



August 7, 2014
Project No. 20150148

Ms. Heather Munoz, P.E.
AMEC
Power and Process Americas
1979 Lakeside Parkway, Suite 400
Tucker, Georgia 30084

SUBJECT: Final Geotechnical Evaluation Report
Panoche Valley Solar Photovoltaic (PV) Generation Facility
San Benito County, California

Dear Ms. Munoz:

We are pleased to present our Geotechnical Evaluation for the proposed Panoche Valley Solar Project in San Benito County, California. Our scope of work included subsurface exploration, field and laboratory soil testing, engineering evaluation, and preparing this report.

We have prepared this report in accordance with the scope presented in our proposal dated April 16, 2014.

We appreciate this opportunity to work with you on this project. If you have any questions regarding this report or need additional information, please do not hesitate to contact us.

Respectfully submitted,

KLEINFELDER, INC.

A handwritten signature in black ink that reads "Adam D. Tschida".

Adam D. Tschida, P.E.
Senior Professional Engineer

A handwritten signature in black ink that reads "Ronald F. Gibson".

Ronald F. Gibson
Senior Project Manager



**GEOTECHNICAL EVALUATION
PANOCH VALLEY SOLAR
PHOTOVOLTAIC (PV) GENERATION FACILITY
SAN BENITO COUNTY, CALIFORNIA
KLEINFELDER PROJECT NO. 20150148.001A #**

AUGUST 7, 2014

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PROJECT FOR WHICH THIS REPORT WAS PREPARED.**

A Report Prepared for:

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**GEOTECHNICAL EVALUATION
PANOCH VALLEY SOLAR
PHOTOVOLTAIC (PV) GENERATION FACILITY
SAN BENITO COUNTY, CALIFORNIA**

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August 7, 2014
20150354.001A

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1 INTRODUCTION.....	1
1.1 GENERAL DISCUSSION	1
1.2 PROPOSED DEVELOPMENT	1
1.3 PREVIOUS GEOTECHNICAL	2
1.4 SCOPE OF SERVICES	2
2 FIELD SERVICES.....	3
2.1 SURFACE CONDITIONS	3
2.2 TEST PITS	3
2.3 IN-SITU SOIL RESISTIVITY TESTING	4
2.4 POST INSTALLATION AND LOAD TESTING	4
2.4.1 Axial Tension (Pullout) Testing	4
2.4.2 Lateral Testing	4
3 SUBSURFACE CONDITIONS	5
3.1.1 Franciscan Alluvial Fans	5
3.1.2 Panoche Alluvial Fans	5
3.2 GROUNDWATER	5
4 LABORATORY TESTING	6
4.1 CORROSION LABORATORY TESTING.....	6
4.2 THERMAL RESISTIVITY TESTING	6
5 CONCLUSIONS AND RECOMMENDATIONS.....	7
5.1 EARTHWORK.....	7
5.1.1 General	7
5.1.2 Site Preparation	8
5.1.3 Subgrade Preparation	8
5.1.4 Fill Materials	8
5.1.5 Fill Placement and Compaction	9
5.1.6 Fill Shrinkage	10
5.1.7 Temporary Excavations	10
5.1.8 Detention Pond Berms	10
5.1.9 Trench Backfill.....	11
5.1.10 Construction in Wet or Cold Weather	11
5.1.11 Earthwork Observation and Testing	11
5.2 SEISMIC DESIGN CONSIDERATIONS	12
5.3 POST FOUNDATIONS	12
5.3.1 Installation	12
5.4 AXIAL CAPACITY	13
5.5 LATERAL CAPACITY	13
6 EQUIPMENT PADS.....	14
7 ACCESS ROADS	15
8 LIMITATIONS	17

PLATES

1 Vicinity and Exploration Map

APPENDICES

A Field Exploration
B Field Resistivity Test Results
C Load Test Results
D Thermal Resistivity Results

**GEOTECHNICAL EVALUATION
PANOCHE VALLEY SOLAR
PHOTOVOLTAIC (PV) GENERATION FACILITY
SAN BENITO COUNTY, CALIFORNIA**

1 INTRODUCTION

1.1 GENERAL DISCUSSION

Kleinfelder is pleased to present this geotechnical evaluation report for the Panoche Valley Solar project. The Panoche Valley Solar project will be a 240 MWac photovoltaic (PV) solar electric generation facility on approximately 2,500 acres of land located approximately one mile north of the intersection of Panoche Road and Little Panoche Road in San Benito County, California. The project site location is shown on Plate 1, Site Location Map.

Kleinfelder performed subsurface exploration, field soil resistivity testing, laboratory testing, post installation and load testing, and geotechnical engineering analyses. The scope of services was described in our proposal dated March 26, 2014.

The conclusions and recommendations contained in this report are for the geotechnical design and construction of a PV solar project on the evaluated site. The conclusions and recommendations are subject to the provisions and requirements outlined in the Limitations sections of this report.

1.2 PROPOSED DEVELOPMENT

This utility-scale PV project is planned to include single-axis sun-tracking PV solar arrays supported on steel columns. Ancillary equipment will include underground electrical conduits, power inverters, switchgear, maintenance roads, and security fencing. Access roads and site drives are typically gravel surfaced. Additional construction may consist of maintenance buildings, parking lots, and gen-tie infrastructure.

1.3 PREVIOUS GEOTECHNICAL

ENGEO prepared a geotechnical report for the project (ENGEO Project No. 8924.000.000, report dated March 26, 2010), and a geotechnical report addendum (letter dated May 7, 2010). ENGEO performed 34 borings and field soil resistivity testing, and provided recommendations for solar development. The findings of the ENGEO report were reviewed and referenced for this report.

1.4 SCOPE OF SERVICES

Our services were performed in general accordance with our proposal dated March 26, 2014. The services included:

- Test pits for collecting soil samples for thermal and chemical analysis,
- Field soil resistivity testing,
- Load testing of piles,
- Thermal resistivity testing,
- Laboratory testing for chemical constituents for use in soil corrosivity analysis,
- Design of gravel-surfaced roads,
- Preparation of this report that includes:
 - A vicinity map and site plan showing the approximate locations of our explorations, soil resistivity surveys, and test posts.
 - Description of the subsurface conditions encountered in our field explorations.
 - Details of the load testing and results.
 - Results of our field soil resistivity testing.
 - Results of our thermal resistivity tests.
 - Seismic parameters to be used in design, based on the 2013 California Building Code.
- Providing recommendations for site design and construction for geotechnical aspects of PV solar installations.

2 FIELD SERVICES

Kleinfelder performed field exploration between April 21 through 30, 2014, that consisted of site reconnaissance, test pits, soil field resistivity surveys, and installation and testing of posts. The location of the explorations and tests are presented on Plate 1.

2.1 SURFACE CONDITIONS

The Panoche Valley Solar project site is located in the northern arm of the Panoche Valley, an intermountain park presently open space and pastureland. The overall relief of the site is approximately 300 feet. The adjacent properties consist of agricultural land with sparse farm building compounds. Two significant creeks traverse the site, Panoche Creek and Las Aguilas Creek, each with a number of smaller tributaries. The creeks join at a confluence near the center of the planned project.

2.2 TEST PITS

Eighteen test pits were excavated with a rubber-tired backhoe to a depth of approximately 15 feet below the existing ground surface. Our field representative observed excavation and prepared a log of each test pit and classified the soils using the Unified Soil Classification System (USCS). Soil samples were obtained specifically for chemical and thermal resistivity laboratory testing. The samples were sealed in the field to reduce moisture loss then transported to Dellavalle Laboratory for chemical analysis and our laboratory for thermal resistivity testing.

The logs of test pits are presented in Appendix A. An explanation to the logs is presented as Plate A-1. The logs describe the subsurface conditions encountered at the time of the investigation and samples obtained. The locations of the test pits were selected by AMEC and were staked in the field by Penfield-Smith. The approximate locations of the test pits are shown on Plate 1.

2.3 IN-SITU SOIL RESISTIVITY TESTING

Soil resistivity was measured along nine lines as requested by AMEC. The results of the testing were previously submitted in a letter dated May 5, 2014. The letter is included in Appendix B to this report.

2.4 POST INSTALLATION AND LOAD TESTING

Kleinfelder performed verification load testing on 45 test piles on the project site. Kleinfelder identified nine locations across the site for installation of groups of five test posts. Each group included two W6X7, two W6X8.5 and one W6X15 wide-flange steel wide-flange beams. W6X7 test posts were embedded to depths of six and eight feet below ground surface (bgs). W6X8.5 test posts were embedded eight and ten feet bgs. W6X15 test posts were embedded eight feet bgs. The approximate locations of the post load test groups are shown on Plate 1.

Driving refusal was encountered during installation of nine of the test posts installed at test areas LT-1, LT-2 and LT-3 in the western portion of the site. Refusal was encountered at depths between 3.8 and 10.2 feet. The refusal was most likely due the presence of cobbles within the soil.

2.4.1 Axial Tension (Pullout) Testing

Static Load Axial Tension (pullout) testing was performed on all 45 installed test posts. The posts were tested by attaching a chain to the web of the post, and applying a tension load with a hydraulic tension jack, reacting against heavy construction equipment. The load was measured using a calibrated Tractel DynaFor load cell, with a 25,000-pound capacity. Post deflection was measured using calibrated dial gages. Axial load test results are presented Appendix C, figures C-1 through C-45.

2.4.2 Lateral Testing

Lateral load testing was performed by loading the thirty posts in increments equal to twenty-five percent of the estimated service load, to two hundred percent of estimated service load. The load was applied at forty-eight inches above the ground surface, and post deflections were measured with dial gauges at four and forty-eight inches above the ground surface. Load test results are presented in Appendix D, figures D-46 through D-90.

3 SUBSURFACE CONDITIONS

Subsurface conditions at the site were evaluated through the use of test pits, review of Soil Survey and geologic mapping, and the previous geotechnical report. The soils encountered in our test pits were generally silty to clayey sand with gravel, cobbles and boulders for the portion of the site west of Little Panoche Road, and sandy, silt clays east of the road. No significant depth of topsoil or organic soils was noted in the test pits.

ENGEO identified three geological units at the site, which they termed “Franciscan Alluvial Fans”, “Fluvial Deposits”, and “Panoche Alluvial Fans”. The current site plan for the project has mostly abandoned the “Fluvial Deposits” area. The portion of the project site west of Panoche Creek includes “Franciscan Alluvial Fans” area, while the portion of the site east of Panoche Creek is mapped as and “Panoche Alluvial Fans”.

3.1.1 Franciscan Alluvial Fans

ENGEO characterized the “Franciscan Alluvial Fans” as very dense clayey or silty sand with gravel. In our test pits, we encountered silty or clayey sandy sand, gravel and cobbles. Maximum particle sizes were noted to be typically between three and twelve inches.

3.1.2 Panoche Alluvial Fans

ENGEO characterized the “Panoche Alluvial Fans” as stiff to hard low to medium plasticity silty clay with limited areas of very dense silty or clayey sands. ENGEO also noted carbonate layers and weak cementation. The soils encountered in our test pits within this area were substantially as described by ENGEO and generally consisted of low plasticity sandy clay with occasional layers of sand. We did not observe any cementation.

3.2 GROUNDWATER

Kleinfelder did not encounter ground water in any of the test pits excavated to depths of fifteen feet. Based on previous reports, we understand ground water is typically greater than sixty feet deep within the Panoche Valley.

4 LABORATORY TESTING

4.1 CORROSION LABORATORY TESTING

One sample from each test pit was transported to Dellavalle Laboratory of Fresno, California for chemical analysis of soil corrosivity properties. The testing is in progress and will be forwarded in a revision to this report.

4.2 THERMAL RESISTIVITY TESTING

Seventeen thermal resistivity samples were collected from the test pits at depths between 30 and 42 inches bgs and sent to our Lenexa, Kansas laboratory for analysis. Proctor Density (ASTM D 1557) tests were also performed on the samples in our Fresno, California laboratory. Thermal resistivity dry-out curves are presented in Appendix D.

5 CONCLUSIONS AND RECOMMENDATIONS

In our opinion, the project site is geotechnically suitable for the planned development, provided that the conclusions and recommendations of this report are incorporated into the overall project design.

The primary concern for development is the presence in the western reaches of the site of cobbles and boulders within the soil matrix. These larger particles may prevent proper installation of the driven support posts for the PV array racks. The approximate extent of the soils with cobbles and boulders, inferred from data in the previous investigation, our observations in the test pits and soil mapping by the NRCS are shown on Plate 1.

Outside the cobbly soil area, the soils of the western portion of the site (west of Little Panoche Road) are considered generally favorable for solar development, with dense sands that should provide good support for driven foundations. The east portion of the site (east of Little Panoche Road) is clay that should provide fair support for foundations.

Based on the conditions encountered, Kleinfelder provides the following recommendations for design and construction of the project.

5.1 EARTHWORK

5.1.1 General

Site preparation and earthwork operations should be performed in accordance with applicable codes, safety regulations and other local, state or federal guidelines. Compaction recommendations reference maximum dry density and optimum moisture content values determined by ASTM D1557 modified Proctor.

5.1.2 Site Preparation

Areas within the PV arrays where fill depths will exceed about six inches, and all equipment pad and roadway locations should be stripped of vegetation and deleterious, organic material as well as material greater than three inches in maximum dimension. Stripping operations should be

observed by the geotechnical engineer and should include removing materials that, in the judgment of the geotechnical engineer, are not suitable for the anticipated loading conditions.

We observed no substantial topsoil layer within the test pits. Stripping operations are anticipated to be less than a few inches over much of the development area.

5.1.3 Subgrade Preparation

The suitability of the exposed subgrade for areas to receive fill, roadways and shallow foundations should be evaluated by the geotechnical engineer after site preparation by observing proof-rolling of the subgrade. Proof-rolling should be conducted using a fully-loaded dump truck or similar heavy rubber-tire construction equipment.

Yielding areas identified during proof-rolling should be over-excavated as recommended by the geotechnical engineer during observation. Over-excavations should be backfilled with engineered fill as recommended in the engineered fill section of this report.

5.1.4 Fill Materials

Based on the results of laboratory testing, we anticipate that the on-site soils segregated from appreciable amounts of debris, vegetation, and large particles will be generally reusable as engineered fill. The sand and gravel materials of the western portion of the site will likely provide the better fill materials. The silty clay soils encountered under the eastern portion of the site will likely be somewhat sensitive to moisture content and the sands of the west portion may require sieving or crushing of larger particles.

If borrow areas for road base and general aggregate are to be developed, the areas adjacent to Los Aguilas Creek may provide a source of these materials. The larger particles will either have to be crushed or sieved from the soil. Crushing of the large particles to less than $\frac{3}{4}$ inch will provide a more gravelly material that should have a gradation similar to road base, while sieving that larger material will provide fill soil with higher fines content.

5.1.4.1 Engineered Fill

We anticipate that most of the on-site soils can be used as site engineered fill and trench backfill. Engineered fill material should be substantial free of organic or other deleterious materials and have a maximum particle size of 3-inches.

5.1.4.2 Select Granular Fill

Select granular fill should consist of granular material that is fairly well graded between coarse and fine sizes. It should contain no clay balls, roots, organic matter or other deleterious materials, and have a maximum particle size of two inches, with less than twelve percent passing the U.S. No. 200 Sieve. Imported fill materials to be used for engineered fill should be sampled and tested for approval by the geotechnical engineer prior to being transported to the site. Please provide a minimum of two business days to allow for qualification testing.

5.1.4.3 Aggregate Base Course

Imported aggregate base course should consist of material meeting the gradation, durability and strength requirements of Caltrans. Aggregate base course from onsite borrow areas should be evaluated at time of excavation. In general, we believe the gradation of the materials near Los Aguilas Creek, once larger particles are crushed, will be near the gradation range of Caltrans Class 2 or 3 Aggregate Base.

5.1.5 Fill Placement and Compaction

Fill materials that meet the requirements for engineered fill or select imported granular fill should be moistened to within two percent of optimum moisture content for granular soils and between optimum and three percent above optimum for clay soils, placed in thin, loose lifts of less than eight inches and compacted to at least 90 percent of the maximum dry density (ASTM D 1557), using appropriate equipment.

For areas that will be seeded or vegetated, including within the PV arrays, compaction requirement for the top soil lift only can be reduced to 85 percent of the maximum dry density (ASTM D 1557) in order to promote better rooting of vegetation.

Aggregate base course should be moistened to within two percent of optimum moisture content and compacted to at least 95 percent of maximum dry density as determined by ASTM D 1557.

5.1.6 Fill Shrinkage

When onsite soils are excavated and placed as engineered fill, the volume of fill that is obtained from a specified volume of borrow material is typically less. This shrinkage of the fill is used in grading calculations. We compared the density and moisture contents of the soil samples

report by ENGEO to the proctor curve data that we produced for the thermal resistivity tests. The results indicate that the native materials were typically over optimum moisture content, and that the shrinkage factors of the site soils are in the range of ten to thirty percent, with a twenty percent average.

5.1.7 Temporary Excavations

Excavations must comply with applicable local, state, and federal safety regulations including the current OSHA Excavation and Trench Safety Standards. Construction site safety is the responsibility of the contractor, who shall also be solely responsible for the means, methods, and sequencing of construction operations. We are providing the information below as a service to our client. Under no circumstances should the information provided be interpreted to mean that Kleinfelder is assuming responsibility for construction site safety or the Contractor's activities.

Near-surface soils that we encountered during our field investigation consisted predominately of sand and clay. These materials may be considered Type B and Type C soils with regard to the OSHA regulations. OSHA requires a maximum slope inclination of 1:1 for Type B soils and 1.5:1 for Type C soils for excavations up to twenty feet deep. The Contractor's OSHA-qualified "competent person" must make the actual determination of soil type and allowable slope inclinations in the field whenever personnel exposure is anticipated.

5.1.8 Detention Pond Berms

We understand that low berms may be constructed as part of the detention ponds. We assume these berms will temporarily detain water rather than impound water. Kleinfelder was not provided specific berm geometries, and we did not perform stability or seepage analysis. We recommend maximum side slopes for berms to be 3:1 (horizontal:vertical).

We recommend that the fill area of the berm be stripped of all vegetation and organics, and the foundation soils be proof-rolled and observed, as discussed in Sections 5.1.2 and 5.1.3. The materials used to construct berms should be derived from the clayey soils at the site. The berms should be placed as a controlled fill, placed and compacted to the requirements of Section 5.1.5.

5.1.9 Trench Backfill

Trench backfill should consist of approved, on-site or import soils placed in lifts no greater than eight inches loose thickness and compacted to at least 90 percent of maximum dry density based on ASTM D 1557. Trench backfill should be mechanically compacted. Jetting is not an appropriate method for compaction, and should not be used.

5.1.10 Construction in Wet or Cold Weather

Grading fill, structural fill or other fill should not be placed on frosted or frozen ground, nor should frozen material be placed as fill. Frozen soil should be allowed to thaw or be completely removed prior to placement of fill. If earthwork is performed during the winter months when freezing is a factor, one good practice is to cover the compacted fill with a “blanket” of loose fill to help prevent the compacted fill from freezing.

During construction, grade the site so that surface water can drain readily away from the excavation areas. Promptly pump out or otherwise remove water that accumulates in excavations or on subgrades and allow these areas to dry out before resuming construction. Use berms, ditches, and similar means to prevent storm water from entering the work area and to convey it off site efficiently.

5.1.11 Earthwork Observation and Testing

We consider geotechnical observation and testing a continuation of this evaluation. As the firm that provided the geotechnical evaluation for this project, Kleinfelder is the geotechnical engineer of record and should be retained to confirm that the recommendations of this report are properly incorporated in the design of this project, and are properly implemented during construction. These services provide Kleinfelder the opportunity to observe the actual conditions encountered during construction and to evaluate the applicability of the recommendations presented in this report to the site conditions.

5.2 SEISMIC DESIGN CONSIDERATIONS

Based on the Seismic Hazard Curves, Response Parameters and Design Parameters application from the USGS for the approximate center of the site, we determined the following seismic site parameters for design.

TABLE 1
2013 CBC SEISMIC DESIGN PARAMETERS

DESIGN PARAMETER	PARAMETER VALUE
Site Classification	D
S_s (g)	1.500
S_1 (g)	0.528
F_a	1.000
F_v	1.500
S_{DS} (g)	1.000
S_{D1} (g)	0.528

5.3 POST FOUNDATIONS

5.3.1 Installation

Forty-five test piles were installed in nine groups within the project site. Each group included two W6X7, two W6X8.5 and one W6X15 wide-flange steel wide-flange beams. W6X7 test posts were embedded to depths of six and eight feet below ground surface (bgs). W6X8.5 test posts were embedded eight and ten feet bgs. W6X15 test posts were embedded eight feet bgs. The approximate locations of the post load test groups are shown on Plate 1.

We understand that driving installation proceeded as planned for the posts installed in test areas LT-4 through LT-9. Driving refusal was encountered during installation of nine of the test posts installed at test areas LT-1, LT-2 and LT-3 in the western portion of the site. Refusal was encountered at depths between 3.8 and 10.2 feet. The refusal was most likely due the presence of cobbles within the soil.

5.4 AXIAL CAPACITY

Static axial tension (pullout) load testing was performed on all 45 installed test posts. The ultimate capacity of each post was determined and the results were collected based on subsurface conditions. Based on the results of the testing, the ultimate axial load capacity of driven posts may be calculated using the following formulas:

East Portion of Site:

$$\begin{aligned} \text{Skin Friction: } Q_{sf_ult} &= 150\text{psf} \cdot p \cdot (L-1) \\ \text{End Bearing: } Q_{end_ult} &= 1400\text{psf} \cdot A \cdot L \end{aligned}$$

West Portion of Site:

$$\begin{aligned} \text{Skin Friction: } Q_{sf_ult} &= 30\text{pcf} \cdot p \cdot (L-1) \cdot L \\ \text{End Bearing: } Q_{end_ult} &= 2200\text{psf} \cdot A \cdot L \end{aligned}$$

Where:

- Q_{sf_ult} = ultimate skin friction capacity (pounds)
- Q_{end_ult} = ultimate end bearing capacity (pounds)
- p = perimeter equal to twice the section depth plus twice the flange width (feet)
- A = pile end area (square feet)
- L = embedment depth (feet)

5.5 LATERAL CAPACITY

The results of the load testing were compiled and analyzed and an LPile model was developed based on the results of lateral load testing. LPile version 2013 was used. The model that we judged to best fit the data was “Elastic Subgrade”, as presented in Table 2. Graphs of model correlation to test results are presented in Appendix C, pages C-91 through C-103.

TABLE 2
LPILE INPUT PARAMETERS

PARAMETER	EAST PORTION OF SITE	WEST PORTION OF SITE
Soil Type	Elastic Subgrade	Elastic Subgrade
Effective Unit Weight (pcf)	120	120
Elastic Subgrade Reaction (pci)	150	500

6 EQUIPMENT PADS

Slabs should be designed for a maximum bearing pressure of 1,000 psf and a modulus of subgrade reaction of 75 psi per inch of deflection. Additionally, we recommend designing the pad to have adequate structural reinforcement to span differential movement. We recommend that the slab be reinforced and provided with control joints complying with American Concrete Institute (ACI) recommendations.

Prior to placing reinforcing steel or concrete, the slab subgrade soils should be scarified at least 12 inches and larger particles (greater than 3 inches in maximum dimension) should be removed. The scarified soils should then be moisture conditioned to between 0 and 3 percent above optimum moisture content and recompact to at least 90 percent of maximum dry density. Slab excavations should be cleaned of debris, loose or soft soil, and water. The ground surface around the slab should be sloped to drain away from the slab with a grade of at least five percent.

We recommend that a representative from Kleinfelder observe equipment pad preparation in order to evaluate bearing materials and to confirm that the recommendations made in this report are implemented during construction.

7 ACCESS ROADS

We anticipate that traffic volumes during construction will be frequent, with heavy equipment utilizing the access roadways. However, following the construction period, the traffic volumes will be light, with only occasional truck traffic. During construction, we estimated the 18-kip Equivalent Single Axle Load (ESAL) to be about 25,000, based on 10, HS-20 trucks per day and a 3 year design period (3 year construction duration). After construction, we estimated an ESAL of about 5,000, based on daily pickup traffic, two light delivery trucks per week and two HS-20 trucks per month.

Soils encountered in the test pits classify as A-6 using the AASHTO Classification system, with group indices up to about 17. We estimate a CBR value for the soil in the range of 5 to 10. Subgrades for access roads should be prepared in accordance with the above recommendations.

We understand most of the access roads and interior drives will be aggregate. There will also be limited sections of concrete or asphalt paving.

Based on the AASHTO Guidelines for low volume roads and the above estimated traffic volumes, we recommend a minimum section of at least 5 inches of aggregate base course for roads, over soil prepared as discussed in Section 5.1.5. Thicker sections may be appropriate, depending on traffic volumes. Aggregate base course should consist of a well-graded mix of crushed rock, sand and silt and should be placed and compacted to at least 95 percent of maximum dry density.

The recommended minimum section is based on post-construction traffic at the site. We anticipate that frequent maintenance of the roads will be required during construction because the roads will be subject to high traffic volumes during construction. Post-construction, aggregate-surfaced roads will require periodic maintenance to maintain the surface. Routine grading of the surface should be anticipated to remediate rutting and washboard surfaces. Periodic addition of base course material may be required throughout the life of the pavement.

Asphaltic concrete and portland-cement concrete pavements may also be used on site. Such pavements may be used in high-volume traffic areas, for dust mitigation and for erosion protection of roadways. We recommend the following pavement sections for these pavements:

**Table 3
Recommended Design Pavement Sections**

Surface Type	Full Depth Thickness	Composite Section
Asphaltic Concrete	5 inches	3 inches Asphaltic Concrete over 6 inches Aggregate Base Course
Portland Cement Concrete	5 inches	Not Recommended

Considering the distribution of traffic over time, the use of Portland-cement concrete will likely perform better than asphaltic concrete. Asphaltic concrete will become brittle and crack without routine traffic. For pavements that will have occasional water sheet flow, we only recommend the use of portland cement concrete pavements in order to reduce the risk that sheet flow will erode the pavement subgrade through cracks.

The performance of roads is directly affected by the moisture content of the aggregate and underlying subgrade. We recommend positive drainage be provided for all roadways. Road surfaces and subgrades should be provided with cross-slope of at least 1/2 percent to move water off of these surfaces. The use of drainage ditches along the sides of road should be considered to drain the base course and subgrades and improve road stability in wet conditions. If pavements will be subjected to sheet flow, the edges of the pavements must be protected from erosion. This can be accomplished through the use of a curb, concrete turn-down, or grouted rip-rap apron to direct water flow up and over the top surface of the pavement.

8 LIMITATIONS

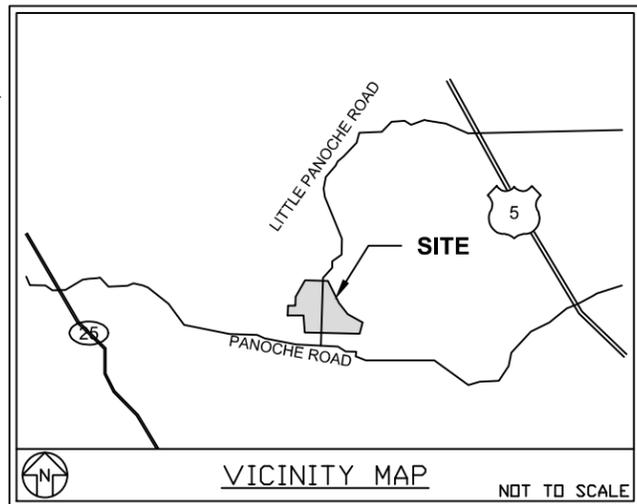
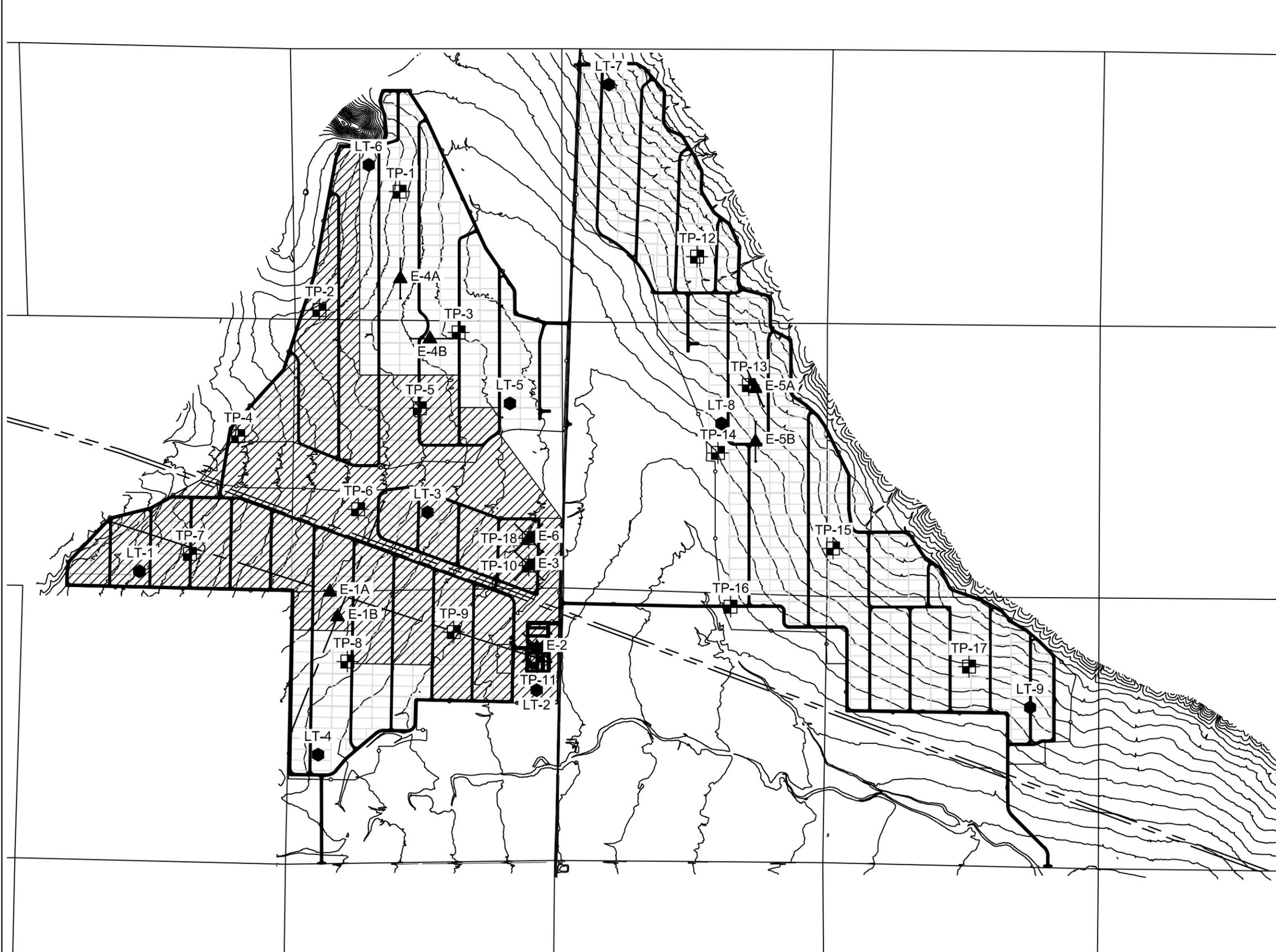
Our services were performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the same locality, under similar conditions, and at the date the services are provided. Our conclusions, opinions, and recommendations are based on widely-space exploratory test pits and limited site observations and limited data. It is likely that conditions will vary between or beyond the data evaluated. Kleinfelder makes no other representation, guarantee or warranty, expressed or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

This report may be used only by AMEC, and the registered design professional in responsible charge and only for the purposes stated for this specific engagement within a reasonable time from its issuance, but in no event, later than two years from the date of the report. Kleinfelder is not responsible for the use of this report for purposes other than those stated for this specific engagement.

The services performed were based on project information provided by AMEC. If AMEC does not retain Kleinfelder to review any plans and specifications, including any revisions or modifications to the plans or specifications, Kleinfelder assumes no responsibility for the suitability of our recommendations. Failure to do so will vitiate Kleinfelder's recommendations.

Recommendations contained in this report are based on field observations and subsurface explorations, limited laboratory tests, and our present knowledge of the proposed construction. It is likely that soil, rock or groundwater conditions will vary between or beyond the points explored. If soil, rock, or groundwater conditions are encountered during construction that differ from those described herein, AMEC is responsible for ensuring that Kleinfelder is notified immediately so that we may reevaluate the recommendations of this report.

PLATES
VICINITY AND EXPLORATION MAP

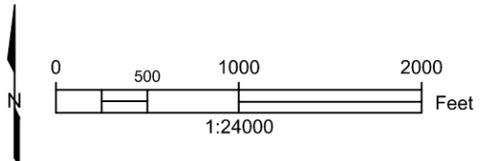


NOTES:
 1. BASE MAPPING CREATED FROM SITE PLAN PROVIDED BY AMEC

LEGEND

-  LOAD TEST GROUP LOCATION
-  TEST PIT
-  ELECTRICAL RESISTIVITY ARRAY LINE
-  PROJECT AREA
-  MAJOR CONTOUR
-  APPROXIMATE EXTENT OF COBBLY SOILS

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PROJECT NO. 20150148
 DRAWN BY ADT
 CHECKED BY RFG
 DATE: 03JUN2014
 REVISED:

EXPLORATION LOCATION PLAN
 AND VICINITY MAP
 PANOCH VALLEY SOLAR
 SAN BENITO COUNTY, CALIFORNIA

PLATE
 1

APPENDIX A
FIELD EXPLORATION

SAMPLE/SAMPLER TYPE GRAPHICS



BULK SAMPLE

GROUND WATER GRAPHICS

- WATER LEVEL (level where first observed)
- WATER LEVEL (level after exploration completion)
- WATER LEVEL (additional levels after exploration)
- OBSERVED SEEPAGE

NOTES

- The report and graphics key are an integral part of these logs. All data and interpretations in this log are subject to the explanations and limitations stated in the report.
- Lines separating strata on the logs represent approximate boundaries only. Actual transitions may be gradual or differ from those shown.
- No warranty is provided as to the continuity of soil or rock conditions between individual sample locations.
- Logs represent general soil or rock conditions observed at the point of exploration on the date indicated.
- In general, Unified Soil Classification System designations presented on the logs were based on visual classification in the field and were modified where appropriate based on gradation and index property testing.
- Fine grained soils that plot within the hatched area on the Plasticity Chart, and coarse grained soils with between 5% and 12% passing the No. 200 sieve require dual USCS symbols, i.e., GW-GM, GP-GM, GW-GC, GP-GC, GC-GM, SW-SM, SP-SM, SW-SC, SP-SC, SC-SM.
- If sampler is not able to be driven at least 6 inches a 3 inches diameter by 2.5 inches inch long 60 degree conical point driven with a 170 ±2 pound hammer dropped 24 ±0.5 inches.

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487)

GRAVELS (More than half of coarse fraction is larger than the #200 sieve)	CLEAN GRAVEL WITH <5% FINES	Cu ≥ 4 and 1 ≤ Cc ≤ 3		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES	
		Cu < 4 and/or 1 > Cc > 3		GP	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES	
	GRAVELS WITH 5% TO 12% FINES	Cu ≥ 4 and 1 ≤ Cc ≤ 3		GW-GM	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES	
				GW-GC	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES	
		Cu < 4 and/or 1 > Cc > 3		GP-GM	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES	
				GP-GC	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES	
	GRAVELS WITH > 12% FINES			GM	SILTY GRAVELS, GRAVEL-SILT-SAND MIXTURES	
				GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES	
				GC-GM	CLAYEY GRAVELS, GRAVEL-SAND-CLAY-SILT MIXTURES	
	COARSE GRAINED SOILS (More than half of coarse fraction is smaller than the #4 sieve)	CLEAN SANDS WITH <5% FINES	Cu ≥ 6 and 1 ≤ Cc ≤ 3		SW	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
			Cu < 6 and/or 1 > Cc > 3		SP	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
		SANDS WITH 5% TO 12% FINES	Cu ≥ 6 and 1 ≤ Cc ≤ 3		SW-SM	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
				SW-SC	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES	
Cu < 6 and/or 1 > Cc > 3				SP-SM	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES	
				SP-SC	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES	
SANDS WITH > 12% FINES				SM	SILTY SANDS, SAND-GRAVEL-SILT MIXTURES	
				SC	CLAYEY SANDS, SAND-GRAVEL-CLAY MIXTURES	
				SC-SM	CLAYEY SANDS, SAND-SILT-CLAY MIXTURES	
FINE GRAINED SOILS (More than half of material is smaller than the #200 sieve)		SILTS AND CLAYS (Liquid Limit less than 50)		ML	INORGANIC SILTS AND VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, SILTS WITH SLIGHT PLASTICITY	
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS	
				CL-ML	INORGANIC CLAYS-SILTS OF LOW PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS	
	SILTS AND CLAYS (Liquid Limit greater than 50)		OL	ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PLASTICITY		
			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILT		
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS		
		OH	ORGANIC CLAYS & ORGANIC SILTS OF MEDIUM-TO-HIGH PLASTICITY			

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [GEO-LEGEND 1 (GRAPHICS KEY) WITH USCS]

<p>KLEINFELDER Bright People. Right Solutions.</p>	PROJECT NO.: 20150148	<p>GRAPHICS KEY</p> <p>Panoche Valley Solar Project San Benito County, California</p>	PLATE
	DRAWN BY:		A-1
CHECKED BY:			
DATE:			
REVISED:	-		

Date Begin - End: 4/21/2014
Logged By: T. DeSouza
Hor.-Vert. Datum: Not Available
Plunge: 90 degrees
Weather: Sunny/ Warm

Excavation Company: Grizzly
Excavation Crew:
Excavation Equip.: 410 G Backhoe
Excav. Dimensions:

TEST PIT LOG TP-1

Depth (feet)	Graphical Log	FIELD EXPLORATION		LABORATORY RESULTS								
		Lithologic Description		Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/Remarks
		Northing: 2,126,097.0 Easting: 6,007,927.0 Ground Surface Elevation Not Available Surface Condition: Bare Earth										
		Gravelly Silty SAND (SM): fine to medium grained, angular sand, non-plastic, brown, dry, with gravel up to 3"										
5		layer of clayey gravelly sand		X								
15		The exploration was terminated at approximately 15 ft. below ground surface. The exploration was backfilled with auger cuttings on April 21, 2014.		GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during excavation or after completion. GENERAL NOTES:								

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_BORING\TEST PIT SOIL LOG]

	PROJECT NO.: 20150148 DRAWN BY: TD CHECKED BY: RS DATE: REVISED: -	TEST PIT LOG TP-1 Panoche Valley Solar Project San Benito County, California	PLATE A-2
			PAGE: 1 of 1

Date Begin - End: 4/21/2014
Logged By: T. DeSouza
Hor.-Vert. Datum: Not Available
Plunge: 90 degrees
Weather: Sunny/ Warm

Excavation Company: Grizzly
Excavation Crew:
Excavation Equip.: 410 G Backhoe
Excav. Dimensions:

TEST PIT LOG TP-2

Depth (feet)	Graphical Log	FIELD EXPLORATION		LABORATORY RESULTS								
		Lithologic Description		Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/Remarks
		Northing: 2,123,796.0 Easting: 6,006,364.0 Ground Surface Elevation Not Available Surface Condition: Bare Earth										
		Gravelly Silty SAND (SM): fine to medium grained, angular sand, non-plastic, brown, dry, with gravel up to 3"										
5		Clayey Gravelly SAND (SC): fine to coarse grained, subangular sand, low plasticity, light brown, dry, with gravel up to 3"		X								
		Gravelly Silty SAND (SM): fine to medium grained, angular sand, non-plastic, brown, dry, with gravel up to 3"										
15		The exploration was terminated at approximately 15 ft. below ground surface. The exploration was backfilled with auger cuttings on April 21, 2014.		GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during excavation or after completion. GENERAL NOTES:								

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_BORING\TEST PIT SOIL LOG]

	PROJECT NO.: 20150148 DRAWN BY: TD CHECKED BY: RS DATE: REVISED: -	TEST PIT LOG TP-2 Panoche Valley Solar Project San Benito County, California	PLATE A-3
			PAGE: 1 of 1

Date Begin - End: 4/21/2014 **Excavation Company:** Grizzly
Logged By: T. DeSouza **Excavation Crew:** _____
Hor.-Vert. Datum: Not Available **Excavation Equip.:** 410 G Backhoe
Plunge: 90 degrees **Excav. Dimensions:** _____
Weather: Sunny/ Warm

TEST PIT LOG TP-3

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS								
		Northing: 2,123,364.0 Easting: 6,009,073.0 Ground Surface Elevation Not Available Surface Condition: Bare Earth				Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/Remarks
		Lithologic Description												
0 - 3		Clayey Gravelly SAND (SC): subangular sand, low plasticity, brown, dry, with gravel up to 3"												
3 - 15		Gravelly Silty SAND (SM): angular sand, non-plastic, light brown, dry, with gravel up to 3" reddish brown				X								
		The exploration was terminated at approximately 15 ft. below ground surface. The exploration was backfilled with auger cuttings on April 21, 2014.				GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during excavation or after completion. GENERAL NOTES:								

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_BORING\TEST PIT SOIL LOG]

	PROJECT NO.: 20150148 DRAWN BY: TD CHECKED BY: RS DATE: REVISED: -	TEST PIT LOG TP-3 Panoche Valley Solar Project San Benito County, California	PLATE A-4
			PAGE: 1 of 1

Date Begin - End: 4/21/2014 **Excavation Company:** Grizzly
Logged By: R. Fink **Excavation Crew:** _____
Hor.-Vert. Datum: Not Available **Excavation Equip.:** 410 G Backhoe
Plunge: 90 degrees **Excav. Dimensions:** _____
Weather: Sunny/ Warm

TEST PIT LOG TP-4

Depth (feet)	Graphical Log	FIELD EXPLORATION					LABORATORY RESULTS									
		Northing: 2,121,350.0 Easting: 6,004,783.0 Ground Surface Elevation Not Available Surface Condition: Bare Earth					Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/Remarks	
		Lithologic Description														
5	moist	Sandy GRAVEL (GP): fine to coarse grained, subangular sand, non-plastic, light brown, dry, with cobbles up to 12"					X									
15		Clayey Sandy GRAVEL (GC): fine to coarse grained, subangular sand, low to medium plasticity, reddish brown, moist, with cobbles up to 5"														
The exploration was terminated at approximately 15 ft. below ground surface. The exploration was backfilled with auger cuttings on April 21, 2014.						<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during excavation or after completion. <u>GENERAL NOTES:</u>										

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_BORING\TEST PIT SOIL LOG]

	PROJECT NO.: 20150148	TEST PIT LOG TP-4	PLATE
	DRAWN BY: TD		
CHECKED BY: RS			A-5
DATE:			
REVISED: -			
			PAGE: 1 of 1

Date Begin - End: 4/21/2014 **Excavation Company:** Grizzly
Logged By: R. Fink **Excavation Crew:** _____
Hor.-Vert. Datum: Not Available **Excavation Equip.:** 410 G Backhoe
Plunge: 90 degrees **Excav. Dimensions:** _____
Weather: Sunny/ Warm

TEST PIT LOG TP-5

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 2,121,892.0 Easting: 6,008,318.0 Ground Surface Elevation Not Available Surface Condition: Bare Earth				Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)
		Lithologic Description											
		Gravelly silty SAND (SM): fine to coarse grained, angular sand, non-plastic, brown, dry, with gravel up to 3"				X							
5		Silty Sandy GRAVEL (GP-GM): fine to coarse grained, subrounded sand, non-plastic, brown, dry											
		Gravelly Silty SAND (SM): fine to coarse grained, angular sand, non-plastic, brown, moist, with gravel up to 3"											
		Sandy GRAVEL (GP): fine to coarse grained, subangular sand, non-plastic, brown, moist, with cobbles up to 6"											
15		The exploration was terminated at approximately 15 ft. below ground surface. The exploration was backfilled with auger cuttings on April 21, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during excavation or after completion. <u>GENERAL NOTES:</u>							

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_BORING\TEST PIT SOIL LOG]

	PROJECT NO.: 20150148	TEST PIT LOG TP-5 Panoche Valley Solar Project San Benito County, California	PLATE
	DRAWN BY: TD		A-6
CHECKED BY: RS	DATE:		
REvised: -			PAGE: 1 of 1

Date Begin - End: 4/21/2014 **Excavation Company:** Grizzly
Logged By: R. Fink **Excavation Crew:** _____
Hor.-Vert. Datum: Not Available **Excavation Equip.:** 410 G Backhoe
Plunge: 90 degrees **Excav. Dimensions:** _____
Weather: Sunny/ Warm

TEST PIT LOG TP-6

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS								
		Northing: 2,119,936.0 Easting: 6,004,510.0 Ground Surface Elevation Not Available Surface Condition: Bare Earth				Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/Remarks
		Lithologic Description												
0	[Dotted pattern]	Silty SAND (SM): fine to medium grained, angular sand, non-plastic, brown, dry, with gravel up to 2"												
5	[Dotted pattern]	Silty Gravelly SAND (SM): fine to coarse grained, angular sand, non-plastic, brown, moist, with gravel up to 3"				X								
10	[Cross-hatched pattern]	Clayey Sandy GRAVEL (GC): fine to coarse grained, subangular sand, non-plastic, brown, moist												
15	[Cross-hatched pattern]	occasional cobbles												
The exploration was terminated at approximately 15 ft. below ground surface. The exploration was backfilled with auger cuttings on April 21, 2014.						GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during excavation or after completion. GENERAL NOTES:								

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_BORING\TEST PIT SOIL LOG]

	PROJECT NO.: 20150148	TEST PIT LOG TP-6 Panoche Valley Solar Project San Benito County, California	PLATE
	DRAWN BY: TD CHECKED BY: RS DATE: REVISED: -		A-7
			PAGE: 1 of 1

Date Begin - End: 4/21/2014 **Excavation Company:** Grizzly
Logged By: R. Fink **Excavation Crew:** _____
Hor.-Vert. Datum: Not Available **Excavation Equip.:** 410 G Backhoe
Plunge: 90 degrees **Excav. Dimensions:** _____
Weather: Sunny/ Warm

TEST PIT LOG TP-7

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS								
		Northing: 2,119,063.0 Easting: 6,003,844.0 Ground Surface Elevation Not Available Surface Condition: Bare Earth				Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/Remarks
		Lithologic Description												
0	0	Gavelly Silty SAND (SM): fine to coarse grained, angular sand, non-plastic, brown, dry, with gravel up to 3"												
5	5	Silty Sandy GRAVEL (GP-GM): fine to coarse grained, subangular sand, non-plastic, brown, dry, with cobbles up to 6" light brown, moist				X								
10	10	Clayey Sandy GRAVEL (GC): fine to coarse grained, subangular sand, non-plastic, light brown, moist, with cobbles up to 6"												
15	15	Clayey Gravelly SAND (SC): fine to coarse grained, subangular sand, non-plastic, reddish brown, moist, with gravel up to 3"												
The exploration was terminated at approximately 15 ft. below ground surface. The exploration was backfilled with auger cuttings on April 21, 2014.						<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during excavation or after completion. <u>GENERAL NOTES:</u>								

