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TEST PILE PROGRAM REPORT

TP-1-3

CITRUS LAKEFRONT FLOODWALL
NEW ORLEANS, AIRPORT

AND

LINCOLN BEACH
DACW 29-79-C-028C

ATLAS CONSTRUCTION CO. INC.

KENNER, LA.

JANUARY, 1980

SHILSTONE
ENGINEERING TESTING LABORATORY. INC.

524 8398

Shilstone

GEOTECHNICAL ENGINEERING
CONSTRUCTION MATERIALS TESTING AND INSPECTION
ENGINEERS - CHEMISTS

ENGINEERING TESTING LABORATORY, INC.

BATON ROUGE, LOUISIANA 70802 / 1068 NEOSHO AVENUE / (504) 387-3149
MONROE, LOUISIANA 71201 / 315 NORTH SECOND STREET / (318) 387-2327
NEW ORLEANS, LOUISIANA 70112 / 814 CONTI STREET / (504) 524-8395

January 16, 1980

Atlas Const. Co., Inc.
P. O. Box 10
Kenner, La. 70063

Gentlemen:

Shilstone Engineering Testing Laboratory, Inc. is very proud to have participated in the pile load test program for the Citrus Lakefront Floodwall, New Orleans, La.

Transmitted herewith is our report which represents the scope of the work, procedures used and the data obtained along with our conclusions. Should you have any questions, we will remain available to discuss any portion of the work or our report at your convenience.

As the work on the Floodwall progresses, we would like very much to continue to provide testing laboratory and inspection services. We feel our experience with local conditions and wide range of engineering and inspection services uniquely qualify us for this work.

The cooperation and assistance we received from Atlas Construction Co., Inc. personnel at the site are sincerely appreciated, and we look forward to working for you again.

Yours very truly,
SHILSTONE ENGINEERING
TESTING LABORATORY, INC.

Frank A. Tusa

FAT:jm

Frank A. Tusa
Branch Manager
Construction Service

Test: Tension TP-1 - 3
Date: January 16, 1980
Job: Citrus Lakefront Floodwall
New Orleans Airport and
Lincoln Beach
New Orleans, La.
Test Pile Program
DACW-29-79-C- 028C

AUTHORITY FOR WORK:

Shilstone Engineering Testing Laboratory, Inc. was requested by Atlas Const. Co., Inc. to conduct a test pile program at the site of the Citrus Lakefront Floodwall on Haynes Boulevard near New Orleans Airport and Lincoln Beach, New Orleans, La.

SPECIFICATIONS FOR TEST:

Instructions received were to conduct the test in strict accordance with ASTM D 1143-74 and as amended by the U. S. Corps of Engineers.

METHOD OF LOAD TEST:

The load was applied to the test pile by one, 150 ton hydraulic jack working against 6 reactor piles and 4 reactor beams.

The load was applied in increments and at rates according to specifications in order to prevent shock loading.

Settlement of the piles was determined by securing readings with an engineer's level on scales calibrated to 0.01 inches which were attached to the piles and bench marks.

Settlement was also measured through a reference beam system utilizing dial micrometers calibrated to 0.001 inches which were attached to the pile proper.

LOG OF DRIVING

PILE DRIVING REPORT

PROJECT DACW 29-79-C-0286 PILE NO.

CONTRACTOR Atlas Construction Co. LOCATION TP 1-3 (3+12.34

HAMMER: TYPE: Concrete

MAKE & MODEL Vulcan 06 DIMENSIONS 12"x12" x 59.25'

WT. RAM 6500lbs STROKE 3 Ft. LENGTH IN LEADS

ENERGY DELIVERED 19,500 VERTICAL (XX): BATTER 1 ON ( )

DESCRIPTION AND DIMENSIONS OF

DRIVING CAP Reg. (K)123/4 ELEVATION OF GROUND +2.46

SPEED: RATED 60 MEASURED 58 ELEVATION OF CUT-OFF +3.00

STEAM OR AIR PRESSURE: ELEVATION OF PILE TIP -55.00

AT HAMMER 75 AT BOILER ELEVATION OF SPLICES

JETTING PRESSURE AND ELEVATIONS:

INSPECTOR DATE 12/19/79

TIME: START DRIVING 1500 FINISH DRIVING 1555 DRIVING TIME 0:55

INTERRUPTIONS (TIME, TIP ELEV. & REASON) 1505-1508 Placing wood cushion in driving head, 1516-1545 cutting reinforcing in head of concrete pile and placing wood cushion in driving head.

DRIVING RESISTANCE

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		15	1	30	30	45	21	60		75		90	
1	3	16	1	31	45	46	23	61		76		91	
2	1	17	2	32	43	47	22	62		77		92	
3	1	18	4	33	38	48	22	63		78		93	
4	1	19	9	34	31	49	23	64		79		94	
5	1	20	7	35	28	50	24	65		80		95	
6	1	21	9	36	35	51	26	66		81		96	
7	1	22	7	37	34	52	29	67		82		97	
8	1	23	12	38	28	53	28	68		83		98	
9	1	24	15	39	29	54	34	69		84		99	
10	3	25	16	40	35	55	44	70		85		100	
11	2	26	21	41	34	56	37	71		86		101	
12	1	27	21	42	49	57	41	72		87		102	
13	1	28	23	43	37	58	29@57'-6"	73		88		103	
14	1	29	27	44	28	59		74		89		104	

LOAD TEST DATA

PROJECT: Citrus Lakefront TEST: Tension Test

PILE NO. TP - 1-3 PILE TYPE: 12" Sq. Precast JACK: 1-150 ton hydraulic

Date	Load Cell	Load tons	Time	Elapsed Time	Extensometers No. 4	Extensometers No 6	Extensometers Mean	Settlement 10^{-3} in	Remarks
1/14/80	2.440	0	1235	0	0.000	0.000	0.000	0.000	
F&J	4.36	5	1240	5	0.006	0.005	0.006	0.006	25%Design Load
"		5	1242	2	0.006	0.005	0.006	0.006	
"		5	1248	8	0.006	0.006	0.006	0.006	
"		5	1255	15	0.007	0.006	0.007	0.007	
"		5	1310	30	0.007	0.006	0.007	0.007	
"		5	1340	60	0.010	0.006	0.008	0.008	
"		5	1440	120	0.012	0.004	0.008	0.008	
"		10	1445	5	0.016	0.005	0.011	0.011	50%Design Load
"		10	1447	2	0.017	0.005	0.011	0.011	
"		10	1453	8	0.016	0.005	0.011	0.011	
"		10	1500	15	0.017	0.005	0.011	0.011	
"		10	1515	30	0.018	0.005	0.012	0.012	
"		10	1545	60	0.016	0.008	0.012	0.012	Train-1558
"		10	1645	120	0.016	0.008	0.012	0.012	
"	4.36	5	1650	5	0.011	0.004	0.008	0.008	Decrement to 25%
"		5	1710	20	0.010	0.005	0.008	0.008	
"		0	1715	5	0.008	0.003	0.006	0.006	Decrement to 0%
"		0	1735	20	0.009	0.003	0.006	0.006	Train-1738
"	10.46	10	1740	5	0.016	0.010	0.013	0.013	50%Design Load
"		10	1800	20	0.016	0.010	0.013	0.013	
F&T	16.62	15	1805	5	0.022	0.016	0.019	0.019	75%DesignLoad
"		15	1807	2	0.022	0.016	0.019	0.019	
"		15	1813	8	0.022	0.016	0.019	0.019	
"		15	1820	15	0.022	0.016	0.019	0.019	
"		15	1835	30	0.022	0.016	0.019	0.019	Train-1855
"		15	1905	60	0.023	0.016	0.019	0.019	
"		15	2005	120	0.023	0.017	0.020	0.020	100%DesignLoad
"	23.00	20	2010	5	0.029	0.023	0.026	0.026	
"		20	2012	2	0.030	0.023	0.027	0.027	
"		20	2018	8	0.030	0.023	0.027	0.027	
"		20	2025	15	0.030	0.023	0.027	0.027	
"		20	2040	30	0.030	0.024	0.027	0.027	Train-2050
"		20	2110	60	0.031	0.024	0.028	0.028	Train-2100
"		20	2210	120	0.032	0.025	0.029	0.029	Train-2150
"	16.62	15	2215	5	0.027	0.020	0.024	0.024	Decrement to75%
"		15	2235	20	0.027	0.020	0.024	0.024	
"	10.46	10	2240	5	0.022	0.015	0.019	0.019	Decrement to 50%
"		10	2300	20	0.021	0.019	0.019		
"		0	2305	5	0.013	0.006	0.010	0.010	Decrement to0%
"		0	2325	20	0.013	0.006	0.010	0.010	
"	10.46	10	2335	10	0.020	0.014	0.017	0.017	50%DesignLoad
"		10	2355	20	0.020	0.014	0.017	0.017	
1/15/80	23.00	20	0005	10	0.031	0.025	0.028	0.028	100%DesignLoad
F&T		20	0025	20	0.031	0.025	0.028	0.028	Train-2328
"	29.46	25	0030	5	0.038	0.031	0.035	0.035	125%DesignLoad
"		25	0032	2	0.039	0.032	0.035	0.035	
"		25	0038	8	0.039	0.032	0.035	0.035	

