

Howard & Sons of Port St. Joe, Inc.  
7960 CR 274 NW  
Altha, FL 32421

June 20, 2006  
File No: P-06-0513

Attention: Mr. Ron Howard

Subject: Pile Load Tests for the Pearson Fiberglass Piles, Port St. Joe, Florida

Dear Mr. Howard:

Southern Earth Sciences, Inc., has completed the pile load tests for test piles at your materials yard in Port St. Joe, Florida. This report will present the results of our testing.

On May 16, 2006, two (2) test piles and three reaction piles were installed. The piling were installed using a Pile Master air driven hammer. This hammer has a weight of 2500 lbs. and a drop of 2 feet for a maximum energy of 5,000 ft-lbs. The test piling consisted of 12-inch outside diameter, 0.375-inch wall thickness open end composite fiberglass reinforced piles. Test pile #1 was 15 foot long and test pile #2 was 11.5 feet long with a metal cap installed at the tip of the pile. Test pile #1 had a penetration resistance of 18 blows in the last six inches of penetration and an embedment of 11.5 feet below existing grade. After test pile #1 was installed the soil level inside the pile was 3 feet below the butt end of the pile. Test pile #2 had a penetration resistance of 8 blows in the last foot of penetration and an embedment of 8 feet below existing grade. Test pile #2 was driven to an embedment depth of 10 feet to achieve more resistance, after our engineering technician left the site. The driving logs for the test piles are included.

The load test arrangement for the compression tests consisted of the test pile with one (1) reaction pile on each side of the test pile. A steel beam, spanning the test piles, was attached to the timber reaction piles. A calibrated hydraulic jack, having a total capacity of 50 tons, was placed on a bearing plate mounted to the pile butt. Pile deflections were measured using two Ames dial indicators having a resolution of 0.001 inches and attached to independently supported steel reference beams.

The compression load test for test pile #1 (C-1) was performed on May 18, 2006. The test pile was loaded in general accordance with ASTM D 1143-83 using the "standard loading procedure". The pile was loaded in one (1) ton increments. At a total load of 22 tons the reaction piles began to pull out of the ground. This load was held for a period of five minutes prior to unloading. The gross butt deflection was 0.261 inches with a net deflection, after rebound, of 0.107 inches. The load test data is graphically illustrated as a load versus deflection curve on the attached Graph I.

The compression load test for test pile #2 (C-2) was performed on May 18, 2006. The test pile was loaded in general accordance with ASTM D 1143-83 using the "standard loading procedure". The pile was loaded in one (1) ton increments. At a total load of 25 tons the reaction piles began to pull out of the ground. This load was held for a period of five minutes prior to unloading. The gross butt deflection was 0.569 inches with a net deflection, after rebound, of 0.294 inches. The load test data is graphically illustrated as a load versus deflection curve on the attached Graph II.

The lateral test for test pile #1 (L-1) was performed on May 26, 2006. The lateral load test was loaded in one ton increments until the butt deflection reached one-inch at the ground surface. A total of 3 tons was held of approximately five (5) minutes prior to unloading. The pile was then unloaded in one ton (1) decrements. The maximum butt deflection was 0.986 inches with a net deflection, after rebound, of 0.316 inches. The load test data is graphically illustrated as a load versus deflection curve on the attached Graph III.

The tension test for test pile #1 (T-1) was performed on May 26, 2006. An uplift bracket capable of supporting 7 tons of uplift was installed on the butt end of the pile. The pile was loaded in one (1) ton increments. A total of 7.25 tons was held for a period of 5 minutes prior to unloading. The pile was then unloaded in decrements of 50% of the design load. The maximum butt uplift was 0.943 inches. The load test data is graphically illustrated as a load versus uplift curve on the attached Graph IV.

## TEST RESULTS

From the compression load test data, it appears to us that the ultimate compressive capacity for test pile #2 is 20 tons with an allowable compressive capacity of 10 tons based upon the Davisson method of test pile evaluation. The ultimate capacity for test pile #1 could not be calculated due to the fact that the reaction piles failed at 22 tons. The tension load test produced an ultimate capacity of 7 tons with an allowable capacity of 3.5 tons. The lateral load test produced an allowable capacity of 1.5 tons.

We appreciate the opportunity to be of service to you. Should additional information be required, please advise.

Yours Very Truly,

**SOUTHERN EARTH SCIENCES, INC.**

*Richard ConRoy*

Richard ConRoy

CMT Manager

*Michael K. Varner*

Michael K. Varner, P.E.