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_BORING\TEST PIT SOIL LOG]

	PROJECT NO.: 20150148	TEST PIT LOG TP-7 Panoche Valley Solar Project San Benito County, California	PLATE
	DRAWN BY: TD		A-8
CHECKED BY: RS	DATE:		
REVISD: -			PAGE: 1 of 1

Date Begin - End: 4/21/2014 **Excavation Company:** Grizzly
Logged By: R. Fink **Excavation Crew:** _____
Hor.-Vert. Datum: Not Available **Excavation Equip.:** 410 G Backhoe
Plunge: 90 degrees **Excav. Dimensions:** _____
Weather: Sunny/ Warm

TEST PIT LOG TP-8

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS								
		Lithologic Description				Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/Remarks
		Northing: 2,116,975.0 Easting: 6,006,909.0 Ground Surface Elevation Not Available Surface Condition: Bare Earth												
		Silty SAND (SM): fine to medium grained, angular sand, non-plastic, brown, dry, with gravel up to 1"												
		Silty Gravelly SAND (SM): fine to coarse grained, angular sand, non-plastic, brown, dry to moist, with gravel up to 1"				X								
5		Silty Sandy GRAVEL (GP-GM): fine to coarse grained, subangular sand, non-plastic, reddish brown, moist, with gravel up to 1"												
10		Clayey Sandy GRAVEL (GC): fine to coarse grained, subangular sand, low plasticity, reddish brown, moist												
15		The exploration was terminated at approximately 15 ft. below ground surface. The exploration was backfilled with auger cuttings on April 21, 2014.				GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during excavation or after completion. GENERAL NOTES:								

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_BORING\TEST PIT SOIL LOG]

	PROJECT NO.: 20150148	TEST PIT LOG TP-8 Panoche Valley Solar Project San Benito County, California	PLATE
	DRAWN BY: TD CHECKED BY: RS DATE: REVISED: -		A-9
			PAGE: 1 of 1

Date Begin - End: 4/21/2014 **Excavation Company:** Grizzly
Logged By: R. Fink **Excavation Crew:** _____
Hor.-Vert. Datum: Not Available **Excavation Equip.:** 410 G Backhoe
Plunge: 90 degrees **Excav. Dimensions:** _____
Weather: Sunny/ Warm

TEST PIT LOG TP-9

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 2,117,546.0 Easting: 6,008,979.0 Ground Surface Elevation Not Available Surface Condition: Bare Earth				Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)
		Lithologic Description											
0	0	Silty SAND (SM): fine to coarse grained, angular sand, non-plastic, brown, dry, with gravel up to 2"											
5	5	Silty Sandy GRAVEL (GP-GM): fine to coarse grained, subangular sand, non-plastic, brown, dry to moist, with cobbles up to 4"				X							
10	10	Silty Gravelly SAND (SM): fine to coarse grained, angular sand, non-plastic, brown, moist, with gravel up to 3"											
15	15	The exploration was terminated at approximately 15 ft. below ground surface. The exploration was backfilled with auger cuttings on April 21, 2014.				GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during excavation or after completion. GENERAL NOTES:							

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_BORING\TEST PIT SOIL LOG]

	PROJECT NO.: 20150148	TEST PIT LOG TP-9 Panoche Valley Solar Project San Benito County, California	PLATE
	DRAWN BY: TD		A-10
CHECKED BY: RS	DATE:		
REvised: -			PAGE: 1 of 1

Date Begin - End: 4/21/2014 **Excavation Company:** Grizzly
Logged By: R. Fink **Excavation Crew:** _____
Hor.-Vert. Datum: Not Available **Excavation Equip.:** 410 G Backhoe
Plunge: 90 degrees **Excav. Dimensions:** _____
Weather: Sunny/ Warm

TEST PIT LOG TP-10

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS								
		Northing: 2,117,511.0 Easting: 6,010,600.0 Ground Surface Elevation Not Available Surface Condition: Bare Earth				Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/Remarks
		Lithologic Description												
5		<p>Silty SAND (SM): fine to medium grained, angular sand, non-plastic, light brown, dry to moist</p> <p>Silty Sandy GRAVEL (GP-GM): fine to coarse grained, subangular sand, non-plastic, light brown, moist, with gravel up to 3", cobbles up to 5"</p> <p>Silty SAND (SM): fine to medium grained, angular sand, non-plastic, brown, moist</p> <p>Silty Gravelly SAND (SM): fine to coarse grained, angular sand, non-plastic, brown, moist, with gravel up to 3"</p>												
<p>The exploration was terminated at approximately 15 ft. below ground surface. The exploration was backfilled with auger cuttings on April 21, 2014.</p>		<p><u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during excavation or after completion.</p> <p><u>GENERAL NOTES:</u></p>												

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_BORING\TEST PIT SOIL LOG]

	PROJECT NO.: 20150148	TEST PIT LOG TP-10 Panoche Valley Solar Project San Benito County, California	PLATE
	DRAWN BY: TD		A-11
CHECKED BY: RS	DATE:		
REVISD: -			PAGE: 1 of 1

Date Begin - End: 4/21/2014
Logged By: R. Fink
Hor.-Vert. Datum: Not Available
Plunge: 90 degrees
Weather: Sunny/ Warm

Excavation Company: Grizzly
Excavation Crew:
Excavation Equip.: 410 G Backhoe
Excav. Dimensions:

TEST PIT LOG TP-11

Depth (feet)	Graphical Log	FIELD EXPLORATION		LABORATORY RESULTS								
		Lithologic Description		Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/Remarks
		Northing: 2,116,961.0 Easting: 6,010,600.0 Ground Surface Elevation Not Available Surface Condition: Bare Earth										
		Silty SAND (SM): fine to medium grained, angular sand, non-plastic, brown, dry layer of sandy fine gravel reddish brown, moist Silty Gravelly SAND (SM): fine to coarse grained, angular sand, non-plastic, brown, moist, with gravel up to 3" layer of silty sandy gravel										
5												
10												
15												
The exploration was terminated at approximately 15 ft. below ground surface. The exploration was backfilled with auger cuttings on April 21, 2014.				GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during excavation or after completion. GENERAL NOTES:								

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_BORING/TEST PIT SOIL LOG]

	PROJECT NO.: 20150148	TEST PIT LOG TP-11 Panoche Valley Solar Project San Benito County, California	PLATE
	DRAWN BY: TD CHECKED BY: RS DATE: REVISED: -		A-12

Date Begin - End: 4/22/2014 **Excavation Company:** Grizzly
Logged By: R. Fink **Excavation Crew:** _____
Hor.-Vert. Datum: Not Available **Excavation Equip.:** 410 G Backhoe
Plunge: 90 degrees **Excav. Dimensions:** _____
Weather: Sunny/ Warm

TEST PIT LOG TP-12

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 2,124,833.0 Easting: 6,013,712.0 Ground Surface Elevation Not Available Surface Condition: Bare Earth				Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)
		Lithologic Description											
5	[Hatched Box]	Sandy CLAY (CL): fine grained, angular sand, low plasticity, light brown, moist				X							
10	[Hatched Box]												
15	[Hatched Box]												

The exploration was terminated at approximately 15 ft. below ground surface. The exploration was backfilled with auger cuttings on April 22, 2014.

GROUNDWATER LEVEL INFORMATION:
 Groundwater was not encountered during excavation or after completion.
GENERAL NOTES:

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_BORING/TEST PIT SOIL LOG]

	PROJECT NO.: 20150148	TEST PIT LOG TP-12 Panoche Valley Solar Project San Benito County, California	PLATE
	DRAWN BY: TD CHECKED BY: RS DATE: REVISED: -		A-13
			PAGE: 1 of 1

Date Begin - End: 4/22/2014 **Excavation Company:** Grizzly
Logged By: R. Fink **Excavation Crew:** _____
Hor.-Vert. Datum: Not Available **Excavation Equip.:** 410 G Backhoe
Plunge: 90 degrees **Excav. Dimensions:** _____
Weather: Sunny/ Warm

TEST PIT LOG TP-13

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 2,122,341.0 Easting: 6,014,719.0 Ground Surface Elevation Not Available Surface Condition: Bare Earth				Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)
		Lithologic Description											
5	[Hatched Box]	Sandy CLAY (CL): fine grained, angular sand, low plasticity, light brown, moist				X							
10	[Hatched Box]												
15	[Hatched Box]												

The exploration was terminated at approximately 15 ft. below ground surface. The exploration was backfilled with auger cuttings on April 22, 2014.

GROUNDWATER LEVEL INFORMATION:
 Groundwater was not encountered during excavation or after completion.
GENERAL NOTES:



PROJECT NO.: 20150148
 DRAWN BY: TD
 CHECKED BY: RS
 DATE:
 REVISED: -

TEST PIT LOG TP-13

 Panoche Valley Solar Project
 San Benito County, California

PLATE

A-14

 PAGE: 1 of 1

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_BORING\TEST PIT SOIL LOG]

Date Begin - End: 4/22/2014 **Excavation Company:** Grizzly
Logged By: R. Fink **Excavation Crew:** _____
Hor.-Vert. Datum: Not Available **Excavation Equip.:** 410 G Backhoe
Plunge: 90 degrees **Excav. Dimensions:** _____
Weather: Sunny/ Warm

TEST PIT LOG TP-14

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 2,121,023.0 Easting: 6,014,119.0 Ground Surface Elevation Not Available Surface Condition: Bare Earth				Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)
		Lithologic Description											
5		Sandy CLAY (CL): fine grained, angular sand, low plasticity, brown, moist				X							
10													
15													
The exploration was terminated at approximately 15 ft. below ground surface. The exploration was backfilled with auger cuttings on April 22, 2014.						<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during excavation or after completion. <u>GENERAL NOTES:</u>							

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_BORING/TEST PIT SOIL LOG]

	PROJECT NO.: 20150148	TEST PIT LOG TP-14 Panoche Valley Solar Project San Benito County, California	PLATE
	DRAWN BY: TD		A-15
CHECKED BY: RS	DATE:		PAGE: 1 of 1
REvised: -			

Date Begin - End: 4/22/2014 **Excavation Company:** Grizzly
Logged By: R. Fink **Excavation Crew:** _____
Hor.-Vert. Datum: Not Available **Excavation Equip.:** 410 G Backhoe
Plunge: 90 degrees **Excav. Dimensions:** _____
Weather: Sunny/ Warm

TEST PIT LOG TP-15

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 2,119,168.0 Easting: 6,016,356.0 Ground Surface Elevation Not Available Surface Condition: Bare Earth				Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)
		Lithologic Description											
5		Sandy CLAY (CL): fine grained, angular sand, low plasticity, brown, moist				X							
10													
15													
The exploration was terminated at approximately 15 ft. below ground surface. The exploration was backfilled with auger cuttings on April 22, 2014.						<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during excavation or after completion. <u>GENERAL NOTES:</u>							

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_BORING\TEST PIT SOIL LOG]

	PROJECT NO.: 20150148	TEST PIT LOG TP-15 Panoche Valley Solar Project San Benito County, California	PLATE
	DRAWN BY: TD		A-16
CHECKED BY: RS	DATE:		
REVISD: -			PAGE: 1 of 1

Date Begin - End: 4/22/2014 **Excavation Company:** Grizzly
Logged By: R. Fink **Excavation Crew:** _____
Hor.-Vert. Datum: Not Available **Excavation Equip.:** 410 G Backhoe
Plunge: 90 degrees **Excav. Dimensions:** _____
Weather: Sunny/ Warm

TEST PIT LOG TP-16

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 2,118,040.0 Easting: 6,014,364.0 Ground Surface Elevation Not Available Surface Condition: Bare Earth				Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)
		Lithologic Description											
5	brown	Sandy CLAY (CL): fine grained, angular sand, low plasticity, olive brown, moist				X							
15		The exploration was terminated at approximately 15 ft. below ground surface. The exploration was backfilled with auger cuttings on April 22, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during excavation or after completion. <u>GENERAL NOTES:</u>							

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_BORING\TEST PIT SOIL LOG]

	PROJECT NO.: 20150148	TEST PIT LOG TP-16 Panoche Valley Solar Project San Benito County, California	PLATE
	DRAWN BY: TD		A-17
CHECKED BY: RS	DATE:		PAGE: 1 of 1
REVISD: -			

Date Begin - End: 4/22/2014 **Excavation Company:** Grizzly
Logged By: R. Fink **Excavation Crew:** _____
Hor.-Vert. Datum: Not Available **Excavation Equip.:** 410 G Backhoe
Plunge: 90 degrees **Excav. Dimensions:** _____
Weather: Sunny/ Warm

TEST PIT LOG TP-17

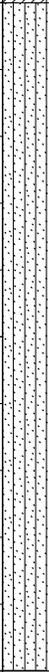
Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 2,116,877.0 Easting: 6,019,002.0 Ground Surface Elevation Not Available Surface Condition: Bare Earth				Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)
		Lithologic Description											
	[Diagonal Hatching]	Sandy CLAY (CL): fine grained, angular sand, low plasticity, light brown, moist											
	[Dotted]	Silty Gravelly SAND (SM): fine to coarse grained, angular sand, low plasticity, olive brown, moist, with gravel up to 3"				X							
	[Diagonal Hatching]	Sandy CLAY (CL): fine grained, angular sand, low plasticity, light brown, moist											
5													
10													
15													
The exploration was terminated at approximately 15 ft. below ground surface. The exploration was backfilled with auger cuttings on April 22, 2014.						<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during excavation or after completion. <u>GENERAL NOTES:</u>							

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_BORING/TEST PIT SOIL LOG]

	PROJECT NO.: 20150148	TEST PIT LOG TP-17 Panoche Valley Solar Project San Benito County, California	PLATE
	DRAWN BY: TD		A-18
CHECKED BY: RS	DATE:		
REVISD: -			PAGE: 1 of 1

Date Begin - End: 4/21/2014 **Excavation Company:** Grizzly
Logged By: R. Fink **Excavation Crew:** _____
Hor.-Vert. Datum: Not Available **Excavation Equip.:** 410 G Backhoe
Plunge: 90 degrees **Excav. Dimensions:** _____
Weather: Sunny/ Warm

TEST PIT LOG TP-18

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS								
		Northing: 2,119,370.0 Easting: 6,010,439.0 Ground Surface Elevation Not Available Surface Condition: Bare Earth				Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/Remarks
		Lithologic Description												
5		Sandy CLAY (CL): fine to medium grained, angular sand, low plasticity, light brown, moist												
10		Silty Gravelly SAND (SM): fine to coarse grained, angular sand, low plasticity, brown to reddish brown, moist, with gravel up to 3"												
15		The exploration was terminated at approximately 15 ft. below ground surface. The exploration was backfilled with auger cuttings on April 21, 2014.				GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during excavation or after completion. GENERAL NOTES:								

GINT FILE: W:\20150148_panoche Solar\logs\20150148.gpj C:\KLF_STANDARD_GINT_LIBRARY_2014.GLB [KLF_BORING\TEST PIT SOIL LOG]

	PROJECT NO.: 20150148	TEST PIT LOG TP-18	PLATE
	DRAWN BY: TD CHECKED BY: RS DATE: REVISED: -	Panoche Valley Solar Project San Benito County, California	A-19
			PAGE: 1 of 1

APPENDIX B
FIELD RESISTIVITY TEST RESULTS



May 5, 2014

AMEC
Power and Process Americas
1979 Lakeside Parkway, Suite 400
Tucker, Georgia 30084

Attention: Ms. Heather Munoz

**Subject: Results of Soil Electrical Resistivity Testing
Panoche Valley Solar, LLC
San Benito County, California**

As requested, Kleinfelder performed soil electrical resistivity testing at the Panoche Valley Solar, LLC Project in San Benito County, California. This letter summarizes our testing and presents the results in tabular and graphical form. The work and letter fulfills a portion of our contracted services for the project (AMEC Contract No. 176055-652, dated April 7, 2014).

We performed the testing in substantial conformance with the AMEC project specification No. E-SPC-000-004, with modified spacing. The soil resistivity was measured with a Super-Sting R1 IP Earth Resistivity Meter manufactured by Advanced Geosciences, Inc. (AGI). The Wenner method uses four equally-spaced metal probes or electrodes driven into the ground, along a straight line. An alternating current is applied across the outer two probes, and voltage is measured across the inner probes. Using Ohm's Law ($R=V/I$), an apparent soil resistivity is then calculated. The apparent soil resistivity is the average resistance of the soil mass from the ground surface to a depth approximately equal to the distance between probes. The apparent soil resistivity of each is calculated as follows:

$$\rho = A^2 \pi R$$

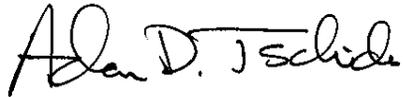
Where: ρ = apparent soil resistivity (ohm-cm)
 A = distance between the electrodes (cm)
 R = measured resistance (ohms)
 π = constant pi (3.1416)

The results of the field resistivity testing are presented in Attachment A.

This work was performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the same locality, under similar conditions and at the date the services are provided. Kleinfelder makes no other representation, guarantee, or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

Should you have any further questions please feel free to contact, Adam Tschida at (303) 419-5339.
Thank you for your consideration of this information.

Sincerely,
KLEINFELDER, INC.



Adam D. Tschida, P.E.
Senior Engineer



Ronald F. Gibson
Project Manager

ADT/RFG/jkw

Attachment

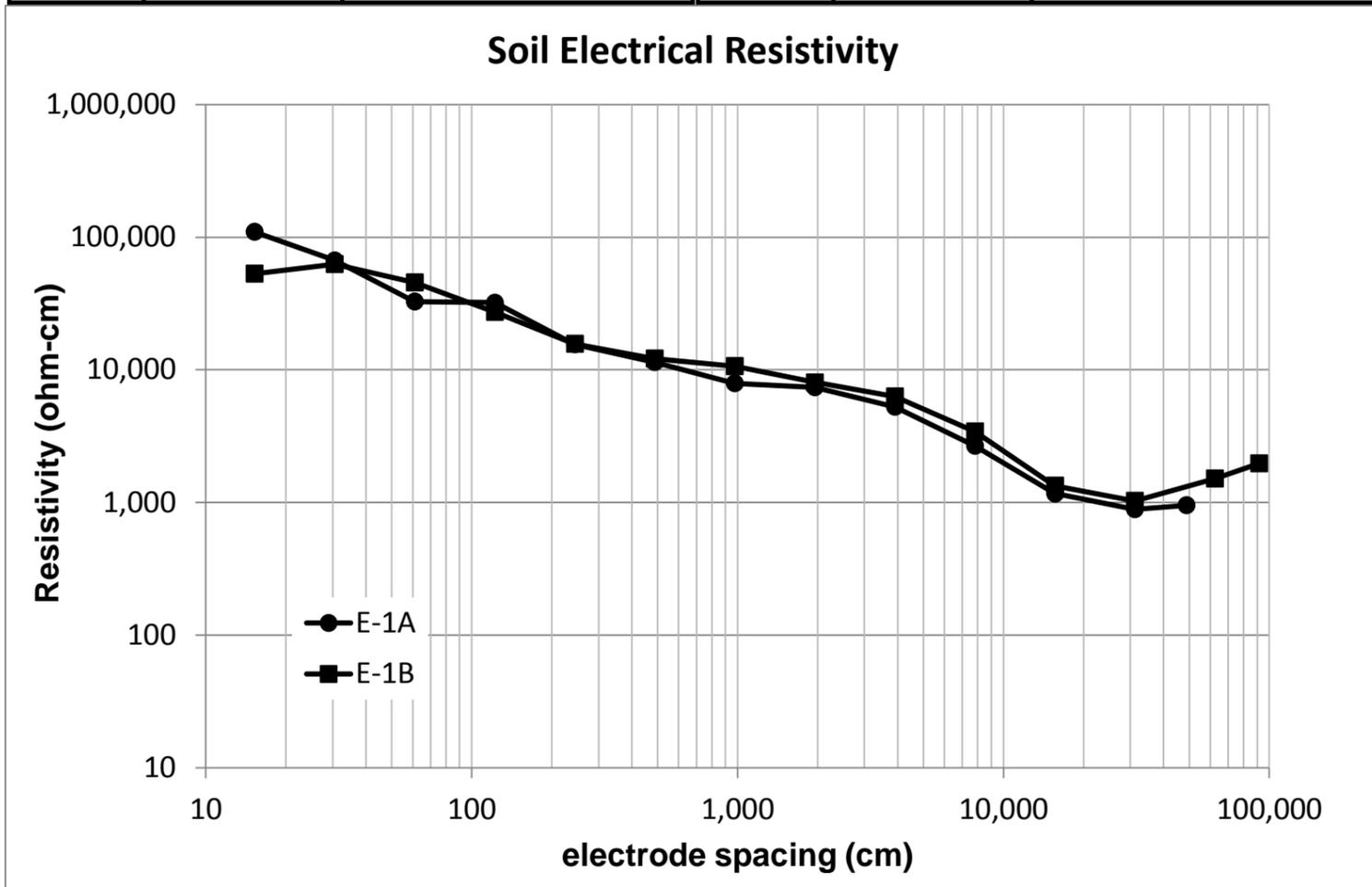
ATTACHMENT
Panoche Electrical Resistivity



611 Corporate Circle, Suite C
 Golden, CO 80401
 Tel: (303) 237-6601
 Fax: (303) 237-6602

Project Number	Project Name	Client
20150148	Panoche Solar	AMEC
Date and Time	Location	Test Engineer(s)
April 21 and 23, 2014	E-1	Matt Owen / Romeo Shiplee
Type of Test	Equipment	Weather
4-Point Test (Wenner)	SuperSting R1 IP	Dry

E-1A			E-1B		
Spacing (feet)	Reading R (Ω)	Resistivity ρ (calc.) (Ω-cm)	Spacing (feet)	Reading R (Ω)	Resistivity ρ (calc.) (Ω-cm)
0.5	1146	109,736	0.5	553.9	53,039
1	348.9	66,818	1	327.7	62,758
2	85.11	32,599	2	118.8	45,503
4	41.95	32,136	4	35.65	27,310
8	10.19	15,612	8	10.23	15,673
16	3.725	11,414	16	3.964	12,146
32	1.288	7,893	32	1.74	10,663
64	0.6028	7,388	64	0.6567	8,049
128	0.2147	5,263	128	0.2572	6,305
256	0.05452	2,673	256	0.06997	3,430
512	0.01191	1,168	512	0.01361	1,335
1024	0.004524	887	1024	0.005239	1,027
1600	0.00311	953	2048	0.003858	1,513
			3000	0.003418	1,964

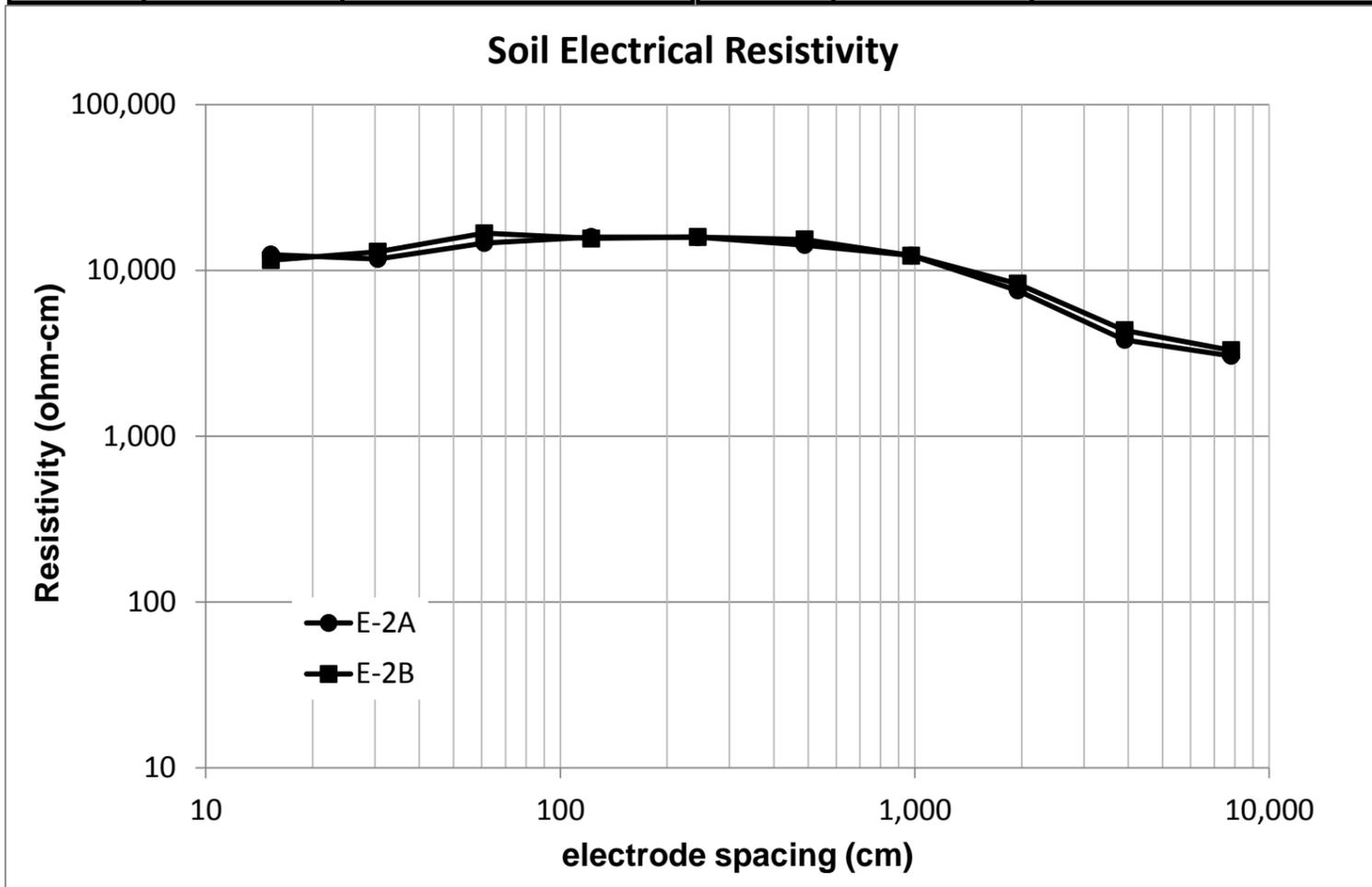




611 Corporate Circle, Suite C
 Golden, CO 80401
 Tel: (303) 237-6601
 Fax: (303) 237-6602

Project Number	Project Name	Client
20150148	Panoche Solar	AMEC
Date and Time	Location	Test Engineer(s)
21-Apr-14	E-2	Matt Owen / Romeo Shiplee
Type of Test	Equipment	Weather
4-Point Test (Wenner)	SuperSting R1 IP	Dry

E-2A			E-2B		
Spacing (feet)	Reading R (Ω)	Resistivity ρ (calc.) (Ω-cm)	Spacing (feet)	Reading R (Ω)	Resistivity ρ (calc.) (Ω-cm)
0.5	129.8	12,429	0.5	120.5	11,539
1	61.1	11,701	1	67.44	12,916
2	38.22	14,639	2	43.71	16,742
4	20.72	15,872	4	20.32	15,566
8	10.36	15,872	8	10.38	15,903
16	4.631	14,190	16	5.022	15,388
32	2.003	12,275	32	2.002	12,269
64	0.6172	7,565	64	0.6771	8,299
128	0.1552	3,804	128	0.1771	4,341
256	0.06233	3,056	256	0.06711	3,290

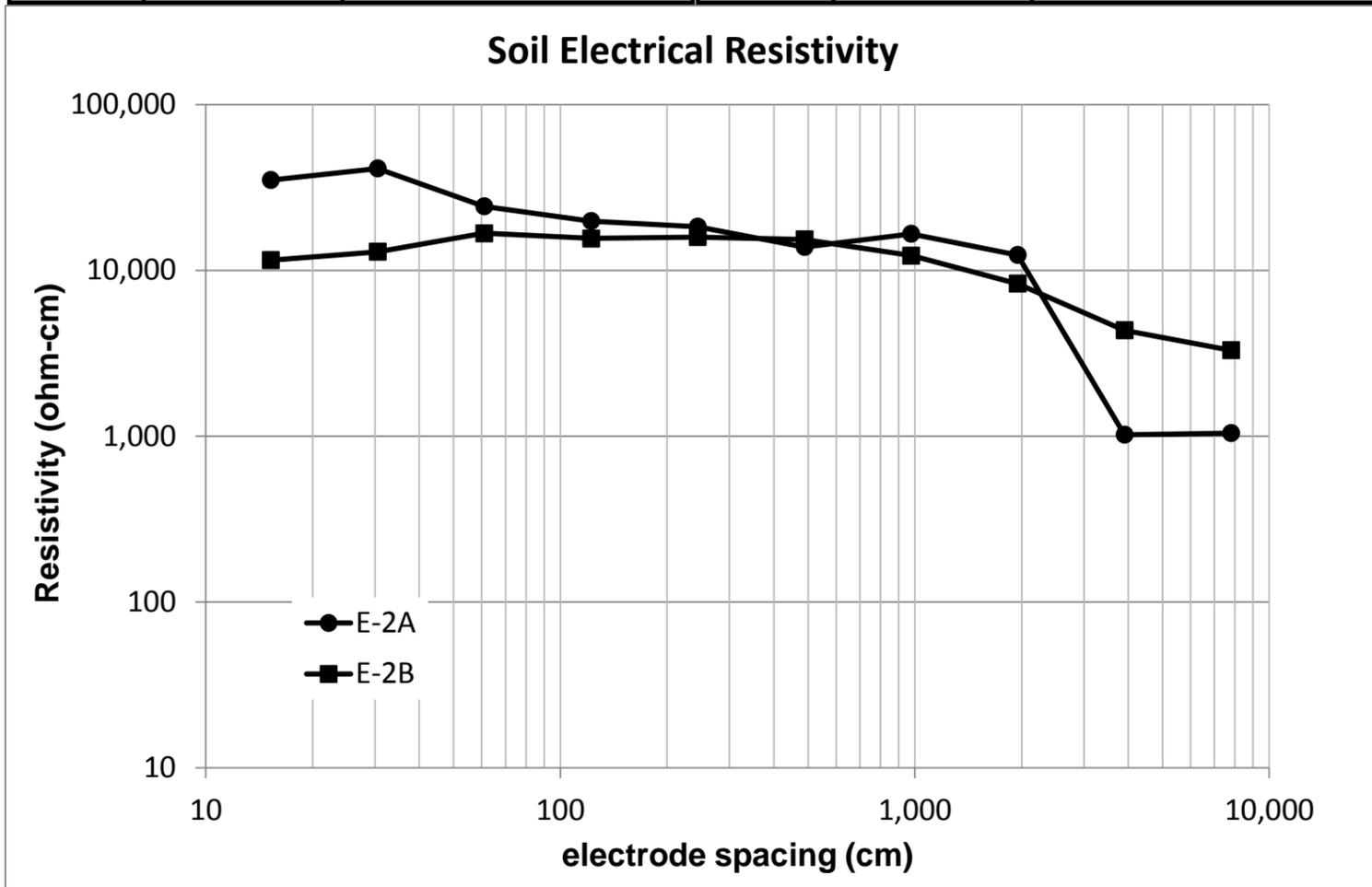




611 Corporate Circle, Suite C
 Golden, CO 80401
 Tel: (303) 237-6601
 Fax: (303) 237-6602

Project Number	Project Name	Client
20150148	Panoche Solar	AMEC
Date and Time	Location	Test Engineer(s)
21-Apr-14	E-3	Matt Owen / Romeo Shiplee
Type of Test	Equipment	Weather
4-Point Test (Wenner)	SuperSting R1 IP	Dry

E-2A			E-2B		
Spacing (feet)	Reading R (Ω)	Resistivity ρ (calc.) (Ω-cm)	Spacing (feet)	Reading R (Ω)	Resistivity ρ (calc.) (Ω-cm)
0.5	366	35,047	0.5	120.5	11,539
1	215.1	41,194	1	67.44	12,916
2	63.44	24,299	2	43.71	16,742
4	25.92	19,856	4	20.32	15,566
8	11.96	18,324	8	10.38	15,903
16	4.521	13,853	16	5.022	15,388
32	2.713	16,626	32	2.002	12,269
64	1.01	12,379	64	0.6771	8,299
128	0.04161	1,020	128	0.1771	4,341
256	0.02123	1,041	256	0.06711	3,290

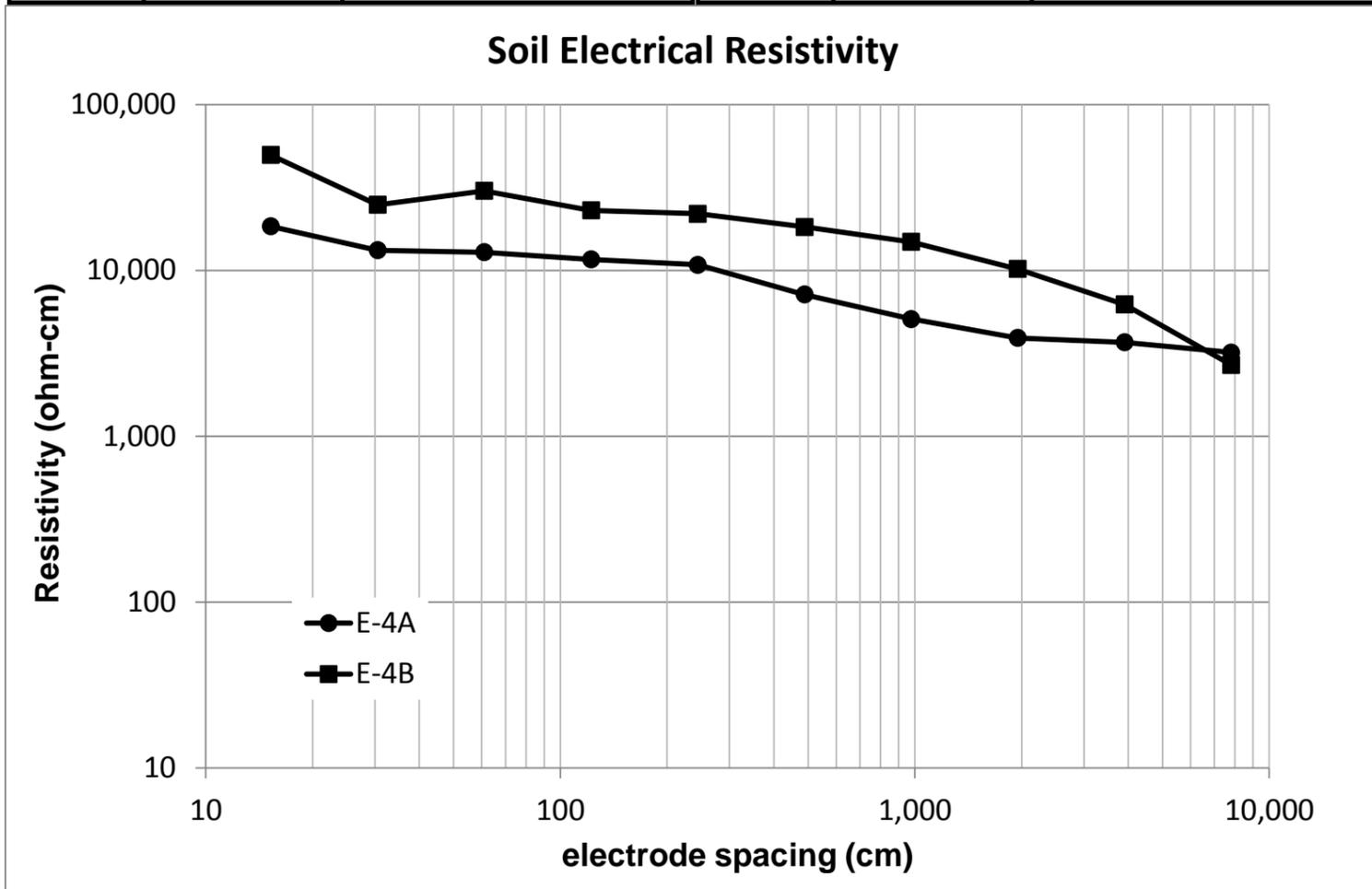




611 Corporate Circle, Suite C
 Golden, CO 80401
 Tel: (303) 237-6601
 Fax: (303) 237-6602

Project Number	Project Name	Client
20150148	Panoche Solar	AMEC
Date and Time	Location	Test Engineer(s)
21-Apr-14	E-4	Matt Owen / Romeo Shiplee
Type of Test	Equipment	Weather
4-Point Test (Wenner)	SuperSting R1 IP	Dry

E-4A			E-4B		
Spacing (feet)	Reading R (Ω)	Resistivity ρ (calc.) (Ω-cm)	Spacing (feet)	Reading R (Ω)	Resistivity ρ (calc.) (Ω-cm)
0.5	192.8	18,462	0.5	517.7	49,573
1	68.95	13,205	1	130.1	24,916
2	33.53	12,843	2	78.8	30,182
4	15.23	11,667	4	29.99	22,974
8	7.053	10,806	8	14.32	21,940
16	2.335	7,155	16	5.969	18,290
32	0.8308	5,091	32	2.427	14,874
64	0.3198	3,920	64	0.8313	10,189
128	0.1501	3,679	128	0.2545	6,239
256	0.06521	3,197	256	0.05496	2,695

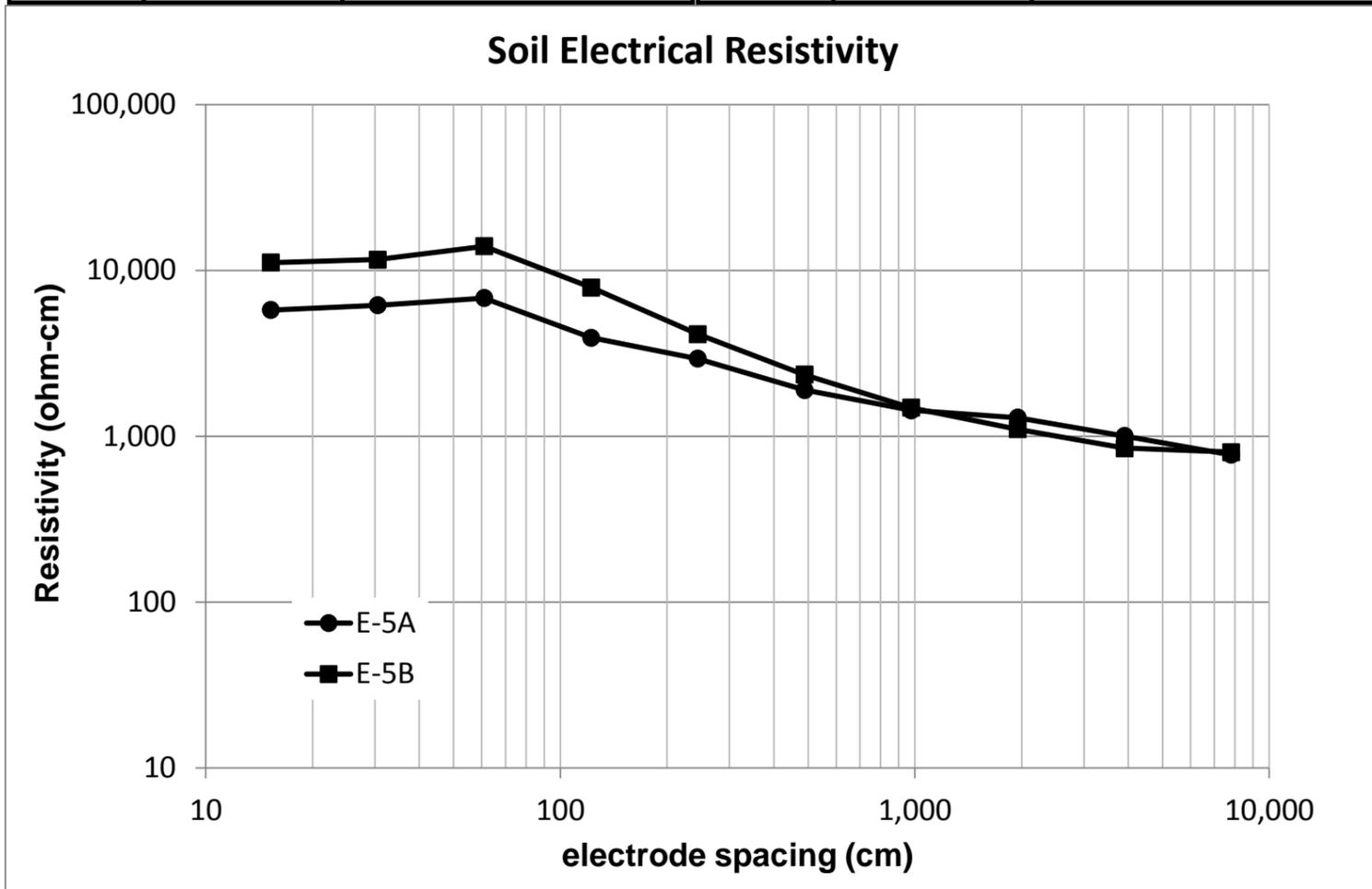




611 Corporate Circle, Suite C
 Golden, CO 80401
 Tel: (303) 237-6601
 Fax: (303) 237-6602

Project Number	Project Name	Client
20150148	Panoche Solar	AMEC
Date and Time	Location	Test Engineer(s)
21-Apr-14	E-5	Matt Owen / Romeo Shiplee
Type of Test	Equipment	Weather
4-Point Test (Wenner)	SuperSting R1 IP	Dry

E-5A			E-5B		
Spacing (feet)	Reading R (Ω)	Resistivity ρ (calc.) (Ω-cm)	Spacing (feet)	Reading R (Ω)	Resistivity ρ (calc.) (Ω-cm)
0.5	60.21	5,765	0.5	116.6	11,165
1	32.22	6,171	1	60.68	11,621
2	17.8	6,818	2	36.43	13,954
4	5.125	3,926	4	10.29	7,883
8	1.919	2,940	8	2.694	4,127
16	0.6203	1,901	16	0.7661	2,347
32	0.2339	1,433	32	0.2428	1,488
64	0.1055	1,293	64	0.08981	1,101
128	0.04095	1,004	128	0.03455	847
256	0.01574	772	256	0.01635	802

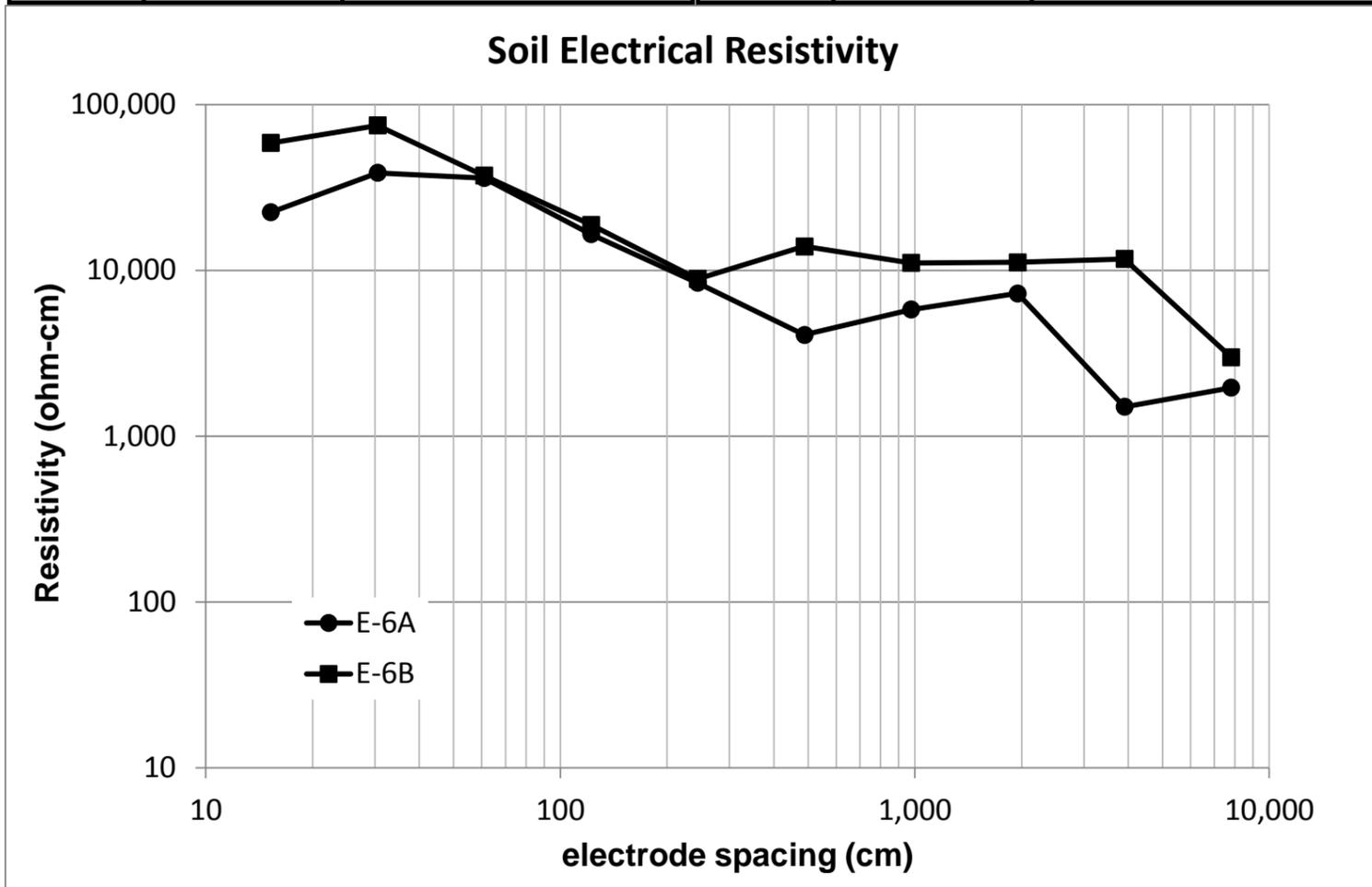




611 Corporate Circle, Suite C
 Golden, CO 80401
 Tel: (303) 237-6601
 Fax: (303) 237-6602

Project Number	Project Name	Client
20150148	Panoche Solar	AMEC
Date and Time	Location	Test Engineer(s)
21-Apr-14	E-6	Matt Owen / Romeo Shiplee
Type of Test	Equipment	Weather
4-Point Test (Wenner)	SuperSting R1 IP	Dry

E-6A			E-6B		
Spacing (feet)	Reading R (Ω)	Resistivity ρ (calc.) (Ω -cm)	Spacing (feet)	Reading R (Ω)	Resistivity ρ (calc.) (Ω -cm)
0.5	234.2	22,426	0.5	611.3	58,535
1	201.9	38,666	1	391.2	74,919
2	93.88	35,958	2	97.11	37,195
4	21.51	16,478	4	24.53	18,791
8	5.477	8,391	8	5.802	8,889
16	1.331	4,078	16	4.551	13,945
32	0.9462	5,799	32	1.808	11,080
64	0.5916	7,251	64	0.9113	11,170
128	0.06131	1,503	128	0.4773	11,700
256	0.04001	1,962	256	0.06104	2,993