PROJECT: Citrus Lakefront TEST: Tension Test

PILE NO. TP - 1-3 PILE TYPE: 12"Sq.Precast JACK: 1-150 ton hydraulic

Date	Load Cell	Load tons	Time	Elapsed Time	EXTENSOMETERS No. 4	No 6	Mean	Settlement 10^{-3} in	Remarks
1/15/80		25	0045	15	0.039	0.032	0.035	0.035	
F&T		25	0100	30	0.040	0.033	0.037	0.037	
"		25	0130	60	0.040	0.033	0.037	0.037	Train-0147
"		25	0230	120	0.040	0.033	0.037	0.037	
"	35.96	30	0235	5	0.048	0.040	0.044	0.044	150%DesignLoad
"		30	0237	2	0.048	0.040	0.044	0.044	
"		30	0243	8	0.049	0.041	0.045	0.045	
"		30	0250	15	0.049	0.042	0.046	0.046	
"		30	0305	30	0.050	0.043	0.047	0.047	
"		30	0335	60	0.050	0.043	0.047	0.047	
"		30	0435	120	0.051	0.044	0.047	0.047	Train-0453
"	29.46	25	0440	5	0.046	0.040	0.043	0.043	Decrementto125%
"		25	0500	20	0.046	0.040	0.043	0.043	
"	23.00	20	0505	5	0.042	0.035	0.039	0.039	Decrementto100%
		20	0525	20	0.041	0.034	0.038	0.038	Train-0519
"	10.46	10	0530	5	0.030	0.024	0.027	0.027	Decrementto50%
		10	0550	20	0.030	0.024	0.027	0.027	
		0	0555	5	0.022	0.015	0.018	0.018	Decrement to 0%
J&T		0	0615	20	0.021	0.015	0.018	0.018	
"	10.46	10	0625	10	0.028	0.023	0.025	0.025	50%DesignLoad
"		10	0645	20	0.028	0.022	0.025	0.025	
"	23.00	20	0655	10	0.040	0.032	0.036	0.036	100%DesignLoad
"		20	0715	20	0.040	0.032	0.036	0.036	Train-0710
"	35.96	30	0725	10	0.052	0.044	0.048	0.048	150%DesignLoad
"		30	0745	20	0.052	0.044	0.048	0.048	
"	42.36	35	0750	5	0.059	0.052	0.056	0.056	175%DesignLoad
J		35	0752	2	0.059	0.052	0.056	0.056	
"		35	0758	8	0.059	0.052	0.056	0.056	
"		35	0805	15	0.060	0.053	0.057	0.057	
"		35	0820	30	0.059	0.053	0.057	0.057	Pile Driving
"		35	0850	60	0.060	0.053	0.057	0.057	Start Up
"		35	0950	120	0.060	0.054	0.057	0.057	
"	49.00	40	0955	5	0.063	0.062	0.063	0.063	200%DesignLoad
"		40	0957	2	0.062	0.063	0.063	0.063	
"		40	1003	8	0.062	0.063	0.063	0.063	
"		40	1010	15	0.061	0.064	0.063	0.063	
"		40	1025	30	0.067	0.064	0.066	0.066	
"		40	1055	60	0.070	0.066	0.068	0.068	
"		40	1155	120	0.077	0.069	0.073	0.073	
"		40	1255	3Hrs	0.075	0.069	0.072	0.072	
"		40	1355	4Hrs	0.077	0.069	0.073	0.073	
"		40	1455	5Hrs	0.076	0.075	0.076	0.076	Train-1455
"		40	1555	6Hrs	0.076	0.073	0.075	0.075	
"		40	1655	7Hrs	0.076	0.074	0.075	0.075	Train-1600
T		40	1755	8Hrs	0.077	0.074	0.076	0.076	Train-1805
"		40	1855	9Hrs	0.078	0.075	0.077	0.077	Train-1820
"		40	1955	10Hrs	0.078	0.075	0.077	0.077	Train-1953
"		40	2055	11Hrs	0.079	0.075	0.077	0.077	Train-2049

PROJECT: Citrus Lakefront TEST: Tension Test

PILE NO. TP - 1-3 PILE TYPE: 12"Sq.Precast JACK: 1-150 ton hydraulic

Date	Load Cell	Load tons	Time	Elapsed Time	Extensometers No. 4	Extensometers No 6	Extensometers Mean	Settlement 10^{-3} in	Remarks
T		40	2155	12Hrs	0.080	0.076	0.078	0.078	Train-0010
T		40	2255	13Hrs	0.080	0.076	0.078	0.078	
T		40	2355	14Hrs	0.080	0.070	0.078	0.078	
1/16/80		40	0255	16Hrs	0.080	0.075	0.078	0.078	
		40	0355	18Hrs	0.080	0.076	0.078	0.078	Train-0300
		40	0555	20Hrs	0.080	0.076	0.078	0.078	
J		40	0755	22Hrs	0.080	0.076	0.078	0.078	Train-0705
"		40	0955	24Hrs	0.082	0.076	0.079	0.079	Piling 0730
	35.96	30	1005	10	0.073	0.068	0.071	0.071	Decrementtol50%
		30	1025	20	0.073	0.068	0.071	0.071	Train-0912
		30	1045	40	0.072	0.068	0.070	0.070	
		30	1105	60	0.072	0.068	0.070	0.070	
	23.00	20	1115	10	0.063	0.061	0.062	0.062	Decrement to100%
		20	1135	20	0.063	0.061	0.062	0.062	
		20	1155	40	0.063	0.061	0.062	0.062	
		20	1215	60	0.062	0.060	0.061	0.061	
	10.46	10	1225	10	0.052	0.052	0.052	0.052	Decrement to 50%
		10	1245	20	0.051	0.050	0.051	0.051	
		10	1305	40	0.052	0.047	0.050	0.050	
		10	1325	60	0.050	0.045	0.048	0.048	
	2.44	0	1335	10	0.043	0.037	0.040	0.040	Decrement to 0%
		0	1355	20	0.040	0.037	0.039	0.039	
		0	1415	40	0.040	0.036	0.038	0.038	
		0	1435	60	0.038	0.037	0.038	0.038	
	10.46	10	1445	10	0.046	0.044	0.045	0.045	50%DesignLoad
		10	1505	20	0.047	0.044	0.046	0.046	
	23.00	20	1515	10	0.058	0.055	0.057	0.057	100%DesignLoadx
		20	1535	20	0.058	0.055	0.057	0.057	Train-1522
	35.96	30	1445	10	0.069	0.066	0.068	0.068	150%DesignLoad
		30	1605	20	0.070	0.066	0.068	0.068	
	49.00	40	1615	10	0.080	0.077	0.079	0.079	200%Design Load
		40	1635	20	0.082	0.078	0.080	0.080	
	51.66	42	1637	2	0.084	0.081	0.083	0.083	210%DesignLoad
		42	1657	20	0.085	0.081	0.083	0.083	Train-1653
	54.30	44	1659	2	0.087	0.084	0.086	0.086	220%DesignLoad
		44	1719	20	0.089	0.085	0.087	0.087	
	56.56	46	1721	2	0.091	0.087	0.089	0.089	230%DesignLoad
		46	1741	20	0.092	0.089	0.091	0.091	
	59.26	48	1743	2	0.095	0.092	0.094	0.094	240%DesignLoad
		48	1803	20	0.097	0.094	0.096	0.096	
	61.78	50	1805	2	0.100	0.097	0.099	0.099	250%DesignLoad
		50	1825	20	0.101	0.098	0.099	0.099	
	64.18	52	1827	2	0.103	0.100	0.102	0.102	260%DesignLoad
			1847	20	0.106	0.102	0.104	0.104	
	66.80	54	1849	2	0.109	0.105	0.107	0.107	270%DesignLoad
		54	1909	20	0.112	0.108	0.110	0.110	
	69.10	56	1911	2	0.114	0.110	0.112	0.112	280%DesignLoad
		56	1931	20	0.118	0.112	0.115	0.115	Train-1918

PROJECT: Citrus Lakefront TEST: Tension Test

PILE No. TP - 1-3 PILE TYPE: 12"Sq.Precast JACK: 1-150 ton hydraulic

Date	Load Cell	Load tons	Time	Elapsed Time	Extensometers			Settlement 10^{-3} in	Remarks
					No. 4	No 6	Mean		
	71.90	58	1933	2	0.121	0.115	0.118	0.118	290%DesignLoad
		58	1953	20	0.129	0.122	0.126	0.126	
	74.10	60	1955	2	0.133	0.125	0.129	0.129	300%DesignLoad
		60	2155	120	0.149	0.136	0.143	0.143	Train-2005
	55.43	45	2157	2	0.132	0.121	0.127	0.127	Train-2207
		45	2217	20	0.132	0.120	0.126	0.126	Train-2230
	35.96	30	2219	2	0.113	0.102	0.108	0.108	
		30	2239	20	0.111	0.100	0.106	0.106	
	16.62	15	2241	2	0.090	0.081	0.086	0.086	Train-2300
		15	2301	20	0.089	0.080	0.085	0.085	
	2.44	0	2303	2	0.073	0.063	0.068	0.068	Train-2318
		0	2323	20	0.070	0.061	0.066	0.066	

SHILSTONE ENGINEERING TESTING LABORATORY, INC.
Measuring Settlement by Engineers Level and Scale

