

PILE LOAD TEST PROGRAM

**CHRISTWOOD WELLNESS CENTER
100 CHRISTWOOD BOULEVARD
ST. TAMMANY PARISH, LOUISIANA**

BTI PROJECT NO. 3477

Prepared for:

**MCMATH CONSTRUCTION
MANDEVILLE, LOUISIANA**



1428½ Claire Avenue, Gretna, Louisiana 70053

(504) 227-2273 • fax: (504) 227-2274

2107 Nicholson Avenue, Waveland, Mississippi 39576

Phone: (228) 466-2556 • Fax: (228) 466-2571

Betagroupgc.com

REPORT NO.: 3477-LT031413 (TP-2)
PROJECT: Christwood Wellness Center
BTI PROJECT NO.: 3477
TEST METHOD: Pile load test in general accordance with ASTM D 1143 (Standard Test Method for Piles under Static Axial Compressive Load)
DATE PERFORMED: March 14, 2013
PILE DRIVING CONTRACTOR: Cycle Construction
REPORTED TO: McMath Construction
 1125 N. Causeway Blvd., Ste. 2
 Metairie, LA. 70002
 Attention: Mr. Phillip Wingerter

TEST PILE PROGRAM

The test pile program included the testing of one (1) pile out of the seven (7) exploratory piles driven in the general area of the building footprint where the new Wellness Center will be constructed. The test pile program also included the driving of four (4) reaction piles, erecting a load frame, and performing a static load test in general accordance with ASTM D 1143.

The test pile and four (4) reaction piles were driven to confirm the allowable pile load capacity of 8 tons. The test pile is a 35 ft. Class "5" treated timber pile and the four (4) reactor piles are 35 ft. Class "5" CCA treated timber piles. At the time of the load test, approximately 2.0 feet of the pile was exposed above the existing ground surface.

The load frame consisted of one (1) reaction beam located directly over the test pile and attached at each end by two (2) timber reaction piles.

PILE DRIVING EQUIPMENT

The test pile and reaction piles were driven using a conventional crane with fixed leads utilizing a Vulcan no.1 single-acting air hammer.

<u>Hammer Model</u>	<u>Hammer Type</u>	<u>Hammer Ram Weight (lbs)</u>	<u>Hammer Stroke (ft)</u>	<u>Maximum Manufacturer's Rated Energy (ft-lbs)</u>
No. 2	Single-Acting Air Hammer	3,000	2.42	7,260

TEST EQUIPMENT AND APPLICATION

The test was conducted using a calibrated 50-ton capacity single hydraulic cylinder type jack with a 10,000 psi calibrated pressure gauge. The jack was placed between the butt of the test pile and the reaction beam. Axial loads were applied to the test pile using the calibrated hydraulic ram and pressure gauge.

Should you have any questions regarding this report or require additional information, please do not hesitate to contact us.