APPENDIX C
LOAD TEST RESULTS

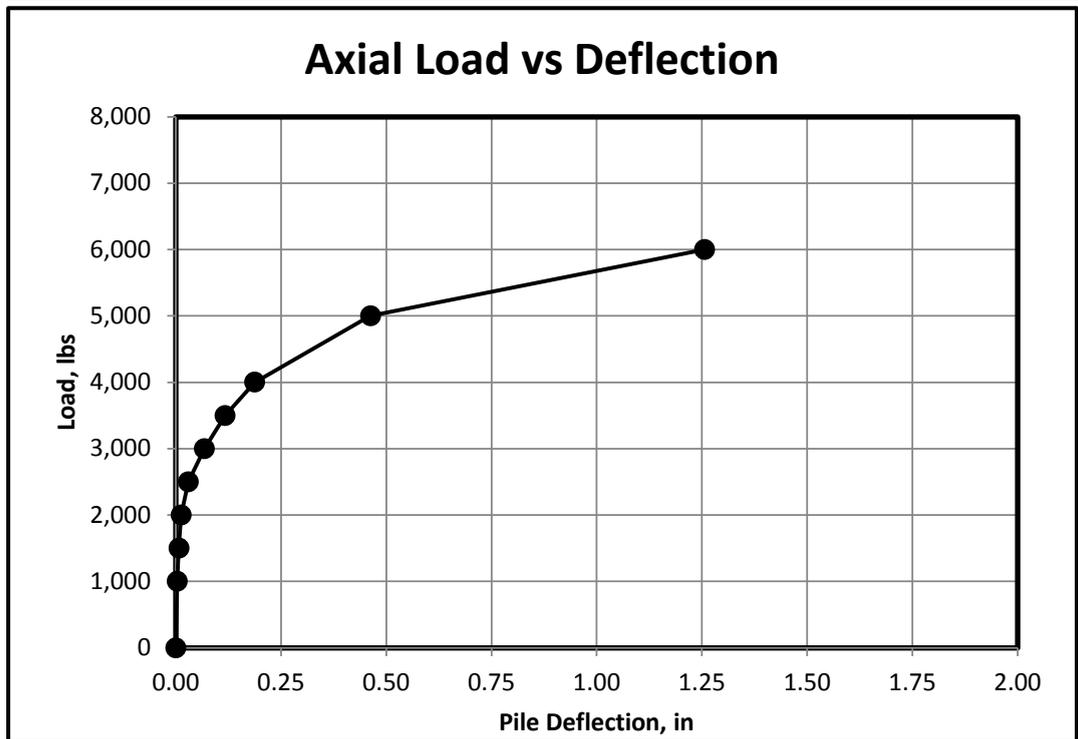
Project No.: 20150148
 Project Name: Panoche Valley Solar
 Client: AMEC

Date: April 29, 2014

Axial PV Ground Mount Pile Test

Pile ID: 4 / LT-2 Pile Type: W6X7
 Embedment: 8 feet Engineer: MO/MM/TN
 Height of dial guage above ground: 48 inches
 Height of load above ground: 48 inches
 Height of pile reveal 48 inches
 Approx. Ultimate Pullout Load 4200 pounds

Load (lbs)	Dial Gauge Reading	Deflection (in)	Notes
0	0	0	
1000	0.0036	0.0036	
1500	0.0073	0.0073	
2000	0.013	0.013	
2500	0.03	0.03	
3000	0.0676	0.0676	
3500	0.117	0.117	
4000	0.1876	0.1876	
5000	0.4625	0.4625	
6000	1.2563	1.2563	
7000			
8000			



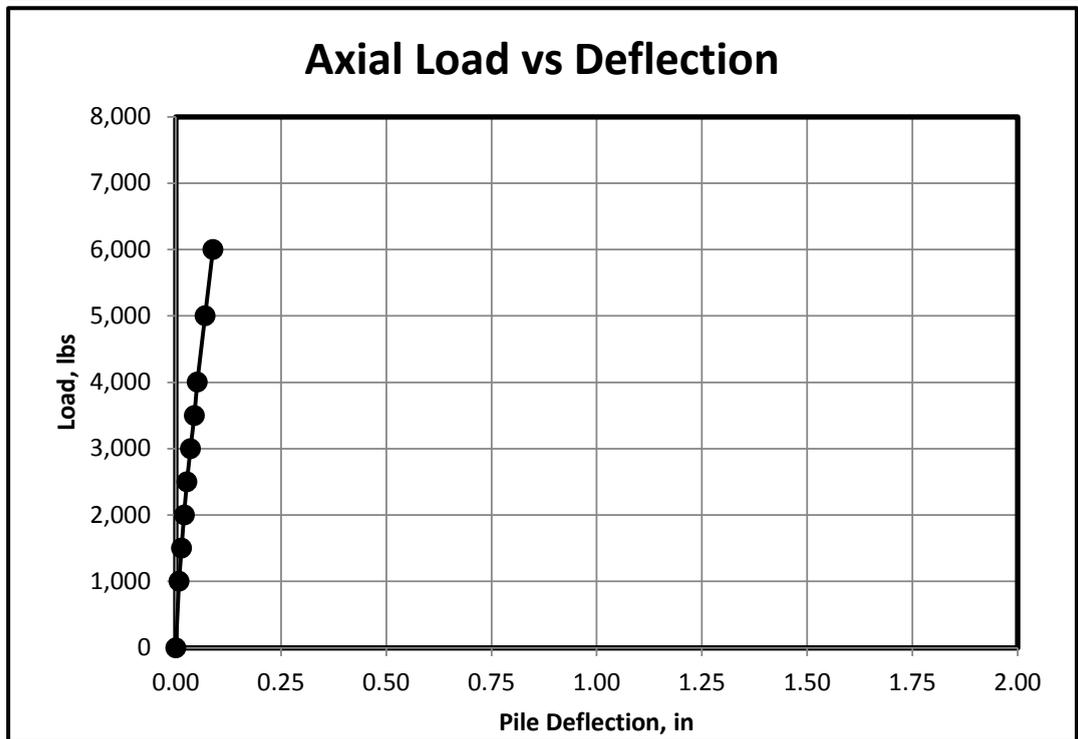
Project No.: 20150148
 Project Name: Panoche Valley Solar
 Client: AMEC

Date: April 29, 2014

Axial PV Ground Mount Pile Test

Pile ID: 1 / LT-3 Pile Type: W6X8.5
 Embedment: 8 feet Engineer: MO/MM/TN
 Height of dial guage above ground: 48 inches
 Height of load above ground: 48 inches
 Height of pile reveal 48 inches
 Approx. Ultimate Pullout Load 6000 pounds

Load (lbs)	Dial Gauge Reading	Deflection (in)	Notes
0	0	0	
1000	0.0077	0.0077	
1500	0.0138	0.0138	
2000	0.02	0.02	
2500	0.0261	0.0261	
3000	0.0349	0.0349	
3500	0.0445	0.0445	
4000	0.0509	0.0509	
5000	0.0693	0.0693	
6000	0.0886	0.0886	
7000			
8000			



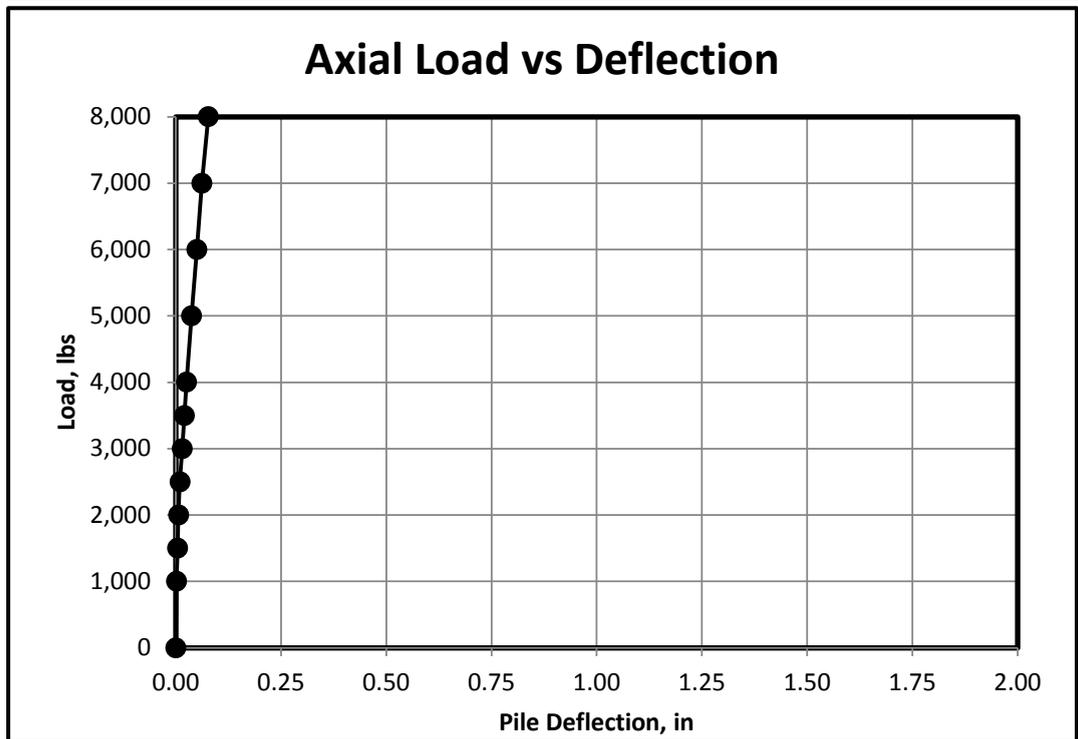
Project No.: 20150148
 Project Name: Panoche Valley Solar
 Client: AMEC

Date: April 29, 2014

Axial PV Ground Mount Pile Test

Pile ID: 2/ LT-4 Pile Type: W6X8.5
 Embedment: 10 feet Engineer: MO/MM/TN
 Height of dial guage above ground: 48 inches
 Height of load above ground: 48 inches
 Height of pile reveal 48 inches
 Approx. Ultimate Pullout Load 8000 pounds

Load (lbs)	Dial Gauge Reading	Deflection (in)	Notes
0	0	0	
1000	0.0021	0.0021	
1500	0.0042	0.0042	
2000	0.0064	0.0064	
2500	0.0098	0.0098	
3000	0.0153	0.0153	
3500	0.0203	0.0203	
4000	0.0257	0.0257	
5000	0.0375	0.0375	
6000	0.0503	0.0503	
7000	0.0621	0.0621	
8000	0.0774	0.0774	



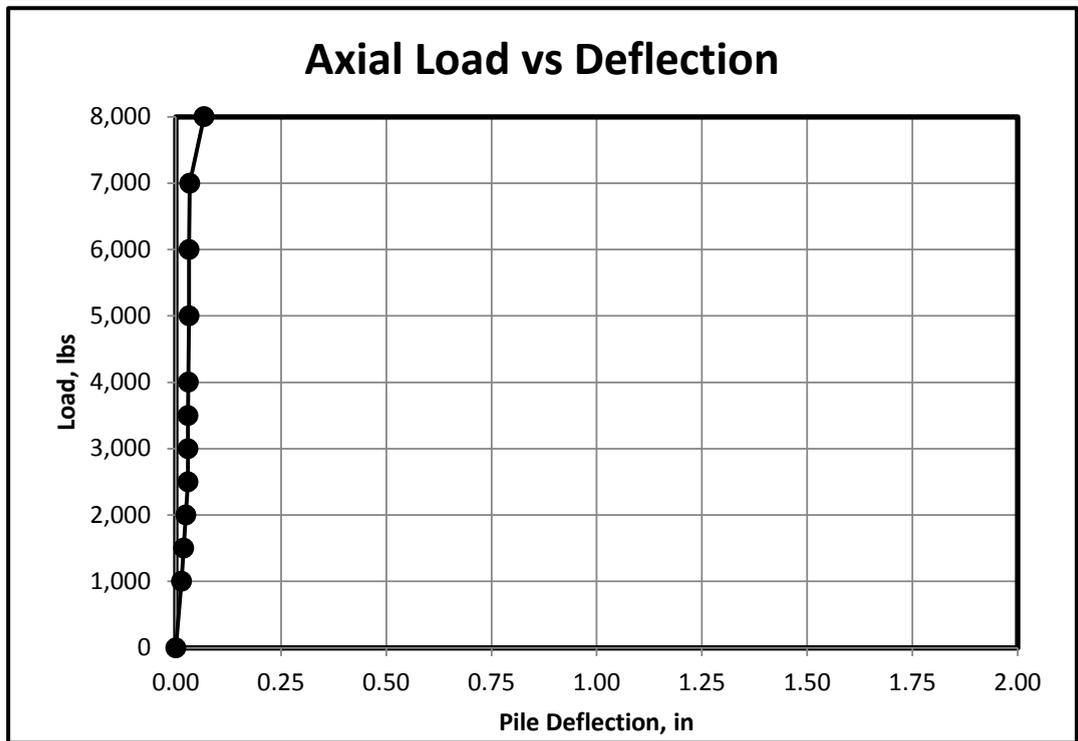
Project No.: 20150148
 Project Name: Panoche Valley Solar
 Client: AMEC

Date: April 30, 2014

Axial PV Ground Mount Pile Test

Pile ID: 1/ LT-5 Pile Type: W6X8.5
 Embedment: 8 feet Engineer: MO/MM/TN
 Height of dial guage above ground: 48 inches
 Height of load above ground: 48 inches
 Height of pile reveal 48 inches
 Approx. Ultimate Pullout Load 8000 pounds

Load (lbs)	Dial Gauge Reading	Deflection (in)	Notes
0	0	0	
1000	0.0138	0.0138	
1500	0.019	0.019	
2000	0.0235	0.0235	
2500	0.0288	0.0288	
3000	0.0288	0.0288	
3500	0.0288	0.0288	
4000	0.0294	0.0294	
5000	0.0311	0.0311	
6000	0.0314	0.0314	
7000	0.033	0.033	
8000	0.0673	0.0673	



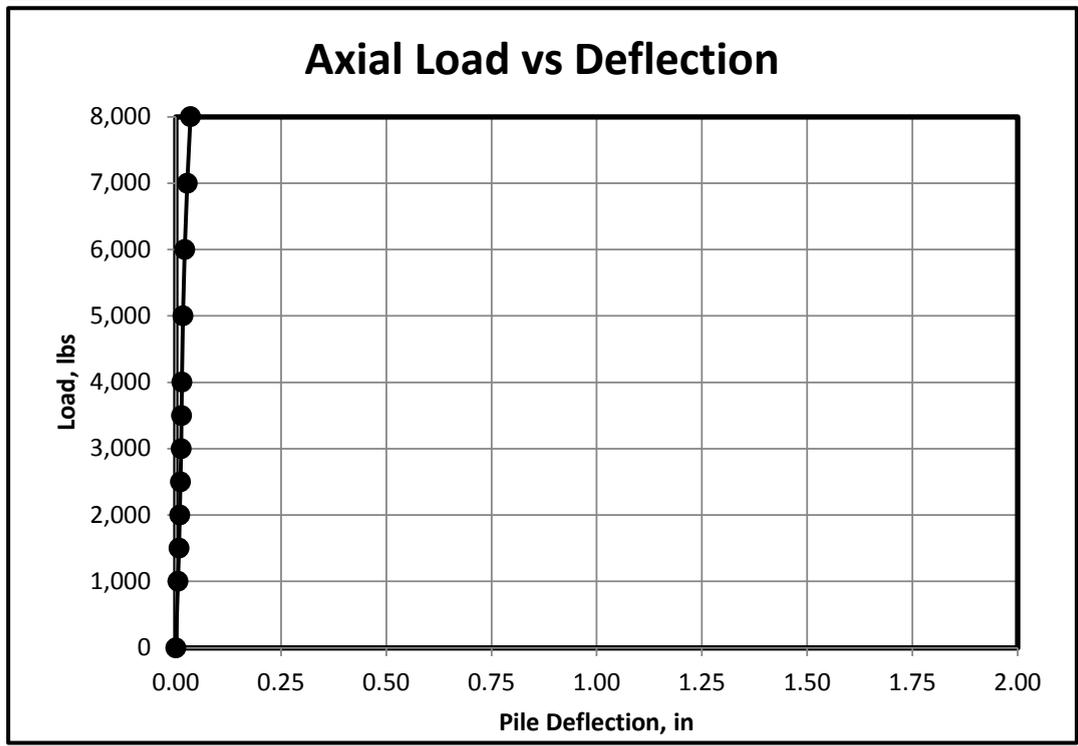
Project No.: 20150148
 Project Name: Panoche Valley Solar
 Client: AMEC

Date: April 30, 2014

Axial PV Ground Mount Pile Test

Pile ID: 2/ LT-5 Pile Type: W6X8.5
 Embedment: 10 feet Engineer: MO/MM/TN
 Height of dial guage above ground: 48 inches
 Height of load above ground: 48 inches
 Height of pile reveal 48 inches
 Approx. Ultimate Pullout Load 8000 pounds

Load (lbs)	Dial Gauge Reading	Deflection (in)	Notes
0	0	0	
1000	0.0055	0.0055	
1500	0.0076	0.0076	
2000	0.0095	0.0095	
2500	0.0113	0.0113	
3000	0.0125	0.0125	
3500	0.014	0.014	
4000	0.0144	0.0144	
5000	0.0172	0.0172	
6000	0.0216	0.0216	
7000	0.0274	0.0274	
8000	0.0348	0.0348	



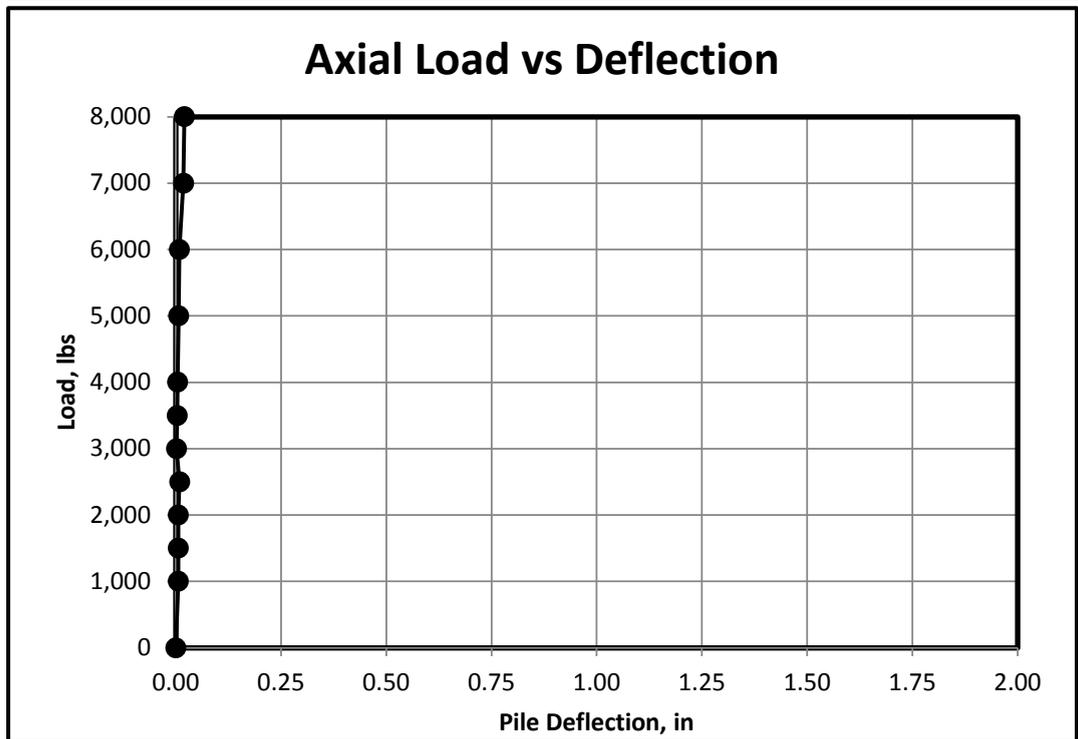
Project No.: 20150148
 Project Name: Panoche Valley Solar
 Client: AMEC

Date: April 30, 2014

Axial PV Ground Mount Pile Test

Pile ID: 5/ LT-5 Pile Type: W6X7
 Embedment: 6 feet Engineer: MO/MM/TN
 Height of dial guage above ground: 48 inches
 Height of load above ground: 48 inches
 Height of pile reveal 48 inches
 Approx. Ultimate Pullout Load 8000 pounds

Load (lbs)	Dial Gauge Reading	Deflection (in)	Notes
0	0	0	
1000	0.006	0.006	
1500	0.006	0.006	
2000	0.006	0.006	
2500	0.009	0.009	
3000	0.002	0.002	
3500	0.0032	0.0032	
4000	0.0043	0.0043	
5000	0.0065	0.0065	
6000	0.0087	0.0087	
7000	0.0183	0.0183	
8000	0.0207	0.0207	



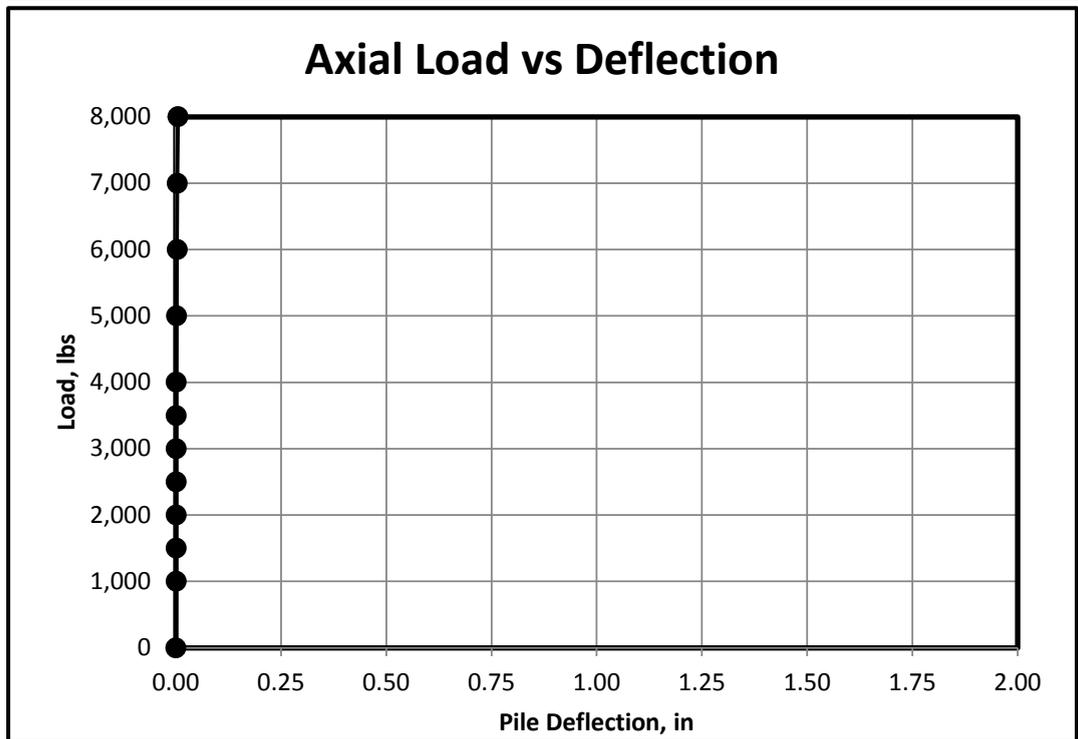
Project No.: 20150148
 Project Name: Panoche Valley Solar
 Client: AMEC

Date: April 30, 2014

Axial PV Ground Mount Pile Test

Pile ID: 2/ LT-6 Pile Type: W6X8.5
 Embedment: 10 feet Engineer: MO/MM/TN
 Height of dial guage above ground: 48 inches
 Height of load above ground: 48 inches
 Height of pile reveal 48 inches
 Approx. Ultimate Pullout Load 8000 pounds

Load (lbs)	Dial Gauge Reading	Deflection (in)	Notes
0	0	0	
1000	0.0006	0.0006	
1500	0.0006	0.0006	
2000	0.0007	0.0007	
2500	0.0007	0.0007	
3000	0.0008	0.0008	
3500	0.0009	0.0009	
4000	0.001	0.001	
5000	0.0018	0.0018	
6000	0.003	0.003	
7000	0.0038	0.0038	
8000	0.0049	0.0049	



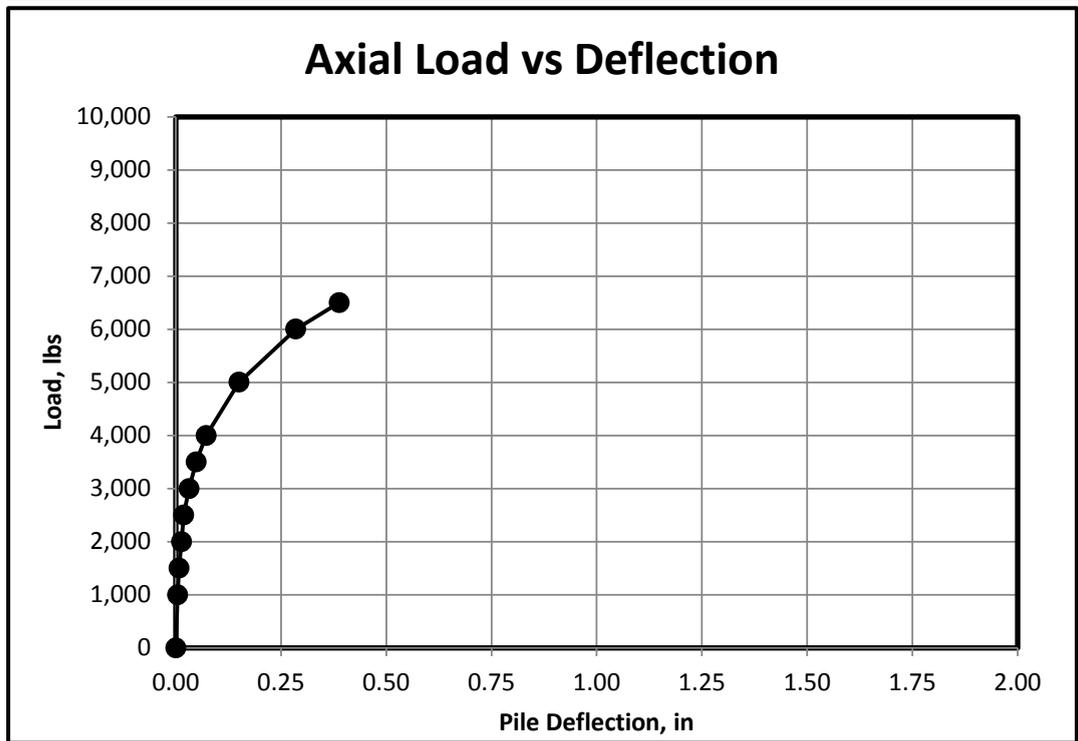
Project No.: 20150148
 Project Name: Panoche Valley Solar
 Client: AMEC

Date: April 28, 2014

Axial PV Ground Mount Pile Test

Pile ID: 2 / LT-7 Pile Type: W6X8.5
 Embedment: 10 feet Engineer: MO/MM/TN
 Height of dial guage above ground: 48 inches
 Height of load above ground: 48 inches
 Height of pile reveal 48 inches
 Approx. Ultimate Pullout Load 5800 pounds

Load (lbs)	Dial Gauge Reading	Deflection (in)	Notes
0	0	0	
1000	0.0044	0.0044	
1500	0.0079	0.0079	
2000	0.0133	0.0133	
2500	0.0188	0.0188	
3000	0.0312	0.0312	
3500	0.0484	0.0484	
4000	0.0718	0.0718	
5000	0.15	0.15	
6000	0.285	0.285	
6500	0.3882	0.3882	
8000			



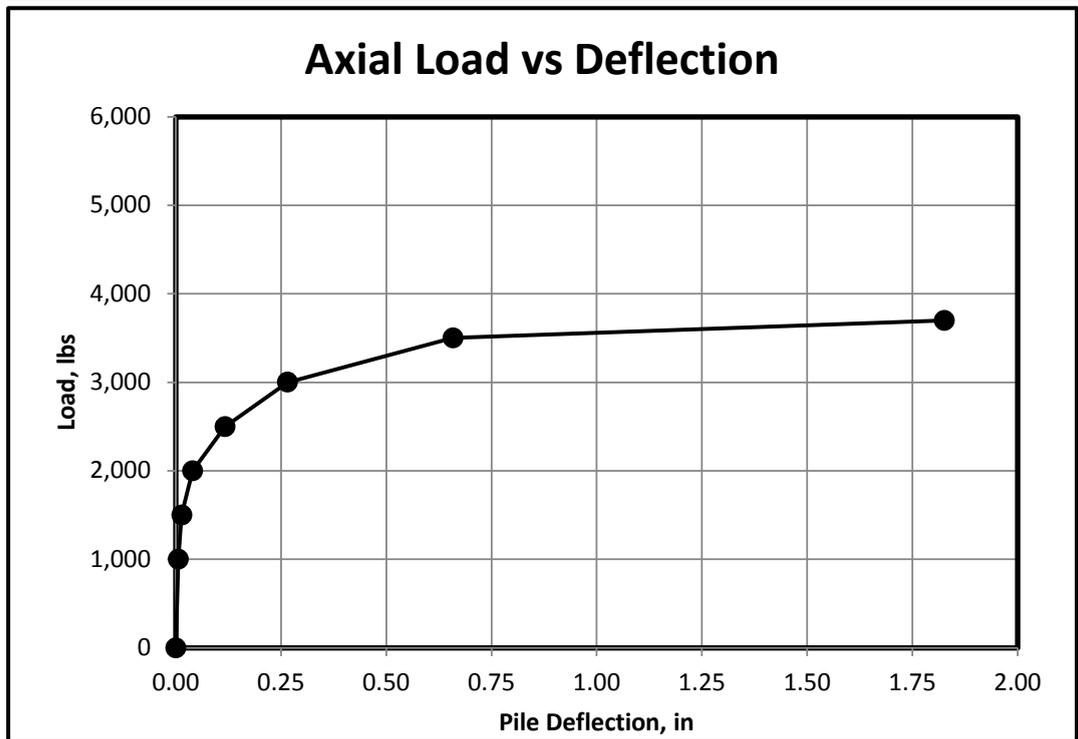
Project No.: 20150148
 Project Name: Panoche Valley Solar
 Client: AMEC

Date: April 28, 2014

Axial PV Ground Mount Pile Test

Pile ID: 3 / LT-8 Pile Type: W6X15
 Embedment: 8 feet Engineer: MO/MM/TN
 Height of dial guage above ground: 48 inches
 Height of load above ground: 48 inches
 Height of pile reveal 48 inches
 Approx. Ultimate Pullout Load 3000 pounds

Load (lbs)	Dial Gauge Reading	Deflection (in)	Notes
0	0.0000	0.0000	
1000	0.0061	0.0061	
1500	0.0141	0.0141	
2000	0.0400	0.0400	
2500	0.1168	0.1168	
3000	0.2653	0.2653	
3500	0.6583	0.6583	
3700	1.8260	1.8260	
5000			
6000			
7000			
8000			



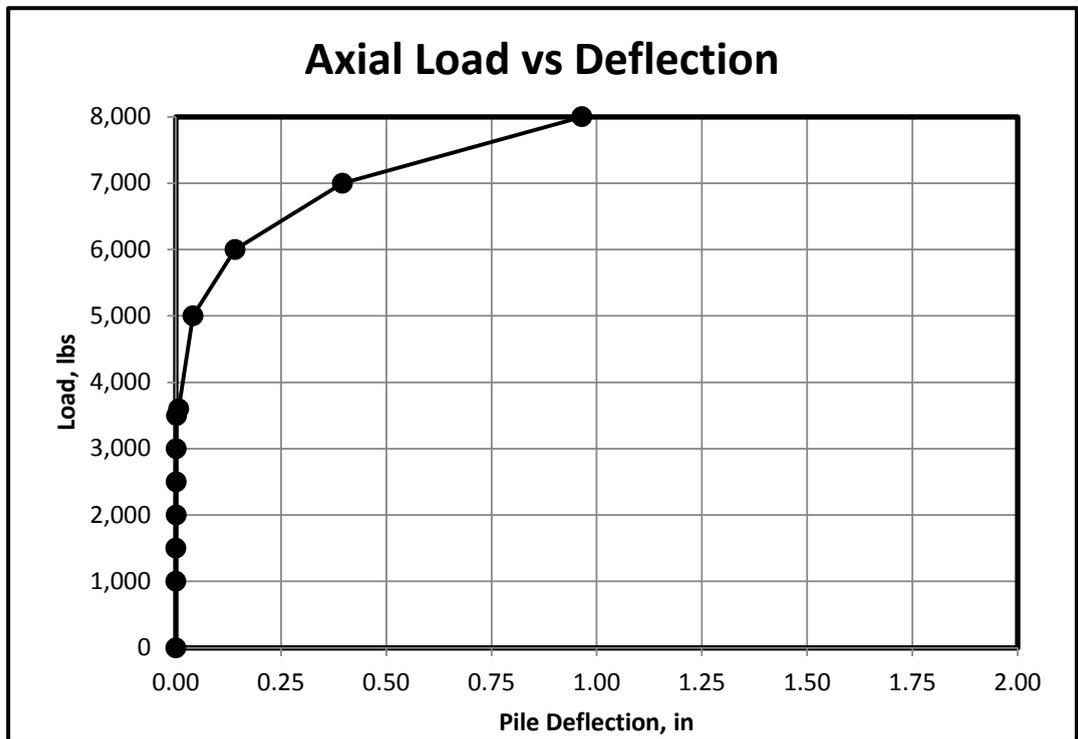
Project No.: 20150148
 Project Name: Panoche Valley Solar
 Client: AMEC

Date: April 29, 2014

Axial PV Ground Mount Pile Test

Pile ID: 2 / LT-9 Pile Type: W6X8.5
 Embedment: 10 feet Engineer: MO/MM/TN
 Height of dial guage above ground: 48 inches
 Height of load above ground: 48 inches
 Height of pile reveal 48 inches
 Approx. Ultimate Pullout Load 6500 pounds

Load (lbs)	Dial Gauge Reading	Deflection (in)	Notes
0	0.0000	0.0000	
1000	0.0002	0.0002	
1500	0.0003	0.0003	
2000	0.0008	0.0008	
2500	0.0010	0.0010	
3000	0.0010	0.0010	
3500	0.0015	0.0015	
3600	0.0068	0.0068	
5000	0.0407	0.0407	
6000	0.1405	0.1405	
7000	0.3962	0.3962	
8000	0.9648	0.9648	



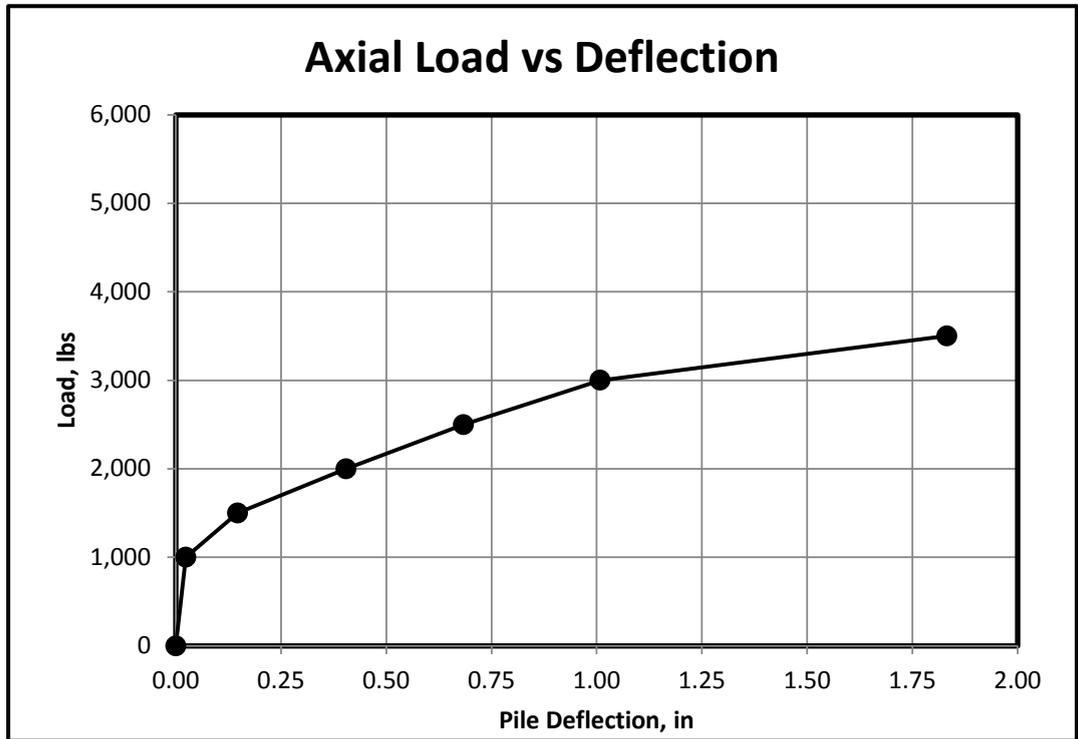
Project No.: 20150148
 Project Name: Panoche Valley Solar
 Client: AMEC

Date: April 29, 2014

Axial PV Ground Mount Pile Test

Pile ID: 3 / LT-9 Pile Type: W6X15
 Embedment: 8 feet Engineer: MO/MM/TN
 Height of dial guage above ground: 48 inches
 Height of load above ground: 48 inches
 Height of pile reveal 48 inches
 Approx. Ultimate Pullout Load 1800 pounds

Load (lbs)	Dial Gauge Reading	Deflection (in)	Notes
0	0.0000	0.0000	
1000	0.0235	0.0235	
1500	0.1465	0.1465	
2000	0.4046	0.4046	
2500	0.6831	0.6831	
3000	1.0080	1.0080	
3500	1.8320	1.8320	
3600			
5000			
6000			
7000			
8000			



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 1

Performed by: MO/MM/TN

Pile Location: LT-1

Pile Size: W6x8.5

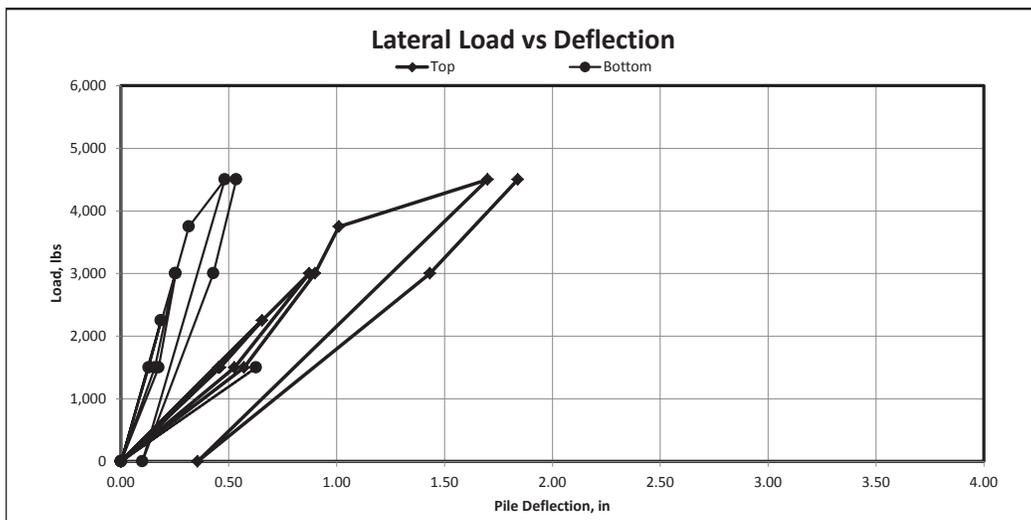
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	3.000	0.000	3.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	2.548	0.452	2.3730	0.6270	
0%	0	3.000	0.000	3.0000	0.0000	
50%	1,500	2.540	0.460	2.8710	0.1290	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.346	0.654	2.8150	0.1850	
0%	0	3.000	0.000	3.0000	0.0000	
50%	1,500	2.474	0.526	2.8430	0.1570	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.127	0.873	2.7490	0.2510	
0%	0	3.000	0.000	3.0000	0.0000	
50%	1,500	2.430	0.570	2.8250	0.1750	Height of Pile above ground surface (reveal): 99
100%	3,000	2.100	0.900	2.7450	0.2550	
125%	3,750	1.990	1.010	2.6850	0.3150	
150%	4,500	1.300	1.700	2.5180	0.4820	Pile Embedment (ft): 3.75
0%	0	2.645	0.355	2.9000	0.1000	
100%	3,000	1.568	1.432	2.5720	0.4280	
150%	4,500	1.160	1.840	2.4650	0.5350	
175%	5,000	Pile lever out of ground				
0%	0					
100%	3,000					
150%	4,100					
200%	5,000					
150%	4,500					
100%	3,000					
50%	1,500					
0%	0					

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/28/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 2

Performed by: MO/MM/TN

Pile Location: LT-1

Pile Size: W6x8.5

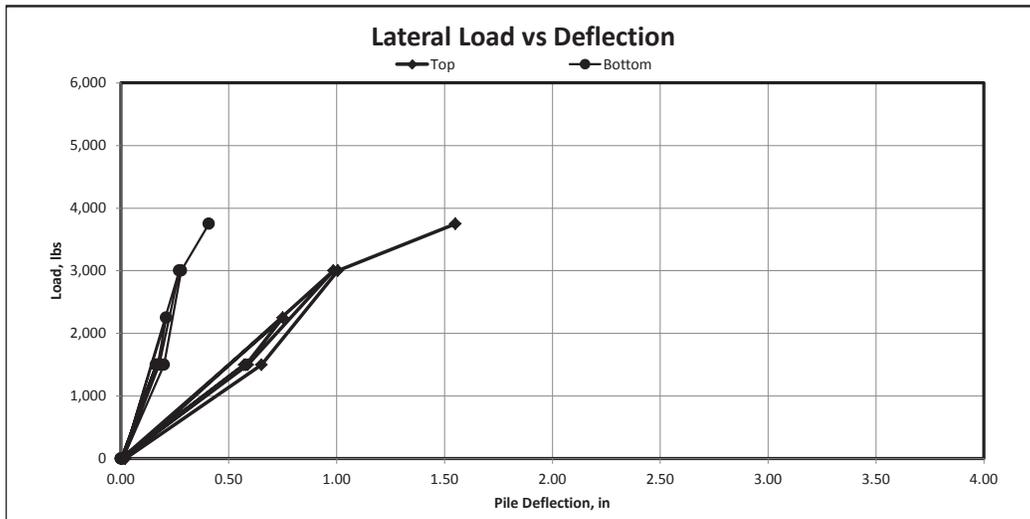
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	3.000	0.000	3.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	2.428	0.572	2.8370	0.1630	
0%	0	2.998	0.002	3.0000	0.0000	
50%	1,500	2.421	0.579	2.8300	0.1700	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.250	0.750	2.7900	0.2100	
0%	0	2.998	0.002	2.9900	0.0100	
50%	1,500	2.412	0.588	2.8230	0.1770	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.015	0.985	2.7300	0.2700	
0%	0	2.980	0.020	2.9900	0.0100	
50%	1,500	2.349	0.651	2.8000	0.2000	Height of Pile above ground surface (reveal): 122
100%	3,000	1.995	1.005	2.7210	0.2790	
125%	3,750	1.450	1.550	2.5920	0.4080	
150%	4,500	Yield @ 4,100 lbs				Pile Embedment (ft): 3.83
0%	0					
100%	3,000					
150%	4,100					
175%	5,000					
0%	0					
100%	3,000					
150%	4,100					
200%	5,000					
150%	4,500					
100%	3,000					
50%	1,500					
0%	0					

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/28/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 3

Performed by: MO/MM/TN

Pile Location: LT-8

Pile Size: W6x15

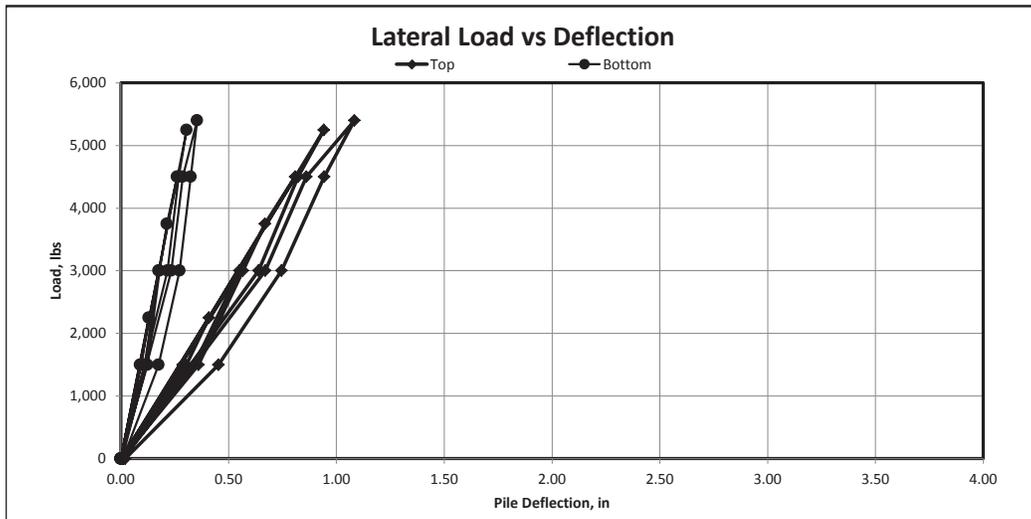
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	3.000	0.000	3.000	0.000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	2.712	0.288	2.910	0.090	
0%	0	3.000	0.000	3.000	0.000	
50%	1,500	2.696	0.304	2.905	0.095	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.592	0.408	2.871	0.129	
0%	0	2.998	0.002	3.000	0.000	
50%	1,500	2.659	0.341	2.890	0.110	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.450	0.550	2.825	0.175	
0%	0	2.996	0.004	3.000	0.000	
50%	1,500	2.640	0.360	2.877	0.123	Height of Pile above ground surface (reveal): 89
100%	3,000	2.434	0.566	2.820	0.180	
125%	3,750	2.332	0.668	2.787	0.213	
150%	4,500	2.191	0.809	2.739	0.261	Pile Embedment (ft): 4.58
0%	0	2.991	0.009	2.997	0.003	
100%	3,000	2.361	0.639	2.783	0.217	
150%	4,500	2.178	0.822	2.732	0.268	
175%	5,250	2.059	0.941	2.695	0.305	
0%	0	2.988	0.012	2.994	0.006	
100%	3,000	2.330	0.670	2.765	0.235	
150%	4,500	2.139	0.861	2.713	0.287	
200%	5,400	1.917	1.083	2.646	0.354	
150%	4,500	2.057	0.943	2.675	0.325	
100%	3,000	2.255	0.745	2.728	0.272	
50%	1,500	2.547	0.453	2.825	0.175	
0%	0	2.980	0.020	2.990	0.010	

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/28/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 4