Date & Time		P1	P2	P3	P4	P6	P7	P8	Test Pile P5	Settlement
1/14/80										
1235		9.07	2.86	3.38	2.99	3.01	3.04	6.28	2.75	
5T										
1240		9.07	2.86	3.38	2.99	3.01	3.04	6.28	2.75	
1242		9.07	2.86	3.38	2.99	3.01	3.04	6.28	2.75	
1248		9.07	2.86	3.38	2.99	3.01	3.04	6.28	2.75	
1255		9.07	2.86	3.38	2.99	3.01	3.04	6.28	2.75	
1310		9.07	2.86	3.38	2.99	3.01	3.04	6.28	2.75	
1340		9.07	2.86	3.38	2.99	3.01	3.04	6.28	2.75	
1440		9.07	2.86	3.38	2.99	3.01	3.04	6.28	2.75	
10T										
1445		9.07	2.86	3.38	2.99	3.01	3.04	6.28	2.75	
1447		9.07	2.86	3.38	2.99	3.01	3.04	6.28	2.75	
1645		9.07	2.86	3.39	2.99	3.02	3.05	6.30	2.75	
1710	5T	9.07	2.86	3.39	2.99	3.02	3.05	6.30	2.76	
1735	0T	9.07	2.86	3.39	2.99	3.02	3.05	6.30	2.75	
1800	10T	9.06	2.90	3.42	3.00	3.03	3.09	6.34	2.76	
1805	15T	9.06	2.90	3.42	3.00	3.03	3.09	6.34	2.76	
2005		9.06	2.91	3.42	3.00	3.03	3.09	6.34	2.75	
2010	20T	9.06	2.91	3.42	3.00	3.03	3.09	6.34	2.75	
2110	20T	9.06	2.91	3.42	3.00	3.03	3.09	6.34	2.75	
2210		9.07	2.91	3.42	3.00	3.03	3.09	6.34	2.75	
2215	15T	9.07	2.91	3.42	3.00	3.03	3.09	6.34	2.75	
2235		9.07	2.91	3.42	3.00	3.03	3.09	6.34	2.76	
2240	10T	9.07	2.91	3.42	3.00	3.03	3.09	6.34	2.76	
2300			2.91	3.42	3.00	3.03	3.09	6.34	2.76	
2305	0T	9.07	2.89	3.40	2.99	3.02	3.06	6.30	2.77	
2325			2.89	3.40	2.99	3.02	3.06	6.30	2.77	
2335	10T	9.07	2.89	3.40	2.99	3.02	3.06	6.30	2.76	
2355			2.89	3.40	2.99	3.02	3.06	6.30	2.76	
0005	20T	9.07	2.91	3.42	3.00	3.03	3.09	6.34	2.76	
0025			2.91	3.42	3.00	3.03	3.09	6.34	2.75	
0030	25T	9.07	2.91	3.42	3.00	3.03	3.09	6.34	2.75	
0130			2.91	3.42	3.00	3.03	3.09	6.34	2.75	
0230	25T		2.91	3.42	3.00	3.03	3.09	6.34	2.75	
0235	30T		2.96	3.45	3.01	3.04	3.11	6.40	2.74	
0335		907	2.96	3.45	3.01	3.04	3.11	6.40	2.74	
0435	30T		2.96	3.45	3.01	3.04	3.11	6.40	2.74	
0440	25T								2.75	
0500	25T								2.75	
0505	20T								2.75	
0525	20T								2.75	
0530	10T								2.76	

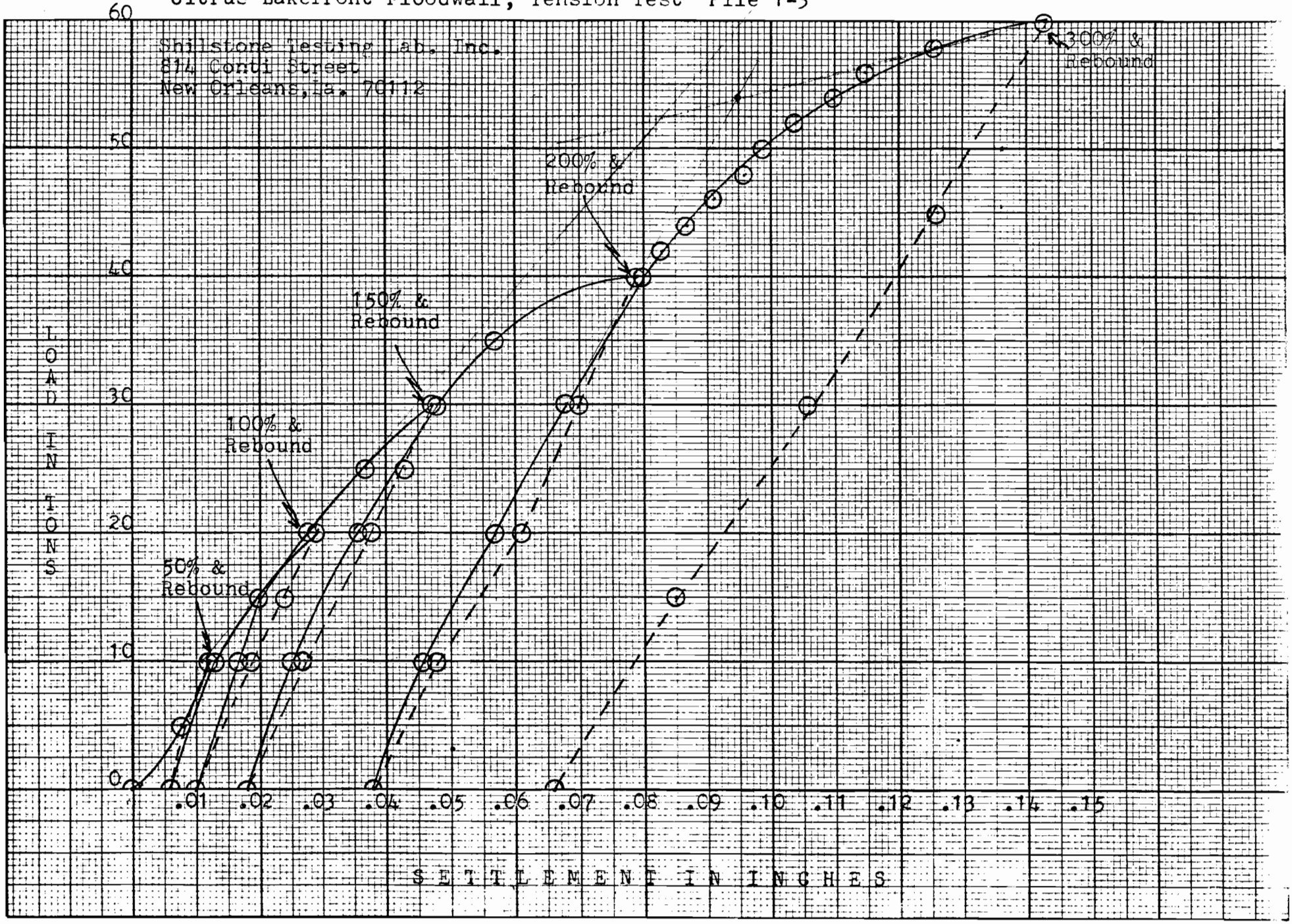
SHILSTONE ENGINEERING TESTING LABORATORY, INC.
Measuring Settlement by Engineers Level and Scale

Date & Time		P1	P2	P3	P4	P6	P7	P8	Test Pile P5	Settlement
0550	10T								2.77	
0555	0								2.77	
0615	0								2.77	
0625	10T	9.07	2.91	3.45	3.01	3.05	3.11	6.37	2.77	
0645	10T		2.91	3.45	3.01	3.05	3.11	6.37	2.77	
0655	20T		2.91	3.45	3.01	3.05	3.11	6.37	2.75	
0715	20T		2.91	3.45	3.01	3.05	3.11	6.37	2.75	
0725	30T		2.91	3.45	3.01	3.05	3.11	6.37	2.75	
0745	30T		2.91	3.45	3.01	3.05	3.11	6.37	2.74	
0750	35T	9.08	2.97	3.45	3.01	3.04	3.11	6.42	2.74	
0850	35T	9.08	2.97	3.45	3.01	3.04	3.11	6.42	2.74	
0950	35T	9.09	2.97	3.46	3.01	3.04	3.12	6.43	2.74	
0955	40T	9.10	2.98	3.46	3.01	3.04	3.13	6.44	2.73	
1105	40T	9.10	2.98	3.46	3.01	3.04	3.13	6.44	2.72	
1205	40T	9.09	3.00	3.48	3.02	3.04	3.13	6.44	2.72	
1305	40T	9.09	3.00	3.48	3.02	3.04	3.13	6.44	2.72	
1405	40T	9.09	3.00	3.48	3.02	3.05	3.13	6.44	2.72	
1505	40T	9.09	3.00	3.47	3.02	3.04	3.13	6.44	2.72	
1605	40T	9.09	3.00	3.48	3.02	3.04	3.14	6.44	2.72	
1705	40T	9.09	3.00	3.49	3.03	3.05	3.14	6.44	2.72	
1805	40T	9.09	3.00	3.49	3.03	3.05	3.14	6.44	2.72	
1905	40T	9.09	3.00	3.49	3.03	3.05	3.14	6.44	2.71	
2005	40T								2.71	
2105	40T								2.71	
2205	40T								2.71	
2305	40T								2.71	
0005	40T								2.71	
0205	40T								2.71	
0405	40T								2.71	
0605	40T								2.71	
0805	40T	9.08	3.00	3.47	3.02	3.05	3.14	6.44	2.71	
1005	30T	9.09	3.00	3.47	3.02	3.05	3.14	6.45	2.71	
1105	30T								2.72	
1115	20T								2.73	
1215	20T								2.73	
1225	10T								2.74	
1325	10T								2.74	
1335		9.07	2.94	3.43	3.00	3.02	3.10	6.37	2.75	
1435	0T		2.94	3.43	3.00	3.02	3.10	6.37	2.76	
1445	10T								2.76	

SHILSTONE ENGINEERING TESTING LABORATORY, INC.
Measuring Settlement by Engineers Level and Scale

Date & Time		P1	P2	P3	P4	P6	P7	P8	Test Pile P5	Settlement
1505	10T								2.76	
1515	20T								2.75	
1535	20T								2.75	
1545	30T								2.74	
1605	30T								2.73	
1615	40T								2.72	
1635	40T								2.72	
1637	42T	9.09	3.01	3.49	3.02	3.03	3.15	6.45	2.72	
1657	42T								2.72	
1659	44T								2.72	
1719	44T								2.72	
1721	46T								2.72	
1741	46T								2.72	
1743	48T								2.71	
1803	48T								2.71	
1805	50T								2.70	
1825	50T								2.70	
1827	52T								2.70	
1847	52T								2.69	
1849	54T								2.69	
1909	54T								2.69	
1911	56T								2.68	
1931	56T								2.68	
1933	58T								2.68	
1953	58T								2.67	
1955	60T								2.65	
2155	60T								2.64	
2157	45T	9.09	3.03	3.49	3.02	3.05	3.15	6.49	2.66	
2217	45T								2.66	
2219	30T								2.68	
2239	30T								2.68	
2241	15T								2.70	
2301	15T								2.70	
2303	0								2.72	
2323	0	9.09	2.92	3.44	3.01	3.05	3.10	6.33	2.74	

