Revised Geotechnical Engineering Report

Dolores Canyon Solar Project
County Road M.9
Near Cahone, Colorado
January 15, 2021
Terracon Project No. 61195223

Prepared for:
JSI Construction Group LLC
Boulder, Colorado

Prepared by:
Terracon Consultants, Inc.
Midvale, Utah

January 15, 2021

JSI Construction Group LLC
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Attn: Mr. Greg Bunce
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Re: Revised Geotechnical Engineering Report
Dolores Canyon Solar Project
County Road M.9
Near Cahone, Colorado
Terracon Project No. 61195223

Mr. Bunce:

Terracon Consultants, Inc. (Terracon) has completed the geotechnical engineering services for the project referenced above. This study was performed in general accordance with Terracon Proposal No. P61195223 dated December 12, 2019, and our Work Order No. 03 dated. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations and access roads 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 Consultants, Inc.

Charles V. Molthen, P.E.
Department Manager I

Scott B. Myers, P.E.
Regional Senior Consultant

REPORT TOPICS

Note: This report was originally delivered in a web-based format. For more interactive features, please view your project online at client.terracon.com.

ATTACHMENTS

Note: Refer to each individual Attachment cover page for a listing of contents.

REPORT SUMMARY

A geotechnical engineering exploration has been performed for the proposed Dolores solar project to be located on Country Road M.9 near Near Cahone, Colorado. Based on the information obtained from this subsurface exploration and the laboratory testing completed, the site appears suitable for the proposed construction; however, the following geotechnical conditions will need to be considered:

- Based on the geotechnical engineering analyses, the proposed solar arrays can be constructed on driven H-piles, W-members, C-channels, or pipe pile foundation systems.

- Based on the geotechnical engineering analyses, the proposed electrical equipment may be supported on shallow foundations bottomed on native soils or new engineered fill, provided the owner is willing to accept the associated risk of movement.

- Aggregate-surfaced access drives for post-construction traffic should consist of a minimum of 5 inches of aggregate base course over properly prepared subgrade soils. Compacted native soil access roads for post-construction traffic should consist of a minimum of 12 inches of compacted on-site soils. Aggregate-surfaced roads and compacted native soil roads, regardless of the section thickness or subgrade preparation measures, will require on-going maintenance and repairs to keep them in a serviceable condition.

- Based on the results of the laboratory testing and our experience in the area, the clay soils exhibit a slight expansive potential, while the native sand soils and sandstone bedrock are considered to be essentially non-expansive. Based on our experience, the claystone in the area has low expansive potential.

- Based on the 2015 International Building Code (IBC) Section 1613.3.2 and the subsurface conditions encountered in the borings, the seismic site classification for this site is C, D.

- The amount of movement associated with foundations, slabs-on-grade, etc. will be related to the wetting of the underlying soils. Therefore, it is imperative the recommendations outlined in the **Grading and Drainage** subsection of **Earthwork** be followed to reduce potential movement. Moisture conditioning and/or replacement of the on-site fill materials and/or native soils and bedrock should follow the recommendations outlined in **Earthwork**.

This summary should be used in conjunction with the entire report for design purposes. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein. The section titled **General Comments** should be read for an understanding of the report limitations.

Revised Geotechnical Engineering Report

Dolores Canyon Solar Project
County Road M.9
Near Cahone, Colorado
Terracon Project No. 61195223
January 15, 2021

INTRODUCTION

This report presents the results of our subsurface exploration and geotechnical engineering services performed for the proposed Dolores Canyon solar project to be located on County Road M.9 near Cahone, Colorado.

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

- Subsurface soil and bedrock conditions
- Groundwater levels
- Earthwork
- Grading and drainage
- Foundation design and construction
- Seismic site classification
- Access road design and construction

The original geotechnical engineering Scope of Services for this project included:

- 45 exploratory borings (designated as Boring Nos. 1 through 45) to a depth of about 20 feet below existing site grades
- 25 test pits (designated as Test Pit Nos. TP-1 through TP-25) to depths of about 10 to 15 feet below existing site grades
- 13 field electrical resistivity tests (designated as R1 through R13; Wenner Four-Electrode Method)

Subsequently the follow geotechnical engineering Scope of Services were added for this project:

- 23 exploratory borings (designated as Boring Nos. 1-1 through 6-4) to a depth of about 20 feet below existing site grades
- 9 test pits (designated as Test Pit Nos. TP-1-1 through TP-4-2) to depths of about 10 to 15 feet below existing site grades
- 3 field electrical resistivity tests (designated as FER-1 through FER-3; Wenner Four-Electrode Method)

Plans showing the site and exploration locations are shown in Appendix A – **Site Location and Exploration Plans**. The results of the laboratory testing performed on soil and bedrock samples obtained from the site during the field exploration are included on the boring logs in Appendix B – **Exploration Results** and/or as separate graphs in Appendix C – **Laboratory Test Results**.

SITE CONDITIONS

The following description of site conditions is derived from our site visit in association with the field exploration.

Item	Description
Project Location	The project is to be located on County Road M.9 near Cahone, Colorado. The general location of the proposed project is 37.703473 ° N, 108.751219 ° W.
Existing Improvements	The proposed solar array area is undeveloped and is currently used for agricultural purposes.
Current Ground Cover	Ground cover on the subject site consists of crops and barren land.
Existing Topography	The site grades appear to be rolling, with an elevation difference up to 50 feet between the highest areas of the site and the lowest, near the drainage features.

PROJECT DESCRIPTION

Our initial understanding of the project was provided in our proposal and was discussed during project planning. Our final understanding of the project conditions is as follows:

Item	Description
Information Provided	JSI Construction Group LLC (juwi) provided the following documents and files: ■ CO497 Dolores Canyon Solar SOW 191203.pdf (hereafter referred to as SOW) ■ Dolores Canyon Solar Project Limits.kmz

Item	Description
Project Description	We understand that the approximate 1,780-acre site will be developed as a 60 MWac photovoltaic (PV) solar power facility. The SOW indicates the project will consist of PV modules aligned in arrays and affixed to a single-axis tracking system. The site plan provided by juwi indicates a project substation and storage shed will be constructed on the east side of the site, and site access drives and inverters/transformers will be constructed throughout the site. The site plan also indicates a security fence will be constructed around the perimeter of the site. We assume the solar facility will also include buried power lines. We assume the solar array field grade will follow the existing site grade with minimum grading required to bring the site to finished grade; However, some grading will likely be required to construct access roads. The SOW indicates the PV modules will be attached to a racking system that is planned to be supported on driven steel piles.
Anticipated Foundation Systems	■ Solar Array: Driven piles or helical piles ■ Equipment Pads: Mat foundation
Maximum Loads	Solar Array: ■ Compression loads: 3.5 kips (assumed) ■ Uplift loads: 3 kips (assumed) ■ Shear (lateral) loads: 3.5 kips (assumed) Equipment Pads: ■ Mat foundation: 2,000 pounds per square foot (psf) (assumed)
Grading/Slopes	Less than 3 feet (+/-) max (assumed), though some site access drives may require up to 10 feet (+/-) if they cross the existing drainage features at the site.
Excavation Depth	3 feet (assumed)
Below-Grade Structures	None indicated
Free-Standing Retaining Walls	None indicated
Pavements	We understand that access road cross sections used for construction of the project will be the responsibility of the EPC contractor, and that only post-construction traffic with an allowable rut depth of up to 2 inches is to be analyzed for in this report. We assume low-volume, aggregate-surfaced and native soil access roads experience primarily light pickup truck traffic and vehicles will travel over the access roads only once per week. The aggregate-surfaced access roads will be designed to accommodate a fire truck (about 85,000 lbs).

GEOTECHNICAL CHARACTERIZATION

We have developed a general characterization of the subsurface soil, bedrock, and groundwater conditions based upon our review of the data and our understanding of the geologic setting and planned construction. The following sections provide our geotechnical characterization.

The geotechnical characterization forms the basis of our geotechnical calculations and evaluation of site preparation, foundation options, and pavement options. As noted in **General Comments**, the characterization is based upon widely spaced exploration points across the site, and variations are likely.

Local Geology

Surficial geologic conditions at the site, as mapped by the U.S. Geological Survey (USGS) consist of eolian deposits and Dakota Sandstone and Burro Canyon Formation. These materials, as mapped in this area, consist of wind swept clays and silts underlain by sandstone.

Geologic hazards at the site are anticipated to be low. Seismic activity in the area is anticipated to be low; and from a structural standpoint, the property should be relatively stable. With proper site grading around the proposed structures, erosional problems at the site should be reduced.

The geologic conditions presented in this section were obtained by locating the subject site on available large-scale geologic maps. In addition, the large-scale geologic maps describe only general trends. Local variations are possible and site-specific geology may differ from those described above. A site-specific detailed geologic description is beyond the scope of this project.

Typical Profile

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, laboratory data, geologic setting and our understanding of the project. This characterization, termed GeoModel, forms the basis of our geotechnical calculations and evaluation of site preparation and foundation options. Conditions encountered at each exploration point are indicated on the individual logs. The individual logs can be found in the **Exploration Results** section and the GeoModel can be found in the **Figures** section of this report.

As part of our analyses, we identified the following model layers within the subsurface profile. For a more detailed view of the model layer depths at each boring location, refer to the GeoModel.

Model Layer	Layer Name	General Description
1	**Lean to Fat Clay**	Lean to fat clays with varying amounts of sand
2	**Silt**	Silts with varying amounts of sand
3	**Sands**	Sands with varying amounts of silt and clay
4	**Weathered Bedrock**	Weathered sandstone, claystone, shale, limestone or slate.

Stratification boundaries on the boring logs represent the approximate location of changes in soil and material types; in situ, the transition between materials may be gradual. Further details of the borings can be found on the boring logs in Appendix B – **Exploration Results**.

Laboratory Test Results

Based on the results of the laboratory testing and our experience in the area, the clay soils have nil to slight expansive potential, while the native sand soils and sandstone bedrock are considered to be essentially non-expansive. Based on our experience, the claystone in the area has low expansive potential. A summary of laboratory test results is included in Appendix C – **Laboratory Test Results**.

Corrosion Considerations

The table below lists the results of laboratory soluble sulfate, sulfide, soluble chloride, minimum electrical resistivity, RedOx potential, and pH testing. 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.

Boring	Sample Depth	pH	Sulfates (ppm)	Sulfides (ppm)	Chlorides (ppm)	Red-Ox (mV)	Resistivity As Received (ohm-cm)	Resistivity (Saturated) (ohm-cm)
BH-2	0-2	7.13	133	Nil	27	+687	19,400	2,546
BH-4	5-7	7.49	138	Nil	30	+690	6,499	1,943
BH-6	7.5-9.5	7.88	113	Nil	33	+684	4,171	1,742
BH-8	0-2	7.45	127	Nil	33	+695	2,813	2,613
BH-10	2.5-4.5	7.58	122	Nil	33	+690	1,746	1,072
BH-12	7.5-9.5	7.70	171	Nil	27	+691	3,977	1,876
BH-14	5-7	7.63	107	Nil	38	+690	1,843	1,608
BH-16	2.5-4.5	7.70	37	Nil	63	+687	2,619	1,742
BH-18	2-4	7.98	128	Nil	55	+685	4,171	2,077
BH-20	7.5-9.5	8.26	163	Nil	52	+684	2,813	2,211
BH-22	2.5-4.5	8.11	189	Nil	43	+686	2,910	2,613
BH-24	0-2	7.90	68	Nil	50	+688	3,007	2,613
BH-26	5-6.5	8.37	147	Nil	40	+687	1,940	1,876
BH-29	2.5-4.5	8.01	75	Nil	38	+689	13,580	2,546
BH-30	5-7	8.15	32	Nil	52	+686	5,917	4,355
BH-32	2.5-4.5	8.01	45	Nil	33	+685	8,148	3,350
BH-34	7.5-8.5	8.27	47	Nil	72	+683	17,460	1,809
BH-36	5-7	8.20	54	Nil	27	+688	5,432	3,015
BH-38	2.5-3.5	8.07	195	Nil	58	+683	3,589	2,278
BH-40	5-7	7.64	197	Nil	120	+678	4,268	1,407

Boring	Sample Depth	pH	Sulfates (ppm)	Sulfides (ppm)	Chlorides (ppm)	Red-Ox (mV)	Resistivity As Received (ohm-cm)	Resistivity (Saturated) (ohm-cm)
BH-42	2.5-3.5	8.44	171	Nil	43	+684	8,827	2,881
BH-44	2.5-3.-5	8.16	156	Nil	40	+685	3,298	2,211

Analytical test results for samples collected during the additional mobilization were not available at the time of this draft.

Boring	Sample Depth	Buffer Capacity, ASTM E1910 (milliequivalents of base per gram of product)*reagent: 0.05 N HCl	Neutral Salts, WREP-125, 4th ed. (ds m-1)	Boring	Sample Depth	Buffer Capacity, ASTM E1910 (milliequivalents of base per gram of product)*reagent: 0.05 N HCl	Neutral Salts, WREP-125, 4th ed. (ds m-1)
BH-2	0-2	0.057	2.20E-04	BH-24	0-2	0.060	5.33E-04
BH-4	5-7	0.035	1.70E-04	BH-26	5-6.5	0.060	4.59E-04
BH-6	7.5-9.5	0.070	2.17E-04	BH-29	2.5-4.5	0.040	2.11E-04
BH-8	0-2	0.025	1.01E-04	BH-30	5-7	0.025	5.27E-04
BH-10	2.5-4.5	0.040	1.89E-04	BH-32	2.5-4.5	0.065	4.80E-04
BH-12	7.5-9.5	0.055	2.23E-04	BH-34	7.5-8.5	0.085	4.86E-04
BH-14	5-7	0.035	2.09E-04	BH-36	5-7	0.070	3.06E-04
BH-16	2.5-4.5	0.045	3.51E-04	BH-38	2.5-3.5	0.055	3.99E-04
BH-18	2-4	0.055	3.11E-04	BH-40	5-7	0.060	6.38E-04
BH-20	7.5-9.5	0.045	3.20E-04	BH-42	2.5-3.5	0.045	4.32E-04
BH-22	2.5-4.5	0.045	2.13E-04	BH-44	2.5-3.-5	0.040	7.14E-04

These test results are provided to assist in determining the type and degree of corrosion protection that may be required for buried metal, including pile foundations. We recommend the structural engineer design a suitable corrosion protection system for underground metal structures or components.

Refer to the **Exhibit B - Laboratory Testing** for the complete results of the various corrosivity testing conducted on the site soils in conjunction with this geotechnical exploration.

Laboratory Thermal Resistivity

Various in-situ and bulk samples collected were sent to Geotherm USA for thermal resistivity tests. The testing was performed on specimens remolded to about 80 and 90 percent of the maximum dry unit weight as determined by ASTM D698 (Standard Proctor), and to the approximate in-situ density. In-situ densities were collected utilizing a 3 inch (O.D.) ring sampler. Thermal dry-out curves were generated for each sample from the optimum moisture content down to zero moisture content. Testing was conducted in general accordance with the IEEE standard 442-2017. The results are summarized in the table below and the Geotherm USA report is presented in Appendix C – **Laboratory Test Results**.

Test Pit/Boring No. (Depth, feet)	Compaction Effort (%, ASTM D698)	Dry Density (pcf)	Optimum Moisture Content (%)	Thermal Resistivity (°C-cm/W)	
				Wet [2]	Dry
BH-4 @ 2.5'-3.5'	---[1]	88	10	75	182
BH-11 @ 2.5'-3.5	---[1]	109	17	63	146
BH-15 @ 2.5'-3.5'	---[1]	100	14	73	156
BH-21 @ 5.0'-6.0'	---[1]	108	18	60	145
BH-26 @ 2.5'-3.5'	---[1]	83	11	72	173
BH-33 @ 5.0'-6.0'	---[1]	101	11	77	190
BH-41 @ 5.0'-6.0'	---[1]	111	17	62	141
TP-1 @ 3'-3.5'	80	87	15	105	236
	90	98		87	180
TP-2 @ 3'-3.5'	80	88	16	128	266
TP-4 @ 3'-3.5'	80	88	14	102	237
	90	90		79	182
TP-7 @ 3'-3.5'	80	85	14	115	278
	90	96		94	199
TP-8 @ 3'-3.5'	80	89	15	118	266
TP-10 @ 3'-3.5'	80	85	10	133	285

Test Pit/Boring No. (Depth, feet)	Compaction Effort (%, ASTM D698)	Dry Density (pcf)	Optimum Moisture Content (%)	Thermal Resistivity (ºC-cm/W)	
				Wet [2]	Dry
TP-12 @ 3'-3.5'	80	87	16	119	235
TP-15 @ 3'-3.5'	80	87	14	122	257
	90	98		92	181
TP-18 @ 3'-3.5'	80	90	14	115	244
TP-20 @ 3'-3.5'	80	87	15	121	263
	90	98		93	185
TP-22 @ 1.5'-2'	80	86	15	129	270
TP-24 @ 3'-3.5'	80	89	14	104	249
	90	101		83	177
TP 1-1 @ 3'-3.5'	80	86	18	102	289
TP 1-2 @ 3'-3.5'	90	101	15	70	193
TP 2-1 @ 3'-3.5'	80	89	16	85	242
TP2-2 @ 3'-3.5'	90	97	16	76	208
TP 2-3 @ 3'-3.5'	80	90	15	84	240
TP 3-1 @ 3'-3.5'	80	87	16	88	249
TP 3-2 @ 3'-3.5'	90	95	19	73	195
TP 4-1 @ 3'-3.5'	80	86	17	89	286
TP 4-2 @ 3'-3.5'	90	86	18	72	187
B-1-3 @ 2.5'-4.5'	---[1]	109	13	61	152
B-2-4 @ 2.5'-4.5'	---[1]	104	13	60	148

Test Pit/Boring No. (Depth, feet)	Compaction Effort (%, ASTM D698)	Dry Density (pcf)	Optimum Moisture Content (%)	Thermal Resistivity (ºC-cm/W)	
				Wet [2]	Dry
B-3-2 @ 2.5'-4.5'	---[1]	109	8	95	183
B-4-3 @ 2.5'-4.5'	---[1]	119	12	62	123
B-6-1 @ 7.5'-8.8'	---[1]	108	10	66	130
B-6-2 @ 5.0'-7.0'	---[1]	100	11	74	170
B-6-3 @ 5.0'-7.0'	---[1]	116	15	51	122
B-6-4 @ 5.0'-7.0'	---[1]	112	13	60	150

1. In-situ density and moisture;
2. Sample prepared at optimum moisture content.

Field Electrical Resistivity Testing

Field electrical resistivity tests were performed at 13 locations using a Mini-Res ground resistance meter and the Wenner four-point test method. The field electrical resistivity test locations are shown in Appendix A – **Site Location and Exploration Plans**. The field resistivity survey procedures are discussed in **Exploration and Testing Procedures**. The field resistivity test results are presented in Appendix B – **Exploration Results**.

A qualified corrosion engineer should be consulted to assess the corrosion potential of the subgrade soils with regard to underground utilities and structures.

Groundwater Conditions

Groundwater was not encountered during the time of drilling and test pit excavation. Groundwater level fluctuations occur due to seasonal variations in the amount of rainfall, runoff, and other factors not evident at the time the borings were performed. Groundwater levels during construction or at other times in the life of the structures may be higher or lower than the levels indicated on the boring or test pit logs. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

GEOTECHNICAL OVERVIEW

Based on subsurface conditions encountered in the borings and test pits, the site appears suitable for the proposed construction from a geotechnical point of view provided certain precautions and design and construction recommendations outlined in this report are followed. We have identified geotechnical conditions that could impact design and construction of the proposed improvements.

Shallow Bedrock

Shallow Bedrock: Bedrock was encountered as shallow as approximately 2 to 6 feet. Bedrock may cause practical driving refusal of piles. Installation of utilities using cable plowing techniques may be difficult due to the presence of shallow bedrock. Pre-ripping the proposed cable alignments will most likely be necessary for a large portion of the site. In addition, we anticipate there may be portions of the site where cable plowing may not be feasible. The bedrock appears to be rippable based on auguring resistance, additional geophysical exploration will be needed to confirm rippability of bedrock.

Geotechnical recommendations contained in this report are based upon the results of field and laboratory testing (which are presented in Appendices B and C), engineering analyses, and our current understanding of the proposed project

The **General Comments** section provides an understanding of the report limitations.

EARTHWORK

The following presents recommendations for site preparation, excavation, subgrade preparation, and placement of engineered fills on the project. All earthwork on the project should be observed and evaluated by Terracon.

Site Preparation

Strip and remove existing vegetation, organics, and other deleterious materials from proposed improvement areas and areas to receive fill. All exposed surfaces should be free of mounds and depressions that could prevent uniform compaction. In the proposed solar array field, stripping of topsoil and vegetation may not be necessary if final grades are the same as the existing grades. Keeping existing topsoil and vegetation at the array field could minimize stormwater erosion during construction and maintain overall ground surface stability for the life span of the solar energy center.

Stripped materials consisting of vegetation (topsoil), unsuitable fills, and organic materials should be wasted from the site or used to revegetate landscaped areas or exposed slopes after completion of grading operations.

Where possible, the site should be initially graded to create a relatively level surface to receive fill and to provide for a relatively uniform thickness of fill beneath the proposed improvement areas. All exposed areas that will receive fill, once properly cleared, should be scarified to a minimum depth of 12 inches, conditioned to near optimum moisture content, and compacted as stated below in the **Compaction Requirements** section. It is imperative the moisture content of prepared materials be protected from moisture loss. Refer to the **Access Roadways** section of this report for subgrade preparation recommendations related to aggregate-surfaced roadways and compacted native soil access roads.

Although evidence of underground facilities such as grease pits, septic tanks, and basements was not observed during our exploration, such features could be encountered during construction. If unexpected fills or underground facilities are encountered, such features should be removed, and the excavation should be thoroughly cleaned prior to backfill placement and/or construction.

It is anticipated that excavations into the overburden soils for the proposed construction can be accomplished with conventional earthmoving equipment.

Depending upon seasonal conditions, surface water may infiltrate into the excavations on the site. Water seeping into excavations at this site could most likely be controlled by shallow trenches leading to a sump pit where the water could be removed by pumping.

The stability of subgrade soils may be affected by precipitation, repetitive construction traffic, or other factors. If unstable conditions are encountered or develop during construction, workability may be improved by overexcavation of wet zones and mixing these soils with crushed gravel. Use of geotextiles could also be considered as a stabilization technique. Lightweight excavation equipment may be required to reduce subgrade pumping.

Shrinkage and Bulking

For balancing grading plans, estimated shrink or swell of soils due to the loose or soft existing conditions when used as compacted fill following recommendations in this report are as follows:

Soil Type	Shrinkage or Bulking Factors[1]
Residual Soils	0.75 to 0.85 (Shrinkage)

1. Shrinkage and Bulking Factors are based on Naval Facilities' NAVFAC DM 7.02 Manual, pg. 7.2-53.

Material Types

Fill for this project should consist of engineered fill. Engineered fill is fill that meets the criteria presented in this report and has been properly documented.

Engineered fill should meet the following material property requirements:

Fill Type [1,2]	USCS Classification	Acceptable Location for Placement
Topsoil	N/A	Topsoil may be used in landscaping areas and within the upper 2 feet of areas surrounding photovoltaic racking systems but should not be used below foundations or the access road.
Tilled soils	N/A	Tilled soils are considered suitable for reuse as compacted fill below foundation, slab, and access road areas, and as general fill for this project, provided any organics and other deleterious materials are removed.
On-site clay soils	CL, CH	On-site clay soils are considered suitable for reuse as compacted fill below foundation, slab, and access road areas, and as general fill for this project.
On-site sand soils	SP, SC, SM, SP-SM, SW	On-site sand soils are considered suitable for reuse as compacted fill below foundation, slab, and access road areas and as general fill for this project.
Imported soils	Varies	Imported soils meeting the gradation outlined herein can be considered acceptable for use as engineered fill beneath slabs and pavements.

1. Controlled, compacted fill should consist of approved materials that are free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade. A sample of each material type should be submitted to the geotechnical engineer for evaluation.
2. Care should be taken during the fill placement process to avoid zones of dis-similar fill. Improvements constructed over varying fill types are at a higher risk of differential movement compared to improvements over a uniform fill zone.

Imported soils for engineered fill (if required) should meet the following material property requirements:

Gradation	Percent Finer by Weight (ASTM C136)
3”	100
No. 4 Sieve	50-100
No. 200 Sieve	15-85

- Liquid Limit .... 30 (max)
- Plasticity Index .... 15 (max)
- Maximum Expansive Potential (%) 0.5*

*Measured on a sample compacted to approximately 95 percent of the ASTM D698 maximum dry density at optimum water content. The sample is confined under a 200-psf surcharge and submerged.

Imported non-frost susceptible soils should meet the following material property requirements:

Gradation	Percent Finer by Weight (ASTM C136)
3”	100

Gradation	Percent Finer by Weight (ASTM C136)
No. 4 Sieve	50-100
No. 200 Sieve	6 (max)

- Liquid Limit .... NV
- Plasticity Index .... NP

Compaction Requirements

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.

Item	Description
Fill Lift Thickness	8 inches or less in loose thickness when heavy, self-propelled compaction equipment is used 4 to 6 inches in loose thickness when hand-guided equipment (e.g. jumping jack, plate compactor) is used
Compaction Requirements [1,2]	Minimum of 95% of the material's standard Proctor maximum dry density (ASTM D698) for clay soils and a minimum of 98% of the material's standard Proctor maximum dry density for sand and gravel soils.
Moisture Content of Cohesive Soils (Clay Soils) [3]	+1 to +4% of the optimum moisture content
Moisture Content of Cohesionless Soils (Sand and Gravel Soils)	-2 to +2% of the optimum moisture content

1. We recommend that engineered fill be tested for water content and compaction during placement. Should the results of the in-place density tests indicate the specified water or compaction limits have not been met, the area represented by the test should be reworked and retested as required until the specified water and compaction requirements are achieved.
2. Water levels should be maintained low enough to allow for satisfactory compaction to be achieved without the compacted fill material pumping when proofrolled.
3. Moisture conditioned clay soils should not be allowed to dry out. A loss of moisture within these materials could result in an increase in the materials expansive potential. Subsequent wetting of these materials could result in undesirable movement.

Excavation and Trench Construction

Excavations into the subsurface soils and bedrock will encounter a variety of conditions. The individual contractor(s) is responsible for designing and constructing stable, temporary excavations as required to maintain stability of both the excavation sides and bottom. All excavations should be sloped or shored in the interest of safety following local and federal regulations, including current Occupational Safety and Health Administration (OSHA) excavation and trench safety standards.

Soils and bedrock penetrated by the proposed excavations may vary significantly across the site. The soil and bedrock classifications are based solely on the materials encountered in the exploratory borings. The contractor should verify that similar conditions exist throughout the proposed area of excavation. If different subsurface conditions are encountered at the time of construction, the actual conditions should be evaluated to determine any excavation modifications necessary to maintain safe conditions.

Utility Trenches

Based on the subsurface conditions encountered in the borings and test pits at the site, it is our opinion the utilities can be installed using conventional open-cut trenches or using plow trenching techniques. Depending on the depth of the trenches, plow trenching techniques may be difficult.

Conventional Open-Cut Trenches

Utility trenches are a common source of water infiltration and migration. Utility trenches penetrating beneath equipment pad foundations should be sealed to restrict water intrusion and flow through the trenches below the equipment pad foundations. The trench should include a plug that extends at least 5 feet from the face of equipment pad foundations. The plug material should consist of cementitious flowable fill or low permeability clay. The trench plug material should be placed to surround the utility line. If used, the clay trench plug material should be placed and compacted to comply with the water content and compaction recommendations for moisture-conditioned soils as previously described in this report.

Plow Trenches

Based on the subsurface conditions encountered in the exploratory borings and test pits, it is our opinion cable plowing is a feasible installation method at this site. In addition, we do believe that pre-ripping the proposed cable alignments may be necessary at this site. Plow trenches generally get filled in as the cable or conduit is being installed. In addition, the trenches may get filled in as equipment traverses the plow trench alignment. Soils with a higher percentage of sands and gravels will fill in better than soils with higher percentage of clay size particles. Because the shallow soils at this site are clayey in nature, we recommend the surface of the plow trench be scarified and compacted. In areas where plow trenching is performed, it is possible that depressions may occur over time and may need to be monitored and maintained as necessary.

Grading and Drainage

All grades must be adjusted to provide positive drainage away from the structures during construction and maintained throughout the life of the proposed project. Infiltration of water into utility or foundation excavations must be prevented during construction. Landscaped irrigation adjacent to the foundation systems should be minimized or eliminated. Water permitted to pond near or adjacent to the perimeter of the structures (either during or post-construction) can result in significantly higher soil movements than those discussed in this report. As a result, any estimations of potential movement described in this report cannot be relied upon if positive drainage is not obtained and maintained, and water is allowed to infiltrate the fill and/or subgrade.

Exposed ground should be sloped at a minimum of 10 percent grade for at least 5 feet beyond the perimeter of the structures. Backfill against the structures, if necessary, should be compacted in accordance with recommendations in this report and free of all construction debris to reduce the possibility of water infiltration. After construction and prior to project completion, we recommend that verification of final grading be performed to document that positive drainage, as described above, has been achieved.

Slopes

For permanent slopes in unreinforced compacted fill areas, recommended maximum configurations are as follows:

Item	Maximum Slope (Horizontal : Vertical)
Granular and cohesive soils	3H:1V

Recommendations are for maximum 10-foot high slopes. If steeper or higher slopes are required for site development, stability analyses should be completed to design the grading plan. The face of all slopes should be compacted to the minimum specification for fill embankments. Fill slopes should be overbuilt and trimmed to compacted material.

Earthwork Construction Considerations

Upon completion of grading operations, care should be taken to maintain the moisture content of the subgrade prior to construction of slabs-on-grade, aggregate-surfaced roads, etc. Construction traffic over prepared subgrade should be minimized and avoided to the extent practical. Construction traffic over processed clay subgrade will eventually reduce the moisture content and increase the density of the subgrade. Subsequent wetting of these materials will result in undesirable movement.

The site should also be graded to prevent ponding of surface water on prepared subgrade or in excavations. In areas where water is allowed to pond over a period of time, the affected area should be removed and allowed to dry out; however, allowing the clay soils to dry out below the optimum moisture content is not recommended. If constraints do not allow for moisture conditioning of affected clays as recommended in this report, the affected area should be overexcavated and replaced with engineered fill. As an alternative, geotextiles could also be considered as a stabilization technique.

The geotechnical engineer should be retained during the construction phase of the project to observe earthwork and to perform necessary tests and observations during overexcavation operations, excavations, subgrade preparation; proof-rolling; placement and compaction of controlled compacted fills; backfilling of excavations into the completed subgrade, and just prior to construction of building floor slabs.

FOUNDATIONS

In addition to the solar arrays, associated electrical equipment will be installed as part of the development of the site. The electrical equipment will most likely be supported on shallow spread footing or mat foundations.

Spread Footing Foundation Design Recommendations

Design recommendations for spread footing foundation systems are presented in the following paragraphs.

Description	Value
Overexcavation/Modification Depth	None
Support Stratum	Native soils or engineered fill
Maximum Gross Allowable Bearing Pressure [1]	2,000 psf
Lateral Earth Pressure Coefficients [2]	Lean to fat clay: Active, K_a = 0.47 Passive, K_p = 2.1 At-rest, K_o = 0.64
Coefficient of Sliding [2]	Lean to fat clay: μ = 0.3
Moist Soil Unit Weight	Lean to fat clay: γ = 120 pcf
Minimum Embedment Below Finished Grade for Frost Protection [3]	36 inches
Estimated Total Movement	About 1 inch
Estimated Differential Movement [4]	About ½ to ¾ of total movement

1. The recommended maximum allowable bearing pressure assumes any unsuitable fill or soft soils, if encountered, will be over-excavated and replaced with properly compacted engineered fill. The design bearing pressure applies to a dead load plus design live load condition. The design bearing pressure may be increased by one-third when considering total loads that include wind or seismic conditions.
2. The lateral earth pressure coefficients and sliding coefficients are ultimate values and do not include a factor of safety. The foundation designer should include the appropriate factors of safety.

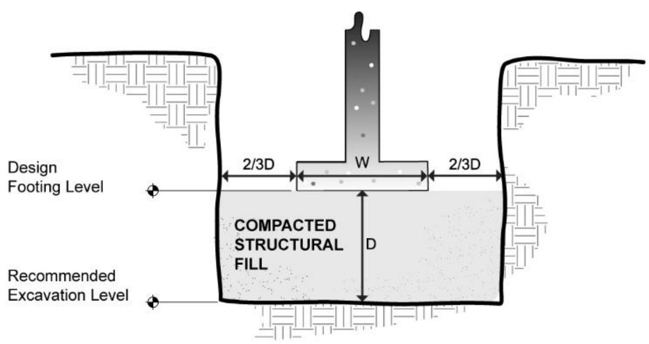
Description	Value

3. For perimeter footings, footings beneath unheated areas, and footings that will be exposed to freezing conditions during construction. Interior footings may bottom at a minimum depth of 12 inches below finished grade in heated areas.
4. 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 engineered fill, and the quality of the earthwork operations and footing construction.
5. Differential settlement is considered over a distance of about 40 feet.

Additional foundation movements could occur if water from any source infiltrates the foundation soils; therefore, proper drainage should be provided in the final design and during construction and throughout the life of the structure. Failure to maintain the proper drainage as recommended in the **Grading and Drainage** subsection of **Earthwork** will nullify the movement estimates provided above.

Unstable subgrade conditions should be observed by the geotechnical engineer to assess the subgrade and provide suitable alternatives for stabilization. Stabilized areas should be proofrolled prior to continuing construction to assess the stability of the subgrade.

Overexcavation of unsuitable soil (if encountered) below foundations should extend laterally beyond all edges of the footings at least 8 inches per foot of overexcavation depth below footing base elevation. The overexcavation should then be backfilled up to the footing base elevation in accordance with the procedures outlined in the **Earthwork** section of this report. The overexcavation and backfill procedure is described in the following figure.



Overexcavation / Backfill

NOTE: Excavations in sketches shown vertical for convenience. Excavations should be sloped as necessary for safety.

The base of all foundation excavations should be free of water and loose soil prior to concrete placement. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Should the soils at bearing level become excessively dry, disturbed or saturated, or frozen, the affected soil should be removed prior to placing concrete.

Reinforced Mat Foundation Design Recommendations

Proposed electrical equipment may be constructed on a minimum of 12 inches of non-frost susceptible soils. Additional design considerations are presented in the table below:

Description	Value
Supporting Stratum	Minimum of 12 inches of non-frost susceptible soils placed in accordance with the **Earthwork** section of this report.
Maximum Allowable Gross Bearing Pressure [1]	2,000 psf
Lateral Earth Pressure Coefficients [2]	Lean to fat clay: Active, K_a = 0.47 Passive, K_p = 2.1 At-rest, K_o = 0.64 Granular soil: Active, K_a = 0.33 Passive, K_p = 3.0 At-rest, K_o = 0.50
Coefficient of Sliding [2]	Granular soil: μ = 0.4
Moist Soil Unit Weight	Lean clay: γ = 120 pcf Granular soil: γ = 150 pcf
Estimated Total Movement	About 1 inch
Estimated Differential Movement	About ½ to ¾ of total movement

1. The recommended maximum allowable gross bearing pressure assumes any unsuitable fill or soft soils, if encountered, will be over-excavated and replaced with properly compacted engineered fill. The design bearing pressure applies to a dead load plus design live load condition. The design bearing pressure may be increased by one-third when considering total loads that include wind or seismic conditions.
2. The lateral earth pressure coefficients and sliding coefficients are ultimate values and do not include a factor of safety. The foundation designer should include the appropriate factors of safety.

Driven Pile Design Preliminary Design Recommendations

The proposed solar photovoltaic panels may be supported on a driven pile foundation system. The design capacity of a single-driven pile is a function of several factors including:

- Size and type of pile.
- Engineering properties of the subsurface soils.

For the purpose of this report we have assumed that piles will consist of light weight W-section (W6x9).

Due to the wide spacing of soil borings and pile load test sites, variations may occur across the site that may affect pile capacity

The ultimate axial capacity of the straight sided pile in compression can be determined by the following equation:

$$Q_u = Q_s + Q_p = fA_s + qA_p$$

where:
Q_u = ultimate axial capacity in compression (lb)
Q_s = ultimate skin-friction resistance (lb)
Q_p = ultimate end bearing (lb)
f = ultimate unit load transfer in skin friction (lb/ft^2)
q = ultimate unit load transfer in end bearing (lb/ft^2)
A_s = side surface area of the pile (ft^2)
A_p = gross end area of the pile (ft^2)

The end bearing component of the above equation is neglected when computing the ultimate axial capacity in tension (tension or uplift). The allowable axial capacities of the pile in compression and tension are determined by dividing each ultimate axial capacity by a factor-of-safety (FOS). The FOS used for allowable end bearing, (based on recommended FOS values equations used) was 3.0, and for allowable skin friction (both compression and tension) was 2.0.

The allowable unit skin friction and end bearing determined using the soil strengths based on our field and laboratory

Axial Capacities: Deep Bedrock

Top - Bottom Depth	Unit Weight (pcf)	USCS Soil Type	Allowable Unit End Bearing (psf)	Allowable Unit Skin Friction (psf) (Compression)	Allowable Unit Skin Friction (psf) (Tension)
0 – 3	120	CL	--[1]	--[1]	--[1]
3 –14	120	CL	6,000	173	138
14 – 20	135	---[2]	12,050	198	158

1. Upper 3.0 feet should be neglected in axial analysis;
2. Soil type is bedrock

Axial Capacities: Shallow Bedrock

Top - Bottom Depth	Unit Weight (pcf)	USCS Soil Type	Allowable Unit End Bearing (psf)	Allowable Unit Skin Friction (psf) (Compression)	Allowable Unit Skin Friction (psf) (Tension)
0 – 3	120	CL	--[1]	--[1]	--[1]
3 – 5	120	CL	6,000	173	138
5 – 20	135	---[2]	12,050	198	158

1. Upper 3.0 feet should be neglected in axial analysis;
2. Soil type is bedrock

Axial and uplift pile capacities may be increased by one-third when considering wind and/or earthquake loading. If the pile type varies from what we have assumed, Terracon should be notified so that pile capacities may be reviewed and changed if necessary.

Pile spacing is assumed to be greater than 3 times of the diameter of the pile used, therefore a reduction in axial and uplift capacity for pile groups is not required.

Driven Pile Lateral Loading

For lateral load and overturning design, we have included beam on elastic foundation spring constants, lateral equivalent earth pressures, and more commonly used LPILE© parameters. For calculation of lateral deflection using the beam on elastic foundation method, a coefficient of subgrade reaction listed on the table may be used for the analysis. Lateral load design parameters are valid for maximum soil strain of 1 percent for the native soils acting over a distance of one pile diameter. The passive pressure, coefficient of horizontal subgrade reaction, and LPILE© parameters are ultimate values; therefore, appropriate factors of safety should be applied in the pier design.

Recommended soil parameters for lateral load analysis of driven pile foundations have been developed for use in LPILE© computer programs and are presented in the following table.

Lateral Parameters: Deep Bedrock

Depth Interval (ft)	Soil	Soil Properties				
		Unit Weight[1] (pcf)	Internal Friction Angle (ø)	Cohesion[1] (psf)	K[1] (pci)	Static[1] ε_{50}
0 – 3	Stiff Clay w/o Free Water	120	---	2,000	350	0.005
3 -14	Stiff Clay w/o Free Water	120	---	2,000	500	0.005
14 – 20	Bedrock	135	---	4,000	2000	0.004

1. Based on laboratory testing and correlations within AllPile 7.10c.

Lateral Parameters: Shallow Bedrock

Depth Interval (ft)	Soil	Soil Properties				
		Unit Weight[1] (pcf)	Internal Friction Angle (ø)	Cohesion[1] (psf)	K[1] (pci)	Static[1] ε_{50}
0 – 3	Stiff Clay w/o Free Water	120	---	2,000	350	0.005

Depth Interval (ft)	Soil	Soil Properties				
		Unit Weight[1] (pcf)	Internal Friction Angle (ø)	Cohesion[1] (psf)	K[1] (pci)	Static[1] ε_{50}
3 – 5	Stiff Clay w/o Free Water	120	---	2,000	500	0.005
5 – 20	Bedrock	135	---	4,000	2000	0.004

2. Based on laboratory testing and correlations within AllPile 7.10c.

Pile spacing is assumed to be greater than 5 times of the diameter of the pile used, therefore a reduction in lateral capacity for pile groups is not required.

Terracon can complete a lateral load analysis for the selected pile type once pile loads have been provided.

Driven Pile Construction Considerations

Driving light W-pile sections into the occasional very dense/hard soils may be difficult and could result in driving refusal above estimated tip depth at some locations, and/or overstressing the pile. Pneumatic/vibratory hammering, predrilling or other driving techniques may be required. Terracon can complete a drivability analysis once the pile size and driving system (hammer and cushion) information is determined.

In order to limit delays during construction and to confirm that the correct pile size and driving system is selected, a drivability analysis should be completed, as well as driving a selection of test piles across the site prior to construction to verify the piles are able to be driven. If the piles are unable to be driven, our office shall be contacted to provide alternative recommendations such as predrilling, or using a different pile or driving system.

Care should be taken to contract with an experienced contractor that is able to match appropriate pile driving equipment with selected piles and soil conditions. The pile driving contractor should review our test boring logs and plan his work and equipment accordingly. Our office would also be available to consult with the pile driving contractor.

Drilled Shaft Design Recommendations

Reinforced concrete drilled shafts may be used to support the planned substation line structures. Consideration was given to 6-foot diameter drilled shafts for support of the planned structures. This report provides geotechnical recommendations regarding axial load capacity of drilled shaft foundations. We understand that others will evaluate lateral capacity of drilled shafts and will incorporate the soil parameters provided in this report into their design.

Drilled Shaft Axial and Lateral Capacity Parameters

Drilled pier axial capacity parameters for tip and skin were estimated based on correlations with field penetration blow counts and correlations between encountered onsite soil. The following tables summarize soil parameters for use in axial capacity analysis for drilled shafts at this site. Allowable unit capacity parameters include a Factor of Safety of 2.5. The depth intervals presented are based on material behavior and measured or estimated soil parameters and may vary from the generalized soil profiles presented in the GeoModel (which is based on soil stratigraphy).

Axial Capacities: Deep Bedrock

Top - Bottom Depth	Unit Weight (pcf)	USCS Soil Type	Allowable Unit End Bearing (psf)	Allowable Unit Skin Friction (psf) (Compression)	Allowable Unit Skin Friction (psf) (Tension)
0 – 3	120	CL	--[1]	--[1]	--[1]
3 –14	120	CL	5,800	430	430
14 – 20	135	---[2]	13,600	1,270	1,270

1. Upper 3.0 feet should be neglected in axial analysis;
2. Soil type is bedrock

Axial Capacities: Shallow Bedrock

Top - Bottom Depth	Unit Weight (pcf)	USCS Soil Type	Allowable Unit End Bearing (psf)	Allowable Unit Skin Friction (psf) (Compression)	Allowable Unit Skin Friction (psf) (Tension)
0 – 3	120	CL	--[1]	--[1]	--[1]
3 – 5	120	CL	5,800	430	430
5 – 20	135	---[2]	13,600	1,270	1,2700

1. Upper 3.0 feet should be neglected in axial analysis;
2. Soil type is bedrock

Drilled Shaft Lateral Considerations

Refer to **Driven Pile Lateral Loading** for lateral parameters.

Drilled Shaft Construction Considerations

To prevent sloughing of surface soils into drilled shaft excavations we recommend temporary casing should be used. Following completion of the excavation and prior to installing reinforcement or concrete the bottom of the pier must be observed or tested to verify that all loose material has been removed. Dense to very dense soil conditions and the presence of cobbles and cemented zones was encountered at the site. Specialty excavation equipment may be required to advance excavations. The contractor should review the conditions encountered and reported on the boring logs and in this report and provide appropriate equipment to excavate the shafts to the design depths at this site.

Temporary casing should remain in place until reinforcing steel and concrete has been placed. The casing should be pulled as the concrete is placed to provide final contact between the soil and the concrete.

Concrete may be allowed to free fall provided 1) there is no water in the excavation and 2) the concrete stream is controlled to not impact the steel reinforcement or sides of the excavation. An uninterrupted supply and placement of concrete should be performed to produce a monolithic pier.

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/rock and groundwater conditions encountered, consistency with expected conditions, and details of the installed shaft.

SEISMIC CONSIDERATIONS

Based on our subsurface exploration and laboratory testing, it is our opinion that the soils have a low risk of liquefaction. The following table presents the seismic site classification based on the 2015 International Building Code (IBC) and the subsurface conditions encountered within the borings:

Code Used	Site Classification
2015 International Building Code (IBC) [1,2]	D, C

1. In general accordance with the 2015 International Building Code, Section 1613.3.2.
2. The 2015 International Building Code (IBC) requires a site subsurface profile determination extending a depth of 100 feet for seismic site classification. The current scope requested does not include the required 100-foot subsurface profile determination. The deepest borings of this exploration extended to a maximum

depth of about 20 feet and this seismic site class definition considers that similar subsurface conditions exist below the maximum depth of the subsurface exploration.

ACCESS ROADWAYS

We understand that access road cross sections used for construction of the project will be the responsibility of the EPC contractor, and that only post-construction traffic with an allowable rut depth of up to 2 inches is what we are to design for in this report. We assume low-volume, aggregate-surfaced and native soil access roads experience primarily light pickup truck traffic travelling over the access roads only once per week. The aggregate-surfaced roads will be designed to accommodate a fire truck (about 85,000 lbs). The following sections present our design recommendations for aggregate-surfaced roads and compacted native soil access roads at the project site.

Aggregate-Surfaced Roadway Design Recommendations

The pavement sections presented below for the aggregate surface access roads were determined in general accordance with the “Aggregate-Surfaced Road Design Catalog” subsection of the 1993 AASHTO “Guide for the Design of Pavement Structures” and based on subsurface conditions encountered and laboratory test results. Five CBR tests have been completed and are summarized below.

Sample	USCS Classification	CBR Test Result, %
TP-2 @ 0-4 ft.	Lean Clay with Sand	4.2
TP-8 @ 0-4 ft.	Lean Clay	3.2
TB-10 @ 0-4 ft.	Lean Clay with Sand	3.6
TB-18 @ 0-4 ft.	Lean Clay with Sand	4.0
TB-22 @ 0-4 ft.	Sandy Lean Clay	8.3

We have assumed an allowable 18-kip equivalent single-axle load (ESALs) of 2,000. Based on Figure 4.3, Design Chart for Aggregate-Surfaced Roads Considering Allowable Rutting, 1993 Guide for Design of Pavement Structures by AASHTO, an estimated resilient modulus (M_R) of 5,000 psi and an elastic modulus of the aggregate base course of 30,000 psi, the following minimum aggregate base course thicknesses could be implemented:

Allowable Rut Depth	Aggregate Base Course Thickness (inches)
2 inches	5 inches
1-1/2 inches	6 inches
1 inch	9 inches

Prior to aggregate placement, we recommend the native subgrade soils be scarified, moisture conditioned and compacted to a minimum depth of 6 inches, prior to placing the aggregate base.

We recommend the use of aggregate base course meeting Colorado Department of Transportation (CDOT) Class 5 or Class 6 specifications. Ongoing maintenance will also be required should the access roads be constructed prior to the finished construction of the solar array.

The aggregate surface materials and native subgrade soils beneath roadways should be compacted in accordance with the recommendations in the **Earthwork** section of this report. The surface course should be compacted at a moisture content not more than 2 percent above the optimum moisture content as determined by the standard Proctor (ASTM D698).

If subgrade soils become unstable, we recommend removing the soft or yielding soils and replace the material with approved on-site soils or imported fill. As an alternative, consideration can be given to placing geotextile and additional base course on top of the unstable area. We estimate 12 to 24 inches of base course may be required to stabilize the roadway in isolated areas or low areas that are susceptible to holding water.

Compacted Native Soil Access Road Design Recommendations

Based upon the soil conditions encountered in the exploratory borings, the use of on-site soils for construction of onsite roads is considered acceptable. Without the use of asphalt concrete or other hardened material to surface the roadways, there is an increased potential for erosion of the roadway to occur.

If the compacted native soil access roads (un-surfaced roads) are anticipated to be used routinely during wet seasons or when the upper soils are in saturated conditions, the un-surfaced roads will experience wheel path rutting and depression, and may require increased maintenance.

Construction of the un-surfaced roadways should consist of a minimum of 12 inches of compacted on-site soils. In the event the proposed roadways are higher in elevation than the existing grades, the upper 12 inches of subgrade soils at existing grade should be scarified, moisture conditioned, and compacted to grade in accordance with the recommendations in the **Earthwork** section of this report.

Positive drainage should be provided during construction and maintained throughout the life of the roadways. Proposed un-surfaced roadways design should be graded to eliminate ponding. The un-surfaced roads are expected to function satisfactorily with periodic maintenance.

Pavement and Roadway Design and Construction Considerations

On most project sites, the site grading is accomplished relatively early in the construction phase. Fills are typically placed and compacted in a uniform manner. However, as construction proceeds, the subgrade may be disturbed due to utility excavations, construction traffic, desiccation, or rainfall/snow melt. As a result, the roadway subgrade may not be suitable for construction and corrective action will be required. The subgrade should be carefully evaluated at the time of construction for signs of disturbance or instability. We recommend the subgrade be thoroughly proofrolled with a loaded tandem-axle dump truck prior to final grading. Access roadway areas should be moisture conditioned and properly compacted in accordance with the recommendations in the **Earthwork** section of this report immediately prior to placement of the surfacing materials.

We emphasize that aggregated-surfaced or compacted native soil roadways, regardless of the section thickness or subgrade preparation measures, will require on-going maintenance and repairs to keep them 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.

We recommend an implementation of a site inspection program at a frequency of at least once per year to verify the adequacy of the roadways. Preventative measures should be applied as needed for erosion control and regrading. An initial site inspection should be completed approximately three months following construction.

When potholes, ruts, depressions, or yielding subgrades develop, they must be addressed as soon as possible in order to avoid major repairs. The roadways should be carefully reevaluated at the time of the use by heavy equipment or critical component delivery for signs of disturbance or excessive rutting. Roadway reevaluation should include proofrolling immediately prior to use by heavy or critical equipment, particularly after a rainfall event. If disturbance and/or excessive wetting have occurred, roadway areas should be reworked, moisture conditioned (if necessary), and properly compacted as indicated in this report.

Loss of surfacing materials from dust can be significant and may result in a roadway surface course that is several inches thinner within a few years. The reduced thickness will result in loss of strength and poor drainage. The use of a dust palliative such as magnesium chloride can reduce the rate of deterioration of the roadway surface and associated dust, especially when used with an aggregate surfacing material containing 8 to 12 percent fines. The typical application rate is about 0.3 gallons per square yard, although the rate may need to be increased to 0.5 to

0.6 gallons per square yard to accommodate the heavy traffic associated with the site. The treatment should be applied when the surfacing material is in a damp condition.

Positive surface drainage of the roadway and subgrade should be provided and maintained during the life of the project. The clay subgrade of the roadway should be crowned and sloped at 2 percent to provide surface water drainage at all times. Water should not be allowed to remain within the roadway section and subgrade soils. In addition, the subgrade soils should be prepared in accordance with the **Earthwork** section of this report. The following recommendations should be considered at minimum:

- Shoulders adjacent to pavements should slope at 5 to 10 percent away from the roadways
- The subgrade surfaces have a minimum ¼ inch per foot (2 percent) slope to promote proper surface drainage
- Consider appropriate edge drainage and ditches/culverts
- The roadway clay subgrade should be slightly above surrounding grades to promote positive drainage. Aggregate base course should not be placed in a "trough" condition within the roadway section that is prone to holding water.

Preventative maintenance should be planned and provided for through an on-going pavement management program to enhance future pavement performance. Preventative maintenance activities are intended to slow the rate of pavement deterioration, and to preserve the pavement investment.

Base course or surfacing materials should not be placed when the surface is wet. Surface drainage should be provided away from the edge of roadways to reduce lateral moisture transmission into the subgrade.

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. Natural 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 services should be undertaken.

Our services and any correspondence or collaboration through this system 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.

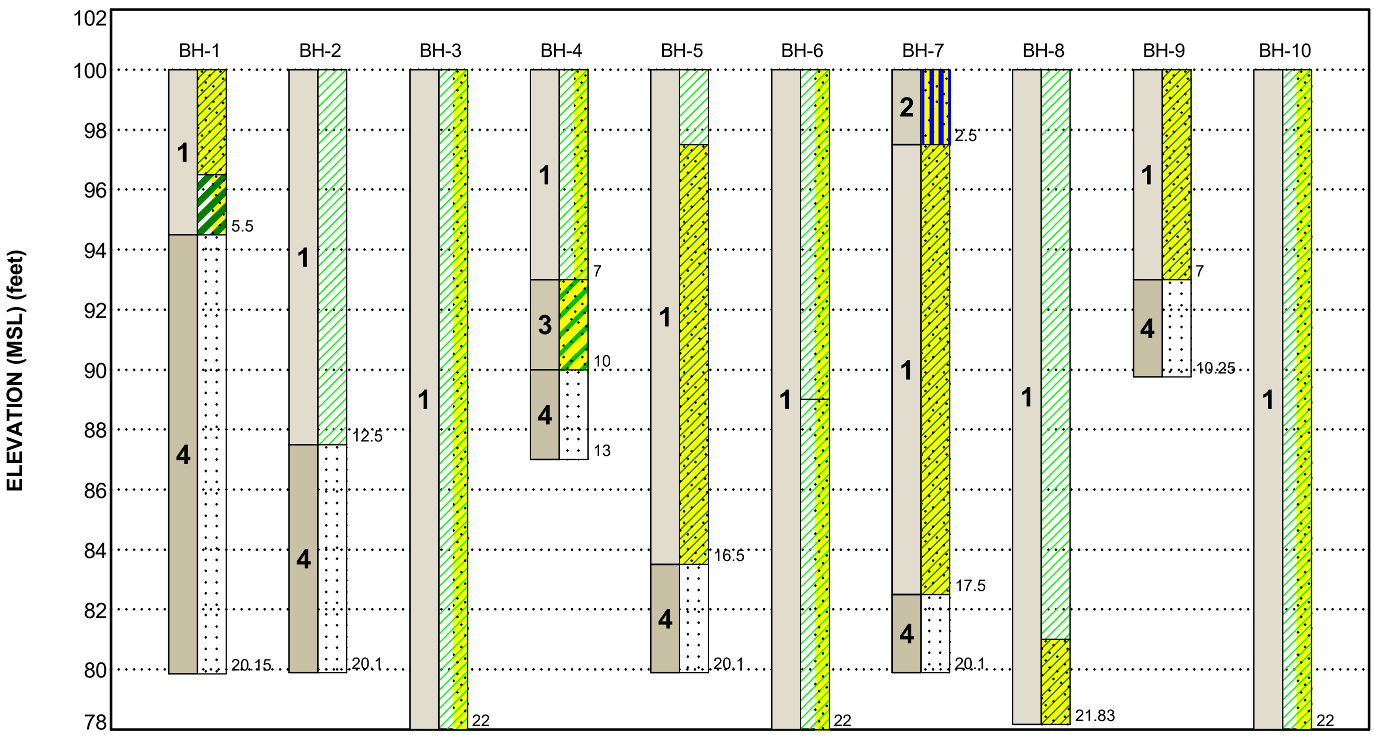
Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly impact excavation 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. 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.

FIGURES

Contents:

GEOMODEL

JSI - Dolores Canyon Solar Project ■ Cahone, CO
Terracon Project No. 61195223



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	**Lean to Fat Clay**	Lean to fat clays with varying amounts of sand
2	**Silt**	Silts with varying amounts of sand
3	**Sands**	Sands with varying amounts of silt and clay
4	**Weathered Bedrock**	Weathered sandstone, claystone, shale, limestone or slate.

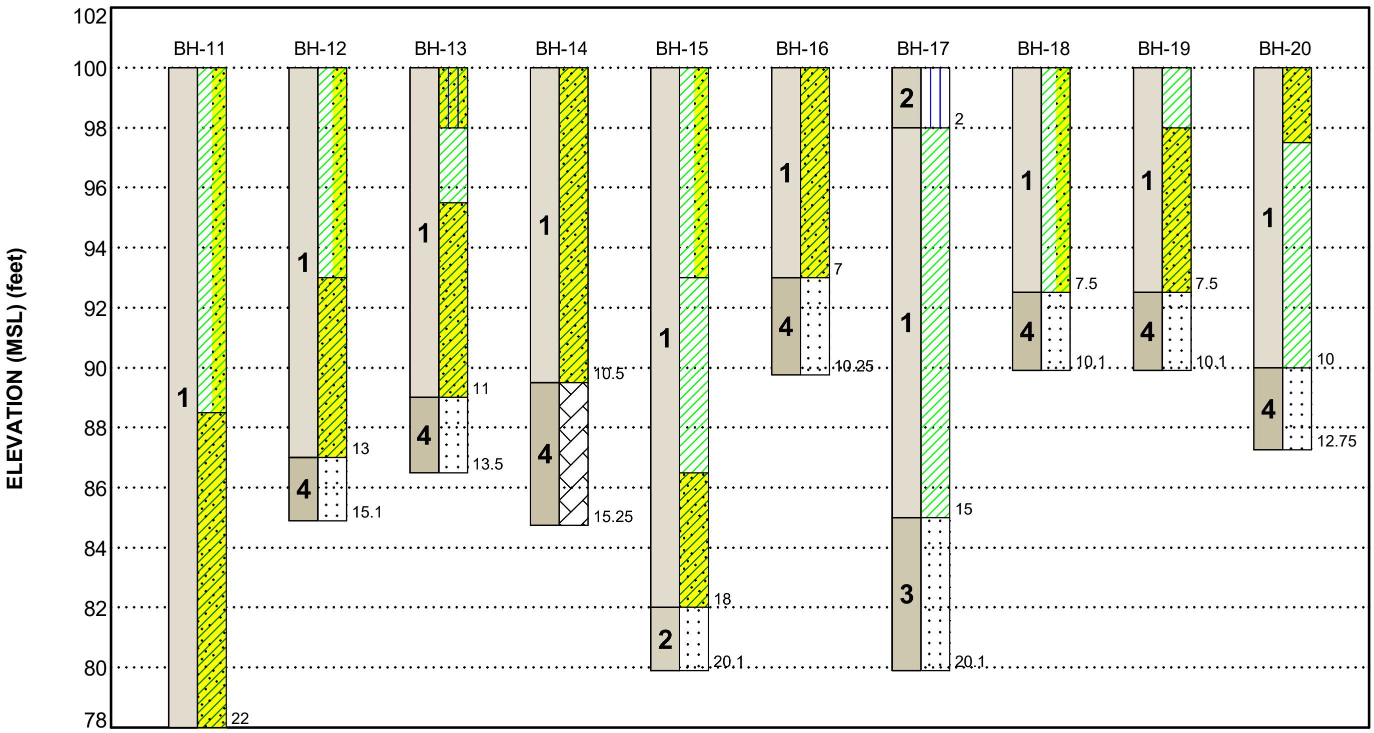
LEGEND

- Sandy Lean Clay
- Fat Clay with Sand
- Sandstone
- Lean Clay
- Lean Clay with Sand
- Clayey Sand
- Sandy Silt

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project.
Numbers adjacent to soil column indicate depth below ground surface.

GEOMODEL

JSI - Dolores Canyon Solar Project ■ Cahone, CO
Terracon Project No. 61195223



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	Lean to Fat Clay	Lean to fat clays with varying amounts of sand
2	Silt	Silts with varying amounts of sand
3	Sands	Sands with varying amounts of silt and clay
4	Weathered Bedrock	Weathered sandstone, claystone, shale, limestone or slate.

LEGEND

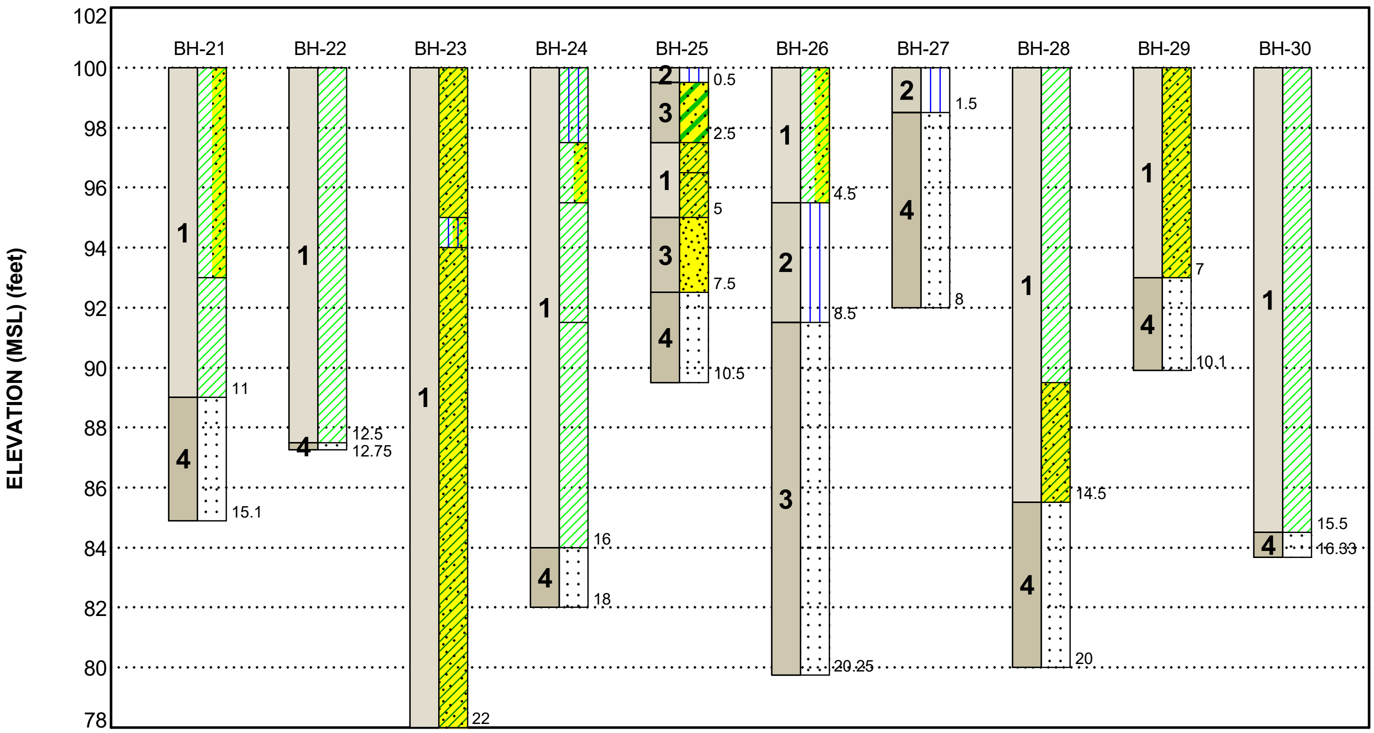
- Lean Clay with Sand
- Sandy Silty Clay
- Silt
- Sandy Lean Clay
- Lean Clay
- Sandstone
- Claystone

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project.
Numbers adjacent to soil column indicate depth below ground surface.

GEOMODEL

JSI - Dolores Canyon Solar Project ■ Cahone, CO
Terracon Project No. 61195223

Terracon GeoReport



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Model Layer	Layer Name	General Description
1	Lean to Fat Clay	Lean to fat clays with varying amounts of sand
2	Silt	Silts with varying amounts of sand
3	Sands	Sands with varying amounts of silt and clay
4	Weathered Bedrock	Weathered sandstone, claystone, shale, limestone or slate.

