Diamond Tail Solar Facility

Preliminary Geotechnical Engineering Report

Near NM 14 and NM 301

December 1, 2023 | Terracon Project No. 66225144

Prepared for:

PCR Investments SP4, LLC
1334 Brittmoore Road, Suite 2407
Houston, Texas 77043

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6805 Academy Parkway West NE
Albuquerque, New Mexico 87109
P (505) 797-4287
Terracon.com

December 1, 2023

PCR Investments SP4, LLC
1334 Brittmoore Road, Suite 2407
Houston, Texas 77043

Attn: Ms. Cynthia Schuchner – Chief Construction and Engineering Director
Phone: (832) 941-2460
Email: cschuchner@pcr.energy

Re: **Preliminary Geotechnical Engineering Report**
Diamond Tail Solar Facility
Near NM 14 and NM 301
Sandoval and Santa Fe Counties, New Mexico
Terracon Project No. 66225144

Dear Ms. Schuchner:

Terracon Consultants, Inc. (Terracon) has completed the Preliminary Geotechnical Engineering services for the above-referenced project. This study was performed in general accordance with revised Terracon Proposal No. P66225144 dated December 21, 2022. This report presents the findings of the subsurface exploration and provides preliminary geotechnical engineering recommendations concerning earthwork and the design and construction of solar panel foundations for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we may be of further service, please contact us.

Sincerely,

Terracon

MICHAEL E. ANDERSON
NEW MEXICO
12132
PROFESSIONAL ENGINEER
12/1/2023

Michael E. Anderson, P.E.
Principal/Geotechnical Department Manager

Laura Varone
Staff Engineer

SME Review By: Matthew R. Kleinholz, P.E. (AZ)

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Note: This report was originally delivered in a web-based format. **Blue Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the Terracon logo will bring you back to this page. For more interactive features, please view your project online at **client.terracon.com**.

Introduction

This report presents the results of our subsurface exploration and preliminary geotechnical engineering services performed for the proposed Diamond Tail Solar Facility project to be located near NM 14 and NM 301 in Sandoval and Santa Fe Counties, New Mexico. The approximate location of the project is shown on the attached Site Location map in the **Field Exploration Results** attachment of this report.

The purpose of these services was to provide information and preliminary geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Site preparation and earthwork
- Thermal resistivity
- Pile load test results
- Unpaved access roads
- Groundwater conditions
- Seismic considerations
- Electrical resistivity for grounding design
- Foundation design and construction
- Metal and concrete corrosion considerations

Our geotechnical engineering scope of work for this project included the following:

- A total of 37 test borings drilled to depths between approximately 8 feet to 30½ feet below the existing ground surface (bgs);
- Field electrical resistivity (FER) testing at 19 locations;
- Pile load testing at 18 locations that included 18 axial compression load tests, 36 axial tensile load tests, and 36 lateral load tests;
- A total of 14 laboratory thermal resistivity test (TRT) dry-out curves performed by Geotherm USA;
- Corrosion testing performed on bulk samples obtained at 12 locations;
- Laboratory index testing of soil samples;
- Preliminary geotechnical engineering analysis; and
- Preparation of this preliminary report.

Project Description

Our understanding of the project conditions is as follows:

Item	Description
Project Description	The project consists of providing preliminary geotechnical engineering recommendations for a proposed solar facility project. The power capacity of the project is unknown but assumed to be on the order of about 300 to 350MWac. A switching station is planned to be located at the far SWC of the facility for connection to an existing 115kV transmission line. The location of a substation or battery energy storage system (BESS) was not indicated on the provided site plan, we assume they are going to be located near the switching station.
Proposed Structures	Photovoltaic modules aligned in arrays and affixed to single-axis tracking system to be supported on driven steel piles. Electrical equipment and substation elements will be supported on concrete slabs-on-grade and/or shallow spread footings.
Proposed Construction	We understand the solar structures will be supported by driven steel piles, and equipment structures could be supported by driven piles or mat foundations.
Maximum Loads (Assumed)	▪ PV Module Downward: 1 – 7 kips ▪ PV Module Uplift: 0.5 – 3 kips ▪ PV Module Lateral: 1 – 2 kips ▪ PV Module Moment: 0.1 - 30 kip-ft
Grading/Slopes	Grading and/or site plans were not provided at this stage of the project. However, it is our assumption that proposed grades will follow existing site grades with minimal earthwork.
Access Roads	We understand that access road cross sections used for construction of the project will be the responsibility of the engineering procurement and construction (EPC) contractor, and that only post construction traffic with an allowable rut depth of 2 inches is what we are to design for in this report. Unpaved access roads are planned for the site as described below: ▪ Access roads are to support post-construction traffic which we understand will be primarily light maintenance vehicles. The roads will be required to support a maximum vehicle load of 80,000 pounds for fire truck access. ▪ We understand it is acceptable for the access roads to require ongoing maintenance throughout their design life.

Terracon should be notified if any of the above information is inconsistent with the planned construction, as modifications to our recommendations may be necessary.

Site Conditions

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available topographic maps.

Item	Description
Parcel Information	The proposed solar facility is to be constructed on approximately 2,000 acres of land located near NM 14 and NM 301 in Sandoval and Santa Fe Counties, New Mexico. It is our understanding that the buildable area the project site will be on the order of about 1,850 acres. Coordinates near the center of the site are: 35.3076°N latitude and 106.2563°W longitude. See Site Location map in the **Field Exploration Results** attachment of this report for additional site location information.
Existing Improvements	The project site is currently an undeveloped parcel consisting of ranch and farmland. Two (2) PNM electrical transmission lines are located along the southern boundary of the project and within an existing easement that essentially bisects the project sit in an east to west orientation.
Current Ground Cover	Current ground cover of the project site consists of soil and light to moderate native vegetation.
Existing Topography (From Google Earth)	The site is relatively flat and gently slopes down from west and northwest. Based on review of topographic map information, the elevation across the site varies from approximately 6,350 to 6,200 feet MSL.

Geotechnical Characterization

Subsurface Conditions

Specific conditions encountered at each boring location are indicated on the individual boring logs presented in the **Field Exploration Results** attachment of this report. Stratification boundaries on the boring logs represent the approximate location of changes in soil types; in-situ, the transition between materials may be gradual. Based on conditions encountered in the borings, subsurface conditions at the project site can be generalized as follows:

Description	Approximate Depth to Bottom of Stratum (feet)	Material Description	Relative Density / Consistency
Stratum 1	0 to 9	Sand with variable amounts of clay, silt and gravel, Lean Clay with variable amounts of sand and silt. None to strong cementation.	Generally Loose to Medium Dense/Soft to Very Stiff
Stratum 2	9 to 30.6 (maximum depth explored)	Sand with variable amounts of clay, silt and gravel, Gravels with variable amounts of sand and silt. None to strong cementation.	Generally Dense to Very Dense

Note: Auger refusal occurred in borings B-08, 11, 12, and 24 at depths in the range between 8 to 12 feet below the existing surface.

Groundwater Observations

Groundwater was not observed in any of the test borings at the time of our field exploration, nor when checked upon completion of drilling and excavation. These observations represent groundwater conditions at the time of the field exploration and may not be indicative of other times, or at other locations. Groundwater conditions can change with varying seasonal and weather conditions, and other factors.

Proctor Testing Results

Fourteen (14) Standard Proctor tests (ASTM D698) were performed on representative samples of the subsurface soils at depths of about 0 to 5 feet BGS. The maximum dry density and optimum water content results were used for the laboratory thermal resistivity.

Soil Classification	Maximum Dry Density (pcf)		Optimum Water Content (%)	
	Min.	Max.	Min.	Max
Clays	109.2	117.1[1]	10.9	12.9
Sands and Gravels	115.2	121.4	7.9	11.6

1. The proctor results from B-01 were excluded from calculations due anomalous results that are not representative of a clay material.

Laboratory Thermal Resistivity

Twenty-eight (28) laboratory thermal resistivity tests were performed on fourteen (14) samples by Geotherm USA of the subsurface soils at depths of about 0 to 5 feet BGS. The tests were performed on samples remolded at approximately 85% and 90% of maximum dry density and near optimum moisture as determined by the Standard Proctor (ASTM

D698) in accordance with IEEE Standard 442-2017. The test procedures, location, and individual laboratory thermal resistivity dry-out curves are provided in the **Laboratory Test Results** attachment of this report and are summarized in the table below:

Laboratory Thermal Resistivity Test Results Summary

Test Condition	Soil Classification	Thermal Resistivity (°C-cm/W)				Number of Tests
		Parameter	Min.	Max.	Average	
Remolded to 85%	Clays	Remolded Wet[1]	82	97	90	10
		Remolded Dry[2]	223	301	272	
	Sands and Gravels	Remolded Wet[1]	83	94	90	4
		Remolded Dry[2]	248	276	262	
Remolded to 90%	Clays	Remolded Wet[1]	70	89	79	10
		Remolded Dry[2]	178	247	222	
	Sands and Gravels	Remolded Wet[1]	74	84	79	4
		Remolded Dry[2]	189	221	210	

1. The "Remolded Wet" samples were tested near their optimum moisture content.
2. The "Dry" samples were tested at a moisture content near 0%.

Field Soil Electrical Resistivity

Field measurements of soil electrical resistivity were performed between February 27 and August 2, 2023.

Field measurements of soil resistivity were performed in general accordance with ASTM Test Method G 57, and IEEE Standard 81, using the Wenner Four-Electrode Method. The approximate soil resistivity test locations are shown in the Field Soil Electrical Resistivity Test Data attachment of this report.

The soil resistivity measurements were performed using an LRI Ultra MiniRes. For the solar array areas, the Wenner arrangement (equal electrode spacing) was used with the "a" spacing of 1, 2, 3, 5, 10, 20, and 50 feet. For the substation, the Wenner arrangement (equal electrode spacing) was used with the "a" spacing of 1, 2, 3, 5, 10, 20, 50, 100, 200, and 300 feet. The testing was performed in both north-south and east-west and/or northwest-southeast and northeast-southwest orientations at each location. The "a" spacing is generally considered to be the depth of influence of the test. Results of the field soil resistivity measurements are summarized in the table below along with detailed measurements presented in tabular form in the **Field Soil Electrical Resistivity Test Data** attachment of this report. The summary of the test results is outlined below:

Test Designation	Location	Maximum "a" Spacing (feet)	Resistivity (ohm-cm)
FER-01	Solar Array	1, 2, 3, 5, 10, 20, and 50	4,620 to 7,320
FER-02	Solar Array	1, 2, 3, 5, 10, 20, and 50	5,480 to 13,420
FER-03	Solar Array	1, 2, 3, 5, 10, 20, and 50	7,770 to 25,350
FER-04	Solar Array	1, 2, 3, 5, 10, 20, and 50	5,680 to 10,540
FER-05	Solar Array	1, 2, 3, 5, 10, 20, and 50	6,140 to 18,210
FER-06	Solar Array	1, 2, 3, 5, 10, 20, and 50	6,580 to 17, 250
FER-07	Solar Array	1, 2, 3, 5, 10, 20, and 50	7,100 to 15,330
FER-08	Solar Array	1, 2, 3, 5, 10, 20, and 50	11,020 to 34,160
FER-09	Solar Array	1, 2, 3, 5, 10, 20, and 50	6,870 to 16,150
FER-10	Solar Array	1, 2, 3, 5, 10, 20, and 50	5,420 to 12,230
FER-11	Solar Array	1, 2, 3, 5, 10, 20, and 50	8,150 to 39,740
FER-12	Solar Array	1, 2, 3, 5, 10, 20, and 50	5,330 to 26,290
FER-13	Solar Array	1, 2, 3, 5, 10, 20, and 50	7,570 to 16,560
FER-14	Solar Array	1, 2, 3, 5, 10, 20, and 50	3,310 to 15,380
FER-15	Solar Array	1, 2, 3, 5, 10, 20, and 50	5,480 to 28,430
FER-16	Solar Array	1, 2, 3, 5, 10, 20, and 50	4,060 to 14,390
FER-17	Solar Array	1, 2, 3, 5, 10, 20, and 50	5,800 to 12,010
FER-18	Solar Array	1, 2, 3, 5, 10, 20, and 50	4,060 to 16,740
FER-SUB-01	Substation	1, 2, 3, 5, 10, 20, 50, 100, 200, and 300	3,270 to 9,250

Laboratory Corrosion Testing

The following table lists the results of laboratory pH, soluble sulfate, sulfides, soluble chloride, oxidation-reduction potential (Red-Ox), total salts, and minimum electrical resistivity. The values may be used to estimate potential corrosive characteristics of the on-site soils with respect to contact with the various underground materials which will be used for project construction.

Corrosivity Test Results Summary

Parameter	Soil Classification	Number of Tests	Min.	Max.	Average
pH	Silts and Clays	6	8.15	9.24	8.68
Soluble Sulfate (mg/kg)			14	34	24

Corrosivity Test Results Summary

Parameter	Soil Classification	Number of Tests	Min.	Max.	Average
Sulfides (mg/kg)			NIL	NIL	NIL
Soluble Chloride (mg/kg)			35	50	46
Redox (mV)			+729	+734	+732
Total Salts (mg/kg)			231	461	351
Minimum Electrical Resistivity (Ω-cm)			737	1340	994
pH	Sands and Gravels	6	8.17	8.82	8.47
Soluble Sulfate (mg/kg)			15	36	23
Sulfides (mg/kg)			Nil	Nil	Nil
Soluble Chloride (mg/kg)			42	102	71
Redox (mV)			+727	+735	+730
Total Salts (mg/kg)			176	715	473
Minimum Electrical Resistivity (Ω-cm)			556	1273	878

Results of soluble sulfate testing indicate that samples of the on-site soils tested classify as S0 according to Table 19.3.1.1 of Section 318 of the American Concrete Institute (ACI) Building Code Requirements for Structural Concrete. Therefore, the American Society for Testing and Materials (ASTM) Type I or I/II portland cement is considered suitable for concrete at the site in contact with similar soluble sulfate concentrations. Concrete should be designed in accordance with the provisions of the ACI Building Code Requirements for Structural Concrete, Section 318, Chapter 19.

As discussed in Section 10.7.5 of the AASHTO LRFD Bridge Manual, 8th Edition, 2017, states the following soil or site conditions should be considered as indicative of potential corrosion deterioration for steel piles/members:

- Soil electrical resistivity less than 2,000 ohm-cm

- pH less than 5.5
- pH between 5.5 and 8.5 with high organic content
- Sulfate concentration greater than 1,000 ppm (mg/kg)

These test results are provided to assist in determining the type and degree of corrosion protection that may be required. We recommend that a National Association of Corrosion Engineers (NACE) certified corrosion professional be retained to analyze the need for corrosion protection and to design appropriate protective measures, if required.

Imported fill materials may have significantly different properties than the site materials noted above and should be evaluated if expected to be in contact with metals used for construction.

Seismic Site Class

The seismic design requirements for buildings and other structures are based on Seismic Design Category. Site Classification is required to determine the Seismic Design Category for a structure. The Site Classification is based on the upper 100 feet of the site profile defined by a weighted average value of either shear wave velocity, standard penetration resistance, or undrained shear strength in accordance with Section 20.4 of ASCE 7 and the International Building Code (IBC). During this geotechnical field exploration, soil borings were completed at the site to a maximum depth of about 30½ feet. Section 1613.2.2 of the IBC states that **Seismic Site Classification D** shall be used where the soil properties are not known in sufficient detail. Additional deeper borings and/or a site-specific seismic evaluation using geophysical methods would be required to further define the seismic site class.

Pile Load Testing (PLT) Program

Summary of Pile Load Testing

Terracon completed a full-scale pile load testing (PLT) program that included:

- Directing the installation of a group of three (3) test piles at 18 locations in the solar array area.
- Performing full-scale testing under axial tensile loads for two (2) test piles in each group (36 tests) in the solar array area.
- Performing full-scale testing under lateral loads for two (2) test piles in each group (36 tests) in the solar array area.
- Performing full-scale testing under axial compressive loads for one (1) test pile at 18 locations (18 tests) in the solar array area.

A summary of the total drive times and load test results is provided below. A summary of the installation procedures and drive time graphs are included in the **Test Pile Driving Data** section of this report.

Summary of Pile Load Test Results

The individual pile load test results are provided in the **Pile Load Test Results** section of this report. Because field load testing is exploratory, the maximum test deflection limit (up to about 1 inch) is higher than the design deflection limits used to determine the unit skin friction, end bearing, and estimated lateral soil properties discussed later in this report. The table provided below summarizes test pile location, embedment depth, total drive time, and the loads measured at the design deflection limit considered for the axial and lateral analyses in this report (¼-inch of vertical displacement and ½-inch of lateral displacement):

Pile Load Test Results Summary

Location	Pile Embedment Depth (ft-bgs)	Total Drive Time (seconds)	Average Drive Time (sec/ft)	Uplift Load at ¼" Displacement (lbs) [1]	Lateral Load at ½" Displacement (lbs)	Compression Load at ¼" Displacement (lbs) [1]
PLT-01A	5.0	20.3	4.1	6,290	2,750	---
PLT-01B	8.0	31.7	4.0	>10,000	2,900	---
PLT-01C	5.0	17.4	3.5	---	---	11,970
PLT-02A	5.0	15.6	3.1	7,630	3,400	---
PLT-02B	8.0	22.7	2.8	6,820	3,700	---
PLT-02C	5.0	27.3	5.5	---	---	>13,000
PLT-03A	5.0	20.2	4.0	3,540	2,260	---
PLT-03B	8.0	62.1	7.8	1,750	3,020	---
PLT-03C	5.0	14.5	1.8	---	---	3,520
PLT-04A	5.0	13.7	2.7	4,310	2,480	---
PLT-04B	8.0	28.9	3.6	9,850	3,150	---
PLT-04C	5.0	11.7	2.3	---	---	3,380
PLT-05A	5.0	14.5	2.9	3,170	2,510	---
PLT-05B	8.0	35.7	4.5	6,900	3,140	---
PLT-05C	5.0	8.4	1.1	---	---	6,730
PLT-06A	5.0	21.8	4.4	>10,000	3,520	---
PLT-06B	8.0	41.9	5.2	>10,000	3,300	---
PLT-06C	5.0	23.5	4.7	---	---	>13,000

Pile Load Test Results Summary

Location	Pile Embedment Depth (ft-bgs)	Total Drive Time (seconds)	Average Drive Time (sec/ft)	Uplift Load at ¼" Displacement (lbs) [1]	Lateral Load at ½" Displacement (lbs)	Compression Load at ¼" Displacement (lbs) [1]
PLT-07A	5.0	33.7	6.7	9,840	3,690	---
PLT-07B	8.0	76.2	9.5	10,000	4,500	---
PLT-07C	5.0	35.6	4.5	---	---	5,500
PLT-08A	5.0	11.9	2.4	2,580	2,100	---
PLT-08B	8.0	14.5	1.8	3,700	3,440	---
PLT-08C	5.0	7.7	1.5	---	---	1,140
PLT-09A	5.0	37.7	7.5	>10,000	3,850	---
PLT-09B	8.0	80.1	10.0	>10,000	4,100	---
PLT-09C	5.0	11.3	1.4	---	---	2,010
PLT-10A	5.0	15.4	3.1	5,590	3,240	---
PLT-10B	8.0	280.2	35.0	>10,000	2,870	---
PLT-10C	5.0	16.9	3.4	---	---	3,070
PLT-11A	5.0	40.7	8.1	>10,000	4,000	---
PLT-11B	8.0	88.5	11.1	>10,000	4,000	---
PLT-11C	5.0	44.5	5.6	---	---	2,500
PLT-12A	5.0	25.6	5.1	>10,000	3,860	---
PLT-12B	8.0	87.2	10.9	>10,000	3,920	---
PLT-12C	5.0	33.7	6.7	---	---	9,500
PLT-13A	5.0	23.3	4.7	9,620	3,650	---
PLT-13B	8.0	45.2	5.7	>10,000	3,960	---
PLT-13C	5.0	23.3	2.9	---	---	2,610
PLT-14A	5.0	12.6	2.5	3,580	3,650	---
PLT-14B	8.0	62.7	7.8	6,910	4,920	---
PLT-14C	5.0	14.3	2.9	---	---	2,980
PLT-15A	5.0	16.5	3.3	9,190	3,120	---
PLT-15B	8.0	22.9	2.9	>10,000	3,170	---
PLT-15C	5.0	13.6	1.7	---	---	4,190
PLT-16A	5.0	26.5	5.3	7,100	2,420	---
PLT-16B	8.0	92.5	11.6	9,390	2,480	---
PLT-16C	5.0	35.7	7.1	---	---	4,000
PLT-17A	5.0	12.1	2.4	6,700	3,170	---

Pile Load Test Results Summary

Location	Pile Embedment Depth (ft-bgs)	Total Drive Time (seconds)	Average Drive Time (sec/ft)	Uplift Load at ¼" Displacement (lbs) [1]	Lateral Load at ½" Displacement (lbs)	Compression Load at ¼" Displacement (lbs) [1]
PLT-17B	8.0	36.7	4.6	>10,000	3,770	---
PLT-17C	5.0	32.9	4.1	---	---	>13,000
PLT-18A	5.0	29.3	5.9	>10,000	3,310	---
PLT-18B	8.0	22.8	2.9	>10,000	3,280	---
PLT-18C	5.0	9.6	1.9	---	---	3,350

1. The ">" sign indicates the maximum test load was achieved prior to reaching the noted deflection.

PV Array Field Foundations –Preliminary Recommendations

Geotechnical Considerations

We anticipate the PV panels will be supported by driven piles, while inverters may be supported on mat foundations and/or driven piles. The proposed structure types and loading information was not available at the time of this report. Settlement and strength parameters were analyzed using soil compressibility properties derived from the SPT borings along with the results of the pile load testing program.

Results of the pile load tests indicate that driven steel piles should be suitable for support of the planned solar panels. We have provided preliminary geotechnical engineering parameters in this report to assist the designers of production piles.

Based on the results of the axial and lateral pile load testing program, we have partitioned the site into three (3) zones for axial parameters and two (2) zones for lateral parameters. Each pile load test (PLT) location was assigned into either Zone 1, 2, or 3 based on the axial test performance/results, and into either Zone A or B based on the lateral test performance/results. The project site was then zoned by matching test locations by their axial and lateral group. The resulting zones are then designated as A1, A2, A3, B1, B2, and B3 where the zone numbers correspond to the axial parameter zone and the zone letter corresponds to the lateral parameter zone. The following table presents the results of the designated zones determined on the site:

Zone A1	Zone A2	Zone A3	Zone B1	Zone B2	Zone B3
PLT-3, 5, and 8	PLT-1, 4, 10, and 16	PLT-15 and 18	PLT-14	PLT-2 and 17	PLT-6, 7, 9, 11, 12, and 13

Maps of these designated zones are provided on the attached Pile Load Test Zoning Designation Plans in the **Pile Load Test Results** attachment of this report.

It should be noted that the axial compression testing performance varied significantly across the site and was unpredictable, therefore allowable end-bearing value were provided in a range. When carrying out the design-level geotechnical field exploration and pile load testing program, additional testing (beyond what is required to supplement the preliminary program) should be performed to better characterize the subsurface and pile compressive capacity performance.

As part of the overall quality control program, the time rate of installation (seconds per foot of embedment) should be recorded during production pile driving. As a direct extension of the design process, additional "proof" testing should be performed on a representative number of production posts that do not meet the minimum installation rate criteria outlined in this report.

Possible obstructions (very dense, hard, gravelly, and moderately to strongly cemented soils) that could impede the installation of the piles were observed within the upper 10 feet (and generally below a depth of about 5 feet) in some of the borings. Although pile refusal was not encountered during our preliminary pile installation program, refusal during production pile installation may occur.

Preliminary Solar Panel Support Pile Design Recommendations

Preliminary Axial Capacity Recommendations

The axial uplift capacity of driven piles may be estimated based on skin friction developed along the perimeter of the pile, while the compression capacity may be estimated using the skin friction and end bearing. When determining embedment depths, the perimeter of a wide flange beam should be taken as twice the sum of the flange width and section depth. The upper 1 foot of soil or the scour depth for each pile should be neglected in the axial capacity analyses.

The ultimate axial capacity of driven steel piles may be calculated using skin friction and end bearing values as presented in the following tables for each individual axial zone:

Axial Design Parameters

Axial Zone	Minimum Embedment Depth (feet-bgs)	Ultimate Uplift and Compression Unit Skin Friction (psf)	Ultimate End Bearing (lbs.)[4]
1	5	325[1,2]	500 to 1,500
	5.1 to 8	325[2]	
	8.1 to 20	325[3]	
2	5	625[1,2]	
	5.1 to 8	625[2]	
	8.1 to 20	625[3]	
3	5	1,000[1,2]	
	5.1 to 8	1,000[2]	
	8.1 to 20	1,000[3]	

1. The upper 1 foot of pile embedment should be ignored when considering the axial capacity of driven steel piles.
2. The minimum factor of safety to be applied for embedment depths up to 8 ft. should be 1.5.
3. The minimum factor of safety to be applied for embedment depths greater than 8 ft. should be 2.0.
4. Due to the significantly variable pile performance observed during the compression load testing program, an ultimate end-bearing value has been provided as a range.

The ultimate unit skin friction is based on the results of the uplift load testing.

The above values are to be used in the following equations to obtain the ultimate uplift or compression load capacity of a pile:

$$Q_{all\ (compressive)} = ((Q_{all\ (end)}) / FS) + ((H \times P \times q_s) / FS)^*$$

$$Q_{all\ (uplift)} = (H \times P \times q_s) / FS^*$$

Q_{ult} = Ultimate uplift or compression capacity of pile (lbs.)
$Q_{ult\ (end)}$ = Ultimate end bearing per table above (lbs.)
H = Depth of embedment of pile (ft)
P = Box perimeter of pile. (i.e., W6x9 = 1.64 ft.)
q_s = Ultimate skin friction per table above (psf)
*Note, the upper 1 foot should be subtracted from the layer thickness (H) for the first layer.

An example calculation to determine the allowable capacity for a W6x9 pile in tension and founded at a depth of 9 feet in the area of Axial Zone 1 would be as follows:

$$Q_{allowable\,(uplift)} = \frac{(8-1)\,x\,1.64\,x\,325}{1.5} + \frac{(9-8)\,x\,1.64\,x\,325}{2} = 2,753\ lbs$$

The above ultimate skin friction and end bearing values are applicable for piles that are driven for a minimum of 2 seconds per foot for a 5-foot embedment using equipment similar to a GAYK Model HRE 4000 equipped with a hydraulic hammer. If a smaller or larger drive hammer is used, we recommend Terracon be consulted to determine the minimum drive time based on the proposed equipment to be used for driving of the piles.

Piles should have a minimum center-to-center spacing of at least 3 times their largest cross-sectional dimension to prevent reduction in the axial capacities due to group effects.

Final pile design shall be completed by an engineer licensed in the State of New Mexico based upon information contained in this geotechnical engineering report and independent pile load testing.

Preliminary Lateral Capacity Recommendations

Lateral load response of pile foundations was calculated using the computer program LPILE 2022, by Ensoft, Inc. The stiffness of the pile and the stress-strain properties of the surrounding soils determine the lateral resistance of the foundation. We modeled the lateral response of the tested piles to evaluate L-Pile input parameters for each zone. Recommended L-Pile input parameters lateral load analysis for driven pile foundations are shown in the following table:

LPILE Parameters					
Depth Range of Layer (feet)	**Soil Type** [1]	**Effective Unit Weight (pcf)**	**Friction Angle (°)**	**Cohesion (psf)**	**K or €50** [2]
0 – 2	Stiff Clay w/o Free Water (Reese)	110	---	1,000	Allow LPILE to choose this value
2 – 6	Sand (Reese)	115	34	---	
6– 15	Sand (Reese)	120	36	---	

1. See Subsurface Profile in Geotechnical Characterization for more details on Stratigraphy.
2. LPILE estimates values of static lateral subgrade modulus (K) and strain modulus (ε50) based on soil properties. We recommend using LPILE spring stiffness default values for both K and ε50 because the p-multiplier presented in the table below was determined with the software default values.

The lateral load test results were varied between the different locations and embedment depths at the site. Therefore, we are providing the following table of p-multiplier values that should be used for the corresponding zone and embedment depth:

P-Multipliers

Lateral Group	Minimum Embedment Depth	P-Multiplier[1, 2]
A	5	1.6
	8	
B	5	2.6
	8	2.7

1. For piles embedded at depths between 5 and 8 feet, the P Multiplier should be interpolated between the P Multiplier of 5 and 8-foot embedment piles.
2. For depths greater than 8 feet, use the P-Multiplier value for 8 feet.

Lateral analyses were performed using LPILE to generate a load versus deflection curve that generally matched the results of the field load tests for each group and each embedment depth. The shear load was applied at approximately 3.5 feet above the ground surface. The effective unit weights, cohesions, and friction angles were based on the subsurface conditions observed from the borings. The cohesions, friction angles, effective unit weights, and p-multipliers were then adjusted (by trial-and-error method) such that the applied load resulted in a deflection value that matched the load test results. Please note that this procedure was based on only one discrete set of data determined at about six inches from the ground surface during the field load testing. These results should be used for LPILE analysis only using the 2022 version of LPILE. These parameters are only applicable to piles installed a minimum of 5 feet below grade. In our evaluation, the piles were modeled as a Steel AISC Section Strong Axis with a yield stress of 50 ksi.

The structural engineer should evaluate the moment capacity of the pile as part of their structural evaluation. Piles should have a minimum center-to-center spacing of at least five times their largest cross-sectional dimension in the direction of the lateral loads, or the lateral capacities should be reduced due to group effects. If piles will be spaced closer than five times their largest cross-sectional dimension, we should be notified to provide supplemental recommendations regarding resistance to lateral loads.

Preliminary Driven Pile Construction Considerations

Based on the field exploration and laboratory testing, it is our opinion that the soils on the site are suitable for pile installation into native soils. We do not expect pre-drilling will be required. However, possible obstructions (very dense or hard soils and gravelly soils) that could impede the installation of the piles were observed within the upper 10 feet within some of the borings.

Mat / Slab Foundations for Support of Inverters

We understand the main foundation component in the array area will include driven pile foundations for support of solar arrays and inverter structures. In general, small, lightly loaded, inverter structures may also be supported on isolated mat/slab foundation systems.

If the site has been prepared in accordance with the requirements noted in the **PV Solar Array Field – Earthwork Recommendations** section of this report, the mat/slab foundations should be designed based on the criteria outlined the following table:

Design Parameters – Compressive Loads

Item	Description
Foundation Type	Mat/Slab Foundations
Net Allowable Bearing Pressure [1, 2]	1,500 to 2,000 psf
Minimum Embedment below Finished Grade [3]	24 inches
Required Bearing Stratum	Subgrade soils scarified, moisture conditioned and recompacted to a minimum depth of 12 inches as outlined in the **PV Solar Array Field – Earthwork Recommendations** section of this report.
Design Modulus of Subgrade Reaction, k	150 to 250 pci
Minimum Width	4 feet
Maximum Foundation Width	12 feet
Modulus Correction Factor[4]	k_c=k/b
Sliding Resistance	0.35 to 0.40 allowable coefficient of friction – granular material
Estimated Total Settlement from Structural Loads [2]	1 inch or less
Estimated Differential Settlement [2, 5]	¾-inch over 40 feet

Item	Description

1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation.
2. Values provided are for maximum loads noted in **Project Description**. Additional geotechnical consultation will be necessary if higher loads are anticipated.
3. Finished grade is defined as the lowest adjacent grade within 5 feet of the perimeter of the foundation.
4. It is common to reduce the k-value to account for dimensional effects of largely loaded areas. Where k_c is the corrected or design modulus value and b is the mat width (short dimension) or tributary loaded area.
5. Differential settlements are noted for equivalent-loaded foundations and bearing elevation as measured over a span of 40 feet.

Foundations should be reinforced as necessary to reduce the potential for distress caused by differential foundation movement. The use of joints at openings or other discontinuities in walls is recommended.

Foundation excavations should be observed by the geotechnical engineer. If the soil conditions encountered differ significantly from those presented in this report, supplemental recommendations will be required.

Shallow Foundation Construction Considerations

As noted in the **PV Solar Array Field – Earthwork Recommendations** section of this report, the foundation excavations should be evaluated under the direction of the Geotechnical Engineer. The base of all foundation excavations should be free of water and loose soil, prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Care should be taken to prevent wetting or drying of the bearing materials during construction. Excessively wet or dry material or any loose/disturbed material in the bottom of the footing excavations should be removed/reconditioned before foundation concrete is placed.

PV Solar Array Field – Preliminary Earthwork Recommendations

The site work conditions will be largely dependent on the weather conditions and the contractor's means and methods in controlling surface drainage and protecting the subgrade. The near surface clay soils encountered across portions of the project site may become unstable with increases in moisture content or due to repetitive traffic. Stabilization may be required to improve the workability. Site preparation where mat foundations will be installed should include clearing and grubbing, installation of a site drainage system (if necessary), and subgrade preparation. Site preparation is not necessary in the PV Array field or where inverters will be supported on driven piles except to improve site drainage where necessary.

The following paragraphs present our considerations and recommendations for the PV Array Field portion of the site and subgrade preparation.

The following presents recommendations for site preparation, excavation, subgrade preparation and placement of engineered fills on the project. The recommendations presented for design and construction of earth supported elements including foundations and roadways are contingent upon following the recommendations for the PV array field portion of the site is outlined in this section.

Earthwork on the project should be observed and evaluated by Terracon. The evaluation of earthwork should include observation and testing of engineered fill, subgrade preparation, foundation bearing soils, and other geotechnical conditions exposed during the construction of the project.

Site Preparation

Strip and remove existing vegetation, debris, and other deleterious materials from proposed access road areas, and any proposed mat foundations supporting invertors. Vegetation should be cleared from the site at the location of mat foundations supporting invertors and roadway areas. Exposed surfaces should be free of mounds and depressions which could prevent uniform compaction in proposed array panel, invertor, and access road areas.

Stripped materials consisting of vegetation and organic materials should be wasted from the site. If it is necessary to dispose of organic materials on-site, they should be placed in non-structural areas.

Subgrade Preparation

Mat/slab foundations may be supported on subgrade soils scarified, moisture conditioned and re-compacted to a minimum depth of 12 inches extending laterally 24 inches beyond edge of foundations. The foundation supporting soils should be moisture conditioned to within +/- 3% of optimum moisture content and should be compacted to a minimum of 95% of the maximum density determined in accordance with Standard Proctor criteria, ASTM D698. If new mat/slab foundations are in close proximity of each other, the subgrade preparation for the entire footprint that covers the new mat/slab foundations should be completed at the same time.

Subgrade soils beneath roadways should be scarified, moisture conditioned and compacted to a minimum depth of 12 inches. The moisture content and compaction of subgrade soils should be maintained until roadway construction.

Exposed areas which will receive fill, once properly cleared and benched where necessary, should be scarified to a minimum depth of 12 inches, moisture conditioned, and compacted.

Exposed surfaces should be free of mounds and depressions which could prevent uniform compaction.

Fill Material Type

All fill materials should be inorganic soils free of vegetation, debris, and fragments larger than four inches in size. Pea gravel or other similar non-cementitious, poorly-graded materials should not be used as fill or backfill without the prior approval of the geotechnical engineer.

Clean on-site soils or approved imported materials may be used as fill material for the following:

Fill Type [1]	USCS Classification	Acceptable Location for Placement
On-Site Soils	SC, SC-SM, SM, CL, CL-ML	The near-surface on-site soils within the array areas are considered suitable for use as engineered fill at all locations and elevations.
Imported Material	Varies (see below)	All locations and elevations

1. Controlled, compacted fill should consist of approved materials that are free of organic matter, debris, and oversized materials. A sample of each material type should be submitted to the geotechnical engineer for evaluation.

Imported soils (if required) for use as fill material in foundation and slab areas should conform to low volume change materials as indicated in the following specifications:

Gradation	**Percent Finer by Weight (ASTM C 136)**
4"	100
No. 4 Sieve	50-100
No. 200 Sieve	15 (min) to 45 (max)
■ Liquid Limit	30 (max)
■ Plasticity Index	15 (max)
■ Maximum expansive potential (%)*	1.5

*Measured on a sample compacted to approximately 95 percent of the ASTM D698 maximum dry density at about 2 percent below optimum water content. The sample is confined under a 100 psf surcharge and submerged/inundated.

Engineered fill should be placed and compacted in horizontal lifts, using equipment and procedures that will produce recommended moisture contents and densities throughout the lift. Fill lifts should not exceed 10 inches loose thickness.

Compaction Requirements

Engineered fill should meet the following compaction and moisture requirements:

Material Type and Location	Per the Standard Proctor Test (ASTM D698)		
	Minimum Compaction Requirement (%)	Range of Moisture Contents for Compaction (referenced from optimum moisture content)	
		Minimum	Maximum
On-site and imported soils:			
Beneath foundations	95	-3%	+3%
Fill placed in PV array pile areas	86	-2%	+2%
Compacted Native and Aggregate Surfaced Roadways	95	-2%	+2%
Aggregate base beneath mat/slab	95	-3%	+3%
Aggregate base (for access roadways)	100	-3%	+3%
Trench backfill for duct banks	90	-3%	+3%
Miscellaneous backfill	95	-3%	+3%

1. The moisture content and compaction should be measured for each lift of engineered fill during placement. Should the results of the in-place density tests indicate the specified moisture or compaction limits have not been met, the area represented by the test should be reworked and retested as required until the specified moisture and compaction requirements are achieved.
2. The Standard Proctor is generally used and accepted as common practice locally, therefore, recommendations for compaction will be based on the Standard Proctor test.

Earthwork Factors

The earthwork factors are based on a comparison of the in-situ dry densities from ring samples to the density of bulk samples compacted to 98, 95, 90, and 85 percent of the maximum dry density as determined by ASTM D698. The estimated shrinkage of the upper roughly 5 feet of the site soils when used as compacted fill is presented in the table below:

Percent Compaction (%)	Shrink/Swell		
	Minimum	Maximum	Average
98	3	28	16
95	1	26	13
90	-4	22	9
85	-10	17	4

Note: Positive numbers are shrink, while negative numbers are swell. All values are in percent.

These estimates are general in nature, and are based on our experience, limited data from our field exploration, and the soil conditions we encountered at the site. Earthwork factors may vary dependent upon the actual subsurface conditions, which may include variations in soil gradations and gravel contents.

Grading and Drainage

Adequate drainage should be provided at the site to reduce the likelihood of an increase in moisture content of the foundation soils. The site should be graded to shed water and avoid ponding over the subgrade.

Earthwork Construction Considerations

It is anticipated that shallow excavations for the proposed construction can be primarily accomplished with conventional earthmoving equipment. Soft, loose, or caving soils may be encountered in shallow excavations. However, very dense, hard and cemented soils, if encountered, will likely require additional effort or the use of specialized heavy-duty equipment to facilitate excavation and removal. Consideration should be given to obtaining a unit price for difficult excavation in the contract documents for the project.

The on-site clay and silt soils may pump or become unstable or unworkable at high water contents. Workability may be improved by scarifying and drying. Overexcavation of wet zones and replacement with granular materials may be necessary. Lightweight earthwork equipment may be required to reduce subgrade pumping.

Upon completion of filling and grading, care should be taken to maintain the subgrade moisture content prior to construction of the access roads. Construction traffic over the completed subgrade should be avoided to the extent practical. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. If the subgrade should become desiccated, saturated, or disturbed, the affected material should be removed, or these materials should be scarified, moisture conditioned, and re-compacted prior to access road construction.

The individual contractors are responsible for designing and constructing stable, temporary excavations (including utility trenches) as required to maintain stability of both the excavation sides and bottom. Excavations should be sloped or shored in the interest of safety following local, and federal regulations, including current OSHA excavation and trench safety standards.

Terracon should be retained during the construction phase of the project to observe earthwork and to perform necessary tests and observations during subgrade preparation; proof-rolling;

placement and compaction of controlled compacted fills; backfilling of excavations to the completed subgrade.

Construction Observation and Testing

The earthwork efforts should be observed and tested by a representative of the Geotechnical Engineer. Observation and testing should include documentation of removal of vegetation and topsoil, proofrolling, and mitigation of soft/unstable areas delineated by the proofroll. Field density tests should be conducted during placement and compaction of engineered fill. The testing frequency should be in accordance with the following table.

Fill Placement Area	Recommended Testing Frequency (ASTM D6938)
Equipment Slabs	A minimum of 1 test per foundation per vertical foot of fill placed.
Solar Arrays	Each vertical foot of fill placed should be tested at a frequency of 1 test per every 20,000 square feet of fill placed, or a minimum of 1 test per solar array block quadrant per vertical foot of fill placed.
Access Drive Base and Subgrade	A minimum of 1 test per 500 linear feet for each vertical lift of base, subgrade, or structural fill.
Utility Trench Backfill	Each vertical foot of fill placed should be tested at an interval of every 500 linear feet of fill placed.

The Geotechnical Engineer may require additional tests as considered necessary to check on the uniformity of compaction. No additional layers of fill should be placed until the field density test results indicate that the specified density has been obtained.

In areas of foundation excavations, the bearing subgrade should be evaluated under the direction of the Geotechnical Engineer. In the event unanticipated conditions are encountered, the Geotechnical Engineer should prescribe mitigation options.

In addition to the documentation of the essential parameters necessary for construction, the continuation of the Geotechnical Engineer into the construction phase of the project provides the continuity to maintain the Geotechnical Engineer’s evaluation of subsurface conditions, including assessing variations and associated design changes.

Substation, Switching Station, and BESS – Preliminary Recommendations for Design and Construction

Geotechnical Overview

We would expect several small structures to house equipment and provide storage to be constructed as part of the switching station, BESS and substation portion of the project. The proposed structure types and loading information were not available at the time of this report. Settlement potential was analyzed using soil compressibility properties derived from the SPT boring drilled in the planned location and assumed structural loads. We estimate total settlements will be less than one inch provided column loads are less than 150 kips and the applied bearing pressure of small, isolated slabs or mats is less than about 1,500 psf. Shallow foundation systems for support of lightly loaded buildings and equipment pads will be acceptable provided these maximum loads are not exceeded. Once loading for these ancillary structures is better known, detailed settlement analyses can be performed to confirm shallow foundation acceptability.

Proposed substation structures may also be supported as direct embed poles or poles supported on drilled shaft foundations designed using the soil properties presented in this report. Drilled shafts and direct embed poles should be designed and constructed in accordance with the **Preliminary Drilled Shaft Foundation Design** section of this report.

All shallow foundations in the proposed substation and BESS areas should be supported on a minimum 2 to 3 feet of engineered fill consisting of on-site soils as outlined in the **Switching Station, Substation & BESS – Preliminary Earthwork Recommendations** section of this report.

Preliminary Shallow Foundations Design Recommendations

We understand within the switching station, BESS and substation that some equipment may be supported on mat/slab foundations, while other structures may be supported on shallow footing foundations. Provided the site has been prepared in accordance with the requirements noted in the **Switching Station, Substation & BESS – Preliminary Earthwork Recommendations** section of this report, the following design parameters are applicable for shallow foundations for proposed lightly loaded structures and related structural elements.

Description	Columns	Walls	Mat/Slab
Net allowable bearing pressure [1, 2]	1,500 to 2,500 psf		
Modulus of subgrade reaction for slab-on-grade design	150 to 250 pounds per square inch per in (psi/in) for point loading conditions		
Modulus Correction Factor [3]	k_c=k/b		
Bearing material	Shallow footings and mat/slab foundations should be supported on engineered fill consisting of on-site soils as outlined in the **Switching Station, Substation & BESS – Preliminary Earthwork Recommendations** section of this report.		
Minimum dimensions	24 inches	18 inches	4 feet
Maximum dimensions [4]	9 feet	4 feet	15 feet
Minimum embedment below finished grade [5]	24 inches	24 inches	24 inches
Approximate total settlement [6]	<1 inch	<1 inch	<1.5 inches
Estimated differential settlement	< ½ inch between columns	< ½ inch over 40 feet	< ½ inch over 40 feet
Ultimate Passive Resistance [7] **(Equivalent Fluid Pressures)**	360 to 390 pcf		
Coefficient of Base Friction	0.35 to 0.45		

Description	Columns	Walls	Mat/Slab

1. The recommended net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. It assumes any unsuitable soils, if encountered, will be replaced with compacted structural fill.
2. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. The allowable bearing pressure may be increased by one-third when considering the alternative load combinations of Section 1605.3.2 of the 2018 International Building Code, however, it should not be increased when loads are determined by the basic allowable stress design load combinations of Section 1605.3.1.
3. It is common to reduce the k-value to account for dimensional effects of large loaded areas. Where kc is the corrected or design modulus value and b is the mat width (short dimension) or tributary loaded area.
4. If larger dimensions are required for foundations, additional recommendations may be required to limit total settlements.
5. Required for the allowable bearing pressure, erosion protection and to reduce the effects of seasonal moisture variations in the subgrade soils.
6. The foundation settlement will depend upon the variations within the subsurface soil profile, the structural loading conditions, the embedment depth of the footings, the thickness of compacted fill, and the quality of the earthwork operations. Footings should be proportioned to relatively constant dead-load pressure in order to reduce differential movement between adjacent footings.
7. Use of passive earth pressures require the sides of the excavation for the spread footing foundation to be nearly vertical and the concrete placed neat against these vertical faces or that the footing forms be removed and compacted structural fill be placed against the vertical footing face. The passive earth pressure does not include any factor of safety, assumes drained conditions, and is not applicable for submerged soils/hydrostatic loading. Additional recommendations may be necessary if such conditions are to be included in the design.

Footings, foundations, and walls should be reinforced as necessary to reduce the potential for distress caused by differential foundation movement. The use of joints at openings or other discontinuities in walls is recommended.

Foundation excavations should be observed by the Geotechnical Engineer. If the soil conditions encountered differ significantly from those presented in this report, Terracon should be contacted to provide additional evaluation and supplemental recommendations.

The base of all foundation excavations should be free of water and loose soil, prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Care should be taken to prevent wetting or drying of the bearing materials during construction. Excessively wet or dry material or any loose/disturbed material in the bottom of the foundation excavations should be removed/reconditioned before foundation concrete is placed.

Preliminary Drilled Shaft Foundation Design

Drilled Shaft Design Parameters

Structures in the switching station, substation and BESS area can be supported on drilled shaft foundation systems. Soil design parameters are provided below in the **Drilled Shaft Design Summary** table for the design of drilled shaft foundations. The values presented for allowable side friction and end bearing include a factor of safety.

Drilled Shaft Design Summary[1]

Depth (feet-bgs)	Stratigraphy [2] Material	Allowable Skin Friction (ksf) [3,4]	Allowable End Bearing Pressure (ksf) [4,5]
0 to 3[6]	IGNORE	---	---
3 to 14	Silty Sand; loose	0.2 – 0.5	1.5 – 3.0
14 to 24	Silty Sand; medium dense to dense	0.5 – 0.8	6.0 – 12.0
24 to 30	Gravel; Very Dense	0.8 – 1.1	12.0 – 15.0

1. Design capacities are dependent upon the method of installation and quality control parameters. The values provided are estimates and should be verified when installation protocol have been finalized.
2. See Subsurface Profile in **Geotechnical Characterization** for more details on stratigraphy.
3. The effective weight of the shaft can be added to uplift load resistance to the extent permitted by IBC.
4. Values presented include a factor of safety of 2.0 for skin friction and 3.0 for end-bearing. Skin frictions should be neglected for direct embed poles.
5. The full end bearing pressure is applicable for drilled shafts embedded a minimum of one shaft diameter into the bearing stratum. For example, to use the full end bearing pressure below a depth of 10 feet, the bottom of a 3-foot diameter shaft must be founded at 13 ft. or greater.
6. Not recommended to be used due to potential ground disturbance and frost depth.

Drilled shaft foundations should have a minimum shaft diameter of 30 inches and minimum embedment depth of 6 feet or 3D, whichever depth is greater. Post-construction settlements of drilled shafts designed and constructed as described in this report are estimated to be less than about 0.5 inch. Differential settlement between individual shafts is expected to be half of the total settlement.

Additionally, all drilled shafts should be reinforced full-depth for the applied axial, lateral and uplift stresses imposed.

Axial Loading Group Effects

Drilled shaft should have a minimum (center-to-center) spacing of three diameters. Closer spacing may require a reduction in axial load capacity. Axial capacity reduction can be determined by comparing the allowable axial capacity determined from the sum of individual piles in a group versus the capacity calculated using the perimeter and base of the pile group acting as a unit. The lesser of the two capacities should be used in design.

Spacing closer than 3D (where D is the diameter of the shaft) is not recommended, due to potential for the installation of a new shaft disturbing an adjacent installed shaft, likely resulting in axial capacity reduction. Disturbance can be reduced by sequencing of the construction of the shafts, drilling one at a time and allowing a minimum of 24 hours between shaft construction to allow the concrete to set up.

Drilled Shaft Lateral Loading

The following table lists input values for use in LPILE analyses. Such analysis should be considered if lateral loads are anticipated. Modern versions of LPILE provide estimated default values of k_h and E_{50} based on strength and are recommended for the project. Since deflection or a service limit criterion will most likely control lateral capacity design, no safety/resistance factor is included with the parameters.

Stratigraphy[1] Depth	L-Pile Soil Model	S_u (psf)[2]	ϕ[2]	γ' (pcf)[2]	ε_{50}	K (pci) Static	K (pci) Cyclic	MFAD, E_p (kips/in^2)
0 to 3[3]	---	---	---	---	Use Default Value			---
3 to 14	Sand (Reese)	---	28° - 29°	100 – 110				0.5 – 0.8
14 to 24	Sand (Reese)	---	30° - 32°	115 – 120				2.5 – 3.0
24 to 30	Sand (Reese)	---	34° - 36°	120 - 125				3.0 – 3.5

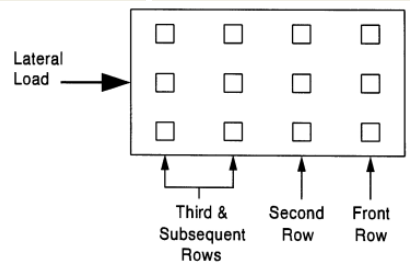
1. See Subsurface Profile in **Geotechnical Characterization** for more details on Stratigraphy.
2. Definition of Terms:
   - S_u: Undrained shear strength
   - ϕ: Internal friction angle
   - γ': Effective unit weight
3. Not recommended to be used due to potential ground disturbance and frost depth.

Lateral Loading Group Effects

When shafts are used in groups, the lateral capacities of the shafts in the second, third, and subsequent rows of the group should be reduced as compared to the capacity of a single, independent shaft. Guidance for applying p-multiplier factors to the p values in the p-y curves for each row of drilled shaft foundations within a shaft group are as follows:

Center-to-Center Pile Spacing [1,2]	P-Multiplier, P_m [3]		
	Front Row	Second Row	Third and Subsequent Rows
3D	0.8	0.4	0.3
4D	0.9	0.65	0.5
5D	1.0	0.85	0.7
6D	1.0	1.0	1.0

1. Spacing in the direction of loading. D = shaft diameter
2. For the case of a single row of piles supporting a laterally loaded grade beam, group action for lateral resistance of piles would need be considered when spacing is less than three pile diameters (measured center-to-center).
3. See adjacent figure for definition of front, second and third rows.



For the case of a single row of shafts supporting a laterally loaded grade beam, group action for lateral resistance of shafts would need to be considered when spacing is less than three shaft diameters (measured center-to-center).

Spacing closer than 3D (where D is the diameter of the shaft) is not recommended, due to potential for the installation of a new shaft disturbing an adjacent installed shaft, likely resulting in axial capacity reduction. Disturbance can be reduced by sequencing of the construction of the shafts, drilling one at a time and allowing a minimum of 24 hours between shaft construction to allow the concrete to set up.

Drilled Shaft Construction Considerations

Drilling of foundations to design depths up to 50 feet should be possible with conventional drilling equipment using single flight power augers. However, drilling into very dense granular materials may require additional effort to facilitate removal of materials for drilled shaft excavations.

Due to dry nature of the sandy soils, caving soils are likely to be encountered, which could require the use of temporary casing or drilling slurry in order to advance the drilled shafts to design depth. Casing should be installed for the full shaft depth if downhole inspection and clean out is required. Shaft concrete should be placed immediately after completion of drilling and cleaning. If shaft concrete cannot be placed in dry conditions, a tremie should be used for concrete placement. Due to potential sloughing and raveling, foundation concrete quantities may exceed calculated geometric volumes.

Where casing is used for drilled shaft construction, it should be withdrawn in a slow continuous manner maintaining a sufficient head of concrete to prevent infiltration of water or the creation of voids in the concrete. The concrete should have a relatively high fluidity when placed in cased holes or through a tremie. Concrete with slump in the range of 6 to 8 inches is recommended.

Free-fall concrete placement in drilled shaft excavations will only be acceptable in dry holes and if provisions are taken to avoid striking the concrete on the sides of the hole or reinforcing steel. The use of a bottom-dump hopper, or an elephant's trunk discharging near the bottom of the hole where concrete segregation will be minimized, is recommended.

Shaft bearing surfaces should be cleaned prior to concrete placement. A representative of the geotechnical engineer should inspect the bearing surface and shaft configuration. If the soil conditions encountered differ significantly from those presented in this report, supplemental recommendations will be required.

The drilled shaft installation process should be performed under the direction of the Geotechnical Engineer. The Geotechnical Engineer should document the shaft installation process including soil and groundwater conditions encountered, consistency with expected conditions, and details of the installed shaft.

Switching Station, Substation and BESS – Preliminary Earthwork Recommendations

General

It is anticipated that excavations for the proposed construction can be accomplished with conventional earthmoving equipment. The individual contractor(s) is responsible for designing and constructing stable, temporary excavations, as required to maintain stability of both the excavation sides and bottoms. Excavations should be sloped or shored in the interest of safety following local and federal regulations, including current OSHA excavation and trench safety standards.

The following presents recommendations for site preparation, excavation, subgrade preparation and placement of engineered fills on the project. The recommendations presented for design and construction of earth supported elements including foundations and roadways are contingent upon following the recommendations outlined in this section.

Earthwork on the project should be observed and evaluated by Terracon. The evaluation of earthwork should include observation and testing of engineered fill, subgrade preparation, foundation bearing soils, and other geotechnical conditions exposed during the construction of the project.

Site Preparation

Strip and remove existing vegetation, debris, and other deleterious materials from proposed access road areas, and any proposed structures and equipment storage building areas. Any native trees, tree stumps, and large vegetation should be cleared from the site at the location of mat foundations supporting invertors and roadway areas. Exposed surfaces should be free of mounds and depressions which could prevent uniform compaction.

Stripped materials consisting of vegetation and organic materials should be wasted from the site. If it is necessary to dispose of organic materials on-site, they should be placed in non-structural areas.

Subgrade Preparation

In shallow footings and mat/slab foundation areas for the substation and BESS structures, remove and recompact the existing soils to a minimum depth of 2 to 3 feet below the foundation bottom. Removal should extend a minimum of 3 feet beyond the edges of the foundation. The moisture content and compaction of subgrade soils should be maintained until slab construction. If new mat/slab foundations are in close proximity of each other, the subgrade preparation for the entire footprint that covers the new mat/slab foundations should be completed at the same time.

Exposed areas which will receive fill, once properly cleared and benched where necessary, should be scarified to a minimum depth of 10 to 12 inches, moisture conditioned, and compacted. Exposed surfaces should be free of mounds and depressions which could prevent uniform compaction.

Fill Material Type

All fill materials should be inorganic soils free of vegetation, debris, and fragments larger than four inches in size. Pea gravel or other similar non-cementitious, poorly-graded materials should not be used as fill or backfill without the prior approval of the geotechnical engineer.

Clean on-site soils or approved imported materials may be used as fill material for the following:

Fill Type [1]	USCS Classification	Acceptable Location for Placement
On-Site Soils	SC, SC-SM, SM, CL, CL-ML	The near-surface on-site soils within the substation area are considered suitable for use as engineered fill at all locations and elevations.
Imported Material	Varies	All locations and elevations

1. Controlled, compacted fill should consist of approved materials that are free of organic matter, debris, and oversized materials. A sample of each material type should be submitted to the geotechnical engineer for evaluation.

Imported soils (if required) for use as fill material in foundation and slab areas should conform to low volume change materials as indicated in the following specifications:

Gradation	**Percent Finer by Weight (ASTM C 136)**
4"	100
No. 4 Sieve	50-100
No. 200 Sieve	15 (min) to 45 (max)

- Liquid Limit .... 30 (max)
- Plasticity Index .... 10 (max)
- Maximum expansive potential (%)* 1.5

*Measured on a sample compacted to approximately 95 percent of the ASTM D698 maximum dry density at about 2 percent below optimum water content. The sample is confined under a 100 psf surcharge and submerged/inundated.

Engineered fill should be placed and compacted in horizontal lifts, using equipment and procedures that will produce recommended moisture contents and densities throughout the lift. Fill lifts should not exceed 10 inches loose thickness.

Fill Compaction Requirements

Engineered fill should meet the following compaction and moisture requirements:

Material Type and Location	Per the Standard Proctor Test (ASTM D698)		
	Minimum Compaction Requirement (%)	Range of Moisture Contents for Compaction (referenced from optimum moisture content)	
		Minimum	Maximum
On-site and imported soils:			
Beneath foundations	95	-3%	+3%
Beneath interior floor slabs	95	-3%	+3%
Compacted Native and Aggregate Surfaced Roadways	95	-2%	+2%
Aggregate base beneath mat/slab	95	-3%	+3%
Aggregate base for access roadways	100	-3%	+3%
Trench backfill for duct banks not under structures	90	-3%	+3%
Miscellaneous backfill	95	-3%	+3%

1. The moisture content and compaction should be measured for each lift of engineered fill during placement. Should the results of the in-place density tests indicate the specified moisture or compaction limits have not been met, the area represented by the test should be reworked and retested as required until the specified moisture and compaction requirements are achieved.
2. The Standard Proctor is generally used and accepted as common practice locally, therefore, recommendations for compaction will be based on the Standard Proctor test.

Grading and Drainage

Positive drainage should be provided during construction and maintained throughout the life of the substation site. Infiltration of water into foundation excavations should be prevented during construction. Backfill against foundations should be well compacted to the specified densities outlined in this report.

Earthwork Construction Considerations

It is anticipated that shallow excavations for the proposed construction can be accomplished with conventional earthmoving equipment. Soft, loose, or caving soils may be encountered in shallow excavations. However, very dense, hard and cemented soils, if encountered, will likely require additional effort or the use of specialized heavy-duty equipment to facilitate excavation and removal.

The on-site clay soils may pump or become unstable or unworkable at high water contents. Workability may be improved by scarifying and drying. Overexcavation of wet zones and replacement with granular materials may be necessary. Lightweight earthwork equipment may be required to reduce subgrade pumping.

Upon completion of filling and grading, care should be taken to maintain the subgrade moisture content prior to construction of the access roads. Construction traffic over the completed subgrade should be avoided to the extent practical. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. If the subgrade should become desiccated, saturated, or disturbed, the affected material should be removed, or these materials should be scarified, moisture conditioned, and re-compacted prior to access road construction.

The individual contractors are responsible for designing and constructing stable, temporary excavations (including utility trenches) as required to maintain stability of both the excavation sides and bottom. Excavations should be sloped or shored in the interest of safety following local, and federal regulations, including current OSHA excavation and trench safety standards.

Terracon should be retained during the construction phase of the project to observe earthwork and to perform necessary tests and observations during subgrade preparation; proof-rolling; placement and compaction of controlled compacted fills; backfilling of excavations to the completed subgrade.

Construction Observation and Testing

The earthwork efforts should be observed and tested by a representative of the Geotechnical Engineer. Observation and testing should include documentation of removal of vegetation and topsoil, proofrolling, and mitigation of soft/unstable areas delineated by the proofroll. Field density tests should be conducted during placement and compaction of engineered fill. The testing frequency should be in accordance with the following table.

Fill Placement Area	Recommended Testing Frequency (ASTM D6938)
Equipment Slabs	A minimum of 1 test per foundation per vertical foot of fill placed.
Access Drive Base and Subgrade	A minimum of 1 test per 500 linear feet for each vertical lift of base, subgrade, or structural fill.
Utility Trench Backfill	Each vertical foot of fill placed should be tested at an interval of every 500 linear feet of fill placed.

The Geotechnical Engineer may require additional tests as considered necessary to check on the uniformity of compaction. No additional layers of fill should be placed until the field density test results indicate that the specified density has been obtained.

In areas of foundation excavations, the bearing subgrade should be evaluated under the direction of the Geotechnical Engineer. In the event unanticipated conditions are encountered, the Geotechnical Engineer should prescribe mitigation options.

In addition to the documentation of the essential parameters necessary for construction, the continuation of the Geotechnical Engineer into the construction phase of the project provides the continuity to maintain the Geotechnical Engineer's evaluation of subsurface conditions, including assessing variations and associated design changes.

Gravel-Surfaced Drives

General Comments

Roadway designs are provided for the traffic conditions and roadway life conditions as noted the **Project Description** and in the following sections of this report. A critical aspect of roadway performance is site preparation. Roadway designs noted in this section are contingent upon the site being prepared as recommended in the **PV Solar Array Field – Earthwork Recommendations** section of this report. Additionally, our recommendations are based on *Chapter 4 Low-Volume Road Design* found in the 1993 AASHTO Guide for Design of Pavement Structures.

Design Parameters

We understand unpaved access roads are planned throughout the site. The unpaved road sections for post-construction use have been developed based on the laboratory testing and assumptions as shown in the following table:

Aggregate Roadway Design Parameters

Parameter	Assumed Design Value
Traffic Loading	Array Area = 250 ESALs [1]
Design Life	30 years
Compacted Native Subgrade Resilient Modulus	15,000 psi
Aggregate Base Elastic Modulus	30,000 psi
Allowable Rut Depth	2 inches
Design Serviceability Loss	2.0
Vehicle Tire Pressure	80 psi

1. ESAL = 18 kips Equivalent Single Axle Load

Access Road Sections

As a minimum, we recommend the following minimum component thicknesses for unpaved access roads:

Typical Unpaved Road Section – Post Construction Traffic

Base Course Thickness (in.)	Subbase Material	Geogrid Stabilization	Area
6 - 8	12” of compacted native soil	None	Array Areas

We would consider the above roadway section appropriate for light passenger truck maintenance vehicles but should be suitable to support access for a single fire truck in the event of an emergency.

A concern regarding the use of permeable aggregate materials in large roadway areas is that surface water cannot be drained over the surface before it permeates through the aggregate surfacing, which would create a condition where the subgrade soils in moisture content. If the subgrade soils do become elevated in moisture content, the overall performance of the aggregate surfaced roadway areas will be reduced and could result in excessive rutting and may require maintenance or reconstruction of the gravel surface roadway. To help direct surface water over the aggregate surface, we suggest surface slopes of 2% to 3% be constructed and maintained. Surface drainage should be directed away from the roadway areas, and no ponding of water should be allowed on the paved surface or adjacent to the edges of the roadway areas.

We understand compacted native soils for the surface of some interior roadways may be constructed on the project. It is our opinion that unsurfaced roadways are anticipated to require frequent maintenance to perform under the anticipated light and temporary traffic loading. At a minimum the subgrade soils beneath compacted native soil roadways should be scarified, moisture conditioned and compacted to a minimum depth of 12 inches but could be extended deeper where clearing and grubbing of existing vegetation disturbs the subgrade soils to greater depths.

Access Roadway Design and Construction Considerations

The roadway subgrade, if prepared early in the project, should be carefully evaluated as the time for construction approaches. We recommend the roadway area be stripped of existing topsoil/organic subsoil, or otherwise unsuitable material, rough graded, and compacted with a heavy roller compactor without vibration, before being proof-rolled with a loaded tandem-axle dump truck. Particular attention should be paid to high traffic areas that were rutted and disturbed during construction, and areas where backfilled trenches are located. Areas, where unsuitable conditions are located, should be repaired by replacing the materials with properly compacted fill. When proof-rolling/subgrade stabilization has been completed to the satisfaction of Terracon, the aggregate base course may be placed.

Aggregate and native surfaced drives, regardless of the section thickness or subgrade preparation measures, will require on-going maintenance and repairs to keep it in a serviceable condition. It is not practical to design a gravel section of sufficient thickness that on-going maintenance will not be required. This is due to the porous nature of the gravel that will allow precipitation and surface water to infiltrate and soften the subgrade soils, and the limited near surface strength of unconfined gravel that makes it susceptible to rutting. When potholes, ruts, depressions, or yielding subgrades develop, they must be addressed as soon as possible in order to avoid major repairs.

Maintenance should consist of periodic grading with a road grader. Typical repairs could consist of placing additional gravel in ruts or depressed areas. Potholes and depressions should not be filled by blading adjacent ridges or high areas into the depression areas. New material should be added to the depressed areas as they develop.

Additional Study

For design-level recommendations, we recommend the following minimum quantities of explorations, field tests, and pile load tests. Based on the opinion of the electrical engineer(s) performing the conduit design, and/or grounding system design, supplemental laboratory thermal resistivity and field electrical resistivity tests should be performed. A suggested frequency is provided in the list below. Depending on the corrosion engineer's opinion, supplemental laboratory corrosion tests should be performed. A suggested frequency is provided in the list below:

- One exploration per 25 acres
- One set of pile load tests (uplift, compression, and lateral) per 50 acres
- One field electrical resistivity test per 50 acres
- One laboratory corrosion test per 50 acres
- One laboratory thermal resistivity test per 100 acres

We recommend the scope performed for this preliminary geotechnical exploration be supplemented to bring the number of borings and pile load tests up to design level frequencies outlined above as part of performing a design level geotechnical exploration for the project.

The number of corrosion suite testing, field electrical resistivity and thermal resistivity testing should also be increased to design level frequencies as part of a design level geotechnical engineering report, however, the final frequencies are considered flexible as the risk associated with performing less than the frequencies outlined above would be the decision of the engineer(s) using these test results to perform their analyses.

General Comments

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly effect excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety and cost estimating including excavation support and dewatering requirements/design are the responsibility of others. Construction and site development have the potential to affect adjacent properties. Such impacts can include damages due to vibration, modification of groundwater/surface water flow during construction, foundation movement due to undermining or subsidence from excavation, as well as noise or air quality concerns. Evaluation of these items on nearby properties are commonly associated with contractor means and methods and are not addressed in this report. The owner and contractor should consider a preconstruction/precondition survey of surrounding development. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

Attachments

Field Exploration Results

Site Location

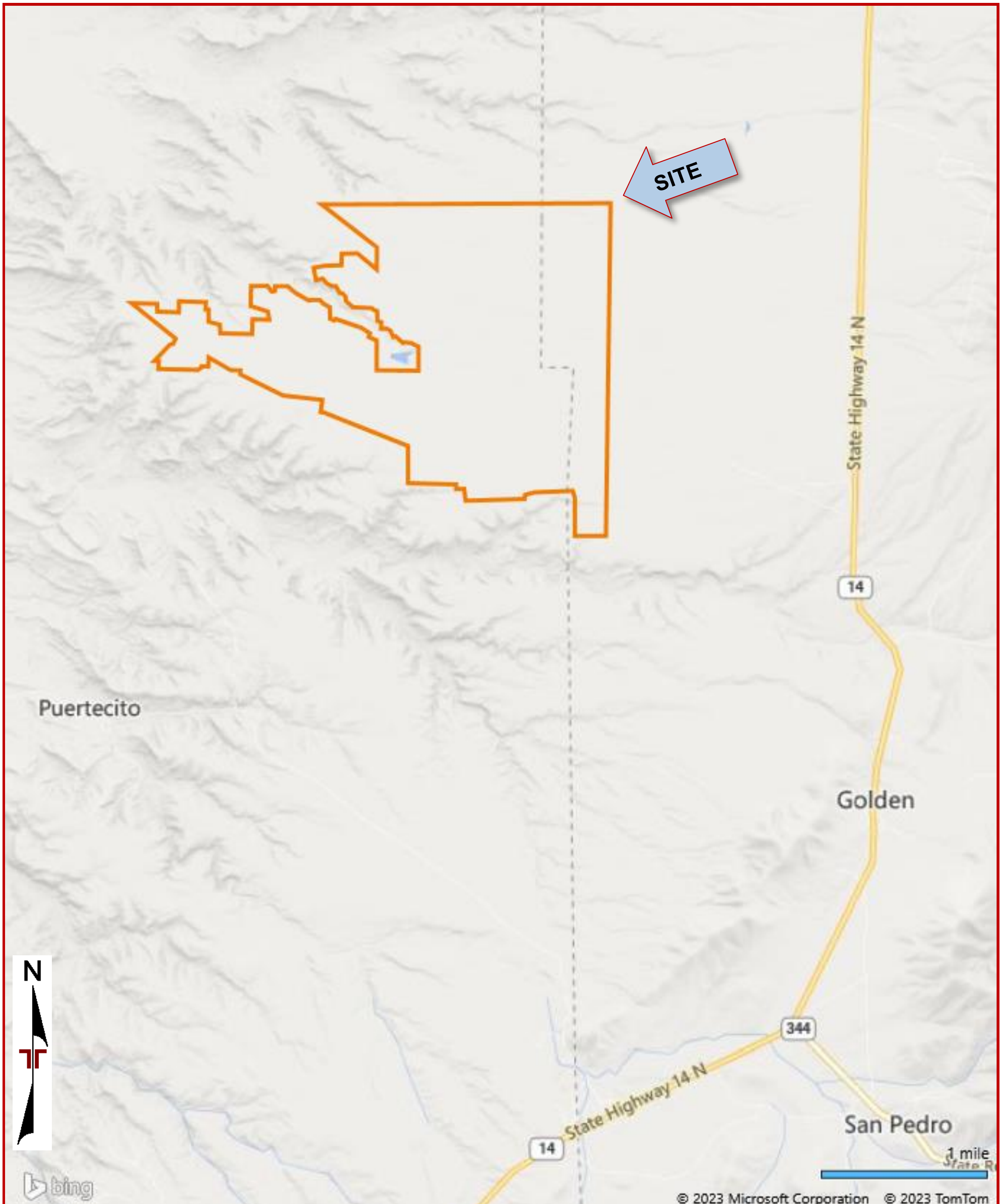


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES   MAP PROVIDED BY MICROSOFT BING MAPS

Exploration Plan – Boring Locations

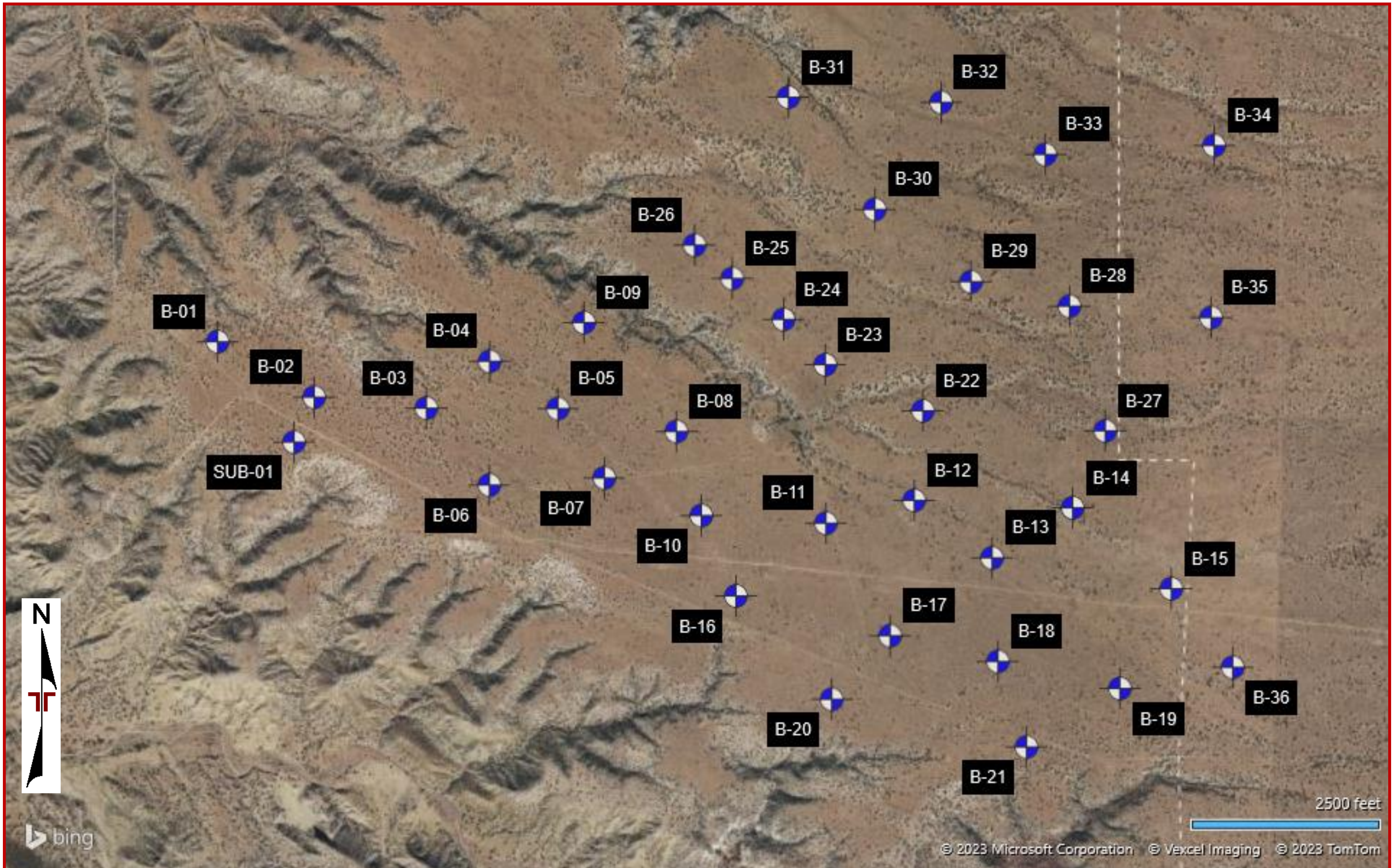


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

Exploration and Testing Procedures

Field Exploration

The field exploration on the project consisted of the following exploration plan. The approximate boring locations are shown on the Exploration Plan in the **Field Exploration Results** attachment, and the location and depth of the borings are summarized in the following table:

Number of Borings	Boring ID Nos.	Approximate Boring Depth (feet)	Location
36	B-1 through B-36	8 to 16 ½	Solar Array Area
1	SUB-01	30 ½	Substation Area

Note: Auger refusal occurred in borings B-08, 11, 12, and 24 at depths in the range between 8 to 12 feet below the existing surface due to cemented material

Boring Elevations: Terracon personnel provided the boring layout using handheld GPS equipment (estimated horizontal accuracy of about ±15 feet) and referencing existing site features. Approximate ground surface elevations were obtained using Google Earth Pro. If a more precise boring and layout or elevations are desired, we recommend borings be surveyed.

Boring Procedures: The borings conducted by Terracon were advanced with a truck-mounted CME-55 drill rig utilizing a 7-inch outside diameter hollow-stem augers. Borings conducted by EDI were advanced with a truck-mounted CME-75 drill rig utilizing an 8-inch outside diameter hollow stem augers. At selected intervals, samples of the subsurface materials were taken at each boring location by driving split-spoon (SPT) or ring-lined barrel samplers in general accordance with ASTM Standards. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon is driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. A 3-inch O.D. split-barrel sampling spoon with a 2.5-inch I.D. ring lined sampler was also used for sampling in the upper ten feet in the soil borings. Ring-lined, split-barrel sampling procedures are similar to standard split spoon sampling procedure; however, blow counts are typically recorded for 6-inch intervals for a total of 12 inches of penetration.

A bulk sample of subsurface materials from 1 to 5 feet bgs were obtained from all the borings. Groundwater was not encountered during the field exploration. For safety purposes, the borings were backfilled with auger cuttings after their completion.

The sampling depths, penetration distances, and other sampling information was recorded on the field boring logs. These field logs included visual classifications of the materials observed during drilling and excavation, and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. The final boring logs represent the Geotechnical Engineer's interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

GENERAL NOTES

Terracon

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

SAMPLING

Auger	Shelby Tube	Split Spoon
Rock Core	Macro Core	Modified California Ring Sampler
Grab Sample	No Recovery	Modified Dames & Moore Ring Sampler

WATER LEVEL

- Water Initially Encountered
- Water Level After a Specified Period of Time
- Water Level After a Specified Period of Time

Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.

FIELD TESTS

(HP)	Hand Penetrometer
(T)	Torvane
(b/f)	Standard Penetration Test (blows per foot)
N	N value
(PID)	Photo-Ionization Detector
(OVA)	Organic Vapor Analyzer

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance Includes gravels, sands and silts.			**CONSISTENCY OF FINE-GRAINED SOILS** (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance			
Descriptive Term (Density)	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**	**Descriptive Term (Consistency)**	**Unconfined Compressive Strength, Qu, psf**	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**
Very Loose	0 - 3	0 - 6	Very Soft	less than 500	0 - 1	< 3
Loose	4 - 9	7 - 18	Soft	500 to 1,000	2 - 4	3 - 4
Medium Dense	10 - 29	19 - 58	Medium-Stiff	1,000 to 2,000	4 - 8	5 - 9
Dense	30 - 50	59 - 98	Stiff	2,000 to 4,000	8 - 15	10 - 18
Very Dense	> 50	≥ 99	Very Stiff	4,000 to 8,000	15 - 30	19 - 42
			Hard	> 8,000	> 30	> 42

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 15
With	15 - 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

Major Component of Sample	Particle Size
Boulders	Over 12 in. (300 mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm
Silt or Clay	Passing #200 sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 5
With	5 - 12
Modifier	> 12

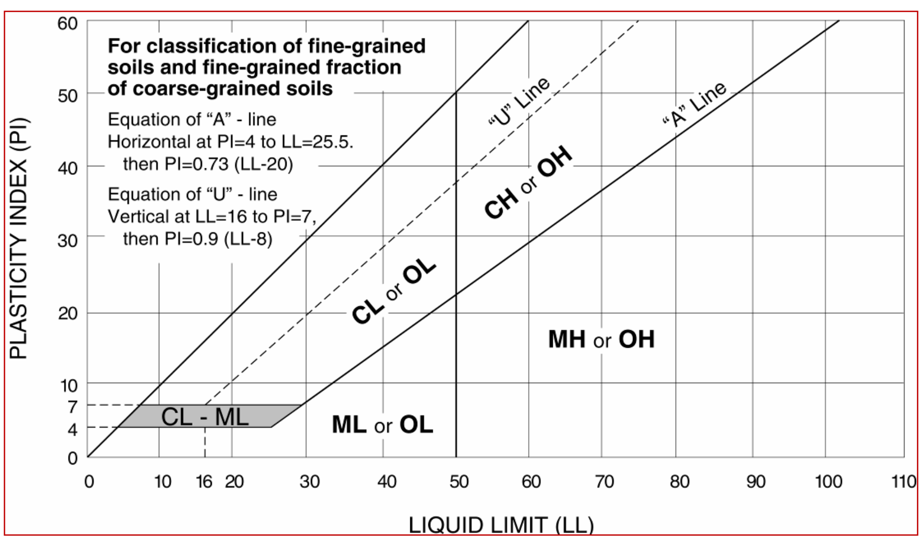
PLASTICITY DESCRIPTION

Term	Plasticity Index
Non-plastic	0
Low	1 - 10
Medium	11 - 30
High	> 30

Unified Soil Classification System

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]				Soil Classification	
				Group Symbol	**Group Name** [B]
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	Cu≥4 and 1≤Cc≤3 [E]	GW	Well-graded gravel [F]
			Cu<4 and/or [Cc<1 or Cc>3.0] [E]	GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH	GM	Silty gravel [F, G, H]
			Fines classify as CL or CH	GC	Clayey gravel [F, G, H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	Cu≥6 and 1≤Cc≤3 [E]	SW	Well-graded sand [I]
			Cu<6 and/or [Cc<1 or Cc>3.0] [E]	SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH	SM	Silty sand [G, H, I]
			Fines classify as CL or CH	SC	Clayey sand [G, H, I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots above "A" line [J]	CL	Lean clay [K, L, M]
			PI < 4 or plots below "A" line [J]	ML	Silt [K, L, M]
		Organic:	$\frac{LL\ oven\ dried}{LL\ not\ dried} < 0.75$	OL	Organic clay [K, L, M, N]
					Organic silt [K, L, M, O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line	CH	Fat clay [K, L, M]
			PI plots below "A" line	MH	Elastic silt [K, L, M]
		Organic:	$\frac{LL\ oven\ dried}{LL\ not\ dried} < 0.75$	OH	Organic clay [K, L, M, P]
					Organic silt [K, L, M, Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor			PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve.
[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.
[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.
[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.
[E] $Cu = D_{60}/D_{10}$ $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
[F] If soil contains ≥ 15% sand, add "with sand" to group name.
[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.
[H] If fines are organic, add "with organic fines" to group name.
[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.
[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.
[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.
[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.
[N] PI ≥ 4 and plots on or above "A" line.
[O] PI < 4 or plots below "A" line.
[P] PI plots on or above "A" line.
[Q] PI plots below "A" line.



Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-01

Location: See Exploration Plan

Latitude: 35.3088° Longitude: -106.2893°

Elevation.: 6210 (Ft.)

Model Layer	Graphic Log	Depth (Ft.) / Description	Elevation (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		SANDY SILTY CLAY (CL-ML), brown, medium stiff to stiff					2-3-10 N=13					
							8-12		5.3		22-16-6	70
				5			2-2-3 N=5					
		7.0	6203									
		SILTY SAND (SM), trace gravel and clay, biege, medium dense to dense					8-12-14 N=26					
				10			8-5-21 N=26					
							4-14-24 N=38					
				15			9-12-14 N=26					
		16.5	6193.5									
		Boring Terminated at 16.5 Feet										

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Notes
Elevation Reference: Elevations were provided by others.

Advancement Method
7" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 55

Hammer Type
Automatic

Driller
Terracon

Logged by
MG

Boring Started
02-09-2023

Boring Completed
02-09-2023

6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-02

Location: See Exploration Plan

Latitude: 35.3068° Longitude: -106.2850°

Depth (Ft.)	Material Description	Elevation.: 6217 (Ft.)
0 – 2.5	**SANDY LEAN CLAY (CL)**, brown, stiff	6214.5
2.5 – 5.0	**CLAYEY SAND (SC)**, brown, medium dense	6212
5.0 – 16.5	**SILTY SAND (SM)**, trace gravel, biege, loose to medium dense	6200.5

Boring Terminated at 16.5 Feet

Model Layer	Graphic Log	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
					2-5-6 N=11					
					7-10-8 N=18					
		5			5-12					
					5-5-5 N=10					
		10			3-4-8 N=12					
					8-8-13 N=21					
		15			8-13-25 N=38					

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
7" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 55

Hammer Type
Automatic

Driller
Terracon

Logged by
MG

Boring Started
02-09-2023

Boring Completed
02-09-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-03

Location: See Exploration Plan

Latitude: 35.3064° Longitude: -106.2800°

Depth (Ft.) Elevation.: 6238 (Ft.)

Model Layer	Graphic Log	Description	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		SANDY LEAN CLAY (CL), brown, medium stiff				1-3-2 N=5					
		2.5 / 6235.5				17-49					
		SILTY SAND (SM), trace gravel and clay, biege, dense to very dense, weak to moderate cementation	5			15-24-30 N=54					
						10-26-20 N=46					
			10			12-18-18 N=36					
						22-50-50/5"					
		16.5 / 6221.5	15			12-21-15 N=36					
		Boring Terminated at 16.5 Feet									

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
7" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 55

Hammer Type
Automatic

Driller
Terracon

Logged by
MG

Boring Started
02-09-2023

Boring Completed
02-09-2023

Diamond Tail Solar Facility
Near NM 14 and NM 301 | Santa Fe, NM
Terracon Project No. 66225144

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-04

Location: See Exploration Plan

Latitude: 35.3081° Longitude: -106.2772°

Depth (Ft.) | Elevation.: 6247 (Ft.)

Model Layer	Graphic Log	Depth (Ft.) / Description	Elevation (Ft.)	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		LEAN CLAY WITH SAND (CL), trace to with gravel, brown to light brown, stiff to very stiff		2-7-8 N=15		15.3			
				9-10		7.4	110	36-17-19	82
		5.0 — **SANDY LEAN CLAY (CL)**, light brown, soft	6242	3-2-1 N=3		6.5		31-18-13	60
		7.0 — **SILTY GRAVEL (GM)**, light brown to white, dense to very dense, weak to moderate cementation	6240	17-33-30 N=63		2.7			
				12-17-17 N=34		1.7			
				39-50/4"		1.6			
		15.8 — ***Boring Terminated at 15.5 Feet***	6231.2						

Depth scale (Ft.): 5, 10, 15

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Notes
Elevation Reference: Elevations were provided by others.

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Logged by
LV

Boring Started
03-08-2023

Boring Completed
03-08-2023

6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-05

Location: See Exploration Plan

Latitude: 35.3064° Longitude: -106.2742°

Depth (Ft.) Elevation.: 6258 (Ft.)

Model Layer	Graphic Log	Material Description	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		CLAYEY SAND (SC), brown, very loose to medium dense				1-4		6.0	88		
			5			3-3-2 N=5		7.5			
						10-9-11 N=20		6.7		29-16-13	48
		9.0 — 6249									
		SILTY GRAVEL (GM), biege, dense to very dense, weak cementation	10			21-18-17 N=35		2.3			
						20-23-26 N=49		1.0			
			15			17-37-36 N=73		1.6			
		16.5 — 6241.5									
		Boring Terminated at 16.5 Feet									

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
MG

Boring Started
03-13-2023

Boring Completed
03-13-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-06

Location: See Exploration Plan

Latitude: 35.3036° Longitude: -106.2772°

Depth (Ft.) Elevation.: 6259 (Ft.)

Model Layer	Graphic Log	Material Description	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		CLAYEY SAND (SC), brown, loose									
						4-3		8.8	92		
		4.0 — 6255									
		SANDY SILT (ML), biege, soft to very stiff	5			1-2-1 N=3		7.1		NP	51
						4-8-13 N=21		9.7			
			10			10-9-6 N=15		9.1			
		12.0 — 6247									
		SILTY SAND (SM), trace gravel, beige, medium dense				5-6-9 N=15		6.3			
			15			11-12-13 N=25		7.2			
		16.5 — 6242.5									
		Boring Terminated at 16.5 Feet									

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
MG

Boring Started
03-13-2023

Boring Completed
03-13-2023

Diamond Tail Solar Facility
Near NM 14 and NM 301 | Santa Fe, NM
Terracon Project No. 66225144

6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-07

Location: See Exploration Plan

Latitude: 35.3039° Longitude: -106.2721°

Depth (Ft.)	Material Description (Elevation.: 6274 (Ft.))	Elevation	Sample Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
	SANDY ELASTIC SILT (MH), trace gravel, light brown, medium stiff to hard					2-3-2 N=5		14.8			
4.0		6270				7-19-20 N=39		10.0		52-30-22	68
	SILTY SAND (SM), trace gravel, light brown to white, medium dense to very dense, weak cementation		5			14-19		5.3	98		
						8-12-15 N=27		8.0			
			10			9-14-28 N=42		4.8			
16.5		6257.5	15			17-26-26 N=52		4.2			

Boring Terminated at 16.5 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
LV

Boring Started
03-08-2023

Boring Completed
03-08-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-08

Location: See Exploration Plan

Latitude: 35.3056° Longitude: -106.2689°

Elevation.: 6281 (Ft.)

Model Layer	Graphic Log	Depth (Ft.) / Material Description	Elevation (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		SILTY SAND (SM), trace clay and gravel, biege, medium dense										
							9-14		5.0	96		
				5			4-8-8 N=16		10.2			
		7.0	6274									
		SILTY GRAVEL WITH SAND (GM), biege, dense to very dense, weak cementation					16-17-20 N=37		3.2		NP	17
				10			20-39-36 N=75		2.2			
		12.0	6269									
		Auger Refusal approximately at 12 Feet										

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
MG

Boring Started
03-13-2023

Boring Completed
03-13-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-09

Location: See Exploration Plan

Latitude: 35.3095° Longitude: -106.2730°

Depth (Ft.) Elevation.: 6256 (Ft.)

Model Layer	Graphic Log	Description (Depth (Ft.) / Elevation (Ft.))	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		CLAYEY SAND WITH GRAVEL (SC), trace organics, brown, medium dense			X	2-8-10 N=18		15.1			
					X	6-10-8 N=18		6.8		50-24-26	28
		4.0 — 6252									
		SILTY GRAVEL (GM), white, medium dense	5			10-12		3.6			
		9.0 — 6247									
		SILTY SAND (SM), with gravel, brown to white, dense to very dense	10		X	10-12-36 N=48		4.8			
			15		X	20-34-18 N=52		2.2			
		16.5 — 6239.5									
		Boring Terminated at 16.5 Feet									

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
LV

Boring Started
03-08-2023

Boring Completed
03-08-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-10

Location: See Exploration Plan

Latitude: 35.3025° Longitude: -106.2678°

Depth (Ft.) Elevation.: 6291 (Ft.)

Model Layer	Graphic Log	Description	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		CLAYEY SAND WITH GRAVEL (SC), brown, medium dense				2-4-8 N=12		12.3			
						13-32					
			5			6-10-14 N=24		6.4		37-18-19	36
		7.0 — 6284									
		SILTY SAND (SM), trace to with gravel, brown to white, medium dense to very dense, weak to moderate cementation				14-13-12 N=25		4.1			
			10			23-50/5"		2.9			
			15			20-25-27 N=52		2.7			
		16.5 — 6274.5									
		Boring Terminated at 16.5 Feet									

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
LV

Boring Started
03-08-2023

Boring Completed
03-08-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-11

Location: See Exploration Plan

Latitude: 35.3022° Longitude: -106.2622°

Depth (Ft.) Elevation.: 6303 (Ft.)