Sincerely,

Beta Testing & Inspection, LLC



Alex Jaramillo, P.E.
Senior Project Engineer

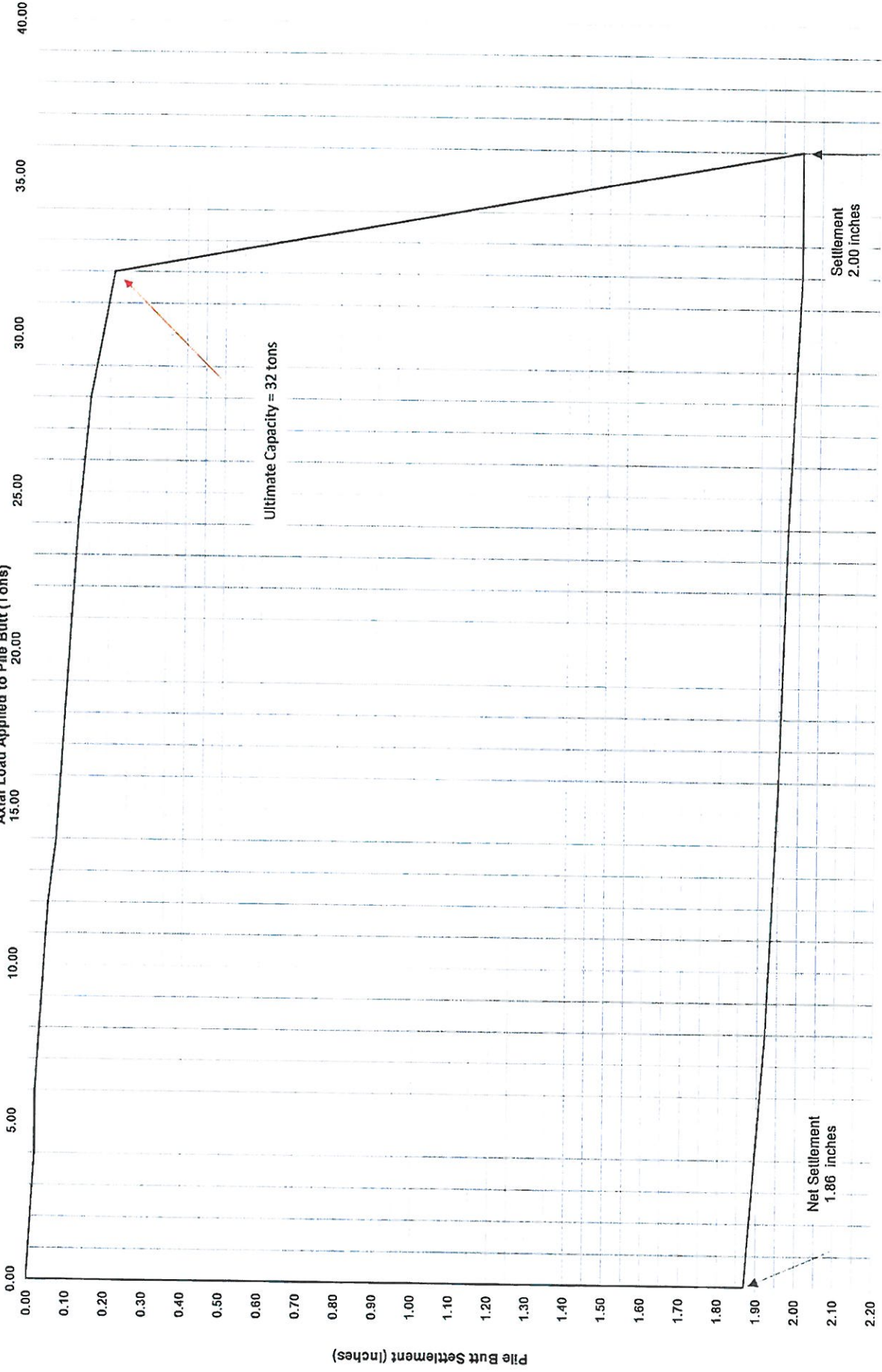


Mark A. Cheek, P.E., F.A.C.I.
Vice-President

Load vs. Settlement Curve

LOAD VS. SETTLEMENT CURVE

TEST PILE PROGRAM
CHRISTWOOD WELLNESS CENTER
BTI No.: 3477 Test Date: 3-14-13
Test Pile No. 2 w/ Design Load = 8 tons
Timber Pile 30 feet in Embedded Length
Axial Load Applied to Pile Butt (Tons)



The Beta Group, LLC

Load Test Field Report

Project: Christwood Wellness Center

Ram Serial No.:
 Load Cell Serial No.:
 Strain Gauge Serial No.:
 1000psi Gauge Serial No.:
 Left Dial Gauge No.:
 Right Dial Gauge No.:
 Date Started:
 Date Completed:

Contract No.:
 Test Pile No.:
 Service Load:
 Loading Rate:

TP-2
 8 Tons Compression
 2 tons to 200% of design load, then 4 tons to failure

3/14/2013
 3/14/2013

Load (Tons)	Real Time	Load Cell (Tons)	Load Cell (lbs.)	Actual Load Cell (lbs.)	Gauge (psi)	Actual Gauge (psi)	N-S Plano Wire (in.)	E-W Plano Wire (in.)	Test Pile Scale (in.)	R 1 (in.)	R 2 (in.)	R 3 (in.)	R 4 (in.)	BM 1 (in.)	BM 2 (in.)	Elapsed Time		Incremental Time	Remarks
																Hrs.	Mins.		
0.00	10:00 AM	-	-	-	0	0	6.580	4.690	10.97	9.05	3.00	-	-	4.70	5.21	0	0	0	
2.00	10:00 AM	-	-	-	450	450	6.590	4.700	10.96	9.06	3.00	-	-	4.70	5.21	0	0	0	
2.00	10:15 AM	-	-	-	450	450	6.590	4.700	10.96	9.06	3.00	-	-	4.70	5.21	0	15	15	
2.00	10:30 AM	-	-	-	450	450	6.590	4.700	10.96	9.06	3.00	-	-	4.70	5.21	0	30	30	
2.00	10:45 AM	-	-	-	450	450	6.590	4.700	10.96	9.06	3.00	-	-	4.70	5.21	0	45	45	
2.00	11:00 AM	-	-	-	450	450	6.590	4.700	10.96	9.06	3.00	-	-	4.70	5.21	1	0	60	
4.00	11:00 AM	-	-	-	900	900	6.600	4.700	10.95	9.06	3.00	-	-	4.70	5.21	1	0	60	
4.00	11:15 AM	-	-	-	900	900	6.600	4.710	10.95	9.06	3.00	-	-	4.70	5.21	1	15	75	
4.00	11:30 AM	-	-	-	900	900	6.600	4.710	10.95	9.06	3.00	-	-	4.70	5.21	1	30	90	
4.00	11:45 AM	-	-	-	900	900	6.600	4.710	10.95	9.06	3.00	-	-	4.70	5.21	1	45	105	
4.00	12:00 PM	-	-	-	900	900	6.600	4.710	10.95	9.06	3.00	-	-	4.70	5.21	2	0	120	
6.00	12:00 PM	-	-	-	1350	1350	6.600	4.710	10.95	7.06	3.00	-	-	4.70	5.21	2	0	120	
6.00	12:15 PM	-	-	-	1350	1350	6.600	4.710	10.95	9.06	3.00	-	-	4.70	5.21	2	15	135	
6.00	12:30 PM	-	-	-	1350	1350	6.600	4.710	10.95	9.06	3.00	-	-	4.70	5.21	2	30	150	
6.00	12:45 PM	-	-	-	1350	1350	6.600	4.710	10.95	9.06	3.00	-	-	4.70	5.21	2	45	165	
6.00	1:00 PM	-	-	-	1350	1350	6.600	4.710	10.95	9.06	3.00	-	-	4.70	5.21	3	0	180	
8.00	1:00 PM	-	-	-	1800	1800	6.610	4.720	10.94	9.06	3.00	-	-	4.70	5.21	3	0	180	
8.00	1:15 PM	-	-	-	1800	1800	6.610	4.720	10.94	9.06	3.00	-	-	4.70	5.21	3	15	195	
8.00	1:30 PM	-	-	-	1800	1800	6.610	4.720	10.94	9.06	3.00	-	-	4.70	5.21	3	30	210	
8.00	1:45 PM	-	-	-	1800	1800	6.610	4.720	10.94	9.06	3.00	-	-	4.70	5.21	3	45	225	