LEGEND

- Lean Clay with Sand
- Lean Clay
- Sandstone
- Sandy Lean Clay
- Silty Clay with Sand
- Silty Clay
- Silt
- Clayey Sand
- Poorly-graded Sand

NOTES:
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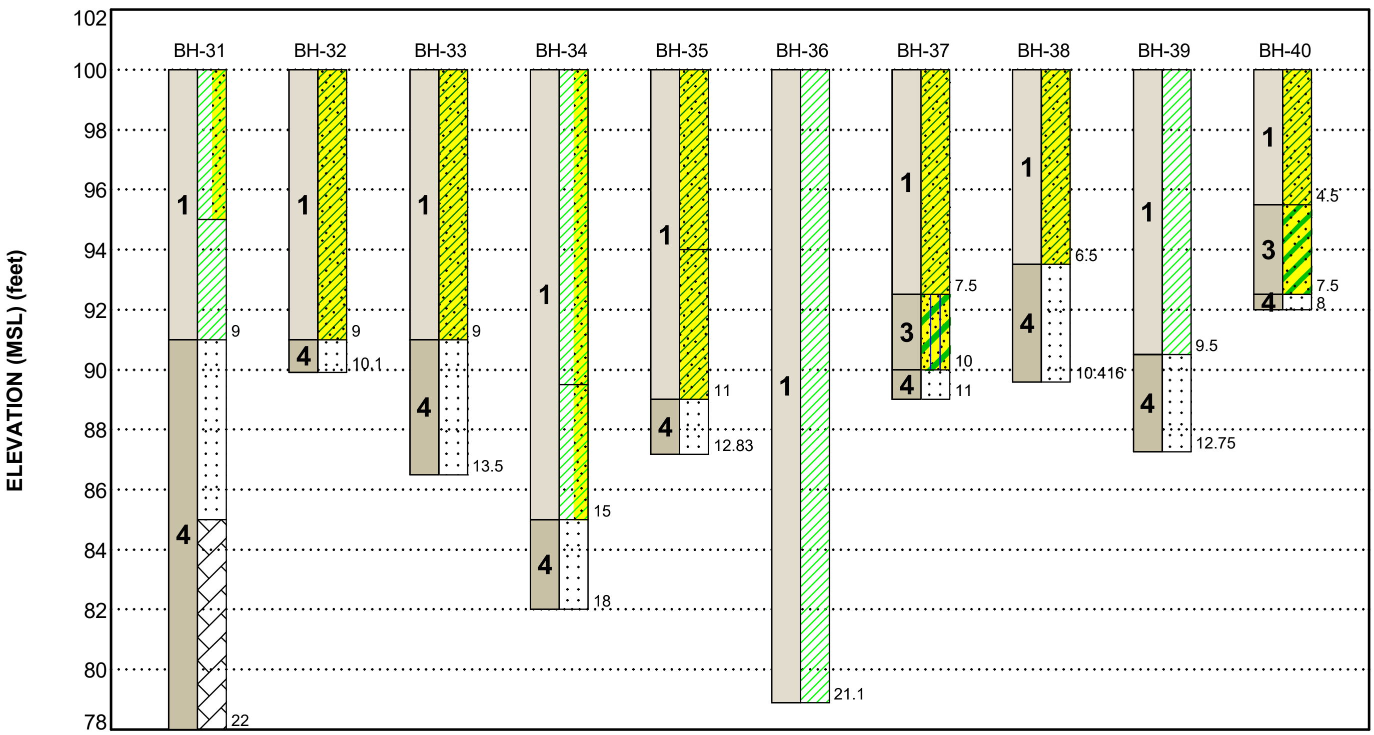
GEOMODEL

JSI - Dolores Canyon Solar Project ■ Cahone, CO
Terracon Project No. 61195223

Terracon GeoReport



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	**Lean to Fat Clay**	Lean to fat clays with varying amounts of sand
2	**Silt**	Silts with varying amounts of sand
3	**Sands**	Sands with varying amounts of silt and clay
4	**Weathered Bedrock**	Weathered sandstone, claystone, shale, limestone or slate.

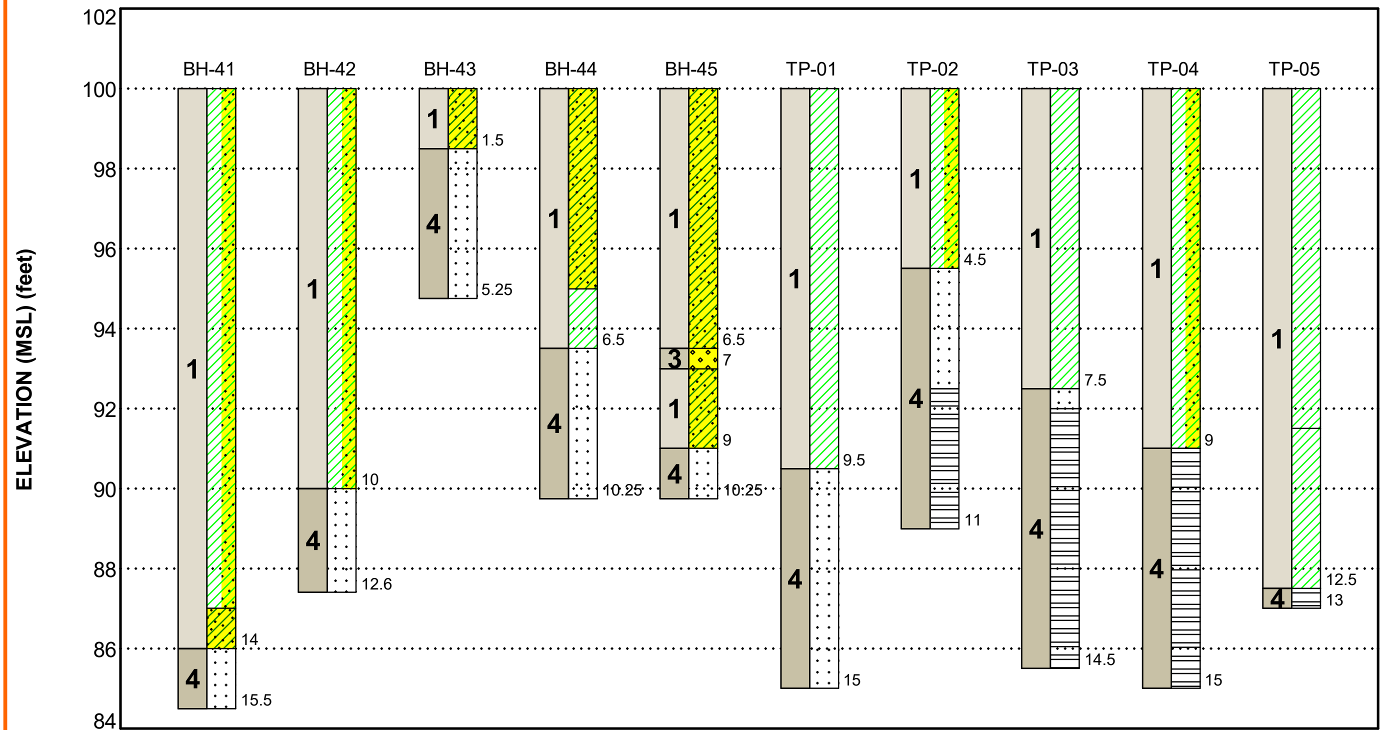
LEGEND

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project.
Numbers adjacent to soil column indicate depth below ground surface.

GEOMODEL

JSI - Dolores Canyon Solar Project ■ Cahone, CO
Terracon Project No. 61195223

Terracon GeoReport



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Model Layer	Layer Name	General Description
1	**Lean to Fat Clay**	Lean to fat clays with varying amounts of sand
2	**Silt**	Silts with varying amounts of sand
3	**Sands**	Sands with varying amounts of silt and clay
4	**Weathered Bedrock**	Weathered sandstone, claystone, shale, limestone or slate.

LEGEND

- Lean Clay with Sand
- Lean Clay
- Sandy Lean Clay
- Well-graded Sand
- Sandstone
- Shale

NOTES:
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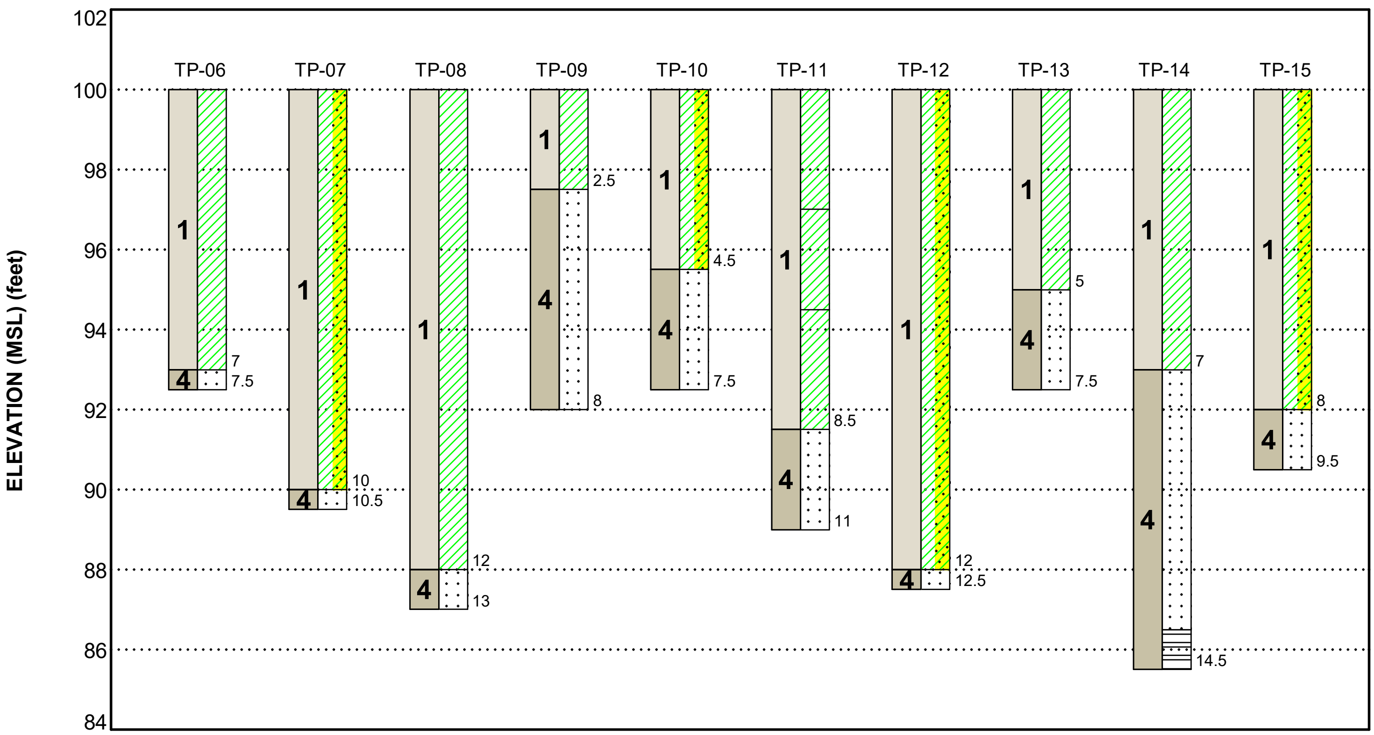
Numbers adjacent to soil column indicate depth below ground surface.

GEOMODEL
JSI - Dolores Canyon Solar Project ■ Cahone, CO
Terracon Project No. 61195223

Terracon GeoReport



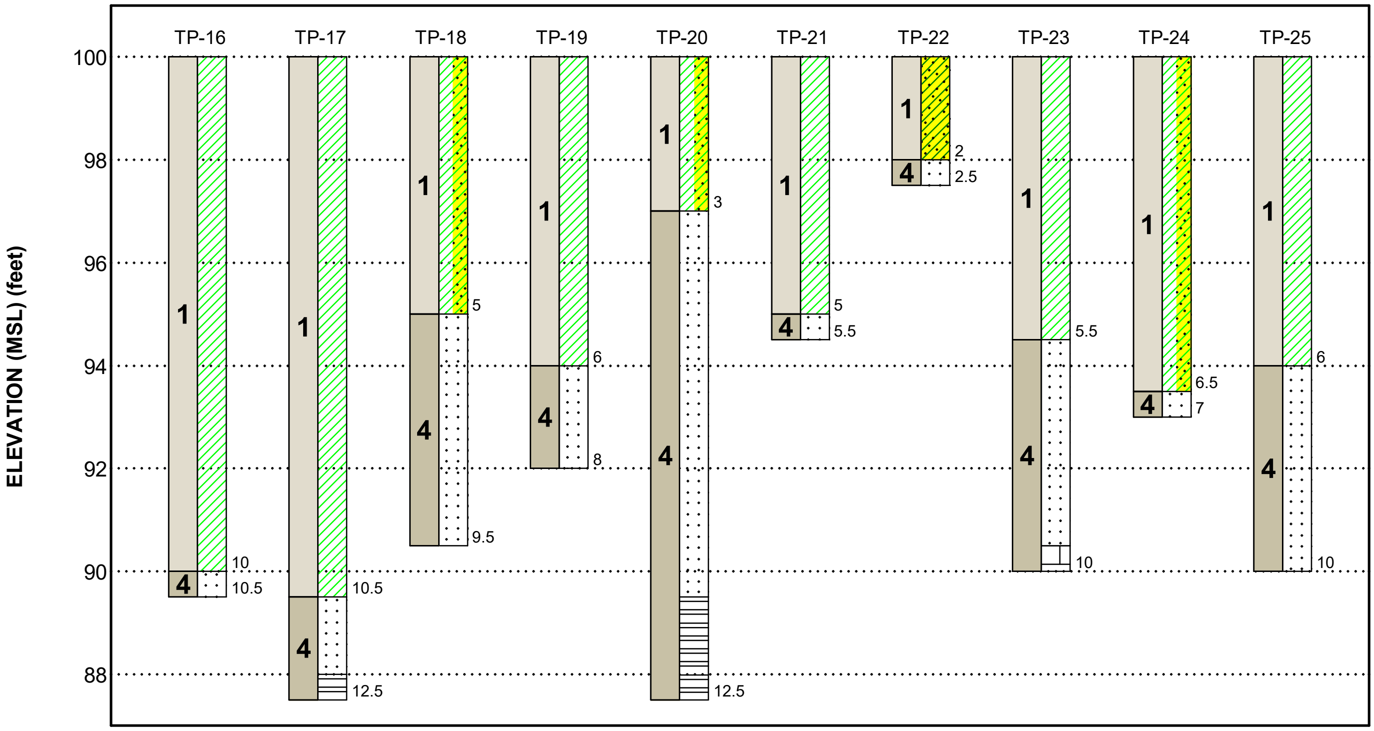
This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	Lean to Fat Clay	Lean to fat clays with varying amounts of sand
2	Silt	Silts with varying amounts of sand
3	Sands	Sands with varying amounts of silt and clay
4	Weathered Bedrock	Weathered sandstone, claystone, shale, limestone or slate.

LEGEND

- Lean Clay
- Sandstone
- Lean Clay with Sand
- Shale

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project.
Numbers adjacent to soil column indicate depth below ground surface.



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Model Layer	Layer Name	General Description
1	Lean to Fat Clay	Lean to fat clays with varying amounts of sand
2	Silt	Silts with varying amounts of sand
3	Sands	Sands with varying amounts of silt and clay
4	Weathered Bedrock	Weathered sandstone, claystone, shale, limestone or slate.

LEGEND

Lean Clay
Sandstone
Shale
Lean Clay with Sand
Sandy Lean Clay
Limestone

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project.
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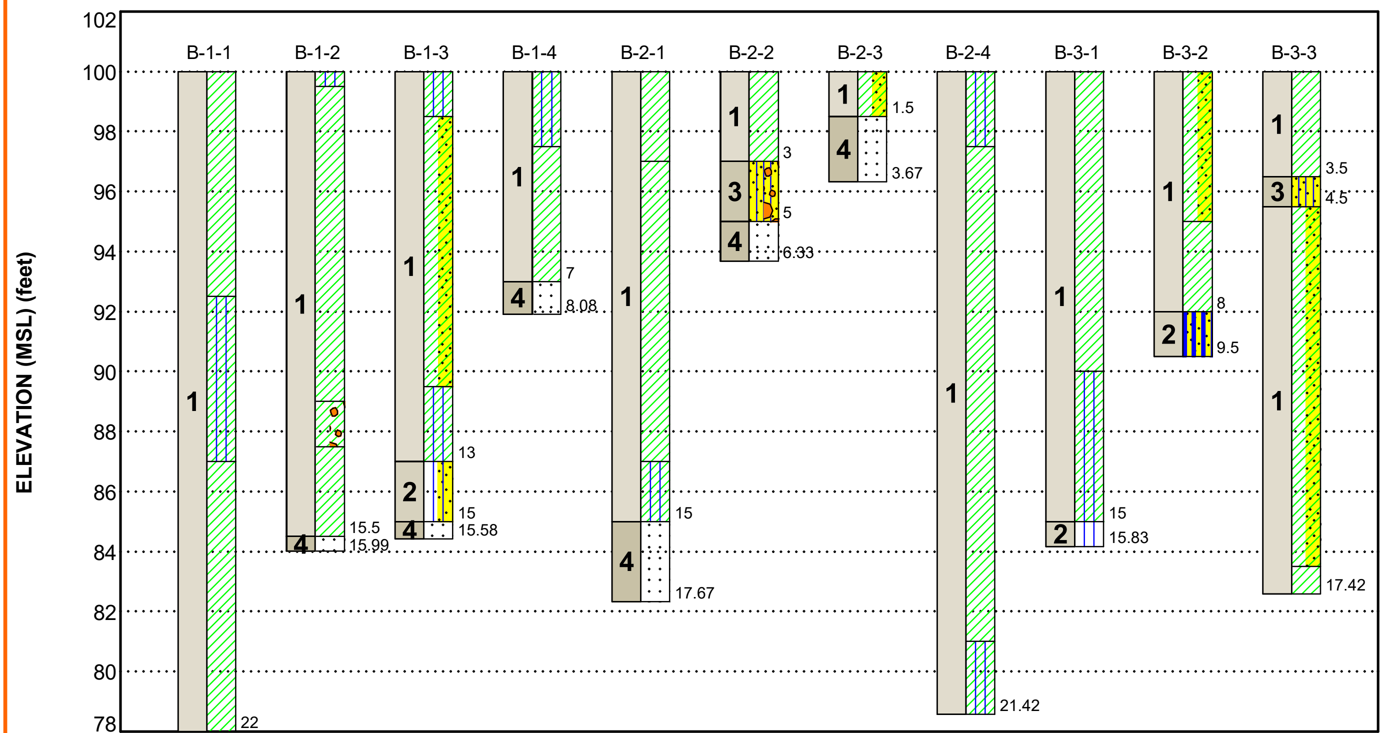
GEOMODEL

JSI - Dolores Canyon Solar Project ■ Cahone, CO
Terracon Project No. 61195223



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Model Layer	Layer Name	General Description
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2	**Silt**	Silts with varying amounts of sand
3	**Sands**	Sands with varying amounts of silt and clay
4	**Weathered Bedrock**	Weathered sandstone, claystone, shale, limestone or slate.

LEGEND

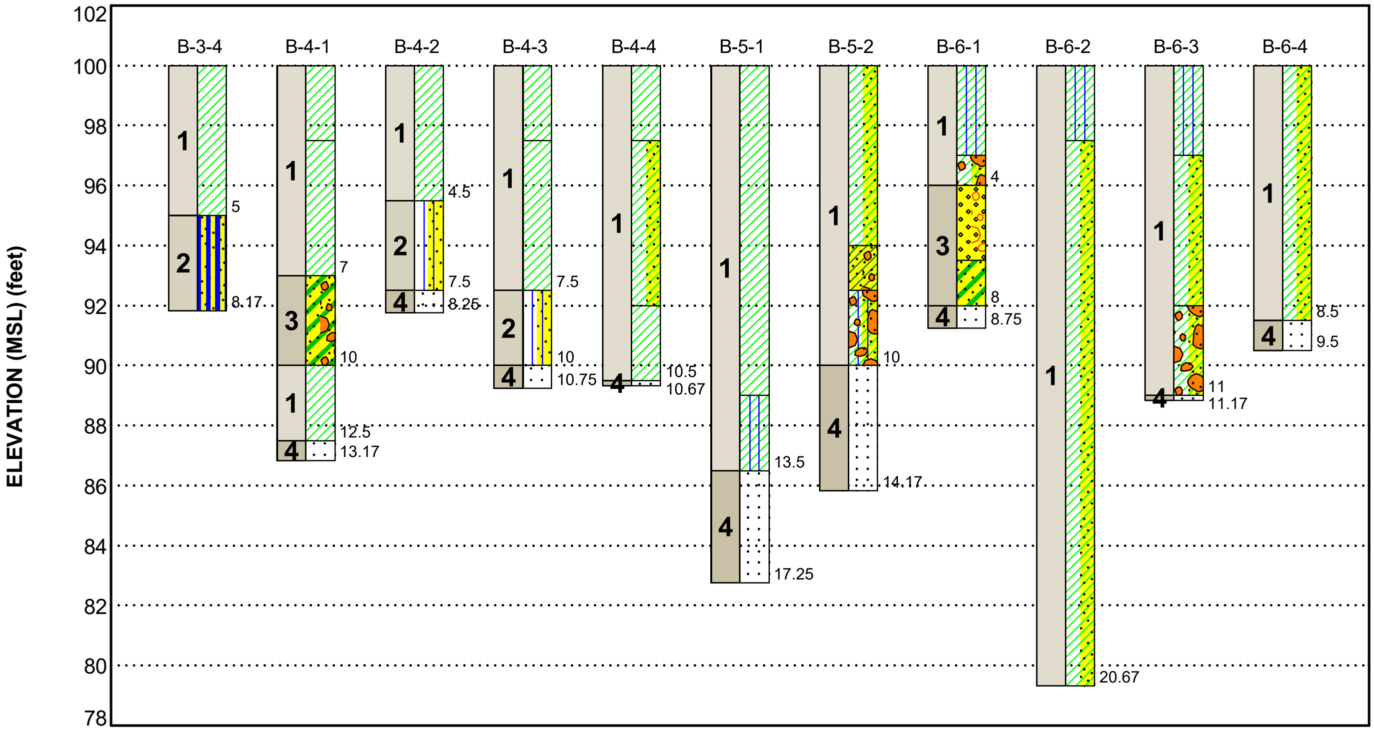
- Lean Clay
- Silty Clay
- Lean Clay with Gravel
- Sandstone
- Lean Clay with Sand
- Silt with Sand
- Silty Sand with Gravel
- Silt
- Sandy Silt
- Silty Sand

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project.
Numbers adjacent to soil column indicate depth below ground surface.

GEOMODEL

JSI - Dolores Canyon Solar Project ■ Cahone, CO
Terracon Project No. 61195223

Terracon GeoReport



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Model Layer	Layer Name	General Description
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2	Silt	Silts with varying amounts of sand
3	Sands	Sands with varying amounts of silt and clay
4	Weathered Bedrock	Weathered sandstone, claystone, shale, limestone or slate.

LEGEND

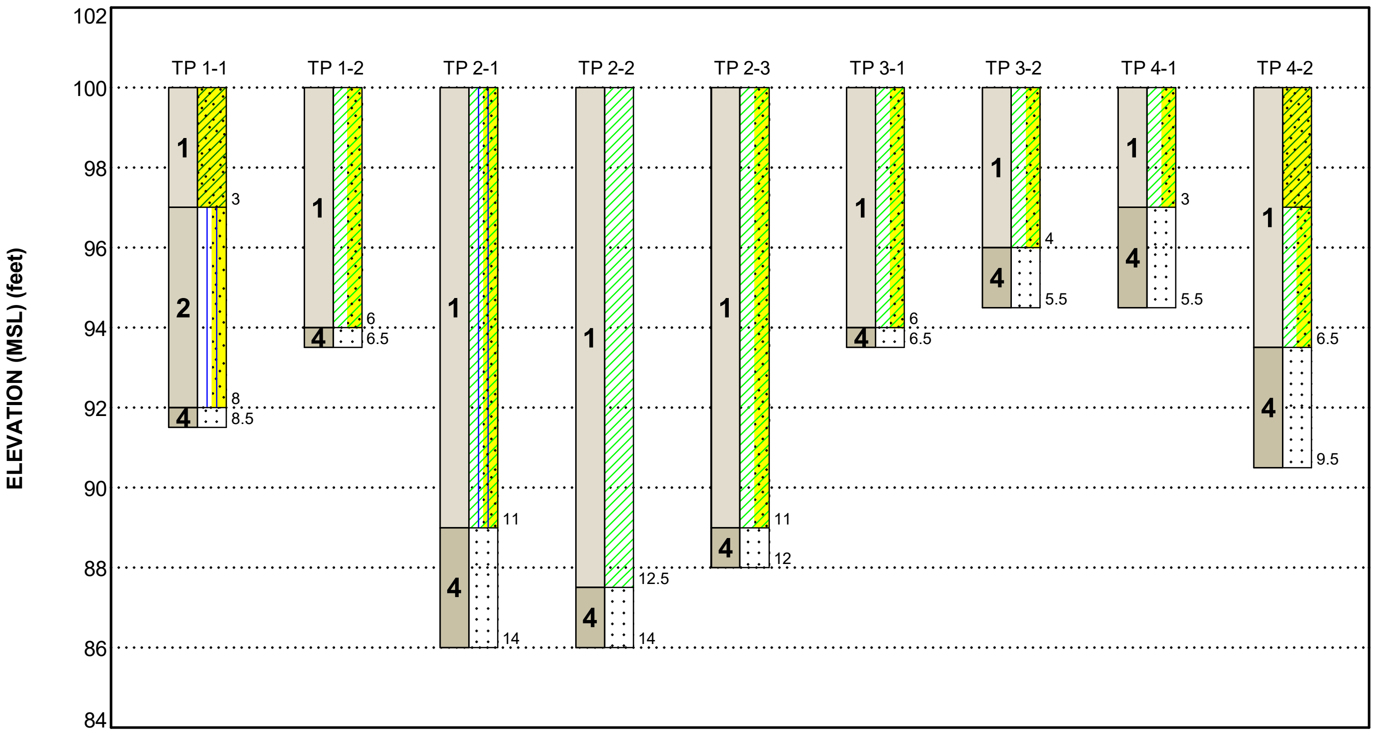
- Lean Clay
- Sandstone
- Silty Clay
- Gravelly Lean Caly with Sand
- Sandy Silt
- Silt with Sand
- Sandy Lean Clay with Gravel
- Well-graded Sand with Gravel
- Clayey Sand with Gravel
- Lean Clay with Sand
- Gravelly Silty Clay with Sand
- Clayey Sand

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project.
Numbers adjacent to soil column indicate depth below ground surface.

GEOMODEL

JSI - Dolores Canyon Solar Project ■ Cahone, CO
Terracon Project No. 61195223

Terracon GeoReport



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Model Layer	Layer Name	General Description
1	Lean to Fat Clay	Lean to fat clays with varying amounts of sand
2	Silt	Silts with varying amounts of sand
3	Sands	Sands with varying amounts of silt and clay
4	Weathered Bedrock	Weathered sandstone, claystone, shale, limestone or slate.

LEGEND

- Sandy Lean Clay
- Lean Clay with Sand
- Silt with Sand
- Silty Clay with Sand
- Sandstone
- Lean Clay

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project.
Numbers adjacent to soil column indicate depth below ground surface.

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES

Field Exploration

Boring Layout: The locations of the borings are presented in Appendix A – **Site Location and Exploration Plans**. The borings were located in the field by overlaying the site plan on Google Earth, recording the latitude and longitude coordinates, and staking the borings using a handheld, recreational-grade GPS unit. The accuracy of the latitude and longitude values is typically about +/- 25 feet when obtaining the values using this method. The accuracy of the boring locations should only be assumed to the level implied by the methods used.

Subsurface Exploration Procedures - Borings: The borings were drilled with CME-75 truck-mounted rotary drill rig with hollow-stem augers. During the drilling operations, lithologic logs of the borings were recorded by the field engineer. Disturbed samples were obtained at selected intervals utilizing a 2-inch outside diameter standard split spoon sampler and relatively undisturbed samples were obtained a 3-inch outside diameter modified California barrel sampler. Bulk samples were obtained from auger cuttings. Penetration resistance values were recorded in a manner similar to the standard penetration test (SPT). This test consists of driving the sampler into the ground with a 140-pound hammer free falling through a distance of 30 inches. The number of blows required to advance the barrel sampler 12 inches (18 inches for standard split-spoon samplers, final 12 inches are recorded) or the interval indicated is recorded and can be correlated to the standard penetration resistance value (N-value). The blow count values are indicated on the boring logs at the respective sample depths, barrel sampler blow counts are not considered N-values.

An automatic hammer was used to advance the samplers in the borings performed on this site. A greater efficiency is typically achieved with the automatic hammer compared to the conventional safety hammer operated with a cathead and rope. Published correlations between the SPT values and soil properties are based on the lower efficiency cathead and rope method. This higher efficiency affects the standard penetration resistance blow count value by increasing the penetration per hammer blow over what would be obtained using the cathead and rope method. The effect of the automatic hammer's efficiency has been considered in the interpretation and analysis of the subsurface information for this report.

The standard penetration test provides a reasonable indication of the in-place density of sandy type materials, but only provides an indication of the relative stiffness of cohesive materials since the blow count in these soils may be affected by the moisture content of the soil. In addition, considerable care should be exercised in interpreting the N-values in gravelly soils, particularly where the size of the gravel particle exceeds the inside diameter of the sampler.

Groundwater measurements were obtained in the borings at the time of drilling. Due to safety concerns, the borings were backfilled with auger cuttings after drilling. Some settlement of the backfill may occur and should be repaired as soon as possible.

Subsurface Exploration Procedures – Test Pits: The test pits were excavated using a Caterpillar CAT 420F loader backhoe. During the excavation operations, lithologic logs of the test pits were recorded by the field engineer. Bulk samples were collected from the excavated materials.

Due to safety concerns, the test pits were backfilled with excavated materials upon completion. The backfill materials were compacted with the bottom of the excavator bucket in lifts; however, compaction testing of the backfill was not performed. Some settlement of the backfill may occur and should be monitored and repaired as soon as possible.

Field Electrical Resistivity Testing: Field electrical resistivity test were performed at 13 location at the site using a Mini-Res ground resistance meter and the Wenner four-point test method. The tests were conducted along a pair of approximately perpendicular arrays at each location using electrode spacings (A-spacing) of 2, 4, 8, 15, 25, 50, 100, 250, and 500 feet. The resistivity survey test location is shown in Appendix A – **Site Location and Exploration Plans**. The field resistivity test results are presented in Appendix B – **Exploration Results**.

Laboratory Testing

Samples retrieved during the field exploration were returned to the laboratory for observation by the project geotechnical engineer and were classified in general accordance with the Unified Soil Classification System presented in Appendix B – **Exploration Results**.

At this time, an applicable laboratory-testing program was formulated to determine engineering properties of the subsurface materials. Following the completion of the laboratory testing, the field descriptions were confirmed or modified as necessary, and the boring logs were prepared. The boring logs are included in Appendix B – **Exploration Results**.

Laboratory test results are included in Appendix C – **Laboratory Test Results**. These results were used for the geotechnical engineering analyses and the development of foundation, earthwork, and access road recommendations. All laboratory tests were performed in general accordance with the applicable local or other accepted standards.

Selected soil and bedrock samples were tested for the following engineering properties:

- Water content
- Dry density
- Grain size distribution
- Atterberg limits
- Moisture-density relationship
- Thermal resistivity
- Swell/consolidation
- Water-soluble sulfate
- Water-soluble chlorides
- Sulfides
- pH
- Electrical conductivity
- Electrical resistivity
- Oxidation-reduction potential

APPENDIX A – SITE LOCATION AND EXPLORATION PLANS

Contents:

Note: All attachments are one page unless noted above.

SITE LOCATION

JSI - Dolores Canyon Solar Project ■ Cahone, CO
January 15, 2021 ■ Terracon Project No. 61195223

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

TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY QUADRANGLES INCLUDE: CAHONE, CO (1/1/1994) and DOE CANYON, CO (1/1/1993).

EXPLORATION PLAN

JSI - Dolores Canyon Solar Project ■ Cahone, CO
January 15, 2021 ■ Terracon Project No. 61195223

Terracon GeoReport

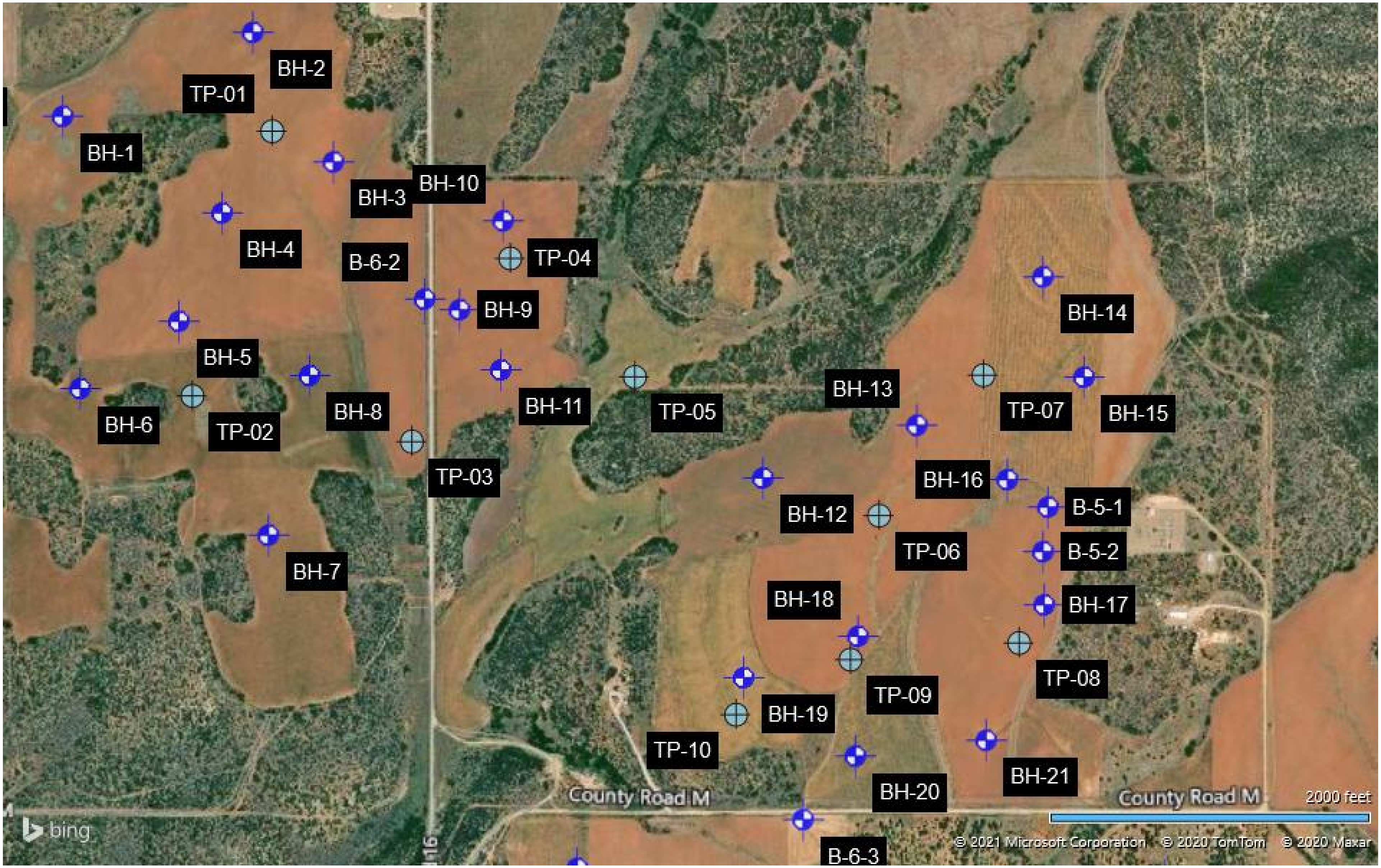


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

EXPLORATION PLAN

JSI - Dolores Canyon Solar Project ■ Cahone, CO
January 15, 2021 ■ Terracon Project No. 61195223

Terracon GeoReport

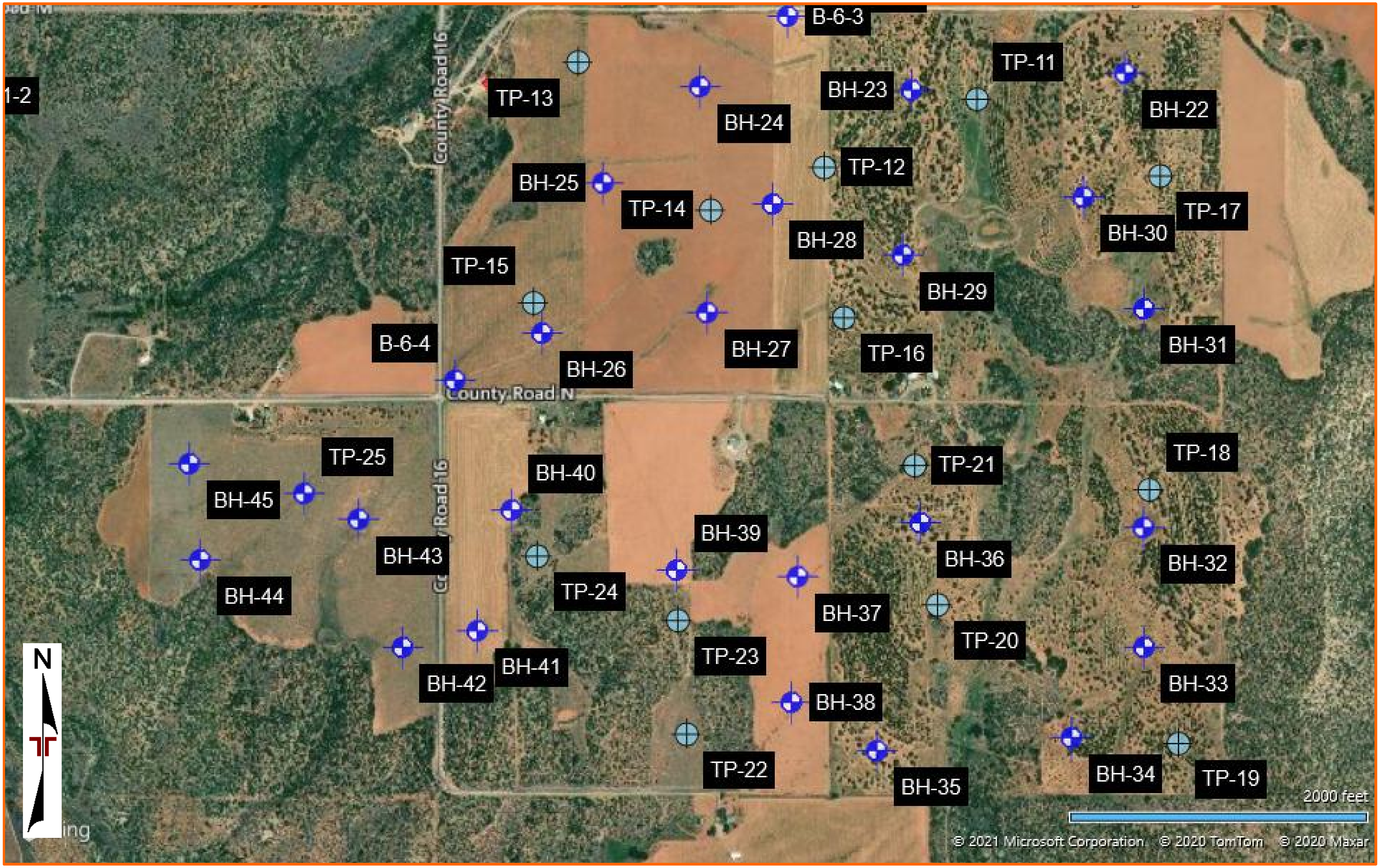


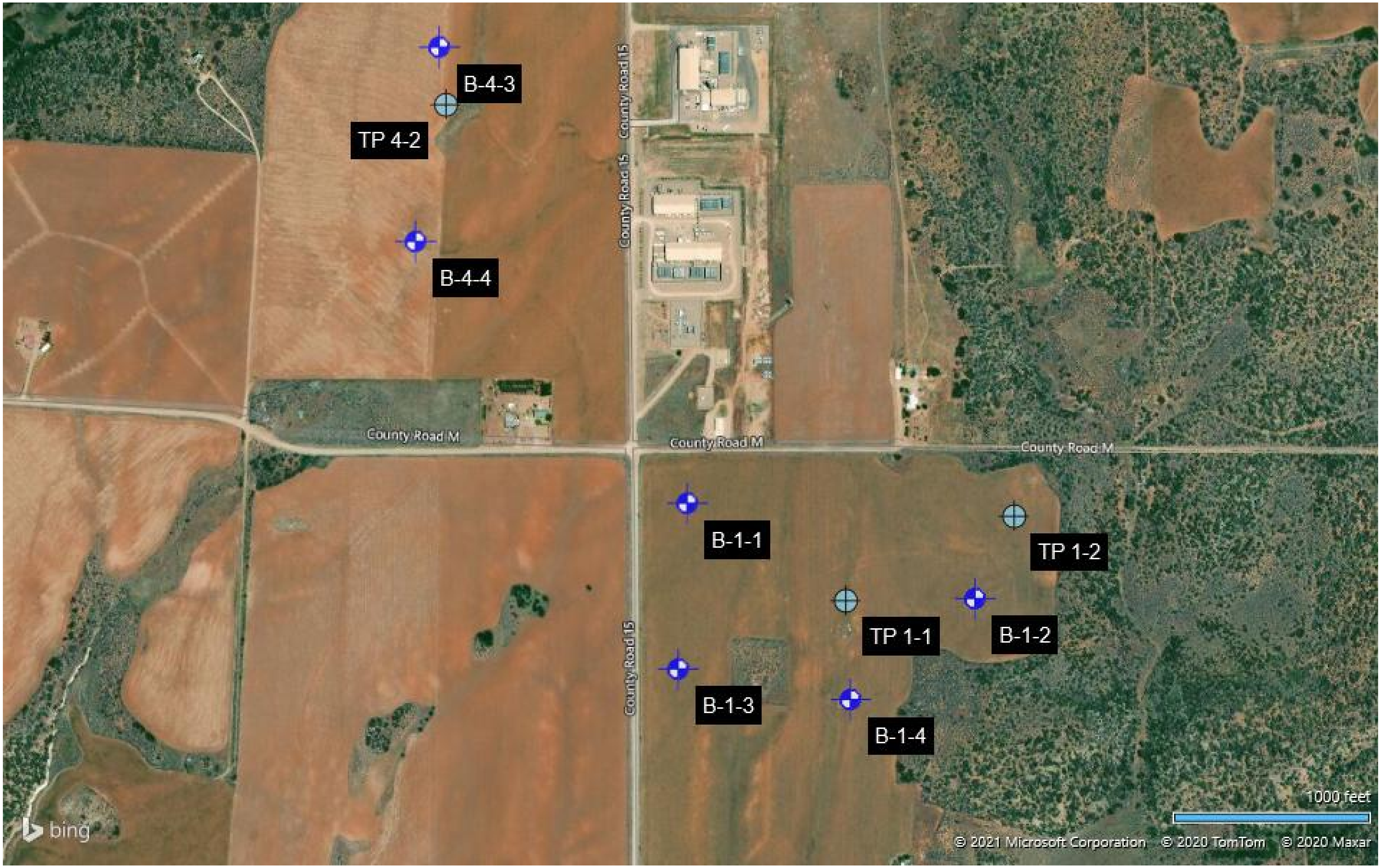
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

EXPLORATION PLAN

JSI - Dolores Canyon Solar Project ■ Cahone, CO

January 15, 2021 ■ Terracon Project No. 61195223



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AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

EXPLORATION PLAN

JSI - Dolores Canyon Solar Project ■ Cahone, CO

January 15, 2021 ■ Terracon Project No. 61195223

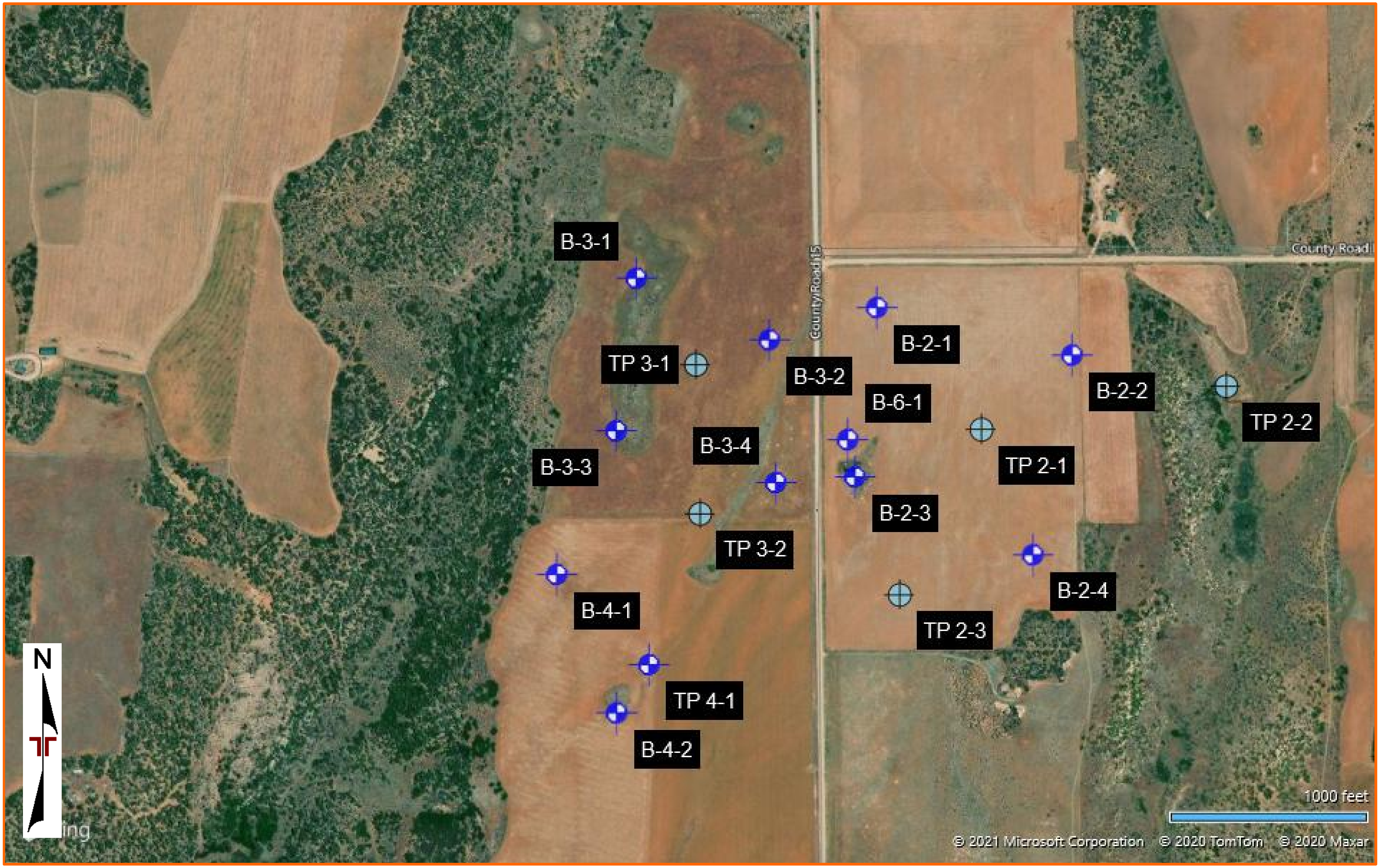


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

EXPLORATION PLAN

JSI - Dolores Canyon Solar Project ■ Cahone, CO
January 15, 2021 ■ Terracon Project No. 61195223

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

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

APPENDIX B – EXPLORATION RESULTS

Contents:

Note: All attachments are one page unless noted above.

BORING LOG NO. BH-1

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7176° Longitude: -108.765°

MODEL LAYER	DEPTH	Description	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SANDY LEAN CLAY (CL)**, red to brown, very stiff				18	3-3-24-17 N=27		11			
						18	33-21-15-15 N=36					
	3.5	**FAT CLAY WITH SAND (CH)**, brown to red, very stiff to hard										
	5.5	**SANDSTONE**, yellow, soft to moderately hard, wethered	5			12	12-26		18		51-23-28	84
4						23	7-13-43-50/5" N=56					
			10			9	9-50/3"					
						24	9-17-35-38 N=52		14			
			15			17	10-25-50/5"					
	20.2		20			2	50/2"					
		Boring Terminated at 20.15 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-14-2020	Boring Completed: 05-14-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-2

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.719° Longitude: -108.7609°

MODEL LAYER	DEPTH	Description	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, reddish brown to red, medium stiff to hard, cemented				24	1-2-3-3 N=5					
						24	3-5-6-7 N=11		12		25-16-9	85
			5			24	4-7-10-14 N=17					
						24	5-6-7-10 N=13		16			
			10			24	4-7-10-15 N=17					
4	12.5	**SANDSTONE**, red to yellow, soft to moderately hard, weathered				24	12-27-35-34 N=62					
			15			24	12-15-17-24 N=32					
	20.1	***Boring Terminated at 20.1 Feet***	20			1	50/1"					

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-14-2020	Boring Completed: 05-14-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-3

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7168° Longitude: -108.7592°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, reddish brown to red, medium stiff to very stiff			X	24	3-3-3-6 N=6		14			
					X	24	5-9-9-13 N=18					
			5		X	24	7-11-12-22 N=23		14		36-16-20	84
					X	24	4-7-9-11 N=16					
			10		X	24	4-6-9-13 N=15					
					X	24	3-3-4-7 N=7					
			15		X	24	3-5-7-10 N=12		16			
			20		X	24	2-4-6-6 N=10					
		22.0										
		Boring Terminated at 22 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-14-2020	Boring Completed: 05-14-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-4

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7159° Longitude: -108.7616°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, reddish brown, medium stiff to very stiff				24	2-3-3-6 N=6					
						12	10-8		11		32-15-17	81
			5			24	9-12-12-15 N=24					
		7.0										
3		**CLAYEY SAND (SC)**, reddish brown, medium dense				24	6-10-9-12 N=19		22			
		10.0	10									
4		**SANDSTONE**, yellow, soft to moderately hard, wethered				11	16-50/5"					
						5	50/5"					
		13.0										

Auger Refusal on Bedrock at 13 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-14-2020	Boring Completed: 05-14-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-5

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7141° Longitude: -108.7625°

MODEL LAYER	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, red to brown, medium stiff			X	24	2-3-4-5 N=7		12		25-16-9	86
	2.5	**SANDY LEAN CLAY (CL)**, red to brown, stiff to very stiff			X	24	5-4-5-6 N=9					
			5		X	24	8-10-10-11 N=20		14			
					X	24	6-8-11-13 N=19					
			10		X	24	4-8-11-15 N=19		17			
					X	24	4-6-6-7 N=12					
	16.5		15		X	16	5-11-50/4"					
4		**SANDSTONE**, yellow to white, soft to moderately hard, weathered										
	20.1	***Boring Terminated at 20.1 Feet***	20		X	0.5	50/1"					

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-14-2020	Boring Completed: 05-14-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-6

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7129° Longitude: -108.7646°

MODEL LAYER	DEPTH	Description
1		**LEAN CLAY WITH SAND (CL)**, red to brown, medium stiff to very stiff
1	11.0	**LEAN CLAY WITH SAND (CL)**, light pinkish white to light gray, very stiff to hard
	22.0	***Boring Terminated at 22 Feet***

RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
20	3-3-4-4 N=7		12			
20	2-2-3-4 N=5	0.1%				
12	8-11		16	110	32-18-14	82
24	3-7-10-15 N=17					
24	4-9-13-13 N=22		20			
24	3-7-12-13 N=19					
24	12-15-13-17 N=28					
24	17-23-35-49 N=58					

DEPTH (Ft.): 5, 10, 15, 20

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-14-2020	Boring Completed: 05-14-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-7

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC Boulder, CO

SITE: County Road M.4 Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7104° Longitude: -108.7606°

MODEL LAYER	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
2	2.5	**SANDY SILT (ML)**, red to brown, medium stiff				18	3-2-4-3 N=6					
1		**SANDY LEAN CLAY (CL)**, red to brown, stiff to very stiff				24	3-4-5-5 N=9		12			
			5			24	4-8-9-14 N=17					
						24	3-5-5-7 N=10					
			10			24	3-5-6-10 N=11					
						24	4-6-6-10 N=12					
	17.5		15			24	6-11-12-16 N=23					
4	20.1	**SANDSTONE**, white to gray, soft to moderately hard, weathered	20			0.1	50/1"					
		Boring Terminated at 20.1 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-14-2020	Boring Completed: 05-14-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-8

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7131° Longitude: -108.7597°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, red to brown, medium stiff to very stiff				24	1-2-3-4 N=5					
						12	5-7	0.3%	17	107	31-16-15	88
			5			24	3-4-4-6 N=8					
						24	3-5-8-13 N=13					
			10			24	3-5-7-8 N=12					
						14			17	106	37-16-21	88
			15			24	5-8-10-12 N=18					
		19.0 **SANDY LEAN CLAY (CL)**, red to brown, hard, cemented	20			22	9-15-45-50/4" N=60					
		21.8										
		Boring Terminated at 21.83 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-14-2020	Boring Completed: 05-14-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-9

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7143° Longitude: -108.7564°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SANDY LEAN CLAY (CL)**, reddish brown to red, medium stiff to very stiff				24	2-2-3-5 N=5					
						24	3-5-6-8 N=11		16			
			5			24	4-5-11-12 N=16					
		7.0										
4		**SANDSTONE**, yellow to light tan, soft to moderately hard, weathered				2	6-50/2"					
		10.3	10			3	50/3"					
		Auger Refusal on Bedrock at 10.25 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-13-2020	Boring Completed: 05-13-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-10

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7158° Longitude: -108.7555°

MODEL LAYER	DEPTH	Description	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, red to brown, medium stifff to very stiff, partially cemented				24	2-2-3-3 N=5		14			
						24	2-4-6-8 N=10					
			5			12	7-10		24		48-19-29	85
						24	7-9-11-11 N=20					
			10			24	8-12-18-31 N=30		15			
						24	18-8-11-9 N=19					
			15			24	4-7-8-14 N=15					
	22.0		20			24	8-13-14-19 N=27					
		Boring Terminated at 22 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-13-2020	Boring Completed: 05-13-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-11

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7132° Longitude: -108.7555°

MODEL LAYER	DEPTH	Description	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, red to brown, medium stiff to very stiff	0–2			24	2-2-3-4 N=5					
			2.5–3.5			12	5-10		16		33-16-17	85
			5–7			24	4-7-10-14 N=17					
			7.5–9.5			24	3-4-10-7 N=14		28			
			10–12			24	1-5-20-30 N=25					
	11.5	**SANDY LEAN CLAY (CL)**, red to brown, hard, with layers of cemented sand lenses	12.5–14.5			24	9-16-26-30 N=42		13			
			15			21	9-13-28-50/-9"					
			20–22			24	8-14-17-22 N=31					
	22.0	***Boring Terminated at 22 Feet***										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-13-2020	Boring Completed: 05-13-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-12

PROJECT: JSI - Dolores Canyon Solar Project

**CLIENT: JSI Construction Group LLC
Boulder, CO**

**SITE: County Road M.4
Cahone, CO**

LOCATION See Exploration Plan

Latitude: 37.7114° Longitude: -108.7499°

MODEL LAYER	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, reddish brown, stiff				24	2-3-6-8 N=9		16			
						12	7-7					
	7.0		5			24	5-6-8-10 N=14		12		31-17-14	77
		SANDY LEAN CLAY (CL), red to brown, very stiff				18	4-14-10-23 N=24					
	13.0		10			24	5-10-15-19 N=25		12			
						5	50/5"					
4	15.1	**SANDSTONE**, yellow, soft to moderately hard, weathered	15			1	50/1"					
		Auger Refusal on Bedrock at 15.1 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-13-2020	Boring Completed: 05-13-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-13

PROJECT: JSI - Dolores Canyon Solar Project

**CLIENT: JSI Construction Group LLC
Boulder, CO**

**SITE: County Road M.4
Cahone, CO**

LOCATION See Exploration Plan

Latitude: 37.7123° Longitude: -108.7465°

MODEL LAYER	DEPTH	Description	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1	2.0	**SANDY SILTY CLAY (CL-ML)**, brown, stiff				24	3-4-9-11 N=13					
1	4.5	**LEAN CLAY (CL)**, brown, very stiff				24	6-9-9-9 N=18		10		26-16-10	85
1	11.0	**SANDY LEAN CLAY (CL)**, brown mottled red, very stiff	5			24	5-7-12-13 N=19					
						24	5-8-10-14 N=18					
			10			19	4-8-14-50/1" N=22					
4	13.5	**SANDSTONE**, yellow, soft to moderately hard, weathered				5	50/5"					

Auger Refusal on Bedrock at 13.5 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-13-2020	Boring Completed: 05-13-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-14

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7148° Longitude: -108.7438°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SANDY LEAN CLAY (CL)**, red to brown, medium stiff to very stiff				24	3-3-5-6 N=8		15			
						24	3-5-6-6 N=11		14			
			5			24	4-7-12-16 N=19		17			
						12	8-15					
		10.5	10									
4		**CLAYSTONE**, light tan to yellow, interbedded layers of sandstone and claystone, soft to moderately hard, weathered				24	7-10-5-41 N=15					
						11	16-50/5"					
		15.3	15			3	50/3"					
		Auger Refusal on Bedrock at 15.25 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-13-2020	Boring Completed: 05-13-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-15

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC, Boulder, CO

SITE: County Road M.4, Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7131° Longitude: -108.7429°

MODEL LAYER	DEPTH	Description	SAMPLE DEPTH (Ft.)	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, red to brown, medium stiff to hard, increasing cementation with depth	0-2	24	2-2-3-4 N=5			
			2.5-3.5	12	7-7	13	30-16-14	85
			5-7	24	6-8-12-16 N=20			
	7.0	**LEAN CLAY (CL)**, red to brown, hard	7.5-9.5	24	3-6-8-17 N=14	16		
			10-12	24	6-9-13-17 N=22			
	13.5	**SANDY LEAN CLAY (CL)**, light tan to pink, highly cemented	12.5-14.5	24	7-13-22-21 N=35			
			15-15.75	9	21-50/3"			
2	18.0	**SANDSTONE**, light tan to yellow, soft to moderately hard, weathered	20-20.1	2	50/1"			
	20.1	***Boring Terminated at 20.1 Feet***						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-13-2020	Boring Completed: 05-13-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-16

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7114° Longitude: -108.7446°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SANDY LEAN CLAY (CL)**, red to brown, stiff				24	3-4-7-7 N=11		16		29-16-13	85
						24	4-7-7-9 N=14					
			5			24	3-6-9-12 N=15		32			
		7.0										
4		**SANDSTONE**, light tan to yellow, soft to moderately hard, weathered				5	50/5"					
		10.3	10			3	50/3"					

Auger Refusal on Bedrock at 10.25 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-12-2020	Boring Completed: 05-12-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-17

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC Boulder, CO

SITE: County Road M.4 Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7092° Longitude: -108.7438°

MODEL LAYER	GRAPHIC LOG	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
2		2.0	**SILT (ML)**, brown, medium stiff				24	2-3-4-2 N=7					
1			**LEAN CLAY (CL)**, red to brown, medium stiff to stiff				18	2-3-2-3 N=5		17			
				5			24	2-3-5-10 N=8					
							24	3-5-7-11 N=12		19		38-15-23	87
				10			24	3-5-6-8 N=11					
			light pink to gray										
		15.0					24	2-3-5-10 N=8					
3			**SANDSTONE**, yellow, soft to moderately hard, weathered	15			2	50/1"					
		20.1		20			0.5	50/1"					
			Boring Terminated at 20.1 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-13-2020	Boring Completed: 05-13-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-18

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7087° Longitude: -108.7478°

MODEL LAYER	DEPTH	Description	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, red to brown, stiff				24	2-5-6-8 N=11		18			
						24	5-6-9-14 N=15					
			5			12	10-28	1%	21	108	36-15-21	78
	7.5											
4		**SANDSTONE**, yellow, soft to moderately hard, weathered				5	50/5"					
	10.1		10				50/1"					
		Auger Refusal on Bedrock at 10.1 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-12-2020	Boring Completed: 05-12-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-19

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.708° Longitude: -108.7503°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, brown to red, medium stiff				24	2-3-4-8 N=7		13		30-16-14	87
		2.0 **SANDY LEAN CLAY (CL)**, red to brown, very stiff				24	5-12-9-13 N=21					
			5			24	9-8-12-13 N=20		14			
4		7.5 **SANDSTONE**, light tan to yellow, soft to moderately hard, weathered				3	50/3"					
		10.1 ***Auger Refusal on Bedrock at 10.1 Feet***	10			2	50/1"					

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-12-2020	Boring Completed: 05-12-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-20

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7066° Longitude: -108.7479°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SANDY LEAN CLAY (CL)**, red to brown, medium stiff, with organics				24	1-3-4-6 N=7					
		2.5										
		LEAN CLAY (CL), red mottled brown, stiff to very stiff				24	4-5-7-10 N=12		11		24-16-8	85
			5			24	4-6-10-13 N=16					
						24	3-7-11-21 N=18					
		10.0	10									
4		**SANDSTONE**, light tan to yellow, soft to moderately hard, weathered				12	32-17		11			
		12.8				3	50/3"					
		Auger Refusal on Bedrock at 12.75 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-12-2020	Boring Completed: 05-12-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-21

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7069° Longitude: -108.745°

MODEL LAYER	DEPTH	Description
1	0.0–7.0	**LEAN CLAY WITH SAND (CL)**, red to brown, medium stiff to stiff
1	7.0–11.0	**LEAN CLAY (CL)**, red to brown, stiff
4	11.0–15.1	**SANDSTONE**, light tan to yellow, soft to moderately hard, weathered
	15.1	***Auger Refusal on Bedrock at 15.1 Feet***

DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
0–2			24	2-2-4-4 N=6					
2.5–4.5			24	2-2-3-4 N=5					
5–6			12	6-11		18		27-16-11	82
7.5–9.5			24	3-6-8-12 N=14		16		30-16-14	87
10–12			24	5-7-8-8 N=15					
12.5			9	4-50/3"					
15			2	50/1"					

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-13-2020	Boring Completed: 05-13-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-22

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7045° Longitude: -108.7412°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, red to brown, stiff to very stiff				24	6-7-4-6 N=11		13		30-16-14	89
						24	3-6-6-7 N=12					
			5			24	4-8-11-10 N=19		16			
						24	3-9-9-13 N=18					
			10			24	4-4-8-13 N=12					
		12.5										
4		12.8 **SANDSTONE**, light tan, soft to moderately hard, weathered				4	50/4"					
		Auger Refusal on Bedrock at 12.83 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-14-2020	Boring Completed: 05-14-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-23

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7042° Longitude: -108.7461°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SANDY LEAN CLAY (CL)**, red to brown, medium stiff to very stiff				24	6-3-3-4 N=6					
						24	3-7-8-11 N=15					
		5.0 **SILTY CLAY WITH SAND (CL-ML)**, red to brown	5			12	10-13		9		24-18-6	82
		6.0 **SANDY LEAN CLAY (CL)**, reddish brown to light pinkish tan, very stiff										
						24	4-7-9-9 N=16					
		light red	10			24	4-12-12-15 N=24		20			
						24	4-9-12-13 N=21					
			15			24	4-6-9-10 N=15					
			20			24	5-10-14-19 N=24					
		22.0										
		Boring Terminated at 22 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-14-2020	Boring Completed: 05-14-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-24

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7042° Longitude: -108.751°

MODEL LAYER	DEPTH	Description	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1	2.5	**SILTY CLAY (CL-ML)**, red to brown, stiff				24	2-6-9-10 N=15					
1	4.5	**LEAN CLAY WITH SAND (CL)**, red to brown, stiff				12	6-10	0.3%	9	93	30-16-14	83
1	8.5	**LEAN CLAY (CL)**, red to brown, very stiff, slight cementation	5			24	4-7-13-16 N=20					
						24	11-16-19-24 N=35					
1	16.0	**LEAN CLAY (CL)**, red to brown, hard, cemented	10			24	11-20-24-30 N=44		10		38-15-23	89
						12	17-34					
			15			11	11-50/5"					
4	18.0	**SANDSTONE**, light tan, soft to moderately hard, weathered										

Auger Refusal on Bedrock at 18 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-12-2020 | Boring Completed: 05-12-2020
Drill Rig: CME 75 | Driller: Enviro-Dril
Project No.: 61195223

BORING LOG NO. BH-25

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7025° Longitude: -108.7533°

MODEL LAYER	GRAPHIC LOG	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
2		0.5	**SILT (ML)**, red to brown, medium stiff										
3		2.5	**CLAYEY SAND (SC)**, light tan, loose				24	4-5-4-7 N=9					
1		3.5	**SANDY LEAN CLAY (CL)**, red to brown, soft				24	1-1-2-26 N=3		22		35-24-11	58
		5.0	**SANDY LEAN CLAY (CL)**, red brown to light tan, interbedded with yellow sandstone	5									
3		7.5	**POORLY GRADED SAND (SP)**, tan to orange, very dense, with oxidation and 4" light tan clay lense				9	23-50/3"					
4		10.5	**SANDSTONE**, light tan to orange				5	50/5"		7			
				10			1	50/1"					

