			WEIGHT OF RAM 15,000 LB.					
DESCRIPTION						WEIGHT LB.			DESCRIPTION (SLASH ON BACK)		
LENGTH FT. IN.			WEIGHT LB.								
DESCRIPTION											
LENGTH FT. IN.			WEIGHT LB.								
ELEV OF CUTOFF + 14.73'						ELEV OF GROUND + 15'					
ELEV OF TIP - 65.27'			LG. CUTOFF TO TIP 80 FT. IN.								
REMARKS						NEW LOCATION FOR RE-SE P.M.					
						DRENCHED 5 TIMES TO DEF. 12					

[illegible]

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

* IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
 † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A 2'11" SECTION.
 (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
 ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
 ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS,
 BANDING, DAMAGE, DRIVING SHOE, ETC.

HI = 17.36

LOCATION - 7

HEAVE READINGS

PRE DRIVING - FT.

1	3.31
2	3.74
3	3.73
4	3.86

POST DRIVING - FT.

1	3.51
2	3.74
3	3.78
4	2.96

FILE INSPECTOR

Δ - FT

1	0,03
2	0,03
3	0,03
4	0,03

EBASCO SERVICES INC.

FILE NO. 16-1

POWER & LIGHT CO		STRUCTURE SOUTH OF INTAKE		CONTRACTOR RAYMOND		PILLOWER NO. CC 113		NO. 1500	
TYPE PRESTRESSED CONCRETE				NAME AND MODEL RAYMOND O-O-O-O					
TIP DIAMETER 18 IN.		BUTT DIAMETER 18 IN.		STROKE RATED 39 IN. MEAS. 39 IN.					
LENGTH FT. IN.		WEIGHT LB.		WEIGHT OF RAM 15,000 LB.					
DESCRIPTION				WEIGHT LB.		DESCRIPTION (SKETCH ON BACK)			
LENGTH FT. IN.		WEIGHT LB.							
DESCRIPTION									
LENGTH FT. IN.		WEIGHT LB.							
ELEV. OF CUTOFF +13.41'		ELEV. OF GROUND +15'							
ELEV. OF TIP -61.59'		LG. CUTOFF TO TIP 75 FT. IN.							

STARTED DRIVING 10:30 A.M.				FINISHED DRIVING 10:22 A.M.				DRIVING TIME 20 MIN.			
FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS	FT.	NO. OF BLOWS
0		10		20		30		40		50	
1		11		21		31		41		51	
2		12		22		32		42		52	
3		13		23		33		43		53	
4		14		24		34		44		54	
5		15		25		35		45		55	
6		16		26		36		46		56	
7		17		27		37		47		57	
8		18		28		38		48		58	
9		19		29		39		49		59	
10		20		30		40		50		60	

RECORD NUMBER OF BLOWS REQUIRED FOR EACH 6 IN. OF PENETRATION.
NOTE POINTS AT WHICH STOPPAGES OCCUR, WITH TIMES OF STOPPING AND STARTING.

- * IF WOOD, STATE KIND SEASONING AND TREATMENT. IF CONCRETE, STATE MIX AND AGE.
- † FOR WOOD PILES DETERMINE ACTUAL WEIGHT PER CUBIC FOOT OF WOOD BY WEIGHING A BUTT SECTION. (CAN DETERMINE VOLUME BY MEASURING QUANTITY OF WATER DISPLACED BY SECTION)
- ‡ NOTE ANY FALLING OFF IN RATED STROKE DURING DRIVING.
- ** JETTING, CAUSE AND DURATION OF DELAYS IN DRIVING, BOULDERS, BARK, CONDITION OF CUSHIONS, PLUMBNESS, BANDING, DAMAGE, DRIVING SAGE, ETC.

1	2
HI = 19.44	
4	3

HEAVE READINGS

PPE DRIVING - FT.

1 4.22
2 4.15
3 4.17
4 4.23

POST DRIVING - FT.