Model Layer	Graphic Log	Material Description	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		CLAYEY SAND (SC), trace to with gravel, light brown to white, loose to very dense, none to moderate cementation				2-3-3 N=6		14.0			
						3-5-8 N=13		6.1		38-19-19	50
			5			33-50/4"		4.3			
						20-25-24 N=49		3.8			
			10			14-34-50/4"		1.8			
		11.3 6291.67									
		Auger Refusal approximately at 11.5 Feet									

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
LV

Boring Started
03-08-2023

Boring Completed
03-08-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-12

Location: See Exploration Plan

Latitude: 35.3031° Longitude: -106.2583°

Model Layer	Graphic Log	Depth (Ft.) / Description / Elevation.: 6317 (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		CLAYEY SAND (SC), brown, medium dense				3-5-9 N=14		17.7			
						16-28		10.0	94		
		4.0 — 6313									
		CLAYEY GRAVEL WITH SAND (GC), beige, very dense, moderate cementation	5			19-50		3.0		31-20-11	20
		8.0 — 6309				50/4"		0.8			

Auger Refusal approximately at 8 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
7" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 55

Hammer Type
Automatic

Driller
Terracon

Logged by
MG

Boring Started
04-08-2023

Boring Completed
04-08-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-13

Location: See Exploration Plan

Latitude: 35.3010° Longitude: -106.2548°

Elevation.: 6329 (Ft.)

Depth (Ft.)	Material Description	Elevation (Ft.)
0.0 – 5.0	**CLAYEY SAND WITH GRAVEL (SC)**, light brown, medium dense to dense	6324
5.0 – 12.0	**POORLY GRADED SAND WITH SILT (SP-SM)**, with gravel, light brown, medium dense to very dense, weak cementation	6317
12.0 – 14.0	**WELL GRADED GRAVEL (GW)**, light brown, very dense	6315
14.0 – 16.5	**POORLY GRADED SAND (SP)**, with gravel, light brown, very dense, weak cementation	6312.5

Boring Terminated at 16.5 Feet

Approx. Sample Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
0 – 1.5			4-6-21 N=27		19.3			
2.5 – 4			11-15-20 N=35		4.2		27-19-8	23
5 – 6			17-21		2.8	106		
7.5 – 9			18-29-50 N=79		2.5			
10 – 11.5			19-40-21 N=61		2.0			
12.5 – 14			13-19-41 N=60		0.7			
15 – 16.5			17-40-50 N=90		2.9			

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
7" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 55

Hammer Type
Automatic

Driller
Terracon

Logged by
MG

Boring Started
03-31-2023

Boring Completed
03-31-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-14

Location: See Exploration Plan

Latitude: 35.3028° Longitude: -106.2512°

Depth (Ft.) Elevation.: 6343 (Ft.)

Depth (Ft.)	Material Description	Elevation (Ft.)	Sample Depth (Ft.)	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
0.0–10.0	**SANDY LEAN CLAY (CL)**, trace gravel, brown, stiff to hard	6343–6333	0–1.5	3-5-9 N=14		5.7		31-16-15	59
			2.5–4	19-32-21 N=53		10.4			
			5–6	20-60		5.0	110		
			7.5–9	6-9-12 N=21		6.6		34-16-18	56
10.0–15.5	**POORLY GRADED SAND WITH SILT (SP-SM)**, trace gravel, brown, dense to very dense, weak to moderate cementation	6333–6327.5	10–11.4	27-49-50/5"		3.2			
			12.5–14	15-21-27 N=48		4.2			
			15–15.5	50/6"		1.6			

Boring Terminated at 15.5 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
7" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 55

Hammer Type
Automatic

Driller
Terracon

Logged by
MG

Boring Started
03-31-2023

Boring Completed
03-31-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-15

Location: See Exploration Plan

Latitude: 35.2998° Longitude: -106.2468°

Depth (Ft.) Elevation.: 6367 (Ft.)

Model Layer	Graphic Log	Description	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		SANDY LEAN CLAY (CL), trace gravel, brown to light brown, medium stiff to hard, weak cementation				2-3-3 N=6		16.7			
						19-19	-1.40 @ 500psf	3.1	94		
			5			3-10-5 N=15		5.8		34-19-15	53
						12-18-20 N=38		6.0			
			10			12-16-20 N=36		4.5			
						17-22-22 N=44		6.1			
		16.5 6350.5	15			15-26-47 N=73		12.8			
		Boring Terminated at 16.5 Feet									

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Notes
Elevation Reference: Elevations were provided by others.

Advancement Method
7" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 55

Hammer Type
Automatic

Driller
Terracon

Logged by
MG

Boring Started
03-31-2023

Boring Completed
03-31-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-16

Location: See Exploration Plan

Latitude: 35.2996° Longitude: -106.2662°

Depth (Ft.)	Material Description	Elevation (Ft.) 6301	Sample Depth (Ft.)	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
0.0–4.0	**CLAYEY SAND (SC)**, brown, loose to medium dense	6297	0–1.5	Split spoon	2-5-6 N=11		14.6			
			2.5–3.5	Ring sampler	5-6	-2.41 @ 500psf	2.1	88		
4.0–12.0	**SANDY LEAN CLAY (CL)**, brown to light brown, very stiff	6289	5–6.5	Split spoon	2-9-14 N=23		10.2			
			7.5–9	Split spoon	7-10-9 N=19		9.8		41-18-23	63
			10–11.5	Split spoon	9-15-15 N=30		8.3			
12.0–16.5	**SILTY SAND (SM)**, trace gravel, light brown, dense	6284.5	12.5–14	Split spoon	6-15-17 N=32		5.7			
			15–16.5	Split spoon	33-28-16 N=44		1.9			

Boring Terminated at 16.5 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Notes
Elevation Reference: Elevations were provided by others.

Advancement Method
7" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 55

Hammer Type
Automatic

Driller
Terracon

Logged by
MG

Boring Started
04-10-2023

Boring Completed
04-10-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-17

Location: See Exploration Plan

Latitude: 35.2981° Longitude: -106.2594°

Depth (Ft.) Elevation.: 6320 (Ft.)

Depth (Ft.)	Material Description	Elevation (Ft.)	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
	SANDY SILT (ML), trace gravel, brown, soft to medium stiff		1-2-1 N=3		15.1			
			1-2-2 N=4		8.8		39-27-12	53
4.0		6316						
	SILTY SAND (SM), trace gravel, beige, medium dense		13-12		7.5	84		
			3-5-7 N=12		8.6			
9.0		6311						
	POORLY GRADED SAND WITH SILT (SP-SM), trace gravel, beige, very dense		21-32-35 N=67		3.5			
12.0		6308						
	POORLY GRADED GRAVEL (GP), gray, medium dense to very dense, moderate cementation		15-10-16 N=26		0.9			
15.3		6304.7	50/4"		5.7			

Boring Terminated at 15.3 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
7" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 55

Hammer Type
Automatic

Driller
Terracon

Logged by
MG

Boring Started
04-10-2023

Boring Completed
04-10-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-18

Location: See Exploration Plan

Latitude: 35.2972° Longitude: -106.2546°

Depth (Ft.) Elevation.: 6344 (Ft.)

Depth (Ft.)	Material Description	Elevation (Ft.)	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
0–2.0	**CLAYEY SAND (SC)**, trace gravel, brown, very loose	6342	2-2-1 N=3		14.4			
2.0–7.0	**SANDY LEAN CLAY (CL)**, trace gravel, brown, very stiff	6337	15-12		5.9	86		
			4-9-8 N=17		10.3		46-24-22	51
7.0–13.0	**POORLY GRADED SAND WITH SILT (SP-SM)**, with gravel, light brown, dense	6331	20-19-18 N=37		3.5			
			5-19-28 N=47		1.8			
13.0–16.5	**WELL GRADED SAND (SW)**, with gravel, light brown, dense	6327.5	12-21-26 N=47		8.6			
			9-23-22 N=45		1.9			

Boring Terminated at 16.5 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
7" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 55

Hammer Type
Automatic

Driller
Terracon

Logged by
MG

Boring Started
03-31-2023

Boring Completed
03-31-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-19

Location: See Exploration Plan

Latitude: 35.2962° Longitude: -106.2491°

Elevation.: 6365 (Ft.)

Depth (Ft.)	Description	Elevation (Ft.)	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
0.0–4.0	**CLAYEY SAND WITH GRAVEL (SC)**, brown and light brown, very loose to loose	6361	2-5-4 N=9		16.6		32-19-13	48
			4-2-1 N=3		15.0			
4.0–7.0	**SILTY SAND (SM)**, trace gravel and cobble, light brown, loose	6358	5-12		5.1	92		
7.0–15.7	**SILTY CLAYEY GRAVEL WITH SAND (GC-GM)**, light brown, very dense, weak to moderate cementation	6349.3	21-34-29 N=63		2.6		25-19-6	12
			15-29-29 N=58		1.6			
			6-20-37 N=57		0.4			
			24-50/2"		1.1			

Boring Terminated at 15.7 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
7" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 55

Hammer Type
Automatic

Driller
Terracon

Logged by
MG

Boring Started
03-31-2023

Boring Completed
03-31-2023

Diamond Tail Solar Facility
Near NM 14 and NM 301 | Santa Fe, NM
Terracon Project No. 66225144

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-20

Location: See Exploration Plan

Latitude: 35.2958° Longitude: -106.2620°

Depth (Ft.) Elevation.: 6316 (Ft.)

Model Layer	Graphic Log	Material Description	Depth (Ft.)	Elevation (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		SANDY LEAN CLAY (CL), trace gravel, brown, medium stiff to very stiff					2-3-4 N=7		16.1		35-19-16	63
							11-17		11.1	98		
							7-7-5 N=12		10.1		45-22-23	61
			7.0	6309								
		POORLY GRADED SAND WITH SILT (SP-SM), trace clay, trace to with gravel, light brown, dense					9-13-18 N=31		5.6			
			10.0	6306								
		WELL GRADED GRAVEL (GW), trace sand, light brown, dense to very dense, weak to moderate cementation					6-17-31 N=48		1.1			
							11-14-17 N=31		0.6			
							16-25-50/5"		0.8			
			16.4	6299.6								

Boring Terminated at 16.4 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Notes
Elevation Reference: Elevations were provided by others.

Advancement Method
7" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 55

Hammer Type
Automatic

Driller
Terracon

Logged by
MG

Boring Started
04-10-2023

Boring Completed
04-10-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-21

Location: See Exploration Plan

Latitude: 35.2941° Longitude: -106.2533°

Depth (Ft.) Elevation.: 6344 (Ft.)

Depth / Elevation	Material Description	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
	SANDY LEAN CLAY (CL), trace gravel, brown, medium stiff to very stiff				1-3-5 N=8		14.1			
					6-8-8 N=16		9.5		30-16-14	65
4.0 / 6340	**SILTY SAND (SM)**, trace to with gravel, beige, loose to very dense	5			11-17	-2.27 @ 500psf	5.9	102		
					8-5-4 N=9		6.8			
		10			3-5-14 N=19		3.9			
					8-9-13 N=22		0.8			
16.5 / 6327.5		15			15-22-29 N=51		1.0			

Boring Terminated at 16.5 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Notes
Elevation Reference: Elevations were provided by others.

Advancement Method
7" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 55

Hammer Type
Automatic

Driller
Terracon

Logged by
MG

Boring Started
04-10-2023

Boring Completed
04-10-2023

6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-22

Location: See Exploration Plan

Latitude: 35.3063° Longitude: -106.2579°

Depth (Ft.) Elevation.: 6306 (Ft.)

Model Layer	Graphic Log	Description	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		SANDY LEAN CLAY (CL), trace gravel, light brown, stiff								29-19-10	60
						4-5-5 N=10		8.2			
		5.0 — 6301	5								
		SILTY SAND (SM), trace clay and gravel, light brown, loose to dense				6-6		5.7	89		
						7-10-14 N=24		5.6		NP	50
			10			12-16-19 N=35		7.0			
		12.0 — 6294									
		CLAYEY SAND (SC), trace gravel, brown, dense to very dense				8-17-17 N=34		6.4			
			15			20-34-27 N=61		7.0			
		16.5 — 6289.5									

Boring Terminated at 16.5 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
MG

Boring Started
03-14-2023

Boring Completed
03-14-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-23

Location: See Exploration Plan

Latitude: 35.3080° Longitude: -106.2623°

Depth (Ft.) | Elevation.: 6293 (Ft.)

Model Layer	Graphic Log	Material Description	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		SANDY LEAN CLAY (CL), trace gravel, light brown, stiff to very stiff									
						9-13		4.7	87		
			5			4-6-7 N=13		9.1		30-21-9	60
						5-7-6 N=13		6.3			
		10.0 — 6283									
		POORLY GRADED SAND WITH SILT (SP-SM), with gravel, light brown, medium dense to very dense, weak cementation	10			6-4-8 N=12		2.8			
						36-40-36 N=76		2.1			
			15			8-17-27 N=44		0.9			
		16.5 — 6276.5									
		Boring Terminated at 16.5 Feet									

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
MG

Boring Started
03-13-2023

Boring Completed
03-13-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-24

Location: See Exploration Plan

Latitude: 35.3096° Longitude: -106.2641°

Depth (Ft.) Elevation.: 6289 (Ft.)

Model Layer	Graphic Log	Description	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		SANDY LEAN CLAY (CL), trace to with gravel, biege, very stiff to hard									
					X	8-10-8 N=18		8.7		45-22-23	61
			5			11-11		6.1	98		
					X	11-28-31 N=59		5.8			
			10		X	32-34-23 N=57		1.9			
		12.0 … 6277									
		Auger Refusal approximately at 12 Feet									

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
MG

Boring Started
03-13-2023

Boring Completed
03-13-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-25

Location: See Exploration Plan

Latitude: 35.3111° Longitude: -106.2664°

Depth (Ft.) Elevation.: 6280 (Ft.)

Depth (Ft.) / Description	Elevation	Sample Depth (Ft.)	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
POORLY GRADED SAND (SP), light brown, medium dense								
		2.5–4	10-11-14 N=25		7.2			
4.0	6276							
SANDY SILT (ML), trace gravel, light brown to brown, stiff								
		5–6.5	9-6-4 N=10		6.2		31-26-5	56
7.0	6273							
CLAYEY SAND (SC), trace gravel, brown, medium dense to dense								
		7.5–9	9-10-13 N=23		9.7			
		10–11.5	10-14-14 N=28		9.2			
		12.5–14	12-10-15 N=25		7.8			
		15–16.5	15-14-22 N=36		2.6			
16.5	6263.5							

Boring Terminated at 16.5 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
MG

Boring Started
03-13-2023

Boring Completed
03-13-2023

Diamond Tail Solar Facility
Near NM 14 and NM 301 | Santa Fe, NM
Terracon Project No. 66225144

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-26

Location: See Exploration Plan

Latitude: 35.3123° Longitude: -106.2681°

Depth (Ft.) | Elevation.: 6273 (Ft.)

Depth (Ft.) / Elevation	Description	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
0.0 – 9.0 / 6264	**CLAYEY GRAVEL WITH SAND (GC)**, light brown, medium dense to very dense	17-29		2.6			
		19-38-45 N=83		3.1	100	29-16-13	15
		27-38-18 N=56		0.6			
9.0 – 12.0 / 6261	**CLAYEY SAND (SC)**, trace gravel, brown, medium dense	8-10-9 N=19		7.2			
12.0 – 16.5 / 6256.5	**SILTY SAND (SM)**, with clay and gravel, brown, medium dense	12-15-12 N=27		3.1			
		7-10-18 N=28					

Boring Terminated at 16.5 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes
Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
MG

Boring Started
03-13-2023

Boring Completed
03-13-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-27

Location: See Exploration Plan

Latitude: 35.3056° Longitude: -106.2498°

Depth (Ft.) Elevation.: 6361 (Ft.)

Depth (Ft.)	Material Description	Elevation (Ft.)
0.0–7.0	**SILTY SAND (SM)**, trace clay and gravel, light brown, loose to medium dense	6354
7.0–13.0	**SANDY LEAN CLAY (CL)**, trace gravel, light brown to brown, very stiff to hard, weak to moderate cementation	6348
13.0–16.5	**SILTY SAND (SM)**, trace clay and gravel, light brown, medium dense	6344.5

Boring Terminated at 16.5 Feet

Sample Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
2.5–3.5		Ring sampler	8-10		2.4	98		
5–6.5		Split spoon	2-2-10 N=12		3.5			
7.5–9		Split spoon	25-32-31 N=63		7.1		33-16-17	63
10–11.5		Split spoon	15-14-14 N=28		7.1			
12.5		Split spoon	50/3"					
15–16.5		Split spoon	7-12-6 N=18		4.9			

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
MG

Boring Started
03-14-2023

Boring Completed
03-14-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-28

Location: See Exploration Plan

Latitude: 35.3101° Longitude: -106.2514°

Depth (Ft.) Elevation.: 6355 (Ft.)

Depth (Ft.)	Material Description	Elevation (Ft.)
0.0 – 4.0	**SANDY LEAN CLAY (CL)**, trace gravel, light brown, very stiff	6351
4.0 – 7.0	**CLAYEY SAND (SC)**, trace gravel, brown, medium dense	6348
7.0 – 10.0	**SILTY SAND (SM)**, trace gravel, light brown, dense	6345
10.0 – 16.5	**SANDY LEAN CLAY (CL)**, trace gravel, brown, very stiff to hard	6338.5

Boring Terminated at 16.5 Feet

Depth (Ft.)	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
2.5 – 4	9-16-12 N=28		3.3 5.5		30-16-14	62
5 – 6	14-19		3.3	103		
7.5 – 9	20-17-15 N=32		5.9			
10 – 11.5	20-32-40 N=72		6.4		32-17-15	54
12.5 – 14	12-14-11 N=25		6.2			
15 – 16.5	6-11-11 N=22		5.6			

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Notes
Elevation Reference: Elevations were provided by others.

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
MG

Boring Started
03-14-2023

Boring Completed
03-14-2023

6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-29

Location: See Exploration Plan

Latitude: 35.3110° Longitude: -106.2558°

Depth (Ft.) Elevation.: 6327 (Ft.)

Depth (Ft.)	Material Description	Elevation (Ft.)	Sample Depth (Ft.)	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
0.0–3.0	**SILTY SAND (SM)**, trace clay and gravel, biege, medium dense	6324							
3.0–7.0	**CLAYEY SAND (SC)**, brown, medium dense	6320	2.5–3.5	16-27	-0.77 @ 500psf	2.7	103		
			5.0–6.5	10-10-9 N=19					
7.0–10.0	**SILTY SAND (SM)**, trace clay and gravel, biege, medium dense	6317	7.5–9.0	12-10-13 N=23		9.0			
10.0–13.0	**CLAYEY SAND (SC)**, trace gravel, brown, very dense	6314	10.0–11.5	10-28-24 N=52		5.2			
13.0–16.5	**SILTY SAND (SM)**, trace gravel, biege, very dense	6310.5	12.5–14.0	19-30-35 N=65		4.6			
			15.0–16.5	20-37-23 N=60		2.3			

Boring Terminated at 16.5 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Notes
Elevation Reference: Elevations were provided by others.

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
MG

Boring Started
03-14-2023

Boring Completed
03-14-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-30

Location: See Exploration Plan

Latitude: 35.3136° Longitude: -106.2600°

Elevation.: 6302 (Ft.)

Depth (Ft.)	Material Description	Elevation (Ft.)	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
0.0–7.0	**SANDY LEAN CLAY (CL)**, trace gravel, light brown, very stiff	6302–6295							
~2.5–3.5			Ring sampler	12-10		4.4	85	30-15-15	68
7.0–16.5	**SANDY SILTY CLAY (CL-ML)**, trace gravel, brown, very stiff to hard	6295–6285.5							
~7.5–9			Split spoon	6-9-9 N=18		5.7		25-18-7	62
~10–11.5			Split spoon	8-16-19 N=35		6.0			
~12.5–14			Split spoon	10-13-19 N=32		4.7			
~15–16.5			Split spoon	10-13-14 N=27		6.4			

Boring Terminated at 16.5 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
MG

Boring Started
03-15-2023

Boring Completed
03-15-2023

Diamond Tail Solar Facility
Near NM 14 and NM 301 | Santa Fe, NM
Terracon Project No. 66225144

6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-31

Location: See Exploration Plan

Latitude: 35.3177° Longitude: -106.2639°

Elevation.: 6270 (Ft.)

Depth (Ft.)	Description	Elevation (Ft.)
0 – 5.0	**SANDY LEAN CLAY (CL)**, trace gravel, brown, very stiff	6265
5.0 – 9.0	**CLAYEY SAND (SC)**, trace silt, brown, medium dense to dense	6261
9.0 – 12.0	**SILTY SAND WITH GRAVEL (SM)**, light brown, dense	6258
12.0 – 14.0	**POORLY GRADED SAND WITH SILT (SP-SM)**, trace gravel, light brown, medium dense	6256
14.0 – 16.5	**SILTY SAND (SM)**, trace gravel, light brown, dense	6253.5

Boring Terminated at 16.5 Feet

Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
10-14-12 N=26		5.8		27-17-10	64
9-16	+0.23 @ 500psf	3.1	103		
7-15-22 N=37		5.9			
17-17-17 N=34		4.0		NP	33
8-12-12 N=24		2.2			
10-15-18 N=33		5.5			

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Notes
Elevation Reference: Elevations were provided by others.

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
MG

Boring Started
03-15-2023

Boring Completed
03-15-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-32

Location: See Exploration Plan

Latitude: 35.3175° Longitude: -106.2571°

Depth (Ft.) Elevation.: 6310 (Ft.)

Depth (Ft.)	Material Description	Elevation (Ft.)	Sample Depth (Ft.)	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
0 – 7.0	**SANDY LEAN CLAY (CL)**, trace gravel, brown, very stiff	6303	2.5–3.5	9-19		4.1	98	35-16-19	62
			5–6.5	7-10-18 N=28		4.5			
7.0 – 10.0	**SANDY SILT (ML)**, trace gravel, brown, stiff	6300	7.5–9	2-6-6 N=12		7.7		NP	53
10.0 – 16.5	**SILTY SAND (SM)**, trace clay and gravel, brown to light brown, medium dense to dense	6293.5	10–11.5	4-8-10 N=18		1.8			
			12.5–14	6-6-14 N=20		2.8			
			15–16.5	12-23-24 N=47		4.6			

Boring Terminated at 16.5 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
MG

Boring Started
03-15-2023

Boring Completed
03-15-2023

Notes
Elevation Reference: Elevations were provided by others.

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Diamond Tail Solar Facility
Near NM 14 and NM 301 | Santa Fe, NM
Terracon Project No. 66225144

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-33

Location: See Exploration Plan

Latitude: 35.3156° Longitude: -106.2524°

Depth (Ft.) Elevation.: 6345 (Ft.)

Depth (Ft.)	Description	Elevation (Ft.)
0.0–5.0	**SILTY SAND (SM)**, trace gravel, brown, medium dense	6340
5.0–12.0	**SANDY LEAN CLAY (CL)**, trace gravel, brown to light brown, very stiff to hard	6333
12.0–16.5	**SILTY SAND (SM)**, trace gravel, light brown, dense	6328.5

Boring Terminated at 16.5 Feet

Model Layer	Graphic Log	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		2.5–4			4-9-9 N=18		5.5		NP	46
		5–6			11-27		2.3	100	33-17-16	63
		7.5–9			9-13-15 N=28		4.3			
		10–11.5			7-20-14 N=34		4.1			
		12.5–14			10-14-17 N=31		4.8			
		15–16.5			11-21-20 N=41		2.3			

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
MG

Boring Started
03-15-2023

Boring Completed
03-15-2023

Notes
Elevation Reference: Elevations were provided by others.

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-34

Location: See Exploration Plan

Latitude: 35.3160° Longitude: -106.2449°

Elevation.: 6390 (Ft.)

Depth (Ft.)	Material Description	Elevation (Ft.)	Sample Depth (Ft.)	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
0.0 - 7.0	**SANDY SILTY CLAY (CL-ML)**, trace gravel, brown, very stiff to hard	6383	2.5 - 3.5	10-19		5.6	108	23-17-6	64
			5.0 - 6.5	15-33-27 N=60		5.9			
7.0 - 10.0	**SANDY SILT (ML)**, trace gravel, light brown, hard	6380	7.5 - 9.0	13-17-22 N=39		6.5		29-24-5	60
10.0 - 13.0	**CLAYEY SAND (SC)**, trace gravel, light brown, medium dense	6377	10.0 - 11.5	9-9-6 N=15		4.8			
13.0 - 16.5	**SILTY SAND (SM)**, trace gravel, light brown, medium dense	6373.5	12.5 - 14.0	2-7-7 N=14		3.3			
			15.0 - 16.5	4-9-11 N=20		2.4			

Boring Terminated at 16.5 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
MG

Boring Started
03-15-2023

Boring Completed
03-15-2023

6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-35

Location: See Exploration Plan

Latitude: 35.3097° Longitude: -106.2451°

Depth (Ft.)	Material Description (Elevation.: 6400 (Ft.))	Elevation	Sample Depth (Ft.)	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
0.0–5.0	**SANDY SILTY CLAY (CL-ML)**, trace gravel, light brown to brown, hard	6395						22-18-4	62
			2.5–4.0	7-13-24 N=37		3.8			
5.0–7.0	**SANDY LEAN CLAY (CL)**, trace gravel, brown, hard, moderate cementation	6393	5.0	34-50/4"		1.3	90	31-17-14	68
7.0–12.0	**CLAYEY SAND (SC)**, trace gravel, brown, medium dense	6388	7.5–9.0	4-5-6 N=11		2.6			
			10.0–11.5	6-6-9 N=15		3.9			
12.0–14.0	**SILTY GRAVEL (GM)**, biege, very dense	6386	12.5–14.0	24-33-30 N=63		0.6			
14.0–16.5	**CLAYEY SAND (SC)**, trace gravel, brown, medium dense	6383.5	15.0–16.5	6-5-7 N=12		3.7			

Boring Terminated at 16.5 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
MG

Boring Started
03-15-2023

Boring Completed
03-15-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. B-36

Location: See Exploration Plan

Latitude: 35.2970° Longitude: -106.2441°

Depth (Ft.) Elevation.: 6388 (Ft.)

Model Layer	Graphic Log	Description	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		SILTY CLAYEY SAND WITH GRAVEL (SC-SM), brown to light brown, loose to dense				3-3-2 N=5		13.3		26-19-7	50
						11-18		6.2	94		
			5			12-15-17 N=32		7.0			
		7.0 — 6381									
		SILTY CLAYEY GRAVEL WITH SAND (GC-GM), trace to with cobbles, light brown with red, very dense, weak cementation				18-29-21 N=50		3.7		25-21-4	19
			10			17-25-30 N=55		0.2			
						16-31-41 N=72		0.4			
			15			16-42-46 N=88		0.9			
		16.5 — 6371.5									

Boring Terminated at 16.5 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
7" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 55

Hammer Type
Automatic

Driller
Terracon

Logged by
MG

Boring Started
03-31-2023

Boring Completed
03-31-2023

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Boring Log No. SUB-01

Location: See Exploration Plan

Latitude: 35.3052° Longitude: -106.2859°

Depth (Ft.) Elevation.: 6233 (Ft.)

Depth (Ft.)	Material Description	Water Level Observations	Sample Type	Field Test Results	SWELL (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
0	**SILTY SAND (SM)**, trace to with gravel, brown, loose to dense			2-7-2 N=9		9.0			
				3-3		4.2	90		
5				3-3		4.7			
				3-4-3 N=7					
10				3-4-4 N=8		4.9			
15				7-12-15 N=27		2.5			
20				9-19-17 N=36		2.5			
25				12-16-19 N=35		3.7			
27.0 (Elev. 6206)	**WELL GRADED GRAVEL (GW)**, white, very dense								
30				39-50/1"		0.3			
30.6 (Elev. 6202.4)	***Boring Terminated at 30.6 Feet***								

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Elevation Reference: Elevations were provided by others.

Water Level Observations
Groundwater not encountered

Advancement Method
8" Hollow Stem Augers

Abandonment Method
Boring backfilled with soil cuttings upon completion.

Drill Rig
CME 75

Hammer Type
Automatic

Driller
EDI

Logged by
LV

Boring Started
03-08-2023

Boring Completed
03-08-2023

Laboratory Test Results

Laboratory Testing Procedures

The project engineer reviewed the field data and assigned laboratory tests. The laboratory testing program included the following types of tests:

- Moisture content of soil by mass (ASTM D2216)
- In-situ dry density (unit weight) (ASTM D2937)
- Atterberg Limits (ASTM D4318)
- Sieve Analysis (ASTM D422)
- Laboratory Moisture-Density Relationships (Standard Proctor) (ASTM D698)

The laboratory testing program also included review of soil samples by an engineer. Based on the results of our field and laboratory programs, we described and classified the soil samples in general accordance with the Unified Soil Classification System.

Corrosivity Testing: A total of 12 samples of the near surface soils obtained from the PV array area at the boring locations were tested in the laboratory for the following properties in general accordance with the corresponding standards:

- pH Analysis (ASTM G51)
- Chloride (ASTM D512)
- Sulfate (ASTM C1580)
- Sulfide Content (ASTM D4658)
- Oxidation-Reduction Potential (ASTM D1498)
- Total Salts (ASTM D1125)
- Minimum Electrical Resistivity Testing (ASTM G187)

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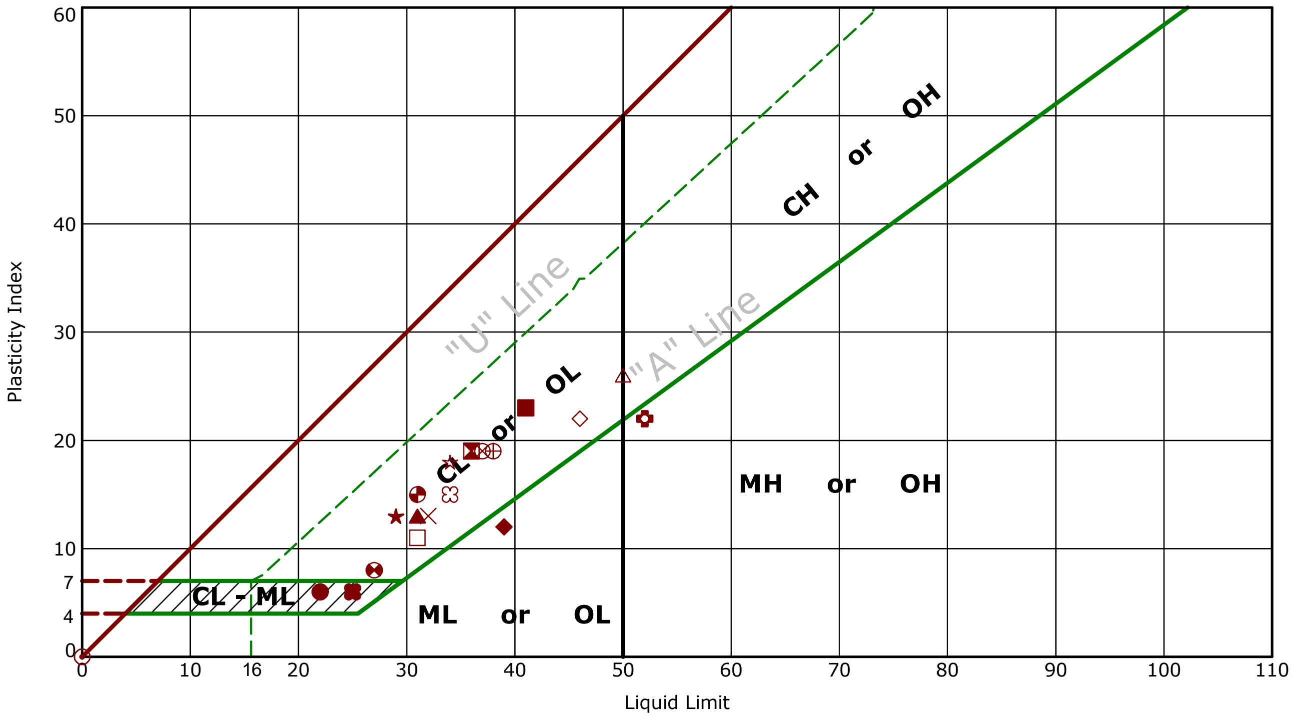
Atterberg Limit Results

ASTM D4318



	Boring ID	Depth (Ft)	LL	PL	PI	Fines	USCS	Description
●	B-01	0.5 - 5	22	16	6	69.6	CL-ML	SANDY SILTY CLAY
⊠	B-04	0.5 - 5	36	17	19	81.7	CL	LEAN CLAY with SAND
▲	B-04	5 - 6.5	31	18	13	60.4	CL	SANDY LEAN CLAY
★	B-05	7.5 - 9	29	16	13	48.5	SC	CLAYEY SAND
⊙	B-06	5 - 6.5	NP	NP	NP	51.1	ML	SANDY SILT
✿	B-07	2.5 - 4	52	30	22	67.5	MH	SANDY ELASTIC SILT
○	B-08	7.5 - 9	NP	NP	NP	17.0	GM	SILTY GRAVEL with SAND
△	B-09	2.5 - 4	50	24	26	27.9	SC	CLAYEY SAND with GRAVEL
⊗	B-10	5 - 6.5	37	18	19	35.9	SC	CLAYEY SAND with GRAVEL
⊕	B-11	2.5 - 4	38	19	19	49.9	SC	CLAYEY SAND
□	B-12	5 - 6.3	31	20	11	20.1	GC	CLAYEY GRAVEL with SAND
⊗	B-13	2.5 - 4	27	19	8	22.6	SC	CLAYEY SAND with GRAVEL
◕	B-14	0.2 - 5	31	16	15	59.4	CL	SANDY LEAN CLAY
☆	B-14	7.5 - 9	34	16	18	55.6	CL	SANDY LEAN CLAY
✤	B-15	5 - 6.5	34	19	15	53.0	CL	SANDY LEAN CLAY
■	B-16	7.5 - 9	41	18	23	62.6	CL	SANDY LEAN CLAY
◆	B-17	2.5 - 4	39	27	12	52.7	ML	SANDY SILT
◇	B-18	5 - 6.5	46	24	22	50.8	CL	SANDY LEAN CLAY
×	B-19	0.2 - 5	32	19	13	48.4	SC	CLAYEY SAND with GRAVEL
✚	B-19	7.5 - 9	25	19	6	12.4	GC-GM	SILTY, CLAYEY GRAVEL with SAND

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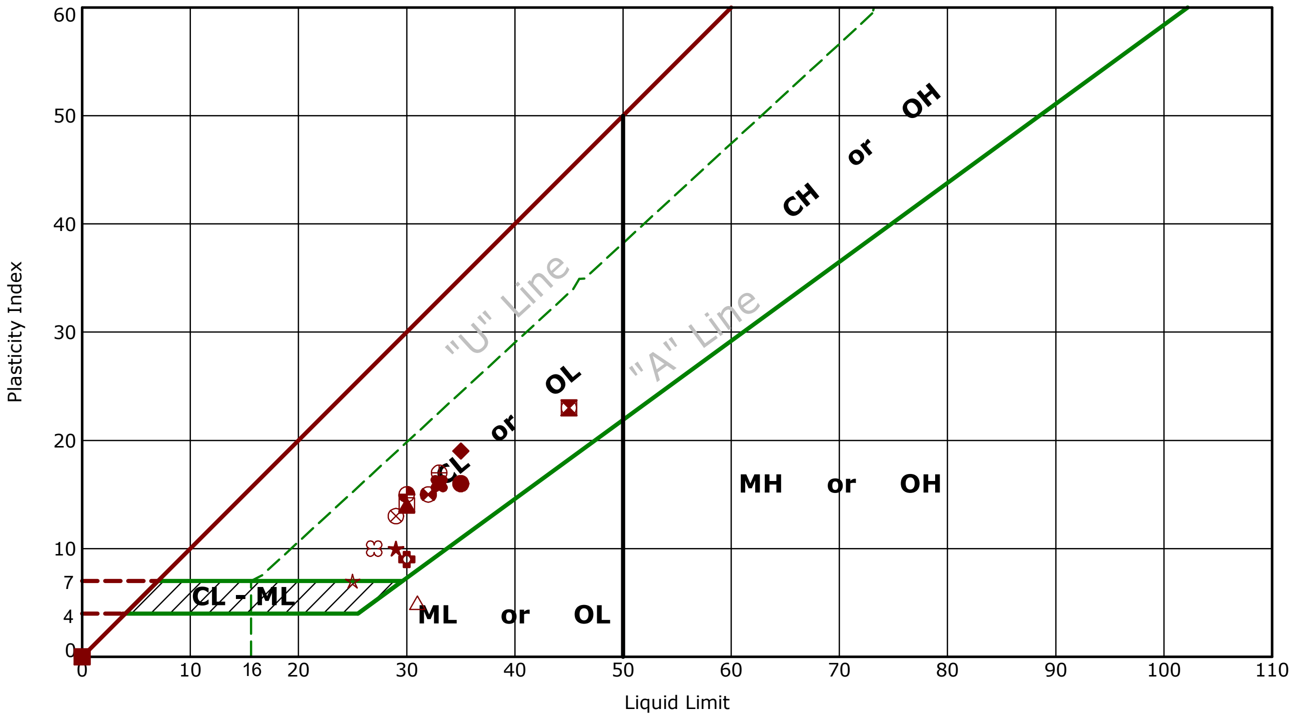
Atterberg Limit Results

ASTM D4318



	Boring ID	Depth (Ft)	LL	PL	PI	Fines	USCS	Description
	B-20	0.1 - 5	35	19	16	63.1	CL	SANDY LEAN CLAY
	B-20	5 - 6.5	45	22	23	61.5	CL	SANDY LEAN CLAY
	B-21	2.5 - 4	30	16	14	64.6	CL	SANDY LEAN CLAY
	B-22	0.5 - 5	29	19	10	59.8	CL	SANDY LEAN CLAY
	B-22	7.5 - 9	NP	NP	NP	49.6	SM	SILTY SAND
	B-23	5 - 6.5	30	21	9	59.6	CL	SANDY LEAN CLAY
	B-24	2.5 - 4	45	22	23	61.3	CL	SANDY LEAN CLAY
	B-25	5 - 6.5	31	26	5	55.5	ML	SANDY SILT
	B-26	5.1 - 6.1	29	16	13	15.5	GC	CLAYEY GRAVEL with SAND
	B-27	7.5 - 9	33	16	17	63.5	CL	SANDY LEAN CLAY
	B-28	0.5 - 5	30	16	14	61.9	CL	SANDY LEAN CLAY
	B-28	10 - 11.5	32	17	15	54.1	CL	SANDY LEAN CLAY
	B-30	0 - 5	30	15	15	68.3	CL	SANDY LEAN CLAY
	B-30	7.5 - 9	25	18	7	62.4	CL-ML	SANDY SILTY CLAY
	B-31	0 - 5	27	17	10	63.7	CL	SANDY LEAN CLAY
	B-31	10 - 11.5	NP	NP	NP	33.2	SM	SILTY SAND with GRAVEL
	B-32	0.5 - 5	35	16	19	62.0	CL	SANDY LEAN CLAY
	B-32	7.5 - 9	NP	NP	NP	53.0	ML	SANDY SILT
	B-33	0 - 5	NP	NP	NP	46.2	SM	SILTY SAND
	B-33	5 - 6	33	17	16	62.9	CL	SANDY LEAN CLAY

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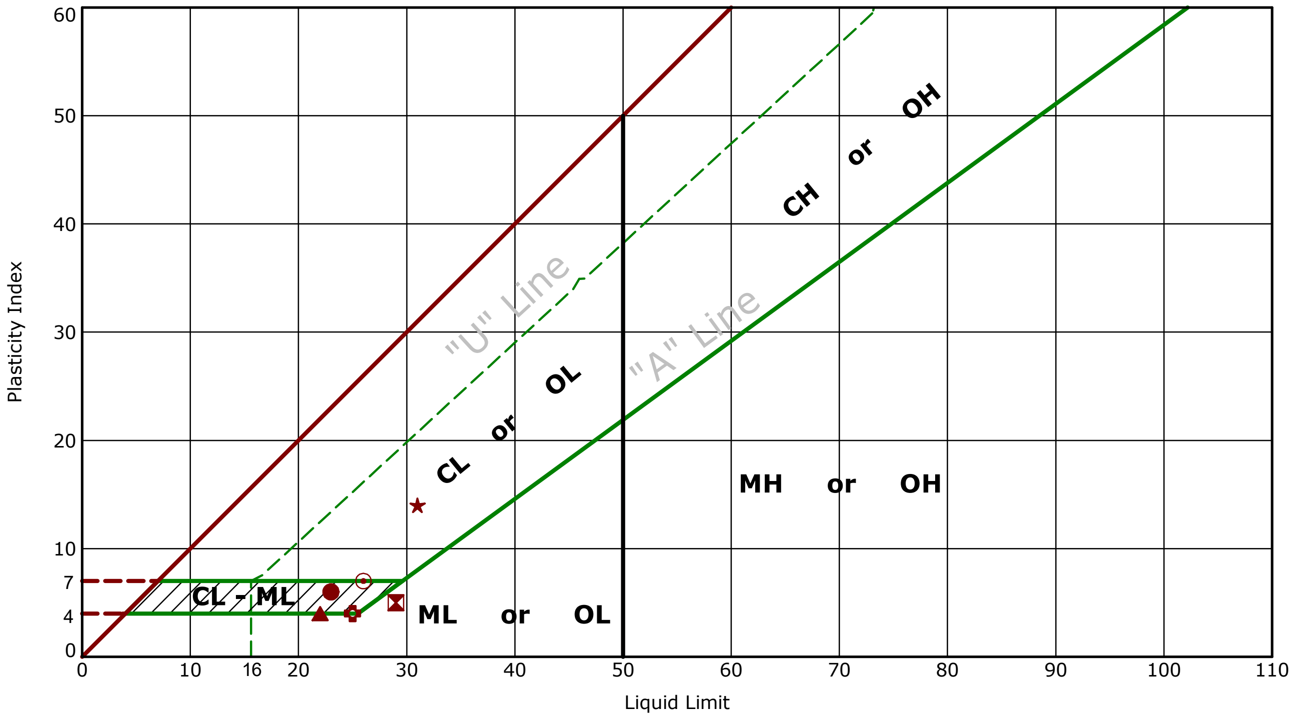
Atterberg Limit Results

ASTM D4318



	Boring ID	Depth (Ft)	LL	PL	PI	Fines	USCS	Description
●	B-34	0 - 5	23	17	6	63.7	CL-ML	SANDY SILTY CLAY
⊠	B-34	7.5 - 9	29	24	5	59.6	ML	SANDY SILT
▲	B-35	0 - 5	22	18	4	62.1	CL-ML	SANDY SILTY CLAY
★	B-35	5 - 5.8	31	17	14	68.0	CL	SANDY LEAN CLAY
⊙	B-36	0.1 - 5	26	19	7	49.5	SC-SM	SILTY, CLAYEY SAND with GRAVEL
✿	B-36	7.5 - 9	25	21	4	18.7	GC-GM	SILTY, CLAYEY GRAVEL with SAND

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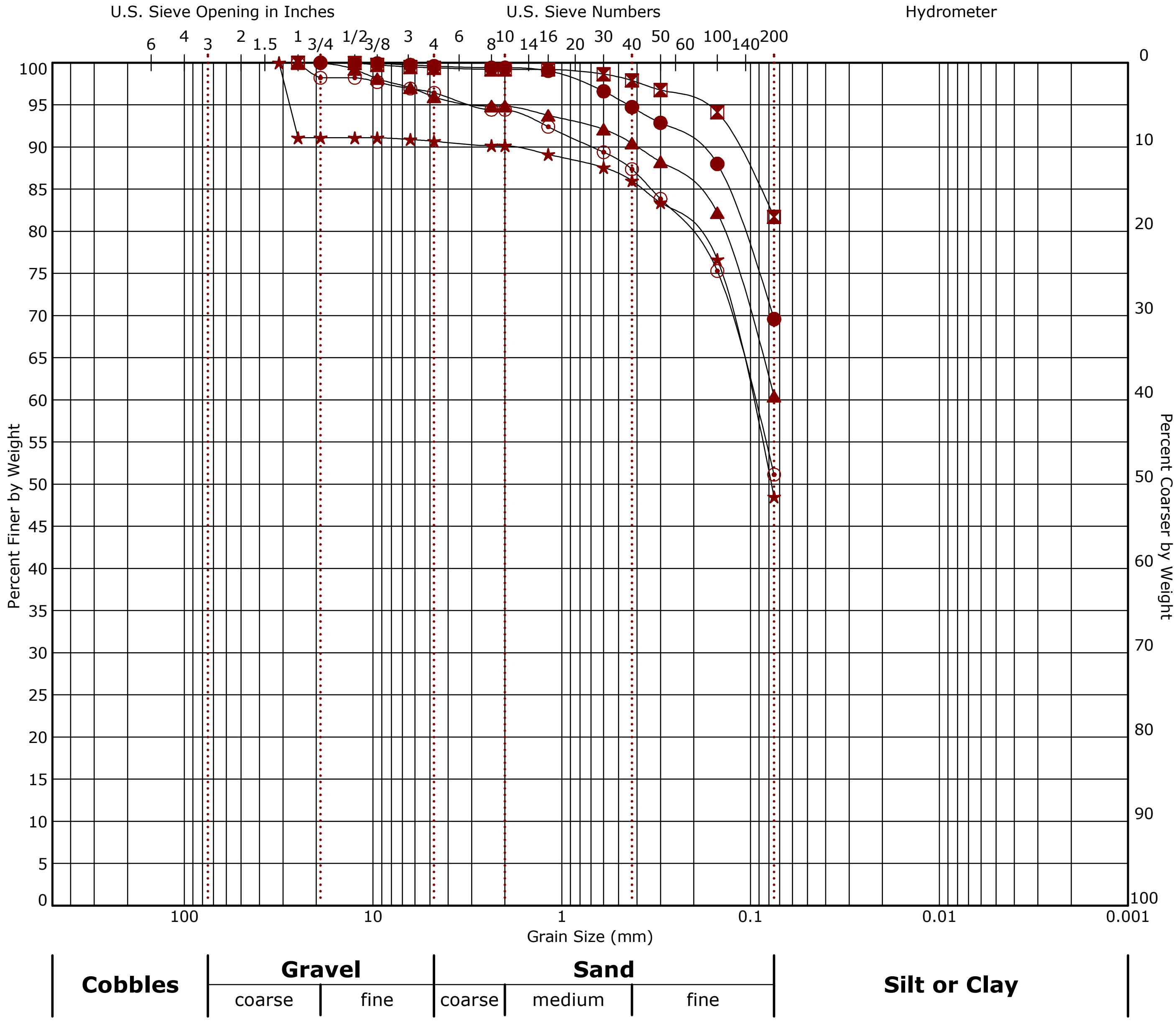
Grain Size Distribution

ASTM D422 / ASTM C136



Boring ID		Depth (Ft)	Description	USCS	LL	PL	PI	Cc	Cu
●	B-01	0.5 - 5	SANDY SILTY CLAY	CL-ML	22	16	6		
⊠	B-04	0.5 - 5	LEAN CLAY with SAND	CL	36	17	19		
▲	B-04	5 - 6.5	SANDY LEAN CLAY	CL	31	18	13		
★	B-05	7.5 - 9	CLAYEY SAND	SC	29	16	13		
⊙	B-06	5 - 6.5	SANDY SILT	ML	NP	NP	NP		

Boring ID		Depth (Ft)	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Fines	%Silt	%Clay
●	B-01	0.5 - 5	19				0.0	0.4	30.0	69.6		
⊠	B-04	0.5 - 5	25				0.0	0.6	17.7	81.7		
▲	B-04	5 - 6.5	25				0.0	4.0	35.5	60.4		
★	B-05	7.5 - 9	31.5	0.1			0.0	9.3	42.2	48.5		
⊙	B-06	5 - 6.5	25	0.097			0.0	3.6	45.3	51.1		

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Grain Size Distribution

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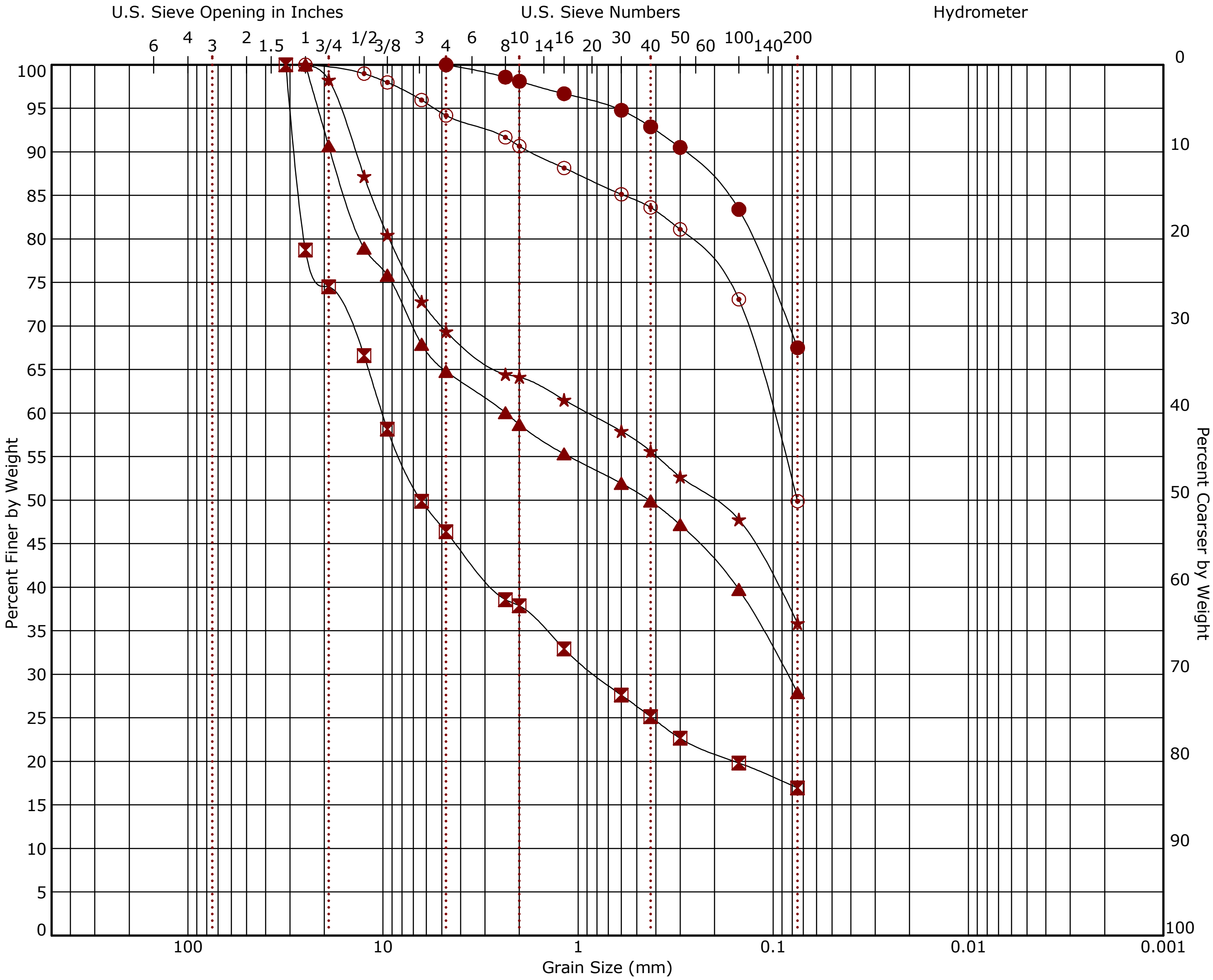

	Boring ID	Depth (Ft)	Description	USCS	LL	PL	PI	Cc	Cu
●	B-07	2.5 - 4	SANDY ELASTIC SILT	MH	52	30	22		
⊠	B-08	7.5 - 9	SILTY GRAVEL with SAND	GM	NP	NP	NP		
▲	B-09	2.5 - 4	CLAYEY SAND with GRAVEL	SC	50	24	26		
★	B-10	5 - 6.5	CLAYEY SAND with GRAVEL	SC	37	18	19		
⊙	B-11	2.5 - 4	CLAYEY SAND	SC	38	19	19		

	Boring ID	Depth (Ft)	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Fines	%Silt	%Clay
●	B-07	2.5 - 4	4.75				0.0	0.0	32.5	67.5		
⊠	B-08	7.5 - 9	31.5	10.089	0.814		0.0	53.6	29.4	17.0		
▲	B-09	2.5 - 4	25	2.345	0.085		0.0	35.2	36.9	27.9		
★	B-10	5 - 6.5	25	0.887			0.0	30.6	33.5	35.9		
⊙	B-11	2.5 - 4	25	0.101			0.0	5.8	44.3	49.9		

Terracon
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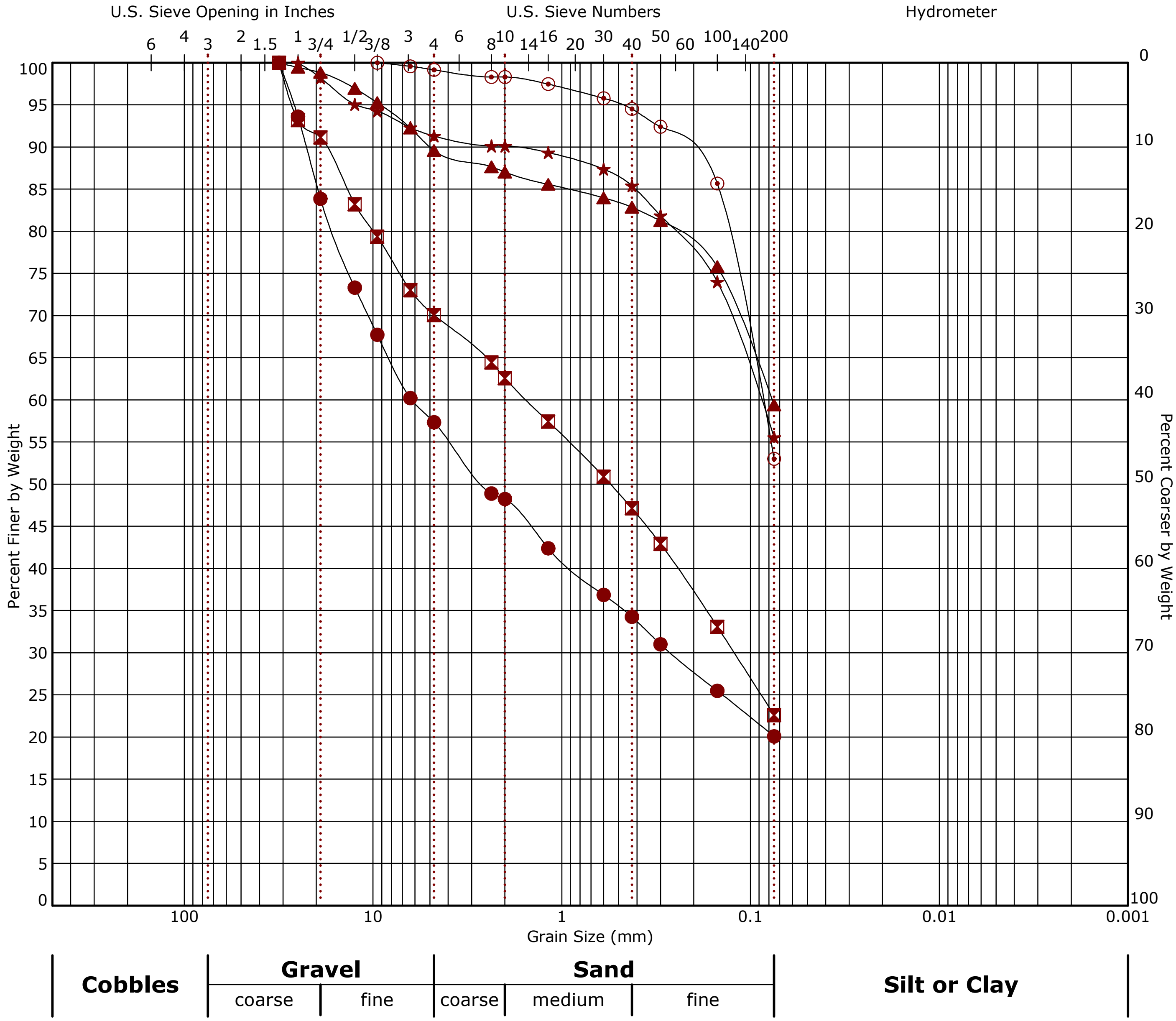
Grain Size Distribution

ASTM D422 / ASTM C136



	Boring ID	Depth (Ft)	Description	USCS	LL	PL	PI	Cc	Cu
●	B-12	5 - 6.3	CLAYEY GRAVEL with SAND	GC	31	20	11		
⊠	B-13	2.5 - 4	CLAYEY SAND with GRAVEL	SC	27	19	8		
▲	B-14	0.2 - 5	SANDY LEAN CLAY	CL	31	16	15		
★	B-14	7.5 - 9	SANDY LEAN CLAY	CL	34	16	18		
⊙	B-15	5 - 6.5	SANDY LEAN CLAY	CL	34	19	15		

	Boring ID	Depth (Ft)	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Fines	%Silt	%Clay
●	B-12	5 - 6.3	31.5	6.212	0.264		0.0	42.7	37.3	20.1		
⊠	B-13	2.5 - 4	31.5	1.535	0.122		0.0	29.9	47.5	22.6		
▲	B-14	0.2 - 5	31.5	0.077			0.0	10.4	30.2	59.4		
★	B-14	7.5 - 9	25	0.089			0.0	8.7	35.7	55.6		
⊙	B-15	5 - 6.5	9.5	0.087			0.0	0.8	46.1	53.0		

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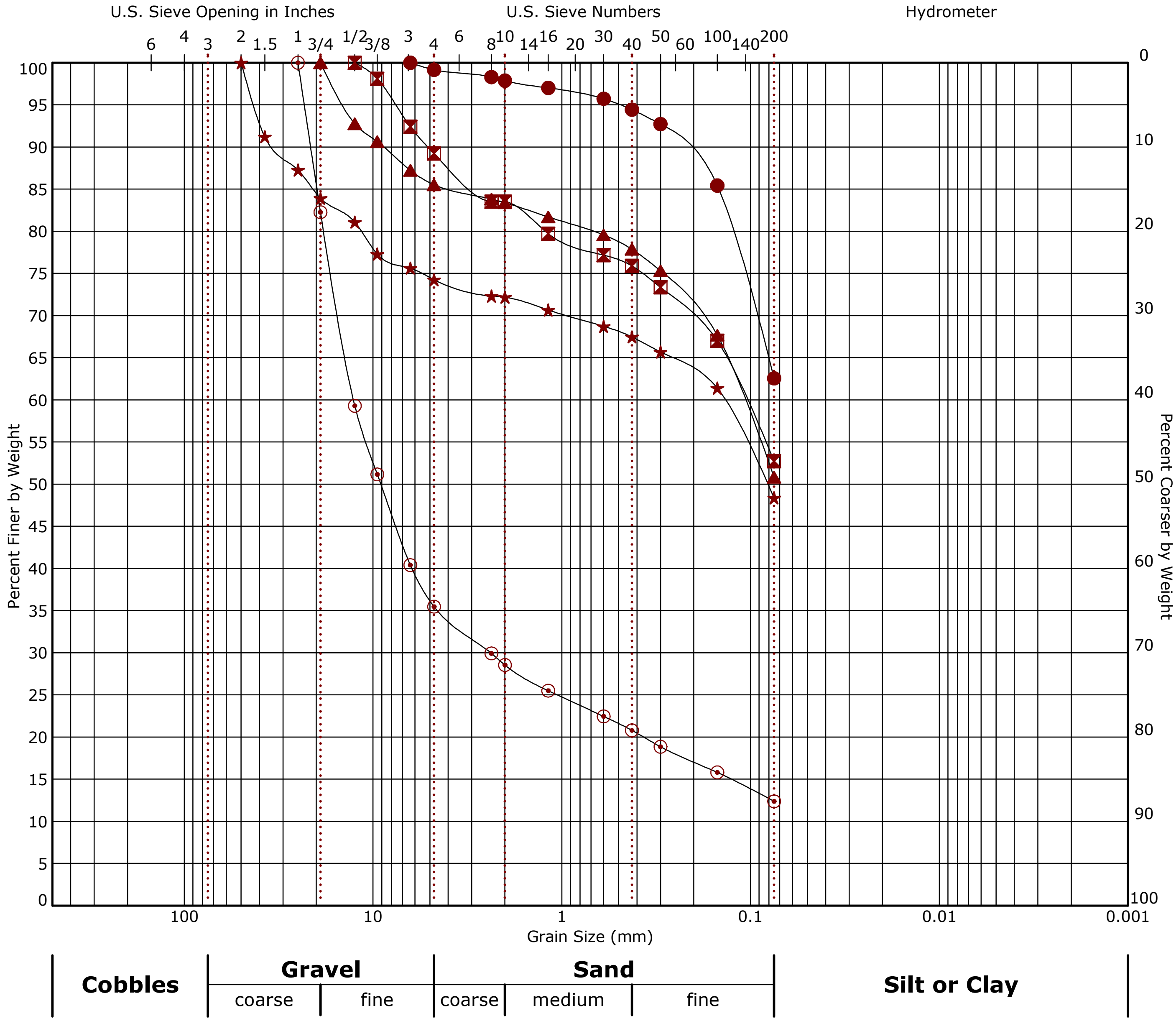
Grain Size Distribution

ASTM D422 / ASTM C136



Boring ID		Depth (Ft)	Description	USCS	LL	PL	PI	Cc	Cu
●	B-16	7.5 - 9	SANDY LEAN CLAY	CL	41	18	23		
⊠	B-17	2.5 - 4	SANDY SILT	ML	39	27	12		
▲	B-18	5 - 6.5	SANDY LEAN CLAY	CL	46	24	22		
★	B-19	0.2 - 5	CLAYEY SAND with GRAVEL	SC	32	19	13		
⊙	B-19	7.5 - 9	SILTY, CLAYEY GRAVEL with SAND	GC-GM	25	19	6	9.65	272.69

Boring ID		Depth (Ft)	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Fines	%Silt	%Clay
●	B-16	7.5 - 9	6.35				0.0	0.8	36.6	62.6		
⊠	B-17	2.5 - 4	12.5	0.107			0.0	10.8	36.5	52.7		
▲	B-18	5 - 6.5	19	0.109			0.0	14.5	34.7	50.8		
★	B-19	0.2 - 5	50	0.139			0.0	25.7	25.9	48.4		
⊙	B-19	7.5 - 9	25	12.66	2.382		0.0	64.5	23.1	12.4		

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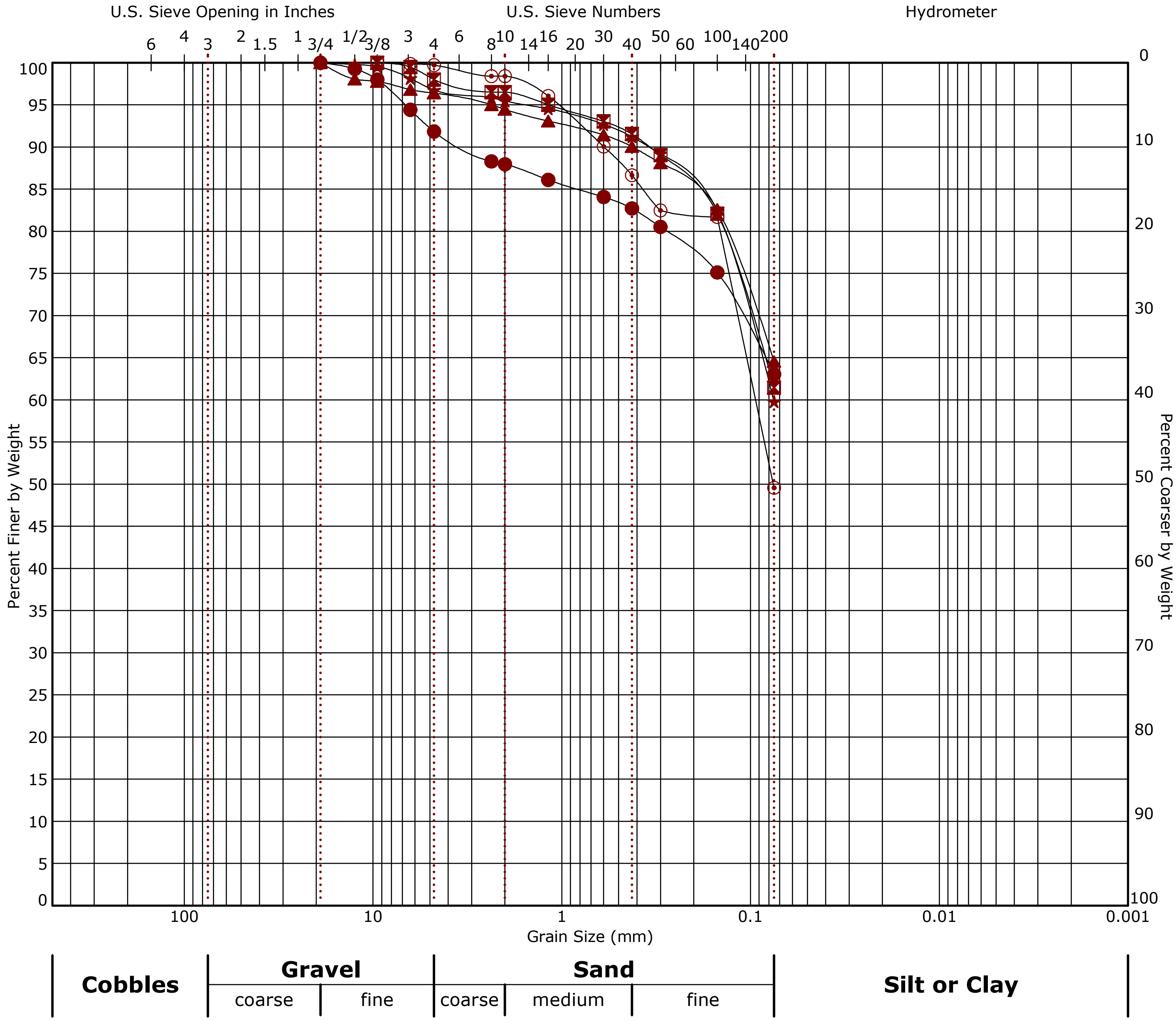
Grain Size Distribution

ASTM D422 / ASTM C136



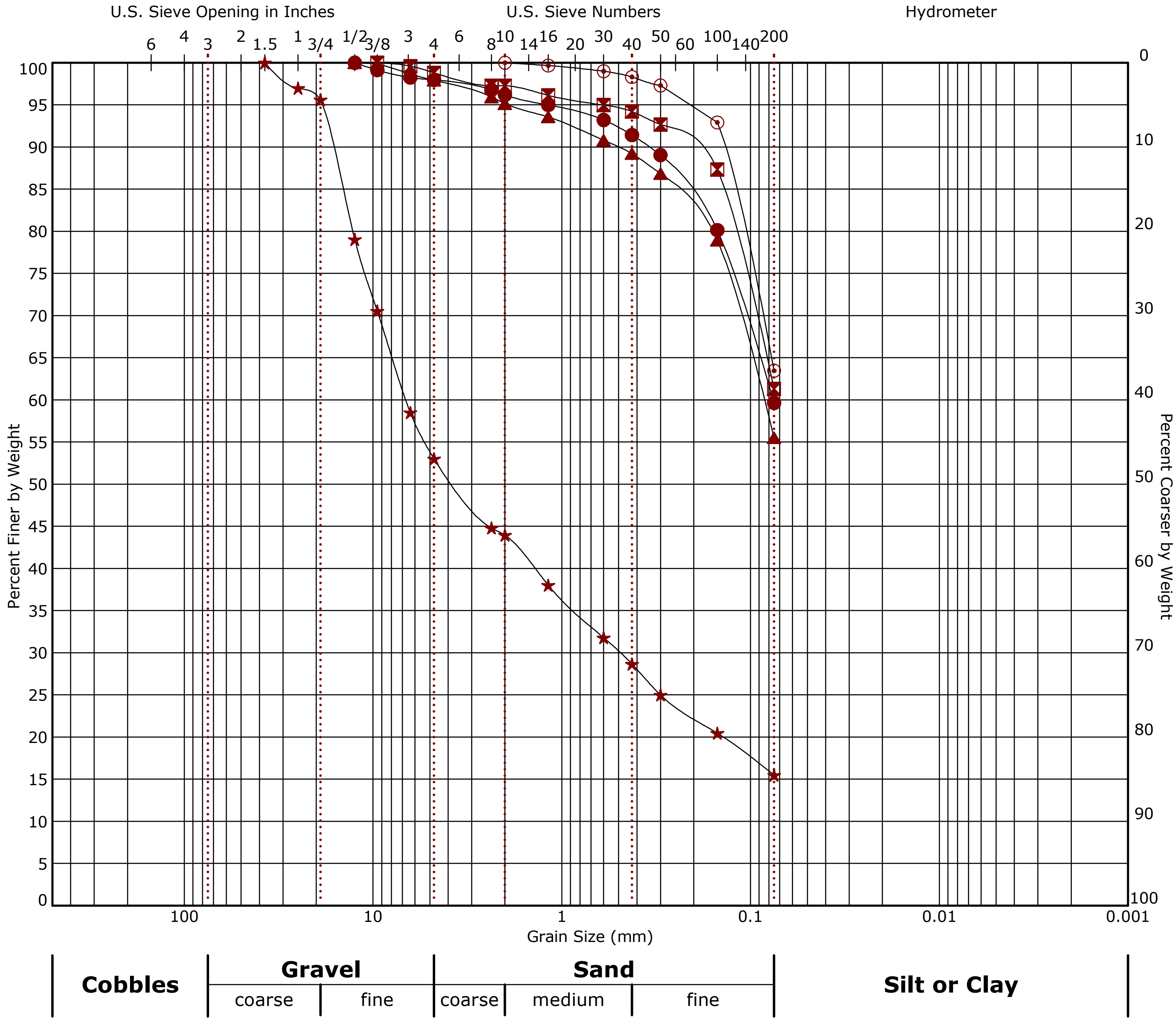
	Boring ID	Depth (Ft)	Description	USCS	LL	PL	PI	Cc	Cu
●	B-20	0.1 - 5	SANDY LEAN CLAY	CL	35	19	16		
⊠	B-20	5 - 6.5	SANDY LEAN CLAY	CL	45	22	23		
▲	B-21	2.5 - 4	SANDY LEAN CLAY	CL	30	16	14		
★	B-22	0.5 - 5	SANDY LEAN CLAY	CL	29	19	10		
⊙	B-22	7.5 - 9	SILTY SAND	SM	NP	NP	NP		

	Boring ID	Depth (Ft)	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Fines	%Silt	%Clay
●	B-20	0.1 - 5	19				0.0	8.2	28.8	63.1		
⊠	B-20	5 - 6.5	9.5				0.0	2.0	36.5	61.5		
▲	B-21	2.5 - 4	19				0.0	3.6	31.8	64.6		
★	B-22	0.5 - 5	19	0.075			0.0	3.2	37.0	59.8		
⊙	B-22	7.5 - 9	9.5	0.094			0.0	0.3	50.1	49.6		

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Grain Size Distribution

ASTM D422 / ASTM C136



Boring ID		Depth (Ft)	Description	USCS	LL	PL	PI	Cc	Cu
●	B-23	5 - 6.5	SANDY LEAN CLAY	CL	30	21	9		
⊠	B-24	2.5 - 4	SANDY LEAN CLAY	CL	45	22	23		
▲	B-25	5 - 6.5	SANDY SILT	ML	31	26	5		
★	B-26	5.1	CLAYEY GRAVEL with SAND	GC	29	16	13		
⊙	B-27	7.5 - 9	SANDY LEAN CLAY	CL	33	16	17		

Boring ID		Depth (Ft)	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Fines	%Silt	%Clay
●	B-23	5 - 6.5	12.5	0.076			0.0	2.0	38.3	59.6		
⊠	B-24	2.5 - 4	9.5				0.0	1.2	37.5	61.3		
▲	B-25	5 - 6.5	12.5	0.086			0.0	2.1	42.4	55.5		
★	B-26	5.1	37.5	6.678	0.492		0.0	47.0	37.5	15.5		
⊙	B-27	7.5 - 9	2				0.0	0.0	36.5	63.5		

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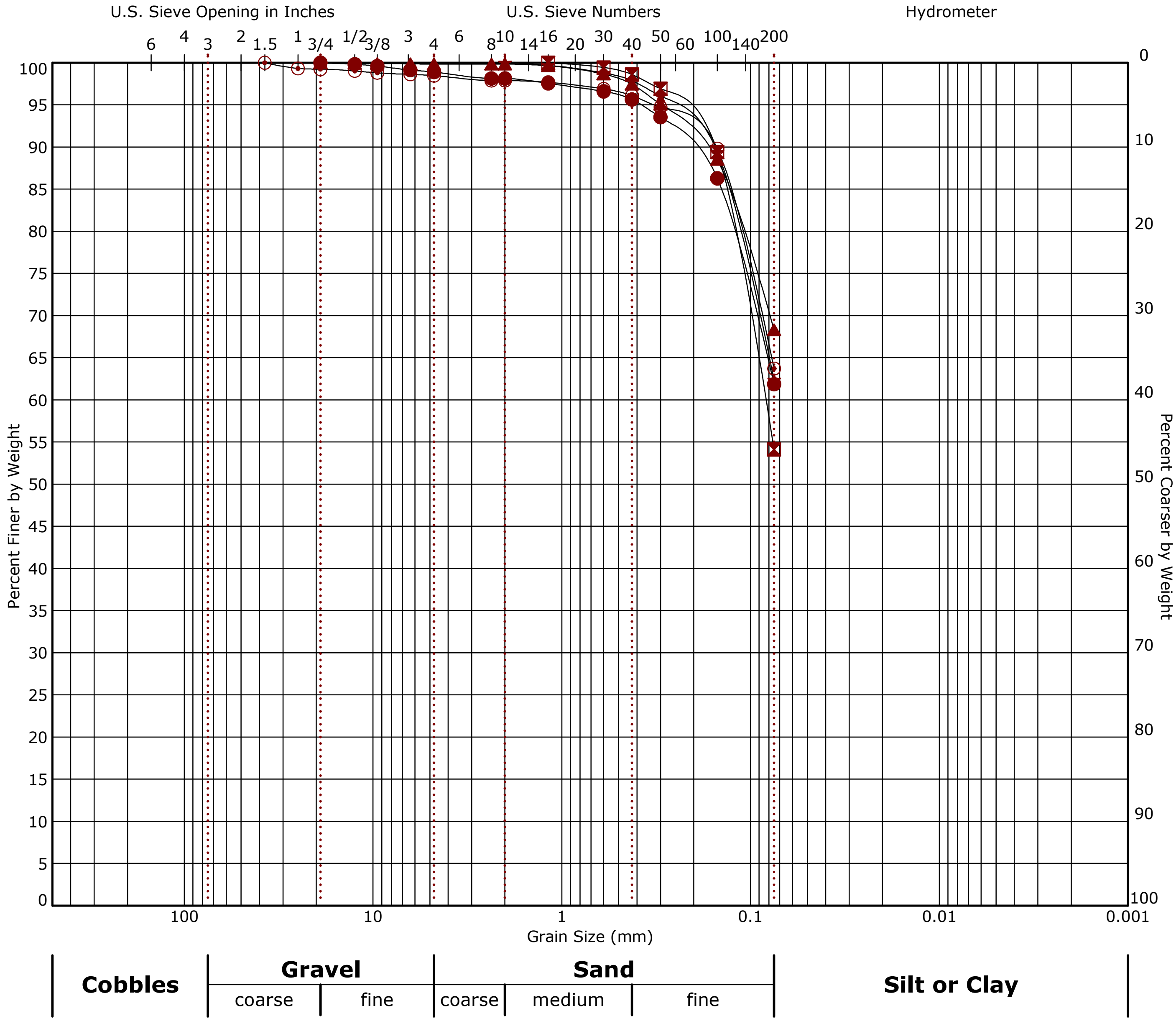


	Boring ID	Depth (Ft)	Description	USCS	LL	PL	PI	Cc	Cu
●	B-28	0.5 - 5	SANDY LEAN CLAY	CL	30	16	14		
⊠	B-28	10 - 11.5	SANDY LEAN CLAY	CL	32	17	15		
▲	B-30	0 - 5	SANDY LEAN CLAY	CL	30	15	15		
★	B-30	7.5 - 9	SANDY SILTY CLAY	CL-ML	25	18	7		
⊙	B-31	0 - 5	SANDY LEAN CLAY	CL	27	17	10		

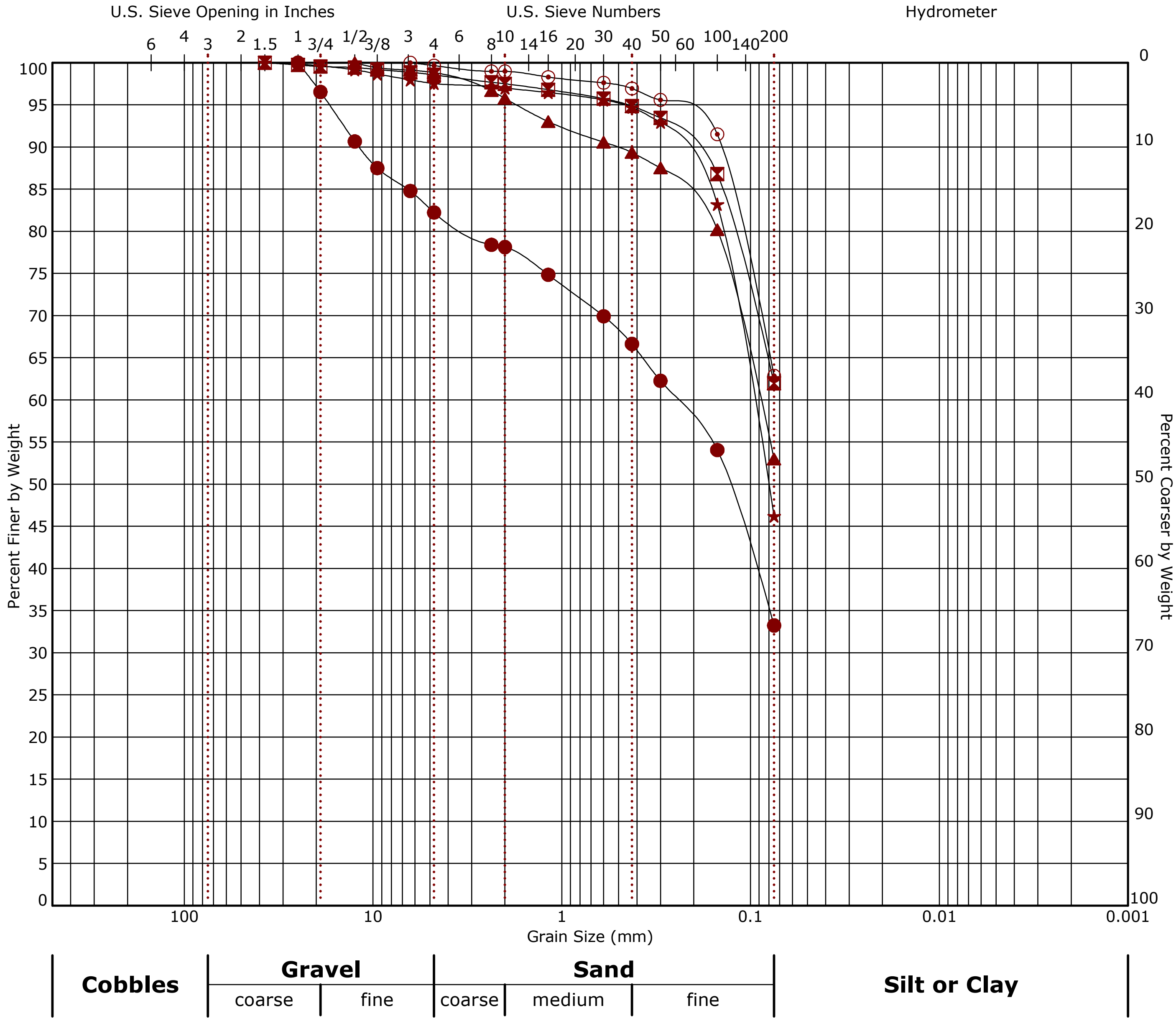
	Boring ID	Depth (Ft)	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Fines	%Silt	%Clay
●	B-28	0.5 - 5	19				0.0	1.1	37.0	61.9		
⊠	B-28	10 - 11.5	1.18	0.084			0.0	0.0	45.9	54.1		
▲	B-30	0 - 5	19				0.0	0.2	31.5	68.3		
★	B-30	7.5 - 9	2				0.0	0.0	37.6	62.4		
⊙	B-31	0 - 5	37.5				0.0	1.5	34.8	63.7		

Diamond Tail Solar Facility
Near NM 14 and NM 301 | Santa Fe, NM
Terracon Project No. 66225144

6805 Academy Pkwy West NE
Albuquerque, NM

Grain Size Distribution

ASTM D422 / ASTM C136



	Boring ID	Depth (Ft)	Description	USCS	LL	PL	PI	Cc	Cu
●	B-31	10 - 11.5	SILTY SAND with GRAVEL	SM	NP	NP	NP		
⊠	B-32	0.5 - 5	SANDY LEAN CLAY	CL	35	16	19		
▲	B-32	7.5 - 9	SANDY SILT	ML	NP	NP	NP		
★	B-33	0 - 5	SILTY SAND	SM	NP	NP	NP		
⊙	B-33	5 - 6	SANDY LEAN CLAY	CL	33	17	16		

	Boring ID	Depth (Ft)	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Fines	%Silt	%Clay
●	B-31	10 - 11.5	25	0.248			0.0	17.8	49.0	33.2		
⊠	B-32	0.5 - 5	37.5				0.0	1.4	36.6	62.0		
▲	B-32	7.5 - 9	12.5	0.09			0.0	1.2	45.8	53.0		
★	B-33	0 - 5	37.5	0.097			0.0	2.5	51.3	46.2		
⊙	B-33	5 - 6	6.35				0.0	0.3	36.8	62.9		

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Albuquerque, NM

Grain Size Distribution

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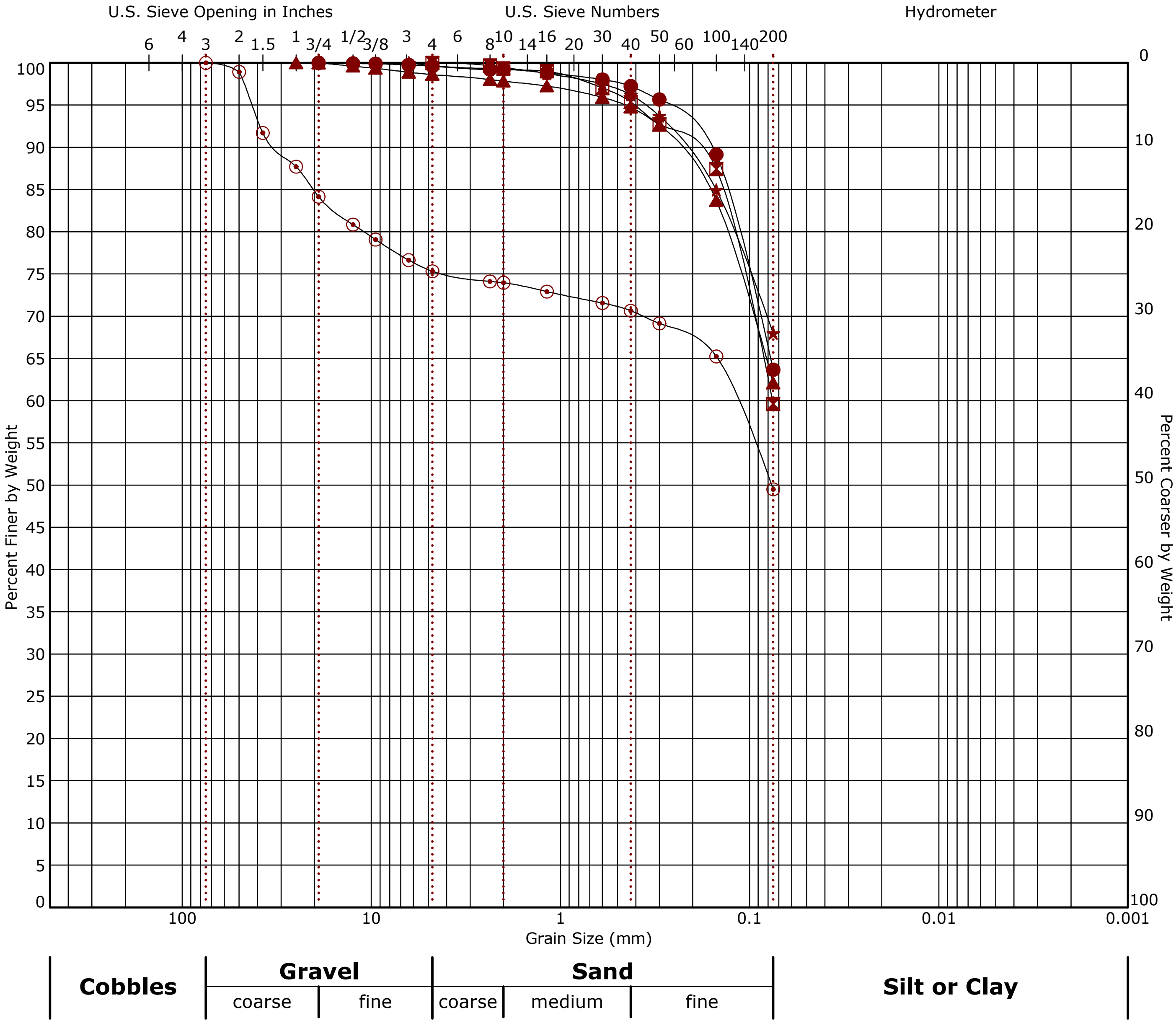

	Boring ID	Depth (Ft)	Description	USCS	LL	PL	PI	Cc	Cu
●	B-34	0 - 5	SANDY SILTY CLAY	CL-ML	23	17	6		
⊠	B-34	7.5 - 9	SANDY SILT	ML	29	24	5		
▲	B-35	0 - 5	SANDY SILTY CLAY	CL-ML	22	18	4		
★	B-35	5 - 5.8	SANDY LEAN CLAY	CL	31	17	14		
⊙	B-36	0.1 - 5	SILTY, CLAYEY SAND with GRAVEL	SC-SM	26	19	7		

	Boring ID	Depth (Ft)	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Fines	%Silt	%Clay
●	B-34	0 - 5	19				0.0	0.4	35.9	63.7		
⊠	B-34	7.5 - 9	4.75	0.076			0.0	0.0	40.4	59.6		
▲	B-35	0 - 5	25				0.0	1.4	36.5	62.1		
★	B-35	5 - 5.8	6.35				0.0	0.3	31.7	68.0		
⊙	B-36	0.1 - 5	75	0.119			0.0	24.7	25.8	49.5		

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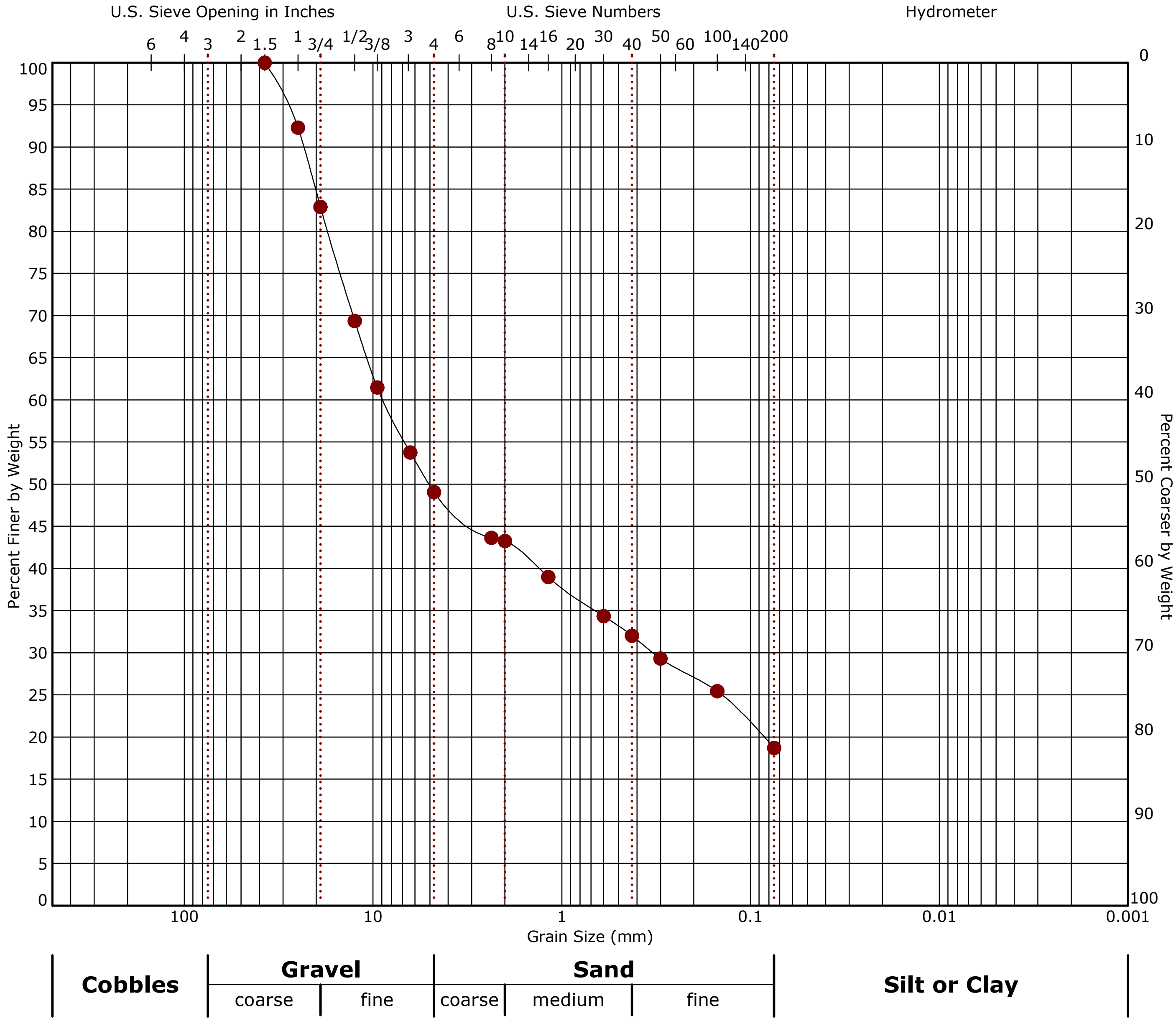


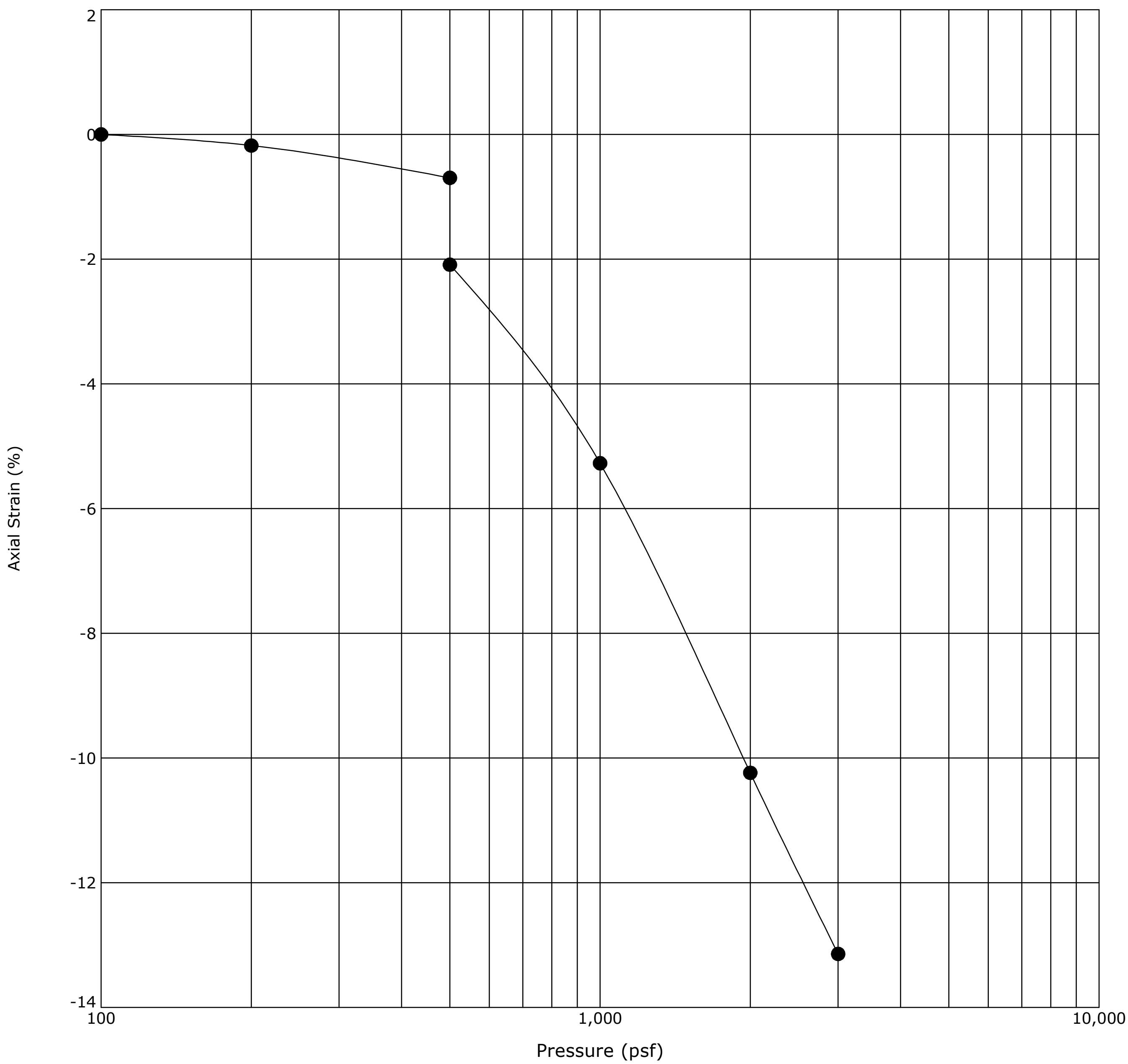
	Boring ID	Depth (Ft)	Description	USCS	LL	PL	PI	Cc	Cu
●	B-36	7.5 - 9	SILTY, CLAYEY GRAVEL with SAND	GC-GM	25	21	4		

	Boring ID	Depth (Ft)	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Fines	%Silt	%Clay
●	B-36	7.5 - 9	37.5	8.799	0.328		0.0	50.9	30.4	18.7		

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM

Swell Consolidation Test

ASTM D4546



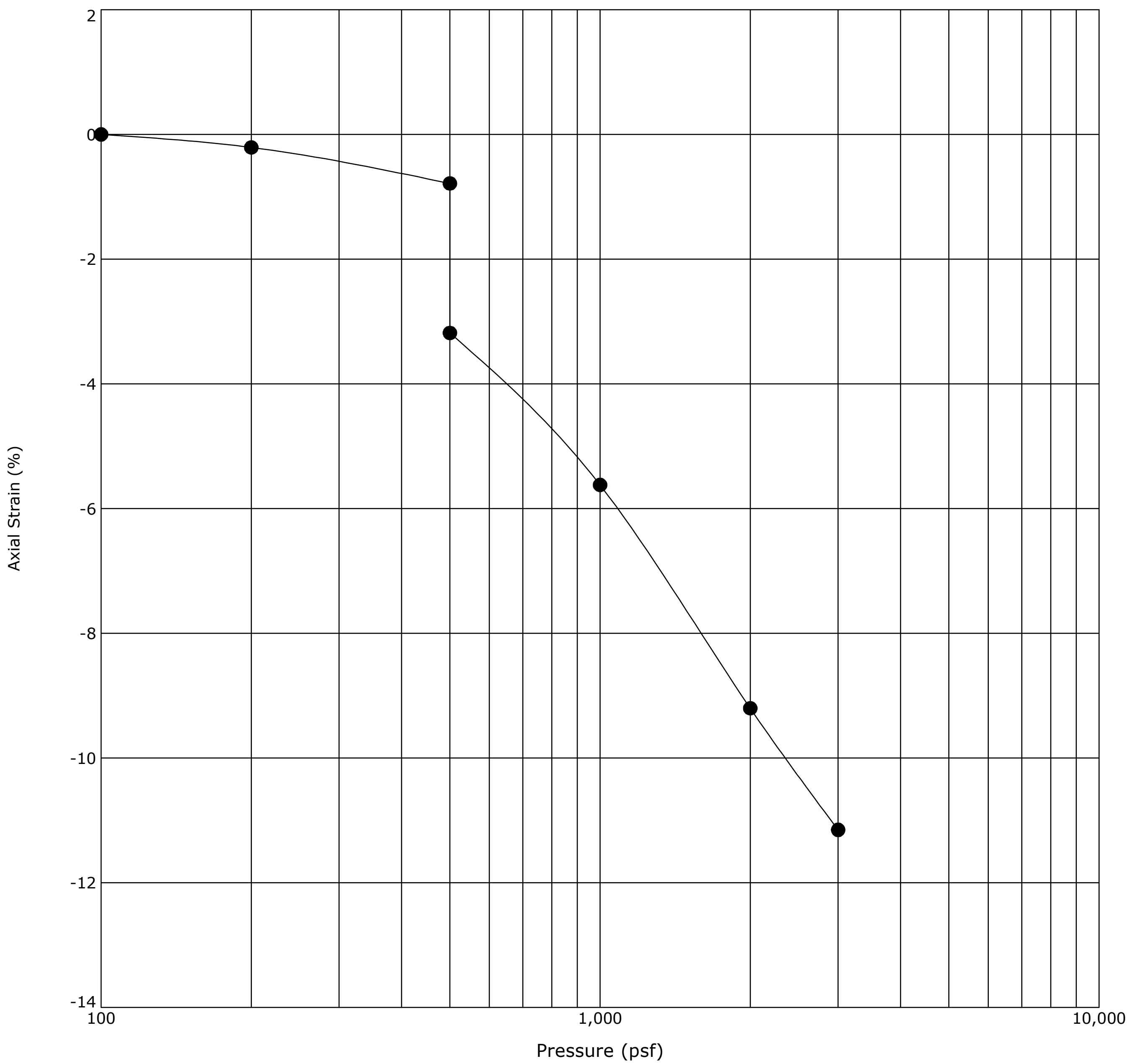
Boring ID		Depth (Ft)	Description	USCS	γ_d(pcf)	WC (%)
●	B-15	2.5 - 3.5	SANDY LEAN CLAY	CL	94	3.1

Notes: Sample inundated with water at 500 pounds per square foot (psf).
Sample was disturbed during sampling.

