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TEST PILE PROGRAM REPORT

Tension TP-2-2

CITRUS LAKEFRONT FLOODWALL

NEW ORLEANS AIRPORT

AND

LINCOLN BEACH

DACW 29-79-C-0286

ATLAS CONSTRUCTION CO. INC.

KENNER, LA.

OCTOBER, 1979

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

October 18, 1979

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.

FAT: jm

Frank A. Tusa
Branch Manager
Construction Service

OFFICES OF AFFILIATED CORPORATIONS:

ALBANY, ATLANTA, AUGUSTA, GA.; CARBONDALE, CHAMPAIGN, DOWNERS GROVE, EAST PEORIA, PEORIA, SPRINGFIELD, IL.; FT. WAYNE, TERRE HAUTE, WEST LAFAYETTE, IN.;
ANN ARBOR, DETROIT, FLINT, LANSING, MI.; WINSTON-SALEM, NC.; COLUMBUS, DAYTON, OH.; AUSTIN, BEAUMONT, CORPUS CHRISTI, EAGLE PASS, FREEPORT,
HARKER HEIGHTS, HARLINGEN, HOUSTON, LAREDO, SAN ANTONIO, THOMPSONS, VICTORIA, TX.

Test: Tension TP-2-2
Date: October 18, 1979
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., 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. TP 2 - 2

CONTRACTOR Atlas Construction Co. LOCATION Lincoln Beach Test Pile Site

(Station 109+ 76.41)

HAMMER: TYPE: Precast Concrete

MAKE & MODEL Vulcan 06 DIMENSIONS 12" x 12" x 58' 3"

WT. RAM 6500 lbs STROKE 3 ft. LENGTH IN LEADS 58' 3"

ENERGY DELIVERED 19500 ft/lbs VERTICAL (XX): BATTER 1 ON ()

DESCRIPTION AND DIMENSIONS OF DRIVING CAP Regular (k) 12 3/4" Sq ELEVATION OF GROUND + 0.09 msl

SPEED: RATED _____ MEASURED 54 ELEVATION OF CUT-OFF + 4.01

STEAM OR AIR PRESSURE: ELEVATION OF PILE TIP 52.99

AT HAMMER 97 AT BOILER _____ ELEVATION OF SPLICES _____

JETTING PRESSURE AND ELEVATIONS: INSPECTOR _____ DATE Sept. 29, 1979

TIME: START DRIVING 1534 FINISH DRIVING 1537 DRIVING TIME 0003

INTERRUPTIONS (TIME, TIP ELEV. & REASON) None

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

LOAD TEST DATA



PROJECT: Lakefront Citrus Floodwall

TEST: Tension

PILE NO.: TP-1

PILE TYPE: 14" Precast Concrete

JACKS: 1 150 ton hydraulic

DATE	OBSERVED BY	LOAD tons	TIME	ELAPSED TIME	EXTENSOMETER READING - 10 ⁻³ in.			Uplift XXXXX XXXXX 10 ⁻³ in.	REMARKS
					NO. 4	NO. 6	MEAN		
10/16	MM		0		0.000	0.000	0.000	0.000	Record Zero
		5	1559	3	.008	.008	.008	.008	25% Design Load
			1601	2	.009	.009	.009	.009	
			1607	6	.009	.009	.009	.009	
			1614	7	.009	.009	.009	.009	
			1629	15	.010	.009	.009	.009	
			1659	30	.010	.009	.009	.009	
		10	1702	3	.010	.011	.010	.010	50% Design Load
			1704	2	.011	.016	.014	.014	
			1710	6	.013	.019	.016	.016	
			1717	7	.015	.023	.019	.019	
			1732	15	.015	.023	.019	.019	
			1802	30	.017	.023	.020	.020	
	JAS	5	1805	3	.018	.014	.016	.016	Decrement to 25%
			1825	20	.016	.008	.012	.012	
		0	1828	3	.011	.009	.010	.010	Decrement to 0%
			1848	20	.010	.000	.000	.000	
		10	1853	5	.018	.012	.015	.015	Increment to 50%
			1913	20	.016	.013	.015	.015	
		15	1916	3	.021	.021	.021	.021	Increment to 75%
			1918	2	.022	.022	.022	.022	Train Passing 1920
			1924	6	.024	.023	.023	.023	
			1931	7	.023	.023	.023	.023	
			1946	15	.024	.024	.024	.024	
			2016	30	.025	.025	.025	.025	
			2116	60	.025	.026	.025	.025	
		20	2119	3	.032	.034	.033	.033	Increment to 100%
			2121	2	.032	.034	.033	.033	
			2127	6	.032	.034	.033	.033	
			2134	7	.032	.035	.034	.034	
			2149	15	.032	.035	.034	.034	
			2219	30	.034	.037	.036	.036	
			2319	60	.035	.038	.037	.037	
		15	2322	3	.032	.034	.033	.033	Decrement to 75%
			2342	20	.031	.032	.032	.032	Train passing 2325
		10	2345	3	.028	.028	.028	.028	Decrement to 50%
10/17			0005	20	.025	.025	.025	.025	Train passing 2350
		0	0010	5	.015	.009	.012	.012	Decrement to 0%

PROJECT: Lakefront Citrus FloodwallTEST: TensionPILE NO.: TP-1PILE TYPE: 14" Precast
ConcreteJACKS: 1 150 ton hydraulic

DATE	OBSERVED BY	LOAD tons	TIME	ELAPSED TIME	EXTENSOMETER READING - 10 ⁻³ in.			Uplift X _{EXT} - NEEK 10 ⁻³ in.	REMARKS
					NO. 4	NO. 6	MEAN		
	JS	0	0030	20	.015	.008	.012	.012	Read -
		10	0035	5	.021	.019	.020	.020	Increment to 50%
			0055	20	.022	.021	.021	.021	
		20	0100	5	.033	.036	.035	.035	Increment to 100%
			0120	20	.034	.037	.036	.036	
		25	0123	3	.040	.046	.043	.043	Increment to 125%
			0125	2	.041	.047	.044	.044	
			0131	6	.041	.048	.045	.045	
			0138	7	.041	.048	.045	.045	
			0153	15	.042	.050	.046	.046	
			0223	30	.042	.050	.046	.046	
			0323	60	.043	.052	.048	.048	Train passing 0306
		30	0326	3	.051	.062	.057	.057	Increment to 150%
			0328	2	.051	.062	.057	.057	
			0334	6	.051	.063	.057	.057	
			0341	7	.051	.063	.057	.057	
			0356	15	.052	.064	.058	.058	
			0426	30	.053	.066	.060	.060	Train passing 0425
			0526	60	.054	.067	.061	.061	Train passing 0520
		25	0529	3	.052	.064	.058	.058	Decrement to 125%
			0549	20	.051	.063	.057	.057	
		20	0552	3	.050	.058	.054	.054	Decrement to 100%
	FAT		0612	20	.050	.058	.054	.054	
		10	0617	5	.042	.042	.042	.042	
			0637	20	.039	.040	.040	.040	
		0	0642	5	.032	.032	.032	.032	Decrement to 0%
			0702	20	.033	.031	.032	.032	
		10	0707	5	.037	.036	.037	.037	Increment to 50%
			0727	20	.037	.036	.037	.037	Train passing 0714
		20	0732	5	.047	.052	.049	.049	Increment to 100%
			0752	20	.046	.052	.049	.049	
		30	0757	5	.057	.067	.062	.062	Increment to 150%
			0817	20	.057	.067	.062	.062	
		35	0820	3	.066	.076	.071	.071	Increment to 175%
			0822	2	.068	.079	.073	.073	
			0828	6	.069	.080	.074	.074	Train passing 0830
			0835	7	.071	.081	.076	.076	
			0850	15	.070	.083	.077	.077	
			0920	30	.069	.084	.077	.077	
			1020	60	.067	.087	.077	.077	

PROJECT: Lakefront Citrus Floodwall

TEST: Tension

PILE NO.: TP-1

PILE TYPE: 14" Precast Concrete

JACKS: 1 150 ton hydraulic

DATE	OBSERVED BY	LOAD tons	TIME	ELAPSED TIME	EXTENSOMETER READING - 10 ⁻³ in.			Uplift SETTLE EXCESS MEAS 10 ⁻³ in.	REMARKS
					NO. 4	NO. 6	MEAN		
							40		
		40	1025	2	0.074	0.097	0.085	0.085	
		40	1031	6	0.075	0.099	0.087	0.087	
		40	1038	7	0.075	0.099	0.087	0.087	
		40	1053	15	0.075	0.101	0.088	0.088	
		40	1123	30	0.080	0.104	0.092	0.092	Train passing 1136
		40	1223	60	0.083	0.109	0.096	0.096	Train passing 1157
		40	1323	3hr	0.092	0.113	0.103	0.103	Hold for 24 hours
		40	1423	4hr	0.100	0.123	0.112	0.112	
		40	1523	5hr	0.095	0.116	0.105	0.105	Hold for 48 hours
		40	1623	6hr	0.102	0.113	0.108	0.108	
		40	1723	7hr	0.097	0.121	0.109	0.109	
		40	1823	8hr	0.105	0.120	0.112	0.112	Train passing 1257
	ADR	40	1923	9hr	0.108	0.121	0.114	0.114	Train passing 1517
			2023	10hrs	0.109	0.122	0.115	0.115	Train passing 1704
		40	2123	11hrs	0.110	0.122	0.116	0.116	Decrement to 150%
			2223	12hrs	0.111	0.124	0.117	0.117	Train passing 1853
10/18			0023	14hrs	0.110	0.126	0.118	0.118	Train passing 1952
			0223	16hrs	0.112	0.126	0.119	0.119	Train passing 2221
			0423	18hrs	0.113	0.126	0.119	0.119	
	JS		0623	20hrs	0.113	0.129	0.121	0.121	Train passing 0510
			0823	22hrs	0.114	0.129	0.121	0.121	Train passing 0735
			1023	24hrs	0.113	0.129	0.121	0.121	Train passing 0830
		30	1026	3	0.092	0.116	0.104	0.104	Decrement to 100%
			1046	20	0.091	0.115	0.103	0.103	
			1106	20	0.091	0.110	0.101	0.101	
			1126	20	0.090	0.114	0.102	0.102	
		20	1129	3	0.081	0.101	.091	.091	Decrement to 50%
			1149	20	0.086	0.104	.095	.095	
			1209	20	0.089	0.105	.097	.097	
			1229	20	1.086	0.105	.096	.096	
		10	1232	3	0.077	0.088	0.081	0.081	Decrement to 0%
		10	1252	20	0.072	0.086	0.079	0.079	
		10	1312	20	0.074	0.085	0.080	0.080	Train passing 1310
		10	1332	20	0.074	0.086	0.080	0.080	
		0	1335	3	0.062	0.066	0.064	0.064	

PROJECT: Lakefront Citrus FloodwallTEST: TensionFILE NO.: TP-1FILE TYPE: 14" Precast
ConcreteJACKS: 1 150 ton hydraulic