1 4.22
2 4.15
3 4.17

PILE INSPECTOR

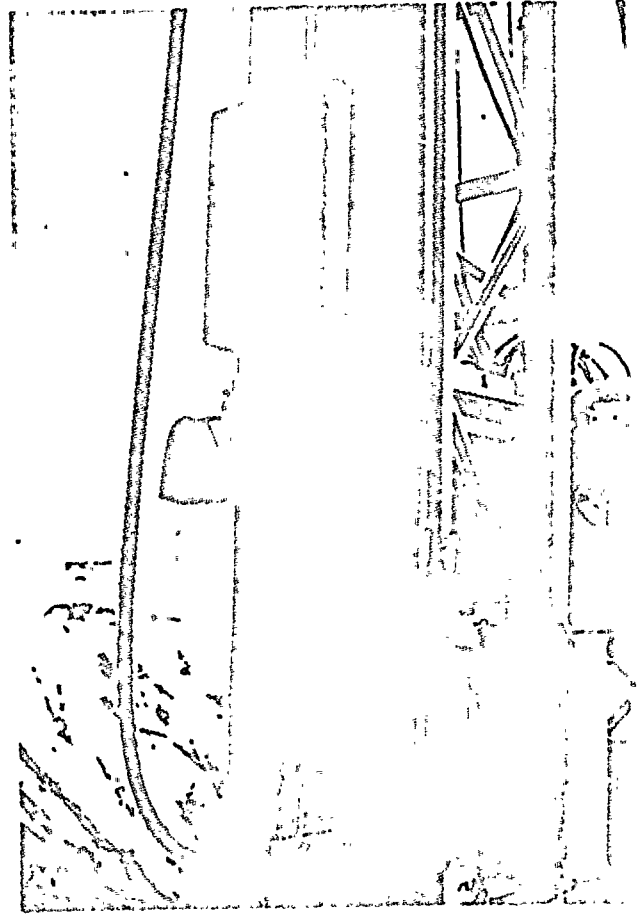
Δ - FT

1 0.00
2 0.00
3 0.00
4 -0.01

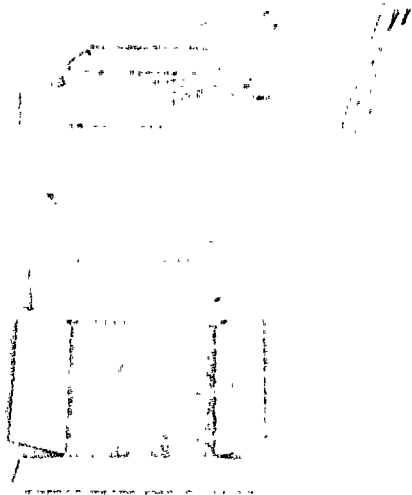
LOCATION - 7



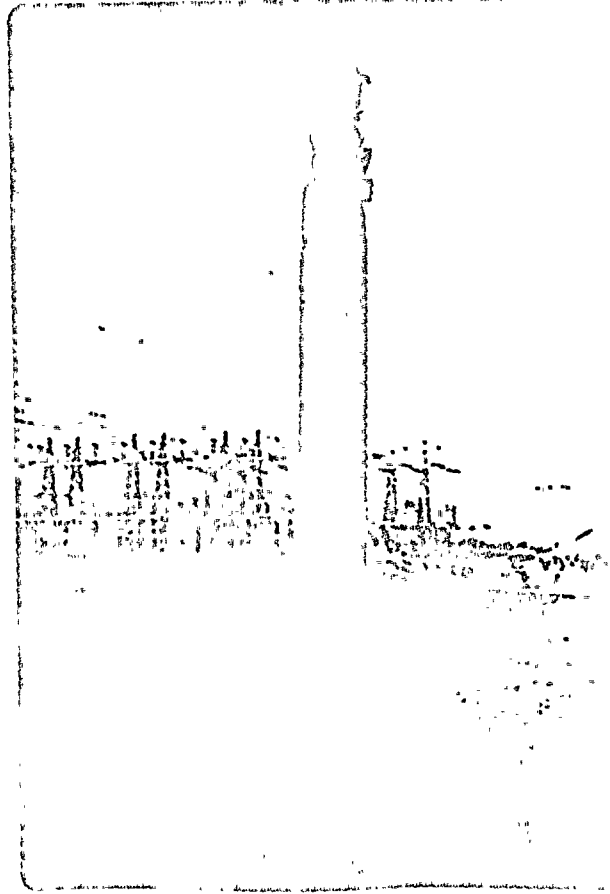
Photograph 1



Photograph 2



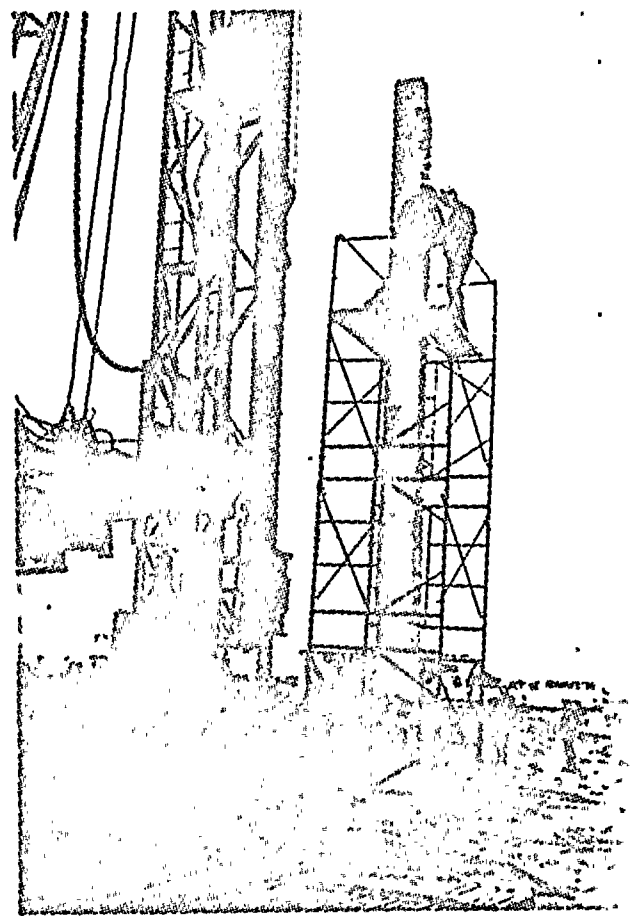
Photograph 3



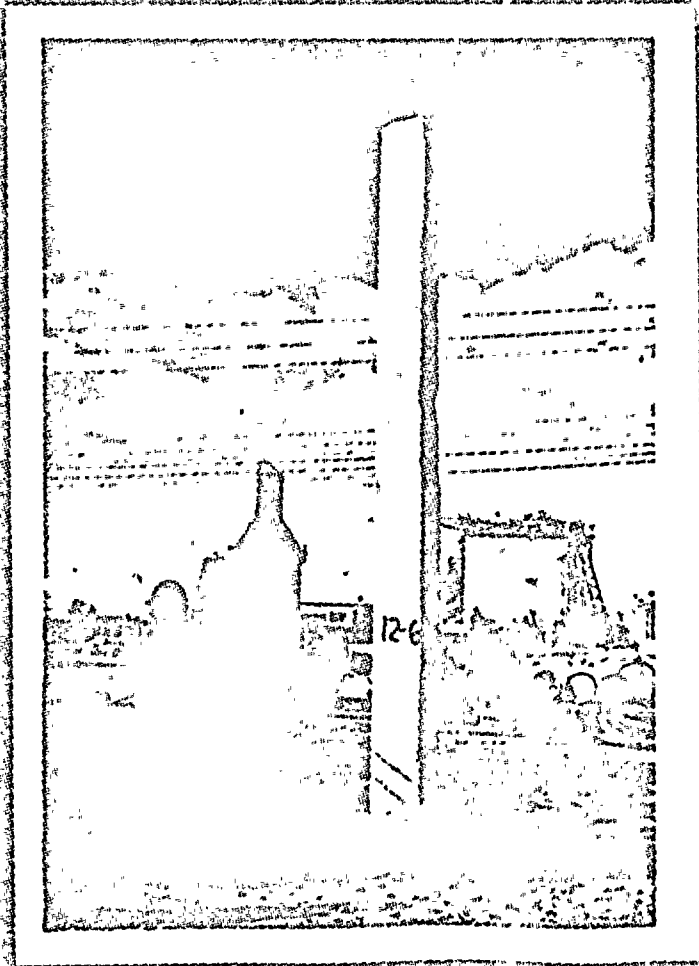
Photograph 4



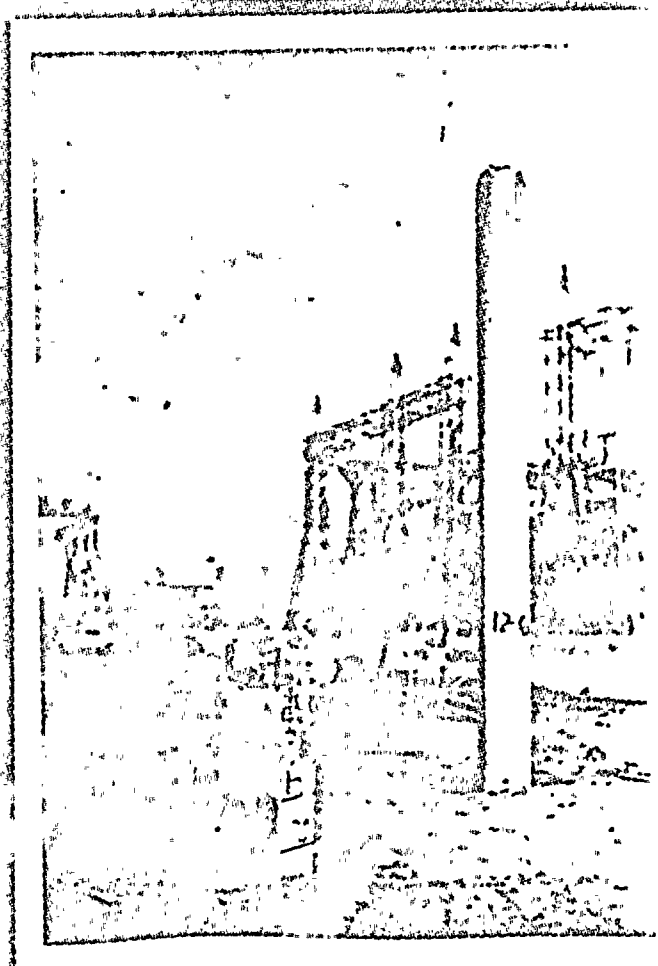
Photograph 5