Citrus Lakefront Floodwall, Tension Test Pile 1-3

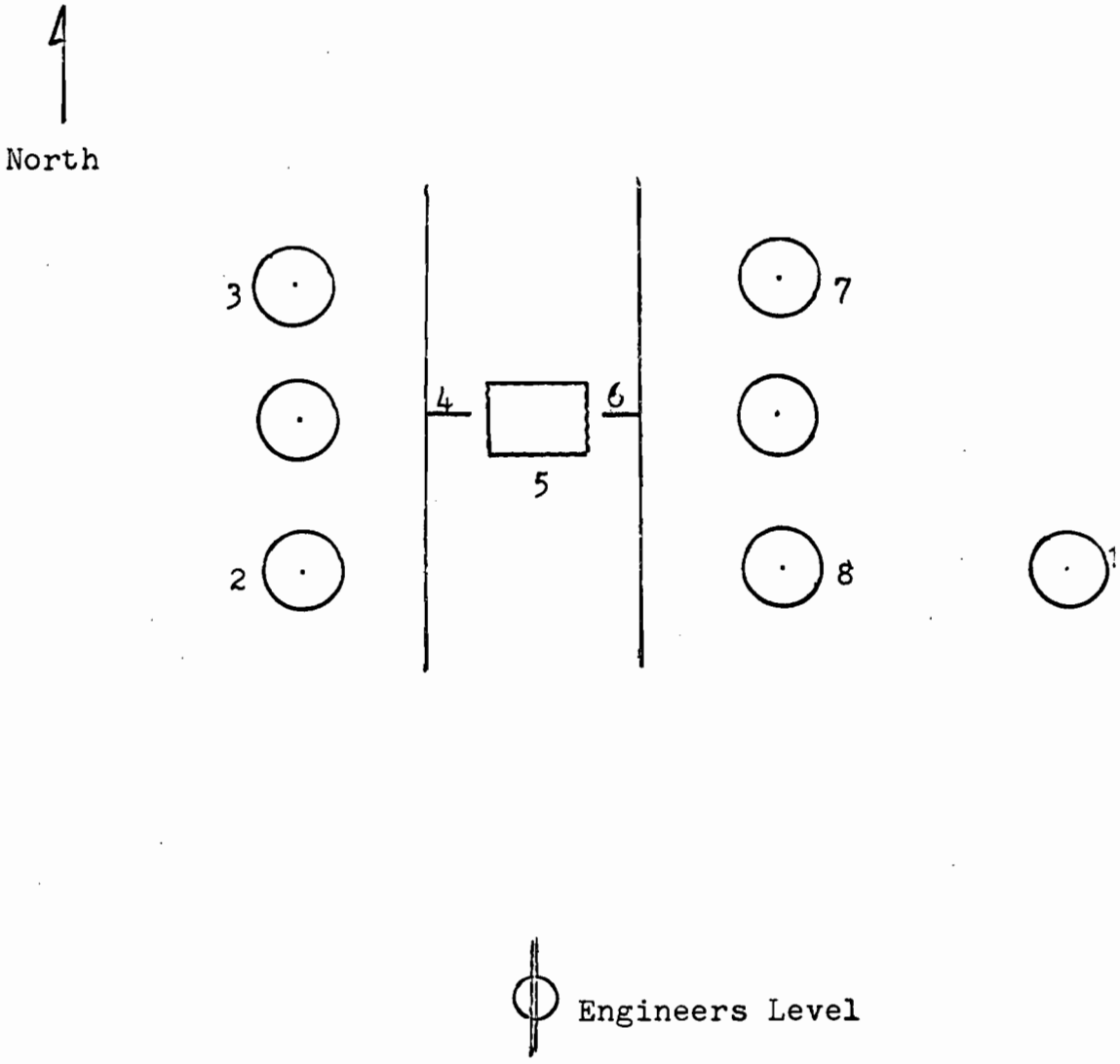


APPENDIX

CITRUS LAKEFRONT FLOODWALL
NEW ORLEANS AIRPORT & LINCOLIN BEACH

TP-1-3

Schematic diagram showing the positioning of the Test Pile, Reactor Piles, Reference Beams and Reference Points.



NOTE:
Numbers refer to reference points.

Calculation of Calibration Curve For Pile

Lincoln Beach Test Pile

Load (psi) = Tons x Lbs./Tons x 1/Area of one (1) ram at 28.27 Square Inches.

Example: For a 10 Ton applied load:

Load (psi) = 10T x 2000 lbs./T x 1/28.27 Square inches

= 705.5 PSI say 706

SHILSTONE ENGINEERING TESTING LABORATORY, INC.

ATLANTA, GEORGIA ZIP CODE 30306 600 VIRGINIA AVE., N.E. PHONE (404) 872-0795	BATON ROUGE, LA. ZIP CODE 70802 1068 NEOSHO ST. PHONE (504) 387-3149	MONROE, LA ZIP CODE 71201 315 N. SECOND ST. PHONE (318) 387-2327	NEW ORLEANS, LA ZIP CODE 70112 814 CONTI ST. PHONE (504) 524-8395	BEAUMONT, TEXAS ZIP CODE 77701 2276 PARK ST. PHONE (713) 838-1694	FREEPORT, TEXAS ZIP CODE 77541 415 NORTH AVENUE F PHONE (713) 233-6368	HOUSTON, TEXAS ZIP CODE 77007 1714 MEMORIAL DR. PHONE (713) 224-2047

TESTED FOR: Atlas Construction Co., Inc.
P. O. Box 10
Kenner, La. 70063

PROJECT: CITRUS LAKEFRONT FLOODWALL
N.O. AIRPORT AND LINCOLN BEACH
NEW ORLEANS, LA.
TEST PILE PROGRAM

DATE: January 11, 1980

OUR REPORT NO.: 76-90188

REMARKS:

This is to certify that on January 11, 1980 two (2) Model 656-3041, three (3) inch travel Starret Dial Micrometers were calibrated against a Kraut Kramer Model D Standard thickness step wedge and found to be true to 0.01 inches.

SHILSTONE ENGINEERING
TESTING LABORATORY, INC.

Frank A. Tusa
Branch Manager
Construction Services

SHILSTONE ENGINEERING TESTING LABORATORY, INC.

ATLANTA, GEORGIA ZIP CODE 30306 600 VIRGINIA AVE., N.E. PHONE (404) 872-0795	BATON ROUGE, LA. ZIP CODE 70802 1068 NEOSHO ST. PHONE (504) 387-3149	MONROE, LA ZIP CODE 71201 315 N. SECOND ST. PHONE (318) 387-2327	X NEW ORLEANS, LA ZIP CODE 70112 814 CONTI ST. PHONE (504) 524-8395	BEAUMONT, TEXAS ZIP CODE 77701 2276 PARK ST. PHONE (713) 838-1694	FREEPORT, TEXAS ZIP CODE 77541 415 NORTH AVENUE F PHONE (713) 233-6366	HOUSTON, TEXAS ZIP CODE 77007 1714 MEMORIAL DR. PHONE (713) 224-2047

TESTED FOR: Atlas Construction Co., Inc.
P. O. Box 10
Kenner, La. 70063

PROJECT: CITRUS LAKEFRONT FLOODWALL
N.O. AIRPORT AND LINCOLN BEACH
NEW ORLEANS, LA.
TEST PILE PROGRAM

DATE: January 11, 1980

OUR REPORT NO.: 76-90188

STRAIN INDICATOR CALIBRATION

REMARKS:

LOAD IN TONS	TESTING MACHINE IN POUNDS	STRAIN INDICATOR
5	10,000	6.80
10	20,000	12.90
15	30,000	19.06
20	40,000	25.44
25	50,000	31.90
30	60,000	38.40
35	70,000	44.80
40	80,000	51.44
42	84,000	54.10
44	88,000	56.74
46	92,000	59.00
48	96,000	61.70
50	100,000	64.22
52	104,000	66.62
54	108,000	69.24
56	112,000	71.54
58	116,000	74.34
60	120,000	76.54

SHILSTONE ENGINEERING TESTING LABORATORY, INC.

ATLANTA, GEORGIA	BATON ROUGE, LA.	MONROE, LA	NEW ORLEANS, LA	BEAUMONT, TEXAS	FREEPORT, TEXAS	HOUSTON, TEXAS
ZIP CODE 30306	ZIP CODE 70802	ZIP CODE 71201	ZIP CODE 70112	ZIP CODE 77701	ZIP CODE 77541	ZIP CODE 77007
600 VIRGINIA AVE., N.E.	1068 NEOSHO ST.	315 N. SECOND ST.	814 CONTI ST.	2276 PARK ST.	415 NORTH AVENUE F	1714 MEMORIAL DR.
PHONE (404) 872-0795	PHONE (504) 387-3149	PHONE (318) 387-2327	PHONE (504) 524-8395	PHONE (713) 838-1694	PHONE (713) 233-6366	PHONE (713) 224-2047

TESTED FOR: Atlas Construction Co., Inc.
P. O. Box 10
Kenner, La. 70063

PROJECT: CITRUS LAKEFRONT FLOODWALL
N.O. AIRPORT AND LINCOLN BEACH
NEW ORLEANS, LA.
TEST PILE PROGRAM

DATE: January 11, 1980

OUR REPORT NO.: 76-90188

60 TON JACK CALIBRATION

REMARKS:

LOAD IN TONS	TESTING MACHINE IN POUNDS	GAUGE PRESSURE (PSI)
5	10,000	353.7
10	20,000	707.5
15	30,000	1061.2
20	40,000	1414.9
25	50,000	1768.6
30	60,000	2122.4
35	70,000	2476.1
40	80,000	2829.6
42	84,000	2971.0
44	88,000	3112.5
46	92,000	3254.0
48	96,000	3395.5
50	100,000	3537.0
52	104,000	3678.5
54	108,000	3819.9
56	112,000	3961.4
58	116,000	4102.9
60	120,000	4244.8

79-C-028C

TEST PILE PROGRAM REPORT

TP-1-3

CITRUS LAKEFRONT FLOODWALL
NEW ORLEANS, AIRPORT

AND

LICOLN BEACH
DACW 29-79-C-028C

ATLAS CONSTRUCTION CO. INC.

KENNER, LA.

JANUARY, 1980

SHILSTONE
ENGINEERING TESTING LABORATORY. INC.