DATE	OBSERVED BY	LOAD tons	TIME	ELAPSED TIME	EXTENSOMETER READING - 10 ⁻³ in.			SETTLEMENT 10 ⁻³ in.	REMARKS
					NO. 4	NO. 6	MEAN		
10/18	JS	0	1355	20	0.063	0.070	0.066	0.066	
			1415	20	0.065	0.069	0.067	0.067	
			1435	20	0.065	0.067	0.066	0.066	
		10	1510	5	0.069	0.072	0.071	0.071	Increment to 50%
			1530	20	0.068	0.072	0.070	0.070	Train passing 1524
		20	1535	5	0.084	0.088	0.086	0.086	Increment to 100%
			1555	20	0.084	0.084	0.084	0.084	Train passing 1548
		30	1600	5	0.100	0.097	0.098	0.098	Increment to 150%
			1620	20	0.108	0.099	0.103	0.103	Train passing 1615
		40	1625	5	0.122	0.116	0.119	0.119	Increment to 200%
			1645	20	0.116	0.119	0.118	0.118	
		42	1646	1	0.119	0.124	0.121	0.121	Increment to 210%
			1706	20	0.124	0.133	0.129	0.129	Train passing 1700
		44	1707	1	0.129	0.134	0.131	0.131	Increment to 220%
			1727	20	0.126	0.130	0.128	0.128	
		46	1728	1	0.131	0.134	0.133	0.133	Increment to 230%
			1748	20	0.142	0.131	0.136	0.136	
		48	1749	1	0.148	0.136	0.142	0.142	Increment to 240%
			1809	20	0.151	0.138	0.145	0.145	
		50	1810	1	0.157	0.142	0.149	0.149	Increment to 250%
			1830	20	0.159	0.144	0.152	0.152	Train passing 1823
		52	1831	1	0.165	0.149	0.157	0.157	Increment to 260%
			1851	20	0.167	0.151	0.159	0.159	
		54	1852	1	0.174	0.157	0.165	0.165	Increment to 270%
			1912	20	0.178	0.162	0.170	0.170	Train passing 1903
		56	1913	1	0.185	0.170	0.178	0.178	Increment to 280%
			1933	20	0.193	0.176	0.185	0.185	
		58	1934	1	0.204	0.185	0.194	0.194	Increment to 290%
			1954	20	0.217	0.196	0.207	0.207	Train passing 1959
		60	1955	1	0.222	0.202	0.212	0.212	Increment to 300%
			2015	20	0.233	0.212	0.222	0.222	
			2035	20	0.240	0.219	0.230	0.230	
			2055	20	0.246	0.224	0.235	0.235	
			2115	20	0.250	0.229	0.239	0.239	
			2135	20	0.256	0.233	0.245	0.245	
			2155	20	0.259	0.235	0.247	0.247	
		45	2203	8	0.243	0.223	0.233	0.233	Decrement 225%
			2223	20	0.241	0.221	0.231	0.231	
		30	2231	8	0.211	0.199	0.205	0.205	I. 150%
			2251	20	0.209	0.197	0.203	0.203	

PROJECT: Lakefront Citrus Floodwall

TEST: Tension

PILE NO. : TP-1

PILE TYPE: 14" Precast
Concrete

JACKS: 1 150 ton hydraulic

DATE	OBSERVED BY	LOAD tons	TIME	ELAPSED TIME	EXTENSOMETER READING - 10 ⁻³ in.			Uplift INDEX XXXXXX XXXX 10 ⁻³ in.	REMARKS
					NO. 4	NO. 6	MEAN		
		15	2259	8	0.1770	0.1710	0.1740	0.174	Decrement to 75%
			2319	20	0.1750	0.1680	0.1720	0.172	Train passing 1054PM
		0	2327	8	0.1550	0.1500	0.1520	0.152	Decrement to 0%
			2347	20	0.1500	0.1480	0.1490	0.149	
									End of Test

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

Date & Time 10/16	P1 BM	P2R	P3R	P4G	P6G	P7R	P8R	Test Pile P5	Uplift
1559	2.85	3.50	11.40	2.13	3.34	8.36	4.13	5.04	0.0
1601	2.85	3.50	11.40	2.13	3.34	8.36	4.13	5.04	0.0
1607	2.85	3.50	11.40	2.13	3.34	8.36	4.13	5.04	0.0
1614	2.85	3.50	11.40	2.13	3.34	8.36	4.13	5.04	0.0
1629	2.85	3.50	11.40	2.13	3.34	8.36	4.13	5.04	0.0
1630	2.85	3.50	11.40	2.13	3.34	8.36	4.13	5.04	0.0
1659	2.85	3.50	11.40	2.13	3.34	8.36	4.13	5.04	0.0
1702	2.85	3.50	11.40	2.13	3.34	8.36	4.13	5.04	0.0
1704	2.85	3.50	11.40	2.13	3.34	8.36	4.13	5.03	.01
1710	2.85	3.50	11.40	2.13	3.34	8.36	4.13	5.03	.01
1717	2.85	3.50	11.40	2.13	3.34	8.36	4.13	5.03	.01
1730	2.85	3.50	11.40	2.13	3.34	8.36	4.13	5.03	.01
1732	2.85	3.50	11.40	2.13	3.34	8.36	4.13	5.02	.02
1802	2.85	3.50	11.40	2.13	3.34	8.36	4.13	5.02	.02
1805	2.85	3.50	11.40	2.13	3.34	8.36	4.13	5.03	.01
1825	2.85	3.50	11.40	2.13	3.34	8.36	4.13	5.02	.02
1828	2.85	3.50	11.40	2.13	3.34	8.36	4.13	5.04	0.00
1830	2.84	3.51	11.40	2.13	3.34	8.36	4.13		
1848								5.04	0.00
1853								5.03	0.01
1913								5.02	0.02
1916								5.01	0.03
1918								5.01	0.03
1924								5.01	0.03
1930	2.87	3.50	11.40	2.13	3.34	8.36	4.12		
1931								5.01	0.03
1946								5.01	0.03
2016								5.01	0.03
2030	2.87	3.50	11.40	2.13	3.34	8.35	4.12		
2116								5.01	0.03
2119								5.01	0.03
2121								5.01	0.03
2127								5.01	0.03
2130	2.88	3.50	11.40	2.13	3.34	8.35	4.12		
2134								5.00	0.04
2149								5.00	0.04
2219								5.00	0.04
2230	2.88	3.51	11.40	2.13	3.34	8.35	4.11		
2319								5.00	0.04
2322								5.01	0.03
2330	2.88	3.51	11.39	2.13	3.33	8.35	4.10		

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

Date & Time	P1 BM	P2	P3	P4	P6	P7	P8	Test Pile P5	Uplift
2342								5.02	0.02
2345								5.03	0.01
10/17									
0005								5.03	0.01
0010								5.04	0.00
0030	2.88	3.51	11.38	2.14	3.34	8.35	4.09	5.04	0.00
0035								5.04	0.01
0055								5.04	0.01
0100								5.01	0.03
0120								5.01	0.03
0123								5.00	0.04
0125								5.00	0.04
0130	2.89	3.51	11.39	2.14	3.34	8.35	4.10		
0131								5.00	0.04
0138								5.00	0.04
0153								5.00	0.04
0223								4.99	0.05
0230	2.89	3.50	11.40	2.13	3.34	8.35	4.10		
0323								4.99	0.05
0326								4.98	0.06
0328								4.98	0.06
0330	2.89	3.51	11.40	2.13	3.34	8.35	4.12		
0334								4.98	0.06
0341								4.98	0.06
0356								4.98	0.06
0426								4.98	0.06
0430	2.89	3.51	11.40	2.14	3.34	8.37	4.12		
0526								4.98	0.06
0529								4.98	0.06
0539	2.89	3.51	11.40	2.13	3.34	8.39	4.12		
0549								4.98	0.06
0552								4.98	0.06
0612								4.98	0.06
0617								4.99	0.05
0630	2.89	3.51	11.40	2.14	3.34	8.39	4.12		
0637								4.99	0.05
0642								5.00	0.04
0702								5.00	0.04
0707								4.99	0.05
0727								4.99	0.05
0730	2.89	3.51	11.40	2.14	3.34	8.40	4.12	4.98	0.06
0732								4.98	0.06
0752								4.97	0.07
0757								4.97	0.07

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

Date & Time	P1 BM	P2	P3	P4	P6	P7	P8	Test Pile P5	Uplift
0817								4.97	0.07
0820								4.96	0.08
0822								4.96	0.08
0828								4.96	0.08
0830	2.88	3.51	11.40	2.26	3.36	8.47	4.17	4.96	0.08
0835								4.96	0.08
0850								4.96	0.08
0920								4.96	0.08
0930	2.85	3.50	11.42	2.26	3.36	8.48	4.17	4.96	0.08
1020								4.96	0.08
1023								4.95	0.09
1025								4.95	0.09
1030	2.85	3.50	11.42	2.26	3.36	8.48	4.17	4.95	0.09
1031								4.95	0.09
1038								4.95	0.09
1053								4.95	0.07
1123	2.81	3.50	11.43	2.25	3.36	8.49	4.17	4.94	0.10
1223	2.81	3.50	11.43	2.25	3.34	8.50	4.17	4.93	0.11
1323	2.80	3.50	11.43	2.25	3.35	8.50	4.17	4.93	0.11
1423	2.78	3.50	11.46	2.26	3.36	8.50	4.18	4.93	0.11
1523	2.74	3.50	11.46	2.26	3.34	8.48	4.16	4.93	0.11
1623	2.81	3.50	11.43	2.25	3.35	8.43	4.17	4.93	0.11
1723	2.81	3.49	11.43	2.25	3.35	8.48	4.17	4.93	0.11
1823	2.79	3.50	11.42	2.25	3.34	8.48	4.17	4.93	0.11
1923	2.76	3.49	11.43	2.25	3.34	8.48	4.17	4.93	0.11
2023	2.76	3.47	11.44	2.24	3.33	8.47	4.17	4.93	0.11
2123	2.74	3.45	11.45	2.23	3.31	8.45	4.15	4.93	0.11
2223	2.73	3.44	11.46	2.22	3.29	8.43	4.14	4.93	0.11
10/18									
0023	2.72	3.42	11.55	2.10	3.26	8.38	4.11	4.92	0.12
0223	2.80	3.49	11.44	2.25	3.35	8.47	4.17	4.92	0.12
0423	2.80	3.49	11.45	2.24	3.33	8.45	4.15	4.92	0.12
0623	2.82	3.50	11.40	2.26	3.35	8.47	4.17	4.92	0.12
0823	2.81	3.51	11.40	2.28	3.36	8.51	4.18	4.93	0.11
1023	2.82	3.50	11.41	2.26	3.37	8.50	4.18	4.92	0.12
1026								4.93	0.11
1030	2.81	3.49	11.44	2.27	3.35	8.47	4.17	4.93	0.11
1046								4.93	0.11
1106								4.93	0.11
1126								4.93	0.11
1129								4.93	0.09
1130	2.80	3.49	11.45	2.24	3.34	8.45	4.18	4.94	0.10
1149								4.94	0.10
1209								4.94	0.10
1229								4.95	0.09