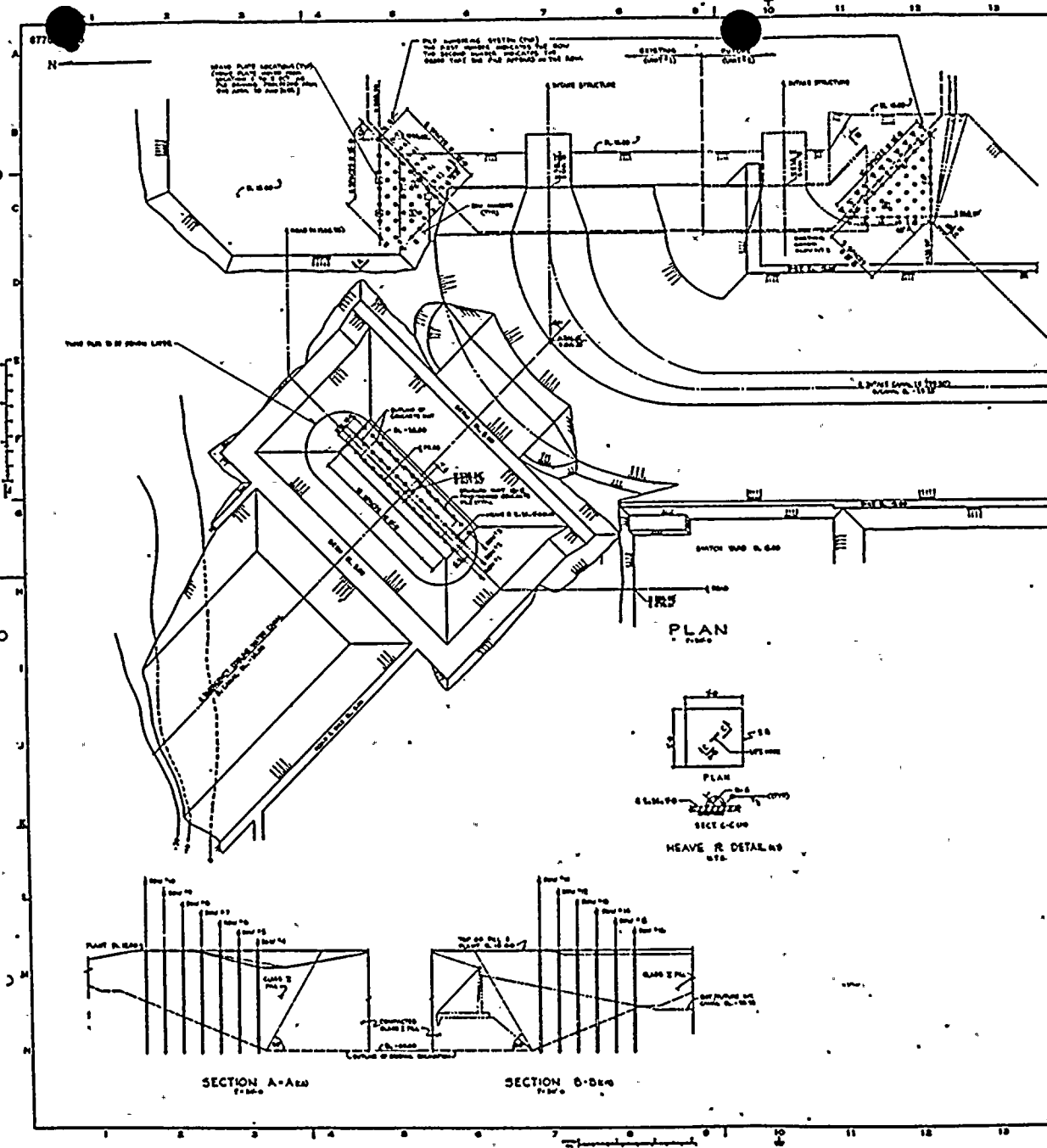
Photograph 6



Photograph 7



Photograph 8



PILE NUMBER	PILE LENGTH (FT)	TOP OF PILE (FT)
1.1	10	10.00
1.2	10	10.00
1.3	10	10.00
1.4	10	10.00
1.5	10	10.00
1.6	10	10.00
1.7	10	10.00
1.8	10	10.00
1.9	10	10.00
2.0	10	10.00
2.1	10	10.00
2.2	10	10.00
2.3	10	10.00
2.4	10	10.00
2.5	10	10.00
2.6	10	10.00
2.7	10	10.00
2.8	10	10.00
2.9	10	10.00
3.0	10	10.00
3.1	10	10.00
3.2	10	10.00
3.3	10	10.00
3.4	10	10.00