Performed by: MO/MM/TN

Pile Location: LT-1

Pile Size: W6x7

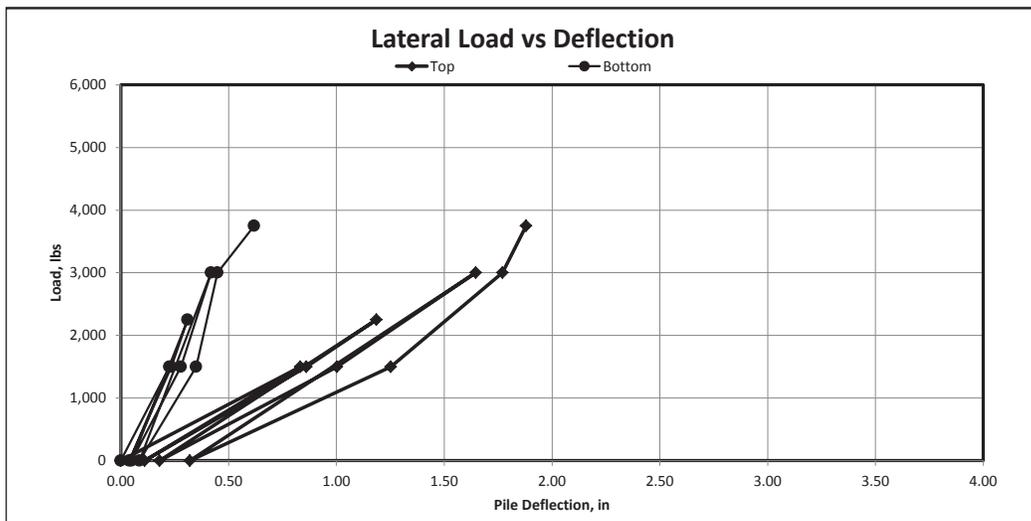
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	3.000	0.000	3.000	0.000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	2.168	0.832	2.775	0.225	
0%	0	2.890	0.110	2.960	0.040	
50%	1,500	2.140	0.860	2.766	0.234	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	1.814	1.186	2.690	0.310	
0%	0	2.820	0.180	2.950	0.050	
50%	1,500	1.997	1.003	2.721	0.279	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	1.354	1.646	2.581	0.419	
0%	0	2.680	0.320	2.913	0.087	
50%	1,500	1.748	1.252	2.651	0.349	Height of Pile above ground surface (reveal): 98
100%	3,000	1.230	1.770	2.551	0.449	
125%	3,750	1.120	1.880	2.382	0.618	
150%	4,500	Lever out @ 3,800 lbs				
0%						Pile Embedment (ft): 3.83
100%						
150%						
175%						
0%						
100%						
150%						
200%						
150%						
100%						
50%						
0%						

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/28/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 5

Performed by: MO/MM/TN

Pile Location: LT-1

Pile Size: W6x7

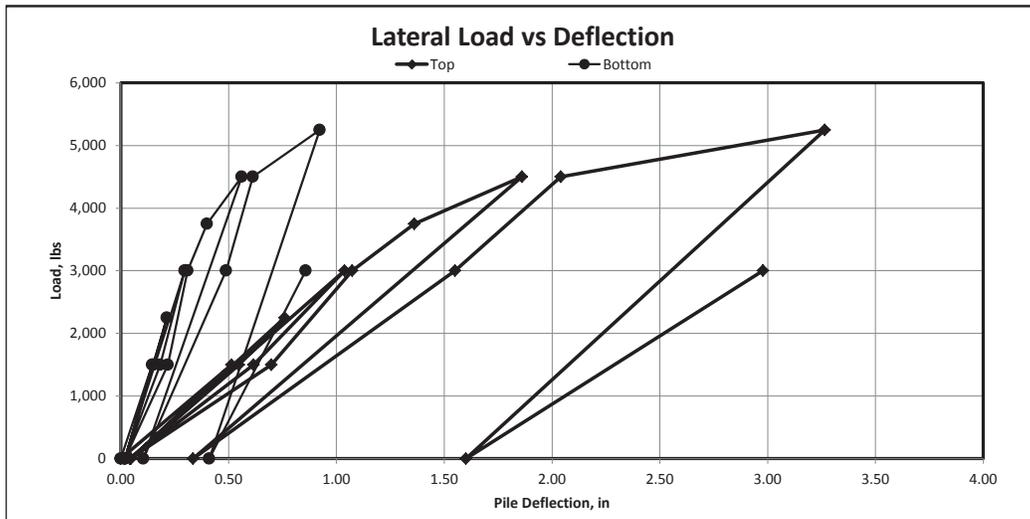
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	3.000	0.000	3.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	2.487	0.513	2.8550	0.1450	
0%	0	2.954	0.046	2.9810	0.0190	
50%	1,500	2.453	0.547	2.8490	0.1510	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.240	0.760	2.7860	0.2140	
0%	0	2.955	0.045	2.9820	0.0180	
50%	1,500	2.385	0.615	2.8180	0.1820	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	1.962	1.038	2.7030	0.2970	
0%	0	2.958	0.042	2.9810	0.0190	
50%	1,500	2.302	0.698	2.7820	0.2180	Height of Pile above ground surface (reveal): 59
100%	3,000	1.927	1.073	2.6900	0.3100	
125%	3,750	1.639	1.361	2.6000	0.4000	
150%	4,500	1.140	1.860	2.4400	0.5600	Pile Embedment (ft): 5.08
0%	0	2.665	0.335	2.8950	0.1050	
100%	3,000	1.450	1.550	2.5120	0.4880	
150%	4,500	0.960	2.040	2.3880	0.6120	
175%	5,250	-0.265	3.265	2.0780	0.9220	
0%	0	1.400	1.600	2.5900	0.4100	
100%	3,000	0.022	2.978	2.1420	0.8580	
150%	Yield @ 3,660 lbs					
200%						
150%						
100%						
50%						
0%						

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 1

Performed by: MO/MM/TN

Pile Location: LT-2

Pile Size: W6x8.5

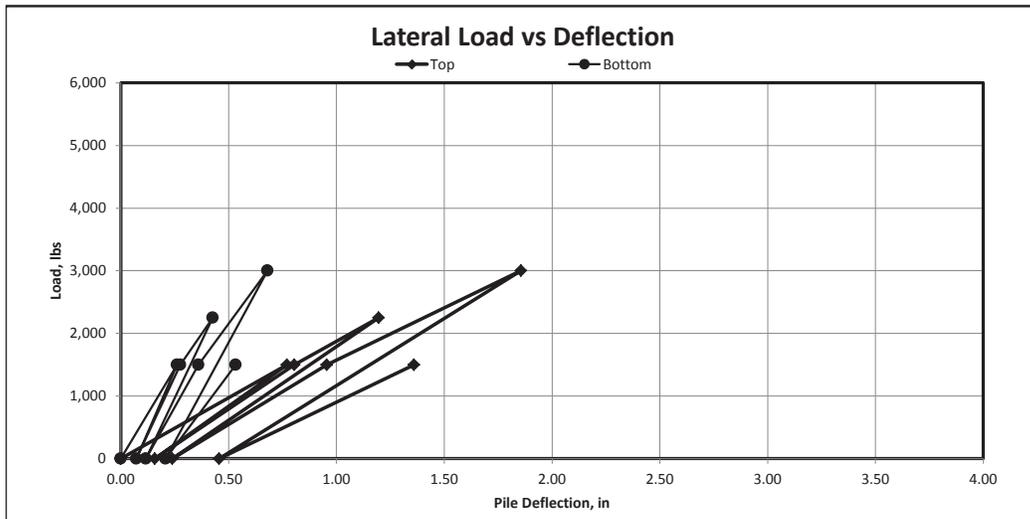
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	3.000	0.000	3.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	2.230	0.770	2.7390	0.2610	
0%	0	2.842	0.158	2.9280	0.0720	
50%	1,500	2.196	0.804	2.7240	0.2760	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	1.804	1.196	2.5740	0.4260	
0%	0	2.761	0.239	2.8840	0.1160	
50%	1,500	2.045	0.955	2.6400	0.3600	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	1.144	1.856	2.3190	0.6810	
0%	0	2.544	0.456	2.7920	0.2080	
50%	1,500	1.641	1.359	2.4670	0.5330	Height of Pile above ground surface (reveal): 51.5
100%	3,000	Pile lever out of ground				
125%	3,750					
150%	4,500					Pile Embedment (ft): 7.71
0%	0					
100%	3,000					
150%	4,500					
175%	5,000					
0%	0					
100%	3,000					
150%	4,100					
200%	5,000					
150%	4,500					
100%	3,000					
50%	1,500					
0%	0					

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/28/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 2

Performed by: MO/MM/TN

Pile Location: LT-2

Pile Size: W6x8.5

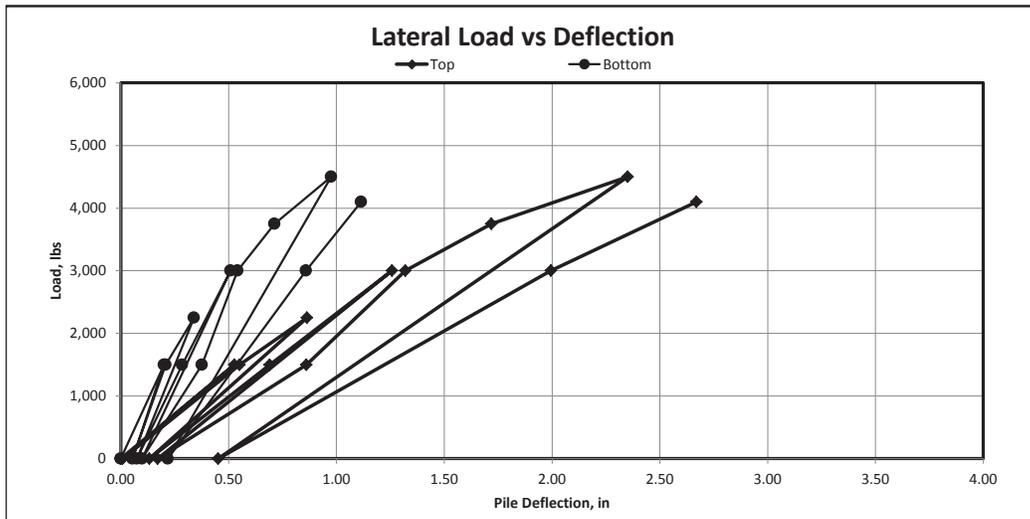
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	3.000	0.000	3.0000	0.0000	Height of Top Dial Gauge above ground surface: 46
50%	1,500	2.474	0.526	2.8000	0.2000	
0%	0	2.992	0.008	2.9460	0.0540	
50%	1,500	2.450	0.550	2.7920	0.2080	Height of Bottom Dial Gauge above ground surface: 46
75%	2,250	2.137	0.863	2.6610	0.3390	
0%	0	2.867	0.133	2.9250	0.0750	
50%	1,500	2.310	0.690	2.7150	0.2850	Height of Jack (load strap/chain) above grnd surface: 46
100%	3,000	1.742	1.258	2.4910	0.5090	
0%	0	2.829	0.171	2.9020	0.0980	
50%	1,500	2.139	0.861	2.6240	0.3760	Height of Pile above ground surface (reveal): 46
100%	3,000	1.680	1.320	2.4590	0.5410	
125%	3,750	1.282	1.718	2.2870	0.7130	
150%	4,500	0.650	2.350	2.0250	0.9750	Pile Embedment (ft): 10.17
0%	0	2.548	0.452	2.7820	0.2180	
100%	3,000	1.005	1.995	2.1410	0.8590	
150%	4,100	0.330	2.670	1.8850	1.1150	
175%	5,000					
0%	0					
100%	3,000					
150%	4,100					
200%	5,000					
150%	4,500					
100%	3,000					
50%	1,500					
0%	0					

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 3

Performed by: MO/MM/TN

Pile Location: LT-2

Pile Size: W6x15

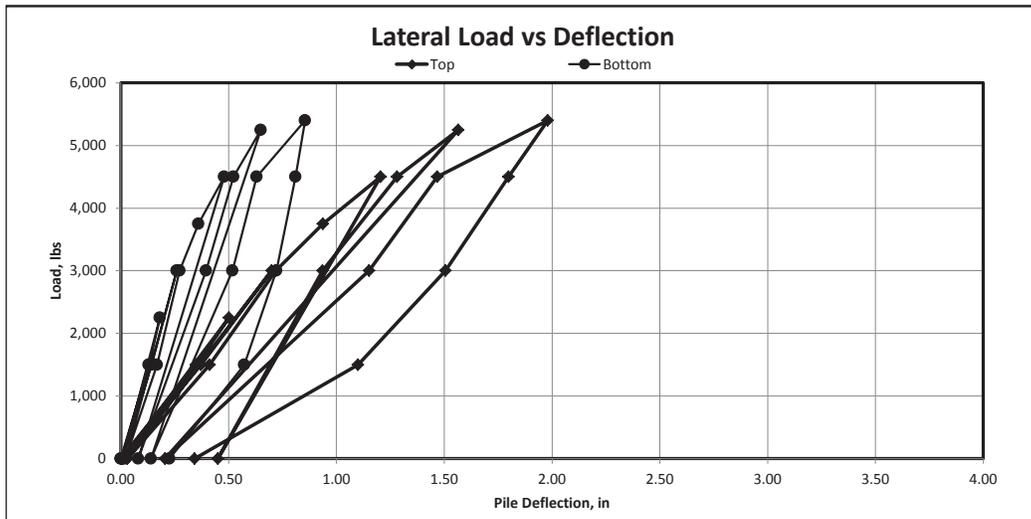
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	3.000	0.000	3.000	0.000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	2.651	0.349	2.871	0.129	
0%	0	2.995	0.005	2.997	0.003	
50%	1,500	2.649	0.351	2.868	0.132	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.499	0.501	2.819	0.181	
0%	0	2.990	0.010	2.992	0.008	
50%	1,500	2.628	0.372	2.858	0.142	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.300	0.700	2.740	0.260	
0%	0	2.970	0.030	2.978	0.022	
50%	1,500	2.588	0.412	2.832	0.168	Height of Pile above ground surface (reveal): 48
100%	3,000	2.282	0.718	2.728	0.272	
125%	3,750	2.062	0.938	2.640	0.360	
150%	4,500	1.795	1.205	2.520	0.480	Pile Embedment (ft): 8
0%	0	2.550	0.450	2.920	0.080	
100%	3,000	2.064	0.936	2.605	0.395	
150%	4,500	1.718	1.282	2.478	0.522	
175%	5,250	1.435	1.565	2.350	0.650	
0%	0	2.795	0.205	2.860	0.140	
100%	3,000	1.848	1.152	2.482	0.518	
150%	4,500	1.533	1.467	2.370	0.630	
200%	5,400	1.020	1.980	2.145	0.855	
150%	4,500	1.202	1.798	2.190	0.810	
100%	3,000	1.494	1.506	2.278	0.722	
50%	1,500	1.900	1.100	2.428	0.572	
0%	0	2.658	0.342	2.775	0.225	

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 4

Performed by: MO/MM/TN

Pile Location: LT-2

Pile Size: W6x7

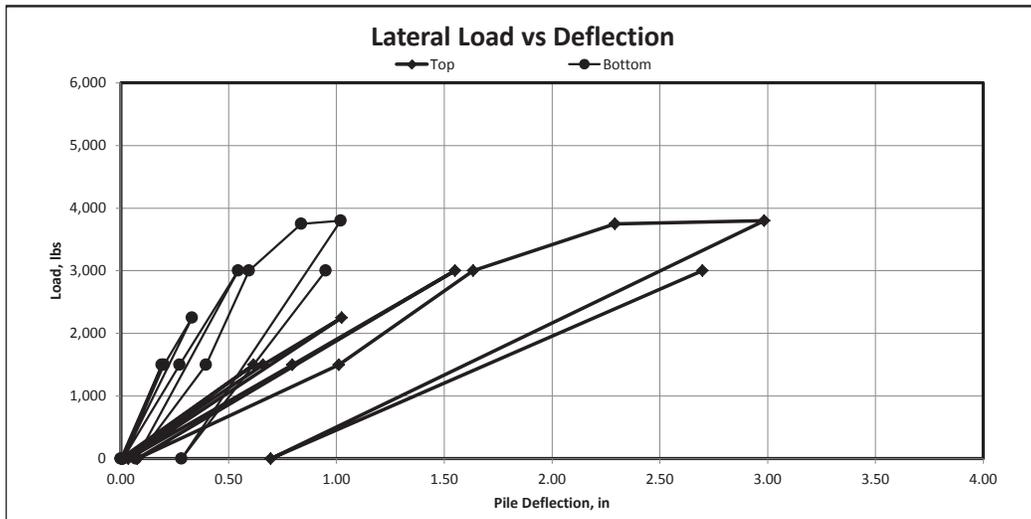
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	3.000	0.000	3.000	0.000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	2.385	0.615	2.810	0.190	
0%	0	2.990	0.010	2.990	0.010	
50%	1,500	2.340	0.660	2.799	0.201	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	1.975	1.025	2.669	0.331	
0%	0	2.965	0.035	2.990	0.010	
50%	1,500	2.205	0.795	2.728	0.272	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	1.450	1.550	2.455	0.545	
0%	0	2.923	0.077	2.930	0.070	
50%	1,500	1.989	1.011	2.605	0.395	Height of Pile above ground surface (reveal): 48
100%	3,000	1.365	1.635	2.405	0.595	
125%	3,750	0.708	2.292	2.163	0.837	
150%	3,800	0.015	2.985	1.980	1.020	Pile Embedment (ft): 8
0%	0	2.305	0.695	2.7190	0.2810	
100%	3,000	0.302	2.698	2.0490	0.9510	
150%	4,500					
175%	5,250					
0%	0					
100%	3,000					
150%	4,500					
200%	6,000					
150%	4,500					
100%	3,000					
50%	1,500					
0%	0					

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/28/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 5

Performed by: MO/MM/TN

Pile Location: LT-2

Pile Size: W6x7

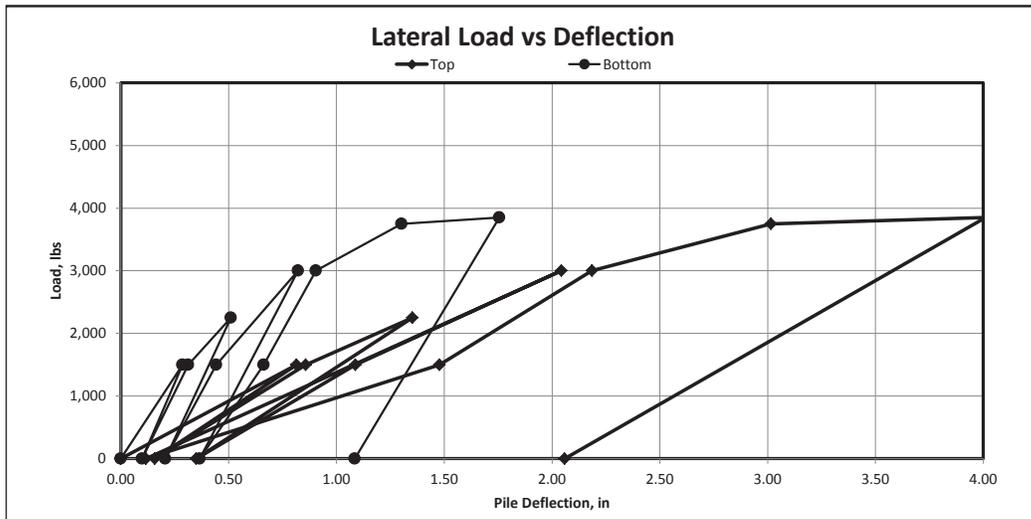
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	3.000	0.000	3.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	2.185	0.815	2.7140	0.2860	
0%	0	2.842	0.158	2.9010	0.0990	
50%	1,500	2.142	0.858	2.6880	0.3120	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	1.648	1.352	2.4900	0.5100	
0%	0	2.650	0.350	2.7940	0.2060	
50%	1,500	1.912	1.088	2.5580	0.4420	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	0.957	2.043	2.1780	0.8220	
0%	0	2.884	0.116	2.6340	0.3660	
50%	1,500	1.522	1.478	2.3370	0.6630	Height of Pile above ground surface (reveal): 48
100%	3,000	0.814	2.186	2.0950	0.9050	
125%	3,750	-0.016	3.016	1.6980	1.3020	
150%	3,850	-1.011	4.011	1.2450	1.7550	Pile Embedment (ft): 6
0%	0	0.941	2.059	1.9150	1.0850	
100%						
150%						
175%						
0%						
100%						
150%						
200%						
150%						
100%						
50%						
0%						

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/30/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 1

Performed by: MO/MM/TN

Pile Location: LT-3

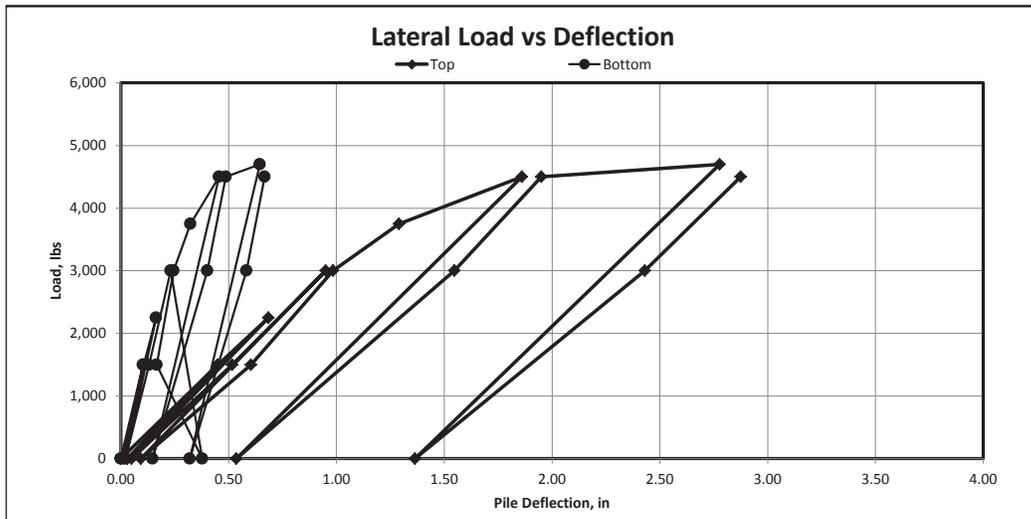
Pile Size: W6x8.5

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.550	0.450	0.1024	0.1024	
0%	0	3.970	0.030	0.0107	0.0107	
50%	1,500	3.550	0.450	0.1056	0.1056	
75%	2,250	3.315	0.685	0.1634	0.1634	Height of Bottom Dial Gauge above ground surface: 4
0%	0	3.950	0.050	0.0209	0.0209	
50%	1,500	3.484	0.516	0.1313	0.1313	
100%	3,000	3.050	0.950	0.2319	0.2319	
0%	0	3.908	0.092	0.3770	0.3770	Height of Jack (load strap/chain) above grnd surface: 48
50%	1,500	3.396	0.604	0.1669	0.1669	
100%	3,000	3.016	0.984	0.2444	0.2444	
125%	3,750	2.710	1.290	0.3230	0.3230	
150%	4,500	2.140	1.860	0.4560	0.4560	Height of Pile above ground surface (reveal): 48
0%	0	3.465	0.535	0.1475	0.1475	
100%	3,000	2.453	1.547	0.4018	0.4018	
150%	4,500	2.050	1.950	0.4866	0.4866	
175%	4,700	1.222	2.778	0.6456	0.6456	Pile Embedment (ft): 8
0%	0	2.636	1.364	0.3193	0.3193	
100%	3,000	1.570	2.430	0.5834	0.5834	
150%	4,500	1.125	2.875	0.6677	0.6677	
200%						
150%						
100%						
50%						
0%						

Time Start:

Time End:



Lateral Test Results

Date: 4/30/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 2

Performed by: MO/MM/TN

Pile Location: LT-3

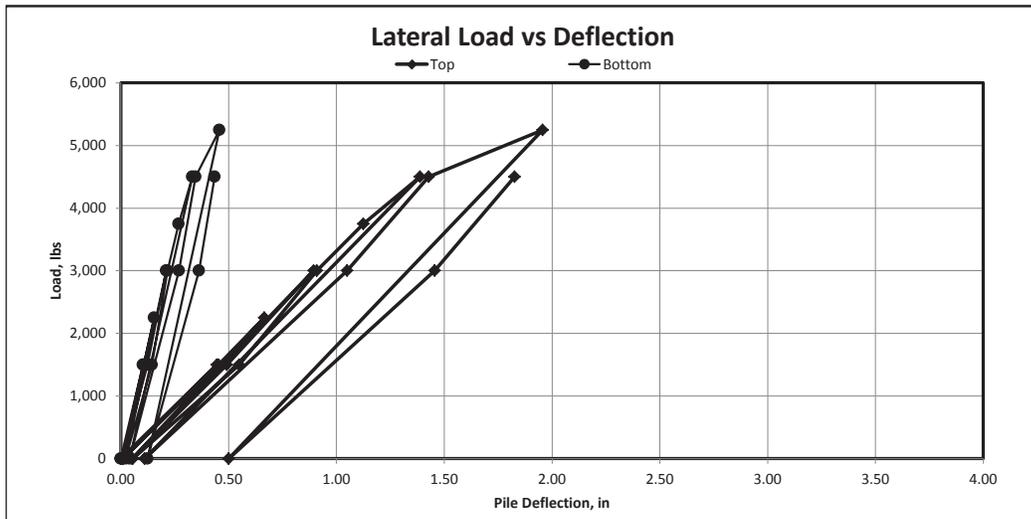
Pile Size: W6x8.5

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.554	0.446	0.1025	0.1025	
0%	0	3.990	0.010	0.0050	0.0050	
50%	1,500	3.547	0.453	0.1060	0.1060	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	3.334	0.666	0.1552	0.1552	
0%	0	3.948	0.052	0.0083	0.0083	
50%	1,500	3.508	0.492	0.1237	0.1237	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	3.105	0.895	0.2106	0.2106	
0%	0	3.944	0.056	0.0220	0.0220	
50%	1,500	3.451	0.549	0.1444	0.1444	Height of Pile above ground surface (reveal): 75
100%	3,000	3.091	0.909	0.2163	0.2163	
125%	3,750	2.875	1.125	0.2681	0.2681	
150%	4,500	2.612	1.388	0.3323	0.3323	Pile Embedment (ft): 7.75
0%	0	3.890	0.110	0.0405	0.0405	
100%	3,000	2.950	1.050	0.2698	0.2698	
150%	4,500	2.572	1.428	0.3465	0.3465	
175%	5,250	2.043	1.957	0.4580	0.4580	
0%	0	3.500	0.500	0.1236	0.1236	
100%	3,000	2.545	1.455	0.3629	0.3629	
150%	4,500	2.173	1.827	0.4354	0.4354	
200%	5,400					
150%						
100%						
50%						
0%						

Time Start:

Time End:



Lateral Test Results

Date: 4/30/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 3

Performed by: MO/MM/TN

Pile Location: LT-3

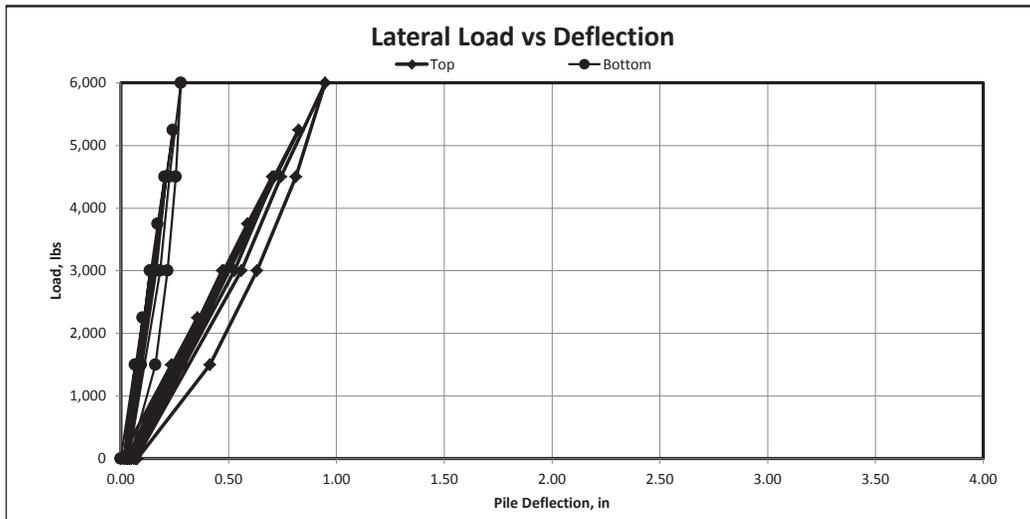
Pile Size: W6x15

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.766	0.234	0.0666	0.0666	
0%	0	3.970	0.030	0.0149	0.0149	
50%	1,500	3.761	0.239	0.0685	0.0685	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	3.645	0.355	0.1020	0.1020	
0%	0	3.959	0.041	0.0201	0.0201	
50%	1,500	3.735	0.265	0.0816	0.0816	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	3.530	0.470	0.1359	0.1359	
0%	0	3.950	0.050	0.0248	0.0248	
50%	1,500	3.711	0.289	0.0944	0.0944	Height of Pile above ground surface (reveal): 75
100%	3,000	3.522	0.478	0.1398	0.1398	
125%	3,750	3.413	0.587	0.1704	0.1704	
150%	4,500	3.298	0.702	0.2039	0.2039	Pile Embedment (ft): 7.25
0%	0	3.939	0.061	0.0314	0.0314	
100%	3,000	3.474	0.526	0.1648	0.1648	
150%	4,500	3.288	0.712	0.2101	0.2101	
175%	5,250	3.175	0.825	0.2418	0.2418	
0%	0	3.930	0.070	0.0359	0.0359	
100%	3,000	3.441	0.559	0.1822	0.1822	
150%	4,500	3.257	0.743	0.2248	0.2248	
200%	6,000	3.052	0.948	0.2785	0.2785	
150%	4,500	3.188	0.812	0.2557	0.2557	
100%	3,000	3.368	0.632	0.2170	0.2170	
50%	1,500	3.587	0.413	0.1600	0.1600	
0%	0	3.923	0.077	0.0408	0.0408	

Time Start:

Time End:



Lateral Test Results

Date: 4/30/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 4

Performed by: MO/MM/TN

Pile Location: LT-3

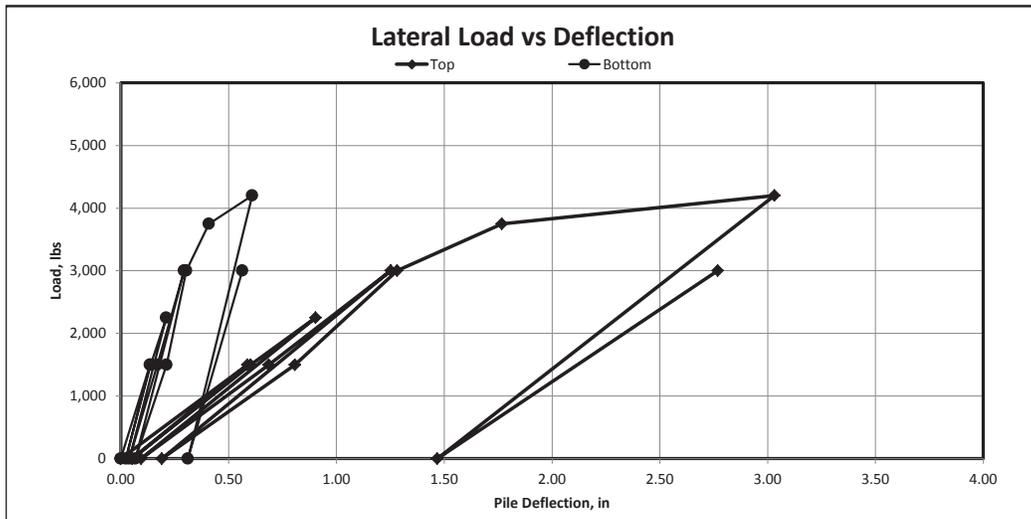
Pile Size: W6x7

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.413	0.587	0.1349	0.1349	
0%	0	3.948	0.052	0.0237	0.0237	
50%	1,500	3.398	0.602	0.1386	0.1386	
75%	2,250	3.096	0.904	0.2106	0.2106	Height of Bottom Dial Gauge above ground surface: 4
0%	0	3.906	0.094	0.0393	0.0393	
50%	1,500	3.314	0.686	0.1693	0.1693	
100%	3,000	2.748	1.252	0.2934	0.2934	
0%	0	3.810	0.190	0.0678	0.0678	Height of Jack (load strap/chain) above grnd surface: 48
50%	1,500	3.192	0.808	0.2115	0.2115	
100%	3,000	2.719	1.281	0.3041	0.3041	
125%	3,750	2.232	1.768	0.4085	0.4085	
150%	4,200	0.968	3.032	0.6087	0.6087	Height of Pile above ground surface (reveal): 57
0%	0	2.533	1.467	0.3107	0.3107	
100%	3,000	1.231	2.769	0.5637	0.5637	
150%	3,900					
175%						Pile Embedment (ft): 8
0%						
100%						
150%						
200%						
150%						
100%						
50%						
0%						

Time Start:

Time End:



Lateral Test Results

Date: 4/30/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 5

Performed by: MO/MM/TN

Pile Location: LT-3

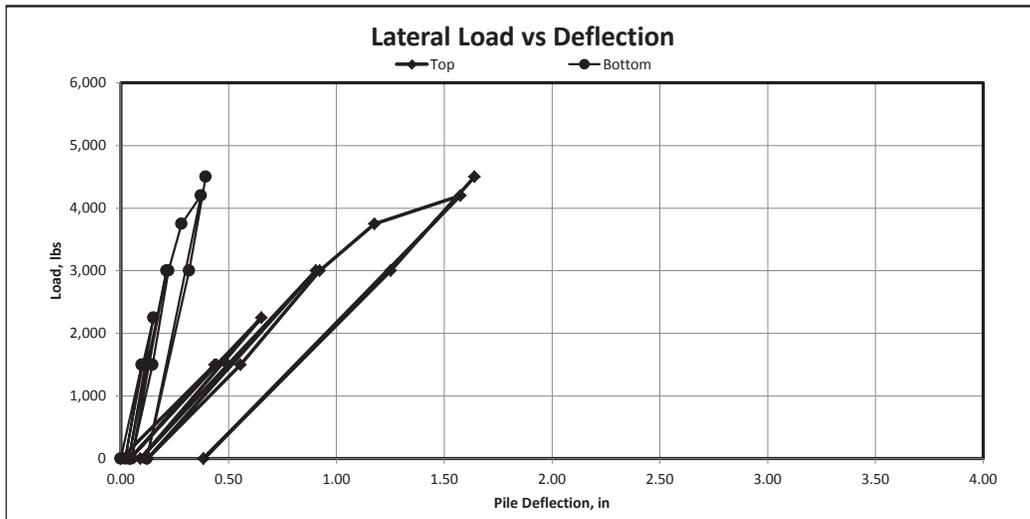
Pile Size: W6x7

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.565	0.435	0.0970	0.0970	
0%	0	3.958	0.042	0.0202	0.0202	
50%	1,500	3.556	0.444	0.1014	0.1014	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	3.348	0.652	0.1510	0.1510	
0%	0	3.909	0.091	0.0370	0.0370	
50%	1,500	3.504	0.496	0.1215	0.1215	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	3.095	0.905	0.2121	0.2121	
0%	0	3.877	0.123	0.0494	0.0494	
50%	1,500	3.445	0.555	0.1467	0.1467	Height of Pile above ground surface (reveal): 48
100%	3,000	3.078	0.922	0.2209	0.2209	
125%	3,750	2.824	1.176	0.2809	0.2809	
150%	4,200	2.425	1.575	0.3723	0.3723	Pile Embedment (ft): 6
0%	0	3.617	0.383	0.1211	0.1211	
100%	3,000	2.748	1.252	0.3168	0.3168	
150%	4,500	2.360	1.640	0.3931	0.3931	
175%	4,800					
0%						
100%						
150%						
200%						
150%						
100%						
50%						
0%						

Time Start:

Time End:



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 1

Performed by: MO/MM/TN

Pile Location: LT-4

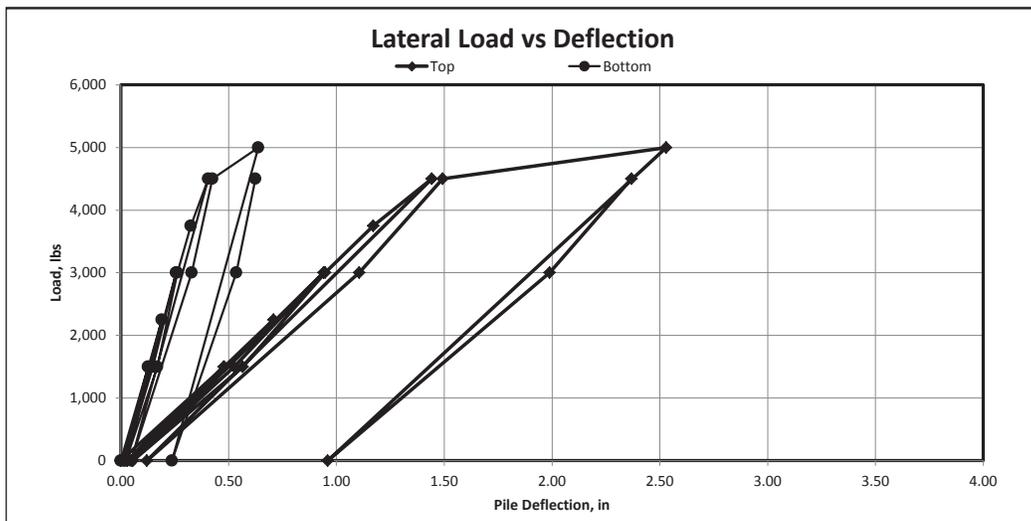
Pile Size: W6x8.5

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.522	0.478	0.1265	0.1265	
0%	0	3.969	0.031	0.0104	0.0104	
50%	1,500	3.520	0.480	0.1282	0.1282	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	3.292	0.708	0.1902	0.1902	
0%	0	3.948	0.052	0.0192	0.0192	
50%	1,500	3.475	0.525	0.1492	0.1492	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	3.060	0.940	0.2566	0.2566	
0%	0	3.945	0.055	0.0231	0.0231	
50%	1,500	3.435	0.565	0.1696	0.1696	Height of Pile above ground surface (reveal): 48
100%	3,000	3.052	0.948	0.2621	0.2621	
125%	3,750	2.829	1.171	0.3244	0.3244	
150%	4,500	2.557	1.443	0.4053	0.4053	Pile Embedment (ft): 8
0%	0	3.880	0.120	0.0479	0.0479	
100%	3,000	2.895	1.105	0.3291	0.3291	
150%	4,500	2.508	1.492	0.4252	0.4252	
175%	5,000	1.471	2.529	0.6371	0.6371	
0%	0	3.040	0.960	0.2378	0.2378	
100%	3,000	2.011	1.989	0.5351	0.5351	
150%	4,500	1.631	2.369	0.6247	0.6247	
200%						
150%						
100%						
50%						
0%						

Time Start:

Time End:



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 2

Performed by: MO/MM/TN

Pile Location: LT-4

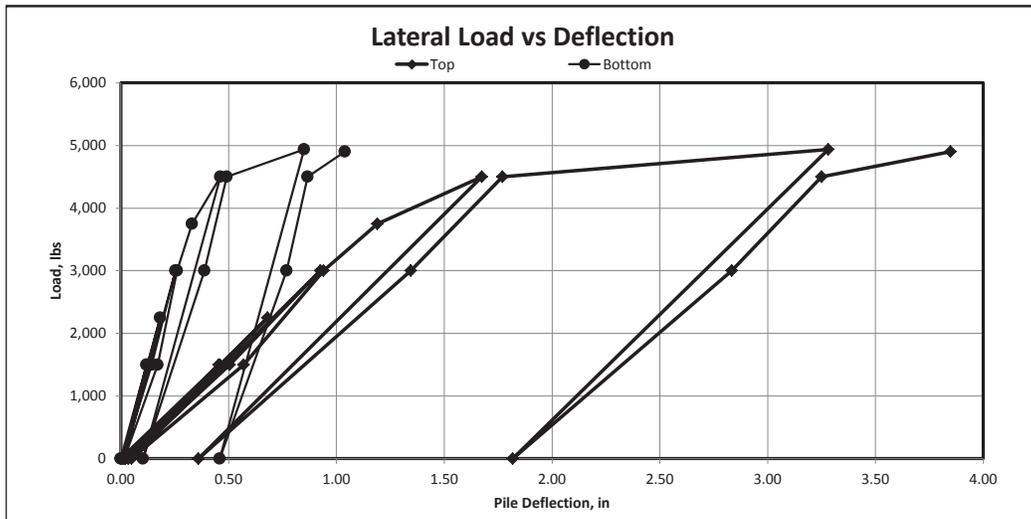
Pile Size: W6x8.5

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.545	0.455	0.1197	0.1197	
0%	0	3.980	0.020	0.0059	0.0059	
50%	1,500	3.540	0.460	0.1214	0.1214	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	3.320	0.680	0.1823	0.1823	
0%	0	3.965	0.035	0.0096	0.0096	
50%	1,500	3.495	0.505	0.1430	0.1430	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	3.075	0.925	0.2530	0.2530	
0%	0	3.950	0.050	0.0152	0.0152	
50%	1,500	3.431	0.569	0.1703	0.1703	Height of Pile above ground surface (reveal): 48
100%	3,000	3.060	0.940	0.2607	0.2607	
125%	3,750	2.810	1.190	0.3302	0.3302	
150%	4,500	2.325	1.675	0.4616	0.4616	Pile Embedment (ft): 10
0%	0	3.640	0.360	0.1031	0.1031	
100%	3,000	2.655	1.345	0.3886	0.3886	
150%	4,500	2.230	1.770	0.4906	0.4906	
175%	4,940	0.719	3.281	0.8497	0.8497	
0%	0	2.183	1.817	0.4592	0.4592	
100%	3,000	1.166	2.834	0.7696	0.7696	
150%	4,500	0.750	3.250	0.8666	0.8666	
200%	4,900	0.152	3.848	1.0397	1.0397	
150%						
100%						
50%						
0%						

Time Start:

Time End:



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 3

Performed by: MO/MM/TN

Pile Location: LT-4

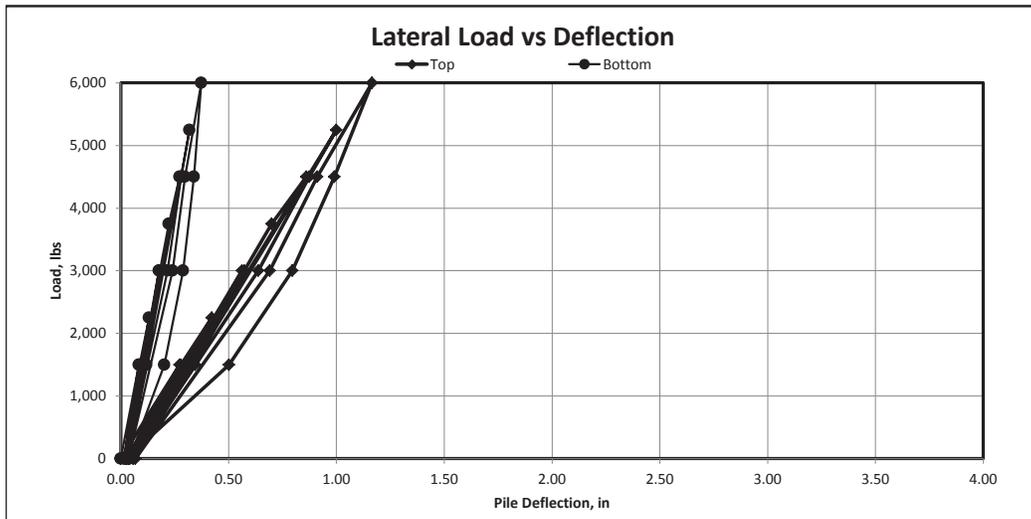
Pile Size: W6x15

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.727	0.273	0.0830	0.0830	
0%	0	3.972	0.028	0.0140	0.0140	
50%	1,500	3.721	0.279	0.0863	0.0863	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	3.578	0.422	0.1311	0.1311	
0%	0	3.962	0.038	0.0189	0.0189	
50%	1,500	3.682	0.318	0.1051	0.1051	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	3.438	0.562	0.1760	0.1760	
0%	0	3.960	0.040	0.0200	0.0200	
50%	1,500	3.655	0.345	0.1195	0.1195	Height of Pile above ground surface (reveal): 48
100%	3,000	3.428	0.572	0.1812	0.1812	
125%	3,750	3.300	0.700	0.2220	0.2220	
150%	4,500	3.140	0.860	0.2722	0.2722	Pile Embedment (ft): 8
0%	0	3.943	0.057	0.0307	0.0307	
100%	3,000	3.362	0.638	0.2160	0.2160	
150%	4,500	3.126	0.874	0.2797	0.2797	
175%	5,250	3.001	0.999	0.3187	0.3187	
0%	0	3.932	0.068	0.0363	0.0363	
100%	3,000	3.310	0.690	0.2396	0.2396	
150%	4,500	3.089	0.911	0.2982	0.2982	
200%	6,000	2.835	1.165	0.3733	0.3733	
150%	4,500	3.009	0.991	0.3389	0.3389	
100%	3,000	3.205	0.795	0.2885	0.2885	
50%	1,500	3.498	0.502	0.2021	0.2021	
0%	0	3.975	0.025	0.0411	0.0411	

Time Start:

Time End:



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 4

Performed by: MO/MM/TN

Pile Location: LT-4

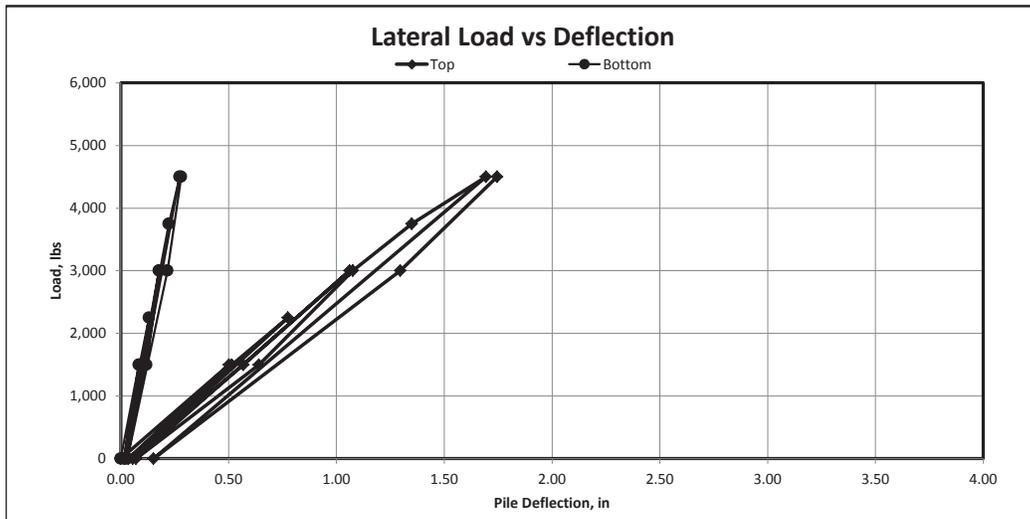
Pile Size: W6x7

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.498	0.502	0.0830	0.0830	
0%	0	3.965	0.035	0.0140	0.0140	
50%	1,500	3.485	0.515	0.0863	0.0863	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	3.225	0.775	0.1311	0.1311	
0%	0	3.945	0.055	0.0189	0.0189	
50%	1,500	3.432	0.568	0.1051	0.1051	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.938	1.062	0.1760	0.1760	
0%	0	3.930	0.070	0.0200	0.0200	
50%	1,500	3.360	0.640	0.1195	0.1195	Height of Pile above ground surface (reveal): 48
100%	3,000	2.924	1.076	0.1812	0.1812	
125%	3,750	2.650	1.350	0.2220	0.2220	
150%	4,500	2.307	1.693	0.2722	0.2722	Pile Embedment (ft): 8
0%	0	3.848	0.152	0.0307	0.0307	
100%	3,000	2.704	1.296	0.2160	0.2160	
150%	4,500	2.255	1.745	0.2797	0.2797	
175%						
0%						
100%						
150%						
200%						
150%						
100%						
50%						
0%						