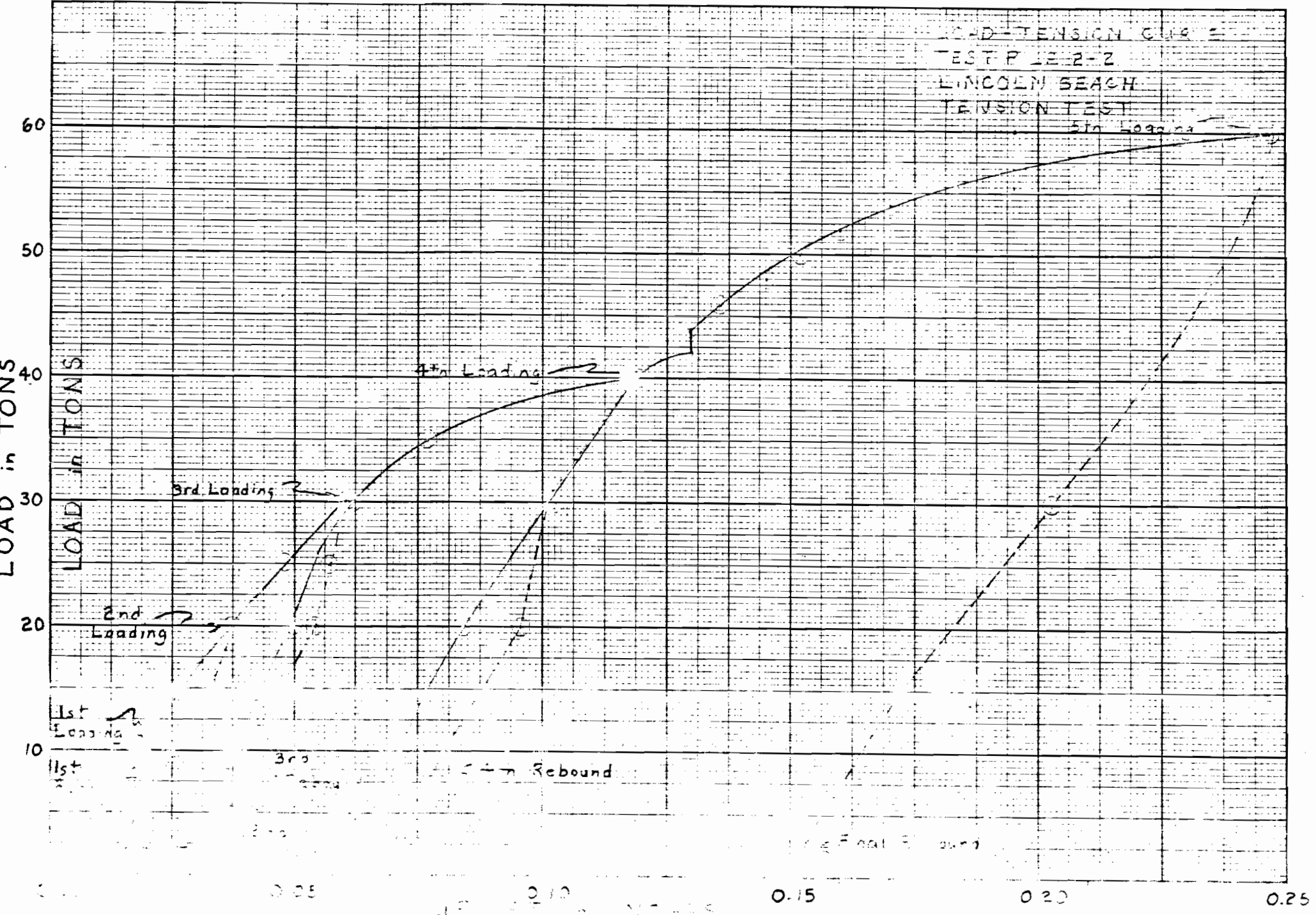
SHILSTONE ENGINEERING TESTING LABORATORY, INC.
Measuring Settlement by Engineers Level and Scale

Date & Time	P1 BM	P2	P3	P4	P6	P7	P8	Test Pile P5	Uplift
1230	2.80	3.47	11.46	2.24	3.33	8.43	4.15		
1232								4.95	0.09
1252								4.95	0.09
1312								4.95	0.09
1330	2.80	3.47	11.46	2.25	3.34	8.43	4.15		
1332								4.95	0.09
1335								4.97	0.07
1355								4.97	0.07
1415								4.96	0.08
1430	2.80	3.46	11.45	2.24	3.35	8.45	4.14		
1435								4.97	0.07
1510								4.95	0.09
1530	2.81	3.47	11.45	2.24	3.33	8.44	4.14	4.94	0.10
1535								4.94	0.10
1555								4.94	0.10
1600								4.93	0.11
1620								4.94	0.10
1625								4.91	0.13
1630	2.80	3.48	11.45	2.24	3.34	8.47	4.16		
1645								4.90	0.14
1646								4.90	0.14
1706								4.90	0.14
1707								4.89	0.15
1727								4.89	0.15
1728								4.89	0.15
1730	2.79	3.48	11.45	2.24	3.34	8.49	4.18		
1748								4.88	0.16
1749								4.88	0.16
1809								4.88	0.16
1810								4.87	0.17
1830	2.79	3.47	11.46	2.24	3.33	8.47	4.17	4.87	0.17
1831								4.87	0.17
1851								4.87	0.17
1852								4.87	0.17
1912								4.87	0.17
1913								4.86	0.18
1930	2.80	3.50	11.46	2.26	3.36	8.52	4.18		
1933								4.85	0.19
1934								4.84	0.20
1954								4.84	0.20
1955								4.83	0.21
2015								4.82	0.22
2030	2.80	3.50	11.46	2.25	3.36	8.52	4.18		
2035								4.82	0.22

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

Date & Time	P1 BM	P2	P3	P4	P6	P7	P8	Test Pile P5	Uplift
2055								4.81	0.23
2115								4.81	0.23
2130	2.80	3.50	11.41	2.26	3.35	8.55	4.20		
2135								4.80	0.24
2155								4.79	0.25
2203								4.82	0.23
2223								4.82	0.23
2230	2.81	3.50	11.43	2.26	3.37	8.57	4.18		
2231								4.85	0.19
2251								4.85	0.19
2259								4.87	0.17
2319								4.87	0.17
2327								4.89	0.15
2330	2.82	3.48	11.44	2.26	3.35	8.57	4.15		
2347								4.89	0.15

LOAD-TENSION CURVE
TEST P 12-2-2
LINCOLN BEACH
TENSION TEST



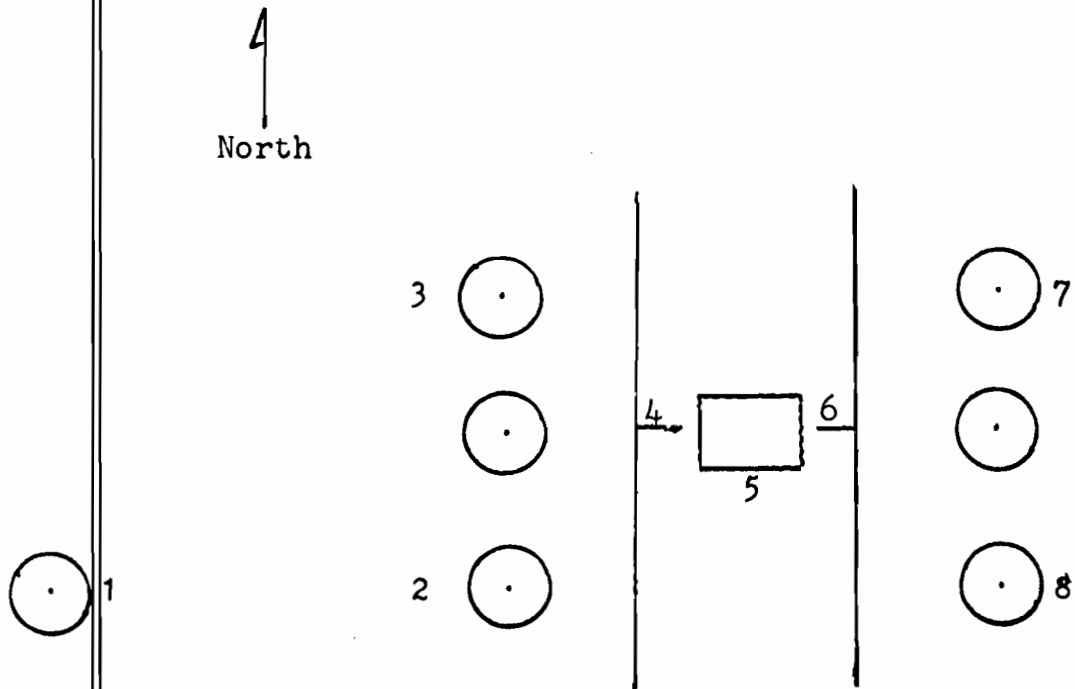
APPENDIX



CITRUS LAKEFRONT FLOODWALL
NEW ORLEANS AIRPORT & LINCOLN BEACH

TP 2-2 TENSION Test

Schematic Diagram showing the positioning of the Test File,
Reactor Piles, Reference Beams and Reference Points.



NOTE:
Numbers refer to reference points.





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 1088 NIOSHO ST. PHONE (504) 387-3149	MONROE, LA. ZIP CODE 71201 315 N. SECOND ST. PHONE (318) 387-2327	<input checked="" type="checkbox"/> 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) 233-8386	HOUSTON, TEXAS ZIP CODE 77007 1714 MEMORIAL DR. PHONE (713) 224-2047
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TESTED FOR: Atlas Construction Co. Inc.
P.O. Box 10
Kenner, Louisiana 70063

PROJECT: Citrus Lakefront Floodwall
N.O. Airport and Lincoln Beach
New Orleans, Louisiana
Test Pile Program

DATE: October 5, 1979

OUR REPORT NO.: 76-9188

REMARKS:

This is to certify that on October 5, 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 TESTING LABORATORY, INC.

Frank A. Tusa
Construction Services
Branch Manager

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.