3.5	10	10.00
3.6	10	10.00
3.7	10	10.00
3.8	10	10.00
3.9	10	10.00
4.0	10	10.00
4.1	10	10.00
4.2	10	10.00
4.3	10	10.00
4.4	10	10.00
4.5	10	10.00
4.6	10	10.00
4.7	10	10.00
4.8	10	10.00
4.9	10	10.00
5.0	10	10.00
5.1	10	10.00
5.2	10	10.00
5.3	10	10.00
5.4	10	10.00
5.5	10	10.00
5.6	10	10.00
5.7	10	10.00
5.8	10	10.00
5.9	10	10.00
6.0	10	10.00
6.1	10	10.00
6.2	10	10.00
6.3	10	10.00
6.4	10	10.00
6.5	10	10.00
6.6	10	10.00
6.7	10	10.00
6.8	10	10.00
6.9	10	10.00
7.0	10	10.00
7.1	10	10.00
7.2	10	10.00
7.3	10	10.00
7.4	10	10.00
7.5	10	10.00
7.6	10	10.00
7.7	10	10.00
7.8	10	10.00
7.9	10	10.00
8.0	10	10.00
8.1	10	10.00
8.2	10	10.00
8.3	10	10.00
8.4	10	10.00
8.5	10	10.00
8.6	10	10.00
8.7	10	10.00
8.8	10	10.00
8.9	10	10.00
9.0	10	10.00
9.1	10	10.00
9.2	10	10.00
9.3	10	10.00
9.4	10	10.00
9.5	10	10.00
9.6	10	10.00
9.7	10	10.00
9.8	10	10.00
9.9	10	10.00
10.0	10	10.00