Eng. Reg. No: 15037

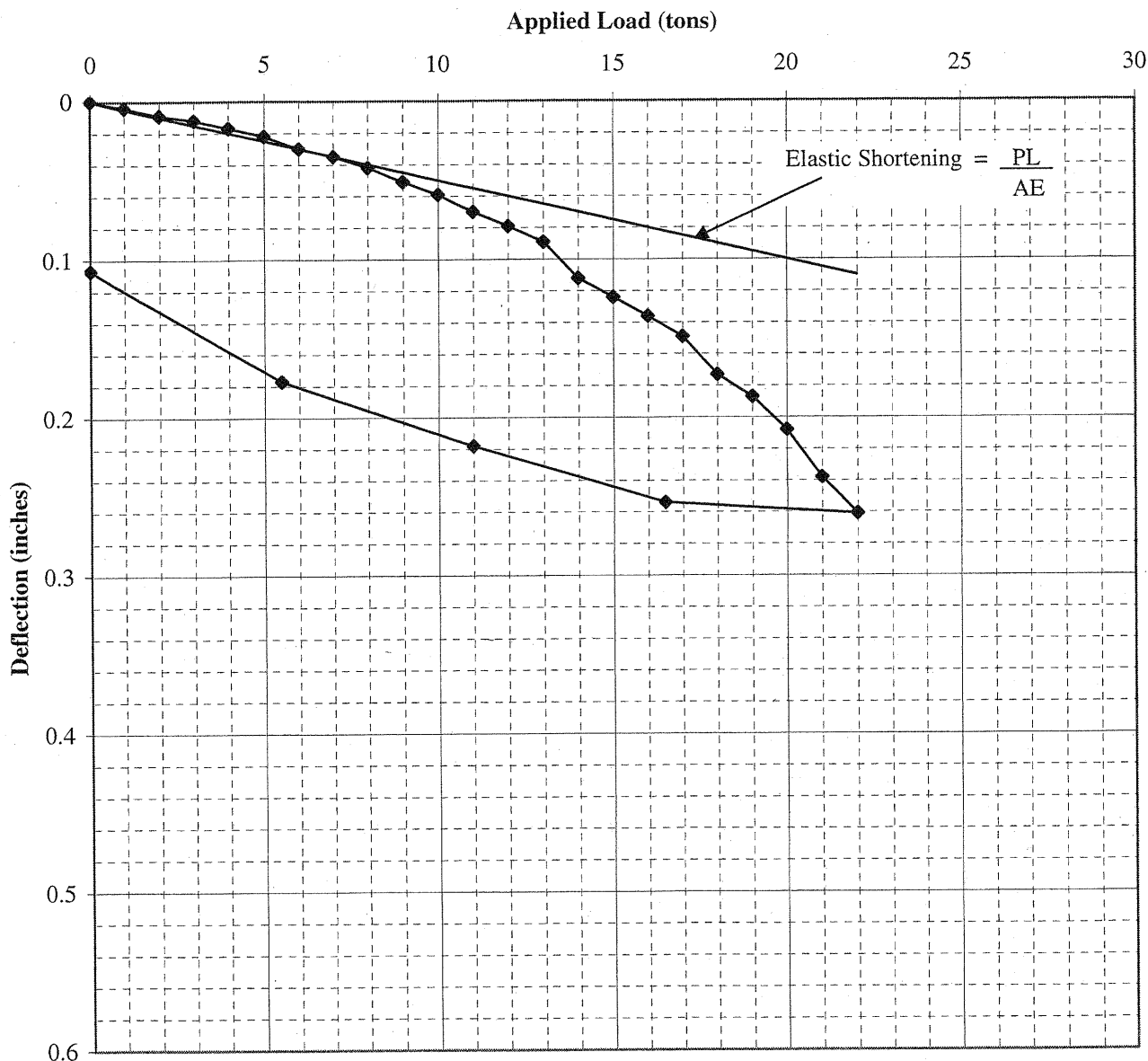
State of Florida

6/20/06

# LOAD vs. DEFLECTION:

Graph I

(Compression Load Test)



Project: Fiberglass Test Piles

Pile Location: Howard & Sons materials yard

File No.: P06-0513

Max Deflection: 0.261 in

Test Pile No.: C-1

Net Deflection: 0.107 in

Pile Length: 15 ft (11.5 ft embedment)