Time Start:

Time End:



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 5

Performed by: MO/MM/TN

Pile Location: LT-4

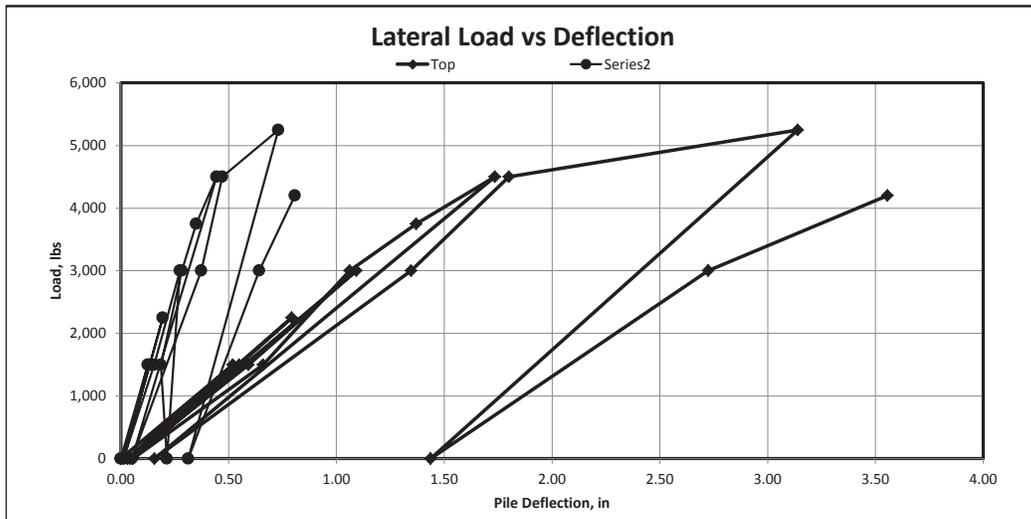
Pile Size: W6x7

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.480	0.520	0.1253	0.1253	
0%	0	3.970	0.030	0.0107	0.0107	
50%	1,500	3.451	0.549	0.1338	0.1338	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	3.208	0.792	0.1942	0.1942	
0%	0	3.959	0.041	0.0132	0.0132	
50%	1,500	3.408	0.592	0.1548	0.1548	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.908	1.092	0.2742	0.2742	
0%	0	3.944	0.056	0.2140	0.2140	
50%	1,500	3.340	0.660	0.1861	0.1861	Height of Pile above ground surface (reveal): 48
100%	3,000	2.938	1.062	0.2825	0.2825	
125%	3,750	2.630	1.370	0.3501	0.3501	
150%	4,500	2.265	1.735	0.4441	0.4441	Pile Embedment (ft): 6
0%	0	3.844	0.156	0.0516	0.0516	
100%	3,000	2.654	1.346	0.3730	0.3730	
150%	4,500	2.200	1.800	0.4699	0.4699	
175%	5,250	0.860	3.140	0.7300	0.7300	
0%	0	2.563	1.437	0.3123	0.3123	
100%	3,000	1.275	2.725	0.6426	0.6426	
150%	4,200	0.444	3.556	0.8068	0.8068	
200%						
150%						
100%						
50%						
0%						

Time Start:

Time End:



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 1

Performed by: MO/MM/TN

Pile Location: LT-5

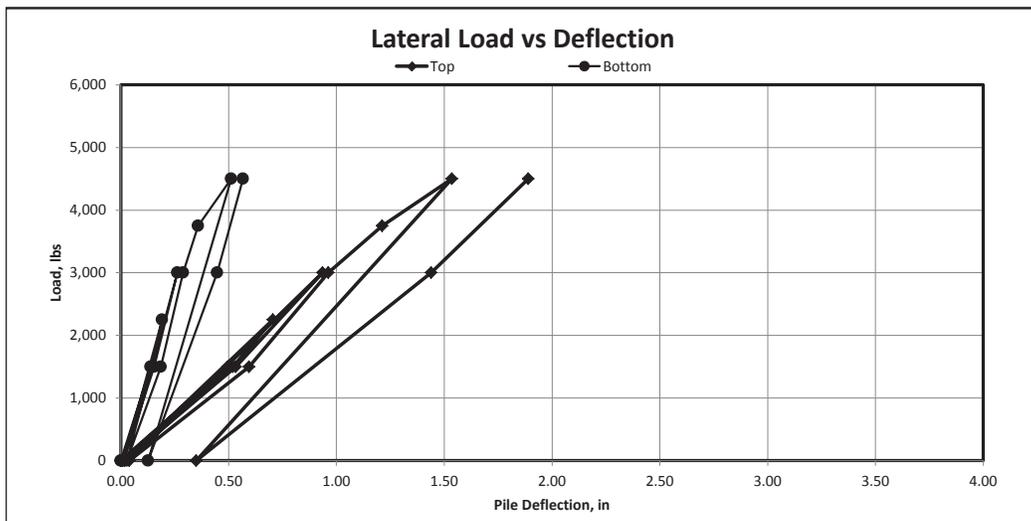
Pile Size: W6x8.5

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	3.000	0.000	3.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	2.505	0.495	2.8610	0.1390	
0%	0	2.994	0.006	2.9960	0.0040	
50%	1,500	2.480	0.520	2.8580	0.1420	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.295	0.705	2.8090	0.1910	
0%	0	2.983	0.017	2.9870	0.0130	
50%	1,500	2.468	0.532	2.8460	0.1540	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.064	0.936	2.7370	0.2630	
0%	0	2.961	0.039	2.9720	0.0280	
50%	1,500	2.405	0.595	2.8140	0.1860	Height of Pile above ground surface (reveal): 48
100%	3,000	2.038	0.962	2.7110	0.2890	
125%	3,750	1.788	1.212	2.6420	0.3580	
150%	4,500	1.465	1.535	2.4880	0.5120	Pile Embedment (ft): 8
0%	0	2.651	0.349	2.8730	0.1270	
100%	3,000	1.560	1.440	2.5530	0.4470	
150%	4,500	1.110	1.890	2.4340	0.5660	
175%	4,640					
0%						
100%						
150%						
200%						
150%						
100%						
50%						
0%						

Time Start:

Time End:



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 2

Performed by: MO/MM/TN

Pile Location: LT-5

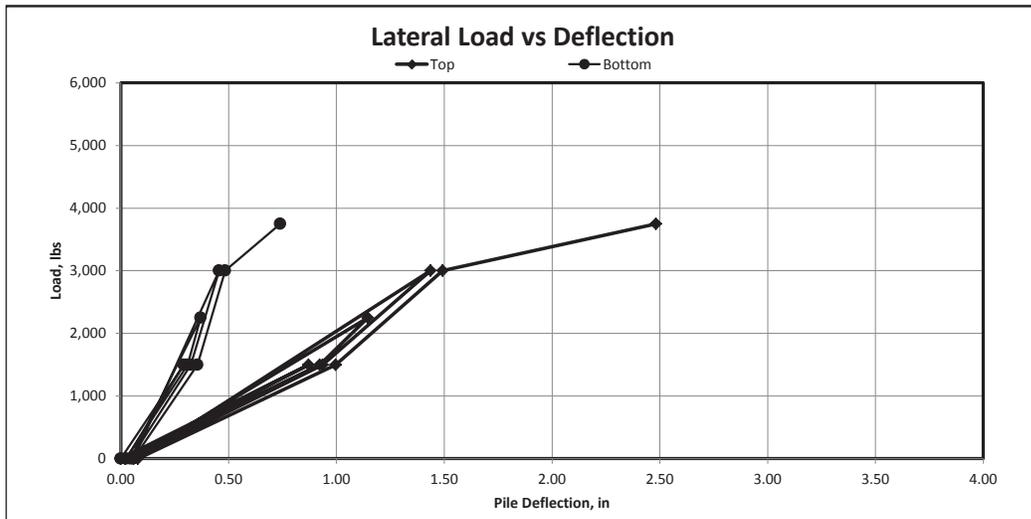
Pile Size: W6x8.5

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	3.000	0.000	3.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	2.129	0.871	2.7080	0.2920	
0%	0	2.980	0.020	2.9750	0.0250	
50%	1,500	2.077	0.923	2.6900	0.3100	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	1.854	1.146	2.6300	0.3700	
0%	0	2.941	0.059	2.9550	0.0450	
50%	1,500	2.064	0.936	2.6760	0.3240	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	1.564	1.436	2.5440	0.4560	
0%	0	2.921	0.079	2.9420	0.0580	
50%	1,500	2.003	0.997	2.6450	0.3550	Height of Pile above ground surface (reveal): 48
100%	3,000	1.508	1.492	2.5160	0.4840	
125%	3,750	0.518	2.482	2.2600	0.7400	
150%	3,880					Pile Embedment (ft): 10
0%						
100%						
150%						
175%						
0%						
100%						
150%						
200%						
150%						
100%						
50%						
0%						

Time Start:

Time End:



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 3

Performed by: MO/MM/TN

Pile Location: LT-5

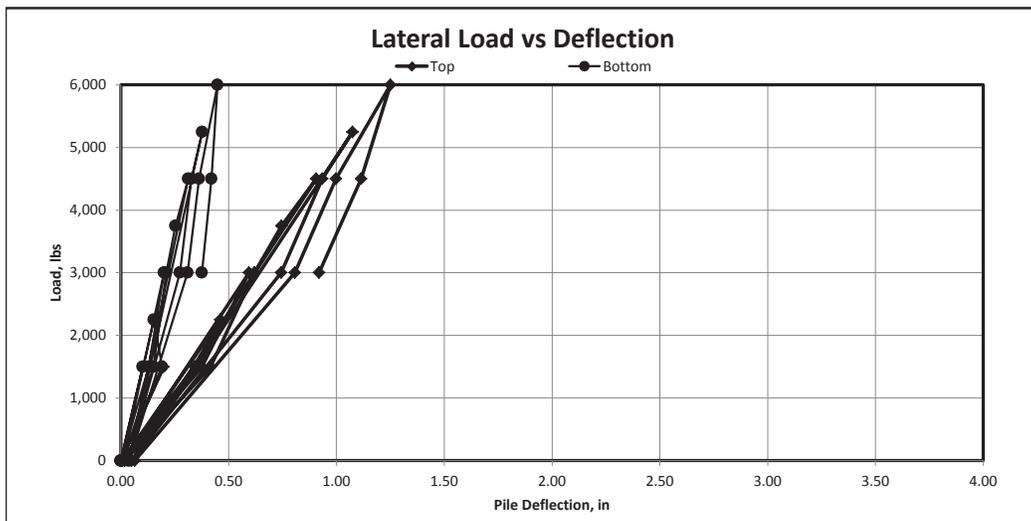
Pile Size: W6x15

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	3.000	0.000	3.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	2.802	0.198	2.8990	0.1010	
0%	0	3.000	0.000	3.0000	0.0000	
50%	1,500	2.656	0.344	2.8080	0.1920	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.538	0.462	2.8470	0.1530	
0%	0	2.993	0.007	2.9970	0.0030	
50%	1,500	2.624	0.376	2.8700	0.1300	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.405	0.595	2.8000	0.2000	
0%	0	2.982	0.018	2.9900	0.0100	
50%	1,500	2.584	0.416	2.8480	0.1520	Height of Pile above ground surface (reveal): 48
100%	3,000	2.380	0.620	2.7900	0.2100	
125%	3,750	2.255	0.745	2.7460	0.2540	
150%	4,500	2.093	0.907	2.6880	0.3120	Pile Embedment (ft): 8
0%	0	2.951	0.049	2.9650	0.0350	
100%	3,000	2.256	0.744	2.7260	0.2740	
150%	4,500	2.065	0.935	2.6720	0.3280	
175%	5,250	1.925	1.075	2.6220	0.3780	
0%	0	2.936	0.064	2.9600	0.0400	
100%	3,000	2.192	0.808	2.6900	0.3100	
150%	4,500	2.002	0.998	2.6370	0.3630	
200%	6,000	1.750	1.250	2.5520	0.4480	
150%	4,500	1.885	1.115	2.5790	0.4210	
100%	3,000	2.080	0.920	2.6240	0.3760	
50%						
0%						

Time Start:

Time End:



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 4

Performed by: MO/MM/TN

Pile Location: LT-5

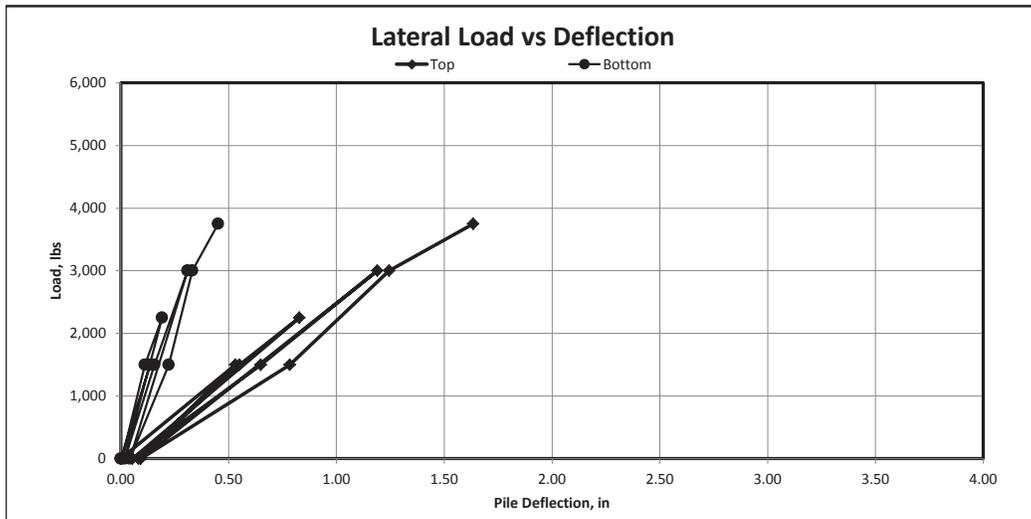
Pile Size: W6x7

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	3.000	0.000	3.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	2.469	0.531	2.8640	0.1360	
0%	0	2.918	0.082	2.9950	0.0050	
50%	1,500	2.450	0.550	2.8880	0.1120	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.172	0.828	2.8080	0.1920	
0%	0	2.946	0.054	2.9810	0.0190	
50%	1,500	2.350	0.650	2.8440	0.1560	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	1.810	1.190	2.6900	0.3100	
0%	0	2.907	0.093	2.9580	0.0420	
50%	1,500	2.217	0.783	2.7770	0.2230	Height of Pile above ground surface (reveal): 60
100%	3,000	1.756	1.244	2.6680	0.3320	
125%	3,750	1.365	1.635	2.5480	0.4520	
150%	4,370					Pile Embedment (ft): 8
0%						
100%						
150%						
175%						
0%						
100%						
150%						
200%						
150%						
100%						
50%						
0%						

Time Start:

Time End:



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 5

Performed by: MO/MM/TN

Pile Location: LT-5

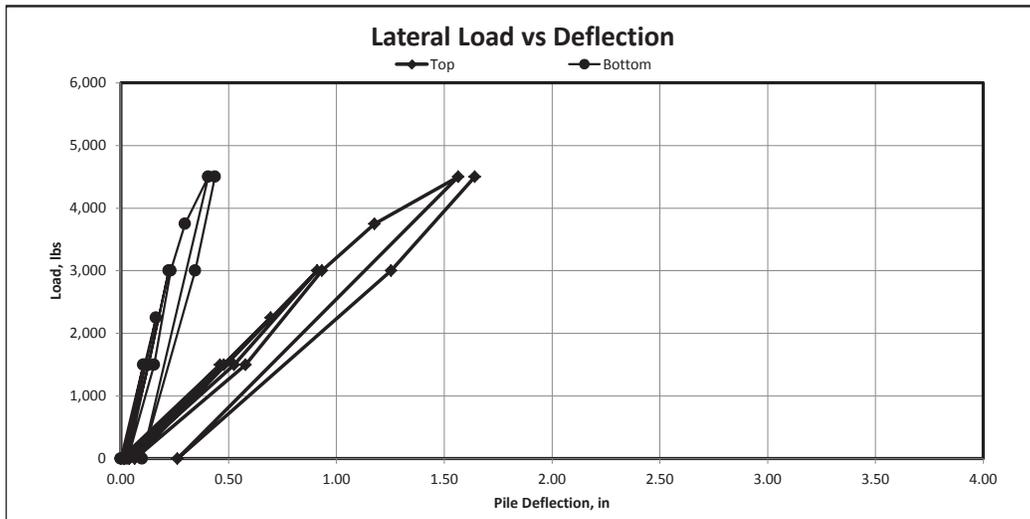
Pile Size: W6x7

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	3.000	0.000	3.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	2.540	0.460	2.8960	0.1040	
0%	0	2.984	0.016	2.9910	0.0090	
50%	1,500	2.522	0.478	2.8900	0.1100	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.305	0.695	2.8360	0.1640	
0%	0	2.960	0.040	2.9800	0.0200	
50%	1,500	2.475	0.525	2.8700	0.1300	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.090	0.910	2.7780	0.2220	
0%	0	2.936	0.064	2.9680	0.0320	
50%	1,500	2.422	0.578	2.8460	0.1540	Height of Pile above ground surface (reveal): 48
100%	3,000	2.067	0.933	2.7690	0.2310	
125%	3,750	1.824	1.176	2.7020	0.2980	
150%	4,500	1.435	1.565	2.5950	0.4050	Pile Embedment (ft): 6
0%	0	2.737	0.263	2.9010	0.0990	
100%	3,000	1.746	1.254	2.6550	0.3450	
150%	4,500	1.358	1.642	2.5640	0.4360	
175%	5,010					
0%						
100%						
150%						
200%						
150%						
100%						
50%						
0%						

Time Start:

Time End:



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 1

Performed by: MO/MM/TN

Pile Location: LT-6

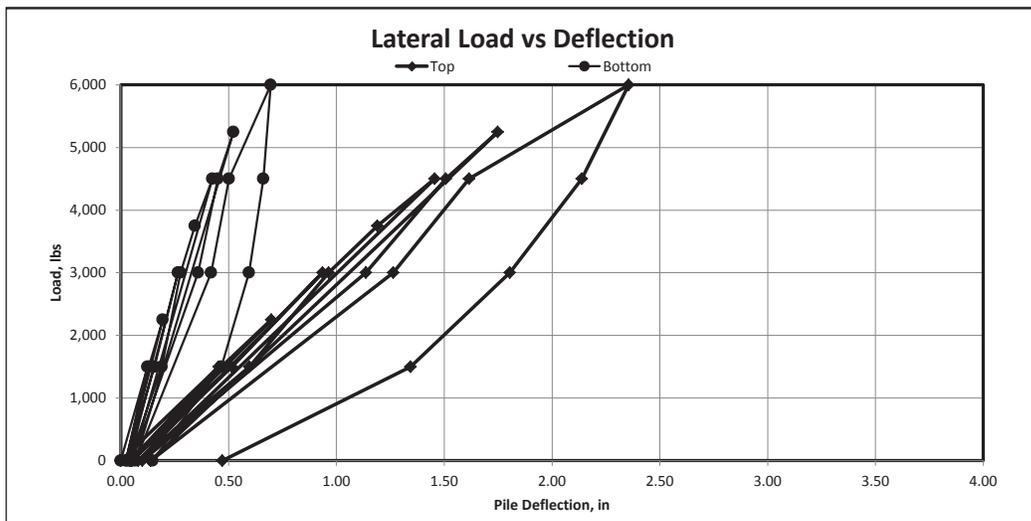
Pile Size: W6x8.5

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.545	0.455	0.1234	0.1234	
0%	0	3.957	0.043	0.0224	0.0224	
50%	1,500	3.534	0.466	0.1287	0.1287	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	3.302	0.698	0.1938	0.1938	
0%	0	3.949	0.051	0.0271	0.0271	
50%	1,500	3.485	0.515	0.1566	0.1566	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	3.064	0.936	0.2646	0.2646	
0%	0	3.920	0.080	0.0397	0.0397	
50%	1,500	3.404	0.596	0.1896	0.1896	Height of Pile above ground surface (reveal): 48
100%	3,000	3.036	0.964	0.2766	0.2766	
125%	3,750	2.810	1.190	0.3429	0.3429	
150%	4,500	2.545	1.455	0.4255	0.4255	Pile Embedment (ft): 8
0%	0	3.900	0.100	0.0528	0.0528	
100%	3,000	2.864	1.136	0.3590	0.3590	
150%	4,500	2.492	1.508	0.4505	0.4505	
175%	5,250	2.252	1.748	0.5223	0.5223	
0%	0	3.861	0.139	0.0672	0.0672	
100%	3,000	2.736	1.264	0.4190	0.4190	
150%	4,500	2.385	1.615	0.5023	0.5023	
200%	6,000	1.645	2.355	0.6946	0.6946	
150%	4,500	1.862	2.138	0.6613	0.6613	
100%	3,000	2.196	1.804	0.5940	0.5940	
50%	1,500	2.656	1.344	0.4664	0.4664	
0%	0	3.530	0.470	0.1468	0.1468	

Time Start:

Time End:



Lateral Test Results

Date: 4/30/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 2

Performed by: MO/MM/TN

Pile Location: LT-6

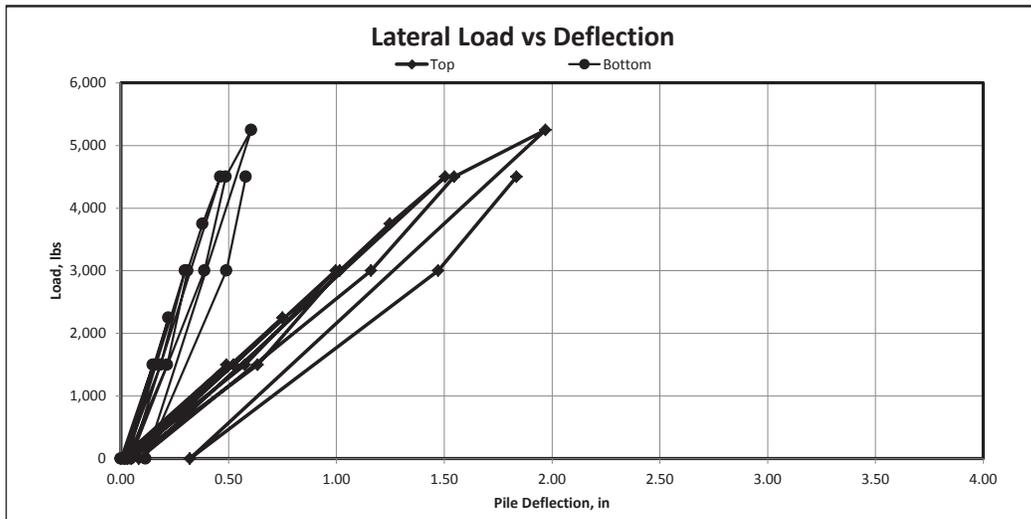
Pile Size: W6x8.5

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.510	0.490	0.1488	0.1488	
0%	0	3.981	0.019	0.0096	0.0096	
50%	1,500	3.478	0.522	0.1568	0.1568	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	3.250	0.750	0.2211	0.2211	
0%	0	3.969	0.031	0.0167	0.0167	
50%	1,500	3.425	0.575	0.1847	0.1847	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	3.004	0.996	0.2984	0.2984	
0%	0	3.951	0.049	0.0289	0.0289	
50%	1,500	3.365	0.635	0.2147	0.2147	Height of Pile above ground surface (reveal): 48
100%	3,000	2.984	1.016	0.3093	0.3093	
125%	3,750	2.752	1.248	0.3787	0.3787	
150%	4,500	2.496	1.504	0.4623	0.4623	Pile Embedment (ft): 10
0%	0	3.916	0.084	0.0457	0.0457	
100%	3,000	2.840	1.160	0.3883	0.3883	
150%	4,500	2.454	1.546	0.4867	0.4867	
175%	5,250	2.030	1.970	0.6043	0.6043	
0%	0	3.680	0.320	0.1145	0.1145	
100%	3,000	2.528	1.472	0.4891	0.4891	
150%	4,500	2.164	1.836	0.5794	0.5794	
200%	5,400					
150%						
100%						
50%						
0%						

Time Start:

Time End:



Lateral Test Results

Date: 4/30/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 3

Performed by: MO/MM/TN

Pile Location: LT-6

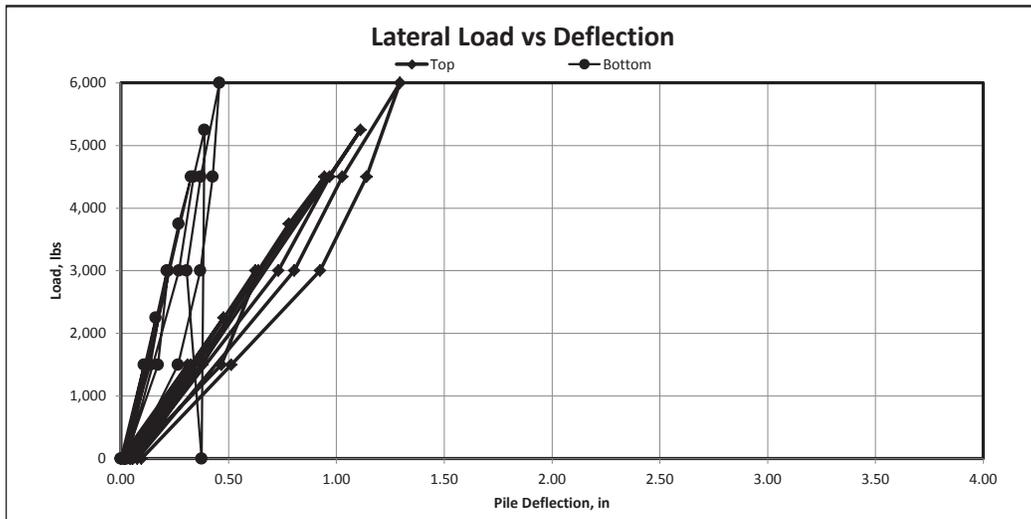
Pile Size: W6x15

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.690	0.310	0.1070	0.1070	
0%	0	3.985	0.015	0.0070	0.0070	
50%	1,500	3.676	0.324	0.1180	0.1180	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	3.524	0.476	0.1623	0.1623	
0%	0	3.978	0.022	0.0097	0.0097	
50%	1,500	3.622	0.378	0.1371	0.1371	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	3.376	0.624	0.2131	0.2131	
0%	0	3.956	0.044	0.0201	0.0201	
50%	1,500	3.534	0.466	0.1718	0.1718	Height of Pile above ground surface (reveal): 48
100%	3,000	3.363	0.637	0.2197	0.2197	
125%	3,750	3.220	0.780	0.2678	0.2678	
150%	4,500	3.056	0.944	0.3255	0.3255	Pile Embedment (ft): 8
0%	0	3.945	0.055	0.0270	0.0270	
100%	3,000	3.270	0.730	0.2695	0.2695	
150%	4,500	3.032	0.968	0.3376	0.3376	
175%	5,250	2.888	1.112	0.3885	0.3885	
0%	0	3.924	0.076	0.3740	0.3740	
100%	3,000	3.196	0.804	0.3055	0.3055	
150%	4,500	2.972	1.028	0.3695	0.3695	
200%	6,000	2.706	1.294	0.4566	0.4566	
150%	4,500	2.860	1.140	0.4263	0.4263	
100%	3,000	3.076	0.924	0.3683	0.3683	
50%	1,500	3.488	0.512	0.2656	0.2656	
0%	0	3.905	0.095	0.0486	0.0486	

Time Start:

Time End:



Lateral Test Results

Date: 4/30/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 4

Performed by: MO/MM/TN

Pile Location: LT-6

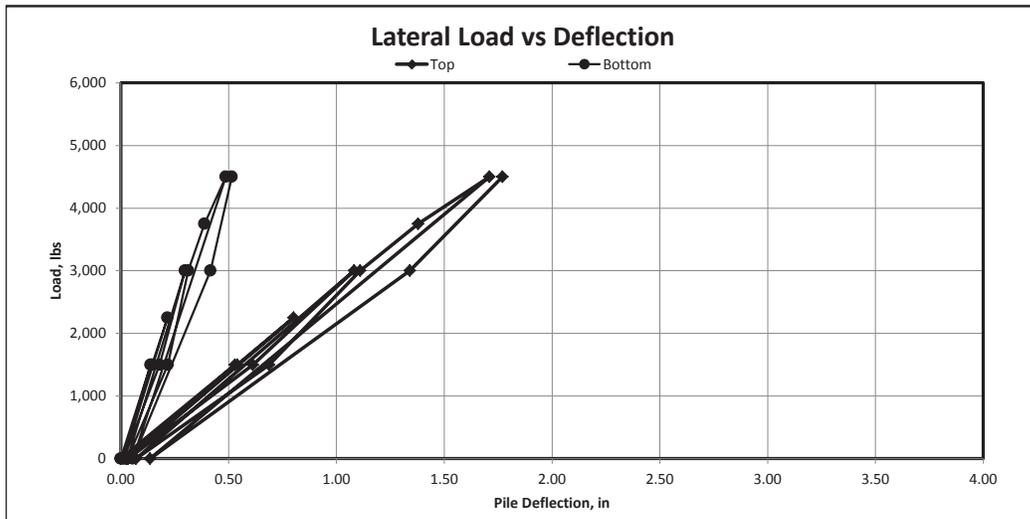
Pile Size: W6x7

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.471	0.529	0.1377	0.1377	
0%	0	3.975	0.025	0.0098	0.0098	
50%	1,500	3.460	0.540	0.1436	0.1436	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	3.199	0.801	0.2161	0.2161	
0%	0	3.967	0.033	0.0141	0.0141	
50%	1,500	3.387	0.613	0.1797	0.1797	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.918	1.082	0.2985	0.2985	
0%	0	3.930	0.070	0.0305	0.0305	
50%	1,500	3.312	0.688	0.2179	0.2179	Height of Pile above ground surface (reveal): 48
100%	3,000	2.890	1.110	0.3120	0.3120	
125%	3,750	2.621	1.379	0.3877	0.3877	
150%	4,500	2.290	1.710	0.4873	0.4873	Pile Embedment (ft): 8
0%	0	3.864	0.136	0.0555	0.0555	
100%	3,000	2.660	1.340	0.4159	0.4159	
150%	4,500	2.229	1.771	0.5148	0.5148	
175%	5,100					
0%						
100%						
150%						
200%						
150%						
100%						
50%						
0%						

Time Start:

Time End:



Lateral Test Results

Date: 4/30/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 5

Performed by: MO/MM/TN

Pile Location: LT-6

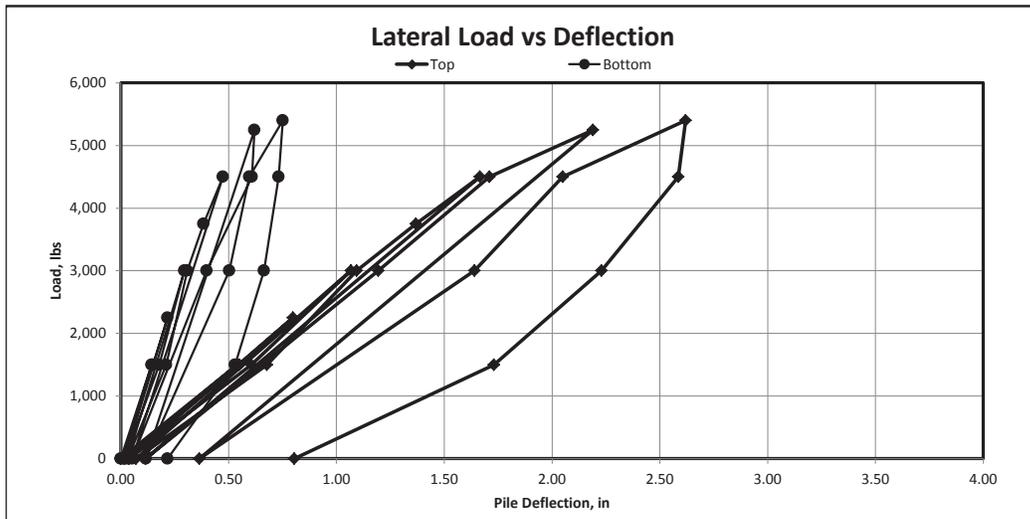
Pile Size: W6x7

Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.460	0.540	0.1432	0.1432	
0%	0	3.983	0.017	0.0078	0.0078	
50%	1,500	3.450	0.550	0.1488	0.1488	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	3.202	0.798	0.2159	0.2159	
0%	0	3.962	0.038	0.0180	0.0180	
50%	1,500	3.395	0.605	0.1775	0.1775	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.932	1.068	0.2951	0.2951	
0%	0	3.930	0.070	0.0315	0.0315	
50%	1,500	3.322	0.678	0.2107	0.2107	Height of Pile above ground surface (reveal): 48
100%	3,000	2.906	1.094	0.3078	0.3078	
125%	3,750	2.632	1.368	0.3841	0.3841	
150%	4,500	2.335	1.665	0.4729	0.4729	Pile Embedment (ft): 6
0%	0	3.885	0.115	0.0521	0.0521	
100%	3,000	2.805	1.195	0.3982	0.3982	
150%	4,500	2.290	1.710	0.6085	0.6085	
175%	5,250	1.810	2.190	0.6194	0.6194	
0%	0	3.635	0.365	0.1159	0.1159	
100%	3,000	2.360	1.640	0.5031	0.5031	
150%	4,500	1.950	2.050	0.5968	0.5968	
200%	5,400	1.380	2.620	0.7511	0.7511	
150%	4,500	1.415	2.585	0.7314	0.7314	
100%	3,000	1.770	2.230	0.6646	0.6646	
50%	1,500	2.270	1.730	0.5304	0.5304	
0%	0	3.195	0.805	0.2166	0.2166	

Time Start:

Time End:



Lateral Test Results

Date: 4/28/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 1

Performed by: MO/MM/TN

Pile Location: LT-7

Pile Size: W6x8.5

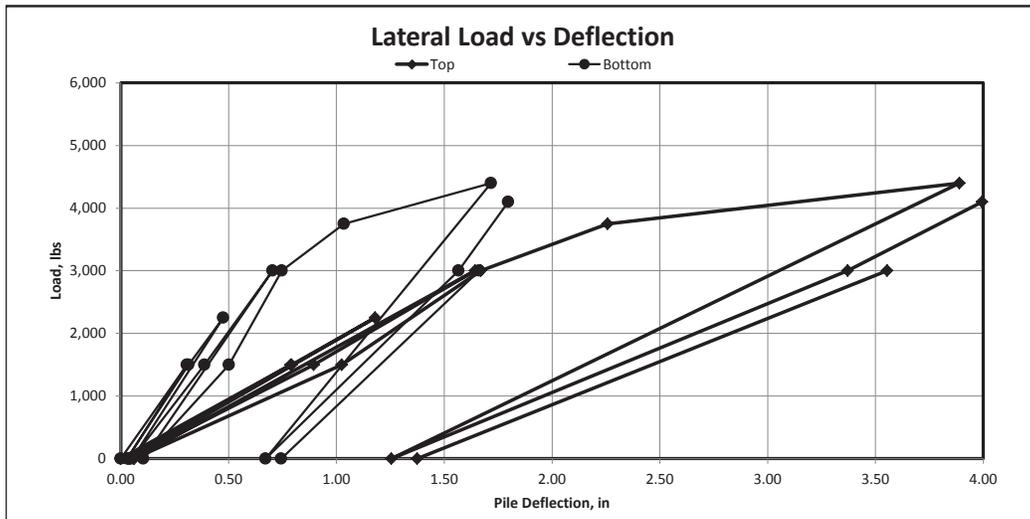
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4	0.000	0	0	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.212	0.788	0.306	0.306	
0%	0	3.967	0.033	0.0285	0.0285	
50%	1,500	3.208	0.792	0.3136	0.3136	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.821	1.179	0.4748	0.4748	
0%	0	3.958	0.042	0.0524	0.0524	
50%	1,500	3.106	0.894	0.3874	0.3874	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.356	1.644	0.7033	0.7033	
0%	0	3.938	0.062	0.1043	0.1043	
50%	1,500	2.975	1.025	0.501	0.501	Height of Pile above ground surface (reveal): 48
100%	3,000	2.33	1.670	0.7465	0.7465	
125%	3,750	1.742	2.258	1.0354	1.0354	
150%	4,400	0.111	3.889	1.7171	1.7171	Pile Embedment (ft): 8'
0%	0	2.745	1.255	0.6716	0.6716	
100%	3,000	0.628	3.372	1.5671	1.5671	
150%	4,100	0.006	3.994	1.7964	1.7964	
175%	5,000					
0%	0	2.626	1.374	0.7433	0.7433	
100%	3,000	0.445	3.555	1.6624	1.6624	
150%	4,100					
200%	5,000					
150%	4,500					
100%	3,000					
50%	1,500					
0%	0					

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/28/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 2

Performed by: MO/MM/TN

Pile Location: LT-7

Pile Size: W6x8.5

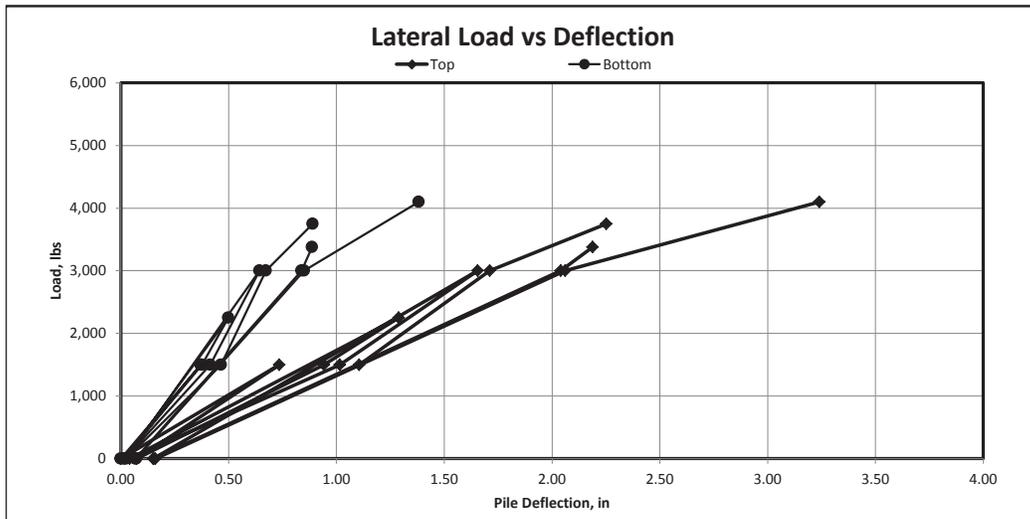
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4	0.000	0	0	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.265	0.735	0.3705	0.3705	
0%	0	3.927	0.073	0.0129	0.0129	
50%	1,500	3.058	0.942	0.3765	0.3765	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.711	1.289	0.4988	0.4988	
0%	0	3.959	0.041	0.0184	0.0184	
50%	1,500	2.985	1.015	0.4138	0.4138	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.345	1.655	0.6438	0.6438	
0%	0	3.85	0.150	0.025	0.025	
50%	1,500	2.894	1.106	0.4649	0.4649	Height of Pile above ground surface (reveal): 48
100%	3,000	2.289	1.711	0.6725	0.6725	
125%	3,750	1.748	2.252	0.8895	0.8895	
150%	3,750					Pile Embedment (ft): 10'
0%	0	3.847	0.153	0.0681	0.0681	
100%	3,000	1.959	2.041	0.8384	0.8384	
150%	3,380	1.812	2.188	0.8873	0.8873	
175%	5,000					
0%	0	3.84	0.160	0.0722	0.0722	
100%	3,000	1.939	2.061	0.8503	0.8503	
150%	4,100	0.76	3.240	1.3817	1.3817	
200%	5,000					
150%	4,500					
100%	3,000					
50%	1,500					
0%	0					

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/28/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 3

Performed by: MO/MM/TN

Pile Location: LT-7

Pile Size: W6x15

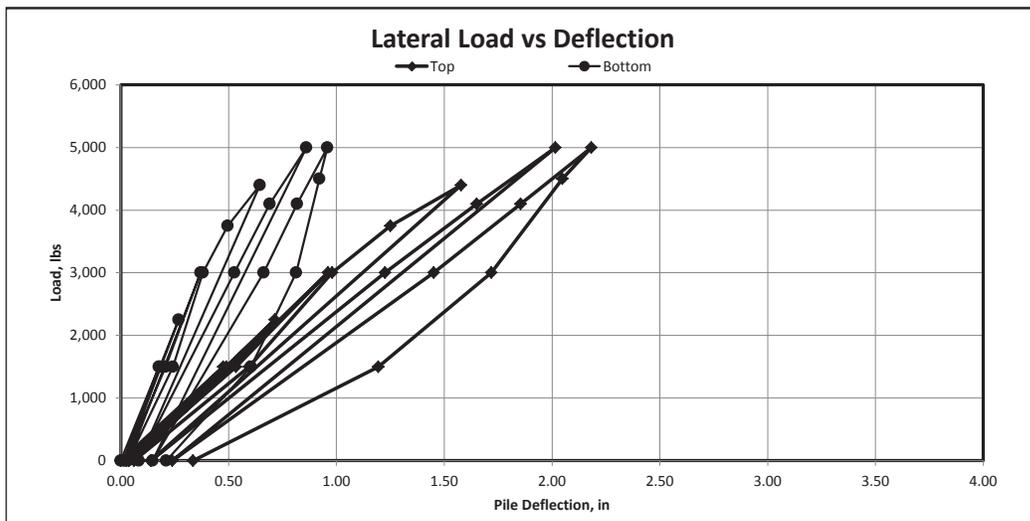
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4	0.000	0	0	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.525	0.475	0.176	0.176	
0%	0	3.974	0.026	0.0127	0.0127	
50%	1,500	3.51	0.490	0.1809	0.1809	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	3.285	0.715	0.2686	0.2686	
0%	0	3.962	0.038	0.0198	0.0198	
50%	1,500	3.466	0.534	0.2074	0.2074	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	3.039	0.961	0.3698	0.3698	
0%	0	3.938	0.062	0.0338	0.0338	
50%	1,500	3.405	0.595	0.2422	0.2422	Height of Pile above ground surface (reveal): 48
100%	3,000	3.02	0.980	0.3811	0.3811	
125%	3,750	2.749	1.251	0.4958	0.4958	
150%	4,400	2.422	1.578	0.6452	0.6452	Pile Embedment (ft): 8'
0%	0	3.86	0.140	0.083	0.083	
100%	3,000	2.774	1.226	0.5262	0.5262	
150%	4,100	2.35	1.650	0.6912	0.6912	
175%	5,000	1.985	2.015	0.861	0.861	
0%	0	3.762	0.238	0.1475	0.1475	
100%	3,000	2.548	1.452	0.663	0.663	
150%	4,100	2.145	1.855	0.8176	0.8176	
200%	5,000	1.818	2.182	0.9573	0.9573	
150%	4,500	1.952	2.048	0.9206	0.9206	
100%	3,000	2.282	1.718	0.8129	0.8129	
50%	1,500	2.806	1.194	0.6038	0.6038	
0%	0	3.665	0.335	0.2111	0.2111	

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/28/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 4

Performed by: MO/MM/TN

Pile Location: LT-7

Pile Size: W6x7

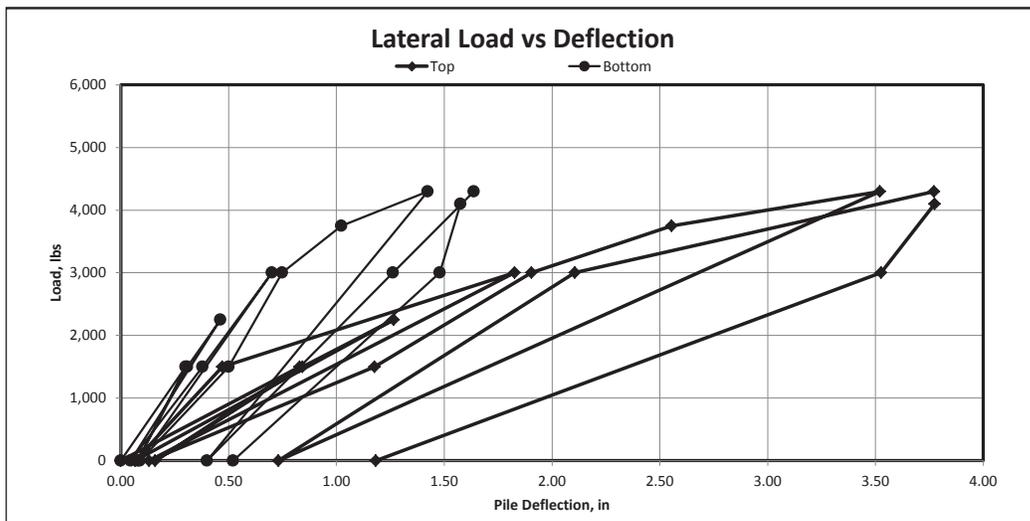
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	3.774	0.000	0	0	Height of Top Dial Gauge above ground surface: 48
50%	1,500	2.945	0.829	0.3004	0.3004	
0%	0	3.615	0.159	0.078	0.078	
50%	1,500	2.931	0.843	0.3084	0.3084	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.509	1.265	0.462	0.462	
0%	0	3.708	0.066	0.0448	0.0448	
50%	1,500	3.304	0.470	0.3789	0.3789	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	1.947	1.827	0.7008	0.7008	
0%	0	3.643	0.131	0.0885	0.0885	
50%	1,500	2.597	1.177	0.4999	0.4999	Height of Pile above ground surface (reveal): 48
100%	3,000	1.87	1.904	0.7481	0.7481	
125%	3,750	1.22	2.554	1.023	1.023	
150%	4,300	0.253	3.521	1.4238	1.4238	Pile Embedment (ft): 8
0%	0	3.043	0.731	0.3991	0.3991	
100%	3,000	1.669	2.105	1.2628	1.2628	
150%	4,300	0.002	3.772	1.6369	1.6369	
175%	5,000					
0%	0	2.591	1.183	0.5213	0.5213	
100%	3,000	0.248	3.526	1.4792	1.4792	
150%	4,100	0	3.774	1.5748	1.5748	
200%	5,000					
150%	4,500					
100%	3,000					
50%	1,500					
0%	0					

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/28/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 5