Auger Refusal on Bedrock at 10.5 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-12-2020	Boring Completed: 05-12-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-26

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6997° Longitude: -108.7547°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, red to brown, stiff				18	2-4-6 N=10					
						12	4-6		11		26-15-11	79
		4.5										
2		**SILT (ML)**, red to brown, very stiff	5			18	5-7-10 N=17					
						15	11-20-50/3"		14			
		8.5										
3		**SANDSTONE**, light tan, soft, weathered	10			1.5	50/1"					
						3	50/3"					
			15			3	50/3"					
		20.3	20			3	50/3"					
		Boring Terminated at 20.25 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-11-2020	Boring Completed: 05-11-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-27

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC Boulder, CO

SITE: County Road M.4 Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7001° Longitude: -108.7509°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
2		**SILT (ML)**, red to brown, stiff				24	3-6-7-29 N=13		15			
		1.5										
4		**SANDSTONE**, brown to tan, soft to moderately hard, weathered				6	50					
			5			7	47-50/1"					
		8.0				5	50/5"					
		Auger Refusal on Bedrock at 7.916 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-11-2020	Boring Completed: 05-11-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-28

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7021° Longitude: -108.7494°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, brown, stiff to very stiff				24	2-4-9-11 N=13		16			
						24	8-9-8-7 N=17					
			5			12	8-23		16		32-15-17	86
						24	7-15-23-35 N=38					
		10.5	10									
		SANDY LEAN CLAY (CL), red to brown, hard, cemented				24	16-21-24-19 N=45		12			
						24	9-15-18-24 N=33					
		14.5										
4		**SANDSTONE**, light tan to yellow, soft ot moderately hard, weathered	15			17	14-36-50/5"					
		20.0	20									
		Boring Terminated at 20 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-12-2020	Boring Completed: 05-12-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-29

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7011° Longitude: -108.7463°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SANDY LEAN CLAY (CL)**, red to brown, very stiff			X	24	5-9-7-8 N=16		7			
					X	24	7-9-10-9 N=19					
			5		X	24	7-8-10-12 N=18		15			
		7.0										
4		**SANDSTONE**, light tan to yellow, soft to moderately hard, weathered			X	23	16-31-18-50/5" N=49					
		10.1	10		X	1	50/1"					
		Auger Refusal on Bedrock at 10.1 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-14-2020	Boring Completed: 05-14-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-30

PROJECT: JSI - Dolores Canyon Solar Project

**CLIENT: JSI Construction Group LLC
Boulder, CO**

**SITE: County Road M.4
Cahone, CO**

LOCATION See Exploration Plan

Latitude: 37.7022° Longitude: -108.7421°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, red to brown, medium stiff to very stiff				24	3-4-4-6 N=8		12		30-14-16	86
						24	4-8-9-10 N=17					
			5			24	6-6-8-12 N=14					
						24	4-6-8-11 N=14		18		35-15-20	88
			10			12	9-16					
		15.5				24	5-9-14-18 N=23					
4		**SANDSTONE**, light tan to yellow, soft to moderately hard, weathered	15			14	9-44-50/2"					
		16.3 ***Auger Refusal on Bedrock at 16.33 Feet***										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-14-2020	Boring Completed: 05-14-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-31

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7002° Longitude: -108.7407°

MODEL LAYER	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, red to brown, stiff				24	4-4-6-5 N=10					
						12	3-3	-1.1%	9	84	27-16-11	84
	5.0	**LEAN CLAY (CL)**, red to brown, very stiff	5			24	8-10-12-14 N=22					
						21	5-11-16-50/3" N=27		10			
4	9.0	**SANDSTONE**, red, soft to moderately hard, weathered	10			21	27-31-38-50/3" N=69					
						24	6-11-23-29 N=34					
	15.0	**CLAYSTONE**, red, soft to moderately hard, weathered	15			22	10-18-34-50/4" N=52					
			20			24	12-30-38-50 N=68					
	22.0	***Boring Terminated at 22 Feet***										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-14-2020	Boring Completed: 05-14-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-32

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6961° Longitude: -108.7407°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SANDY LEAN CLAY (CL)**, red to brown, medium stiff to very stiff				24	5-4-4-6 N=8		15			
						24	4-6-8-10 N=14					
			5			24	7-10-11-10 N=21					
		9.0				24	5-6-9-12 N=15		15			
4		**SANDSTONE**, light tan to yellow, soft to moderately hard, weathered										
		10.1	10			1	50/1"					
		Auger Refusal on Bedrock at 10.1 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-15-2020	Boring Completed: 05-15-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-33

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6939° Longitude: -108.7407°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SANDY LEAN CLAY (CL)**, red to brown, stiff to hard, cemented				24	3-5-4-5 N=9		12			
						24	7-11-10-12 N=21					
			5			12	16-26		9		33-16-17	67
						24	9-15-15-27 N=30					
		9.0										
4		**SANDSTONE**, light tan to yellow, soft to moderately hard, weathered	10			10	20-50/4"					
						8	19-50/2"					
		13.5										
		Auger Refusal on Bedrock at 13.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-15-2020	Boring Completed: 05-15-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-34

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6923° Longitude: -108.7424°

MODEL LAYER	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, red to brown, medium stiff to hard				18	7-4-4-7 N=8					
						24	8-14-17-21 N=31		8		27-15-12	83
			5			24	9-10-11-15 N=21		14			
						12	14-21					
	10.5	**LEAN CLAY WITH SAND (CL)**, gray, hard, cemented, with some yellow sandstone lenses	10			24	18-24-22-18 N=46					
						17	12-28-50/5"					
4	15.0	**SANDSTONE**, gray, moderately hard, weathered	15			5	50/5"					
	18.0	***Auger Refusal on Bedrock at 18 Feet***										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS
Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-15-2020	Boring Completed: 05-15-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-35

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC Boulder, CO

SITE: County Road M.4 Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.692° Longitude: -108.7469°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SANDY LEAN CLAY (CL)**, red to brown, stiff to very stiff			X	24	2-5-4-6 N=9		12			
					X	18	4-10-12-9 N=22					
		6.0	5		X	24	5-10-22-31 N=32		17			
		SANDY LEAN CLAY (CL), light pink to gray, hard, cemented			X	24	6-12-18-27 N=30					
		11.0	10		X	5	50/5"					
4		**SANDSTONE**, yellow to gray, moderately hard, weathered										
		12.8			X	4	50/4"					

Auger Refusal on Bedrock at 12.83 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-15-2020	Boring Completed: 05-15-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-36

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC Boulder, CO

SITE: County Road M.4 Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6962° Longitude: -108.7459°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, red to brown, stiff to hard				24	6-6-5-6 N=11		11		30-15-15	87
						12	10-15					
			5			24	4-4-6-6 N=10					
						24	4-5-8-7 N=13		15			
			10			24	3-8-11-13 N=19					
						24	5-8-11-15 N=19					
		some yellow sandstone deposits	15			12	10-20					
		color change to gray, yellow, and pink; slightly cemented	20			13	14-36-50/1"					
		21.1										
		Boring Terminated at 21.1 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-15-2020	Boring Completed: 05-15-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-37

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC Boulder, CO

SITE: County Road M.4 Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6952° Longitude: -108.7488°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SANDY LEAN CLAY (CL)**, red to brown, medium stiff to very stiff			X	24	1-3-4-6 N=7		12			
					X	34	7-10-9-9 N=19					
			5		X	24	4-8-11-14 N=19					
		7.5										
3		**SILTY CLAYEY SAND (SC-SM)**, light tan and yellow to light pink, interbedded sandy clay and silty clayey sand			X	24	4-6-11-14 N=17		14		25-20-5	42
		10.0	10									
4		**SANDSTONE**, light tan to yellow, moderately hard, weathered			X	11	11-50/5"					
		11.0										
		Auger Refusal on Bedrock at 10.916 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-15-2020	Boring Completed: 05-15-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-38

PROJECT: JSI - Dolores Canyon Solar Project

**CLIENT: JSI Construction Group LLC
Boulder, CO**

**SITE: County Road M.4
Cahone, CO**

LOCATION See Exploration Plan

Latitude: 37.6929° Longitude: -108.7489°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SANDY LEAN CLAY (CL)**, red to brown, medium stiff to stiff				24	1-2-3-3 N=5		14			
						12	4-5					
			5			24	3-3-7-10 N=10		12			
		6.5										
4		**SANDSTONE**, light tan to yellow, soft to moderately hard, weathered				24	9-45-42-50 N=87					
		10.4	10			5	50/5"					

Auger Refusal on Bedrock at 10.5 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-15-2020	Boring Completed: 05-15-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-39

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6954° Longitude: -108.7516°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, red to brown, medium stiff to stiff				18	2-2-3-4 N=5		8			
						24	7-11-9-11 N=20					
			5			12	8-11		13		35-15-20	85
		9.5				24	5-7-10-14 N=17					
4		**SANDSTONE**, light tan to yellow, soft to moderately hard, weathered	10			7	6-50/1"					
		12.8				2	50/3"					
		Auger Refusal on Bedrock at 12.75 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-15-2020	Boring Completed: 05-15-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-40

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6965° Longitude: -108.7554°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SANDY LEAN CLAY (CL)**, red to brown, soft to medium stiff				24	1-1-2-2 N=3					
						24	2-3-3-7 N=6		25			
		4.5										
3		**CLAYEY SAND (SC)**, light pink with white, dense	5			24	7-11-26-15 N=37					
		7.5										
4		8.0 **SANDSTONE**, tan, moderately hard, weathered				1	50/1"					
		Auger Refusal on Bedrock at 8 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-15-2020	Boring Completed: 05-15-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-41

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6942° Longitude: -108.7562°

MODEL LAYER	DEPTH	Description	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, red to brown, medium stiff to very stiff				18	2-2-3-4 N=5		17			
						24	2-4-5-7 N=9					
			5			12	7-10		14		31-15-16	84
						24	3-7-9-13 N=16					
			10			24	6-10-12-15 N=22					
	13.0					22	9-18-32-50/4" N=50					
	14.0	**SANDY LEAN CLAY (CL)**, light pink, hard, cemented, interbedded with yellow sandstone										
4	15.5	**SANDSTONE**, light pink to yellow, soft to moderately hard, weathered	15			4	50/4"					

Auger Refusal on Bedrock at 15.5 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-15-2020	Boring Completed: 05-15-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-42

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC Boulder, CO

SITE: County Road M.4 Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6939° Longitude: -108.758°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, red to brown, medium stiff to stiff				20	4-4-4-5 N=8		11		30-15-15	83
						12	11-9					
			5			24	5-5-8-11 N=13		16		36-16-20	83
		tan to yellow				24	3-6-7-10 N=13					
		10.0										
4		**SANDSTONE**, tan to yellow, soft to moderately hard, weathered	10			12	10-13-37-50/-5"					
		12.6				1	50/1"					
		Auger Refusal on Bedrock at 12.6 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-15-2020	Boring Completed: 05-15-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-43

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6963° Longitude: -108.759°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SANDY LEAN CLAY (CL)**, red to brown, soft				24	2-2-2-18 N=4		9			
		1.5										
4		**SANDSTONE**, yellow to tan, moderately hard, weathered				6	43-75/1"					
						5	50/5"					
		5.3	5			3	50/3"					
		Auger Refusal on Bedrock at 5.25 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-16-2020	Boring Completed: 05-16-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-44

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6955° Longitude: -108.7627°

MODEL LAYER	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SANDY LEAN CLAY (CL)**, red to brown, medium stiff to very stiff				24	3-5-5-7 N=10		11			
						12	11-17					
	5.0	**LEAN CLAY (CL)**, white to light pink, hard, cemented	5			23	13-20-20-50/5" N=40		14			
4	6.5	**SANDSTONE**, light tan to yellow, soft to moderately hard, weathered				15	31-50					
	10.3		10			3	50/3"					

Auger Refusal on Bedrock at 10.25 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Automatic

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-16-2020	Boring Completed: 05-16-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. BH-45

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6973° Longitude: -108.7629°

MODEL LAYER	GRAPHIC LOG	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1			**SANDY LEAN CLAY (CL)**, red to brown, medium stiff to very stiff				18	3-3-3-4 N=6		12			
							22	7-9-12-11 N=21					
				5			14	7-9-8-29 N=17		13		33-16-17	68
		6.5											
3		7.0	**WELL GRADED SAND (SW)**, yellow										
1			**SANDY LEAN CLAY (CL)**, yellow to brown, interbedded sandstone and sandy clay				5	50/5"					
		9.0											
4			**SANDSTONE**, yellow to light tan, soft to moderately hard, weathered	10			3	50/3"					
		10.3	***Auger Refusal on Bedrock at 10.25 Feet***										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Boring Started: 05-16-2020	Boring Completed: 05-16-2020
Drill Rig: CME 75	Driller: Enviro-Dril
Project No.: 61195223	

BORING LOG NO. B-1-1

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7049° Longitude: -108.7743°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS		WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, brown to tan, stiff to very stiff, with organics				13	2-7-7-7 N=14					
						21	10-12-18-21					
			5			22	9-11-21-50					
		7.5 **SILTY CLAY (CL-ML)**, brown and white to tan, stiff				22	4-8-9-15 N=17					
			10			21	5-7-8-10 N=15		17.1			
		13.0 **LEAN CLAY (CL)**, tan with red brown to gray, very stiff				20	4-9-13-14 N=22					
		gravel lense at 20'	15			19	4-7-12-12 N=19					
		with oxidation	20			24	5-9-15-19 N=24		14.9			
		22.0 ***Boring Terminated at 22 Feet***										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-17-2020	Boring Completed: 12-17-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-1-2

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC Boulder, CO

SITE: County Road M.4 Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7036° Longitude: -108.7693°

MODEL LAYER	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1	0.5	**SILTY CLAY (CL-ML)**, brown									
1		**LEAN CLAY (CL)**, brown, stiff to very stiff				13	3-10-10-12 N=20				
						21	15-17-18-23				
			5			22	10-11-14-16	10.3		31-15-16	87
						24	2-3-5-7 N=8				
	11.0		10			20	3-8-8-19 N=16	14.9			
	12.5	**LEAN CLAY WITH GRAVEL (CL)**, orangish brown, very stiff									
	15.5	**LEAN CLAY (CL)**, gray, very stiff to hard, with oxidation				18	3-9-13-15 N=22				
4	16.0	**SANDSTONE**, yellow, soft to moderately hard, weathered	15			7	7-50/6"				
		Auger Refusal on Bedrock at 16 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-17-2020 | Boring Completed: 12-17-2020

Drill Rig: Geoprobe 3100 GT | Driller: Terracon

Project No.: 61195223

BORING LOG NO. B-1-3

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7026° Longitude: -108.7745°

MODEL LAYER	DEPTH	Description	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1	1.5	**SILTY CLAY (CL-ML)**, brown, stiff				13	3-6-9-11 N=15				
	10.5	**LEAN CLAY WITH SAND (CL)**, brown, stiff to very stiff, with calcite veins				19	15-12-9-10	13.4		33-16-17	82
			5				14-16-21-36				
							4-10-13-12 N=23	15.9			
	13.0	**SILTY CLAY (CL-ML)**, trace sand, white, hard	10			20	5-14-18-24 N=32				
2	15.0	**SILT WITH SAND (ML)**, trace gravel, white to tan, hard; gravel lense at 13.5'				21	5-10-13-50/3" N=23				
4	15.6	**SANDSTONE**, white, soft to moderately hard, weathered	15				37-50/1"				
		Auger Refusal on Bedrock at 15.58 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-17-2020	Boring Completed: 12-17-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-1-4

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC Boulder, CO

SITE: County Road M.4 Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7022° Longitude: -108.7715°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SILTY CLAY (CL-ML)**, brown, stiff, with organics				13	2-7-8-11 N=15				
		2.5 **LEAN CLAY (CL)**, brown, very stiff, with organics at 2.5'					16-16-15-15				
			5			17	15-16-16-18				
4		7.0 **SANDSTONE**, white, soft to moderately hard, weathered				2	7-50/1"				
		8.1 ***Auger Refusal on Bedrock at 8.08 Feet***									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-17-2020	Boring Completed: 12-17-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-2-1

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.9191° Longitude: -108.7741°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, red brown, stiff, with organics				14	2-4-7-8 N=11				
		3.0 **LEAN CLAY (CL)**, brown, stiff to very stiff, with calcite striations				20	8-6-7-12				
			5			22	8-11-15-23				
						24	3-6-8-11 N=14	17.4			
		trace organics	10			24	4-5-8-11 N=13				
		13.0 **SILTY CLAY (CL-ML)**, brown to tan, very stiff				22	4-8-10-10 N=18				
4		15.0 **SANDSTONE**, tan, weak to moderately hard, weathered	15			17	10-39-50/5"				
		17.7				0	50/2"				

Auger Refusal on Bedrock at 17.67 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-16-2020	Boring Completed: 12-16-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-2-2

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7188° Longitude: -108.7710°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS		WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, trace sand and gravel, brown to tan, very stiff				13	3-6-10-8 N=16					
		3.0										
3		**SILTY SAND WITH GRAVEL (SM)**, tan to orange, dense				20	16-23-20-36					
		5.0	5									
4		**SANDSTONE**, tan, weak to moderately hard, weathered				16	23-61-70/4"					
		6.3										
		Auger Refusal on Bedrock at 6.33 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-17-2020	Boring Completed: 12-17-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-2-3

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7171° Longitude: -108.7748°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS		WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, brown, very stiff 1.5				14	2-8-9-14 N=17					
4		**SANDSTONE**, tan to white, weak to moderately hard, weathered 3.7				14	62-51-70/2"					
		Auger Refusal on Bedrock at 3.67 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-16-2020	Boring Completed: 12-16-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-2-4

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC Boulder, CO

SITE: County Road M.4 Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7160° Longitude: -108.7717°

MODEL LAYER	DEPTH	Description	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SILTY CLAY (CL-ML)**, red to brown, medium stiff				10	4-4-3-3 N=7				
	2.5	**LEAN CLAY (CL)**, red brown to tan, stiff to very stiff, organics at 2.5'				20	8-7-8-10	14.1		24-16-8	88
			5			19	9-10-15-23				
		with organics				24	3-4-6-9 N=10	15.9			
			10			24	3-5-8-12 N=13				
		color change to gray and black with oxidation staining				22	5-8-11-17 N=19				
		weak cementation	15			20	5-8-12-14 N=20	15.3			
	19.0	**SILTY CLAY (CL-ML)**, gray to black, hard, with oxidation	20			11	5-12-50/5"				
	21.4	***Boring Terminated at 21.42 Feet***									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-16-2020	Boring Completed: 12-16-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-3-1

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7199° Longitude: -108.7787°

MODEL LAYER	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, black to brown, medium stiff to hard, with calcite striations and oxidation				9	2-3-6-8 N=9				
						20	16-12-12-24				
			5			20	11-22-27-34				
	10.0					19	8-15-17-21 N=32				
		SILTY CLAY (CL-ML), black to gray, hard, moderate cementation, with calcite striations and oxidation	10			18	12-25-37-41 N=62				
	15.0					20	10-18-50-41 N=68	10.5			
2	15.8	**SILT (ML)**, gray, hard, with calcite striations and oxidation	15				10-24-50/4"				
		Auger Refusal at 15.83 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-15-2020	Boring Completed: 12-15-2020
Drill Rig: Geoprobe 3330	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-3-2

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7190° Longitude: -108.7763°

MODEL LAYER	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, red brown, very stiff to hard, with trace organics and calcite				14	6-11-12-13 N=23				
						22	25-31-22-24	9.1		26-15-11	85
	5.0	**LEAN CLAY (CL)**, red brown, hard	5			24	35-46-34-44				
2	8.0	**SANDY SILT (ML)**, white to tan, hard				14	8-26-17-16 N=43				
	9.5	***Auger Refusal at 9.5 Feet***									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-15-2020	Boring Completed: 12-15-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-3-3

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7177° Longitude: -108.7790°

MODEL LAYER	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1	3.5	**LEAN CLAY (CL)**, red brown, medium stiff, with organics				9	1-2-3-6 N=5				
						20	14-18-26-27				
3	4.5	**SILTY SAND (SM)**, tan white, dense, weak cementation	5								
1	16.5	**LEAN CLAY WITH SAND (CL)**, blackish gray, very stiff to hard, with calcite and oxidation striations				20	13-22-36-47	18.3		48-27-21	74
						17	5-8-10-14 N=18				
			10			18	5-9-12-14 N=21				
		weak cementation				19	5-24-25-21 N=49				
			15			20	11-21-35-50/2" N=56	9.1			
1	17.4	**LEAN CLAY (CL)**, gray to orange, hard, cemented				2	12-50/5"				
		Auger Refusal at 17.42 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-16-2020	Boring Completed: 12-16-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-3-4

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC Boulder, CO

SITE: County Road M.4 Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7170° Longitude: -108.7762°

MODEL LAYER	GRAPHIC LOG	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS		WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1			**LEAN CLAY (CL)**, brown to tan white, very stiff to hard				13	2-8-8-8 N=16					
		5.0	cemented, with sand				21	15-35-36-35					
2			**SANDY SILT (ML)**, tan to brown, hard, with sandstone	5			22	20-23-36-37					
		8.2					6	20-50/2"					
			Auger Refusal at 8.17 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-16-2020	Boring Completed: 12-16-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-4-1

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7157° Longitude: -108.7801°

MODEL LAYER	GRAPHIC LOG	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		2.5	**LEAN CLAY (CL)**, brown, very stiff, with calcite striations				14	5-9-9-10 N=18				
1		7.0	**LEAN CLAY (CL)**, brown, stiff to very stiff, with calcite striations	5			20	9-10-15-19				
							20	13-13-14-18				
3		10.0	**CLAYEY SAND WITH GRAVEL (SC)**, tan, dense				14	19-29-14-8 N=43				
1		12.5	**LEAN CLAY (CL)**, trace sand and gravel, white tan, hard	10			22	7-4-8-32 N=12	25.8			
4		13.2	**SANDSTONE**, white tan, weak to moderately hard, weathered				4	8-50/2"				

Auger Refusal on Bedrock at 13.17 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-17-2020	Boring Completed: 12-17-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-4-2

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7138° Longitude: -108.7790°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS		WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, brown, very stiff, with organics				14	4-10-12-12 N=22					
						22	8-11-15-27					
		4.5										
2		**SILT WITH SAND (ML)**, trace gravel, brown to tan, hard, with organics	5			7	20-70/2"					
		7.5										
4		**SANDSTONE**, white tan, weak to moderately hard, weathered				5	21-50/3"					
		8.3										
		Auger Refusal on Bedrock at 8.25 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-17-2020	Boring Completed: 12-17-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-4-3

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7113° Longitude: -108.7787°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, red brown, stiff, with organics				10	2-6-8-8 N=14				
		2.5									
		LEAN CLAY (CL), red brown, very stiff, with calcite striations				22	19-22-18-21	14.4		41-19-22	87
			5			22	10-18-24-18				
		7.5									
2		**SILT WITH SAND (ML)**, tan white, stiff				20	4-4-5-6 N=9				
		10.0	10								
4		**SANDSTONE**, yellow, weak to moderately hard, weathered					15-50/3"				
		10.8									
		Auger Refusal on Bedrock at 10.75 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-17-2020 | Boring Completed: 12-17-2020

Drill Rig: Geoprobe 3100 GT | Driller: Terracon

Project No.: 61195223

BORING LOG NO. B-4-4

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7086° Longitude: -108.7791°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, red brown, stiff, with organics				8	3-6-6-7 N=12				
		2.5 **LEAN CLAY WITH SAND (CL)**, brown to tan, very stiff, with organics and calcite striations				20	11-12-11-12				
			5			19	10-10-11-12	11.3		34-17-17	82
		8.0 **LEAN CLAY (CL)**, trace sand, tan to white, hard				22	5-12-21-22 N=33				
4		10.5 **SANDSTONE**, brown, weak to moderately hard, weathered	10			5	10-50/2"				
		10.7 ***Auger Refusal on Bedrock at 10.67 Feet***									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-17-2020	Boring Completed: 12-17-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-5-1

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7109° Longitude: -108.7437°

MODEL LAYER	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, brown, medium stiff to very stiff, with organics									
			2.5–4.5		X	26	8-7-5-3 N=12	11.3		29-17-12	86
			5–7		X	20	7-4-5-7 N=9				
			7.5–9.5		X	24	6-6-10-12 N=16	17.8		36-17-19	89
	11.0	**SILTY CLAY (CL-ML)**, white tan, stiff	10–12		X	24	3-6-7-7 N=13				
4	13.5	**SANDSTONE**, tan, weak to moderately hard, weathered	15		X	2	50/4"				
	17.3		17		X	1	50/3"				
		Auger Refusal on Bedrock at 17.25 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-18-2020	Boring Completed: 12-18-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-5-2

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7101° Longitude: -108.7438°

MODEL LAYER	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, brown, stiff				17	8-7-5-5 N=12				
	6.0		5			22	20-14-14-19	13.5		29-15-14	81
	7.5	**SANDY LEAN CLAY WITH GRAVEL (CL)**, tan to brown, very stiff									
	10.0	**GRAVELLY SILTY CLAY WITH SAND (CL-ML)**, white tan, hard					6-31-50/5"				
4		**SANDSTONE**, white to yellow, weak to moderately hard, weathered	10			5	17-50/2"				
	14.2						50/2"				
		Auger Refusal on Bedrock at 14.17 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-18-2020	Boring Completed: 12-18-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-6-1

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7176° Longitude: -108.7749°

MODEL LAYER	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1	3.0	**SILTY CLAY (CL-ML)**, brown, stiff				10	1-4-8-9 N=12				
	4.0	**GRAVELLY LEAN CLAY WITH SAND (CL)**, brown to tan, very stiff				20	8-8-14-30				
3	6.5	**WELL GRADED SAND WITH GRAVEL (SW)**, tan, very dense	5			8	30-70/4"				
	8.0	**CLAYEY SAND (SC)**, tan, very dense									
4	8.8	**SANDSTONE**, tan, weak to moderately hard, weathered				16	36-70	9.4		21-18-3	40

Refusal at 8.75 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-16-2020	Boring Completed: 12-16-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-6-2

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7144° Longitude: -108.7572°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SILTY CLAY (CL-ML)**, red brown, very stiff, cemented				13	4-10-10-12 N=20				
		2.5 **LEAN CLAY WITH SAND (CL)**, brown to tan, very stiff to hard, with organics and calcite striations				20	13-18-21-21				
			5			21	9-16-21-26	13.1		41-18-23	79
						19	7-10-15-18 N=25				
		black to gray, cemented	10			15	5-11-11-11 N=22				
						19	8-12-16-20 N=28	15.6			
			15				8-11-16-18 N=27				
		20.7	20				17-50/2"				
		Refusal at 20.67 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-15-2020	Boring Completed: 12-15-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-6-3

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7055° Longitude: -108.7490°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SILTY CLAY (CL-ML)**, red brown, medium stiff				9	2-4-4-4 N=8				
		3.0 **LEAN CLAY WITH SAND (CL)**, red brown, very stiff, with calcite				20	7-7-9-11				
			5			24	9-9-11-13	16.2		32-15-17	84
		8.0 **GRAVELLY LEAN CLAY WITH SAND (CL)**, white tan, very stiff				24	2-5-9-13 N=14				
			10			7	6-50/3"				
4		11.0 / 11.2 **SANDSTONE**, white tan, weak to moderately hard, weathered				0	50/2"				
		Auger Refusal on Bedrock at 11.17 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-15-2020	Boring Completed: 12-15-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

BORING LOG NO. B-6-4

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6988° Longitude: -108.7567°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, red brown, soft to very stiff				12	3-3-3-3 N=6				
						19	5-2-2-2				
			5			23	10-12-20-31	12.7		27-15-12	80
		8.5				16	11-13-14-16 N=27				
4		**SANDSTONE**, weak to moderately hard, weathered									
		9.5									
		Auger Refusal on Bedrock at 9.5 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Hollow Stem Augers

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-15-2020	Boring Completed: 12-15-2020
Drill Rig: Geoprobe 3100 GT	Driller: Terracon
Project No.: 61195223	

TEST PIT LOG NO. TP-01

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

MODEL LAYER	GRAPHIC LOG	LOCATION See Exploration Plan Latitude: 37.7173° Longitude: -108.7605° DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, reddish brown										
			3		Grab				15		30-14-16	87
		9.5										
4		**SANDSTONE**, white										
			9.5		Grab							
		15.0	15									
		Test Pit Terminated at 15 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-26-2020	Test Pit Completed: 05-26-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-02

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7128° Longitude: -108.7622°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, reddish brown										
					Grab				14		31-14-17	83
		4.5										
4		**SANDSTONE**, white	5		Grab							
		7.5										
		SHALE, grayish green			Grab							
		11.0	10									
		Test Pit Refusal on Bedrock at 11 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-26-2020	Test Pit Completed: 05-26-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-03

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC Boulder, CO

SITE: County Road M.4 Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.712° Longitude: -108.7575°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		7.5										
			LEAN CLAY (CL), reddish brown									
4		8.0	**SANDSTONE**, white									
		14.5	**SHALE**, grayish green Interbedded claystone layer									

Depth scale marks: 5, 10. Grab samples at approximately 3, 7.5, 8, 13.5 ft.

Test Pit Refusal on Bedrock at 14.5 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-26-2020	Test Pit Completed: 05-26-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-04

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7152° Longitude: -108.7554°

MODEL LAYER	DEPTH	Description	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, reddish brown										
			3		Grab				16		26-14-12	80
			5		Grab							
					Grab							
	9.0											
4		**SHALE**, gray			Grab							
			10									
		yellow minerals			Grab							
	15.0		15									
		Test Pit Terminated at 15 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-26-2020	Test Pit Completed: 05-26-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-05

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7131° Longitude: -108.7527°

MODEL LAYER	GRAPHIC LOG	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1			**LEAN CLAY (CL)**, reddish brown			Grab (~3 ft)							
		8.5	**LEAN CLAY (CL)**, black, with gray shale cobbles	5		Grab (~8.5 ft)							
		12.5		10		Grab (~10 ft)							
4		13.0	**SHALE**, gray			Grab (~12.5 ft)							
			Test Pit Refusal on Bedrock at 13 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-26-2020	Test Pit Completed: 05-26-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-06

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7108° Longitude: -108.7474°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, reddish brown	5		Grab							
		7.0										
4		7.5 **SANDSTONE**, white			Grab							
		Test Pit Refusal on Bedrock at 7.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-21-2020	Test Pit Completed: 05-21-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-07

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7132° Longitude: -108.7451°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, reddish brown			✋				16		30-14-16	85
			5									
		10.0										
4		10.5 **SANDSTONE**, white	10		✋							
		Test Pit Refusal on Bedrock at 10.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-21-2020	Test Pit Completed: 05-21-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-08

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7086° Longitude: -108.7443°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, reddish brown										
			3		Grab				14		29-14-15	87
		12.0										
4		**SANDSTONE**, white	12		Grab							
		13.0										
		Test Pit Refusal on Bedrock at 13 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-21-2020	Test Pit Completed: 05-21-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-09

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7083° Longitude: -108.748°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, reddish brown										
		2.5										
4		**SANDSTONE**, white	5									
		8.0										
		Test Pit Refusal on Bedrock at 8 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-21-2020	Test Pit Completed: 05-21-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-10

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

MODEL LAYER	GRAPHIC LOG	LOCATION See Exploration Plan Latitude: 37.7073° Longitude: -108.7505° DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, reddish brown			Grab				9		28-17-11	83
		4.5										
4		**SANDSTONE**, white	5		Grab							
		7.5										
		Test Pit Refusal on Bedrock at 7.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-21-2020	Test Pit Completed: 05-21-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-11

PROJECT: JSI - Dolores Canyon Solar Project

**CLIENT: JSI Construction Group LLC
Boulder, CO**

**SITE: County Road M.4
Cahone, CO**

LOCATION See Exploration Plan

Latitude: 37.704° Longitude: -108.7446°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, reddish brown										
		3.0 **LEAN CLAY (CL)**, dark brown			grab							
					grab							
		5.5 **LEAN CLAY (CL)**, grayish brown	5		grab							
4		8.5 **SANDSTONE**, reddish brown			grab							
		11.0	10									
		Test Pit Refusal on Bedrock at 11 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-22-2020	Test Pit Completed: 05-22-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-12

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7028° Longitude: -108.7482°

MODEL LAYER	DEPTH		DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, reddish brown										
			3		Grab				13		33-17-16	82
			5									
			10									
	12.0											
4	12.5	**SANDSTONE**, white			Grab							
		Test Pit Refusal on Bedrock at 12.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-21-2020	Test Pit Completed: 05-21-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-13

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7047° Longitude: -108.7539°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, reddish brown			Grab							
		5.0	5									
4		**SANDSTONE**, white			Grab							
		7.5										
		Test Pit Refusal on Bedrock at 7.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-21-2020	Test Pit Completed: 05-21-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-14

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.702° Longitude: -108.7508°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, reddish brown										
			5									
		7.0										
4		**SANDSTONE**, white										
			10									
		13.5										
		SHALE, grayish green										
		14.5										
		Test Pit Refusal on Bedrock at 14.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-21-2020	Test Pit Completed: 05-21-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-15

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

MODEL LAYER	GRAPHIC LOG	LOCATION See Exploration Plan Latitude: 37.7003° Longitude: -108.7549° DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, reddish brown			grab				10		29-17-12	83
			5									
		8.0										
4		**SANDSTONE**, white			grab							
		9.5										
		Test Pit Refusal on Bedrock at 9.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-21-2020	Test Pit Completed: 05-21-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-16

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7° Longitude: -108.7477°

MODEL LAYER	GRAPHIC LOG	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1			**LEAN CLAY (CL)**, reddish brown	5		Grab							
		10.0											
4		10.5	**SANDSTONE**, white	10		Grab							
			Test Pit Refusal on Bedrock at 10.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-22-2020	Test Pit Completed: 05-22-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-17

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7026° Longitude: -108.7404°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, reddish brown	5		(grab)							
		10.5	10									
4		**SANDSTONE**, white			(grab)							
		12.0										
		12.5 **SHALE**, grayish green			(grab)							
		Test Pit Refusal on Bedrock at 12.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-22-2020	Test Pit Completed: 05-22-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-18

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC Boulder, CO

SITE: County Road M.4 Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6968° Longitude: -108.7406°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, reddish brown										
					Grab				12		28-17-11	83
		5.0	5		Grab							
4		**SANDSTONE**, white										
		9.5										
		Test Pit Refusal on Bedrock at 9.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-22-2020	Test Pit Completed: 05-22-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-19

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

MODEL LAYER	GRAPHIC LOG	LOCATION See Exploration Plan Latitude: 37.6922° Longitude: -108.7399° DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, reddish brown 6.0	5									
4		**SANDSTONE**, white 8.0										
		Test Pit Refusal on Bedrock at 8 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-22-2020	Test Pit Completed: 05-22-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-20

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6947° Longitude: -108.7455°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, reddish brown 3.0										
4		**SANDSTONE**, white 10.5	5		Grab				13		35-18-17	82
					Grab							
		SHALE, grayish green 12.5	10		Grab							
					Grab							
		Test Pit Refusal on Bedrock at 12.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-22-2020	Test Pit Completed: 05-22-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-21

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6973° Longitude: -108.7461°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, reddish brown			grab sample							
		5.0	5									
4		5.5 **SANDSTONE**, white			grab sample							
		Test Pit Refusal on Bedrock at 5.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-22-2020	Test Pit Completed: 05-22-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-22

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6924° Longitude: -108.7514°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SANDY LEAN CLAY (CL)**, reddish brown										
		2.0			(hand)				10		35-18-17	67
4		2.5 **SANDSTONE**, white			(hand)							
		Test Pit Refusal on Bedrock at 2.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-22-2020	Test Pit Completed: 05-22-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-23

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6944° Longitude: -108.7516°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, reddish brown			Grab							
		5.5	5		Grab							
4		**SANDSTONE**, white										
		9.5										
		10.0 **LIMESTONE**, white	10		Grab							
		Test Pit Refusal on Bedrock at 10 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-22-2020	Test Pit Completed: 05-22-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-24

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.6956° Longitude: -108.7548°

MODEL LAYER	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, reddish brown			Grab				7		27-18-9	79
	6.5		5									
4	7.0	**SANDSTONE**, white			Grab							
		Test Pit Refusal on Bedrock at 7 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-26-2020	Test Pit Completed: 05-26-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

TEST PIT LOG NO. TP-25

PROJECT: JSI - Dolores Canyon Solar Project

**CLIENT: JSI Construction Group LLC
Boulder, CO**

**SITE: County Road M.4
Cahone, CO**

LOCATION See Exploration Plan

Latitude: 37.6968° Longitude: -108.7602°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	Swell/Collapse%	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, reddish brown			grab							
		6.0	5									
4		**SANDSTONE**, white			grab							
		10.0	10									
		Test Pit Refusal on Bedrock at 10 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

6949 S High Tech Dr, Ste 100
Midvale, UT

Test Pit Started: 05-26-2020	Test Pit Completed: 05-26-2020
Excavator: Backhoe	Operator:
Project No.: 61195223	

BORING LOG NO. TP 1-1

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7036° Longitude: -108.7716°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS		WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SANDY LEAN CLAY (CL)**, reddish brown										
		3.0										
2		**SILT WITH SAND (ML)**, brownish gray, moderate cementation							14.4		NP	77
			5									
		8.0										
4		**SANDSTONE**, yellowish brown										
		8.5										
		Test Pit Refusal on Bedrock at 8.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:
Test Pit backfilled with cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-16-2020	Boring Completed: 12-16-2020
Drill Rig: Backhoe	Driller: DFC
Project No.: 61195223	

BORING LOG NO. TP 1-2

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7047° Longitude: -108.7686°

MODEL LAYER	GRAPHIC LOG	DEPTH	Description	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1			**LEAN CLAY WITH SAND (CL)**, reddish brown									
						Grab						
						Sample			10.4		29-19-10	81
				5								
		6.0	moderate cementation									
4		6.5	**SANDSTONE**, yellowish brown			Grab						
			Test Pit Refusal on Bedrock at 6.5 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:
Test Pit backfilled with cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-16-2020	Boring Completed: 12-16-2020
Drill Rig: Backhoe	Driller: DFC
Project No.: 61195223	

BORING LOG NO. TP 2-1

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7178° Longitude: -108.7726°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**SILTY CLAY WITH SAND (CL-ML)**, reddish brown						12.5		26-19-7	81
		11.0									
4		**SANDSTONE**, yellowish brown, silty sandstone from 12-13, softer									
		14.0									
		Test Pit Refusal on Bedrock at 14 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:
Test Pit backfilled with cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-16-2020	Boring Completed: 12-16-2020
Drill Rig: Backhoe	Driller: DFC
Project No.: 61195223	

BORING LOG NO. TP 2-2

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7184° Longitude: -108.7683°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS		WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, reddish brown										
		weak cementation							9.4		27-17-10	87
		12.5	5, 10									
4		**SANDSTONE**, yellowish brown										
		14.0										
		Test Pit Refusal on Bedrock at 14 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:
Test Pit backfilled with cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-16-2020	Boring Completed: 12-16-2020
Drill Rig: Backhoe	Driller: DFC
Project No.: 61195223	

BORING LOG NO. TP 2-3

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7155° Longitude: -108.7740°

MODEL LAYER	DEPTH	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, reddish brown									
			~2–3		hand symbol / bar symbol			13.7		26-18-8	82
			5								
			10								
	11.0										
4		**SANDSTONE**, yellowish brown	~11–12		hand symbol / bar symbol						
	12.0	***Test Pit Refusal on Bedrock at 12 Feet***									

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:
Test Pit backfilled with cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-16-2020	Boring Completed: 12-16-2020
Drill Rig: Backhoe	Driller: DFC
Project No.: 61195223	

BORING LOG NO. TP 3-1

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7187° Longitude: -108.7776°

MODEL LAYER	DEPTH	Description	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, reddish brown	3-3.5		Bulk			7.8		30-19-11	84
			4-4.5		Grab						
	6.0										
4	6.5	**SANDSTONE**, yellowish brown									
			13-13.5		Grab						
			14-14.5		Bulk						
		Boring Terminated at 15 Feet	15								

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:
Test Pit backfilled with cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-16-2020	Boring Completed: 12-16-2020
Drill Rig: Backhoe	Driller: DFC
Project No.: 61195223	

BORING LOG NO. TP 3-2

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

LOCATION See Exploration Plan

Latitude: 37.7166° Longitude: -108.7775°

MODEL LAYER	GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, reddish brown									
		moderate cementation			Grab			12.1		36-19-17	78
		4.0									
4		**SANDSTONE**, yellowish brown	5		Grab						
		5.5									
		Test Pit Refusal on Bedrock at 5.5 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:
Test Pit backfilled with cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

Boring Started: 12-16-2020	Boring Completed: 12-16-2020
Drill Rig: Backhoe	Driller: DFC
Project No.: 61195223	

BORING LOG NO. TP 4-1

PROJECT: JSI - Dolores Canyon Solar Project

CLIENT: JSI Construction Group LLC
Boulder, CO

SITE: County Road M.4
Cahone, CO

MODEL LAYER	GRAPHIC LOG	LOCATION See Exploration Plan Latitude: 37.7145° Longitude: -108.7784° DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS		WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		**LEAN CLAY WITH SAND (CL)**, reddish brown 3.0										
4		**SANDSTONE**, yellowish brown 5.5	5						9.0		31-18-13	76
		Test Pit Refusal on Bedrock at 5.5 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:

Abandonment Method:
Test Pit backfilled with cuttings upon completion.

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:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

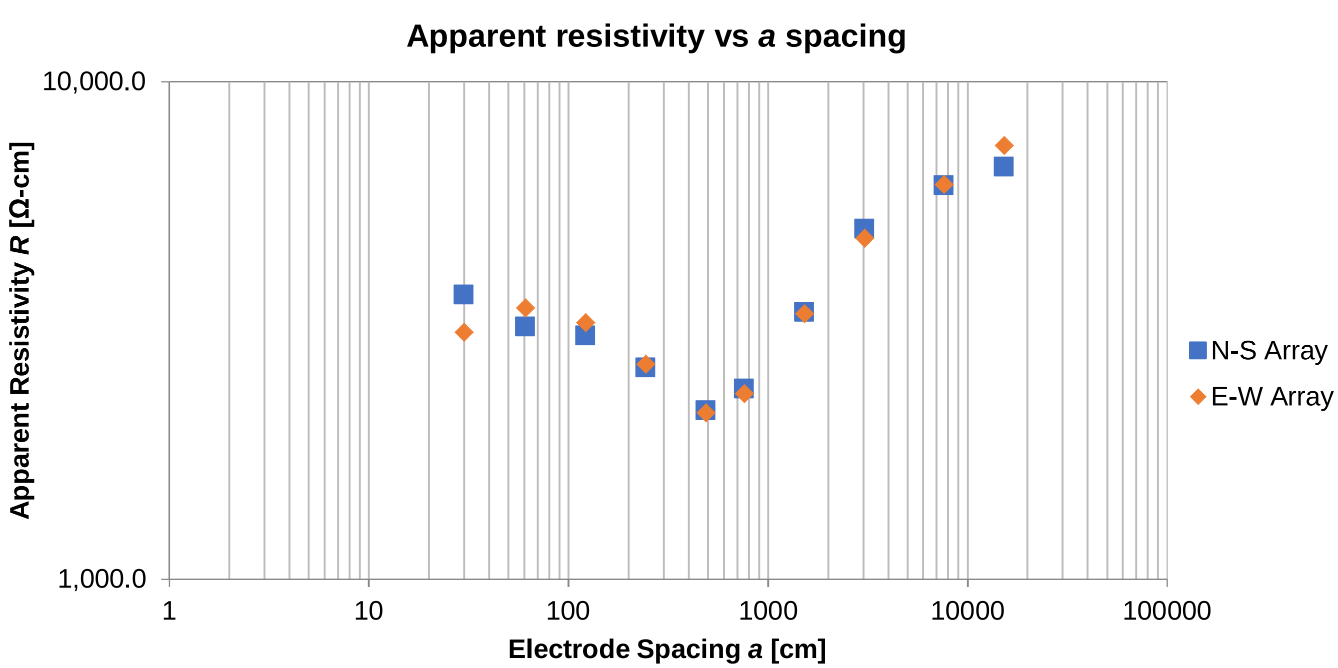
Boring Started: 12-16-2020	Boring Completed: 12-16-2020
Drill Rig: Backhoe	Driller: DFC
Project No.: 61195223	

FIELD ELECTRICAL RESISTIVITY TEST DATA
Dolores Canyon Solar ■ Near Cahone, CO
January 15, 2021 ■ Terracon Project No. 61195223

Array Loc.	Resistivity Array R-1		
Instrument	L & R Instruments UltraMini Res	**Weather**	Sunny and Warm
Serial #	LRI SN276	**Ground Cond.**	Tilled Field
Cal. Check	May 18, 2020 (Field Calibration)	**Tested By**	Sean Paroski and Marshall Wayment
Test Date	May 18, 2020	**Method**	Venner 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	15.09	3740	12.66	3140
2	61	6	15	7.66	3220	8.34	3510
4	122	6	15	3.93	3090	4.17	3280
8	244	6	15	1.73	2670	1.76	2710
16	488	12	30	0.71	2190	0.70	2160
25	762	12	30	0.50	2420	0.49	2360
50	1524	12	30	0.36	3450	0.36	3420
100	3048	12	30	0.27	5080	0.25	4850
250	7620	12	30	0.13	6210	0.13	6230
500	15240	12	30	0.07	6760	0.08	7450



FIELD ELECTRICAL RESISTIVITY TEST DATA

Dolores Canyon Solar ■ Near Cahone, CO

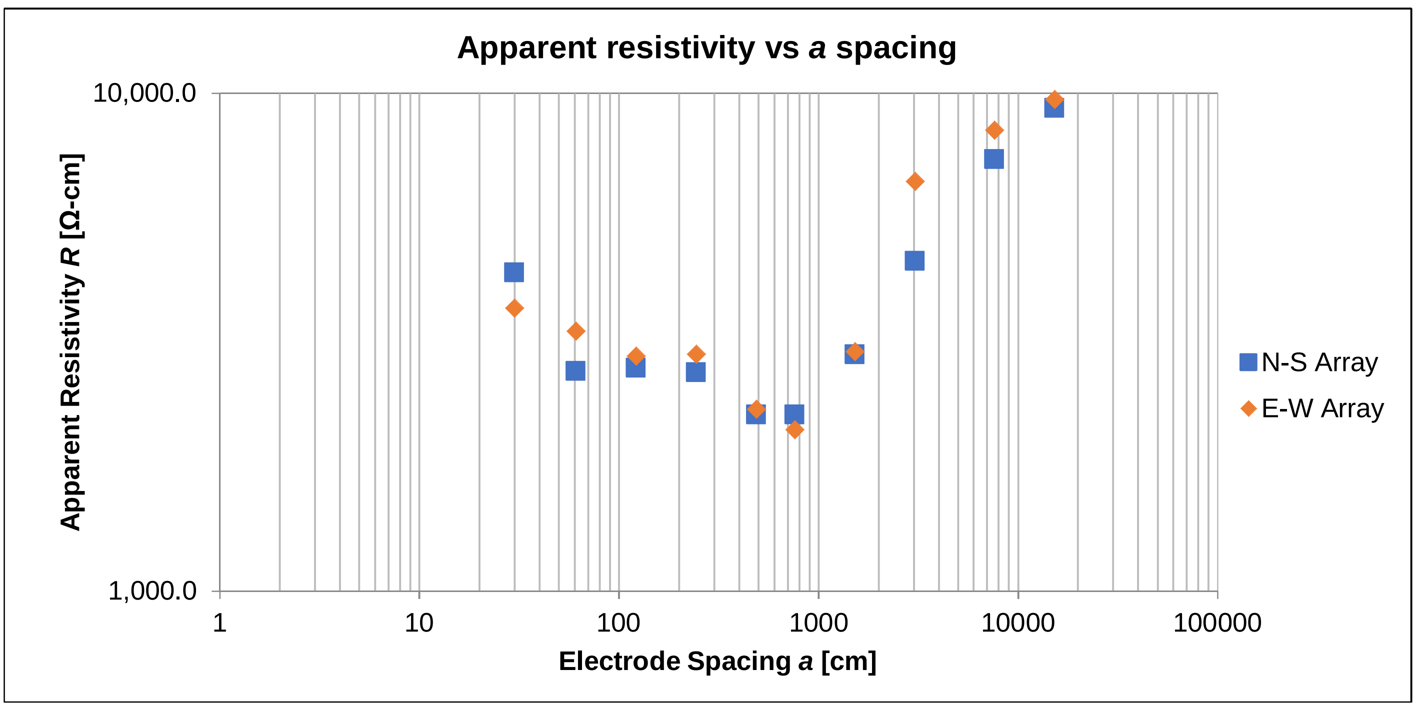
January 15, 2021 ■ Terracon Project No. 6119523

Terracon GeoReport

Array Loc.	Resistivity Array R-2		
Instrument	L & R Instruments UltraMini Res	**Weather**	Sunny and Warm
Serial #	LRI SN276	**Ground Cond.**	Tilled Field
Cal. Check	May 18, 2020 (Field Calibration)	**Tested By**	Sean Paroski and Marshall Wayment
Test Date	May 18, 2020	**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	17.64	4380	14.98	3710
2	61	6	15	6.58	2770	7.91	3330
4	122	6	15	3.57	2810	3.78	2970
8	244	6	15	1.79	2760	1.94	2990
16	488	12	30	0.74	2270	0.75	2320
25	762	12	30	0.47	2270	0.44	2110
50	1524	12	30	0.31	2990	0.32	3030
100	3048	12	30	0.24	4620	0.35	6670
250	7620	12	30	0.15	7390	0.18	8440
500	15240	12	30	0.10	9360	0.10	9740

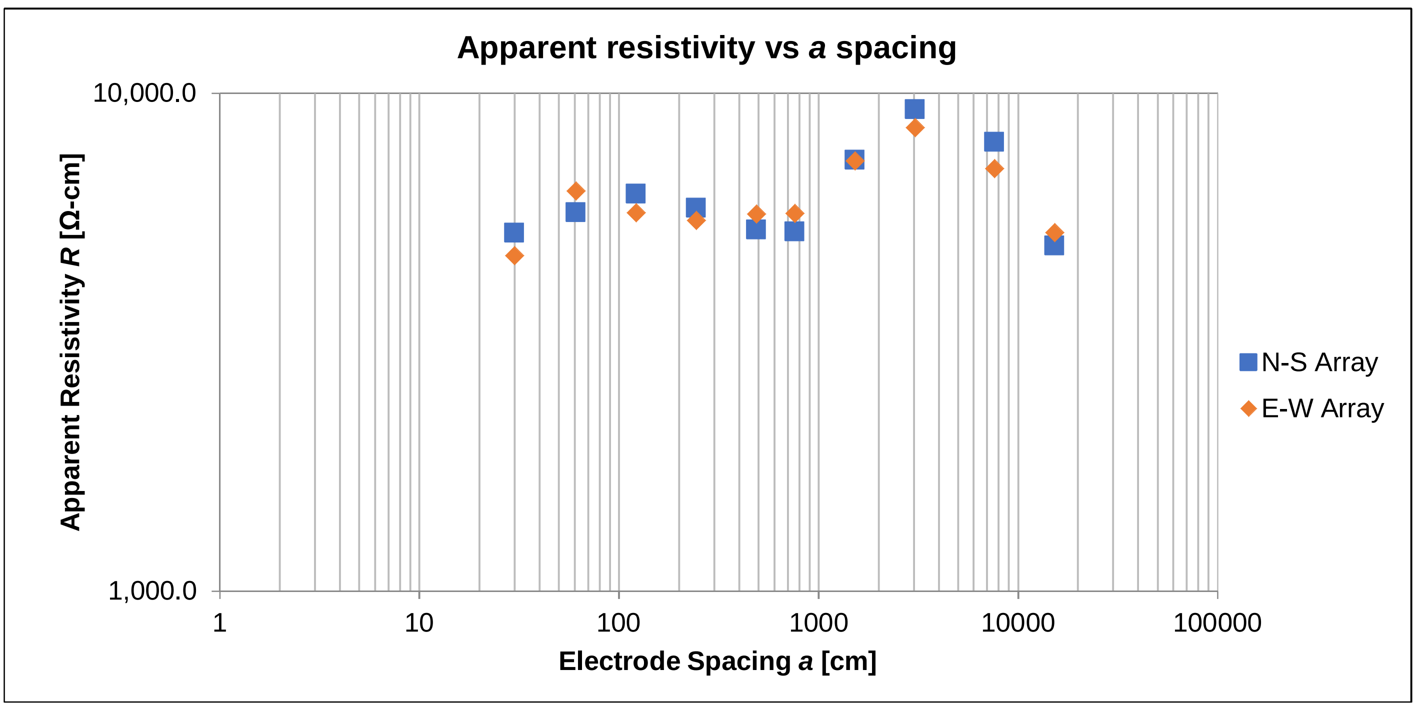


FIELD ELECTRICAL RESISTIVITY TEST DATA
Dolores Canyon Solar ■ Near Cahone, CO
January 15, 2021 ■ Terracon Project No. 6119523

Array Loc.	Resistivity Array R-3		
Instrument	L & R Instruments UltraMini Res	**Weather**	Sunny and Warm
Serial #	LRI SN276	**Ground Cond.**	Varing terrain: illed field and range land
Cal. Check	May 18, 2020 (Field Calibration)	**Tested By**	Sean Paroski and Marshall Wayment
Test Date	May 18, 2020	**Method**	Venner 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*	Apparent Resistivity *ρ*	Measured Resistance *R*	Apparent Resistivity *ρ*
				Ω	[Ω-cm]	Ω	[Ω-cm]
1	30	6	15	21.20	5260	19.03	4720
2	61	6	15	13.73	5770	15.17	6380
4	122	6	15	8.01	6300	7.32	5760
8	244	6	15	3.83	5900	3.60	5560
16	488	12	30	1.73	5330	1.85	5720
25	762	12	30	1.10	5290	1.20	5750
50	1524	12	30	0.77	7360	0.76	7330
100	3048	12	30	0.49	9320	0.45	8530
250	7620	12	30	0.17	8010	0.15	7060
500	15240	12	30	0.05	4960	0.05	5250



FIELD ELECTRICAL RESISTIVITY TEST DATA

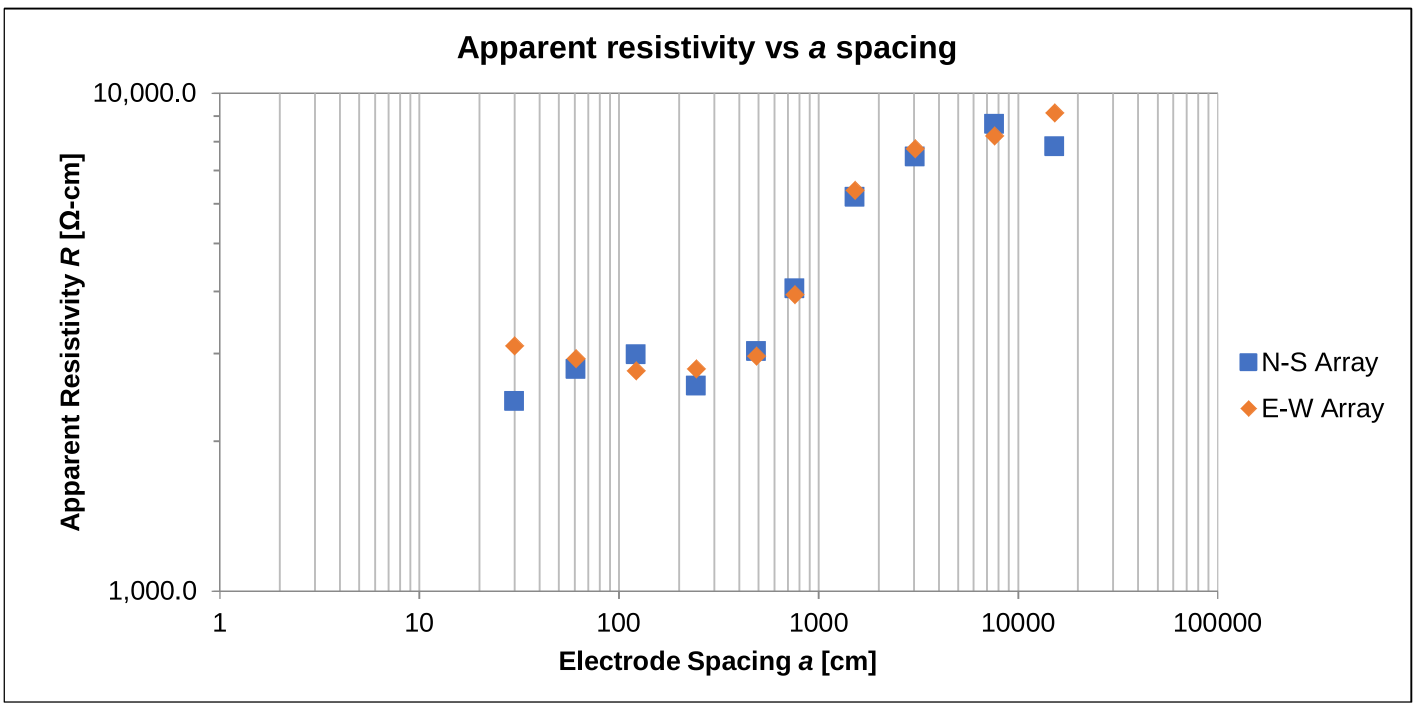
Dolores Canyon Solar ■ Near Cahone, CO
January 15, 2021 ■ Terracon Project No. 6119523

Terracon GeoReport

Array Loc.	Resistivity Array R-4		
Instrument	L & R Instruments UltraMini Res	**Weather**	Sunny and Warm
Serial #	LRI SN276	**Ground Cond.**	Tilled Field
Cal. Check	May 19, 2020 (Field Calibration)	**Tested By**	Sean Paroski and Marshall Wayment
Test Date	May 19, 2020	**Method**	Venner 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*	Apparent Resistivity ρ	Measured Resistance *R*	Apparent Resistivity ρ
				Ω	[Ω-cm]	Ω	[Ω-cm]
1	30	6	15	9.73	2410	12.52	3110
2	61	6	15	6.67	2800	6.97	2930
4	122	6	15	3.80	2990	3.52	2770
8	244	6	15	1.68	2590	1.81	2800
16	488	12	30	0.99	3040	0.96	2970
25	762	12	30	0.85	4060	0.82	3940
50	1524	12	30	0.65	6200	0.67	6390
100	3048	12	30	0.39	7480	0.40	7750
250	7620	12	30	0.18	8700	0.17	8220
500	15240	12	30	0.08	7840	0.10	9150



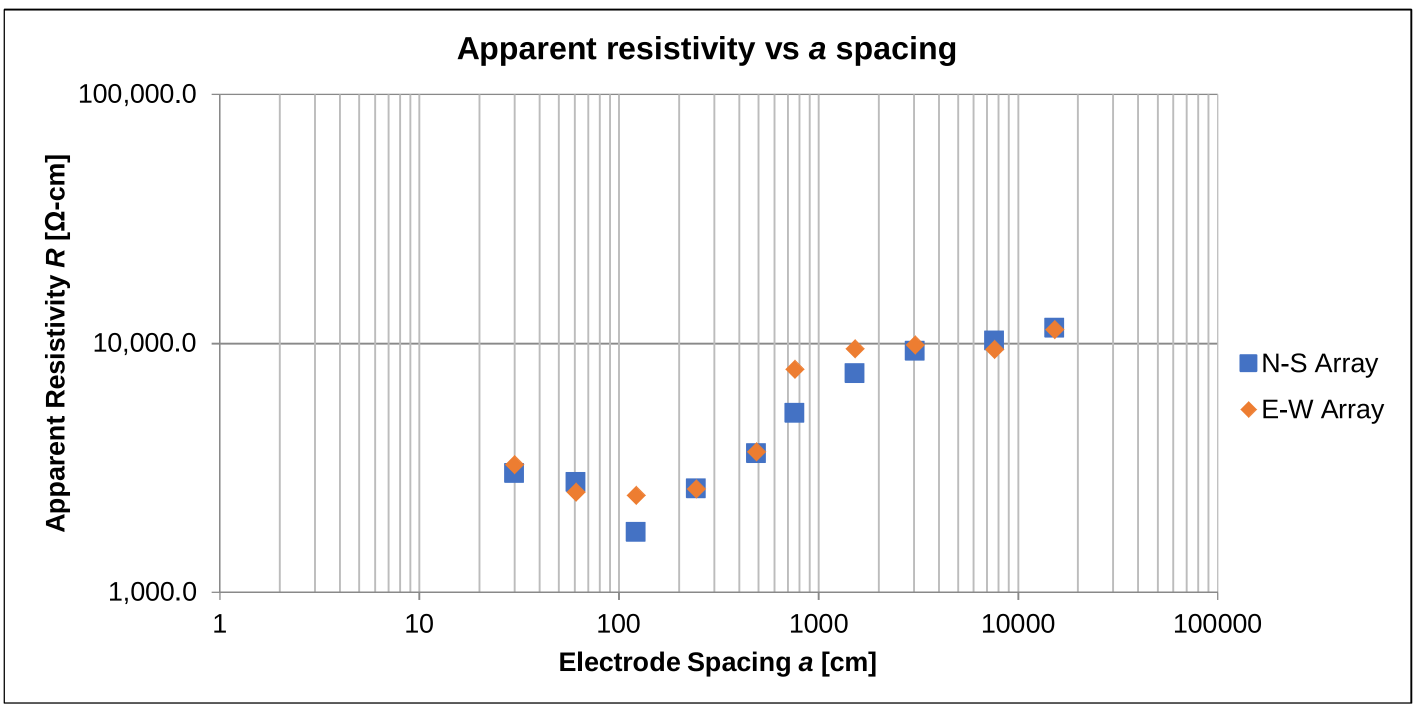
FIELD ELECTRICAL RESISTIVITY TEST DATA
Dolores Canyon Solar ■ Near Cahone, CO
January 15, 2021 ■ Terracon Project No. 6119523

Terracon GeoReport

Array Loc.	Resistivity Array R-5		
Instrument	L & R Instruments UltraMini Res	**Weather**	Sunny and Warm
Serial #	LRI SN276	**Ground Cond.**	Tilled field
Cal. Check	May 19, 2020 (Field Calibration)	**Tested By**	Sean Paroski and Marshall Wayment
Test Date	May 19, 2020	**Method**	Venner 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	12.19	3020	13.14	3260
2	61	6	15	6.62	2780	5.99	2520
4	122	6	15	2.23	1750	3.12	2450
8	244	6	15	1.69	2610	1.68	2600
16	488	12	30	1.18	3630	1.19	3660
25	762	12	30	1.10	5260	1.64	7880
50	1524	12	30	0.79	7610	0.99	9490
100	3048	12	30	0.49	9330	0.51	9850
250	7620	12	30	0.22	10290	0.20	9460
500	15240	12	30	0.12	11570	0.12	11330