Size of Pile: 12 in dia. open end pile

Additional Notes:  
Date of test: 5/18/06

Test terminated due to failure of reaction piles

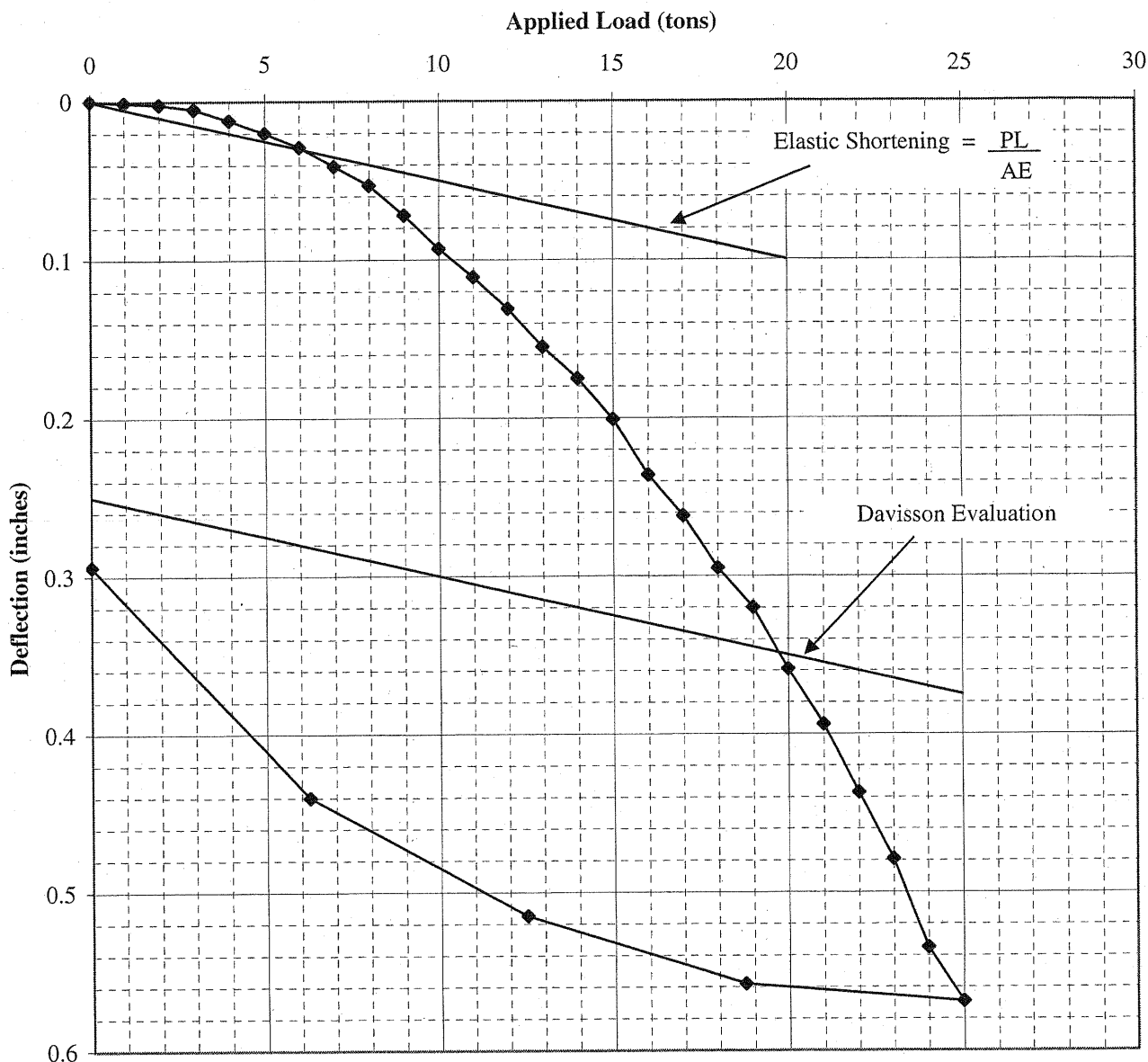


**SOUTHERN EARTH SCIENCES, inc.**  
Geotechnical & Environmental  
Consultants

2711 West 15th Street,  
Panama City, FL 32401  
Ph: 850.469.4773 Fax: 850.872.9967

# LOAD vs. DEFLECTION: (Compression Load Test)

## Graph II



Project: Fiberglass Test Piles

Pile Location: Howard & Sons materials yard

File No.: P06-0513

Max Deflection: 0.569 in

Test Pile No.: C-2

Net Deflection: 0.294 in

Pile Length: 11.5 ft (10 ft embedment)