Shilstone

GEOTECHNICAL ENGINEERING
CONSTRUCTION MATERIALS TESTING AND INSPECTION
ENGINEERS - CHEMISTS

ENGINEERING TESTING LABORATORY, INC.

BATON ROUGE, LOUISIANA 70802 / 1068 NEOSHO AVENUE / (504) 387-3149
MONROE, LOUISIANA 71201 / 315 NORTH SECOND STREET / (318) 387-2327
NEW ORLEANS, LOUISIANA 70112 / 814 CONTI STREET / (504) 524-8395

January 4, 1980

Atlas Const. Co., Inc.
P. O. Box 10
Kenner, La. 70063

Gentlemen:

Shilstone Engineering Testing Laboratory, Inc. is very proud to have participated in the pile load test program for the Citrus Lakefront Floodwall, New Orleans, La.

Transmitted herewith is our report which represents the scope of the work, procedures used and the data obtained along with our conclusions. Should you have any questions, we will remain available to discuss any portion of the work or our report at your convenience.

As the work on the Floodwall progresses, we would like very much to continue to provide testing laboratory and inspection services. We feel our experience with local conditions and wide range of engineering and inspection services uniquely qualify us for this work.

The cooperation and assistance we received from Atlas Construction Co., Inc. personnel at the site are sincerely appreciated, and we look forward to working for you again.

Yours very truly,
SHILSTONE ENGINEERING
TESTING LABORATORY, INC.

Frank A. Tusa

FAT:jm

Frank A. Tusa
Branch Manager
Construction Service

TEST: Compression TP - 1-3
DATE: January 4, 1980
JOB: Citrus Lakefront Floodwall
New Orleans Airport and
Lincoln Beach
New Orleans, La.
Test Pile Program
DACW-29-79-C- 0286

AUTHORITY FOR WORK:

Shilstone Engineering Testing Laboratory, Inc. was requested by Atlas Const. Co. to conduct a test pile program at the site of the Citrus Lakefront Floodwall on Haynes Boulevard near New Orleans Airport and Lincoln Beach, New Orleans, La.

SPECIFICATIONS FOR TEST:

Instructions received were to conduct the test in strict accordance with ASTM D 1143-74 and as amended by the Corps of Engineers.

METHOD OF LOAD TEST:

The load was applied to the test pile by one 150 ton hydraulic jack working against approximately 156 tons of dead weight.

The load was applied in increments and at rates according to specifications in order to prevent shock loading.

Settlement of the piles was determined by securing readings with an engineer's level on scales calibrated to 0.01 inches which were attached to the piles and bench marks.

Settlement was also measured through a reference beam system utilizing dial micrometers calibrated to 0.001 inches which were attached to the pile proper.

LOG OF DRIVING

PILE DRIVING REPORT

PROJECT DACW 29-79-C-0286 PILE NO.

CONTRACTOR Atlas Construction Co. LOCATION TP 1-3 (3+12.34

HAMMER: TYPE: Concrete

MAKE & MODEL Vulcan 06 DIMENSIONS 12"x12" x 59.25'

WT. RAM 6500lbs STROKE 3 Ft. LENGTH IN LEADS

ENERGY DELIVERED 19,500 VERTICAL (XX): BATTER 1 ON ( )

DESCRIPTION AND DIMENSIONS OF

DRIVING CAP Reg. (K)123/4 ELEVATION OF GROUND +2.46

SPEED: RATED 60 MEASURED 58 ELEVATION OF CUT-OFF +3.00

STEAM OR AIR PRESSURE: ELEVATION OF PILE TIP -55.00

AT HAMMER 75 AT BOILER ELEVATION OF SPLICES

JETTING PRESSURE AND ELEVATIONS:

INSPECTOR DATE 12/19/79

TIME: START DRIVING 1500 FINISH DRIVING 1555 DRIVING TIME 0:55

INTERRUPTIONS (TIME, TIP ELEV. & REASON) 1505-1508 Placing wood cushion in driving head, 1516-1545 cutting reinforcing in head of concrete pile and placing wood cushion in driving head.

DRIVING RESISTANCE

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		15	1	30	30	45	21	60		75		90	
1	3	16	1	31	45	46	23	61		76		91	
2	1	17	2	32	43	47	22	62		77		92	
3	1	18	4	33	38	48	22	63		78	:	93	
4	1	19	9	34	31	49	23	64		79		94	
5	1	20	7	35	28	50	24	65		80		95	
6	1	21	9	36	35	51	26	66		81		96	
7	1	22	7	37	34	52	29	67		82		97	
8	1	23	12	38	28	53	28	68		83		98	
9	1	24	15	39	29	54	34	69		84		99	
10	3	25	16	40	35	55	44	70		85		100	
11	2	26	21	41	34	56	37	71		86		101	
12	1	27	21	42	49	57	41	72		87		102	
13	1	28	23	43	37	58	29@57'-6"	73		88		103	
14	1	29	27	44	28	59		74		89		104	

LMN Form 1119, 1 Mar 77

LOAD TEST DATA

PROJECT: Citrus Lakefront Floodwall TEST: Compression

PILE NO. TP - 1-3 PILE TYPE: 12" Sq. Precast JACK: 1 150 ton hydraulic

Date	Load Cell	Load tons	Time	Elapsed Time	Extensometers No. 4	Extensometers No 6	Extensometers Mean	Settlement 10^{-3} in	Remarks
1/2/80	0	0	1000	0	3.000	3.000	3.000	0.000	Train Passing
		10	1005	5	2.986	2.993	2.989	0.011	25% Design
	1960	10	1007	2	2.985	2.993	2.989	0.011	Load
		10	1013	8	2.980	2.992	2.986	0.014	
		10	1020	15	2.974	2.990	2.982	0.018	
		10	1035	30	2.971	2.991	2.981	0.019	
		10	1105	60	2.971	2.991	2.981	0.019	
		10	1205	120	2.972	2.992	2.982	0.018	
	3348	20	1210	5	2.963	2.983	2.973	0.027	50% Design
		20	1212	2	2.962	2.982	2.972	0.028	Load
		20	1218	8	2.962	2.983	2.973	0.027	
		20	1225	15	2.962	2.983	2.973	0.027	
		20	1240	30	2.961	2.983	2.972	0.028	
		20	1310	60	2.962	2.984	2.973	0.027	
		20	1410	120	2.962	2.984	2.973	0.027	
	1960	10	1415	5	2.970	2.991	2.981	0.019	Decrement to
		10	1435	20	2.970	2.991	2.981	0.019	25%
		0	1440	5	2.997	3.000	2.999	0.001	Decrement to
		0	1500	20	3.000	3.000	3.000	0.000	0%
	3348	20	1505	5	2.976	2.986	2.981	0.019	50% Design
		20	1525	20	2.974	2.986	2.980	0.020	Load
		30	1530	5	2.960	2.975	2.968	0.032	75% Design Load
	4600	30	1532	2	2.958	2.977	2.968	0.032	Train passing
		30	1538	8	2.955	2.976	2.966	0.034	1513
		30	1545	15	2.952	2.976	2.964	0.036	
		30	1600	30	2.951	2.976	2.964	0.036	
		30	1630	60	2.954	2.977	2.966	0.034	
		30	1730	120	2.954	2.976	2.965	0.035	100% Design
		40	1735	5	2.942	2.967	2.955	0.045	Load
	5850	40	1737	2	2.941	2.966	2.954	0.046	Train passing
		40	1743	8	2.941	2.966	2.954	0.046	1743
		40	1750	15	2.941	2.966	2.954	0.046	
		40	1805	30	2.941	2.967	2.954	0.046	
		40	k835	60	2,940	2.966	2.953	0.047	Train passing
		40	1935	120	2.939	2.963	2.951	0.049	1838
	4600	30	1940	5	2.948	2.972	2.960	0.040	Decrement to
		30	2000	20	2.948	2.971	2.960	0.040	75%/ Train1950
	3348	20	2005	5	2.960	2.981	2.971	0.029	Decrement to
		20	2025	20	2.960	2.982	2.971	0.029	50%
		0	2030	5	2.906	2.999	2.973	0.007	Decrement to 0%
		0	2050	20	2.989	3.000	2.994	0.006	Train-2056
	3190	20	2100	10	2.969	2.985	2.977	0.023	50% Design Load
		20	2120	20	2.969	2.985	2.977	0.023	Train-2122
	5850	40	2130	10	2.943	2.965	2.954	0.046	100% Design Loa
		40	2150	20	2.742	2.965	2.954	0.046	
	7090	50	2155	5	2.229	2.954	2.941	0.059	125% Design Loa
		50	2157	2	2.929	2.954	2.941	0.059	
		50	2203	8	2.929	2.954	2.941	0.059	
		50	2210	15	2.927	2.954	2.941	0.059	