QUANTITIES:
 PREPARE QUANTITIES FOR THE TABLE 1
 QUANTITIES FOR THE TABLE 1

NOTES:
 PILE LENGTHS ARE SHOWN IN FEET
 AND DECIMALS THEREOF
 ALL PILES ARE TO BE DRIVEN TO THE
 SAME DEPTH AND THE SAME
 TYPE OF PILE IS TO BE USED

REFERENCE DRAWINGS:
 LIST OF DRAWINGS
 DRAWING NO. DRAWING TITLE
 DRAWING NO. DRAWING TITLE
 DRAWING NO. DRAWING TITLE
 DRAWING NO. DRAWING TITLE

FLORIDA POWER & LIGHT COMPANY
 ST. AUGUSTINE PLANT
 SOIL STABILIZATION IMPLEMENTATION
 PILE LAYOUT & DETAILS
 DRAWING NO. 100-1000
 FIGURE 1

ST LUCIE PLANT - UNIT 2
DOCKET NO. 50-389
1983 - 890 MW(e) EXTENSION
CONTAINMENT MINIPURGE VALVE
QUALIFICATION

Ref: NRC letter dated September 27, 1979 to all light water reactors.

The manufacturer of the St Lucie Unit 2 containment minipurge valves, Henry Pratt Company, has performed a dynamic analysis to assure valve operability during a design basis accident (DBA). This analysis was done in accordance with the guidelines promulgated in the NRC's letter of September 27, 1979 (Reference) and are summarized below:

- A.1. Valve closure time during a LOCA will be less than or equal to the no-flow time demonstrated during shop tests, since fluid dynamic effects tend to close a butterfly valve. Valve closure rate vs. time is based on a sinusoidal function.
2. Flow direction through valve contributing to highest torque; namely, flow toward the hub side of disc if asymmetric, is used in this analysis. Pressure on upstream side of valve as furnished by customer/engineer is utilized in calculations. Downstream pressure vs. loca time is furnished by customer/engineer or assumed to be worst case.
3. Worst case is determined as a single valve closure of the inside containment valve, with the outside containment valve fixed at the fully open position.
4. Containment back pressure will have no effect on cylinder operation since the same back pressure will also be present at the inlet side of the cylinder and differential pressure will be the same during operation.
5. Purge valves supplied by Henry Pratt Company do not normally include accumulators. Accumulators, when used, are for opening the valve rather than closing.
6. Torque limiting devices apply only to electric motor operators which were not furnished with purge valves evaluated in this report.
- 7&8. Drawings or written description of valve orientation with respect to piping immediately upstream, as well as direction of valve closure, are furnished by customer/engineer. In lieu of input, worst case conditions have been applied to the analysis; namely, 90° elbow (upstream) oriented 90° out-of-plane with respect to valve shaft, and leading edge of disc closing toward outer wall of elbow. Effects of downstream piping on system back pressure have been covered in paragraph A.2. (above).
- B. This analysis consists of a static analysis of the valve components indicating if the stress levels under combined seismic and LOCA conditions are less than 90% of yield strength of the materials

used.

A valve operator evaluation is presented based on the operators ability to resist the reaction of LOCA-induced fluid dynamic torques.

C. Sealing integrity can be evaluated as follows:

Decontamination chemicals have very little effect on EPT and stainless steel seats. Molded EPT seats are generically known to have a cumulative radiation resistance of 1×10^8 rads at a maximum incidence temperature of 350°F. It is recommended that seats be visually inspected every 18 months and be replaced periodically as required.

Valves at outside ambient temperatures below 0°F, if not properly adjusted, may have leakage due to thermal contraction of the elastomer, however, during a LOCA, the valve internal temperature would be expected to be higher than ambient which tends to increase sealing capability after valve closure. The presence of debris or damage to the seats would obviously impair sealing.

Based on the above considerations the analysis has demonstrated the ability of the valves to close from the full open position regardless of the loads imposed by a coincident DBA and seismic event. Hence, no physical modification to the valve is considered necessary.

Although FPL feels that the above analysis demonstrates that the containment mini purge valves can close against all expected environmental conditions, FPL will implement the Interim position given in Attachment 1 to paragraph II.E.4.2 of NUREG 0737 until the staff has completed its review of the analysis. This interim position will be put into effect prior to OL if the staff review is not completed by that time.

Should you have any questions on the above, please advise us.