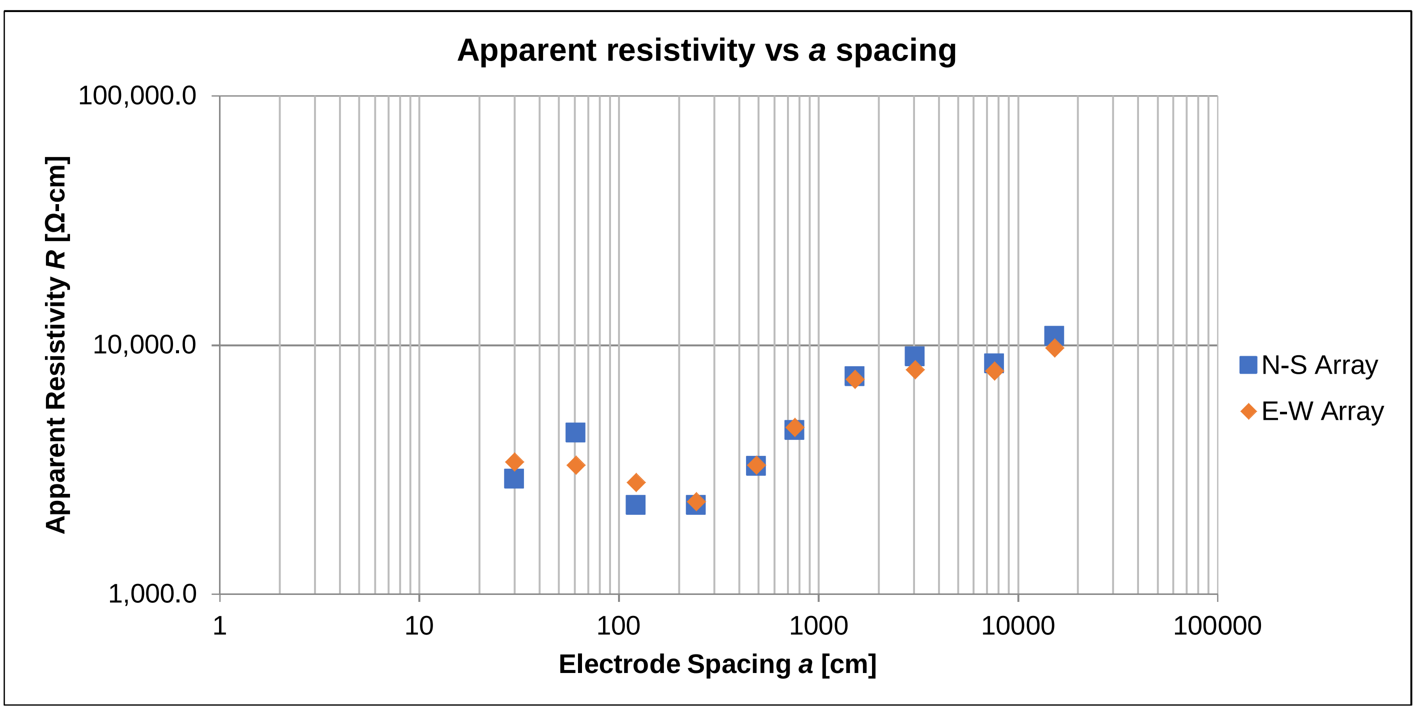
FIELD ELECTRICAL RESISTIVITY TEST DATA
Dolores Canyon Solar ■ Near Cahone, CO
January 15, 2021 ■ Terracon Project No. 6119523

Terracon GeoReport

Array Loc.	Resistivity Array R-6		
Instrument	L & R Instruments UltraMini Res	**Weather**	Sunny and Warm
Serial #	LRI SN276	**Ground Cond.**	Tilled field
Cal. Check	May 19, 2020 (Field Calibration)	**Tested By**	Sean Paroski and Marshall Wayment
Test Date	May 19, 2020	**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	11.73	2910	13.68	3390
2	61	6	15	10.62	4460	7.83	3290
4	122	6	15	2.90	2280	3.58	2810
8	244	6	15	1.48	2280	1.52	2350
16	488	12	30	1.06	3270	1.06	3290
25	762	12	30	0.95	4560	0.98	4680
50	1524	12	30	0.78	7520	0.76	7270
100	3048	12	30	0.47	9030	0.42	7960
250	7620	12	30	0.18	8450	0.16	7880
500	15240	12	30	0.11	10910	0.10	9730

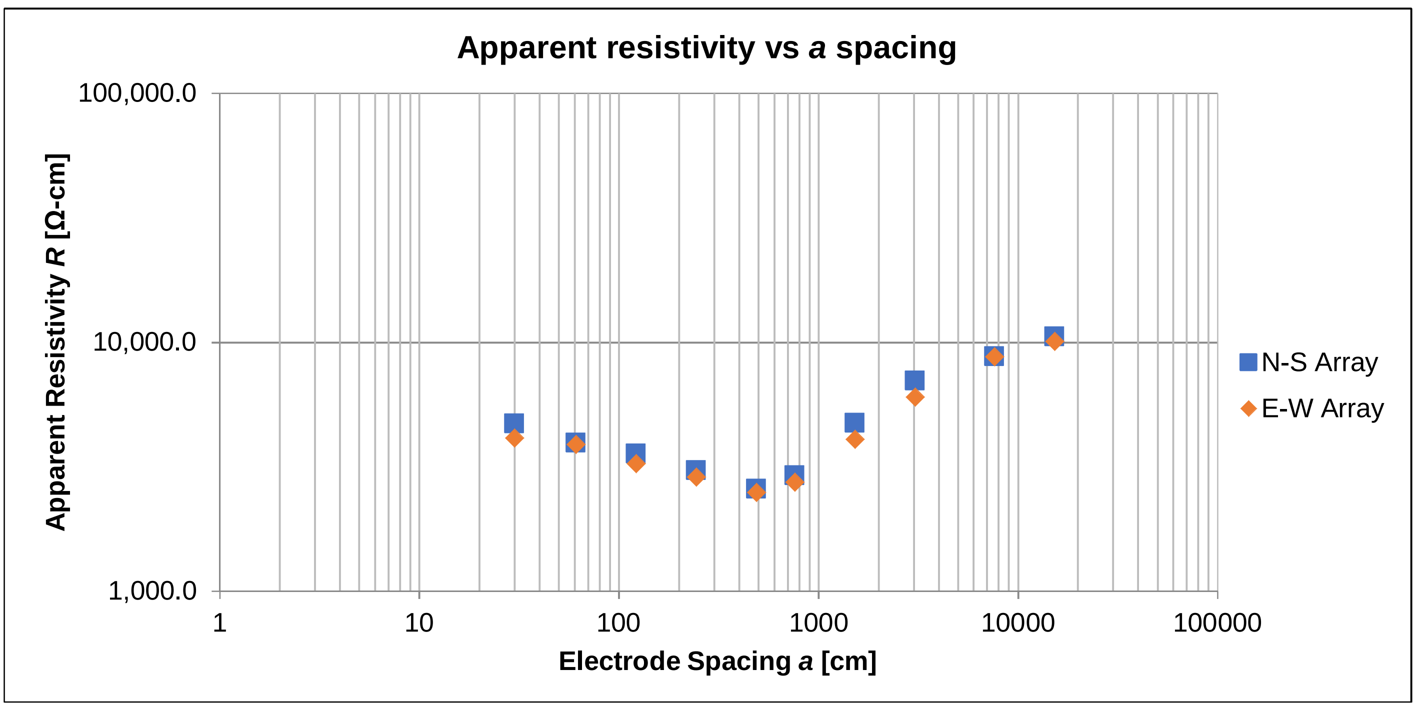


FIELD ELECTRICAL RESISTIVITY TEST DATA
Dolores Canyon Solar ■ Near Cahone, CO
January 15, 2021 ■ Terracon Project No. 6119523

Array Loc.	Resistivity Array R-7		
Instrument	L & R Instruments UltraMini Res	**Weather**	Sunny and Warm
Serial #	LRI SN276	**Ground Cond.**	Tilled Field and Tree Farm
Cal. Check	May 19, 2020 (Field Calibration)	**Tested By**	Sean Paroski and Marshall Wayment
Test Date	May 19, 2020	**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	19.09	4730	16.60	4120
2	61	6	15	9.41	3960	9.27	3900
4	122	6	15	4.54	3570	4.15	3260
8	244	6	15	1.99	3070	1.86	2870
16	488	12	30	0.84	2580	0.81	2500
25	762	12	30	0.61	2930	0.57	2740
50	1524	12	30	0.50	4770	0.43	4080
100	3048	12	30	0.37	7040	0.31	6020
250	7620	12	30	0.18	8820	0.18	8770
500	15240	12	30	0.11	10590	0.11	10100

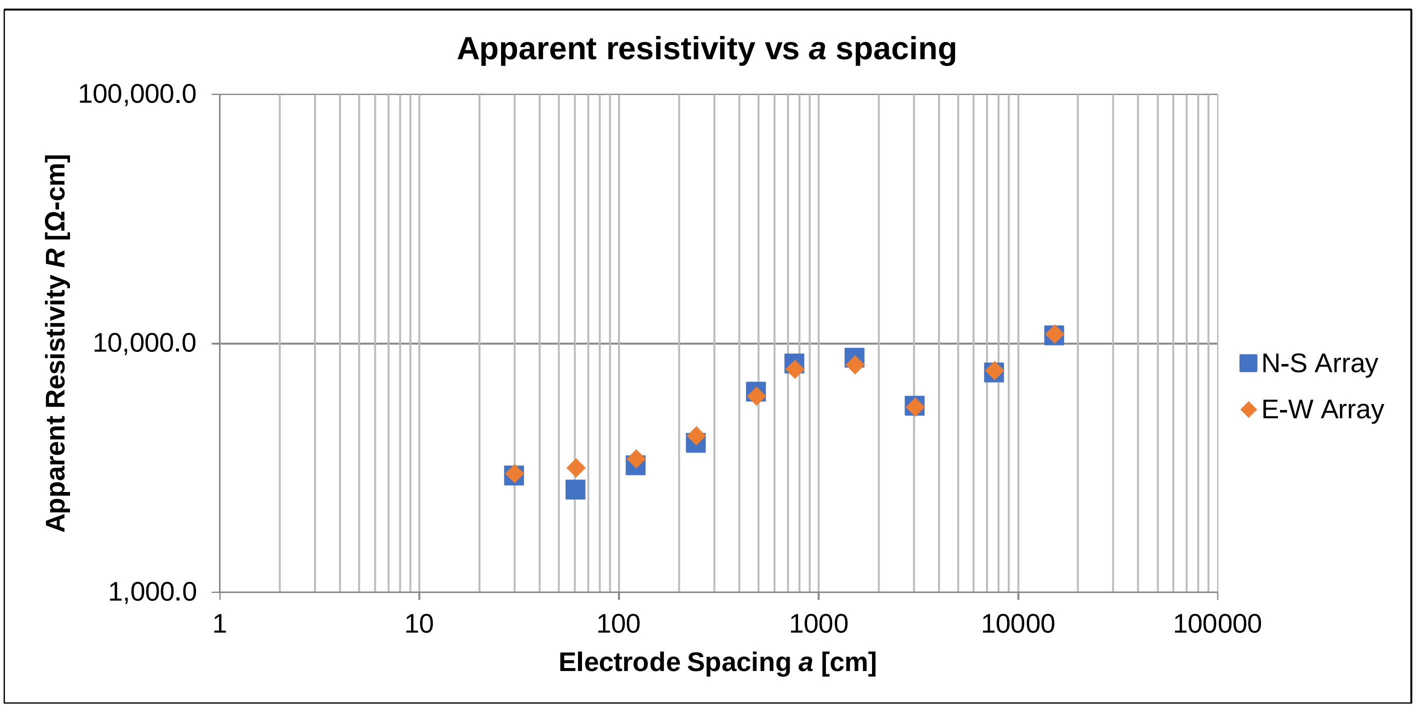


FIELD ELECTRICAL RESISTIVITY TEST DATA
Dolores Canyon Solar ■ Near Cahone, CO
January 15, 2021 ■ Terracon Project No. 6119523

Array Loc.	Resistivity Array R-8		
Instrument	L & R Instruments UltraMini Res	**Weather**	Sunny and Warm
Serial #	LRI SN276	**Ground Cond.**	Tilled Field
Cal. Check	May 19, 2020 (Field Calibration)	**Tested By**	Sean Paroski and Marshall Wayment
Test Date	May 19, 2020	**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	11.85	2940	12.07	2990
2	61	6	15	6.13	2580	7.51	3160
4	122	6	15	4.12	3240	4.38	3440
8	244	6	15	2.59	3990	2.75	4250
16	488	12	30	2.07	6390	1.99	6140
25	762	12	30	1.73	8300	1.64	7850
50	1524	12	30	0.92	8780	0.86	8200
100	3048	12	30	0.29	5630	0.29	5550
250	7620	12	30	0.16	7640	0.16	7760
500	15240	12	30	0.11	10760	0.11	10880



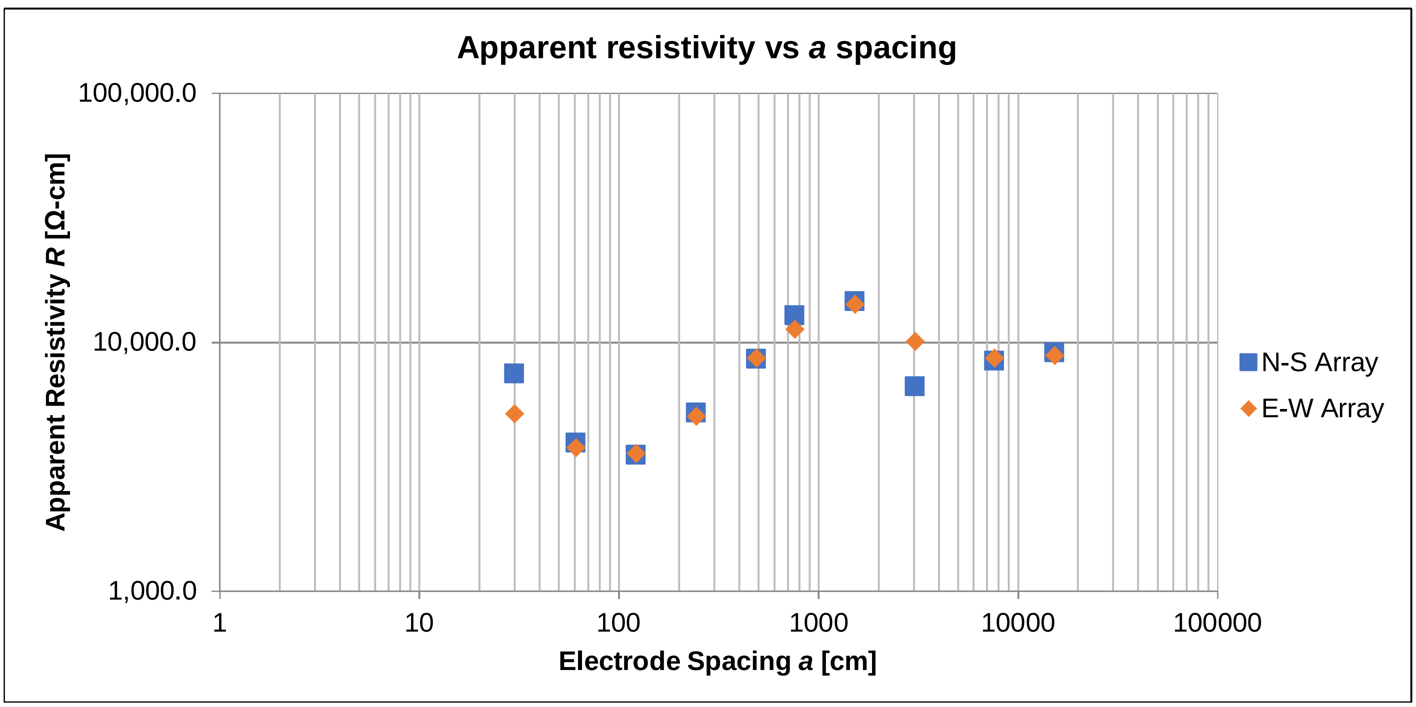
FIELD ELECTRICAL RESISTIVITY TEST DATA
Dolores Canyon Solar ■ Near Cahone, CO
January 15, 2021 ■ Terracon Project No. 6119523

Terracon GeoReport

Array Loc.	Resistivity Array R-9		
Instrument	L & R Instruments UltraMini Res	**Weather**	Sunny War
Serial #	LRI SN276	**Ground Cond.**	Tree farm with slight topographic relief
Cal. Check	May 19, 2020 (Field Calibration)	**Tested By**	Sean Paroski and Marshall Wayment
Test Date	May 19, 2020	**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	30.30	7520	20.90	5180
2	61	6	15	9.46	3970	9.00	3780
4	122	6	15	4.50	3540	4.53	3570
8	244	6	15	3.38	5220	3.27	5040
16	488	12	30	2.79	8610	2.80	8630
25	762	12	30	2.69	12890	2.36	11320
50	1524	12	30	1.53	14700	1.48	14200
100	3048	12	30	0.35	6670	0.53	10100
250	7620	12	30	0.18	8460	0.18	8650
500	15240	12	30	0.10	9130	0.09	8870



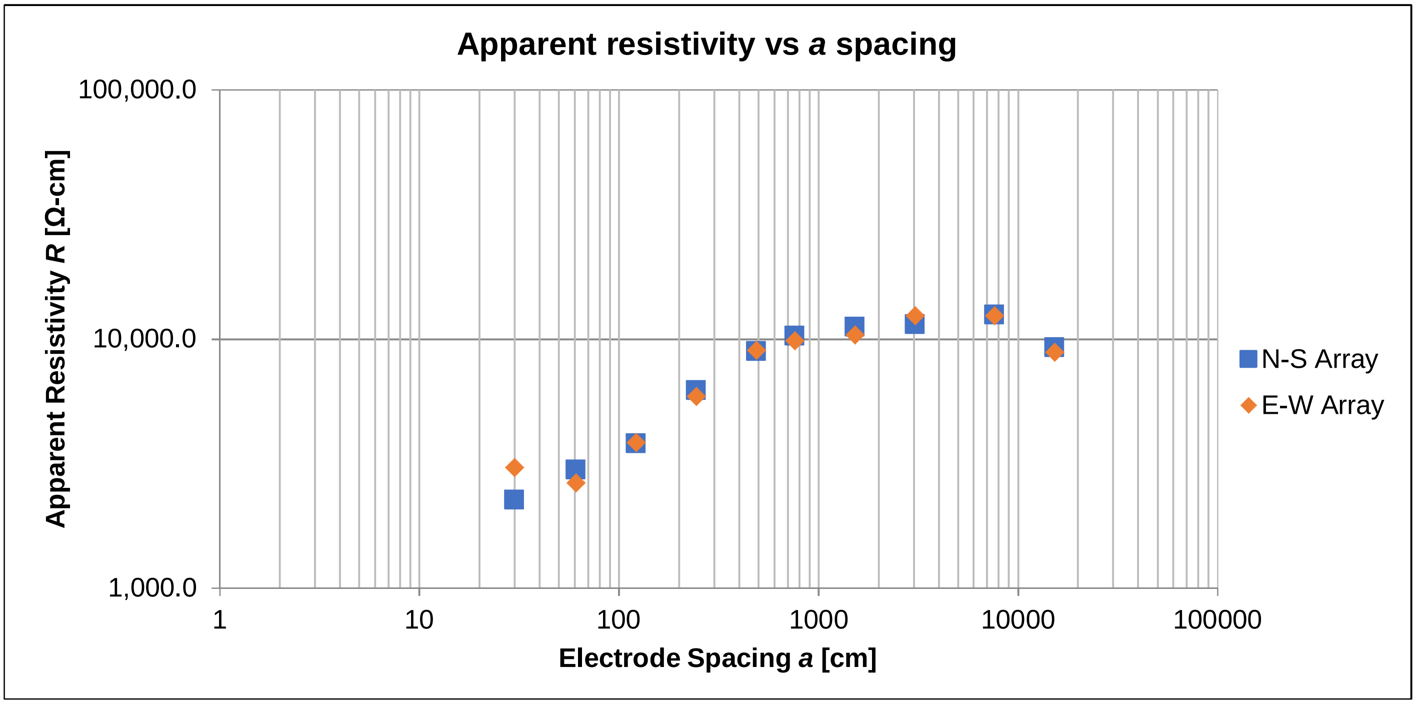
FIELD ELECTRICAL RESISTIVITY TEST DATA
Dolores Canyon Solar ■ Near Cahone, CO
January 15, 2021 ■ Terracon Project No. 6119523

Terracon GeoReport

Array Loc.	Resistivity Array R-10		
Instrument	L & R Instruments UltraMini Res	**Weather**	Sunny and Warm
Serial #	LRI SN276	**Ground Cond.**	Tree farm with slight topographic relief
Cal. Check	May 20, 2020 (Field Calibration)	**Tested By**	Sean Paroski and Marshall Wayment
Test Date	May 20, 2020	**Method**	Venner 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	9.15	2270	12.28	3050
2	61	6	15	7.14	3000	6.31	2650
4	122	6	15	4.85	3820	4.89	3840
8	244	6	15	4.04	6240	3.82	5890
16	488	12	30	2.91	8980	2.93	9030
25	762	12	30	2.15	10310	2.06	9880
50	1524	12	30	1.17	11240	1.09	10400
100	3048	12	30	0.60	11480	0.65	12410
250	7620	12	30	0.26	12600	0.26	12410
500	15240	12	30	0.10	9280	0.09	8860



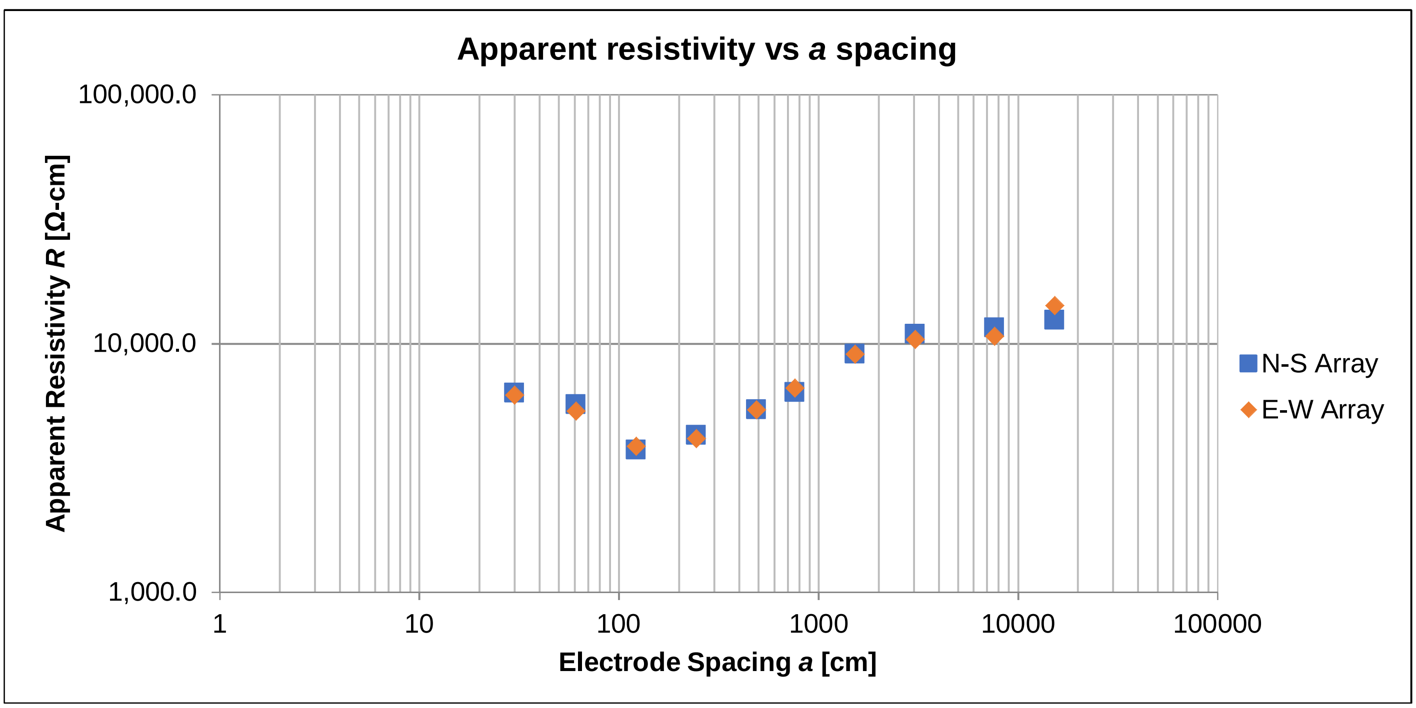
FIELD ELECTRICAL RESISTIVITY TEST DATA
Dolores Canyon Solar ■ Near Cahone, CO
January 15, 2021 ■ Terracon Project No. 6119523

Terracon GeoReport

Array Loc.	Resistivity Array R-11		
Instrument	L & R Instruments UltraMini Res	**Weather**	Sunny and Warm
Serial #	LRI SN276	**Ground Cond.**	Tilled Field and Tree Farm
Cal. Check	May 20, 2020 (Field Calibration)	**Tested By**	Sean Paroski and Marshall Wayment
Test Date	May 20, 2020	**Method**	Wenner 4-pin (ASTM G57-06 (2012); IEEE 81-2012
Notes & Conflicts			

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

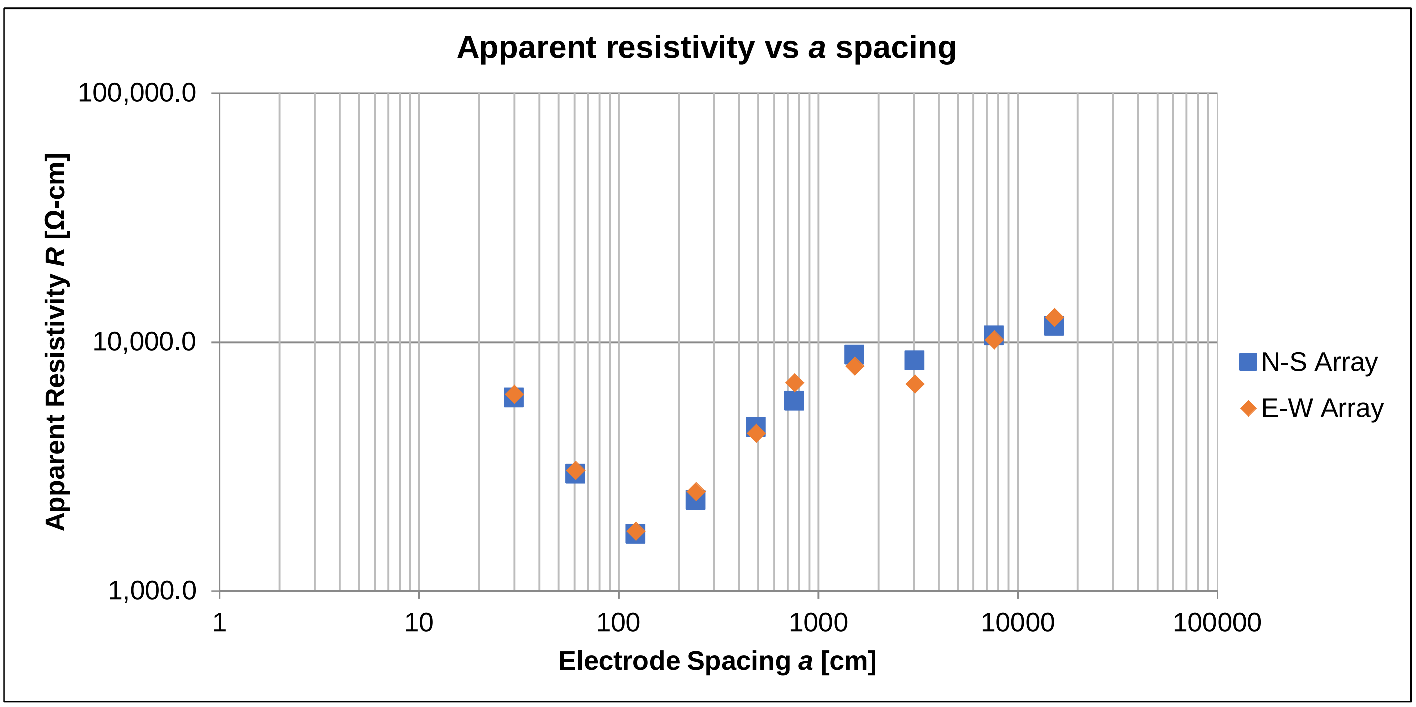
Electrode Spacing *a*		**Electrode Depth *b***		**N-S Test**		**E-W Test**	
[feet]	[centimeters]	[inches]	[centimeters]	Measured Resistance *R* Ω	Apparent Resistivity *ρ* [Ω-cm]	Measured Resistance *R* Ω	Apparent Resistivity *ρ* [Ω-cm]
1	30	6	15	25.60	6350	25.00	6200
2	61	6	15	13.55	5700	12.76	5360
4	122	6	15	4.78	3760	4.92	3870
8	244	6	15	2.79	4310	2.68	4140
16	488	12	30	1.77	5460	1.75	5410
25	762	12	30	1.33	6390	1.38	6640
50	1524	12	30	0.95	9120	0.94	9050
100	3048	12	30	0.57	10980	0.54	10420
250	7620	12	30	0.24	11660	0.22	10740
500	15240	12	30	0.13	12520	0.15	14270



Array Loc.	Resistivity Array R-12		
Instrument	L & R Instruments UltraMini Res	**Weather**	Sunny and Warm
Serial #	LRI SN276	**Ground Cond.**	Describe ground conditions
Cal. Check	May 21, 2020 (Field Calibration)	**Tested By**	Sean Paroski and Marshall Wayment
Test Date	May 21, 2020	**Method**	Venner 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	24.10	5980	24.90	6180
2	61	6	15	7.04	2960	7.25	3050
4	122	6	15	2.16	1700	2.22	1740
8	244	6	15	1.51	2330	1.62	2510
16	488	12	30	1.48	4560	1.39	4300
25	762	12	30	1.22	5830	1.43	6880
50	1524	12	30	0.93	8900	0.84	8010
100	3048	12	30	0.44	8450	0.35	6770
250	7620	12	30	0.22	10630	0.21	10240
500	15240	12	30	0.12	11620	0.13	12590



FIELD ELECTRICAL RESISTIVITY TEST DATA

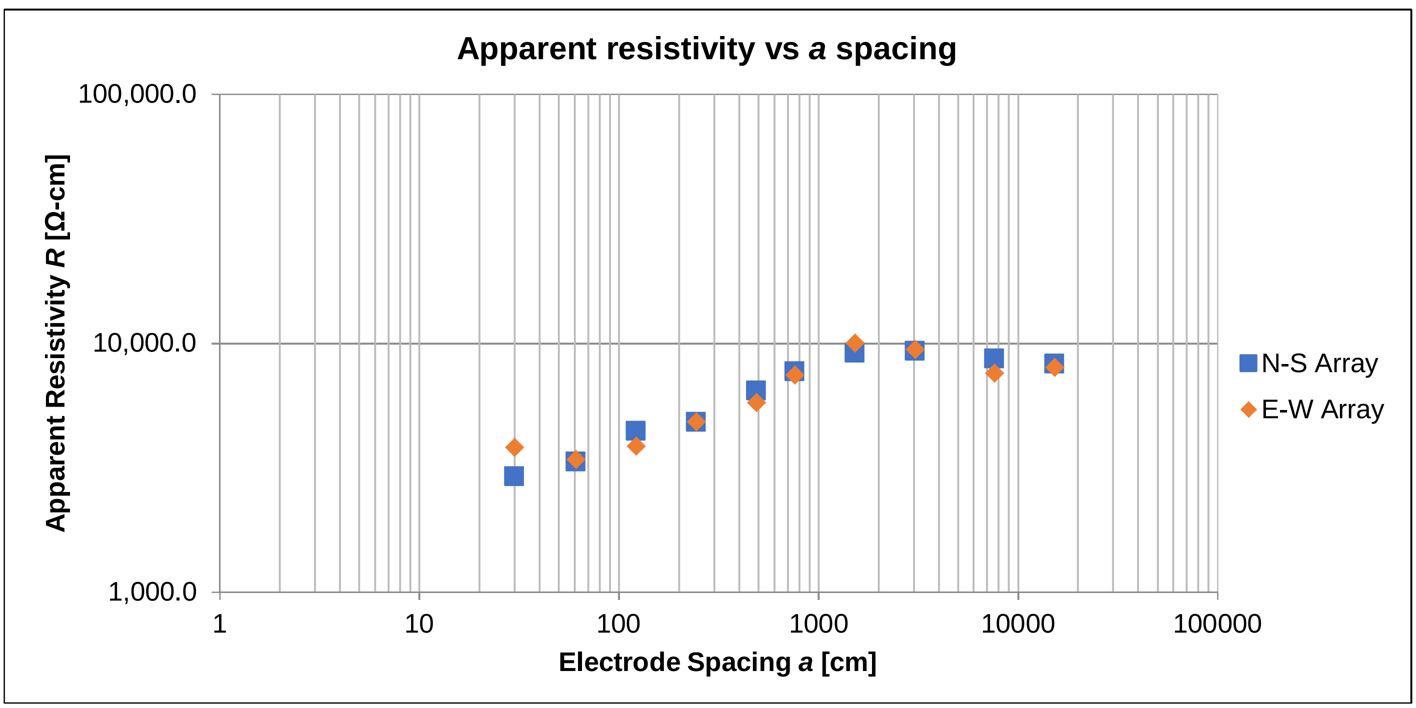
Dolores Canyon Solar ■ Near Cahone, CO

January 15, 2021 ■ Terracon Project No. 6119523

Array Loc.	Resistivity Array R-13		
Instrument	L & R Instruments UltraMini Res	**Weather**	Sunny and Warm
Serial #	LRI SN276	**Ground Cond.**	Tilled Field
Cal. Check	May 21, 2020 (Field Calibration)	**Tested By**	Sean Paroski and Marshall Wayment
Test Date	May 21, 2020	**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	11.81	2930	15.42	3820
2	61	6	15	7.99	3360	8.15	3420
4	122	6	15	5.67	4460	4.92	3870
8	244	6	15	3.13	4830	3.13	4830
16	488	12	30	2.10	6490	1.88	5790
25	762	12	30	1.61	7740	1.55	7460
50	1524	12	30	0.96	9190	1.05	10020
100	3048	12	30	0.49	9360	0.49	9430
250	7620	12	30	0.18	8690	0.16	7600
500	15240	12	30	0.09	8320	0.08	8000



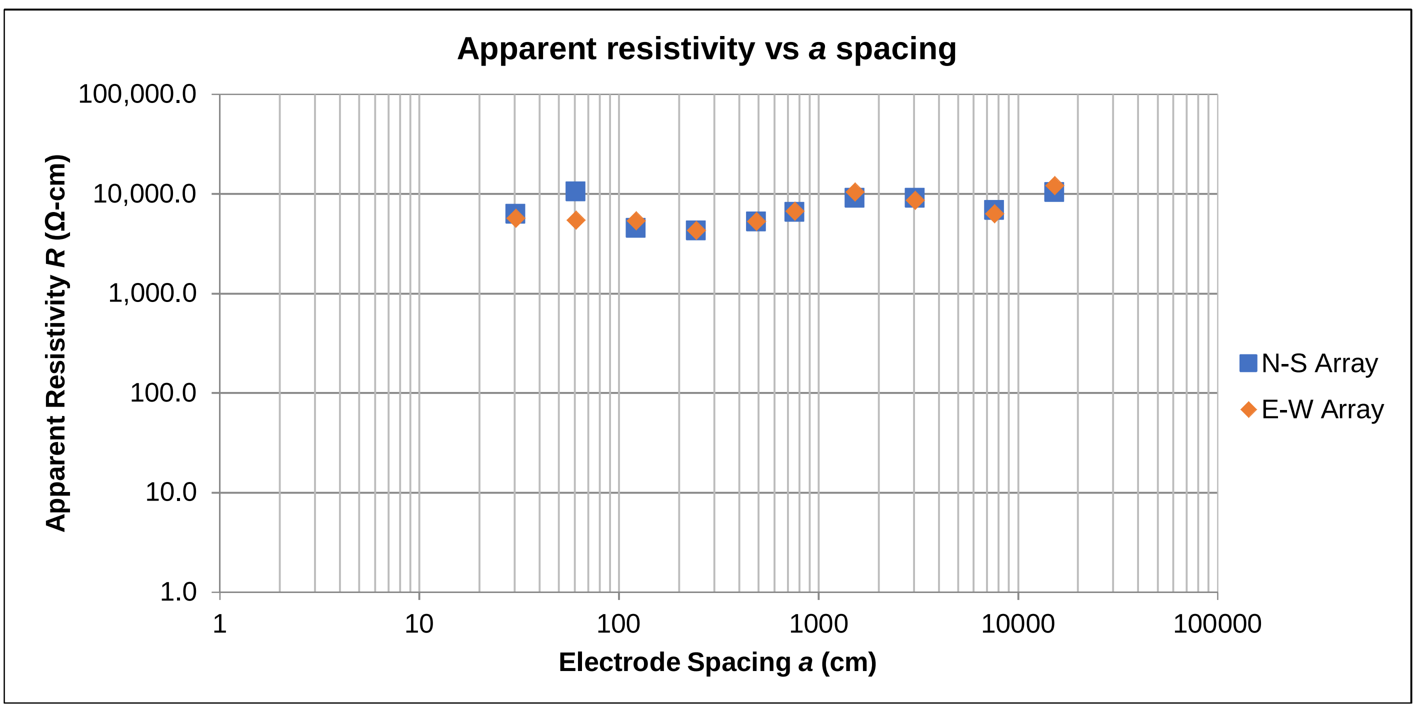
FIELD ELECTRICAL RESISTIVITY TEST DATA
Dolores Solar I ■ Cahone, Dolores County, Colorado
January 15, 2021■ Terracon Project No. 61195223

Terracon GeoReport

Array Loc.	FER-01 at 37.701801, -108.772476, (N-S and E-W arrays)		
Instrument	Ultra MiniRes	**Weather**	Cold, overcast
Serial #	LRI SN276	**Ground Cond.**	Bare soil
Cal. Check	Calibrated	**Tested By**	KP and CMA
Test Date	December 16, 2020	**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	33.20	6358	30.00	5745
2	61	6	15	28.00	10725	14.30	5477
4	122	6	15	6.00	4596	7.00	5362
8	244	6	15	2.80	4290	2.80	4290
16	488	6	15	1.73	5304	1.73	5292
25	762	6	15	1.39	6650	1.41	6746
50	1524	6	15	0.96	9145	1.10	10533
100	3048	6	15	0.48	9231	0.45	8618
250	7620	6	15	0.15	6942	0.13	6320
500	15240	6	15	0.11	10437	0.13	12257



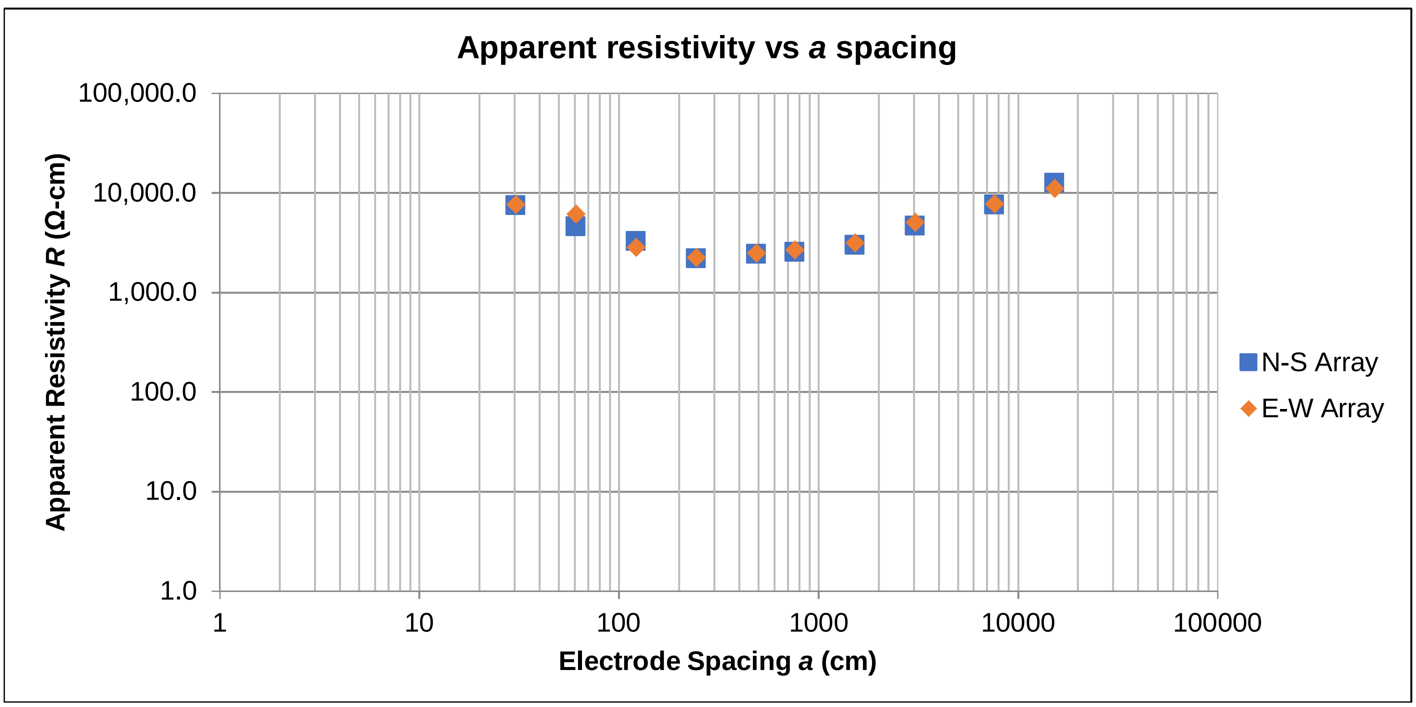
FIELD ELECTRICAL RESISTIVITY TEST DATA
Dolores Solar I ■ Cahone, Dolores County, Colorado
January 15, 2021 ■ Terracon Project No. 61195223

Terracon GeoReport

Array Loc.	FER-02 at 37.717335, -108.771673, (N-S and E-W arrays)		
Instrument	Ultra MiniRes	**Weather**	Cold, overcast
Serial #	LRI SN276	**Ground Cond.**	Bare soil
Cal. Check	Calibrated	**Tested By**	KP and CMA
Test Date	December 16, 2020	**Method**	Venner 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	39.40	7546	40.30	7718
2	61	6	15	12.10	4635	16.00	6128
4	122	6	15	4.30	3294	3.70	2834
8	244	6	15	1.45	2225	1.48	2267
16	488	6	15	0.80	2454	0.81	2494
25	762	6	15	0.54	2585	0.56	2681
50	1524	6	15	0.32	3026	0.33	3179
100	3048	6	15	0.25	4692	0.27	5075
250	7620	6	15	0.16	7708	0.16	7804
500	15240	6	15	0.13	12736	0.12	11108



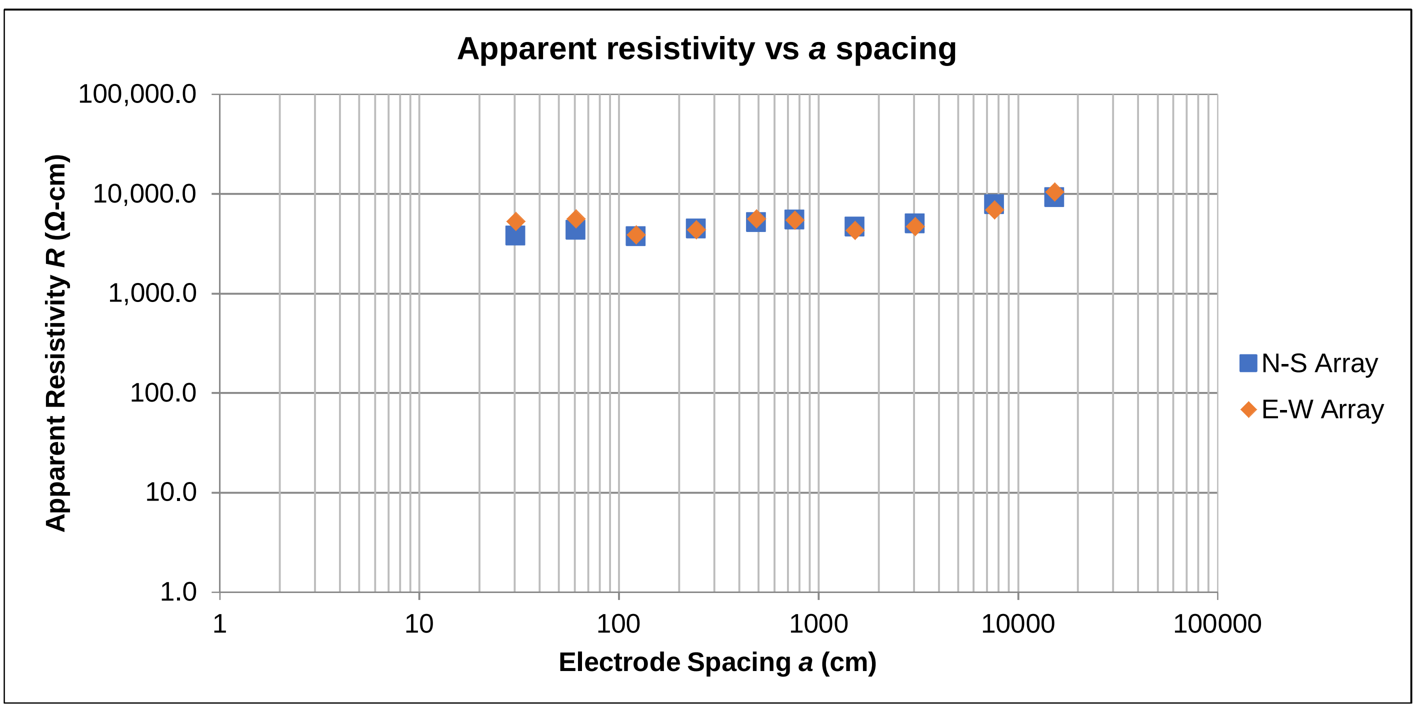
FIELD ELECTRICAL RESISTIVITY TEST DATA
Dolores Solar I ■ Cahone, Dolores County, Colorado
January 15, 2021 ■ Terracon Project No. 61195223

Terracon GeoReport

Array Loc.	FER-03 at 37.713910, --108.779689, (NE-SW and NW-SE arrays)		
Instrument	Ultra MiniRes	**Weather**	Cold, overcast
Serial #	LRI SN276	**Ground Cond.**	Bare soil
Cal. Check	Calibrated	**Tested By**	KP and CMA
Test Date	December 16, 2020	**Method**	Venner 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***		**NE-SW Test**		**NW-SE 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	20.00	3830	27.60	5286
2	61	6	15	11.40	4366	14.70	5630
4	122	6	15	4.90	3754	5.12	3922
8	244	6	15	2.95	4520	2.86	4380
16	488	6	15	1.72	5261	1.83	5620
25	762	6	15	1.16	5554	1.15	5511
50	1524	6	15	0.50	4740	0.45	4309
100	3048	6	15	0.27	5113	0.25	4692
250	7620	6	15	0.17	7900	0.15	6942
500	15240	6	15	0.10	9288	0.11	10437

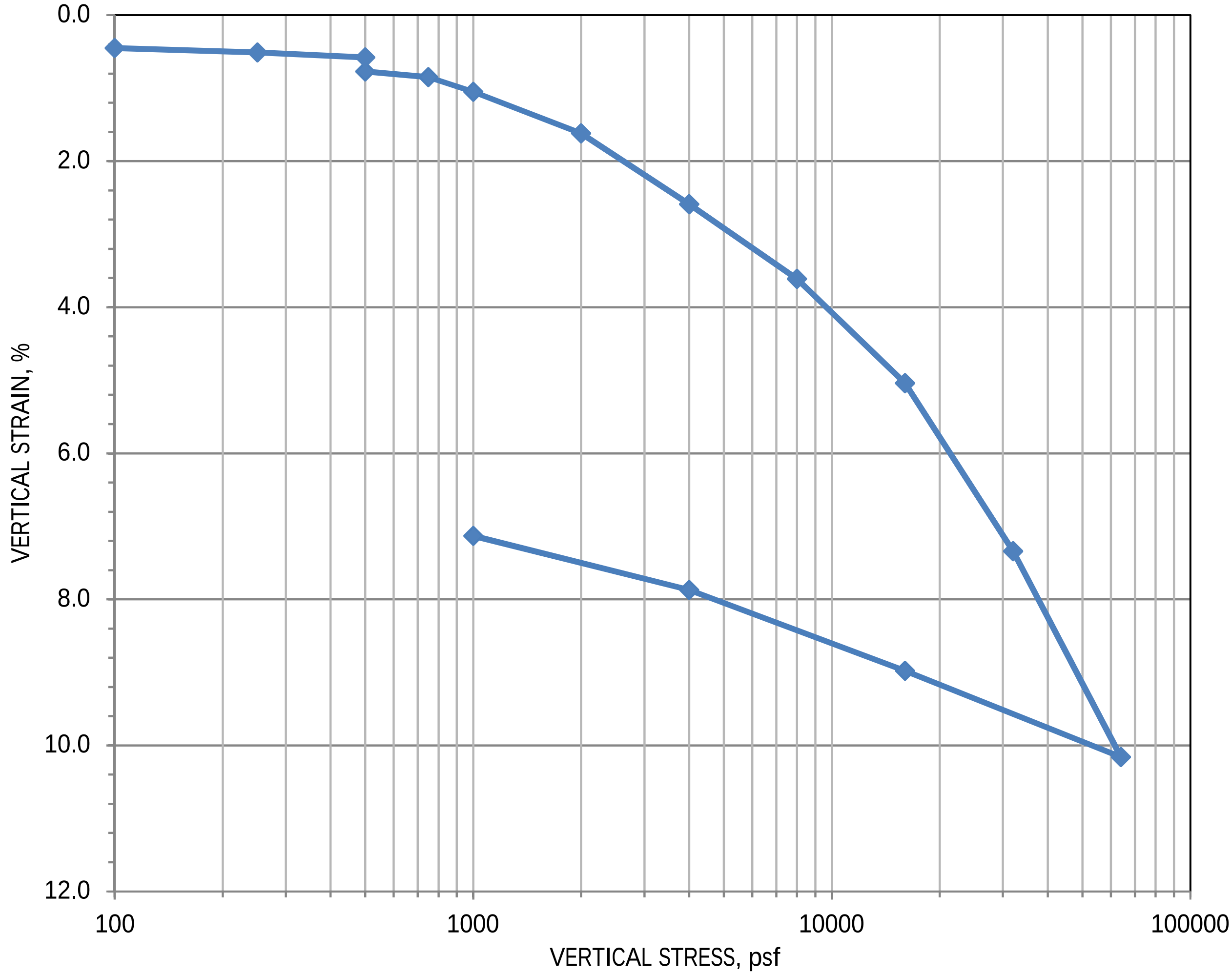


APPENDIX C – LABORATORY TEST RESULTS

Contents:

Note: All attachments are one page unless noted above.

Collapse Test Data (ASTM D2435 or D4546 Method C)



Before Consolidation

Sample Diameter (in):	2.40	Moist Unit Weight (pcf):	**132**
Sample Height (in):	1	Moisture Content (%):	**16**
Sample Volume (cf):	0.0026	Dry Unit Weight (pcf):	**114**

After Consolidation

Sample Diameter (in):	2.40	Moist Unit Weight (pcf):	**133**
Sample Height (in):	0.97415	Moisture Content (%):	**14**
Sample Volume (cf):	0.0025	Dry Unit Weight (pcf):	**117**

Percent Collapse/Swell

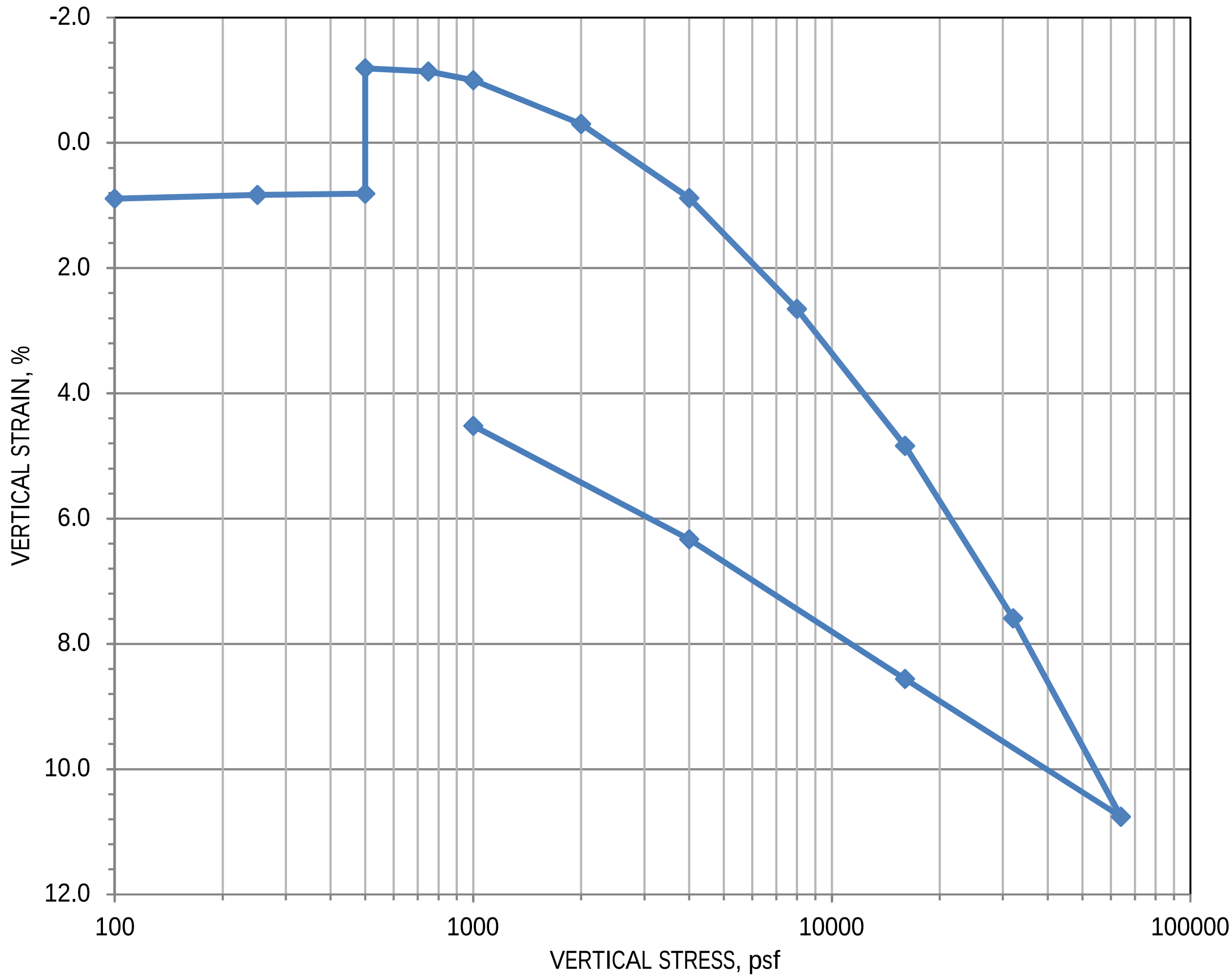
Collapse 0.20 %

Liquid Limit:	31	Percent Fines:	86.5
Plasticity Index:	16	Classification:	Lean Clay

Terracon GeoReport

Project Name: Dolores Canyon
Project No.: 61195223
Location: Near Cahone, CO
Sample: B-1-2@ 5'

Collapse Test Data (ASTM D2435 or D4546 Method C)



Before Consolidation

Sample Diameter (in):	2.40	Moist Unit Weight (pcf):	**125**
Sample Height (in):	1	Moisture Content (%):	**17**
Sample Volume (cf):	0.0026	Dry Unit Weight (pcf):	**108**

After Consolidation

Sample Diameter (in):	2.40	Moist Unit Weight (pcf):	**131**
Sample Height (in):	0.991153	Moisture Content (%):	**21**
Sample Volume (cf):	0.0026	Dry Unit Weight (pcf):	**109**

Percent Collapse/Swell

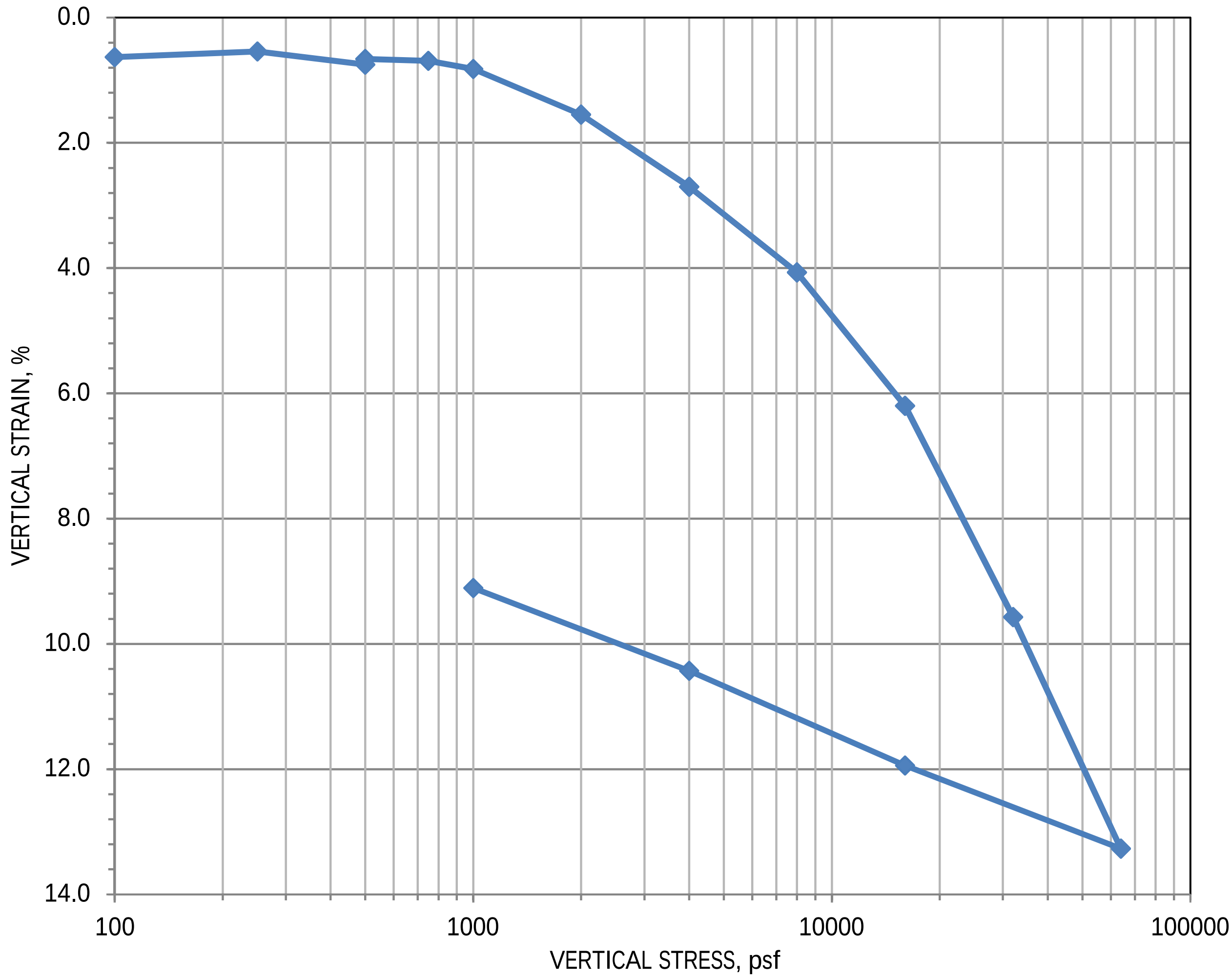
Swell -2.00 %

Liquid Limit:	48	Percent Fines:	74
Plasticity Index:	21	Classification:	Lean Clay with Sand

Terracon GeoReport

Project Name: Dolores Canyon
Project No.: 61195223
Location: Near Cahone, CO
Sample: B-3-3 @ 5'

Collapse Test Data (ASTM D2435 or D4546 Method C)



Before Consolidation

Sample Diameter (in):	2.40	Moist Unit Weight (pcf):	**125**
Sample Height (in):	1	Moisture Content (%):	**16**
Sample Volume (cf):	0.0026	Dry Unit Weight (pcf):	**108**

After Consolidation

Sample Diameter (in):	2.40	Moist Unit Weight (pcf):	**132**
Sample Height (in):	0.973	Moisture Content (%):	**19**
Sample Volume (cf):	0.0025	Dry Unit Weight (pcf):	**111**

Percent Collapse/Swell

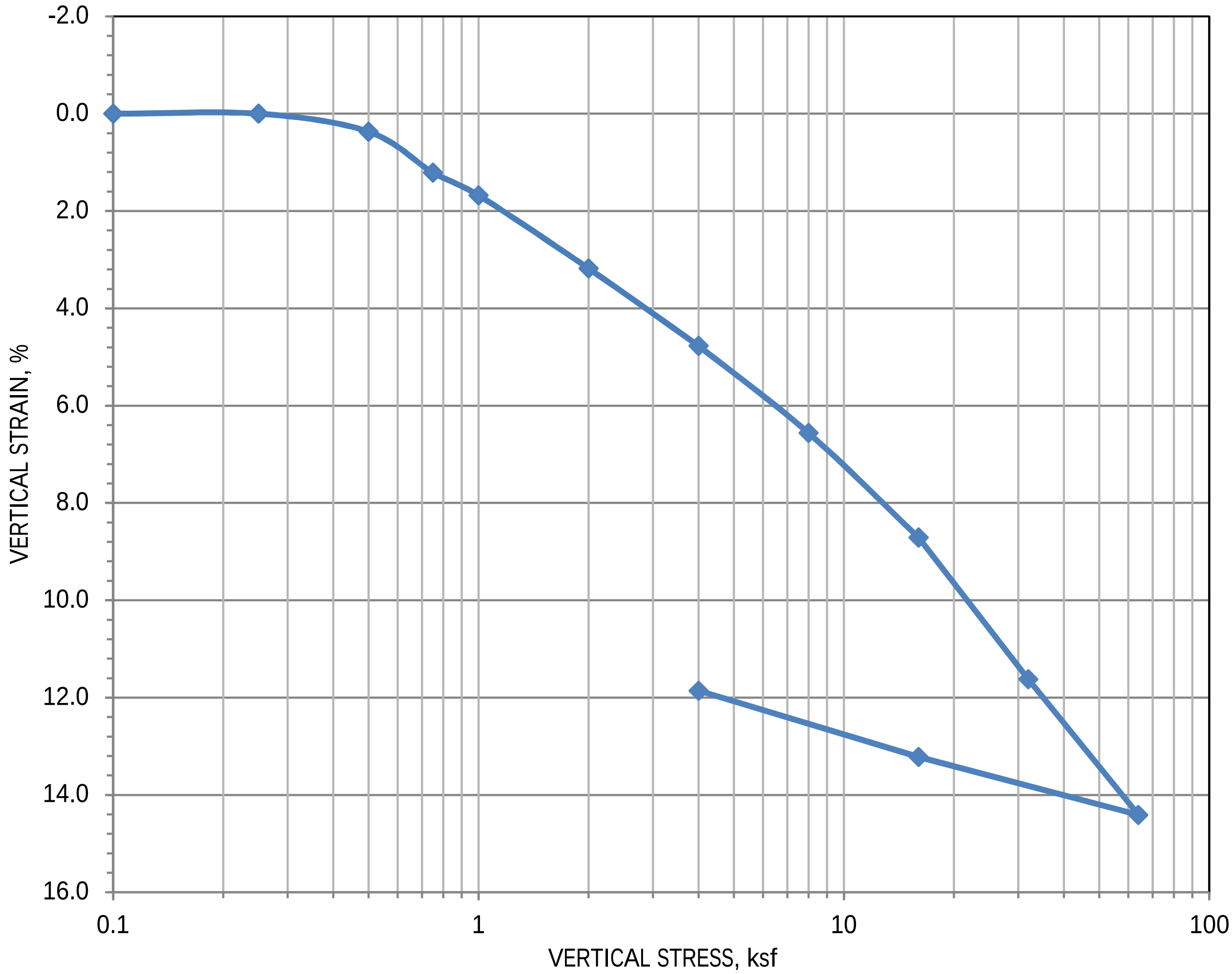
Swell -0.10 %

Liquid Limit:	34	Percent Fines:	85
Plasticity Index:	17	Classification:	Lean Clay with Sand

Terracon GeoReport

Project Name: Dolores Canyon
Project No.: 61195223
Location: Near Cahone, CO
Sample: B-4-4@ 5'

Consolidation Test Data (ASTM D2435)



Before Consolidation

Sample Diameter (in):	2.40	Moist Unit Weight (pcf):	**126**
Sample Height (in):	1	Moisture Content (%):	**21**
Sample Volume (cf):	0.0026	Dry Unit Weight (pcf):	**105**