PROJECT: Citrus Lakefront Floodwall TEST: Compression

PILE NO. TP - 1-3 PILE TYPE: 12"Sq. Paecast JACK: 1-150 ton hydraulic

Date	Load Cell	Load tons	Time	Elapsed Time	EXTENSOMETERS No. 4	No 6	Mean	Settlement 10^{-3} in	Remarks
	7090	50	2225	30	2.927	2.954	2.941	0.059	Train-2235
		50	2255	60	2.926	2.954	2.940	0.060	
		50	2355	120	2.924	2.953	2.939	0.061	
	8552	60	2400	5	2.909	2.941	2.925	0.075	15% Design Loa
1/3/80		60	0002	2	2.908	2.939	2.924	0.076	
		60	0008	8	2.906	2.941	2.924	0.076	
		60	0015	15	2.906	2.940	2.923	0.077	
		60	0030	30	2.905	2.940	2.923	0.077	
		60	0100	60	2.904	2.940	2.922	0.078	Train0121
		60	0200	120	2.901	2.938	2.920	0.080	
	7090	50	0205	5	2.910	2.947	2.929	0.071	Decrement to
		50	0225	20	2.911	2.946	2.929	0.071	125%
	5850	40	0230	5	2.922	2.956	2.939	0.061	Decrement to
		40	0250	20	2.923	2.955	2.939	0.061	100%/Train-023
	3348	20	0255	5	2.950	2.978	2.964	0.036	Decrement to
		20	0315	20	2.951	2.979	2.965	0.035	50%
		0	0320	5	2.979	2.999	2.989	0.011	Decrement to 0%
		0	0340	20	2.983	2.999	2.991	0.009	
	3348	20	0350	10	2.962	2.981	2.972	0.028	50% Design Load
		20	0410	20	2.962	2.982	2.972	0.028	
	5850	40	0420	10	2.935	2.960	2.948	0.052	100% Design
		40	0440	20	2.934	2.959	2.947	0.053	Load
	8552	60	0450	10	2.905	2.938	2.922	0.078	150% Design
		60	0510	20	2.904	2.942	2.923	0.077	Load
	9744	70	0515	5	2.890	2.926	2.908	0.092	175% Design
		70	0517	2	2.889	2.926	2.908	0.092	Load
		70	0523	8	2.888	2.925	2.907	0.093	
		70	0530	15	2.887	2.924	2.906	0.094	
		70	0545	30	2.886	2.923	2.905	0.095	
		70	0615	60	2.884	2.923	2.904	0.096	Train-0710
		70	0715	120	2.881	2.921	2.901	0.099	
		80	0720	5	2.868	2.910	2.889	0.111	200% Design
	10938	80	0722	2	2.868	2.910	2.889	0.111	Load
		80	0728	8	2.865	2.909	2.887	0.113	
		80	0735	15	2.864	2.908	2.887	0.113	
		80	0750	30	2.862	2.907	2.885	0.115	
		80	0820	60	2.859	2.906	2.883	0.117	
		80	0920	120	2.853	2.908	2.881	0.119	
		80	1020	3 Hrs	2.846	2.900	2.873	0.127	
		80	1120	4 Hrs	2.851	2.901	2.876	0.124	
		80	1220	5 Hrs	2.849	2.901	2.875	0.125	
		80	1320	6 Hrs	2.847	2.901	2.874	0.126	
		80	1420	7 Hrs	2.845	2.901	2.873	0.127	Train-1454
		80	1520	8 Hrs	2.843	2.901	2.872	0.128	
		80	1620	9 Hrs	2.843	2.901	2.872	0.128	Train-1701
		80	1720	10 Hrs	2.841	2.901	2.871	0.129	Train-1715
		80	1820	11 Hrs	2.841	2.901	2.871	0.129	
		80	1920	12 Hrs	2.838	2.900	2.869	0.131	
		80	2020	13 Hrs	2.838	2.901	2.869	0.131	

PROJECT: Citrus Lakefront Floodwall TEST: Compression

PILE NO. TP - 1-3 PILE TYPE: 12"Sq. Precast JACK: 1-150 ton hydraulic

Date	Load Cell	Load tons	Time	Elapsed Time	Extensometers No. 4	Extensometers No 6	Extensometers Mean	Settlement 10^{-3} in	Remarks
	109.38	80	2120	14 Hrs	2.837	2.901	2.869	0.131	Train-2230
		80	2320	16 Hrs	2.836	2.903	2.869	0.131	Train-2315
1/4/80		80	0120	18 Hrs	2.837	2.904	2.871	0.129	Train-0140
		80	0320	20 Hrs	2.836	2.906	2.871	0.129	Train-0315
		80	0520	22 Hrs	2.836	2.905	2.871	0.129	
		80	0720	24 Hrs	2.836	2.905	2.871	0.129	Train-0725
	8552	60	0730	10	2.857	2.922	2.890	0.110	Decrement to
		60	0750	20	2.858	2.923	2.891	0.109	150%
		60	0810	40	2.858	2.923	2.891	0.109	
		60	0830	60	2.859	2.924	2.892	0.108	
	5850	40	0840	10	2.885	2.944	2.915	0.095	Decrement to
		40	0900	20	2.887	2.945	2.916	0.094	100%
		40	0920	40	2.887	2.945	2.916	0.094	
		40	0940	60	2.887	2.945	2.916	0.094	
	3348	20	0950	10	2.916	2.968	2.942	0.058	Decrement to
		20	1010	20	2.919	2.970	2.945	0.055	50%
		20	1030	40	2.921	2.970	2.946	0.054	
		20	1050	60	2.921	2.970	2.946	0.054	
	0	0	1100	10	2.947	2.997	2.972	0.028	Decrement to
		0	1120	20	2.949	2.999	2.974	0.026	0%
		0	1140	40	2.952	3.000	2.976	0.024	
		0	1200	60	2.952	3.000	2.976	0.024	
	3348	20	1210	10	2.947	2.991	2.969	0.031	50% Design
		20	1230	20	2.935	2.979	2.957	0.043	Load
	5850	40	1240	10	2.907	2.956	2.932	0.068	100% Design
		40	1300	20	2.907	2.956	2.932	0.068	Load
	8552	60	1310	10	2.877	2.932	2.905	0.085	150% Design
		60	1330	20	2.877	2.932	2.905	0.085	Load
	109.38	80	1340	10	2.845	2.913	2.879	0.121	200% Design
		80	1400	20	2.845	2.906	2.876	0.124	Load
	11440	84	1402	2	2.838	2.902	2.870	0.130	210%Design Load
		84	1422	20	2.836	2.900	2.870	0.130	Train-1428
	12048	88	1424	2	2.829	2.895	2.862	0.138	220% Design
		88	1444	20	2.828	2.894	2.861	0.139	Load
	12538	92	1446	2	2.822	2.889	2.856	0.144	230% Design
		92	1506	20	2.820	2.888	2.854	0.146	Load
	12930	96	1508	2	2.815	2.883	2.849	0.151	240% Design
		96	1528	20	2.812	2.883	2.848	0.152	Load/Train-153
	135.36	100	1530	2	2.805	2.876	2.841	0.159	250% Design
		100	1550	20	2.801	2.875	2.838	0.162	Load
	139.50	104	1552	2	2.796	2.871	2.834	0.166	260% Design
		104	1612	20	2.790	2.867	2.829	0.171	Load
	145.80	108	1614	2	2.783	2.862	2.823	0.177	270% Design
		108	1634	20	2.775	2.859	2.817	0.183	Load
	151.60	112	1636	2	2.770	2.853	2.812	0.188	280%Design
		112	1656	20	2.762	2.844	2.803	0.197	Load/Train-1650
	155.46	116	1658	2	2.757	2.840	2.799	0.201	290% Design
		116	1718	20	2.751	2.835	2.793	0.207	Load
	160.30	120	1720	2	2.745	2.830	2.788	0.212	300% Design

PROJECT: Citrus Lakefront Floodwall TEST: Compression

PILE NO. TP - 1-3 PILE TYPE: 12"Sq.Precast JACK: 1-150 ton hydraulic

Date	Load Cell	Load tons	Time	Elapsed Time	EXTENSOMETERS No. 4	No 6	Mean	Settlement 10^{-3} in	Remarks
	160.30	120	1920	120	2.729	2.819	2.774	2.226	Train-1736
	125.23	90	1922	2	2.760	2.845	2.803	0.197	
		90	1942	20	2.760	2.843	2.802	0.198	
	8552	60	1944	2	2.803	2.875	2.839	0.161	
		60	2004	20	2.804	2.875	2.840	0.160	Train-2000
	4600	30	2006	2	2.855	2.915	2.885	0.115	
		30	2026	20	2.856	2.917	2.887	0.113	
	0	0	2028	2	2.912	2.968	2.940	0.060	
		0	2048	20	2.917	2.967	2.942	0.058	

SHILSTONE ENGINEERING TESTING LABORATORY, INC.
Measuring Settlement by Engineers Level and Scale

Date & Time	P1	P2	P3	P4	P6	P7	P8	Test Pile P5	Settle-ment
1/2/80	2.80	10.00	10.63	3/34	4/35	4.00	1.44	1.13	0.00
10 T									
1007	2.80	10.00	10.63	3.34	4.35	4.00	1.44	1.14	0.01
1013	2.80	10.00	10.63	3.34	4.35	4.00	1.44	1.14	0.01
1035	2.80	10.00	10.63	3.34	4.35	4.00	1.44	1.15	0.02
20 T									
1210	2.80	10.00	10.63	3.34	4.35	4.00	1.44	1.16	0.03
1225	2.80	10.00	10.63	3.34	4.35	4.00	1.44	1.16	0.03
1240	2.80	10.00	10.63	3.34	4.35	4.00	1.44	1.16	0.03
1310	2.80	11.99	10.62	3.34	4.32	4.05	1.40	1.16	0.03
10 T									
1415	2.80	11.99	10.62	3 34	4.34	4.08	1.42	1.16	0.03
10 T									
1435	2.80	11.99	10.62	3.34	4.34	4.08	1.42	1.15	0.02
0									
1440	2.80	11.99	10.62	3.34	4.34	4.08	1.42	1.14	0.01
0 T									
1500	2.80	11.99	10.62	3.34	4.34	4.08	1.42	1.13	0.00
20 T									
1505								1.15	0.02
1525								1.15	0.02
30 T									
1530								1.16	0.03
1532								1.16	0.03
1545								1.17	0.04
30 T									
1600	2.81	11.94	10.60	3.34	4.34	4.10	1.43	1.17	0.04
40 T									
1735								1.18	0.05
1743								1.18	0.05
1750								1.18	0.05
1805								1.18	0.05
1835								1.18	0.05
1935	2.80	11 95	10.60	3.34	4.33	4.08	1.42	1.18	0.05
30 T									
1940								1.17	0.04
2000								1.17	0.04
20 T									
2005								1.16	0.03
2025								1.16	0.03
2030								1.14	0.01
2050								1.14	0.01

SHILSTONE ENGINEERING TESTING LABORATORY, INC.
Measuring Settlement by Engineers Level and Scale