Performed by: MO/MM/TN

Pile Location: LT-7

Pile Size: W6x7

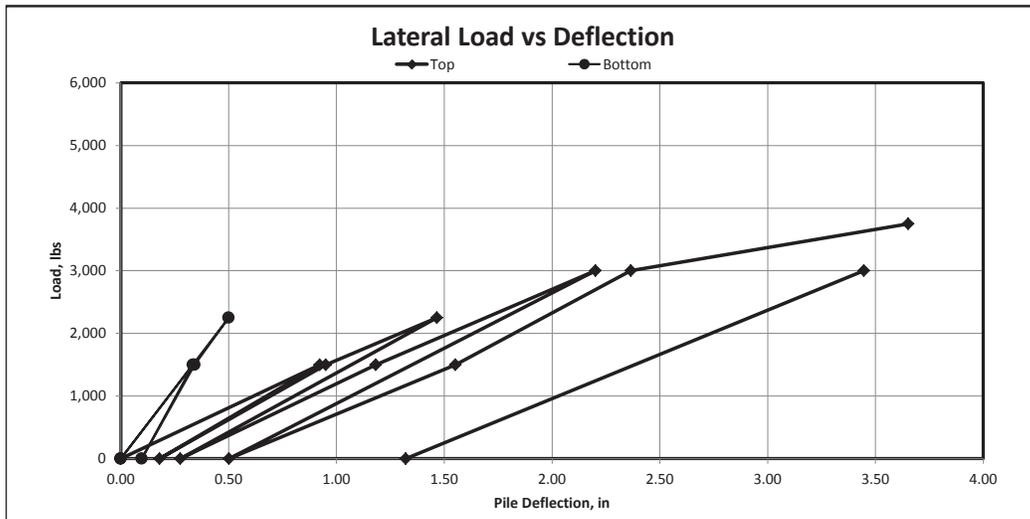
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	0	0.000	0	0	Height of Top Dial Gauge above ground surface: 48
50%	1,500	0.922	0.922	0.3342	0.3342	
0%	0	0.1792	0.179	0.0974	0.0974	
50%	1,500	0.9502	0.950	0.3416	0.3416	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	1.4667	1.467	0.5	0.5	
0%	0	0.2759	0.276	0	0	
50%	1,500	1.1822	1.182			Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.202	2.202			
0%	0	0.502	0.502			
50%	1,500	1.551	1.551			Height of Pile above ground surface (reveal): 48
100%	3,000	2.3652	2.365			
125%	3,750	3.6526	3.653			
0%	0	1.3213	1.321			Pile Embedment (ft): 6'
100%	3,000	3.447	3.447			
150%	4,500					
0%	0					
100%	3,000					
150%	4,500					
200%	5,000					
150%	4,500					
100%	3,000					
50%	1,500					
0%	0					

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/28/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 1

Performed by: MO/MM/TN

Pile Location: LT-8

Pile Size: W6x8.5

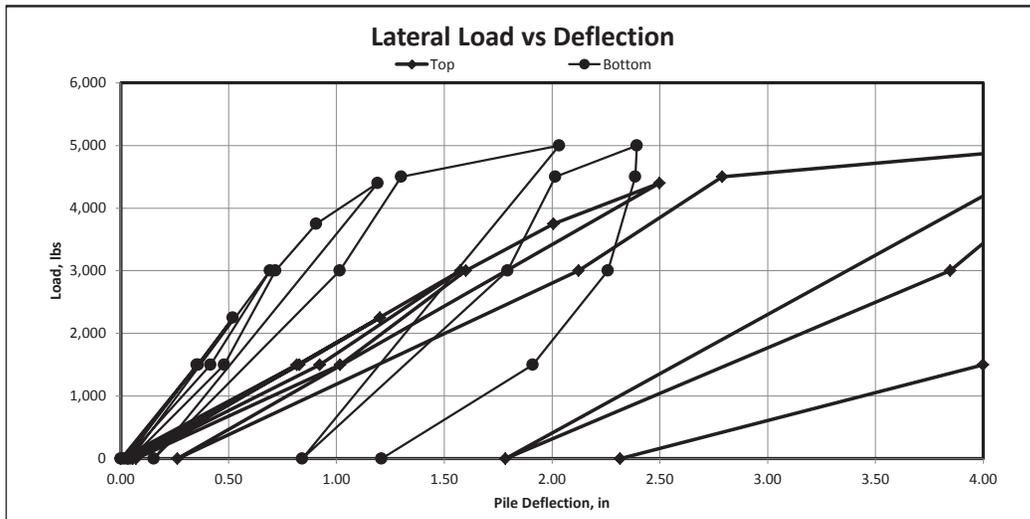
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.184	0.816	0.3524	0.3524	
0%	0	3.966	0.034	0.0114	0.0114	
50%	1,500	3.172	0.828	0.3586	0.3586	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.799	1.201	0.5194	0.5194	
0%	0	3.945	0.055	0.0253	0.0253	
50%	1,500	3.077	0.923	0.4155	0.4155	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.425	1.575	0.6925	0.6925	
0%	0	3.930	0.070	0.0451	0.0451	
50%	1,500	2.983	1.017	0.4788	0.4788	Height of Pile above ground surface (reveal): 48
100%	3,000	2.400	1.600	0.7166	0.7166	
125%	3,750	1.993	2.007	0.9067	0.9067	
150%	4,400	1.502	2.498	1.1907	1.1907	Pile Embedment (ft): 8'
0%	0	3.738	0.262	0.1526	0.1526	
100%	3,000	1.876	2.124	1.0161	1.0161	
150%	4,500	1.210	2.790	1.3002	1.3002	
175%	5,000	-0.425	4.425	2.0337	2.0337	
0%	0	2.217	1.783	0.8407	0.8407	
100%	3,000	0.153	3.847	1.7943	1.7943	
150%	4,500	-0.370	4.370	2.0155	2.0155	
200%	5,000	-1.355	5.355	2.3933	2.3933	
150%	4,500	-0.395	4.395	2.3865	2.3865	
100%	3,000	-0.890	4.890	2.2589	2.2589	
50%	1,500	0.001	3.999	1.9108	1.9108	
0%	0	1.685	2.315	1.2091	1.2091	

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/28/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 2

Performed by: MO/MM/TN

Pile Location: LT-8

Pile Size: W6x8.5

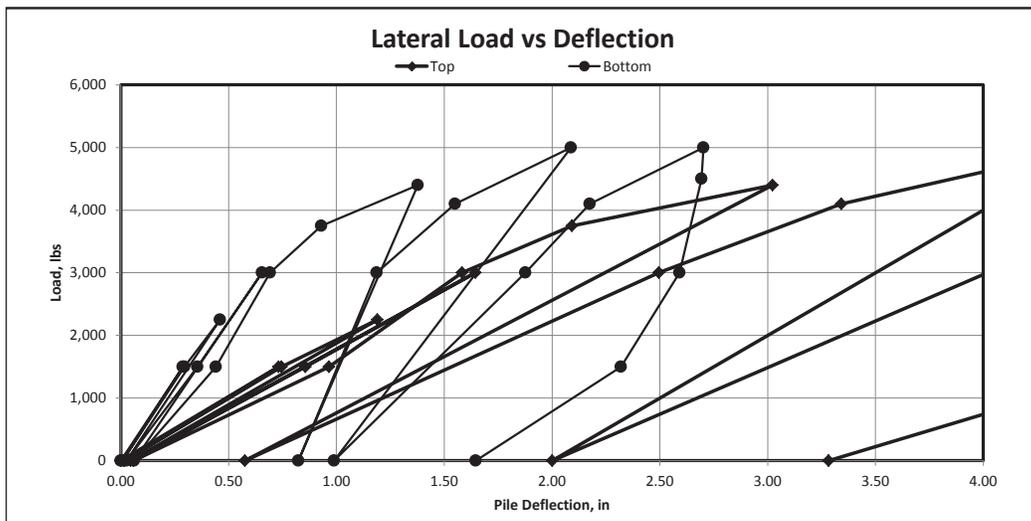
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.268	0.732	0.2876	0.2876	
0%	0	3.985	0.015	0.0089	0.0089	
50%	1,500	3.254	0.746	0.2943	0.2943	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.810	1.190	0.4605	0.4605	
0%	0	3.955	0.045	0.0262	0.0262	
50%	1,500	3.144	0.856	0.3556	0.3556	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.355	1.645	0.6546	0.6546	
0%	0	3.942	0.058	0.0622	0.0622	
50%	1,500	3.035	0.965	0.4418	0.4418	Height of Pile above ground surface (reveal): 48
100%	3,000	2.418	1.582	0.6915	0.6915	
125%	3,750	1.908	2.092	0.9295	0.9295	
150%	4,400	0.978	3.022	1.3773	1.3773	Pile Embedment (ft): 10'
0%	0	3.425	0.575	0.8236	0.8236	
100%	3,000	1.504	2.496	1.1870	1.1870	
150%	4,100	0.658	3.342	1.5506	1.5506	
175%	5,000	-0.500	4.500	2.0883	2.0883	
0%	0	2.000	2.000	0.9883	0.9883	
100%	3,000	-0.020	4.020	1.8766	1.8766	
150%	4,100	-0.692	4.692	2.1750	2.1750	
200%	5,000	-1.845	5.845	2.7023	2.7023	
150%	4,500	-1.815	5.815	2.6934	2.6934	
100%	3,000	-1.465	5.465	2.5916	2.5916	
50%	1,500	-0.735	4.735	2.3198	2.3198	
0%	0	0.718	3.282	1.6460	1.6460	

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/28/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 3

Performed by: MO/MM/TN

Pile Location: LT-8

Pile Size: W6x15

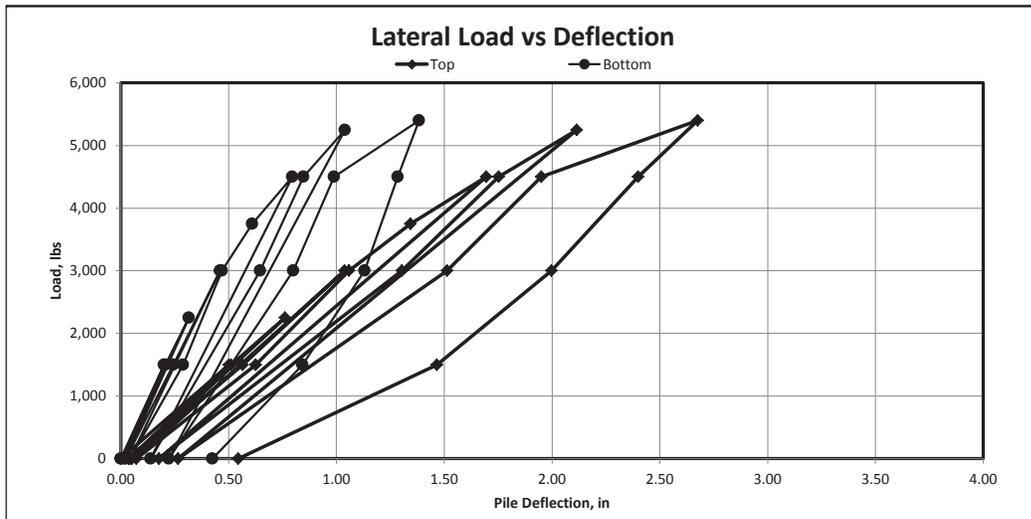
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.498	0.502	0.1998	0.1998	
0%	0	3.962	0.038	0.0132	0.0132	
50%	1,500	3.488	0.512	0.2062	0.2062	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	3.238	0.762	0.3159	0.3159	
0%	0	3.949	0.051	0.0229	0.0229	
50%	1,500	3.435	0.565	0.2429	0.2429	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.963	1.037	0.4604	0.4604	
0%	0	3.928	0.072	0.0426	0.0426	
50%	1,500	3.374	0.626	0.2891	0.2891	Height of Pile above ground surface (reveal): 48
100%	3,000	2.941	1.059	0.4685	0.4685	
125%	3,750	2.657	1.343	0.6098	0.6098	
150%	4,500	2.305	1.695	0.7951	0.7951	Pile Embedment (ft): 8'
0%	0	3.824	0.176	0.1387	0.1387	
100%	3,000	2.696	1.304	0.6462	0.6462	
150%	4,500	2.248	1.752	0.8473	0.8473	
175%	5,250	1.885	2.115	1.0396	1.0396	
0%	0	3.735	0.265	0.2222	0.2222	
100%	3,000	2.487	1.513	0.7999	0.7999	
150%	4,500	2.049	1.951	0.9888	0.9888	
200%	5,400	1.325	2.675	1.3833	1.3833	
150%	4,500	1.600	2.400	1.2844	1.2844	
100%	3,000	2.002	1.998	1.1315	1.1315	
50%	1,500	2.534	1.466	0.8429	0.8429	
0%	0	3.455	0.545	0.4247	0.4247	

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/28/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 4

Performed by: MO/MM/TN

Pile Location: LT-8

Pile Size: W6x7

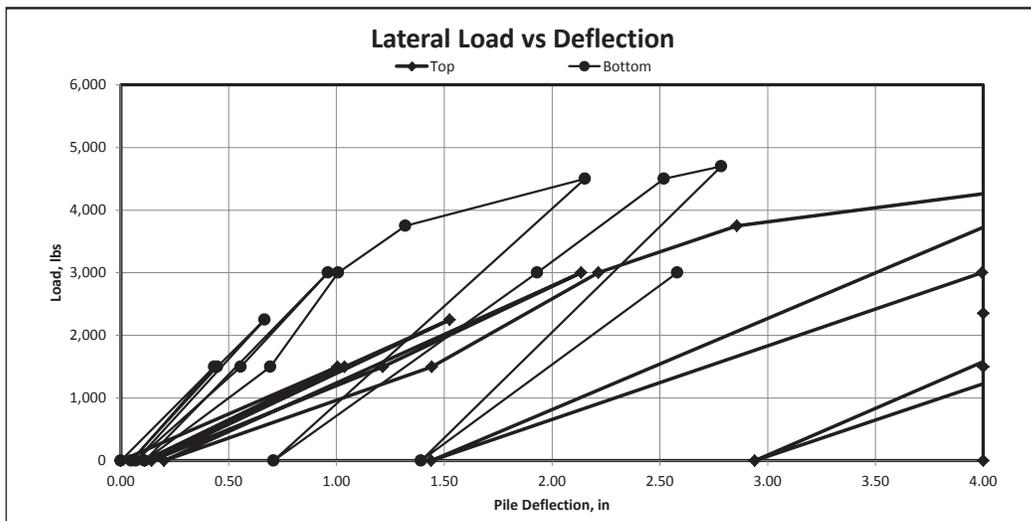
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	2.995	1.005	0.4344	0.4344	
0%	0	3.890	0.110	0.0475	0.0475	
50%	1,500	2.962	1.038	0.4464	0.4464	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.475	1.525	0.6668	0.6668	
0%	0	3.858	0.142	0.0688	0.0688	
50%	1,500	2.785	1.215	0.5556	0.5556	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	1.865	2.135	0.9608	0.9608	
0%	0	3.800	0.200	0.1099	0.1099	
50%	1,500	2.558	1.442	0.6936	0.6936	Height of Pile above ground surface (reveal): 48
100%	3,000	1.785	2.215	1.0089	1.0089	
125%	3,750	1.142	2.858	1.3200	1.3200	
150%	4,500	-0.532	4.532	2.1529	2.1529	Pile Embedment (ft): 8'
0%	0	2.560	1.440	0.7080	0.7080	
100%	3,000	0.006	3.994	1.9311	1.9311	
150%	4,500	-1.350	5.350	2.5191	2.5191	
175%	4,700	-2.090	6.090	2.7854	2.7854	
0%	0	1.060	2.940	1.3927	1.3927	
100%	3,000	-1.530	5.530	2.5810	2.5810	
150%			4.000			
200%			4.000			
150%			4.000			
100%	2,350		4.000			
50%	1,500		4.000			
0%	0		4.000			

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/28/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 5

Performed by: MO/MM/TN

Pile Location: LT-8

Pile Size: W6x7

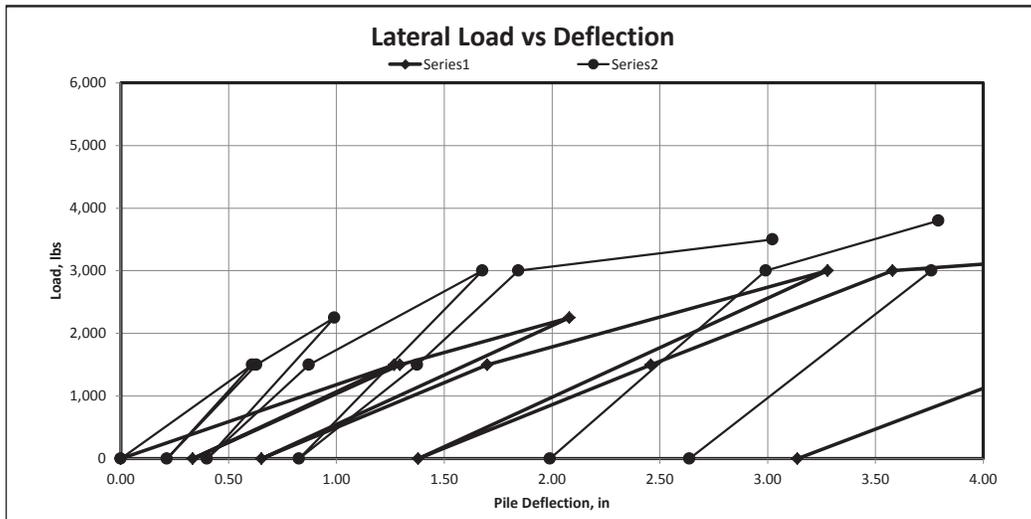
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	2.732	1.268	0.6088	0.6088	
0%	0	3.667	0.333	0.2131	0.2131	
50%	1,500	2.706	1.294	0.6280	0.6280	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	1.920	2.080	0.9898	0.9898	
0%	0	3.347	0.653	0.3991	0.3991	
50%	1,500	2.300	1.700	0.8724	0.8724	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	0.722	3.278	1.6770	1.6770	
0%	0	2.621	1.379	0.8270	0.8270	
50%	1,500	1.542	2.458	1.3748	1.3748	Height of Pile above ground surface (reveal): 48
100%	3,000	0.420	3.580	1.8440	1.8440	
125%	3,500	-1.590	5.590	3.0220	3.0220	
150%						Pile Embedment (ft): 6'
0%	0	0.862	3.138	1.9900	1.9900	
100%	3,000	-1.440	5.440	2.9915	2.9915	
150%	3,800	-2.841	6.841	3.7924	3.7924	
175%						
0%	0	-0.273	4.273	2.6369	2.6369	
100%	3,000	-2.813	6.813	3.7591	3.7591	
150%						
200%						
150%						
100%	3,100	-2.800	6.800		0.0000	
50%	1,500	-2.118	6.118		0.0000	
0%	0	-3.000	7.000		0.0000	

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 1

Performed by: MO/MM/TN

Pile Location: LT-9

Pile Size: W6x8.5

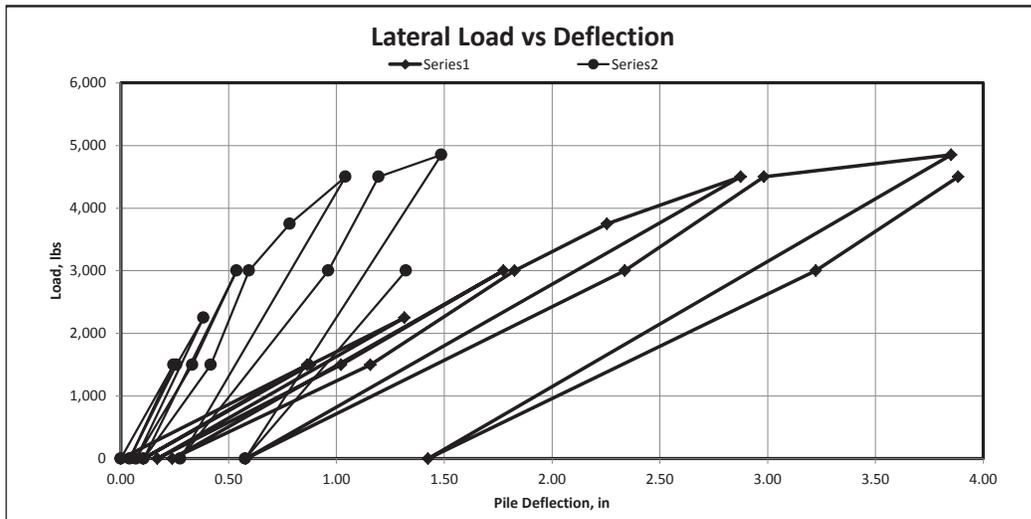
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.135	0.865	0.2449	0.2449	
0%	0	3.896	0.104	0.0406	0.0406	
50%	1,500	3.122	0.878	0.2582	0.2582	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.685	1.315	0.3832	0.3832	
0%	0	3.830	0.170	0.0697	0.0697	
50%	1,500	2.979	1.021	0.3313	0.3313	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.226	1.774	0.5368	0.5368	
0%	0	3.761	0.239	0.1053	0.1053	
50%	1,500	2.842	1.158	0.4179	0.4179	Height of Pile above ground surface (reveal): 48
100%	3,000	2.173	1.827	0.5948	0.5948	
125%	3,750	1.745	2.255	0.7840	0.7840	
150%	4,500	1.125	2.875	1.0419	1.0419	Pile Embedment (ft): 8
0%	0	3.420	0.580	0.2761	0.2761	
100%	3,000	1.663	2.337	0.9630	0.9630	
150%	4,500	1.017	2.983	1.1955	1.1955	
175%	4,850	0.148	3.852	1.4872	1.4872	
0%	0	2.576	1.424	0.5776	0.5776	
100%	3,000	0.777	3.223	1.3222	1.3222	
150%	4,500	0.116	3.884	1.5544	1.5544	
200%	4,850	-0.396	4.396	1.7135	1.7135	
150%	4,500	2.798	1.202	1.7179	1.7179	
100%	3,000	0.045	3.955	1.5956	1.5956	
50%	1,500	0.073	3.928	1.3435	1.3435	
0%	0	2.004	1.996	0.7774	0.7774	

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 2

Performed by: MO/MM/TN

Pile Location: LT-9

Pile Size: W6x8.5

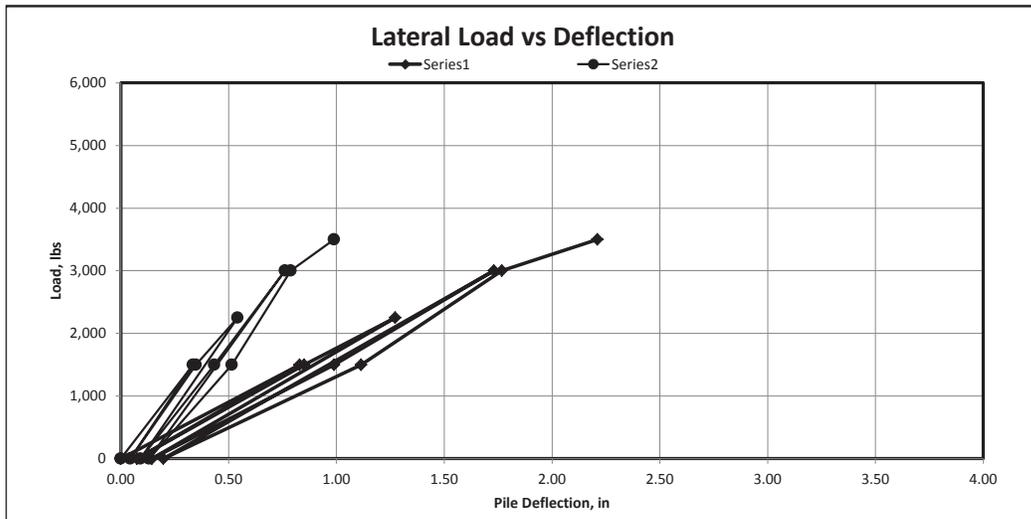
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.170	0.830	0.3354	0.3354	
0%	0	3.925	0.075	0.0439	0.0439	
50%	1,500	3.150	0.850	0.3476	0.3476	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.728	1.272	0.5422	0.5422	
0%	0	3.856	0.144	0.0907	0.0907	
50%	1,500	3.011	0.989	0.4331	0.4331	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	2.270	1.730	0.7610	0.7610	
0%	0	3.802	0.198	0.1316	0.1316	
50%	1,500	2.885	1.115	0.5154	0.5154	Height of Pile above ground surface (reveal): 48
100%	3,000	2.232	1.768	0.7882	0.7882	
125%	3,500	1.790	2.210	0.9896	0.9896	
150%	4,400					Pile Embedment (ft): 10
0%						
100%						
150%						
175%						
0%						
100%						
150%						
200%						
150%						
100%						
50%						
0%						

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 3

Performed by: MO/MM/TN

Pile Location: LT-9

Pile Size: W6x15

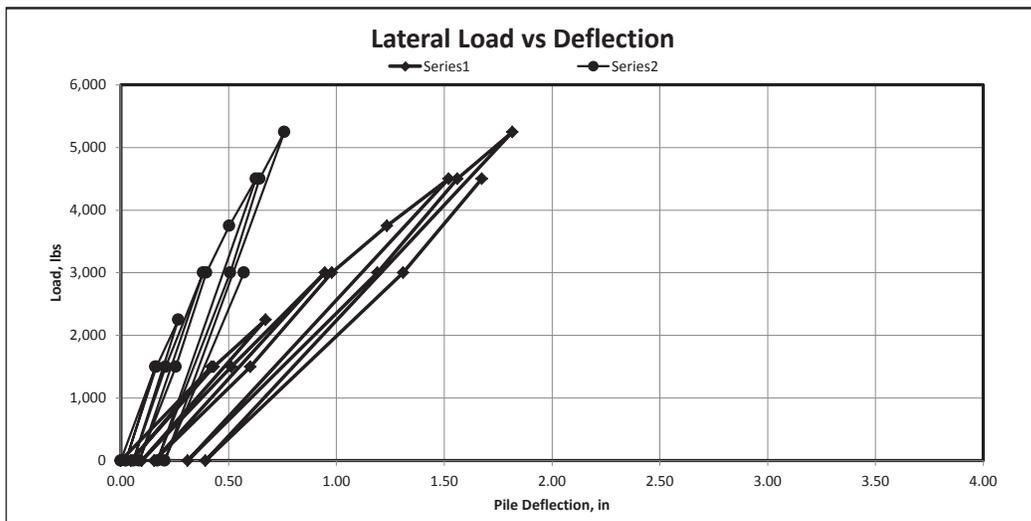
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.580	0.420	0.1611	0.1611	
0%	0	3.953	0.047	0.0232	0.0232	
50%	1,500	3.570	0.430	0.1652	0.1652	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	3.328	0.672	0.2662	0.2662	
0%	0	3.903	0.097	0.0564	0.0564	
50%	1,500	3.488	0.512	0.2082	0.2082	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	3.054	0.946	0.3823	0.3823	
0%	0	3.845	0.155	0.0855	0.0855	
50%	1,500	3.400	0.600	0.2553	0.2553	Height of Pile above ground surface (reveal): 48
100%	3,000	3.022	0.978	0.3974	0.3974	
125%	3,750	2.766	1.234	0.5036	0.5036	
150%	4,500	2.480	1.520	0.6270	0.6270	Pile Embedment (ft): 8
0%	0	3.690	0.310	0.1693	0.1693	
100%	3,000	2.810	1.190	0.5076	0.5076	
150%	4,500	2.440	1.560	0.6428	0.6428	
175%	5,250	2.184	1.816	0.7582	0.7582	
0%	0	3.608	0.392	0.2034	0.2034	
100%	3,000	2.691	1.309	0.5716	0.5716	
150%	4,500	2.326	1.674	0.7095	0.7095	
200%	6,000	1.900	2.100	0.9028	0.9028	
150%	4,500	2.133	1.867	0.8374	0.8374	
100%	3,000	2.459	1.541	0.7211	0.7211	
50%	1,500	2.875	1.125	0.5498	0.5498	
0%	0	3.505	0.495	0.2602	0.2602	

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 4

Performed by: MO/MM/TN

Pile Location: LT-9

Pile Size: W6x7

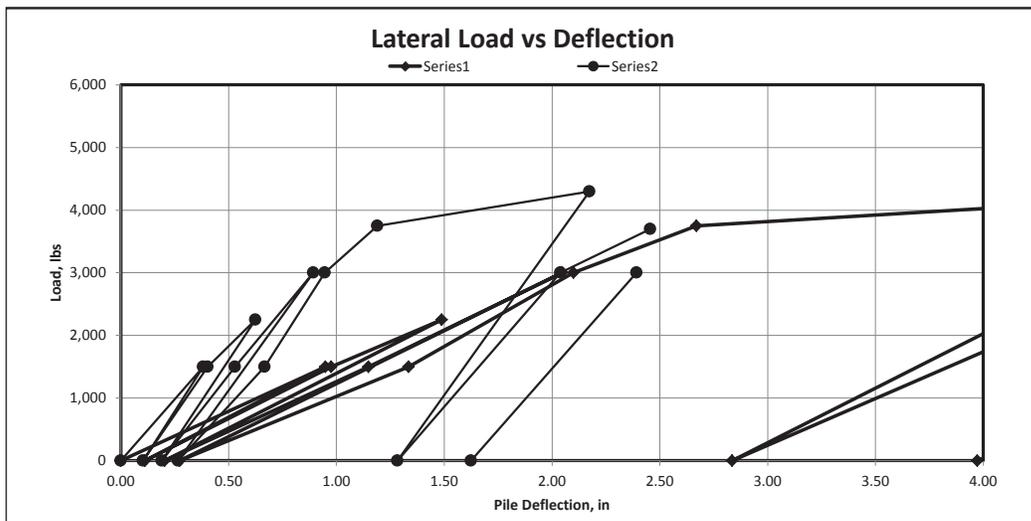
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	3.051	0.949	0.3819	0.3819	
0%	0	3.888	0.112	0.1027	0.1027	
50%	1,500	3.025	0.975	0.4022	0.4022	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.512	1.488	0.6248	0.6248	
0%	0	3.797	0.203	0.1903	0.1903	
50%	1,500	2.852	1.148	0.5293	0.5293	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	1.952	2.048	0.8937	0.8937	
0%	0	3.728	0.272	0.2649	0.2649	
50%	1,500	2.665	1.335	0.6669	0.6669	Height of Pile above ground surface (reveal): 48
100%	3,000	1.901	2.099	0.9460	0.9460	
125%	3,750	1.330	2.670	1.1892	1.1892	
150%	4,300	-1.303	5.303	2.1742	2.1742	Pile Embedment (ft): 8
0%	0	1.165	2.835	1.2834	1.2834	
100%	3,000	-0.847	4.847	2.0397	2.0397	
150%	3,700	-2.303	6.303	2.4563	2.4563	
175%						
0%	0	0.027	3.973	1.6248	1.6248	
100%	3,000	-2.073	6.073	2.3928	2.3928	
150%	3,200	-2.660	6.660	2.5656	2.5656	
200%						
150%						
100%						
50%						
0%						

Time Start:

Time End:

11:30



Lateral Test Results

Date: 4/29/2014

Project Name: Panoche Solar

Proj No. 20150148

Pile Number: 5

Performed by: MO/MM/TN

Pile Location: LT-9

Pile Size: W6x7

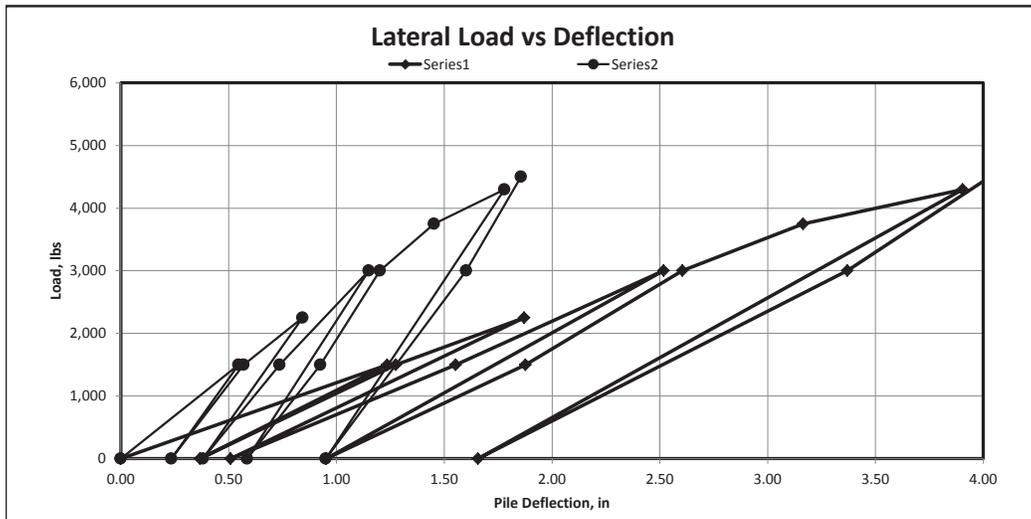
Design Load (lbs) = 3,000

% of Design Load	LOAD (lbs)	STABILIZED READING				
		Top of Pile Reading	Top of Pile Deflection	Bottom of Pile Reading	Bottom of Pile Deflection	
0%	0	4.000	0.000	0.0000	0.0000	Height of Top Dial Gauge above ground surface: 48
50%	1,500	2.765	1.235	0.5466	0.5466	
0%	0	3.633	0.367	0.2338	0.2338	
50%	1,500	2.725	1.275	0.5697	0.5697	Height of Bottom Dial Gauge above ground surface: 4
75%	2,250	2.130	1.870	0.8431	0.8431	
0%	0	3.491	0.509	0.3805	0.3805	
50%	1,500	2.447	1.553	0.7367	0.7367	Height of Jack (load strap/chain) above grnd surface: 48
100%	3,000	1.482	2.518	1.1506	1.1506	
0%	0	3.048	0.952	0.5853	0.5853	
50%	1,500	2.123	1.877	0.9260	0.9260	Height of Pile above ground surface (reveal): 48
100%	3,000	1.395	2.605	1.2015	1.2015	
125%	3,750	0.835	3.165	1.4528	1.4528	
150%	4,300	0.095	3.905	1.7794	1.7794	Pile Embedment (ft): 6
0%	0	2.343	1.657	0.9500	0.9500	
100%	3,000	0.630	3.370	1.6019	1.6019	
150%	4,500	-0.031	4.031	1.8560	1.8560	
175%	4,900					
0%						
100%						
150%						
200%						
150%						
100%						
50%						
0%						

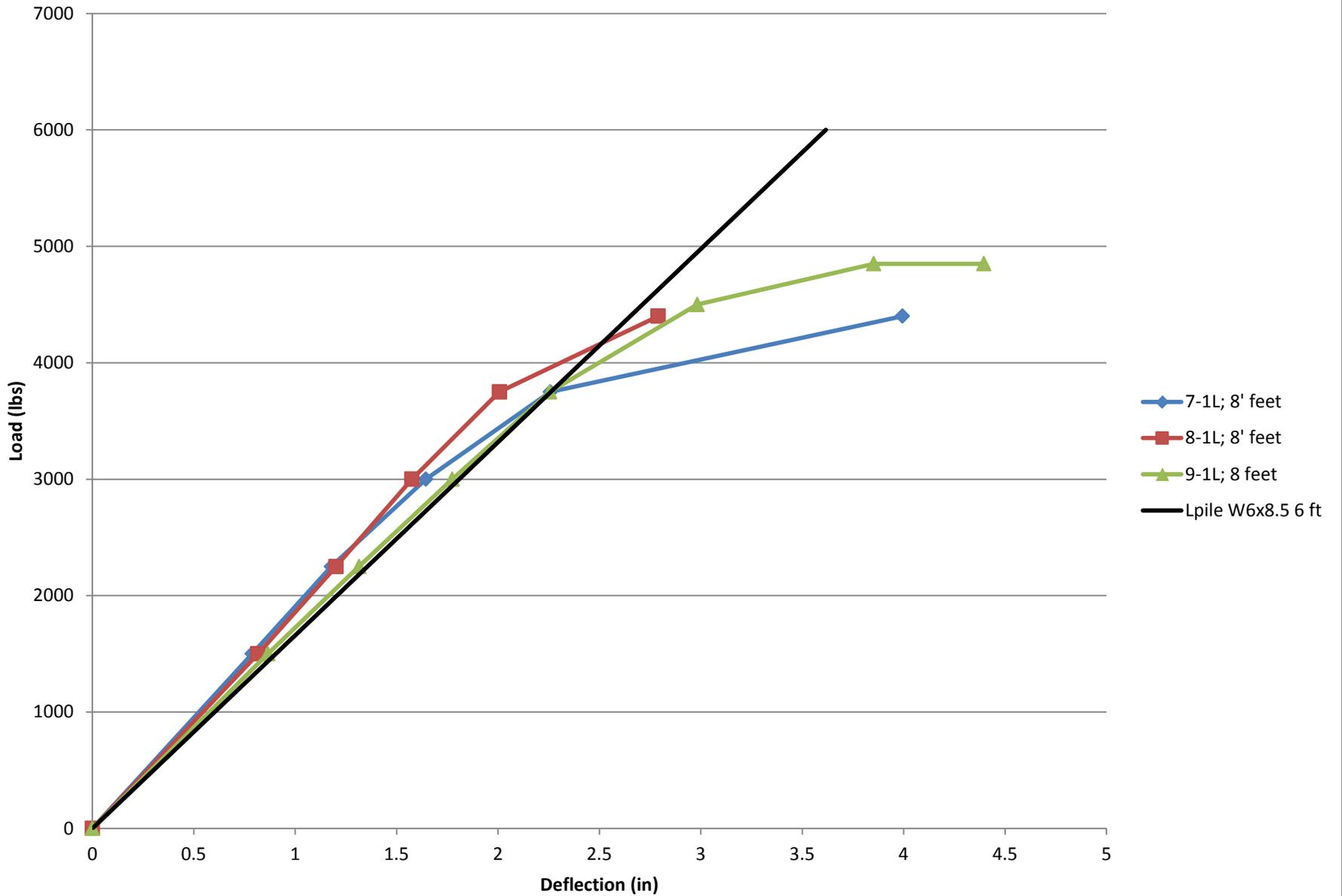
Time Start:

Time End:

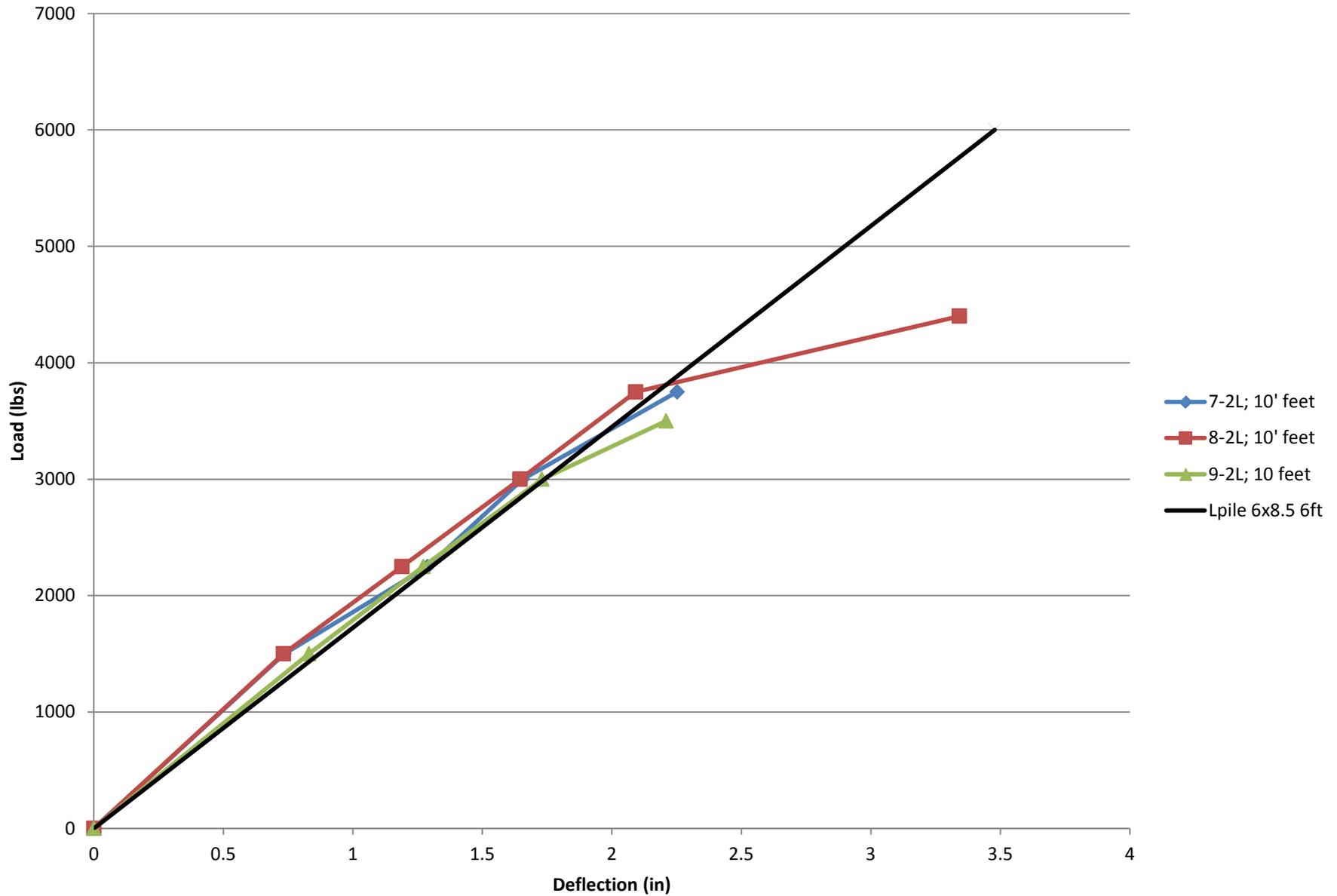
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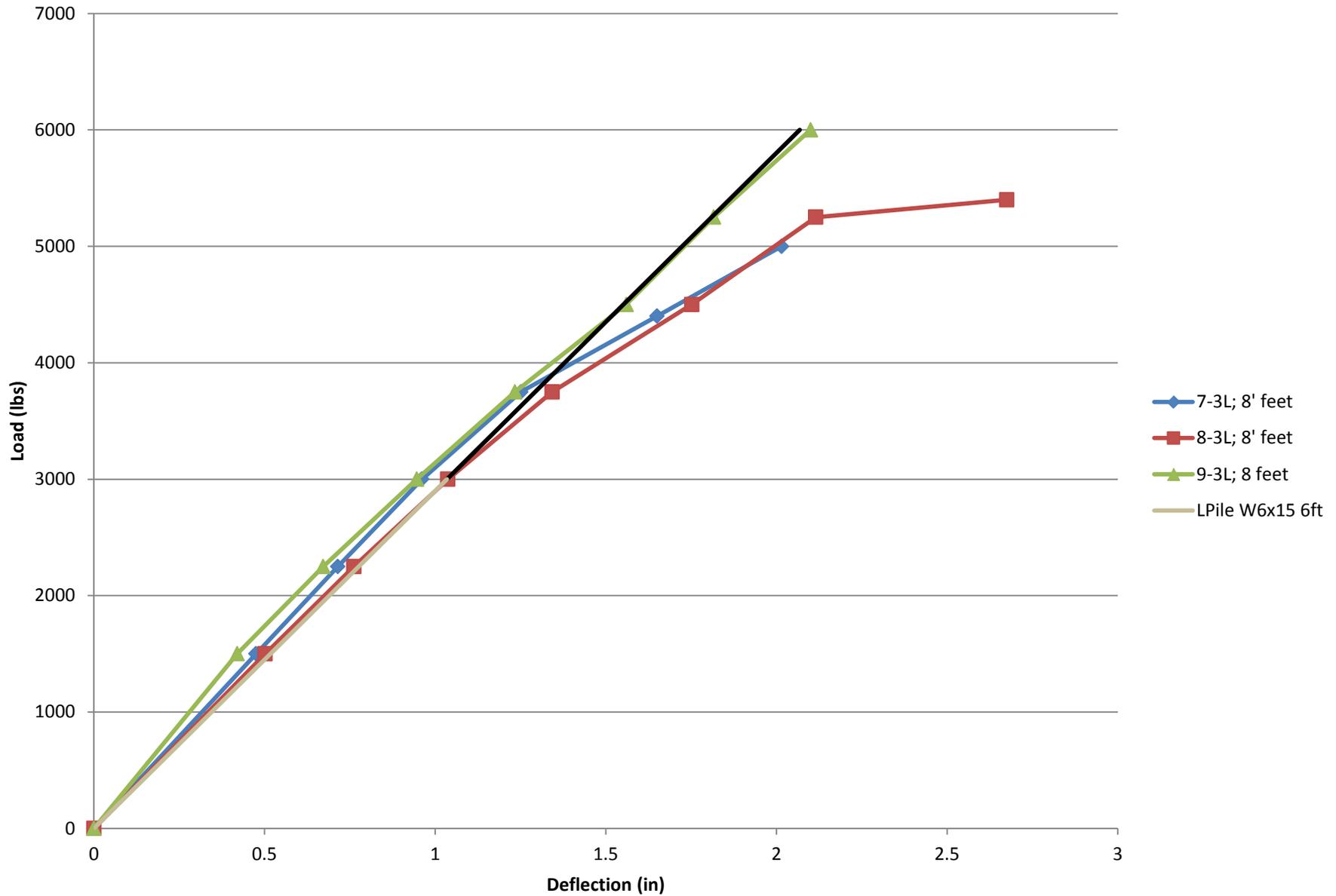
East W6x8.5 Posts, 8 feet Embedment