6805 Academy Pkwy West NE
Albuquerque, NM

Swell Consolidation Test

ASTM D4546



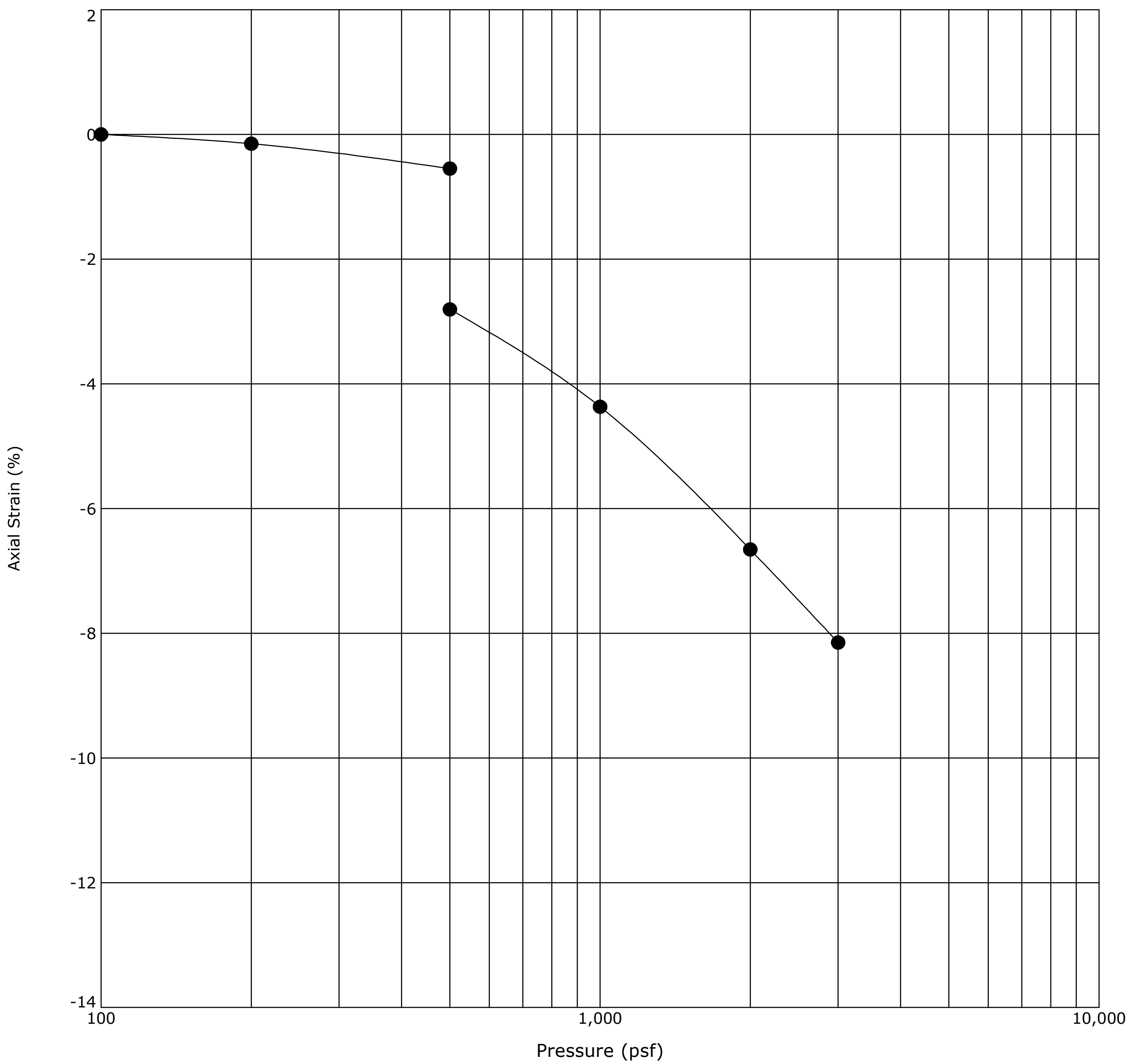
	Boring ID	Depth (Ft)	Description	USCS	γ_d(pcf)	WC (%)
●	B-16	2.5 - 3.5	CLAYEY SAND	SC	88	2.1

Notes: Sample inundated with water at 500 pounds per square foot (psf).
Likely sample disturbance.

6805 Academy Pkwy West NE
Albuquerque, NM

Swell Consolidation Test

ASTM D4546



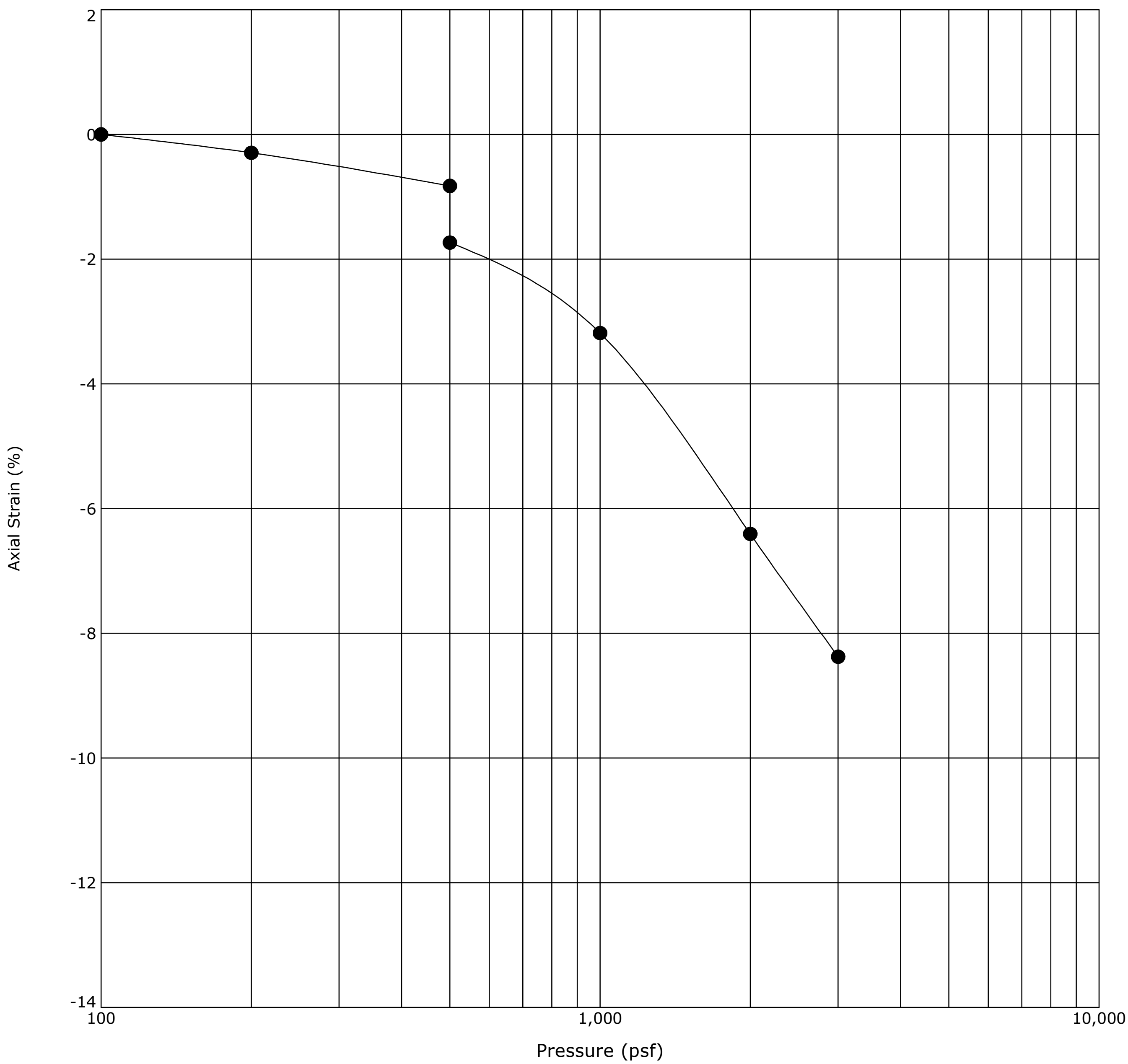
Boring ID		Depth (Ft)	Description	USCS	γ_d(pcf)	WC (%)
●	B-21	5 - 6	SILTY SAND	SM	102	5.9

Notes: Sample inundated with water at 500 pounds per square foot (psf).

6805 Academy Pkwy West NE
Albuquerque, NM

Swell Consolidation Test

ASTM D4546



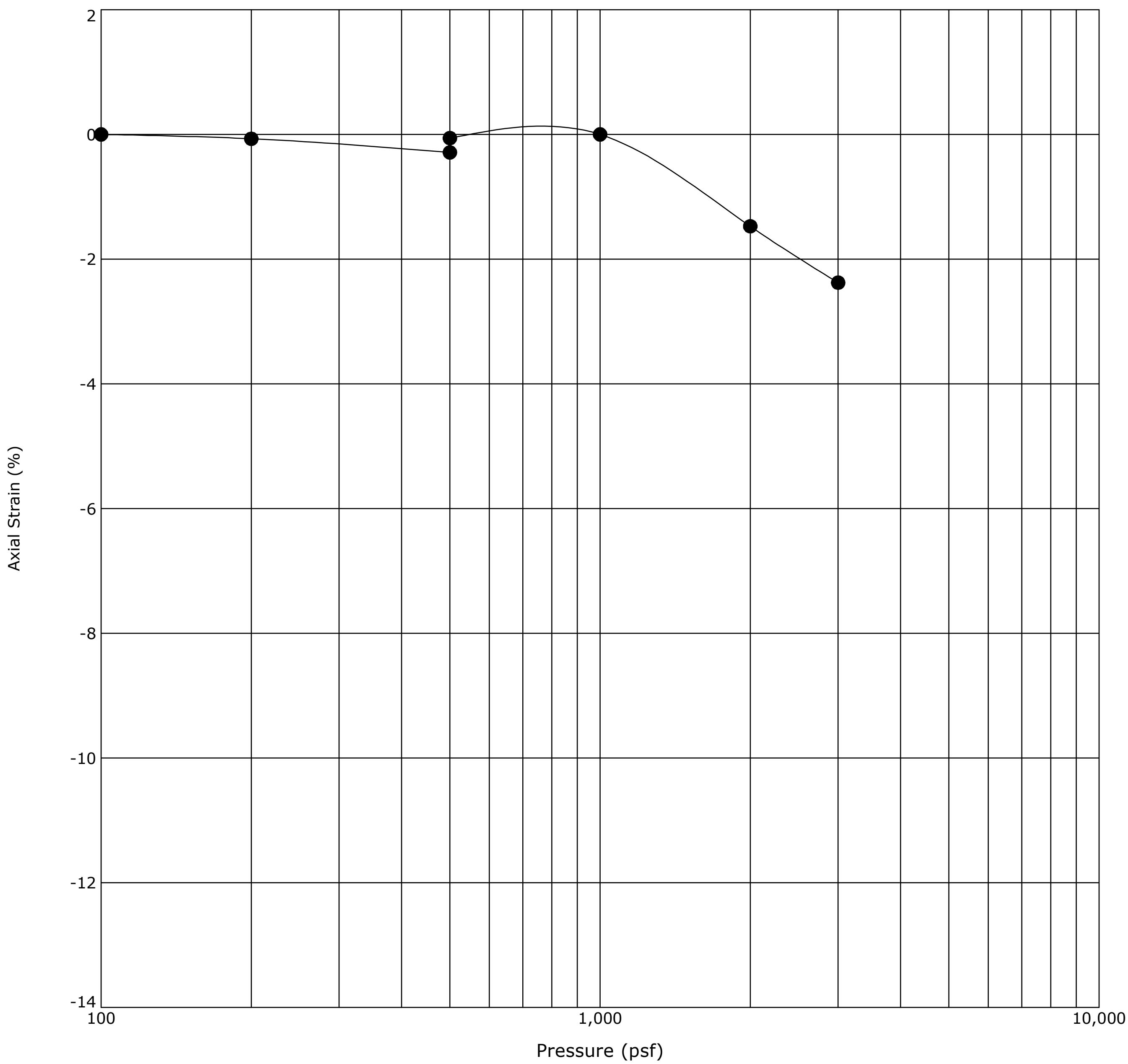
Boring ID		Depth (Ft)	Description	USCS	γ_d(pcf)	WC (%)
●	B-29	2.5 - 3.5	CLAYEY SAND	SC	103	2.7

Notes: Sample indundated with water at 500 pounds per square foot (psf).
Sample disturbed during sampling.

6805 Academy Pkwy West NE
Albuquerque, NM

Swell Consolidation Test

ASTM D4546



	Boring ID	Depth (Ft)	Description	USCS	γ_d(pcf)	WC (%)
●	B-31	5 - 6	CLAYEY SAND	SC	103	3.1

Notes: Sampled inundated with water at 500 pounds per square foot (psf).

750 Pilot Road, Suite F
Las Vegas, Nevada 89119
(702) 597-9393

Terracon

Client

PCR Investments SP4 LLC

Project

Diamond Trail Solar Facility
Sandoval and Sante Fe Counties, NM

Sample Submitted By: Terracon (66) **Date Received:** 5/26/2023 **Lab No.: 23-0301**

Results of Soluble Salt Analysis

Sample Number	--	--	--	--
Sample Location	B-01	B-10	B-13	B-16
Sample Depth (ft.)	0.0-1.5	0.0-4.0	0.1-4.0	0.0-4.0
pH Analysis, ASTM G 51	8.74	8.58	8.46	8.20
Water Soluble Sulfate (SO4), ASTM C 1580 (mg/kg)	20	26	18	23
Sulfides, AWWA 4500-S D, (mg/Kg)	Nil	Nil	Nil	Nil
Chlorides, ASTM D512, (mg/kg)	47	45	65	97
Red-Ox, AWWA 2580 B, (mV)	+733	+728	+727	+727
Total Salts, AWWA 2520 B, (mg/Kg)	319	559	600	715
Saturated Minimum Resistivity, ASTM G-187, (ohm-cm)	1072	1005	649	556

Analyzed By N. Campo
Nathan Campo
Engineering Technician III

The tests were performed in general accordance with applicable ASTM and AWWA test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

750 Pilot Road, Suite F
Las Vegas, Nevada 89119
(702) 597-9393

Client
PCR Investments SP4 LLC

Project
Diamond Trail Solar Facility
Sandoval and Sante Fe Counties, NM

Sample Submitted By: Terracon (66) **Date Received:** 5/26/2023 **Lab No.: 23-0301**

Results of Soluble Salt Analysis

Sample Number	--	--	--	--
Sample Location	B-17	B-19	B-20	B-21
Sample Depth (ft.)	0.1-4.0	0.1-4.0	0.1-4.0	0.1-4.0
pH Analysis, ASTM G 51	8.60	8.82	8.60	8.15
Water Soluble Sulfate (SO4), ASTM C 1580 (mg/kg)	32	15	34	14
Sulfides, AWWA 4500-S D, (mg/Kg)	Nil	Nil	Nil	Nil
Chlorides, ASTM D512, (mg/kg)	47	102	50	47
Red-Ox, AWWA 2580 B, (mV)	+733	+729	+729	+734
Total Salts, AWWA 2520 B, (mg/Kg)	296	517	449	231
Saturated Minimum Resistivity, ASTM G-187, (ohm-cm)	1005	576	737	1340

Analyzed By N. Campo
Nathan Campo
Engineering Technician III

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Client
PCR Investments SP4 LLC

Project
Diamond Trail Solar Facility
Sandoval and Sante Fe Counties, NM

Sample Submitted By: Terracon (66) **Date Received:** 5/26/2023 **Lab No.: 23-0301**

Results of Soluble Salt Analysis

Sample Number	--	--	--	--
Sample Location	B-26	B-28	B-32	SUB-01
Sample Depth (ft.)	0.0-2.0	5.0	0.0-5.0	0.0-2.0
pH Analysis, ASTM G 51	8.56	8.77	9.24	8.17
Water Soluble Sulfate (SO4), ASTM C 1580 (mg/kg)	22	19	22	36
Sulfides, AWWA 4500-S D, (mg/Kg)	Nil	Nil	Nil	Nil
Chlorides, ASTM D512, (mg/kg)	72	35	47	42
Red-Ox, AWWA 2580 B, (mV)	+733	+729	+732	+735
Total Salts, AWWA 2520 B, (mg/Kg)	271	461	350	176
Saturated Minimum Resistivity, ASTM G-187, (ohm-cm)	1273	804	1005	1206

Analyzed By N. Campo
Nathan Campo
Engineering Technician III

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SUMMARY OF LABORATORY RESULTS

Borehole No.	Depth (ft.)	USCS Soil Class.	In-Situ Properties		Classification				Expansion Testing		Corrosivity				Remarks
			Dry Density (pcf)	Water Content (%)	Passing #200 Sieve (%)	Atterberg Limits			Swell (%)	Consolidation (%)	pH	Resistivity (ohm-cm)	Sulfates (ppm)	Chlorides (ppm)	
						LL	PL	PI							
B-01	0.0 - 1.5	CL-ML									8.7	1072	20	47	2
B-01	0.5 - 5.0	CL-ML		5	70	22	16	6							
B-04	0.0 - 1.5	CL		15											2
B-04	0.5 - 5.0	CL			82	36	17	19							
B-04	2.5 - 3.5	CL	110	7											1, 2
B-04	5.0 - 6.5	CL		6	60	31	18	13							
B-04	7.5 - 9.0	GM		3											2
B-04	10.0 - 11.5	GM		2											2
B-04	15.0 - 15.8	GM		2											2
B-05	2.5 - 3.5	SC	88	6											1, 2
B-05	5.0 - 6.5	SC		8											2
B-05	7.5 - 9.0	SC		7	48	29	16	13							
B-05	10.0 - 11.5	GM		2											2
B-05	12.5 - 14.0	GM		1											2
B-05	15.0 - 16.5	GM		2											2
B-06	2.5 - 3.5	SC	92	9											1, 2
B-06	5.0 - 6.5	ML		7	51	NP	NP	NP							
B-06	7.5 - 9.0	ML		10											2
B-06	10.0 - 11.5	ML		9											2
B-06	12.5 - 14.0	ML		6											2
B-06	15.0 - 16.5	ML		7											2
B-07	0.0 - 1.5	MH		15											2
B-07	2.5 - 4.0	MH		10	68	52	30	22							
B-07	5.0 - 6.0	SM	98	5											1, 2
B-07	7.5 - 9.0	SM		8											2

REMARKS

1. Dry Density and/or moisture determined from one or more rings of a multi-ring sample.
2. Visual Classification.
3. Submerged to approximate saturation.
4. Expansion Index in accordance with ASTM D4829-95.
5. Air-Dried Sample

PROJECT: Diamond Tail Solar Facility

SITE: Near NM 14 and NM 301
Santa Fe, NM

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM
PH. 505-797-4287 FAX. 505-797-4288

PROJECT NUMBER: 66225144

CLIENT: Conifer Power Company LLC
Jacksonville, FL

SUMMARY OF LABORATORY RESULTS

Borehole No.	Depth (ft.)	USCS Soil Class.	In-Situ Properties		Classification				Expansion Testing		Corrosivity				Remarks
			Dry Density (pcf)	Water Content (%)	Passing #200 Sieve (%)	Atterberg Limits LL	PL	PI	Swell (%)	Consolidation (%)	pH	Resistivity (ohm-cm)	Sulfates (ppm)	Chlorides (ppm)	
B-07	10.0 - 11.5	SM		5											2
B-07	15.0 - 16.5	SM		4											2
B-08	2.5 - 3.5	SM	96	5											1, 2
B-08	5.0 - 6.5	SM		10											2
B-08	7.5 - 9.0	GM		3	17	NP	NP	NP							
B-08	10.0 - 11.5	GM		2											2
B-09	0.0 - 1.5	SC		15											2
B-09	2.5 - 4.0	SC		7	28	50	24	26							
B-09	5.0 - 6.0	GM		4											2
B-09	10.0 - 11.5	SM		5											2
B-09	15.0 - 16.5	SM		2											2
B-10	0.0 - 1.5	SC		12							8.6	1005	26	45	2
B-10	5.0 - 6.5	SC		6	36	37	18	19							
B-10	7.5 - 9.0	SM		4											2
B-10	10.0 - 10.9	SM		3											2
B-10	15.0 - 16.5	SM		3											2
B-11	0.0 - 1.5	SC		14											2
B-11	2.5 - 4.0	SC		6	50	38	19	19							
B-11	5.0 - 5.8	SC		4											2
B-11	7.5 - 9.0	SC		4											2
B-11	10.0 - 11.3	SC		2											2
B-12	0.0 - 1.5	SC		18											2
B-12	2.5 - 3.5	SC	94	10											1, 2
B-12	5.0 - 6.3	GC		3	20	31	20	11							
B-12	7.5 - 7.8	GC		1											2

REMARKS
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SUMMARY OF LABORATORY RESULTS

Borehole No.	Depth (ft.)	USCS Soil Class.	In-Situ Properties		Classification				Expansion Testing		Corrosivity				Remarks
			Dry Density (pcf)	Water Content (%)	Passing #200 Sieve (%)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Swell (%)	Consolidation (%)	pH	Resistivity (ohm-cm)	Sulfates (ppm)	Chlorides (ppm)	
B-13	0.0 - 1.5	SC		19											2
B-13	0.1 - 4.0	SC									8.5	649	18	65	2
B-13	2.5 - 4.0	SC		4	23	27	19	8							
B-13	5.0 - 6.0	SP-SM	106	3											1, 2
B-13	7.5 - 9.0	SP-SM		2											2
B-13	10.0 - 11.5	SP-SM		2											2
B-13	12.5 - 14.0	GW		1											2
B-13	15.0 - 16.5	SP		3											2
B-14	0.0 - 1.5	CL		6											2
B-14	0.2 - 5.0	CL			59	31	16	15							
B-14	2.5 - 4.0	CL		10											2
B-14	5.0 - 6.0	CL	110	5											1, 2
B-14	7.5 - 9.0	CL		7	56	34	16	18							
B-14	10.0 - 11.4	SP-SM		3											2
B-14	12.5 - 14.0	SP-SM		4											2
B-14	15.0 - 15.5	SP-SM		2											2
B-15	0.0 - 1.5	CL		17											2
B-15	2.5 - 3.5	CL	94	3						1.4 @ 500psf					1, 2
B-15	5.0 - 6.5	CL		6	53	34	19	15							
B-15	7.5 - 9.0	CL		6											2
B-15	10.0 - 11.5	CL		5											2
B-15	12.5 - 14.0	CL		6											2
B-15	15.0 - 16.5	CL		13											2
B-16	0.0 - 1.5	SC		15											2
B-16	0.1 - 4.0	SC									8.2	556	23	97	2

REMARKS

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Borehole No.	Depth (ft.)	USCS Soil Class.	In-Situ Properties		Classification				Expansion Testing		Corrosivity				Remarks
			Dry Density (pcf)	Water Content (%)	Passing #200 Sieve (%)	Atterberg Limits LL	PL	PI	Swell (%)	Consolidation (%)	pH	Resistivity (ohm-cm)	Sulfates (ppm)	Chlorides (ppm)	
B-16	2.5 - 3.5	SC	88	2						2.4 @ 500psf					1, 2
B-16	5.0 - 6.5	CL		10											2
B-16	7.5 - 9.0	CL		10	63	41	18	23							
B-16	10.0 - 11.5	CL		8											2
B-16	12.5 - 14.0	SM		6											2
B-16	15.0 - 16.5	SM		2											2
B-17	0.0 - 1.5	ML		15											2
B-17	0.1 - 4.0	ML									8.6	1005	32	47	2
B-17	2.5 - 4.0	ML		9	53	39	27	12							
B-17	5.0 - 6.0	SM	84	8											1, 2
B-17	7.5 - 9.0	SM		9											2
B-17	10.0 - 11.5	SP-SM		4											2
B-17	12.5 - 14.0	GP		1											2
B-17	15.0 - 15.3	GP		6											2
B-18	0.0 - 1.5	SC		14											2
B-18	2.5 - 3.5	CL	86	6											1, 2
B-18	5.0 - 6.5	CL		10	51	46	24	22							
B-18	7.5 - 9.0	SP-SM		3											2
B-18	10.0 - 11.5	SP-SM		2											2
B-18	12.5 - 14.0	SP-SM		9											2
B-18	15.0 - 16.5	SW		2											2
B-19	0.0 - 1.5	SC		17											2
B-19	0.2 - 5.0	SC			48	32	19	13			8.8	576	15	102	
B-19	2.5 - 4.0	SC		15											2
B-19	5.0 - 6.0	SM	92	5											1, 2

REMARKS
1. Dry Density and/or moisture determined from one or more rings of a multi-ring sample.
2. Visual Classification.
3. Submerged to approximate saturation.
4. Expansion Index in accordance with ASTM D4829-95.
5. Air-Dried Sample

PROJECT: Diamond Tail Solar Facility

SITE: Near NM 14 and NM 301
Santa Fe, NM

Terracon
6805 Academy Pkwy West NE
Albuquerque, NM
PH. 505-797-4287 FAX. 505-797-4288

PROJECT NUMBER: 66225144

CLIENT: Conifer Power Company LLC
Jacksonville, FL

SUMMARY OF LABORATORY RESULTS

Borehole No.	Depth (ft.)	USCS Soil Class.	In-Situ Properties		Classification				Expansion Testing		Corrosivity				Remarks
			Dry Density (pcf)	Water Content (%)	Passing #200 Sieve (%)	Atterberg Limits			Swell (%)	Consolidation (%)	pH	Resistivity (ohm-cm)	Sulfates (ppm)	Chlorides (ppm)	
						LL	PL	PI							
B-19	7.5 - 9.0	GC-GM		3	12	25	19	6							
B-19	10.0 - 11.5	GC-GM		2											2
B-19	12.5 - 14.0	GC-GM		0											2
B-19	15.0 - 15.7	GC-GM		1											2
B-20	0.0 - 1.5	CL		16											2
B-20	0.1 - 5.0	CL			63	35	19	16			8.6	737	34	50	
B-20	2.5 - 3.5	CL	98	11											1, 2
B-20	5.0 - 6.5	CL		10	61	45	22	23							
B-20	7.5 - 9.0	SP-SM		6											2
B-20	10.0 - 11.5	GW		1											2
B-20	12.5 - 14.0	GW		1											2
B-20	15.0 - 16.4	GW		1											2
B-21	0.0 - 1.5	CL		14											2
B-21	0.1 - 4.0	CL									8.2	1340	14	47	2
B-21	2.5 - 4.0	CL		9	65	30	16	14							
B-21	5.0 - 6.0	SM	102	6						2.3 @ 500psf					1, 2
B-21	7.5 - 9.0	SM		7											2
B-21	10.0 - 11.5	SM		4											2
B-21	12.5 - 14.0	SM		1											2
B-21	15.0 - 16.5	SM		1											2
B-22	0.5 - 5.0	CL			60	29	19	10							
B-22	2.5 - 4.0	CL		8											2
B-22	5.0 - 6.0	SM	89	6											1, 2
B-22	7.5 - 9.0	SM		6	50	NP	NP	NP							
B-22	10.0 - 11.5	SM		7											2

REMARKS
1. Dry Density and/or moisture determined from one or more rings of a multi-ring sample.
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5. Air-Dried Sample

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PROJECT NUMBER: 66225144

CLIENT: Conifer Power Company LLC
Jacksonville, FL

SUMMARY OF LABORATORY RESULTS

Borehole No.	Depth (ft.)	USCS Soil Class.	In-Situ Properties		Classification	Atterberg Limits			Expansion Testing		Corrosivity				Remarks
			Dry Density (pcf)	Water Content (%)	Passing #200 Sieve (%)	LL	PL	PI	Swell (%)	Consolidation (%)	pH	Resistivity (ohm-cm)	Sulfates (ppm)	Chlorides (ppm)	
B-22	12.5 - 14.0	SC		6											2
B-22	15.0 - 16.5	SC		7											2
B-23	2.5 - 3.5	CL	87	5											1, 2
B-23	5.0 - 6.5	CL		9	60	30	21	9							
B-23	7.5 - 9.0	CL		6											2
B-23	10.0 - 11.5	SP-SM		3											2
B-23	12.5 - 14.0	SP-SM		2											2
B-23	15.0 - 16.5	SP-SM		1											2
B-24	2.5 - 4.0	CL		9	61	45	22	23							
B-24	5.0 - 6.0	CL	98	6											1, 2
B-24	7.5 - 9.0	CL		6											2
B-24	10.0 - 11.5	CL		2											2
B-25	2.5 - 4.0	SP		7											2
B-25	5.0 - 6.5	ML		6	56	31	26	5							
B-25	7.5 - 9.0	SC		10											2
B-25	10.0 - 11.5	SC		9											2
B-25	12.5 - 14.0	SC		8											2
B-25	15.0 - 16.5	SC		3											2
B-26	0.1 - 2.1	GC									8.6	1273	22	72	2
B-26	2.5 - 3.5	GC		3											2
B-26	5.0 - 6.5	GC	100	3	15	29	16	13							1
B-26	7.5 - 9.0	GC		1											2
B-26	10.0 - 11.5	SC		7											2
B-26	12.5 - 14.0	SM		3											2
B-27	2.5 - 3.5	SM	98	2											1, 2

REMARKS
1. Dry Density and/or moisture determined from one or more rings of a multi-ring sample.
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SUMMARY OF LABORATORY RESULTS

Borehole No.	Depth (ft.)	USCS Soil Class.	In-Situ Properties		Classification				Expansion Testing		Corrosivity				Remarks
			Dry Density (pcf)	Water Content (%)	Passing #200 Sieve (%)	Atterberg Limits			Swell (%)	Consolidation (%)	pH	Resistivity (ohm-cm)	Sulfates (ppm)	Chlorides (ppm)	
						LL	PL	PI							
B-27	5.0 - 6.5	SM		4											2
B-27	7.5 - 9.0	CL		7	63	33	16	17							
B-27	10.0 - 11.5	CL		7											2
B-27	15.0 - 16.5	SM		5											2
B-28	0.5 - 5.0	CL		3	62	30	16	14			8.8	804	19	35	
B-28	2.5 - 4.0	CL		5											2
B-28	5.0 - 6.0	SC	103	3											1, 2
B-28	7.5 - 9.0	SM		6											2
B-28	10.0 - 11.5	CL		6	54	32	17	15							
B-28	12.5 - 14.0	CL		6											2
B-28	15.0 - 16.5	CL		6											2
B-29	2.5 - 3.5	SC	103	3						0.77 @ 500psf					1, 2
B-29	7.5 - 9.0	SM		9											2
B-29	10.0 - 11.5	SC		5											2
B-29	12.5 - 14.0	SC		5											2
B-29	15.0 - 16.5	SM		2											2
B-30	0.0 - 5.0	CL			68	30	15	15							
B-30	2.5 - 3.5	CL	85	4											1, 2
B-30	7.5 - 9.0	CL-ML		6	62	25	18	7							
B-30	10.0 - 11.5	CL-ML		6											2
B-30	12.5 - 14.0	CL-ML		5											2
B-30	15.0 - 16.5	CL-ML		6											2
B-31	0.0 - 5.0	CL			64	27	17	10							
B-31	2.5 - 4.0	CL		6											2
B-31	5.0 - 6.0	SC	103	3					0.31 @ 500psf						1, 2

REMARKS

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5. Air-Dried Sample

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PROJECT NUMBER: 66225144

CLIENT: Conifer Power Company LLC
Jacksonville, FL

SUMMARY OF LABORATORY RESULTS

Borehole No.	Depth (ft.)	USCS Soil Class.	In-Situ Properties		Classification				Expansion Testing		Corrosivity				Remarks
			Dry Density (pcf)	Water Content (%)	Passing #200 Sieve (%)	Atterberg Limits			Swell (%)	Consolidation (%)	pH	Resistivity (ohm-cm)	Sulfates (ppm)	Chlorides (ppm)	
						LL	PL	PI							
B-31	7.5 - 9.0	SC		6											2
B-31	10.0 - 11.5	SM		4	33	NP	NP	NP							
B-31	12.5 - 14.0	SP-SM		2											2
B-31	15.0 - 16.5	SM		5											2
B-32	0.5 - 5.0	CL			62	35	16	19			9.2	1005	22	47	
B-32	2.5 - 3.5	CL	98	4											1, 2
B-32	5.0 - 6.5	CL		5											2
B-32	7.5 - 9.0	ML		8	53	NP	NP	NP							
B-32	10.0 - 11.5	SM		2											2
B-32	12.5 - 14.0	SM		3											2
B-32	15.0 - 16.5	SM		5											2
B-33	0.1 - 5.1	SM			46	NP	NP	NP							
B-33	2.5 - 4.0	SM		5											2
B-33	5.0 - 6.0	CL	100	2	63	33	17	16							1
B-33	7.5 - 9.0	CL		4											2
B-33	10.0 - 11.5	CL		4											2
B-33	12.5 - 14.0	SM		5											2
B-33	15.0 - 16.5	SM		2											2
B-34	0.0 - 5.0	CL-ML			64	23	17	6							
B-34	2.5 - 3.5	CL-ML	108	6											1, 2
B-34	5.0 - 6.5	CL-ML		6											2
B-34	7.5 - 9.0	ML		7	60	29	24	5							
B-34	10.0 - 11.5	SC		5											2
B-34	12.5 - 14.0	SC		3											2
B-34	15.0 - 16.5	SM		2											2

REMARKS

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Jacksonville, FL

SUMMARY OF LABORATORY RESULTS

Borehole No.	Depth (ft.)	USCS Soil Class.	In-Situ Properties		Classification				Expansion Testing		Corrosivity				Remarks
			Dry Density (pcf)	Water Content (%)	Passing #200 Sieve (%)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Swell (%)	Consolidation (%)	pH	Resistivity (ohm-cm)	Sulfates (ppm)	Chlorides (ppm)	
B-35	0.1 - 5.1	CL-ML			62	22	18	4							
B-35	2.5 - 4.0	CL-ML		4											2
B-35	5.0 - 5.8	CL	90	1	68	31	17	14							1
B-35	7.5 - 9.0	SC		3											2
B-35	10.0 - 11.5	SC		4											2
B-35	12.5 - 14.0	GM		1											2
B-35	15.0 - 16.5	SC		4											2
B-36	0.0 - 1.5	SC-SM		13											2
B-36	0.1 - 5.0	SC-SM			50	26	19	7							
B-36	2.5 - 3.5	SC-SM	94	6											1, 2
B-36	5.0 - 6.5	SC-SM		7											2
B-36	7.5 - 9.0	GC-GM		4	19	25	21	4							
B-36	10.0 - 11.5	GC-GM		0											2
B-36	12.5 - 14.0	GC-GM		0											2
B-36	15.0 - 16.5	GC-GM		1											2
SUB-01	0.0 - 1.5	SM		9											2
SUB-01	0.5 - 5.0	SM									8.2	1206	36	42	2
SUB-01	2.5 - 3.5	SM	90	4											1, 2
SUB-01	5.0 - 6.0	SM		5											2
SUB-01	10.0 - 11.5	SM		5											2
SUB-01	15.0 - 16.5	SM		2											2
SUB-01	20.0 - 21.5	SM		3											2
SUB-01	25.0 - 26.5	SM		4											2
SUB-01	30.0 - 30.6	GW		0											2

REMARKS
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Jacksonville, FL

Thermal Resistivity Test Results

Laboratory Thermal Resistivity Testing Procedures

Laboratory thermal resistivity testing was performed by Geotherm on soil samples obtained during our field explorations from a depth of approximately 0 to 5 feet below the existing ground surface. The thermal resistivity testing was performed in general accordance with the Institute of Electrical and Electronics Engineers (IEEE) standard 442-2017. A total of two dry-out curves were performed at each of the 14 thermal resistivity test locations. The dry-out curves were developed from bulk soil samples re-compacted to 85% and 90% of the Standard Proctor criteria (ASTM D698) at the optimum moisture content and dried to near 0% moisture.

21239 FM529 Rd., Bldg. F
Cypress, TX 77433
Tel: 281-985-9344
Fax: 832-427-1752
info@geothermusa.com
http://www.geothermusa.com

September 19, 2023

Terracon
6805 Academy Pkwy. West NE
Albuquerque, NM 87109
Attn: Stenson Lee

Re: Thermal Analysis of Native Soil Samples
Diamond Trail Solar Facility – Santa Fe, NM (Project No. 66225144)

The following is the report of thermal dryout characterization tests conducted on fourteen (14) samples of native soil from the referenced project sent to our laboratory.

Thermal Resistivity Tests: The samples were tested at the 'optimum' moisture content and 85% and 90% of the standard Proctor dry density ***provided by Terracon.*** The tests were conducted in accordance with the IEEE standard 442-2017. The results are tabulated below and the thermal dryout curves are presented in **Figures 1 to 14.**

Sample ID, Description, Thermal Resistivity, Moisture Content and Density

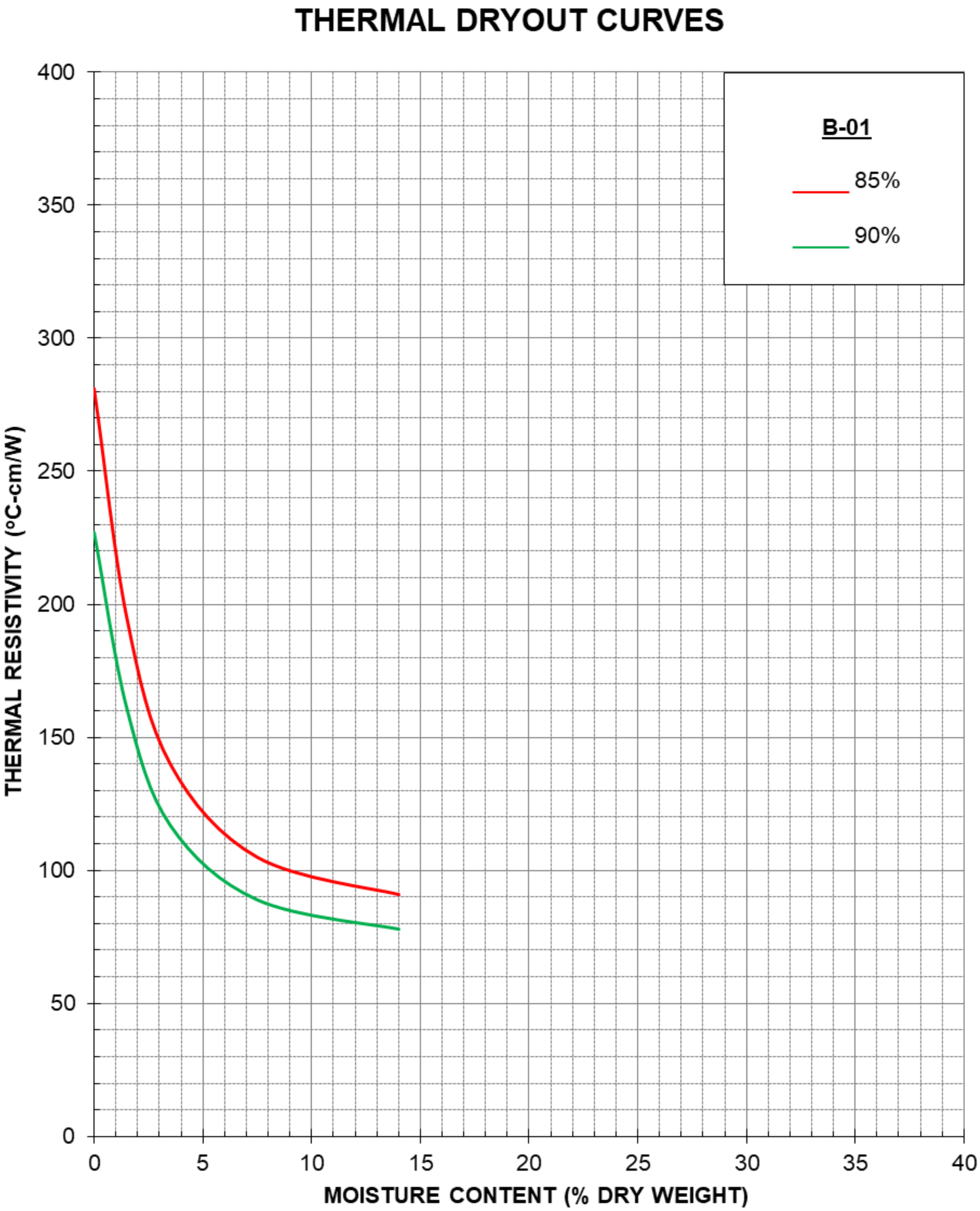
Sample ID	Depth (ft)	Effort (%)	Description (Terracon)	Thermal Resistivity (°C-cm/W)		Moisture Content (%)	Dry Density (lb/ft^3)
				Wet	Dry		
B-01	0 – 1.5	85	Sandy Silty Clay	91	281	14	96
B-01	0 – 1.5	90	Sandy Silty Clay	78	227	14	102
B-04	0 – 1.5	85	Lean Clay w/sand	92	294	16	92
B-04	0 – 1.5	90	Lean Clay w/sand	81	232	16	97
B-10	0 – 1.5	85	Clayey Sand w/gravel	90	276	15	96
B-10	0 – 1.5	90	Clayey Sand w/gravel	80	220	15	102
B-14	0 – 1.5	85	Sandy Lean Clay	90	301	15	95
B-14	0 – 1.5	90	Sandy Lean Clay	79	241	15	101

Sample ID	Depth (ft)	Effort (%)	Description (Terracon)	Thermal Resistivity (°C-cm/W)		Moisture Content (%)	Dry Density (lb/ft^3)
				Wet	Dry		
B-19	0 – 1.5	85	Clayey Sand w/gravel	83	265	15	95
B-19	0 – 1.5	90	Clayey Sand w/gravel	74	221	15	101
B-20	0 – 1.5	85	Sandy Lean Clay	83	269	17	89
B-20	0 – 1.5	90	Sandy Lean Clay	75	220	17	95
B-22	0 - 5	85	Sandy Lean Clay	82	269	16	94
B-22	0 - 5	90	Sandy Lean Clay	70	227	16	100
B-28	0 - 5	85	Sandy Lean Clay	89	291	14	96
B-28	0 - 5	90	Sandy Lean Clay	80	240	14	101
B-30	0 - 5	85	Sandy Lean Clay	97	278	18	91
B-30	0 - 5	90	Sandy Lean Clay	89	231	18	96
B-31	0 - 5	85	Sandy Lean Clay	93	285	17	91
B-31	0 - 5	90	Sandy Lean Clay	80	247	17	97
B-33	0 - 5	85	Silty Sand	92	257	14	97
B-33	0 - 5	90	Silty Sand	77	189	14	103
B-34	0 - 5	85	Sandy Silty Clay	89	223	15	93
B-34	0 - 5	90	Sandy Silty Clay	76	178	15	99
B-35	0 - 5	85	Sandy Silty Clay	93	229	14	97
B-35	0 - 5	90	Sandy Silty Clay	82	180	14	103
B-36	0 – 1.5	85	Silty, Clayey Sand w/gravel	94	248	10	97
B-36	0 – 1.5	90	Silty, Clayey Sand w/gravel	84	210	10	103

Please contact us if you have any questions or if we can be of further assistance.

Geotherm USA

Nimesh Patel



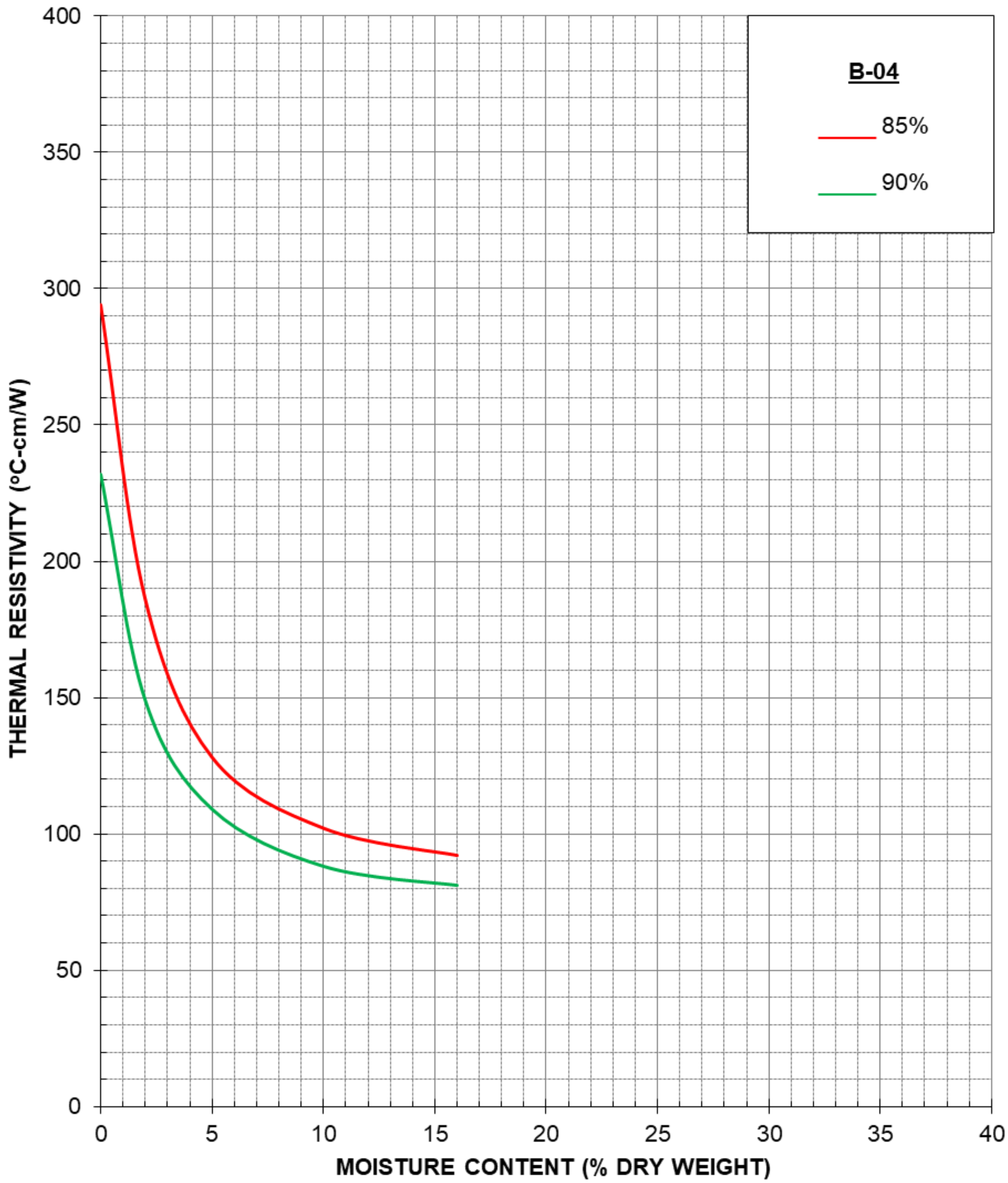
Terracon (Project No. 66225144)

Diamond Trail Solar Facility - Santa Fe, NM

Thermal Analysis of Native Soil Samples

September 2023 **Figure 1**

THERMAL DRYOUT CURVES



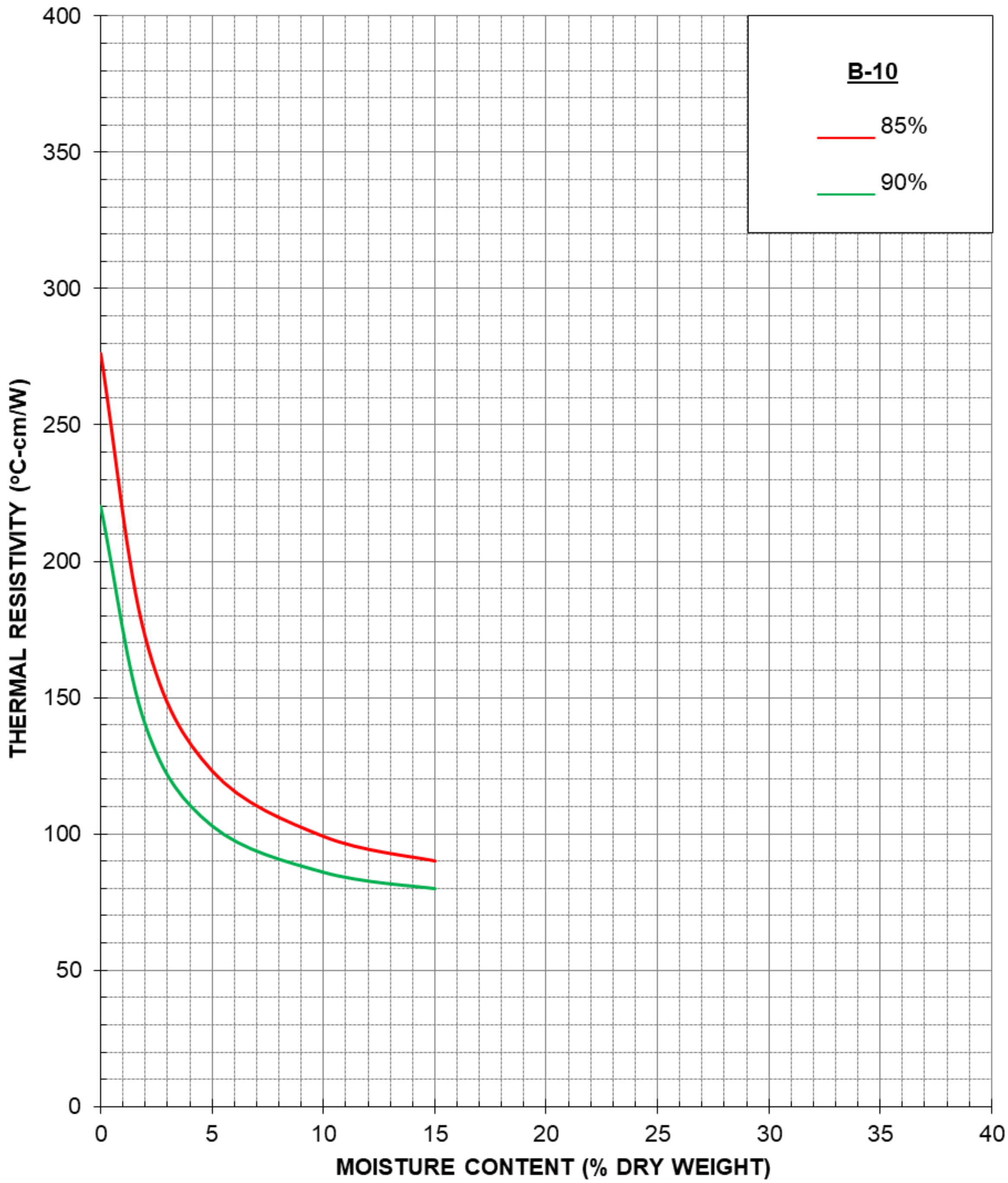
Terracon (Project No. 66225144)

Diamond Trail Solar Facility - Santa Fe, NM

Thermal Analysis of Native Soil Samples

September 2023 **Figure 2**

THERMAL DRYOUT CURVES



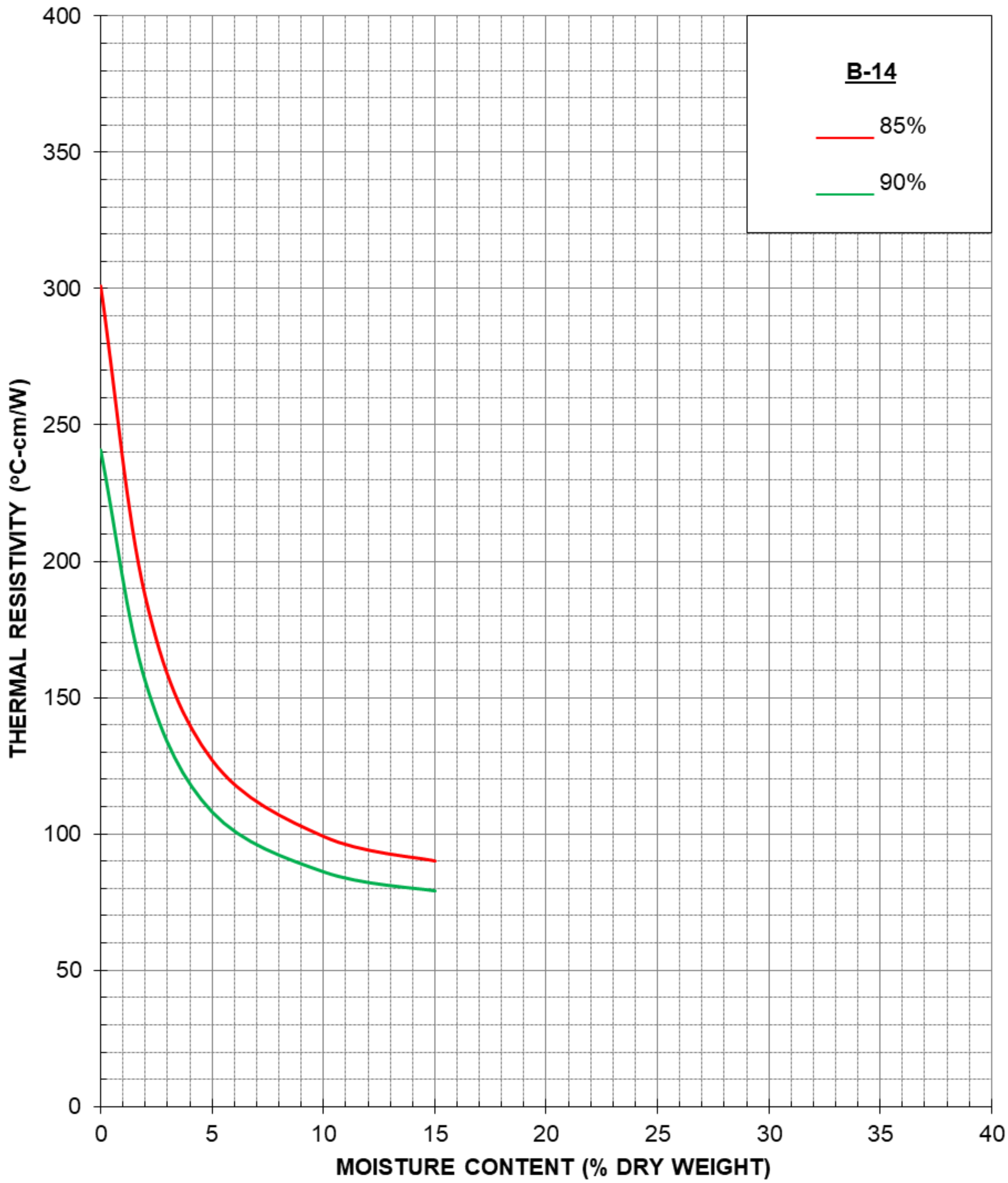
Terracon (Project No. 66225144)

Diamond Trail Solar Facility - Santa Fe, NM

Thermal Analysis of Native Soil Samples

September 2023 **Figure 3**

THERMAL DRYOUT CURVES



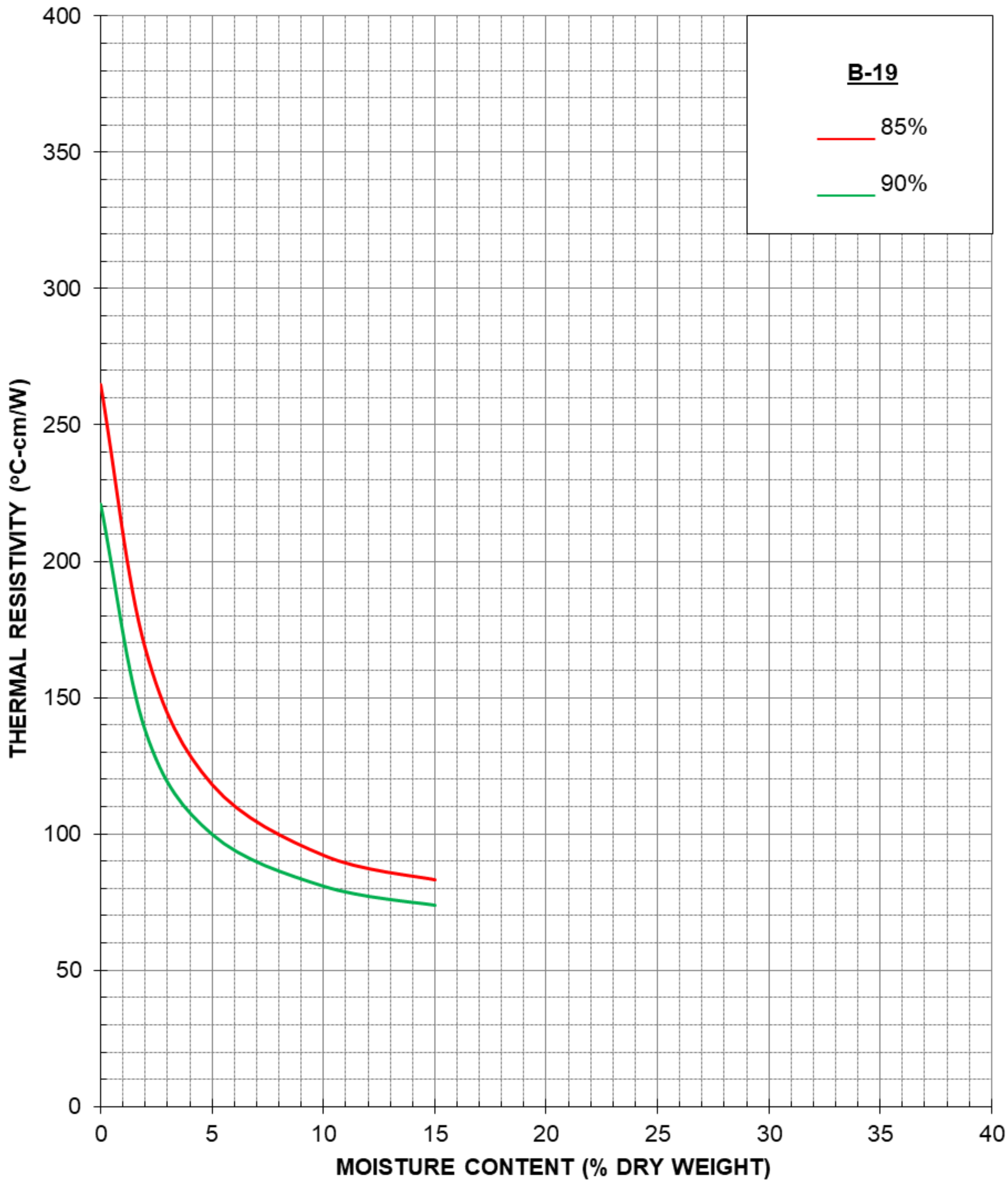
Terracon (Project No. 66225144)

Diamond Trail Solar Facility - Santa Fe, NM

Thermal Analysis of Native Soil Samples

September 2023 **Figure 4**

THERMAL DRYOUT CURVES



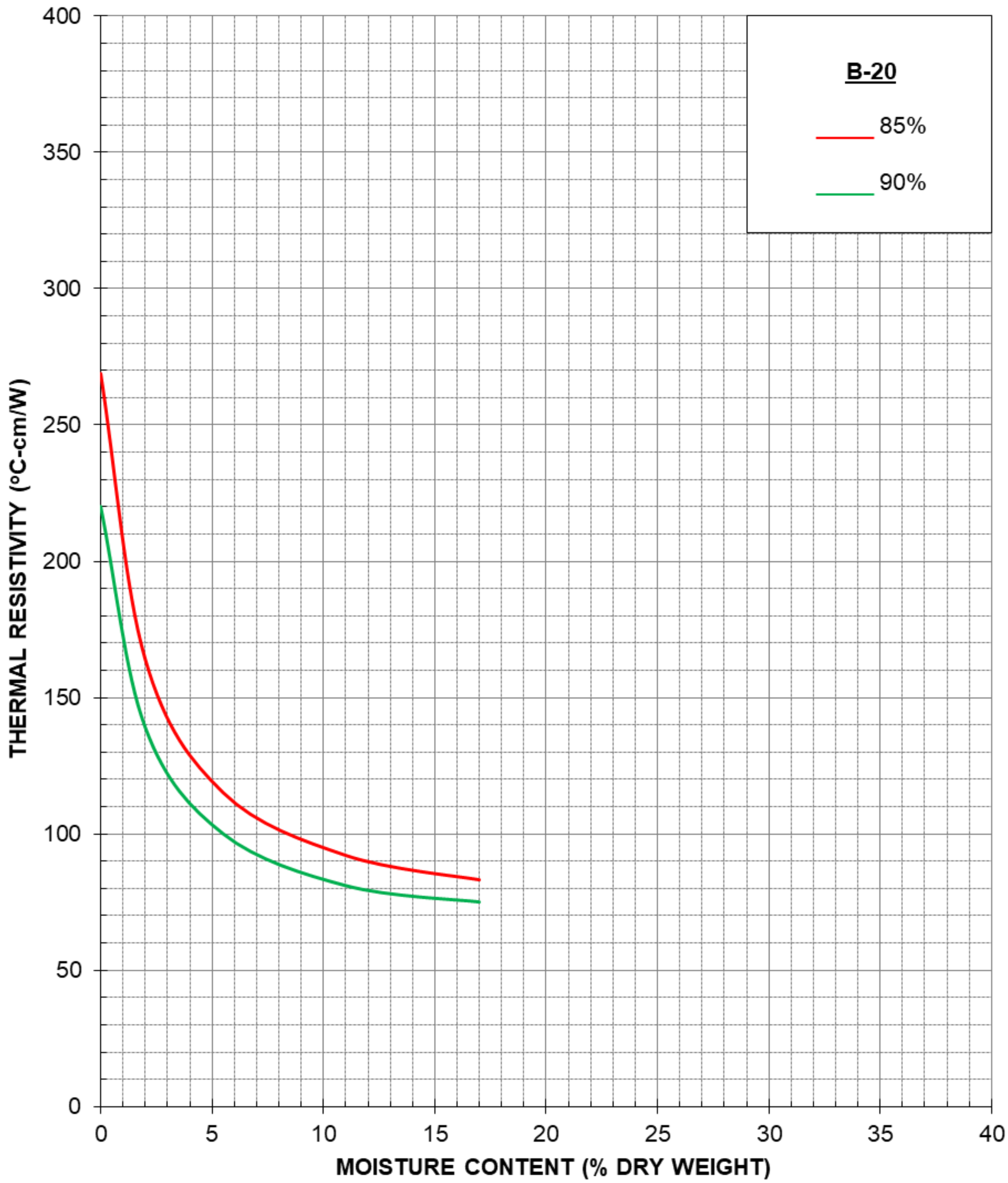
Terracon (Project No. 66225144)

Diamond Trail Solar Facility - Santa Fe, NM

Thermal Analysis of Native Soil Samples

September 2023 **Figure 5**

THERMAL DRYOUT CURVES



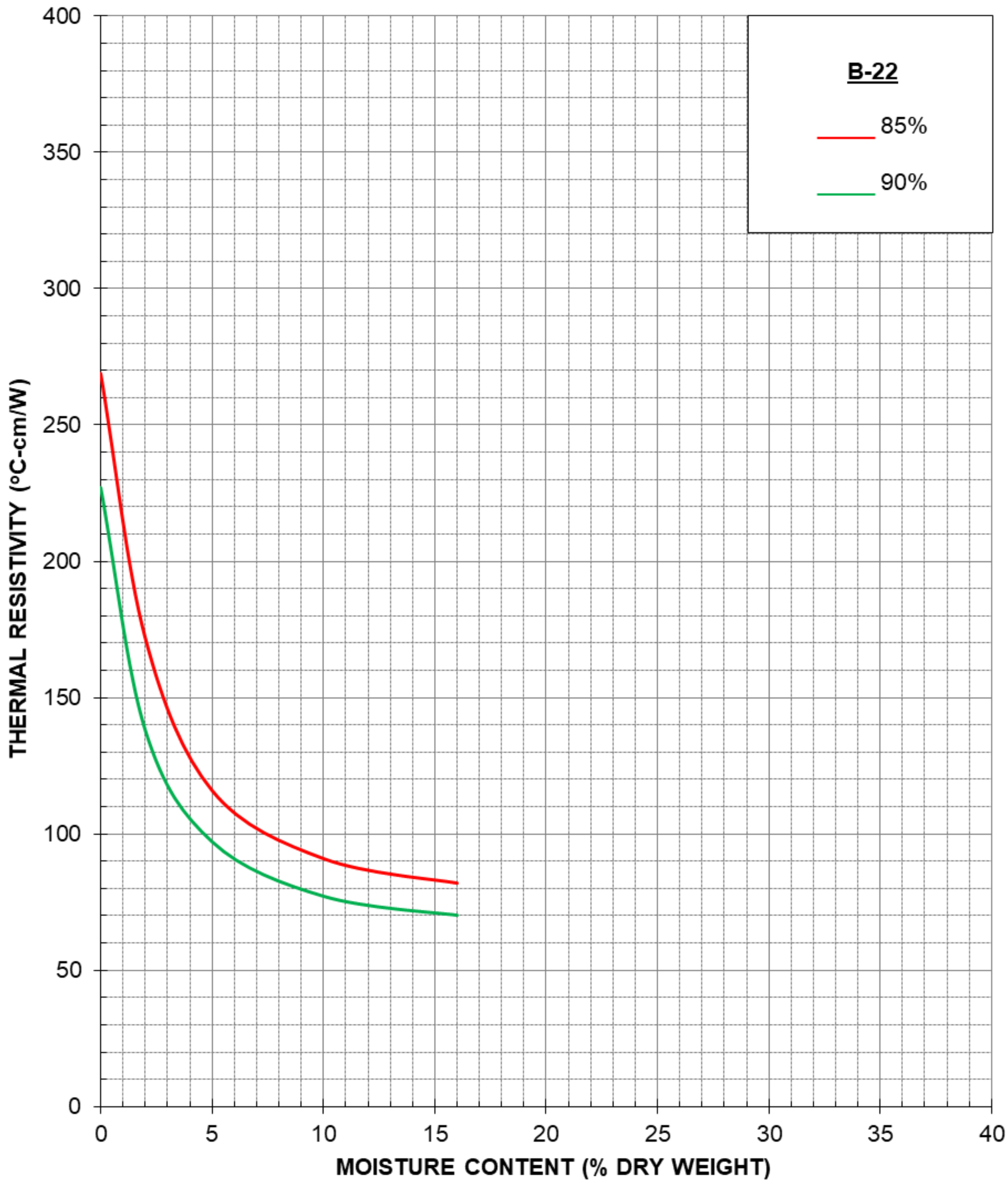
Terracon (Project No. 66225144)

Diamond Trail Solar Facility - Santa Fe, NM

Thermal Analysis of Native Soil Samples

September 2023 **Figure 6**

THERMAL DRYOUT CURVES



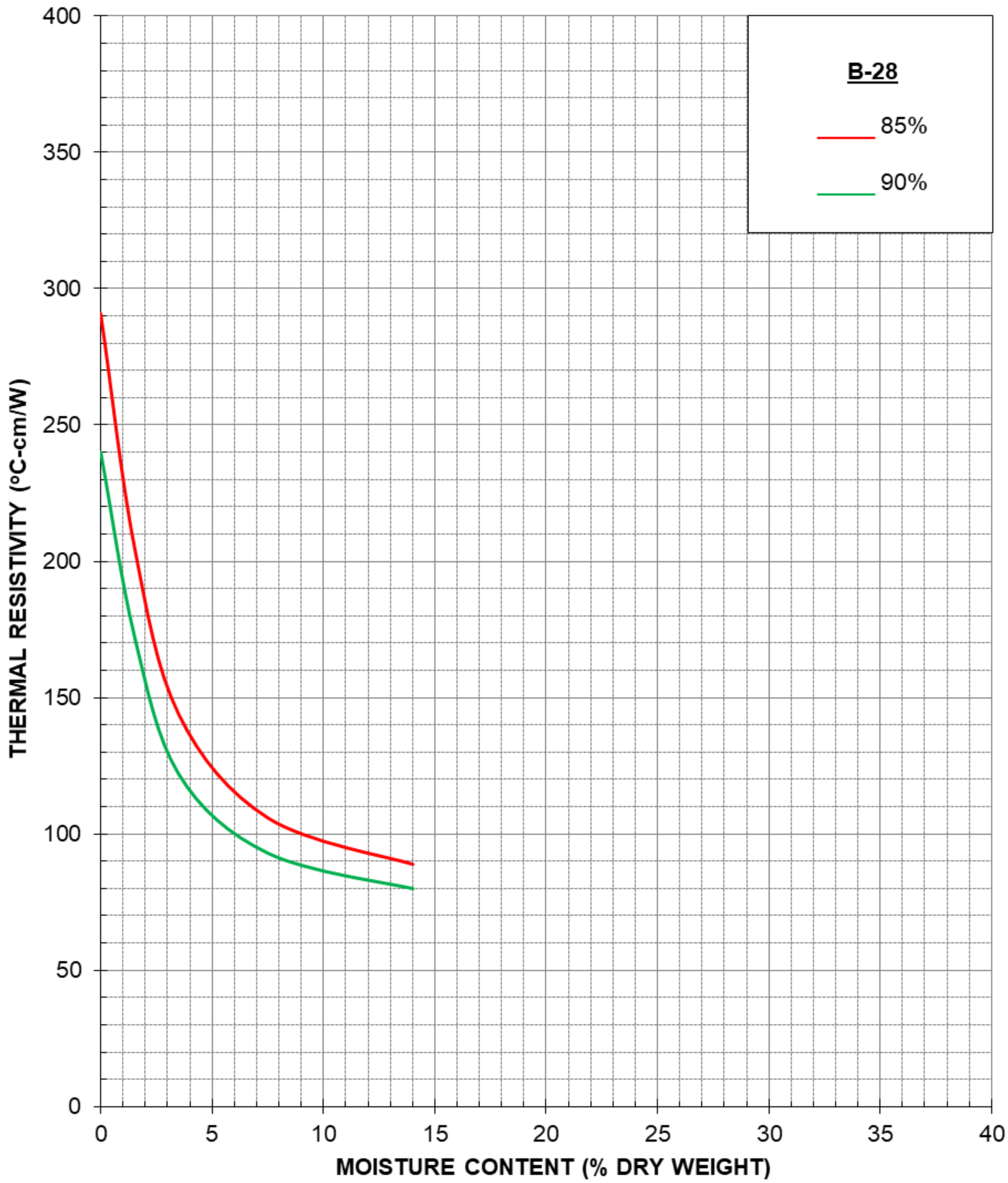
Terracon (Project No. 66225144)

Diamond Trail Solar Facility - Santa Fe, NM

Thermal Analysis of Native Soil Samples

September 2023 **Figure 7**

THERMAL DRYOUT CURVES



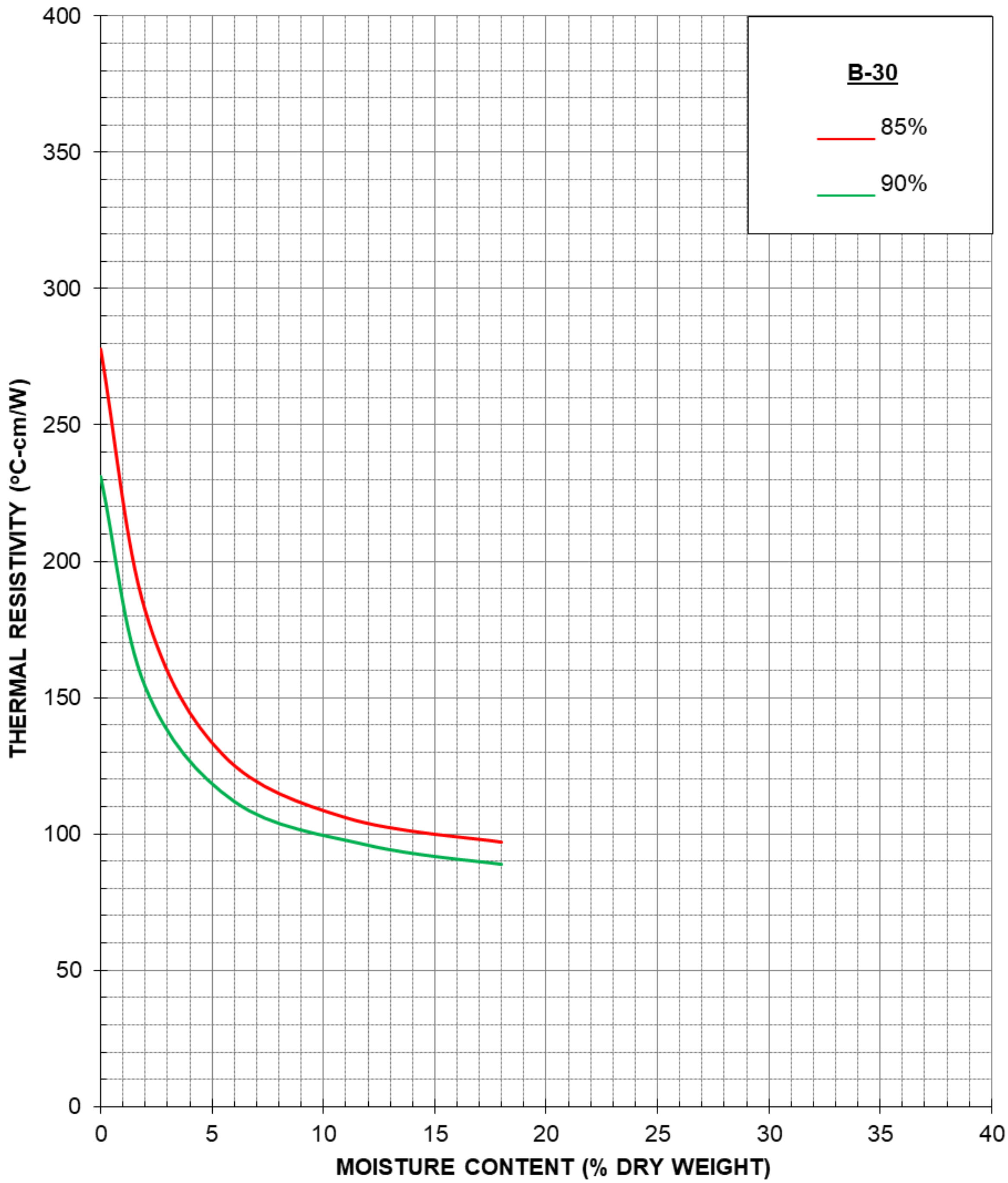
Terracon (Project No. 66225144)

Diamond Trail Solar Facility - Santa Fe, NM

Thermal Analysis of Native Soil Samples

September 2023 **Figure 8**

THERMAL DRYOUT CURVES



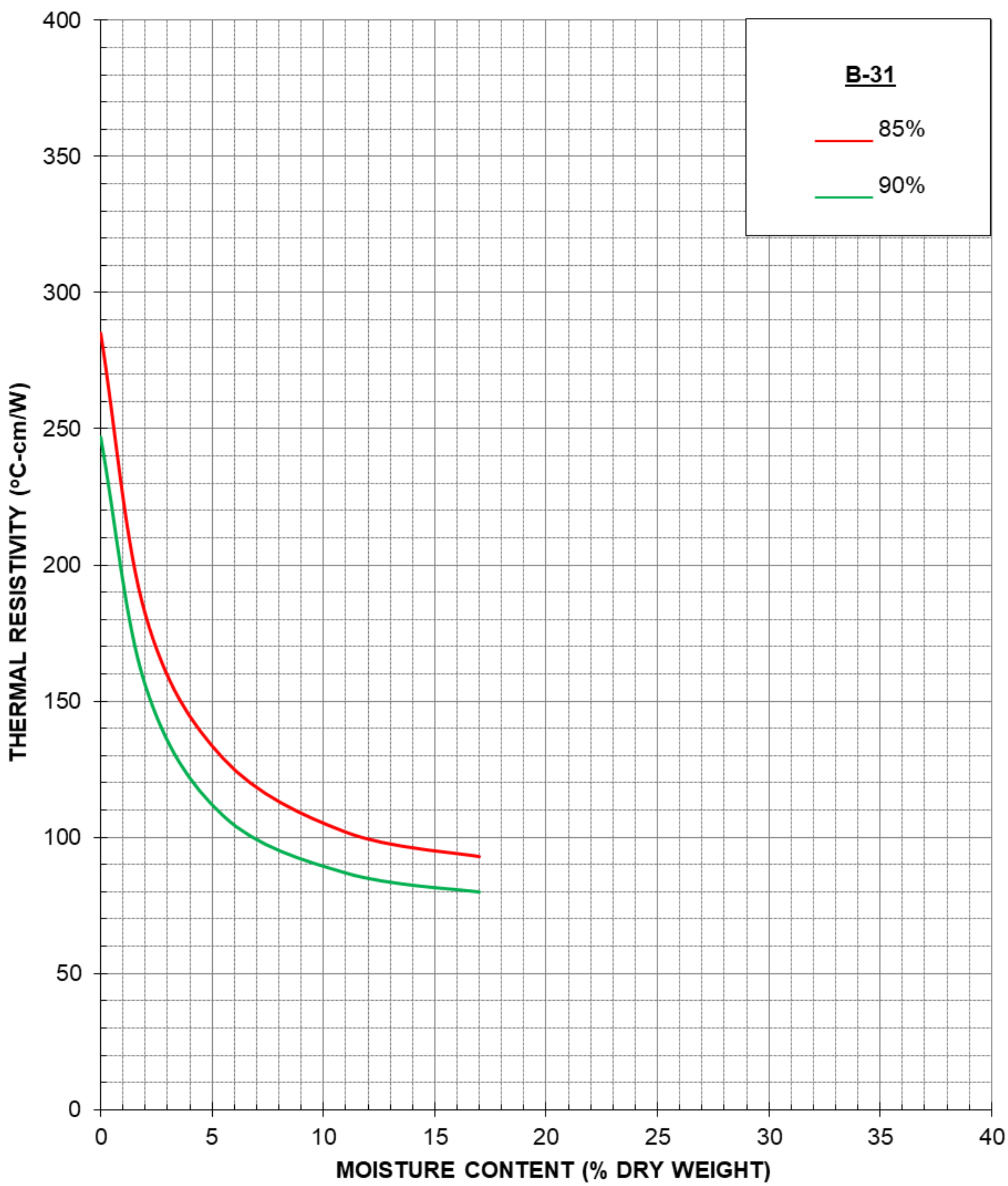
Terracon (Project No. 66225144)

Diamond Trail Solar Facility - Santa Fe, NM

Thermal Analysis of Native Soil Samples

September 2023 **Figure 9**

THERMAL DRYOUT CURVES

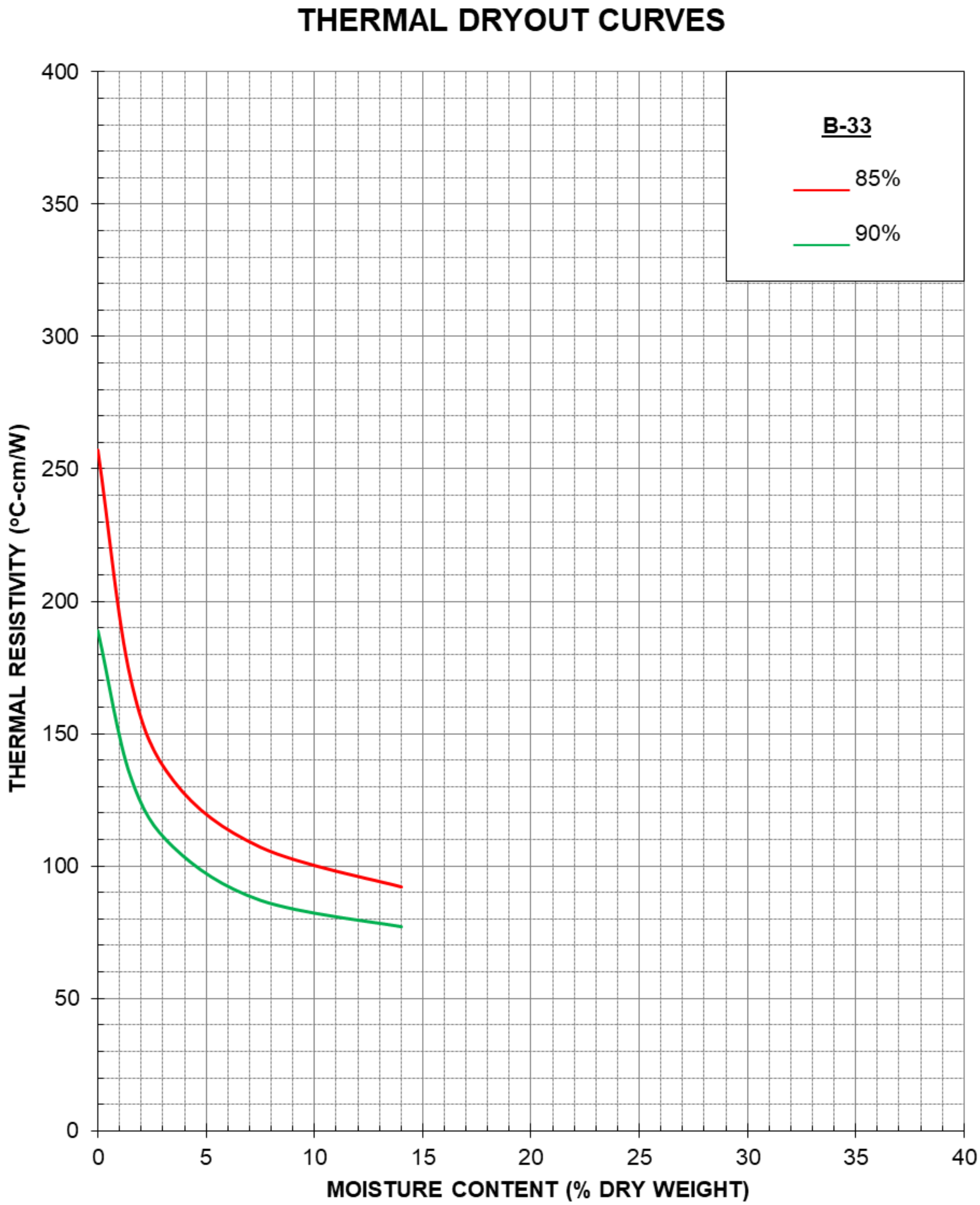


Terracon (Project No. 66225144)