			X			
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) 233-6366	HOUSTON, TEXAS ZIP CODE 77007 1714 MEMORIAL DR PHONE (713) 224-2047

TESTED FOR: **Atlas Const. Co.**
P. O. Box 10
Kenner, La. 70063

PROJECT: **CITRUS LAKEFRONT FLOODWALL**
TEST PILE PROGRAM
P. O. NO. 02Z96308

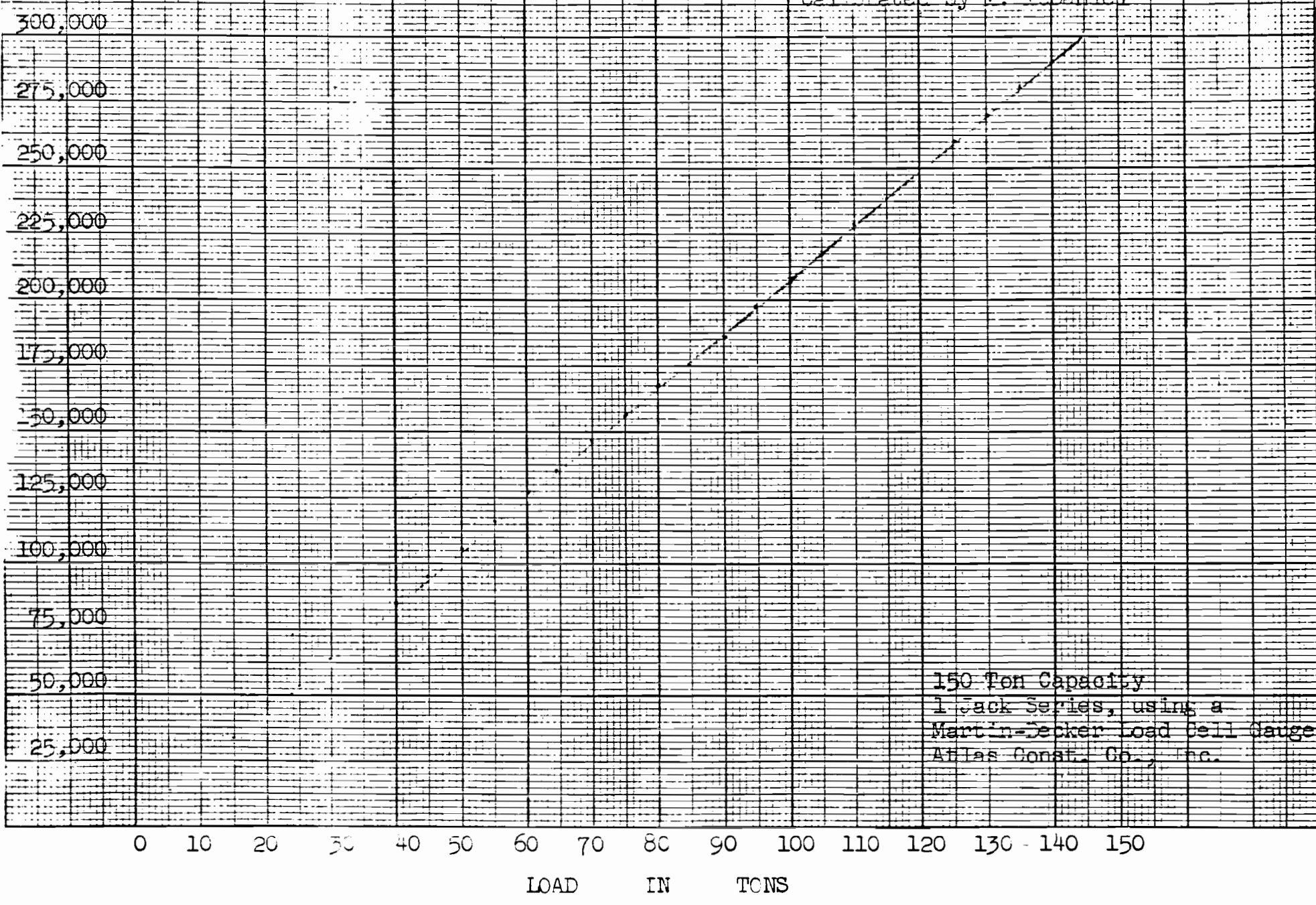
DATE: **October 5, 1979**

OUR REPORT NO.: **76-9188-2**

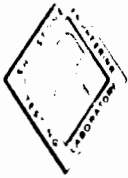
MARTIN DECKER LOAD CELL GAUGE

REMARKS:	<u>LOAD IN TONS</u>	<u>TESTING MACHINE IN POUNDS</u>
	5	11,500
	10	22,000
	15	33,000
	20	44,000
	25	54,500
	30	65,000
	35	75,000
	40	85,000
	45	96,000
	50	105,000
	55	117,000
	60	127,000
	65	137,000
	70	147,000
	75	158,000
	80	168,000
	85	179,000
	90	188,000
	95	199,000
	100	209,000
	105	220,000
	110	230,000
	115	240,000
	120	250,000
	125	260,000
	130	270,000
	135	280,000
	140	290,000
	145	299,000

October 5, 1975
Sailstone Engineering
Testing Laboratory, Inc.
Calibrated by M. McDaniel



150 Ton Capacity
1 Jack Series, using a
Martin-Decker Load Cell Gauge
Atlas Const. Co., Inc.



SHILSTONE ENGINEERING TESTING LABORATORY, INC.



			X			
ATLANTA, GEORGIA ZIP CODE 30306 800 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) 638-1894	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 Const. Co., Inc.**
P. O. Box 10
Kenner, La. 70063

PROJECT: **CITRUS LAKEFRONT FLOODWALL,**
TEST PILE PROGRAM
P. O. NO. 02796008

DATE: **October 4, 1979**

OUR REPORT NO.: **76-9188-1**

REMARKS:	<u>LOAD IN TONS</u>	<u>TESTING MACHINE IN POUNDS</u>	<u>GAUGE PRESSURE (PSI)</u>
	5	10,000	333.7
	10	20,000	707.5
	15	30,000	1081.2
	20	40,000	1454.9
	25	50,000	1828.6
	30	60,000	2202.4
	35	70,000	2576.1
	40	80,000	2949.9
	45	90,000	3323.6
	50	100,000	3697.3
	55	110,000	4071.1
	60	120,000	4444.8
	65	130,000	4818.5
	70	140,000	5192.2
	75	150,000	5565.9
	80	160,000	5939.7
	85	170,000	6313.4
	90	180,000	6687.2
	95	190,000	7060.9
	100	200,000	7434.6
	105	210,000	7808.3
	110	220,000	8182.1
	115	230,000	8555.8
	120	240,000	8929.5
	125	250,000	9303.3
	130	260,000	9677.0
	135	270,000	10050.7
	140	280,000	10424.5
	145	290,000	10798.2
	150	300,000	11171.9

October 5, 1975
Millstone Engineering
Testing Laboratory, Inc.
Calibrated by M. McDaniel

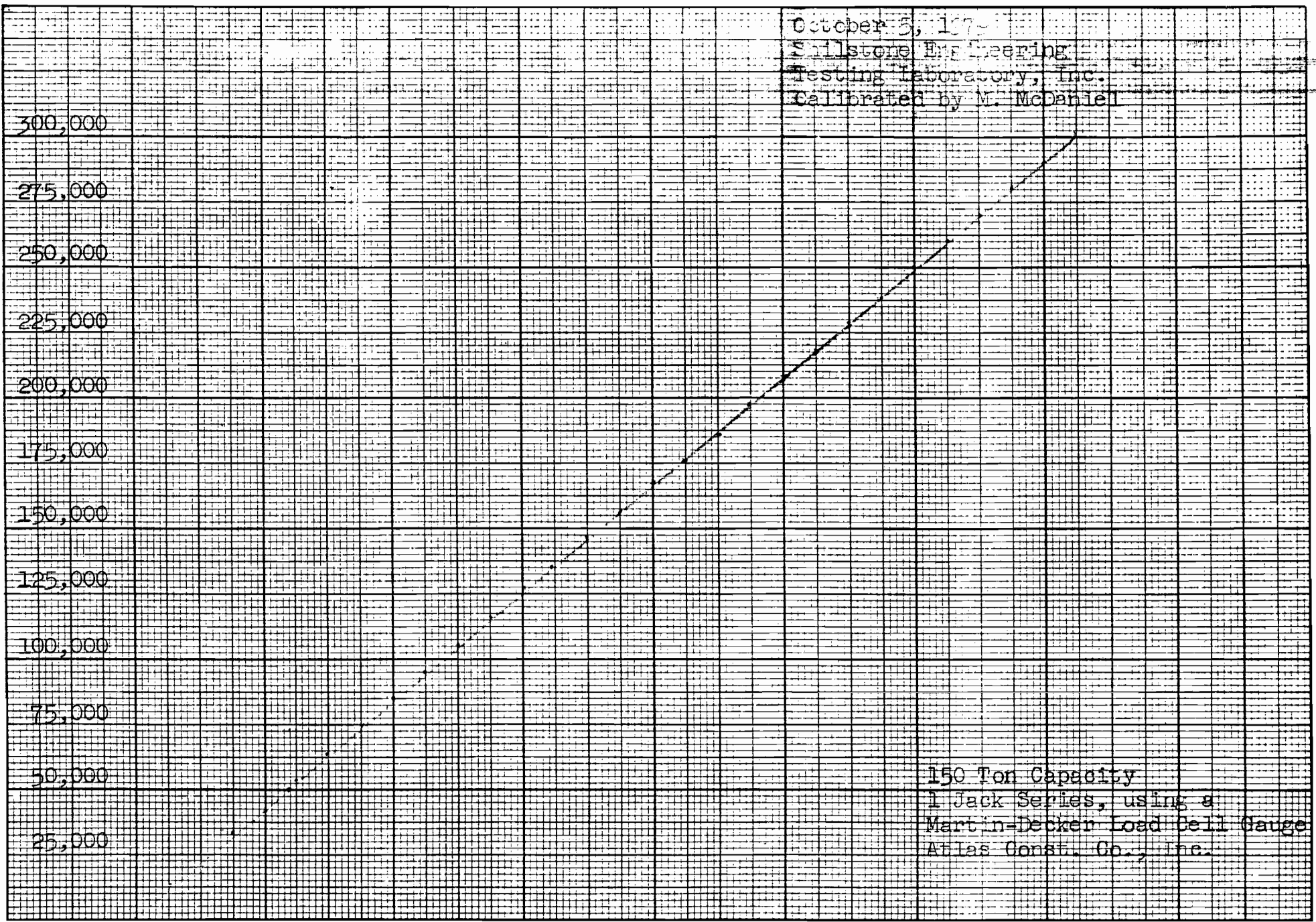
LOADING MACHINE IN LBS

300,000
275,000
250,000
225,000
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

LOAD IN TONS

150 Ton Capacity
1 Jack Series, using a
Martin-Decker Load Cell Gauge
Atlas Const. Co., Inc.





TEST FILE PROGRAM REPORT

Compression TP-2-1

CITRUS LAKEFRONT FLOODWALL

NEW ORLEANS AIRPORT

AND

LINCOLN BEACH

DACW 29-79-C-0286

ATLAS CONSTRUCTION CO., INC.

KENNER, LA.