Size of Pile: 12 in dia. closed end pile

Additional Notes:  
Date of test 5/18/06

Test terminated due to failure of reaction piles

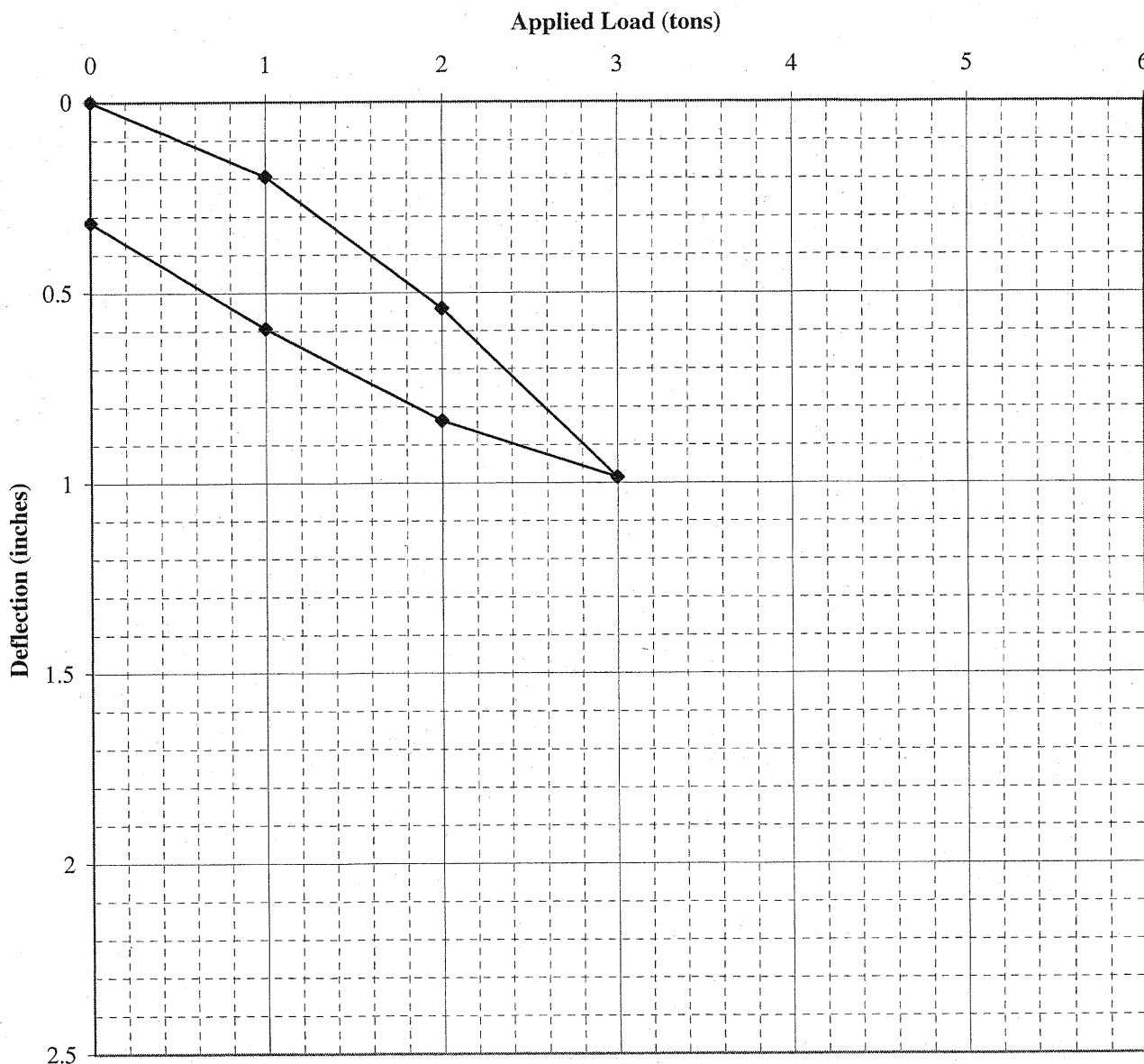


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# LOAD vs. DEFLECTION: (Lateral Load Test)

Graph III



Project: <u>Fiberglass Test Piles</u>	Pile Location: <u>Howard &amp; Sons materials yard</u>
File No.: <u>P06-0513</u>	Max Deflection: <u>0.986 in</u>
Test Pile No.: <u>L-1</u>	Net Deflection: <u>0.316 in</u>
Pile Length: <u>15 ft (11.5 ft embedment)</u>	
Size of Pile: <u>12 in dia hollow pile</u>	