Project: Christwood Wellness Center

Ram Serial No.:
 Load Cell Serial No.:
 S/Rain Gauge Serial No.:
 1000psi Gauge Serial No.:
 Left Dial Gauge No.:
 Right Dial Gauge No.:
 Date Started:
 Date Completed:

TP-2
 8 Tons Compression
 2 tons to 200% of design load, then 4 tons to failure

Contract No.:
 Test Pile No.:
 Service Load:
 Loading Rate:

3/14/2013
 3/14/2013

Load (Tons)	Real Time	Load Cell (Tons)	Load Cell (lbs.)	Actual Load Cell (lbs.)	Gauge (psi)	Actual Gauge (psi)	N-S Piano Wire (in.)	E-W Piano Wire (in.)	Test Pile Scale (in.)	R 1 (in.)	R 2 (in.)	R 3 (in.)	R 4 (in.)	BM 1 (in.)	BM 2 (in.)	Elapsed Time		Incremental Time (min)	Remarks
																Hrs.	Mins.		
8.00	2:00 PM	-	-	-	1800	1800	6.610	4.720	10.94	9.06	3.00	-	-	4.70	5.21	4	0	240	
10.00	2:00 PM	-	-	-	2250	2250	6.620	4.720	10.93	9.07	3.00	-	-	4.70	5.21	4	0	240	
10.00	2:15 PM	-	-	-	2250	2250	6.620	4.720	10.93	9.07	3.00	-	-	4.70	5.21	4	15	255	
10.00	2:30 PM	-	-	-	2250	2250	6.620	4.720	10.93	9.07	3.00	-	-	4.70	5.21	4	30	270	
10.00	2:45 PM	-	-	-	2250	2250	6.620	4.720	10.93	9.07	3.00	-	-	4.70	5.21	4	45	285	
10.00	3:00 PM	-	-	-	2250	2250	6.620	4.720	10.93	9.07	3.00	-	-	4.70	5.21	5	0	300	
12.00	3:00 PM	-	-	-	2620	2620	6.630	4.730	10.92	9.08	3.00	-	-	4.70	5.21	5	0	300	
12.00	3:15 PM	-	-	-	2620	2620	6.630	4.730	10.92	9.08	3.00	-	-	4.70	5.21	5	15	315	
12.00	3:30 PM	-	-	-	2620	2620	6.630	4.730	10.92	9.08	3.00	-	-	4.70	5.21	5	30	330	
12.00	3:45 PM	-	-	-	2620	2620	6.630	4.730	10.92	9.08	3.00	-	-	4.70	5.21	5	45	345	
12.00	4:00 PM	-	-	-	2620	2620	6.630	4.730	10.92	9.08	3.00	-	-	4.70	5.21	6	0	360	
14.00	4:00 PM	-	-	-	2990	2990	6.640	4.750	10.9	9.08	3.00	-	-	4.70	5.21	6	0	360	
14.00	4:15 PM	-	-	-	2990	2990	6.640	4.750	10.9	9.08	3.00	-	-	4.70	5.21	6	15	375	
14.00	4:30 PM	-	-	-	2990	2990	6.640	4.750	10.9	9.08	3.00	-	-	4.70	5.21	6	30	390	
14.00	4:45 PM	-	-	-	2990	2990	6.640	4.750	10.9	9.08	3.00	-	-	4.70	5.21	6	45	405	
14.00	5:00 PM	-	-	-	2990	2990	6.640	4.750	10.9	9.08	3.00	-	-	4.70	5.21	7	0	420	
16.00	5:00 PM	-	-	-	3360	3360	6.650	4.760	10.89	9.09	3.00	-	-	4.70	5.21	7	0	420	
16.00	5:15 PM	-	-	-	3360	3360	6.650	4.760	10.89	9.09	3.00	-	-	4.70	5.21	7	15	435	
16.00	5:30 PM	-	-	-	3360	3360	6.650	4.760	10.89	9.09	3.00	-	-	4.70	5.21	7	30	450	
16.00	5:45 PM	-	-	-	3360	3360	6.650	4.760	10.89	9.09	3.00	-	-	4.70	5.21	7	45	465	