OCTOBER, 1979

**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

October 11, 1979

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 Const. Co. 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

Frank A. Tusa
Branch Manager
Construction Service

FAT: jm

OFFICES OF AFFILIATED CORPORATIONS:

ALBANY, ATLANTA, AUGUSTA, GA.; CARBONDALE, CHAMPAIGN, DOWNERS GROVE, EAST PEORIA, PEORIA, SPRINGFIELD, IL.; FT. WAYNE, TERRE HAUTE, WEST LAFAYETTE, IN.;
ANN ARBOR, DETROIT, FLINT, LANSING, MI.; WINSTON-SALEM, NC.; COLUMBUS, DAYTON, OH.; AUSTIN, BEAUMONT, CORPUS CHRISTI, EAGLE PASS, FREEPORT,
HARKER HEIGHTS, HARLINGEN, HOUSTON, LAREDO, SAN ANTONIO, THOMPSONS, VICTORIA, TX.

TEST: Compression TP -2 - 1
DATE: October 11, 1979
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. 8/30 TP 2-1
 CONTRACTOR Atlas Construction Co. LOCATION Lincoln Beach Test File Site Station 109+59.91

HAMMER: TYPE: Concrete
 MAKE & MODEL Vulcan 06 DIMENSIONS 12"x12" x 58'3"
 WT. RAM 6500# STROKE 3'0" LENGTH IN LEADS 58'3"
 ENERGY DELIVERED 19,500 ft/lb VERTICAL (XX): BATTER 1 ON ()

DESCRIPTION AND DIMENSIONS OF Vertical
 DRIVING CAP Regular (k) 12 3/4" Sq. ELEVATION OF GROUND -0.25
 SPEED: RATED _____ MEASURED 54 ELEVATION OF CUT-OFF +3.43
 STEAM OR AIR PRESSURE: ELEVATION OF PILE TIP 53.57
 AT HAMMER 97 AT BOILER _____ ELEVATION OF SPLICES _____

JETTING PRESSURE AND ELEVATIONS: _____ INSPECTOR C.Gerald DATE 9/28/79

TIME: START DRIVING 1440 FINISH DRIVING 1443 DRIVING TIME 0003
 INTERRUPTIONS (TIME, TIP ELEV. & REASON) None

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	
0		15		30		45	5	60		75		90
1		16		31		46	5	61		76		91
2	1	17		32		47	5	62		77		92
3	1	18		33		48	6	63		78		93
4	4	19		34		49	6	64		79		94
5	4	20		35	↓	50	7	65		80		95
6	5	21		36	2	51	7	66		81		96
7	7	22		37	3	52	9	67		82		97
8	7	23		38	4	53	9	68		83		98
9	6	24		39	4	54		69		84		99
10	6	25		40	3	55		70		85		100
11	3	26		41	4	56		71		86		101
12	1	27		42	4	57		72		87		102
13	↓	28		43	4	58		73		88		103
14	↓	29		44	3	59		74		89		104

LOAD TEST DATA



PROJECT: Citrus Lakefront FloodwallTEST: CompressionPILE NO.: TP-2PILE TYPE: 14" Square
Precast concreteJACKS: 1 - 150 ton hydraulic

DATE	OBSERVED BY	LOAD tons	TIME	ELAPSED TIME	EXTENSOMETER READING - 10 ⁻³ in.			SETTLEMENT 10 ⁻³ in.	REMARKS
					NO. 9	NO. 10	MEAN		
10/8	FAT	0	1809	0	3.000	3.000	3.000		Gauge No. 9 is on
Mon		10	1815	6	2.990	2.988	2.989	0.011	the West side of
		10	1817	2	2.990	2.988	2.989	0.011	test pile. Guage
		10	1823	8	2.990	2.988	2.989	0.011	No. 10 is on the
		10	1830	15	2.990	2.988	2.989	0.011	East side of test
		10	1845	30	2.989	2.989	2.989	0.011	pile.
		10	1916	60	2.990	2.989	2.989	0.011	Pile is at depth
		10	2016	120	2.990	2.989	2.989	0.011	of 54½ ft.
	-	20	2021	5	2.974	2.977	2.976	0.024	1823-Train pas-
		20	2023	2	2.974	2.977	2.976	0.024	sing
		20	2029	8	2.974	2.977	2.976	0.024	1845-Train pas-
		20	2037	15	2.974	2.977	2.976	0.024	sing
		20	2053	30	2.973	2.976	2.975	0.025	1940-Train pas-
		20	2123	60	2.973	2.975	2.974	0.026	sing
		20	2223	120	2.972	2.974	2.973	0.027	
		10	2228	5	2.983	2.985	2.984	0.016	
		10	2243	20	2.985	2.985	2.985	0.015	
		0	2248	5	2.999	2.999	2.999	0.001	
		0	2303	20	3.000	3.000	3.000	0.000	
		20	2308	5	2.976	2.977	2.977	0.023	
		20	2323	20	2.973	2.975	2.974	0.026	Train passing
		30	2328	5	2.958	2.962	2.960	0.040	
		30	2330	2	2.956	2.961	2.958	0.042	
		30	2336	8	2.955	2.960	2.957	0.043	
		30	2343	15	2.955	2.960	2.957	0.043	
		30	2358	30	2.953	2.958	2.956	0.044	
10/9		30	0028	60	2.953	2.958	2.956	0.044	
Tues		30	0128	120	2.952	2.957	2.955	0.045	
		40	0133	5	2.927	2.937	2.932	0.068	
		40	0135	2	2.925	2.936	2.930	0.070	
		40	0141	8	2.923	2.934	2.929	0.071	
		40	0148	15	2.922	2.932	2.927	0.073	
		40	0203	30	2.920	2.930	2.925	0.075	
		40	0233	60	2.917	2.927	2.922	0.078	
		40	0333	120	2.915	2.927	2.921	0.079	
		30	0338	5	2.932	2.939	2.934	0.066	
		30	0356	20	2.931	2.938	2.935	0.065	
		20	0401	5	2.943	2.948	2.946	0.054	
		20	0419	20	2.945	2.949	2.947	0.053	
		10	0424	5	2.962	2.963	2.963	0.037	

PROJECT: Citrus Lakefront FloodwallTEST: CompressionPILE NO. : TP-2PILE TYPE: 14" Square
Precast concreteJACKS: 1 - 150 ton hydraulic

DATE	OBSERVED BY	LOAD tons	TIME	ELAPSED TIME	EXTENSOMETER READING - 10 ⁻³ in.			SETTLEMENT 10 ⁻³ in.	REMARKS
					NO. 9	NO. 10	MEAN		
10/9	FAT	10	0442	20	2.965	2.965	2.965	0.035	
Tues		0	0447	5	2.982	2.982	2.982	0.018	Train passing
		0	0505	20	2.984	2.985	2.985	0.015	
		20	0515	10	2.957	2.962	2.960	0.040	
		20	0525	20	2.955	2.959	2.957	0.043	
		40	0535	10	2.919	2.930	2.925	0.075	
		40	0545	20	2.915	2.928	2.922	0.078	
		50	0555	5	2.892	2.909	2.900	0.100	
		50	0552	2	2.889	2.907	2.898	0.102	
		50	0558	8	2.887	2.905	2.896	0.104	
		50	0605	15	2.885	2.903	2.894	0.106	
		50	0620	30	2.881	2.899	2.890	0.110	
		50	0650	60	2.879	2.897	2.888	0.112	Train passing 0718
		50	0750	120	2.866	2.894	2.880	0.120	
	M.L.	60	0755	5	2.847	2.877	2.862	0.138	
		60	0757	2	2.838	2.872	2.855	0.145	
		60	0803	8	2.829	2.865	2.847	0.153	
		60	0810	15	2.826	2.855	2.840	0.160	Train passing 0814
		60	0825	30	2.824	2.850	2.837	0.163	
		60	0855	60	2.821	2.845	2.833	0.167	
		60	0955	120	2.813	2.834	2.824	0.176	Train passing 0930
		50	1000	5	2.824	2.842	2.833	0.167	
		50	1015	20	2.824	2.844	2.834	0.166	
		40	1020	5	2.839	2.858	2.848	0.152	
		40	1035	20	2.838	2.856	2.847	0.153	
		20	1040	5	2.880	2.886	2.883	0.117	
		20	1055	20	2.880	2.886	2.883	0.117	
		0	1100	5	2.921	2.922	2.921	0.079	
		0	1115	20	2.929	2.928	2.928	0.072	Train passing 1122
		20	1125	10	2.897	2.899	2.898	0.102	
		20	1135	20	2.896	2.895	2.895	0.105	
		40	1145	10	2.861	2.871	2.866	0.134	
		40	1155	20	2.858	2.868	2.863	0.137	
		60	1205	10	2.815	2.830	2.822	0.178	
		60	1215	20	2.809	2.825	2.817	0.183	
		70	1220	5	2.783	2.802	2.793	0.207	
		70	1222	2	2.776	2.795	2.786	0.214	
		70	1228	8	2.766	2.787	2.776	0.224	
		70	1235	15	2.762	2.782	2.772	0.228	
		70	1250	30	2.754	2.774	2.764	0.236	Train passing 1244

PROJECT: Citrus Lakefront FloodwallTEST: CompressionPILE NO.: TP-2PILE TYPE: 14" Square
Precast concreteJACKS: 1 - 150 ton hydraulic

DATE	OBSERVED BY	LOAD tons	TIME	ELAPSED TIME	EXTENSOMETER READING - 10 ⁻³ in.			SETTLEMENT 10 ⁻³ in.	REMARKS
					NO. 9	NO. 10	MEAN		
10/9	ML	70	1320	60	2.745	2.768	2.757	0.243	Train passing 1411
Tues		70	1420	120	2.735	2.760	2.747	0.253	
		80	1425	5	2.708	2.735	2.722	0.278	
		80	1427	2	2.700	2.727	2.714	0.286	
		80	1433	8	2.687	2.716	2.697	0.303	
		80	1440	15	2.676	2.705	2.690	0.310	
		80	1455	30	2.666	2.694	2.680	0.320	
		80	1525	60	2.655	2.684	2.669	0.331	
	FAT	80	1625	120	2.637	2.665	2.651	0.349	Train passing 1628
		80	1725	3hrs	2.638	2.660	2.649	0.351	
		80	1825	4hrs	2.629	2.656	2.642	0.358	
		80	1925	5hrs	2.626	2.654	2.640	0.360	
		80	2025	6hrs	2.625	2.653	2.639	0.361	Train passing 2048
		80	2125	7hrs	2.621	2.646	2.636	0.364	Train passing 2125
		80	2225	8hrs	2.615	2.642	2.628	0.372	Train passing 2236
		80	2325	9hrs	2.611	2.639	2.625	0.375	Train passing 2305
10/10		80	0025	10hrs	2.610	2.637	2.623	0.377	
Wed		80	0125	11hrs	2.608	2.634	2.621	0.379	
		80	0225	12hrs	2.606	2.633	2.620	0.380	
		80	0425	14hrs	2.606	2.635	2.620	0.380	Train passing 0518
		80	0625	16hrs	2.604	2.637	2.620	0.380	Train passing 0530
	ADR	80	0825	18hrs	2.599	2.631	2.615	0.385	Train passing 0607
		80	1025	20hrs	2.597	2.627	2.612	0.388	Train passing 0716
		80	1225	22hrs	2.592	2.621	2.606	0.394	Train passing 0812
		80	1425	24hrs	2.586	2.614	2.600	0.400	Train passing 1337
	ML	60	1435	10	2.615	2.641	2.628	0.372	Train passing 1341
		60	1455	20	2.616	2.641	2.628	0.372	Train passing 1425
		60	1515	40	2.618	2.643	2.630	0.370	Train passing 1431
		60	1535	60	2.618	2.643	2.630	0.370	Train passing 1526
		40	1545	10	2.647	2.675	2.661	0.339	
		40	1605	20	2.656	2.677	2.666	0.334	
		40	1625	40	2.660	2.677	2.668	0.332	
		40	1645	60	2.663	2.680	2.671	0.329	
		20	1655	10	2.702	2.712	2.707	0.293	
		20	1715	20	2.712	2.719	2.715	0.285	Train passing 1716
		20	1735	40	2.713	2.720	2.716	0.284	
		20	1755	60	2.714	2.721	2.717	0.283	
		0	1805	10	2.767	2.768	2.767	0.233	
		0	1825	20	2.776	2.776	2.776	0.224	
		0	1845	40	2.779	2.781	2.780	0.220	