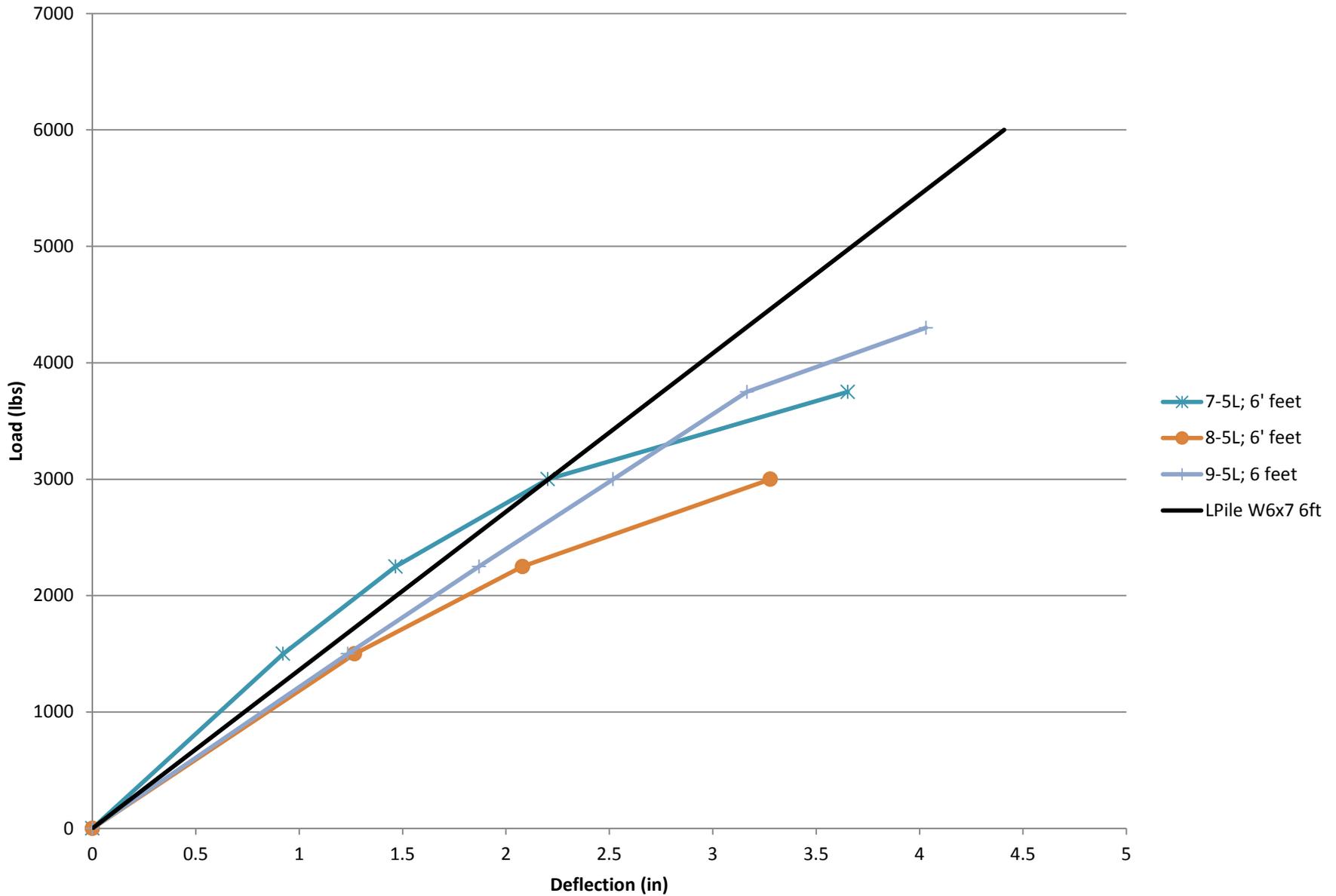
East W6x8.5 Posts, 10 feet Embedment



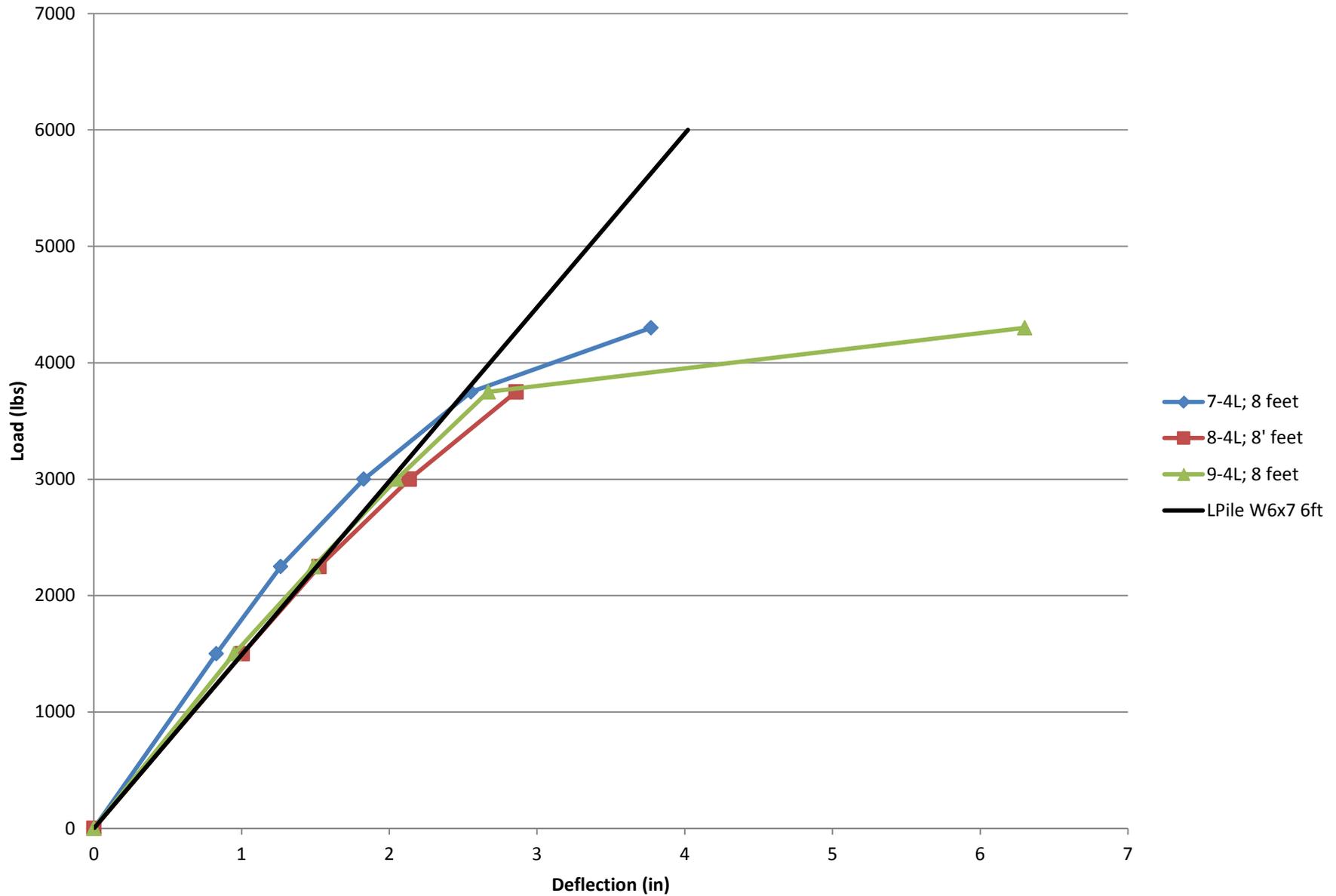
East W6x15 Posts, 8 feet Embedment



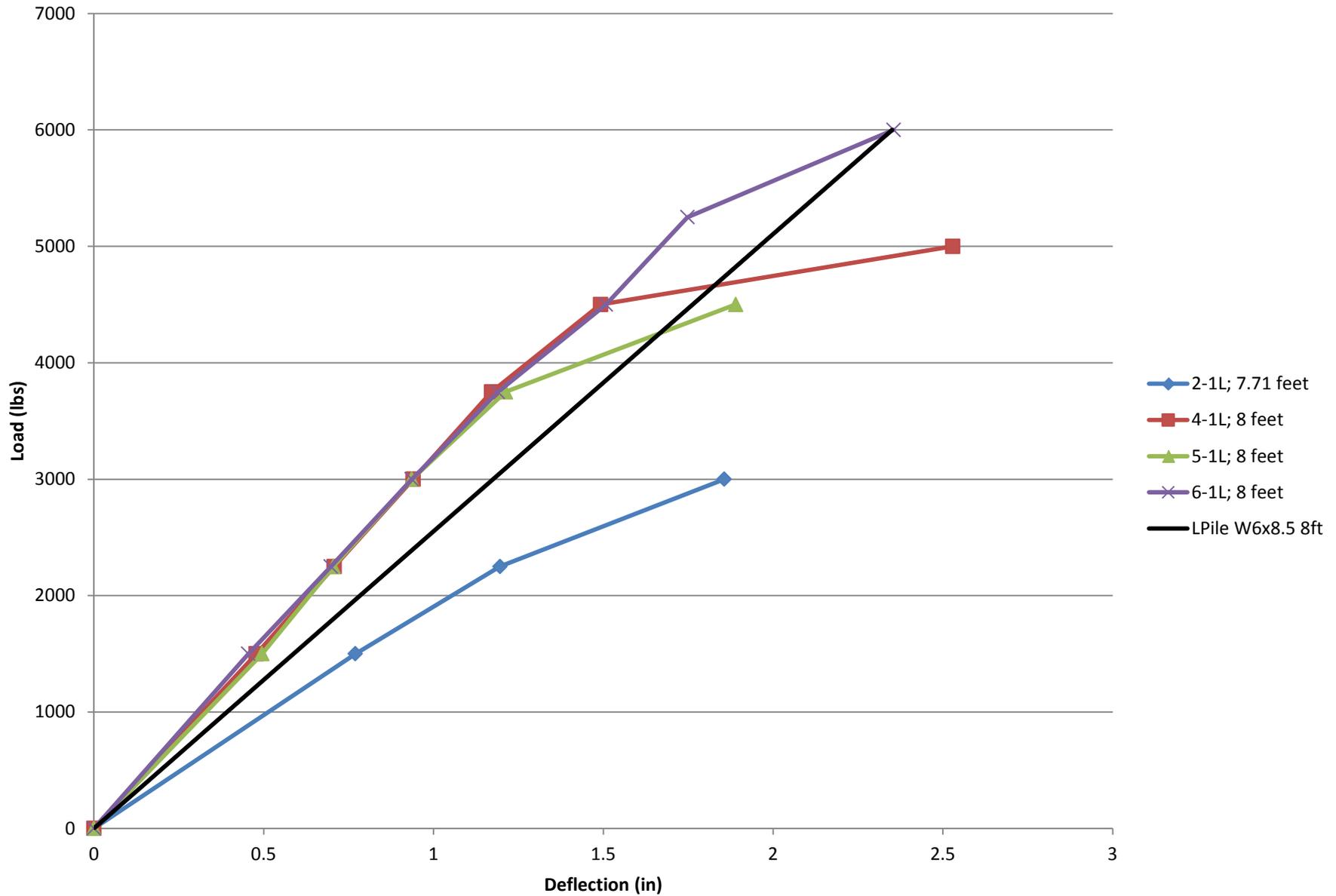
East W6x7, 6 feet Embedment



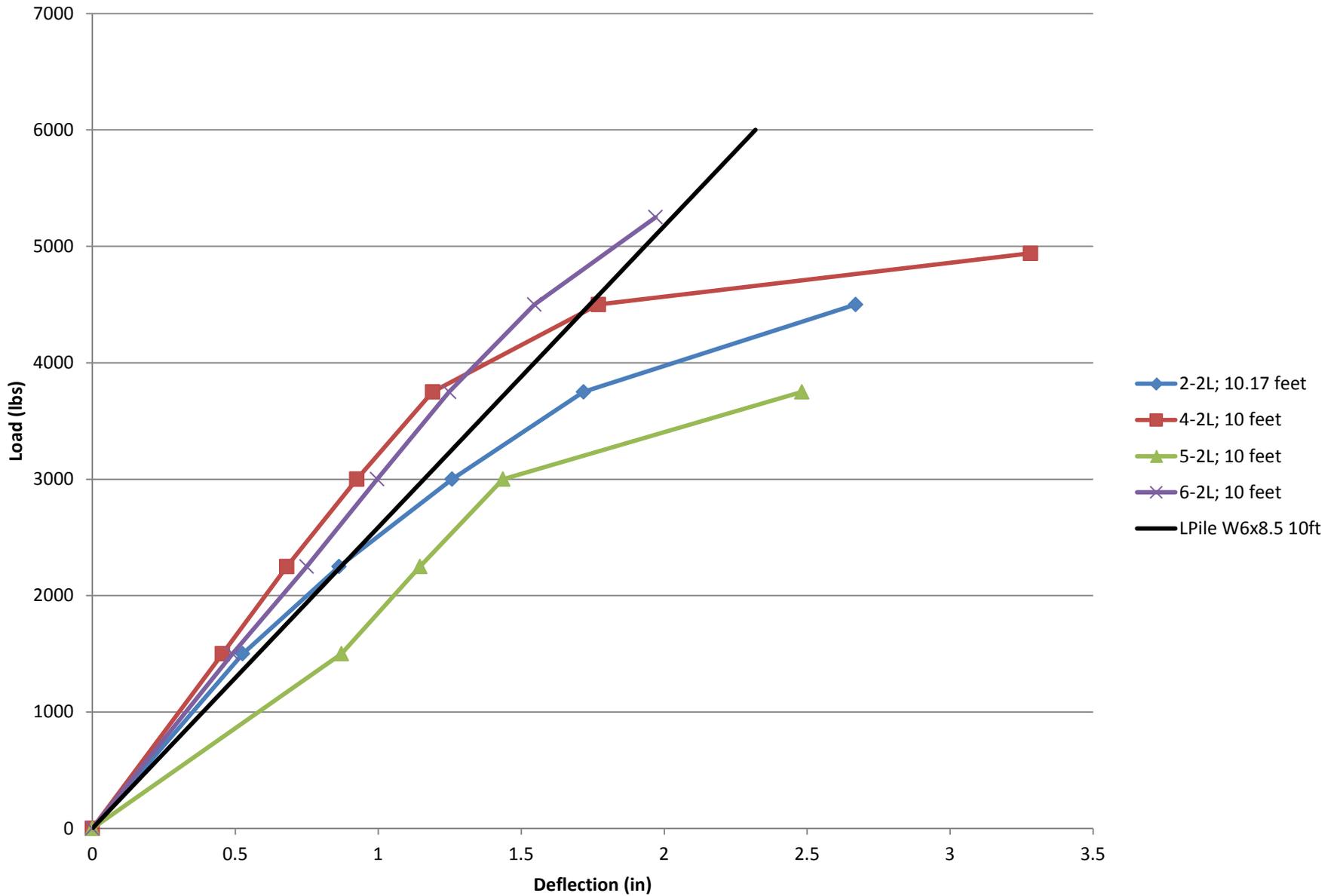
East W6x7, 8 feet Embedment



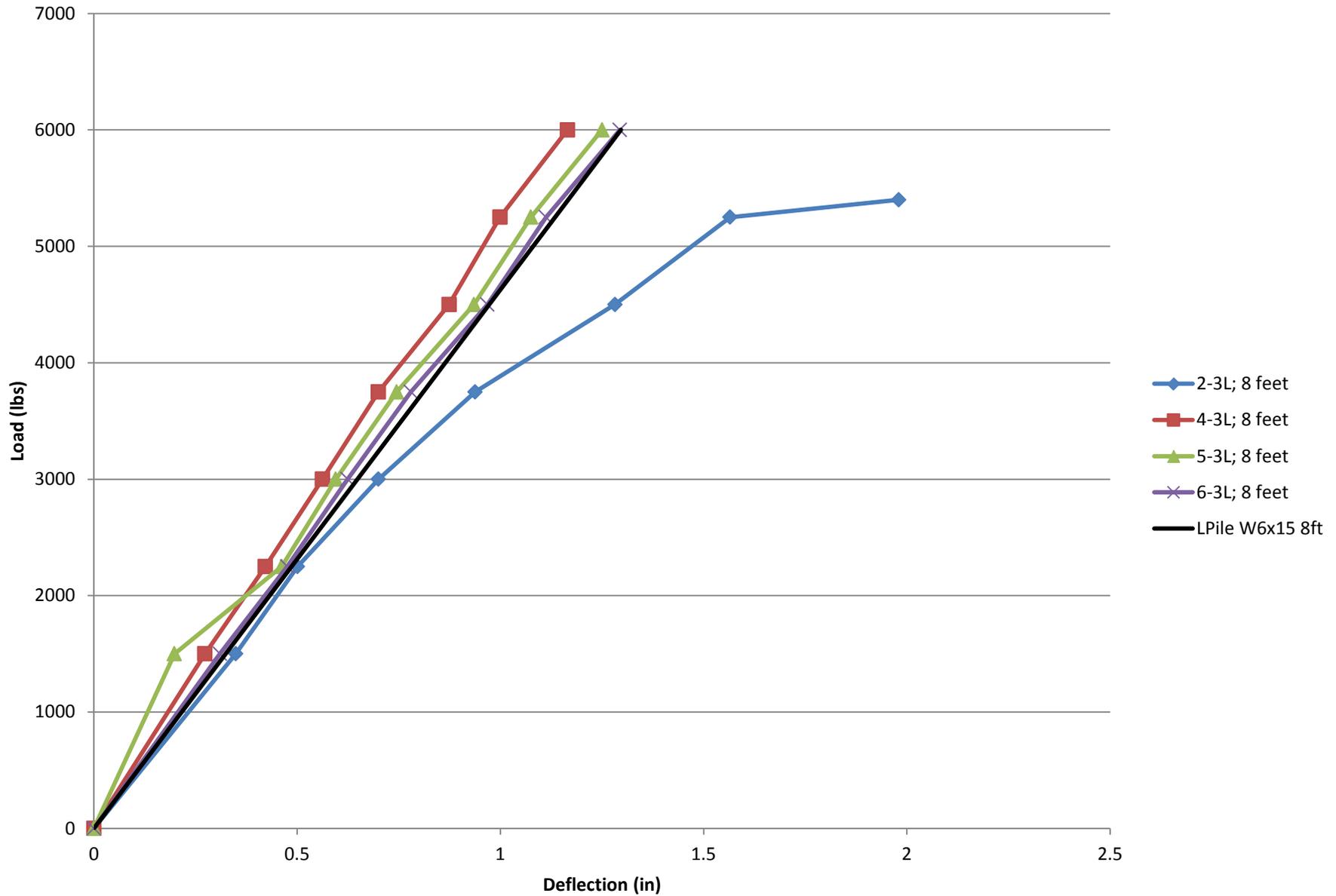
West W6x8.5, 8 feet Embedment



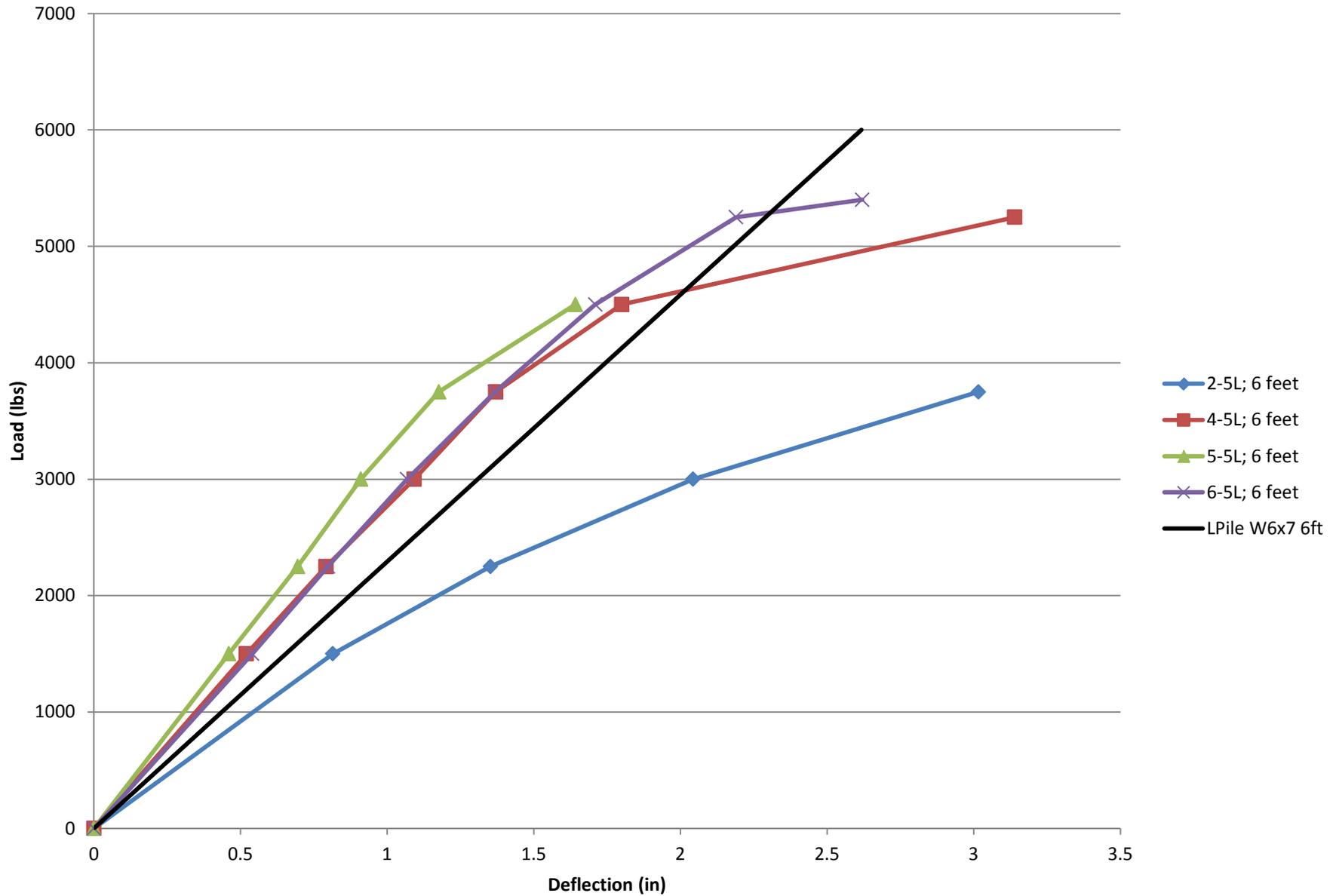
West W6x8.5, 10 feet Embedment



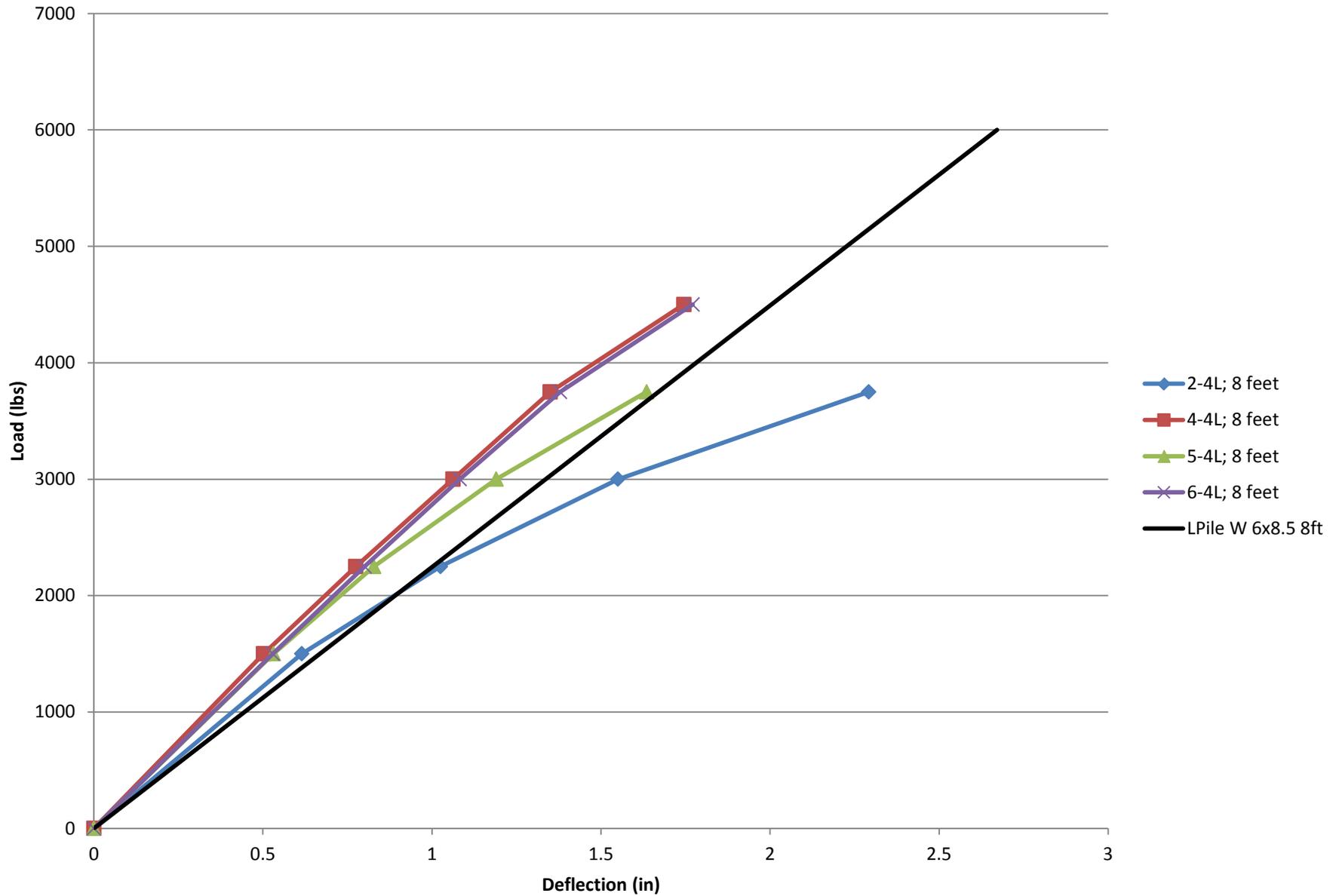
West W6x15, 8 feet Embedment



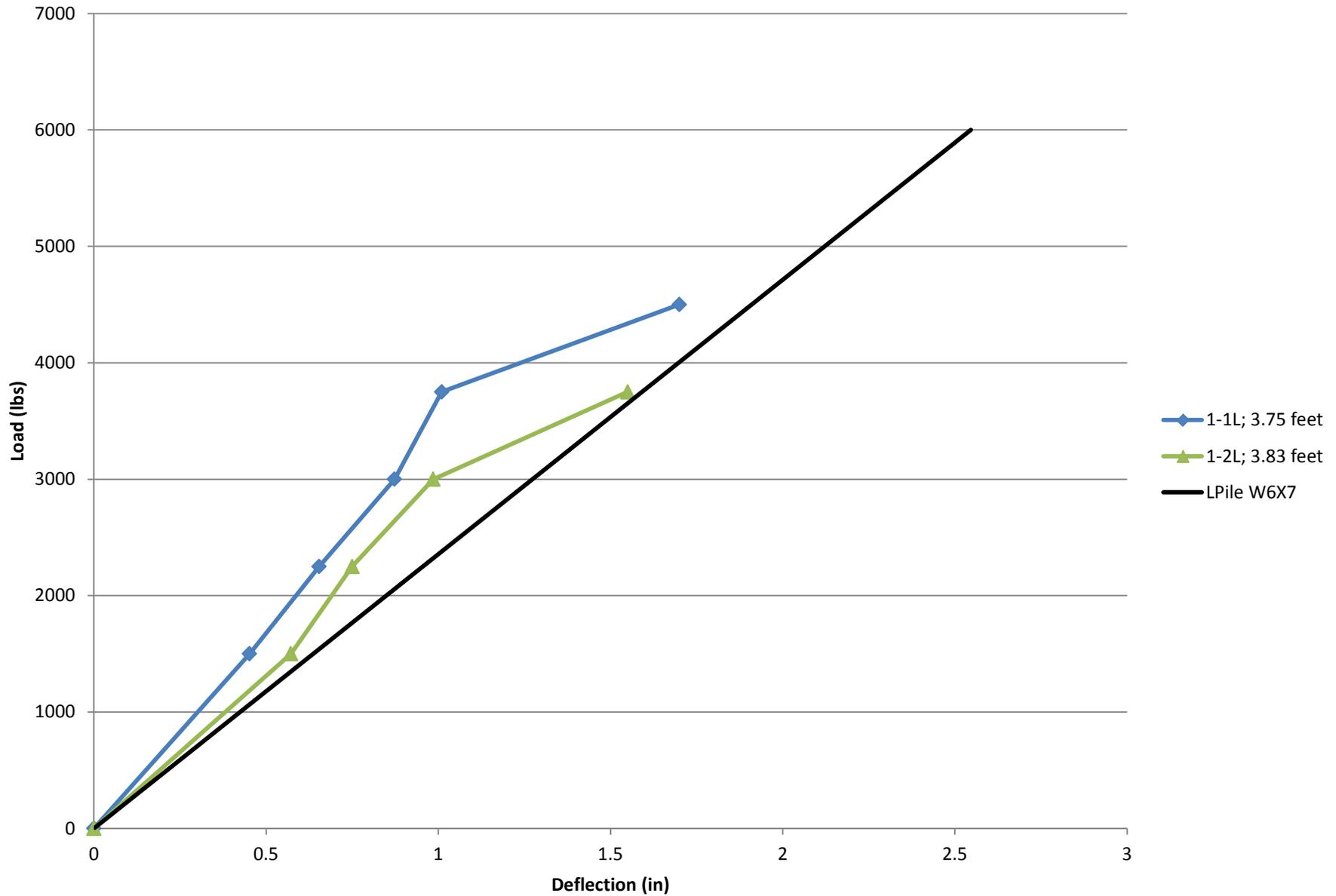
West W6x7, 6 feet Embedment



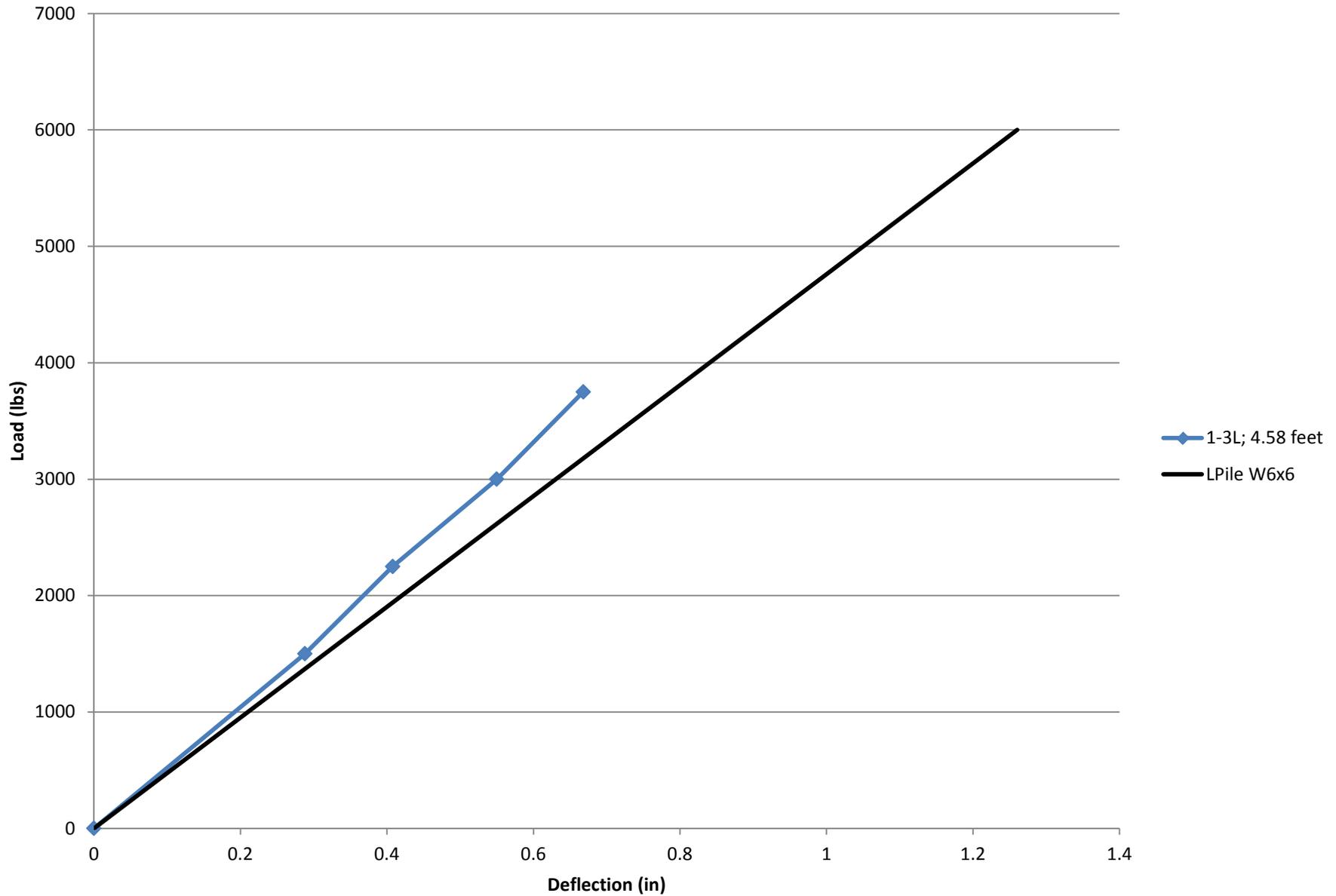
West W6x7, 8 feet Embedment



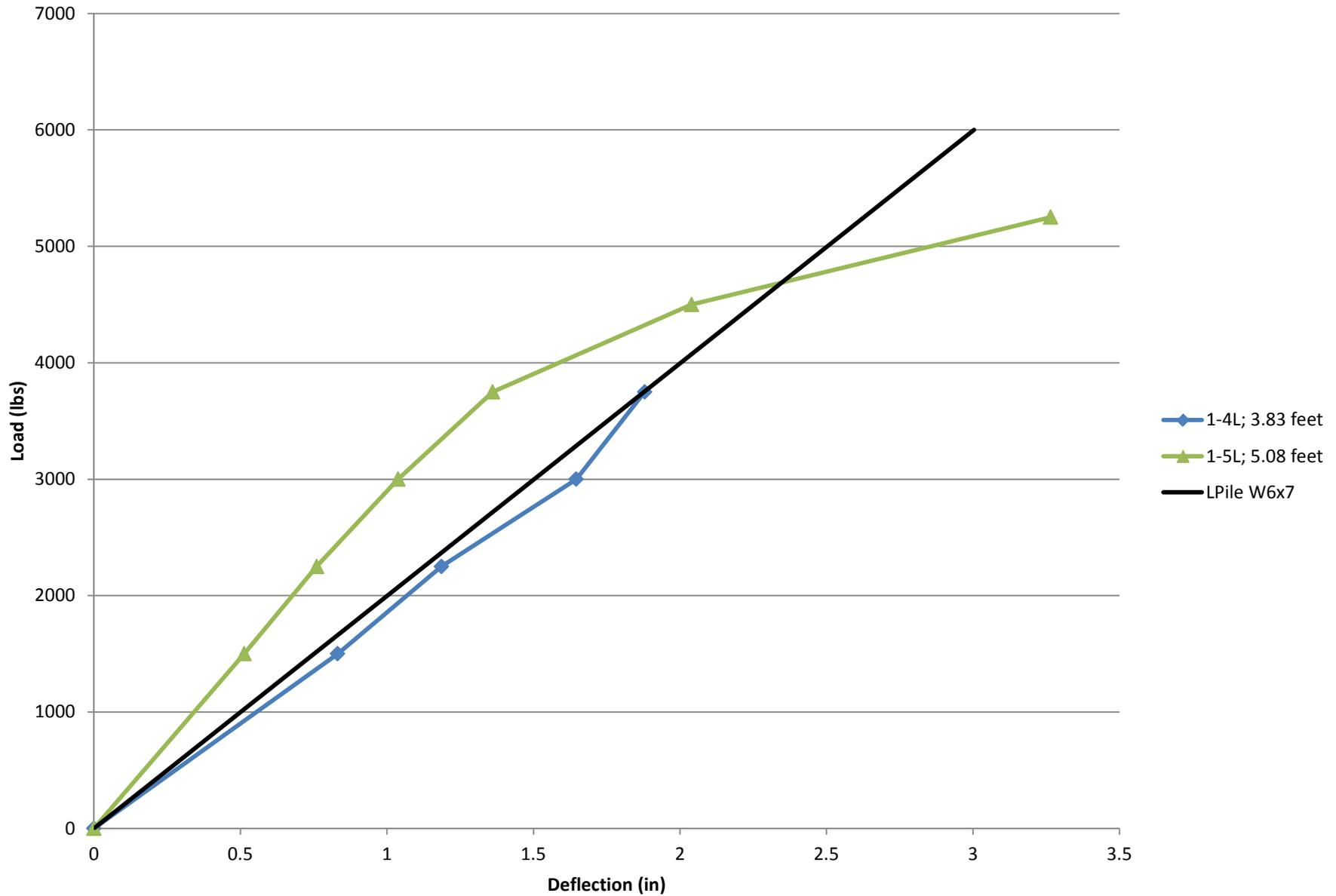
West Refusal W6x8.5, 3.75 feet Embedment



West Refusal W6x8.5, 4.58 feet Embedment



West Refusal W6x7, 3.5 feet Embedment



APPENDIX D
THERMAL RESISTIVITY RESULTS

THERMAL RESISTIVITY REPORT

Method Used: IEEE Std. 442-1981

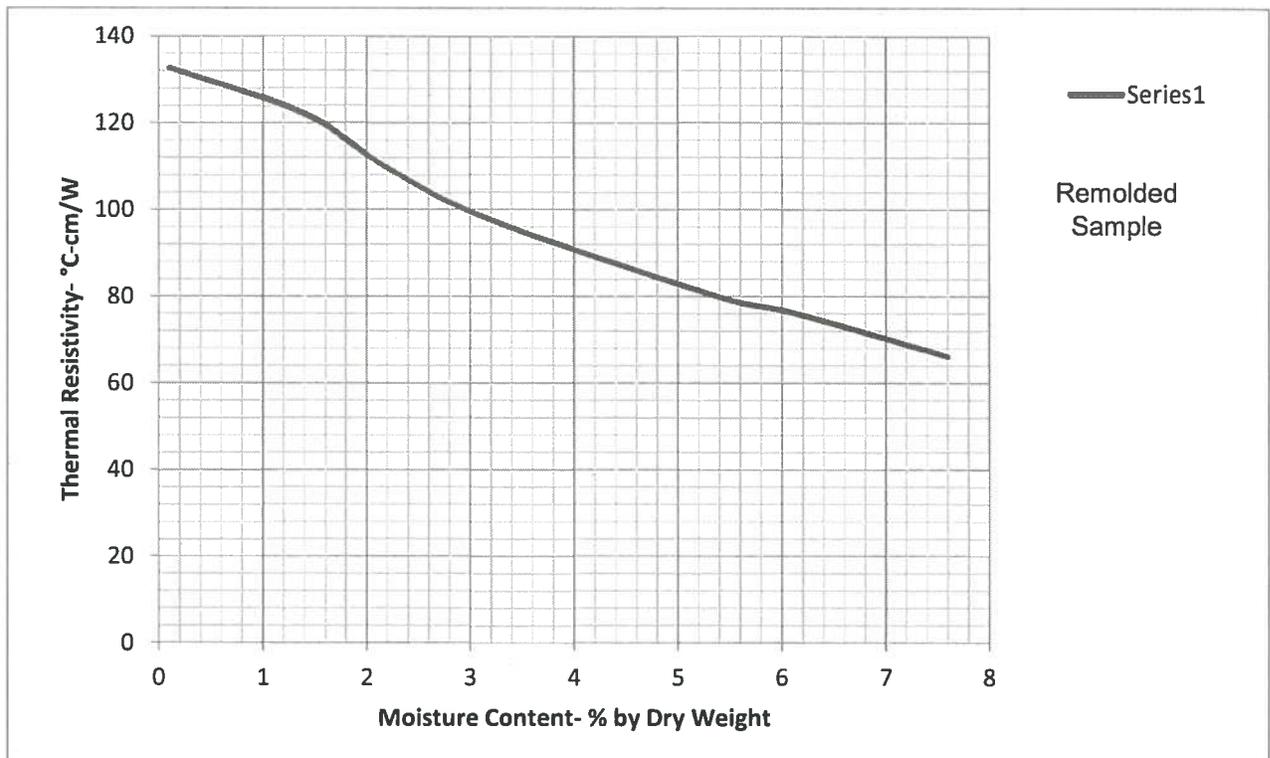
Project Name: Panoche Solar
 Project Number: 20150148
 Client: _____

Date: 5/19/2014

Sample I.D.: TP-1
 Depth, ft.: 0"-36"
 Sample Type: _____

*Maximum Dry Density, pcf: 139
 *Optimum Moisture Content, %: 5.1
 *ASTM D1557

Thermal Dry-Out Curve



Sample Location	Depth feet	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content, % @ Compaction	Dry Density, pcf	Percent Compaction
			Wet	Dry			
TP-1	0"-36"	Silty Sand	53	133	8.8	125.2	90.1%

THERMAL RESISTIVITY REPORT

Method Used: IEEE Std. 442-1981

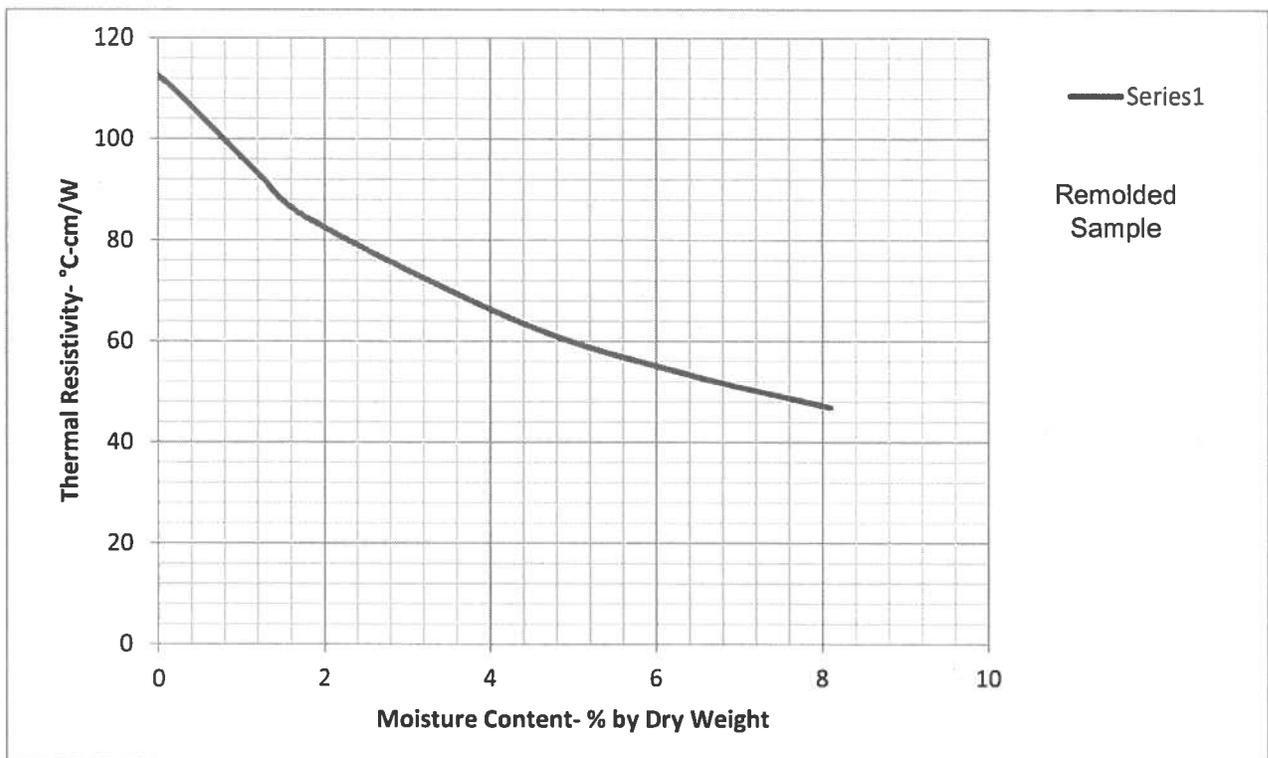
Project Name: Panoche Solar
 Project Number: 20150148
 Client: _____

Date: 5/15/2014

Sample I.D.: TP-2
 Depth, ft.: 0"-36"
 Sample Type: _____

*Maximum Dry Density, pcf: 138.8
 *Optimum Moisture Content, %: 6.0
 *ASTM D1557

Thermal Dry-Out Curve



Sample Location	Depth feet	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content, % @ Compaction	Dry Density, pcf	Percent Compaction
			Wet	Dry			
TP-2	0"-36"	Silty Sand	47	113	8.1	125.1	90.1%

THERMAL RESISTIVITY REPORT

Method Used: IEEE Std. 442-1981

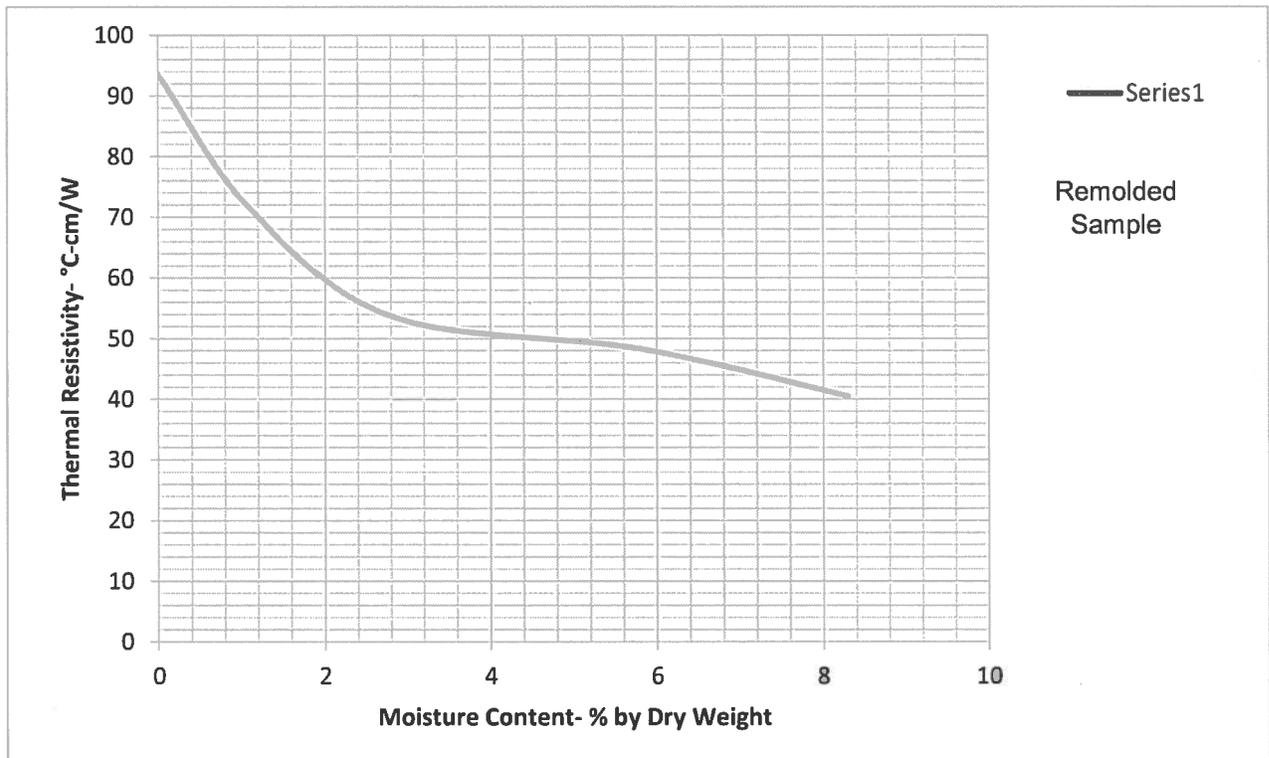
Project Name: Panoche Solar
 Project Number: 20150148
 Client: _____