Diamond Trail Solar Facility - Santa Fe, NM

Thermal Analysis of Native Soil Samples

September 2023 **Figure 10**



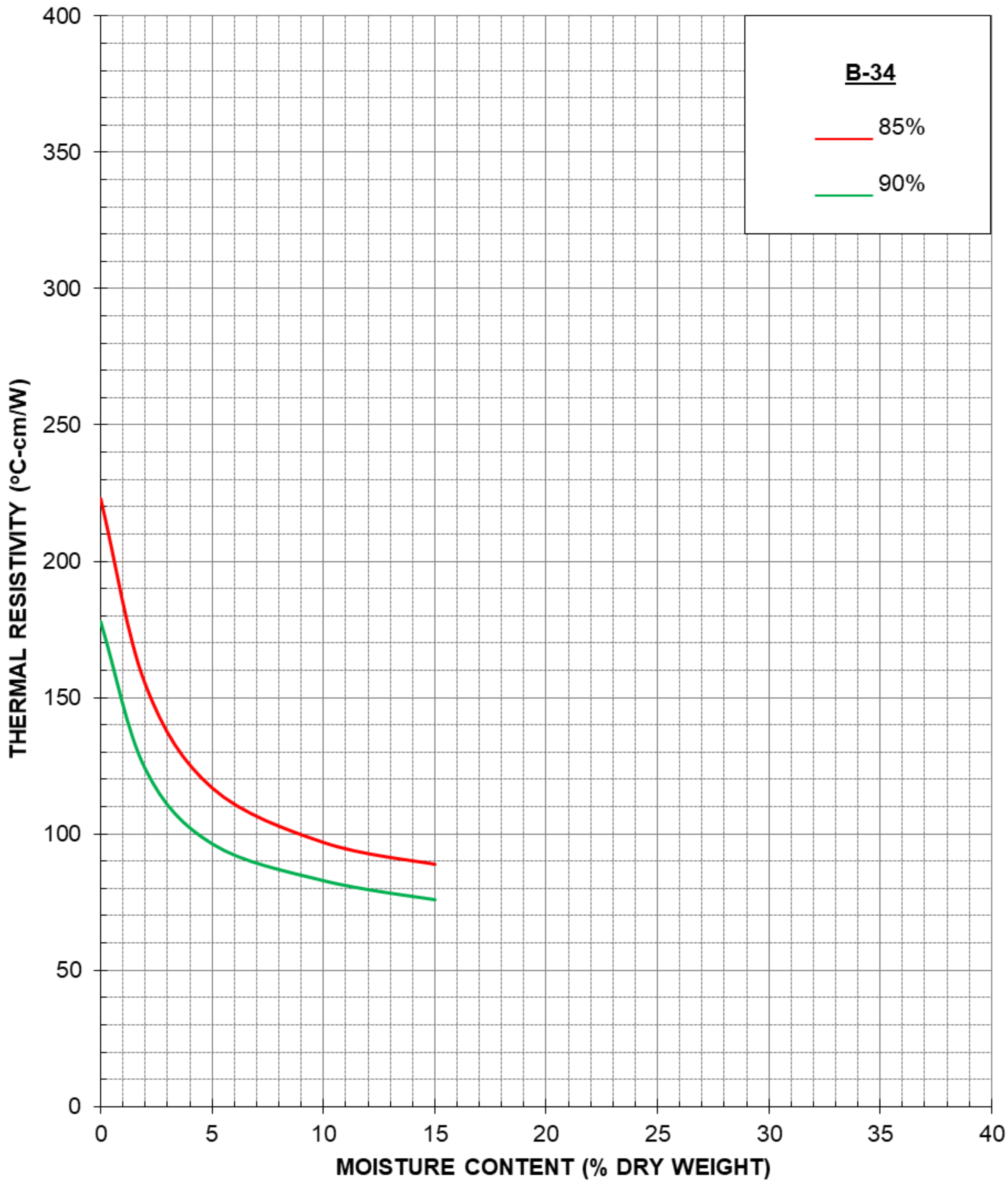
Terracon (Project No. 66225144)

Diamond Trail Solar Facility - Santa Fe, NM

Thermal Analysis of Native Soil Samples

September 2023 **Figure 11**

THERMAL DRYOUT CURVES



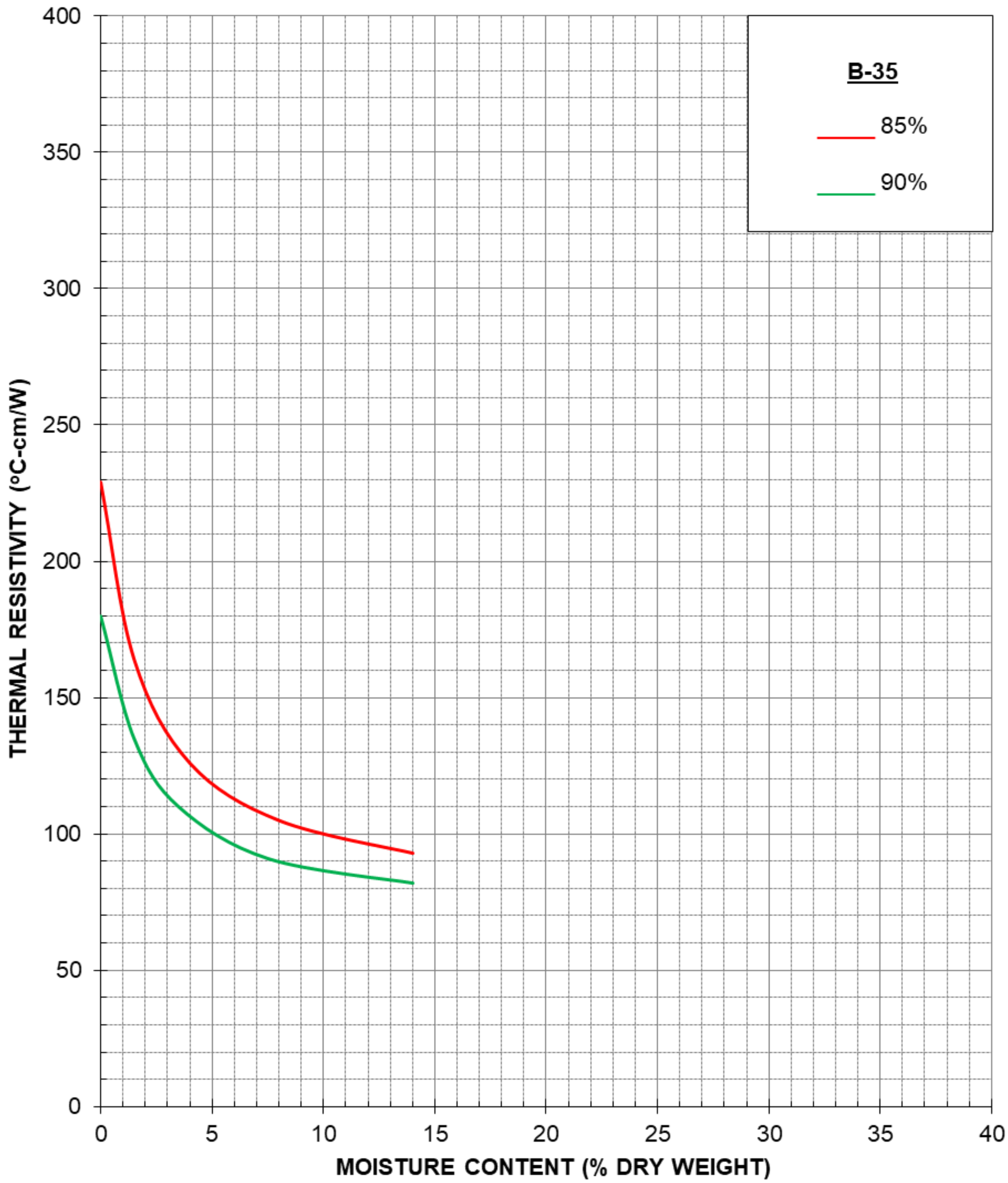
Terracon (Project No. 66225144)

Diamond Trail Solar Facility - Santa Fe, NM

Thermal Analysis of Native Soil Samples

September 2023 **Figure 12**

THERMAL DRYOUT CURVES



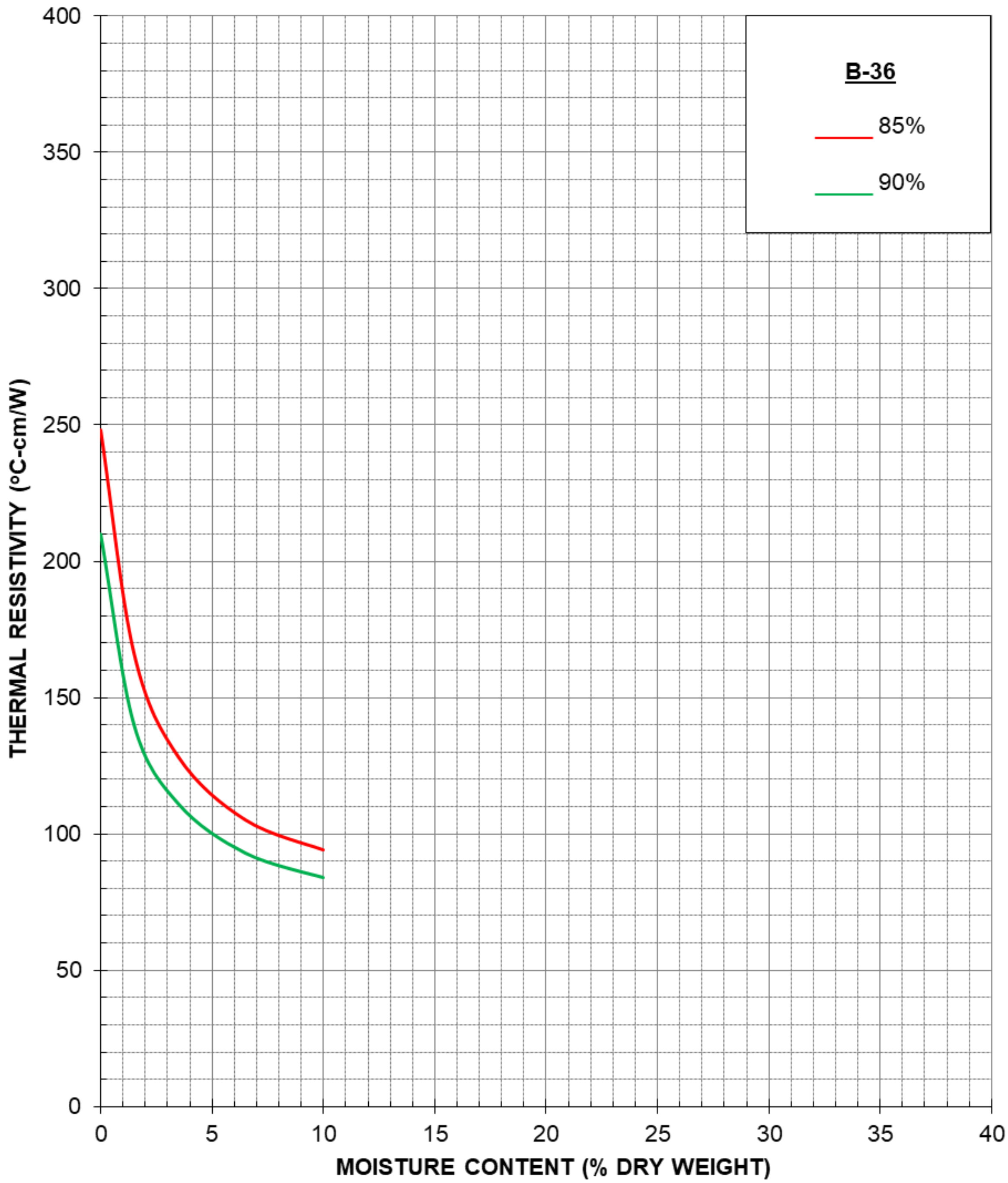
Terracon (Project No. 66225144)

Diamond Trail Solar Facility - Santa Fe, NM

Thermal Analysis of Native Soil Samples

September 2023 **Figure 13**

THERMAL DRYOUT CURVES



Terracon (Project No. 66225144)

Diamond Trail Solar Facility - Santa Fe, NM

Thermal Analysis of Native Soil Samples

September 2023 **Figure 14**

Field Soil Electrical Resistivity Test Data

Field Soil Electrical Resistivity Test Procedures

Field measurements of soil electrical resistivity were performed between February and August 2023. Field measurements of soil electrical resistivity were performed in general accordance with ASTM Test Method D6431, using the Wenner Four-Electrode. The Wenner arrangement (equal electrode spacing) was used with the following "a" spacings:

- 1, 2, 3, 5, 10, 20, and 50 feet at 18 locations within the solar array area
- 1, 2, 3, 5, 10, 20, 50, 100, 200, 300

The "a" spacing is generally considered to be the depth of influence of the test. Where practical, the testing was performed in both a north-south and an east-west orientation at each location.

Exploration Plan – Field Electrical Resistivity Locations

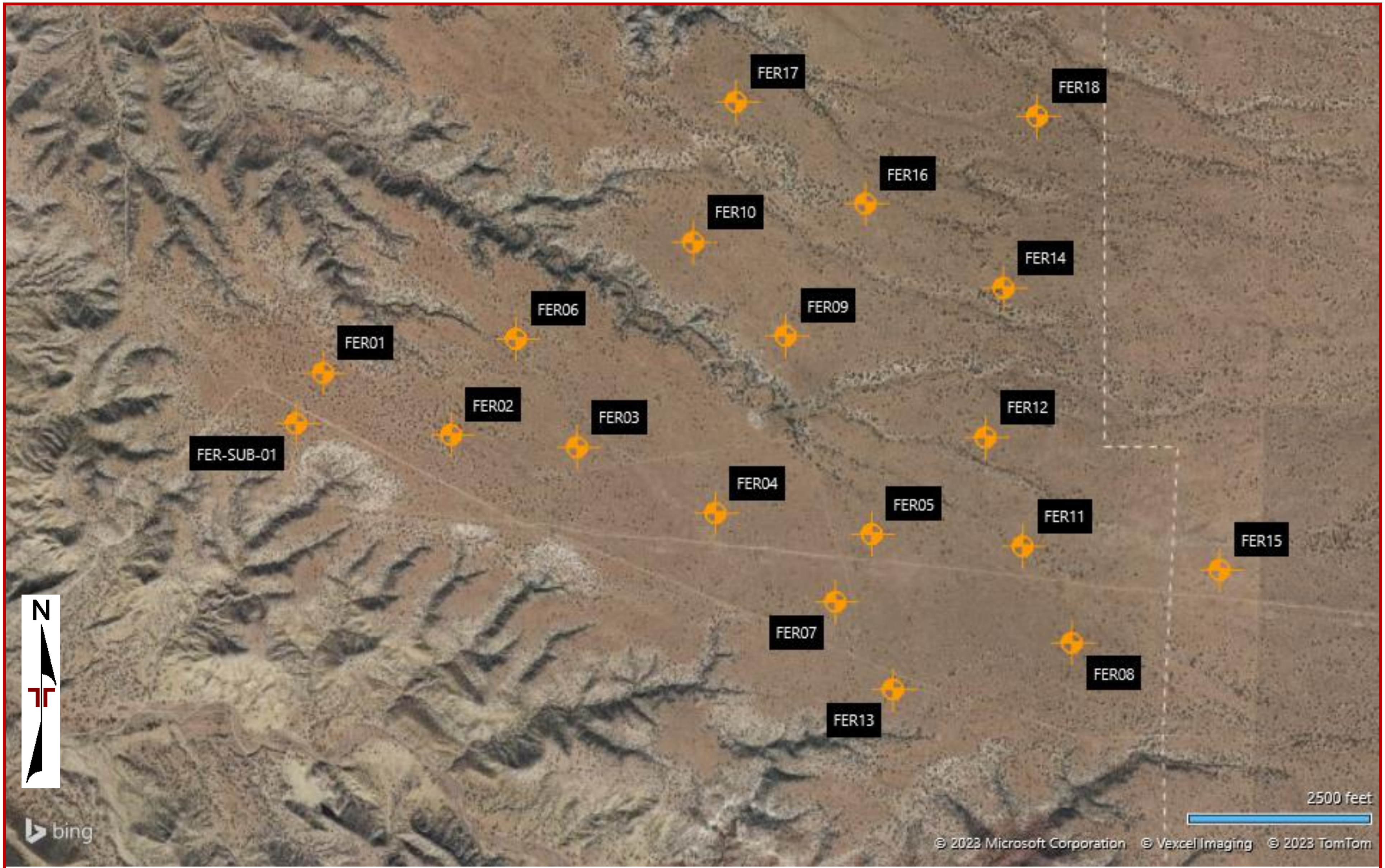


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

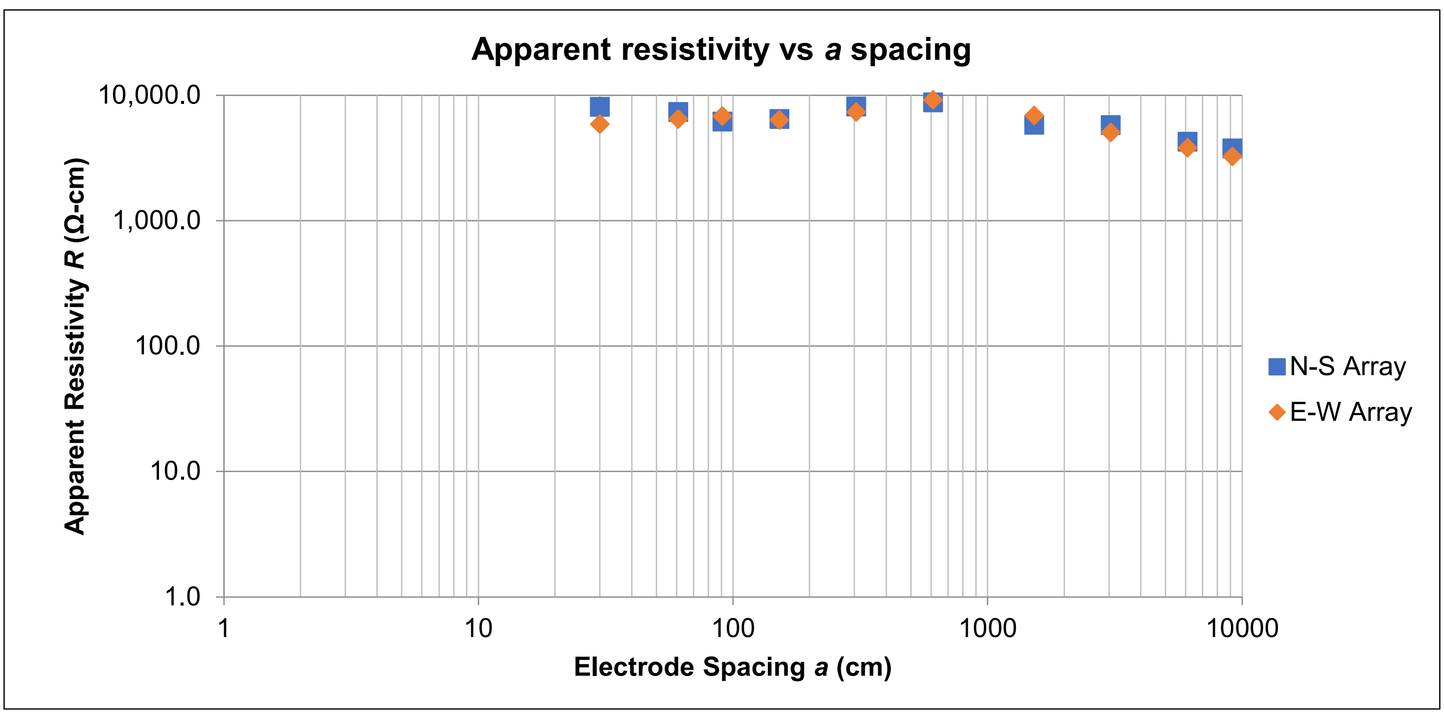
FIELD ELECTRICAL RESISTIVITY TEST DATA
Diamond Tail Solar ■ Albuquerque, NM
September 2023 ■ Terracon Project No.66225144

Terracon GeoReport

Array Loc.	FER-SUB-01		
Instrument	LRI MiniRes Ultra	**Weather**	Sunny
Serial #	SN-322	**Ground Cond.**	Dry
Cal. Check	4/1/2023	**Tested By**	MRO, MGB
Test Date	February 27, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as : $\rho = \dfrac{4\pi a R}{1 + \dfrac{2a}{\sqrt{a^2+4b^2}} - \dfrac{a}{\sqrt{a^2+b^2}}}$

Electrode Spacing *a*		**Electrode Depth *b***		**N-S Test**		**E-W Test**	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity ρ (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity ρ (Ω-cm)
1	30	6	15	32.9	8,160	23.9	5,930
2	61	6	15	17.6	7,400	15.5	6,520
3	91	6	15	10.4	6,220	11.5	6,880
5	152	6	15	6.7	6,510	6.6	6,410
10	305	13	33	4.2	8,210	3.8	7,430
20	610	13	33	2.3	8,860	2.4	9,250
50	1524	13	33	0.611	5,860	0.725	6,950
100	3048	13	33	0.304	5,820	0.265	5,080
200	6096	13	33	0.112	4,290	0.100	3,830
300	9144	13	33	0.066	3,790	0.057	3,270



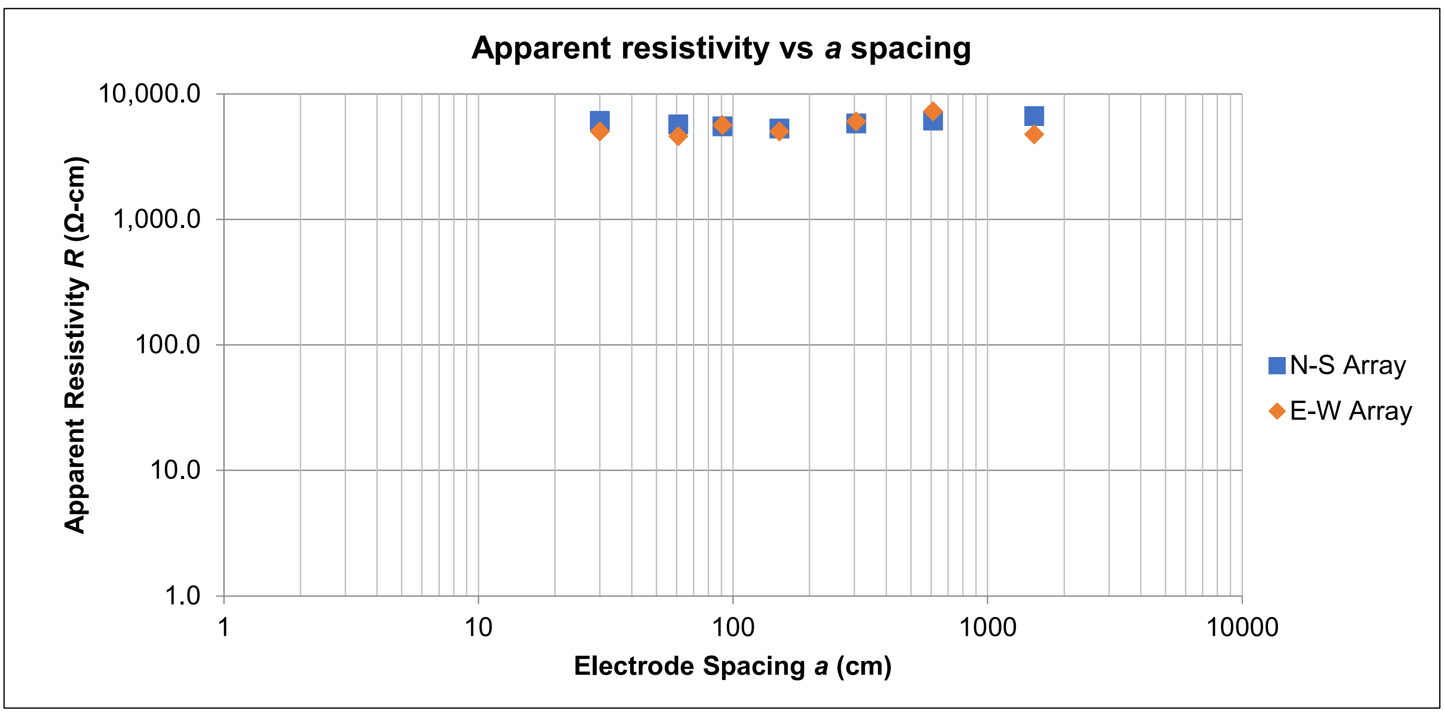
FIELD ELECTRICAL RESISTIVITY TEST DATA
Diamond Tail Solar ■ Albuquerque, NM
July 2023 ■ Terracon Project No.66225144

Terracon

Array Loc.	FER-01		
Instrument	LRI MiniRes Ultra	**Weather**	Sunny
Serial #	SN-332	**Ground Cond.**	Dry, moderate vegetation
Cal. Check	4/1/2023	**Tested By**	KD, GS
Test Date	May 30, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as : $\rho = \dfrac{4\pi aR}{1 + \dfrac{2a}{\sqrt{a^2+4b^2}} - \dfrac{a}{\sqrt{a^2+b^2}}}$

Electrode Spacing *a*		Electrode Depth *b*		N-S Test		E-W Test	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)
1	30	6	15	24.8	6,150	20.4	5,060
2	61	6	15	13.7	5,760	11.0	4,620
3	91	6	15	9.3	5,560	9.5	5,680
5	152	6	15	5.5	5,340	5.2	5,050
10	305	13	33	3.0	5,860	3.1	6,060
20	610	13	33	1.6	6,160	1.9	7,320
50	1524	13	33	0.7	6,710	0.5	4,790



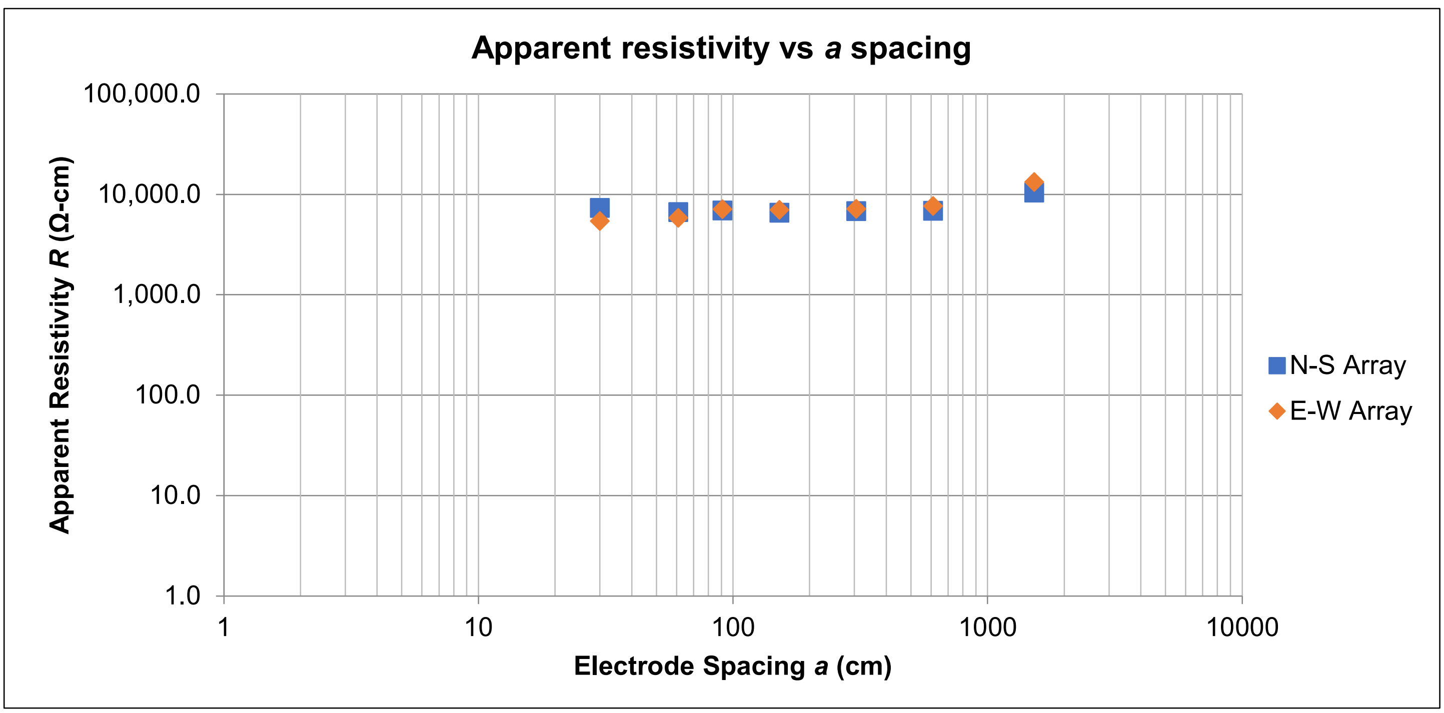
FIELD ELECTRICAL RESISTIVITY TEST DATA
Diamond Tail Solar ■ Albuquerque, NM
September 2023 ■ Terracon Project No.66225144

Terracon

Array Loc.	FER-02		
Instrument	LRI MiniRes Ultra	**Weather**	Sunny
Serial #	SN-332	**Ground Cond.**	Dry, light vegetation
Cal. Check	4/1/2023	**Tested By**	KD, GS
Test Date	May 23, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as : $\rho = \dfrac{4\pi a R}{1 + \dfrac{2a}{\sqrt{a^2 + 4b^2}} - \dfrac{a}{\sqrt{a^2 + b^2}}}$

Electrode Spacing *a*		**Electrode Depth *b***		**N-S Test**		**E-W Test**	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)
1	30	6	15	29.7	7,370	22.1	5,480
2	61	6	15	16.0	6,730	14.0	5,880
3	91	6	15	11.6	6,940	12.0	7,170
5	152	6	15	6.8	6,600	7.3	7,090
10	305	13	33	3.5	6,840	3.7	7,230
20	610	13	33	1.8	6,930	2.0	7,700
50	1524	13	33	1.1	10,540	1.4	13,420

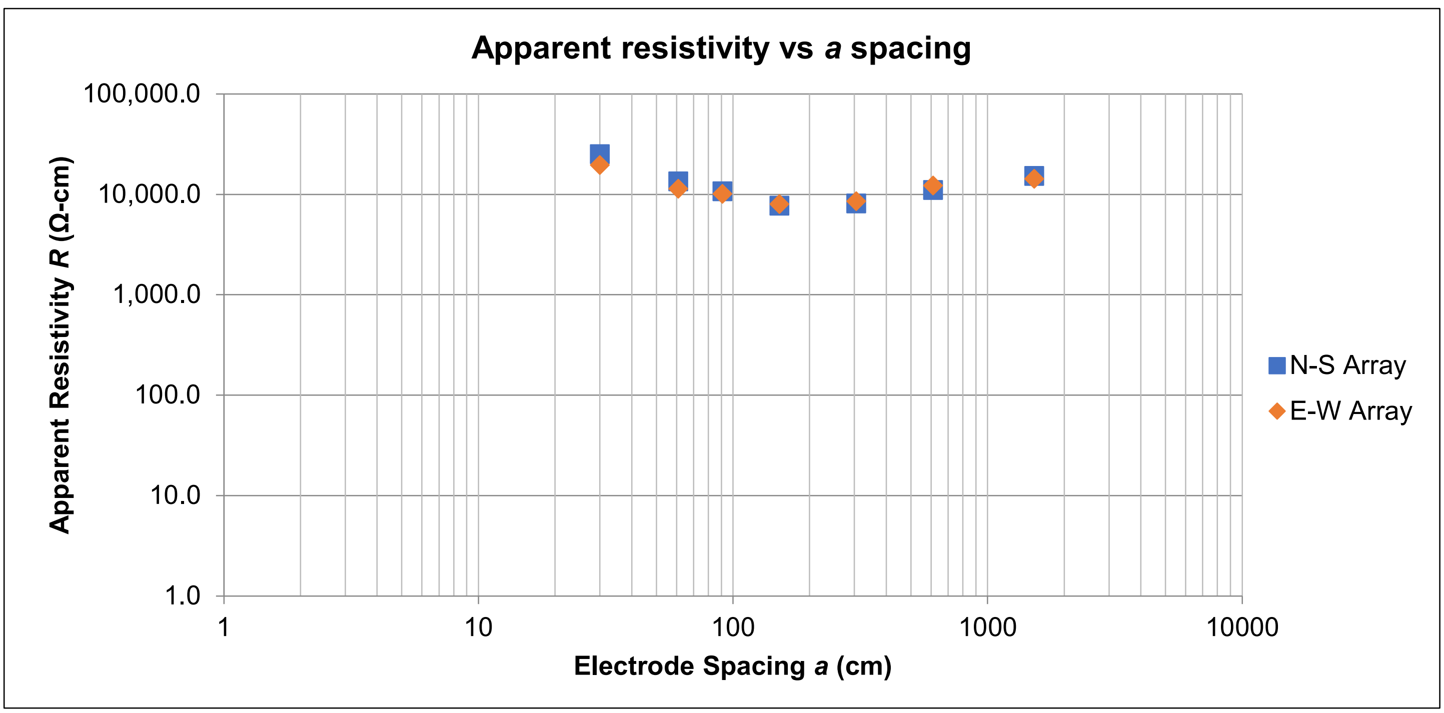


FIELD ELECTRICAL RESISTIVITY TEST DATA
Diamond Tail Solar ■ Albuquerque, NM
September 2023 ■ Terracon Project No.66225144

Array Loc.	FER-03		
Instrument	LRI MiniRes Ultra	**Weather**	Sunny
Serial #	SN-332	**Ground Cond.**	Dry, light vegetation
Cal. Check	4/1/2023	**Tested By**	LA, ED
Test Date	July 31, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as : $$\rho = \frac{4\pi a R}{1 + \frac{2a}{\sqrt{a^2 + 4b^2}} - \frac{a}{\sqrt{a^2 + b^2}}}$$

Electrode Spacing *a*		Electrode Depth *b*		N-S Test		E-W Test	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity ρ (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity ρ (Ω-cm)
1	30	6	15	102.2	25,350	79.8	19,790
2	61	6	15	32.4	13,620	27.2	11,430
3	91	6	15	18.1	10,820	17.1	10,220
5	152	6	15	8.0	7,770	8.3	8,060
10	305	13	33	4.2	8,210	4.4	8,600
20	610	13	33	2.9	11,170	3.2	12,330
50	1524	13	33	1.6	15,330	1.5	14,380

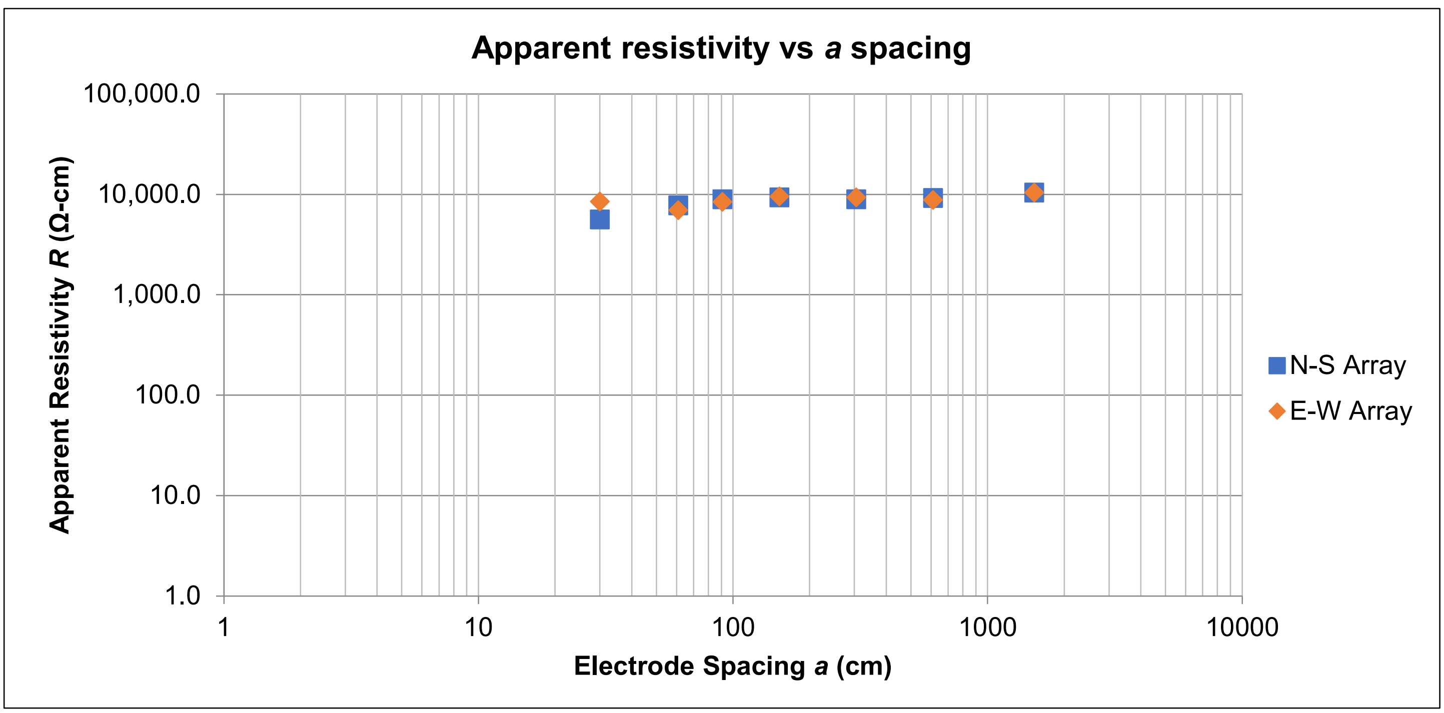


FIELD ELECTRICAL RESISTIVITY TEST DATA
Diamond Tail Solar ■ Albuquerque, NM
September 2023 ■ Terracon Project No.66225144

Array Loc.	FER-04		
Instrument	LRI MiniRes Ultra	**Weather**	Sunny
Serial #	SN-332	**Ground Cond.**	Dry, light vegetation
Cal. Check	4/1/2023	**Tested By**	KD, GS
Test Date	February 27, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as :
$$\rho = \frac{4\pi a R}{1 + \frac{2a}{\sqrt{a^2 + 4b^2}} - \frac{a}{\sqrt{a^2 + b^2}}}$$

Electrode Spacing *a*		**Electrode Depth *b***		**N-S Test**		**E-W Test**	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)
1	30	6	15	22.9	5,680	34.5	8,560
2	61	6	15	18.6	7,820	16.7	7,020
3	91	6	15	15.0	8,970	14.2	8,490
5	152	6	15	9.7	9,420	9.9	9,610
10	305	13	33	4.6	8,990	4.8	9,380
20	610	13	33	2.4	9,250	2.3	8,860
50	1524	13	33	1.1	10,540	1.1	10,540

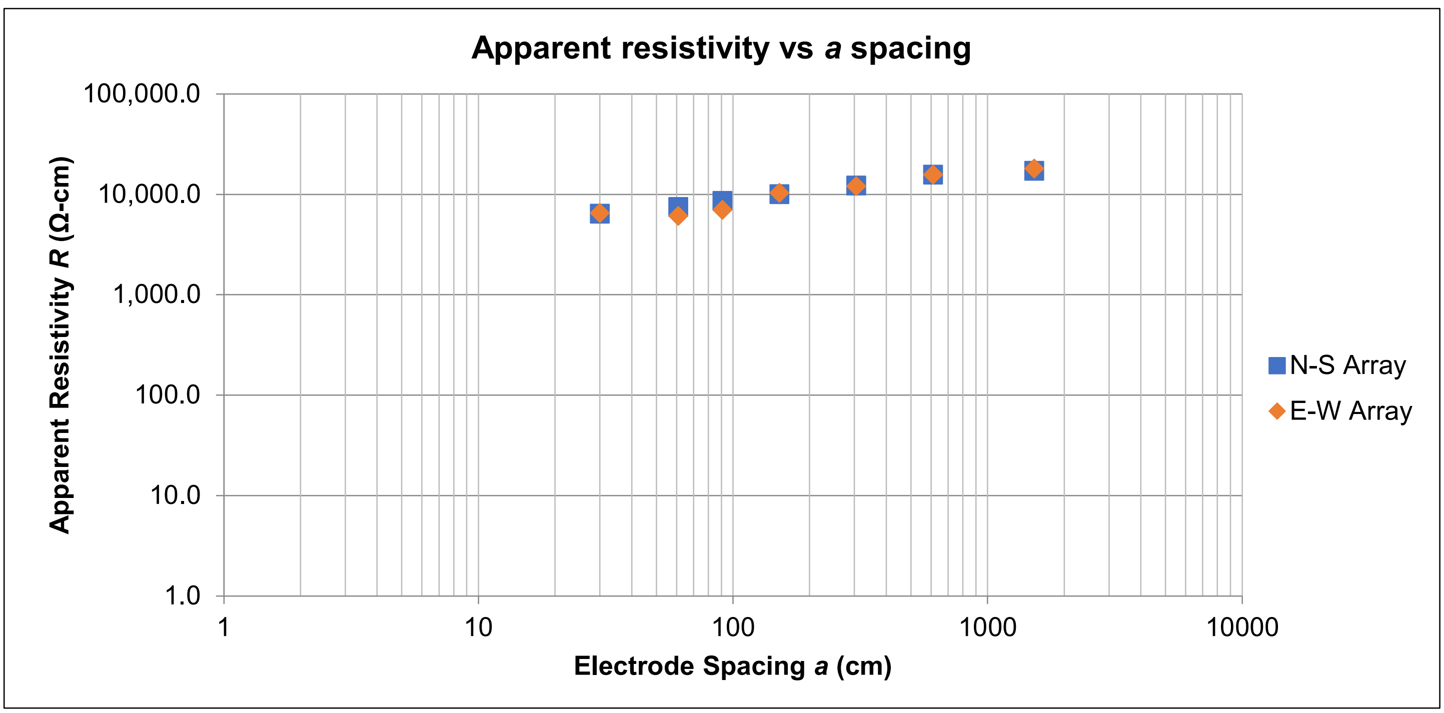


FIELD ELECTRICAL RESISTIVITY TEST DATA
Diamond Tail Solar ■ Albuquerque, NM
September 2023 ■ Terracon Project No.66225144

Array Loc.	FER-05		
Instrument	LRI MiniRes Ultra	**Weather**	Sunny
Serial #	SN-332	**Ground Cond.**	Dry, light vegetation
Cal. Check	4/1/2023	**Tested By**	MG
Test Date	July 31, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as : $\rho = \dfrac{4\pi a R}{1 + \dfrac{2a}{\sqrt{a^2+4b^2}} - \dfrac{a}{\sqrt{a^2+b^2}}}$

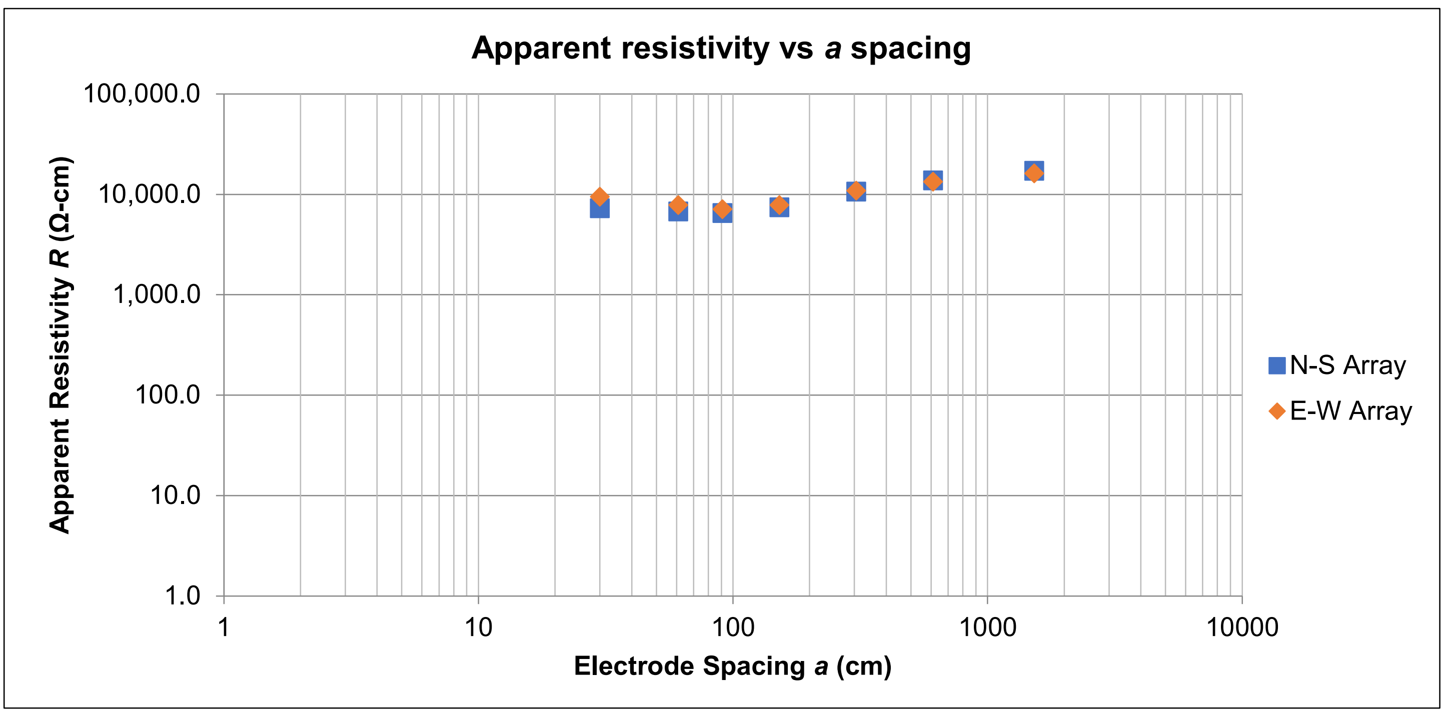
Electrode Spacing *a*		**Electrode Depth *b***		**N-S Test**		**E-W Test**	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)
1	30	6	15	26.1	6,470	26.4	6,550
2	61	6	15	18.0	7,570	14.6	6,140
3	91	6	15	14.5	8,670	11.8	7,050
5	152	6	15	10.4	10,100	10.7	10,390
10	305	13	33	6.3	12,320	6.2	12,120
20	610	13	33	4.1	15,790	4.1	15,790
50	1524	13	33	1.8	17,250	1.9	18,210



Array Loc.	FER-06		
Instrument	LRI MiniRes Ultra	**Weather**	Sunny
Serial #	SN-332	**Ground Cond.**	Dry, light vegetation
Cal. Check	4/1/2023	**Tested By**	SL, LA
Test Date	July 31, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as : $\rho = \dfrac{4\pi a R}{1 + \dfrac{2a}{\sqrt{a^2 + 4b^2}} - \dfrac{a}{\sqrt{a^2 + b^2}}}$

Electrode Spacing *a*		Electrode Depth *b*		N-S Test		E-W Test	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity ρ (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity ρ (Ω-cm)
1	30	6	15	29.6	7,340	38.5	9,550
2	61	6	15	16.2	6,810	18.8	7,900
3	91	6	15	11.0	6,580	12.0	7,170
5	152	6	15	7.7	7,480	8.1	7,870
10	305	13	33	5.5	10,750	5.6	10,950
20	610	13	33	3.6	13,870	3.5	13,480
50	1524	13	33	1.8	17,250	1.7	16,290



FIELD ELECTRICAL RESISTIVITY TEST DATA

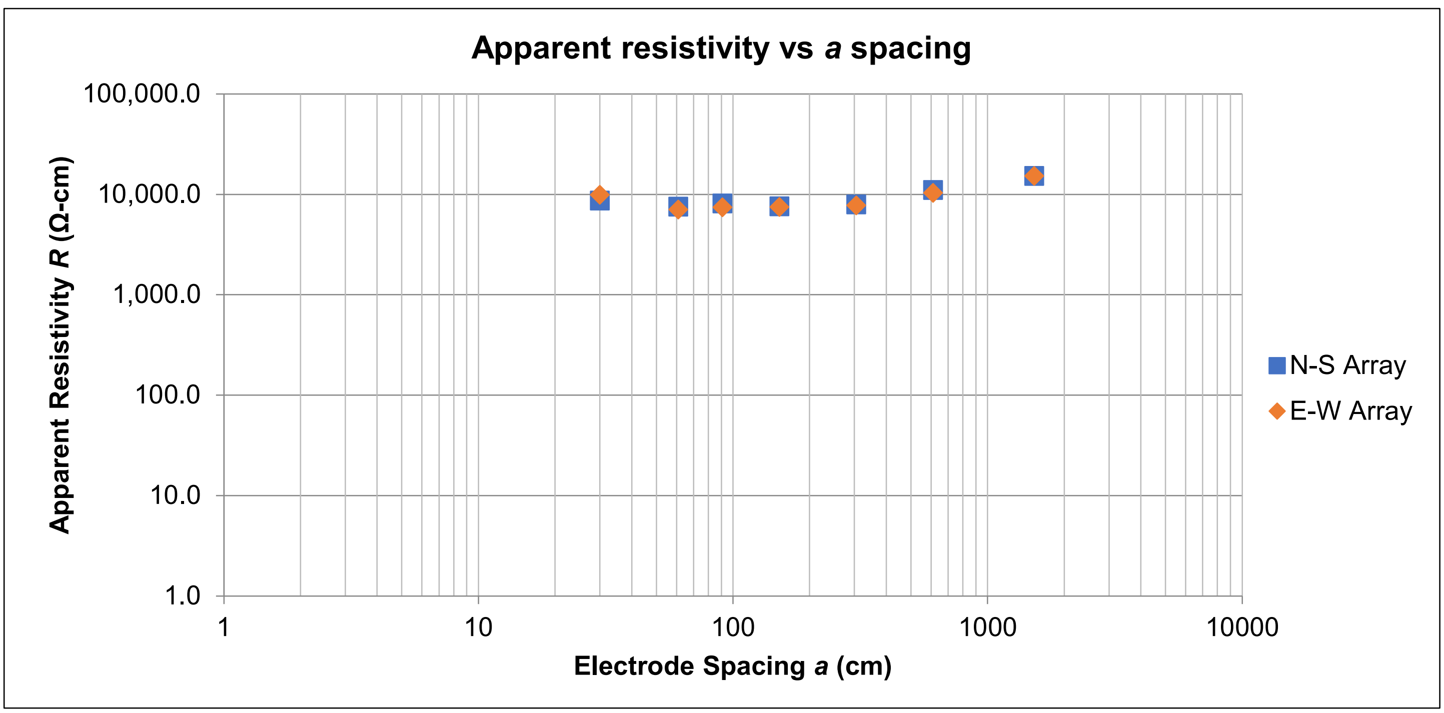
Diamond Tail Solar ■ Albuquerque, NM

September 2023 ■ Terracon Project No.66225144

Array Loc.	FER-07		
Instrument	LRI MiniRes Ultra	**Weather**	Sunny
Serial #	SN-332	**Ground Cond.**	Dry, light vegetation
Cal. Check	4/1/2023	**Tested By**	MG
Test Date	March 1, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as : $\rho = \dfrac{4\pi a R}{1 + \dfrac{2a}{\sqrt{a^2+4b^2}} - \dfrac{a}{\sqrt{a^2+b^2}}}$

Electrode Spacing *a*		**Electrode Depth *b***		**N-S Test**		**E-W Test**	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity ρ (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity ρ (Ω-cm)
1	30	6	15	35.1	8,710	40.1	9,950
2	61	6	15	18.1	7,610	16.9	7,100
3	91	6	15	13.7	8,190	12.5	7,470
5	152	6	15	7.9	7,670	7.8	7,570
10	305	13	33	4.1	8,020	4.0	7,820
20	610	13	33	2.9	11,170	2.7	10,400
50	1524	13	33	1.6	15,330	1.6	15,330

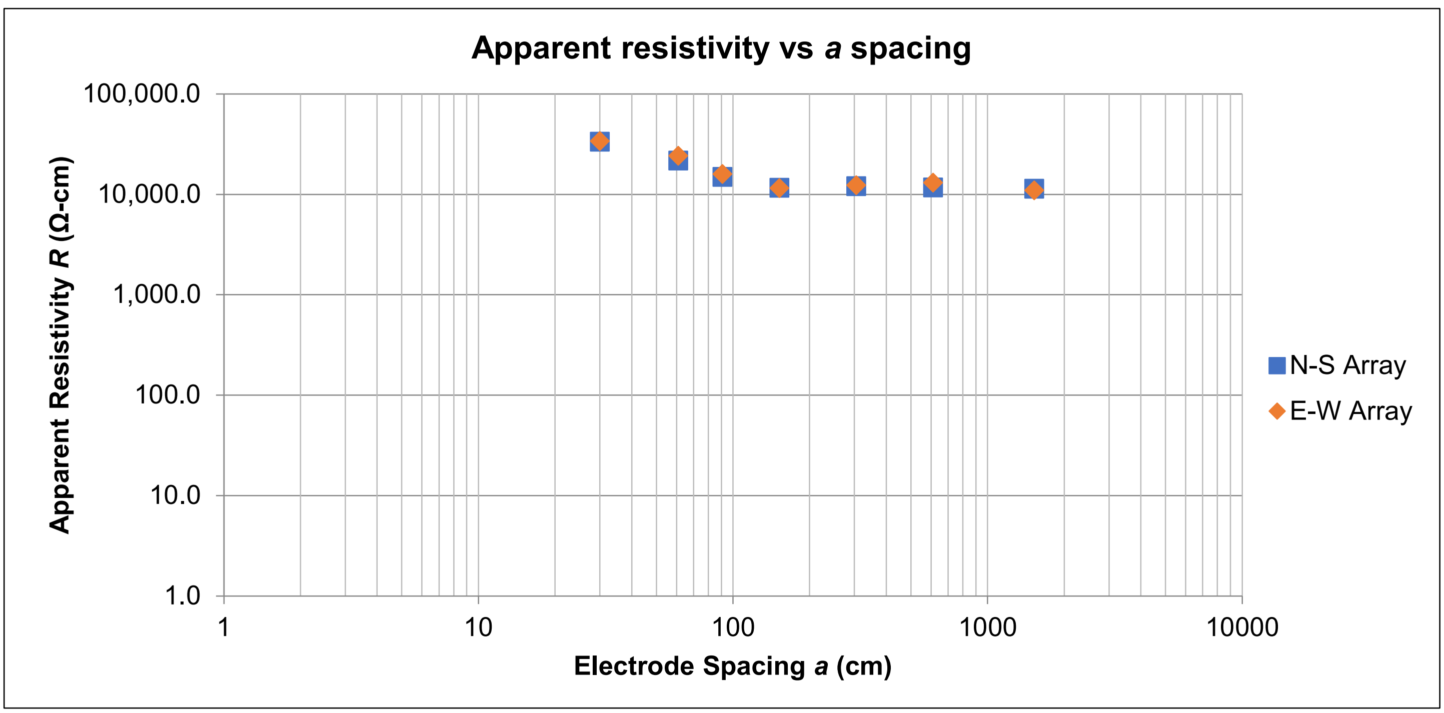


FIELD ELECTRICAL RESISTIVITY TEST DATA
Diamond Tail Solar ■ Albuquerque, NM
September 2023 ■ Terracon Project No.66225144

Array Loc.	FER-08		
Instrument	LRI MiniRes Ultra	**Weather**	Sunny
Serial #	SN-332	**Ground Cond.**	Dry, light vegetation
Cal. Check	4/1/2023	**Tested By**	LA, ED
Test Date	July 31, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as : $\rho = \dfrac{4\pi a R}{1 + \dfrac{2a}{\sqrt{a^2 + 4b^2}} - \dfrac{a}{\sqrt{a^2 + b^2}}}$

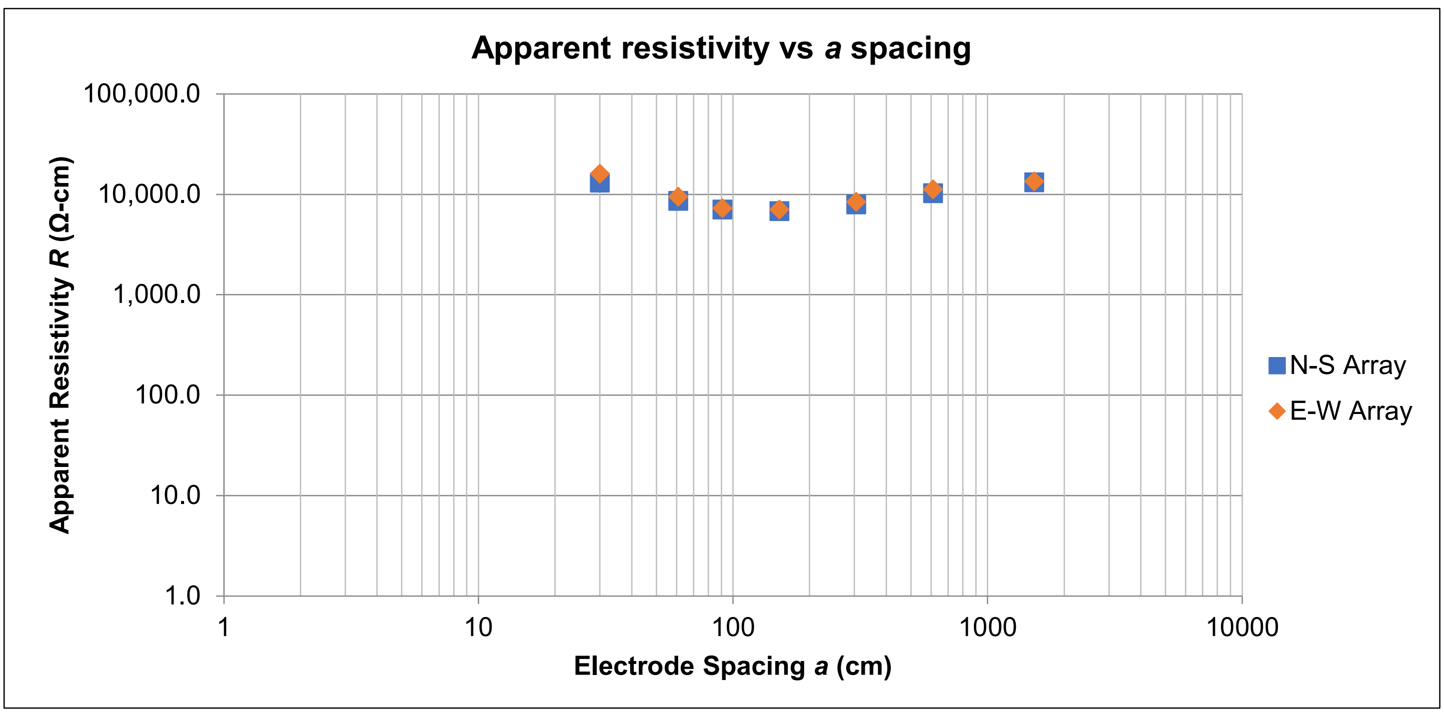
Electrode Spacing *a*		Electrode Depth *b*		N-S Test		E-W Test	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity ρ (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity ρ (Ω-cm)
1	30	6	15	136.4	33,830	137.7	34,160
2	61	6	15	52.0	21,860	58.3	24,510
3	91	6	15	25.2	15,070	26.8	16,020
5	152	6	15	12.1	11,750	12.0	11,650
10	305	13	33	6.21	12,140	6.34	12,390
20	610	13	33	3.06	11,790	3.42	13,170
50	1524	13	33	1.20	11,500	1.15	11,020



Array Loc.	FER-09		
Instrument	LRI MiniRes Ultra	**Weather**	Sunny
Serial #	SN-332	**Ground Cond.**	Dry, light vegetation
Cal. Check	4/1/2023	**Tested By**	LA, ED
Test Date	July 31, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as : $\rho = \dfrac{4\pi a R}{1 + \dfrac{2a}{\sqrt{a^2 + 4b^2}} - \dfrac{a}{\sqrt{a^2 + b^2}}}$

Electrode Spacing *a*		Electrode Depth *b*		N-S Test		E-W Test	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)
1	30	6	15	53.0	13,150	65.1	16,150
2	61	6	15	20.6	8,660	22.8	9,580
3	91	6	15	11.9	7,110	12.3	7,350
5	152	6	15	7.07	6,870	7.32	7,110
10	305	13	33	4.11	8,030	4.33	8,460
20	610	13	33	2.69	10,360	2.93	11,290
50	1524	13	33	1.39	13,320	1.42	13,610



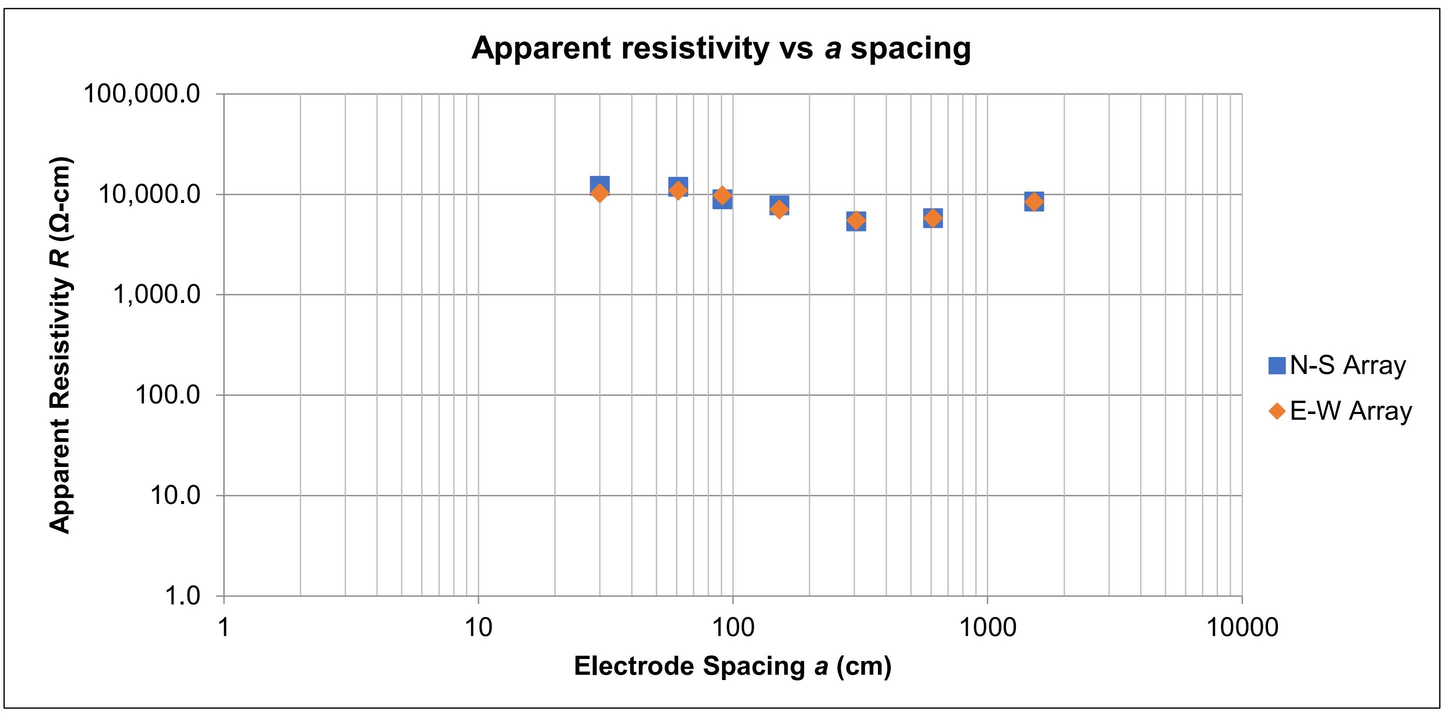
FIELD ELECTRICAL RESISTIVITY TEST DATA
Diamond Tail Solar ■ Albuquerque, NM
September 2023 ■ Terracon Project No.66225144

Terracon

Array Loc.	FER-10		
Instrument	LRI MiniRes Ultra	**Weather**	Sunny
Serial #	SN-332	**Ground Cond.**	Dry, light vegetation
Cal. Check	4/1/2023	**Tested By**	LA, ED
Test Date	July 31, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as : $\rho = \dfrac{4\pi a R}{1 + \dfrac{2a}{\sqrt{a^2 + 4b^2}} - \dfrac{a}{\sqrt{a^2 + b^2}}}$

Electrode Spacing *a*		Electrode Depth *b*		N-S Test		E-W Test	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity ρ (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity ρ (Ω-cm)
1	30	6	15	49.3	12,230	41.8	10,370
2	61	6	15	28.5	11,980	26.2	11,010
3	91	6	15	15.0	8,970	16.4	9,800
5	152	6	15	8.08	7,850	7.337	7,120
10	305	13	33	2.77	5,420	2.844	5,560
20	610	13	33	1.51	5,820	1.519	5,850
50	1524	13	33	0.892	8,550	0.883	8,460



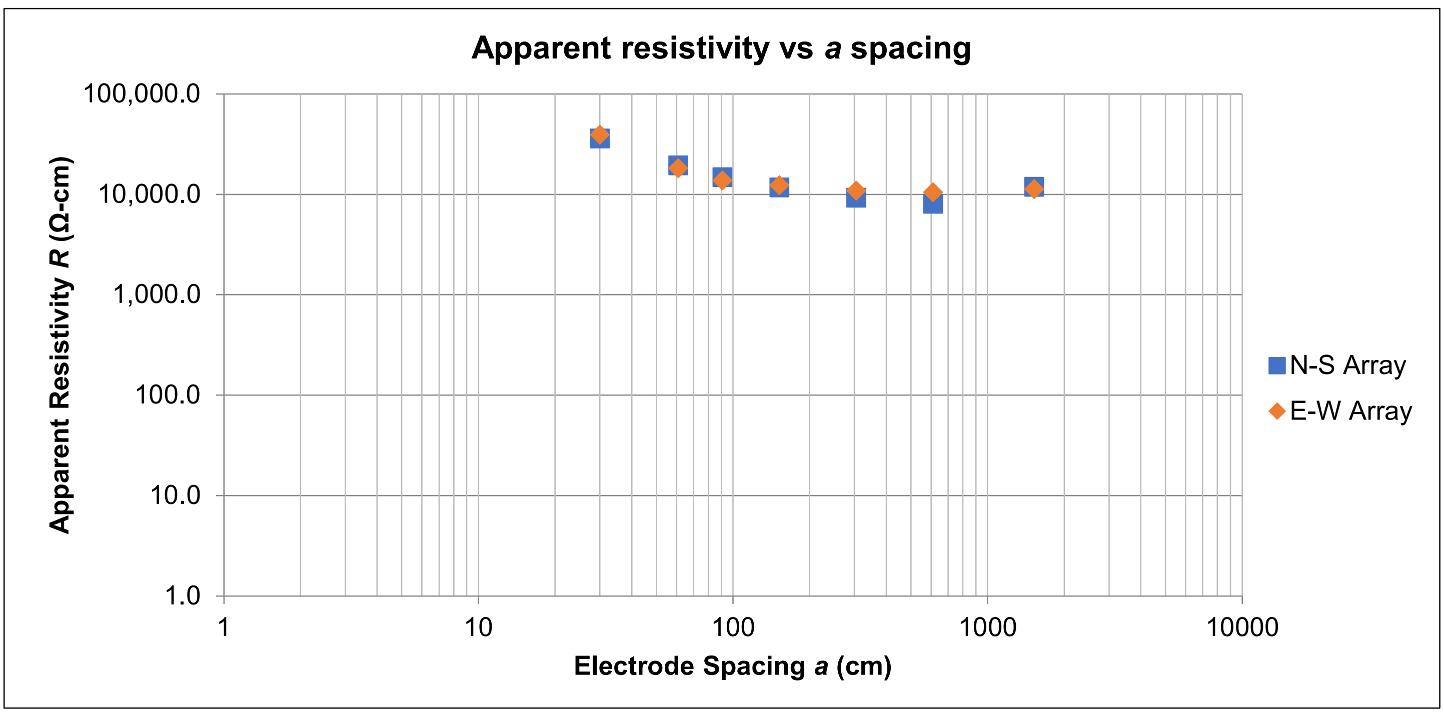
FIELD ELECTRICAL RESISTIVITY TEST DATA
Diamond Tail Solar ■ Albuquerque, NM
September 2023 ■ Terracon Project No.66225144

Terracon

Array Loc.	FER-11		
Instrument	LRI MiniRes Ultra	**Weather**	Sunny
Serial #	SN-332	**Ground Cond.**	Dry, light vegetation
Cal. Check	4/1/2023	**Tested By**	LA, ED
Test Date	July 31, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as : $\rho = \dfrac{4\pi a R}{1 + \dfrac{2a}{\sqrt{a^2+4b^2}} - \dfrac{a}{\sqrt{a^2+b^2}}}$

Electrode Spacing *a*		Electrode Depth *b*		N-S Test		E-W Test	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)
1	30	6	15	146.7	36,390	160.2	39,740
2	61	6	15	46.5	19,550	43.8	18,410
3	91	6	15	24.9	14,890	23.3	13,930
5	152	6	15	12.2	11,850	12.8	12,430
10	305	13	33	4.772	9,330	5.624	10,990
20	610	13	33	2.115	8,150	2.747	10,580
50	1524	13	33	1.252	12,000	1.188	11,390



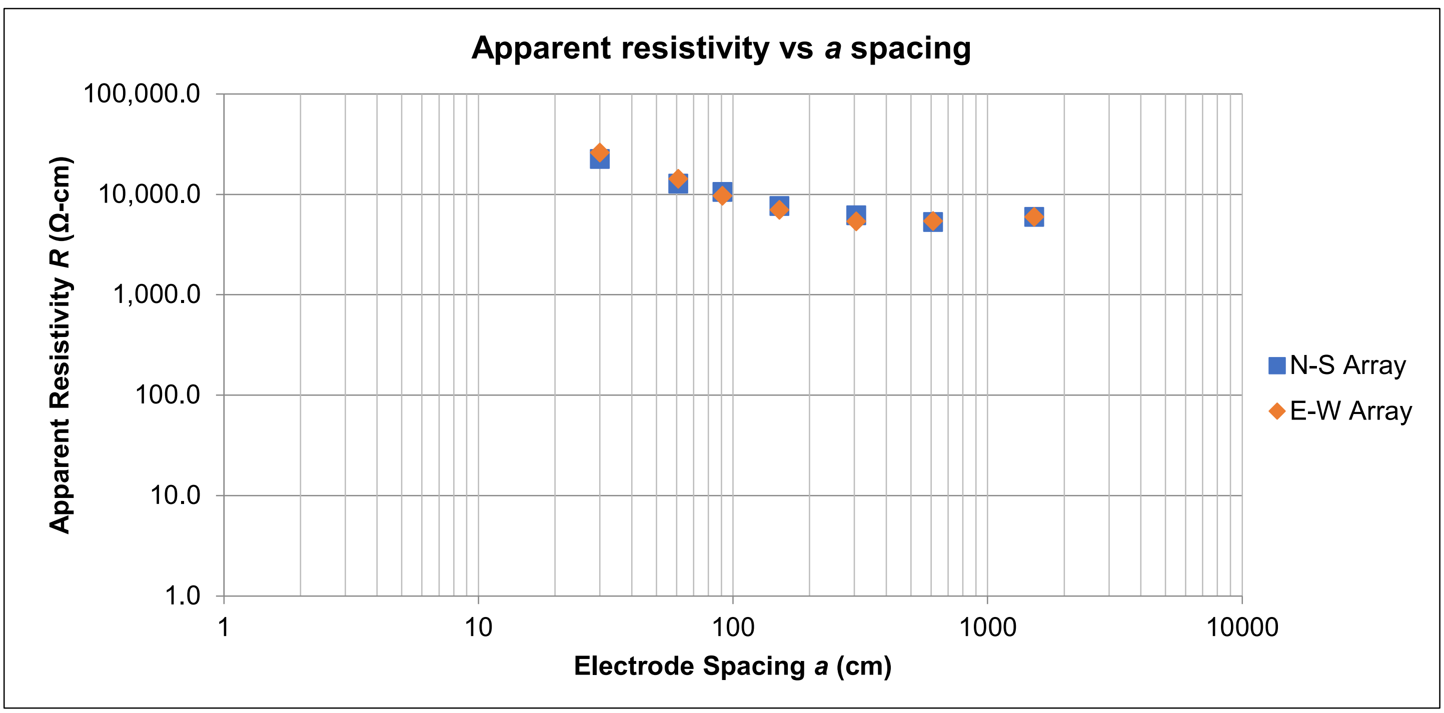
FIELD ELECTRICAL RESISTIVITY TEST DATA
Diamond Tail Solar ■ Albuquerque, NM
September 2023 ■ Terracon Project No.66225144

Terracon

Array Loc.	FER-12		
Instrument	LRI MiniRes Ultra	**Weather**	Sunny
Serial #	SN-332	**Ground Cond.**	Dry, light vegetation
Cal. Check	4/1/2023	**Tested By**	LA, ED
Test Date	July 31, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as : $$\rho = \frac{4\pi a R}{1 + \frac{2a}{\sqrt{a^2 + 4b^2}} - \frac{a}{\sqrt{a^2 + b^2}}}$$

Electrode Spacing *a*		Electrode Depth *b*		N-S Test		E-W Test	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)
1	30	6	15	91.6	22,720	106.0	26,290
2	61	6	15	30.6	12,860	34.2	14,380
3	91	6	15	17.8	10,640	16.3	9,740
5	152	6	15	7.934	7,700	7.269	7,060
10	305	13	33	3.189	6,230	2.769	5,410
20	610	13	33	1.383	5,330	1.422	5,480
50	1524	13	33	0.627	6,010	0.629	6,030



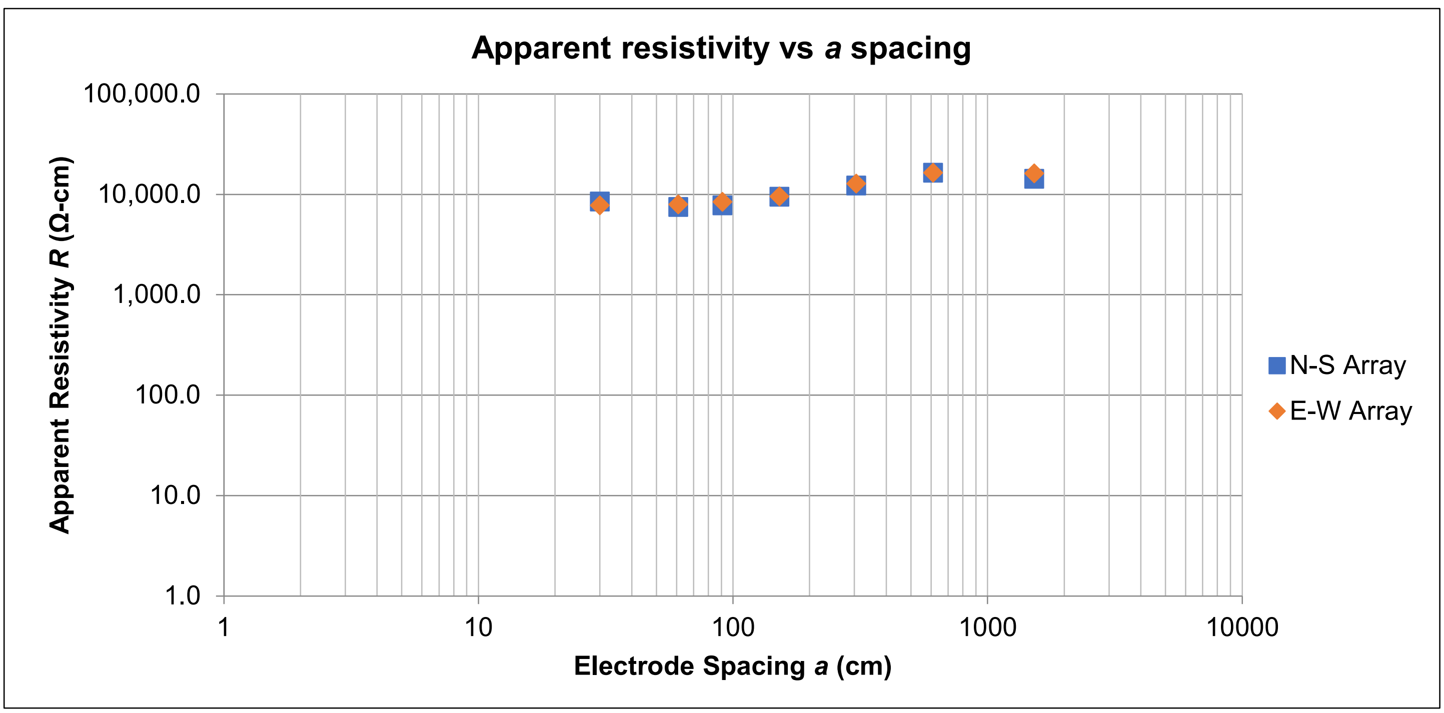
FIELD ELECTRICAL RESISTIVITY TEST DATA
Diamond Tail Solar ■ Albuquerque, NM
September 2023 ■ Terracon Project No.66225144

Terracon

Array Loc.	FER-13		
Instrument	LRI MiniRes Ultra	**Weather**	Sunny
Serial #	SN-332	**Ground Cond.**	Dry, light vegetation
Cal. Check	4/1/2023	**Tested By**	MG
Test Date	March 1, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as : $\rho = \dfrac{4\pi a R}{1 + \dfrac{2a}{\sqrt{a^2+4b^2}} - \dfrac{a}{\sqrt{a^2+b^2}}}$

Electrode Spacing *a*		**Electrode Depth *b***		**N-S Test**		**E-W Test**	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity ρ (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity ρ (Ω-cm)
1	30	6	15	34.4	8,530	31.6	7,840
2	61	6	15	18.0	7,570	19.1	8,030
3	91	6	15	13.1	7,830	14.2	8,490
5	152	6	15	9.80	9,520	9.90	9,610
10	305	13	33	6.30	12,320	6.60	12,900
20	610	13	33	4.30	16,560	4.30	16,560
50	1524	13	33	1.50	14,380	1.70	16,290

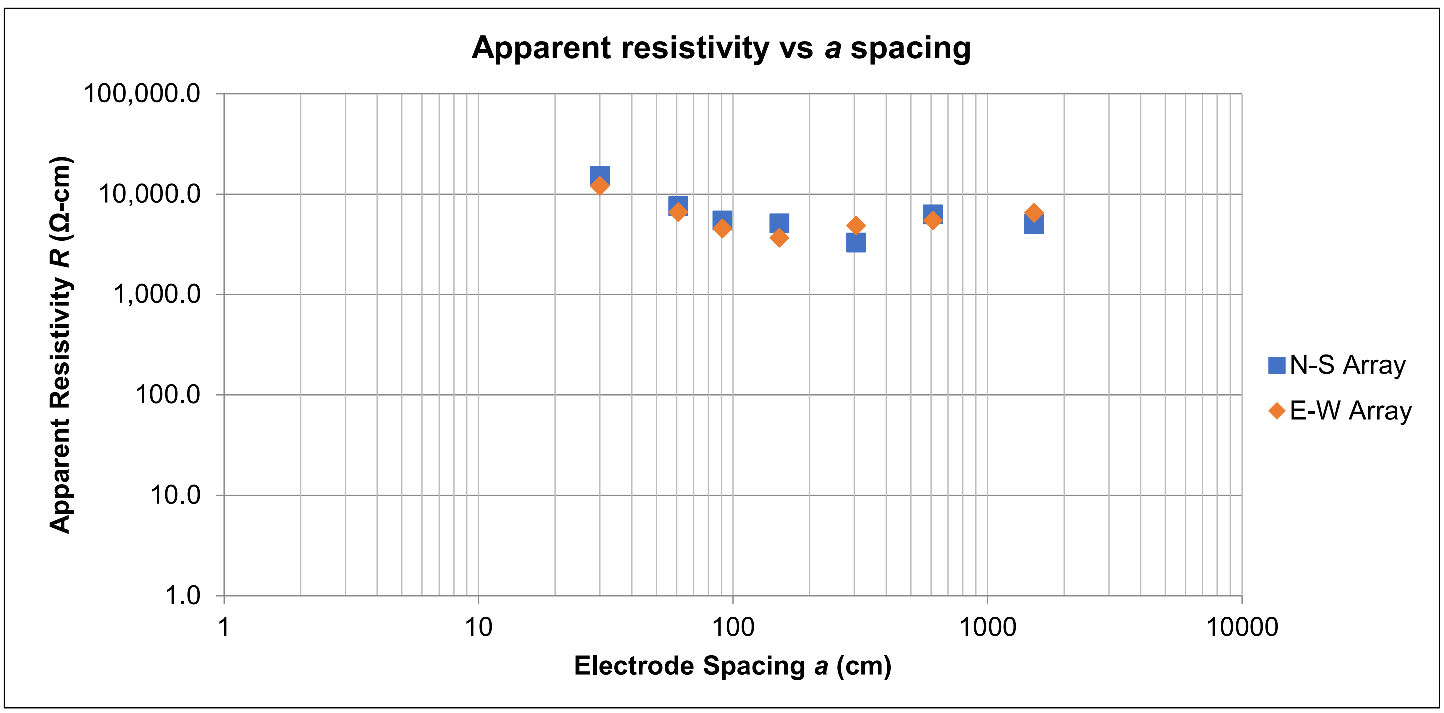


FIELD ELECTRICAL RESISTIVITY TEST DATA
Diamond Tail Solar ■ Albuquerque, NM
September 2023 ■ Terracon Project No.66225144

Array Loc.	FER-14		
Instrument	LRI MiniRes Ultra	**Weather**	partly cloudy
Serial #	SN-332	**Ground Cond.**	Dry, light vegetation
Cal. Check	4/1/2023	**Tested By**	MBG, LA
Test Date	August 2, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as : $\rho = \dfrac{4\pi aR}{1 + \dfrac{2a}{\sqrt{a^2+4b^2}} - \dfrac{a}{\sqrt{a^2+b^2}}}$

Electrode Spacing *a*		Electrode Depth *b*		N-S Test		E-W Test	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)
1	30	6	15	62.0	15,380	49.1	12,180
2	61	6	15	18.2	7,650	15.9	6,680
3	91	6	15	9.188	5,490	7.680	4,590
5	152	6	15	5.318	5,160	3.822	3,710
10	305	13	33	1.691	3,310	2.514	4,910
20	610	13	33	1.645	6,340	1.429	5,500
50	1524	13	33	0.529	5,070	0.684	6,560

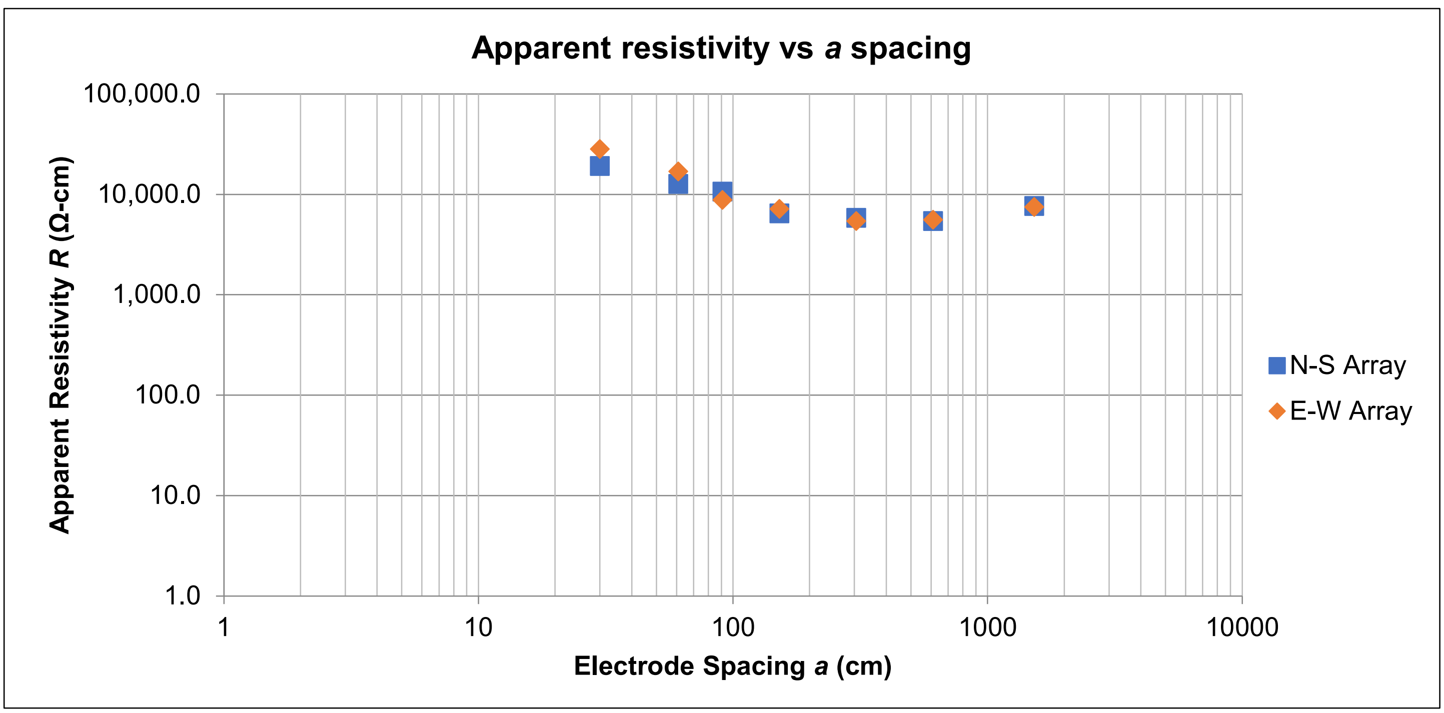


FIELD ELECTRICAL RESISTIVITY TEST DATA
Diamond Tail Solar ■ Albuquerque, NM
September 2023 ■ Terracon Project No.66225144

Array Loc.	FER-15		
Instrument	LRI MiniRes Ultra	**Weather**	partly cloudy
Serial #	SN-332	**Ground Cond.**	Dry, light vegetation
Cal. Check	4/1/2023	**Tested By**	MBG, LA
Test Date	July 31, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as : $$\rho = \frac{4\pi a R}{1 + \frac{2a}{\sqrt{a^2 + 4b^2}} - \frac{a}{\sqrt{a^2 + b^2}}}$$

Electrode Spacing *a*		Electrode Depth *b*		N-S Test		E-W Test	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity ρ (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity ρ (Ω-cm)
1	30	6	15	77.6	19,250	114.6	28,430
2	61	6	15	30.4	12,780	40.5	17,020
3	91	6	15	18.0	10,760	14.8	8,850
5	152	6	15	6.719	6,520	7.445	7,230
10	305	13	33	3.003	5,870	2.805	5,480
20	610	13	33	1.422	5,480	1.455	5,610
50	1524	13	33	0.808	7,740	0.786	7,530

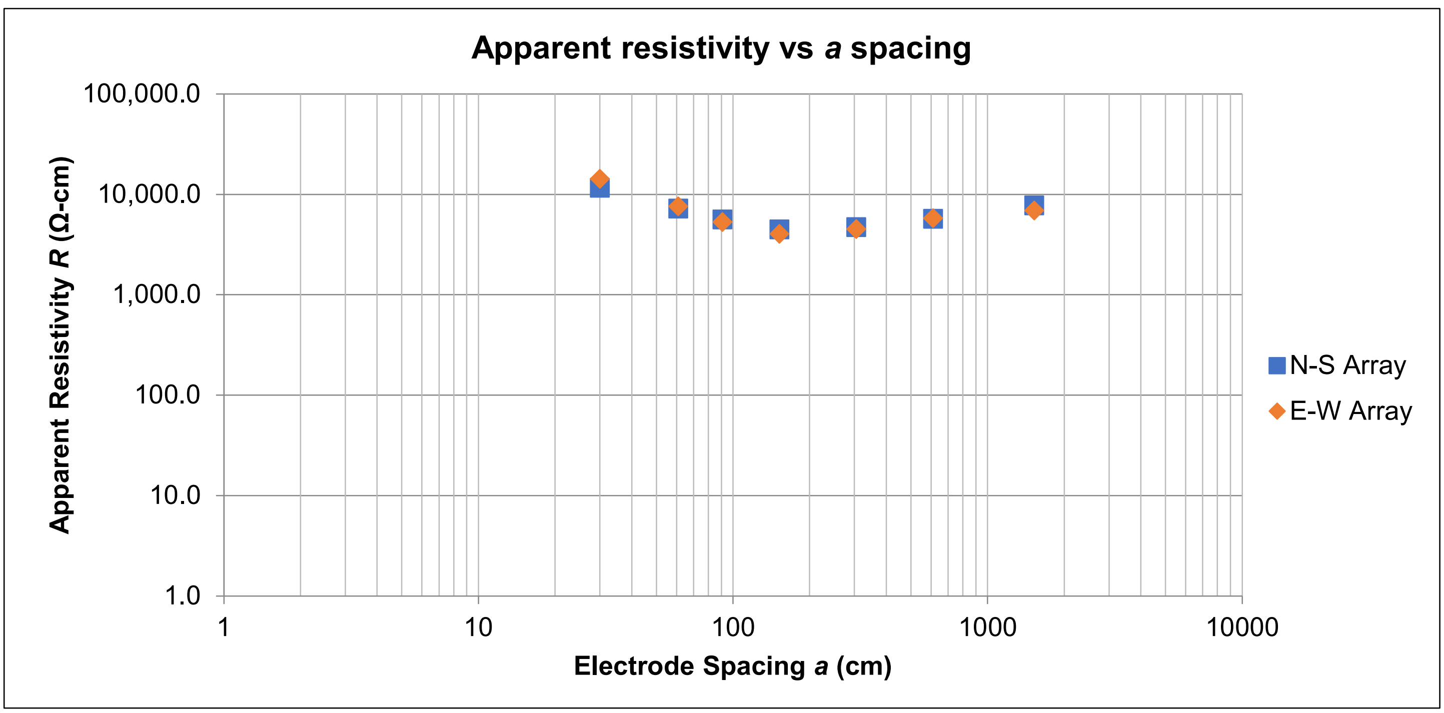


FIELD ELECTRICAL RESISTIVITY TEST DATA
Diamond Tail Solar ■ Albuquerque, NM
September 2023 ■ Terracon Project No.66225144

Array Loc.	FER-16		
Instrument	LRI MiniRes Ultra	**Weather**	partly cloudy
Serial #	SN-332	**Ground Cond.**	Dry, light vegetation
Cal. Check	4/1/2023	**Tested By**	MBG, LA
Test Date	August 2, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as : $\rho = \dfrac{4\pi a R}{1 + \dfrac{2a}{\sqrt{a^2 + 4b^2}} - \dfrac{a}{\sqrt{a^2 + b^2}}}$

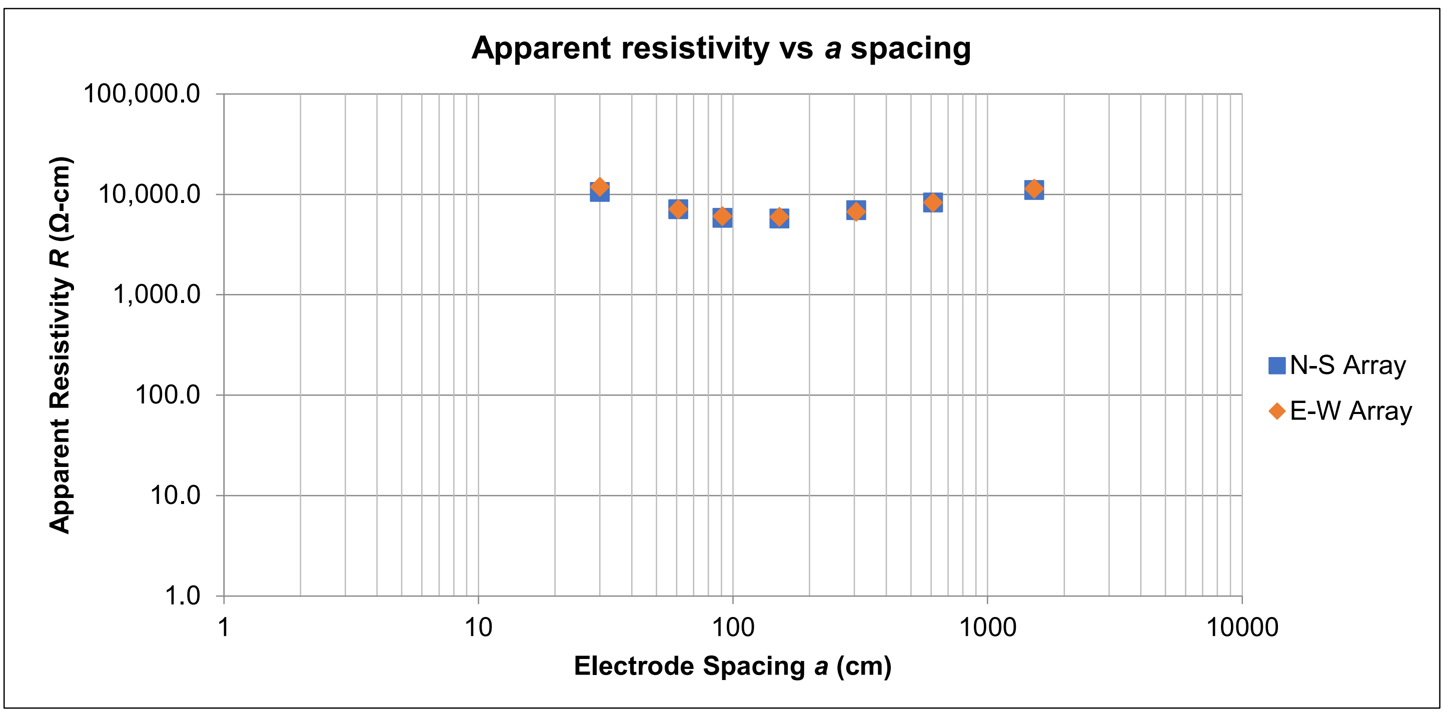
Electrode Spacing *a*		Electrode Depth *b*		N-S Test		E-W Test	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)
1	30	6	15	47.3	11,730	58.0	14,390
2	61	6	15	17.3	7,270	18.2	7,650
3	91	6	15	9.448	5,650	8.916	5,330
5	152	6	15	4.646	4,510	4.180	4,060
10	305	13	33	2.437	4,760	2.328	4,550
20	610	13	33	1.495	5,760	1.513	5,830
50	1524	13	33	0.815	7,810	0.728	6,980



Array Loc.	FER-17		
Instrument	LRI MiniRes Ultra	**Weather**	sunny
Serial #	SN-332	**Ground Cond.**	Dry, light vegetation
Cal. Check	4/1/2023	**Tested By**	LA, SL
Test Date	July 31, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as : $\rho = \dfrac{4\pi a R}{1 + \dfrac{2a}{\sqrt{a^2 + 4b^2}} - \dfrac{a}{\sqrt{a^2 + b^2}}}$

Electrode Spacing *a*		Electrode Depth *b*		N-S Test		E-W Test	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity *ρ* (Ω-cm)
1	30	6	15	42.9	10640	48.4	12010
2	61	6	15	17.1	7190	17.1	7190
3	91	6	15	9.869	5900	10.2	6100
5	152	6	15	5.969	5800	6.185	6010
10	305	13	33	3.596	7030	3.466	6780
20	610	13	33	2.179	8390	2.164	8340
50	1524	13	33	1.158	11100	1.196	11460

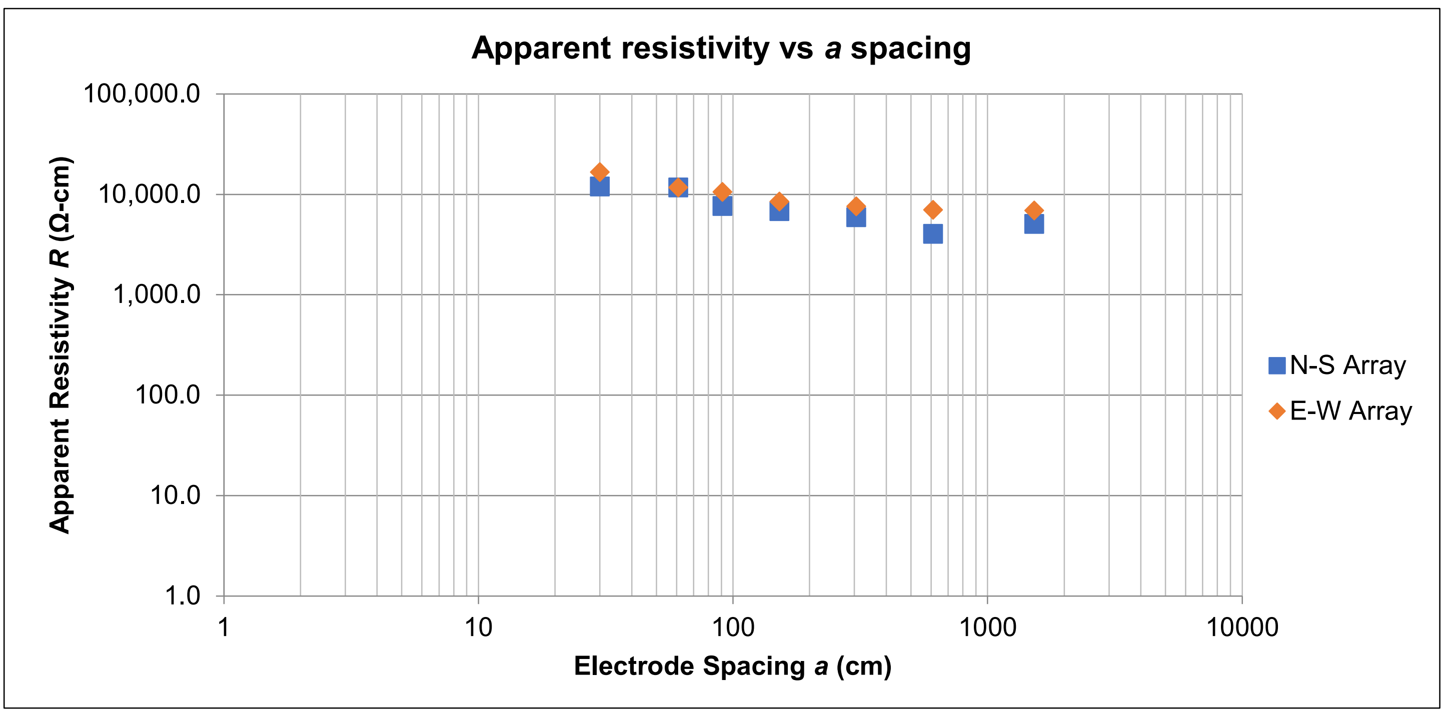


Terracon

Array Loc.	FER-18		
Instrument	LRI MiniRes Ultra	**Weather**	partly cloudy
Serial #	SN-332	**Ground Cond.**	Dry, light vegetation
Cal. Check	4/1/2023	**Tested By**	MGB, LA
Test Date	August 2, 2023	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012)
Notes & Conflicts			

Apparent resistivity ρ is calculated as : $\rho = \dfrac{4\pi a R}{1 + \dfrac{2a}{\sqrt{a^2 + 4b^2}} - \dfrac{a}{\sqrt{a^2 + b^2}}}$

Electrode Spacing *a*		Electrode Depth *b*		N-S Test		E-W Test	
(feet)	(centimeters)	(inches)	(centimeters)	Measured Resistance *R* Ω	Apparent Resistivity ρ (Ω-cm)	Measured Resistance *R* Ω	Apparent Resistivity ρ (Ω-cm)
1	30	6	15	48.7	12,080	67.5	16,740
2	61	6	15	28.1	11,810	28.0	11,770
3	91	6	15	12.9	7,710	17.8	10,640
5	152	6	15	7.053	6,850	8.799	8,540
10	305	13	33	3.046	5,950	3.912	7,650
20	610	13	33	1.054	4,060	1.838	7,080
50	1524	13	33	0.535	5,130	0.728	6,980



Test Pile Driving Data

Test Pile Installation Details

We completed a full-scale pile load testing (PLT) program that included:

- Directing the installation of a group of three test piles at 18 locations in the solar array area.
- Performing full-scale testing under axial tensile loads for two test piles in each group (36 tests) in the solar array area.
- Performing full-scale testing under lateral loads for two test piles in each group (36 tests) in the solar array area.
- Performing full-scale testing under axial compressive loads for one test pile at 18 locations (18 tests) in the solar array area.