After Consolidation

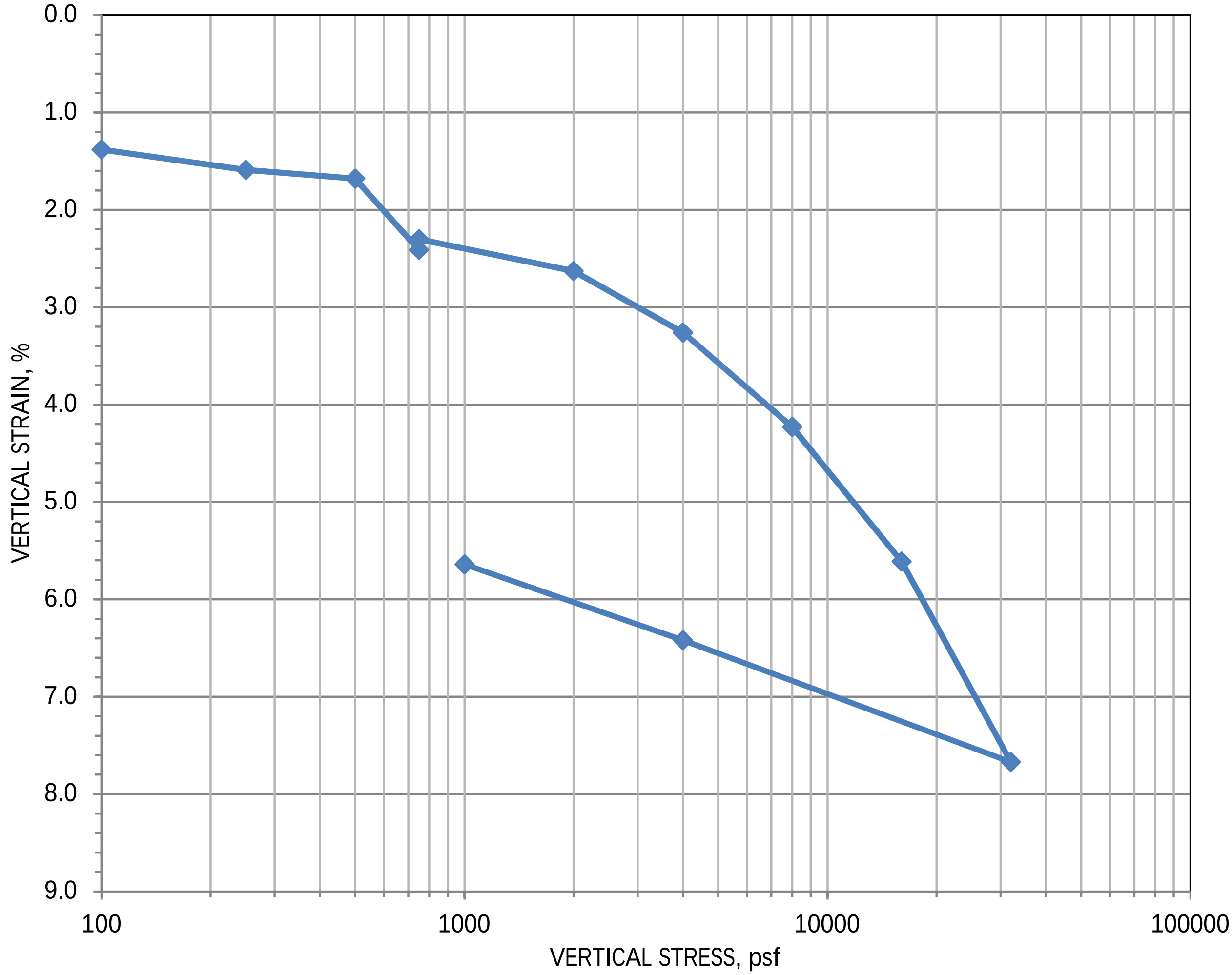
Sample Diameter (in):	2.40	Moist Unit Weight (pcf):	**142**
Sample Height (in):	0.8736	Moisture Content (%):	**18**
Sample Volume (cf):	0.0023	Dry Unit Weight (pcf):	**120**

Liquid Limit:	29	Percent Fines:	81%
Plasticity Index:	14	Classification:	Lean Clay with Sand

Terracon GeoReport

Project Name: Dolores Canyon
Project No.: 61195223
Location: Near Cahone, CO
Sample: B-5-2 @ 5'

Collapse Test Data (ASTM D2435 or D4546 Method C)



Before Consolidation

Sample Diameter (in):	2.40	Moist Unit Weight (pcf):	**129**
Sample Height (in):	1	Moisture Content (%):	**16**
Sample Volume (cf):	0.0026	Dry Unit Weight (pcf):	**111**

After Consolidation

Sample Diameter (in):	2.40	Moist Unit Weight (pcf):	**140**
Sample Height (in):	0.95772	Moisture Content (%):	**21**
Sample Volume (cf):	0.0025	Dry Unit Weight (pcf):	**116**

Percent Collapse/Swell

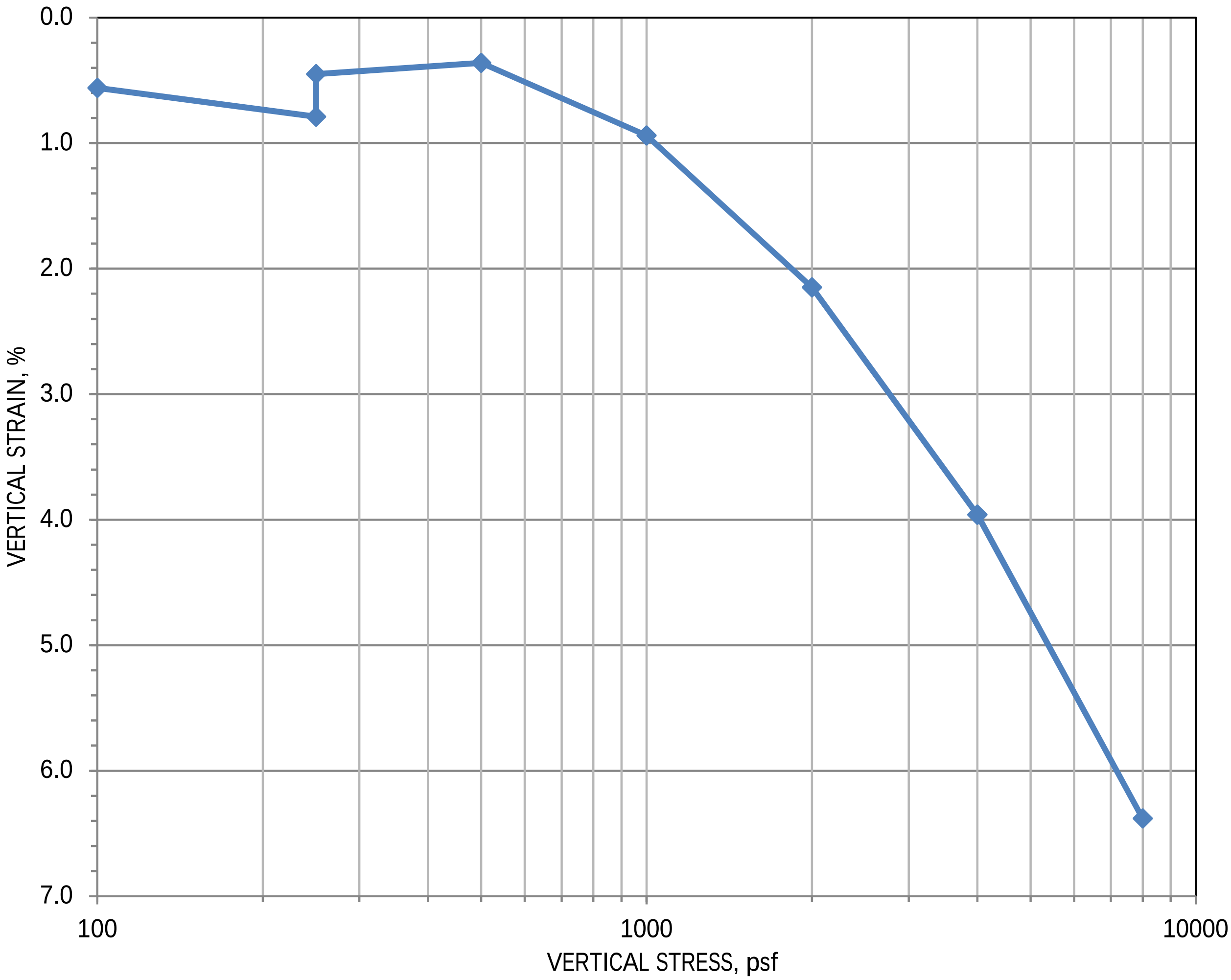
Swell -0.10 %

Liquid Limit:	32	Percent Fines:	82
Plasticity Index:	14	Classification:	Lean clay with sand

Terracon GeoReport

Project Name: Dolores Canyon Solar Project
Project No.: 61195223
Location: Cahone, CO
Sample: BH-6 @ 5

Collapse Test Data (ASTM D2435 or D4546 Method C)



Before Consolidation

Sample Diameter (in):	2.40	Moist Unit Weight (pcf):	**126**
Sample Height (in):	1	Moisture Content (%):	**17**
Sample Volume (cf):	0.0026	Dry Unit Weight (pcf):	**108**

After Consolidation

Sample Diameter (in):	2.40	Moist Unit Weight (pcf):	**136**
Sample Height (in):	0.93617	Moisture Content (%):	**18**
Sample Volume (cf):	0.0025	Dry Unit Weight (pcf):	**115**

Percent Collapse/Swell

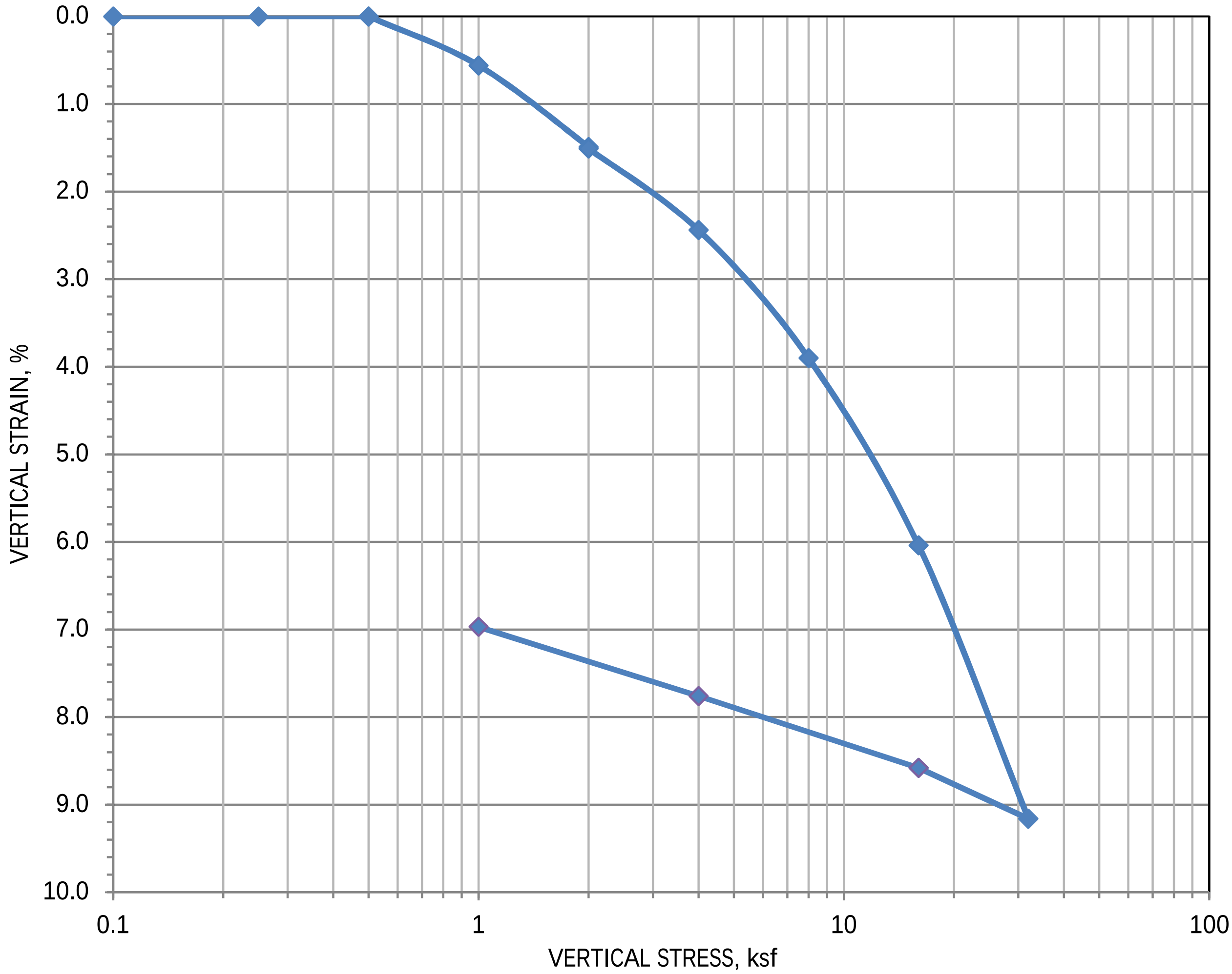
Swell -0.30 %

Liquid Limit:	31	Percent Fines:	88
Plasticity Index:	15	Classification:	Lean clay

Terracon GeoReport

Project Name: Dolores Canyon Solar Project
Project No.: 61195223
Location: Cahone, CO
Sample: BH-8 @ 2.5

Consolidation Test Data (ASTM D2435-04)



Before Consolidation

Sample Diameter (in):	2.50	Moist Unit Weight (pcf):	**124**
Sample Height (in):	1	Moisture Content (%):	**17**
Sample Volume (cf):	0.0028	Dry Unit Weight (pcf):	**106**

After Consolidation

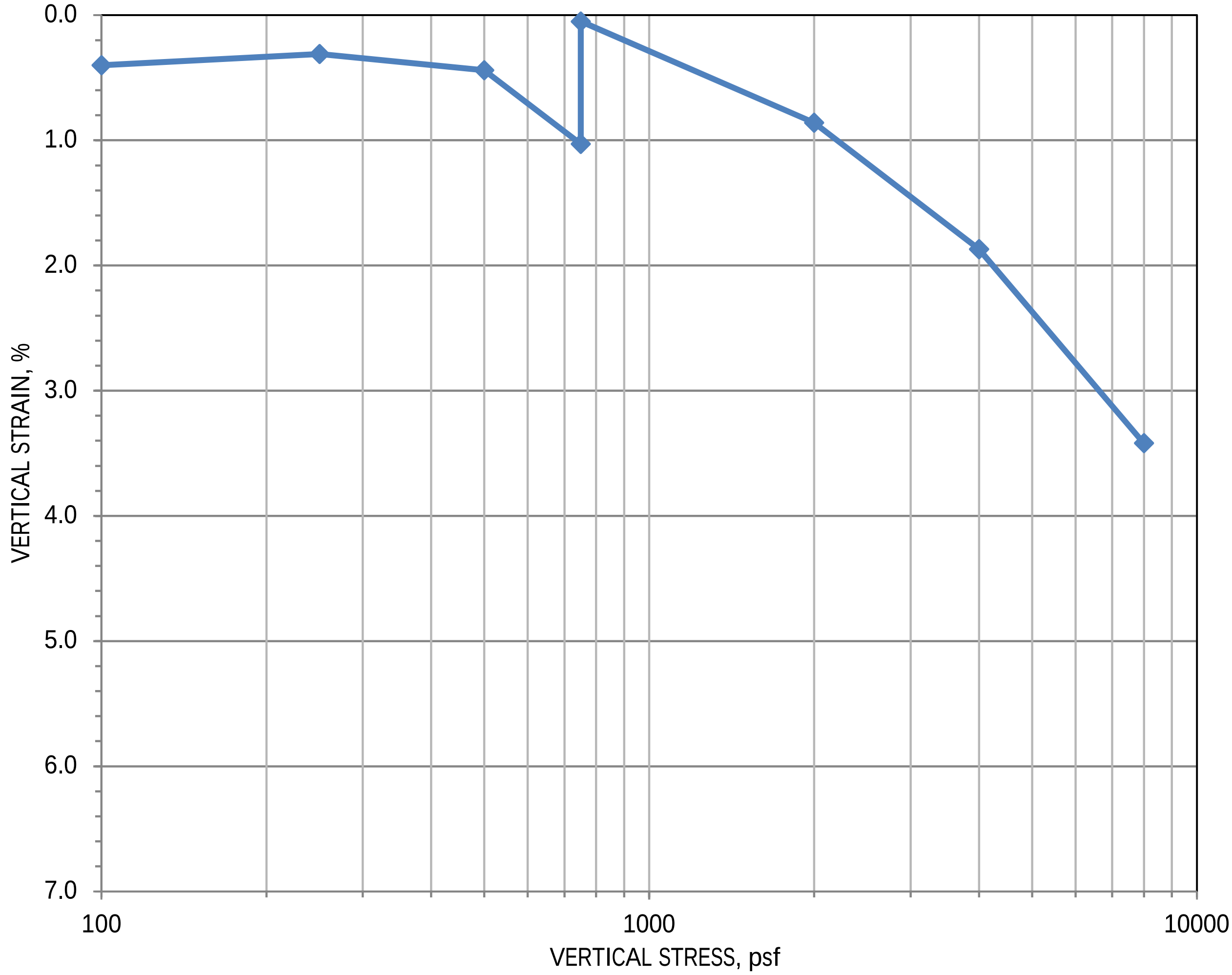
Sample Diameter (in):	2.50	Moist Unit Weight (pcf):	**133**
Sample Height (in):	0.92543	Moisture Content (%):	**16**
Sample Volume (cf):	0.0026	Dry Unit Weight (pcf):	**114**

Liquid Limit:	37	Percent Fines:	88%
Plasticity Index:	21	Classification:	Lean clay

Terracon GeoReport

Project Name: Dolores Canyon Solar Project
Project No.: 61195223
Location: Cahone, CO
Sample: BH-8 @ 12.5

Collapse Test Data (ASTM D2435 or D4546 Method C)



Before Consolidation

Sample Diameter (in):	2.40	Moist Unit Weight (pcf):	**131**
Sample Height (in):	1	Moisture Content (%):	**21**
Sample Volume (cf):	0.0026	Dry Unit Weight (pcf):	**109**

After Consolidation

Sample Diameter (in):	2.40	Moist Unit Weight (pcf):	**139**
Sample Height (in):	0.96577	Moisture Content (%):	**24**
Sample Volume (cf):	0.0025	Dry Unit Weight (pcf):	**113**

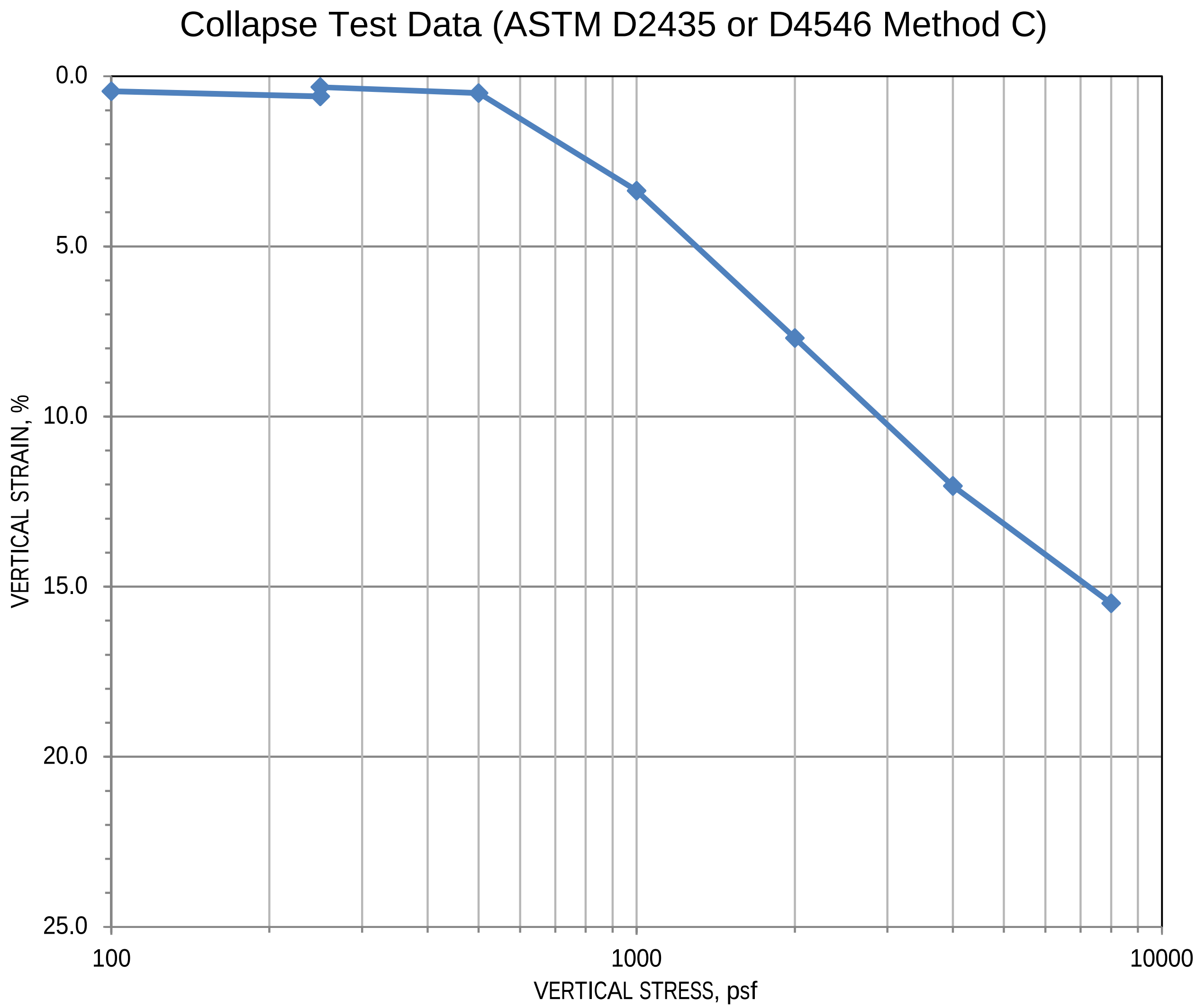
Percent Collapse/Swell

Swell -1.00 %

Liquid Limit:	36	Percent Fines:	78
Plasticity Index:	21	Classification:	Lean clay with sand

Terracon GeoReport

Project Name: Dolores Canyon Solar Project
Project No.: 61195223
Location: Cahone, CO
Sample: BH-18 @ 5



Before Consolidation

Sample Diameter (in):	2.40	Moist Unit Weight (pcf):	**102**
Sample Height (in):	1	Moisture Content (%):	**9**
Sample Volume (cf):	0.0026	Dry Unit Weight (pcf):	**94**

After Consolidation

Sample Diameter (in):	2.40	Moist Unit Weight (pcf):	**129**
Sample Height (in):	0.8451	Moisture Content (%):	**16**
Sample Volume (cf):	0.0022	Dry Unit Weight (pcf):	**111**

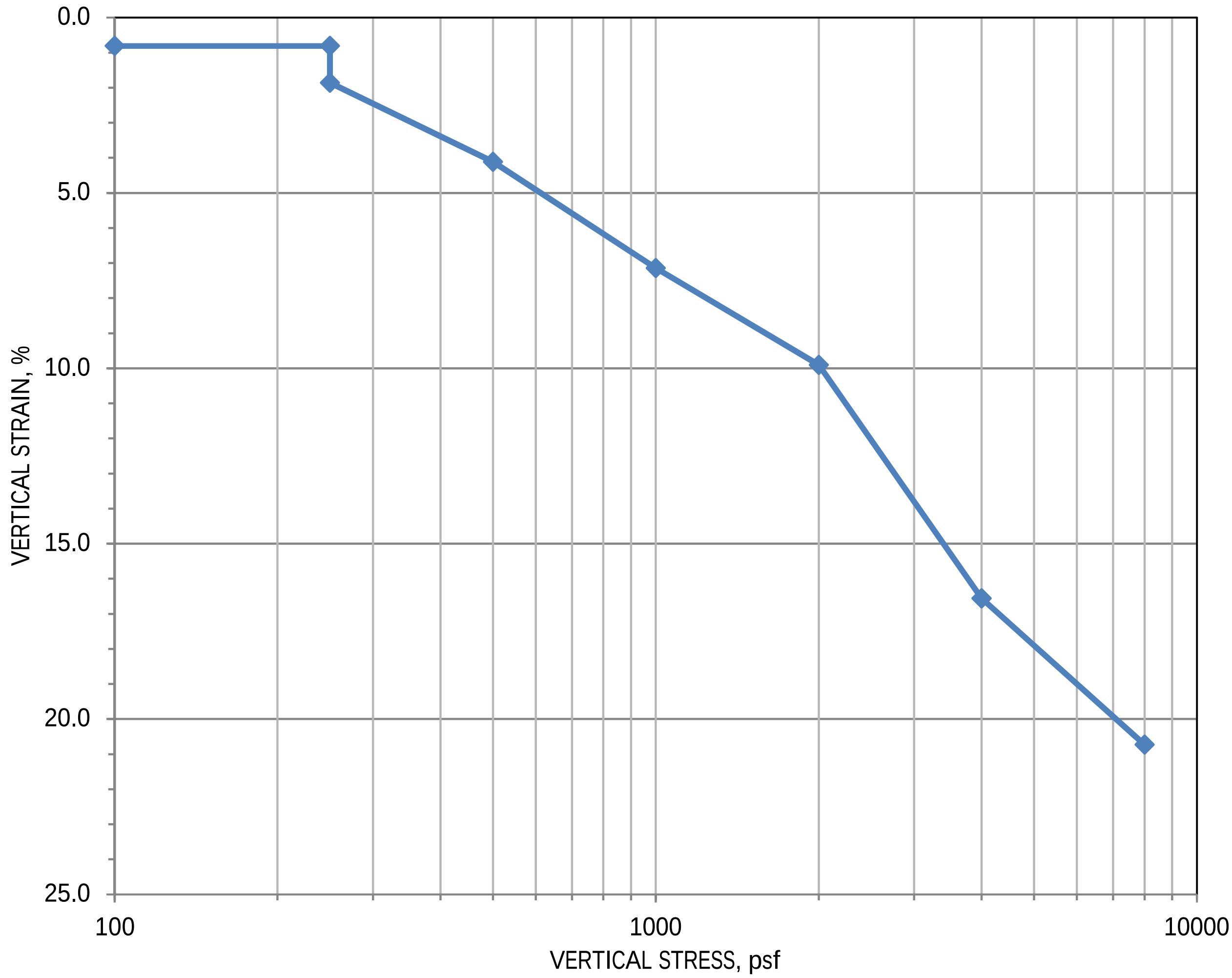
Percent Collapse/Swell

Swell -0.30 %

Liquid Limit:	30	Percent Fines:	83
Plasticity Index:	14	Classification:	Lean Clay with Sand

Project Name: Dolores Canyon
Project No.: 61195223
Location: Near Cahone, CO
Sample: BH-24 @ 2.5

Collapse Test Data (ASTM D2435 or D4546 Method C)



Before Consolidation

Sample Diameter (in):	2.40	Moist Unit Weight (pcf):	**93**
Sample Height (in):	1	Moisture Content (%):	**9**
Sample Volume (cf):	0.0026	Dry Unit Weight (pcf):	**85**

After Consolidation

Sample Diameter (in):	2.40	Moist Unit Weight (pcf):	**132**
Sample Height (in):	0.7927	Moisture Content (%):	**23**
Sample Volume (cf):	0.0021	Dry Unit Weight (pcf):	**107**

Percent Collapse/Swell

Collapse 1.10 %

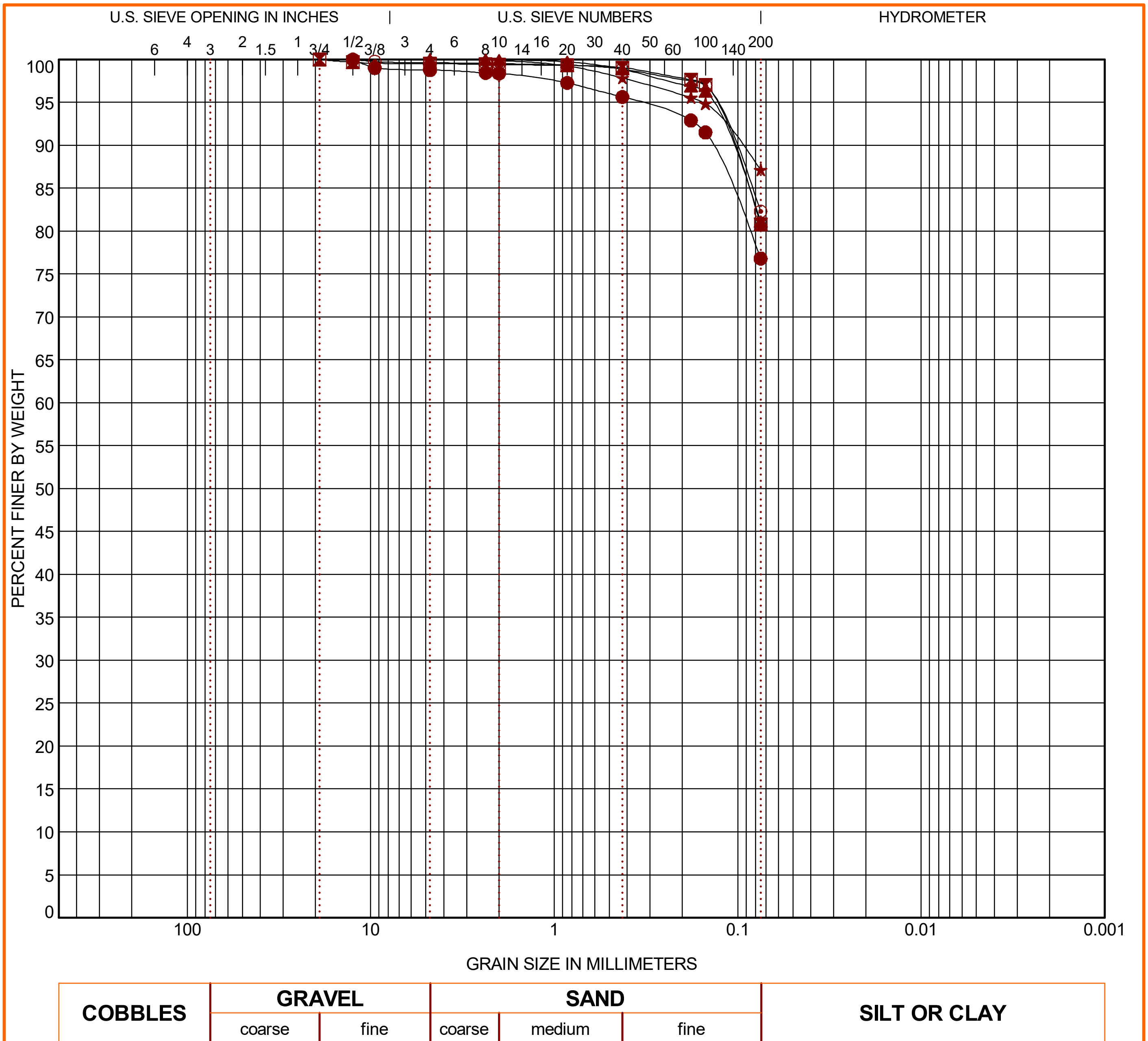
Liquid Limit:	27	Percent Fines:	84
Plasticity Index:	11	Classification:	Lean clay with sand

Terracon GeoReport

Project Name: Dolores Canyon
Project No.: 61195223
Location: Cahone, CO
Sample: BH-31 @ 2.5

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



	Boring ID	Depth	USCS Classification	WC (%)	LL	PL	PI	Cc	Cu
●	TP 1-1	3 - 3.5	SILT with SAND (ML)		NP	NP	NP		
⊠	TP 1-2	3 - 3.5	LEAN CLAY with SAND (CL)		29	19	10		
▲	TP 2-1	3 - 3.5	SILTY CLAY with SAND (CL-ML)		26	19	7		
★	TP 2-2	3 - 3.5	LEAN CLAY (CL)		27	17	10		
⊙	TP 2-3	3 - 3.5	LEAN CLAY with SAND (CL)		26	18	8		

	Boring ID	Depth	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Silt	%Fines	%Clay
●	TP 1-1	3 - 3.5	12.5				0.0	1.2	22.0		76.8	
⊠	TP 1-2	3 - 3.5	19				0.0	0.5	18.7		80.8	
▲	TP 2-1	3 - 3.5	4.75				0.0	0.0	18.9		81.1	
★	TP 2-2	3 - 3.5	4.75				0.0	0.0	12.9		87.1	
⊙	TP 2-3	3 - 3.5	12.5				0.0	0.4	17.3		82.3	

PROJECT: JSI - Dolores Canyon Solar Project

PROJECT NUMBER: 61195223

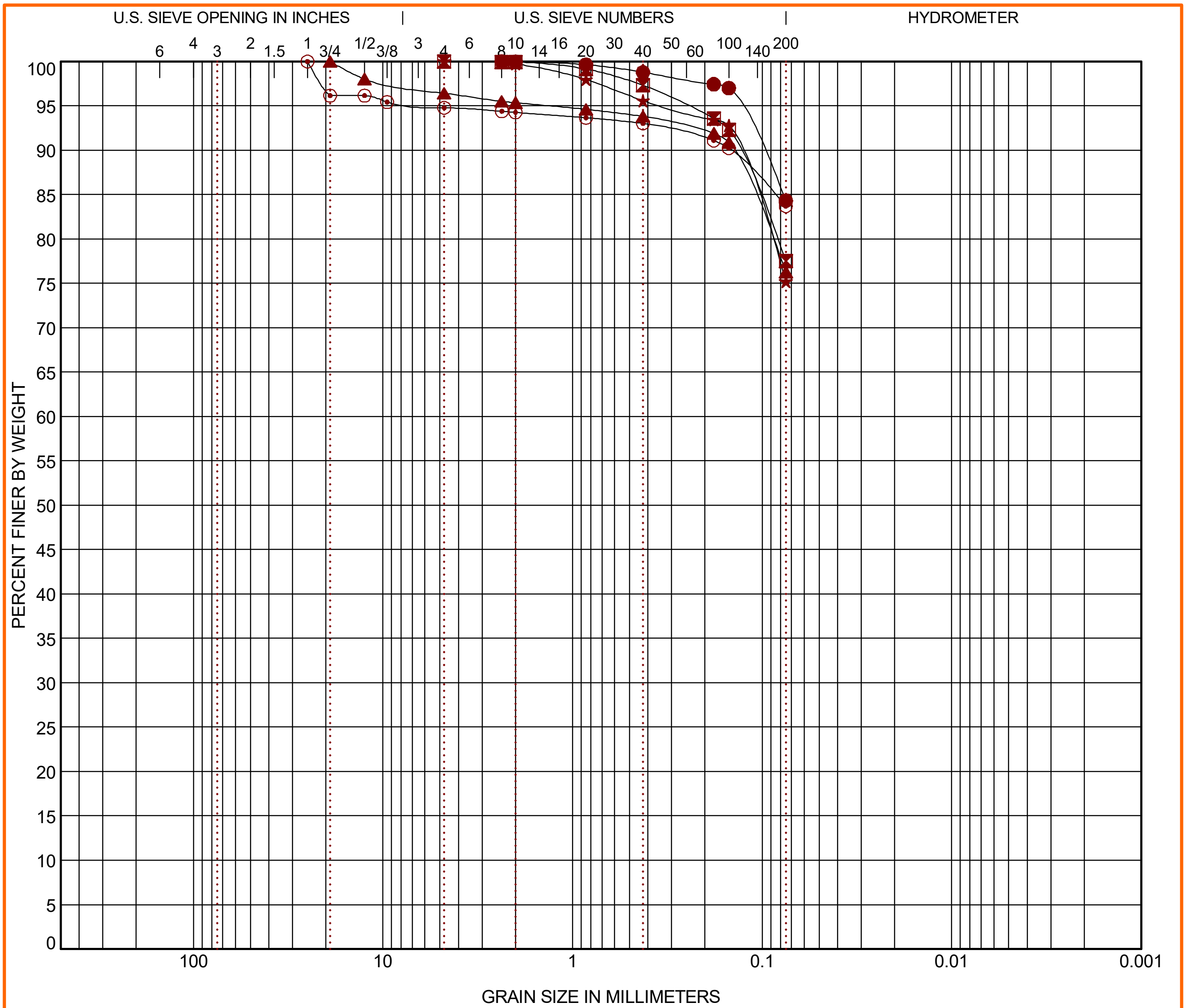
SITE: County Road M.4
Cahone, CO

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

CLIENT: JSI Construction Group LLC
Boulder, CO

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



Boring ID	Depth	USCS Classification	WC (%)	LL	PL	PI	Cc	Cu
● TP 3-1	3 - 3.5	LEAN CLAY with SAND (CL)		30	19	11		
⊠ TP 3-2	3 - 3.5	LEAN CLAY with SAND (CL)		36	19	17		
▲ TP 4-1	3 - 3.5	LEAN CLAY with SAND (CL)		31	18	13		
★ TP 4-2	3 - 3.5	LEAN CLAY with SAND (CL)		34	20	14		
⊙ BH-1	5 - 6	FAT CLAY with SAND (CH)	17.5	51	23	28		

Boring ID	Depth	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Silt	%Fines	%Clay
● TP 3-1	3 - 3.5	2.36				0.0	0.0	15.7		84.3	
⊠ TP 3-2	3 - 3.5	4.75				0.0	0.0	22.5		77.5	
▲ TP 4-1	3 - 3.5	19				0.0	3.6	20.2		76.3	
★ TP 4-2	3 - 3.5	4.75				0.0	0.0	24.8		75.2	
⊙ BH-1	5 - 6	25				0.0	5.2	11.1		83.7	

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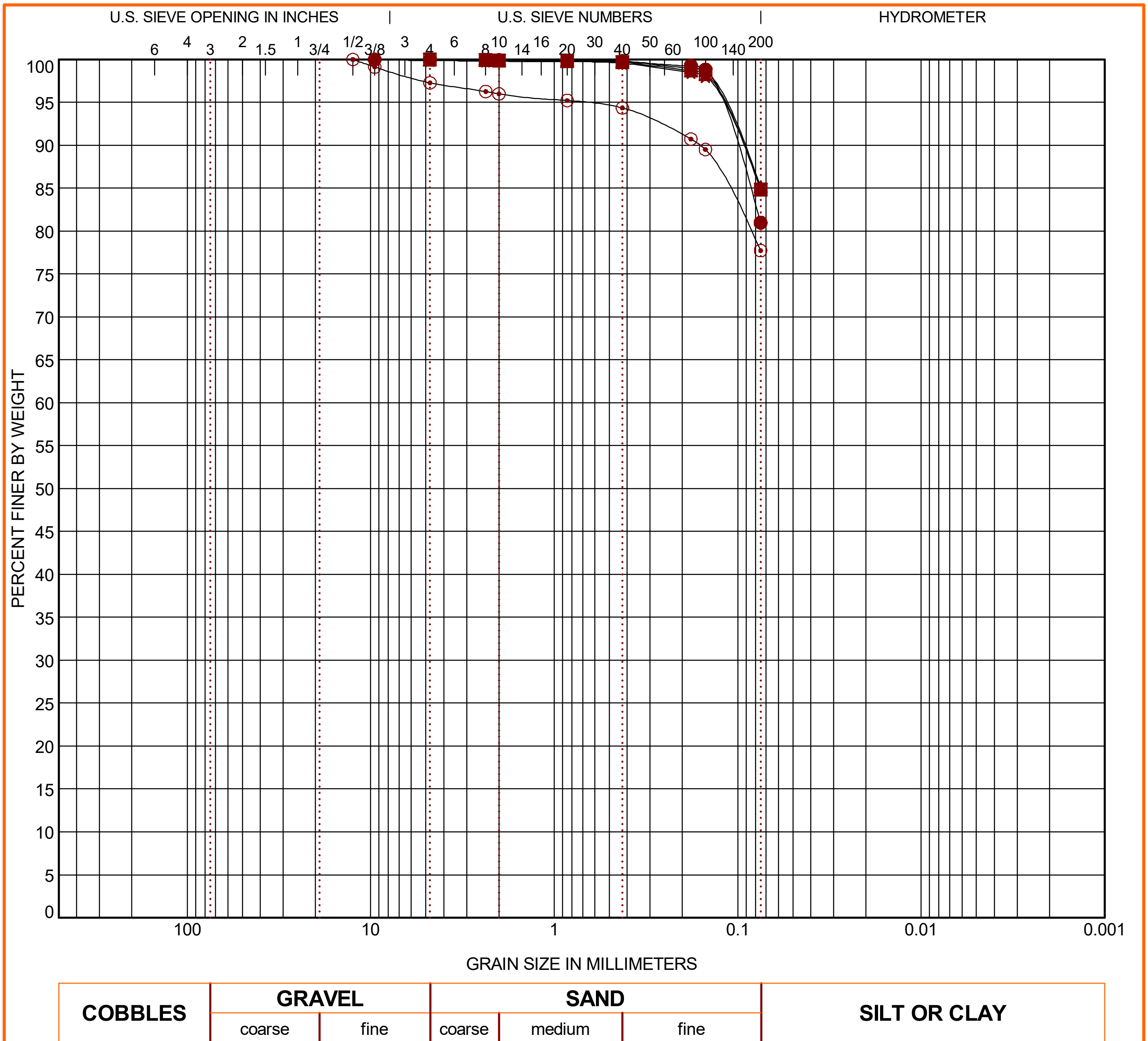
Boulder, CO

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



	Boring ID	Depth	USCS Classification	WC (%)	LL	PL	PI	Cc	Cu
●	BH-4	2.5 - 3.5	LEAN CLAY with SAND (CL)	10.9	32	15	17		
⊠	BH-11	2.5 - 3.5	LEAN CLAY with SAND (CL)	15.6	33	16	17		
▲	BH-13	2.5 - 4.5	LEAN CLAY (CL)	10.0	26	16	10		
★	BH-15	2.5 - 3.5	LEAN CLAY with SAND (CL)	13.1	30	16	14		
⊙	BH-18	5 - 6	LEAN CLAY with SAND (CL)	20.7	36	15	21		

	Boring ID	Depth	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Silt	%Fines	%Clay
●	BH-4	2.5 - 3.5	9.5				0.0	0.0	19.0		81.0	
⊠	BH-11	2.5 - 3.5	4.75				0.0	0.0	15.1		84.9	
▲	BH-13	2.5 - 4.5	2.36				0.0	0.0	14.8		85.2	
★	BH-15	2.5 - 3.5	9.5				0.0	0.1	14.9		85.0	
⊙	BH-18	5 - 6	12.5				0.0	2.7	19.5		77.7	

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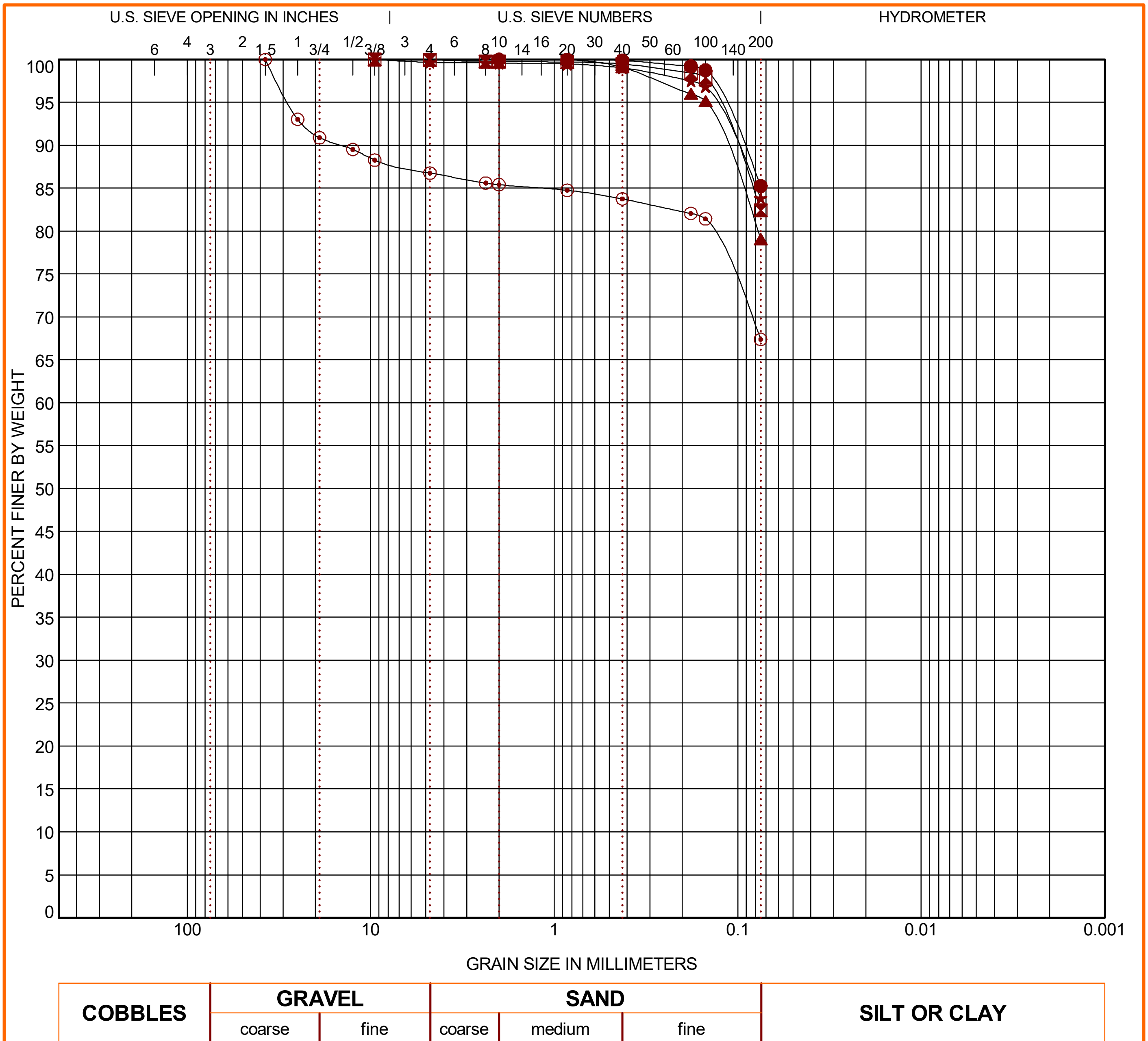
Midvale, UT

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



	Boring ID	Depth	USCS Classification	WC (%)	LL	PL	PI	Cc	Cu
●	BH-20	2.5 - 4.5	LEAN CLAY (CL)	11.0	24	16	8		
⊠	BH-21	5 - 6	LEAN CLAY with SAND (CL)	17.7	27	16	11		
▲	BH-26	2.5 - 3.5	LEAN CLAY with SAND (CL)	10.6	26	15	11		
★	BH-31	2.5 - 3.5	LEAN CLAY with SAND (CL)	9.3	27	16	11		
⊙	BH-33	5 - 6	SANDY LEAN CLAY (CL)	9.3	33	16	17		

	Boring ID	Depth	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Silt	%Fines	%Clay
●	BH-20	2.5 - 4.5	2				0.0	0.0	14.7		85.3	
⊠	BH-21	5 - 6	9.5				0.0	0.0	17.5		82.4	
▲	BH-26	2.5 - 3.5	0.85				0.0	0.0	20.9		79.1	
★	BH-31	2.5 - 3.5	9.5				0.0	0.3	15.8		83.8	
⊙	BH-33	5 - 6	37.5				0.0	13.2	19.4		67.4	

PROJECT: JSI - Dolores Canyon Solar Project

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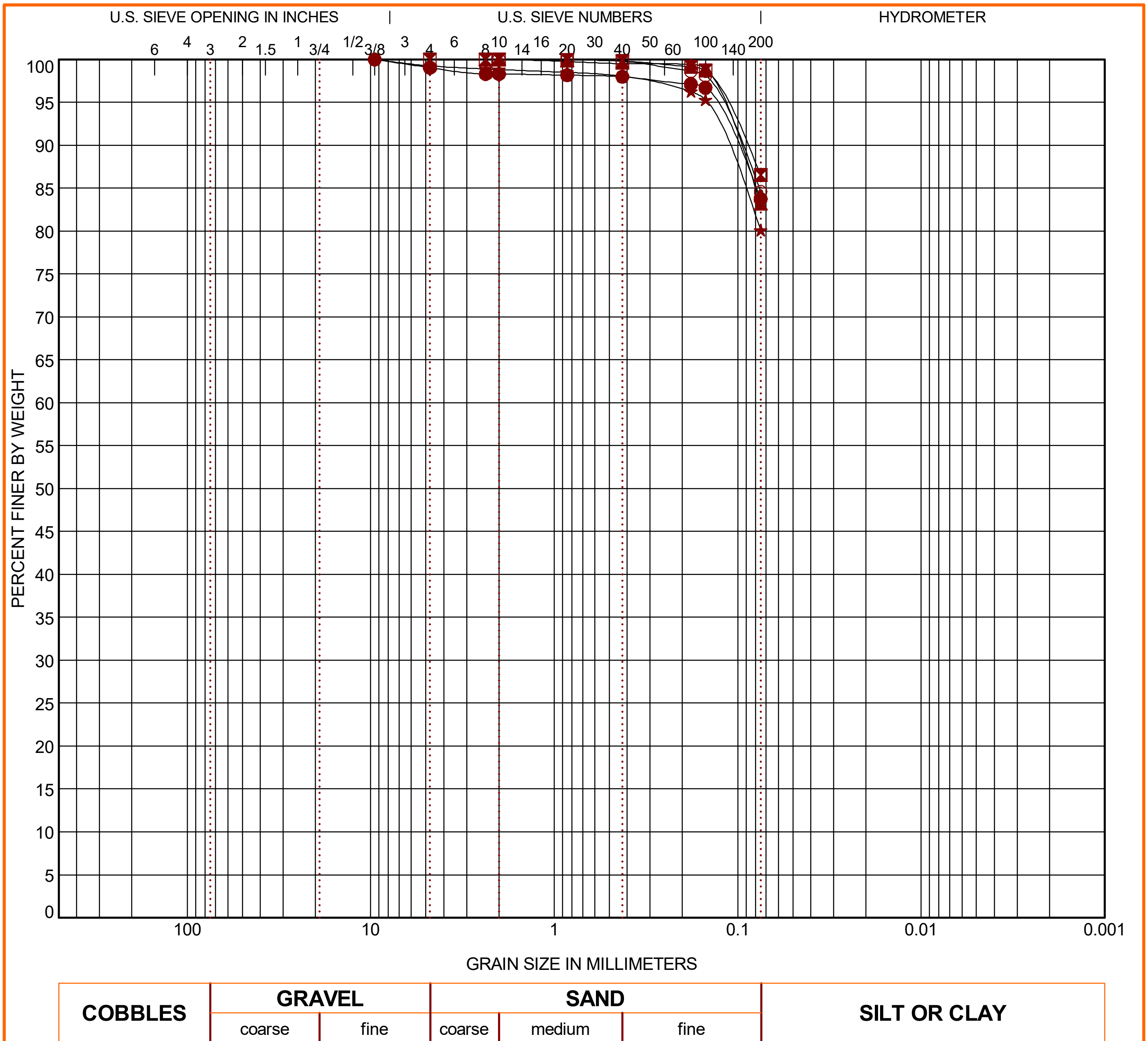
Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

CLIENT: JSI Construction Group LLC
Boulder, CO

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS-2 61195223 JSI - DOLORES CAN.GPJ 02195238 US 50 AND CHIPMAN.GPJ 1/12/21

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



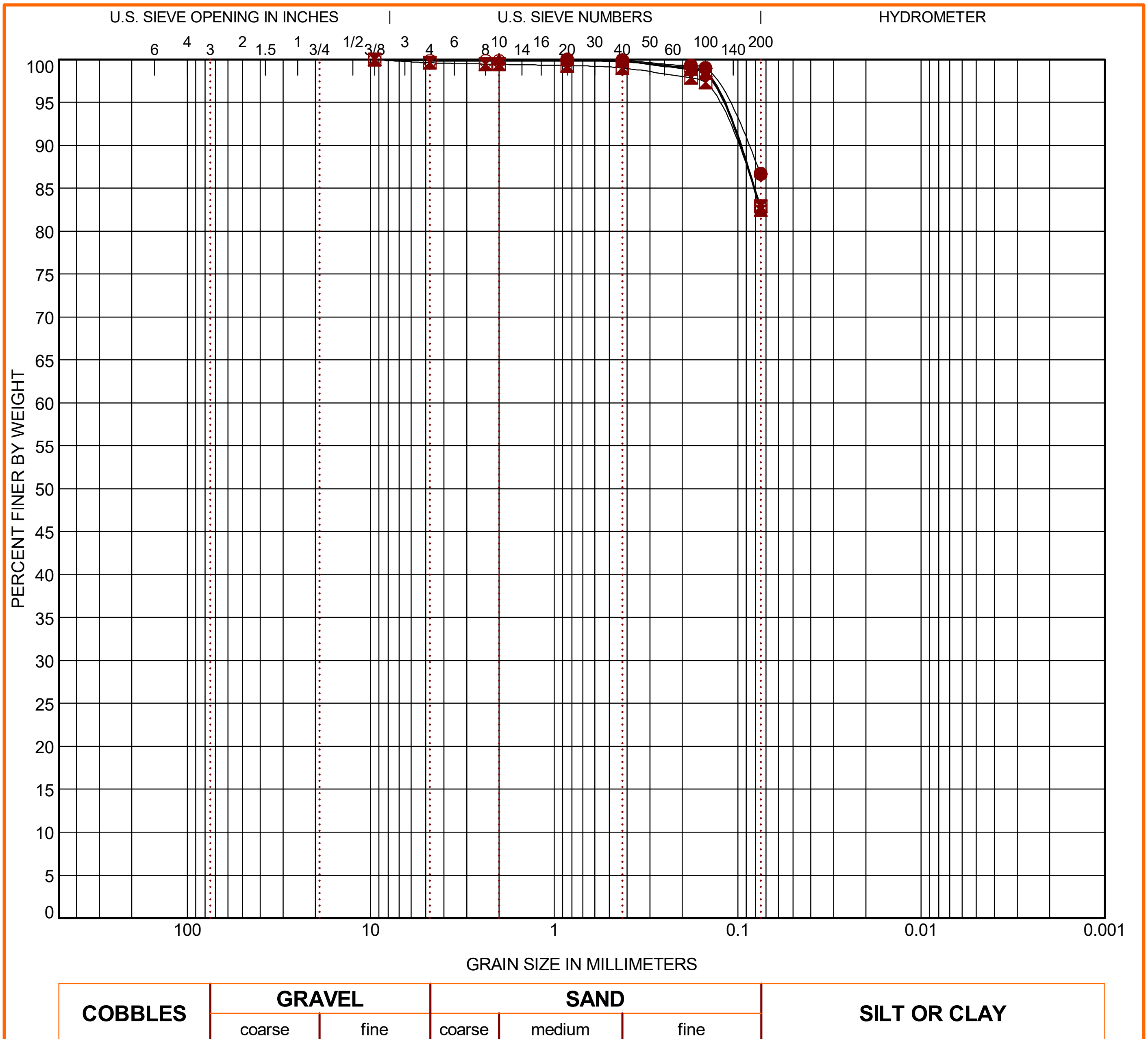
	Boring ID	Depth	USCS Classification	WC (%)	LL	PL	PI	Cc	Cu
●	BH-41	5 - 6	LEAN CLAY with SAND (CL)	14.0	31	15	16		
⊠	TP-01	3 - 3.5	LEAN CLAY (CL)	14.9	30	14	16		
▲	TP-02	3 - 3.5	LEAN CLAY with SAND (CL)	13.5	31	14	17		
★	TP-04	3 - 3.5	LEAN CLAY with SAND (CL)	15.9	26	14	12		
⊙	TP-07	3 - 3.5	LEAN CLAY with SAND (CL)	16.2	30	14	16		

	Boring ID	Depth	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Silt	%Fines	%Clay
●	BH-41	5 - 6	9.5				0.0	1.0	15.3		83.7	
⊠	TP-01	3 - 3.5	4.75				0.0	0.0	13.5		86.5	
▲	TP-02	3 - 3.5	2				0.0	0.0	16.9		83.1	
★	TP-04	3 - 3.5	9.5				0.0	0.7	19.1		80.1	
⊙	TP-07	3 - 3.5	2				0.0	0.0	15.4		84.6	

PROJECT: JSI - Dolores Canyon Solar Project	Terracon 6949 S High Tech Dr Ste 100 Midvale, UT	PROJECT NUMBER: 61195223
SITE: County Road M.4 Cahone, CO		CLIENT: JSI Construction Group LLC Boulder, CO

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



	Boring ID	Depth	USCS Classification	WC (%)	LL	PL	PI	Cc	Cu
●	TP-08	3 - 3.5	LEAN CLAY (CL)	14.0	29	14	15		
⊠	TP-10	3 - 3.5	LEAN CLAY with SAND (CL)	9.2	28	17	11		
▲	TP-12	3 - 3.5	LEAN CLAY with SAND (CL)	12.6	33	17	16		
★	TP-15	3 - 3.5	LEAN CLAY with SAND (CL)	9.7	29	17	12		
⊙	TP-18	3 - 3.5	LEAN CLAY with SAND (CL)	11.7	28	17	11		

	Boring ID	Depth	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Silt	%Fines	%Clay
●	TP-08	3 - 3.5	0.85				0.0	0.0	13.3		86.7	
⊠	TP-10	3 - 3.5	9.5				0.0	0.4	16.7		82.9	
▲	TP-12	3 - 3.5	2				0.0	0.0	17.6		82.4	
★	TP-15	3 - 3.5	2				0.0	0.0	17.2		82.8	
⊙	TP-18	3 - 3.5	9.5				0.0	0.2	17.1		82.8	

PROJECT: JSI - Dolores Canyon Solar Project

PROJECT NUMBER: 61195223

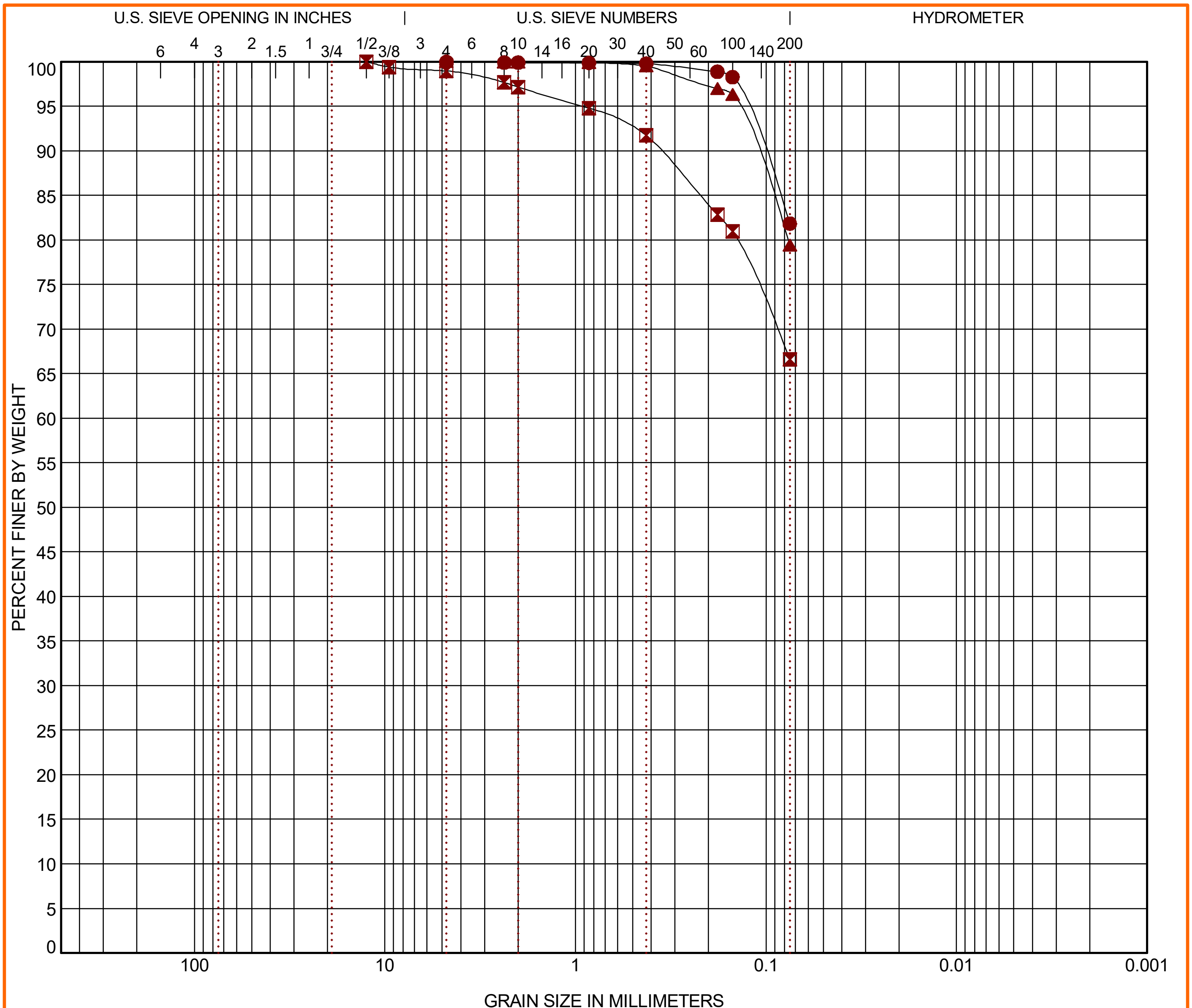
SITE: County Road M.4
Cahone, CO

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

CLIENT: JSI Construction Group LLC
Boulder, CO

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Boring ID	Depth	USCS Classification	WC (%)	LL	PL	PI	Cc	Cu
●	TP-20	3 - 3.5	LEAN CLAY with SAND (CL)	13.5	35	18	17		
⊠	TP-22	1.5 - 2	SANDY LEAN CLAY (CL)	10.4	35	18	17		
▲	TP-24	3 - 3.5	LEAN CLAY with SAND (CL)	6.9	27	18	9		

	Boring ID	Depth	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Silt	%Fines	%Clay
●	TP-20	3 - 3.5	4.75				0.0	0.0	18.2		81.8	
⊠	TP-22	1.5 - 2	12.5				0.0	1.0	32.4		66.6	
▲	TP-24	3 - 3.5	4.75				0.0	0.0	20.6		79.4	

PROJECT: JSI - Dolores Canyon Solar Project

SITE: County Road M.4
Cahone, CO

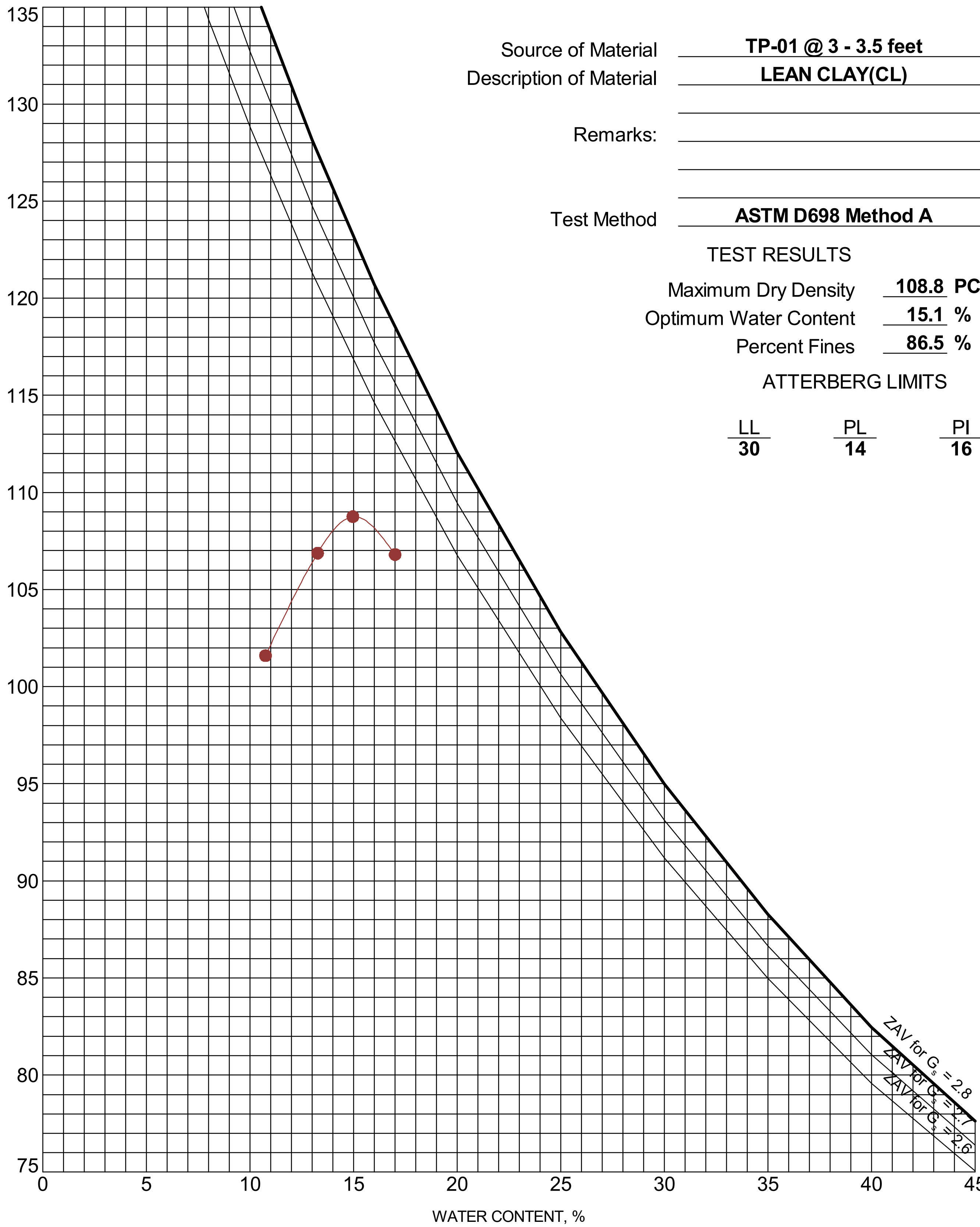
Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