Date: 5/15/2014

Sample I.D.: TP-3
 Depth, ft.: 0"-36"
 Sample Type: _____

*Maximum Dry Density, pcf: 139.7
 *Optimum Moisture Content, %: 6.5
 *ASTM D1557

Thermal Dry-Out Curve



Sample Location	Depth feet	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content, % @ Compaction	Dry Density, pcf	Percent Compaction
			Wet	Dry			
TP-3	0"-36"	Silty Sand	41	94	8.3	126.0	90.2%



THERMAL RESISTIVITY REPORT

Method Used: IEEE Std. 442-1981

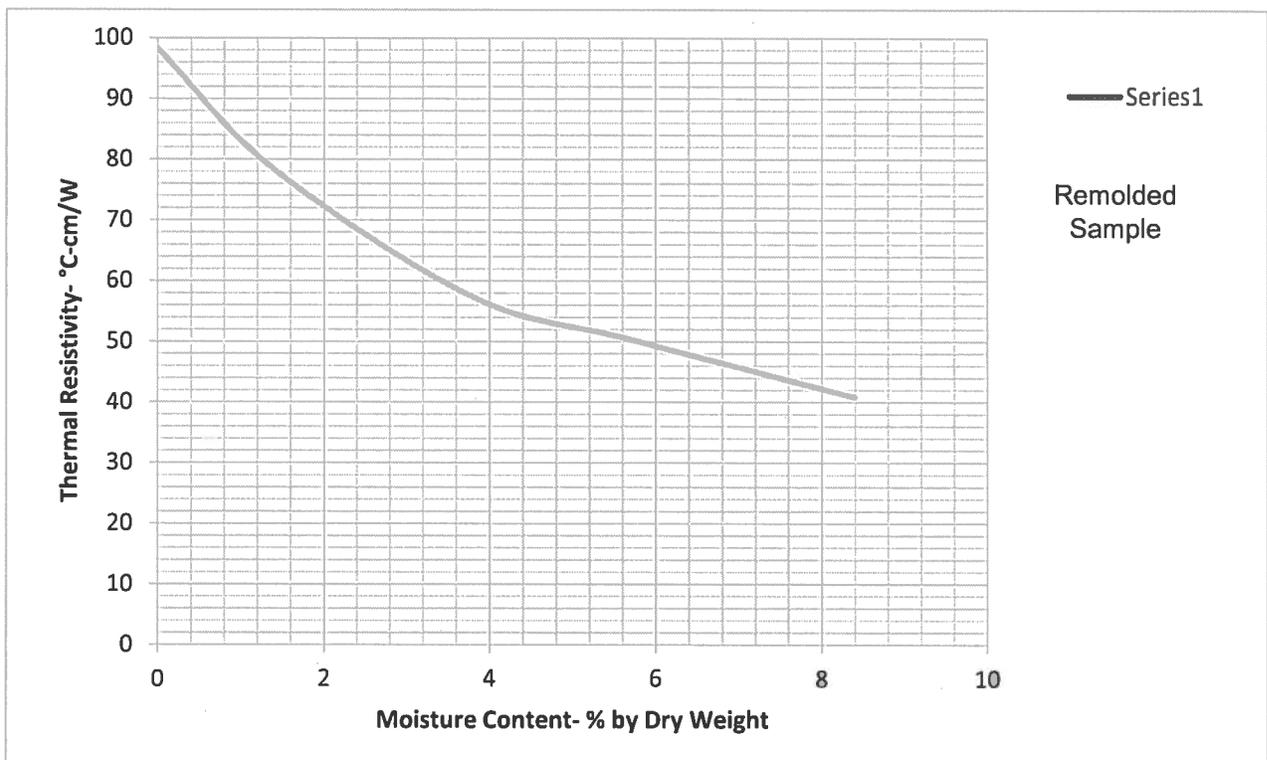
Project Name: Panoche Solar
 Project Number: 20150148
 Client: _____

Date: 5/15/2014

Sample I.D.: TP-4
 Depth, ft.: 0"-36"
 Sample Type: _____

*Maximum Dry Density, pcf: 138.1
 *Optimum Moisture Content, %: 5.5
 *ASTM D1557

Thermal Dry-Out Curve



Sample Location	Depth feet	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content, % @ Compaction	Dry Density, pcf	Percent Compaction
			Wet	Dry			
TP-4	0"-36"	Silty Sand	41	98	8.4	124.6	90.2%

THERMAL RESISTIVITY REPORT

Method Used: IEEE Std. 442-1981

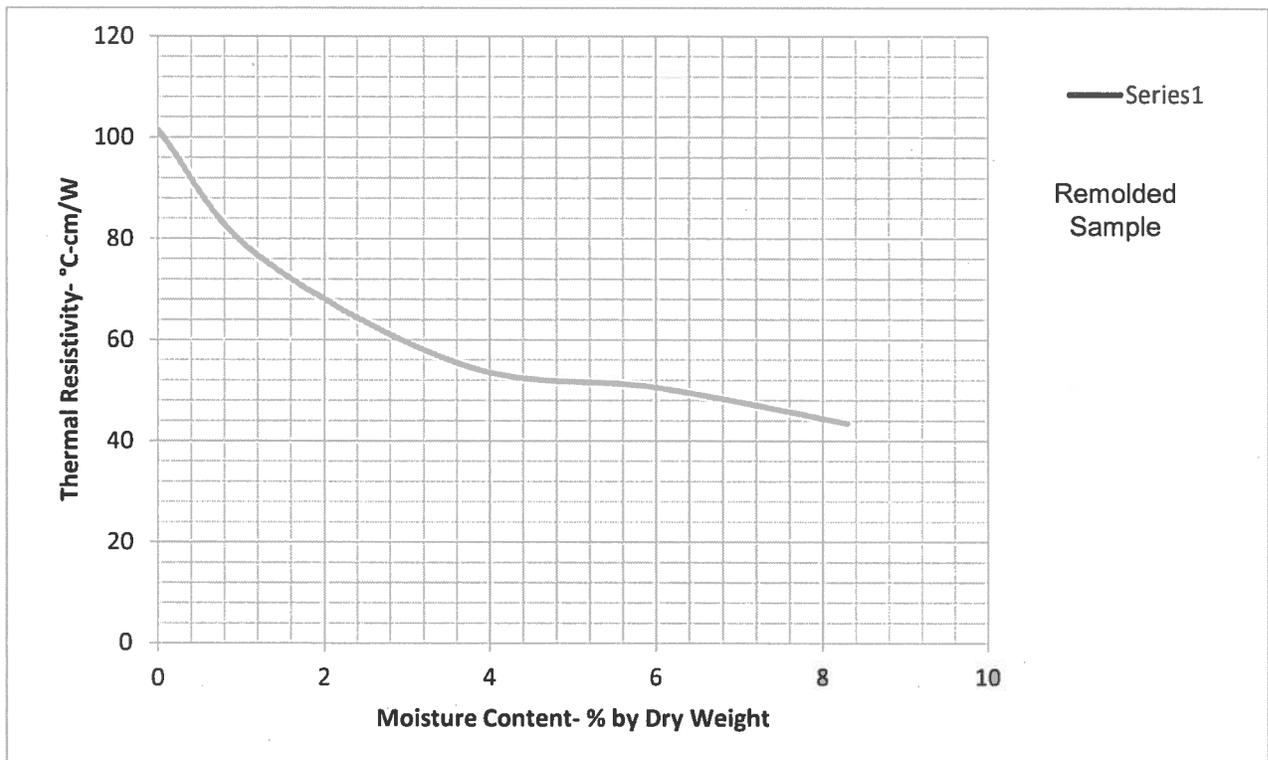
Project Name: Panoche Solar
 Project Number: 20150148
 Client: _____

Date: 5/16/2014

Sample I.D.: TP-5
 Depth, ft.: 0"-36"
 Sample Type: _____

*Maximum Dry Density, pcf: 138
 *Optimum Moisture Content, %: 6.0
 *ASTM D1557

Thermal Dry-Out Curve



Sample Location	Depth feet	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content, % @ Compaction	Dry Density, pcf	Percent Compaction
			Wet	Dry			
TP-5	0"-36"	Silty Sand	43	102	8.3	124.4	90.1%



THERMAL RESISTIVITY REPORT

Method Used: IEEE Std. 442-1981

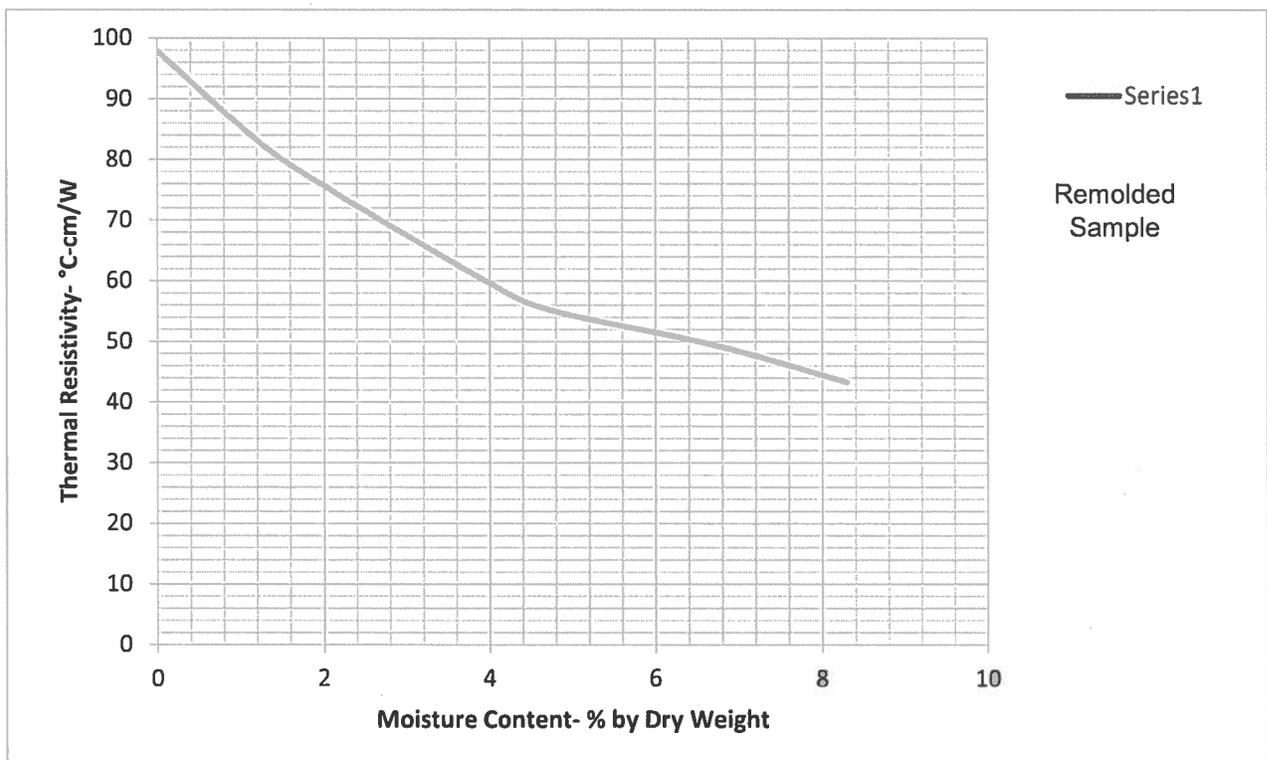
Project Name: Panoche Solar
 Project Number: 20150148
 Client: _____

Date: 5/16/2014

Sample I.D.: TP-6
 Depth, ft.: 0"-36"
 Sample Type: _____

*Maximum Dry Density, pcf: 137.9
 *Optimum Moisture Content, %: 6.1
 *ASTM D1557

Thermal Dry-Out Curve



Sample Location	Depth feet	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content, % @ Compaction	Dry Density, pcf	Percent Compaction
			Wet	Dry			
TP-6	0"-36"	Silty Sand	43	98	8.3	124.3	90.1%

THERMAL RESISTIVITY REPORT

Method Used: IEEE Std. 442-1981

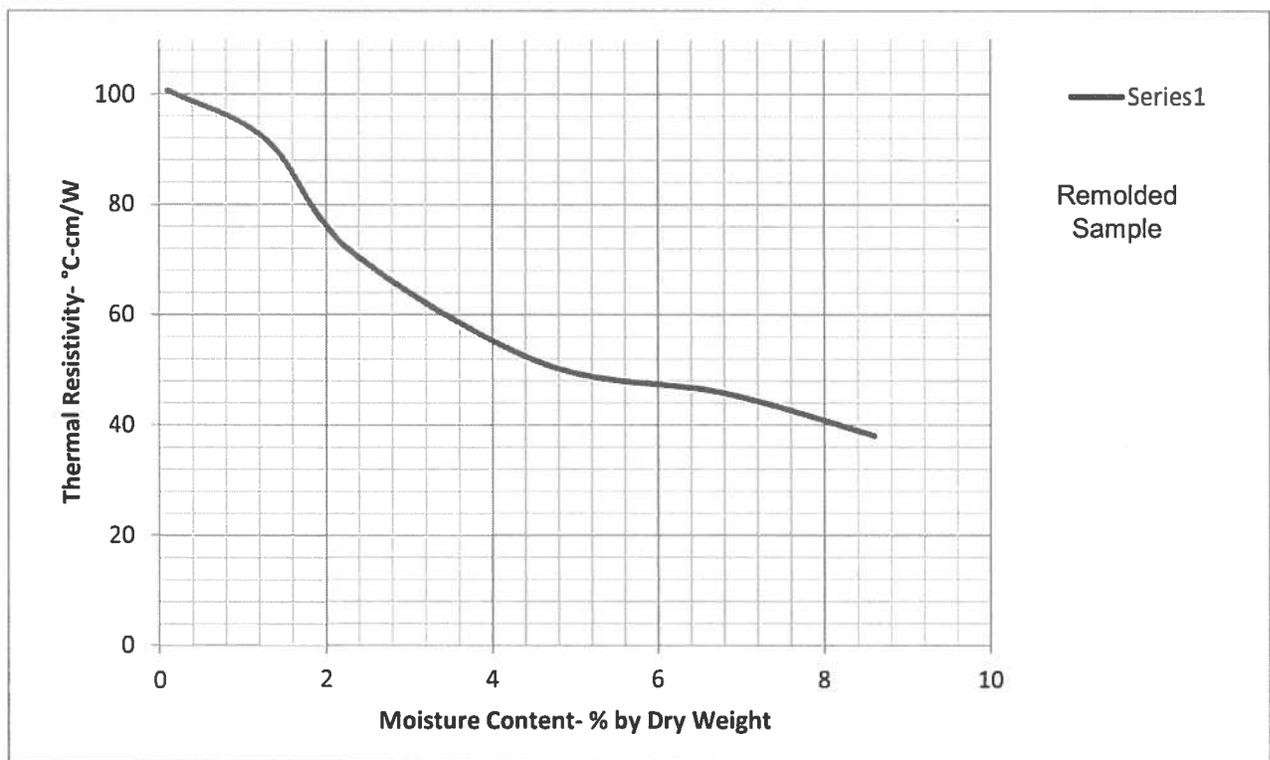
Project Name: Panoche Solar
 Project Number: 20150148
 Client: _____

Date: 5/17/2014

Sample I.D.: TP-7
 Depth, ft.: 0"-36"
 Sample Type: _____

*Maximum Dry Density, pcf: 134.6
 *Optimum Moisture Content, %: 7.0
 *ASTM D1557

Thermal Dry-Out Curve



Sample Location	Depth feet	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content, % @ Compaction	Dry Density, pcf	Percent Compaction
			Wet	Dry			
TP-7	0"-36"	Silty Sand	38	101	8.6	121.2	90.0%



THERMAL RESISTIVITY REPORT

Method Used: IEEE Std. 442-1981

Project Name: Panoche Solar
 Project Number: 20150148
 Client: _____

Date: 5/16/2014

Sample I.D.: TP-8
 Depth, ft.: 0"-36"
 Sample Type: _____

*Maximum Dry Density, pcf: 138.4
 *Optimum Moisture Content, %: 5.3
 *ASTM D1557

Thermal Dry-Out Curve



Sample Location	Depth feet	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content, % @ Compaction	Dry Density, pcf	Percent Compaction
			Wet	Dry			
TP-8	0"-36"	Silty Sand	59	168	6.2	124.7	90.1%

THERMAL RESISTIVITY REPORT

Method Used: IEEE Std. 442-1981

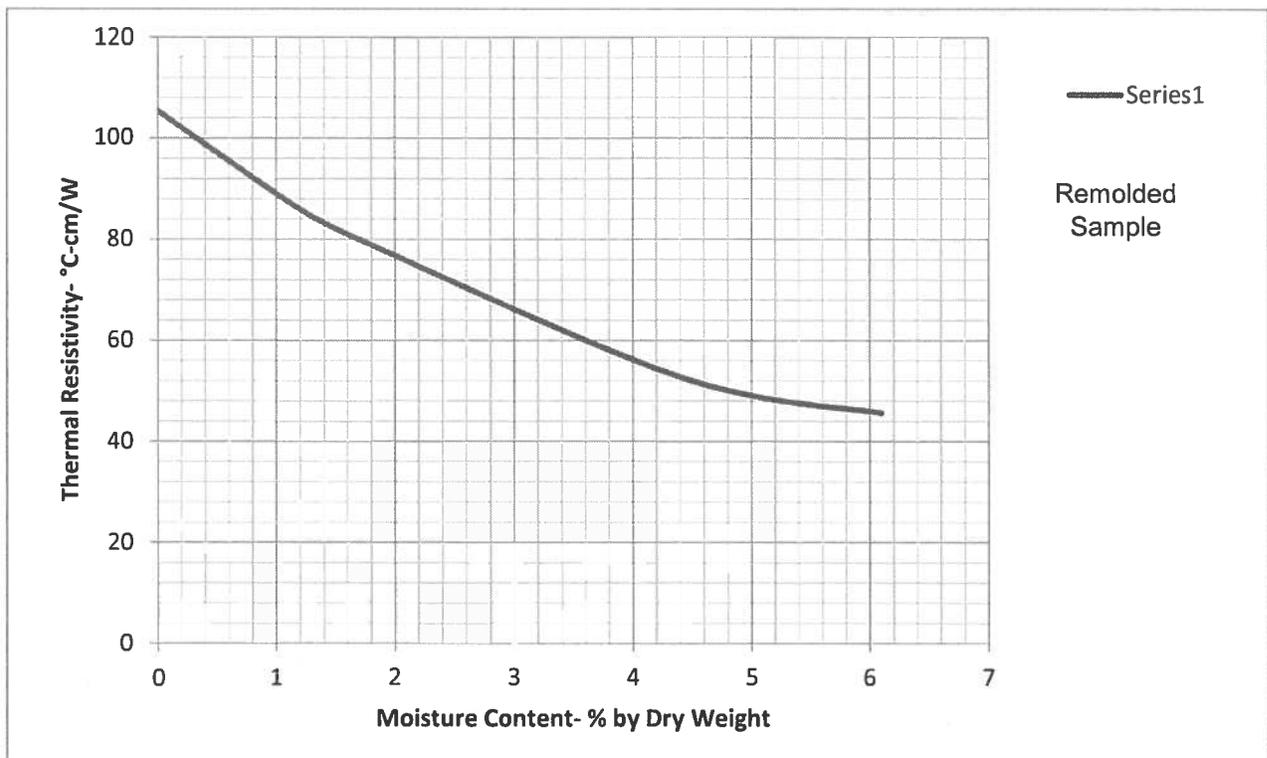
Project Name: Panoche Solar
 Project Number: 20150148
 Client: _____

Date: 5/19/2014

Sample I.D.: TP-9
 Depth, ft.: 0"-36"
 Sample Type: _____

*Maximum Dry Density, pcf: 140.7
 *Optimum Moisture Content, %: 5.4
 *ASTM D1557

Thermal Dry-Out Curve



Sample Location	Depth feet	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content, % @ Compaction	Dry Density, pcf	Percent Compaction
			Wet	Dry			
TP-9	0"-36"	Silty Sand	46	105	6.1	126.9	90.2%

THERMAL RESISTIVITY REPORT

Method Used: IEEE Std. 442-1981

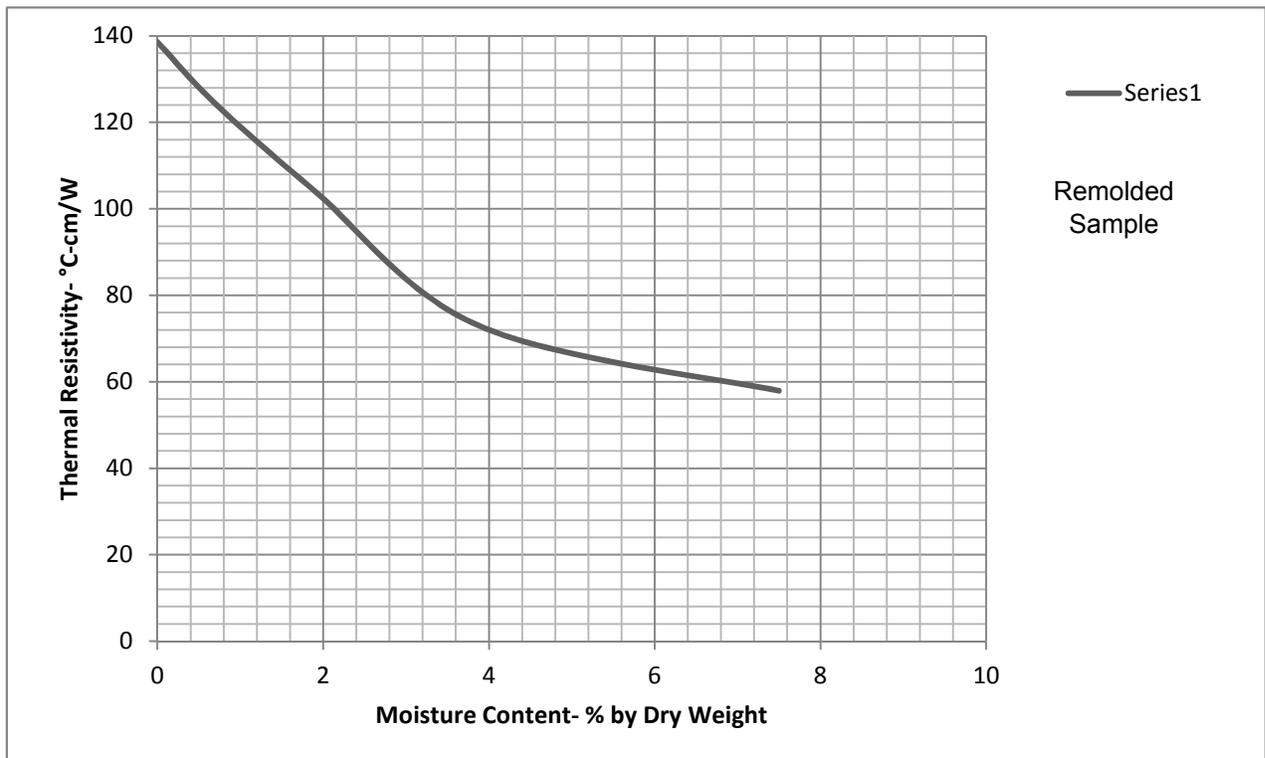
Project Name: Panoche Solar
 Project Number: 20150148
 Client: _____

Date: 5/16/2014

Sample I.D.: TP-10
 Depth, ft.: 0"-36"
 Sample Type: _____

*Maximum Dry Density, pcf: 131.6
 *Optimum Moisture Content, %: 7.0
 *ASTM D1557

Thermal Dry-Out Curve



Sample Location	Depth feet	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content, % @ Compaction	Dry Density, pcf	Percent Compaction
			Wet	Dry			
TP-10	0"-36"	Silty Sand	58	139	7.5	118.6	90.1%



THERMAL RESISTIVITY REPORT

Method Used: IEEE Std. 442-1981

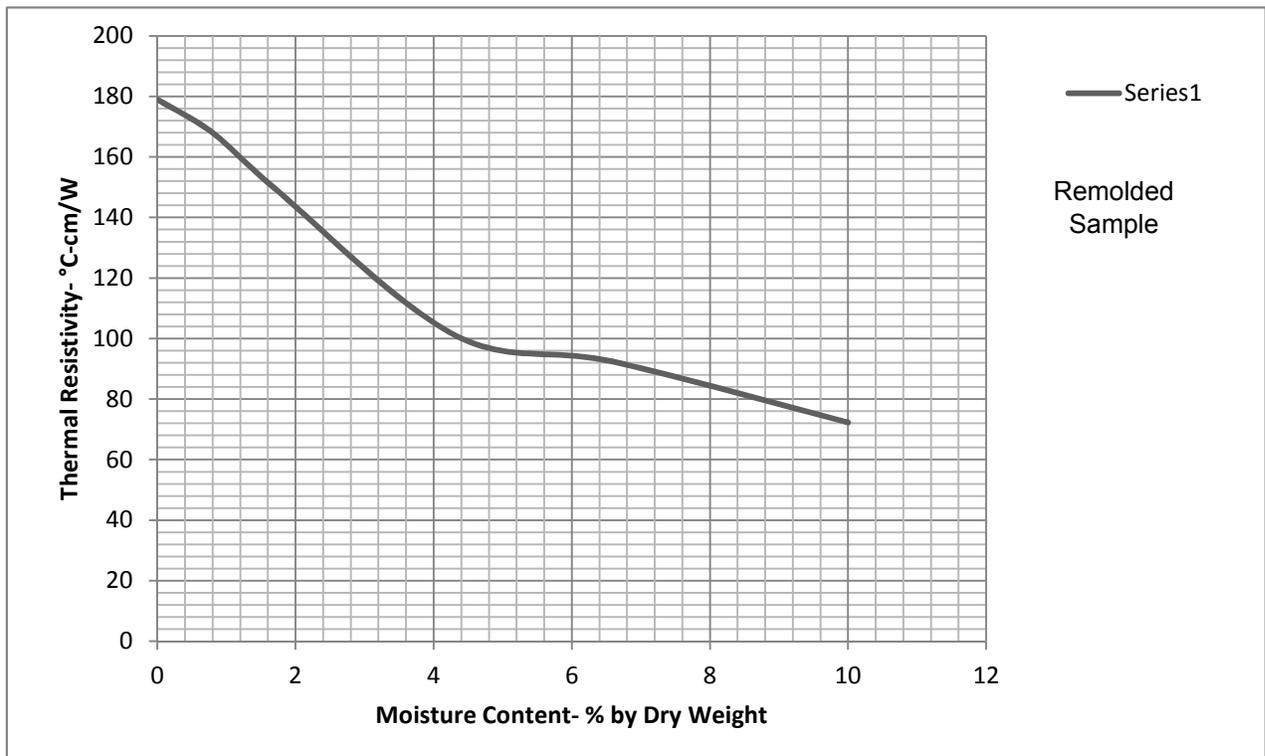
Project Name: Panoche Solar
 Project Number: 20150148
 Client: _____

Date: 5/19/2014

Sample I.D.: TP-11
 Depth, ft.: 0"-36"
 Sample Type: _____

*Maximum Dry Density, pcf: 121.1
 *Optimum Moisture Content, %: 10.0
 *ASTM D1557

Thermal Dry-Out Curve



Sample Location	Depth feet	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content, % @ Compaction	Dry Density, pcf	Percent Compaction
			Wet	Dry			
TP-11	0"-36"	Silty Sand	72	179	10.0	109.1	90.1%

THERMAL RESISTIVITY REPORT

Method Used: IEEE Std. 442-1981

Project Name: Panoche Solar
 Project Number: 20150148
 Client: _____

Date: 5/27/2014

Sample I.D.: TP-12
 Depth, ft.: 0"-36"
 Sample Type: _____

*Maximum Dry Density, pcf: 123.1
 *Optimum Moisture Content, %: 9.7
 *ASTM D1557

Thermal Dry-Out Curve



Sample Location	Depth feet	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content, % @ Compaction	Dry Density, pcf	Percent Compaction
			Wet	Dry			
TP-12	0"-36"	Silty Sand	70	168	12.6	110.9	90.1%

THERMAL RESISTIVITY REPORT

Method Used: IEEE Std. 442-1981

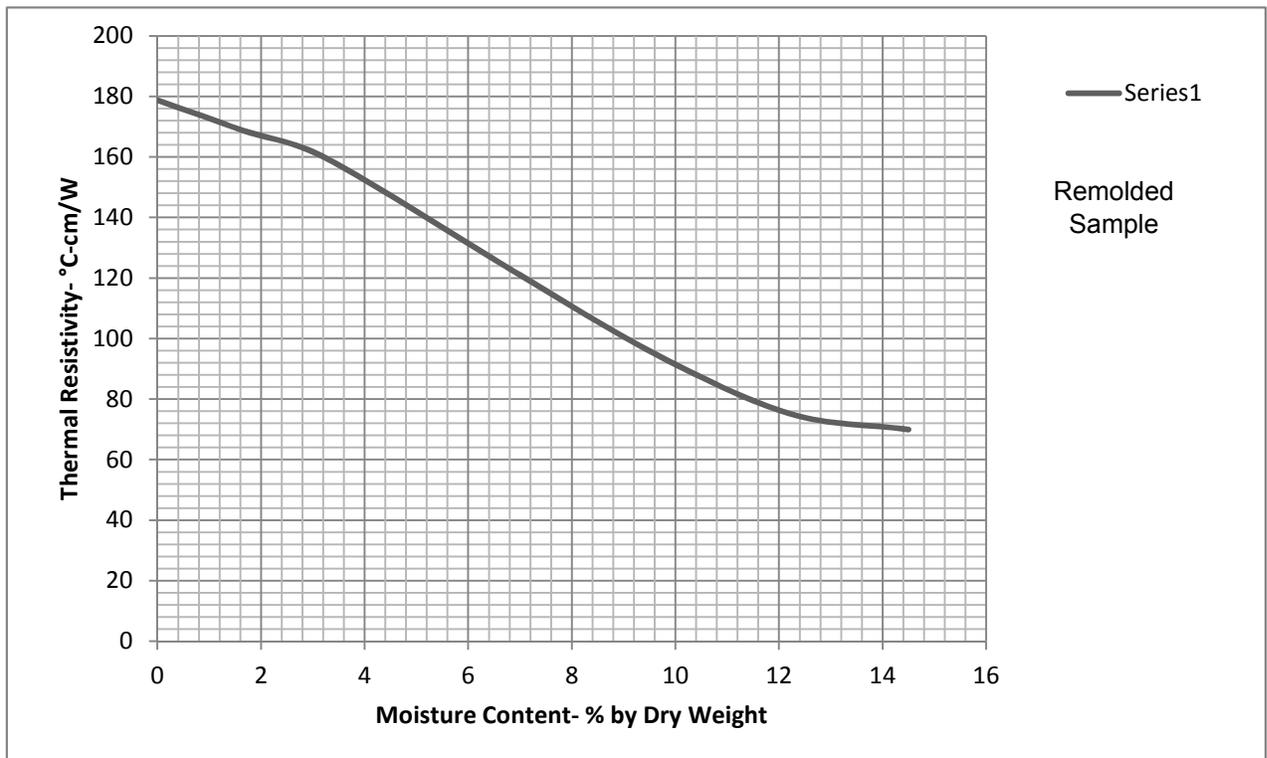
Project Name: Panoche Solar
 Project Number: 20150148
 Client: _____

Date: 5/16/2014

Sample I.D.: TP-13
 Depth, ft.: 0"-36"
 Sample Type: _____

*Maximum Dry Density, pcf: 121.3
 *Optimum Moisture Content, %: 7.2
 *ASTM D1557

Thermal Dry-Out Curve



Sample Location	Depth feet	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content, % @ Compaction	Dry Density, pcf	Percent Compaction
			Wet	Dry			
TP-13	0"-36"	Silty Sand	70	179	14.5	109.2	90.0%

THERMAL RESISTIVITY REPORT

Method Used: IEEE Std. 442-1981

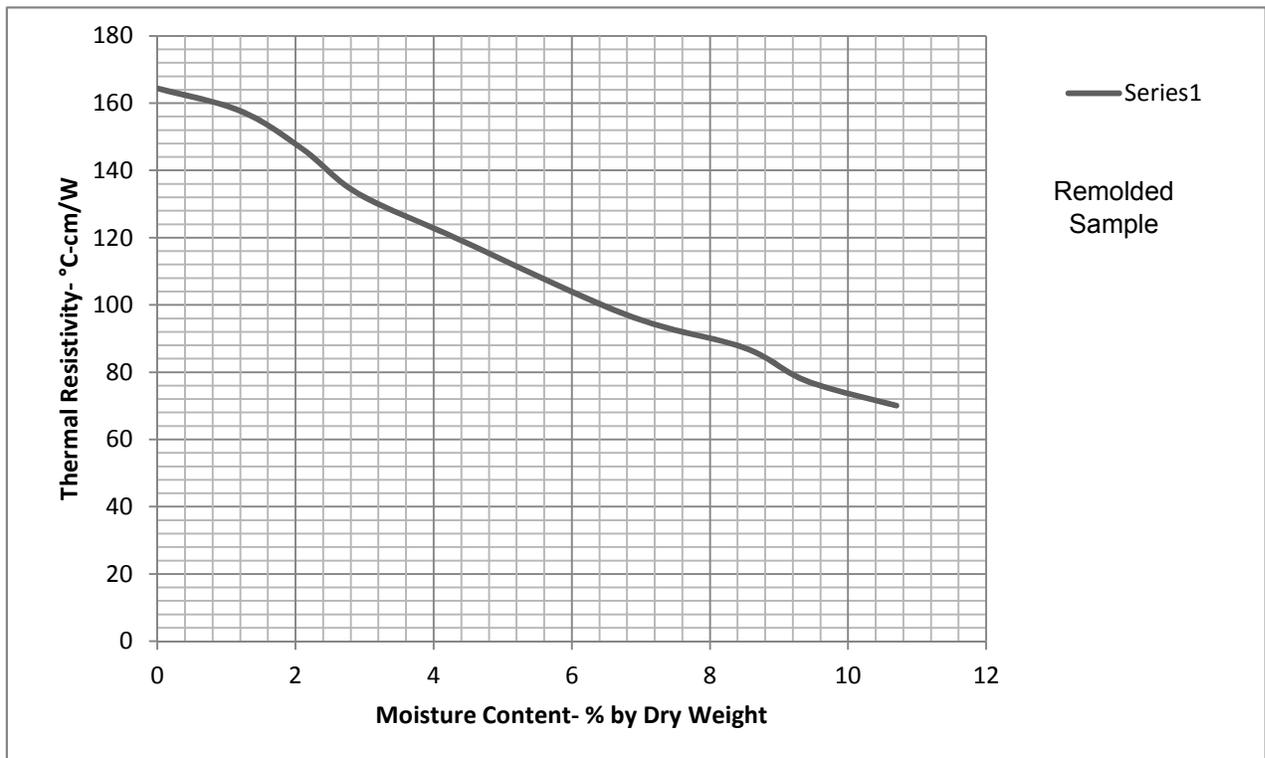
Project Name: Panoche Solar
 Project Number: 20150148
 Client: _____

Date: 5/27/2014

Sample I.D.: TP-14
 Depth, ft.: 0"-36"
 Sample Type: _____

*Maximum Dry Density, pcf: 124
 *Optimum Moisture Content, %: 8.1
 *ASTM D1557

Thermal Dry-Out Curve



Sample Location	Depth feet	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content, % @ Compaction	Dry Density, pcf	Percent Compaction
			Wet	Dry			
TP-14	0"-36"	Silty Sand	70	164	10.7	111.9	90.2%

THERMAL RESISTIVITY REPORT

Method Used: IEEE Std. 442-1981

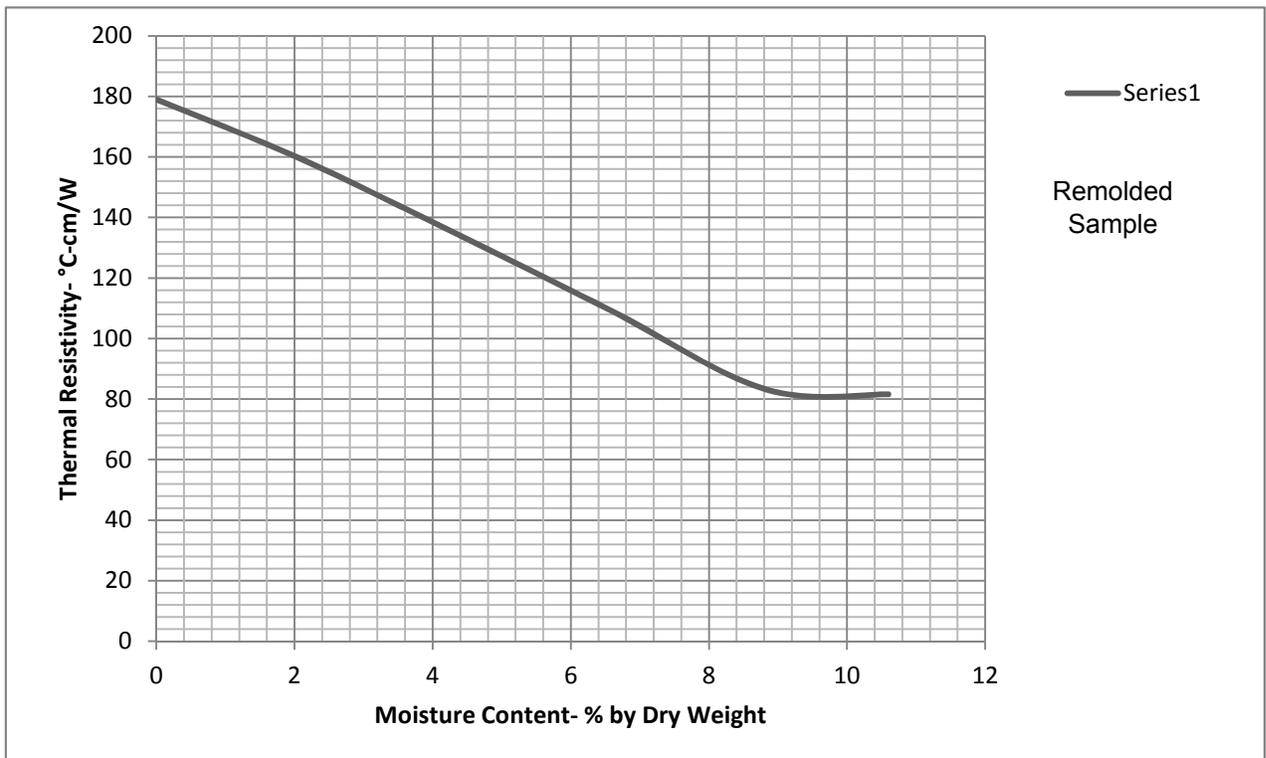
Project Name: Panoche Solar
 Project Number: 20150148
 Client: _____

Date: 5/26/2014

Sample I.D.: TP-15
 Depth, ft.: 0"-36"
 Sample Type: _____

*Maximum Dry Density, pcf: 119.9
 *Optimum Moisture Content, %: 7.4
 *ASTM D1557

Thermal Dry-Out Curve



Sample Location	Depth feet	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content, % @ Compaction	Dry Density, pcf	Percent Compaction
			Wet	Dry			
TP-15	0"-36"	Silty Sand	82	179	10.6	108.1	90.2%



THERMAL RESISTIVITY REPORT

Method Used: IEEE Std. 442-1981

Project Name: Panoche Solar
 Project Number: 20150148
 Client: _____

Date: 5/24/2014

Sample I.D.: TP-16
 Depth, ft.: 0"-36"
 Sample Type: _____

*Maximum Dry Density, pcf: 115
 *Optimum Moisture Content, %: 8.4
 *ASTM D1557

Thermal Dry-Out Curve



Sample Location	Depth feet	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content, % @ Compaction	Dry Density, pcf	Percent Compaction
			Wet	Dry			
TP-16	0"-36"	Silty Sand	68	133	18.2	103.7	90.2%

THERMAL RESISTIVITY REPORT

Method Used: IEEE Std. 442-1981

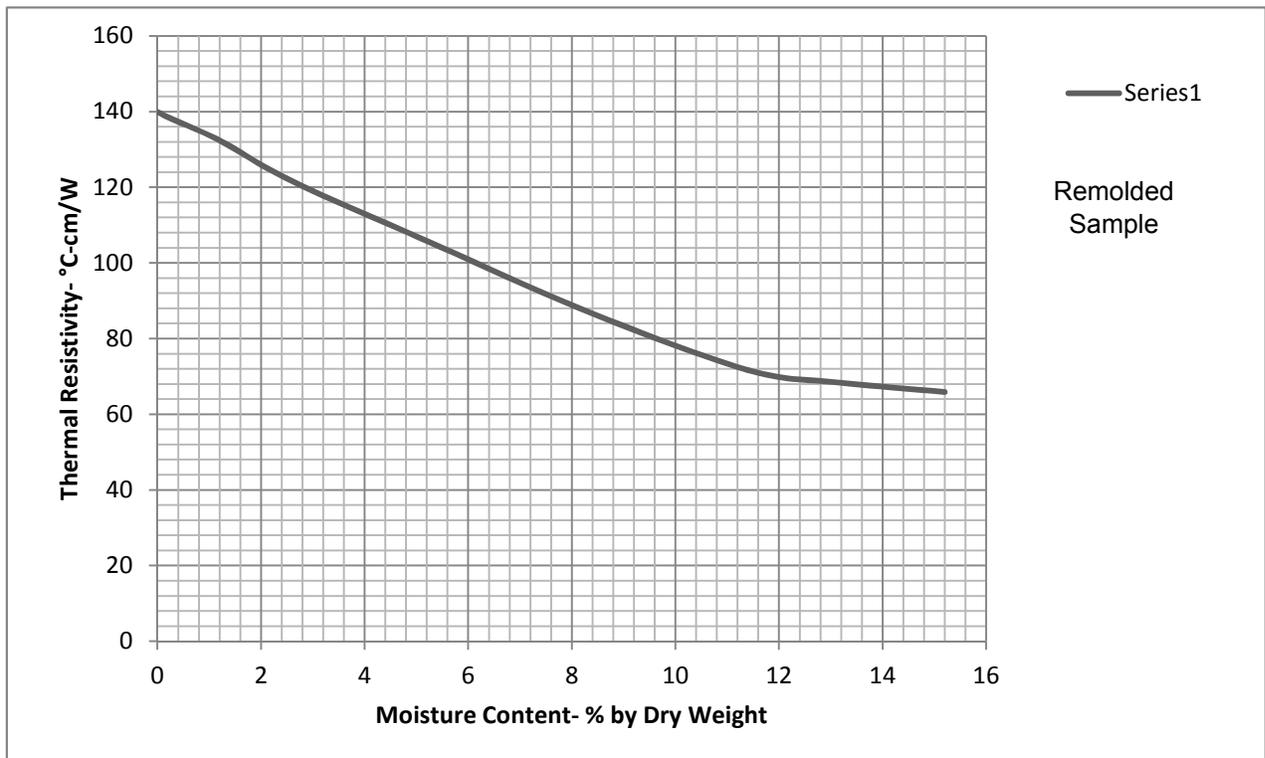
Project Name: Panoche Solar
 Project Number: 20150148
 Client: _____

Date: 5/29/2014

Sample I.D.: TP-17
 Depth, ft.: 0"-36"
 Sample Type: _____

*Maximum Dry Density, pcf: 119.9
 *Optimum Moisture Content, %: 9.4
 *ASTM D1557

Thermal Dry-Out Curve



Sample Location	Depth feet	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content, % @ Compaction	Dry Density, pcf	Percent Compaction
			Wet	Dry			
TP-17	0"-36"	Silty Sand	66	140	15.2	108.0	90.1%

THERMAL RESISTIVITY REPORT

Method Used: IEEE Std. 442-1981

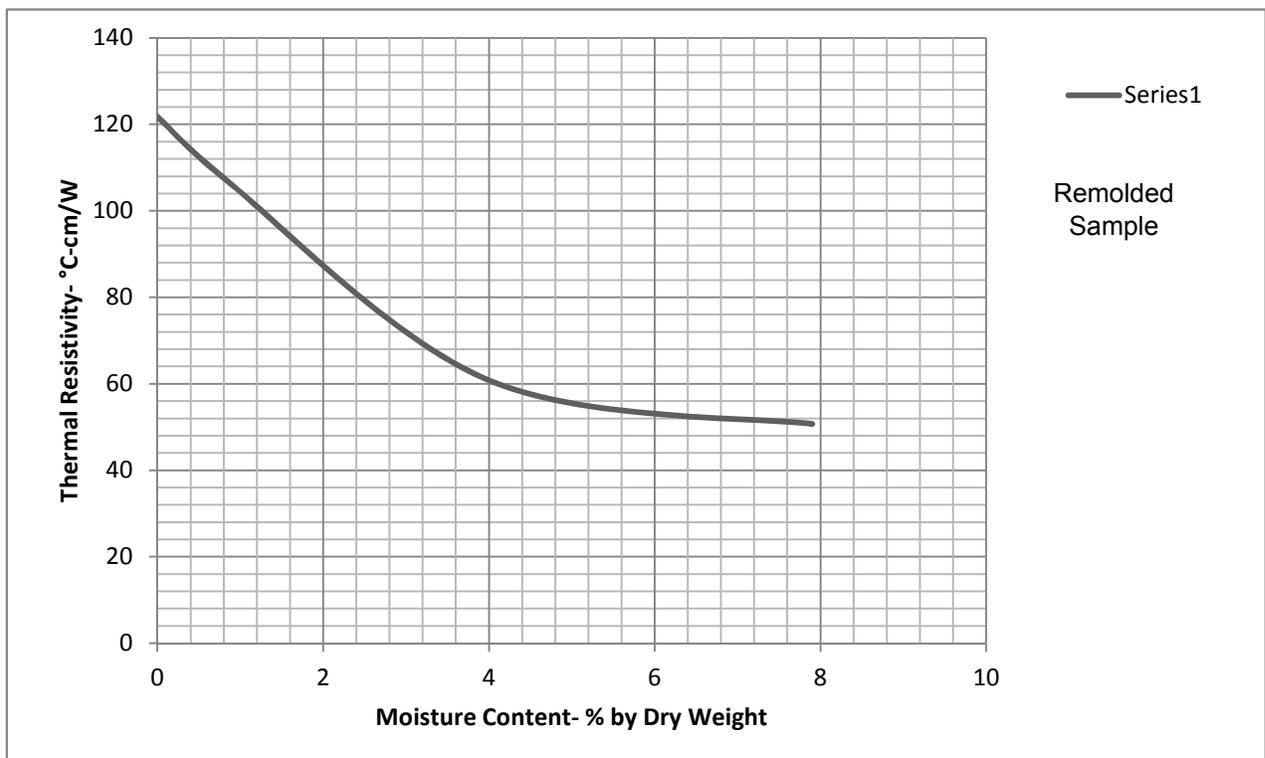
Project Name: Panoche Solar
 Project Number: 20150148
 Client: _____

Date: 5/26/2014

Sample I.D.: TP-18
 Depth, ft.: 0"-36"
 Sample Type: _____

*Maximum Dry Density, pcf: 134.7
 *Optimum Moisture Content, %: 6.8
 *ASTM D1557

Thermal Dry-Out Curve



Sample Location	Depth feet	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content, % @ Compaction	Dry Density, pcf	Percent Compaction
			Wet	Dry			
TP-18	0"-36"	Silty Sand	51	122	7.9	121.2	90.0%