Project: Christwood Wellness Center

Rem Serial No.:
 Load Cell Serial No.:
 Strain Gauge Serial No.:
 10000psi Gauge Serial No.:
 Left Dial Gauge No.:
 Right Dial Gauge No.:
 Date Started:
 Date Completed:

Contract No.:
 Test Pile No.:
 Service Load:
 Loading Rate:

TP-2
 8 Tons Compression
 2 tons to 200% of design load, then 4 tons to failure

3/14/2013
 3/14/2013

Load (Tons)	Real Time	Load Cell (Tons)	Load Cell (lbs.)	Actual Load Cell (lbs.)	Gauge (psi)	Actual Gauge (psi)	N-S Piano Wire (in.)	E-W Piano Wire (in.)	Test Pile Scale (in.)	R 1 (in.)	R 2 (in.)	R 3 (in.)	R 4 (in.)	BM 1 (in.)	BM 2 (in.)	Elapsed Time		Incremental Time (min)	Remarks
																Hrs.	Mins.		
16.00	6:00 PM	-	-	-	3360	3360	6.650	4.760	10.89	9.09	3.00	-	-	4.70	5.21	8	0	480	
20.00	6:00 PM	-	-	-	4100	4100	6.670	4.780	10.87	9.1	3.00	-	-	4.70	5.21	8	0	480	
20.00	6:15 PM	-	-	-	4100	4100	6.670	4.780	10.87	9.1	3.00	-	-	4.70	5.21	8	15	495	
20.00	6:30 PM	-	-	-	4100	4100	6.670	4.780	10.87	9.1	3.00	-	-	4.70	5.21	8	30	510	
20.00	6:45 PM	-	-	-	4100	4100	6.670	4.780	10.87	9.1	3.00	-	-	4.70	5.21	8	45	525	
20.00	7:00 PM	-	-	-	4100	4100	6.670	4.780	10.87	9.1	3.00	-	-	4.70	5.21	9	0	540	
24.00	7:00 PM	-	-	-	4850	4850	6.690	4.800	10.85	9.1	3.00	-	-	4.70	5.21	9	0	540	
24.00	7:15 PM	-	-	-	4850	4850	6.690	4.800	10.85	9.1	3.00	-	-	4.70	5.21	9	15	555	
24.00	7:30 PM	-	-	-	4850	4850	6.690	4.800	10.85	9.1	3.00	-	-	4.70	5.21	9	30	570	
24.00	7:45 PM	-	-	-	4850	4850	6.690	4.800	10.85	9.1	3.00	-	-	4.70	5.21	9	45	585	
24.00	8:00 PM	-	-	-	4850	4850	6.690	4.800	10.85	9.1	3.00	-	-	4.70	5.21	10	0	600	
28.00	8:00 PM	-	-	-	5610	5610	6.720	4.820	10.82	9.1	3.00	-	-	4.70	5.21	10	0	600	
28.00	8:15 PM	-	-	-	5610	5610	6.720	4.820	10.82	9.1	3.00	-	-	4.70	5.21	10	15	615	
28.00	8:30 PM	-	-	-	5610	5610	6.720	4.820	10.82	9.1	3.00	-	-	4.70	5.21	10	30	630	
28.00	8:45 PM	-	-	-	5610	5610	6.720	4.820	10.82	9.1	3.00	-	-	4.70	5.21	10	45	645	
28.00	9:00 PM	-	-	-	5610	5610	6.720	4.820	10.82	9.1	3.00	-	-	4.70	5.21	11	0	660	
32.00	9:00 PM	-	-	-	6360	6360	6.790	4.880	10.76	9.1	3.00	-	-	4.70	5.21	11	0	660	
32.00	9:15 PM	-	-	-	6360	6360	6.790	4.880	10.76	9.1	3.00	-	-	4.70	5.21	11	15	675	
32.00	9:30 PM	-	-	-	6360	6360	6.790	4.880	10.76	9.1	3.00	-	-	4.70	5.21	11	30	690	
32.00	9:45 PM	-	-	-	6360	6360	6.790	4.880	10.76	9.1	3.00	-	-	4.70	5.21	11	45	705	