These activities are further described in the following sections.

Pile Location Procedures

The pile load test locations were established in the field by using a hand-held GPS (accurate to about 15 feet) and existing site features as reference points. The mapped test locations should be considered accurate only to the degree implied by the means and methods used to define them.

Test Pile Installation

The test piles consisted of wide-flange steel W6x9 sections. A group of three test piles were installed at each of the 18 test locations across the project site. The test piles have been identified using an alphanumeric system. The pile identification system for each location begins with "PLT" and is followed by the number corresponding to the test pile group location followed by the letter "A", "B", or "C". The "A" piles were installed to a depth of 5 feet and were tested for tension and lateral capacity. The "B" piles were installed to a depth of 8 feet and were tested for tension and lateral capacity. The "C" piles were installed to a depth of 5 feet and were tested for compression only.

The pile driving operation was performed with a track-mounted GAYK Model HRE 4000 with a hydraulic hammer. The time rate of installation was recorded with a stopwatch. The total time required to advance each pile to its specified embedment depth was recorded and is summarized in the following graphs and table.

Exploration Plan – Pile Load Test Zoning Plan

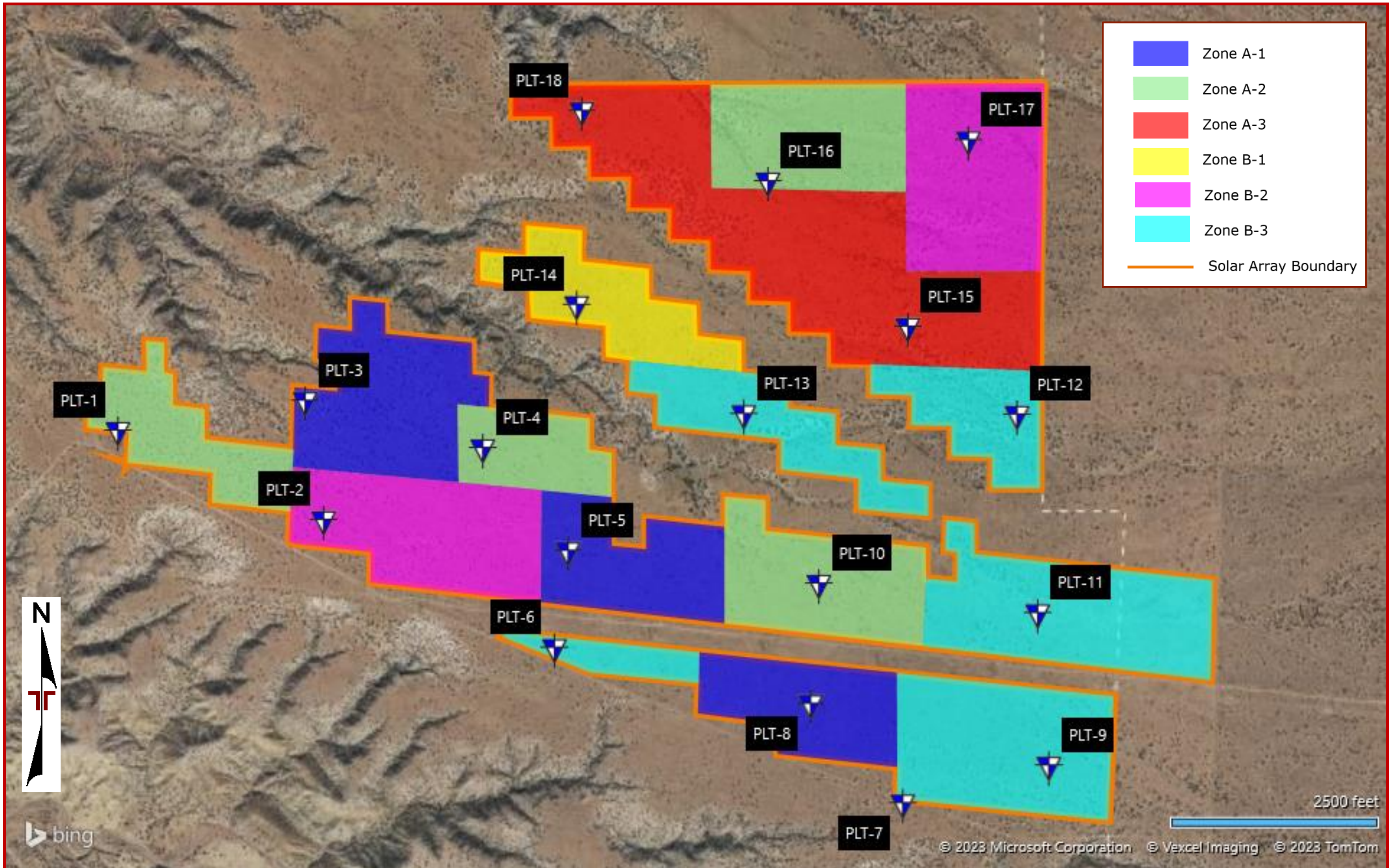
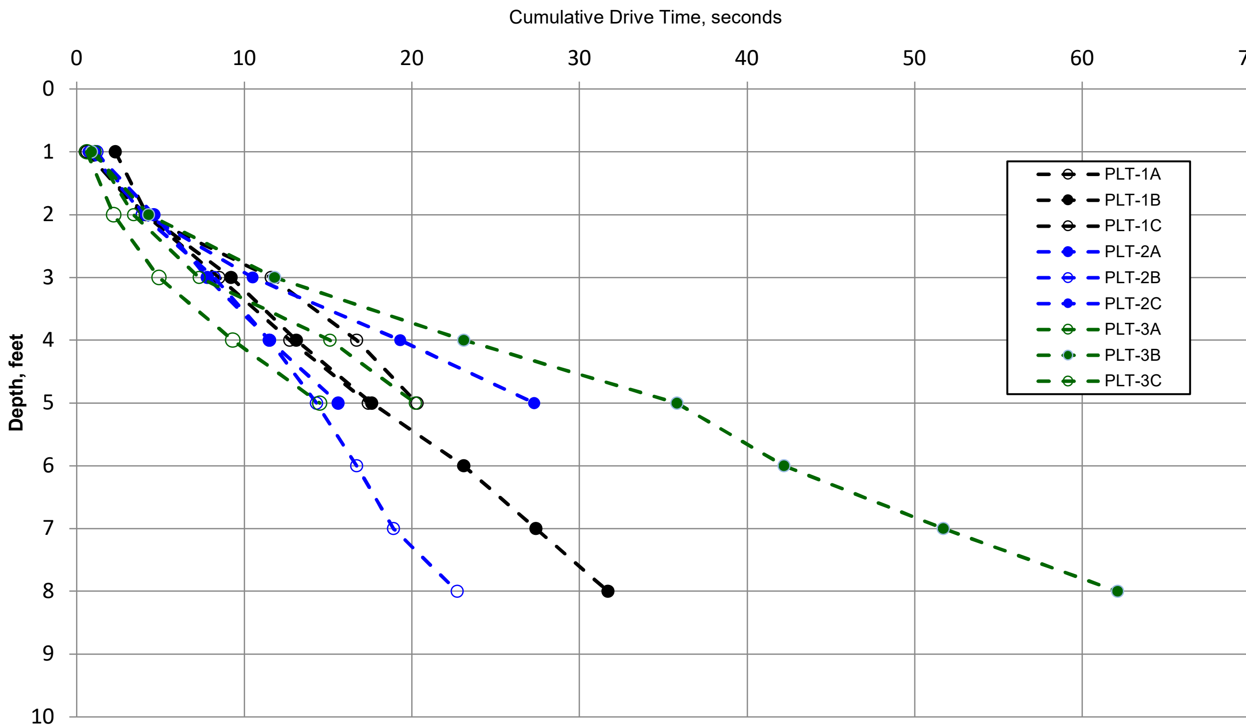


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

TEST PILE DRIVING RECORDS

66225144 - Diamond Tail Solar



Depth, feet	Cumulative Driving Time, seconds								
	PLT-1A	PLT-1B	PLT-1C	PLT-2A	PLT-2B	PLT-2C	PLT-3A	PLT-3B	PLT-3C
1	0.6	2.3	0.5	1.1	1.2	0.7	1.1	0.9	0.6
2	3.9	4.2	4.1	4.6	3.9	4.1	3.4	4.3	2.2
3	11.6	9.2	8.5	7.8	8.2	10.5	7.3	11.8	4.9
4	16.7	13.1	12.7	11.5	11.5	19.3	15.1	23.1	9.3
5	20.3	17.6	17.4	15.6	14.3	27.3	20.2	35.8	14.5
6		23.1			16.7			42.2	
7		27.4			18.9			51.7	
8		31.7			22.7			62.1	
Note:									
Embedment Depth, ft	**5**	**8**	**5**	**5**	**8**	**5**	**5**	**8**	**5**
Total Drive Time, sec	**20.3**	**31.7**	**17.4**	**15.6**	**22.7**	**27.3**	**20.2**	**62.1**	**14.5**
Average, sec/ft	**4.1**	**4.0**	**3.5**	**3.1**	**2.8**	**5.5**	**4.0**	**7.8**	**2.9**

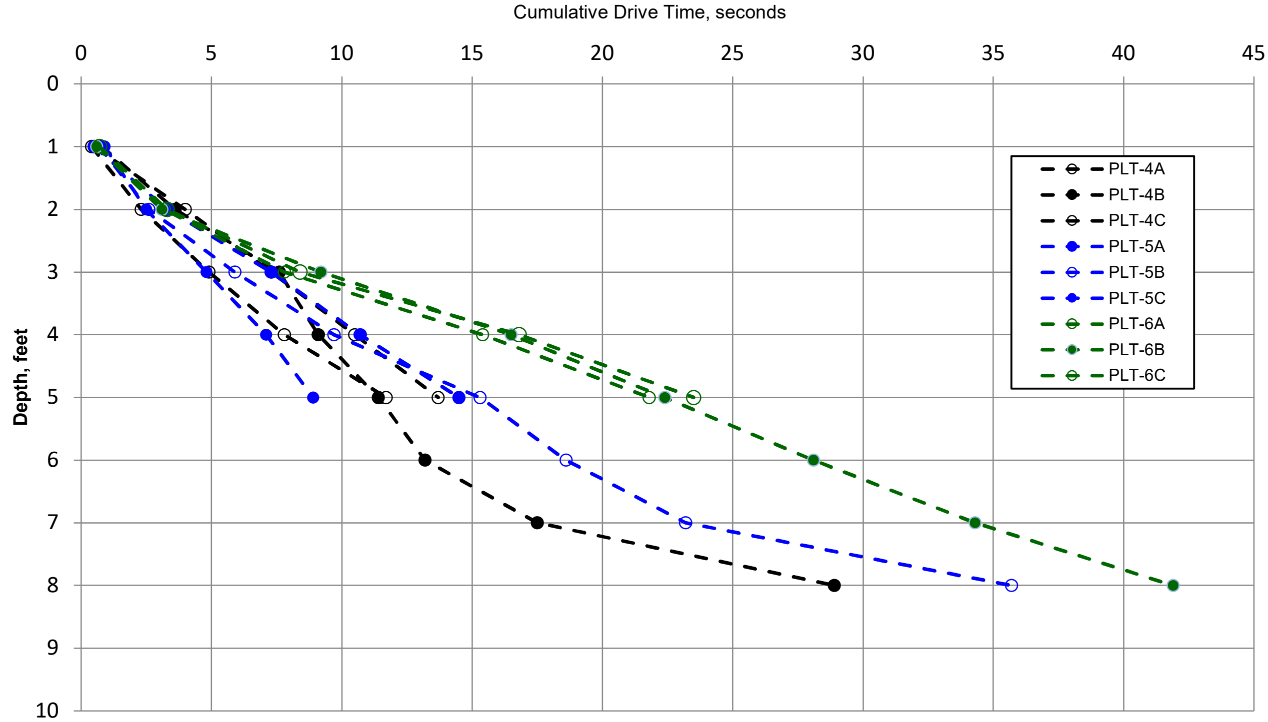
NOTES:

Piles advanced with a track mounted GAYK-HRE 1000 on February 8, 2023.

Terracon

TEST PILE DRIVING RECORDS

66225144 - Diamond Tail Solar



Depth, feet	Cumulative Driving Time, seconds								
	PLT-4A	PLT-4B	PLT-4C	PLT-5A	PLT-5B	PLT-5C	PLT-6A	PLT-6B	PLT-6C
1	0.5	0.8	0.4	0.5	0.7	0.9	0.6	0.6	0.7
2	4.0	3.6	2.3	3.3	2.6	2.5	3.2	3.1	3.3
3	7.3	7.6	4.9	7.3	5.9	4.8	7.8	9.2	8.4
4	10.5	9.1	7.8	10.7	9.7	7.1	15.4	16.5	16.8
5	13.7	11.4	11.7	14.5	15.3	8.9	21.8	22.4	23.5
6		13.2			18.6			28.1	
7		17.5			23.2			34.3	
8		28.9			35.7			41.9	
Note:									
Embedment Depth, ft	**5**	**8**	**5**	**5**	**8**	**5**	**5**	**8**	**5**
Total Drive Time, sec	**13.7**	**28.9**	**11.7**	**14.5**	**35.7**	**8.9**	**21.8**	**41.9**	**23.5**
Average, sec/ft	**2.7**	**3.6**	**2.3**	**2.9**	**4.5**	**1.8**	**4.4**	**5.2**	**4.7**

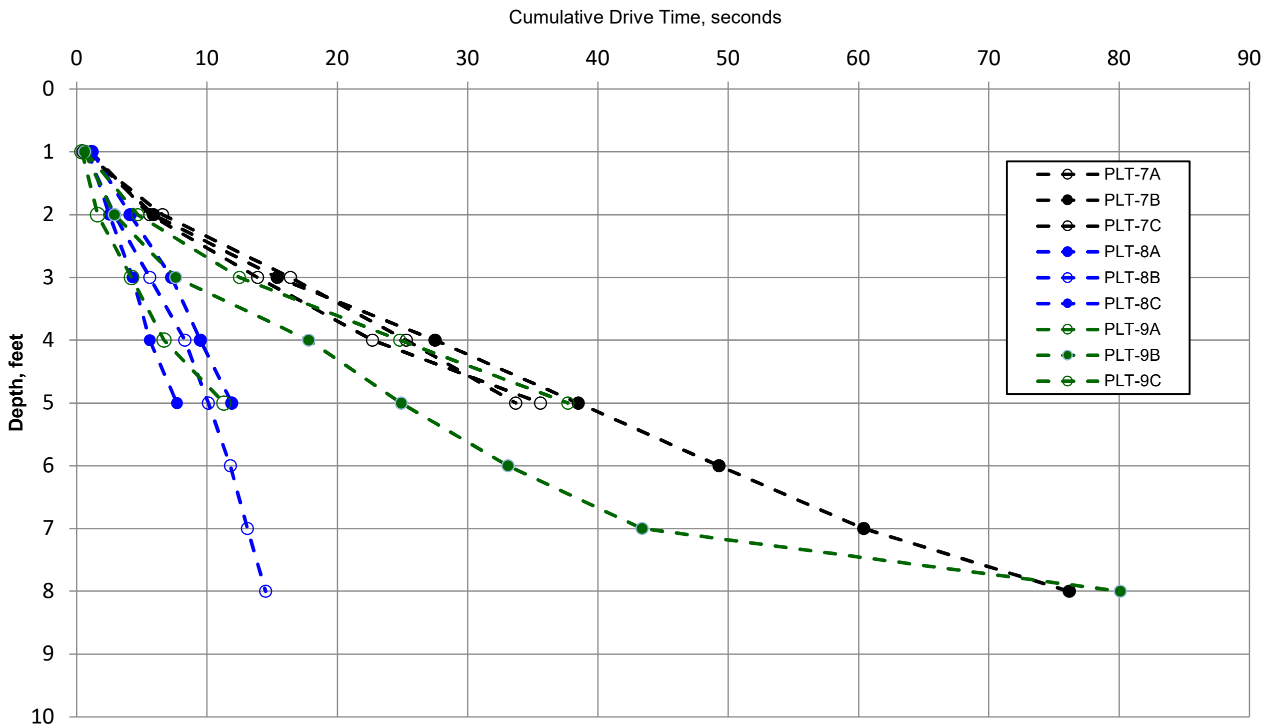
NOTES:

Piles advanced with a track mounted GAYK-HRE 1000 on February 8, 2023.

Terracon

TEST PILE DRIVING RECORDS

66225144 - Diamond Tail Solar



Depth, feet	Cumulative Driving Time, seconds								
	PLT-7A	PLT-7B	PLT-7C	PLT-8A	PLT-8B	PLT-8C	PLT-9A	PLT-9B	PLT-9C
1	0.5	0.7	1.1	1.2	0.7	0.9	0.7	0.6	0.4
2	6.6	5.9	5.6	4.1	2.9	2.5	4.7	2.9	1.6
3	16.4	15.4	13.9	7.3	5.6	4.3	12.5	7.6	4.2
4	25.3	27.5	22.7	9.5	8.3	5.6	24.8	17.8	6.7
5	33.7	38.5	35.6	11.9	10.1	7.7	37.7	24.9	11.3
6		49.3			11.8			33.1	
7		60.4			13.1			43.4	
8		76.2			14.5			80.1	
Note:									
Embedment Depth, ft	**5**	**8**	**5**	**5**	**8**	**5**	**5**	**8**	**5**
Total Drive Time, sec	**33.7**	**76.2**	**35.6**	**11.9**	**14.5**	**7.7**	**37.7**	**80.1**	**11.3**
Average, sec/ft	**6.7**	**9.5**	**7.1**	**2.4**	**1.8**	**1.5**	**7.5**	**10.0**	**2.3**

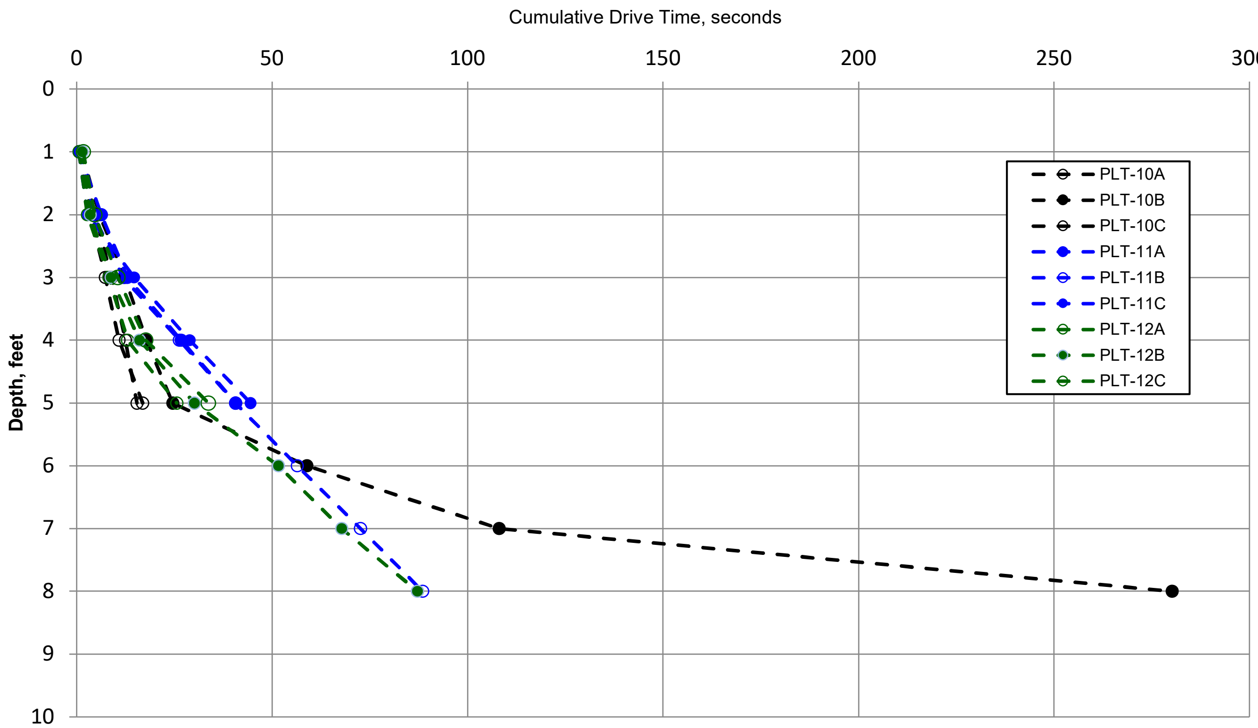
NOTES:

Piles advanced with a track mounted GAYK-HRE 1000 on February 8, 2023.

Terracon

TEST PILE DRIVING RECORDS

66225144 - Diamond Tail Solar



Depth, feet	Cumulative Driving Time, seconds								
	PLT-10A	PLT-10B	PLT-10C	PLT-11A	PLT-11B	PLT-11C	PLT-12A	PLT-12B	PLT-12C
1	0.7	1.2	0.6	0.7	0.8	0.5	0.6	1.4	1.7
2	4.8	5.9	3.7	6.3	4.3	2.9	2.7	3.5	4.6
3	8.9	12.3	7.3	12.9	11.9	14.7	8.3	8.8	10.5
4	12.5	17.8	10.8	26.7	26.3	28.9	13.0	16.1	17.7
5	15.4	24.6	16.9	40.7	40.6	44.5	25.6	30.1	33.7
6		58.9			56.4			51.6	
7		108.1			72.6			67.8	
8		280.2			88.5			87.2	
Note:									
Embedment Depth, ft	**5**	**8**	**5**	**5**	**8**	**5**	**5**	**8**	**5**
Total Drive Time, sec	**15.4**	**280.2**	**16.9**	**40.7**	**88.5**	**44.5**	**25.6**	**87.2**	**33.7**
Average, sec/ft	**3.1**	**35.0**	**3.4**	**8.1**	**11.1**	**8.9**	**5.1**	**10.9**	**6.7**

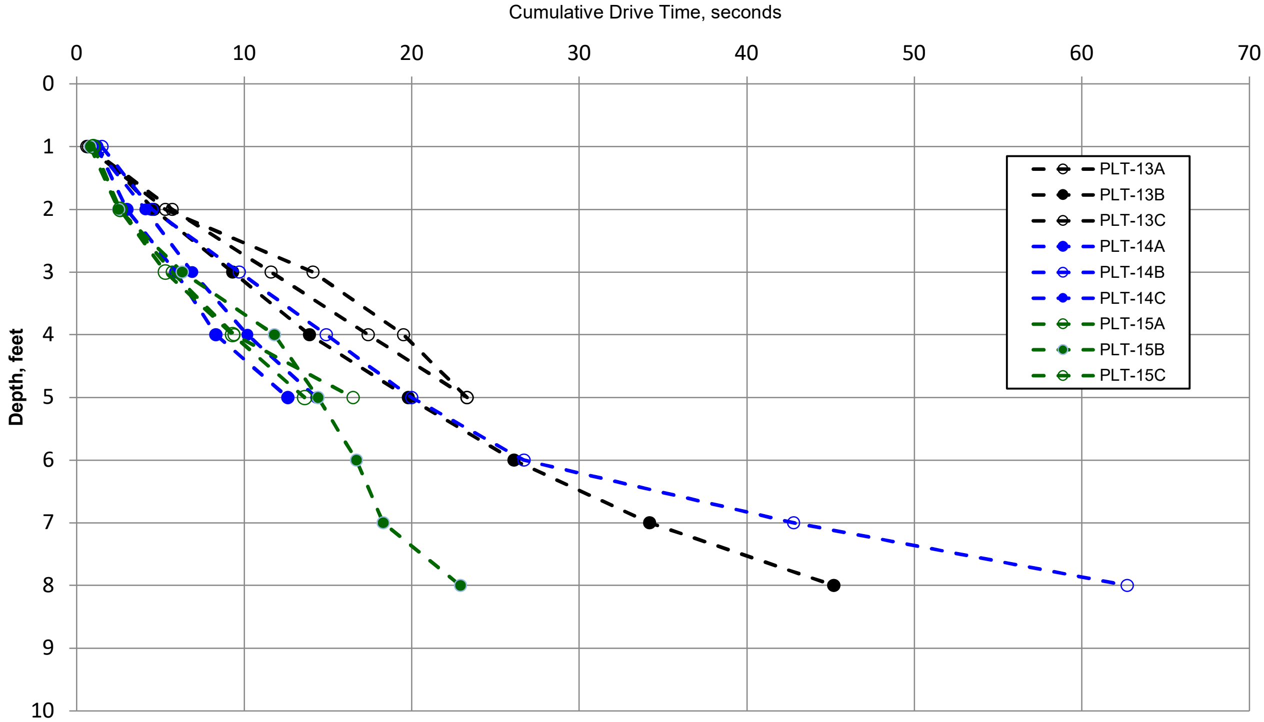
NOTES:

Piles advanced with a track mounted GAYK-HRE 1000 on February 8, 2023, February 9, 2023, and February 11, 2023.

Terracon

TEST PILE DRIVING RECORDS

66225144 - Diamond Tail Solar



Depth, feet	Cumulative Driving Time, seconds								
	PLT-13A	**PLT-13B**	**PLT-13C**	**PLT-14A**	**PLT-14B**	**PLT-14C**	**PLT-15A**	**PLT-15B**	**PLT-15C**
1	0.6	1.1	0.7	1.2	1.5	1.1	1.0	0.8	1.0
2	5.3	4.6	5.7	3.0	4.5	4.1	2.6	2.5	2.6
3	14.1	9.3	11.6	5.9	9.7	6.9	5.7	6.3	5.3
4	19.5	13.9	17.4	8.3	14.9	10.2	9.4	11.8	9.3
5	23.3	19.8	23.3	12.6	20.0	14.3	16.5	14.4	13.6
6		26.1			26.7			16.7	
7		34.2			42.8			18.3	
8		45.2			62.7			22.9	
Note:									
Embedment Depth, ft	**5**	**8**	**5**	**5**	**8**	**5**	**5**	**8**	**5**
Total Drive Time, sec	**23.3**	**45.2**	**23.3**	**12.6**	**62.7**	**14.3**	**16.5**	**22.9**	**13.6**
Average, sec/ft	**4.7**	**5.7**	**4.7**	**2.5**	**7.8**	**2.9**	**3.3**	**2.9**	**2.7**

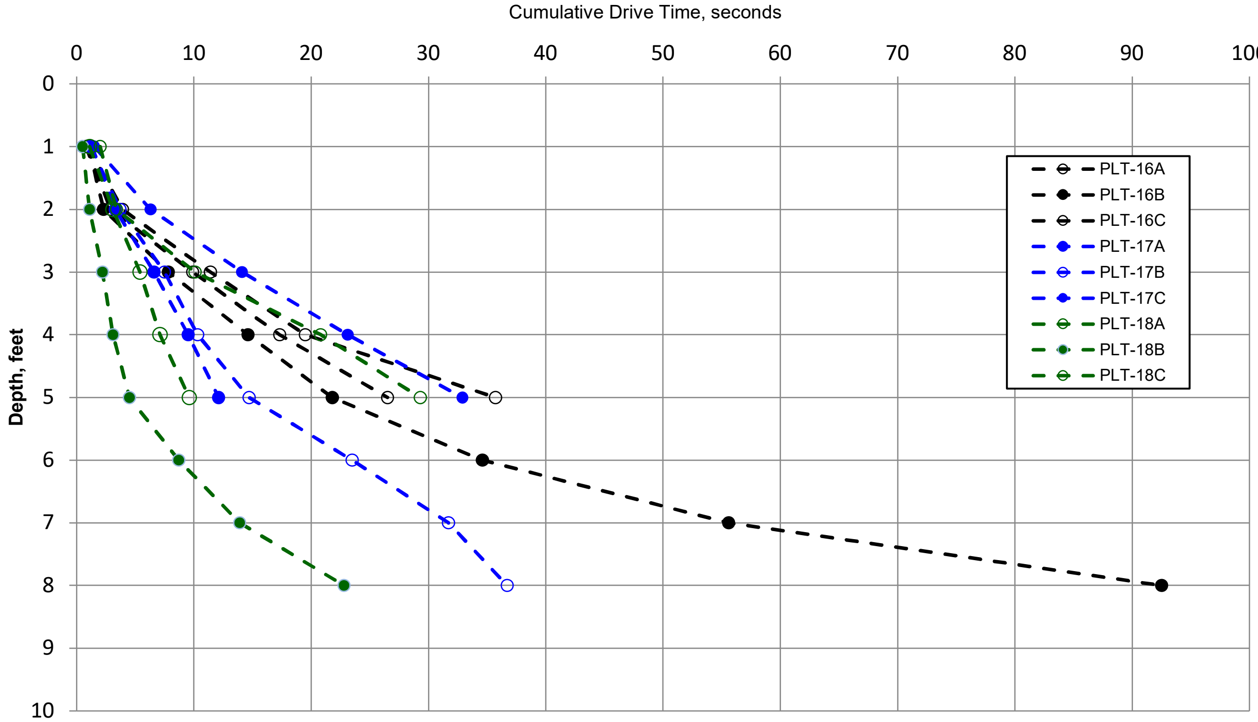
NOTES:

Piles advanced with a track mounted GAYK-HRE 1000 on February 9, 2023 and February 11, 2023.

Terracon

TEST PILE DRIVING RECORDS

66225144 - Diamond Tail Solar



Depth, feet	Cumulative Driving Time, seconds								
	PLT-16A	PLT-16B	PLT-16C	PLT-17A	PLT-17B	PLT-17C	PLT-18A	PLT-18B	PLT-18C
1	0.8	1.0	1.0	1.3	1.2	1.5	2.0	0.5	1.1
2	2.9	2.3	3.9	3.3	3.7	6.3	3.4	1.1	3.1
3	9.9	7.8	11.4	6.6	7.5	14.1	10.1	2.2	5.4
4	17.3	14.6	19.5	9.5	10.3	23.1	20.8	3.1	7.1
5	26.5	21.8	35.7	12.1	14.7	32.9	29.3	4.5	9.6
6		34.6			23.5			8.7	
7		55.6			31.7			13.9	
8		92.5			36.7			22.8	
Note:									
Embedment Depth, ft	**5**	**8**	**5**	**5**	**8**	**5**	**5**	**8**	**5**
Total Drive Time, sec	**26.5**	**92.5**	**35.7**	**12.1**	**36.7**	**32.9**	**29.3**	**22.8**	**9.6**
Average, sec/ft	**5.3**	**11.6**	**7.1**	**2.4**	**4.6**	**6.6**	**5.9**	**2.9**	**1.9**

NOTES:

Piles advanced with a track mounted GAYK-HRE 1000 on February 11, 2023.

Terracon

Pile Load Test Results

Pile Load Testing Procedures

The procedures used for our Pile Load Testing (PLT) program are summarized below.

Testing Under Axial Tensile ("pull-out") Load

A total of 36 piles, two piles at each PLT location, were tested under axial tensile ("pull-out") load. Please note that test piles with the designations "A" and "B" were tested under axial tensile load. Piles with the designation "A" were all embedded 5 feet below the ground surface, and piles with the designation "B" were all embedded to 6 feet below the ground surface.

The "pull-out" load reaction was supported using Terracon's proprietary 20-kip tripod frame supported at an appropriate lateral distance from the pile. A hydraulic jack and pump were used to apply the test loads using chains and other accessories all rated for at least a 10-ton safe working capacity. Deflections were measured with digital dial gauges with magnetic bases. Loads were measured with a 25-kip electronic dynamometer.

The axial tension load was applied in load increments of 500 lbs. to a maximum of 10,000 lbs. or until the pile reached ¾-inch of axial displacement. Axial displacement measurements were taken at the end of application of each load increment. Each load increment was sustained for about 60 seconds and the stabilized deflection readings of both indicator gauges were recorded.

A reference beam was temporarily constructed adjacent to each pile at a height of 6-inches and supported an appropriate distance from the test pile using stabilized supports. Deflections were measured from the reference beams with digital gauges and loads were measured with a Digital Dynamometer 25-kip electronic load cell. The gauges and load cell were read, and the data was recorded manually by Terracon field personnel.

Testing Under Lateral Load

After testing under axial tensile load, the piles at each location were then tested under lateral load as described below.

A total of 36 piles, two piles in each test location, were tested under lateral load. Only test piles with the designations "A" and "B" were tested under lateral load. Piles with the designation "A" were all embedded 5 feet below the ground surface, and piles with the designation "B" were all embedded 8 feet below the ground surface. As the test piles were installed in-line with each other, the piles were connected together to provide a reaction for the opposite pile and tested simultaneously in the strong axis direction.

For lateral testing, the pair of piles were pulled toward each other, and the deflections of each pile were measured. The load for the lateral tests was applied at about 42 inches above the ground surface against the strong axis of the posts. The loads were applied in

500 lbs. increments in 5 cycles from 0 pounds to the ultimate lateral load of 7,000 lbs. or the limits of the soil capacity, whichever occurred first for each test pile. The limit of soil capacity during the lateral test is defined as movement in excess of 1-inch at 6 inches above the ground surface. Each load increment was held for at least 60 seconds and the stabilized deflection readings of both indicator gauges were recorded.

Deflections were measured from the reference beams with digital gauges and loads were measured with a Digital Dynamometer 25-kip electronic load cell. The gauges and load cell were read, and the data was recorded manually by Terracon field personnel.

Testing Under Axial Compressive Load

One pile at each PLT location was tested under axial compressive load. Please note that test piles with the designation "C" were tested under axial compressive load. Piles with the designation "C" were all embedded 5 feet below the ground surface.

A Komatsu 210 trackhoe was mobilized to the site to provide a reaction for the applied vertical compression test loads. A load cell was placed on the top of the pile, and a hydraulic cylinder (jack) was placed above the load cell and under the excavator counterweight.

The loads were applied in 500 lbs. increments up to a load of 13,000 lbs. or until the pile reached ¾-inch of axial displacement. Each load increment was held for about 60 seconds and the stabilized deflection reading of both indicator gauges was recorded.

A steel reference beam was temporarily constructed adjacent to each pile at a height of 6 inches and supported an appropriate distance from the test pile using stabilized supports. Axial deflections were measured from the reference beams with digital dial gauges and loads were measured with a digital weight indicator connected to a load cell. The gauges and load cell were read, and the data was recorded manually by Terracon field personnel.

Axial Tension Test Results

Terracon

Tension Load Test Result for PLT-1A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

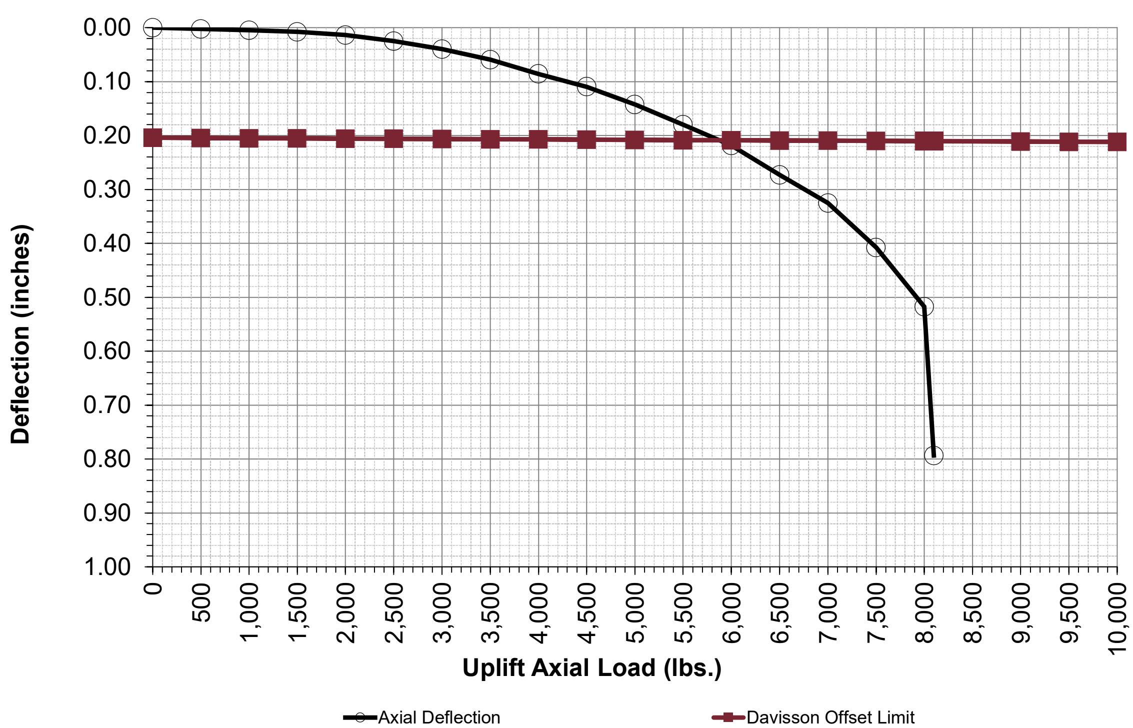
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	2/28/2023

Pile Information

Pile ID:	PLT-1A
Latitude [deg.]:	35.30658
Longitude[deg.]:	-106.28628
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	20.3

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.002	0.000	0.205	
10%	1000	0.005	0.001	0.205	
15%	1500	0.008	0.001	0.205	
20%	2000	0.014	0.002	0.206	
25%	2500	0.025	0.002	0.206	
30%	3000	0.040	0.002	0.206	
35%	3500	0.060	0.003	0.207	
40%	4000	0.086	0.003	0.207	
45%	4500	0.110	0.003	0.208	
50%	5000	0.142	0.004	0.208	
55%	5500	0.180	0.004	0.208	
60%	6000	0.218	0.005	0.209	
65%	6500	0.273	0.005	0.209	
70%	7000	0.325	0.005	0.210	
75%	7500	0.408	0.006	0.210	
80%	8000	0.518	0.006	0.210	
81%	8100	0.794	0.006	0.210	Test failed at 8,100 lbs
90%	9000		0.007	0.211	
95%	9500		0.007	0.212	
100%	10000		0.008	0.212	
0%	0		0.000	0.204	



Terracon

Tension Load Test Result for PLT-1B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

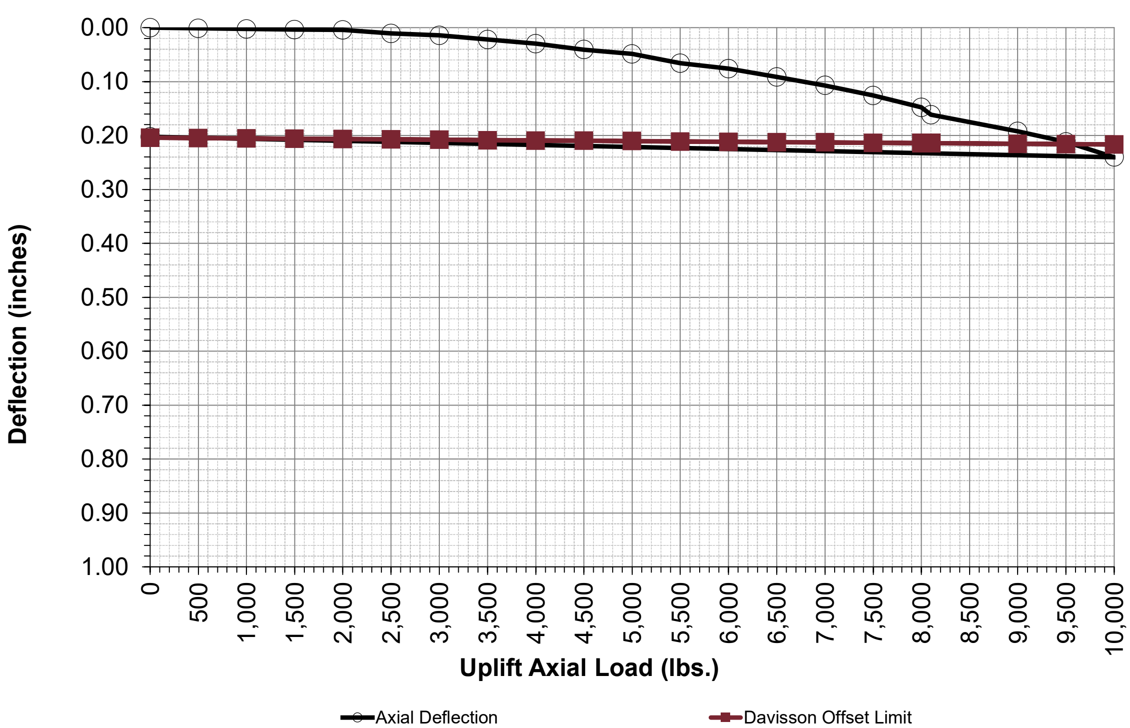
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	2/28/2023

Pile Information

Pile ID:	PLT-1B
Latitude [deg.]:	35.30658
Longitude[deg.]:	-106.28628
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	31.7

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.001	0.001	0.205	
10%	1000	0.002	0.001	0.205	
15%	1500	0.004	0.002	0.206	
20%	2000	0.004	0.002	0.207	
25%	2500	0.011	0.003	0.207	
30%	3000	0.014	0.004	0.208	
35%	3500	0.022	0.004	0.208	
40%	4000	0.030	0.005	0.209	
45%	4500	0.041	0.006	0.210	
50%	5000	0.049	0.006	0.210	
55%	5500	0.066	0.007	0.211	
60%	6000	0.076	0.007	0.212	
65%	6500	0.091	0.008	0.212	
70%	7000	0.107	0.009	0.213	
75%	7500	0.126	0.009	0.213	
80%	8000	0.148	0.010	0.214	
81%	8100	0.162	0.010	0.214	
90%	9000	0.192	0.011	0.215	
95%	9500	0.212	0.012	0.216	
100%	10000	0.240	0.012	0.217	
0%	0	0.203	0.000	0.204	



Tension Load Test Result for PLT-2A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerque, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

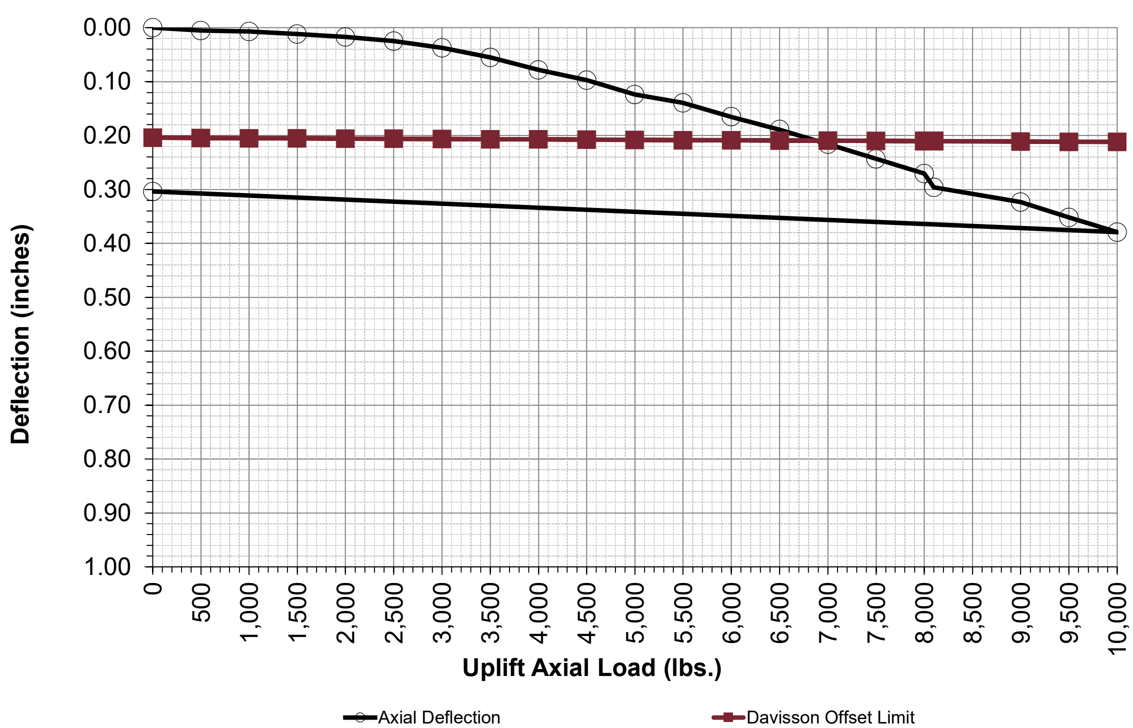
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	2/28/2023

Pile Information

Pile ID:	PLT-2A
Latitude [deg.]:	35.30411
Longitude[deg.]:	-106.27832
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	15.6

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.006	0.000	0.205	
10%	1000	0.007	0.001	0.205	
15%	1500	0.012	0.001	0.205	
20%	2000	0.017	0.002	0.206	
25%	2500	0.025	0.002	0.206	
30%	3000	0.037	0.002	0.206	
35%	3500	0.055	0.003	0.207	
40%	4000	0.078	0.003	0.207	
45%	4500	0.097	0.003	0.208	
50%	5000	0.124	0.004	0.208	
55%	5500	0.140	0.004	0.208	
60%	6000	0.165	0.005	0.209	
65%	6500	0.189	0.005	0.209	
70%	7000	0.216	0.005	0.210	
75%	7500	0.243	0.006	0.210	
80%	8000	0.271	0.006	0.210	
81%	8100	0.296	0.006	0.210	
90%	9000	0.324	0.007	0.211	
95%	9500	0.352	0.007	0.212	
100%	10000	0.379	0.008	0.212	
0%	0	0.304	0.000	0.204	



Tension Load Test Result for PLT-2B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

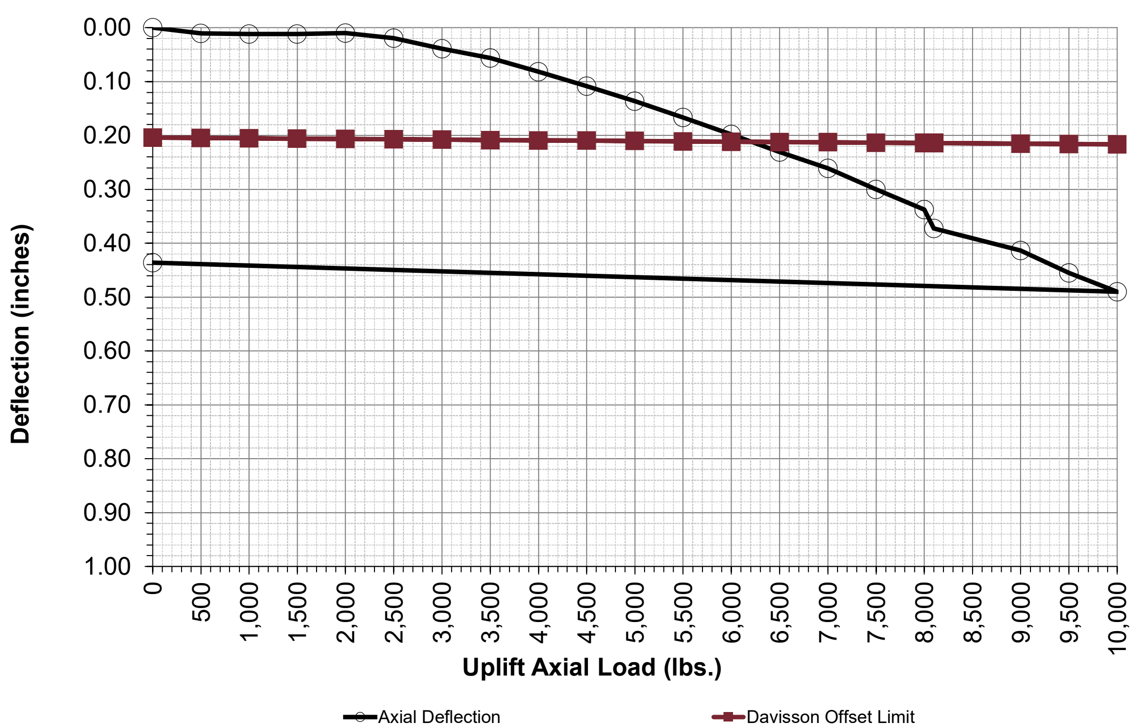
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	2/28/2023

Pile Information

Pile ID:	PLT-2B
Latitude [deg.]:	35.30411
Longitude[deg.]:	-106.27832
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	22.7

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.011	0.001	0.205	
10%	1000	0.012	0.001	0.205	
15%	1500	0.012	0.002	0.206	
20%	2000	0.010	0.002	0.207	Gauges were recentered
25%	2500	0.020	0.003	0.207	
30%	3000	0.039	0.004	0.208	
35%	3500	0.057	0.004	0.208	
40%	4000	0.082	0.005	0.209	
45%	4500	0.109	0.006	0.210	
50%	5000	0.137	0.006	0.210	
55%	5500	0.167	0.007	0.211	
60%	6000	0.198	0.007	0.212	
65%	6500	0.231	0.008	0.212	
70%	7000	0.261	0.009	0.213	
75%	7500	0.300	0.009	0.213	
80%	8000	0.338	0.010	0.214	
81%	8100	0.373	0.010	0.214	
90%	9000	0.414	0.011	0.215	
95%	9500	0.455	0.012	0.216	
100%	10000	0.490	0.012	0.217	
0%	0	0.436	0.000	0.204	



Tension Load Test Result for PLT-3A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

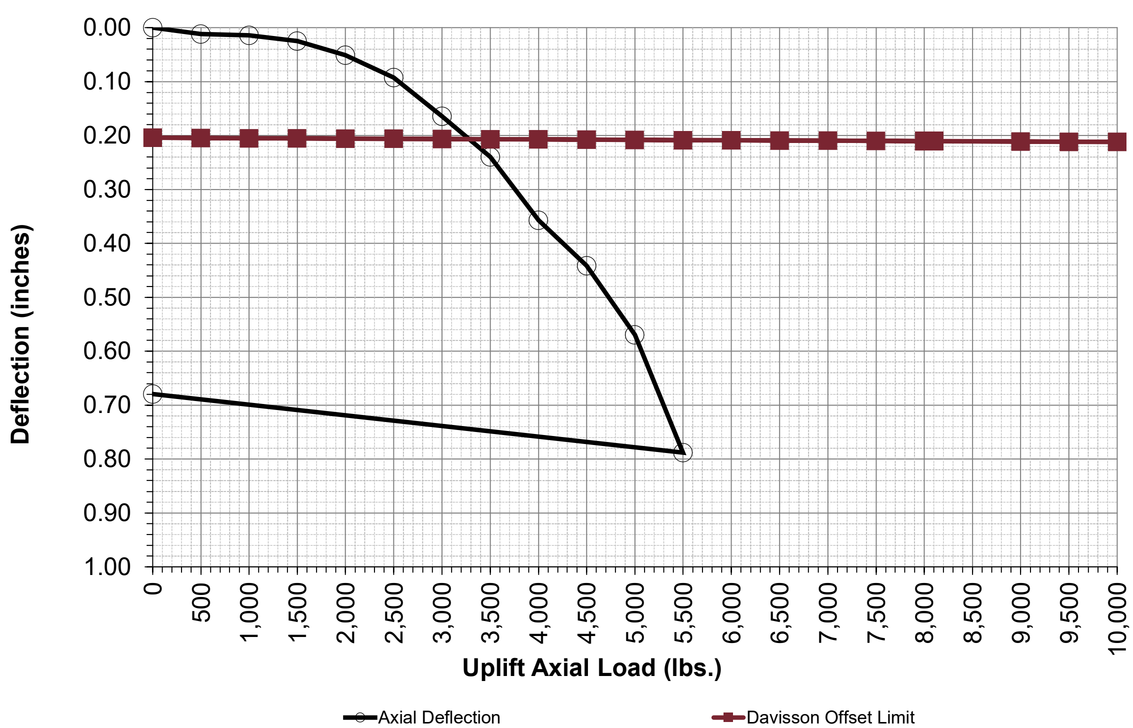
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	2/28/2023

Pile Information

Pile ID:	PLT-3A
Latitude [deg.]:	35.30829
Longitude[deg.]:	-106.27919
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	20.2

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.012	0.000	0.205	
10%	1000	0.015	0.001	0.205	
15%	1500	0.025	0.001	0.205	
20%	2000	0.051	0.002	0.206	
25%	2500	0.093	0.002	0.206	
30%	3000	0.165	0.002	0.206	
35%	3500	0.240	0.003	0.207	
40%	4000	0.357	0.003	0.207	
45%	4500	0.442	0.003	0.208	
50%	5000	0.570	0.004	0.208	
55%	5500	0.788	0.004	0.208	
60%	6000		0.005	0.209	
65%	6500		0.005	0.209	
70%	7000		0.005	0.210	
75%	7500		0.006	0.210	
80%	8000		0.006	0.210	
81%	8100		0.006	0.210	
90%	9000		0.007	0.211	
95%	9500		0.007	0.212	
100%	10000		0.008	0.212	
0%	0	0.680	0.000	0.204	



Tension Load Test Result for PLT-3B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerque, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

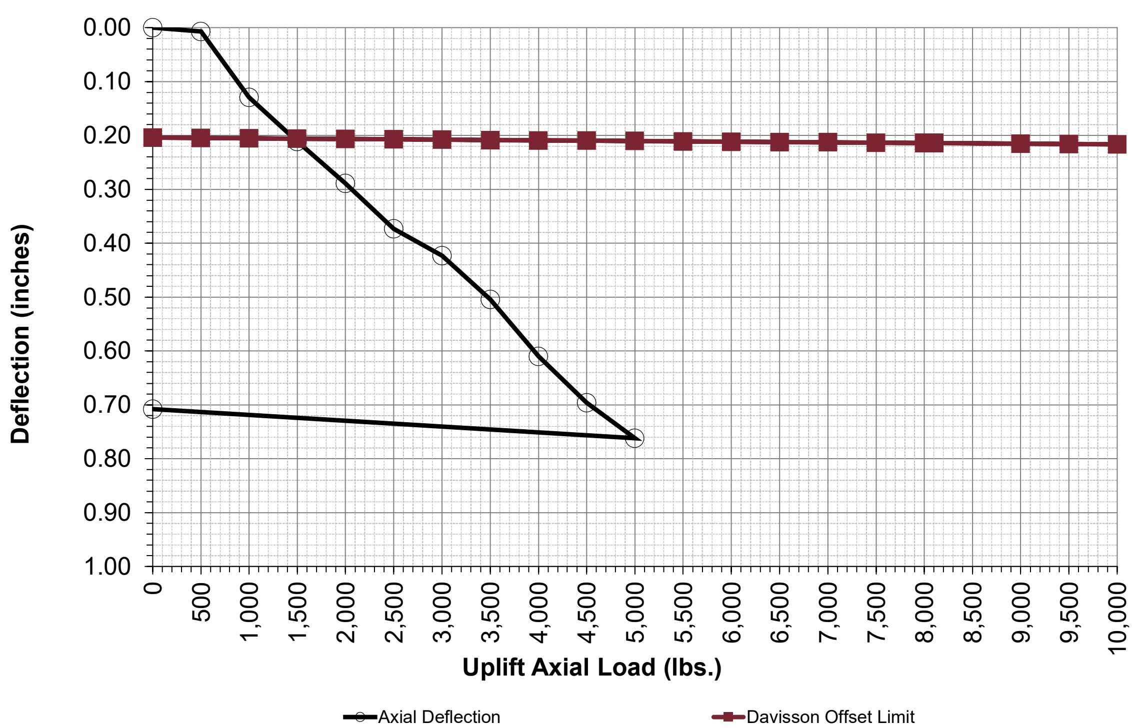
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	2/28/2023

Pile Information

Pile ID:	PLT-3B
Latitude [deg.]:	35.30829
Longitude[deg.]:	-106.27919
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	62.1

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.007	0.001	0.205	
10%	1000	0.130	0.001	0.205	
15%	1500	0.211	0.002	0.206	
20%	2000	0.289	0.002	0.207	
25%	2500	0.374	0.003	0.207	
30%	3000	0.423	0.004	0.208	
35%	3500	0.505	0.004	0.208	
40%	4000	0.610	0.005	0.209	
45%	4500	0.696	0.006	0.210	
50%	5000	0.762	0.006	0.210	
55%	5500		0.007	0.211	
60%	6000		0.007	0.212	
65%	6500		0.008	0.212	
70%	7000		0.009	0.213	
75%	7500		0.009	0.213	
80%	8000		0.010	0.214	
81%	8100		0.010	0.214	
90%	9000		0.011	0.215	
95%	9500		0.012	0.216	
100%	10000		0.012	0.217	
0%	0	0.708	0.000	0.204	



Tension Load Test Result for PLT-4A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

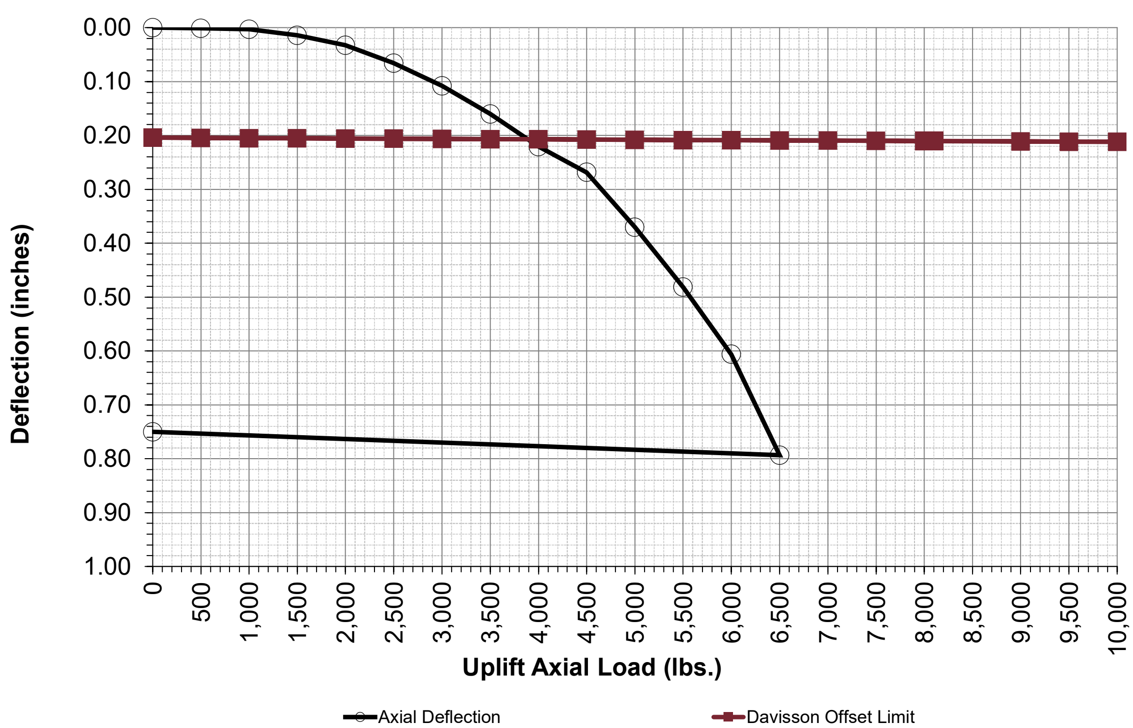
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	3/1/2023

Pile Information

Pile ID:	PLT-4A
Latitude [deg.]:	35.30642
Longitude[deg.]:	-106.27236
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	13.7

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.001	0.000	0.205	
10%	1000	0.003	0.001	0.205	
15%	1500	0.014	0.001	0.205	
20%	2000	0.033	0.002	0.206	
25%	2500	0.066	0.002	0.206	
30%	3000	0.108	0.002	0.206	
35%	3500	0.161	0.003	0.207	
40%	4000	0.221	0.003	0.207	
45%	4500	0.269	0.003	0.208	
50%	5000	0.370	0.004	0.208	
55%	5500	0.481	0.004	0.208	
60%	6000	0.606	0.005	0.209	
65%	6500	0.794	0.005	0.209	
70%	7000		0.005	0.210	
75%	7500		0.006	0.210	
80%	8000		0.006	0.210	
81%	8100		0.006	0.210	
90%	9000		0.007	0.211	
95%	9500		0.007	0.212	
100%	10000		0.008	0.212	
0%	0	0.750	0.000	0.204	



Terracon

Tension Load Test Result for PLT-4B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

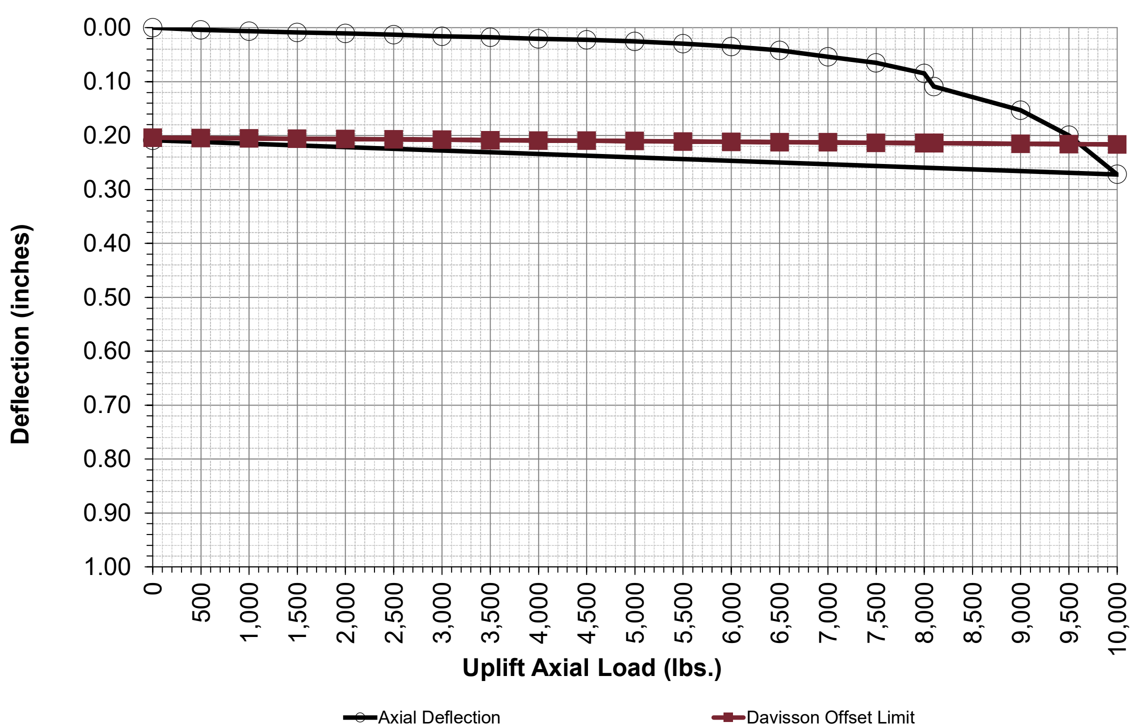
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	3/1/2023

Pile Information

Pile ID:	PLT-4B
Latitude [deg.]:	35.30642
Longitude[deg.]:	-106.27236
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	28.9

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.004	0.001	0.205	
10%	1000	0.007	0.001	0.205	
15%	1500	0.009	0.002	0.206	
20%	2000	0.011	0.002	0.207	
25%	2500	0.013	0.003	0.207	
30%	3000	0.016	0.004	0.208	
35%	3500	0.018	0.004	0.208	
40%	4000	0.021	0.005	0.209	
45%	4500	0.023	0.006	0.210	
50%	5000	0.026	0.006	0.210	
55%	5500	0.030	0.007	0.211	
60%	6000	0.035	0.007	0.212	
65%	6500	0.042	0.008	0.212	
70%	7000	0.054	0.009	0.213	
75%	7500	0.066	0.009	0.213	
80%	8000	0.085	0.010	0.214	
81%	8100	0.109	0.010	0.214	
90%	9000	0.153	0.011	0.215	
95%	9500	0.200	0.012	0.216	
100%	10000	0.272	0.012	0.217	
0%	0	0.209	0.000	0.204	



Tension Load Test Result for PLT-5A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

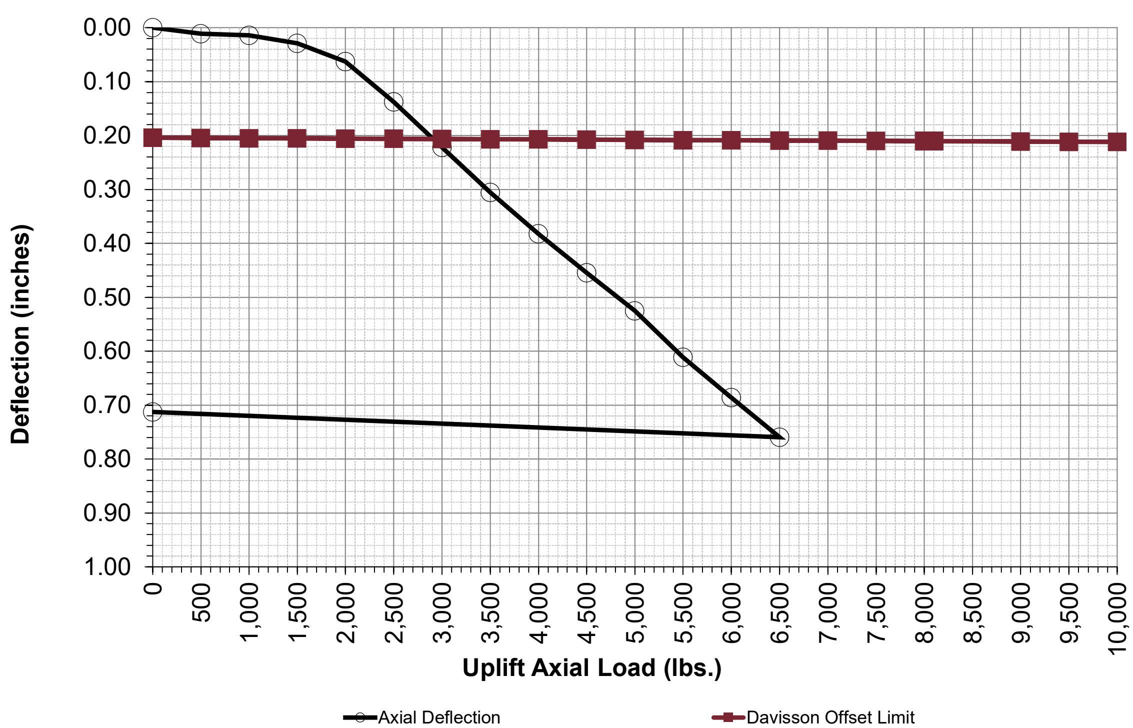
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	3/1/2023

Pile Information

Pile ID:	PLT-5A
Latitude [deg.]:	35.30299
Longitude[deg.]:	-106.26866
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	14.5

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.011	0.000	0.205	
10%	1000	0.015	0.001	0.205	
15%	1500	0.029	0.001	0.205	
20%	2000	0.063	0.002	0.206	
25%	2500	0.138	0.002	0.206	
30%	3000	0.222	0.002	0.206	
35%	3500	0.306	0.003	0.207	
40%	4000	0.383	0.003	0.207	
45%	4500	0.455	0.003	0.208	
50%	5000	0.525	0.004	0.208	
55%	5500	0.611	0.004	0.208	
60%	6000	0.686	0.005	0.209	
65%	6500	0.760	0.005	0.209	
70%	7000		0.005	0.210	
75%	7500		0.006	0.210	
80%	8000		0.006	0.210	
81%	8100		0.006	0.210	
90%	9000		0.007	0.211	
95%	9500		0.007	0.212	
100%	10000		0.008	0.212	
0%	0	0.713	0.000	0.204	



Tension Load Test Result for PLT-5B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

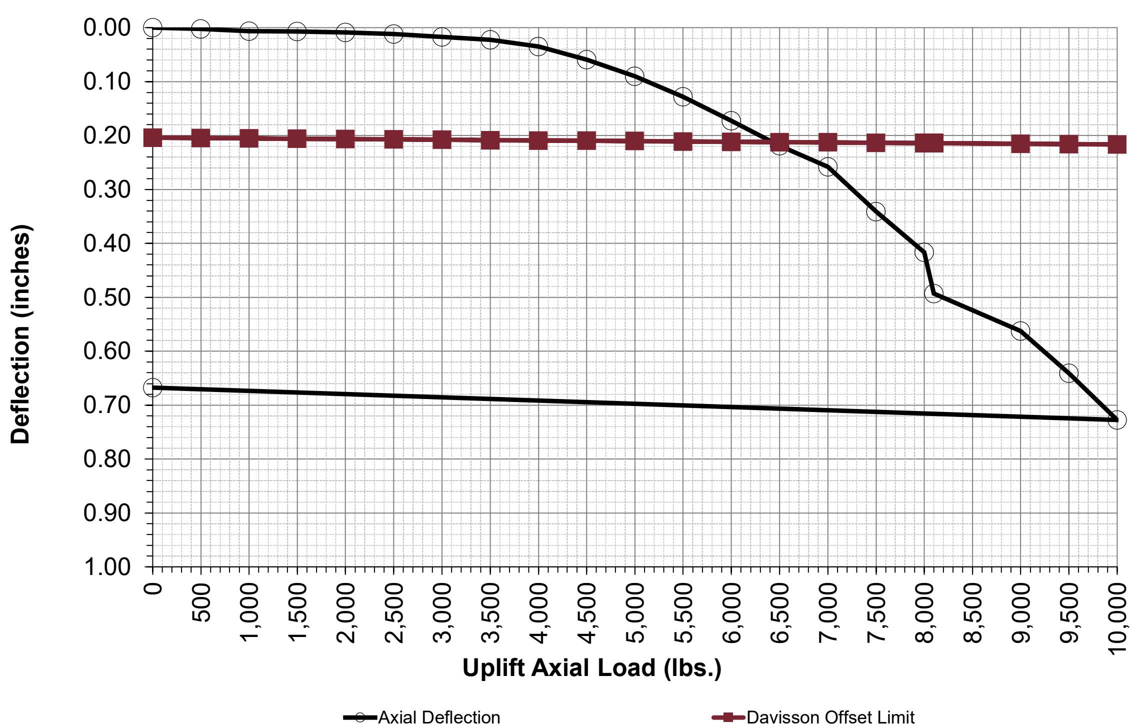
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	3/1/2023

Pile Information

Pile ID:	PLT-5B
Latitude [deg.]:	35.30299
Longitude[deg.]:	-106.26866
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	35.7

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.003	0.001	0.205	
10%	1000	0.007	0.001	0.205	
15%	1500	0.007	0.002	0.206	
20%	2000	0.009	0.002	0.207	
25%	2500	0.012	0.003	0.207	
30%	3000	0.017	0.004	0.208	
35%	3500	0.023	0.004	0.208	
40%	4000	0.035	0.005	0.209	
45%	4500	0.059	0.006	0.210	
50%	5000	0.090	0.006	0.210	
55%	5500	0.128	0.007	0.211	
60%	6000	0.173	0.007	0.212	
65%	6500	0.219	0.008	0.212	
70%	7000	0.258	0.009	0.213	
75%	7500	0.341	0.009	0.213	
80%	8000	0.417	0.010	0.214	
81%	8100	0.493	0.010	0.214	
90%	9000	0.563	0.011	0.215	
95%	9500	0.641	0.012	0.216	
100%	10000	0.728	0.012	0.217	
0%	0	0.668	0.000	0.204	



Tension Load Test Result for PLT-6A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

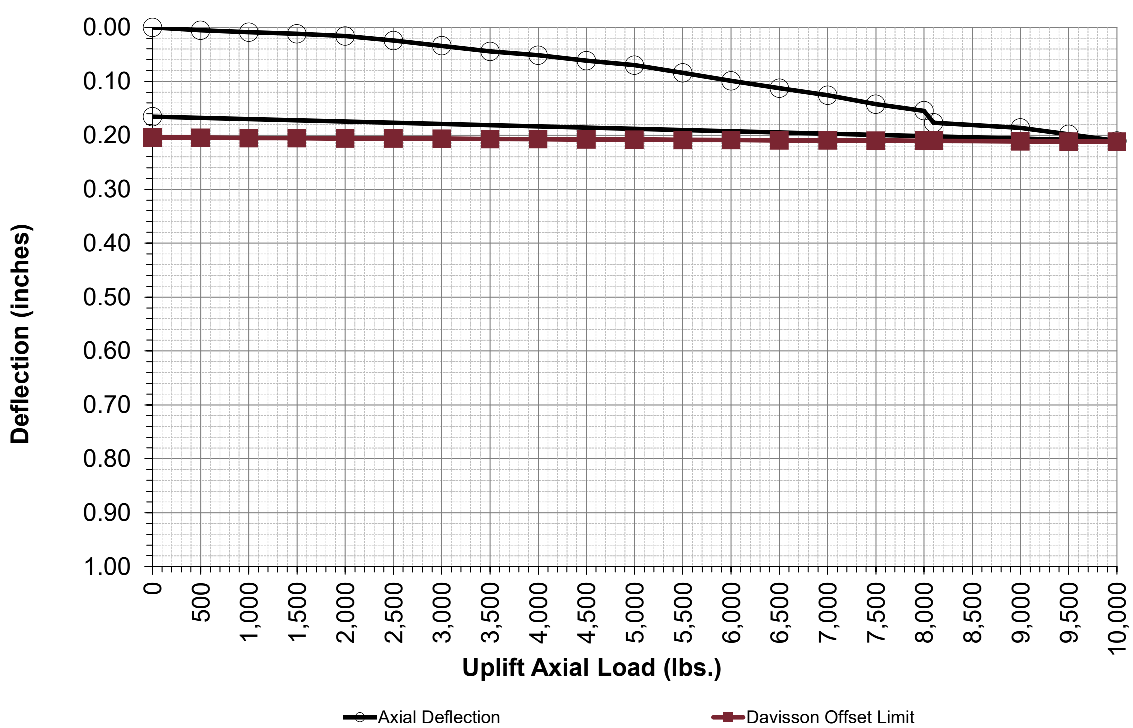
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	3/1/2023

Pile Information

Pile ID:	PLT-6A
Latitude [deg.]:	35.29995
Longitude[deg.]:	-106.26895
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	21.8

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.005	0.000	0.205	
10%	1000	0.009	0.001	0.205	
15%	1500	0.012	0.001	0.205	
20%	2000	0.016	0.002	0.206	
25%	2500	0.024	0.002	0.206	
30%	3000	0.034	0.002	0.206	
35%	3500	0.045	0.003	0.207	
40%	4000	0.052	0.003	0.207	
45%	4500	0.062	0.003	0.208	
50%	5000	0.070	0.004	0.208	
55%	5500	0.084	0.004	0.208	
60%	6000	0.099	0.005	0.209	
65%	6500	0.113	0.005	0.209	
70%	7000	0.126	0.005	0.210	
75%	7500	0.142	0.006	0.210	
80%	8000	0.155	0.006	0.210	
81%	8100	0.177	0.006	0.210	
90%	9000	0.187	0.007	0.211	
95%	9500	0.198	0.007	0.212	
100%	10000	0.211	0.008	0.212	
0%	0	0.166	0.000	0.204	



Tension Load Test Result for PLT-6B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

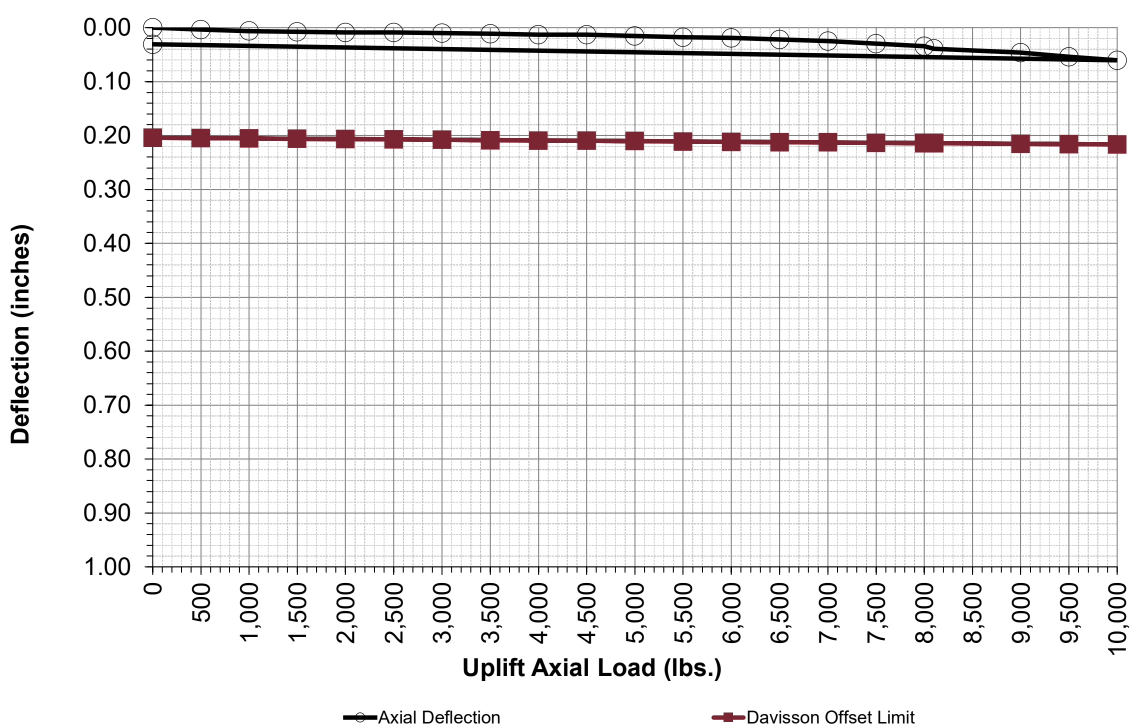
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	3/1/2023