PROJECT NUMBER: 61195223

CLIENT: JSI Construction Group LLC
Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material: **TP-01 @ 3 - 3.5 feet**

Description of Material: **LEAN CLAY(CL)**

Remarks:

Test Method: **ASTM D698 Method A**

TEST RESULTS

Maximum Dry Density **108.8** **PCF**

Optimum Water Content **15.1** **%**

Percent Fines **86.5** **%**

ATTERBERG LIMITS

LL	PL	PI
30	**14**	**16**

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. COMPACTION - V2 61195223 JSI - DOLORES CAN.GPJ 02195238 US 50 AND CHIPMAN.GPJ 1/12/21

PROJECT: JSI - Dolores Canyon Solar Project

SITE: County Road M.4
Cahone, CO

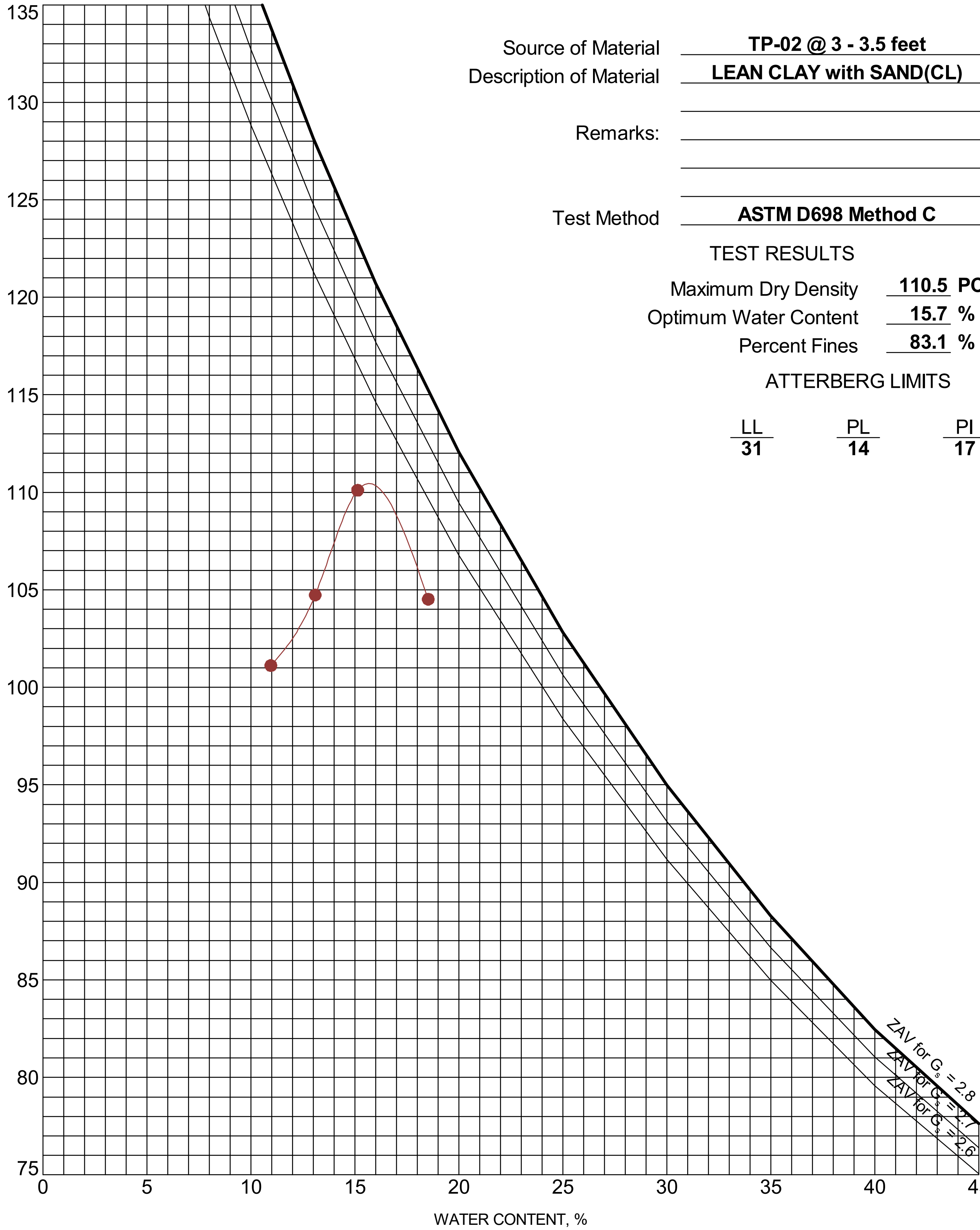
Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

PROJECT NUMBER: 61195223

CLIENT: JSI Construction Group LLC
Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material	**TP-02 @ 3 - 3.5 feet**
Description of Material	**LEAN CLAY with SAND(CL)**
Remarks:	
Test Method	**ASTM D698 Method C**

TEST RESULTS

Maximum Dry Density	**110.5 PCF**
Optimum Water Content	**15.7 %**
Percent Fines	**83.1 %**

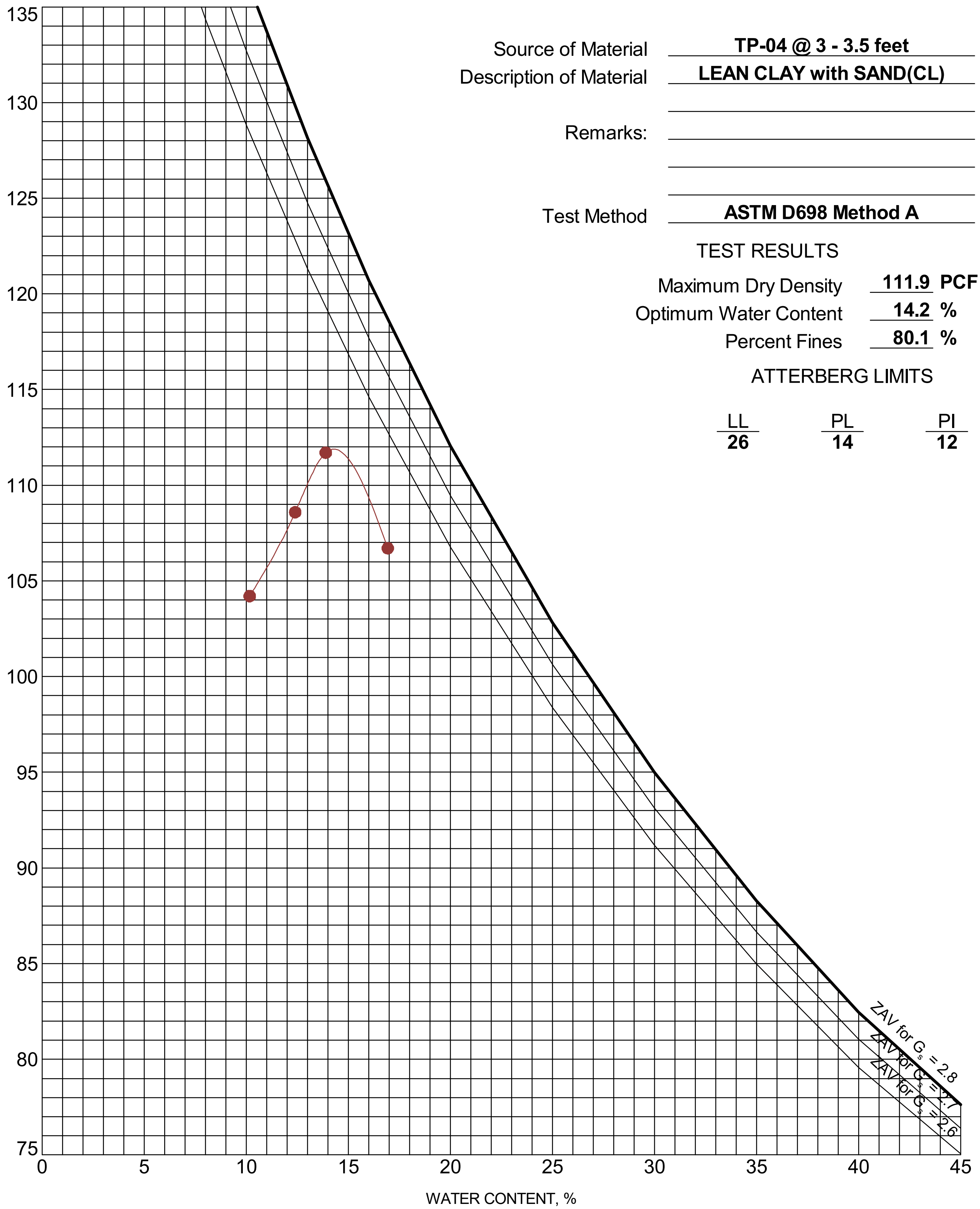
ATTERBERG LIMITS

LL	PL	PI
31	**14**	**17**

PROJECT: JSI - Dolores Canyon Solar Project	Terracon 6949 S High Tech Dr Ste 100 Midvale, UT	PROJECT NUMBER: 61195223
SITE: County Road M.4 Cahone, CO		CLIENT: JSI Construction Group LLC Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material: **TP-04 @ 3 - 3.5 feet**

Description of Material: **LEAN CLAY with SAND(CL)**

Remarks:

Test Method: **ASTM D698 Method A**

TEST RESULTS

Maximum Dry Density	**111.9**	**PCF**
Optimum Water Content	**14.2**	**%**
Percent Fines	**80.1**	**%**

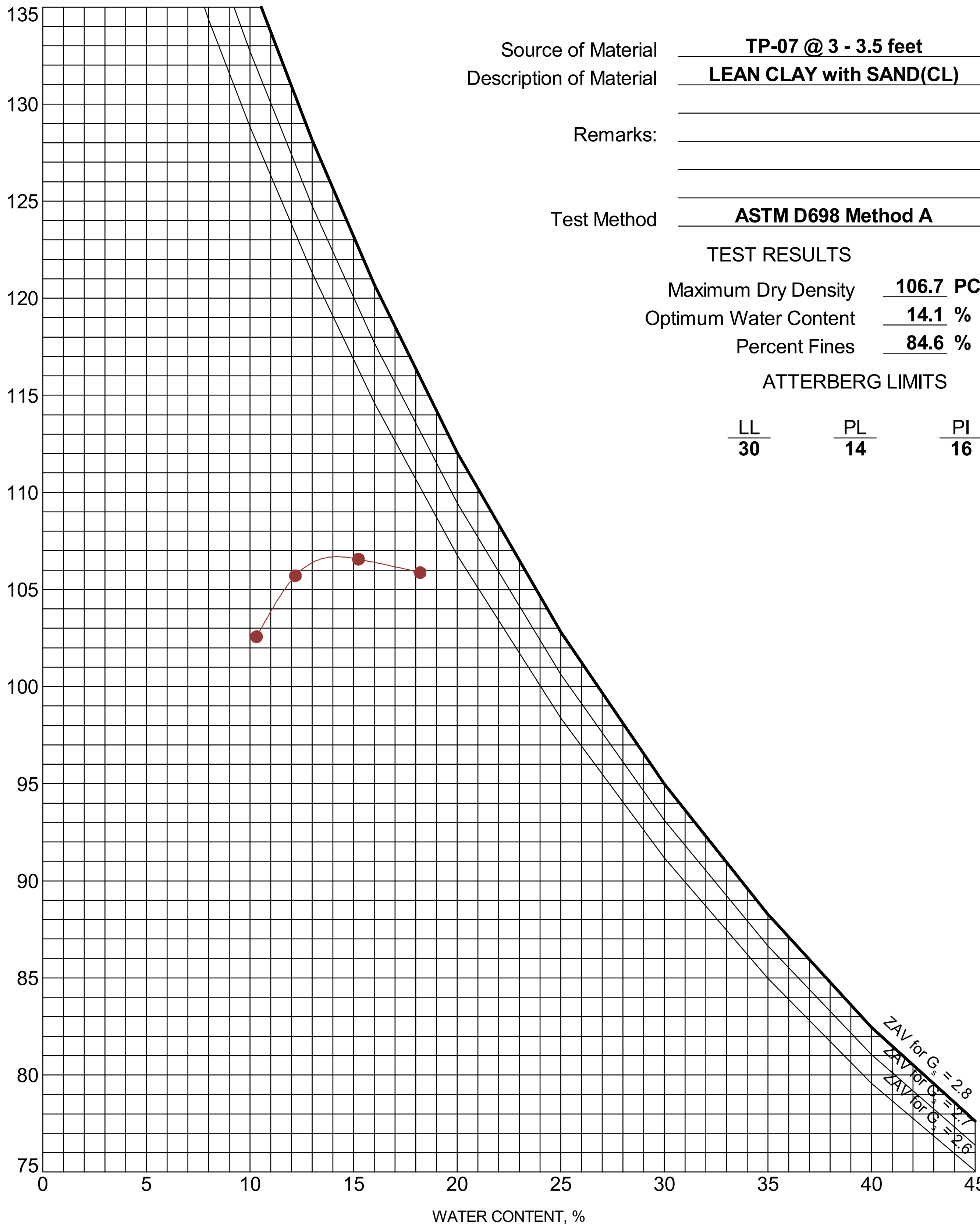
ATTERBERG LIMITS

LL	PL	PI
26	**14**	**12**

PROJECT: JSI - Dolores Canyon Solar Project	Terracon 6949 S High Tech Dr Ste 100 Midvale, UT	PROJECT NUMBER: 61195223
SITE: County Road M.4 Cahone, CO		CLIENT: JSI Construction Group LLC Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material	**TP-07 @ 3 - 3.5 feet**
Description of Material	**LEAN CLAY with SAND(CL)**
Remarks:	
Test Method	**ASTM D698 Method A**

TEST RESULTS

Maximum Dry Density	**106.7 PCF**
Optimum Water Content	**14.1 %**
Percent Fines	**84.6 %**

ATTERBERG LIMITS

LL	PL	PI
30	**14**	**16**

PROJECT: JSI - Dolores Canyon Solar Project

PROJECT NUMBER: 61195223

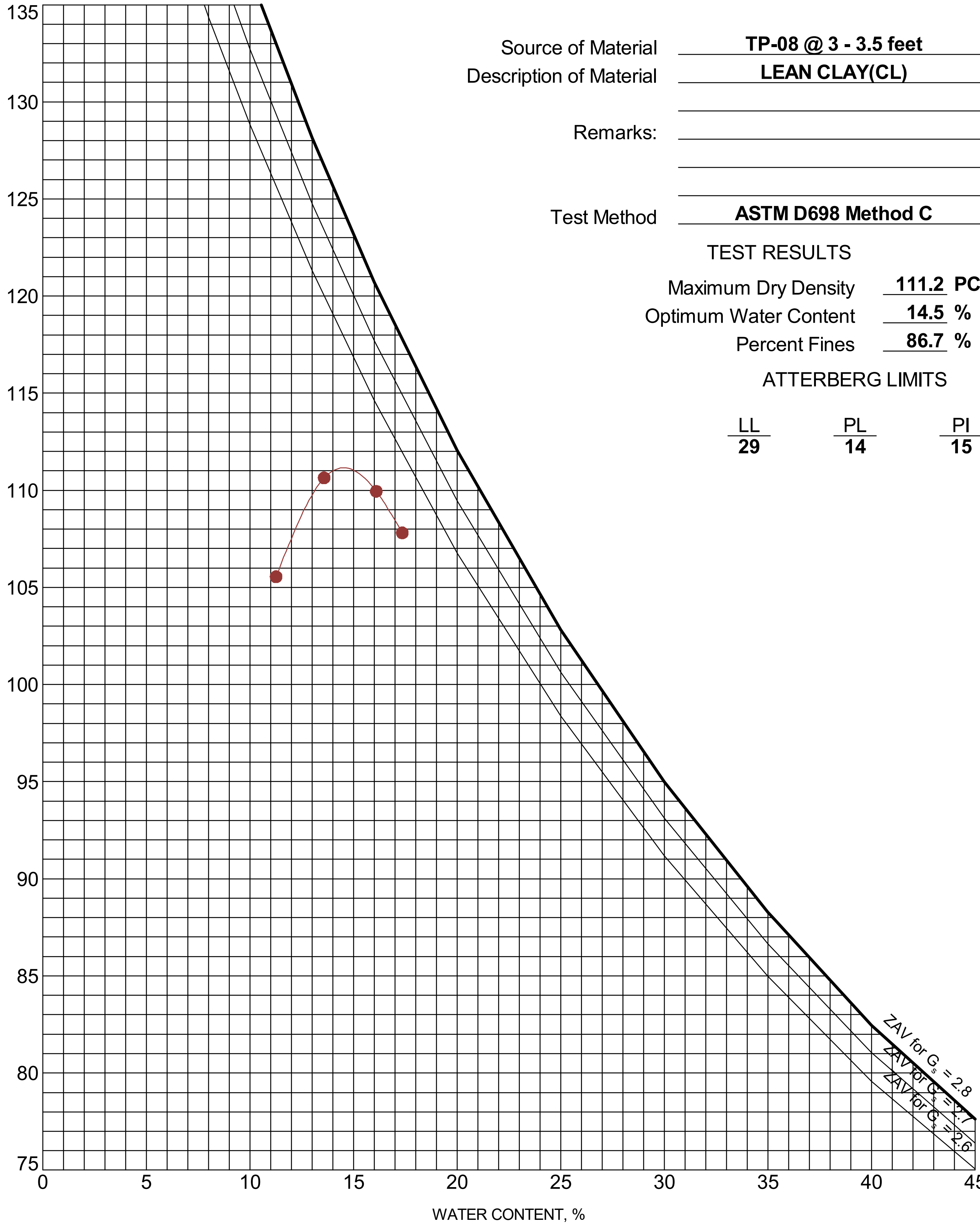
SITE: County Road M.4
Cahone, CO

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

CLIENT: JSI Construction Group LLC
Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material	**TP-08 @ 3 - 3.5 feet**
Description of Material	**LEAN CLAY(CL)**
Remarks:	
Test Method	**ASTM D698 Method C**

TEST RESULTS

Maximum Dry Density	**111.2**	**PCF**
Optimum Water Content	**14.5**	**%**
Percent Fines	**86.7**	**%**

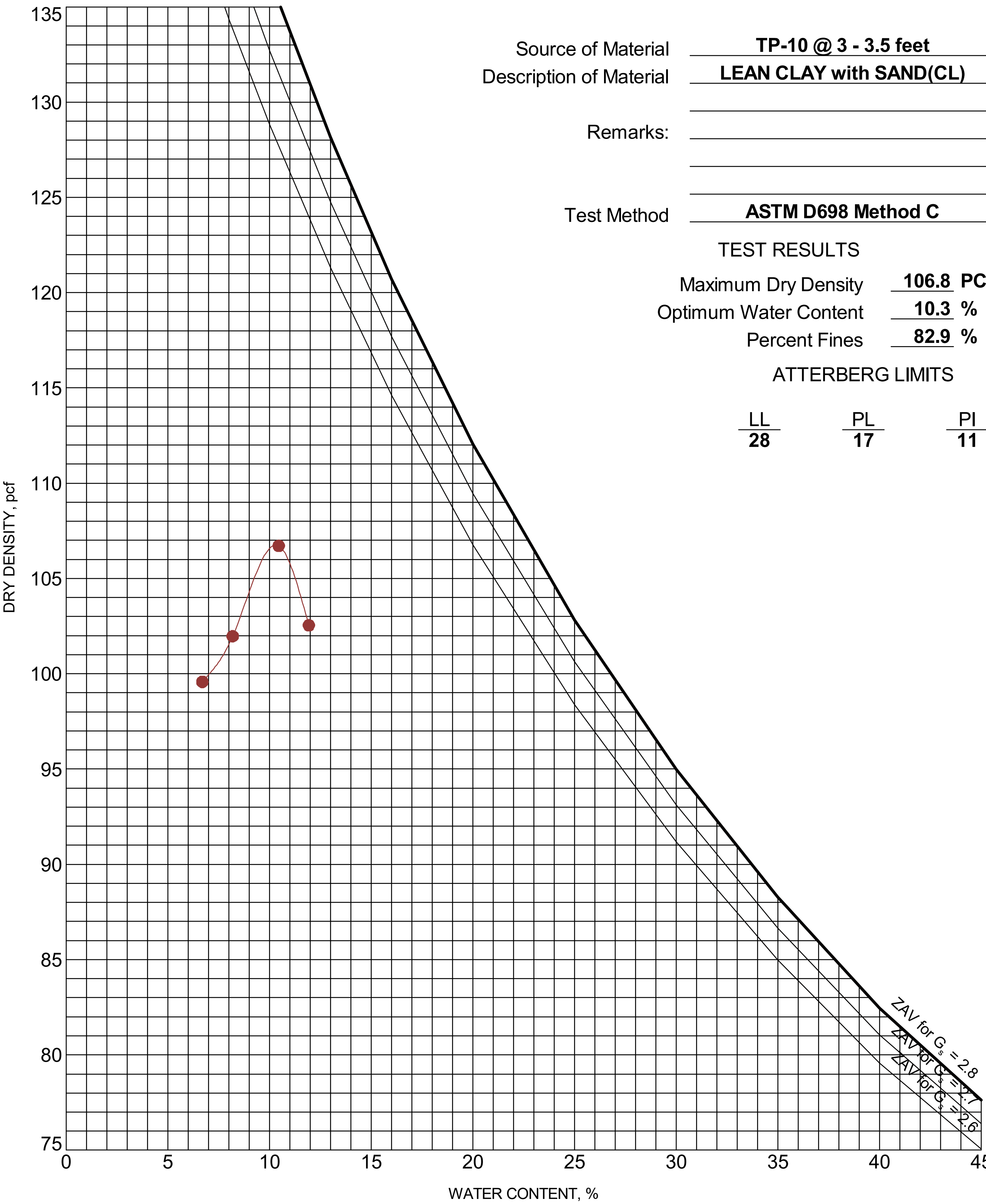
ATTERBERG LIMITS

LL	PL	PI
29	**14**	**15**

PROJECT: JSI - Dolores Canyon Solar Project	Terracon 6949 S High Tech Dr Ste 100 Midvale, UT	PROJECT NUMBER: 61195223
SITE: County Road M.4 Cahone, CO		CLIENT: JSI Construction Group LLC Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material: **TP-10 @ 3 - 3.5 feet**

Description of Material: **LEAN CLAY with SAND(CL)**

Remarks:

Test Method: **ASTM D698 Method C**

TEST RESULTS

Maximum Dry Density	**106.8**	**PCF**
Optimum Water Content	**10.3**	**%**
Percent Fines	**82.9**	**%**

ATTERBERG LIMITS

LL	PL	PI
28	**17**	**11**

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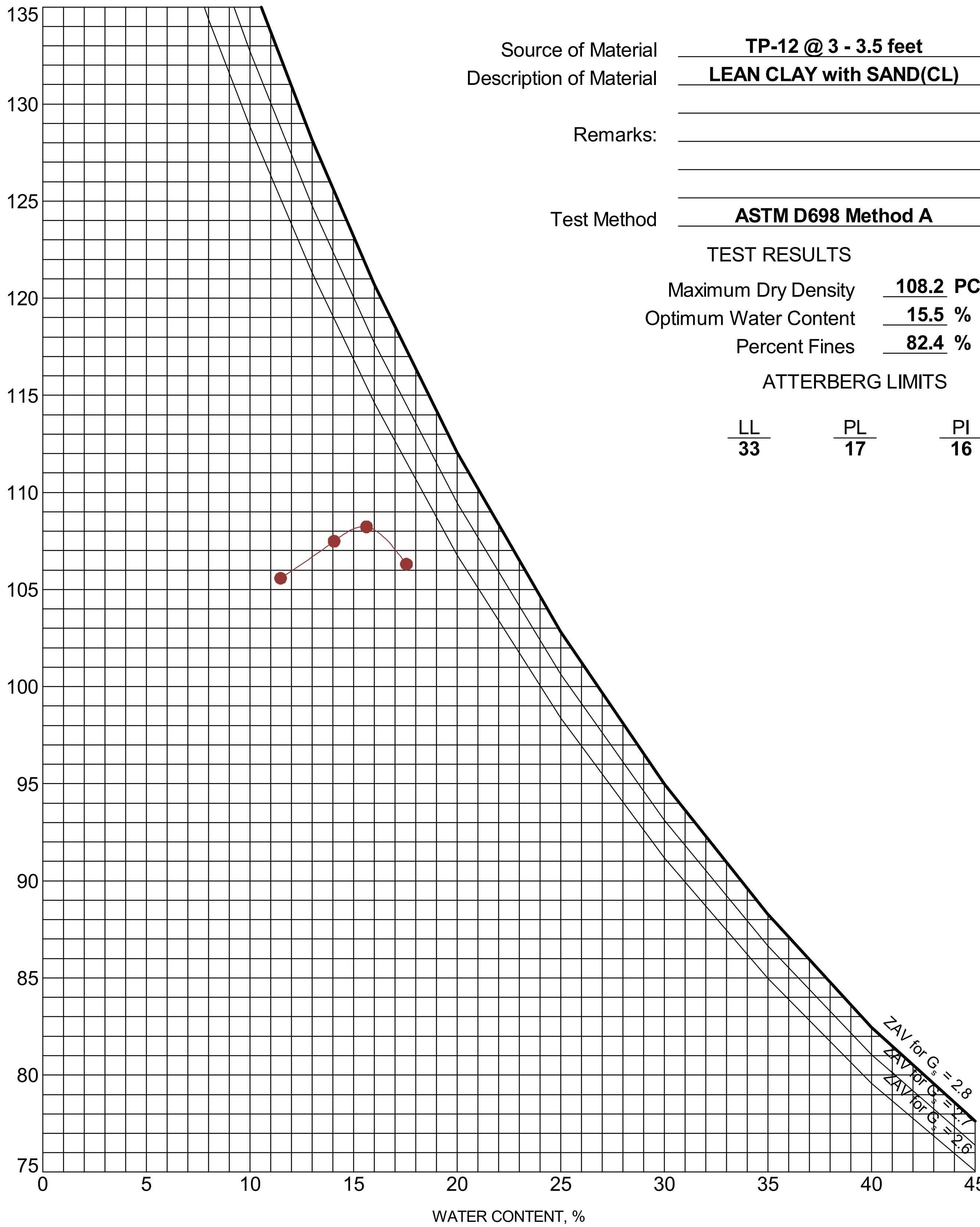
PROJECT: JSI - Dolores Canyon Solar Project	Terracon 6949 S High Tech Dr Ste 100 Midvale, UT	PROJECT NUMBER: 61195223
SITE: County Road M.4 Cahone, CO		CLIENT: JSI Construction Group LLC Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material	**TP-12 @ 3 - 3.5 feet**
Description of Material	**LEAN CLAY with SAND(CL)**
Remarks:	
Test Method	**ASTM D698 Method A**

TEST RESULTS

Maximum Dry Density	**108.2**	**PCF**
Optimum Water Content	**15.5**	**%**
Percent Fines	**82.4**	**%**

ATTERBERG LIMITS

LL	PL	PI
33	**17**	**16**

PROJECT: JSI - Dolores Canyon Solar Project

SITE: County Road M.4
Cahone, CO

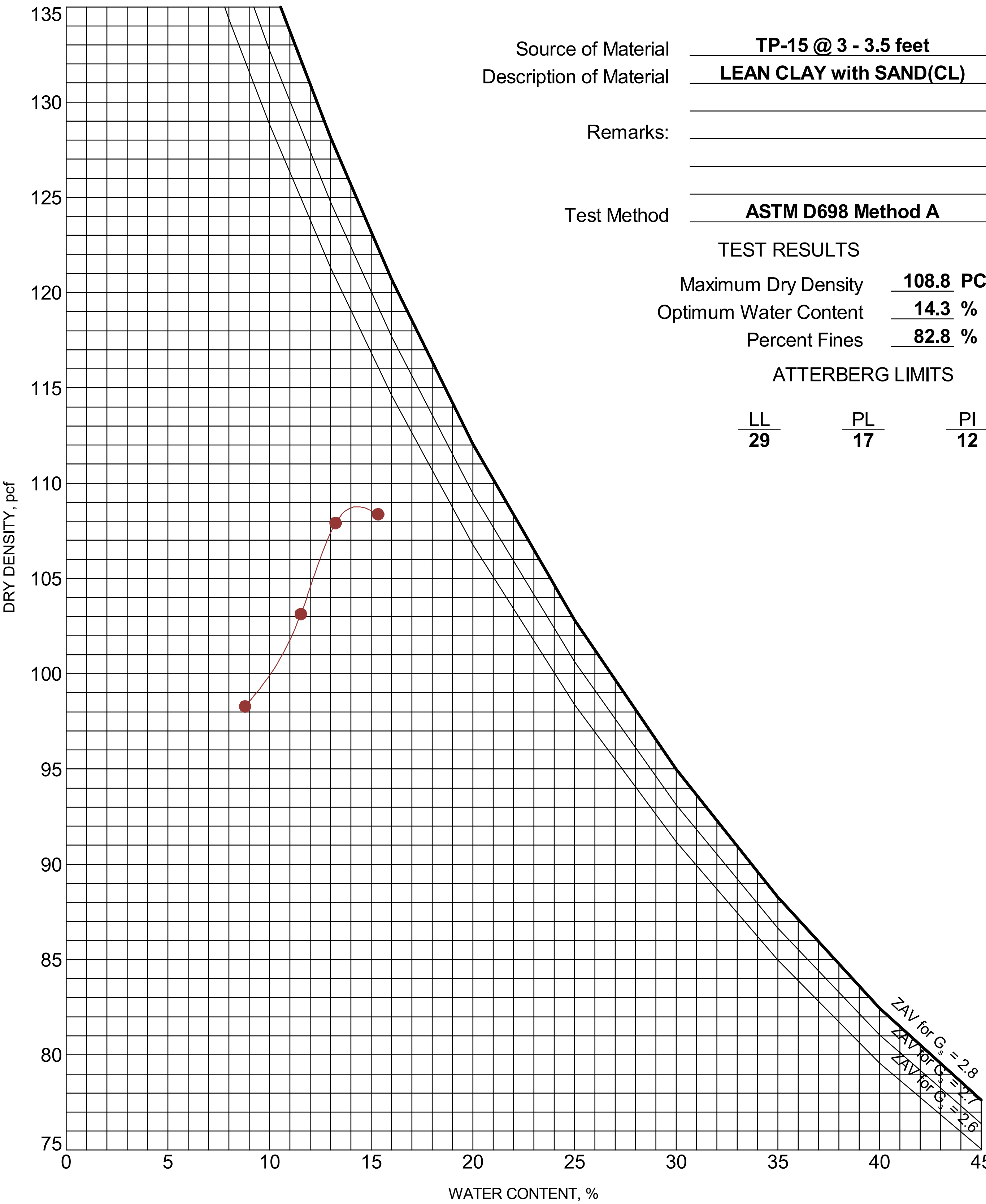
Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

PROJECT NUMBER: 61195223

CLIENT: JSI Construction Group LLC
Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material	**TP-15 @ 3 - 3.5 feet**
Description of Material	**LEAN CLAY with SAND(CL)**
Remarks:	
Test Method	**ASTM D698 Method A**

TEST RESULTS

Maximum Dry Density	**108.8 PCF**
Optimum Water Content	**14.3 %**
Percent Fines	**82.8 %**

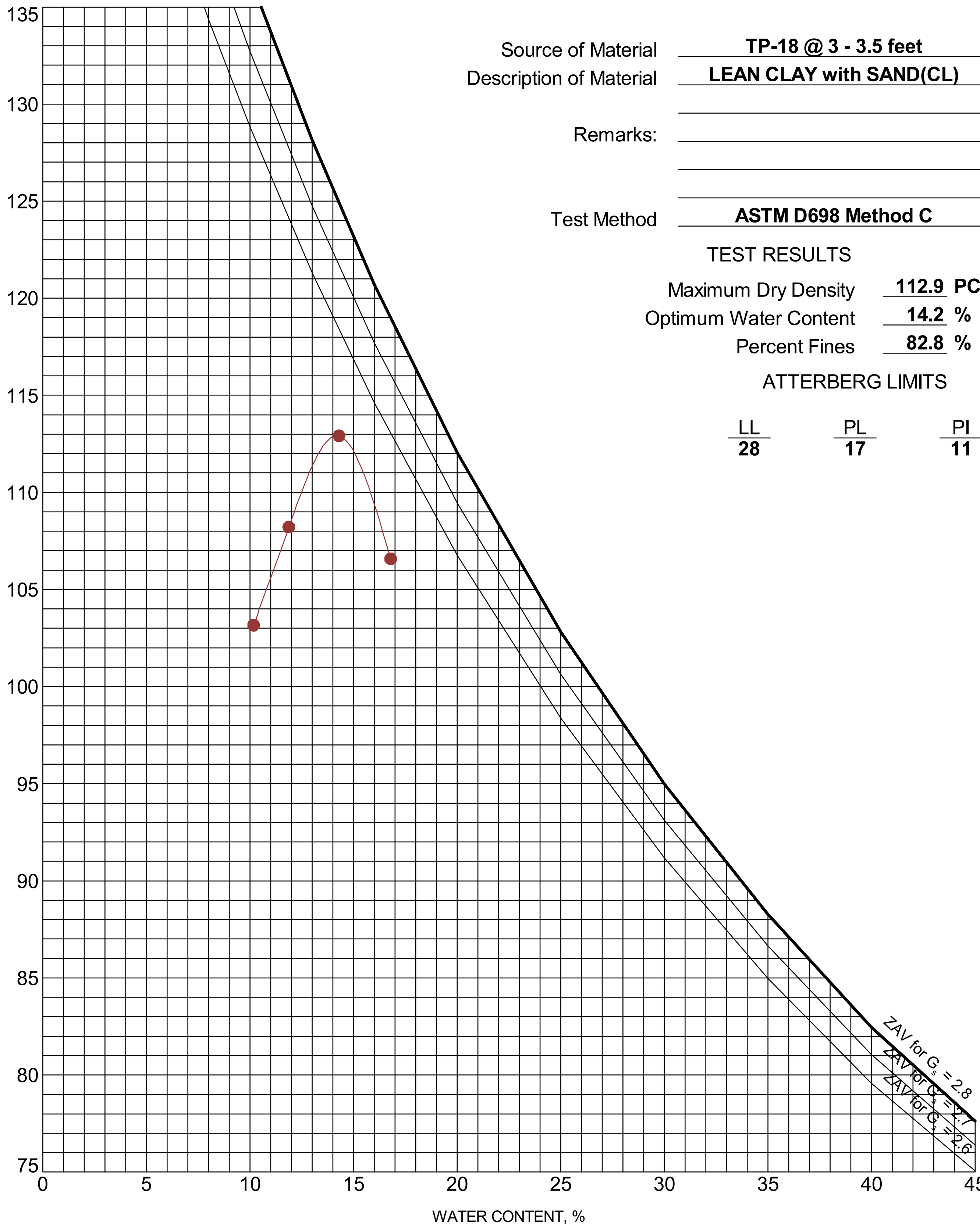
ATTERBERG LIMITS

LL	PL	PI
29	**17**	**12**

PROJECT: JSI - Dolores Canyon Solar Project	Terracon 6949 S High Tech Dr Ste 100 Midvale, UT	PROJECT NUMBER: 61195223
SITE: County Road M.4 Cahone, CO		CLIENT: JSI Construction Group LLC Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material: **TP-18 @ 3 - 3.5 feet**

Description of Material: **LEAN CLAY with SAND(CL)**

Remarks:

Test Method: **ASTM D698 Method C**

TEST RESULTS

Maximum Dry Density **112.9 PCF**

Optimum Water Content **14.2 %**

Percent Fines **82.8 %**

ATTERBERG LIMITS

LL	PL	PI
28	**17**	**11**

PROJECT: JSI - Dolores Canyon Solar Project

SITE: County Road M.4
Cahone, CO

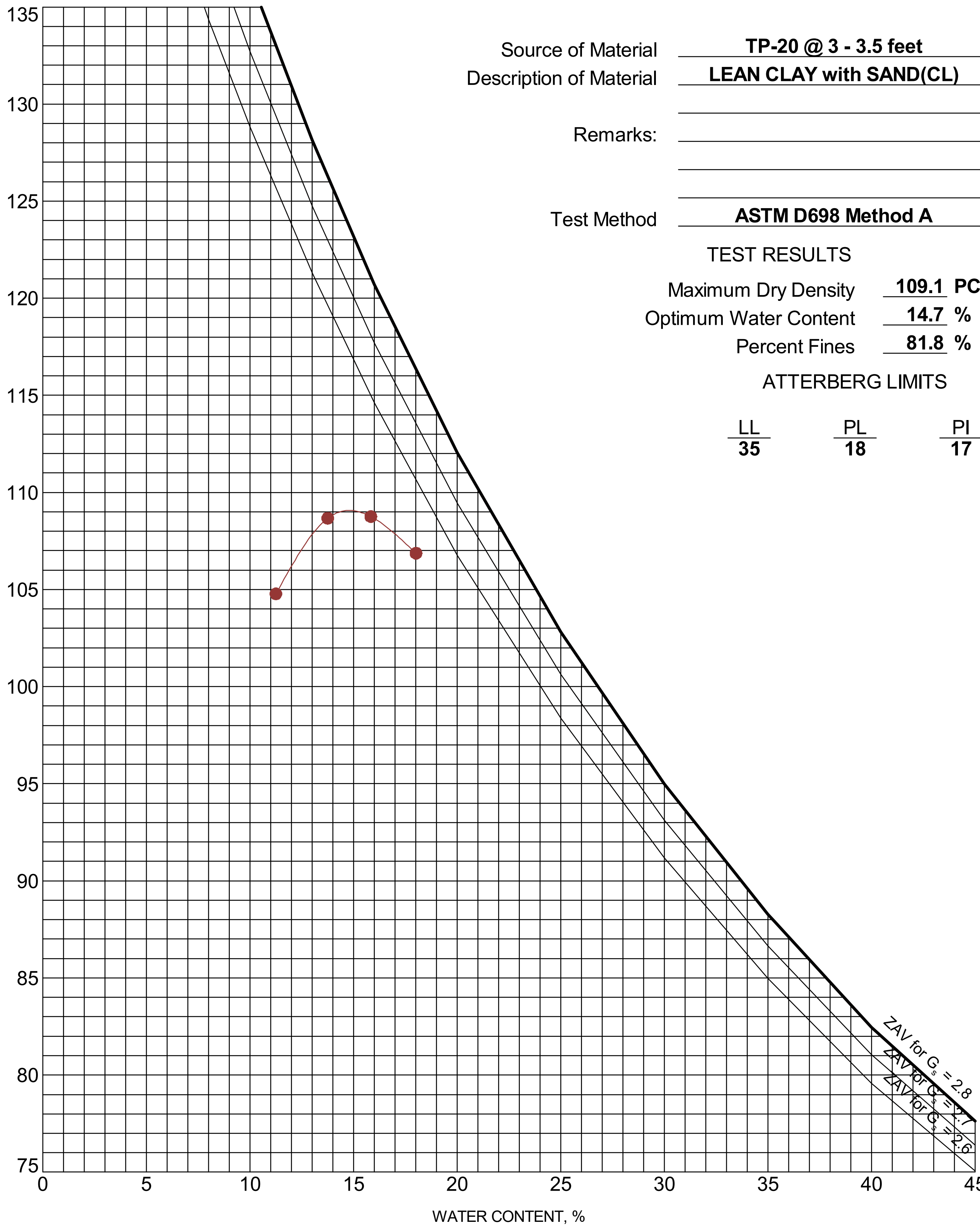
Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

PROJECT NUMBER: 61195223

CLIENT: JSI Construction Group LLC
Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material: **TP-20 @ 3 - 3.5 feet**

Description of Material: **LEAN CLAY with SAND(CL)**

Remarks:

Test Method: **ASTM D698 Method A**

TEST RESULTS

Maximum Dry Density **109.1 PCF**

Optimum Water Content **14.7 %**

Percent Fines **81.8 %**

ATTERBERG LIMITS

LL	PL	PI
35	**18**	**17**

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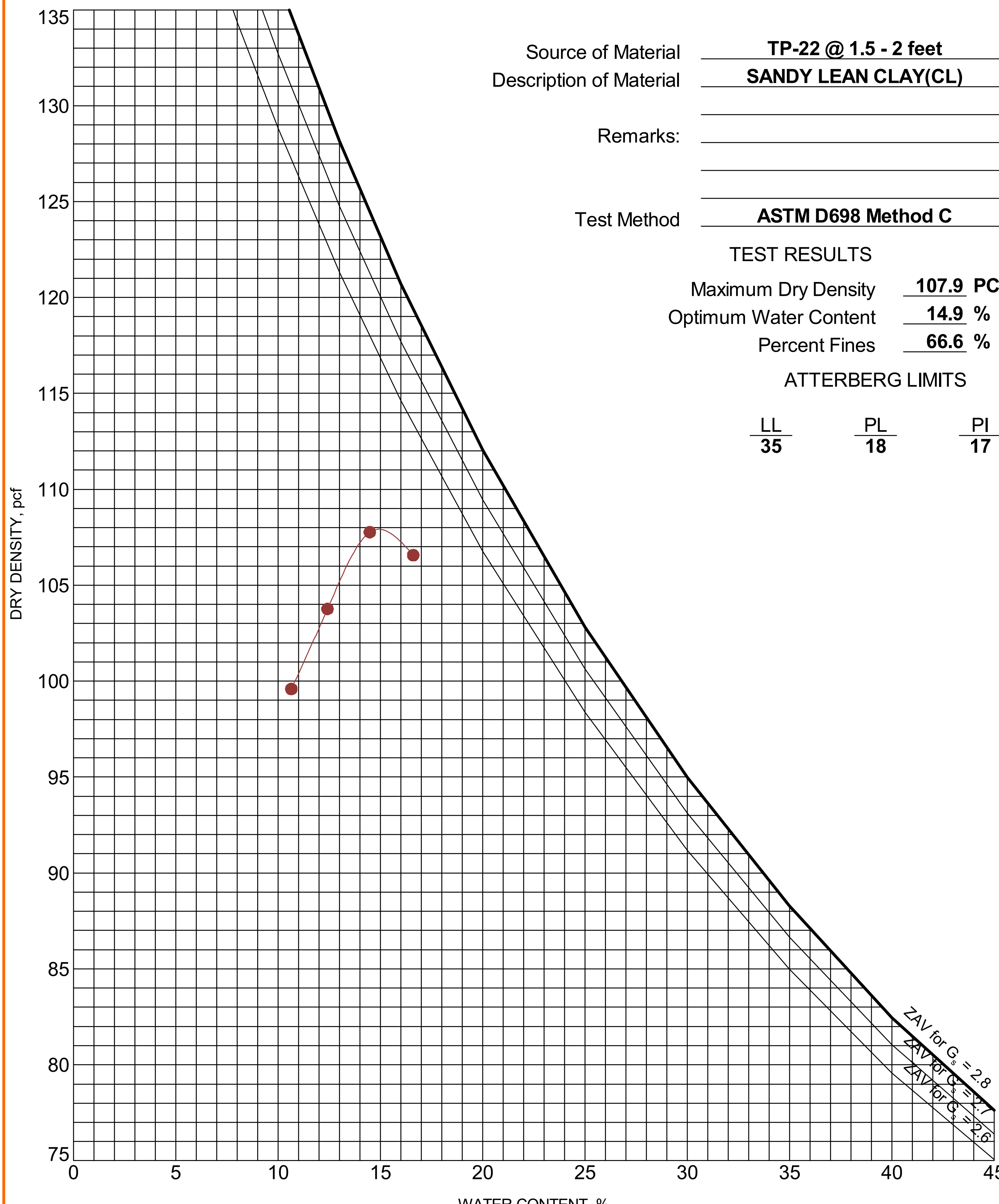
PROJECT: JSI - Dolores Canyon Solar Project	Terracon 6949 S High Tech Dr Ste 100 Midvale, UT	PROJECT NUMBER: 61195223
SITE: County Road M.4 Cahone, CO		CLIENT: JSI Construction Group LLC Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material	**TP-22 @ 1.5 - 2 feet**
Description of Material	**SANDY LEAN CLAY(CL)**
Remarks:	
Test Method	**ASTM D698 Method C**

TEST RESULTS

Maximum Dry Density	**107.9**	**PCF**
Optimum Water Content	**14.9**	**%**
Percent Fines	**66.6**	**%**

ATTERBERG LIMITS

LL	PL	PI
35	**18**	**17**

PROJECT: JSI - Dolores Canyon Solar Project	Terracon 6949 S High Tech Dr Ste 100 Midvale, UT	PROJECT NUMBER: 61195223
SITE: County Road M.4 Cahone, CO		CLIENT: JSI Construction Group LLC Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557

Source of Material: **TP-24 @ 3 - 3.5 feet**

Description of Material: **LEAN CLAY with SAND(CL)**

Remarks:

Test Method: **ASTM D698 Method A**

TEST RESULTS

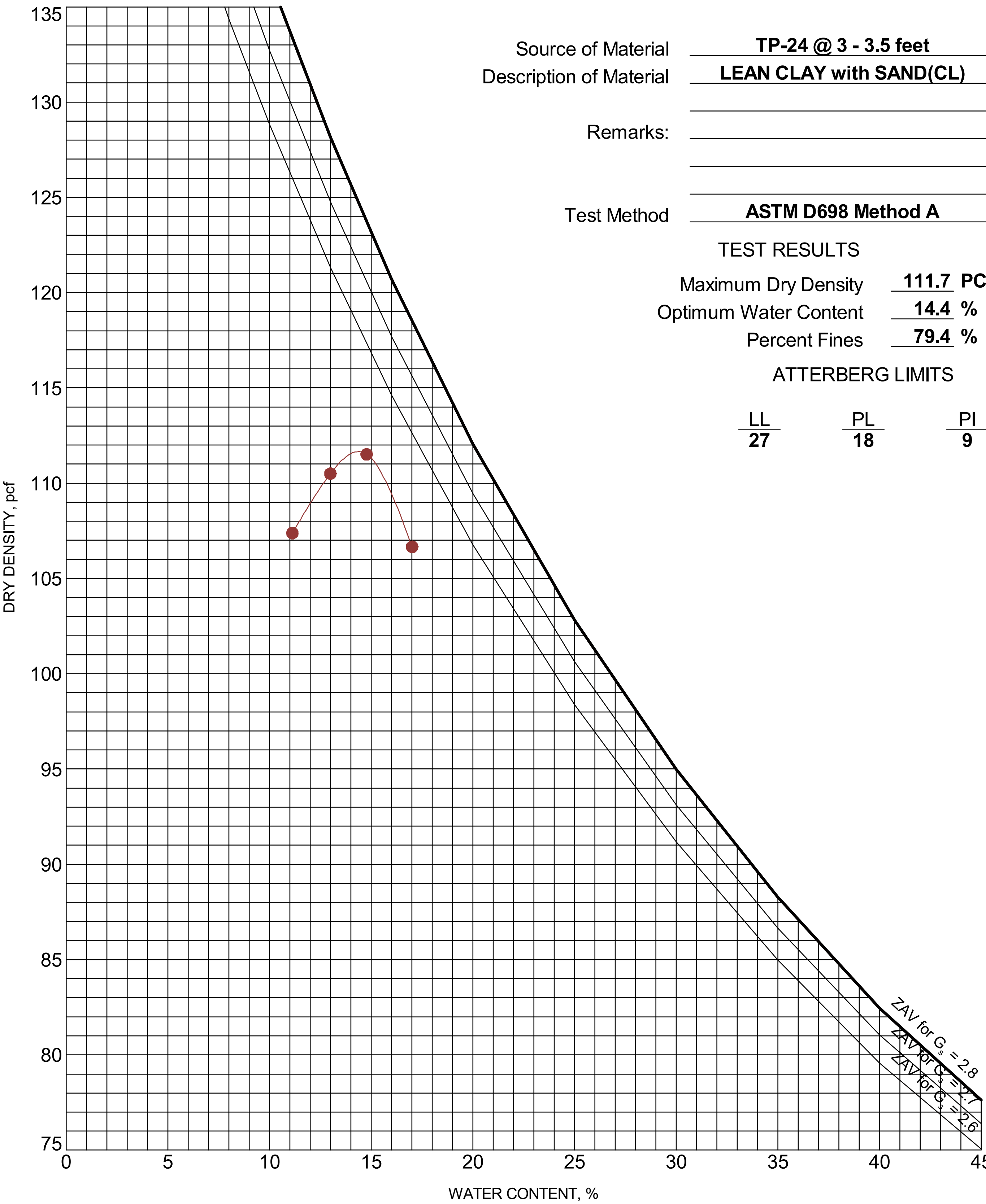
Maximum Dry Density **111.7** **PCF**

Optimum Water Content **14.4** **%**

Percent Fines **79.4** **%**

ATTERBERG LIMITS

LL	PL	PI
27	18	9

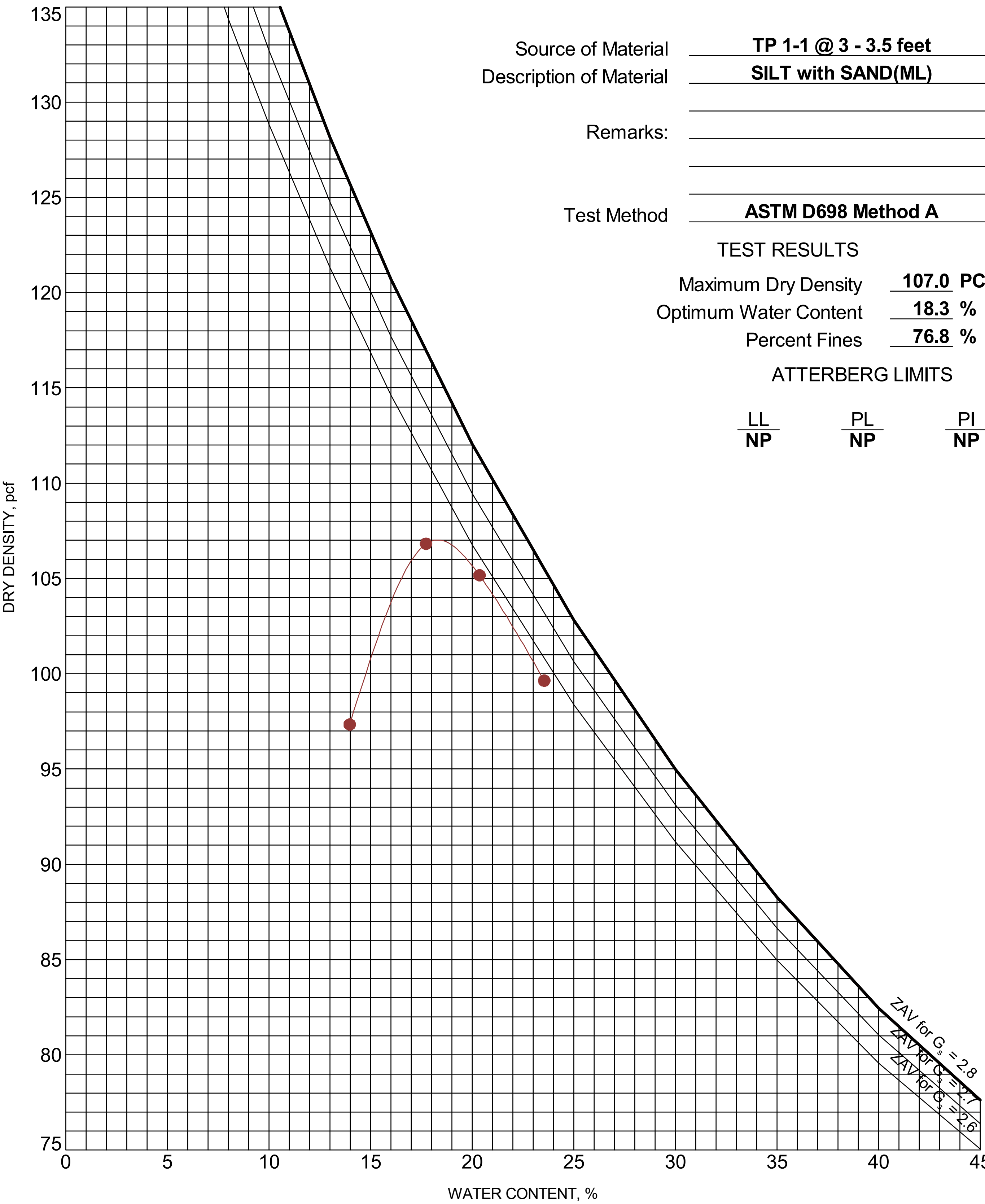


PROJECT: JSI - Dolores Canyon Solar Project	PROJECT NUMBER: 61195223
SITE: County Road M.4 Cahone, CO	CLIENT: JSI Construction Group LLC Boulder, CO

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material: **TP 1-1 @ 3 - 3.5 feet**

Description of Material: **SILT with SAND(ML)**

Remarks:

Test Method: **ASTM D698 Method A**

TEST RESULTS

Maximum Dry Density **107.0 PCF**

Optimum Water Content **18.3 %**

Percent Fines **76.8 %**

ATTERBERG LIMITS

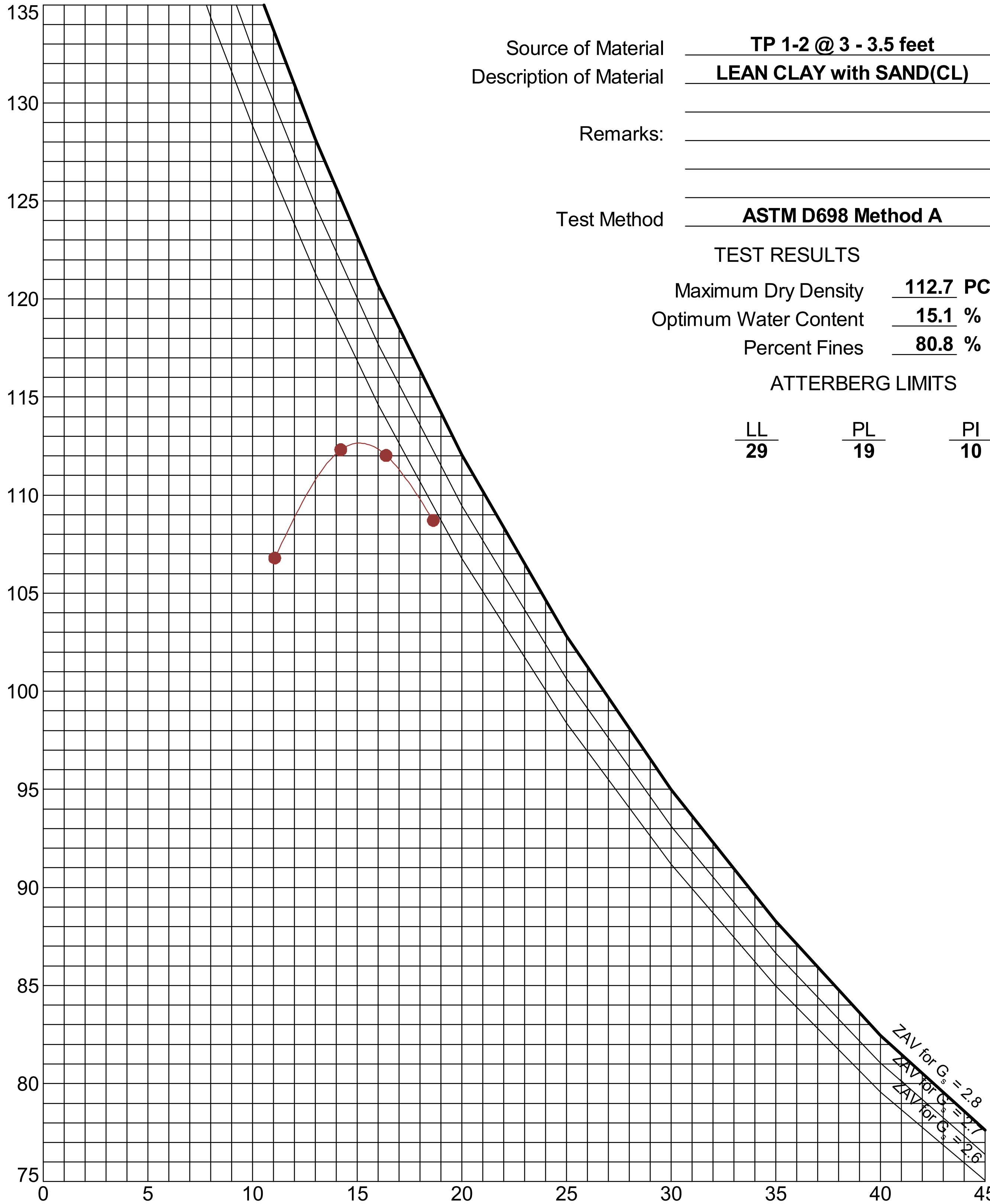
LL	PL	PI
NP	**NP**	**NP**

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. COMPACTION - V2 61195223 JSI - DOLORES CAN.GPJ 02195238 US 50 AND CHIPMAN.GPJ 1/12/21

PROJECT: JSI - Dolores Canyon Solar Project	Terracon 6949 S High Tech Dr Ste 100 Midvale, UT	PROJECT NUMBER: 61195223
SITE: County Road M.4 Cahone, CO		CLIENT: JSI Construction Group LLC Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material: **TP 1-2 @ 3 - 3.5 feet**

Description of Material: **LEAN CLAY with SAND(CL)**

Remarks:

Test Method: **ASTM D698 Method A**

TEST RESULTS

Maximum Dry Density **112.7 PCF**

Optimum Water Content **15.1 %**

Percent Fines **80.8 %**

ATTERBERG LIMITS

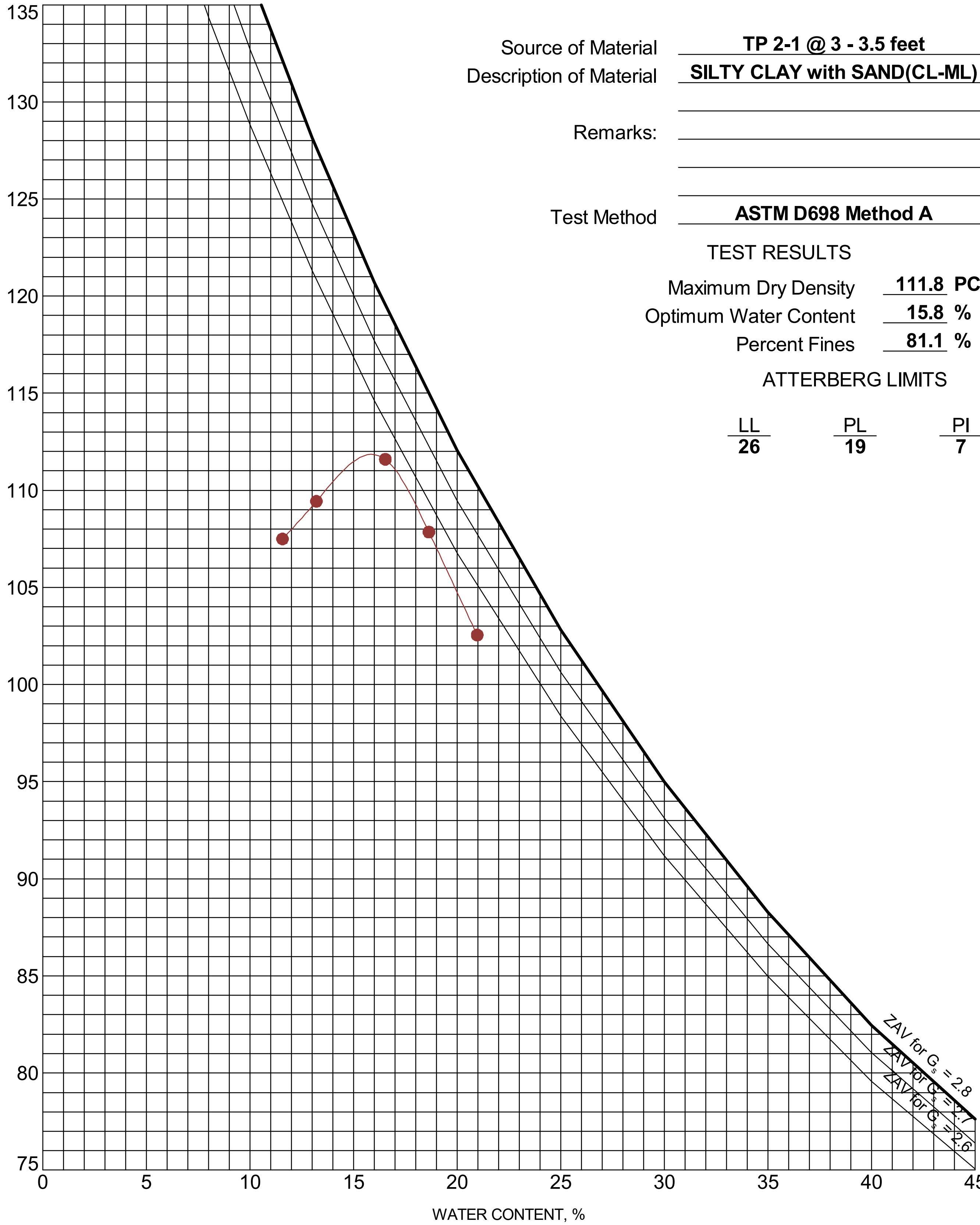
LL	PL	PI
29	**19**	**10**

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. COMPACTION - V2 61195223 JSI - DOLORES CAN.GPJ 02195238 US 50 AND CHIPMAN.GPJ 1/12/21

PROJECT: JSI - Dolores Canyon Solar Project	Terracon 6949 S High Tech Dr Ste 100 Midvale, UT	PROJECT NUMBER: 61195223
SITE: County Road M.4 Cahone, CO		CLIENT: JSI Construction Group LLC Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material: **TP 2-1 @ 3 - 3.5 feet**

Description of Material: **SILTY CLAY with SAND(CL-ML)**

Remarks:

Test Method: **ASTM D698 Method A**

TEST RESULTS

Maximum Dry Density: **111.8 PCF**

Optimum Water Content: **15.8 %**

Percent Fines: **81.1 %**

ATTERBERG LIMITS

LL	PL	PI
26	**19**	**7**

PROJECT: JSI - Dolores Canyon Solar Project

SITE: County Road M.4
Cahone, CO

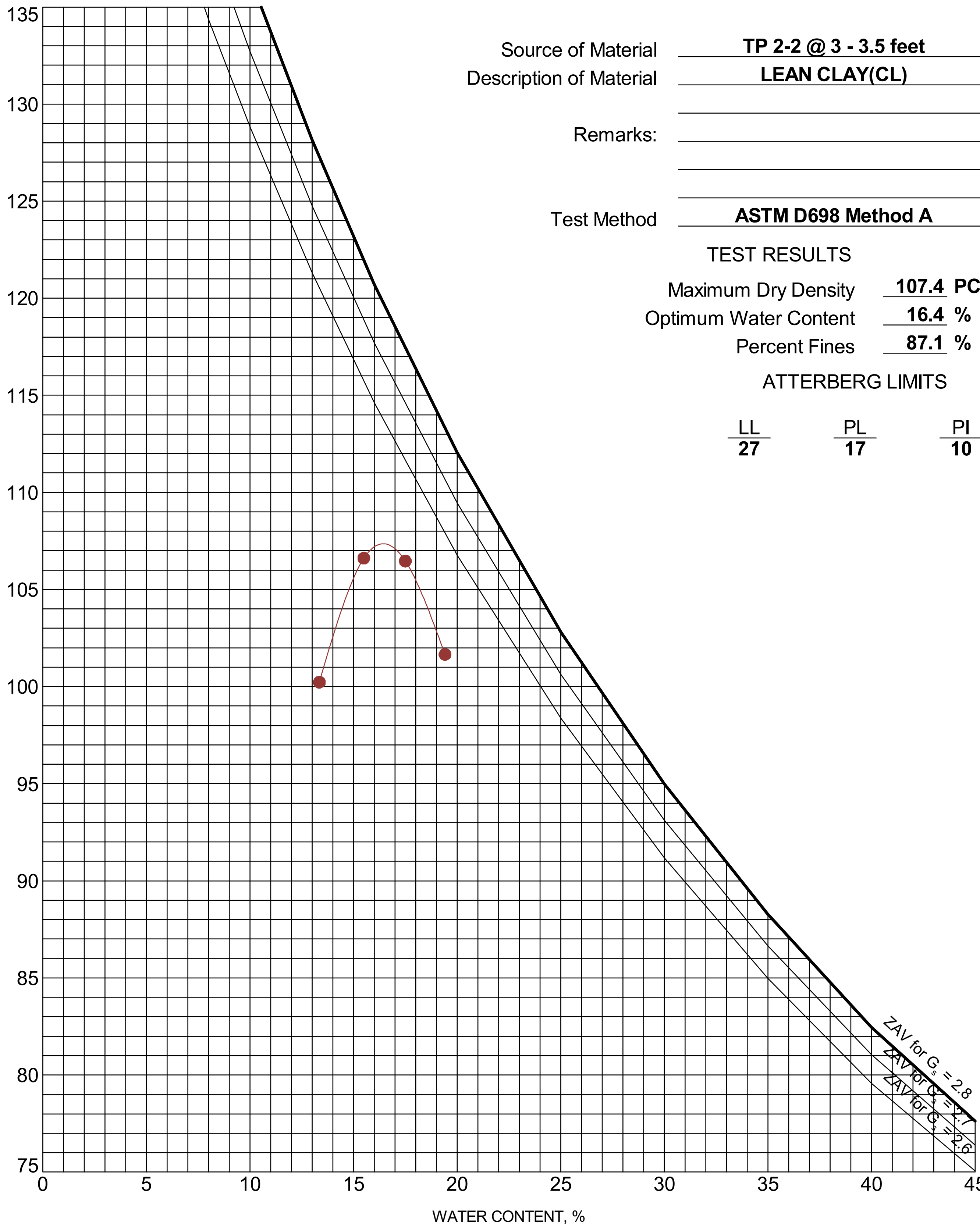
Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

PROJECT NUMBER: 61195223

CLIENT: JSI Construction Group LLC
Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material	**TP 2-2 @ 3 - 3.5 feet**
Description of Material	**LEAN CLAY(CL)**
Remarks:	
Test Method	**ASTM D698 Method A**

TEST RESULTS

Maximum Dry Density	**107.4 PCF**
Optimum Water Content	**16.4 %**
Percent Fines	**87.1 %**

ATTERBERG LIMITS

LL	PL	PI
27	**17**	**10**

PROJECT: JSI - Dolores Canyon Solar Project

PROJECT NUMBER: 61195223

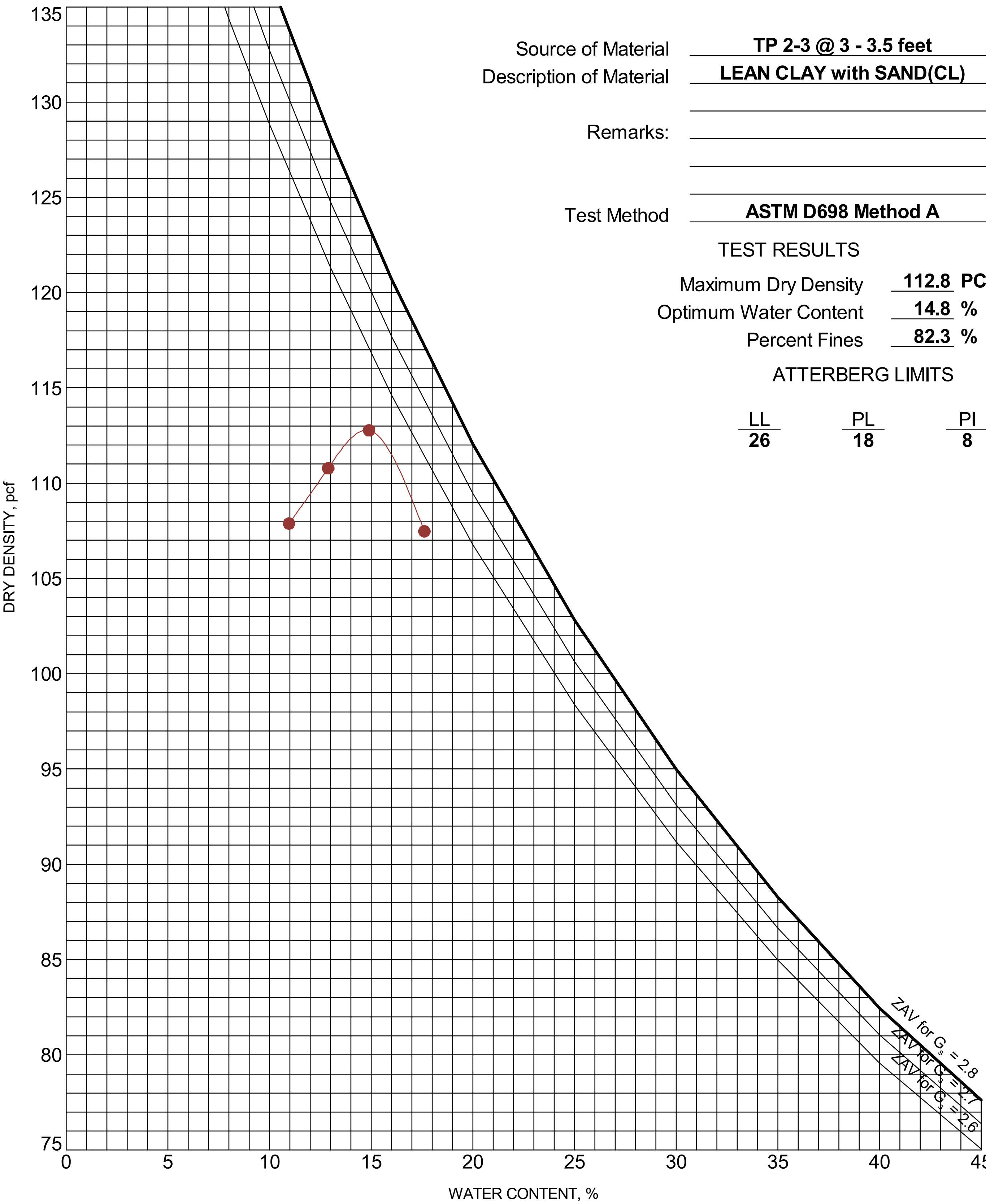
SITE: County Road M.4
Cahone, CO

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

CLIENT: JSI Construction Group LLC
Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material: **TP 2-3 @ 3 - 3.5 feet**

Description of Material: **LEAN CLAY with SAND(CL)**

Remarks:

Test Method: **ASTM D698 Method A**

TEST RESULTS

Maximum Dry Density **112.8** **PCF**

Optimum Water Content **14.8** **%**

Percent Fines **82.3** **%**

ATTERBERG LIMITS

LL	PL	PI
26	**18**	**8**

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. COMPACTION - V2 61195223 JSI - DOLORES CAN.GPJ 02195238 US 50 AND CHIPMAN.GPJ 1/12/21

PROJECT: JSI - Dolores Canyon Solar Project

SITE: County Road M.4
Cahone, CO

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

PROJECT NUMBER: 61195223

CLIENT: JSI Construction Group LLC
Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557

Source of Material: **TP 3-1 @ 3 - 3.5 feet**

Description of Material: **LEAN CLAY with SAND(CL)**

Remarks:

Test Method: **ASTM D698 Method A**

TEST RESULTS

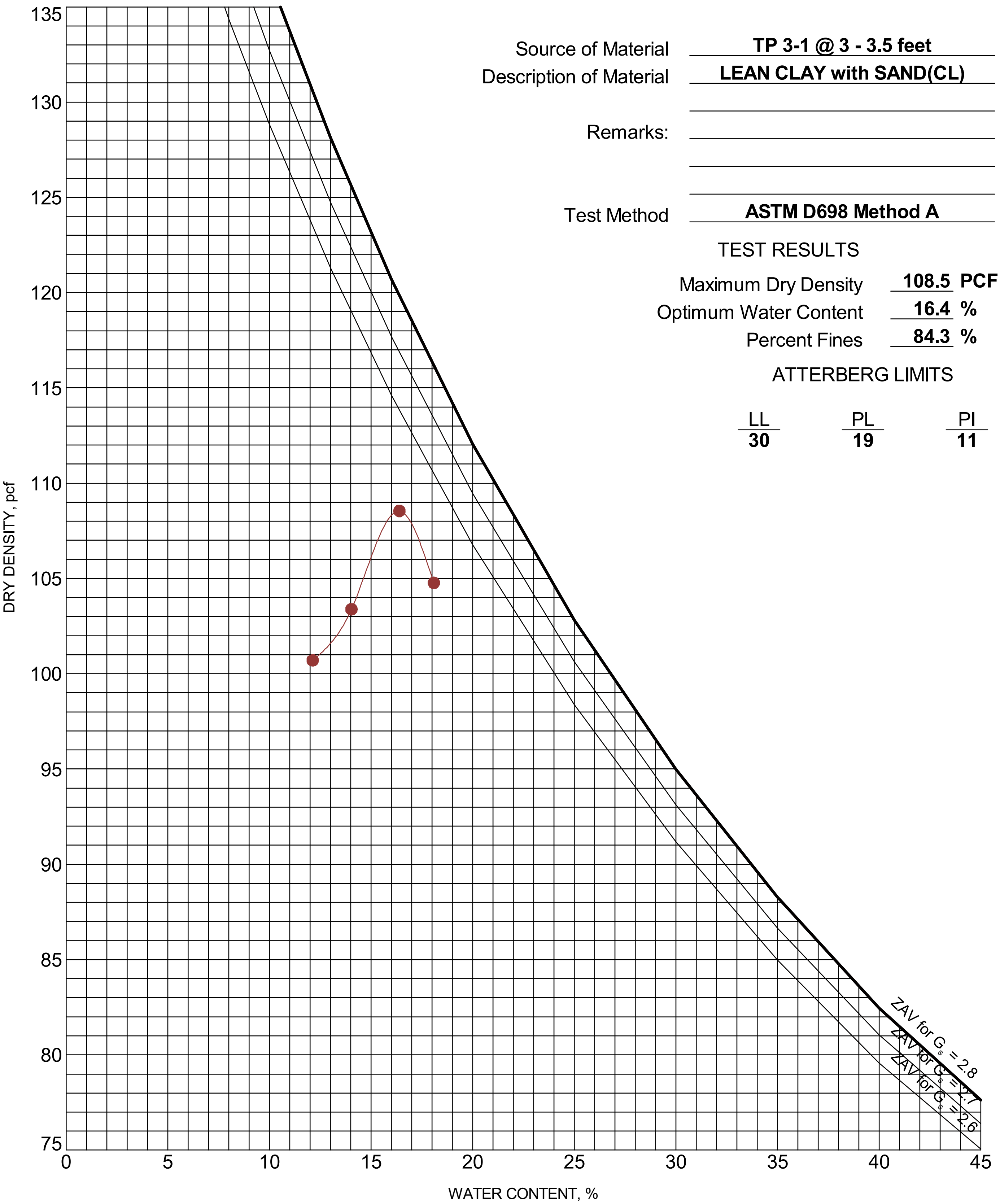
Maximum Dry Density **108.5 PCF**

Optimum Water Content **16.4 %**

Percent Fines **84.3 %**

ATTERBERG LIMITS

LL	PL	PI
30	**19**	**11**



PROJECT: JSI - Dolores Canyon Solar Project

SITE: County Road M.4
Cahone, CO

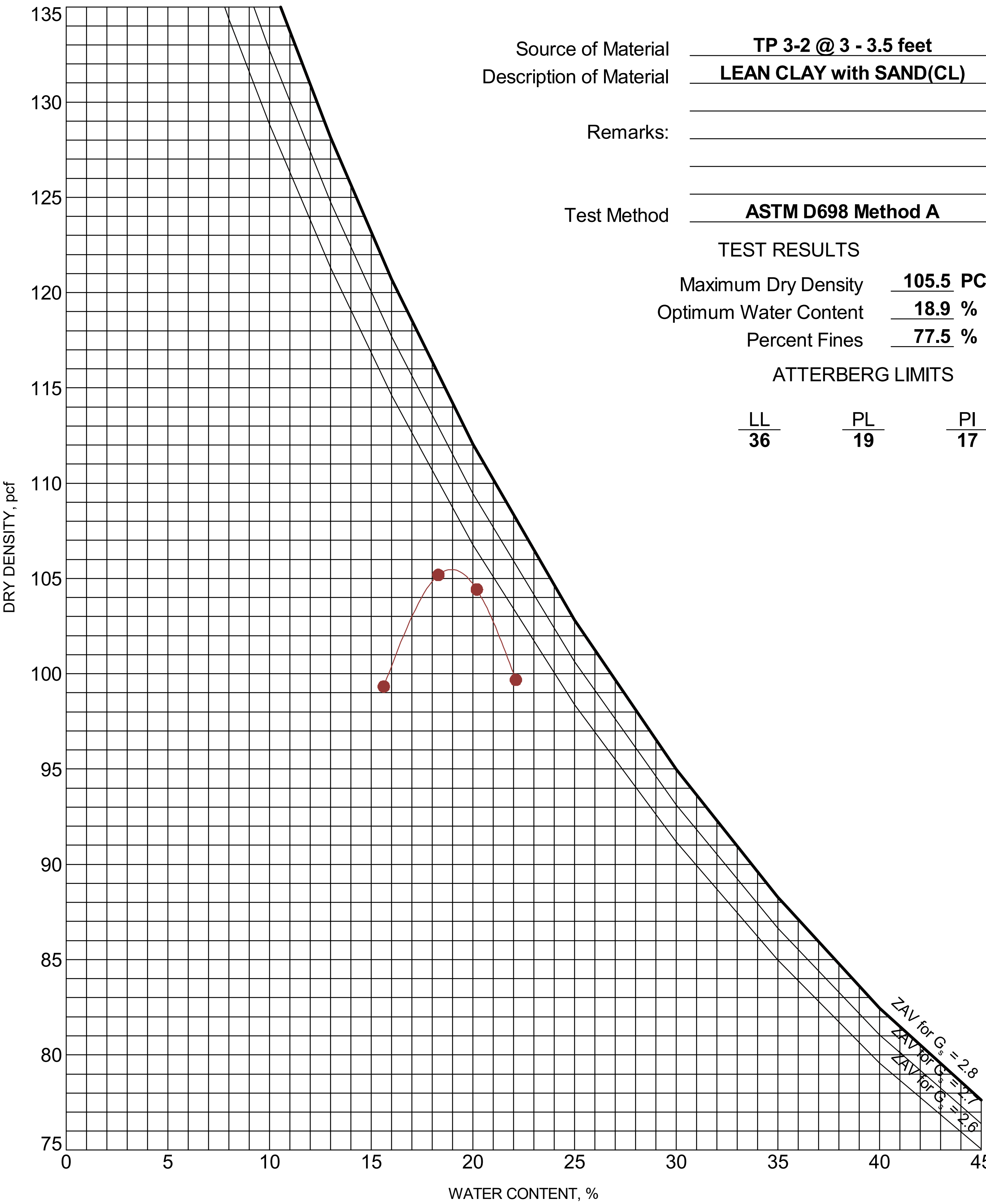
Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

PROJECT NUMBER: 61195223

CLIENT: JSI Construction Group LLC
Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material	**TP 3-2 @ 3 - 3.5 feet**
Description of Material	**LEAN CLAY with SAND(CL)**
Remarks:	
Test Method	**ASTM D698 Method A**

TEST RESULTS

Maximum Dry Density	**105.5**	**PCF**
Optimum Water Content	**18.9**	**%**
Percent Fines	**77.5**	**%**

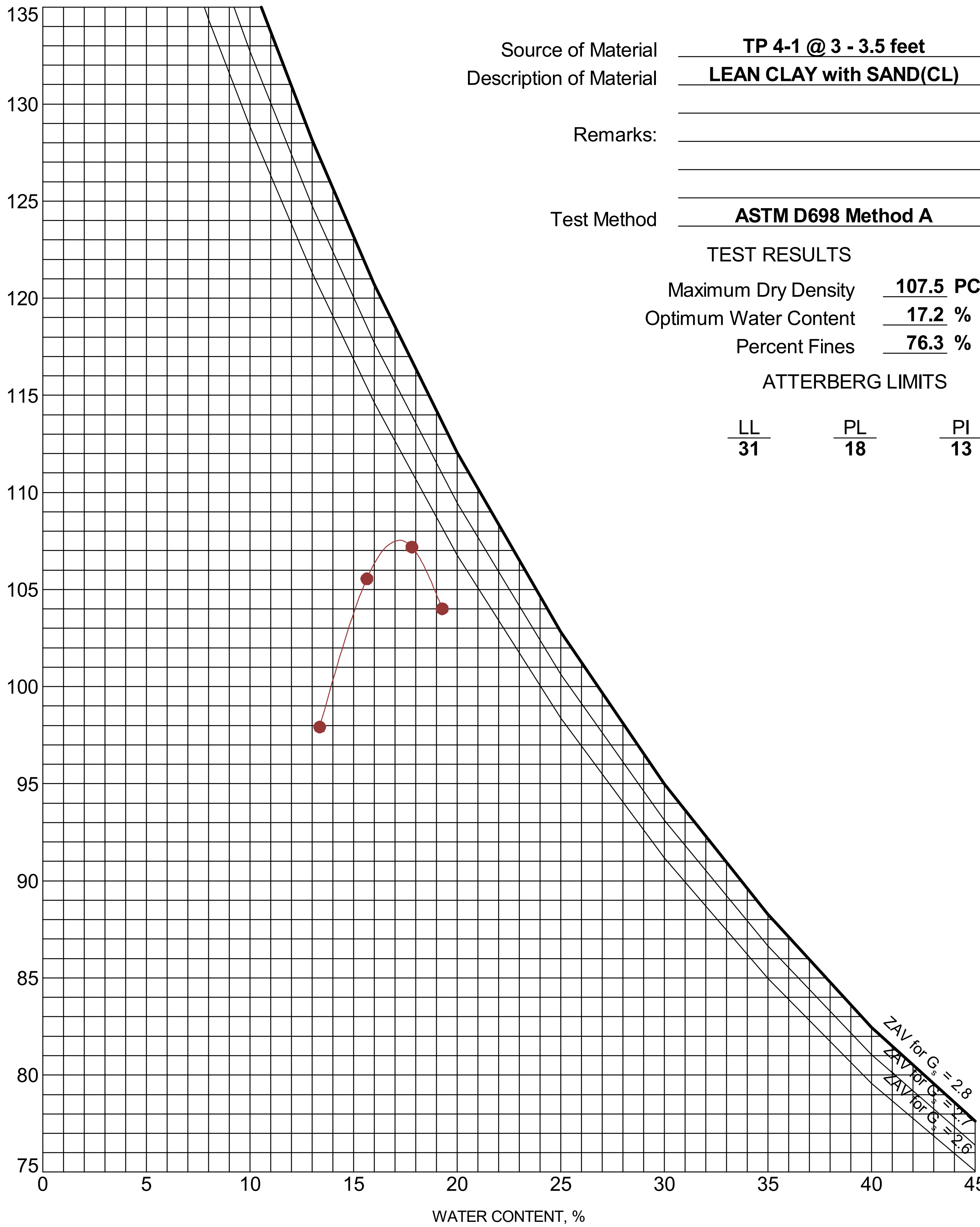
ATTERBERG LIMITS

LL	PL	PI
36	**19**	**17**

PROJECT: JSI - Dolores Canyon Solar Project	Terracon 6949 S High Tech Dr Ste 100 Midvale, UT	PROJECT NUMBER: 61195223
SITE: County Road M.4 Cahone, CO		CLIENT: JSI Construction Group LLC Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material: **TP 4-1 @ 3 - 3.5 feet**

Description of Material: **LEAN CLAY with SAND(CL)**

Remarks:

Test Method: **ASTM D698 Method A**

TEST RESULTS

Maximum Dry Density **107.5 PCF**

Optimum Water Content **17.2 %**

Percent Fines **76.3 %**

ATTERBERG LIMITS

LL	PL	PI
31	**18**	**13**

PROJECT: JSI - Dolores Canyon Solar Project

SITE: County Road M.4
Cahone, CO

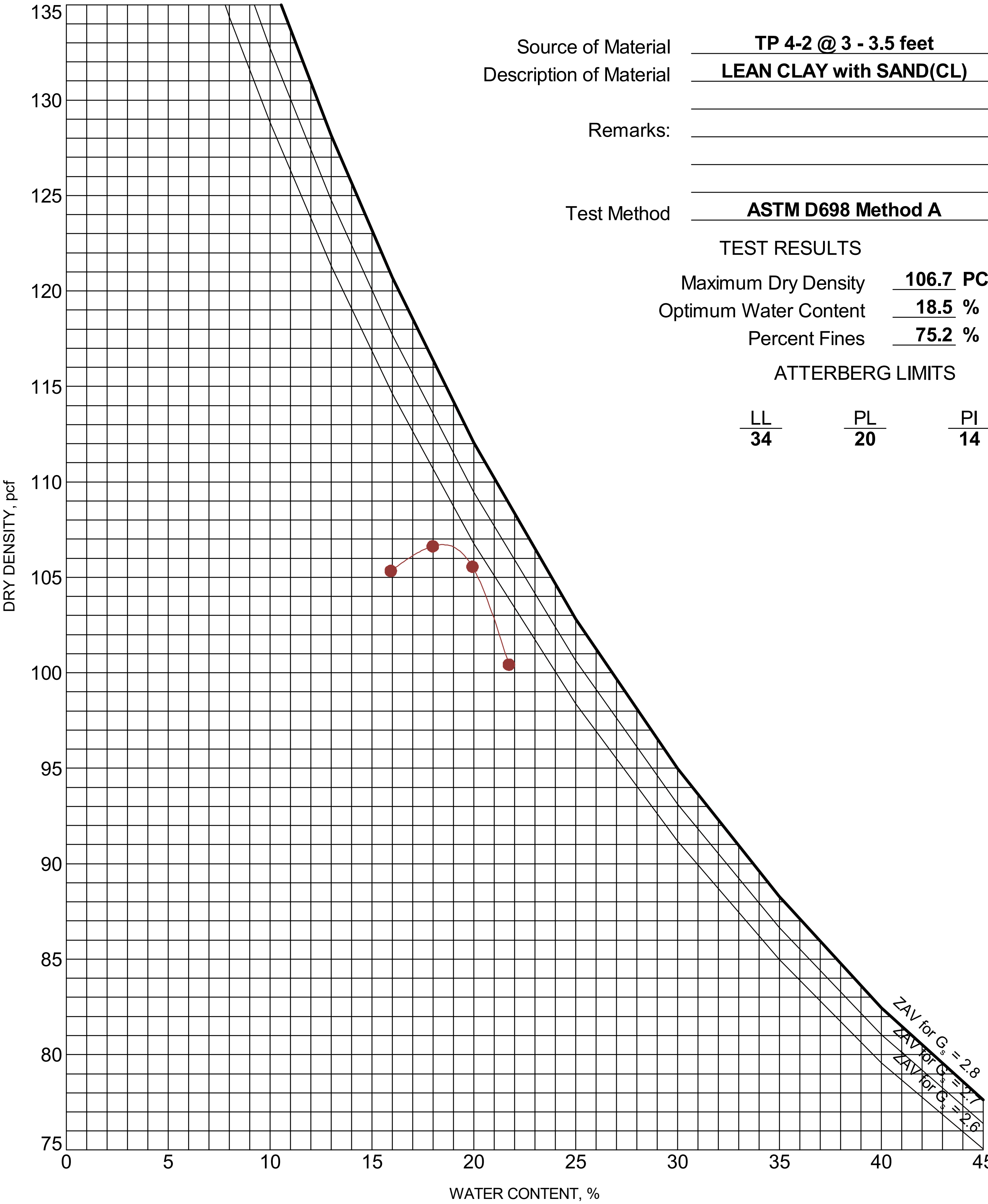
Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

PROJECT NUMBER: 61195223

CLIENT: JSI Construction Group LLC
Boulder, CO

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material	**TP 4-2 @ 3 - 3.5 feet**
Description of Material	**LEAN CLAY with SAND(CL)**
Remarks:	
Test Method	**ASTM D698 Method A**

TEST RESULTS

Maximum Dry Density	**106.7**	**PCF**
Optimum Water Content	**18.5**	**%**
Percent Fines	**75.2**	**%**

ATTERBERG LIMITS

LL	PL	PI
34	**20**	**14**

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. COMPACTION - V2 61195223 JSI - DOLORES CAN.GPJ 02195238 US 50 AND CHIPMAN.GPJ 1/12/21

PROJECT: JSI - Dolores Canyon Solar Project	Terracon 6949 S High Tech Dr Ste 100 Midvale, UT	PROJECT NUMBER: 61195223
SITE: County Road M.4 Cahone, CO		CLIENT: JSI Construction Group LLC Boulder, CO

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http://www.geothermusa.com

January 13, 2021

Terracon Consultants, Inc.
6949 S. High Tech Drive
Midvale UT 84047
Attn: Charles Molthen, P.E.

Re: Thermal Analysis of Native Soil Samples
Dolores Canyon Solar Project – Cahone, CO (Project No. 61195223)

The following is the report of thermal dryout characterization tests conducted on nine (9) soil samples from the referenced project sent to our laboratory.

Thermal Resistivity Tests: The samples from were tested at the 'optimum' moisture content and at 80% or 90% of the maximum 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 dry out curves are presented in **Figures 1 to 9.**

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

Sample ID @ 3'-3.5'	Effort (%)	Description (Terracon)	Thermal Resistivity (°C-cm/W)		Moisture Content (%)	Dry Density (lb/ft³)
			Wet	Dry		
TP 1-1	80	Silt with Sand (ML)	102	289	18.0	86
TP 1-2	90	Lean Clay with Sand (CL)	70	193	15.0	101
TP 2-1	80	Silty Clay with Sand (CL-ML)	85	242	16.0	89
TP 2-2	90	Lean Clay (CL)	76	208	16.0	97
TP 2-3	80	Lean Clay with Sand (CL)	84	240	15.0	90
TP 3-1	80	Lean Clay with Sand (CL)	88	249	16.0	87
TP 3-2	90	Lean Clay with Sand (CL)	73	195	19.0	95
TP 4-1	80	Lean Clay with Sand (CL)	89	286	17.0	86
TP 4-2	90	Lean Clay with Sand (CL)	72	187	18.0	96

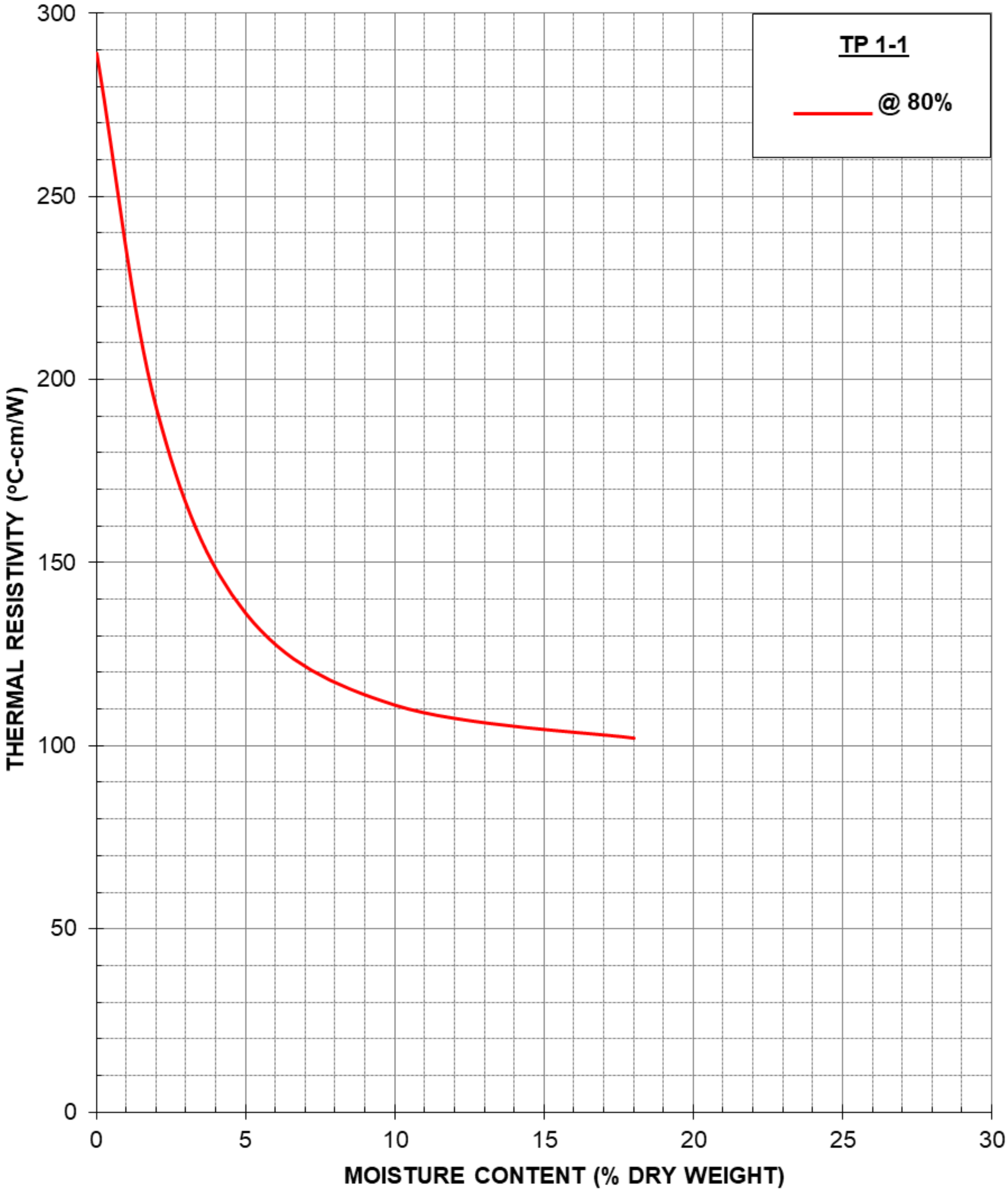
Comments: The thermal characteristic depicted in the dryout curves apply for the soils at their respective test dry density.

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

Geotherm USA, LLC

Deepak Parmar

THERMAL DRYOUT CURVES

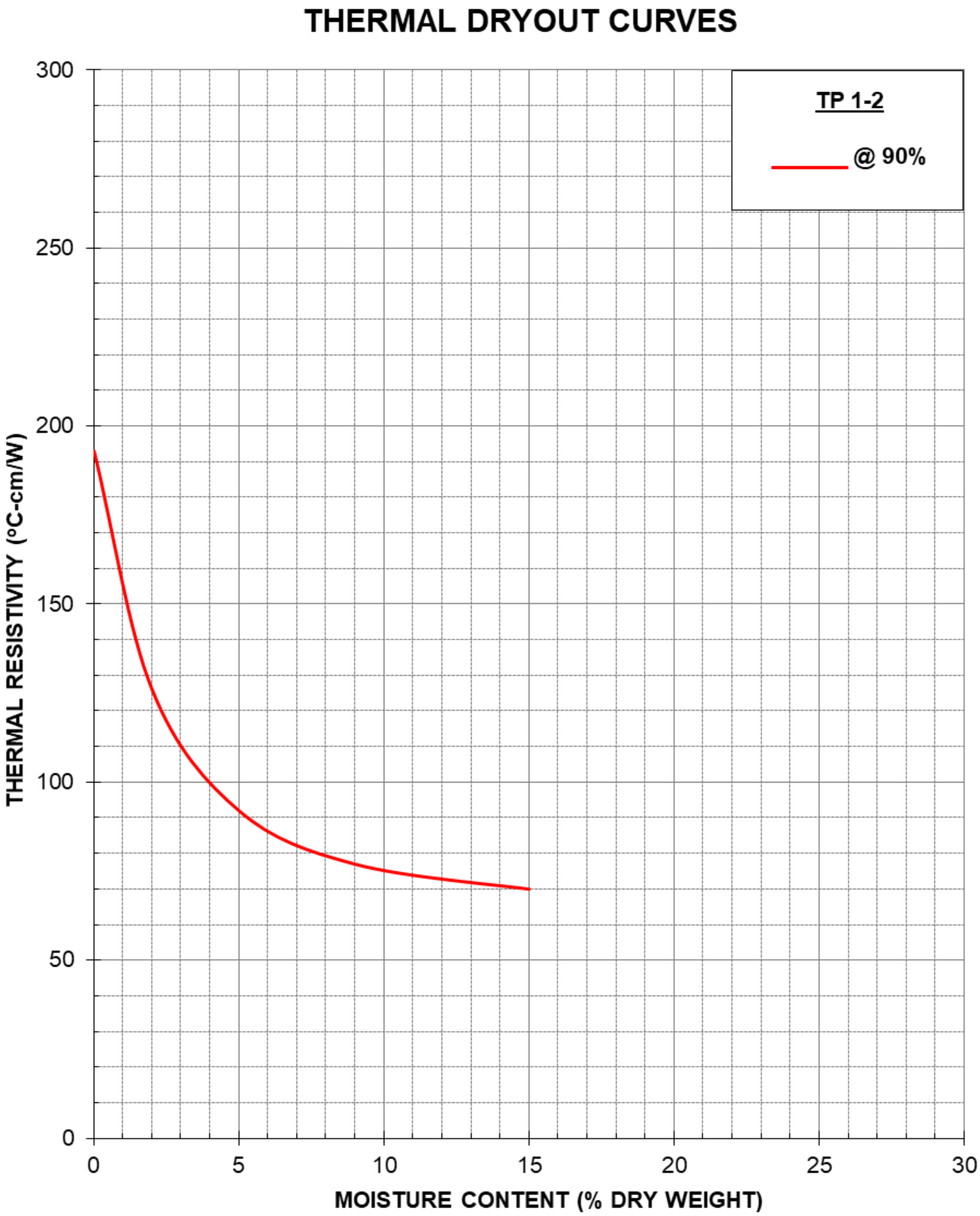


Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soils

Dolores Canyon Solar Project – Cahone, CO

January 2021 **Figure 1**



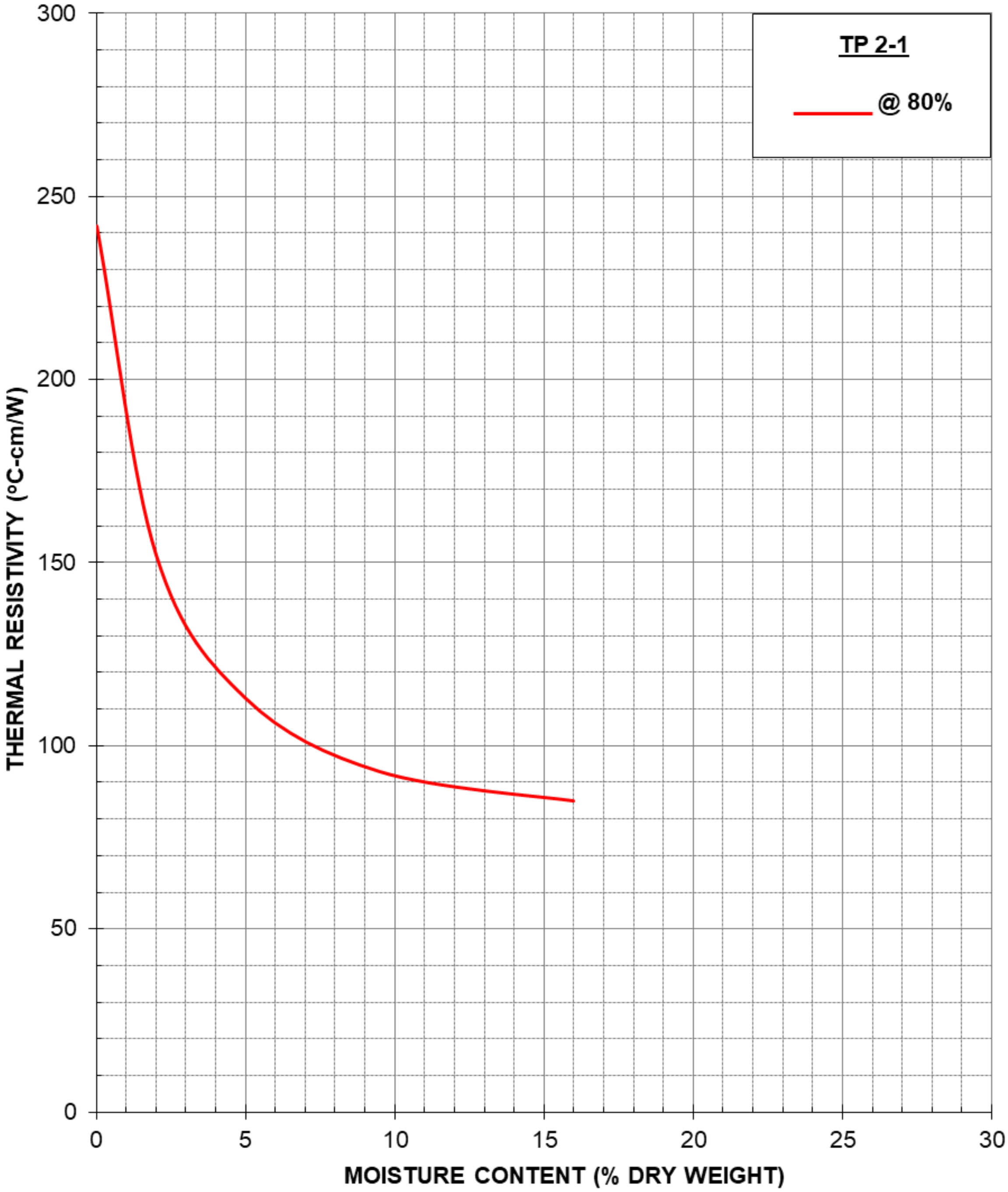
Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soils

Dolores Canyon Solar Project – Cahone, CO

January 2021 **Figure 2**

THERMAL DRYOUT CURVES



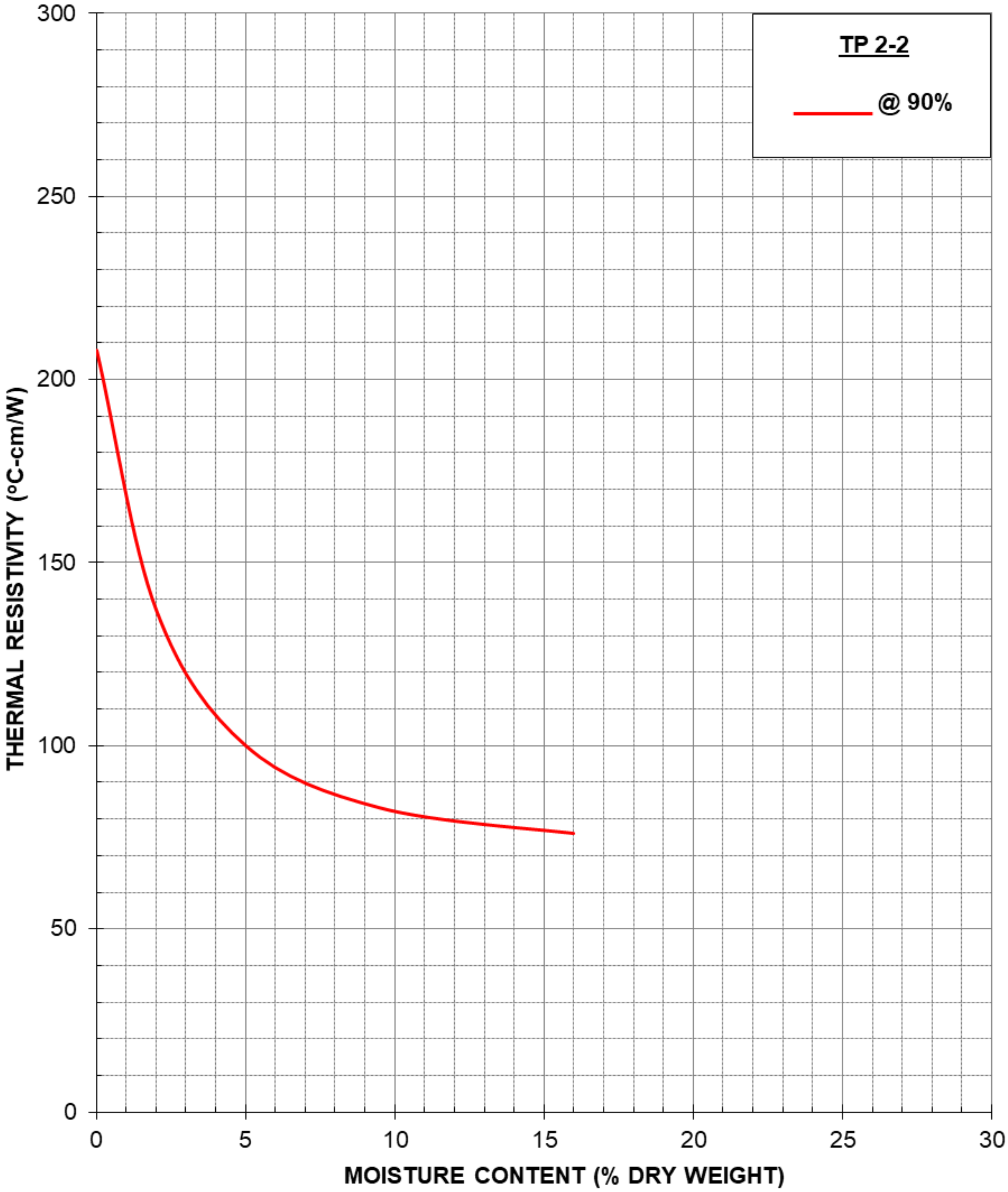
Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soils

Dolores Canyon Solar Project – Cahone, CO

January 2021 **Figure 3**

THERMAL DRYOUT CURVES

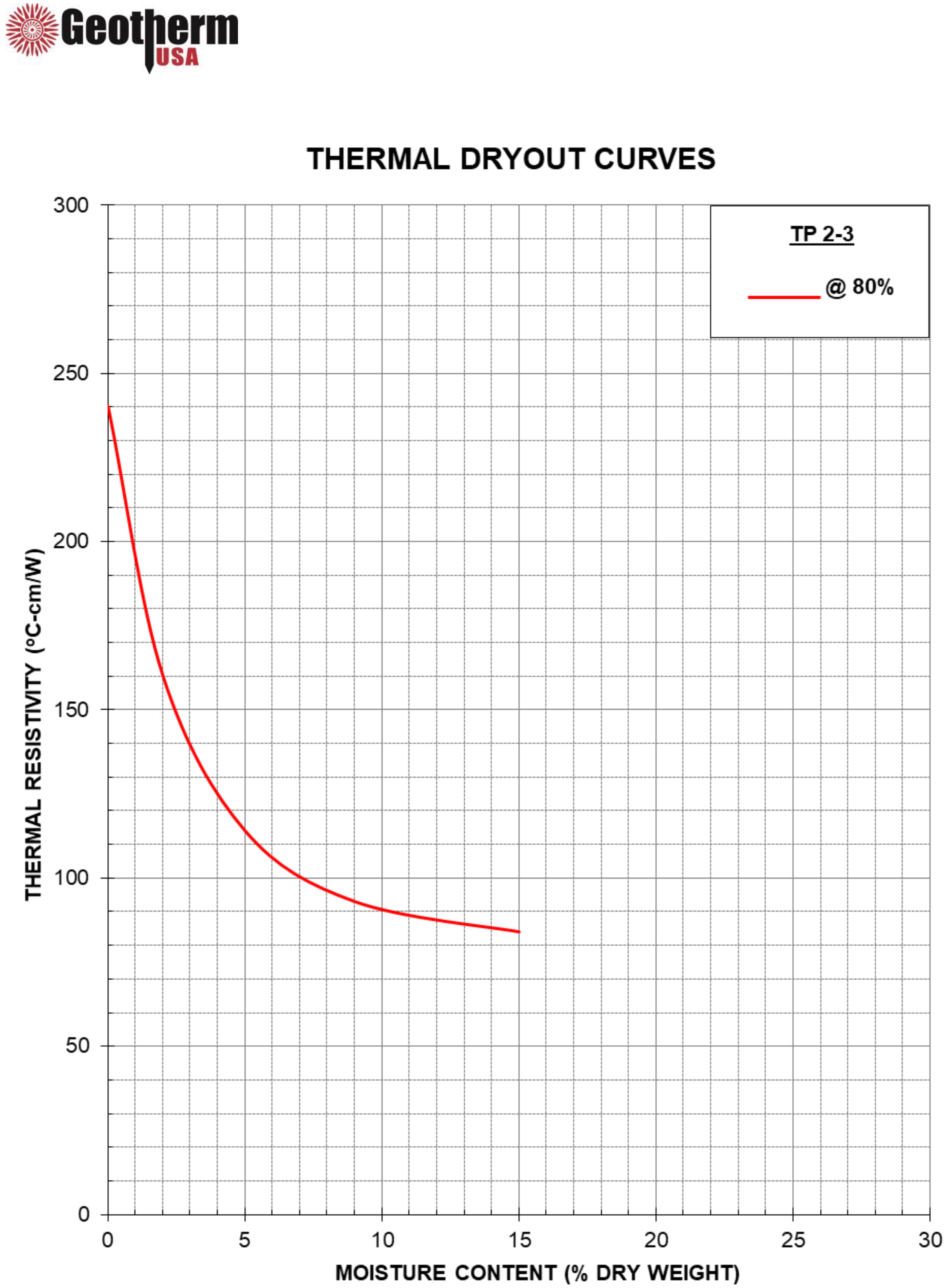


Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soils

Dolores Canyon Solar Project – Cahone, CO

January 2021 **Figure 4**

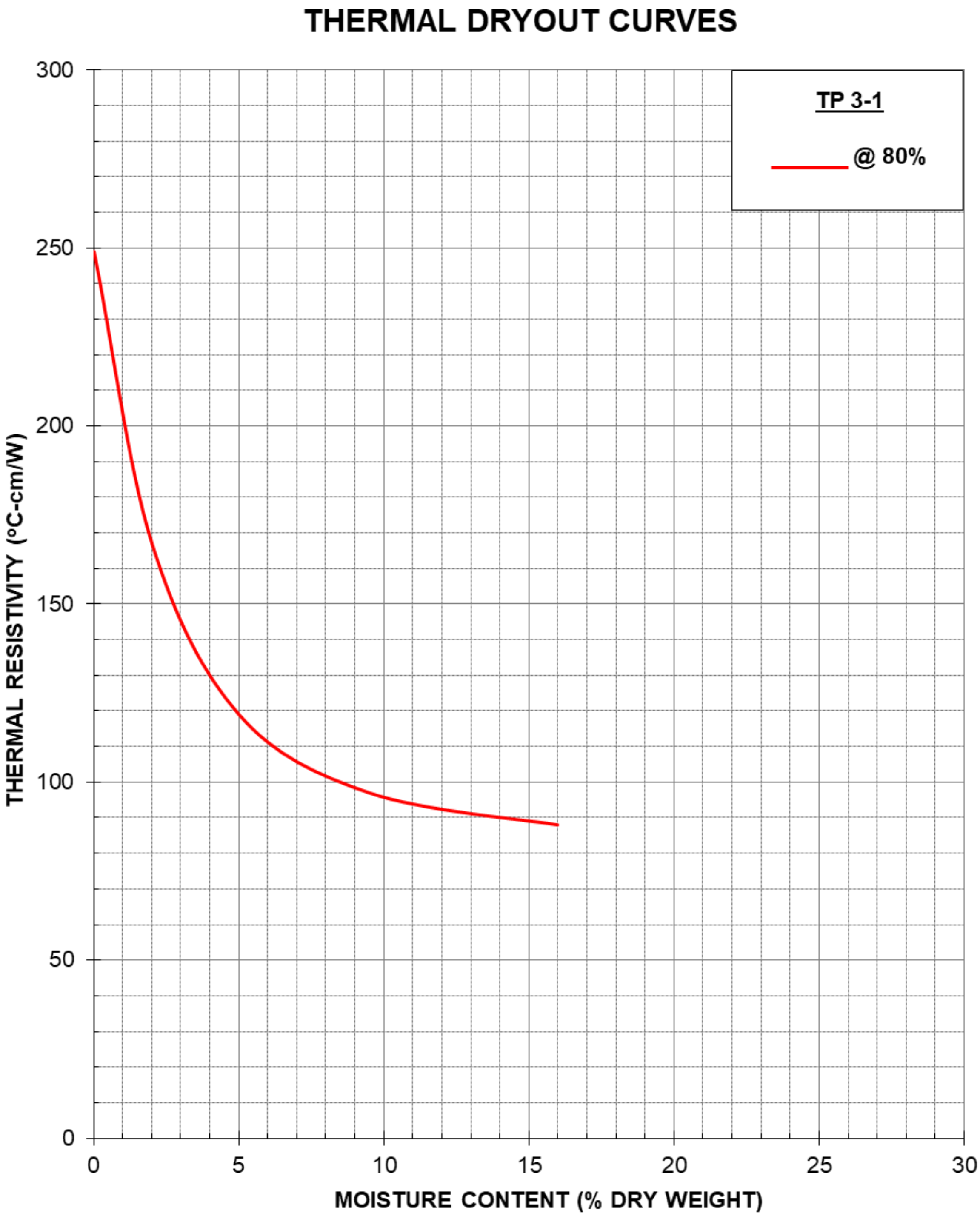


Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soils

Dolores Canyon Solar Project – Cahone, CO

January 2021 **Figure 5**

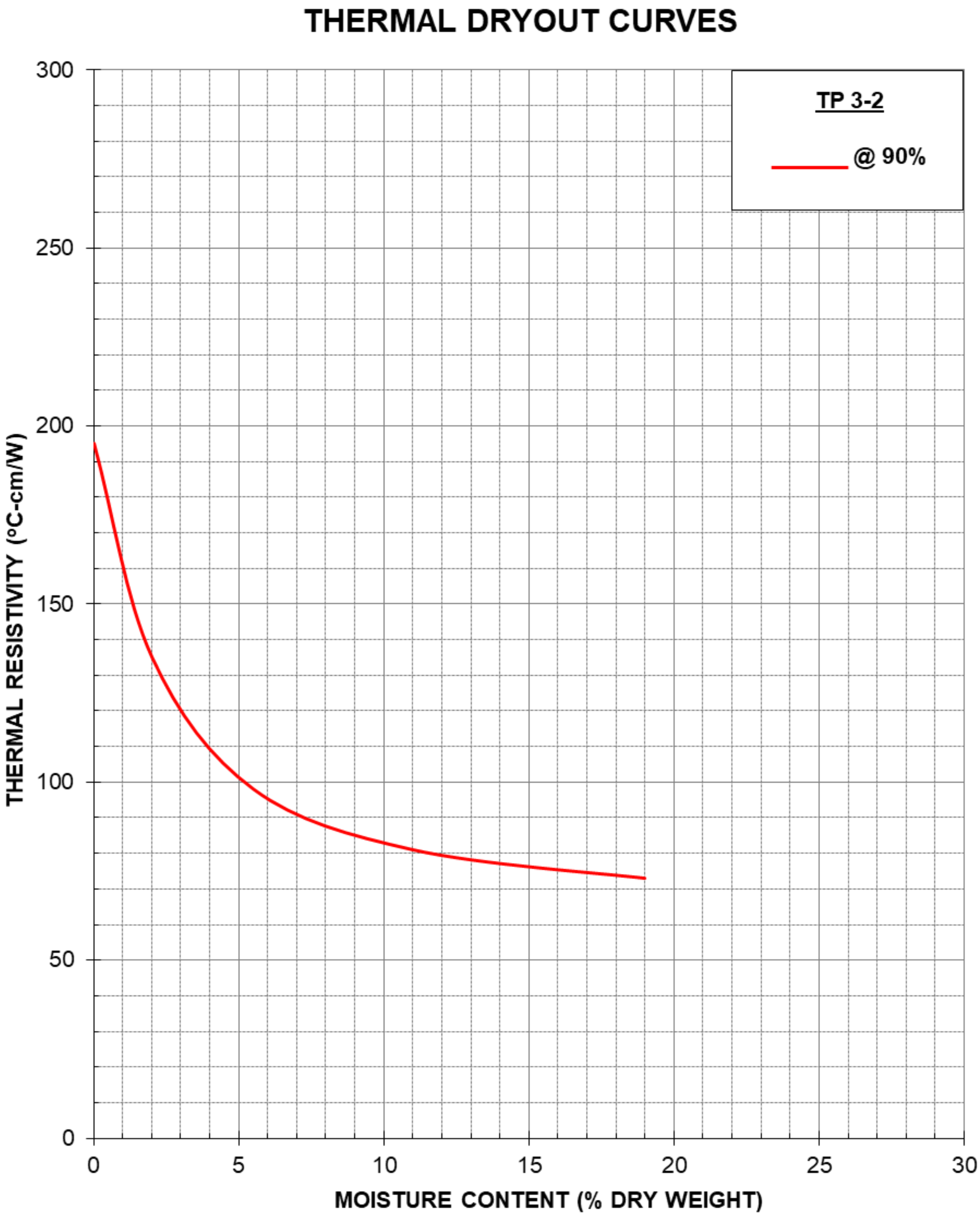


Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soils

Dolores Canyon Solar Project – Cahone, CO

January 2021 **Figure 6**



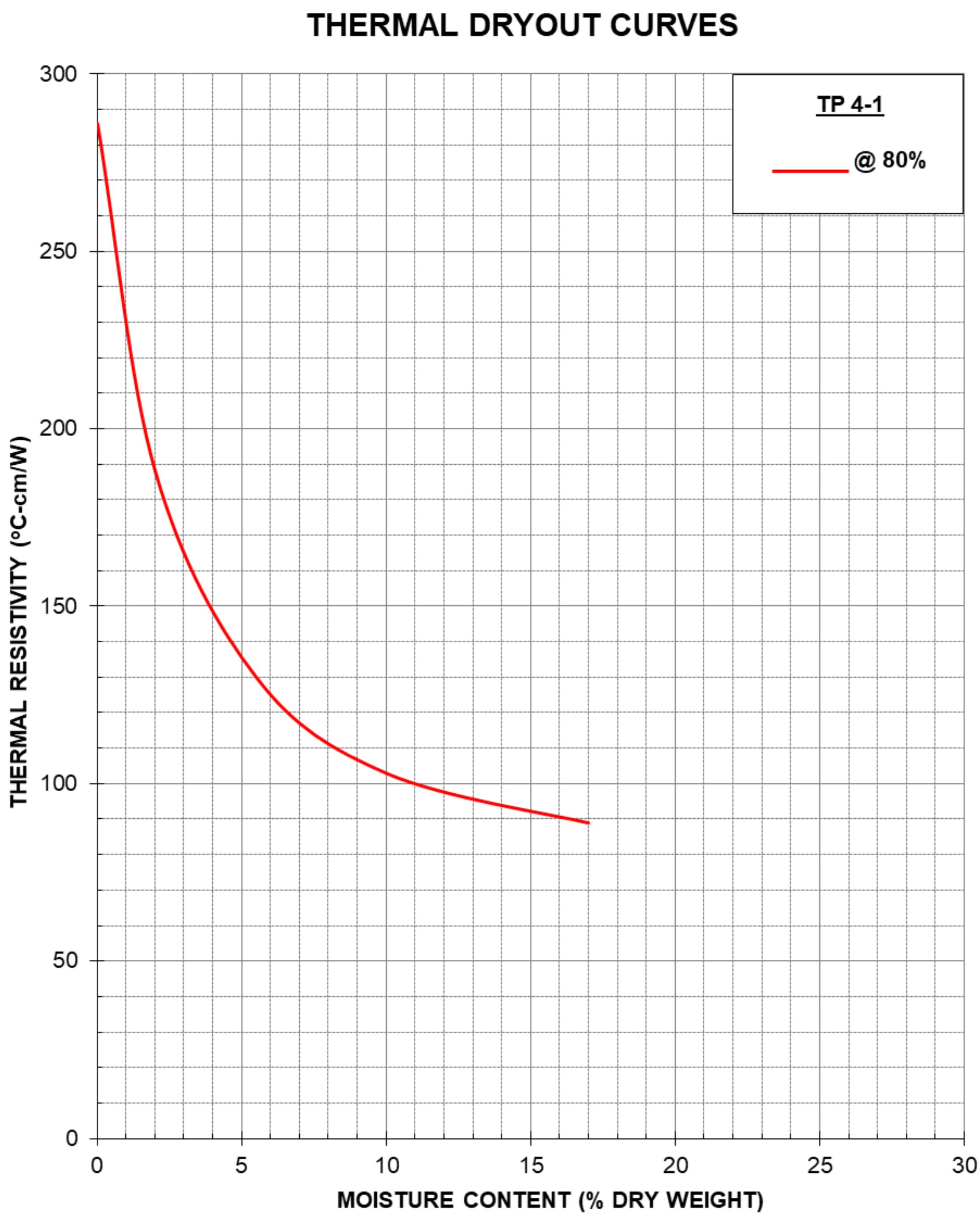
Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soils

Dolores Canyon Solar Project – Cahone, CO

January 2021 **Figure 7**

Geotherm USA



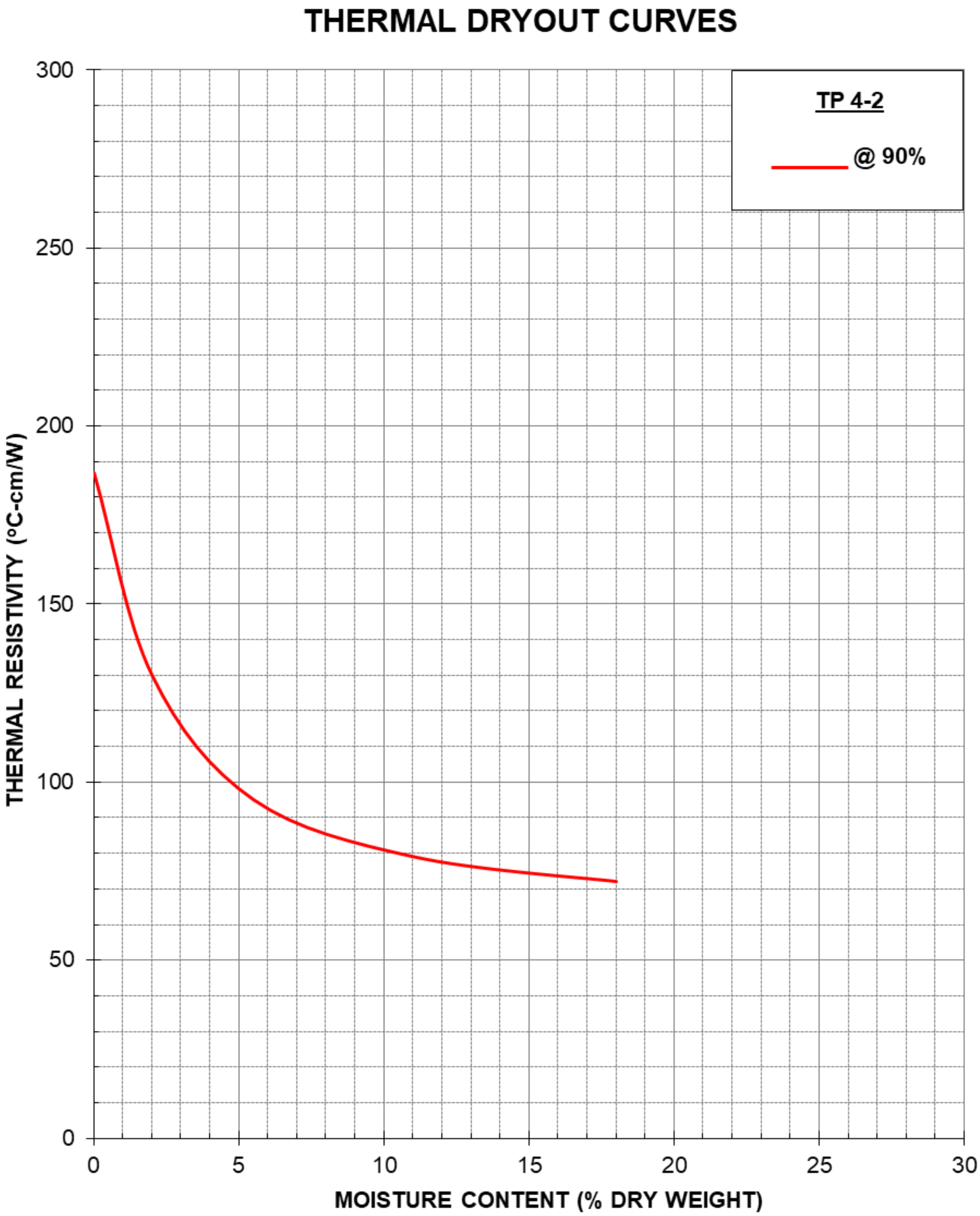
Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soils

Dolores Canyon Solar Project – Cahone, CO

January 2021 **Figure 8**

Geotherm USA



Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soils

Dolores Canyon Solar Project – Cahone, CO

January 2021 **Figure 9**

Geotherm USA

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http://www.geothermusa.com

January 13, 2021

Terracon Consultants, Inc.
6949 S. High Tech Drive
Midvale UT 84047
Attn: Charles Molthen, P.E.

Re: Thermal Analysis of Native Soil Samples
Dolores Canyon Solar Project – Cahone, CO (Project No. 61195223)

The following is the report of thermal dryout characterization tests conducted on eight (8) tube samples of native soil from the referenced project sent to our laboratory.

Thermal Resistivity Tests: These samples were tested 'as received'. The tests were conducted in accordance with the IEEE standard 442-2017. The results are tabulated below and the thermal dry out curves are presented in **Figures 1 to 8.**

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

Sample ID	Depth (ft)	Description (Terracon)	Thermal Resistivity (°C-cm/W)		Moisture Content (%)	Dry Density (lb/ft^3)
			Wet	Dry		
B-1-3	2.5'-4.5'	Lean clay with sand	61	152	13	109
B-2-4	2.5'-4.5'	Lean clay	60	148	13	104
B-3-2	2.5'-4.5'	Lean clay with sand	95	183	8	109
B-4-3	2.5'-4.5'	Lean clay	62	123	12	119
B-6-1	7.5'-8.8'	Clayey sand	66	130	10	108
B-6-2	5.0'-7.0'	Lean clay with sand	74	170	11	100
B-6-3	5.0'-7.0'	Lean clay with sand	51	122	15	116
B-6-4	5.0'-7.0'	Lean clay with sand	60	150	13	112

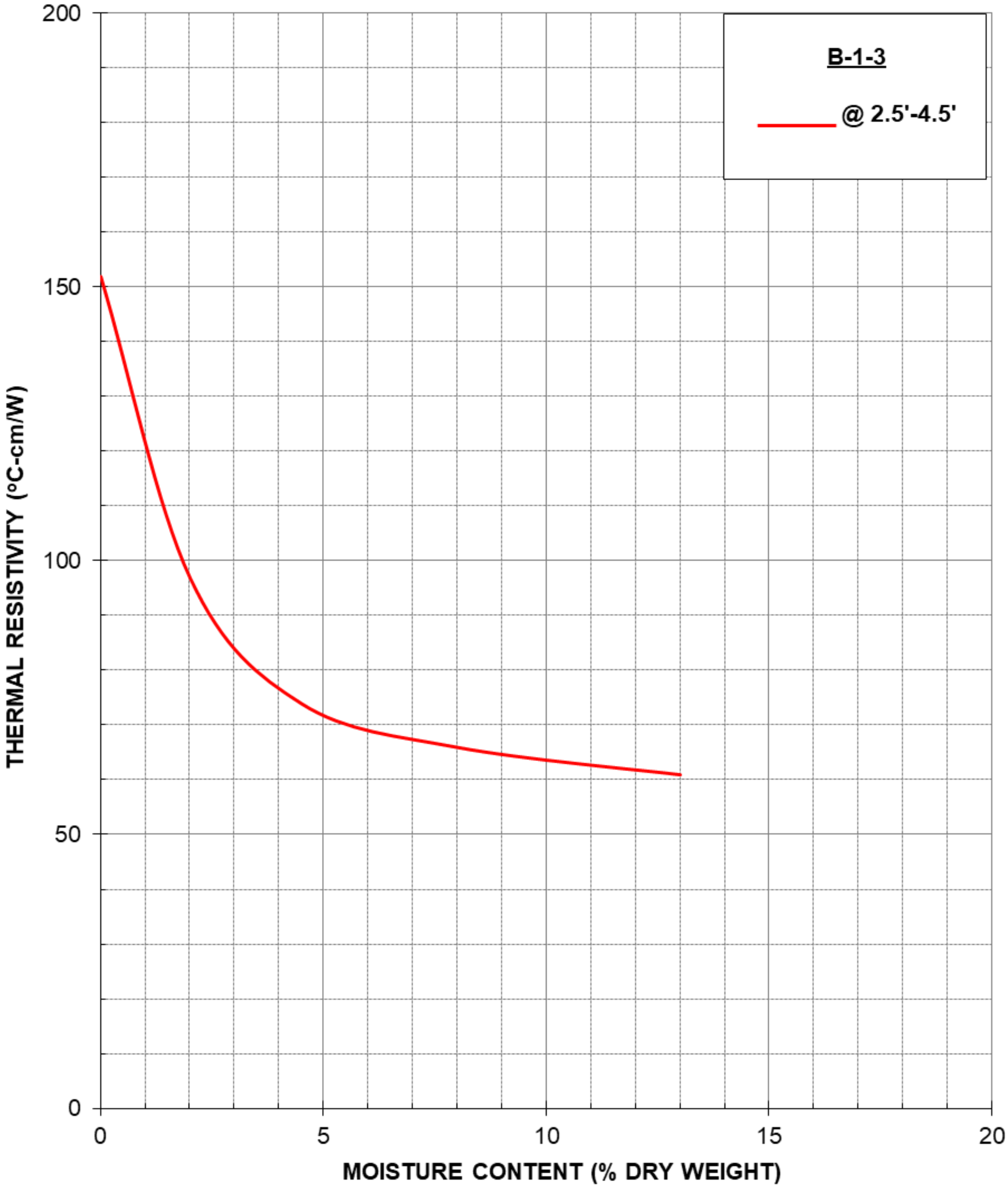
Comments: The thermal characteristic depicted in the dryout curves apply for the soils at their respective test dry density.