Pile Driving Records



March 1, 2013

Mr. Phil Wingerter
McMath Construction
1125 N. Causeway Blvd. Suite. 2
Mandeville, LA 70471

**Re: Pile Logging Services
Christwood Wellness Center
Report No.: 3477-PS022813
TBG Project No.: 3477**

Mr. Wingerter:

On **February 28, 2013**, D. Christophe of The Beta Group, LLC provided pile logging services for the above-mentioned project. The inspection included 11.50 hours and 94 miles of travel. At the site, our inspector observed the driving of 11 piles and completed a pile driving record for each. Enclosed, please find copies of the pile driving records.

Should you have any questions regarding this letter or require additional information, please do not hesitate to contact us.

Sincerely,

The Beta Group, LLC

Mark A. Cheek, P.E., FACI
Vice-President

Enclosures

Cc: Dustin Brown - The McDonnell Group
Vincent - FLWB Architects
Jaime Saxon - MMI-Engineering

P.O. Box 2207 • Gretna, Louisiana 70054 • (504) 227-2273 • Fax (504) 227-2274
2107 Nicholson Ave. • Waveland, MS 39576 • (228) 466-2556 • Fax (228) 466-2571



Beta
engineering and construction services

PILE DRIVING RECORD

TBG Project No.: 3477	
Project Name: Christwood Wellness Center	
Pile Driving Contractor: PCS	Date: FEB. 28, 2013
Technician: D. CHRISTOPHE	Weather: PT. SUNNY & COLD
Page: ONE of TWO	

Pile No.	REFLECTORS									
	TP 7	TP 6	TP 2	TP 1	TP 3	TP 4	TP 5	R#4	R#3	R#1
Tip Size (in.)	6 1/4"	6"	6 1/4"	6 1/2"	6 1/2"	6 1/4"	6"	7"	7"	6 3/4"
Butt Size (in.)	8 1/2"	8"	8 1/2"	8 1/2"	8 1/2"	8 1/2"	8 1/2"	9"	9"	8 1/2"
Pile Length (ft.)	35FT.	35FT.	35FT.	35FT.	35FT.	35FT.	35FT.	35FT. 6in	35FT. 6in	35FT. 6in
0-5										
6-10										
11										
12										
13										
14										
15										
16										
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Pile description: TREATED TIMBER	Hammer Description: VULCAN # 2
Predrill: 10 1/2 Feet with 6 - in. dia. Bit	Rated Energy: Ft - Lbs of Energy
Remarks: 1st PILES # 7 & 6 PREDRILL WITH 7in. DIA. BIT. PILE # 4, PREDRILL 8 FT. PILE # 3, PREDRILL 6 FT. FILE # 4, DRIVEN IN POOL AREA, ABOUT 3FT DIFFERENCE IN ELEV.	

8
3
3

Equipment Calibrations

Beerman Precision, Inc.
4206 Howard Avenue, New Orleans, LA 70125
504-486-8381 Fax: 504-486-7482

JACK CALIBRATION REPORT

CUSTOMER: BETA TESTING & INSPECTION PROJECT: ANNUAL CALIBRATION

CONTRACT NO: 9651 DATE: May 8, 2012

CYLINDER: RC506, 50 TON 6in STROKE SERIAL NO: 9363

GAUGE: POWER TEAM 10,000 PSI, 6" FACE SERIAL NO: 9089

This report covers the results of Calibration for the above Hydraulic Cylinder. Calibration was performed utilizing our 500-Ton Master Load Cell, S/N 9403, with the digital readout indicator, S/N 189935. The Master Load Cell was recently calibrated on March 22, 2012 in accordance with ASTM E4 and is within a 1% tolerance. Results of current calibration are shown on the following pages:

Temperature during test .80 Degrees Fahrenheit

By:



Date:

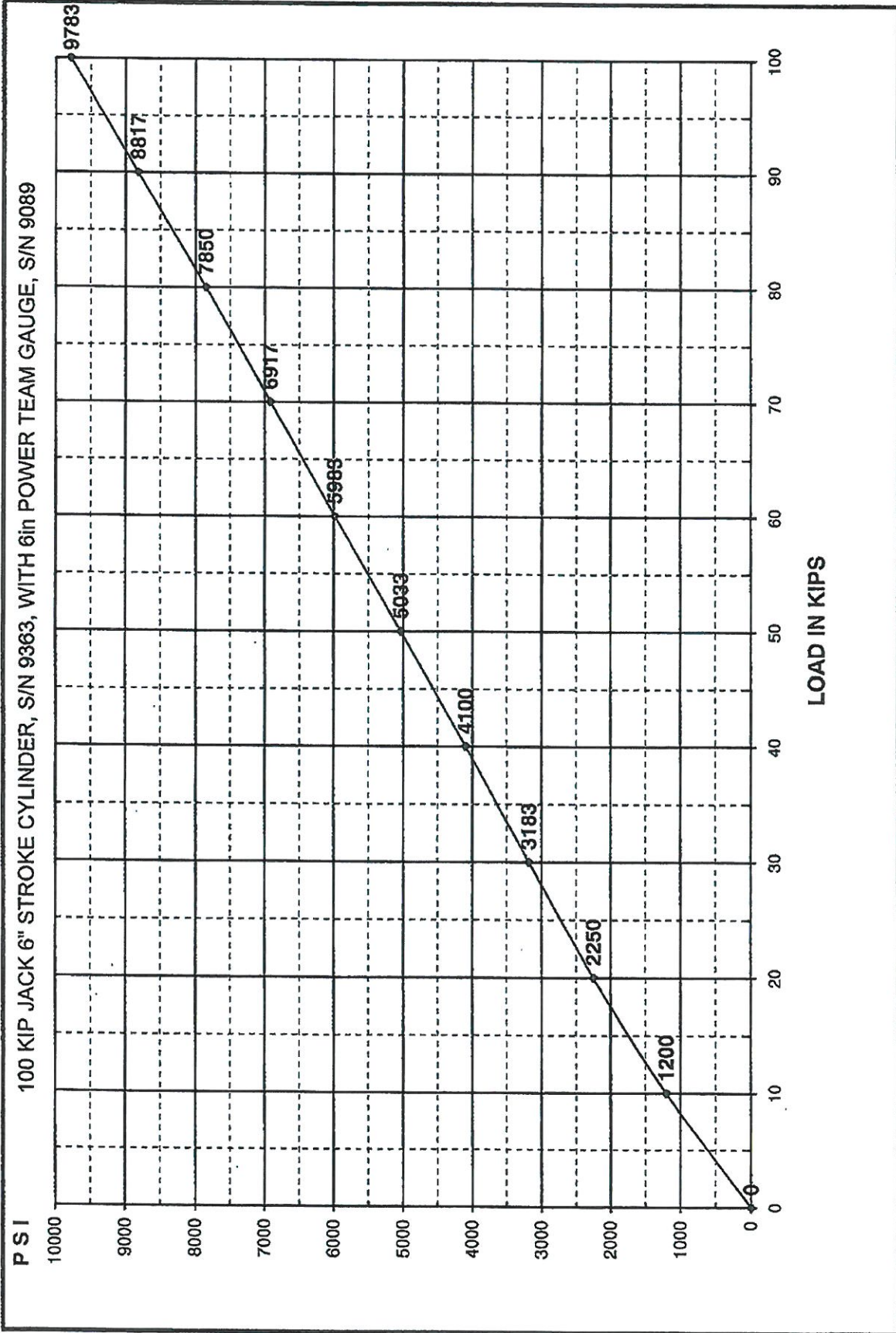
May 8, 2012

BEERMAN PRECISION, INC.