PROJECT: Citrus Lakefront Floodwall

TEST: Compression

PILE NO.: TP-2

PILE TYPE: 14" Square
Precast concrete

JACKS: 1 - 150 ton hydraulic

DATE	OBSERVED BY	LOAD tons	TIME	ELAPSED TIME	EXTENSOMETER READING - 10 ⁻³ in.			SETTLEMENT 10 ⁻³ in.	REMARKS
					NO. 9	NO. 10	MEAN		
10/10	ML	0	1905	60	2.781	2.782	2.781	0.219	Train passing 1900
Wed		20	1915	10	2.749	2.753	2.751	0.249	
		20	1935	20	2.747	2.752	2.749	0.251	
	JS	40	1945	10	2.706	2.719	2.712	0.288	
		40	2005	20	2.703	2.717	2.710	0.290	
		60	2015	10	2.660	2.680	2.670	0.330	
		60	2035	20	2.654	2.674	2.664	0.336	
		80	2045	10	2.608	2.632	2.620	0.380	
		80	2105	20	2.594	2.620	2.607	0.393	
		84	2107	2	2.585	2.611	2.598	0.402	
		84	2127	20	2.573	2.598	2.585	0.415	
		88	2129	2	2.563	2.588	2.575	0.425	
		88	2149	20	2.527	2.554	2.540	0.460	Train passing 2150
		92	2151	2	2.519	2.546	2.532	0.468	
		92	2211	20	2.482	2.510	2.496	0.504	
		96	2213	2	2.465	2.490	2.477	0.523	
		96	2233	20	2.240	2.265	2.252	0.748	
NOTE: Pile could not maintain 96 tons; load had to be applied constantly. 100 tons could not be reached. Pile failed at 96 tons and jacked down approximately 1½ inches. Load settled off to 92 tons.									
		92	2250	17	1.580	1.538	1.559	1.441	
		69	2305	15	1.627	1.655	1.641	1.359	75%
		69	2325	20	1.628	1.655	1.641	1.359	
		46	2340	15	1.675	1.695	1.685	1.315	50%
		46	0000	20	1.677	1.697	1.687	1.313	
		23	0015	15	1.736	1.747	1.741	1.259	25%
		23	0035	20	1.739	1.749	1.744	1.256	
		0	0050	15	1.812	1.814	1.813	1.187	0%

SHILSTONE ENGINEERING TESTING LABORATORY, INC.
All measurements in inches

Date & Time	P1	P2	P3	P5	P6	P7	P8	P4	Settle- ment
10/8/79									
1809	3.66	3.96	2.63	4.29	10.71	8.03	3.00	1.18	Initial
1815								1.20	0.02
1817								1.20	0.02
1823								1.20	0.02
1830	3.63	3.94	2.63	4.29	10.70	8.01	3.00	1.20	0.02
1845	3.63	3.94	2.63	4.29	10.70	8.01	3.00	1.20	0.02
1916								1.20	0.02
1945	3.63	3.94	2.63	4.29	10.70	8.01	3.00	1.20	0.02
2000	3.63	3.94	2.63	4.29	10.70	8.01	3.00	1.20	0.02
2016								1.20	0.02
2021								1.21	0.03
2023								1.21	0.03
2029								1.21	0.03
2030	3.63	3.94	2.63	4.29	10.70	8.01	3.00	1.21	0.03
2037								1.21	0.03
2045	3.63	3.94	2.63	4.29	10.70	8.01	3.00	1.21	0.03
2053								1.21	0.03
2100	3.63	3.94	2.63	4.29	10.70	8.01	3.00	1.21	0.03
2115	3.63	3.94	2.63	4.29	10.70	8.01	3.00	1.21	0.03
2123								1.21	0.03
2130	3.63	3.94	2.63	4.29	10.70	8.01	3.00	1.21	0.03
2200	3.63	3.94	2.63	4.29	10.70	8.01	3.00	1.21	0.03
2215	3.63	3.94	2.63	4.29	10.70	8.01	3.00	1.21	0.03
2223								1.21	0.03
2228								1.20	0.02
2230	3.63	3.94	2.63	4.29	10.70	8.01	3.00	1.20	0.02
2243								1.20	0.02
2245	3.63	3.94	2.63	4.29	10.70	8.01	3.00	1.18	0.00
2248								1.18	0.00
2300	3.63	3.94	2.63	4.29	10.70	8.01	3.00	1.18	0.00
2303								1.18	0.00
2308								1.21	0.03
2315	3.63	3.94	2.63	4.29	10.70	8.01	3.00	1.21	0.03
2323								1.21	0.03
2328								1.22	0.04
2330	3.61	3.92	2.64	4.30	10.71	8.03	3.00	1.22	0.04
2336								1.22	0.04
2343								1.22	0.04
2345	3.61	3.92	2.64	4.30	10.71	8.03	3.00	1.22	0.04
2358								1.22	0.04
10/9/79									
0000	3.61	3.92	2.64	4.30	10.71	8.03	3.00	1.22	0.04
0015	3.61	3.92	2.64	4.30	10.71	8.03	3.00	1.22	0.04

SHILSTONE ENGINEERING TESTING LABORATORY, INC.

All measurements in inches

Date & Time	P1	P2	P3	P5	P6	P7	P8	P4	Settle- ment
10/9/79 0028								1.23	0.05
0030	3.61	3.92	2.64	4.30	10.71	8.03	3.00	1.23	0.05
0128								1.23	0.05
0130	3.61	3.92	2.64	4.30	10.71	8.03	3.00	1.25	0.07
0133								1.25	0.07
0135								1.25	0.07
0141								1.26	0.08
0144	3.61	3.92	2.64	4.30	10.71	8.03	3.00	1.26	0.08
0148								1.26	0.08
0200	3.61	3.92	2.64	4.30	10.71	8.03	3.00	1.26	0.08
0203								1.26	0.08
0230	3.61	3.92	2.64	4.30	10.71	8.03	3.00	1.26	0.08
0233								1.26	0.08
0300	3.61	3.92	2.64	4.30	10.71	8.03	3.00	1.26	0.08
0330	3.61	3.92	2.64	4.30	10.71	8.03	3.00	1.26	0.08
0333								1.26	0.08
0338								1.25	0.07
0356								1.25	0.07
0400	3.61	3.92	2.64	4.30	10.71	8.03	3.00	1.23	0.05
0401								1.23	0.05
0419								1.23	0.05
0424								1.21	0.03
0430	3.61	3.92	2.64	4.30	10.71	8.03	3.00	1.21	0.03
0442								1.21	0.03
0447								1.20	0.02
0500	3.64	3.95	2.65	4.31	10.74	8.05	3.00	1.20	0.02
0505								1.20	0.02
0515								1.24	0.06
0525								1.24	0.06
0530	3.64	3.95	2.65	4.31	10.74	8.05	3.00	1.26	0.08
0535								1.26	0.08
0545								1.29	0.11
0550								1.30	0.12
0552								1.30	0.12
0558								1.30	0.12
0600	3.64	3.95	2.65	4.31	10.74	8.05	3.00	1.30	0.12
0605								1.30	0.12
0620								1.30	0.12
0630	3.61	3.90	2.64	4.30	10.70	9.99	2.95	1.30	0.12
0650								1.30	0.12
0700	3.61	3.90	2.64	4.30	10.70	9.99	2.95	1.30	0.12
0750	3.63	3.97	2.65	4.31	10.69	9.99	2.94	1.31	0.13

SHILSTONE ENGINEERING TESTING LABORATORY, INC.
All measurements in inches

Date & Time	P1	P2	P3	P5	P6	P7	P8	P4	Settle- ment
10/9/79 0755								1.34	0.16
0757								1.35	0.17
0803								1.38	0.20
0810								1.40	0.22
0825								1.36	0.18
0830	3.62	3.97	2.64	4.30	10.67	9.98	2.94		
0855								1.38	0.20
0900	3.62	3.97	2.65	4.31	10.67	9.97	2.93		
0930	3.61	3.95	2.65	4.30	10.67	9.98	2.95		
0955								1.38	0.20
1000	3.62	3.95	2.64	4.29	10.66	9.98	2.94	1.36	0.18
1015								1.36	0.18
1020								1.33	0.15
1035								1.33	0.15
1040								1.30	0.12
1055								1.29	0.11
1100	3.64	3.94	2.63	4.27	10.69	8.00	2.94	1.24	0.06
1115								1.24	0.06
1125								1.26	0.08
1130	3.66	3.94	2.63	4.28	10.69	8.00	2.93		
1135								1.27	0.09
1145								1.33	0.15
1155								1.33	0.15
1200	3.65	3.95	2.64	4.30	10.70	8.00	2.93		
1205								1.36	0.18
1215								1.36	0.18
1220								1.40	0.22
1222								1.40	0.22
1228								1.41	0.23
1230	3.60	3.93	2.63	4.28	10.65	9.97	2.93		
1235								1.41	0.23
1250								1.41	0.23
1300	3.60	3.94	2.65	4.29	10.65	9.97	2.93		
1320								1.42	0.24
1330	3.58	3.94	2.63	4.28	10.65	9.97	2.95		
1400	3.57	3.92	2.62	4.28	10.64	9.95	2.95		
1420								1.42	0.24
1425								1.44	0.26
1427								1.45	0.27
1430	3.57	3.92	2.63	4.28	10.63	9.95	2.94		