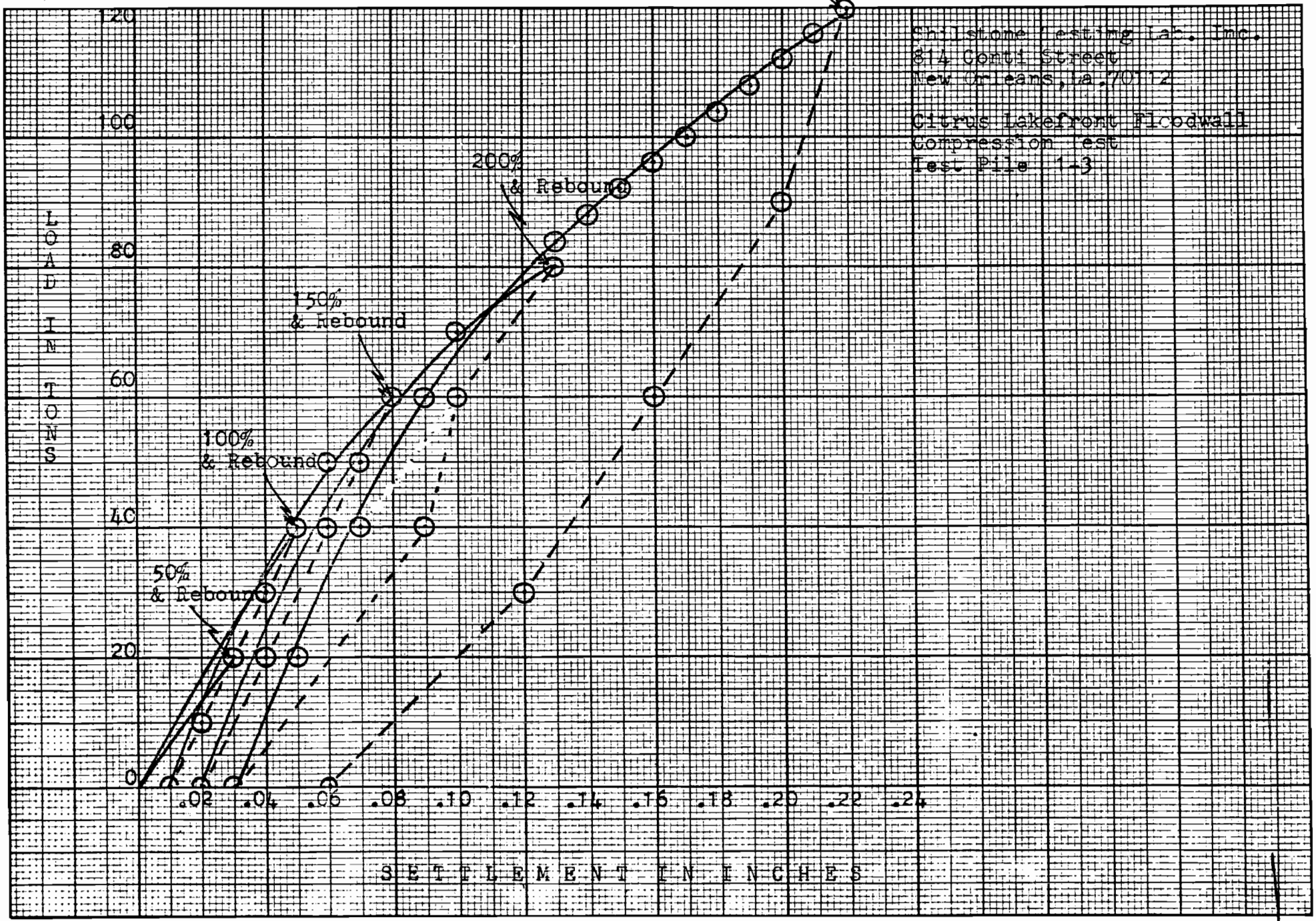
Date & Time	P1	P2	P3	P4	P6	P7	P8	Test Pile P5	Settle-ment
20 T									
2100								1.16	0.03
2120								1.16	0.03
2130								1.18	0.05
2150								1.18	0.05
2155								1.19	0.06
40 T									
2157								1.20	0.07
2203	2.80	11.95	10.60	3.34	4.33	4.05	1.40	1.20	0.07
2210								1.20	0.07
2225								1.20	0.07
2255								1.20	0.07
2355								1.20	0.07
60 T								1.21	0.08
1/3/80									
0002								1.21	0.08
0008								1.21	0.08
0015	2.80	11.94	10.60	3.34	4.33	4.05	1.34	1.21	0.08
0030	2.80	11.94	10.60	3.34	4.33	4.05	1.34	1.21	0.08
0100								1.21	0.08
0200								1.21	0.08
50 T									
0205								1.20	0.07
0225								1.20	0.07
40 T									
0230								1.20	0.07
0250								1.20	0.07
20 T									
0255								1.18	0.05
0315	2.80	11.94	10.60	3.35	4.33	4.06	1.39	1.17	0.04
0 T									
0320	2.80	11.94	10.60	3.35	4.33	4.06	1.39	1.15	0.02
0340								1.15	0.02
20 T									
0350								1.17	0.04
0410								1.17	0.04
40 T									
0420								1.19	0.06
0440								1.20	0.07
60 T									
0450	2.80	11.94	10.60	3.35	4.33	4.06	1.38	1.21	0.08
0510	2.80	11.94	10.60	3.35	4.33	4.06	1.38	1.21	0.08

SHILSTONE ENGINEERING TESTING LABORATORY, INC.
Measuring Settlement by Engineers Level and Scale

Date & Time	P1	P2	P3	P4	P6	P7	P8	Test Pile P5	Settle-ment
70 T									
0515								1.23	0.10
0517								1.23	0.10
0523								1.23	0.10
0530								1.23	0.10
0545								1.23	0.10
0615	2.80	11.94	10.60	3.35	4.33	4.06	1.38	1.24	0.11
0715	2.80	11.92	10.60	3.35	4.33	4.05	1.38	1.26	0.13
80 T									
0720								1.26	0.13
0820								1.26	0.13
0920								1.26	0.13
1020								1.26	0.13
1120	2.80	11.92	10.60	3.35	4.33	4.05	1.38	1.27	0.14
1120	2.80	11.92	10.60	3.35	4.33	4.05	1.38	1.27	0.14
1320	2.80	11.92	10.60	3.35	4.33	4.05	1.38	1.27	0.14
1420	2.80	11.92	10.60	3.35	4.33	4.05	1.38	1.27	0.14
1520	2.80	11.92	10.60	3.35	4.33	4.05	1.38	1.27	0.14
1620	2.80	11.92	10.60	3.35	4.33	4.05	1.38	1.27	0.14
1720	2.80	11.92	10.60	3.35	4.33	4.05	1.38	1.27	0.14
1820	2.80	11.92	10.60	3.35	4.33	4.05	1.38	1.27	0.14
1920	2.80	11.92	10.60	3.35	4.33	4.05	1.38	1.27	0.14
2020								1.27	0.14
2120								1.27	0.14
2320								1.27	0.14
1/4/80									
0120								1.27	0.14
0320								1.27	0.14
0520								1.27	0.14
80 T									
0720	2.80	11.95	10.00	3.33	4.33	4.05	1.40	1.27	0.14
60 T									
0730	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.25	0.12
0830	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.25	0.12
0900	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.24	0.11
0920	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.24	0.11
0940-1040	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.24	-.11
0950	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.21	0.08
1010	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.20	0.07
1030	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.20	0.07
1050	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.20	0.07

SHILSTONE ENGINEERING TESTING LABORATORY, INC.
Measuring Settlement by Engineers Level and Scale

Date & Time	P1	P2	P3	P4	P6	P7	P8	Test Pile P5	Settle-ment
1100	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.18	0.05
1120	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.18	0.05
1210	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.17	0.04
1210	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.20	0.07
1230	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.20	0.07
1240	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.20	0.07
1300	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.20	0.07
1310	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.24	0.11
1330	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.24	0.11
1340	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.25	0.12
1400	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.25	0.12
1402	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.25	0.12
1422	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.27	0.14
1424	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.27	0.14
1444	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.28	0.15
1446	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.29	0.16
1506	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.29	0.16
1508	2.80	11.95	10.00	3.33	4.35	4.05	1.40	1.29	0.16
1528	2.80						1.40	1.29	0.16
1530	2.80	11.89	10.60	3.34	4.35	4.00	1.36	1.30	0.16
1550	2.80	11.89	10.60	3.34	4.35	4.00	1.36	1.30	0.16
1552	2.80	11.89	10.60	3.34	4.35	4.00	1.36	1.31	0.17
1612	2.80	11.89	10.60	3.34	4.35	4.00	1.36	1.31	0.17
1614	2.80	11.89	10.60	3.34	4.35	4.00	1.36	1.32	0.18
1634	2.80	11.89	10.60	3.34	4.35	4.00	1.36	1.32	0.18
1636	2.80	11.89	10.60	3.34	4.35	4.00	1.36	1.33	0.19
1656	2.80	11.89	10.60	3.34	4.35	4.00	1.36	1.33	0.19
1658	2.80	11.89	10.60	3.34	4.35	4.00	1.36	1.34	0.20
1718	2.80	11.89	10.60	3.34	4.35	4.00	1.36	1.34	0.20
1720	2.80	11.89	10.58	3.35	4.35	4.01	1.36	1.35	0.21
1920								1.36	0.22
1922								1.34	0.20
1942								1.34	0.20
1944								1.30	0.16
2004								1.30	0.16
2006								1.26	0.12
2026								1.26	0.12
2028								1.21	0.08
2048	2.80	11.90	10.60	3.35	4.34	4.05	1.38	1.20	0.07


300% & Rebound
200% & Rebound
150% & Rebound
100% & Rebound
50% & Rebound
Chilstone Testing Lab. Inc.
814 Conti Street
New Orleans, La. 70112
Citrus Lakefront Floodwall
Compression Test
Test Pile 1-3
LOAD IN TONS
120
100
80
60
40
20
0
.02
.04
.06
.08
.10
.12
.14
.16
.18
.20
.22
.24
SETTLEMENT IN INCHES

APPENDIX

Calculation of Calibration Curve For Pile

Lincoln Beach Test Pile

Load (psi) = Tons x Lbs./Tons x 1/Area of one (1) ram at 28.27 Square Inches.