Pile Information

Pile ID:	PLT-6B
Latitude [deg.]:	35.29995
Longitude[deg.]:	-106.27268
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	41.9

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.004	0.001	0.205	
10%	1000	0.006	0.001	0.205	
15%	1500	0.008	0.002	0.206	
20%	2000	0.009	0.002	0.207	
25%	2500	0.009	0.003	0.207	
30%	3000	0.010	0.004	0.208	
35%	3500	0.011	0.004	0.208	
40%	4000	0.013	0.005	0.209	
45%	4500	0.013	0.006	0.210	
50%	5000	0.015	0.006	0.210	
55%	5500	0.018	0.007	0.211	
60%	6000	0.019	0.007	0.212	
65%	6500	0.022	0.008	0.212	
70%	7000	0.025	0.009	0.213	
75%	7500	0.030	0.009	0.213	
80%	8000	0.035	0.010	0.214	
81%	8100	0.039	0.010	0.214	
90%	9000	0.047	0.011	0.215	
95%	9500	0.054	0.012	0.216	
100%	10000	0.061	0.012	0.217	
0%	0	0.031	0.000	0.204	



Tension Load Test Result for PLT-7A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

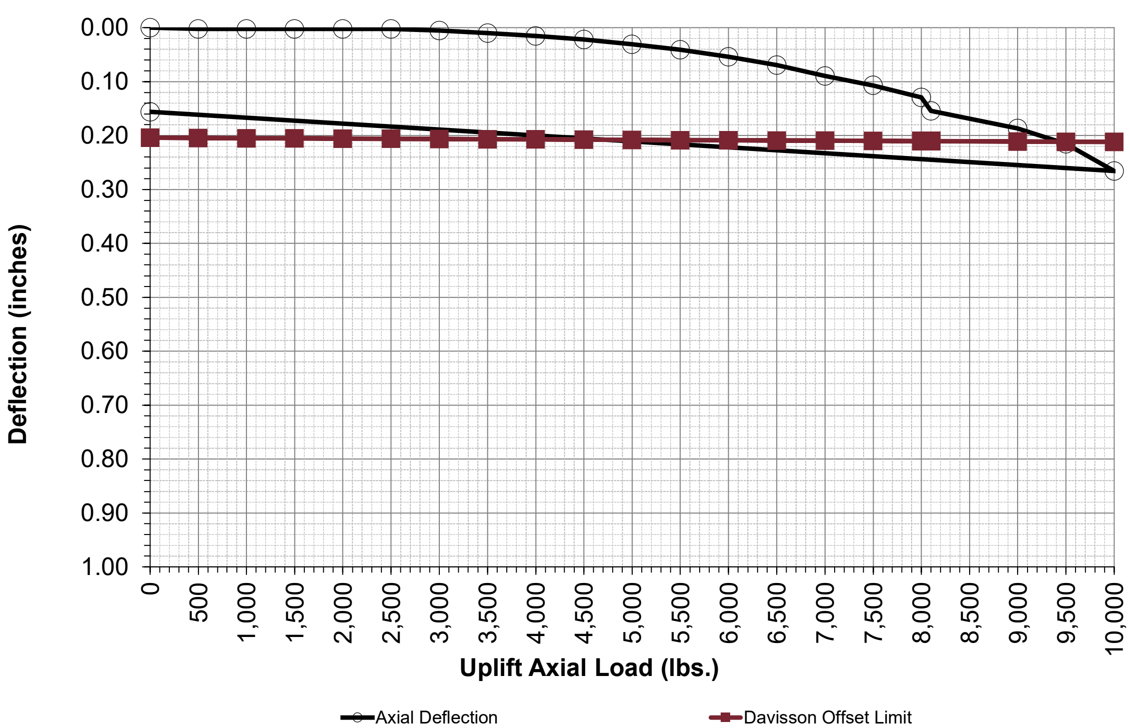
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	6/25/2023

Pile Information

Pile ID:	PLT-7A
Latitude [deg.]:	35.29482
Longitude[deg.]:	-106.25484
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	33.7

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.003	0.000	0.205	
10%	1000	0.003	0.001	0.205	
15%	1500	0.003	0.001	0.205	
20%	2000	0.003	0.002	0.206	
25%	2500	0.003	0.002	0.206	
30%	3000	0.005	0.002	0.206	
35%	3500	0.010	0.003	0.207	
40%	4000	0.015	0.003	0.207	
45%	4500	0.022	0.003	0.208	
50%	5000	0.031	0.004	0.208	
55%	5500	0.041	0.004	0.208	
60%	6000	0.054	0.005	0.209	
65%	6500	0.069	0.005	0.209	
70%	7000	0.090	0.005	0.210	
75%	7500	0.107	0.006	0.210	
80%	8000	0.130	0.006	0.210	
81%	8100	0.154	0.006	0.210	
90%	9000	0.187	0.007	0.211	
95%	9500	0.216	0.007	0.212	
100%	10000	0.266	0.008	0.212	
0%	0	0.156	0.000	0.204	



Tension Load Test Result for PLT-7B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

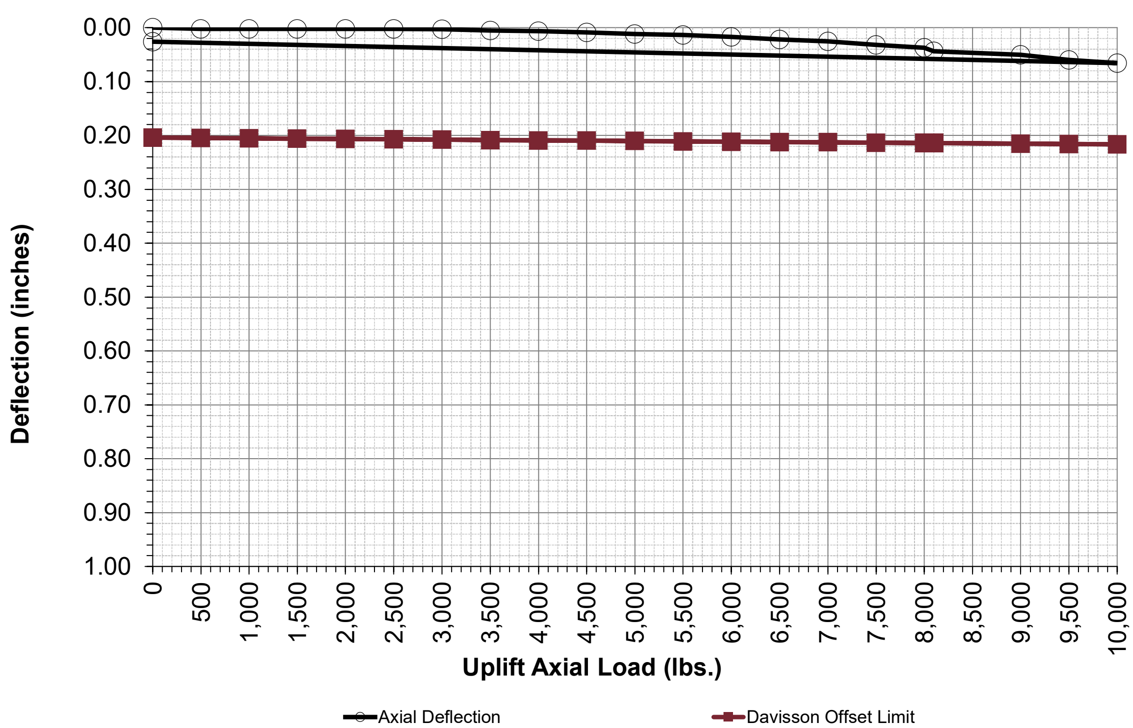
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	2/25/2023

Pile Information

Pile ID:	PLT-7B
Latitude [deg.]:	35.29482
Longitude[deg.]:	-106.25484
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	76.2

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.002	0.001	0.205	
10%	1000	0.002	0.001	0.205	
15%	1500	0.002	0.002	0.206	
20%	2000	0.002	0.002	0.207	
25%	2500	0.002	0.003	0.207	
30%	3000	0.003	0.004	0.208	
35%	3500	0.005	0.004	0.208	
40%	4000	0.007	0.005	0.209	
45%	4500	0.009	0.006	0.210	
50%	5000	0.012	0.006	0.210	
55%	5500	0.014	0.007	0.211	
60%	6000	0.017	0.007	0.212	
65%	6500	0.022	0.008	0.212	
70%	7000	0.026	0.009	0.213	
75%	7500	0.032	0.009	0.213	
80%	8000	0.038	0.010	0.214	
81%	8100	0.044	0.010	0.214	
90%	9000	0.051	0.011	0.215	
95%	9500	0.060	0.012	0.216	
100%	10000	0.066	0.012	0.217	
0%	0	0.026	0.000	0.204	



Tension Load Test Result for PLT-8A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

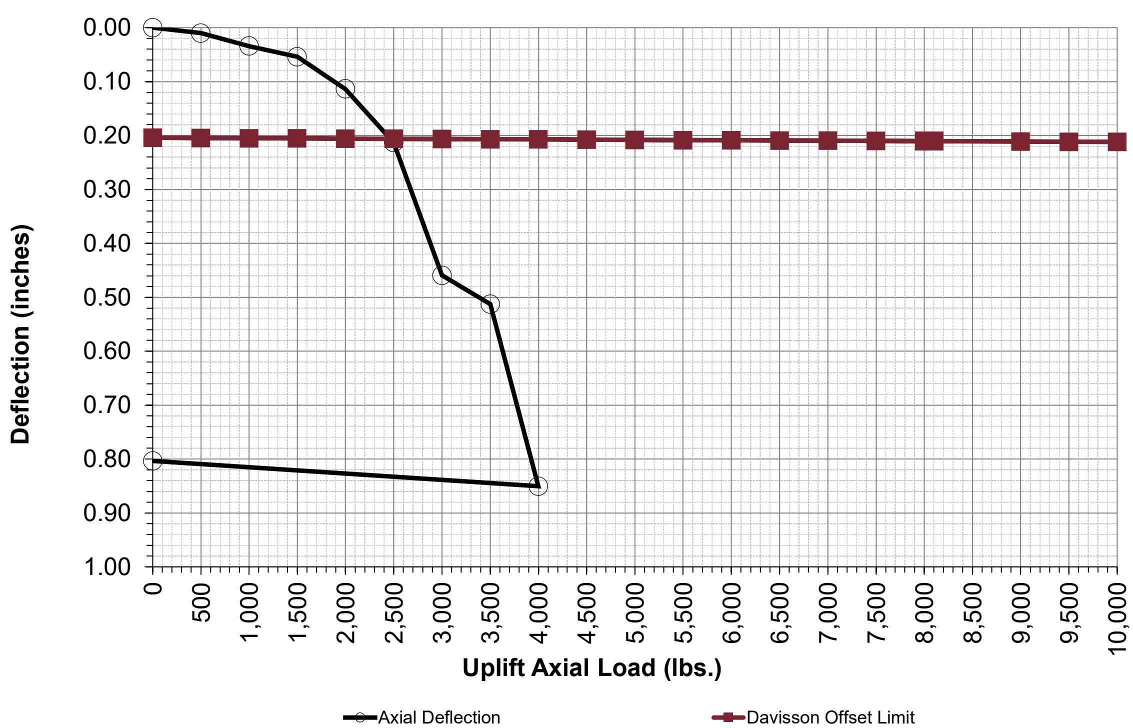
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	3/2/2023

Pile Information

Pile ID:	PLT-8A
Latitude [deg.]:	35.29714
Longitude[deg.]:	-106.25859
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	11.9

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.010	0.000	0.205	
10%	1000	0.034	0.001	0.205	
15%	1500	0.054	0.001	0.205	
20%	2000	0.114	0.002	0.206	
25%	2500	0.213	0.002	0.206	
30%	3000	0.460	0.002	0.206	
35%	3500	0.513	0.003	0.207	
40%	4000	0.851	0.003	0.207	
45%	4500		0.003	0.208	
50%	5000		0.004	0.208	
55%	5500		0.004	0.208	
60%	6000		0.005	0.209	
65%	6500		0.005	0.209	
70%	7000		0.005	0.210	
75%	7500		0.006	0.210	
80%	8000		0.006	0.210	
81%	8100		0.006	0.210	
90%	9000		0.007	0.211	
95%	9500		0.007	0.212	
100%	10000		0.008	0.212	
0%	0	0.804	0.000	0.204	



Tension Load Test Result for PLT-8B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

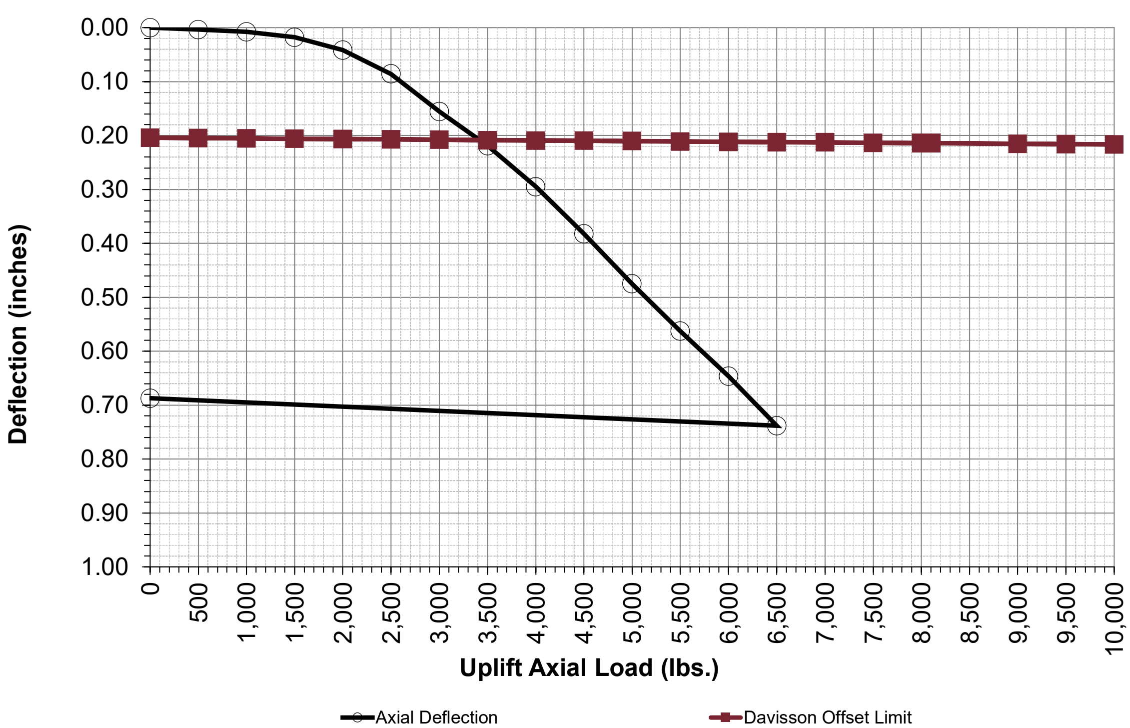
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	3/2/2023

Pile Information

Pile ID:	PLT-8B
Latitude [deg.]:	35.29714
Longitude[deg.]:	-106.25859
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	14.5

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.004	0.001	0.205	
10%	1000	0.008	0.001	0.205	
15%	1500	0.018	0.002	0.206	
20%	2000	0.042	0.002	0.207	
25%	2500	0.086	0.003	0.207	
30%	3000	0.156	0.004	0.208	
35%	3500	0.219	0.004	0.208	
40%	4000	0.295	0.005	0.209	
45%	4500	0.382	0.006	0.210	
50%	5000	0.475	0.006	0.210	
55%	5500	0.563	0.007	0.211	
60%	6000	0.646	0.007	0.212	
65%	6500	0.738	0.008	0.212	
70%	7000		0.009	0.213	
75%	7500		0.009	0.213	
80%	8000		0.010	0.214	
81%	8100		0.010	0.214	
90%	9000		0.011	0.215	
95%	9500		0.012	0.216	
100%	10000		0.012	0.217	
0%	0	0.687	0.000	0.204	



Tension Load Test Result for PLT-9A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

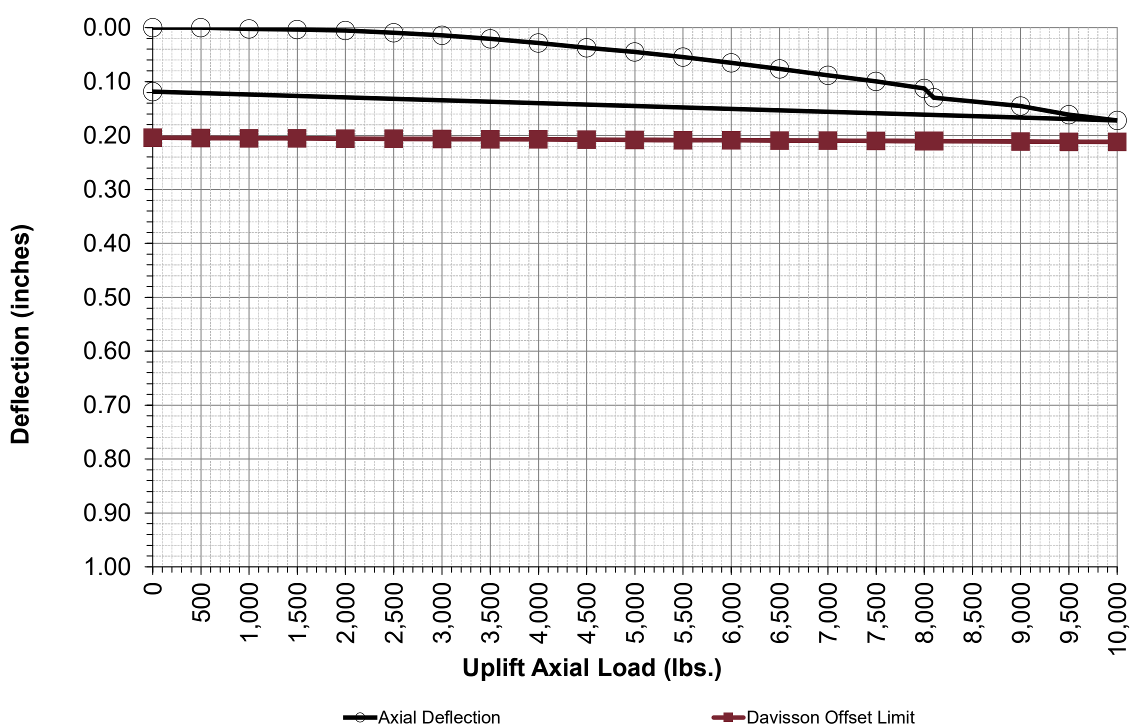
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	6/25/2023

Pile Information

Pile ID:	PLT-9A
Latitude [deg.]:	35.29610
Longitude[deg.]:	-106.24892
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	37.7

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.000	0.000	0.205	
10%	1000	0.002	0.001	0.205	
15%	1500	0.004	0.001	0.205	
20%	2000	0.006	0.002	0.206	
25%	2500	0.010	0.002	0.206	
30%	3000	0.014	0.002	0.206	
35%	3500	0.021	0.003	0.207	
40%	4000	0.029	0.003	0.207	
45%	4500	0.038	0.003	0.208	
50%	5000	0.045	0.004	0.208	
55%	5500	0.055	0.004	0.208	
60%	6000	0.066	0.005	0.209	
65%	6500	0.077	0.005	0.209	
70%	7000	0.089	0.005	0.210	
75%	7500	0.100	0.006	0.210	
80%	8000	0.113	0.006	0.210	
81%	8100	0.130	0.006	0.210	
90%	9000	0.146	0.007	0.211	
95%	9500	0.162	0.007	0.212	
100%	10000	0.172	0.008	0.212	
0%	0	0.119	0.000	0.204	



Tension Load Test Result for PLT-9B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

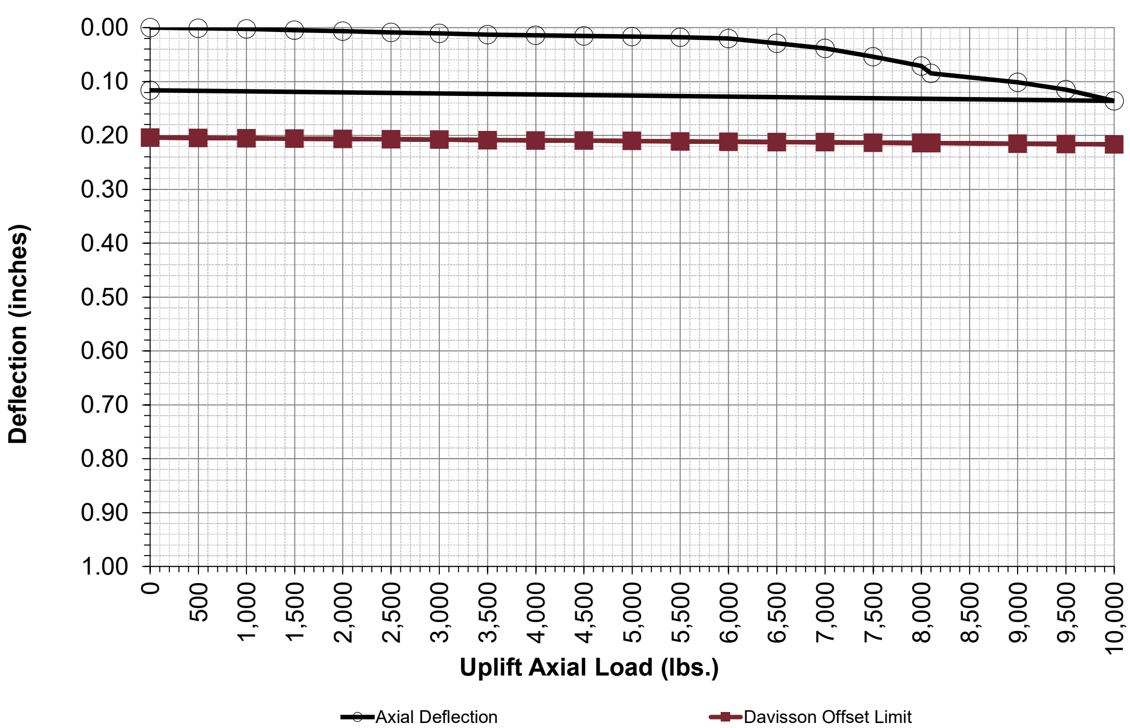
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	6/25/2023

Pile Information

Pile ID:	PLT-9B
Latitude [deg.]:	35.29610
Longitude[deg.]:	-106.24892
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	80.1

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.001	0.001	0.205	
10%	1000	0.002	0.001	0.205	
15%	1500	0.005	0.002	0.206	
20%	2000	0.007	0.002	0.207	
25%	2500	0.009	0.003	0.207	
30%	3000	0.011	0.004	0.208	
35%	3500	0.013	0.004	0.208	
40%	4000	0.015	0.005	0.209	
45%	4500	0.016	0.006	0.210	
50%	5000	0.017	0.006	0.210	
55%	5500	0.018	0.007	0.211	
60%	6000	0.020	0.007	0.212	
65%	6500	0.029	0.008	0.212	
70%	7000	0.039	0.009	0.213	
75%	7500	0.054	0.009	0.213	
80%	8000	0.071	0.010	0.214	
81%	8100	0.085	0.010	0.214	
90%	9000	0.102	0.011	0.215	
95%	9500	0.115	0.012	0.216	
100%	10000	0.136	0.012	0.217	
0%	0	0.116	0.000	0.204	



Tension Load Test Result for PLT-10A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

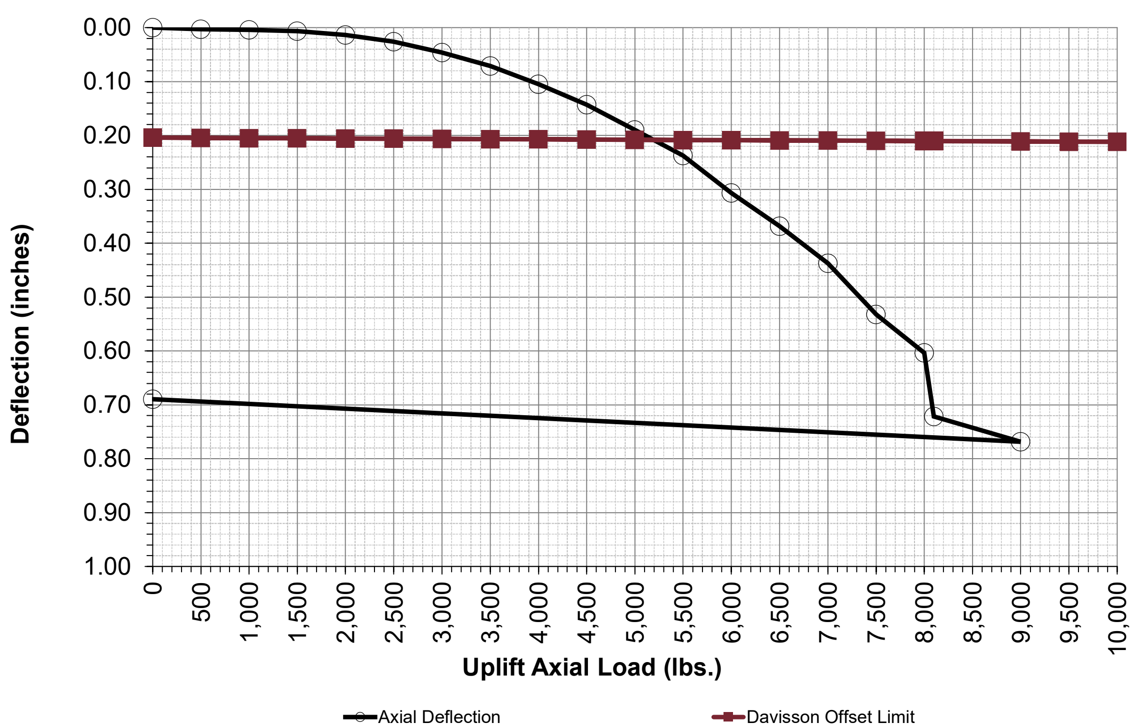
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	6/24/2023

Pile Information

Pile ID:	PLT-10A
Latitude [deg.]:	35.30224
Longitude[deg.]:	-106.25810
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	15.4

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.003	0.000	0.205	
10%	1000	0.004	0.001	0.205	
15%	1500	0.007	0.001	0.205	
20%	2000	0.014	0.002	0.206	
25%	2500	0.026	0.002	0.206	
30%	3000	0.047	0.002	0.206	
35%	3500	0.071	0.003	0.207	
40%	4000	0.105	0.003	0.207	
45%	4500	0.143	0.003	0.208	
50%	5000	0.190	0.004	0.208	
55%	5500	0.237	0.004	0.208	
60%	6000	0.307	0.005	0.209	
65%	6500	0.369	0.005	0.209	
70%	7000	0.438	0.005	0.210	
75%	7500	0.533	0.006	0.210	
80%	8000	0.604	0.006	0.210	
81%	8100	0.722	0.006	0.210	
90%	9000	0.769	0.007	0.211	
95%	9500		0.007	0.212	
100%	10000		0.008	0.212	
0%	0	0.690	0.000	0.204	



Tension Load Test Result for PLT-10B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

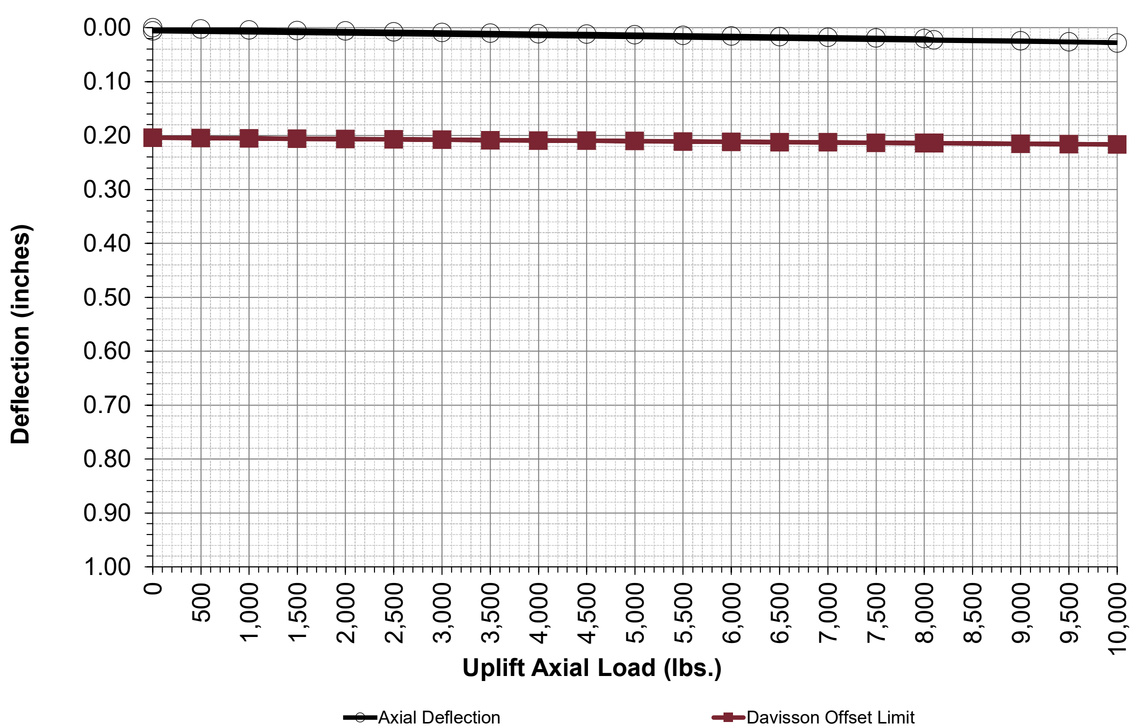
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	6/24/2023

Pile Information

Pile ID:	PLT-10B
Latitude [deg.]:	35.30224
Longitude[deg.]:	-106.25810
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	280.2

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.002	0.001	0.205	
10%	1000	0.004	0.001	0.205	
15%	1500	0.005	0.002	0.206	
20%	2000	0.006	0.002	0.207	
25%	2500	0.008	0.003	0.207	
30%	3000	0.009	0.004	0.208	
35%	3500	0.010	0.004	0.208	
40%	4000	0.011	0.005	0.209	
45%	4500	0.012	0.006	0.210	
50%	5000	0.013	0.006	0.210	
55%	5500	0.015	0.007	0.211	
60%	6000	0.016	0.007	0.212	
65%	6500	0.017	0.008	0.212	
70%	7000	0.018	0.009	0.213	
75%	7500	0.019	0.009	0.213	
80%	8000	0.020	0.010	0.214	
81%	8100	0.023	0.010	0.214	
90%	9000	0.024	0.011	0.215	
95%	9500	0.026	0.012	0.216	
100%	10000	0.028	0.012	0.217	
0%	0	0.006	0.000	0.204	



Tension Load Test Result for PLT-11A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

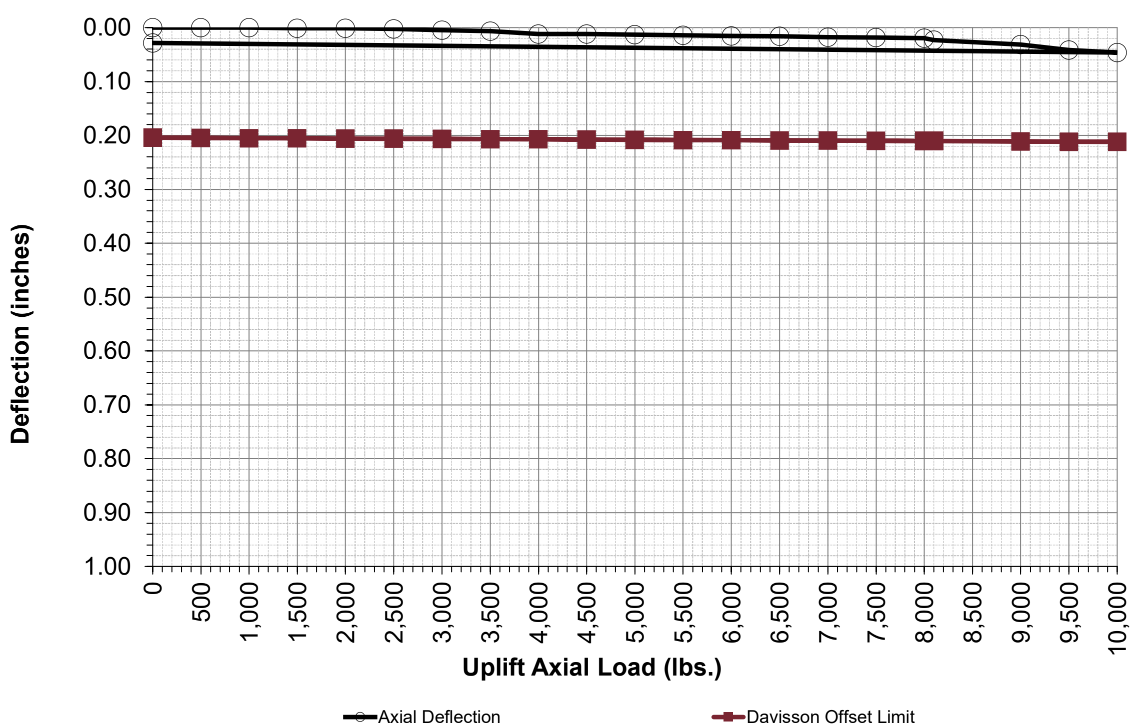
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/1/2023

Pile Information

Pile ID:	PLT-11A
Latitude [deg.]:	35.30115
Longitude[deg.]:	-106.24937
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	40.7

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.000	0.000	0.205	
10%	1000	0.000	0.001	0.205	
15%	1500	0.001	0.001	0.205	
20%	2000	0.001	0.002	0.206	
25%	2500	0.002	0.002	0.206	
30%	3000	0.005	0.002	0.206	
35%	3500	0.007	0.003	0.207	
40%	4000	0.012	0.003	0.207	
45%	4500	0.012	0.003	0.208	
50%	5000	0.013	0.004	0.208	
55%	5500	0.014	0.004	0.208	
60%	6000	0.015	0.005	0.209	
65%	6500	0.016	0.005	0.209	
70%	7000	0.018	0.005	0.210	
75%	7500	0.019	0.006	0.210	
80%	8000	0.020	0.006	0.210	
81%	8100	0.023	0.006	0.210	
90%	9000	0.032	0.007	0.211	
95%	9500	0.042	0.007	0.212	
100%	10000	0.046	0.008	0.212	
0%	0	0.029	0.000	0.204	



Tension Load Test Result for PLT-11B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

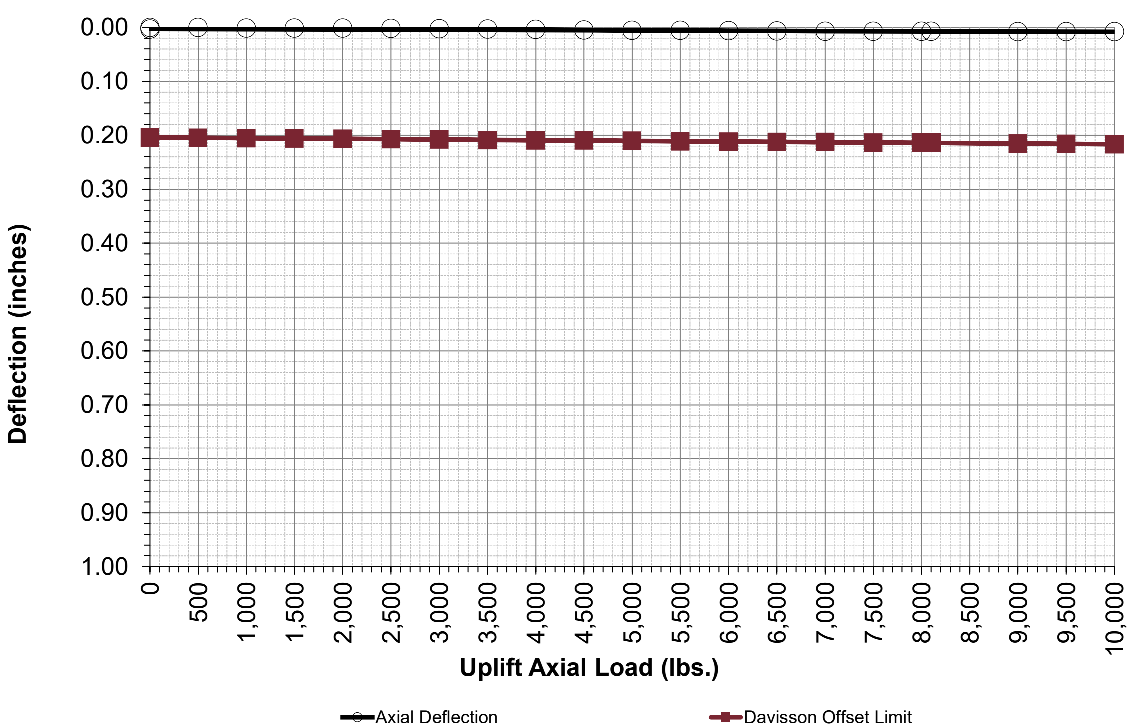
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/1/2023

Pile Information

Pile ID:	PLT-11B
Latitude [deg.]:	35.30115
Longitude[deg.]:	-106.24937
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	88.5

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.000	0.001	0.205	
10%	1000	0.001	0.001	0.205	
15%	1500	0.001	0.002	0.206	
20%	2000	0.001	0.002	0.207	
25%	2500	0.002	0.003	0.207	
30%	3000	0.002	0.004	0.208	
35%	3500	0.003	0.004	0.208	
40%	4000	0.004	0.005	0.209	
45%	4500	0.005	0.006	0.210	
50%	5000	0.006	0.006	0.210	
55%	5500	0.006	0.007	0.211	
60%	6000	0.006	0.007	0.212	
65%	6500	0.007	0.008	0.212	
70%	7000	0.007	0.009	0.213	
75%	7500	0.007	0.009	0.213	
80%	8000	0.007	0.010	0.214	
81%	8100	0.007	0.010	0.214	
90%	9000	0.008	0.011	0.215	
95%	9500	0.008	0.012	0.216	
100%	10000	0.008	0.012	0.217	
0%	0	0.003	0.000	0.204	



Tension Load Test Result for PLT-12A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

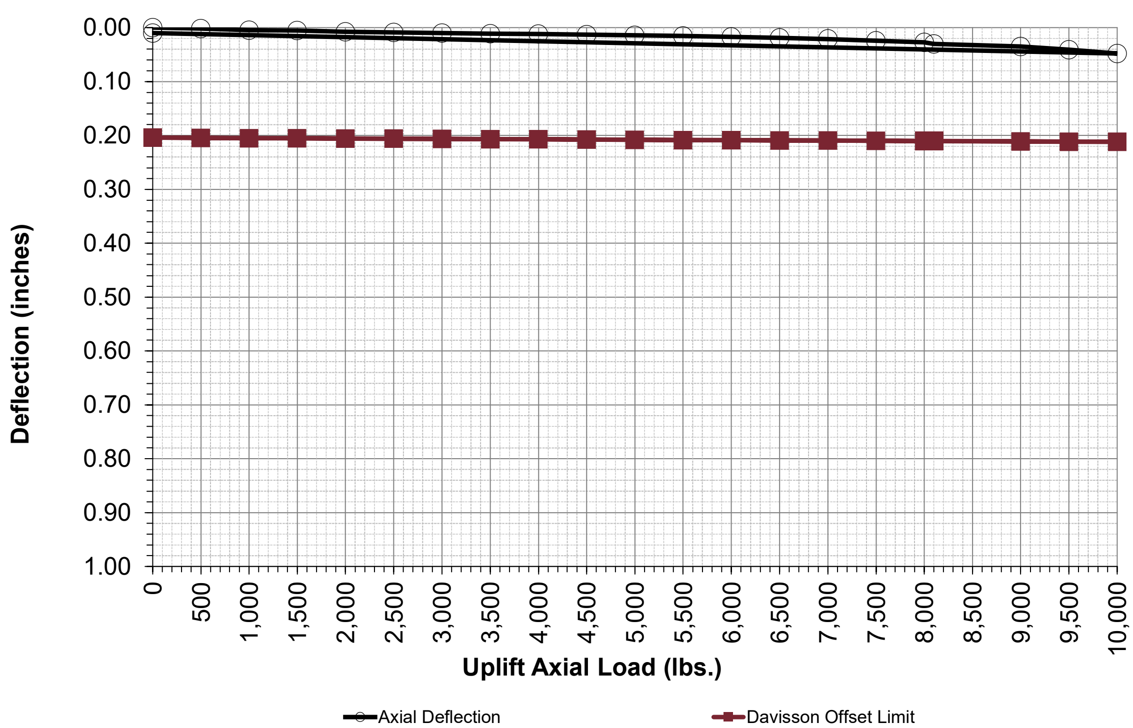
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/2/2023

Pile Information

Pile ID:	PLT-12A
Latitude [deg.]:	35.30752
Longitude[deg.]:	-106.25063
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	25.6

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.002	0.000	0.205	
10%	1000	0.005	0.001	0.205	
15%	1500	0.006	0.001	0.205	
20%	2000	0.008	0.002	0.206	
25%	2500	0.009	0.002	0.206	
30%	3000	0.010	0.002	0.206	
35%	3500	0.011	0.003	0.207	
40%	4000	0.012	0.003	0.207	
45%	4500	0.013	0.003	0.208	
50%	5000	0.015	0.004	0.208	
55%	5500	0.016	0.004	0.208	
60%	6000	0.017	0.005	0.209	
65%	6500	0.019	0.005	0.209	
70%	7000	0.021	0.005	0.210	
75%	7500	0.024	0.006	0.210	
80%	8000	0.027	0.006	0.210	
81%	8100	0.030	0.006	0.210	
90%	9000	0.035	0.007	0.211	
95%	9500	0.041	0.007	0.212	
100%	10000	0.048	0.008	0.212	
0%	0	0.010	0.000	0.204	



Terracon

Tension Load Test Result for PLT-12B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

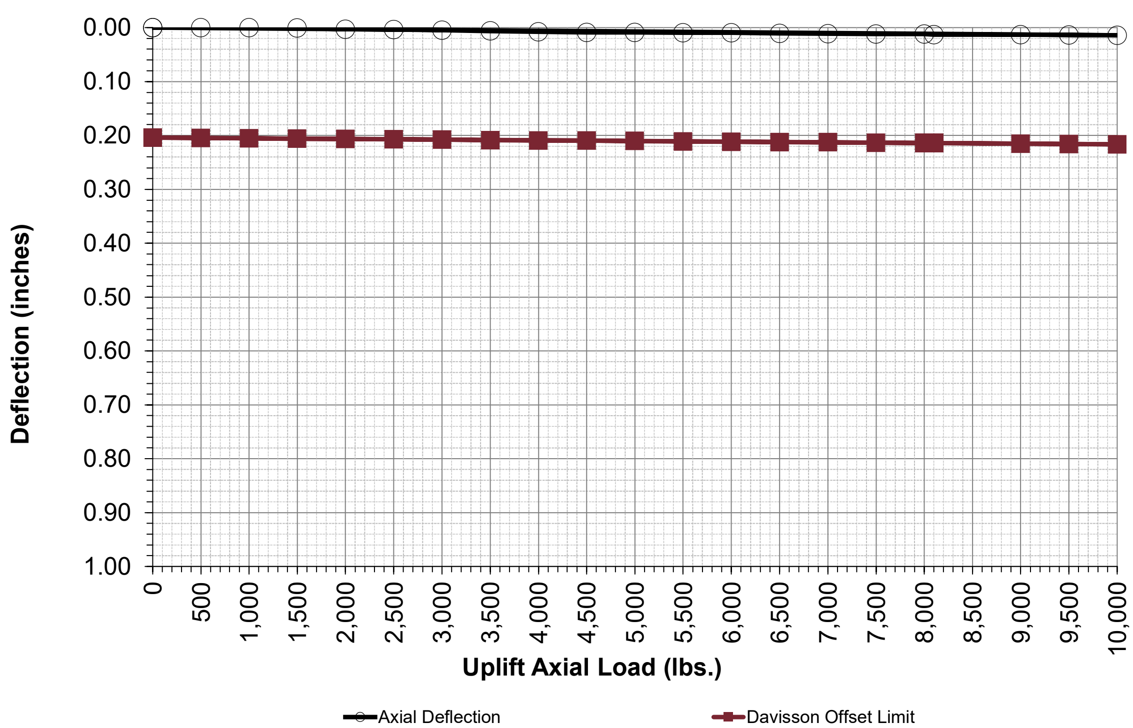
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/2/2023

Pile Information

Pile ID:	PLT-12B
Latitude [deg.]:	35.30752
Longitude[deg.]:	-106.25063
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	87.2

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.000	0.001	0.205	
10%	1000	0.000	0.001	0.205	
15%	1500	0.001	0.002	0.206	
20%	2000	0.003	0.002	0.207	
25%	2500	0.004	0.003	0.207	
30%	3000	0.005	0.004	0.208	
35%	3500	0.006	0.004	0.208	
40%	4000	0.008	0.005	0.209	
45%	4500	0.009	0.006	0.210	
50%	5000	0.009	0.006	0.210	
55%	5500	0.010	0.007	0.211	
60%	6000	0.010	0.007	0.212	
65%	6500	0.011	0.008	0.212	
70%	7000	0.011	0.009	0.213	
75%	7500	0.012	0.009	0.213	
80%	8000	0.012	0.010	0.214	
81%	8100	0.013	0.010	0.214	
90%	9000	0.013	0.011	0.215	
95%	9500	0.014	0.012	0.216	
100%	10000	0.014	0.012	0.217	
0%	0	0.000	0.000	0.204	



Tension Load Test Result for PLT-13A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

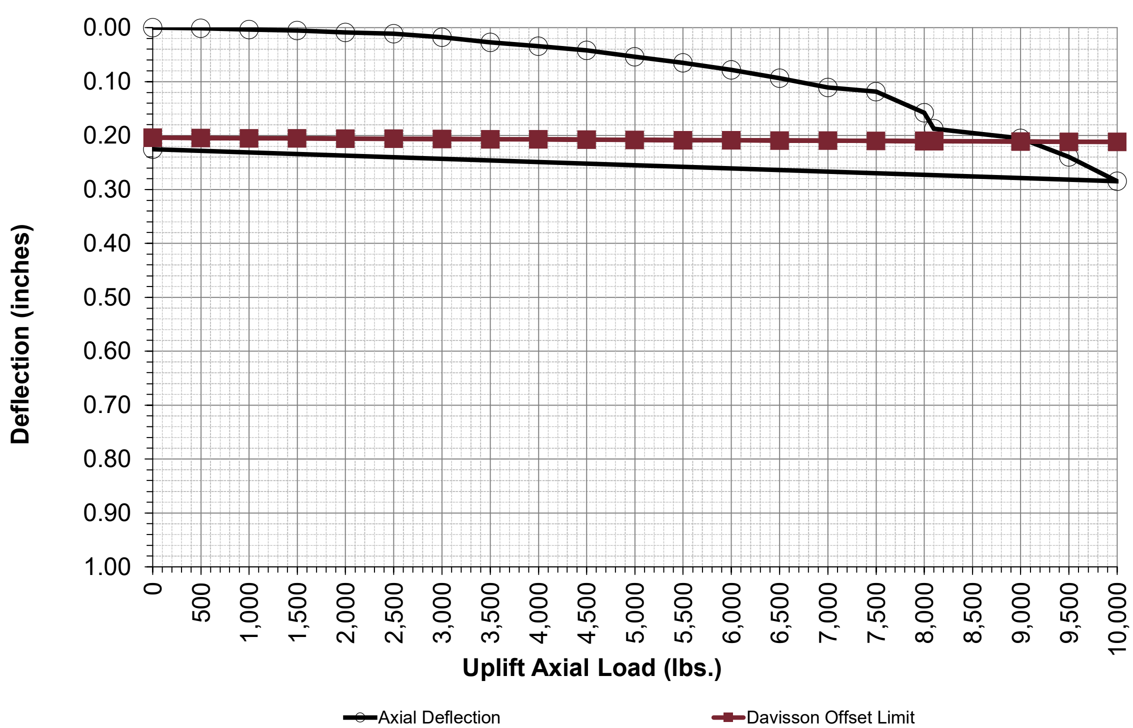
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/1/2023

Pile Information

Pile ID:	PLT-13A
Latitude [deg.]:	35.30792
Longitude[deg.]:	-106.26119
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	23.3

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.001	0.000	0.205	
10%	1000	0.004	0.001	0.205	
15%	1500	0.005	0.001	0.205	
20%	2000	0.009	0.002	0.206	
25%	2500	0.011	0.002	0.206	
30%	3000	0.018	0.002	0.206	
35%	3500	0.027	0.003	0.207	
40%	4000	0.035	0.003	0.207	
45%	4500	0.042	0.003	0.208	
50%	5000	0.054	0.004	0.208	
55%	5500	0.066	0.004	0.208	
60%	6000	0.078	0.005	0.209	
65%	6500	0.094	0.005	0.209	
70%	7000	0.111	0.005	0.210	
75%	7500	0.119	0.006	0.210	
80%	8000	0.158	0.006	0.210	
81%	8100	0.188	0.006	0.210	
90%	9000	0.205	0.007	0.211	
95%	9500	0.240	0.007	0.212	
100%	10000	0.285	0.008	0.212	
0%	0	0.226	0.000	0.204	



Tension Load Test Result for PLT-13B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerque, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

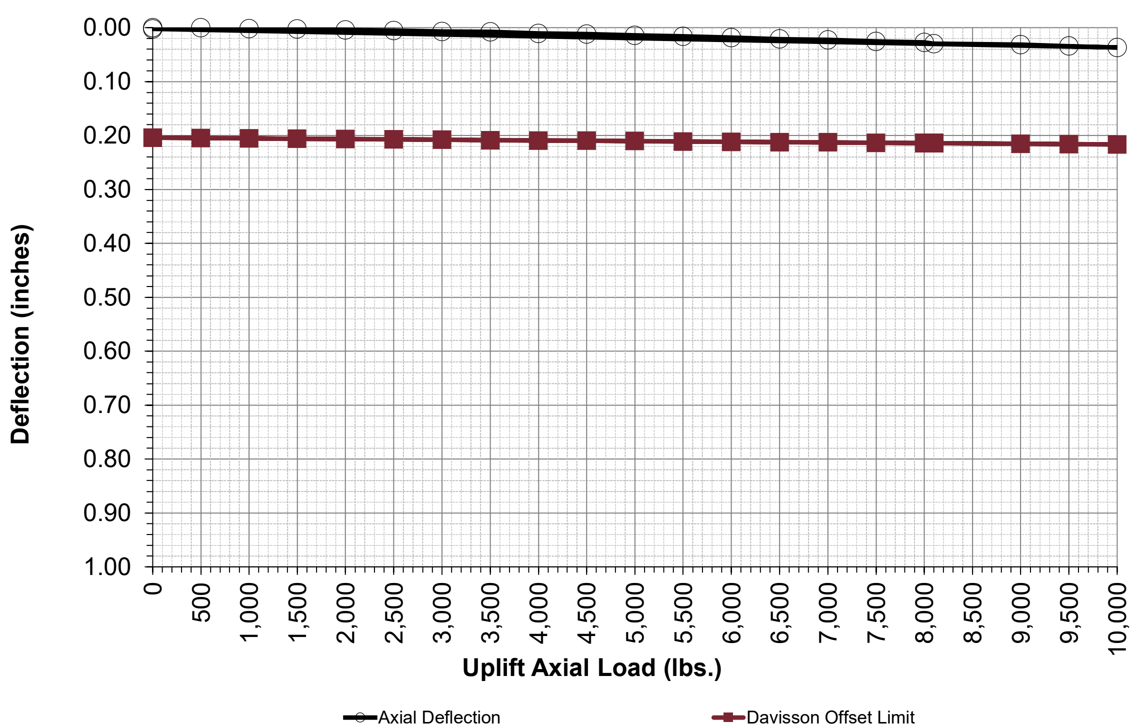
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/1/2023

Pile Information

Pile ID:	PLT-13B
Latitude [deg.]:	35.30792
Longitude[deg.]:	-106.26119
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	45.2

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.000	0.001	0.205	
10%	1000	0.002	0.001	0.205	
15%	1500	0.003	0.002	0.206	
20%	2000	0.004	0.002	0.207	
25%	2500	0.006	0.003	0.207	
30%	3000	0.007	0.004	0.208	
35%	3500	0.008	0.004	0.208	
40%	4000	0.011	0.005	0.209	
45%	4500	0.012	0.006	0.210	
50%	5000	0.014	0.006	0.210	
55%	5500	0.016	0.007	0.211	
60%	6000	0.019	0.007	0.212	
65%	6500	0.021	0.008	0.212	
70%	7000	0.023	0.009	0.213	
75%	7500	0.026	0.009	0.213	
80%	8000	0.027	0.010	0.214	
81%	8100	0.030	0.010	0.214	
90%	9000	0.032	0.011	0.215	
95%	9500	0.034	0.012	0.216	
100%	10000	0.037	0.012	0.217	
0%	0	0.002	0.000	0.204	



Tension Load Test Result for PLT-14A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquruqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

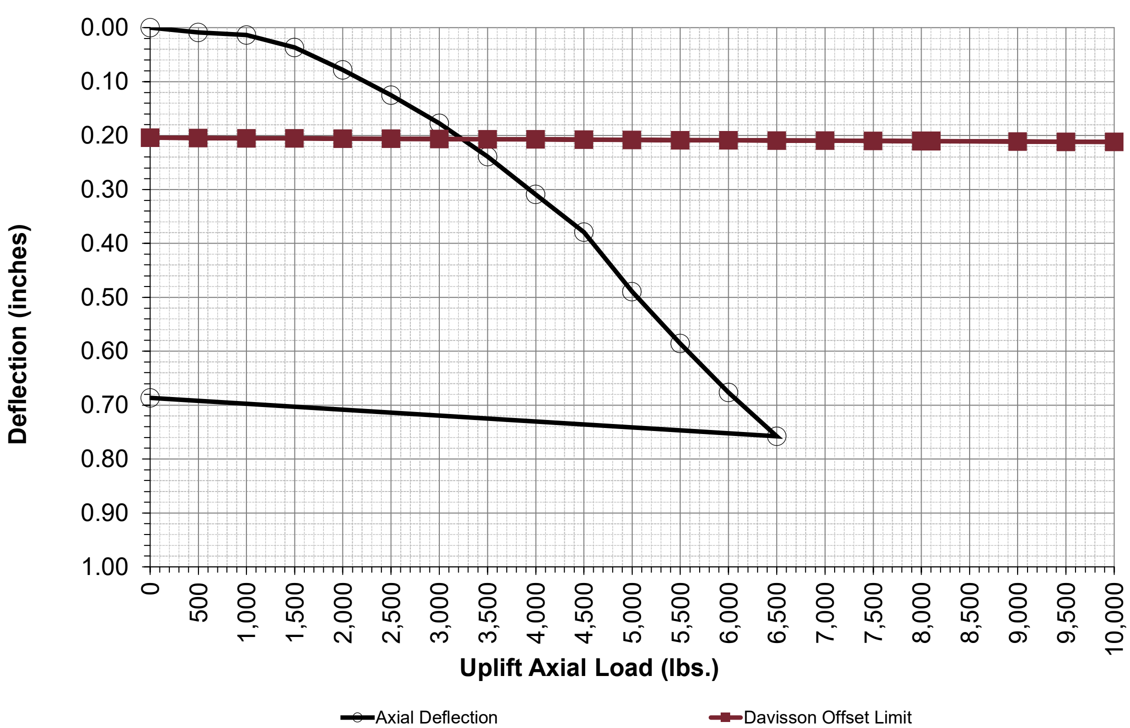
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/1/2023

Pile Information

Pile ID:	PLT-14A
Latitude [deg.]:	35.31131
Longitude[deg.]:	-106.26821
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	12.6

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.009	0.000	0.205	
10%	1000	0.014	0.001	0.205	
15%	1500	0.037	0.001	0.205	
20%	2000	0.078	0.002	0.206	
25%	2500	0.125	0.002	0.206	
30%	3000	0.178	0.002	0.206	
35%	3500	0.239	0.003	0.207	
40%	4000	0.310	0.003	0.207	
45%	4500	0.379	0.003	0.208	
50%	5000	0.490	0.004	0.208	
55%	5500	0.586	0.004	0.208	
60%	6000	0.677	0.005	0.209	
65%	6500	0.758	0.005	0.209	
70%	7000		0.005	0.210	
75%	7500		0.006	0.210	
80%	8000		0.006	0.210	
81%	8100		0.006	0.210	
90%	9000		0.007	0.211	
95%	9500		0.007	0.212	
100%	10000		0.008	0.212	
0%	0	0.687	0.000	0.204	



Tension Load Test Result for PLT-14B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

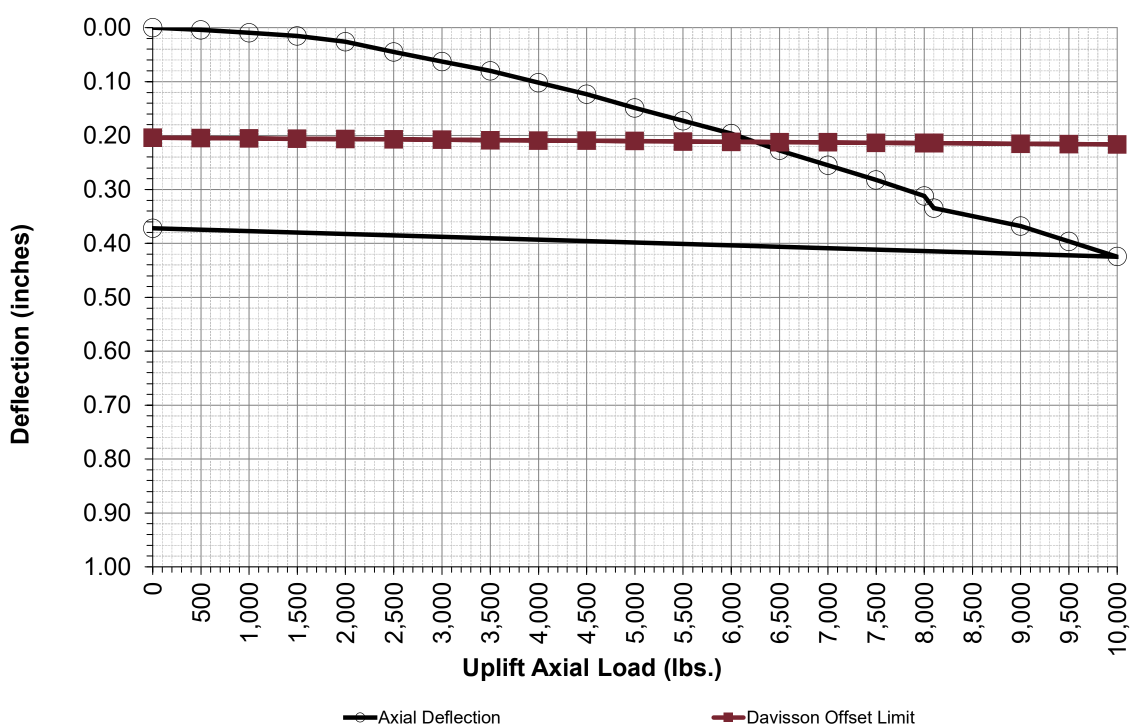
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/2/2023

Pile Information

Pile ID:	PLT-14B
Latitude [deg.]:	35.31131
Longitude[deg.]:	-106.26821
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	62.7

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offset Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.004	0.001	0.205	
10%	1000	0.010	0.001	0.205	
15%	1500	0.015	0.002	0.206	
20%	2000	0.026	0.002	0.207	
25%	2500	0.045	0.003	0.207	
30%	3000	0.063	0.004	0.208	
35%	3500	0.080	0.004	0.208	
40%	4000	0.102	0.005	0.209	
45%	4500	0.123	0.006	0.210	
50%	5000	0.149	0.006	0.210	
55%	5500	0.173	0.007	0.211	
60%	6000	0.197	0.007	0.212	
65%	6500	0.228	0.008	0.212	
70%	7000	0.255	0.009	0.213	
75%	7500	0.283	0.009	0.213	
80%	8000	0.312	0.010	0.214	
81%	8100	0.335	0.010	0.214	
90%	9000	0.368	0.011	0.215	
95%	9500	0.397	0.012	0.216	
100%	10000	0.425	0.012	0.217	
0%	0	0.372	0.000	0.204	



Tension Load Test Result for PLT-15A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

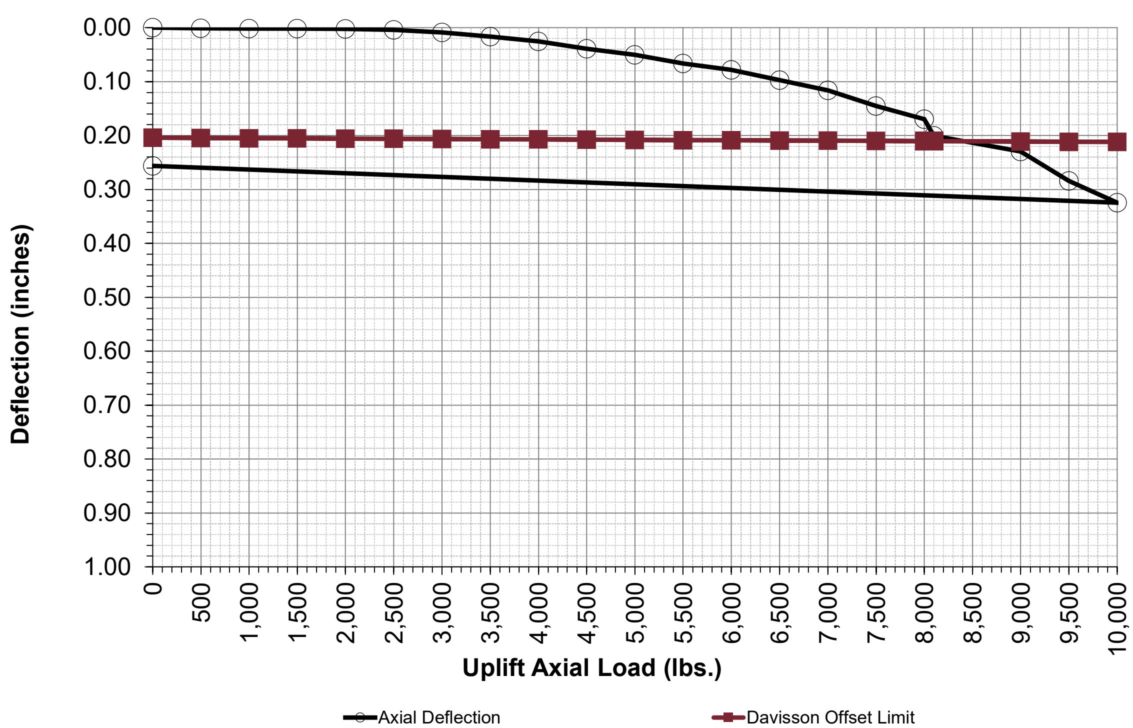
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/2/2023

Pile Information

Pile ID:	PLT-15A
Latitude [deg.]:	35.31062
Longitude[deg.]:	-106.25474
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	16.5

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.001	0.000	0.205	
10%	1000	0.002	0.001	0.205	
15%	1500	0.002	0.001	0.205	
20%	2000	0.003	0.002	0.206	
25%	2500	0.004	0.002	0.206	
30%	3000	0.009	0.002	0.206	
35%	3500	0.017	0.003	0.207	
40%	4000	0.026	0.003	0.207	
45%	4500	0.039	0.003	0.208	
50%	5000	0.051	0.004	0.208	
55%	5500	0.067	0.004	0.208	
60%	6000	0.078	0.005	0.209	
65%	6500	0.098	0.005	0.209	
70%	7000	0.116	0.005	0.210	
75%	7500	0.146	0.006	0.210	
80%	8000	0.170	0.006	0.210	
81%	8100	0.201	0.006	0.210	
90%	9000	0.230	0.007	0.211	
95%	9500	0.284	0.007	0.212	
100%	10000	0.325	0.008	0.212	
0%	0	0.256	0.000	0.204	



Tension Load Test Result for PLT-15B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

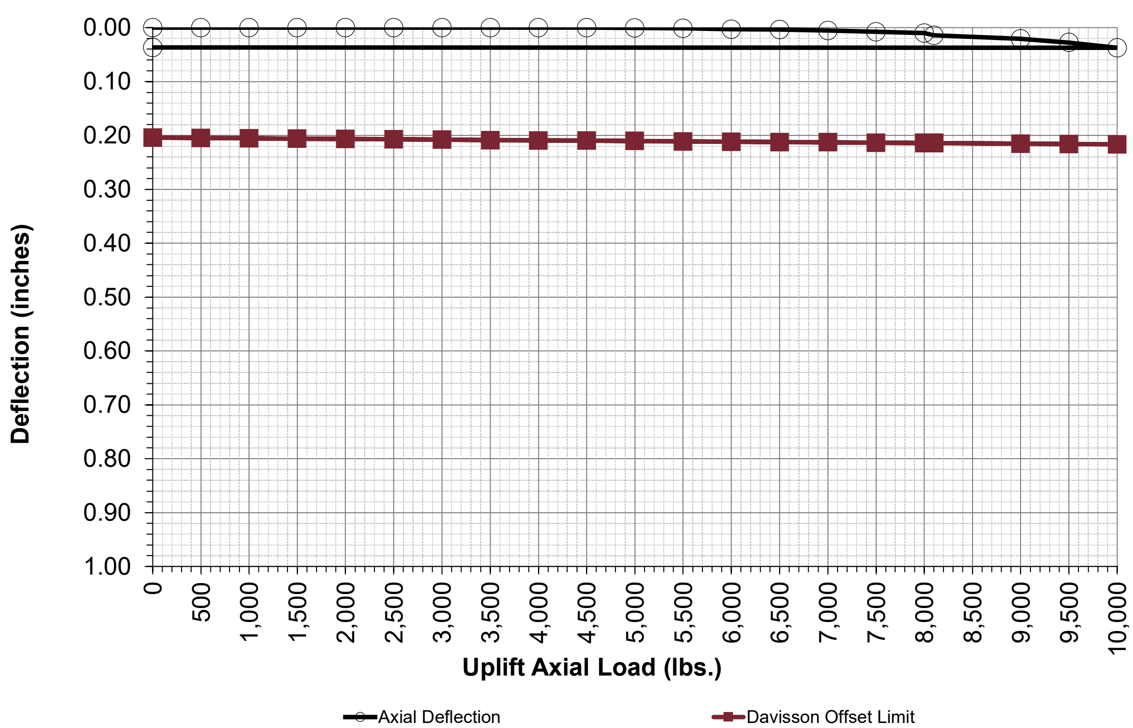
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/2/2023

Pile Information

Pile ID:	PLT-15B
Latitude [deg.]:	35.31062
Longitude[deg.]:	-106.25474
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	22.9

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.000	0.001	0.205	
10%	1000	0.000	0.001	0.205	
15%	1500	0.000	0.002	0.206	
20%	2000	0.000	0.002	0.207	
25%	2500	0.000	0.003	0.207	
30%	3000	0.000	0.004	0.208	
35%	3500	0.000	0.004	0.208	
40%	4000	0.000	0.005	0.209	
45%	4500	0.000	0.006	0.210	
50%	5000	0.001	0.006	0.210	
55%	5500	0.001	0.007	0.211	
60%	6000	0.003	0.007	0.212	
65%	6500	0.004	0.008	0.212	
70%	7000	0.006	0.009	0.213	
75%	7500	0.008	0.009	0.213	
80%	8000	0.010	0.010	0.214	
81%	8100	0.014	0.010	0.214	
90%	9000	0.021	0.011	0.215	
95%	9500	0.028	0.012	0.216	
100%	10000	0.037	0.012	0.217	
0%	0	0.037	0.000	0.204	



Tension Load Test Result for PLT-16A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

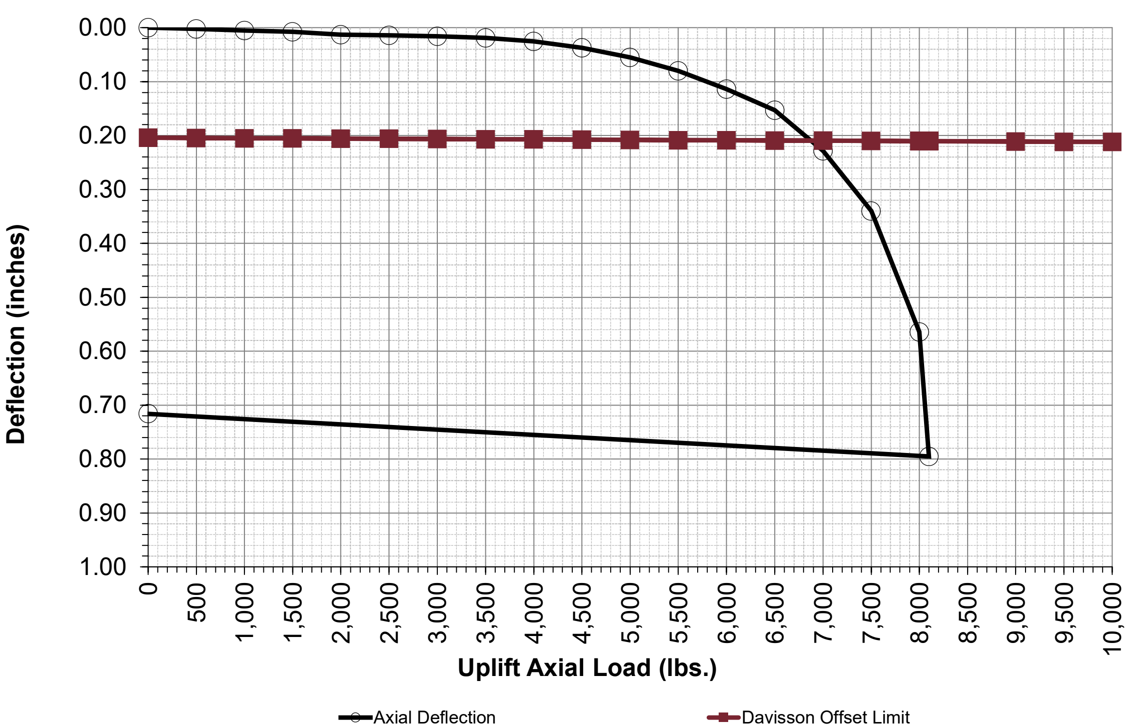
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/2/2023

Pile Information

Pile ID:	PLT-16A
Latitude [deg.]:	35.31534
Longitude[deg.]:	-106.26043
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	26.5

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.003	0.000	0.205	
10%	1000	0.006	0.001	0.205	
15%	1500	0.008	0.001	0.205	
20%	2000	0.013	0.002	0.206	
25%	2500	0.014	0.002	0.206	
30%	3000	0.016	0.002	0.206	
35%	3500	0.019	0.003	0.207	
40%	4000	0.026	0.003	0.207	
45%	4500	0.037	0.003	0.208	
50%	5000	0.055	0.004	0.208	
55%	5500	0.080	0.004	0.208	
60%	6000	0.114	0.005	0.209	
65%	6500	0.153	0.005	0.209	
70%	7000	0.228	0.005	0.210	
75%	7500	0.340	0.006	0.210	
80%	8000	0.565	0.006	0.210	
81%	8100	0.795	0.006	0.210	
90%	9000		0.007	0.211	
95%	9500		0.007	0.212	
100%	10000		0.008	0.212	
0%	0	0.716	0.000	0.204	



Tension Load Test Result for PLT-16B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerque, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

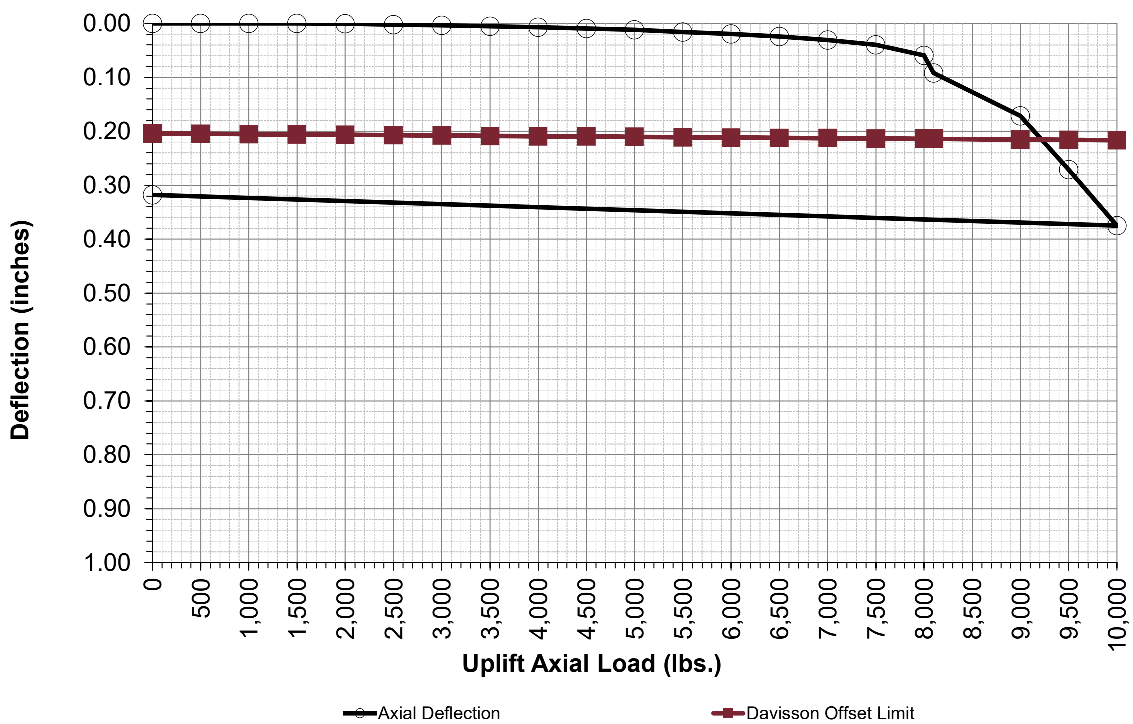
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/2/2023

Pile Information

Pile ID:	PLT-16B
Latitude [deg.]:	35.31534
Longitude[deg.]:	-106.26043
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	92.5

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.000	0.001	0.205	
10%	1000	0.000	0.001	0.205	
15%	1500	0.000	0.002	0.206	
20%	2000	0.001	0.002	0.207	
25%	2500	0.002	0.003	0.207	
30%	3000	0.004	0.004	0.208	
35%	3500	0.005	0.004	0.208	
40%	4000	0.007	0.005	0.209	
45%	4500	0.010	0.006	0.210	
50%	5000	0.012	0.006	0.210	
55%	5500	0.016	0.007	0.211	
60%	6000	0.020	0.007	0.212	
65%	6500	0.024	0.008	0.212	
70%	7000	0.031	0.009	0.213	
75%	7500	0.040	0.009	0.213	
80%	8000	0.060	0.010	0.214	
81%	8100	0.092	0.010	0.214	
90%	9000	0.172	0.011	0.215	
95%	9500	0.271	0.012	0.216	
100%	10000	0.375	0.012	0.217	
0%	0	0.318	0.000	0.204	



Tension Load Test Result for PLT-17A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

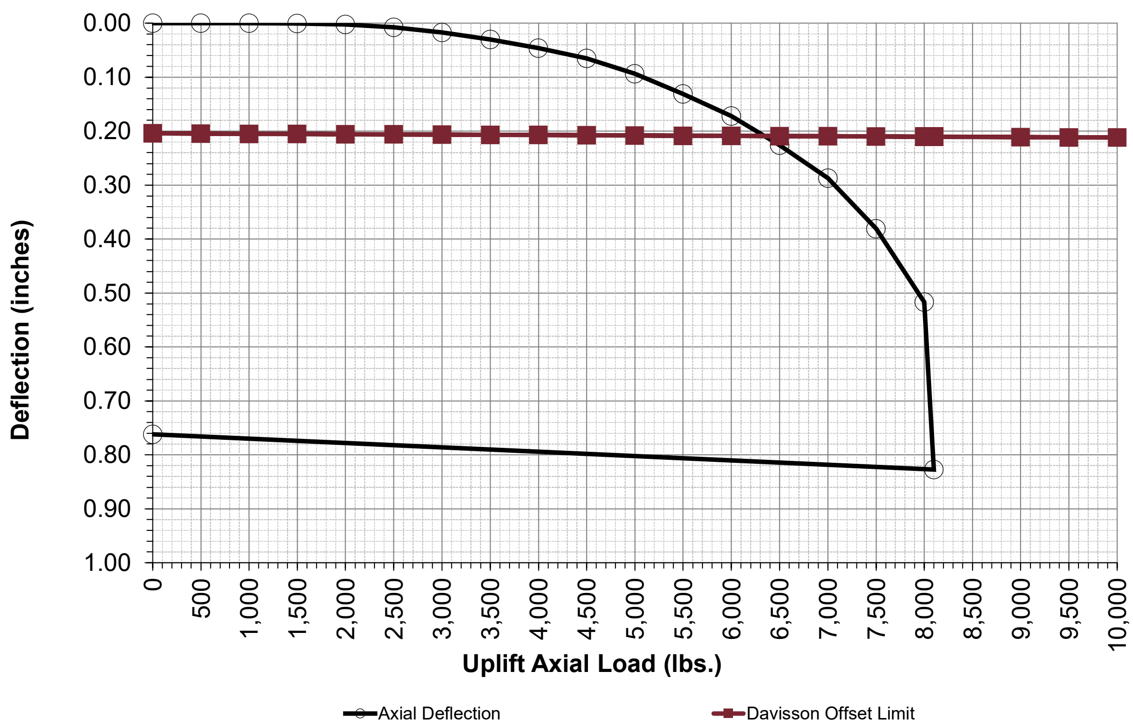
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/2/2023

Pile Information

Pile ID:	PLT-17A
Latitude [deg.]:	35.31691
Longitude[deg.]:	-106.25204
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	12.1

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.000	0.000	0.205	
10%	1000	0.000	0.001	0.205	
15%	1500	0.001	0.001	0.205	
20%	2000	0.003	0.002	0.206	
25%	2500	0.008	0.002	0.206	
30%	3000	0.017	0.002	0.206	
35%	3500	0.030	0.003	0.207	
40%	4000	0.047	0.003	0.207	
45%	4500	0.065	0.003	0.208	
50%	5000	0.094	0.004	0.208	
55%	5500	0.131	0.004	0.208	
60%	6000	0.172	0.005	0.209	
65%	6500	0.226	0.005	0.209	
70%	7000	0.288	0.005	0.210	
75%	7500	0.381	0.006	0.210	
80%	8000	0.517	0.006	0.210	
81%	8100	0.827	0.006	0.210	
90%	9000		0.007	0.211	
95%	9500		0.007	0.212	
100%	10000		0.008	0.212	
0%	0	0.762	0.000	0.204	



Tension Load Test Result for PLT-17B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

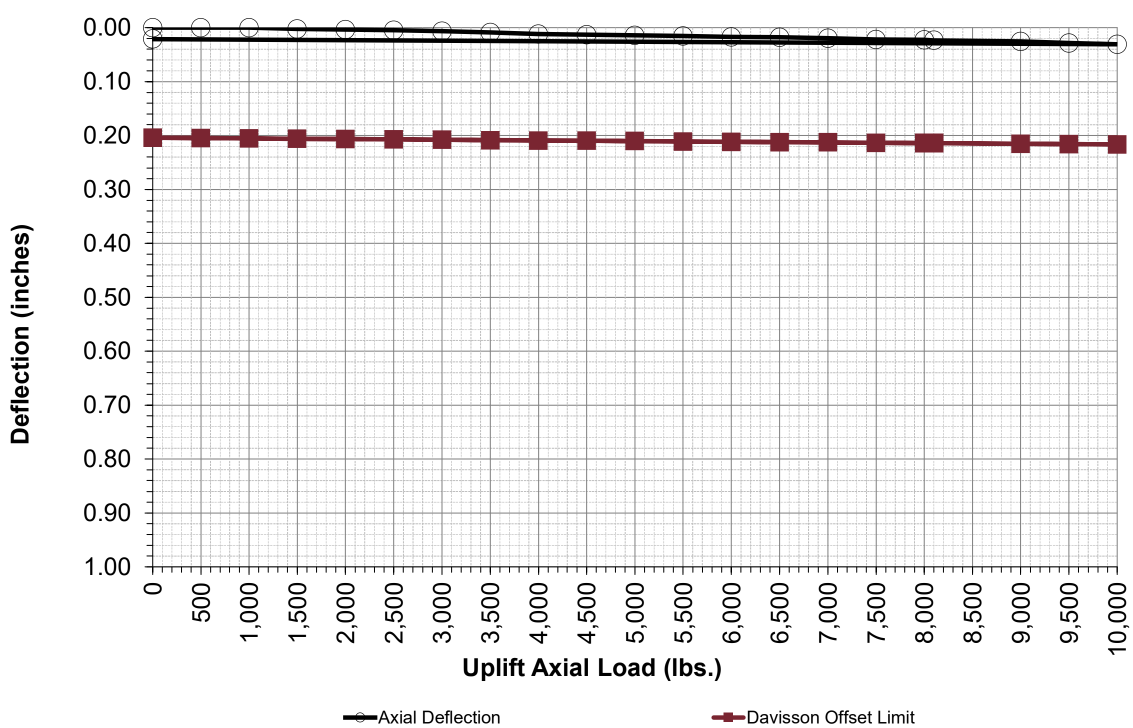
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/2/2023

Pile Information

Pile ID:	PLT-17B
Latitude [deg.]:	35.31691
Longitude[deg.]:	-106.25204
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	36.7

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.000	0.001	0.205	
10%	1000	0.000	0.001	0.205	
15%	1500	0.003	0.002	0.206	
20%	2000	0.004	0.002	0.207	
25%	2500	0.005	0.003	0.207	
30%	3000	0.007	0.004	0.208	
35%	3500	0.009	0.004	0.208	
40%	4000	0.012	0.005	0.209	
45%	4500	0.013	0.006	0.210	
50%	5000	0.014	0.006	0.210	
55%	5500	0.015	0.007	0.211	
60%	6000	0.017	0.007	0.212	
65%	6500	0.018	0.008	0.212	
70%	7000	0.020	0.009	0.213	
75%	7500	0.022	0.009	0.213	
80%	8000	0.023	0.010	0.214	
81%	8100	0.024	0.010	0.214	
90%	9000	0.026	0.011	0.215	
95%	9500	0.028	0.012	0.216	
100%	10000	0.031	0.012	0.217	
0%	0	0.021	0.000	0.204	



Tension Load Test Result for PLT-18A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

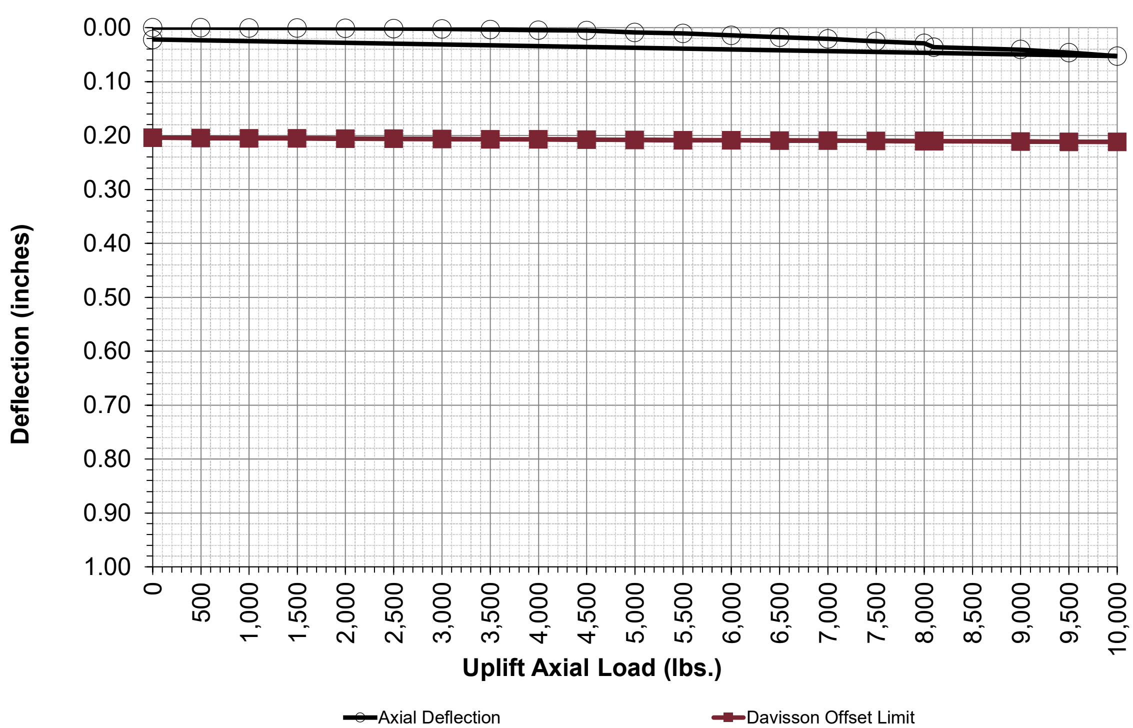
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/1/2023

Pile Information

Pile ID:	PLT-18A
Latitude [deg.]:	35.31781
Longitude[deg.]:	-106.26789
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	29.3

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.000	0.000	0.205	
10%	1000	0.001	0.001	0.205	
15%	1500	0.001	0.001	0.205	
20%	2000	0.001	0.002	0.206	
25%	2500	0.002	0.002	0.206	
30%	3000	0.003	0.002	0.206	
35%	3500	0.004	0.003	0.207	
40%	4000	0.005	0.003	0.207	
45%	4500	0.006	0.003	0.208	
50%	5000	0.009	0.004	0.208	
55%	5500	0.011	0.004	0.208	
60%	6000	0.014	0.005	0.209	
65%	6500	0.018	0.005	0.209	
70%	7000	0.021	0.005	0.210	
75%	7500	0.026	0.006	0.210	
80%	8000	0.029	0.006	0.210	
81%	8100	0.036	0.006	0.210	
90%	9000	0.041	0.007	0.211	
95%	9500	0.047	0.007	0.212	
100%	10000	0.053	0.008	0.212	
0%	0	0.022	0.000	0.204	



Tension Load Test Result for PLT-18B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerque, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in.]:	6
Load Cell:	S-Type

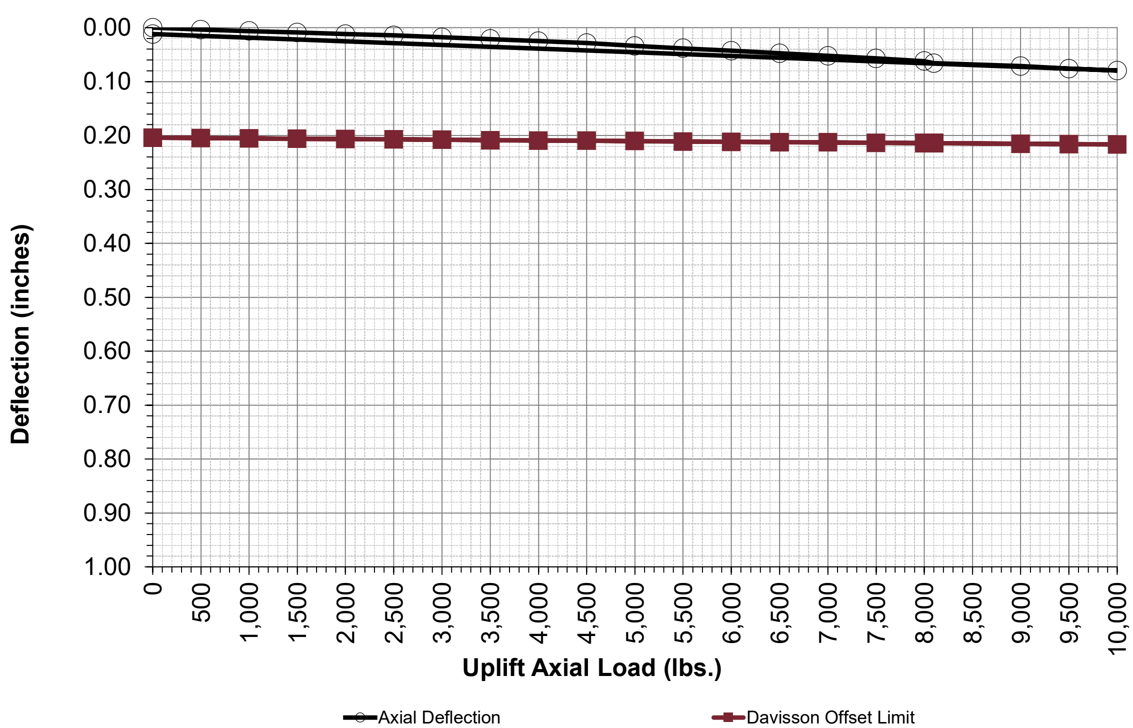
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/1/2023

Pile Information

Pile ID:	PLT-18B
Latitude [deg.]:	35.31781
Longitude[deg.]:	-106.26789
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	48
Axial Design Load [lbs.]:	10,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	22.8