50 Ton Field load test procedure (interpolation) as 5-8-12 calibration

% of Load	Load (tons)	Gauge (psi)
25.0	2.0	450
50.0	4.0	900
75.0	6.0	1350
100.0	8.0	1800
125.0	10.0	2250
150.0	12.0	2620
175.0	14.0	2990
200.0	16.0	3360
250.0	20.0	4100
300.0	24.0	4850
350.0	28.0	5610
400.0	32.0	6360
450.0	36.0	7100
500.0	40.0	7850
550.0	44.0	8620
600.0	48.0	9400
650.0	52.0	9780

Beerman Precision, Inc.
4206 Howard Ave. New Orleans, LA 70125
504-486-9391



Calibrated on 5/8/12

Report No. INV# 9651

Date of Printing: 5/8/2012

Beerman Precision, Inc.
4206 Howard Avenue, New Orleans, LA 70125
504-486-8381 Fax: 504-486-7482

PRESSURE GAUGE CERTIFICATION

CUSTOMER: BETA TESTING & INSPECTION

PROJECT: ANNUAL CALIBRATION

CONTRACT NO: 9651

DATE: May 8, 2012

GAUGE: POWER TEAM 10,000 PSI, 6" FACE

SERIAL NO: 9089

We certify the above hydraulic pressure gauge has been tested against our primary standard, an Amthor Dead Weight Tester and found to be within an accuracy of +/- 1% of full scale. The Amthor Tester was last certified on May 23, 2011 to 0.1% accuracy and traceable to the National Institute of Standards and Technology (NIST).

Standard Pressure (PSI)	Your Pressure Gauge (PSI)
0	0
1000	1100
2000	2100
3000	3110
4000	4100
5000	5100
6000	6100
7000	7100
8000	8050
9000	9050
10,000	10050

By:



Date:

May 8, 2012

BEERMAN PRECISION, INC.

Loads were measured to the nearest 10-psi. Settlement measurements were made using a surveyor's level and scales fixed to the test pile, four reaction piles, and a bench mark. The scales were read to the nearest 0.1 inch.

LOAD TEST SCHEDULE

The pile load test was performed on March 14, 2013; 14-days after the reaction piles were driven. The pile design capacity is 8 tons. The load test was performed in accordance with the schedule as outlined below according to ASTM D113; procedure B.

<u>Increment</u>	<u>Load Increment (Tons)</u>	
1	2	
2	4	
3	6	Hold each increment
4	8	1-hour free of movement.
5	10	
6	12	After pile fails, decrement the
7	14	pile 25% of total load in 15 minute
8	16	intervals.
9	20	
10	24	
11	28	
12	32	
13	36	

After a total of approximately 36.0 tons were applied, the pile was unable to maintain the load. The pile was then unloaded in 4 equal decrements. Each load decrement was maintained for 15 minutes.

CONCLUSIONS

The above test was conducted on the test pile in general accordance with ASTM D 1143.

Interpretation of the Load vs. Settlement curve indicates that at 32 tons, the pile was able to maintain the load free of movement for a one (1) hour period. The pile was unable to maintain the 36 ton load. After reviewing the Load vs. Settlement curve, an ultimate pile load capacity of 32 tons is recommended for the test pile.

The total settlement of the pile is 2.00 inches. At the completion of the test, following the rebound period, a net settlement of 1.86 inches is indicated.

The Load vs. Settlement curve, load test field report, pile driving records, load test setup photograph and the hydraulic ram/gauge calibration reports are provided at the end of this report.