Example: For a 10 Ton applied load:

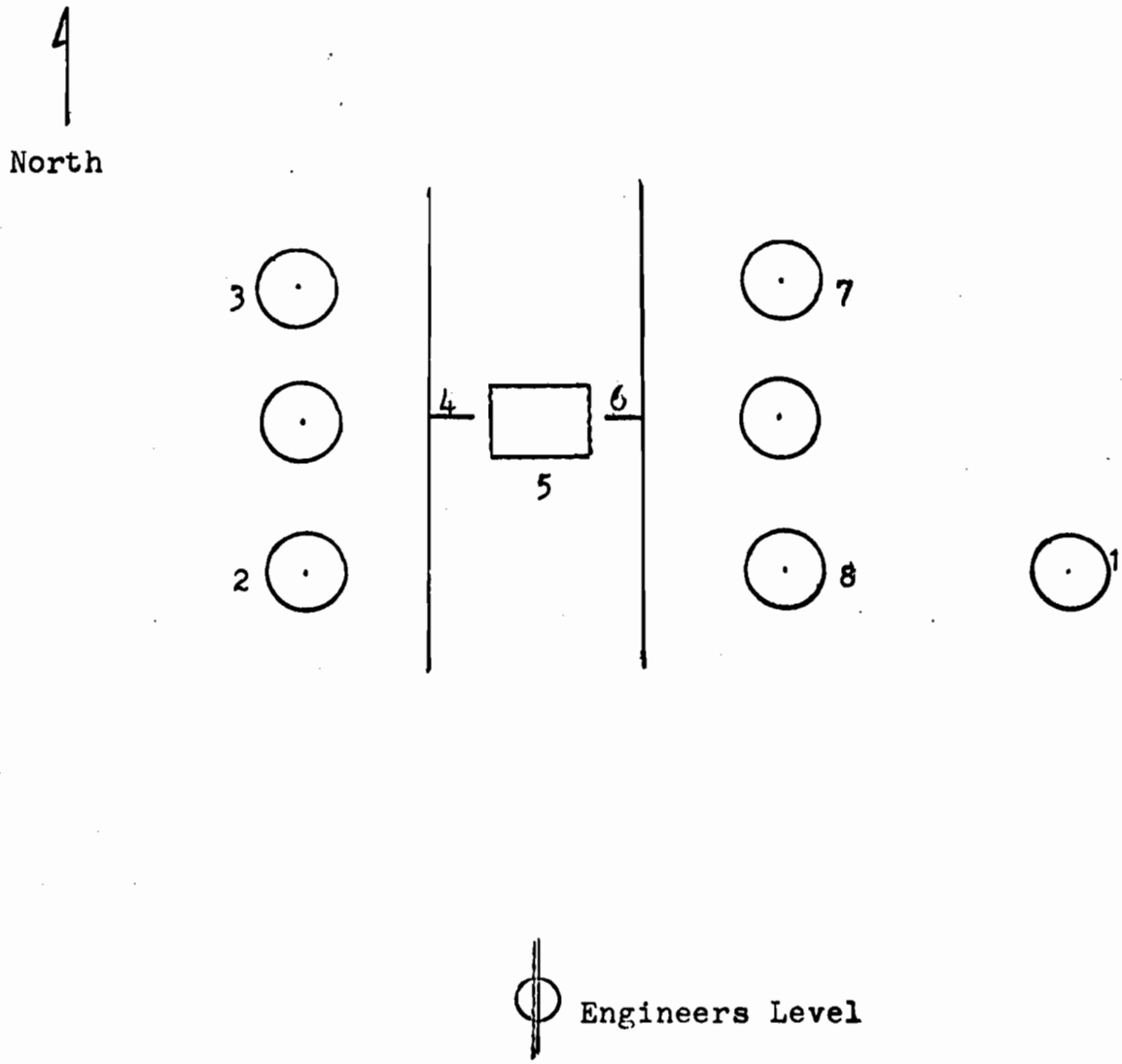
Load (psi) = 10T x 2000 lbs./T x 1/28.27 Square inches

= 705.5 PSI say 706

CITRUS LAKEFRONT FLOODWALL
NEW ORLEANS AIRPORT & LINCOLIN BEACH

TP-1-3

Schematic diagram showing the positioning of the Test Pile, Reactor Piles, Reference Beams and Reference Points.



NOTE:
Numbers refer to reference points.

SHILSTONE ENGINEERING TESTING LABORATORY, INC.

ATLANTA, GEORGIA	BATON ROUGE, LA.	MONROE, LA	X NEW ORLEANS, LA	BEAUMONT, TEXAS	FREEPORT, TEXAS	HOUSTON, TEXAS
ZIP CODE 30306	ZIP CODE 70802	ZIP CODE 71201	ZIP CODE 70112	ZIP CODE 77701	ZIP CODE 77541	ZIP CODE 77007
600 VIRGINIA AVE., N.E.	1068 NEOSHO ST.	315 N. SECOND ST.	814 CONTI ST.	2276 PARK ST.	415 NORTH AVENUE F	1714 MEMORIAL DR.
PHONE (404) 872-0795	PHONE (504) 387-3149	PHONE (318) 387-2327	PHONE (504) 524-8395	PHONE (713) 838-1694	PHONE (713) 233-6366	PHONE (713) 224-2047

TESTED FOR: Atlas Construction Co., Inc.
P. O. Box 10
Kenner, La. 70063

PROJECT: CITRUS LAKEFRONT FLOODWALL
N.O. AIRPORT AND LINCOLN BEACH
NEW ORLEANS, LA.
TEST PILE PROGRAM

DATE: December 28, 1979

OUR REPORT NO.: 76-9188

150 TON JACK CALIBRATION

REMARKS:

LOAD IN TONS	TESTING MACHINE IN POUNDS	GAUGE PRESSURE (PSI)
5	10,000	353.7
10	20,000	707.5
15	30,000	1061.2
20	40,000	1414.9
25	50,000	1768.6
30	60,000	2122.4
35	70,000	2476.1
40	80,000	2829.9
45	90,000	3183.6
50	100,000	3537.3
55	110,000	3891.1
60	120,000	4244.8
65	130,000	4598.5
70	140,000	4952.2
75	150,000	5306.0
80	160,000	5659.7
85	170,000	6013.4
90	180,000	6367.2
95	190,000	6720.9
100	200,000	7074.6
105	210,000	7428.4
110	220,000	7782.1
115	230,000	8135.8
120	240,000	8489.6
125	250,000	8843.3
130	260,000	9197.0
135	270,000	9550.8
140	280,000	9904.5
145	290,000	10258.2
150	300,000	10611.9

Frank A. Shilstone

SHILSTONE ENGINEERING TESTING LABORATORY, INC.

ATLANTA, GEORGIA ZIP CODE 30306 600 VIRGINIA AVE., N.E. PHONE (404) 872 0795	BATON ROUGE, LA. ZIP CODE 70802 1068 NEOSHO ST. PHONE (504) 387-3149	MONROE, LA ZIP CODE 71201 315 N. SECOND ST. PHONE (318) 387-2327	[X] NEW ORLEANS, LA ZIP CODE 70112 814 CONTI ST. PHONE (504) 524-8395	BEAUMONT, TEXAS ZIP CODE 77701 2276 PARK ST. PHONE (713) 838-1694	FREEPORT, TEXAS ZIP CODE 77541 415 NORTH AVENUE F PHONE (713) 233-6366	HOUSTON, TEXAS ZIP CODE 77007 1714 MEMORIAL DR. PHONE (713) 224-2047

TESTED FOR: Atlas Construction Co., Inc.
P. O. Box 10
Kenner, La. 70063

PROJECT: CITRUS LAKEFRONT FLOODWALL
N.O. AIRPORT AND LINCOLN BEACH
NEW ORLEANS, LA.
TEST PILE PROGRAM

DATE: December 28, 1979

OUR REPORT NO.: 76-9188

REMARKS:

STRAIN INDICATOR CALIBRATION

LOAD IN TONS	TESTING MACHINE IN POUNDS	STRAIN INDICATOR
5	10,000	12.00
10	20,000	18.09
15	30,000	24.49
20	40,000	30.20
25	50,000	36.35
30	60,000	42.97
35	70,000	49.40
40	80,000	55.40
45	90,000	61.58
50	100,000	68.21
55	110,000	74.46
60	120,000	80.44
65	130,000	86.88
70	140,000	93.23
75	150,000	99.50
80	160,000	105.44
85	170,000	112.09
90	180,000	118.09
95	190,000	124.56
100	200,000	130.68
105	210,000	136.88
110	220,000	142.88
115	230,000	149.13
120	240,000	155.54
125	250,000	161.46
130	260,000	167.68
135	270,000	173.66
140	280,000	180.07
145	290,000	186.23
150	300,000	192.16

SHILSTONE ENGINEERING TESTING LABORATORY, INC.

☐ ATLANTA, GEORGIA ZIP CODE 30306 600 VIRGINIA AVE., N.E. PHONE (404) 872-0795	☐ BATON ROUGE, LA. ZIP CODE 70802 1068 NEOSHO ST. PHONE (504) 387-3149	☐ MONROE, LA ZIP CODE 71201 315 N. SECOND ST. PHONE (318) 387-2327	☒ NEW ORLEANS, LA ZIP CODE 70112 814 CONTI ST. PHONE (504) 524-8395	☐ BEAUMONT, TEXAS ZIP CODE 77701 2276 PARK ST. PHONE (713) 836 1694	☐ FREEPORT, TEXAS ZIP CODE 77541 415 NORTH AVENUE F PHONE (713) 233-8366	☐ HOUSTON, TEXAS ZIP CODE 77007 1714 MEMORIAL DR. PHONE (713) 224-2047

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REMARKS:

This is to certify that on December 28, 1979 two (2) Model 656-3041, three (3) inch travel Starret Dial Micrometers were calibrated against a Kraut Kramer Model D Standard thickness step wedge and found to be true to 0.01 inches.

SHILSTONE ENGINEERING
TESTING LABORATORY, INC.

Frank A. Tusa
Branch Manager
Construction Services