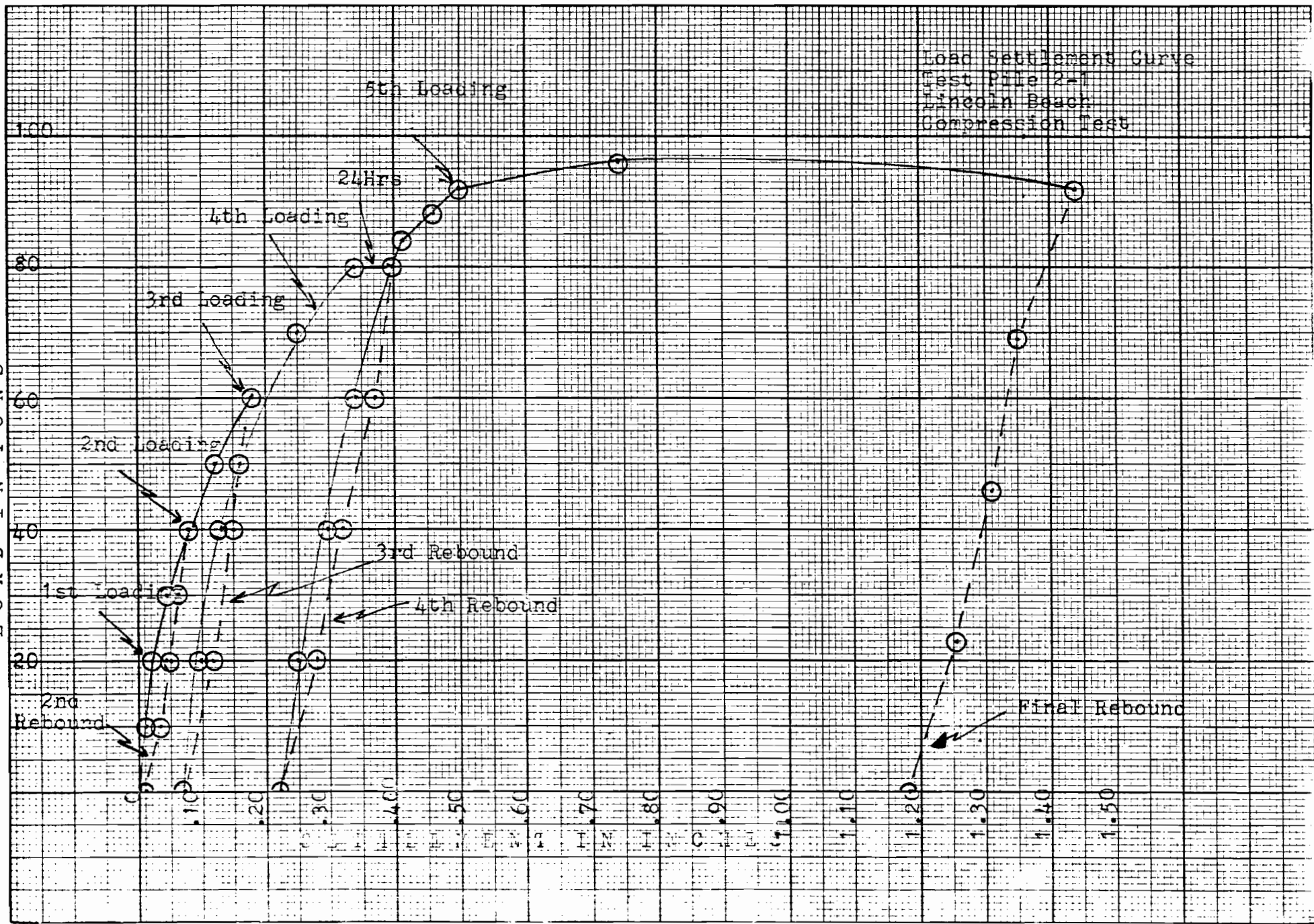
SHILSTONE ENGINEERING TESTING LABORATORY, INC.
All measurements in inches

Date & Time	P1	P2	P3	P5	P6	P7	P8	P4	Settle- ment
10/9/79									
1433								1.48	0.30
1440								1.48	0.30
1455								1.49	0.31
1500	3.57	3.92	2.63	4.28	10.63	9.95	2.94		
1525								1.52	0.34
1530	3.57	3.93	2.63	4.28	10.64	9.96	2.95		
1625								1.54	0.36
1630	3.57	3.93	2.64	4.30	10.64	9.96	2.95		
1725								1.54	0.36
1730	3.57	3.93	2.64	4.30	10.64	9.96	2.95		
1825								1.54	0.36
1830	3.57	3.93	2.64	4.30	10.64	9.96	2.95		
1925								1.54	0.36
1930	3.57	3.93	2.64	4.30	10.64	9.96	2.95		
2025								1.54	0.36
2030	3.57	3.93	2.64	4.30	10.64	9.96	2.95		
2125								1.56	0.38
2130	3.57	3.93	2.64	4.30	10.64	9.96	2.95		
2225								1.57	0.39
2230	3.57	3.93	2.64	4.30	10.64	9.96	2.95		
2325								1.57	0.39
2330	3.57	3.93	2.64	4.30	10.64	9.96	2.95		
10/10/79									
0025								1.57	0.39
0030	3.57	3.93	2.64	4.30	10.64	9.96	2.95		
0125								1.57	0.39
0130	3.57	3.93	2.64	4.30	10.64	9.96	2.95		
0225								1.57	0.39
0230	3.57	3.93	2.64	4.30	10.64	9.96	2.95		
0330	3.57	3.93	2.64	4.30	10.64	9.96	2.95		
0425								1.57	0.39
0430	3.57	3.93	2.64	4.30	10.64	9.96	2.95		
0530	3.57	3.93	2.64	4.30	10.64	9.96	2.95		
0625								1.57	0.39
0630	3.57	3.93	2.64	4.30	10.64	9.96	2.95		
0825								1.57	0.39
0830	3.52	3.86	2.61	4.26	10.60	9.91	2.88		
1025								1.57	0.39
1030	3.52	3.86	2.61	4.26	10.60	9.91	2.89		
1225								1.57	0.39

SHILSTONE ENGINEERING TESTING LABORATORY, INC.
All measurements in inches

Date & Time	P1	P2	P3	P5	P6	P7	P8	P4	Settle- ment
10/10/79									
1230	3.52	3.85	2.60	4.25	10.60	9.91	2.89		
1425								1.57	0.39
1430	3.56	3.90	2.58	4.25	10.61	9.92	2.87		
1435								1.50	0.32
1535								1.50	0.32
1545								1.48	0.30
1630	3.57	3.91	2.60	4.26	10.62	9.93	2.88		
1645								1.47	0.29
1655								1.44	0.26
1730	3.59	3.92	2.61	4.25	10.64	9.95	2.88		
1755								1.43	0.25
1805								1.38	0.20
1830	3.61	3.95	2.61	4.26	10.65	9.97	2.88		
1905								1.38	0.20
1915								1.40	0.22
1930	3.62	3.94	2.61	4.27	10.66	9.97	2.88		
1935								1.41	0.23
1945								1.45	0.27
2005								1.45	0.27
2015								1.48	0.30
2030	3.58	3.94	2.61	4.25	10.66	9.96	2.88		
2035								1.50	0.32
2045								1.55	0.37
2105								1.55	0.37
2107								1.56	0.38
2127								1.57	0.39
2129								1.58	0.40
2130	3.57	3.95	2.62	4.25	10.66	9.96	2.88		
2149								1.62	0.44
2151								1.63	0.45
2211								1.66	0.48
2213								1.69	0.51
2230	3.57	3.95	2.61	4.25	10.66	9.95	2.88		
2233								1.94	0.73
2250								2.62	1.44
2305								2.61	1.43
2325								2.61	1.43
2330	3.58	3.95	2.62	4.25	10.66	9.95	2.88		
2340								2.56	1.38
10/11/79									
0000								2.56	1.38
0015								2.50	1.32
0035								2.50	1.32
0050								2.44	1.26

LOAD IN TONS



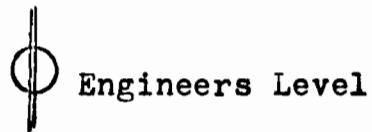
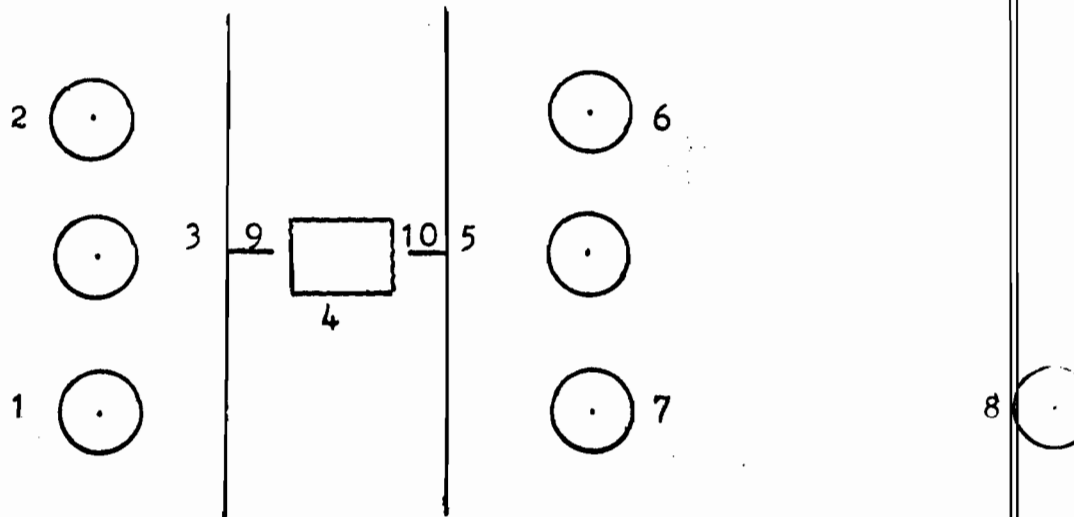
APPENDIX



CITRUS LAKEFRONT FLOODWALL
NEW ORLEANS AIRPORT & LINCOLIN BEACH

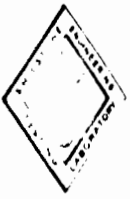
TP-2 COMPRSSION TEST

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.



<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATLANTA, GEORGIA ZIP CODE 30306 660 VIRGINIA AVE., N.E. PHONE (404) 872 0795	BATON ROUGE, LA. ZIP CODE 70802 1068 NEDSHO 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 6366	HOUSTON, TEXAS ZIP CODE 77007 1714 MIAMI DR. PHONE (713) 224 2047

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

PROJECT: Citrus Lakefront Floodwall
N.O. Airport and Lincoln Beach
New Orleans, Louisiana
Test Pile Program

DATE: October 5, 1979

OUR REPORT NO.: 76-9188

REMARKS:

This is to certify that on October 5, 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 TESTING LABORATORY, INC.