Tension Test Results				Davisson Offset Limit Lines	
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Elastic Data (in.) (PL/AE)	Davisson Offest Limit (in.) (0.15+D/120+(PL/AE))	Comments
0%	0	0.000	0.000	0.204	
5%	500	0.004	0.001	0.205	
10%	1000	0.006	0.001	0.205	
15%	1500	0.009	0.002	0.206	
20%	2000	0.012	0.002	0.207	
25%	2500	0.014	0.003	0.207	
30%	3000	0.018	0.004	0.208	
35%	3500	0.021	0.004	0.208	
40%	4000	0.025	0.005	0.209	
45%	4500	0.029	0.006	0.210	
50%	5000	0.034	0.006	0.210	
55%	5500	0.038	0.007	0.211	
60%	6000	0.043	0.007	0.212	
65%	6500	0.048	0.008	0.212	
70%	7000	0.052	0.009	0.213	
75%	7500	0.057	0.009	0.213	
80%	8000	0.062	0.010	0.214	
81%	8100	0.066	0.010	0.214	
90%	9000	0.071	0.011	0.215	
95%	9500	0.076	0.012	0.216	
100%	10000	0.080	0.012	0.217	
0%	0	0.012	0.000	0.204	



Lateral Test Results

Lateral Load Test Results for PLT-1A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

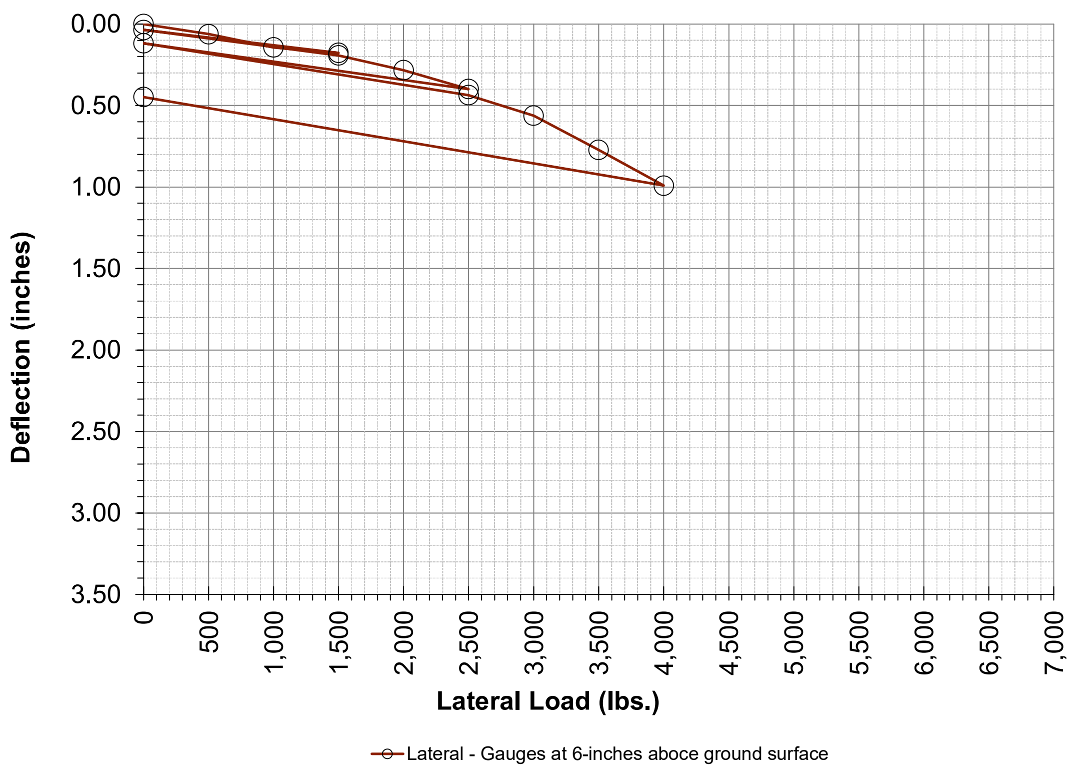
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	2/28/2023

Pile Information

Pile ID:	PLT-1A
Latitude [deg.]:	35.30658
Longitude [deg.]:	-106.28628
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	20.3

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.062	
14%	1,000	0.144	
21%	1,500	0.177	
0%	0	0.037	
21%	1,500	0.193	
29%	2,000	0.283	
36%	2,500	0.399	
0%	0	0.119	
36%	2,500	0.437	
43%	3,000	0.563	
50%	3,500	0.773	
57%	4,000	0.992	
0%	0	0.448	
57%	4,000		
64%	4,500		
71%	5,000		
79%	5,500		
0%	0		
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0		



Lateral Load Test Results for PLT-1B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

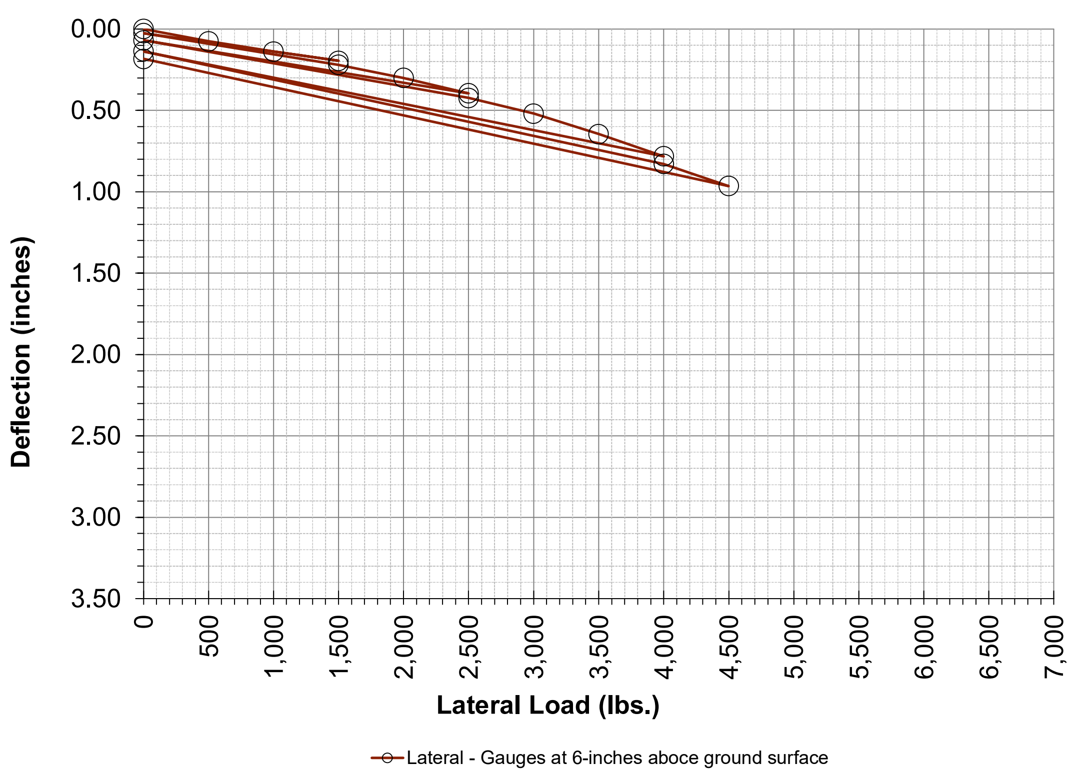
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	2/28/2023

Pile Information

Pile ID:	PLT-1B
Latitude [deg.]:	35.30658
Longitude [deg.]:	-106.28628
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	31.7

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.076	
14%	1,000	0.139	
21%	1,500	0.196	
0%	0	0.026	
21%	1,500	0.220	
29%	2,000	0.301	
36%	2,500	0.395	
0%	0	0.070	
36%	2,500	0.424	
43%	3,000	0.519	
50%	3,500	0.646	
57%	4,000	0.782	
0%	0	0.138	
57%	4,000	0.829	
64%	4,500	0.965	
71%	5,000		
79%	5,500		
0%	0	0.184	
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0		



Lateral Load Test Results for PLT-2A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

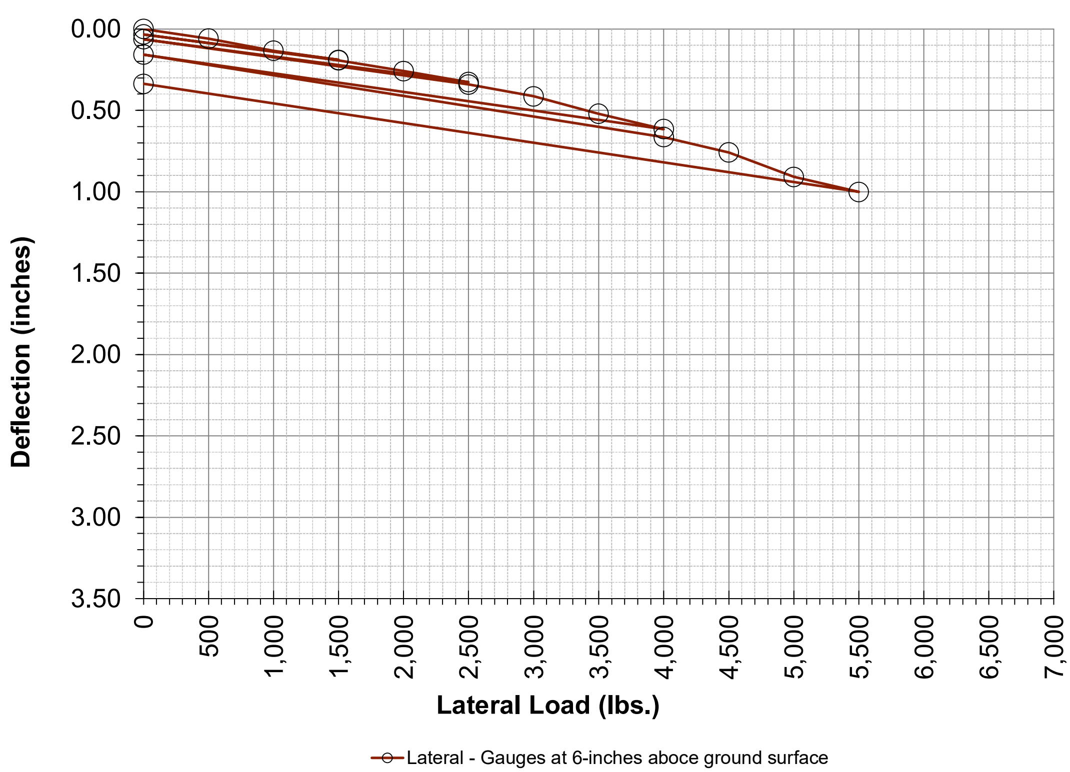
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	2/28/2023

Pile Information

Pile ID:	PLT-2A
Latitude [deg.]:	35.30411
Longitude [deg.]:	-106.27832
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	15.6

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.059	
14%	1,000	0.134	
21%	1,500	0.191	
0%	0	0.034	
21%	1,500	0.193	
29%	2,000	0.258	
36%	2,500	0.327	
0%	0	0.064	
36%	2,500	0.341	
43%	3,000	0.415	
50%	3,500	0.521	
57%	4,000	0.616	
0%	0	0.158	
57%	4,000	0.665	
64%	4,500	0.758	
71%	5,000	0.909	
79%	5,500	1.001	
0%	0	0.338	
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0		



Lateral Load Test Results for PLT-2B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

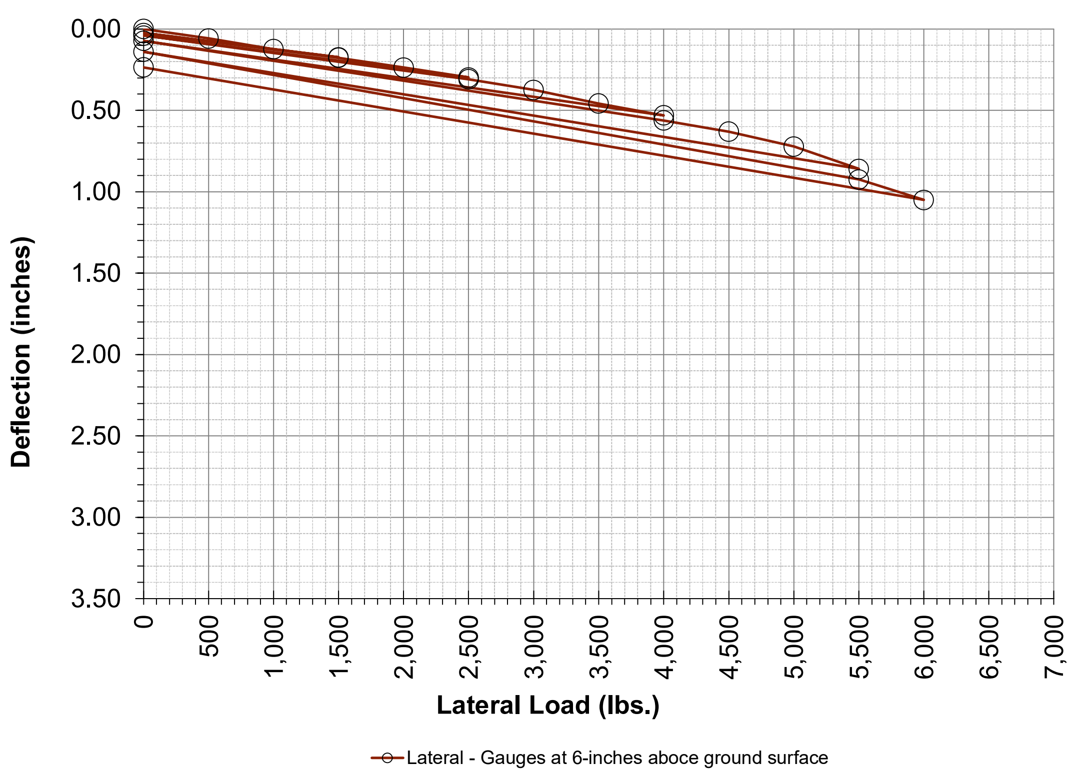
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	2/28/2023

Pile Information

Pile ID:	PLT-2B
Latitude [deg.]:	35.30411
Longitude [deg.]:	-106.27832
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	22.7

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.059	
14%	1,000	0.124	
21%	1,500	0.175	
0%	0	0.025	
21%	1,500	0.177	
29%	2,000	0.237	
36%	2,500	0.298	
0%	0	0.040	
36%	2,500	0.309	
43%	3,000	0.375	
50%	3,500	0.459	
57%	4,000	0.530	
0%	0	0.073	
57%	4,000	0.561	
64%	4,500	0.631	
71%	5,000	0.722	
79%	5,500	0.860	
0%	0	0.140	
79%	5,500	0.925	
86%	6,000	1.051	
93%	6,500		
100%	7,000		
0%	0	0.236	



Lateral Load Test Results for PLT-3A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

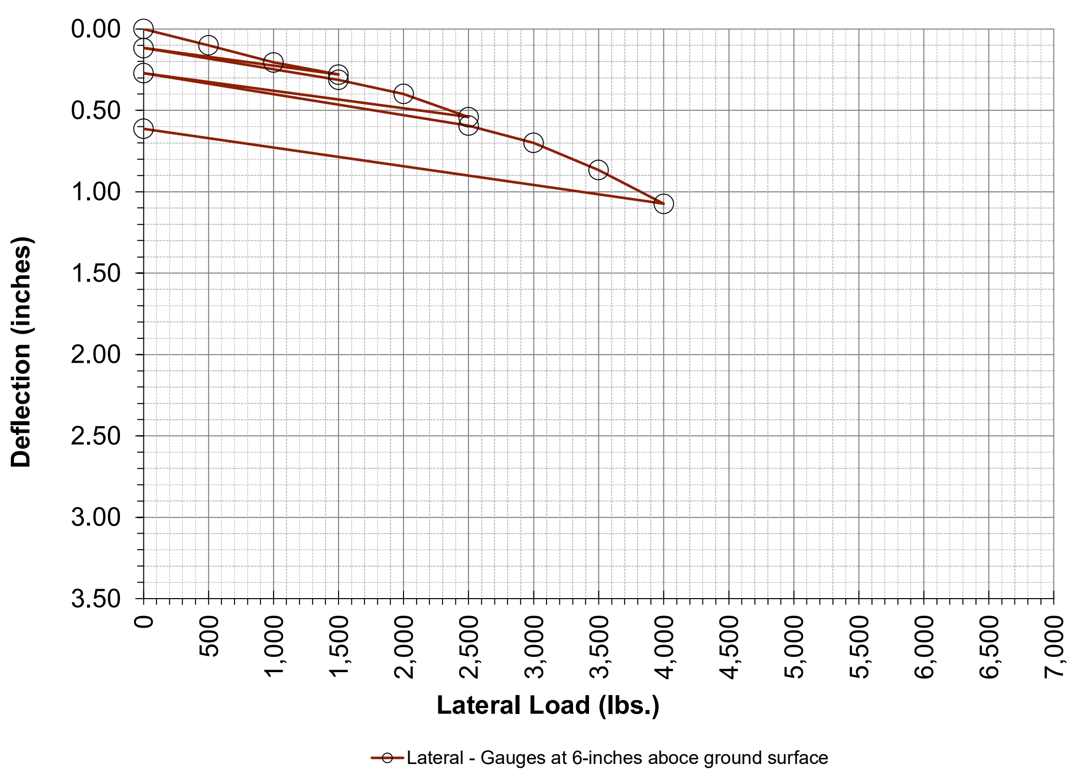
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	2/28/2023

Pile Information

Pile ID:	PLT-3A
Latitude [deg.]:	35.30829
Longitude [deg.]:	-106.27919
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	20.2

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.101	
14%	1,000	0.205	
21%	1,500	0.280	
0%	0	0.117	
21%	1,500	0.313	
29%	2,000	0.399	
36%	2,500	0.542	
0%	0	0.272	
36%	2,500	0.594	
43%	3,000	0.700	
50%	3,500	0.867	
57%	4,000	1.074	
0%	0	0.614	
57%	4,000		
64%	4,500		
71%	5,000		
79%	5,500		
0%	0		
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0		



Lateral Load Test Results for PLT-3B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

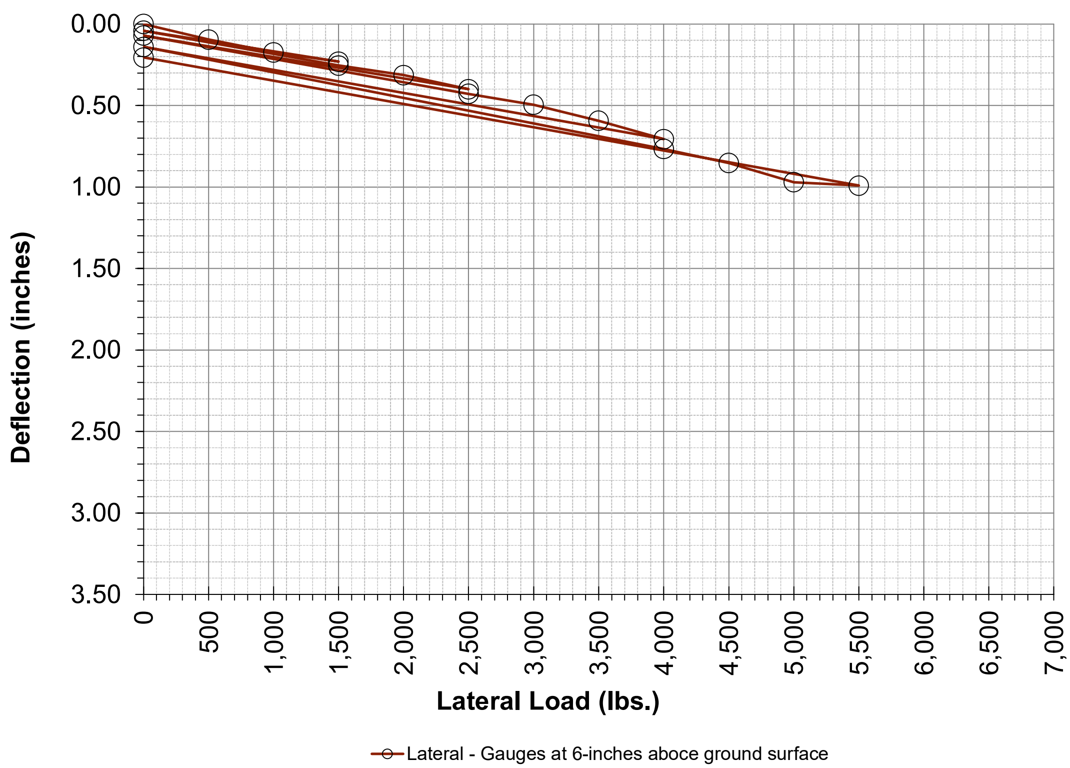
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	2/28/2023

Pile Information

Pile ID:	PLT-3B
Latitude [deg.]:	35.30829
Longitude [deg.]:	-106.27919
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	62.1

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.095	
14%	1,000	0.175	
21%	1,500	0.231	
0%	0	0.041	
21%	1,500	0.255	
29%	2,000	0.313	
36%	2,500	0.400	
0%	0	0.071	
36%	2,500	0.428	
43%	3,000	0.496	
50%	3,500	0.594	
57%	4,000	0.706	
0%	0	0.141	
57%	4,000	0.767	
64%	4,500	0.853	
71%	5,000	0.970	
79%	5,500	0.992	
0%	0	0.206	
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0		



Lateral Load Test Results for PLT-4A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

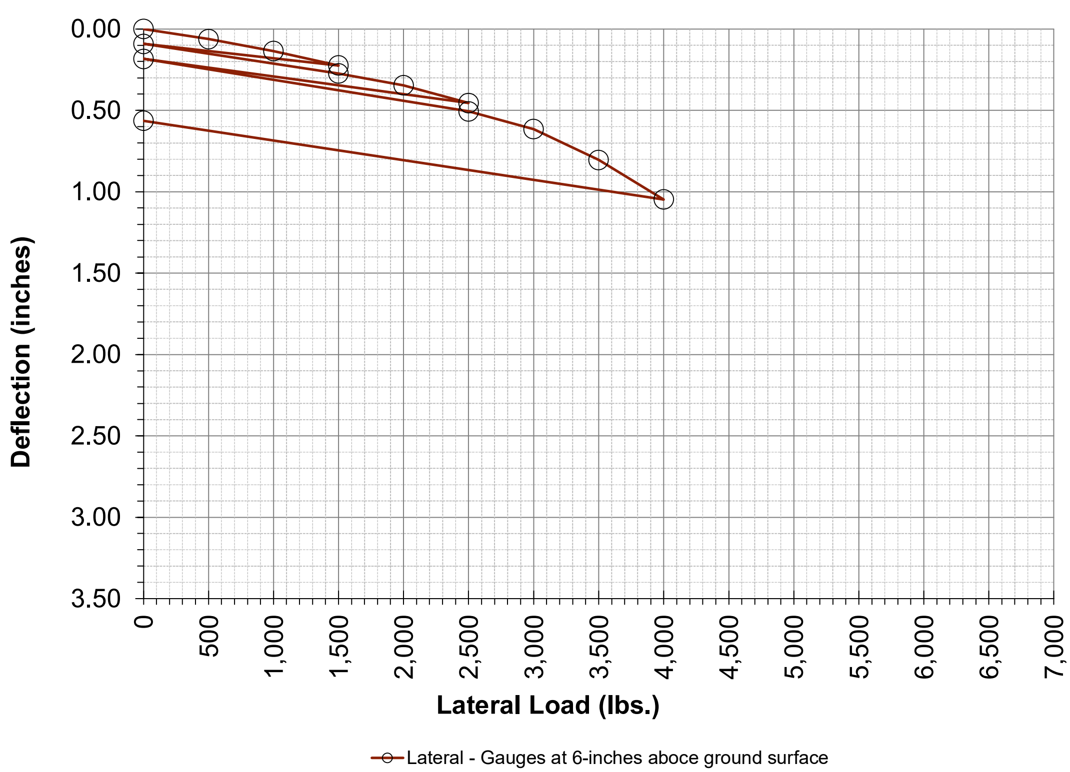
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	3/1/2023

Pile Information

Pile ID:	PLT-4A
Latitude [deg.]:	35.30642
Longitude [deg.]:	-106.27236
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	13.7

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.062	
14%	1,000	0.137	
21%	1,500	0.225	
0%	0	0.092	
21%	1,500	0.274	
29%	2,000	0.346	
36%	2,500	0.455	
0%	0	0.184	
36%	2,500	0.507	
43%	3,000	0.615	
50%	3,500	0.805	
57%	4,000	1.047	
0%	0	0.564	
57%	4,000		
64%	4,500		
71%	5,000		
79%	5,500		
0%	0		
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0		



Lateral Load Test Results for PLT-4B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

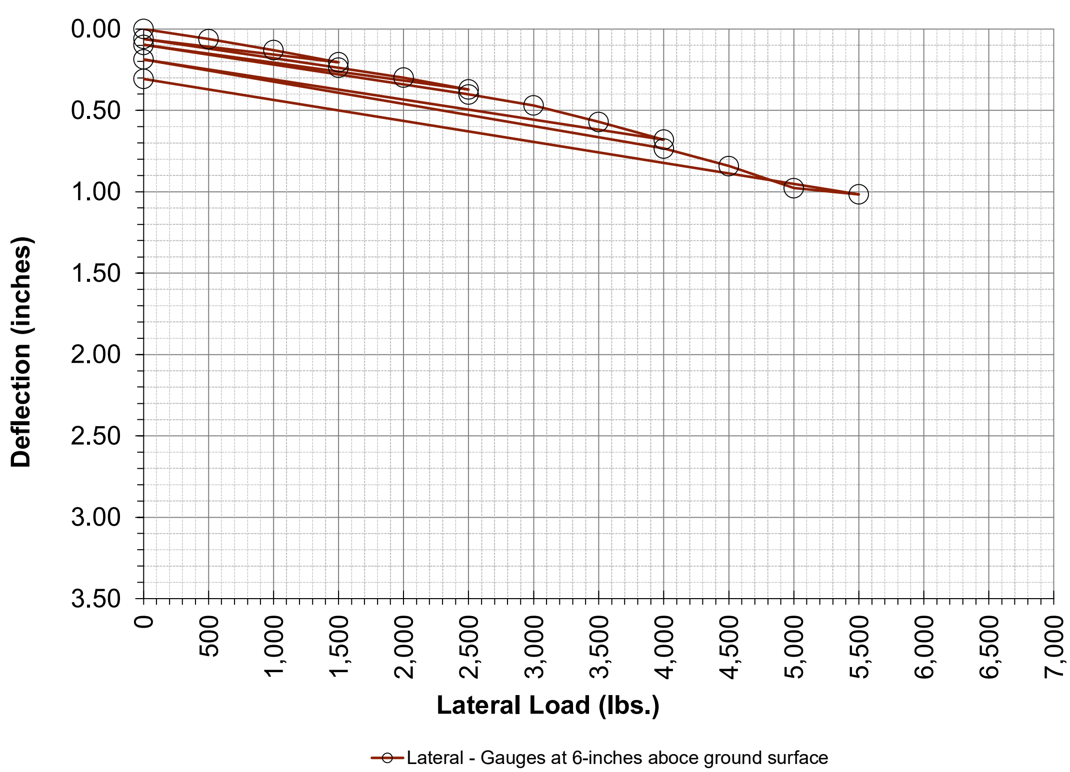
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	3/1/2023

Pile Information

Pile ID:	PLT-4B
Latitude [deg.]:	35.30642
Longitude [deg.]:	-106.27236
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	28.9

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.062	
14%	1,000	0.131	
21%	1,500	0.204	
0%	0	0.061	
21%	1,500	0.239	
29%	2,000	0.299	
36%	2,500	0.372	
0%	0	0.098	
36%	2,500	0.403	
43%	3,000	0.469	
50%	3,500	0.572	
57%	4,000	0.680	
0%	0	0.187	
57%	4,000	0.735	
64%	4,500	0.842	
71%	5,000	0.978	
79%	5,500	1.016	
0%	0	0.306	
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0		



Lateral Load Test Results for PLT-5A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

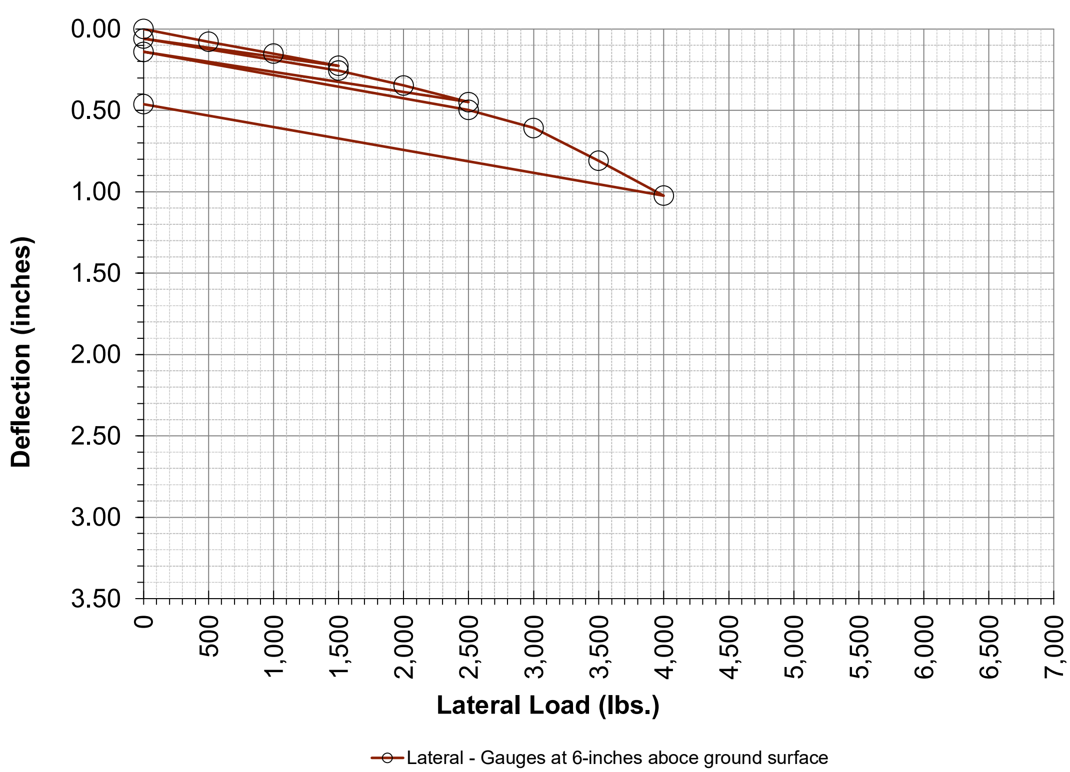
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	3/1/2023

Pile Information

Pile ID:	PLT-5A
Latitude [deg.]:	35.30299
Longitude [deg.]:	-106.26866
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	14.5

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.078	
14%	1,000	0.152	
21%	1,500	0.226	
0%	0	0.059	
21%	1,500	0.257	
29%	2,000	0.347	
36%	2,500	0.449	
0%	0	0.141	
36%	2,500	0.497	
43%	3,000	0.608	
50%	3,500	0.810	
57%	4,000	1.024	
0%	0	0.462	
57%	4,000		
64%	4,500		
71%	5,000		
79%	5,500		
0%	0		
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0		



Lateral Load Test Results for PLT-5B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

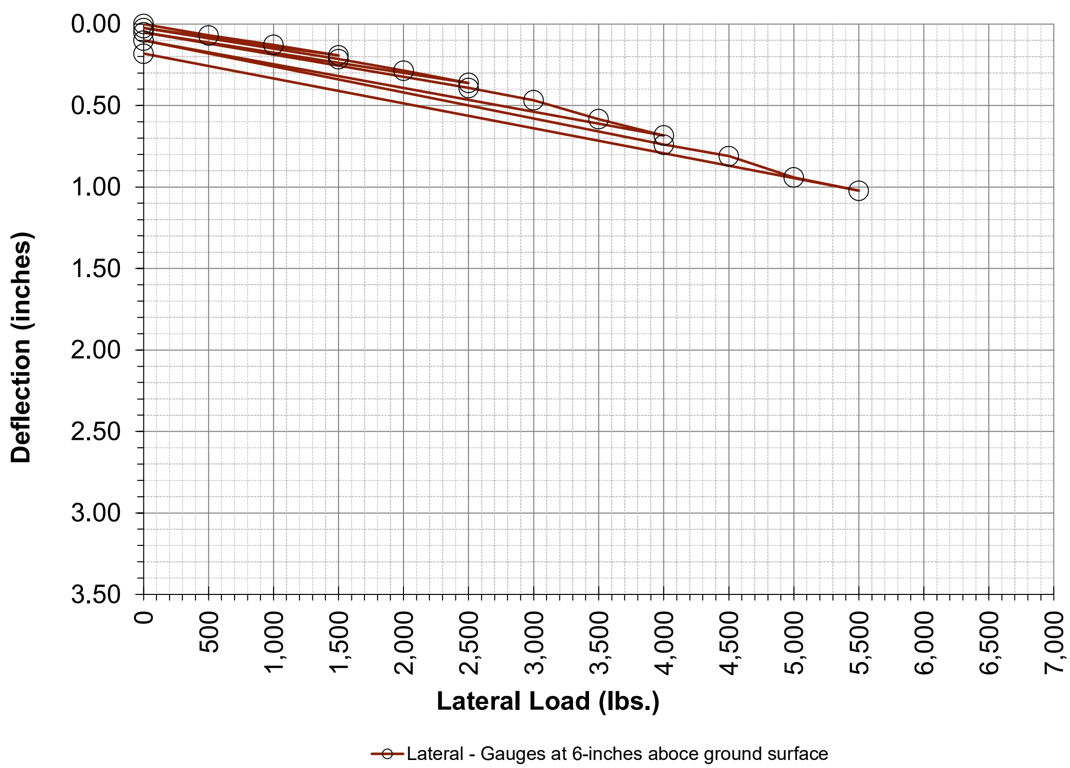
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	3/1/2023

Pile Information

Pile ID:	PLT-5B
Latitude [deg.]:	35.30299
Longitude [deg.]:	-106.26866
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	35.7

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.070	
14%	1,000	0.128	
21%	1,500	0.192	
0%	0	0.025	
21%	1,500	0.215	
29%	2,000	0.286	
36%	2,500	0.361	
0%	0	0.052	
36%	2,500	0.393	
43%	3,000	0.468	
50%	3,500	0.585	
57%	4,000	0.684	
0%	0	0.102	
57%	4,000	0.740	
64%	4,500	0.811	
71%	5,000	0.941	
79%	5,500	1.023	
0%	0	0.182	
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0		



Lateral Load Test Results for PLT-6A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerque, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

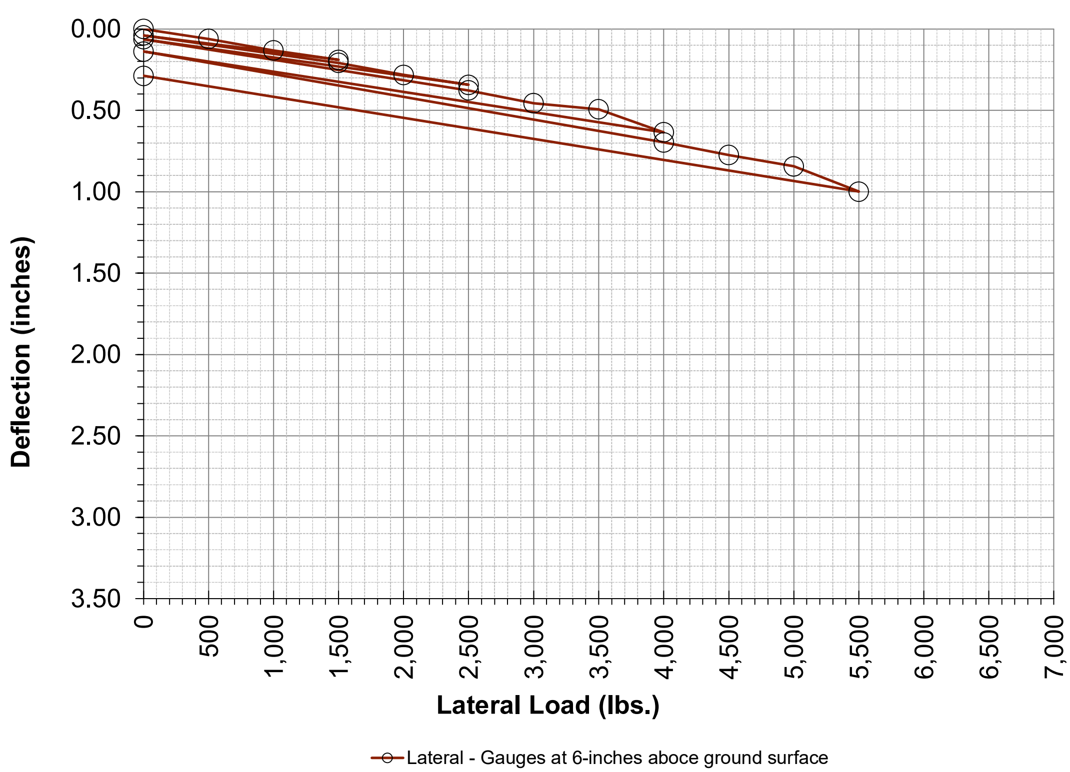
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	3/1/2023

Pile Information

Pile ID:	PLT-6A
Latitude [deg.]:	35.29995
Longitude [deg.]:	-106.26895
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	21.8

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.061	
14%	1,000	0.133	
21%	1,500	0.191	
0%	0	0.040	
21%	1,500	0.208	
29%	2,000	0.283	
36%	2,500	0.344	
0%	0	0.063	
36%	2,500	0.377	
43%	3,000	0.456	
50%	3,500	0.493	
57%	4,000	0.635	
0%	0	0.139	
57%	4,000	0.697	
64%	4,500	0.775	
71%	5,000	0.844	
79%	5,500	0.999	
0%	0	0.288	
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0		



Lateral Load Test Results for PLT-6B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	3/1/2023

Pile Information

Pile ID:	PLT-6B
Latitude [deg.]:	35.29995
Longitude [deg.]:	-106.27268
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	41.9

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.076	
14%	1,000	0.147	
21%	1,500	0.206	
0%	0	0.037	
21%	1,500	0.239	
29%	2,000	0.324	
36%	2,500	0.385	
0%	0	0.072	
36%	2,500	0.368	Gauges were recentered
43%	3,000	0.446	
50%	3,500	0.536	
57%	4,000	0.611	
0%	0	0.057	
57%	4,000	0.663	
64%	4,500	0.743	
71%	5,000	0.856	
79%	5,500	1.446	
0%	0	0.627	
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0		

Lateral Load Test Results for PLT-7A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

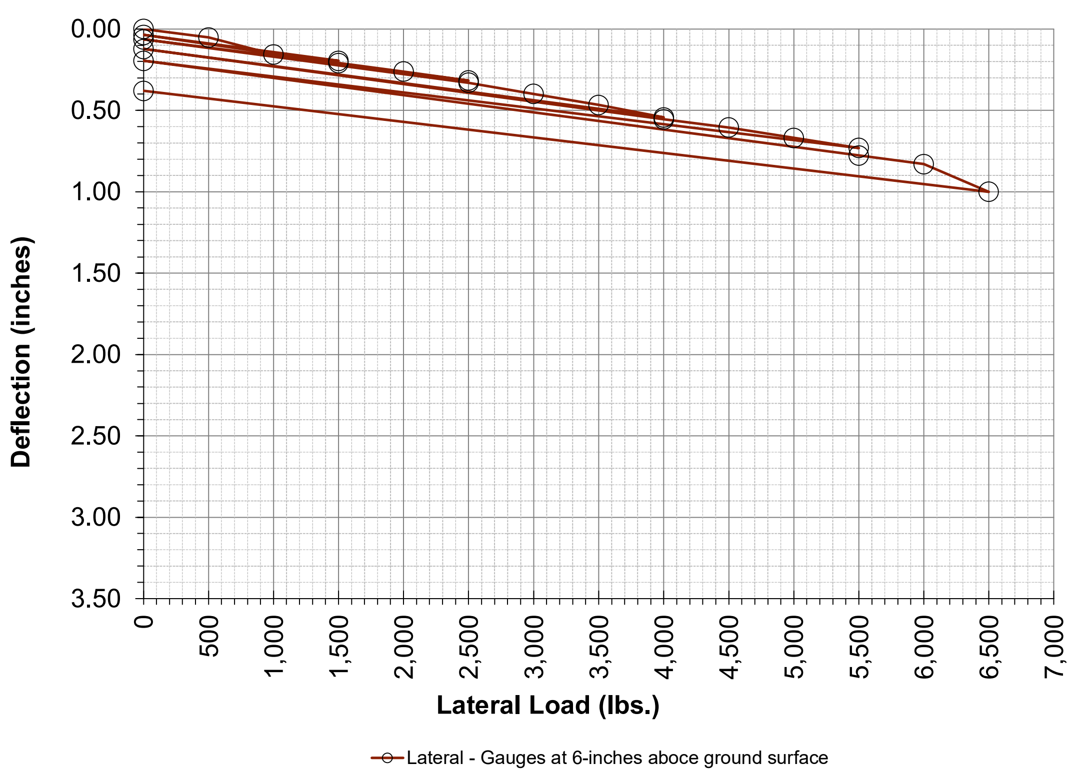
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	6/25/2023

Pile Information

Pile ID:	PLT-7A
Latitude [deg.]:	35.29482
Longitude [deg.]:	-106.25484
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	33.7

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.052	
14%	1,000	0.157	
21%	1,500	0.197	
0%	0	0.037	
21%	1,500	0.209	
29%	2,000	0.263	
36%	2,500	0.317	
0%	0	0.064	
36%	2,500	0.331	
43%	3,000	0.398	
50%	3,500	0.467	
57%	4,000	0.544	
0%	0	0.123	
57%	4,000	0.556	
64%	4,500	0.606	
71%	5,000	0.670	
79%	5,500	0.731	
0%	0	0.196	
79%	5,500	0.778	
86%	6,000	0.830	
93%	6,500	1.000	
100%	7,000		
0%	0	0.380	



Lateral Load Test Results for PLT-7B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerque, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

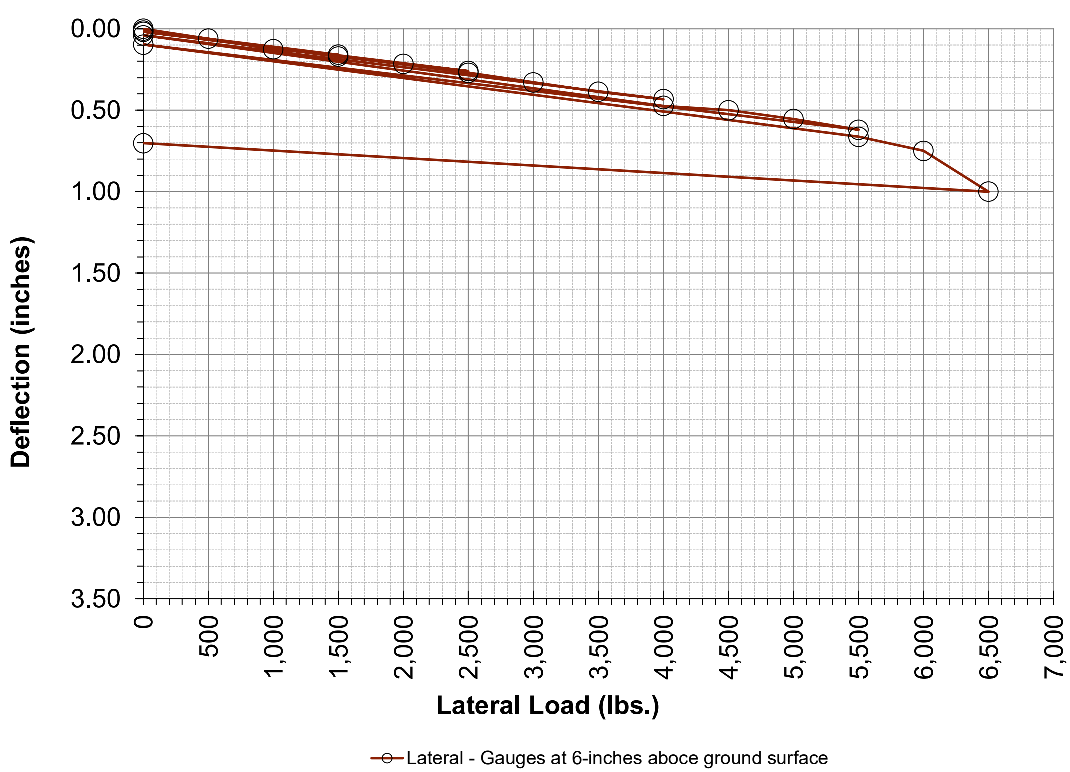
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	2/25/2023

Pile Information

Pile ID:	PLT-7B
Latitude [deg.]:	35.29482
Longitude [deg.]:	-106.25484
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	76.2

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.060	
14%	1,000	0.127	
21%	1,500	0.159	
0%	0	0.012	
21%	1,500	0.171	
29%	2,000	0.215	
36%	2,500	0.259	
0%	0	0.019	
36%	2,500	0.270	
43%	3,000	0.329	
50%	3,500	0.388	
57%	4,000	0.432	
0%	0	0.040	
57%	4,000	0.474	
64%	4,500	0.500	
71%	5,000	0.555	
79%	5,500	0.620	
0%	0	0.098	
79%	5,500	0.664	
86%	6,000	0.750	
93%	6,500	1.000	
100%	7,000		
0%	0	0.703	



Lateral Load Test Results for PLT-8A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	3/2/2023

Pile Information

Pile ID:	PLT-8A
Latitude [deg.]:	35.29714
Longitude [deg.]:	-106.25859
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	11.9

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.088	
14%	1,000	0.206	
21%	1,500	0.321	
0%	0	0.160	
21%	1,500	0.337	
29%	2,000	0.461	
36%	2,500	0.611	
0%	0	0.348	
36%	2,500	0.652	
43%	3,000	0.802	
50%	3,500	1.050	
57%	4,000		
0%	0	0.678	
57%	4,000		
64%	4,500		
71%	5,000		
79%	5,500		
0%	0		
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0		

Lateral Load Test Results for PLT-8B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

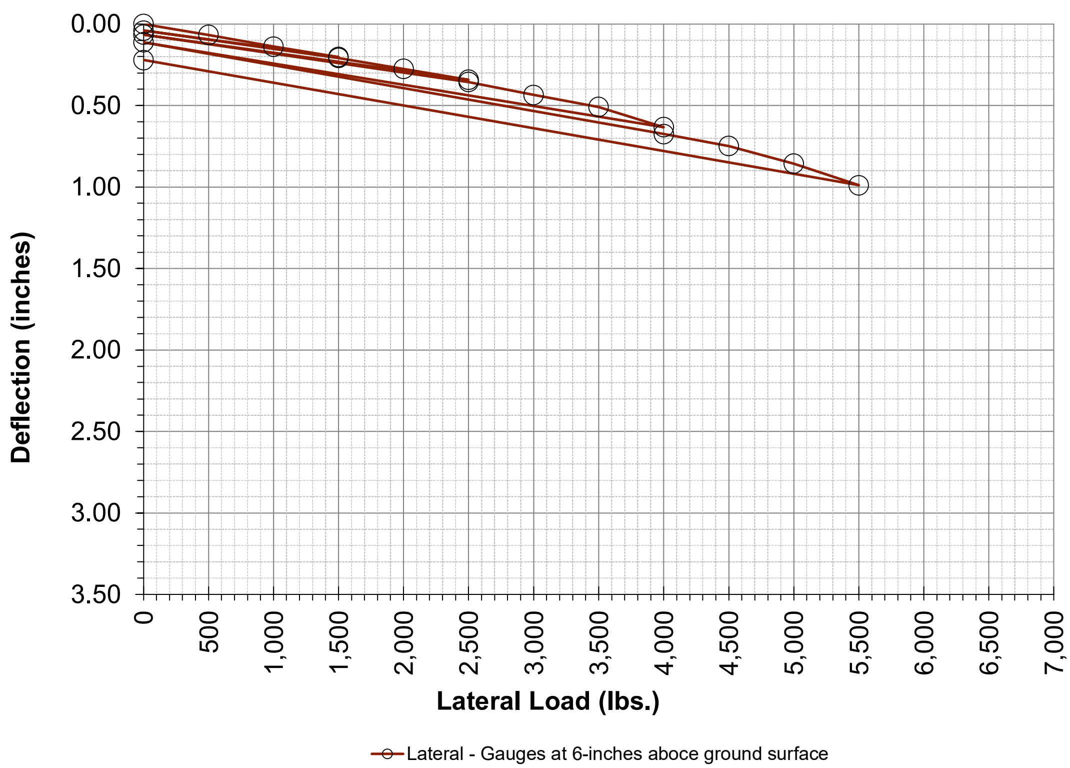
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	3/2/2023

Pile Information

Pile ID:	PLT-8B
Latitude [deg.]:	35.29714
Longitude [deg.]:	-106.25859
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	14.5

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.067	
14%	1,000	0.139	
21%	1,500	0.202	
0%	0	0.041	
21%	1,500	0.208	
29%	2,000	0.276	
36%	2,500	0.342	
0%	0	0.065	
36%	2,500	0.355	
43%	3,000	0.436	
50%	3,500	0.509	
57%	4,000	0.634	
0%	0	0.113	
57%	4,000	0.676	
64%	4,500	0.748	
71%	5,000	0.857	
79%	5,500	0.989	
0%	0	0.221	
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0		



Lateral Load Test Results for PLT-9A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerque, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

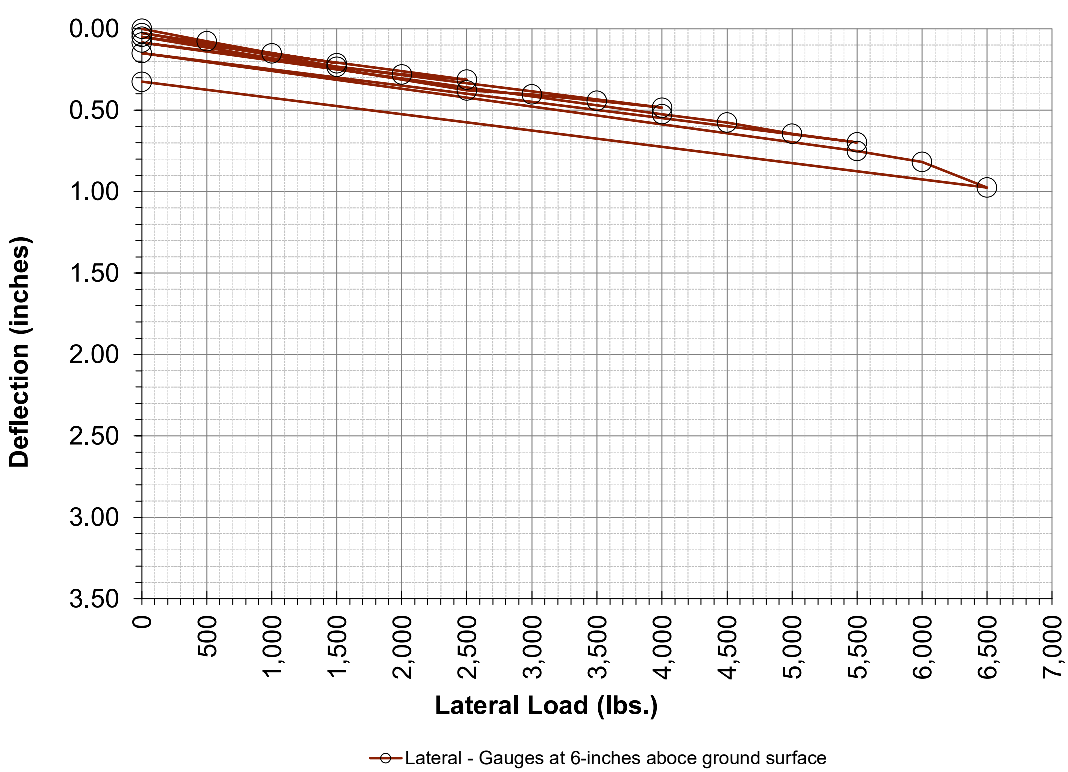
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	6/25/2023

Pile Information

Pile ID:	PLT-9A
Latitude [deg.]:	35.29610
Longitude [deg.]:	-106.24892
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	37.7

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.077	
14%	1,000	0.151	
21%	1,500	0.212	
0%	0	0.028	
21%	1,500	0.234	
29%	2,000	0.280	
36%	2,500	0.313	
0%	0	0.050	
36%	2,500	0.378	
43%	3,000	0.404	
50%	3,500	0.443	
57%	4,000	0.485	
0%	0	0.084	
57%	4,000	0.525	
64%	4,500	0.577	
71%	5,000	0.645	
79%	5,500	0.699	
0%	0	0.149	
79%	5,500	0.752	
86%	6,000	0.818	
93%	6,500	0.975	
100%	7,000		
0%	0	0.326	



Lateral Load Test Results for PLT-9B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerque, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

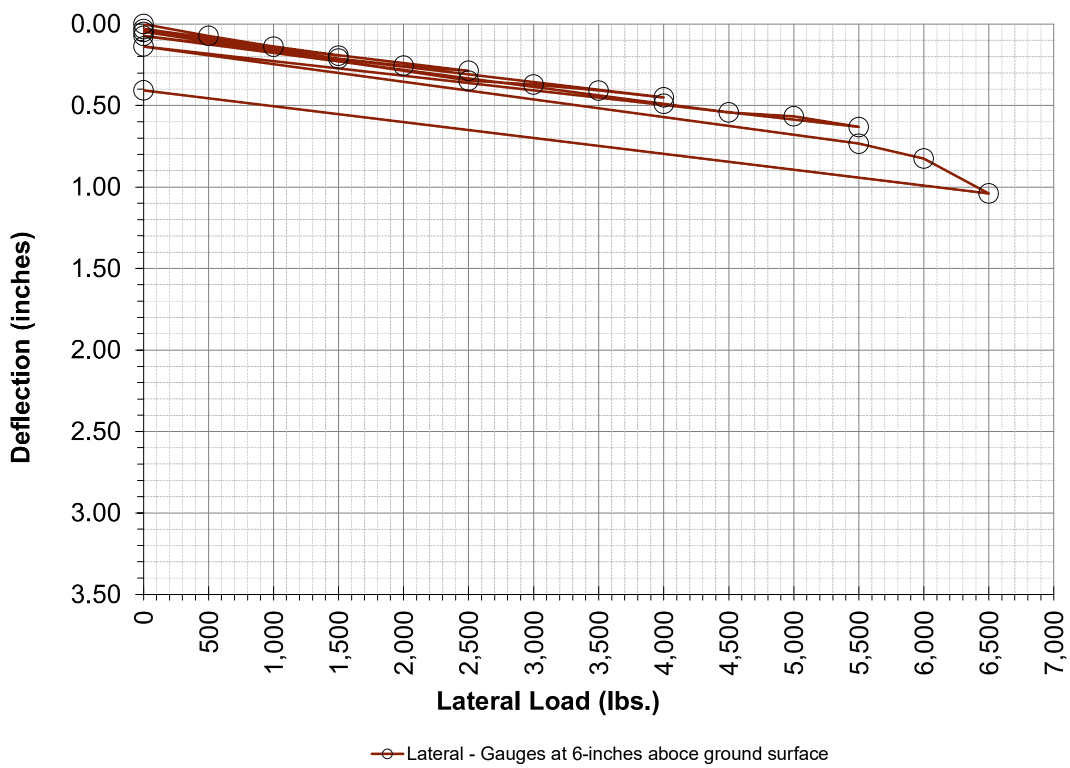
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	6/25/2023

Pile Information

Pile ID:	PLT-9B
Latitude [deg.]:	35.29610
Longitude [deg.]:	-106.24892
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	80.1

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.073	
14%	1,000	0.138	
21%	1,500	0.194	
0%	0	0.031	
21%	1,500	0.213	
29%	2,000	0.256	
36%	2,500	0.287	
0%	0	0.049	
36%	2,500	0.348	
43%	3,000	0.372	
50%	3,500	0.408	
57%	4,000	0.450	
0%	0	0.072	
57%	4,000	0.490	
64%	4,500	0.542	
71%	5,000	0.567	
79%	5,500	0.633	
0%	0	0.137	
79%	5,500	0.735	
86%	6,000	0.825	
93%	6,500	1.040	
100%	7,000		
0%	0	0.407	



Lateral Load Test Results for PLT-10A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

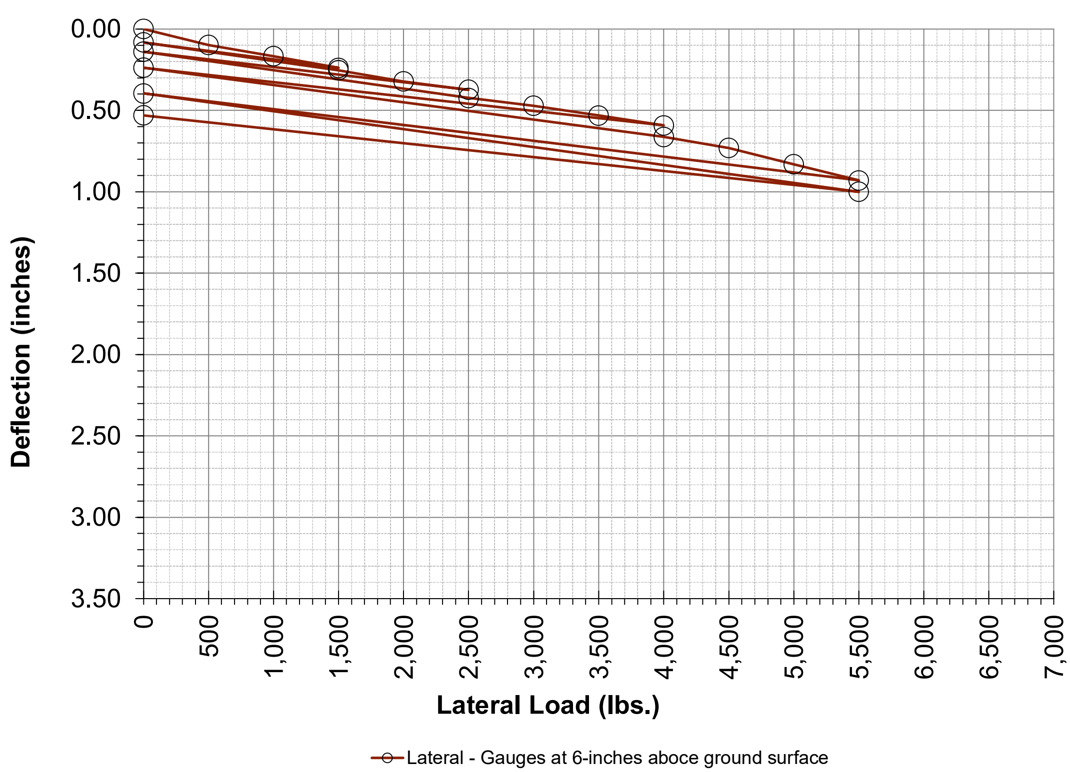
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	6/24/2023

Pile Information

Pile ID:	PLT-10A
Latitude [deg.]:	35.30224
Longitude [deg.]:	-106.25810
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	15.4

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.099	
14%	1,000	0.167	
21%	1,500	0.239	
0%	0	0.082	
21%	1,500	0.254	
29%	2,000	0.322	
36%	2,500	0.374	
0%	0	0.140	
36%	2,500	0.424	
43%	3,000	0.472	
50%	3,500	0.532	
57%	4,000	0.593	
0%	0	0.238	
57%	4,000	0.663	
64%	4,500	0.731	
71%	5,000	0.832	
79%	5,500	0.931	
0%	0	0.396	
79%	5,500	1.000	
86%	6,000		
93%	6,500		
100%	7,000		
0%	0	0.530	



Lateral Load Test Results for PLT-10B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

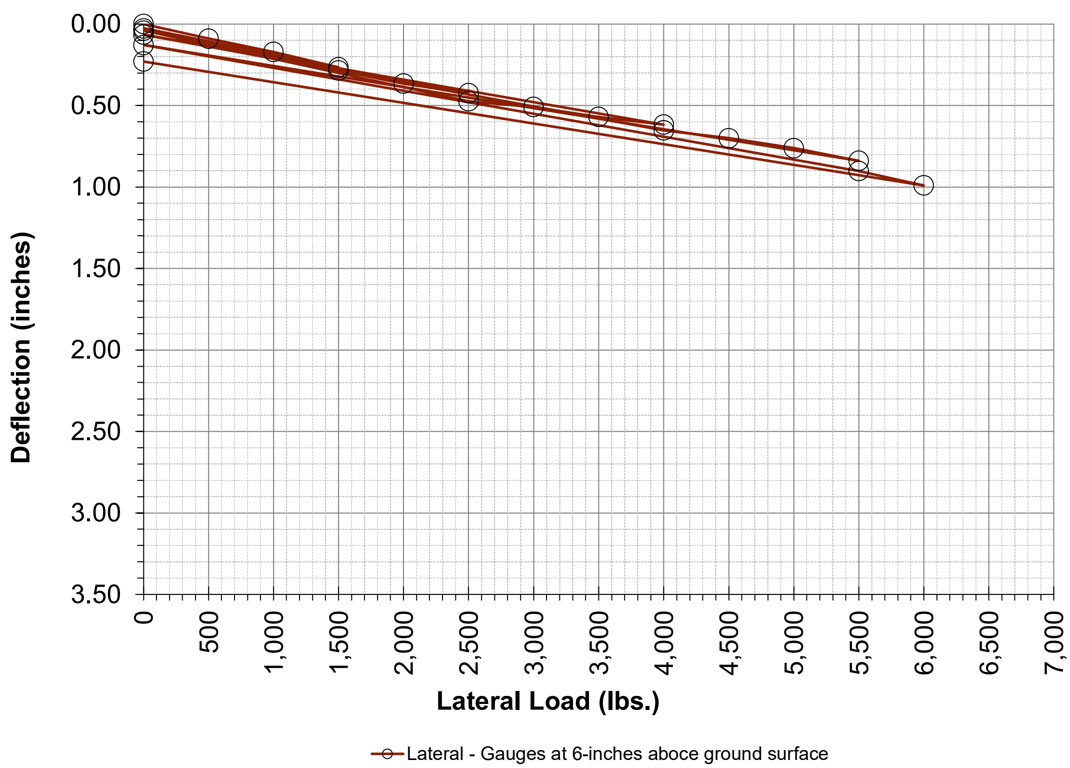
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	6/24/2023

Pile Information

Pile ID:	PLT-10B
Latitude [deg.]:	35.30224
Longitude [deg.]:	-106.25810
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	280.2

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.089	
14%	1,000	0.171	
21%	1,500	0.265	
0%	0	0.027	
21%	1,500	0.285	
29%	2,000	0.367	
36%	2,500	0.425	
0%	0	0.040	
36%	2,500	0.474	
43%	3,000	0.509	
50%	3,500	0.571	
57%	4,000	0.617	
0%	0	0.065	
57%	4,000	0.653	
64%	4,500	0.701	
71%	5,000	0.762	
79%	5,500	0.840	
0%	0	0.129	
79%	5,500	0.902	
86%	6,000	0.990	
93%	6,500		
100%	7,000		
0%	0	0.229	



Lateral Load Test Results for PLT-11A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

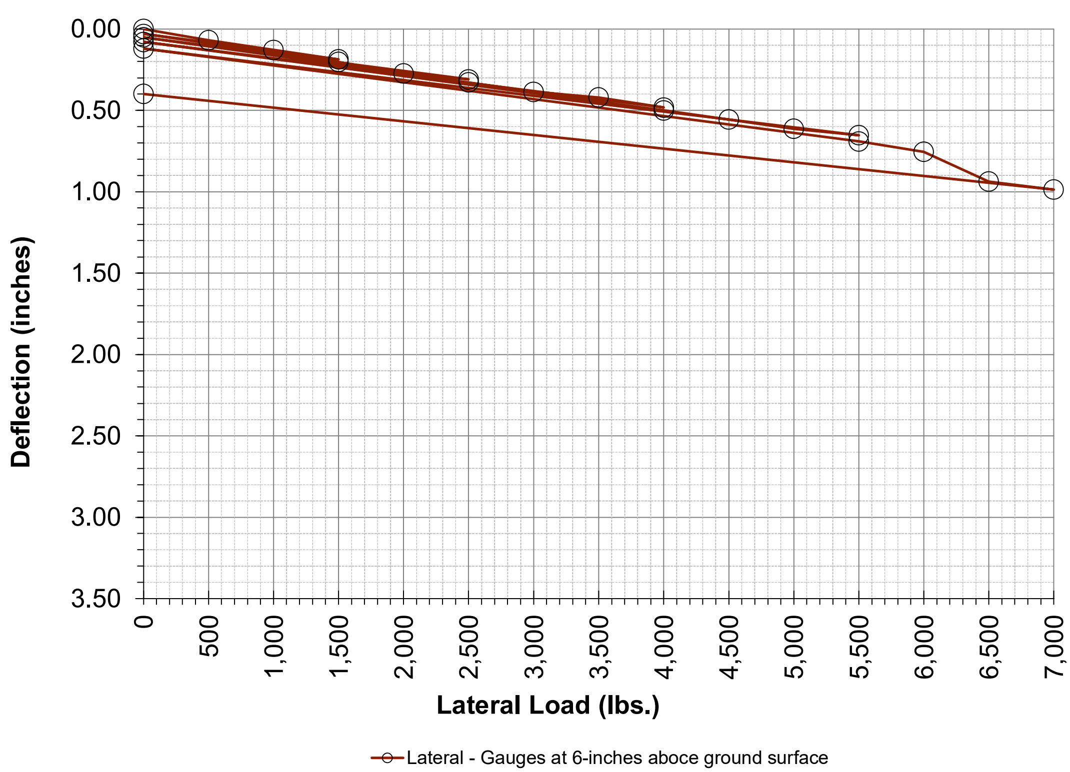
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/1/2023

Pile Information

Pile ID:	PLT-11A
Latitude [deg.]:	35.30115
Longitude [deg.]:	-106.24937
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	40.7

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.069	
14%	1,000	0.129	
21%	1,500	0.187	
0%	0	0.031	
21%	1,500	0.203	
29%	2,000	0.274	
36%	2,500	0.310	
0%	0	0.052	
36%	2,500	0.328	
43%	3,000	0.386	
50%	3,500	0.421	
57%	4,000	0.483	
0%	0	0.080	
57%	4,000	0.500	
64%	4,500	0.557	
71%	5,000	0.613	
79%	5,500	0.653	
0%	0	0.121	
79%	5,500	0.691	
86%	6,000	0.755	
93%	6,500	0.938	
100%	7,000	0.987	
0%	0	0.399	



Lateral Load Test Results for PLT-11B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

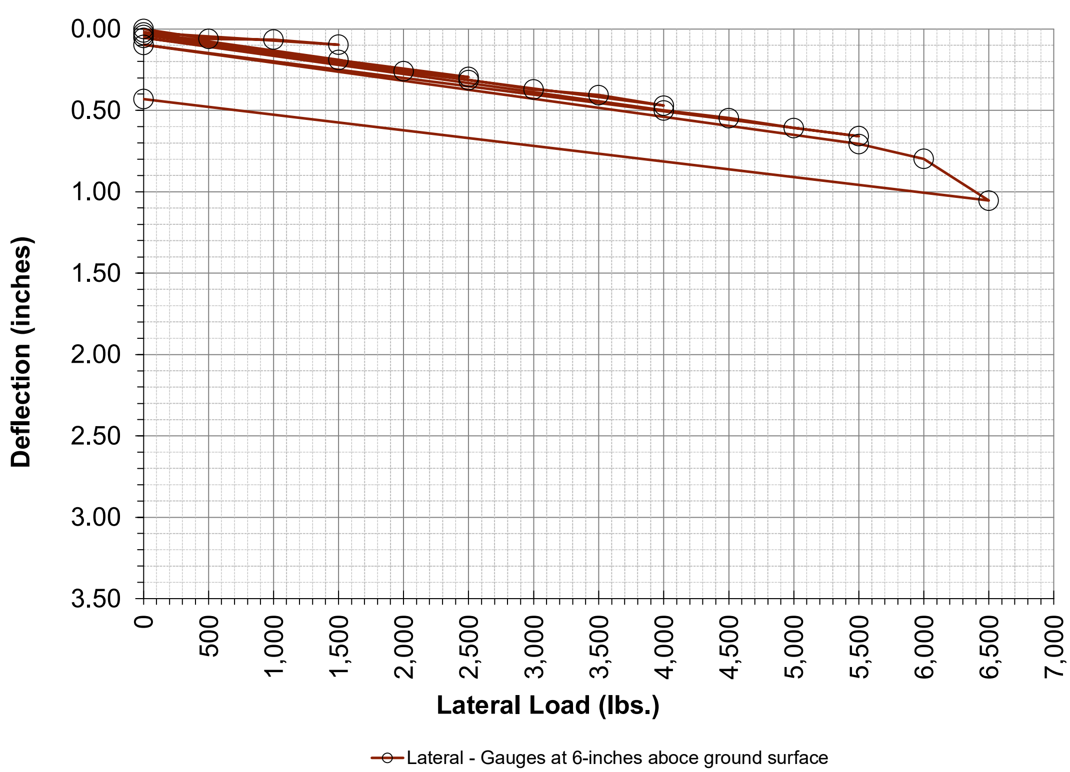
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/1/2023

Pile Information

Pile ID:	PLT-11B
Latitude [deg.]:	35.30115
Longitude [deg.]:	-106.24937
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	88.5

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.061	
14%	1,000	0.065	
21%	1,500	0.096	
0%	0	0.021	
21%	1,500	0.190	
29%	2,000	0.260	
36%	2,500	0.296	
0%	0	0.036	
36%	2,500	0.314	
43%	3,000	0.372	
50%	3,500	0.406	
57%	4,000	0.471	
0%	0	0.055	
57%	4,000	0.500	
64%	4,500	0.547	
71%	5,000	0.609	
79%	5,500	0.659	
0%	0	0.098	
79%	5,500	0.707	
86%	6,000	0.798	
93%	6,500	1.054	
100%	7,000		
0%	0	0.431	



Lateral Load Test Results for PLT-12A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

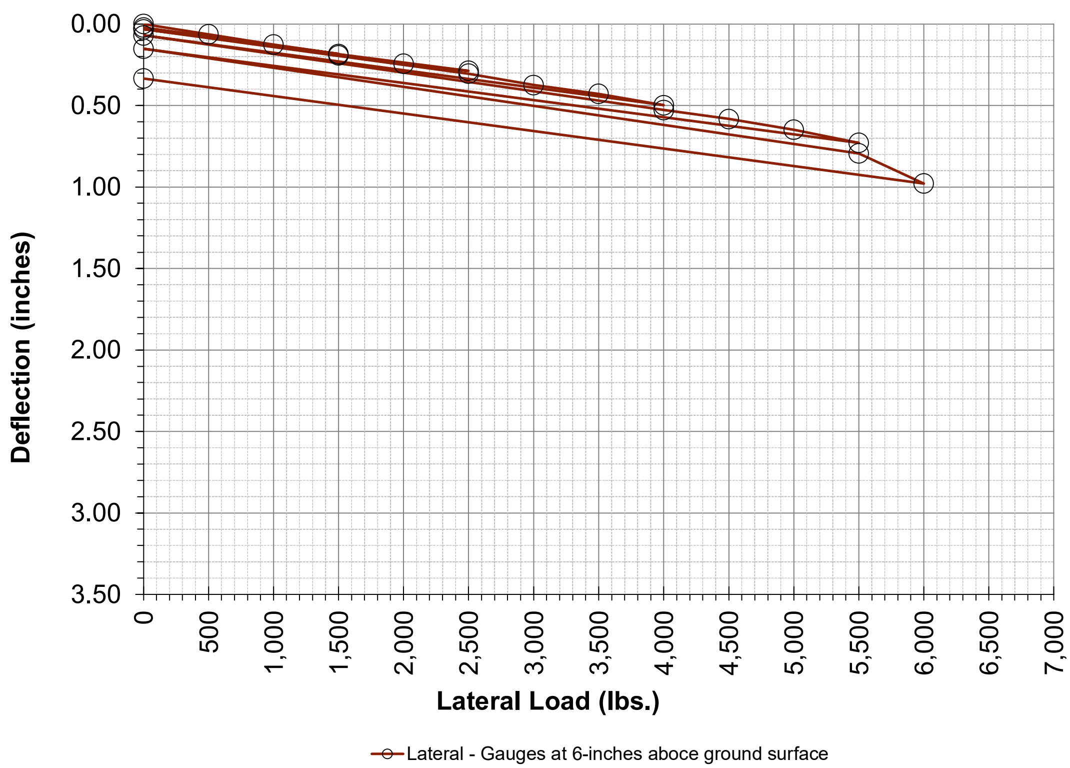
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/2/2023

Pile Information

Pile ID:	PLT-12A
Latitude [deg.]:	35.30752
Longitude [deg.]:	-106.25063
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	25.6

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.063	
14%	1,000	0.127	
21%	1,500	0.184	
0%	0	0.022	
21%	1,500	0.192	
29%	2,000	0.244	
36%	2,500	0.287	
0%	0	0.033	
36%	2,500	0.305	
43%	3,000	0.375	
50%	3,500	0.428	
57%	4,000	0.498	
0%	0	0.071	
57%	4,000	0.528	
64%	4,500	0.584	
71%	5,000	0.649	
79%	5,500	0.730	
0%	0	0.152	
79%	5,500	0.794	
86%	6,000	0.979	
93%	6,500		
100%	7,000		
0%	0	0.334	



Lateral Load Test Results for PLT-12B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

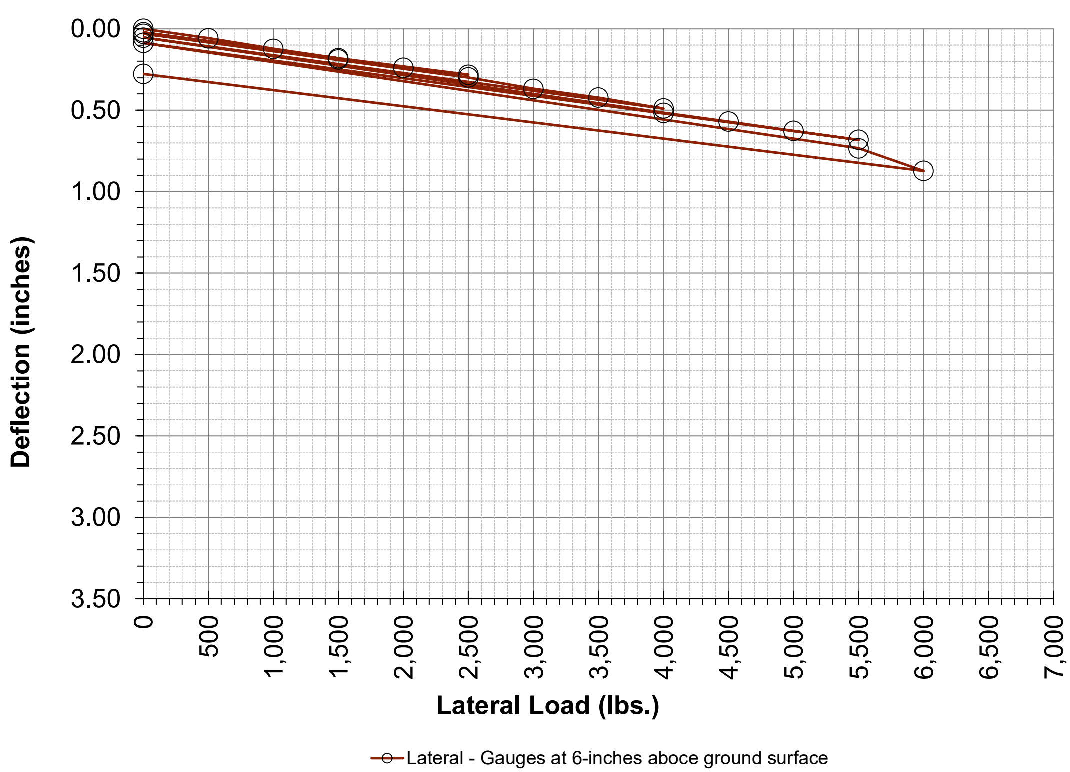
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/2/2023

Pile Information

Pile ID:	PLT-12B
Latitude [deg.]:	35.30752
Longitude [deg.]:	-106.25063
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	87.2

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.058	
14%	1,000	0.123	
21%	1,500	0.180	
0%	0	0.023	
21%	1,500	0.188	
29%	2,000	0.240	
36%	2,500	0.283	
0%	0	0.031	
36%	2,500	0.300	
43%	3,000	0.369	
50%	3,500	0.423	
57%	4,000	0.490	
0%	0	0.055	
57%	4,000	0.516	
64%	4,500	0.570	
71%	5,000	0.628	
79%	5,500	0.681	
0%	0	0.087	
79%	5,500	0.734	
86%	6,000	0.873	
93%	6,500		
100%	7,000		
0%	0	0.277	



Lateral Load Test Results for PLT-13A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

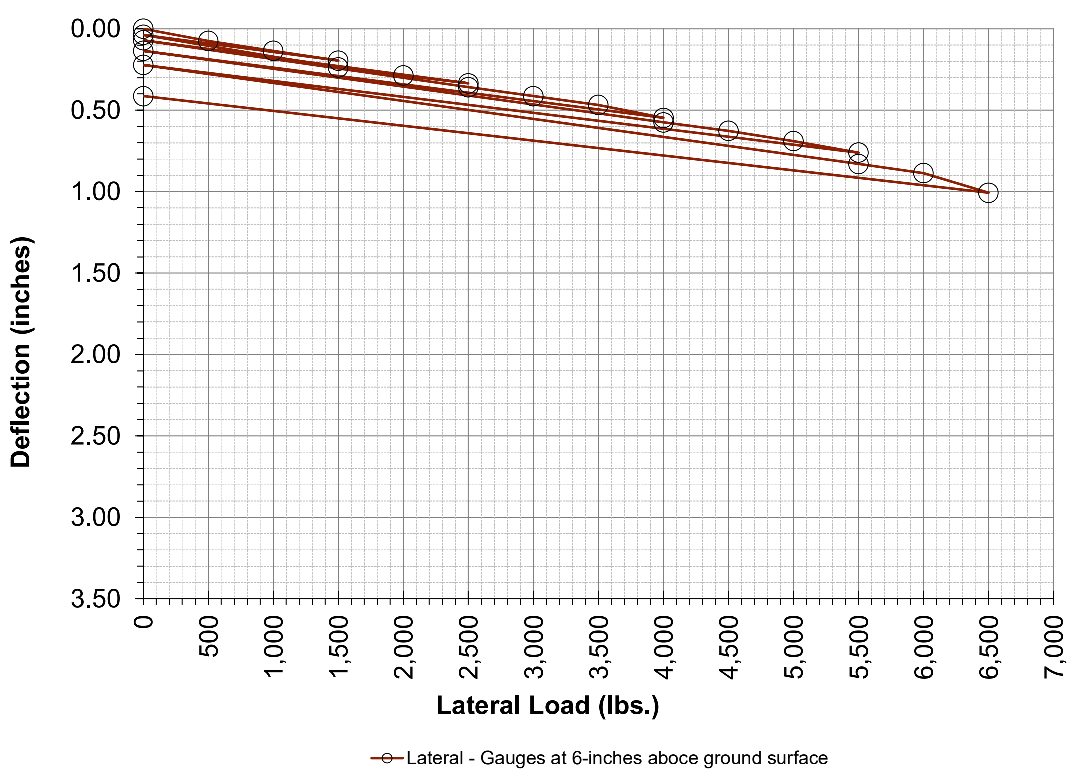
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/1/2023

Pile Information

Pile ID:	PLT-13A
Latitude [deg.]:	35.30792
Longitude [deg.]:	-106.26119
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	23.3

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.075	
14%	1,000	0.136	
21%	1,500	0.196	
0%	0	0.038	
21%	1,500	0.239	
29%	2,000	0.287	
36%	2,500	0.335	
0%	0	0.071	
36%	2,500	0.360	
43%	3,000	0.414	
50%	3,500	0.468	
57%	4,000	0.548	
0%	0	0.136	
57%	4,000	0.575	
64%	4,500	0.627	
71%	5,000	0.690	
79%	5,500	0.761	
0%	0	0.222	
79%	5,500	0.830	
86%	6,000	0.887	
93%	6,500	1.007	
100%	7,000		
0%	0	0.415	



Lateral Load Test Results for PLT-13B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

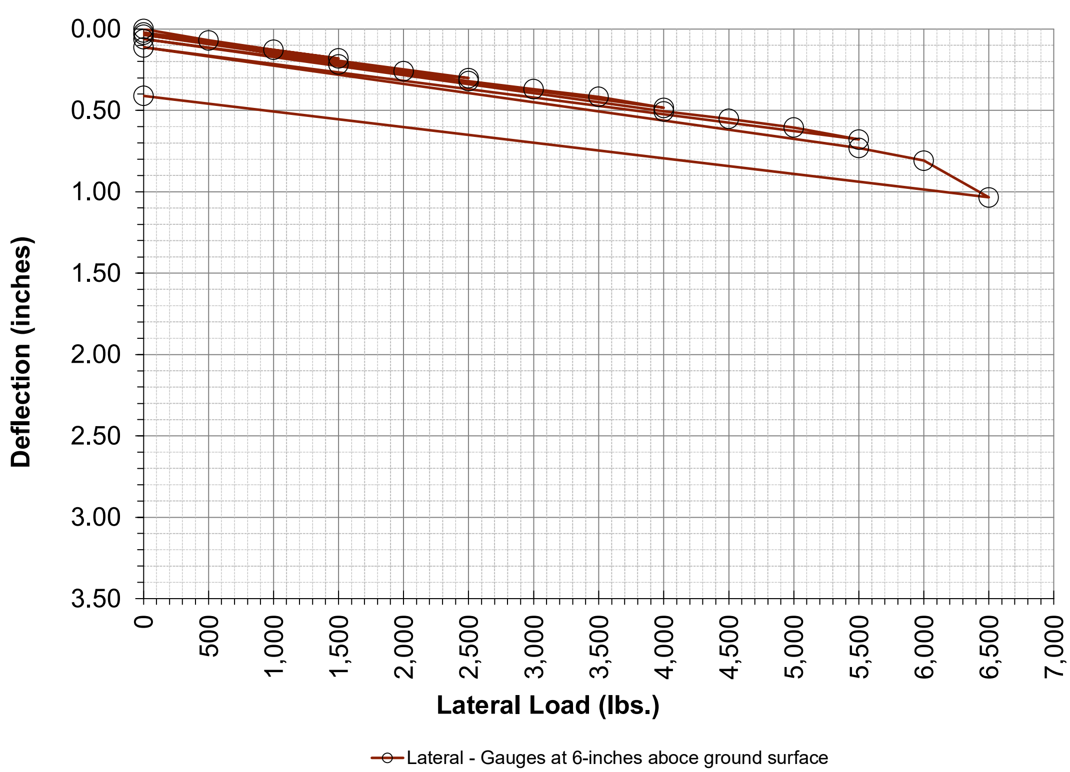
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/1/2023

Pile Information

Pile ID:	PLT-13B
Latitude [deg.]:	35.30792
Longitude [deg.]:	-106.26119
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	45.2

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.071	
14%	1,000	0.128	
21%	1,500	0.180	
0%	0	0.022	
21%	1,500	0.218	
29%	2,000	0.260	
36%	2,500	0.301	
0%	0	0.036	
36%	2,500	0.321	
43%	3,000	0.370	
50%	3,500	0.417	
57%	4,000	0.485	
0%	0	0.062	
57%	4,000	0.507	
64%	4,500	0.552	
71%	5,000	0.606	
79%	5,500	0.680	
0%	0	0.113	
79%	5,500	0.732	
86%	6,000	0.809	
93%	6,500	1.035	
100%	7,000		
0%	0	0.410	



Lateral Load Test Results for PLT-14A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

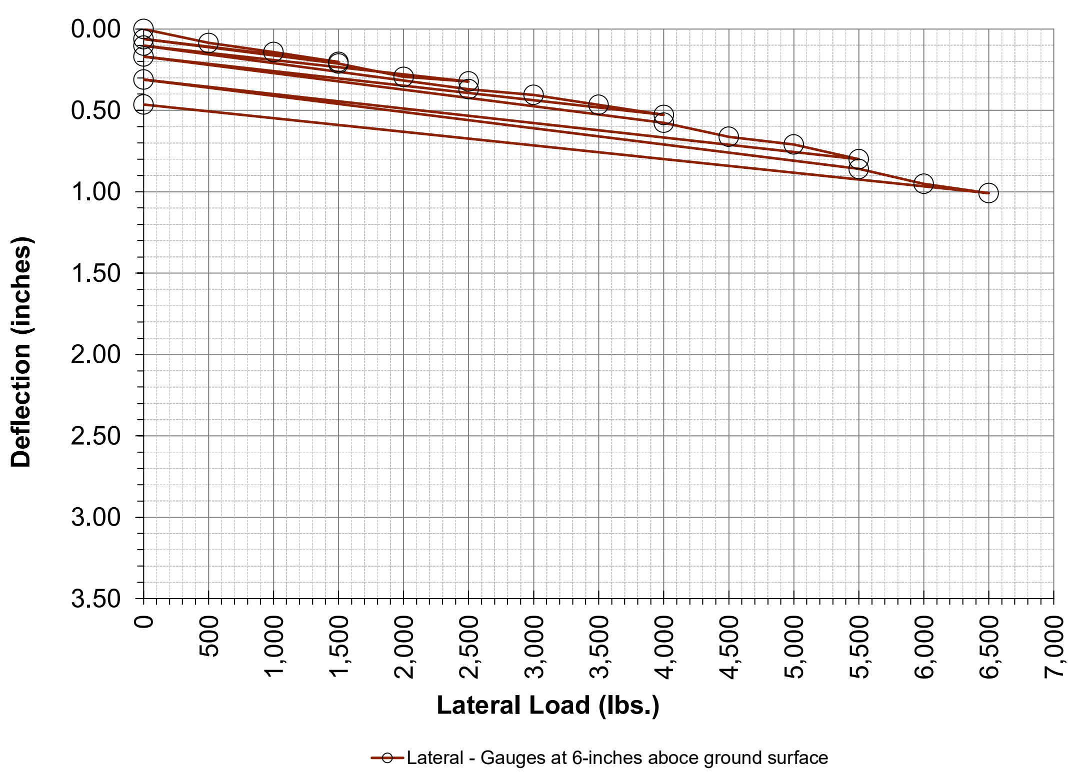
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/1/2023

Pile Information

Pile ID:	PLT-14A
Latitude [deg.]:	35.31131
Longitude [deg.]:	-106.26821
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	12.6

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.086	
14%	1,000	0.142	
21%	1,500	0.202	
0%	0	0.062	
21%	1,500	0.213	
29%	2,000	0.295	
36%	2,500	0.324	
0%	0	0.103	
36%	2,500	0.370	
43%	3,000	0.405	
50%	3,500	0.466	
57%	4,000	0.528	
0%	0	0.170	
57%	4,000	0.576	
64%	4,500	0.662	
71%	5,000	0.709	
79%	5,500	0.801	
0%	0	0.311	
79%	5,500	0.861	
86%	6,000	0.952	
93%	6,500	1.009	
100%	7,000		
0%	0	0.465	



Lateral Load Test Results for PLT-14B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

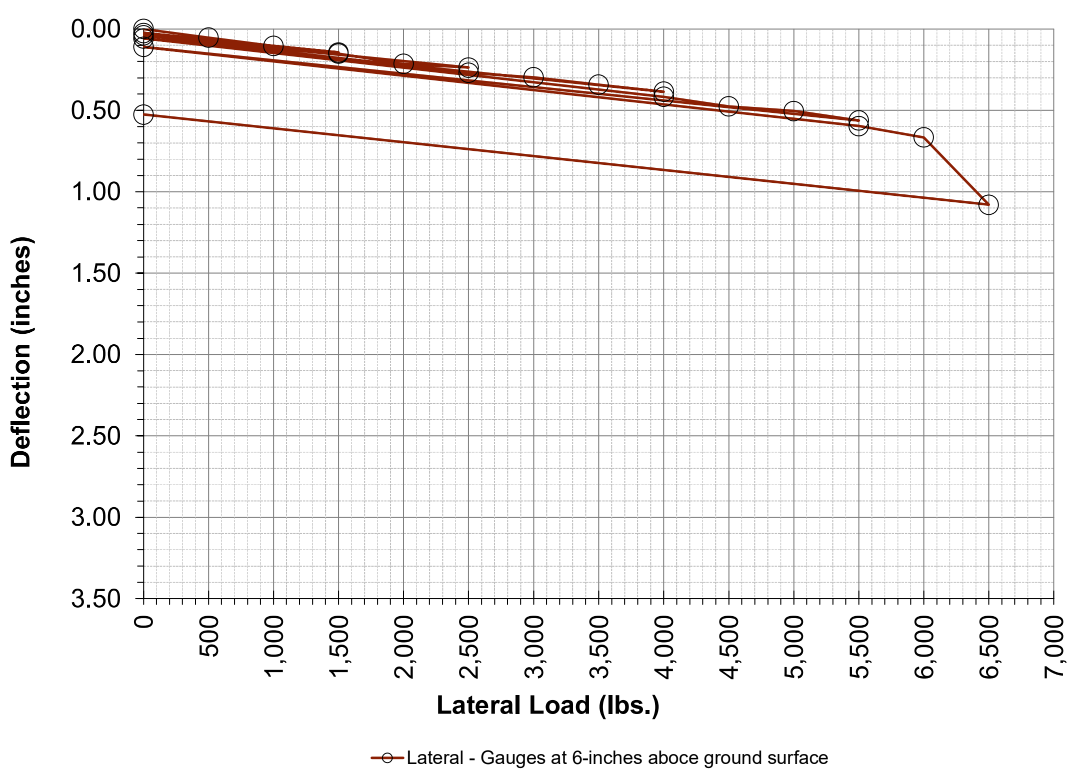
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/2/2023