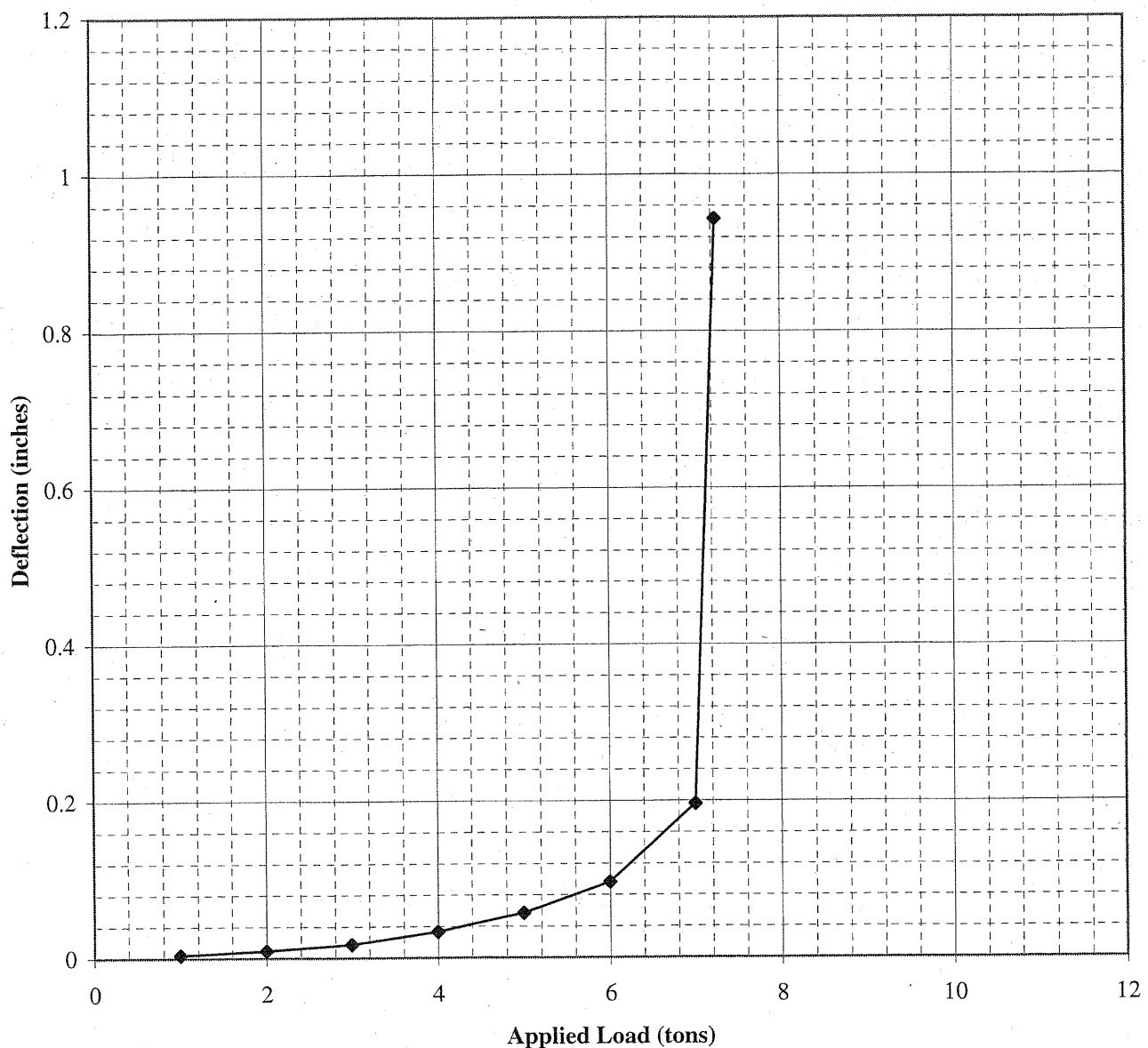
Additional Notes:  
Date of test: 5/18/06



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# LOAD vs. DEFLECTION: (Tension Load Test)

## Graph IV



Project: Fiberglass Test Piles

Pile Location: Howard & Sons materials yard

File No.: P06-0513

Max Deflection: 0.943 in

Test Pile No.: T-1

Pile Length: 15 ft (11.5 ft embedment)

Size of Pile: 12 in dia. Hollow Pile



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Additional Notes:

Date of test: 5/26/06

The lateral load test was performed before tension test