Frank A. Tusa
Frank A. Tusa
Construction Services
Branch Manager

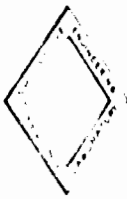
Calculation of Calibration Curve For Pile
Lincoln Beach Test Pile

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.



<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATLANTA, GEORGIA ZIP CODE 30306 600 VIRGINIA AVE., N.E. PHONE (404) 872-0795	BATON ROUGE, LA. ZIP CODE 70802 1068 NIOSHO ST. PHONE (504) 387-3149	MONROE, LA. ZIP CODE 71201 315 N. SECONO ST. PHONE (318) 387-2327	NEW ORLEANS, LA. ZIP CODE 70112 814 CONTIST. 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 Const. Co.**
 P. O. Box 10
 Baton Rouge, La. 70003

PROJECT: **CITRUS LAKEFRONT FLOODWALL**
TEST PILE PROGRAM
 P. O. Box 0829 803

DATE: **NOV 5, 1979**

OUR REPORT NO.: **76-9100-2**

MARTIN DECKER LOAD CELL GAUGE

LOAD
 REMARKS: IN TONS

TESTING MACHINE IN POUNDS

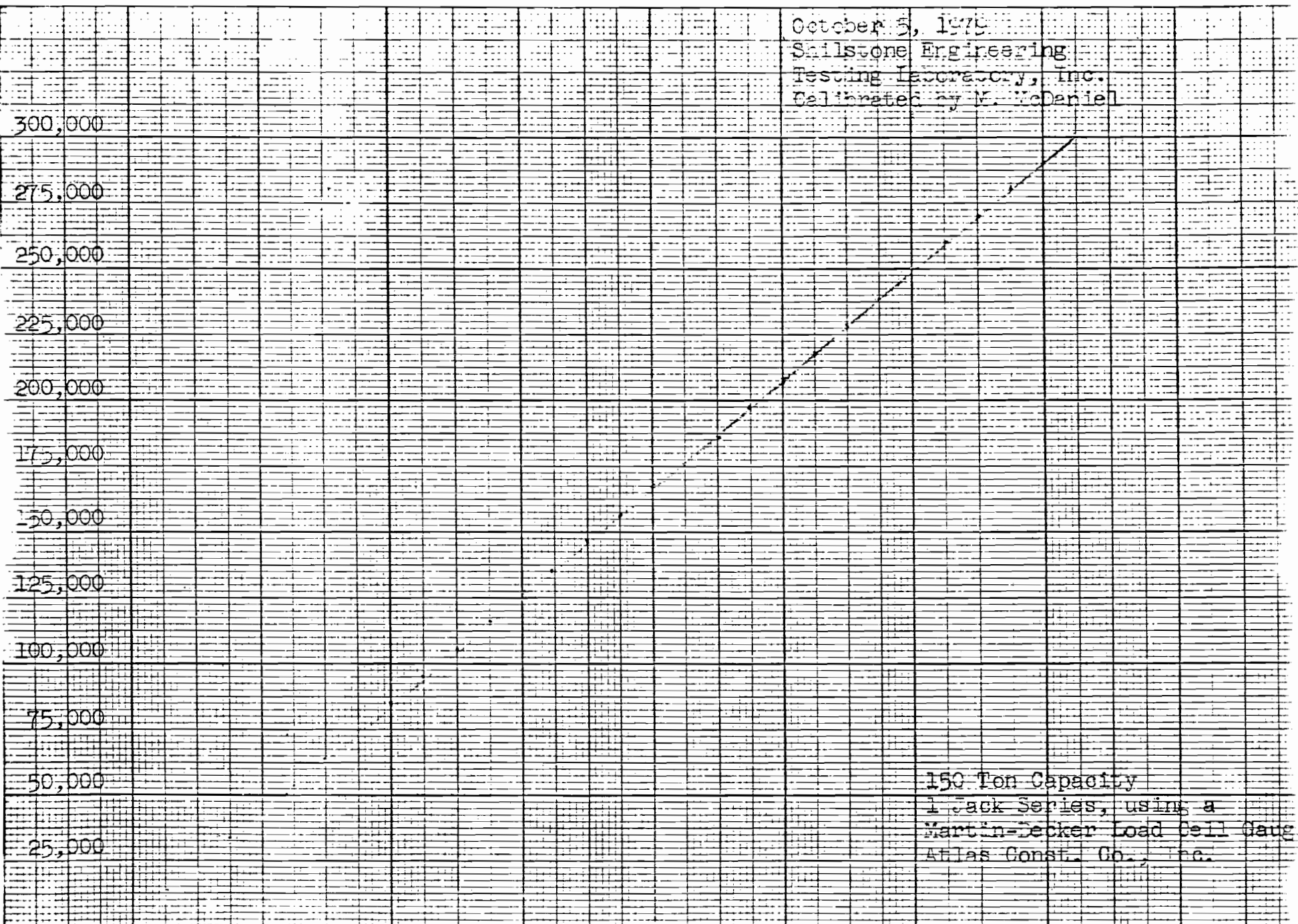
5	11,500
10	22,000
15	33,000
20	44,000
25	54,500
30	65,000
35	75,000
40	85,000
45	96,000
50	105,000
55	117,000
60	127,000
65	137,000
70	147,000
75	150,000
80	168,000
85	179,000
90	188,000
95	199,000
100	209,000
105	220,000
110	230,000
115	240,000
120	250,000
125	260,000
130	270,000
135	280,000
140	290,000
145	299,000

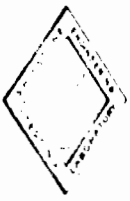
October 5, 1979
Spilstone Engineering
Testing Laboratory, Inc.
Calibrated by M. McDaniel

300,000
275,000
250,000
225,000
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000

150 Ton Capacity
1 Jack Series, using a
Martin-Decker Load Cell Gauge
Atlas Const. Co., Inc.

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
LOAD IN TONS





SHILSTONE ENGINEERING TESTING LABORATORY, INC.



<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATLANTA, GEORGIA ZIP CODE 30306 600 VIRGINIA AVE., N.E. PHONE (404) 872-0795	BATON ROUGE, LA. ZIP CODE 70802 1066 NLOSHO 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) 233-6366	HOUSTON, TEXAS ZIP CODE 77007 1714 MEMORIAL DR. PHONE (713) 224-2047

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

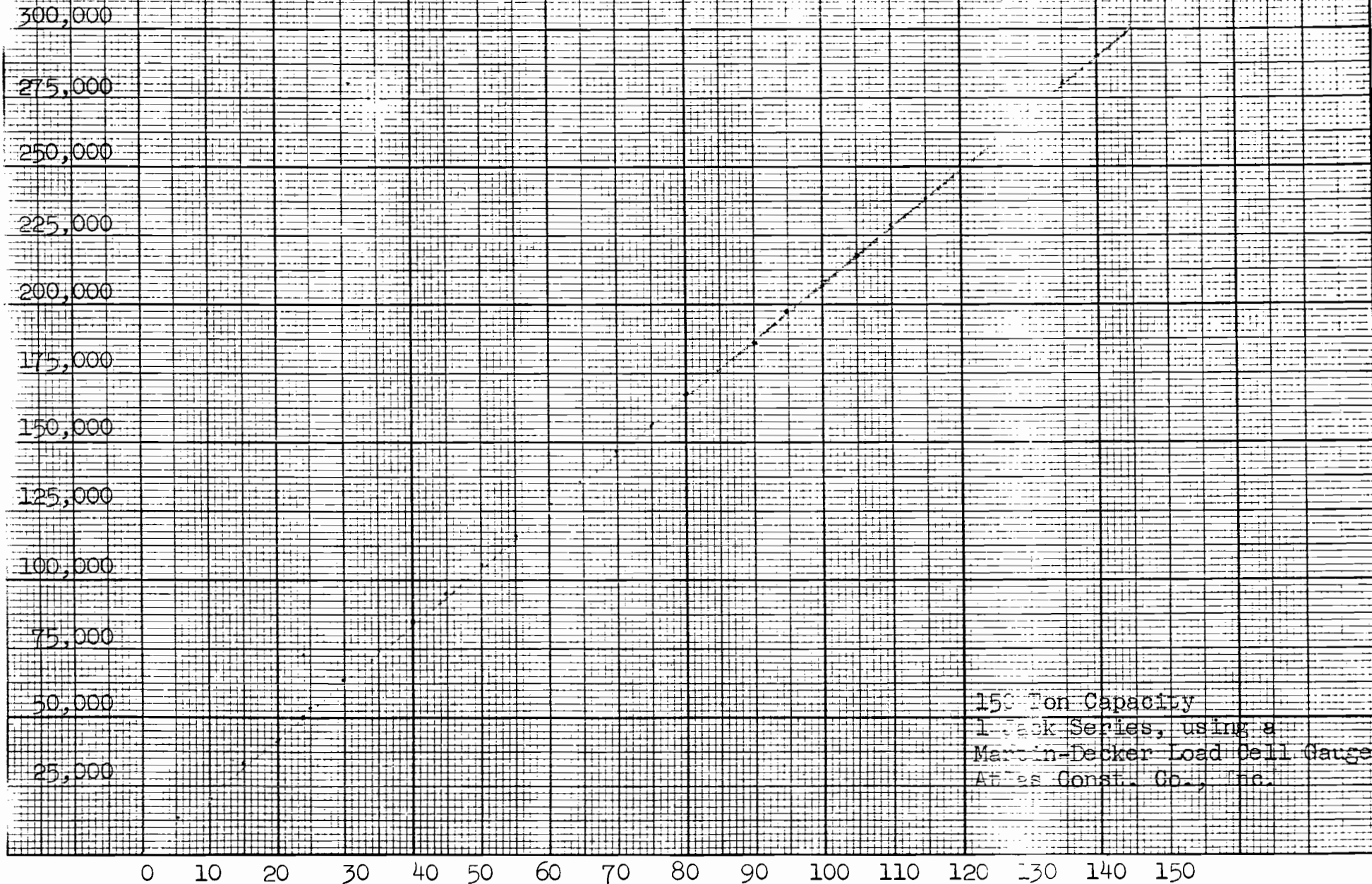
PROJECT: CITRUS LAKEFRONT FLOODWALL
TEST PILE PROGRAM
P. O. NO. 02290003

DATE: October 4, 1979

OUR REPORT NO.: 76-9180-1

REMARKS:	<u>LOAD</u> IN TONS	<u>TESTING MACHINE</u> IN POUNDS	<u>CAUGE PRESSURE</u> (P.S.T)
	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

October 15, 1951
Shilstone Engineering
Testing Laboratory, Inc.
Calibrated by J. McDaniel



150 Ton Capacity
1-Jack Series, using a
Martin-Decker Load Cell Gauge
Atlas Const. Co., Inc.

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

LOAD IN TONS