Pile Information

Pile ID:	PLT-14B
Latitude [deg.]:	35.31131
Longitude [deg.]:	-106.26821
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	62.7

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.053	
14%	1,000	0.105	
21%	1,500	0.144	
0%	0	0.025	
21%	1,500	0.152	
29%	2,000	0.214	
36%	2,500	0.237	
0%	0	0.039	
36%	2,500	0.270	
43%	3,000	0.297	
50%	3,500	0.342	
57%	4,000	0.386	
0%	0	0.059	
57%	4,000	0.417	
64%	4,500	0.476	
71%	5,000	0.505	
79%	5,500	0.563	
0%	0	0.110	
79%	5,500	0.596	
86%	6,000	0.666	
93%	6,500	1.080	
100%	7,000		
0%	0	0.526	



Lateral Load Test Results for PLT-15A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

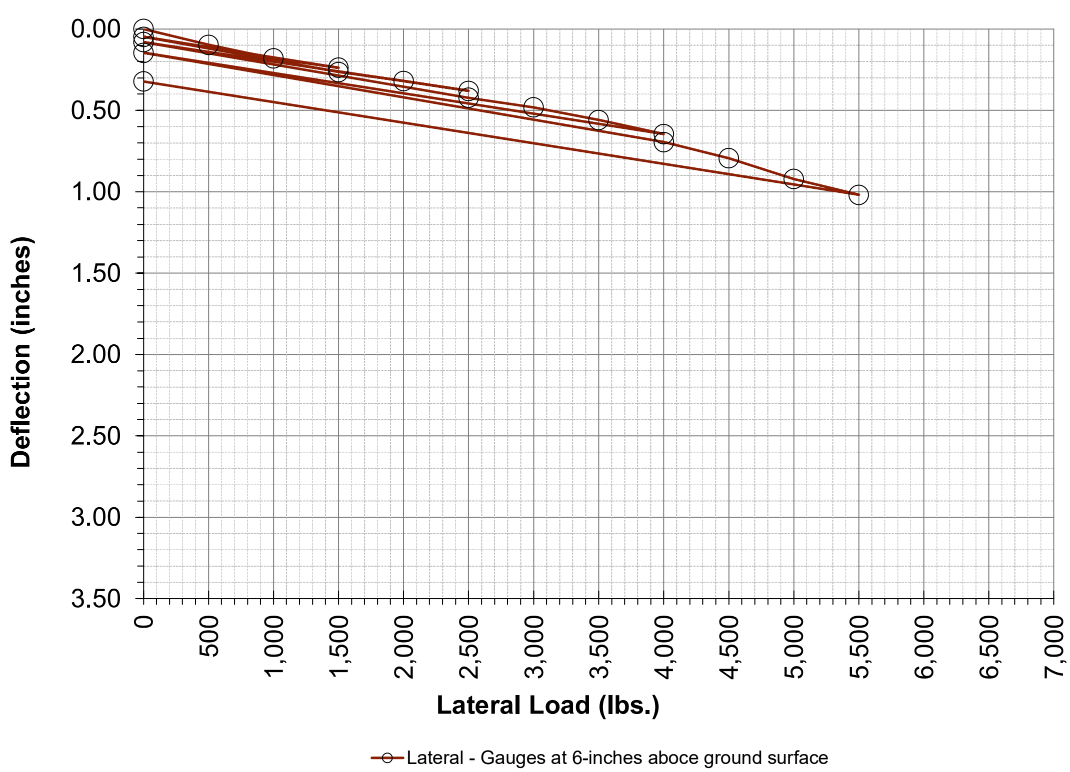
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/2/2023

Pile Information

Pile ID:	PLT-15A
Latitude [deg.]:	35.31062
Longitude [deg.]:	-106.25474
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	16.5

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.098	
14%	1,000	0.181	
21%	1,500	0.239	
0%	0	0.049	
21%	1,500	0.264	
29%	2,000	0.320	
36%	2,500	0.380	
0%	0	0.081	
36%	2,500	0.423	
43%	3,000	0.481	
50%	3,500	0.559	
57%	4,000	0.645	
0%	0	0.147	
57%	4,000	0.695	
64%	4,500	0.794	
71%	5,000	0.923	
79%	5,500	1.019	
0%	0		
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0	0.322	



Lateral Load Test Results for PLT-15B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerуqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

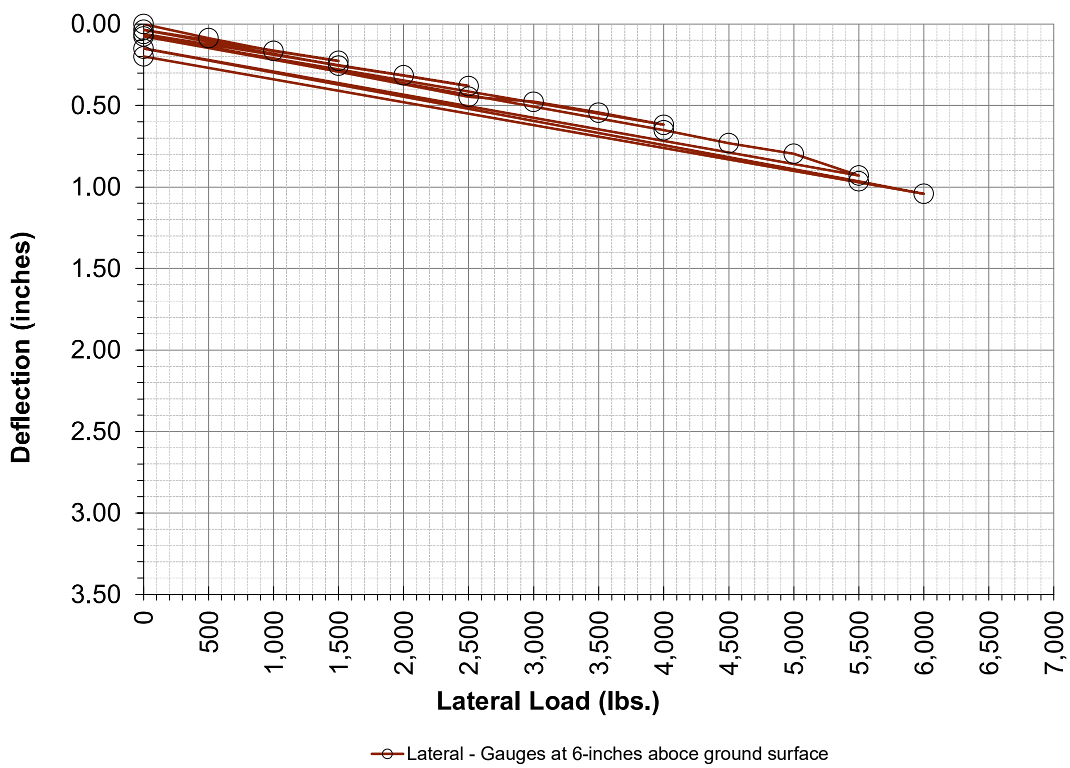
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/2/2023

Pile Information

Pile ID:	PLT-15B
Latitude [deg.]:	35.31062
Longitude [deg.]:	-106.25474
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	22.9

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.088	
14%	1,000	0.165	
21%	1,500	0.227	
0%	0	0.035	
21%	1,500	0.257	
29%	2,000	0.315	
36%	2,500	0.380	
0%	0	0.061	
36%	2,500	0.447	
43%	3,000	0.477	
50%	3,500	0.544	
57%	4,000	0.618	
0%	0	0.077	
57%	4,000	0.652	
64%	4,500	0.731	
71%	5,000	0.797	
79%	5,500	0.930	
0%	0	0.151	
79%	5,500	0.966	
86%	6,000	1.042	
93%	6,500		
100%	7,000		
0%	0	0.198	



Lateral Load Test Results for PLT-16A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

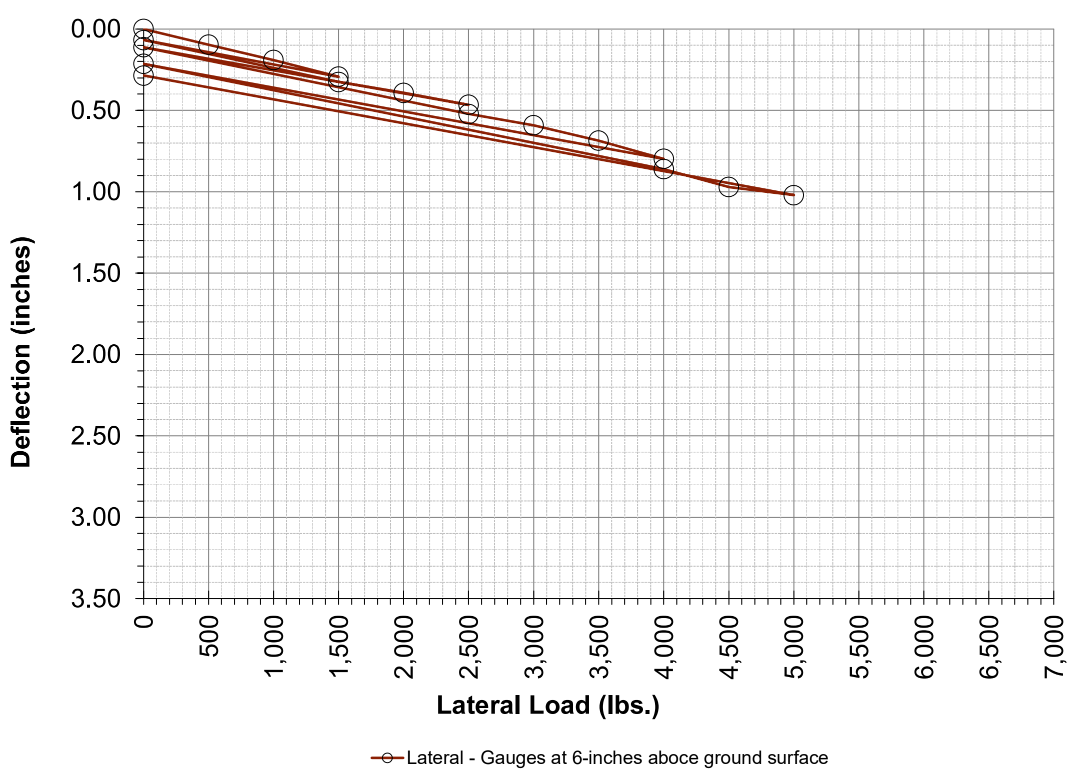
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/2/2023

Pile Information

Pile ID:	PLT-16A
Latitude [deg.]:	35.31534
Longitude [deg.]:	-106.26043
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	26.5

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.097	
14%	1,000	0.191	
21%	1,500	0.293	
0%	0	0.068	
21%	1,500	0.326	
29%	2,000	0.393	
36%	2,500	0.466	
0%	0	0.112	
36%	2,500	0.522	
43%	3,000	0.592	
50%	3,500	0.687	
57%	4,000	0.798	
0%	0	0.215	
57%	4,000	0.862	
64%	4,500	0.971	
71%	5,000	1.020	
79%	5,500		
0%	0		
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0	0.286	



Lateral Load Test Results for PLT-16B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquеruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

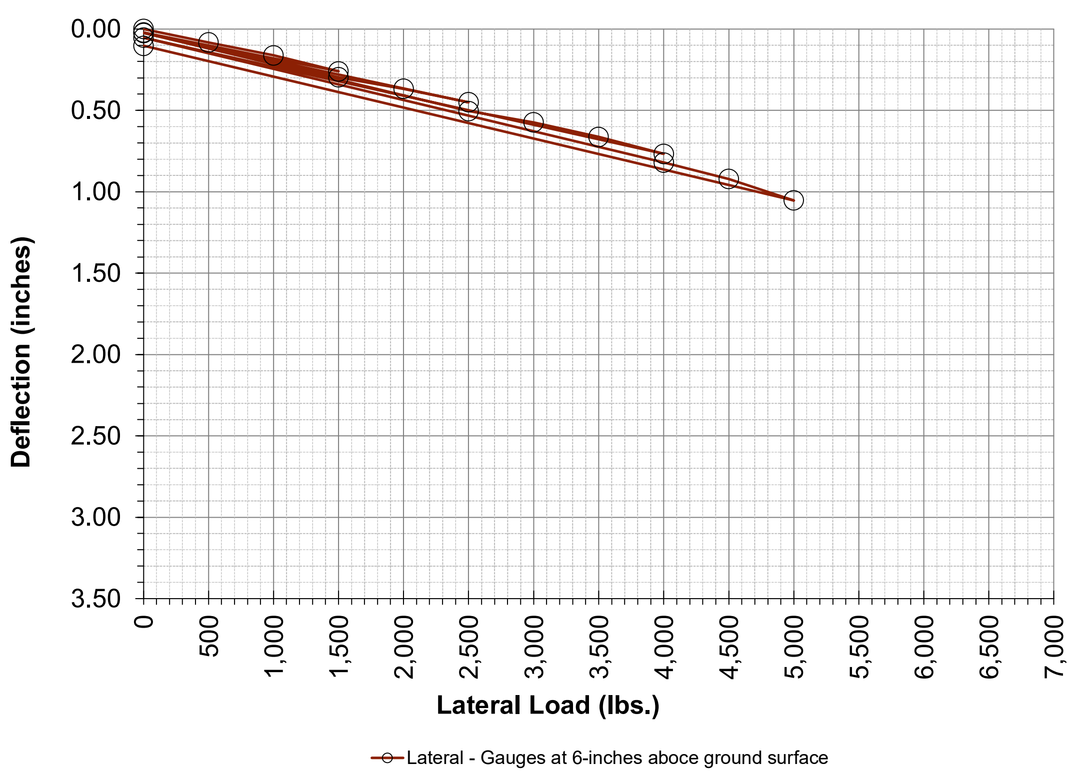
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/2/2023

Pile Information

Pile ID:	PLT-16B
Latitude [deg.]:	35.31534
Longitude [deg.]:	-106.26043
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	92.5

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.083	
14%	1,000	0.163	
21%	1,500	0.261	
0%	0	0.022	
21%	1,500	0.297	
29%	2,000	0.368	
36%	2,500	0.450	
0%	0	0.025	
36%	2,500	0.505	
43%	3,000	0.573	
50%	3,500	0.663	
57%	4,000	0.768	
0%	0	0.053	
57%	4,000	0.820	
64%	4,500	0.921	
71%	5,000	1.053	
79%	5,500		
0%	0		
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0	0.104	



Lateral Load Test Results for PLT-17A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

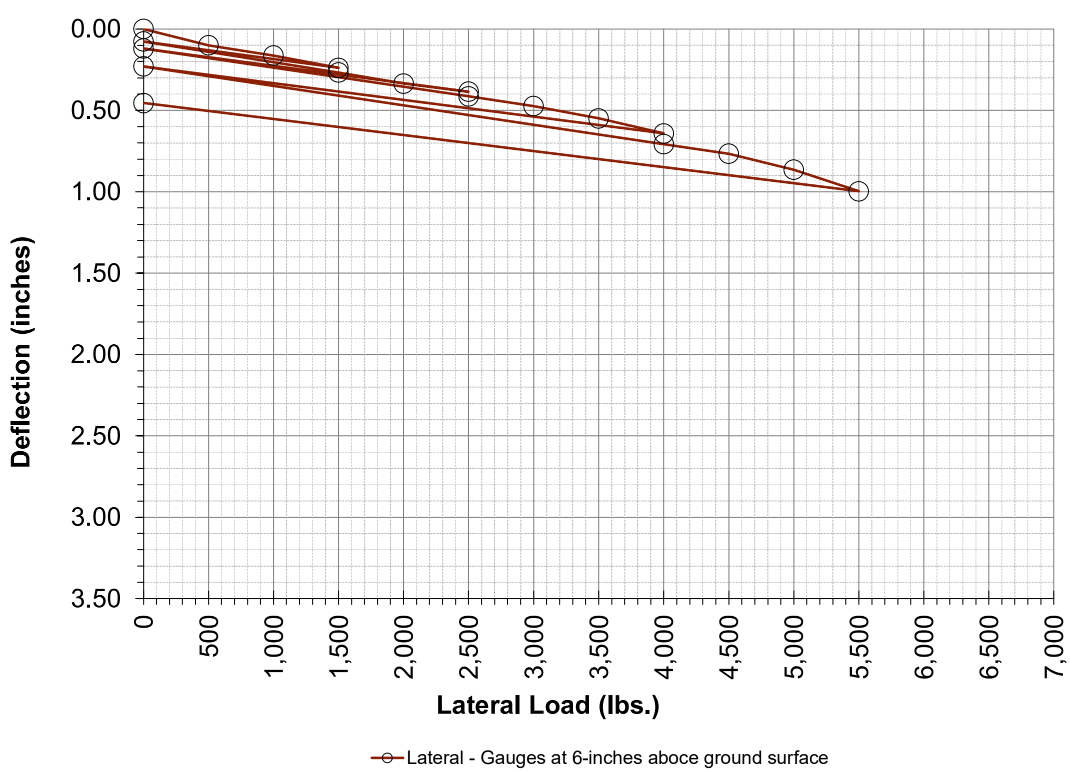
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/2/2023

Pile Information

Pile ID:	PLT-17A
Latitude [deg.]:	35.31691
Longitude [deg.]:	-106.25204
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	12.1

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.101	
14%	1,000	0.164	
21%	1,500	0.239	
0%	0	0.077	
21%	1,500	0.268	
29%	2,000	0.335	
36%	2,500	0.386	
0%	0	0.121	
36%	2,500	0.415	
43%	3,000	0.474	
50%	3,500	0.550	
57%	4,000	0.642	
0%	0	0.229	
57%	4,000	0.708	
64%	4,500	0.766	
71%	5,000	0.865	
79%	5,500	0.998	
0%	0		
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0	0.455	



Lateral Load Test Results for PLT-17B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

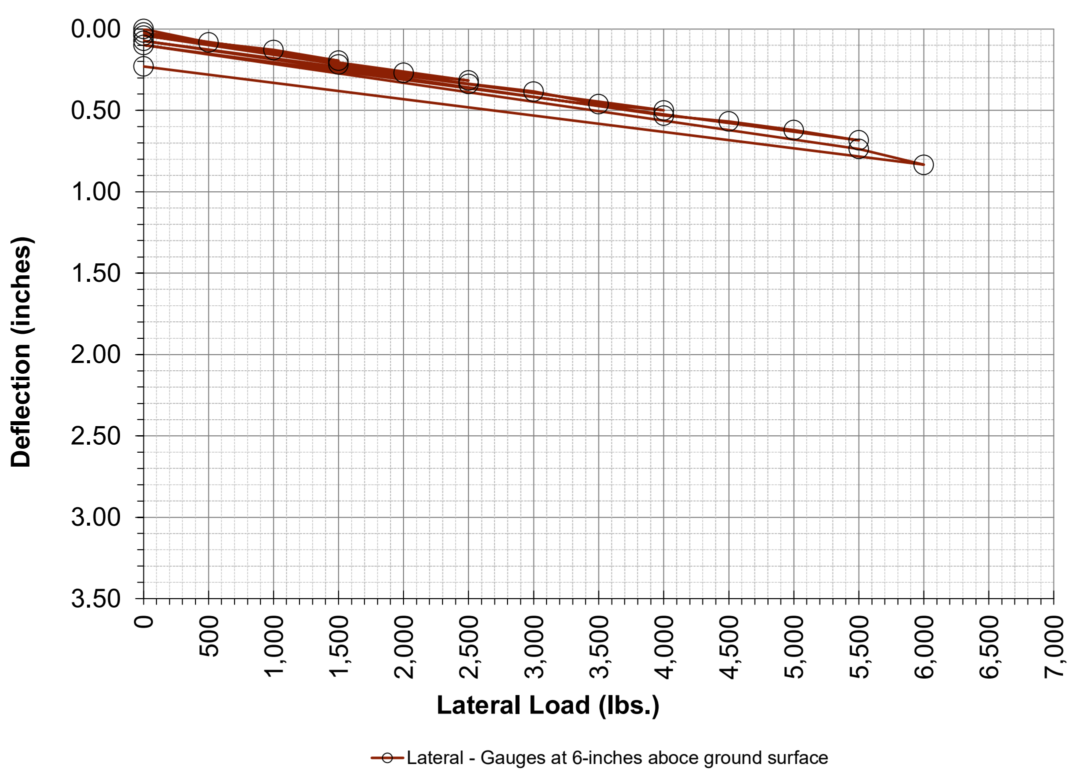
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/2/2023

Pile Information

Pile ID:	PLT-17B
Latitude [deg.]:	35.31691
Longitude [deg.]:	-106.25204
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	36.7

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.083	
14%	1,000	0.129	
21%	1,500	0.195	
0%	0	0.023	
21%	1,500	0.218	
29%	2,000	0.270	
36%	2,500	0.317	
0%	0	0.041	
36%	2,500	0.337	
43%	3,000	0.385	
50%	3,500	0.463	
57%	4,000	0.500	
0%	0	0.072	
57%	4,000	0.531	
64%	4,500	0.568	
71%	5,000	0.622	
79%	5,500	0.684	
0%	0	0.099	
79%	5,500	0.737	
86%	6,000	0.835	
93%	6,500		
100%	7,000		
0%	0	0.230	



Lateral Load Test Results for PLT-18A

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

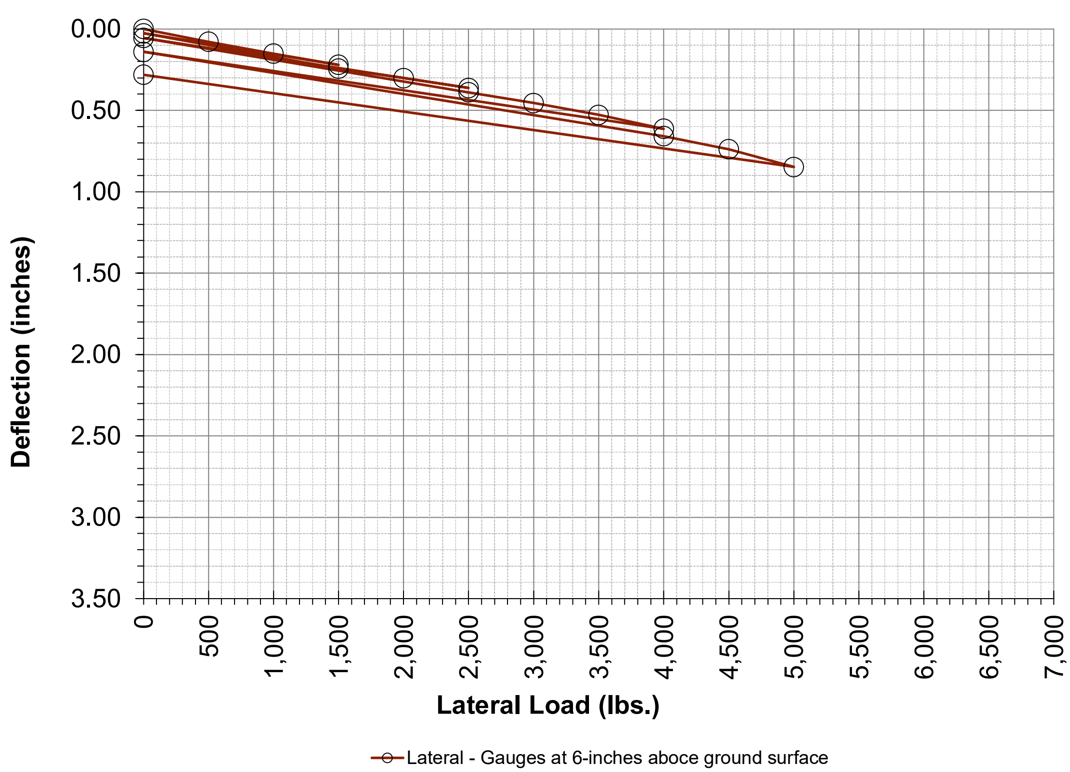
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/1/2023

Pile Information

Pile ID:	PLT-18A
Latitude [deg.]:	35.31781
Longitude [deg.]:	-106.26789
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	29.3

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.078	
14%	1,000	0.152	
21%	1,500	0.220	
0%	0	0.027	
21%	1,500	0.245	
29%	2,000	0.302	
36%	2,500	0.362	
0%	0	0.056	
36%	2,500	0.390	
43%	3,000	0.455	
50%	3,500	0.528	
57%	4,000	0.614	
0%	0	0.141	
57%	4,000	0.659	
64%	4,500	0.739	
71%	5,000	0.848	
79%	5,500		
0%	0		
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0	0.281	



Lateral Load Test Results for PLT-18B

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Lateral Load Test Set Up

Number of Top Gauges:	N/A
Number of Bottom Gauges:	2
Height of Top Gauges [in.]:	N/A
Height of Bottom Gauges [in.]:	6
Height of Applied Load [in.]:	42
Load Cell:	S-Type

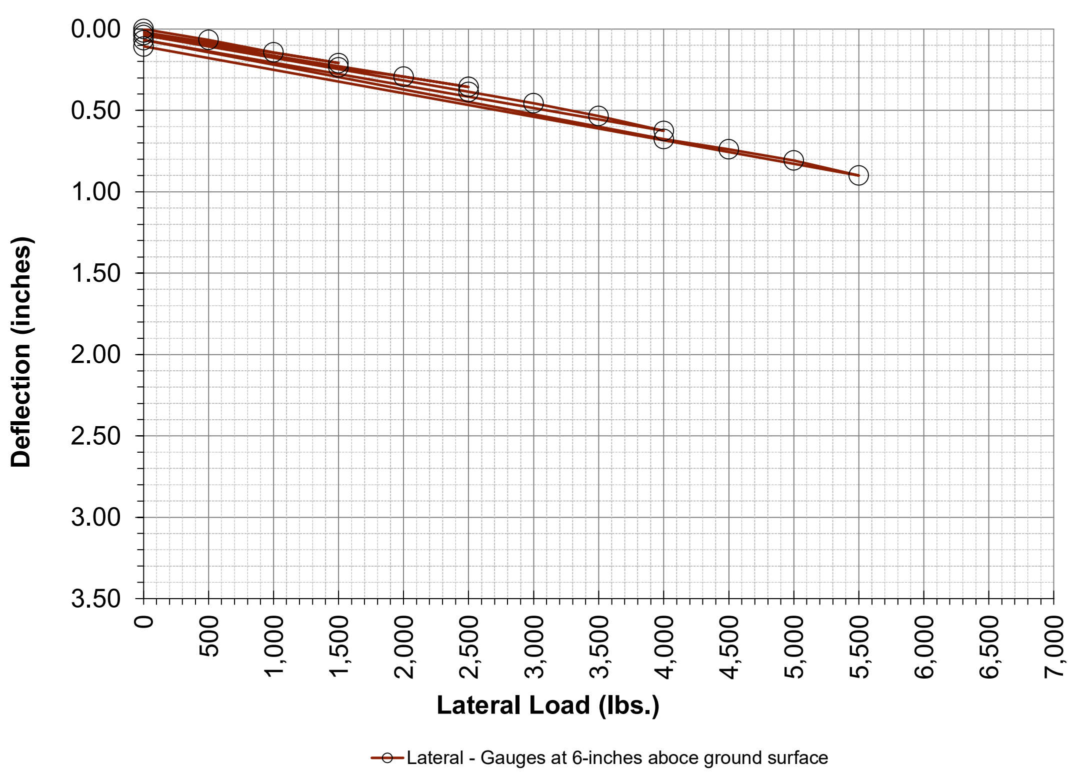
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	7/1/2023

Pile Information

Pile ID:	PLT-18B
Latitude [deg.]:	35.31781
Longitude [deg.]:	-106.26789
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Stick-Up [in.]:	48
Lateral Design Load [lbs.]:	7,000
Drive Time [sec.]:	22.8

% of Design Load	Lateral Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
7%	500	0.067	
14%	1,000	0.144	
21%	1,500	0.210	
0%	0	0.021	
21%	1,500	0.236	
29%	2,000	0.293	
36%	2,500	0.355	
0%	0	0.038	
36%	2,500	0.387	
43%	3,000	0.456	
50%	3,500	0.535	
57%	4,000	0.626	
0%	0	0.068	
57%	4,000	0.676	
64%	4,500	0.740	
71%	5,000	0.808	
79%	5,500	0.900	
0%	0		
79%	5,500		
86%	6,000		
93%	6,500		
100%	7,000		
0%	0	0.107	



Axial Compression Test Results

Compression Load Test Result for PLT-1

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in]:	6
Load Cell:	Pancake-type

Test Date and Representative

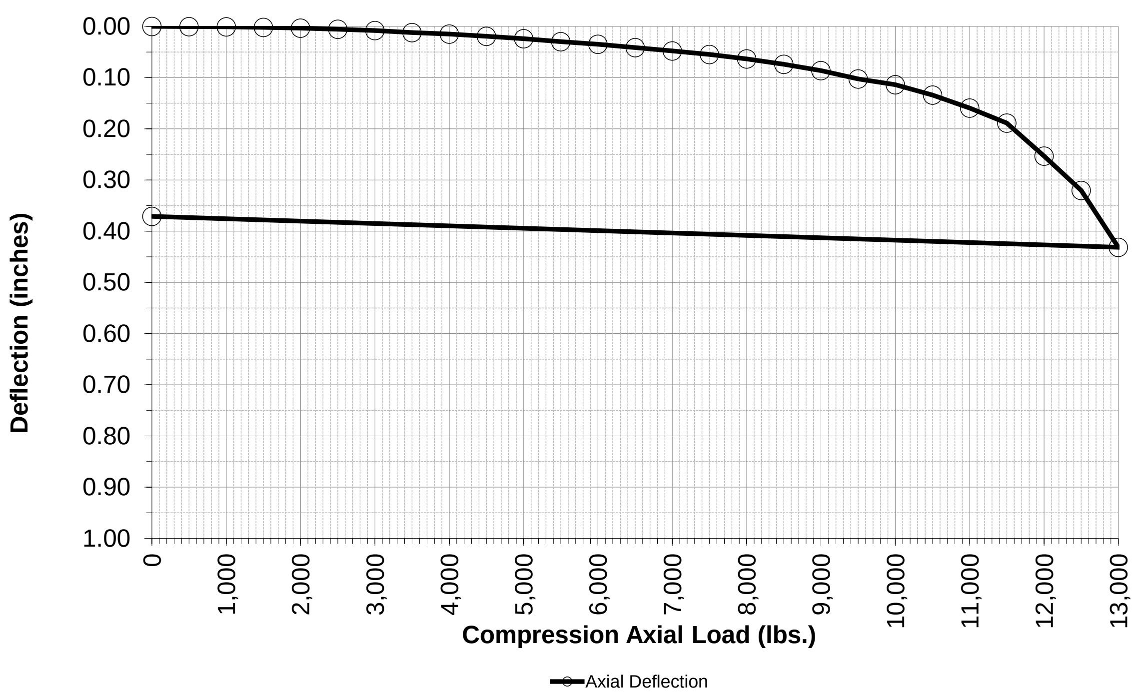
Tested By Terracon Rep:	SL
Date Tested:	8/24/2023

Pile Information

Pile ID:	PLT-1
Latitude [deg.]:	35.30658
Longitude [deg.]:	-106.28628
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	24
Axial Design Load [lbs.]:	13,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	17.4

Compression Test Results

% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
4%	500	0.001	
8%	1,000	0.001	
12%	1,500	0.002	
15%	2,000	0.004	
19%	2,500	0.006	
23%	3,000	0.008	
27%	3,500	0.012	
31%	4,000	0.015	
35%	4,500	0.020	
38%	5,000	0.024	
42%	5,500	0.030	
46%	6,000	0.035	
50%	6,500	0.042	
54%	7,000	0.048	
58%	7,500	0.055	
62%	8,000	0.064	
65%	8,500	0.074	
69%	9,000	0.087	
73%	9,500	0.103	
77%	10,000	0.114	
81%	10,500	0.134	
85%	11,000	0.160	
88%	11,500	0.189	
92%	12,000	0.254	
96%	12,500	0.321	
100%	13,000	0.432	
0%	0	0.371	



Compression Load Test Result for PLT-2

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in]:	6
Load Cell:	Pancake-type

Test Date and Representative

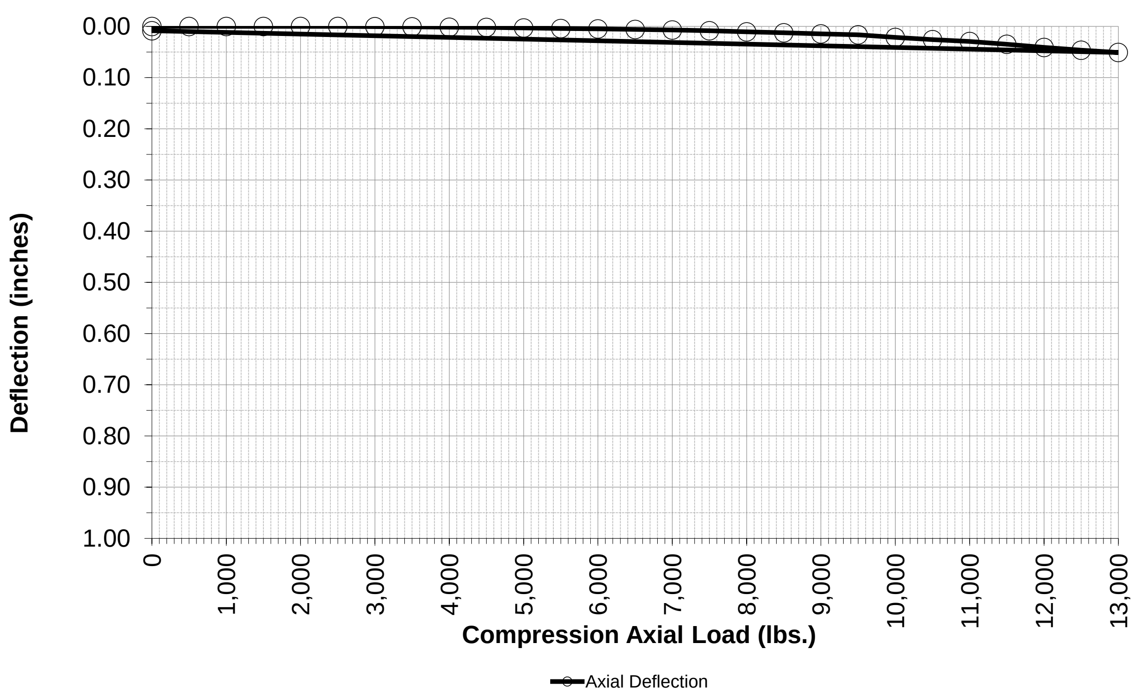
Tested By Terracon Rep:	SL
Date Tested:	8/24/2023

Pile Information

Pile ID:	PLT-2
Latitude [deg.]:	35.30411
Longitude [deg.]:	-106.27832
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	24
Axial Design Load [lbs.]:	13,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	27.3

Compression Test Results

% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
4%	500	0.000	
8%	1,000	0.000	
12%	1,500	0.000	
15%	2,000	0.000	
19%	2,500	0.000	
23%	3,000	0.001	
27%	3,500	0.001	
31%	4,000	0.002	
35%	4,500	0.002	
38%	5,000	0.003	
42%	5,500	0.004	
46%	6,000	0.005	
50%	6,500	0.006	
54%	7,000	0.007	
58%	7,500	0.009	
62%	8,000	0.011	
65%	8,500	0.013	
69%	9,000	0.015	
73%	9,500	0.017	
77%	10,000	0.022	
81%	10,500	0.026	
85%	11,000	0.030	
88%	11,500	0.035	
92%	12,000	0.041	
96%	12,500	0.047	
100%	13,000	0.051	
0%	0	0.009	



Compression Load Test Result for PLT-3

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in]:	6
Load Cell:	Pancake-type

Test Date and Representative

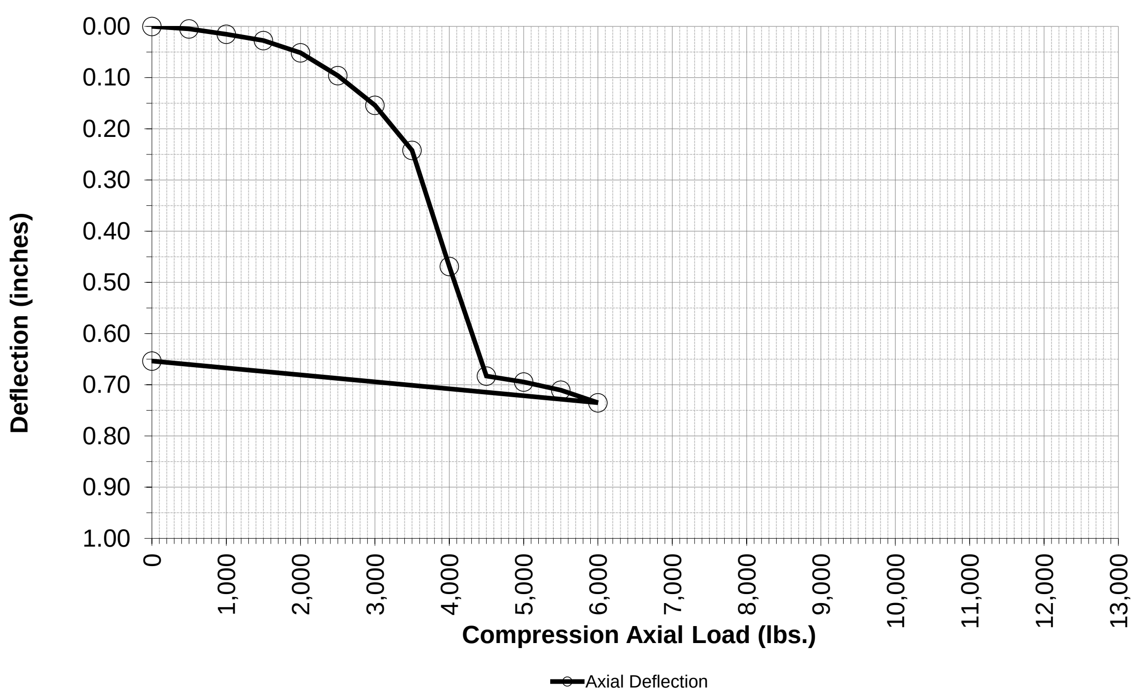
Tested By Terracon Rep:	SL
Date Tested:	8/24/2023

Pile Information

Pile ID:	PLT-3
Latitude [deg.]:	35.30829
Longitude [deg.]:	-106.27919
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	24
Axial Design Load [lbs.]:	13,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	14.5

Compression Test Results

% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
4%	500	0.005	
8%	1,000	0.016	
12%	1,500	0.028	
15%	2,000	0.052	
19%	2,500	0.096	
23%	3,000	0.154	
27%	3,500	0.242	
31%	4,000	0.469	
35%	4,500	0.683	We assume the pile was on a cobble
38%	5,000	0.695	
42%	5,500	0.711	
46%	6,000	0.735	
50%	6,500		
54%	7,000		
58%	7,500		
62%	8,000		
65%	8,500		
69%	9,000		
73%	9,500		
77%	10,000		
81%	10,500		
85%	11,000		
88%	11,500		
92%	12,000		
96%	12,500		
100%	13,000		
0%	0	0.654	



Compression Load Test Result for PLT-4

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in]:	6
Load Cell:	Pancake-type

Test Date and Representative

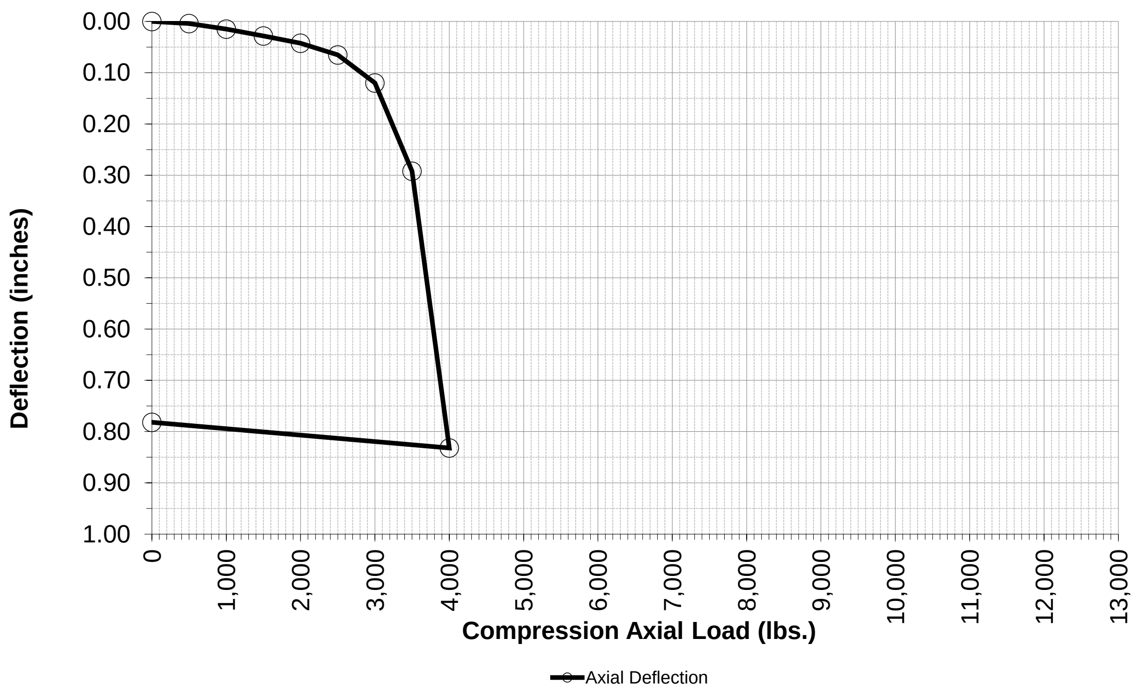
Tested By Terracon Rep:	SL
Date Tested:	8/24/2023

Pile Information

Pile ID:	PLT-4
Latitude [deg.]:	35.30642
Longitude [deg.]:	-106.27236
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	24
Axial Design Load [lbs.]:	13,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	11.7

Compression Test Results

% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
4%	500	0.004	
8%	1,000	0.015	
12%	1,500	0.029	
15%	2,000	0.043	
19%	2,500	0.066	
23%	3,000	0.120	
27%	3,500	0.292	
31%	4,000	0.832	
35%	4,500		
38%	5,000		
42%	5,500		
46%	6,000		
50%	6,500		
54%	7,000		
58%	7,500		
62%	8,000		
65%	8,500		
69%	9,000		
73%	9,500		
77%	10,000		
81%	10,500		
85%	11,000		
88%	11,500		
92%	12,000		
96%	12,500		
100%	13,000		
0%	0	0.782	



Compression Load Test Result for PLT-5

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in]:	6
Load Cell:	Pancake-type

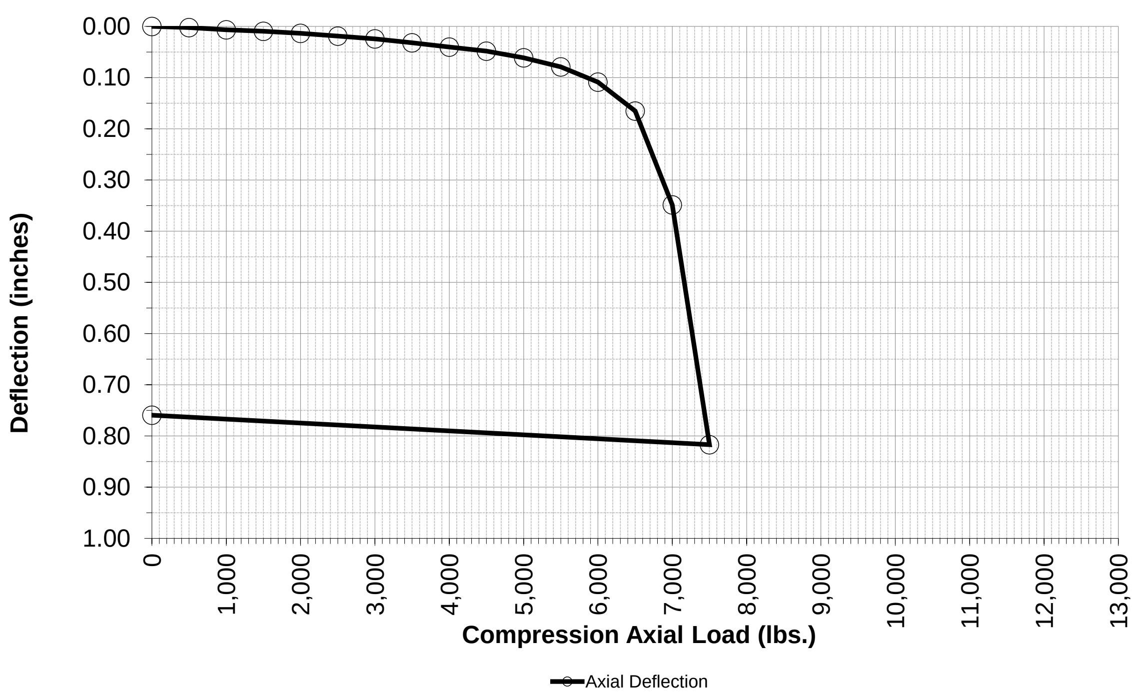
Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	8/24/2023

Pile Information

Pile ID:	PLT-5
Latitude [deg.]:	35.30299
Longitude [deg.]:	-106.26866
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	24
Axial Design Load [lbs.]:	13,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	8.4

Compression Test Results			
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
4%	500	0.003	
8%	1,000	0.007	
12%	1,500	0.010	
15%	2,000	0.014	
19%	2,500	0.019	
23%	3,000	0.025	
27%	3,500	0.032	
31%	4,000	0.041	
35%	4,500	0.049	
38%	5,000	0.062	
42%	5,500	0.079	
46%	6,000	0.109	
50%	6,500	0.166	
54%	7,000	0.349	
58%	7,500	0.817	
62%	8,000		
65%	8,500		
69%	9,000		
73%	9,500		
77%	10,000		
81%	10,500		
85%	11,000		
88%	11,500		
92%	12,000		
96%	12,500		
100%	13,000		
0%	0	0.760	



Compression Load Test Result for PLT-6

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in]:	6
Load Cell:	Pancake-type

Test Date and Representative

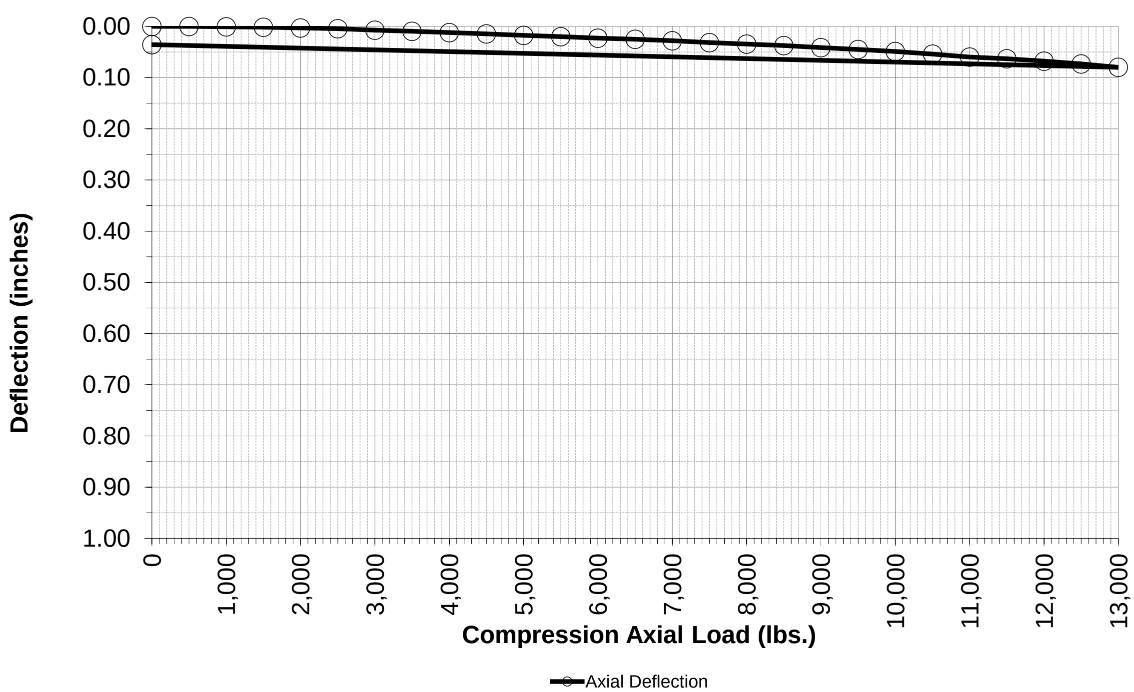
Tested By Terracon Rep:	SL
Date Tested:	8/24/2023

Pile Information

Pile ID:	PLT-6
Latitude [deg.]:	35.29995
Longitude [deg.]:	-106.26895
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	24
Axial Design Load [lbs.]:	13,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	23.5

Compression Test Results

% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
4%	500	0.000	
8%	1,000	0.001	
12%	1,500	0.002	
15%	2,000	0.003	
19%	2,500	0.005	
23%	3,000	0.008	
27%	3,500	0.010	
31%	4,000	0.012	
35%	4,500	0.015	
38%	5,000	0.018	
42%	5,500	0.020	
46%	6,000	0.023	
50%	6,500	0.025	
54%	7,000	0.028	
58%	7,500	0.032	
62%	8,000	0.035	
65%	8,500	0.038	
69%	9,000	0.042	
73%	9,500	0.045	
77%	10,000	0.049	
81%	10,500	0.054	
85%	11,000	0.060	
88%	11,500	0.063	
92%	12,000	0.068	
96%	12,500	0.074	
100%	13,000	0.080	
0%	0	0.036	



Compression Load Test Result for PLT-7

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerque, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in]:	6
Load Cell:	Pancake-type

Test Date and Representative

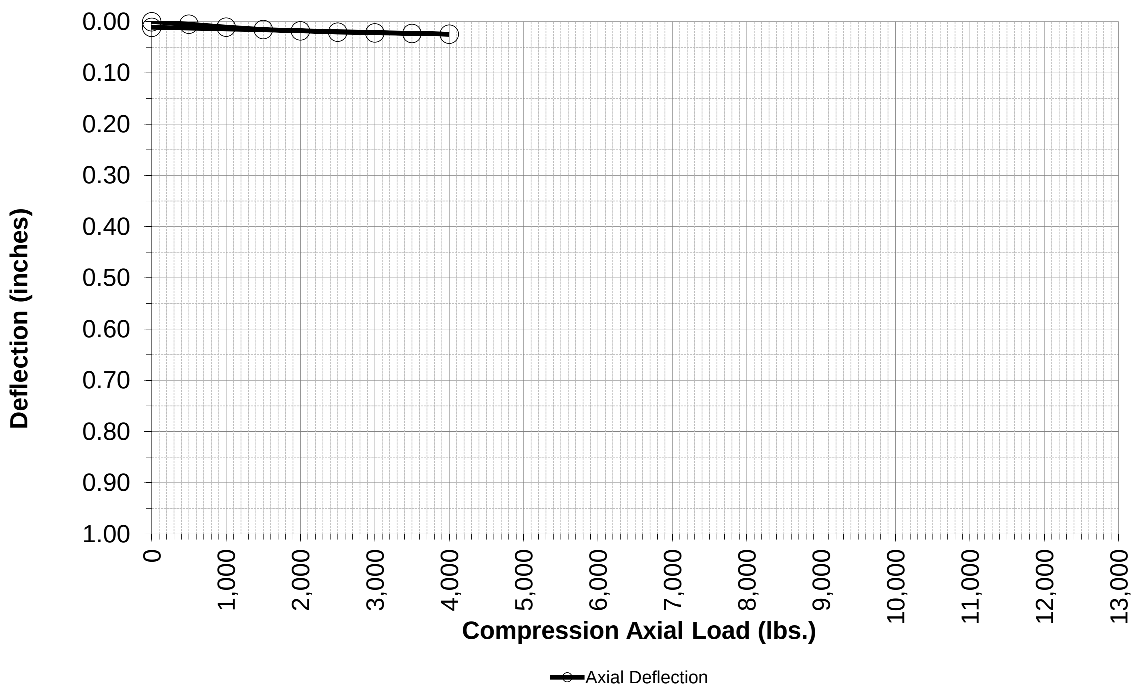
Tested By Terracon Rep:	SL
Date Tested:	8/25/2023

Pile Information

Pile ID:	PLT-7
Latitude [deg.]:	35.29482
Longitude [deg.]:	-106.25484
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	24
Axial Design Load [lbs.]:	13,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	35.6

Compression Test Results

% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
4%	500	0.005	
8%	1,000	0.011	
12%	1,500	0.016	
15%	2,000	0.018	
19%	2,500	0.021	
23%	3,000	0.022	Testing stopped due to gauge malfunction
27%	3,500	0.023	
31%	4,000	0.025	
35%	4,500		
38%	5,000		
42%	5,500		
46%	6,000		
50%	6,500		
54%	7,000		
58%	7,500		
62%	8,000		
65%	8,500		
69%	9,000		
73%	9,500		
77%	10,000		
81%	10,500		
85%	11,000		
88%	11,500		
92%	12,000		
96%	12,500		
100%	13,000		



Compression Load Test Result for PLT-8

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in]:	6
Load Cell:	Pancake-type

Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	8/25/2023

Pile Information

Pile ID:	PLT-8
Latitude [deg.]:	35.29714
Longitude [deg.]:	-106.25859
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	24
Axial Design Load [lbs.]:	13,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	7.7

Compression Test Results			
% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
4%	500	0.007	
8%	1,000	0.062	
12%	1,500	0.750	
15%	2,000		
19%	2,500		
23%	3,000		
27%	3,500		
31%	4,000		
35%	4,500		
38%	5,000		
42%	5,500		
46%	6,000		
50%	6,500		
54%	7,000		
58%	7,500		
62%	8,000		
65%	8,500		
69%	9,000		
73%	9,500		
77%	10,000		
81%	10,500		
85%	11,000		
88%	11,500		
92%	12,000		
96%	12,500		
100%	13,000		
0%	0	0.735	

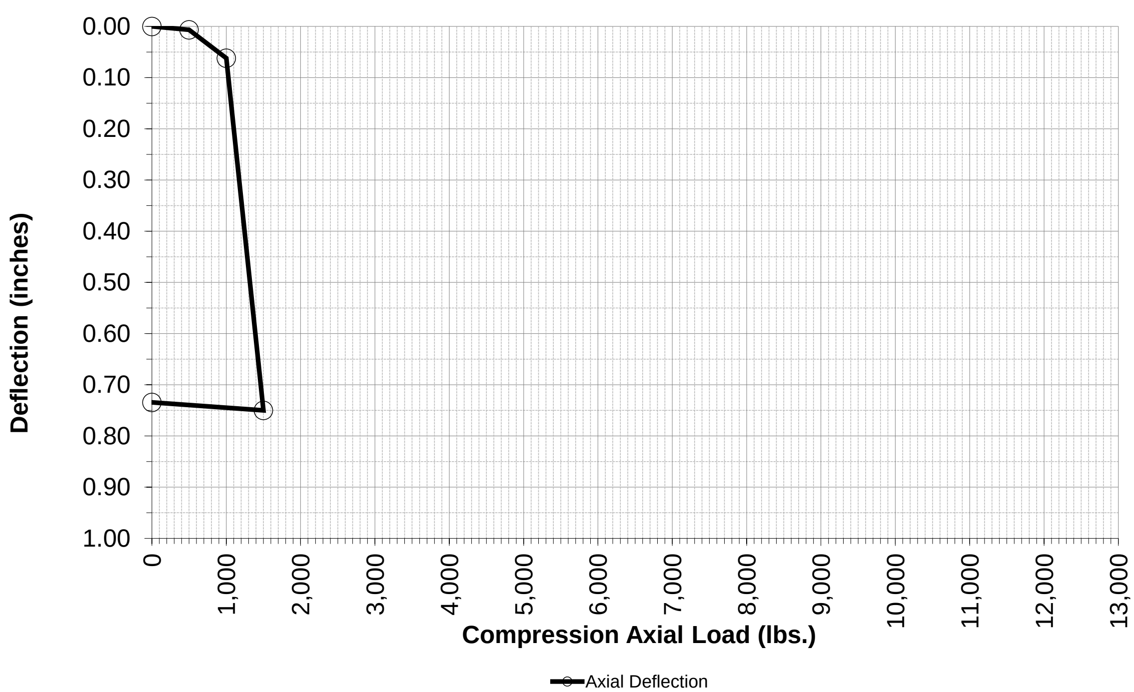


Exhibit C-8

Compression Load Test Result for PLT-9

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in]:	6
Load Cell:	Pancake-type

Test Date and Representative

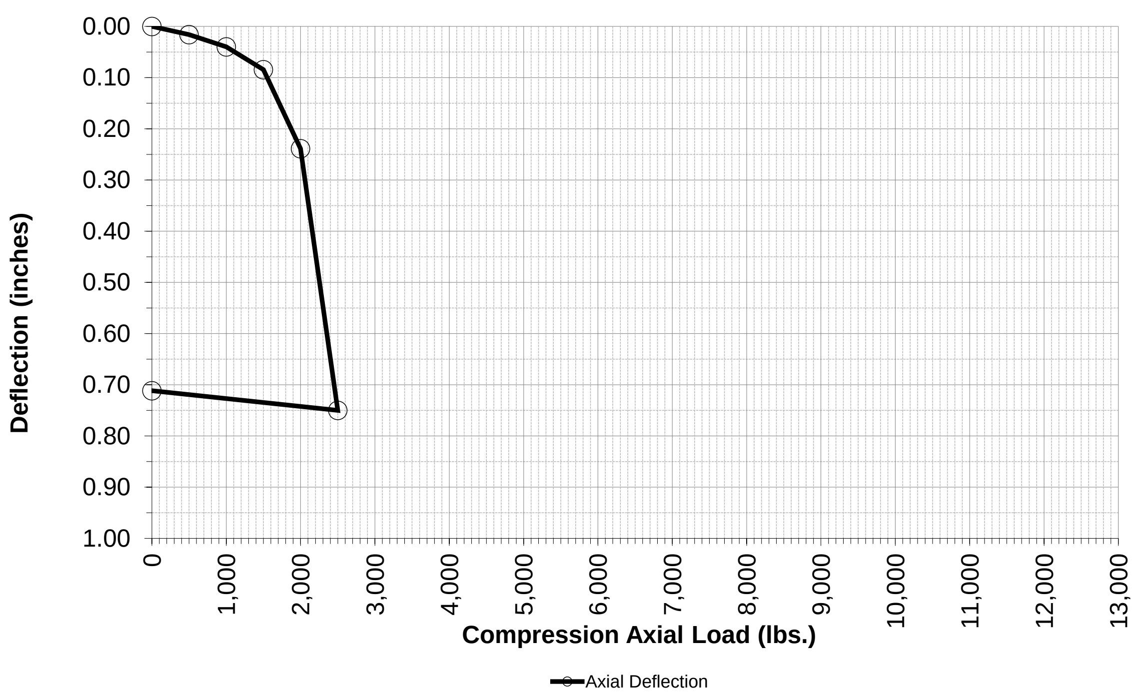
Tested By Terracon Rep:	SL
Date Tested:	8/25/2023

Pile Information

Pile ID:	PLT-9
Latitude [deg.]:	35.29610
Longitude [deg.]:	-106.24892
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	24
Axial Design Load [lbs.]:	13,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	11.3

Compression Test Results

% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
4%	500	0.016	
8%	1,000	0.040	
12%	1,500	0.085	
15%	2,000	0.239	
19%	2,500	0.750	
23%	3,000		
27%	3,500		
31%	4,000		
35%	4,500		
38%	5,000		
42%	5,500		
46%	6,000		
50%	6,500		
54%	7,000		
58%	7,500		
62%	8,000		
65%	8,500		
69%	9,000		
73%	9,500		
77%	10,000		
81%	10,500		
85%	11,000		
88%	11,500		
92%	12,000		
96%	12,500		
100%	13,000		
0%	0	0.712	



Compression Load Test Result for PLT-10

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerque, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in]:	6
Load Cell:	Pancake-type

Test Date and Representative

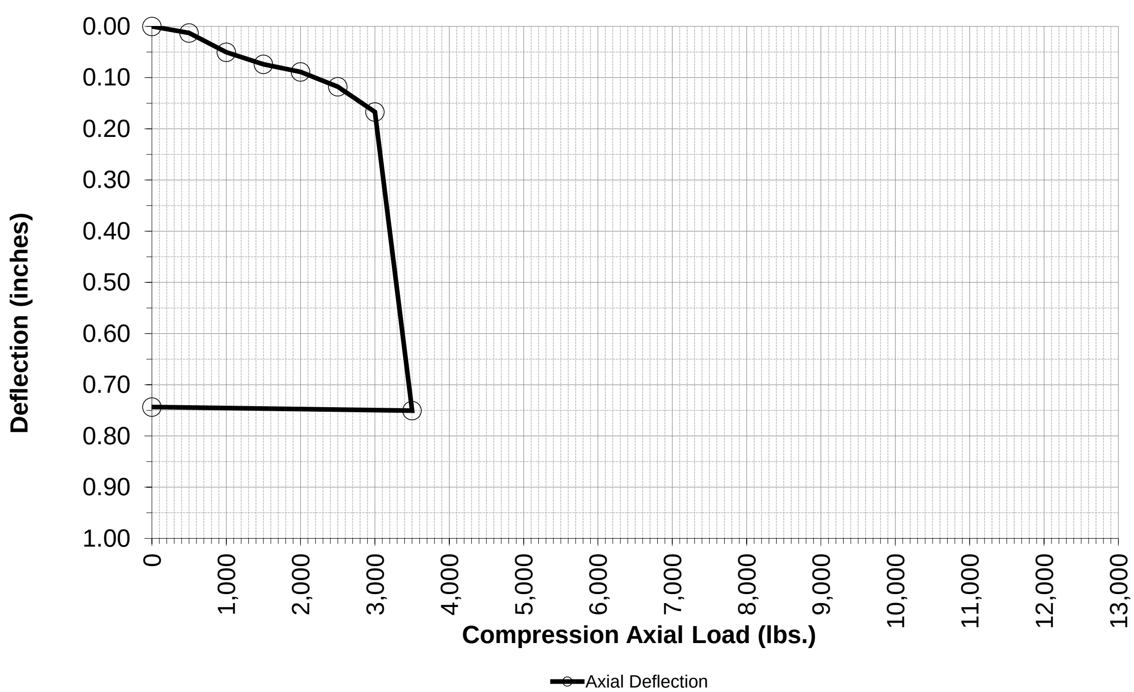
Tested By Terracon Rep:	SL
Date Tested:	8/28/2023

Pile Information

Pile ID:	PLT-10
Latitude [deg.]:	35.30224
Longitude [deg.]:	-106.25810
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	24
Axial Design Load [lbs.]:	13,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	16.9

Compression Test Results

% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
4%	500	0.013	
8%	1,000	0.051	
12%	1,500	0.074	
15%	2,000	0.089	
19%	2,500	0.118	
23%	3,000	0.167	
27%	3,500	0.751	
31%	4,000		
35%	4,500		
38%	5,000		
42%	5,500		
46%	6,000		
50%	6,500		
54%	7,000		
58%	7,500		
62%	8,000		
65%	8,500		
69%	9,000		
73%	9,500		
77%	10,000		
81%	10,500		
85%	11,000		
88%	11,500		
92%	12,000		
96%	12,500		
100%	13,000		
0%	0	0.744	



Compression Load Test Result for PLT-11

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in]:	6
Load Cell:	Pancake-type

Test Date and Representative

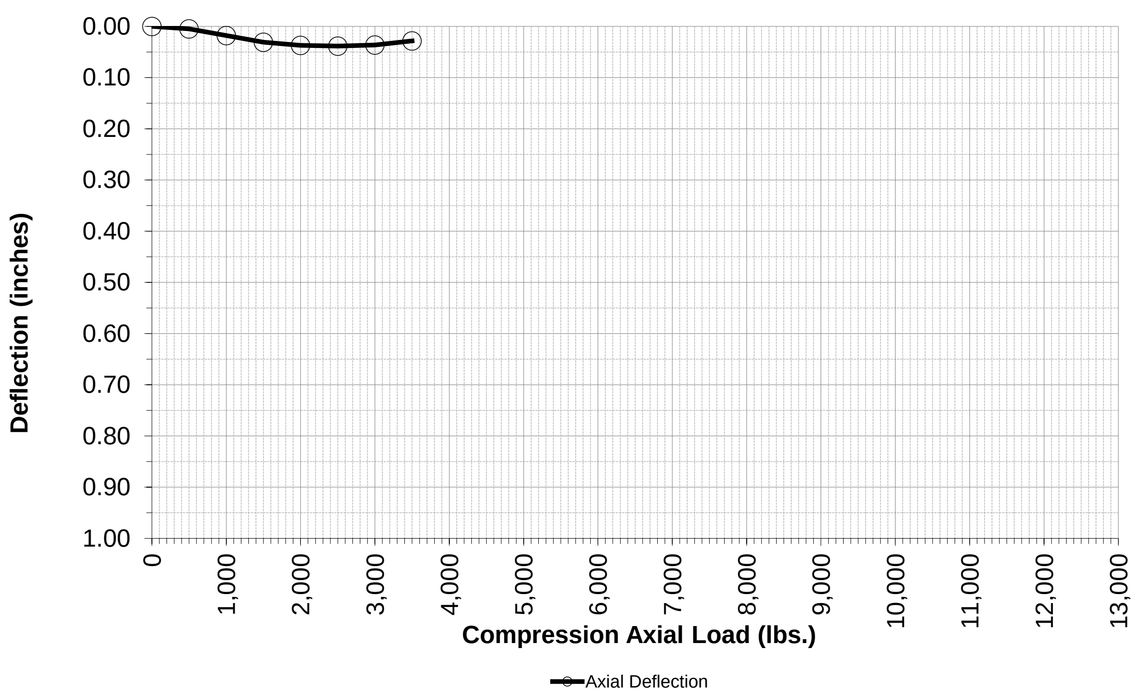
Tested By Terracon Rep:	SL
Date Tested:	8/25/2023

Pile Information

Pile ID:	PLT-11
Latitude [deg.]:	35.30115
Longitude [deg.]:	-106.24937
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	24
Axial Design Load [lbs.]:	13,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	44.5

Compression Test Results

% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
4%	500	0.005	
8%	1,000	0.018	
12%	1,500	0.031	
15%	2,000	0.037	
19%	2,500	0.039	
23%	3,000	0.037	Testing stopped due to gauge malfunction
27%	3,500	0.029	
31%	4,000		
35%	4,500		
38%	5,000		
42%	5,500		
46%	6,000		
50%	6,500		
54%	7,000		
58%	7,500		
62%	8,000		
65%	8,500		
69%	9,000		
73%	9,500		
77%	10,000		
81%	10,500		
85%	11,000		
88%	11,500		
92%	12,000		
96%	12,500		
100%	13,000		
0%	0		



Compression Load Test Result for PLT-12

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in]:	6
Load Cell:	Pancake-type

Test Date and Representative

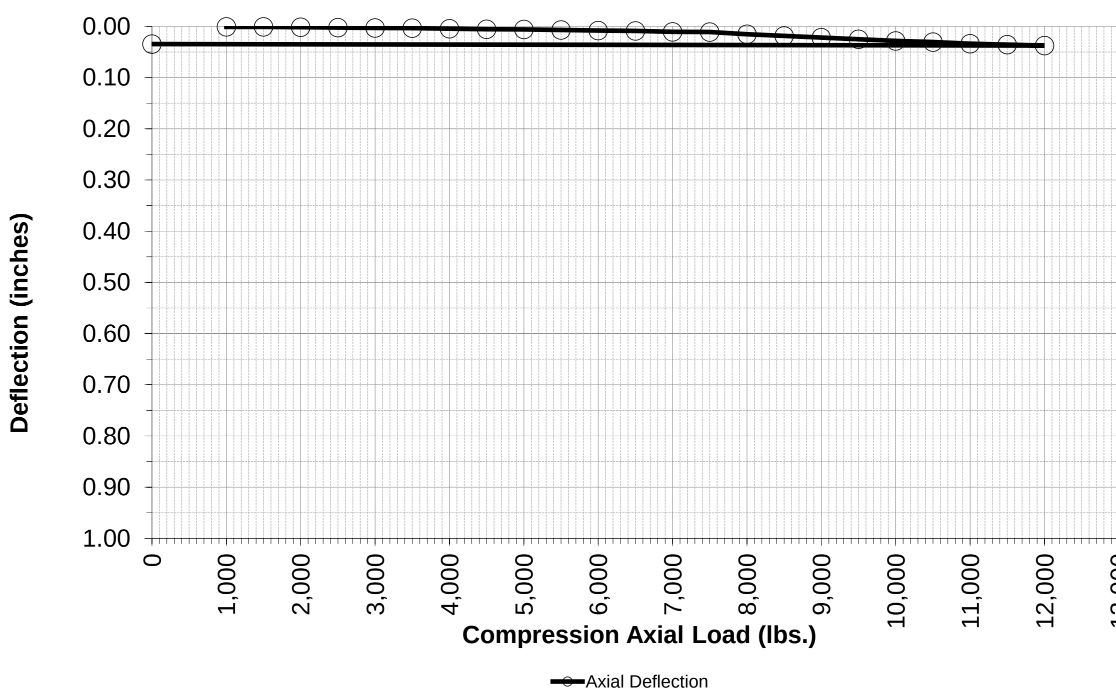
Tested By Terracon Rep:	SL
Date Tested:	8/28/2023

Pile Information

Pile ID:	PLT-12
Latitude [deg.]:	35.30752
Longitude [deg.]:	-106.25063
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	24
Axial Design Load [lbs.]:	13,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	33.7

Compression Test Results

% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0		
4%	500		
8%	1,000	0.001	
12%	1,500	0.001	
15%	2,000	0.002	
19%	2,500	0.003	
23%	3,000	0.003	
27%	3,500	0.004	
31%	4,000	0.005	
35%	4,500	0.006	
38%	5,000	0.006	
42%	5,500	0.007	
46%	6,000	0.008	
50%	6,500	0.009	
54%	7,000	0.011	
58%	7,500	0.011	
62%	8,000	0.016	
65%	8,500	0.019	
69%	9,000	0.022	
73%	9,500	0.025	
77%	10,000	0.029	
81%	10,500	0.031	
85%	11,000	0.034	
88%	11,500	0.036	
92%	12,000	0.038	
96%	12,500		
100%	13,000		
0%	0	0.035	



Compression Load Test Result for PLT-13

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in]:	6
Load Cell:	Pancake-type

Test Date and Representative

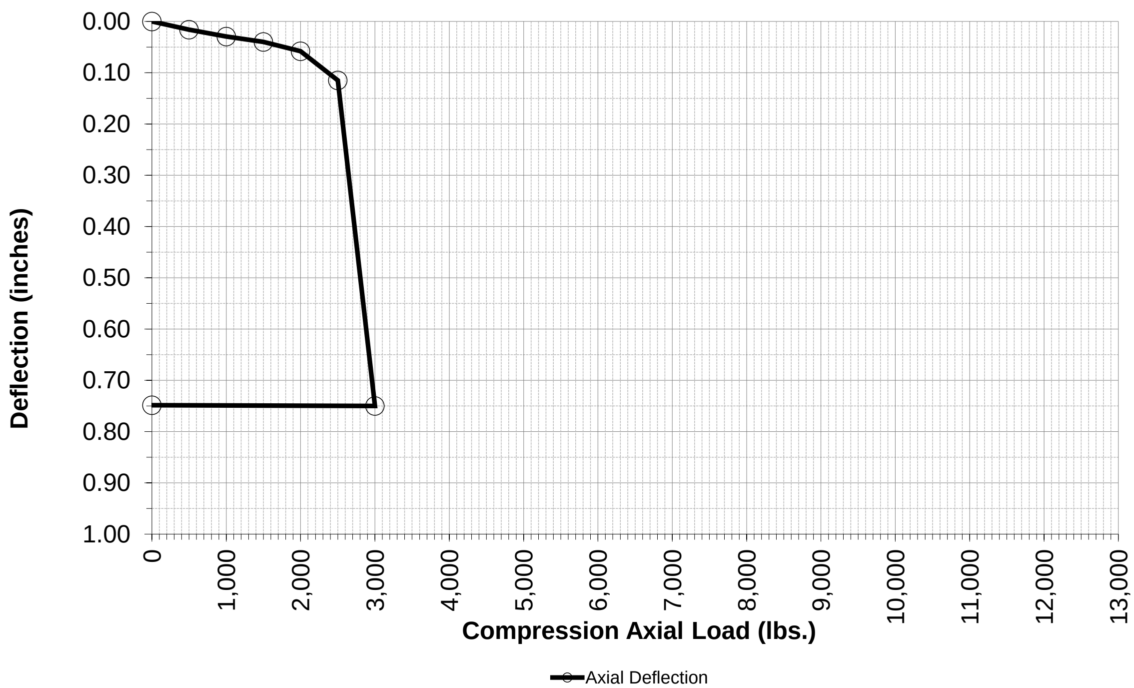
Tested By Terracon Rep:	SL
Date Tested:	8/28/2023

Pile Information

Pile ID:	PLT-13
Latitude [deg.]:	35.30792
Longitude [deg.]:	-106.26119
Pile Type:	W6X9
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	24
Axial Design Load [lbs.]:	13,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	23.3

Compression Test Results

% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
4%	500	0.016	
8%	1,000	0.030	
12%	1,500	0.040	
15%	2,000	0.058	
19%	2,500	0.115	
23%	3,000	0.750	
27%	3,500		
31%	4,000		
35%	4,500		
38%	5,000		
42%	5,500		
46%	6,000		
50%	6,500		
54%	7,000		
58%	7,500		
62%	8,000		
65%	8,500		
69%	9,000		
73%	9,500		
77%	10,000		
81%	10,500		
85%	11,000		
88%	11,500		
92%	12,000		
96%	12,500		
100%	13,000		
0%	0	0.749	



Compression Load Test Result for PLT-14

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in]:	6
Load Cell:	Pancake-type

Test Date and Representative

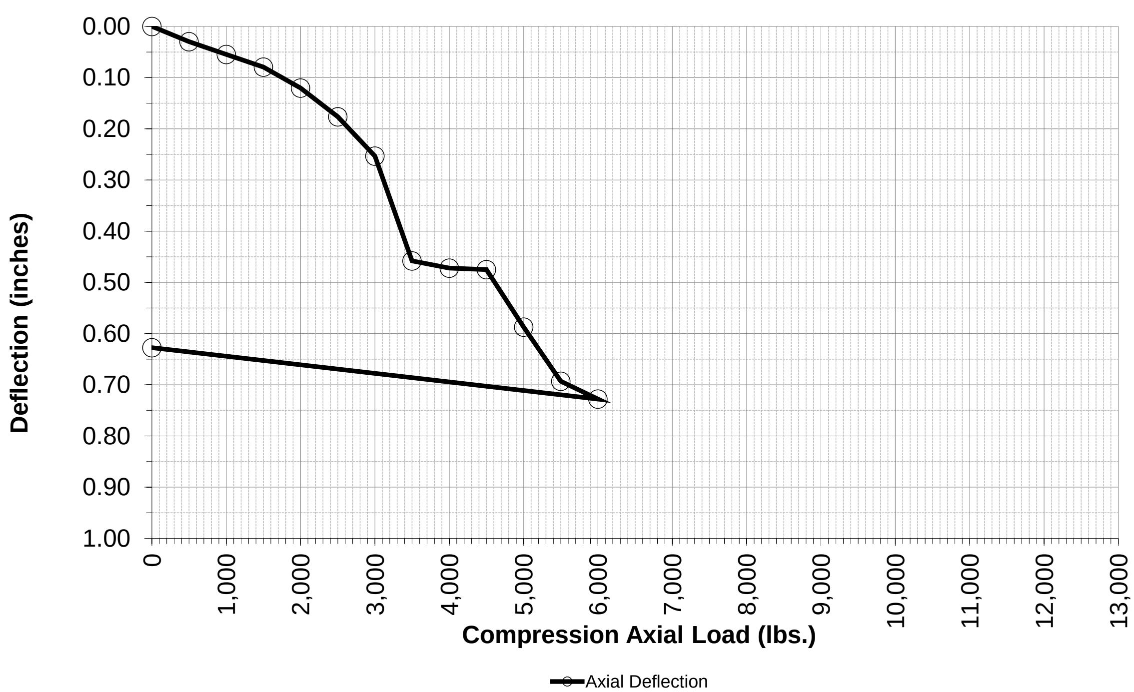
Tested By Terracon Rep:	SL
Date Tested:	8/29/2023

Pile Information

Pile ID:	PLT-14
Latitude [deg.]:	35.31131
Longitude [deg.]:	-106.26821
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	24
Axial Design Load [lbs.]:	13,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	14.3

Compression Test Results

% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
4%	500	0.030	
8%	1,000	0.055	
12%	1,500	0.080	
15%	2,000	0.121	
19%	2,500	0.177	
23%	3,000	0.254	
27%	3,500	0.458	We assume a cobble was pushed out of the way.
31%	4,000	0.472	
35%	4,500	0.475	
38%	5,000	0.588	
42%	5,500	0.693	
46%	6,000	0.728	
50%	6,500		
54%	7,000		
58%	7,500		
62%	8,000		
65%	8,500		
69%	9,000		
73%	9,500		
77%	10,000		
81%	10,500		
85%	11,000		
88%	11,500		
92%	12,000		
96%	12,500		
100%	13,000		
0%	0	0.628	



Compression Load Test Result for PLT-15

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in]:	6
Load Cell:	Pancake-type

Test Date and Representative

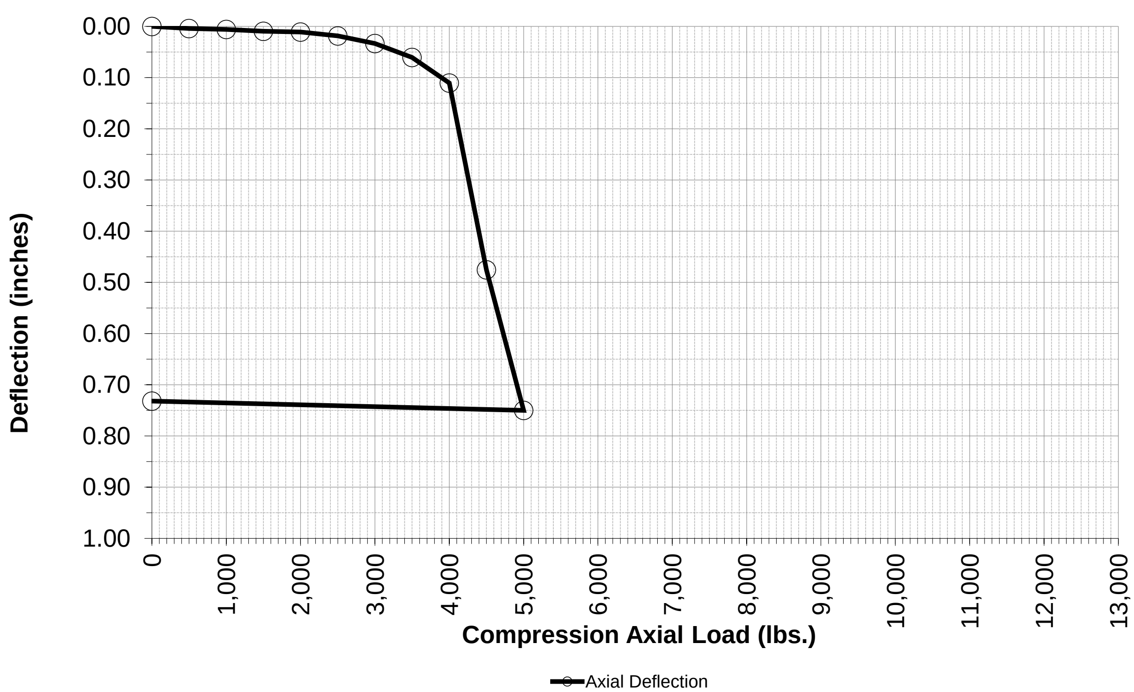
Tested By Terracon Rep:	SL
Date Tested:	8/28/2023

Pile Information

Pile ID:	PLT-15
Latitude [deg.]:	35.31062
Longitude [deg.]:	-106.25474
Pile Type:	W6X10
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	24
Axial Design Load [lbs.]:	13,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	13.6

Compression Test Results

% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
4%	500	0.004	
8%	1,000	0.006	
12%	1,500	0.010	
15%	2,000	0.011	
19%	2,500	0.019	
23%	3,000	0.034	
27%	3,500	0.061	
31%	4,000	0.111	
35%	4,500	0.476	
38%	5,000	0.750	
42%	5,500		
46%	6,000		
50%	6,500		
54%	7,000		
58%	7,500		
62%	8,000		
65%	8,500		
69%	9,000		
73%	9,500		
77%	10,000		
81%	10,500		
85%	11,000		
88%	11,500		
92%	12,000		
96%	12,500		
100%	13,000		
0%	0	0.732	



Compression Load Test Result for PLT-16

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuqueruqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in]:	6
Load Cell:	Pancake-type

Test Date and Representative

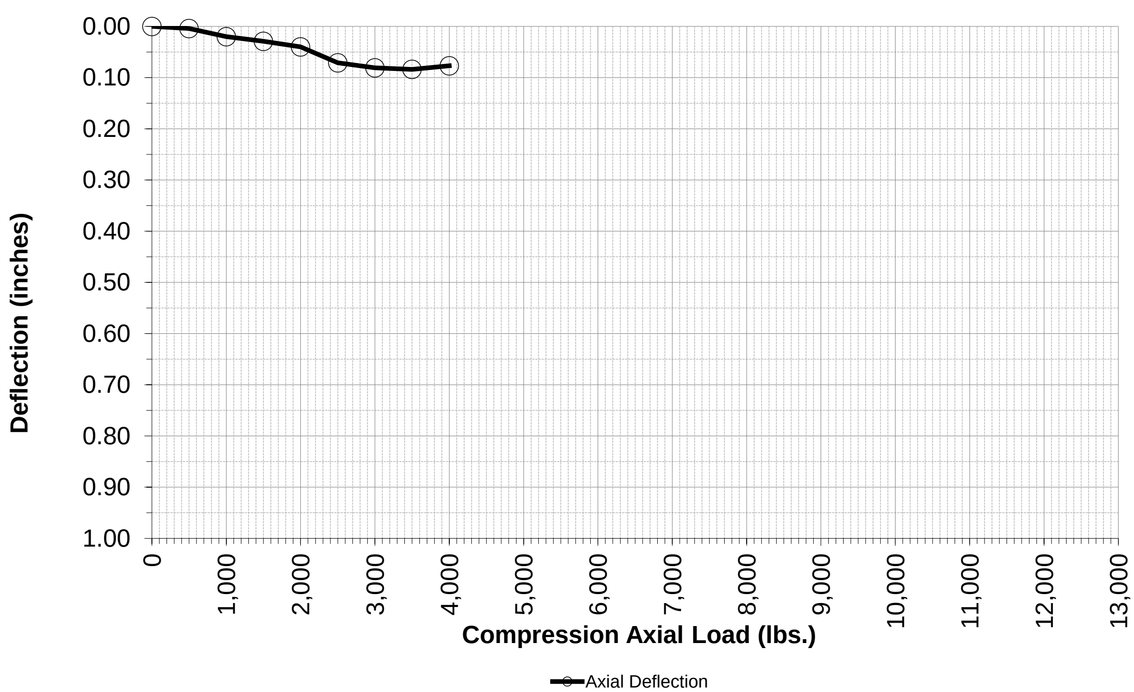
Tested By Terracon Rep:	SL
Date Tested:	8/28/2023

Pile Information

Pile ID:	PLT-16
Latitude [deg.]:	35.31534
Longitude [deg.]:	-106.26043
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	24
Axial Design Load [lbs.]:	13,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	35.7

Compression Test Results

% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
4%	500	0.004	
8%	1,000	0.020	
12%	1,500	0.029	
15%	2,000	0.040	
19%	2,500	0.071	
23%	3,000	0.081	
27%	3,500	0.084	
31%	4,000	0.077	
35%	4,500		
38%	5,000		
42%	5,500		
46%	6,000		
50%	6,500		
54%	7,000		
58%	7,500		
62%	8,000		
65%	8,500		
69%	9,000		
73%	9,500		
77%	10,000		
81%	10,500		
85%	11,000		
88%	11,500		
92%	12,000		
96%	12,500		
100%	13,000		
0%	0		



Compression Load Test Result for PLT-17

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in]:	6
Load Cell:	Pancake-type

Test Date and Representative

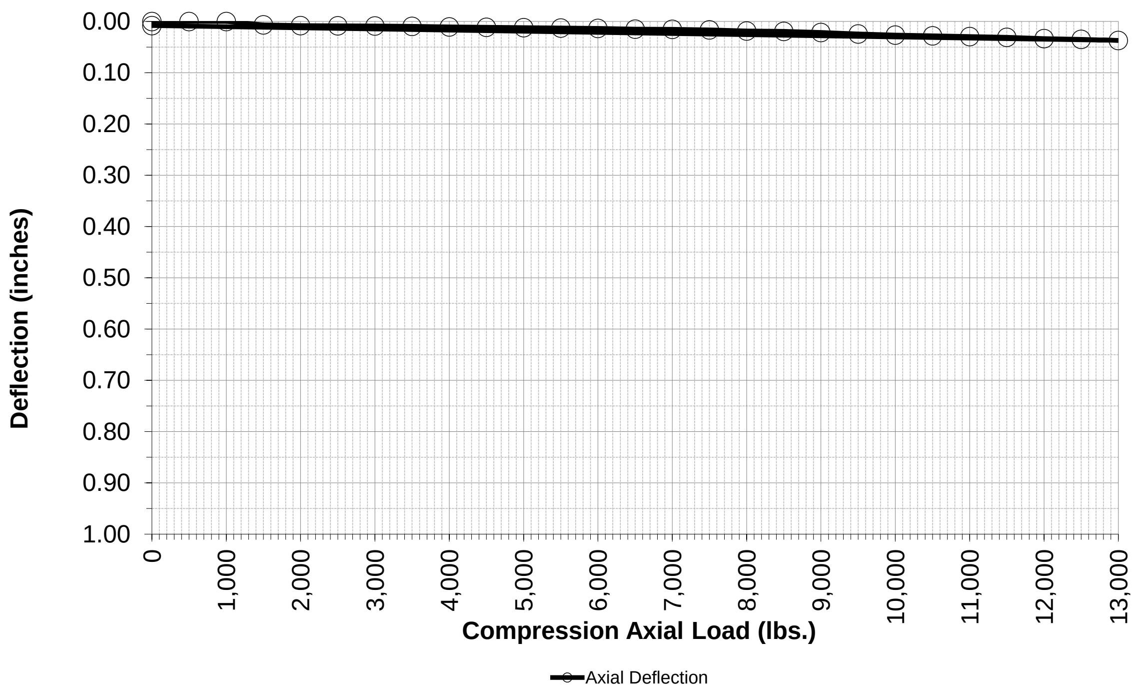
Tested By Terracon Rep:	SL
Date Tested:	8/28/2023

Pile Information

Pile ID:	PLT-17
Latitude [deg.]:	35.31691
Longitude [deg.]:	-106.25204
Pile Type:	W6X10
Pile Embedment Depth [in.]:	96
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	24
Axial Design Load [lbs.]:	13,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	32.9

Compression Test Results

% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
4%	500	0.000	
8%	1,000	0.000	
12%	1,500	0.007	
15%	2,000	0.008	
19%	2,500	0.009	
23%	3,000	0.009	
27%	3,500	0.010	
31%	4,000	0.011	
35%	4,500	0.012	
38%	5,000	0.012	
42%	5,500	0.013	
46%	6,000	0.014	
50%	6,500	0.015	
54%	7,000	0.016	
58%	7,500	0.017	
62%	8,000	0.019	
65%	8,500	0.020	
69%	9,000	0.022	
73%	9,500	0.025	
77%	10,000	0.027	
81%	10,500	0.028	
85%	11,000	0.030	
88%	11,500	0.031	
92%	12,000	0.034	
96%	12,500	0.035	
100%	13,000	0.037	
0%	0	0.008	



Compression Load Test Result for PLT-18

Project Information

Project Name:	Diamond Tail Solar
Project Location:	Albuquerqe, NM
Project Number:	66225144

Axial Load Test Set Up

Number of Gauges:	2
Height of Gauges [in]:	6
Load Cell:	Pancake-type

Test Date and Representative

Tested By Terracon Rep:	SL
Date Tested:	8/29/2023

Pile Information

Pile ID:	PLT-18
Latitude [deg.]:	35.31781
Longitude [deg.]:	-106.26789
Pile Type:	W6X9
Pile Embedment Depth [in.]:	60
Pile Diameter [in.]:	6.5
Pile Stick-Up [in.]:	24
Axial Design Load [lbs.]:	13,000
Pile Area [sq. in.]:	2.68
Elastic Modulus [ksi.]:	29,000
Drive Time [sec.]:	9.6

Compression Test Results

% of Design Load	Axial Load [lbs.]	Deflection Δ (in.) Gauges #1 & #2	Comments
0%	0	0.000	
4%	500	0.000	
8%	1,000	0.017	
12%	1,500	0.025	
15%	2,000	0.038	
19%	2,500	0.062	
23%	3,000	0.103	
27%	3,500	0.313	
31%	4,000	0.848	
35%	4,500		
38%	5,000		
42%	5,500		
46%	6,000		
50%	6,500		
54%	7,000		
58%	7,500		
62%	8,000		
65%	8,500		
69%	9,000		
73%	9,500		
77%	10,000		
81%	10,500		
85%	11,000		
88%	11,500		
92%	12,000		
96%	12,500		
100%	13,000		
0%	0	0.797