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

Geotherm USA, LLC

Deepak Parmar

THERMAL DRYOUT CURVE



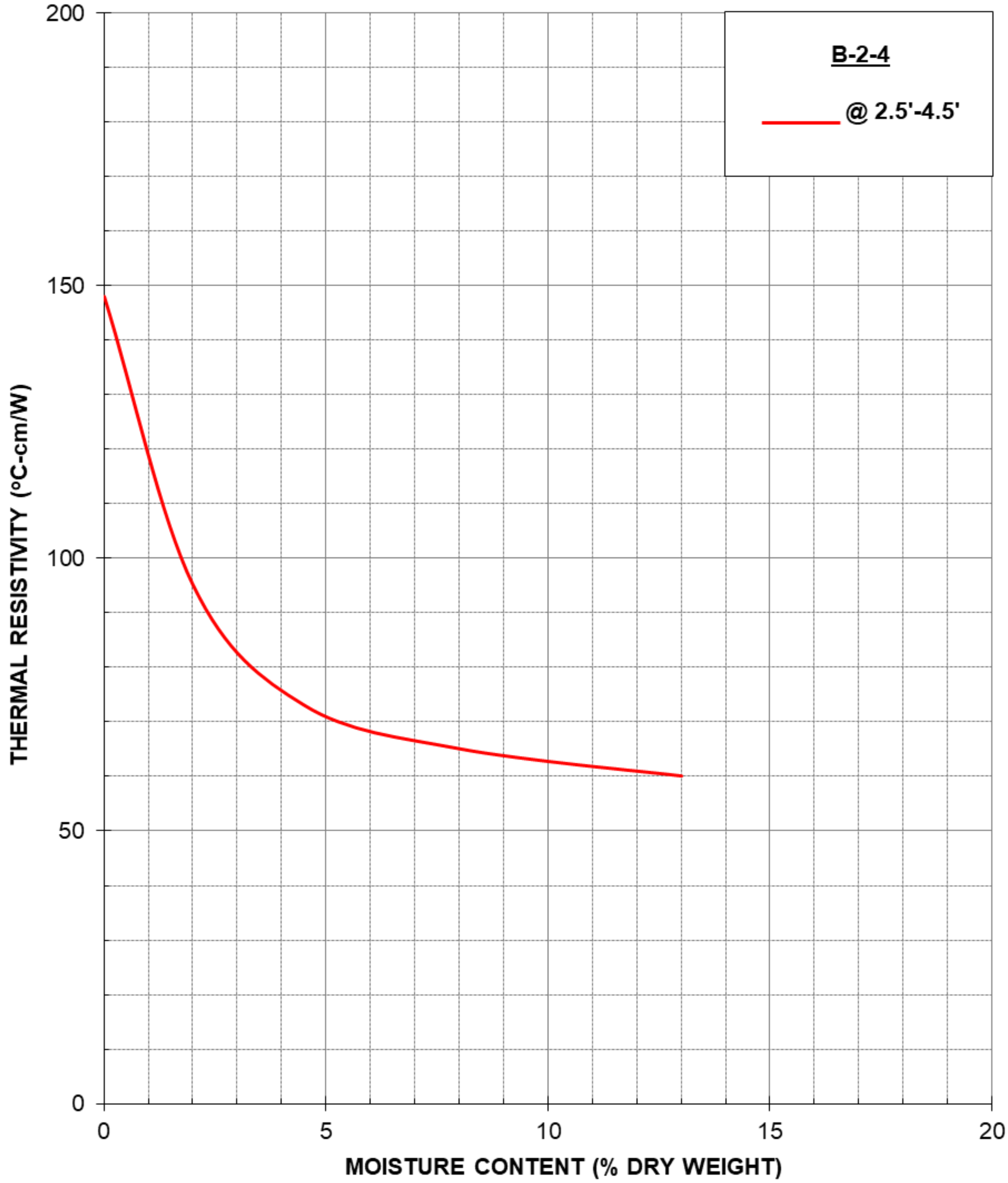
Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soils

Dolores Canyon Solar Project – Cahone, CO

January 2021 **Figure 1**

THERMAL DRYOUT CURVE



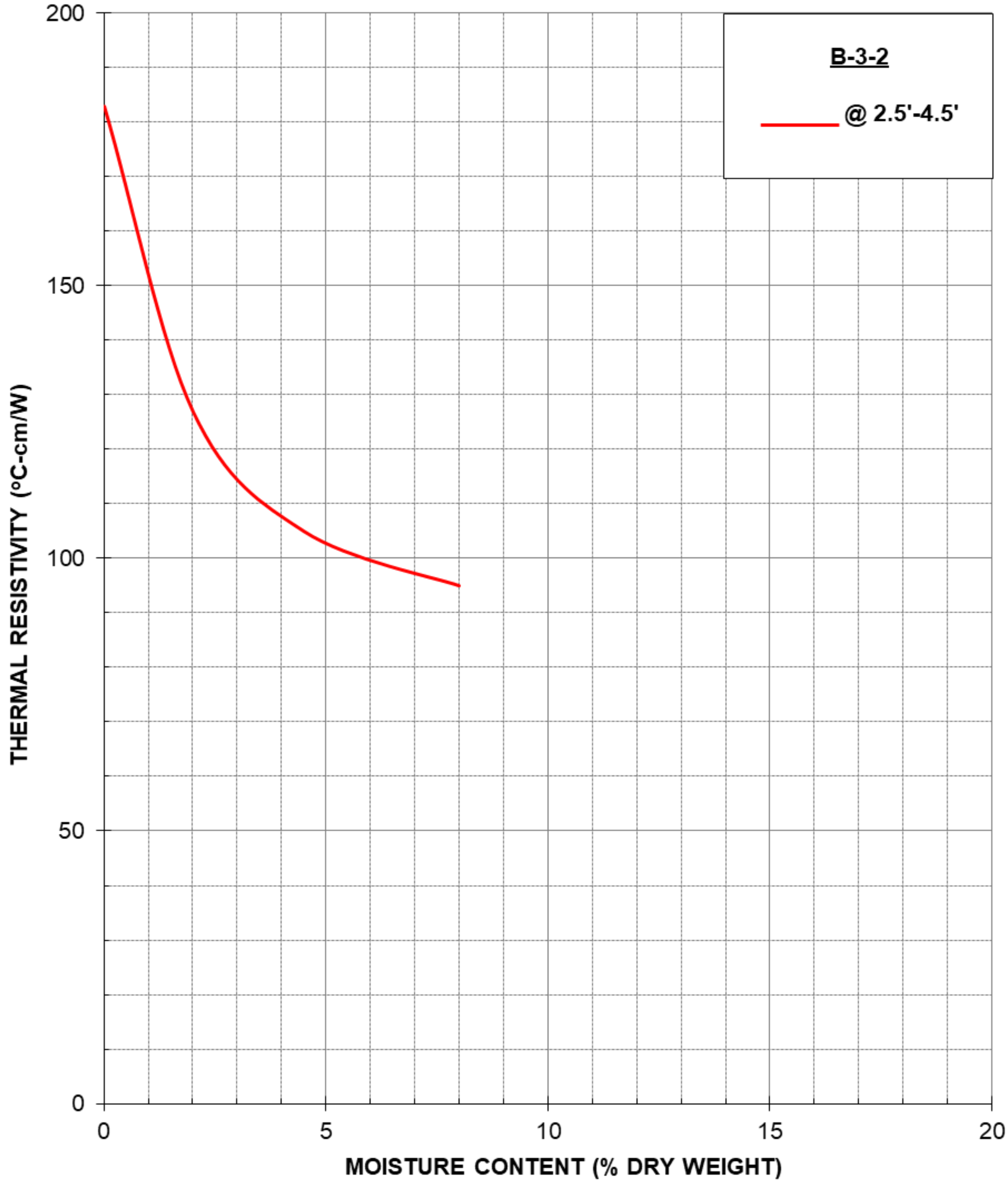
Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soils

Dolores Canyon Solar Project – Cahone, CO

January 2021 **Figure 2**

THERMAL DRYOUT CURVE

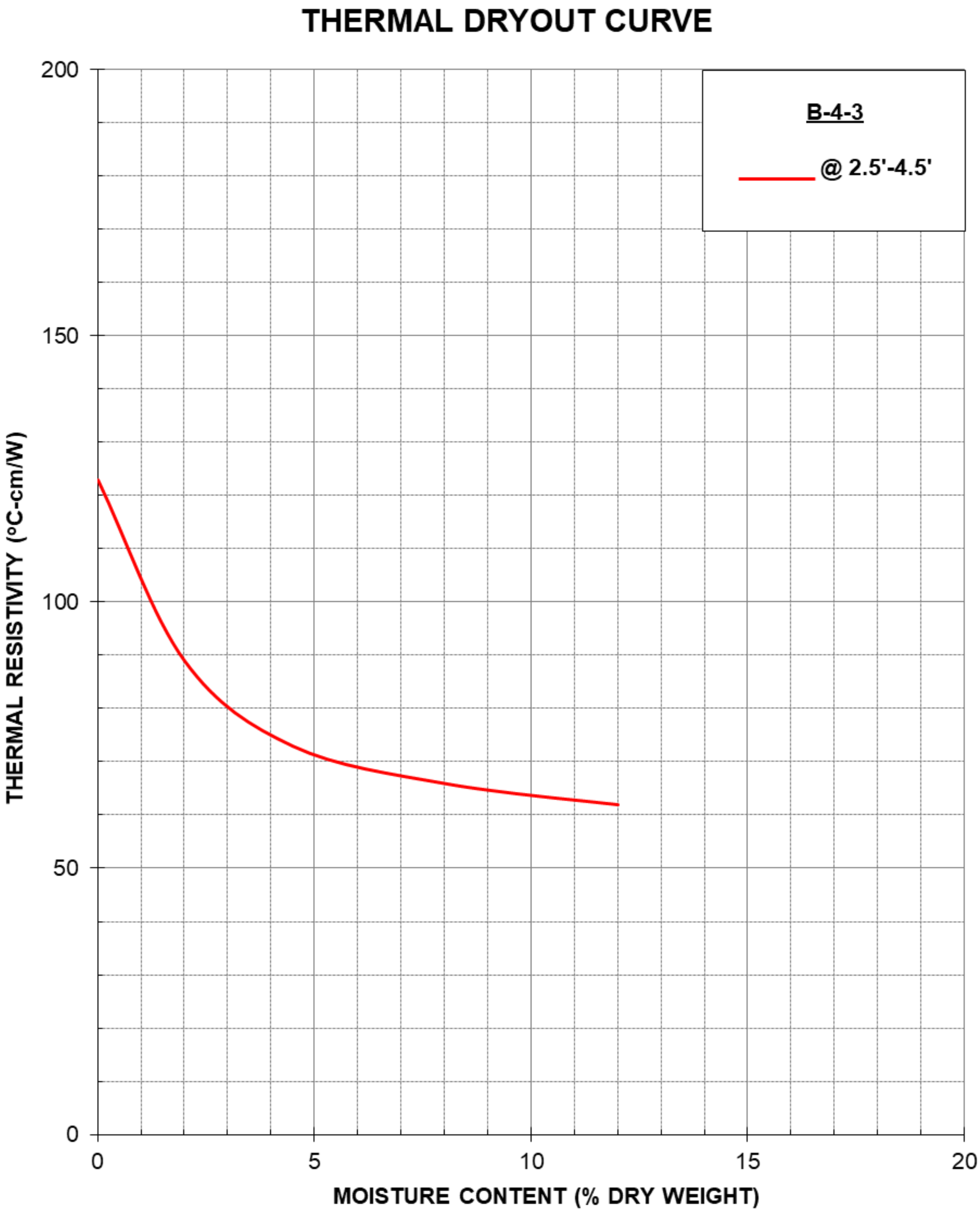


Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soils

Dolores Canyon Solar Project – Cahone, CO

January 2021 **Figure 3**



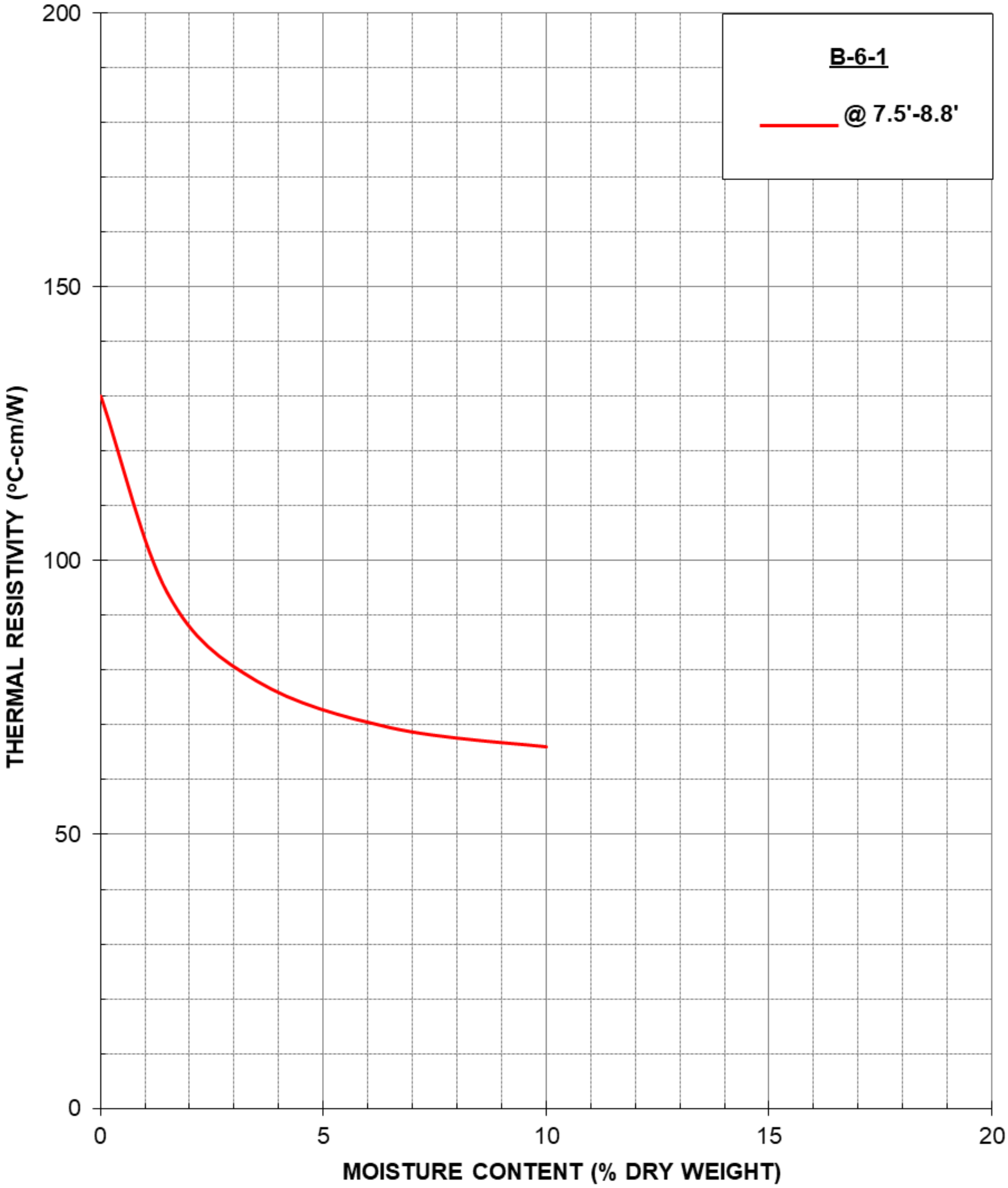
Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soils

Dolores Canyon Solar Project – Cahone, CO

January 2021 **Figure 4**

THERMAL DRYOUT CURVE



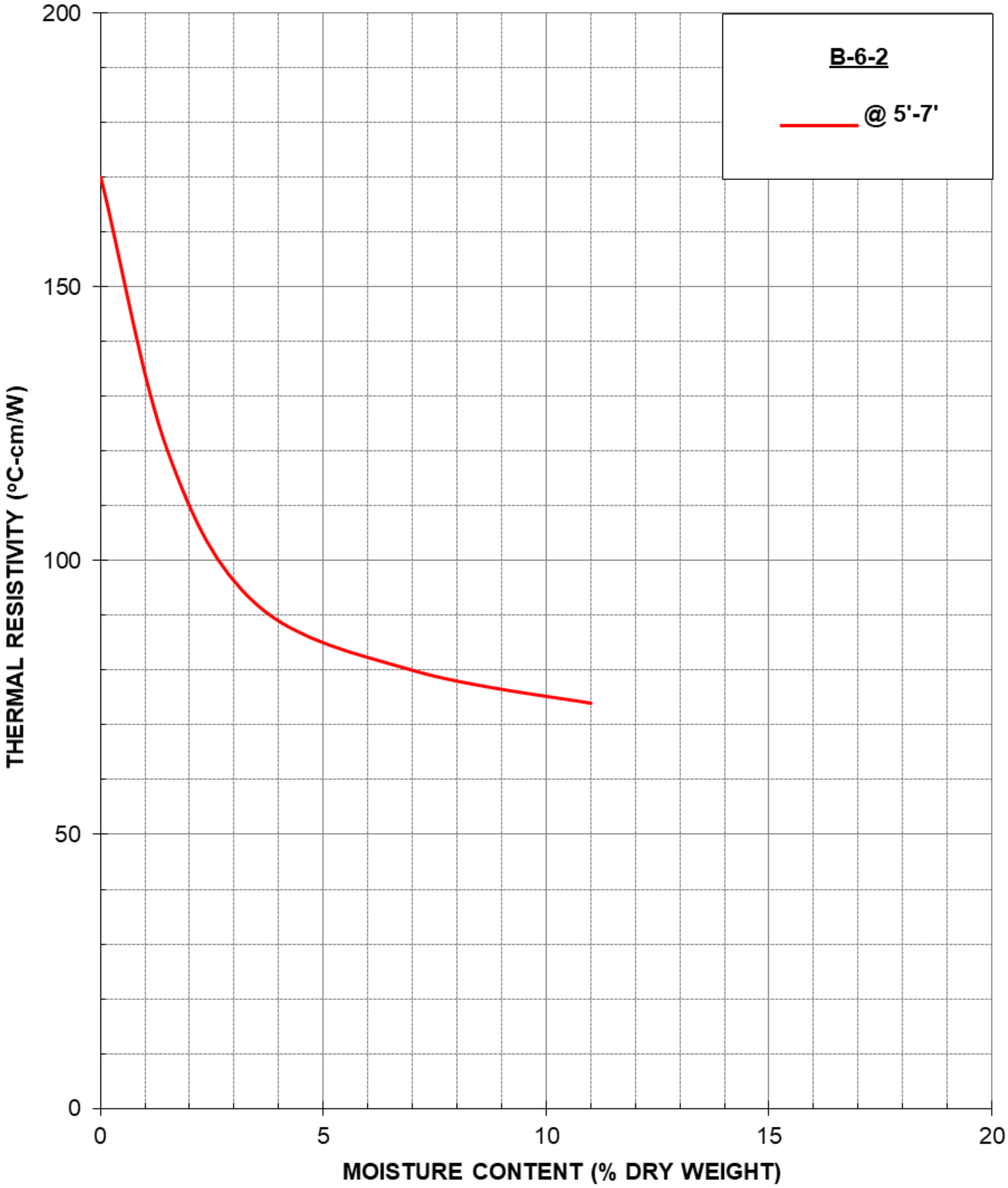
Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soils

Dolores Canyon Solar Project – Cahone, CO

January 2021 **Figure 5**

THERMAL DRYOUT CURVE



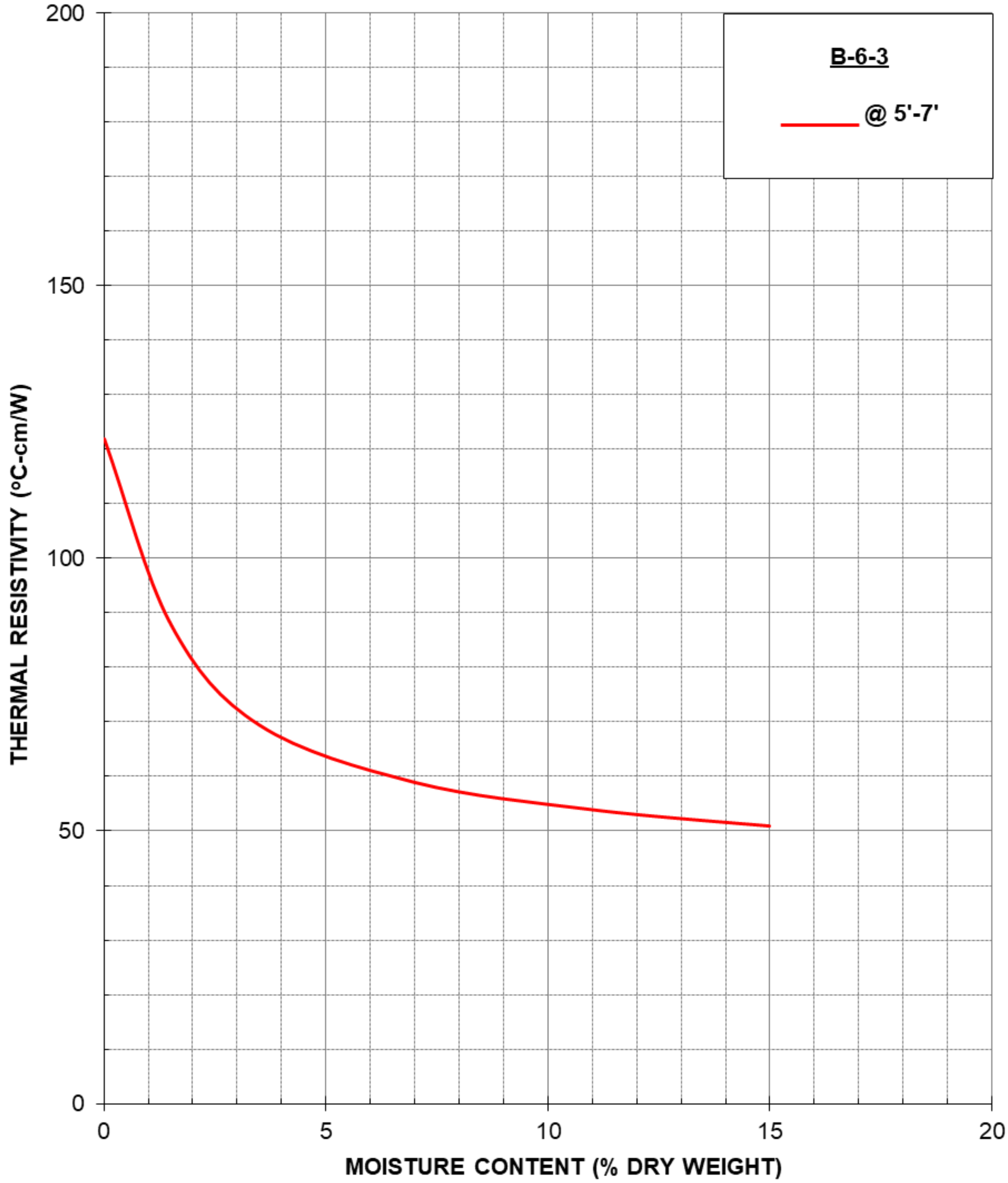
Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soils

Dolores Canyon Solar Project – Cahone, CO

January 2021 **Figure 6**

THERMAL DRYOUT CURVE



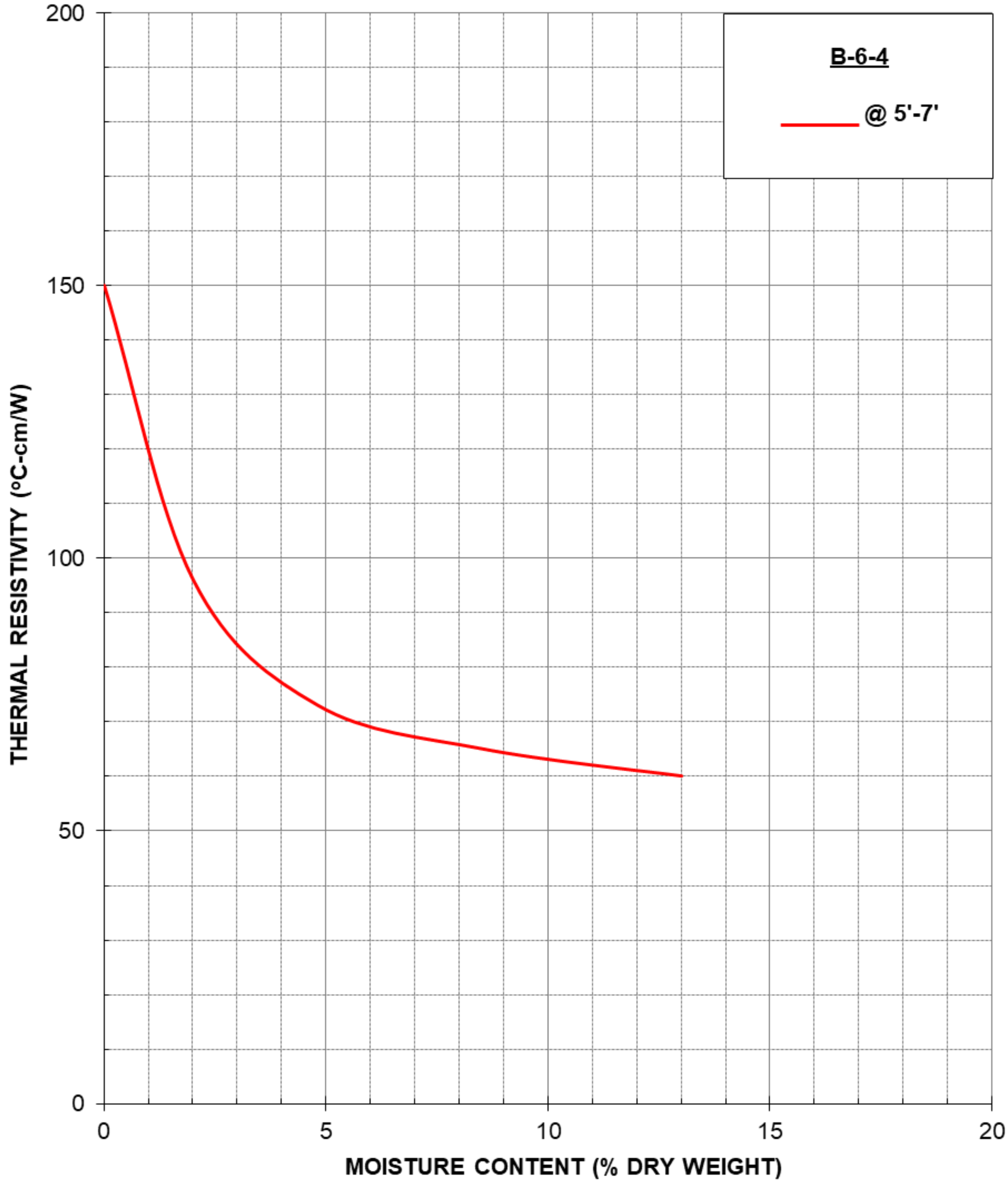
Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soils

Dolores Canyon Solar Project – Cahone, CO

January 2021 **Figure 7**

THERMAL DRYOUT CURVE



Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soils

Dolores Canyon Solar Project – Cahone, CO

January 2021 **Figure 8**

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http://www.geothermusa.com

June 2, 2020

Terracon Consultants
6949 S. High Tech Drive
Midvale UT 84047
Attn: Charles Molthen

Re: Thermal Analysis of Native Soil Samples
JSI Dolores Canyon Solar Project – Boulder, CO (Project No. 61195223)

The following is the report of thermal dryout characterization tests conducted on seven (7) tube samples of native soil from the referenced project sent to our laboratory.

Thermal Resistivity Tests: The samples were tested "as is". The tests were conducted in accordance with the IEEE standard 442-2017. The results are tabulated below and the thermal dry out curves are presented in **Figure 1.**

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

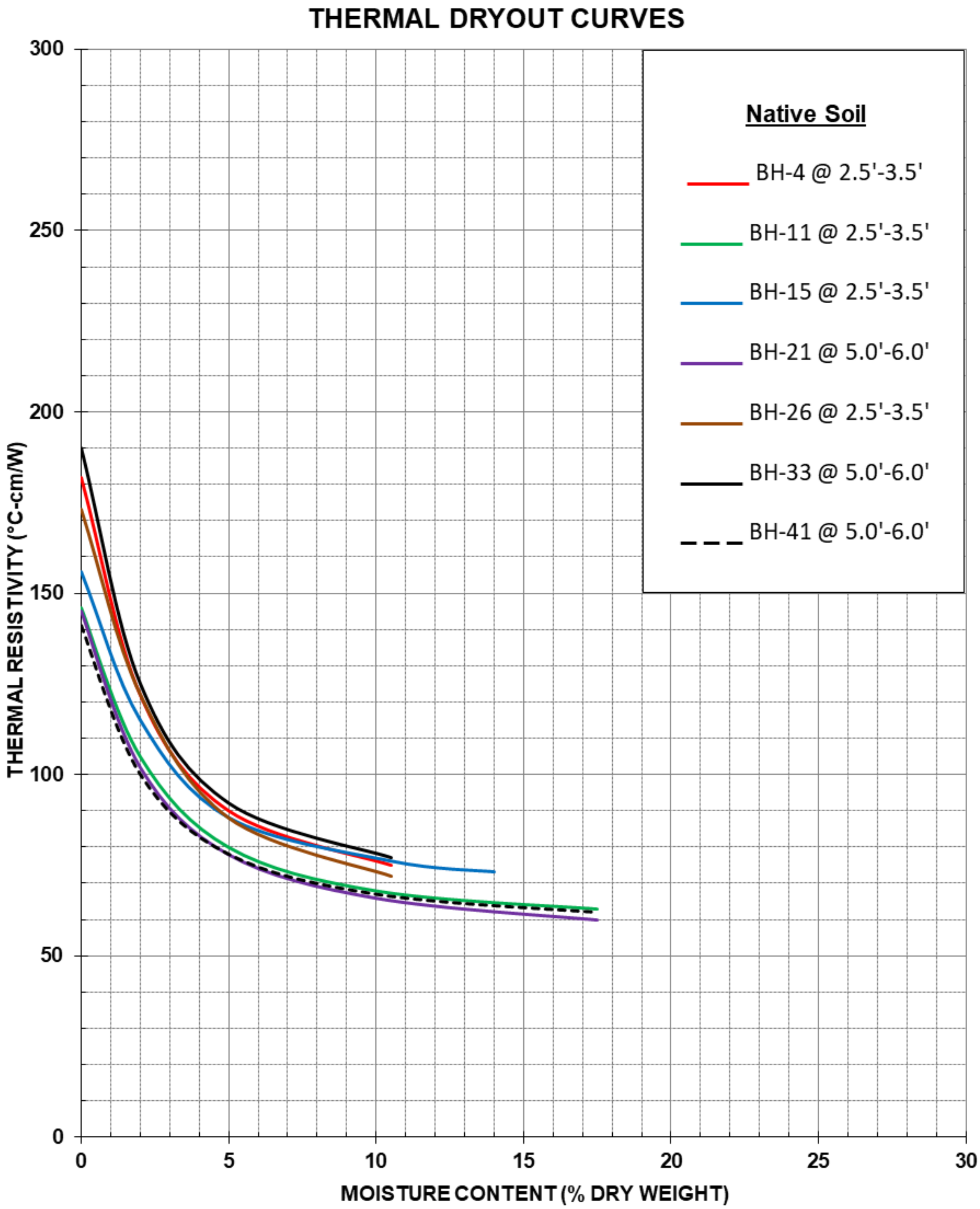
Sample ID	Description (Terracon)	Thermal Resistivity (°C-cm/W)		Moisture Content (%)	Dry Density (lb/ft^3)
		Wet	Dry		
BH-4 @ 2.5'-3.5'	Sandy Lean Clay	75	182	10	88
BH-11 @ 2.5'-3.5'	Sandy Lean Clay	63	146	17	109
BH-15 @ 2.5'-3.5'	Sandy Lean Clay	73	156	14	100
BH-21 @ 5.0'-6.0'	Sandy Lean Clay	60	145	18	108
BH-26 @ 2.5'-3.5'	Sandy Lean Clay	72	173	11	83
BH-33 @ 5.0'-6.0'	Sandy Lean Clay	77	190	11	101
BH-41 @ 5.0'-6.0'	Sandy Lean Clay	62	141	17	111

<u>Comments:</u> The thermal characteristic depicted in the dryout curves apply for the soils at their respective test dry density.

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

Geotherm USA

Nimesh Patel



Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soil Samples

JSI Dolores Canyon Solar Project – Boulder, CO

June 2020 **Figure 1**

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

June 22, 2020

Terracon Consultants
6949 S. High Tech Drive
Midvale UT 84047
Attn: Charles Molthen

Re: Thermal Analysis of Native Soil Samples
JSI Dolores Canyon Solar Project – Boulder, CO (Project No. 61195223)

The following is the report of thermal dryout characterization tests conducted on twelve (12) samples of native soil from the referenced project sent to our laboratory.

Thermal Resistivity Tests: The samples were compacted at 'optimum' moisture content and at 80% and/or 90% of the maximum 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 dry out curves are presented in **Figures 1 to 12.**

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

Sample ID	Effort	Description (Terracon)	Thermal Resistivity (°C-cm/W)		Moisture Content (%)	Dry Density (lb/ft^3)
			Wet	Dry		
TP-1 @ 3'-3.5'	80%	Lean Clay	105	236	15	87
	90%		87	180		98
TP-2 @ 3'-3.5'	80%	Lean Clay with Sand	128	266	16	88
TP-4 @ 3'-3.5'	80%	Lean Clay with Sand	102	237	14	90
	90%		79	182		112
TP-7 @ 3'-3.5'	80%	Lean Clay with Sand	115	278	14	85
	90%		94	199		96

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

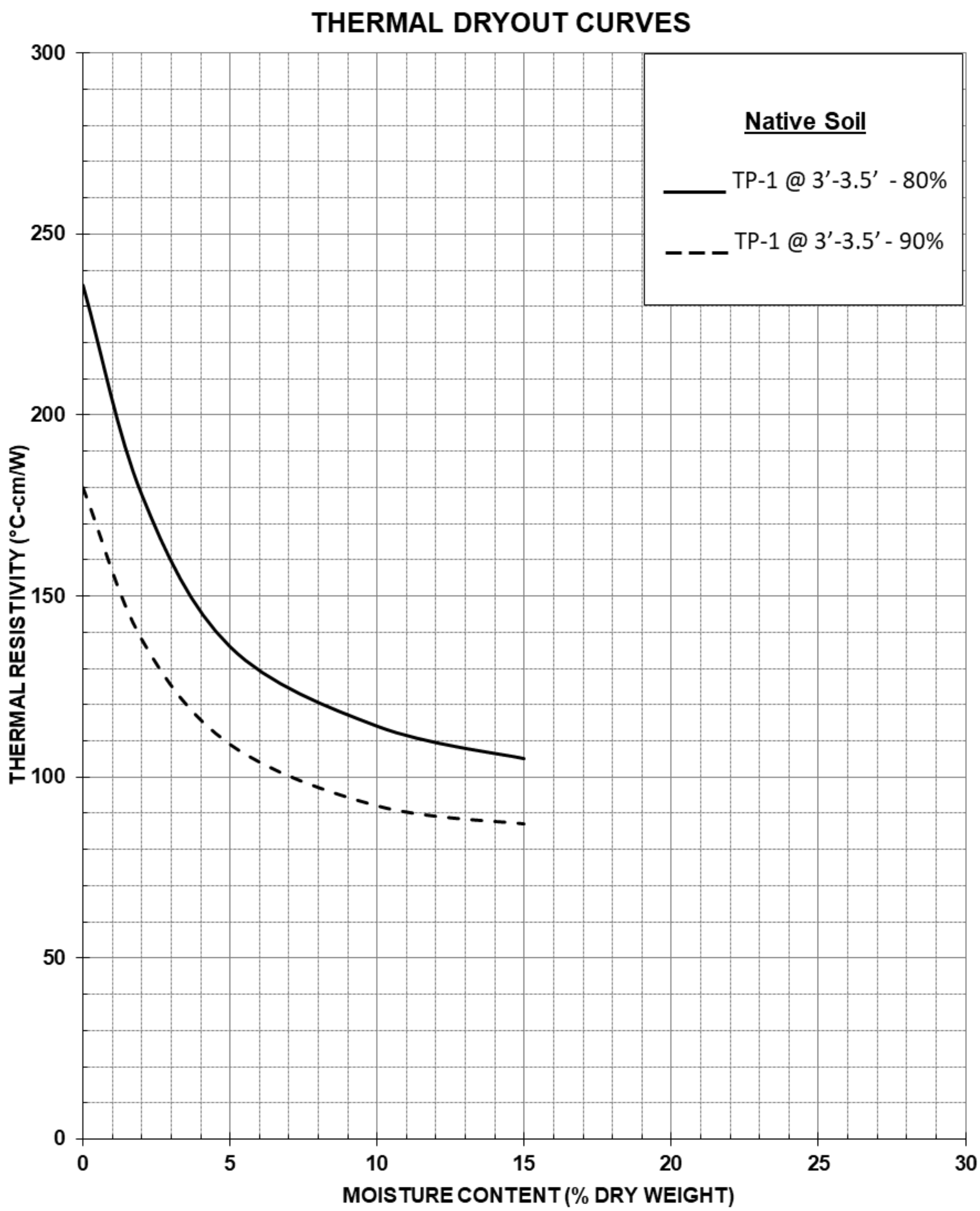
<table>
<tr><th rowspan="2">Sample ID</th><th rowspan="2">Effort</th><th rowspan="2">Description (Terracon)</th><th colspan="2">Thermal Resistivity (°C-cm/W)</th><th rowspan="2">Moisture Content (%)</th><th rowspan="2">Dry Density (lb/ft^3)</th></tr>
<tr><th>Wet</th><th>Dry</th></tr>
<tr><td>TP-8 @ 3’-3.5’</td><td>80%</td><td>Lean Clay</td><td>118</td><td>266</td><td>15</td><td>89</td></tr>
<tr><td>TP-10 @ 3’-3.5’</td><td>80%</td><td>Lean Clay with Sand</td><td>133</td><td>285</td><td>10</td><td>85</td></tr>
<tr><td>TP-12 @ 3’-3.5’</td><td>80%</td><td>Lean Clay with Sand</td><td>119</td><td>235</td><td>16</td><td>87</td></tr>
<tr><td rowspan="2">TP-15 @ 3’-3.5’</td><td>80%</td><td rowspan="2">Lean Clay with Sand</td><td>122</td><td>257</td><td rowspan="2">14</td><td>87</td></tr>
<tr><td>90%</td><td>92</td><td>181</td><td>98</td></tr>
<tr><td>TP-18 @ 3’-3.5’</td><td>80%</td><td>Lean Clay with Sand</td><td>115</td><td>244</td><td>14</td><td>90</td></tr>
<tr><td rowspan="2">TP-20 @ 3’-3.5’</td><td>80%</td><td rowspan="2">Lean Clay with Sand</td><td>121</td><td>263</td><td rowspan="2">15</td><td>87</td></tr>
<tr><td>90%</td><td>93</td><td>185</td><td>98</td></tr>
<tr><td>TP-22 @ 1.5’-2’</td><td>80%</td><td>Sandy Lean Clay</td><td>129</td><td>270</td><td>15</td><td>86</td></tr>
<tr><td rowspan="2">TP-24 @ 3’-3.5’</td><td>80%</td><td rowspan="2">Lean Clay with Sand</td><td>104</td><td>249</td><td rowspan="2">14</td><td>89</td></tr>
<tr><td>90%</td><td>83</td><td>177</td><td>101</td></tr>
</table>

Comments: The thermal characteristic depicted in the dryout curves apply for the soils at their respective test dry density.

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

Geotherm USA

Nimesh Patel

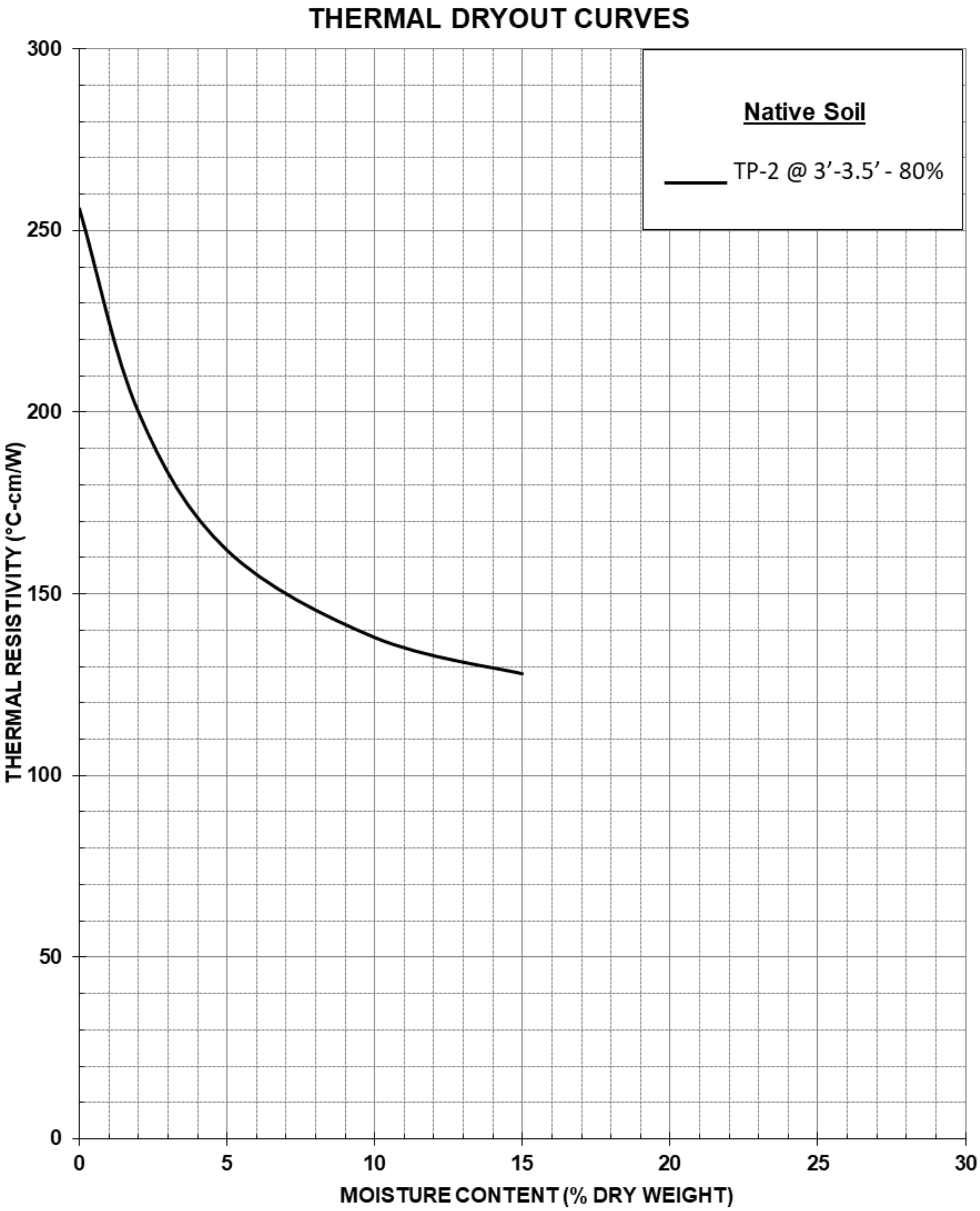


Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soil Samples

JSI Dolores Canyon Solar Project – Boulder, CO

June 2020 **Figure 1**

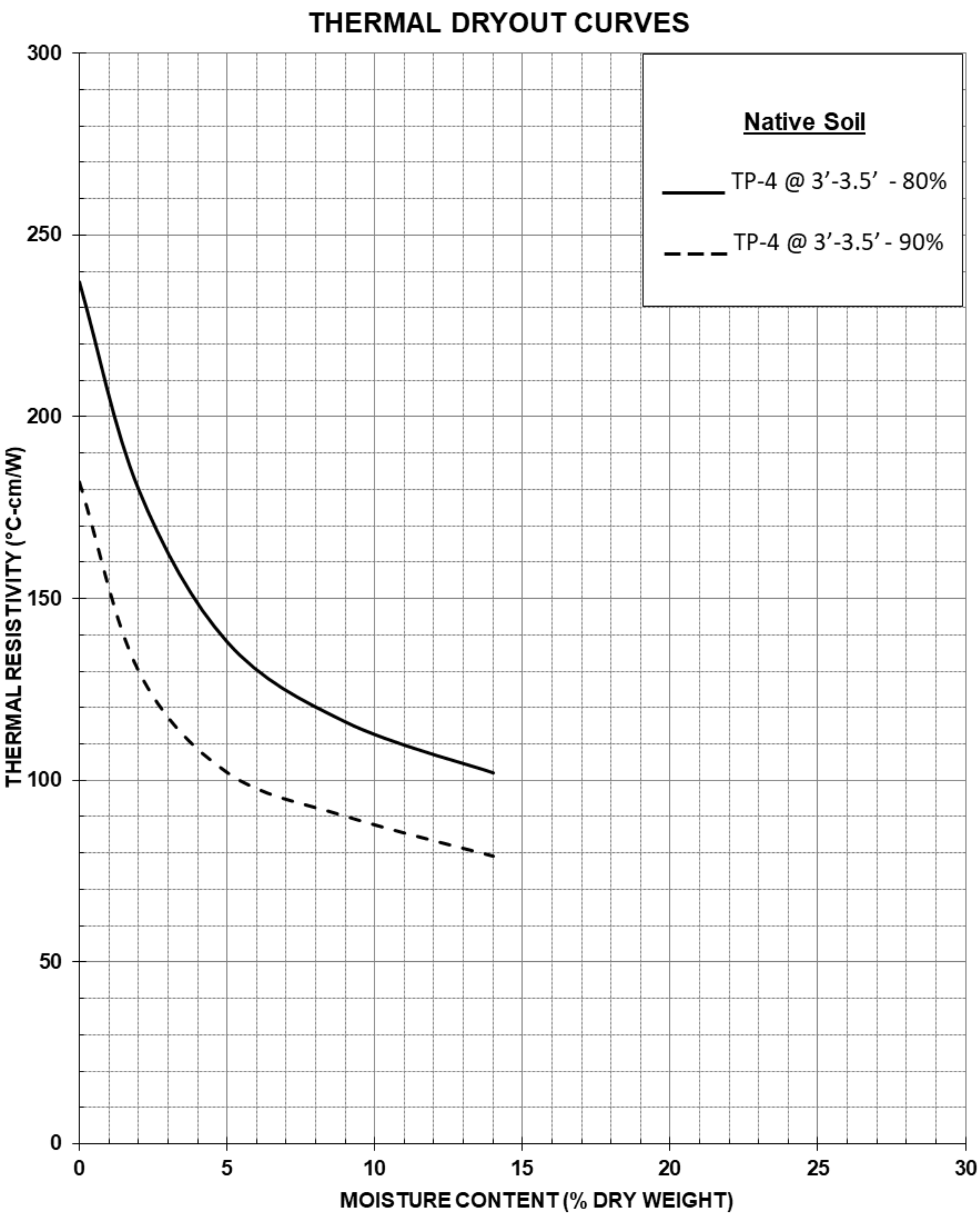


Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soil Samples

JSI Dolores Canyon Solar Project – Boulder, CO

June 2020 **Figure 2**

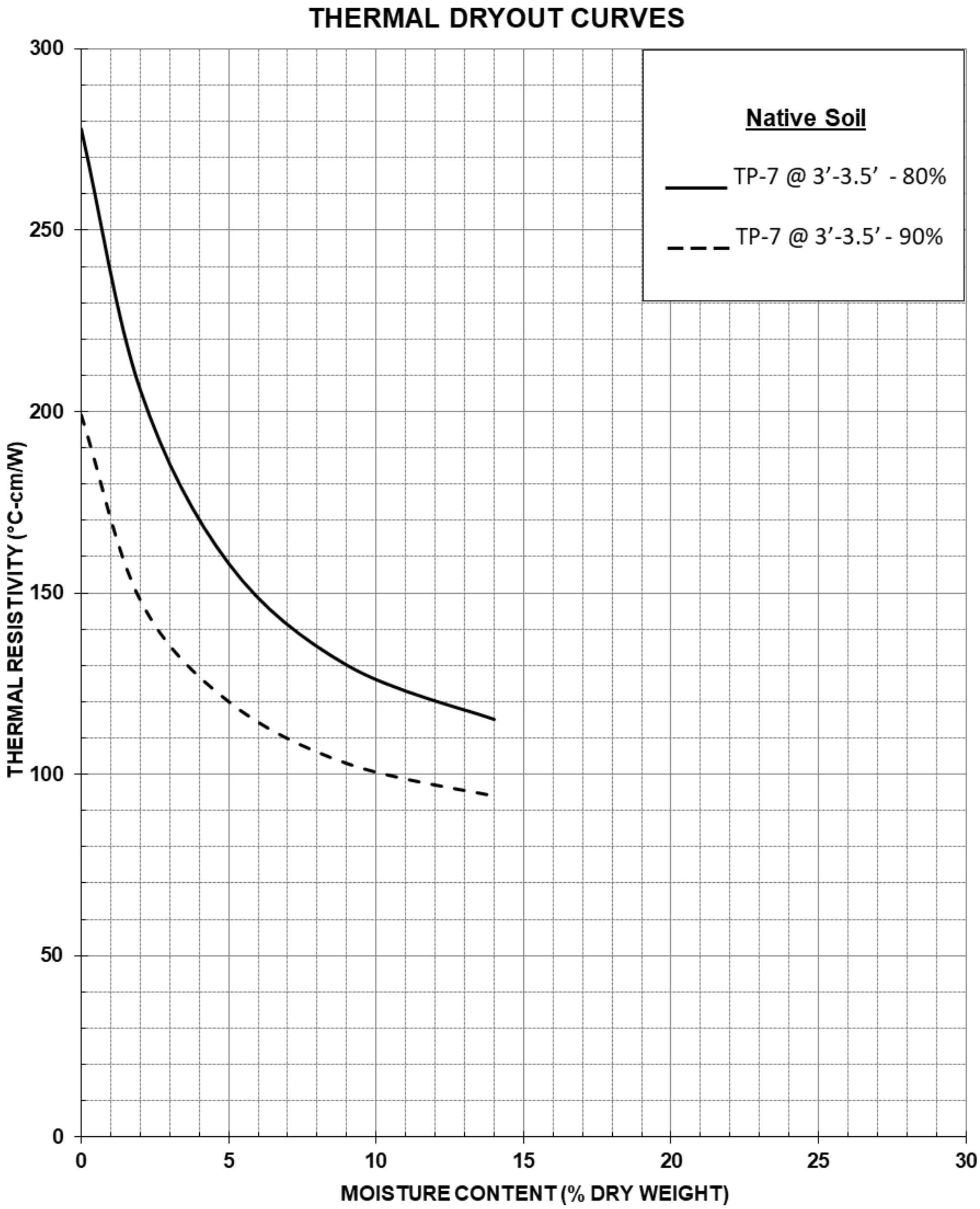


Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soil Samples

JSI Dolores Canyon Solar Project – Boulder, CO

June 2020 **Figure 3**



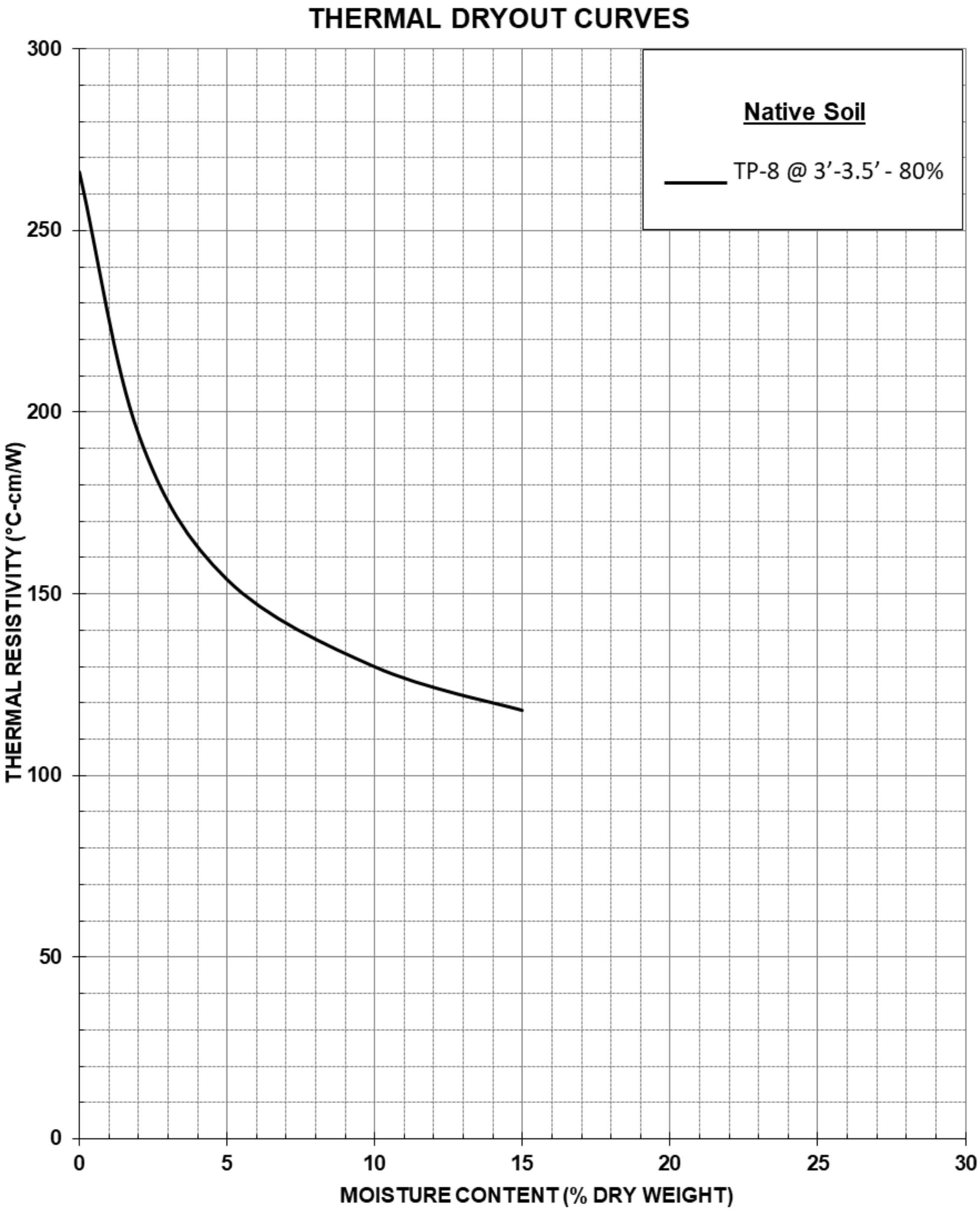
Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soil Samples

JSI Dolores Canyon Solar Project – Boulder, CO

June 2020 **Figure 4**

Geotherm USA

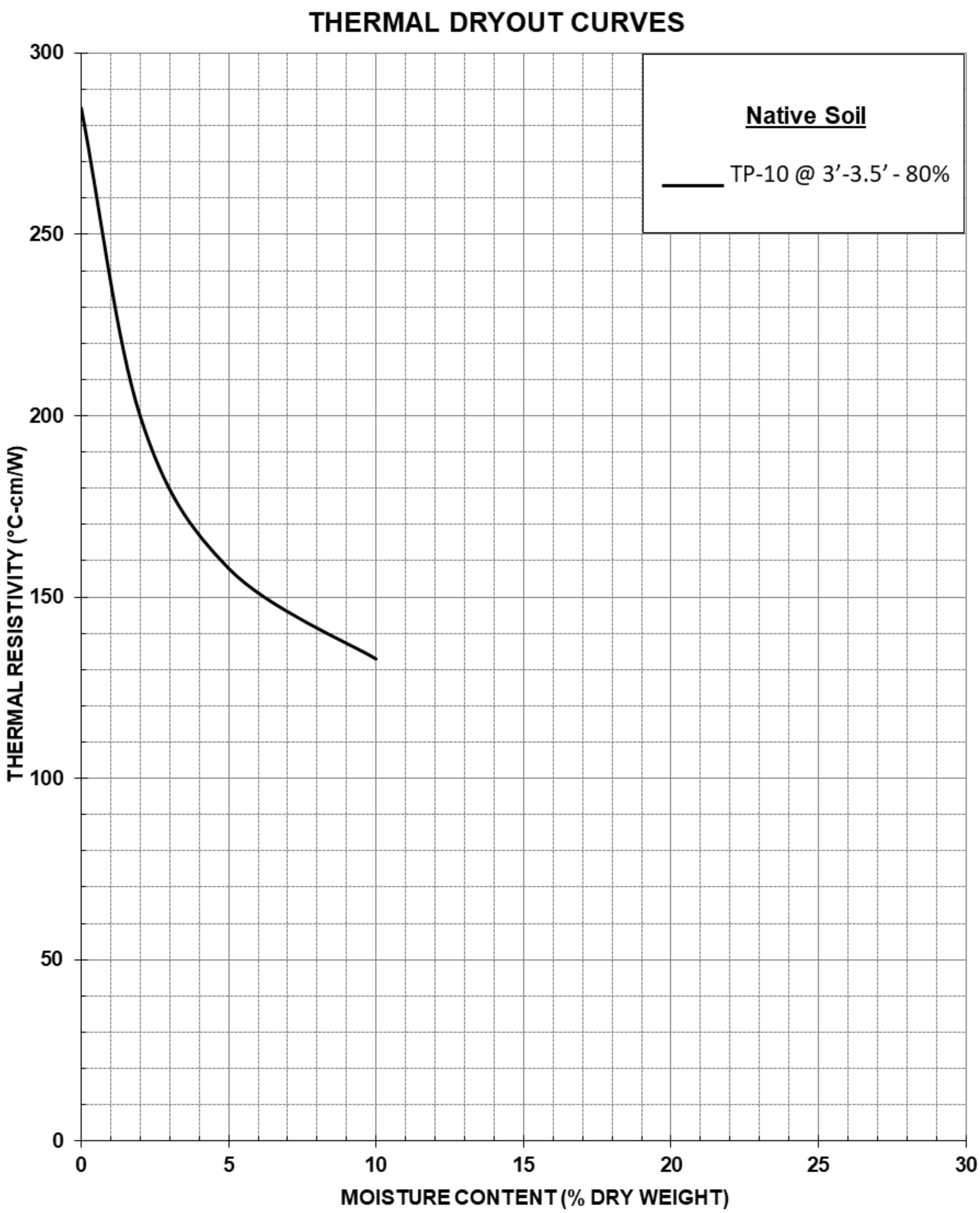


Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soil Samples

JSI Dolores Canyon Solar Project – Boulder, CO

June 2020 **Figure 5**



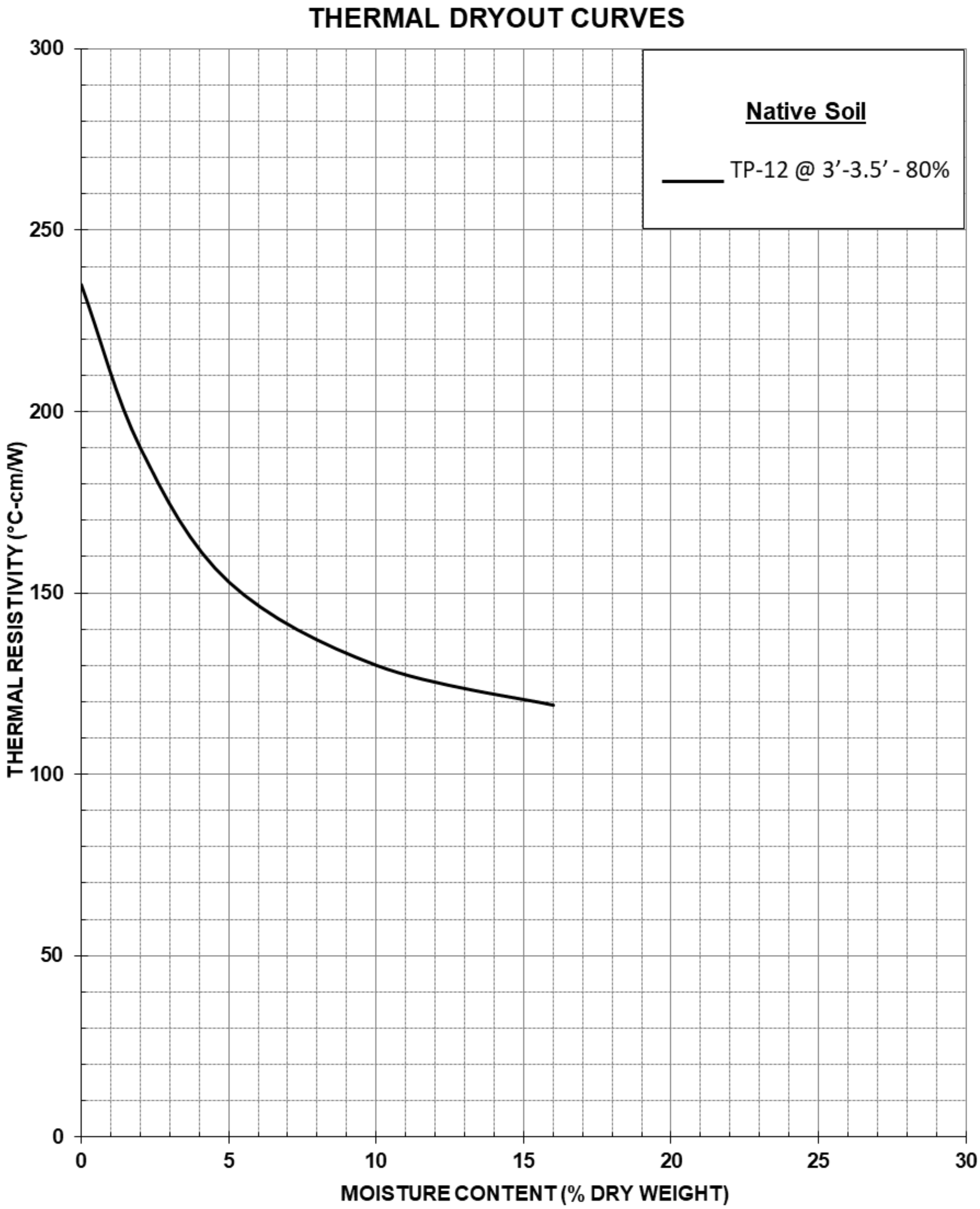
Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soil Samples

JSI Dolores Canyon Solar Project – Boulder, CO

June 2020

Figure 6



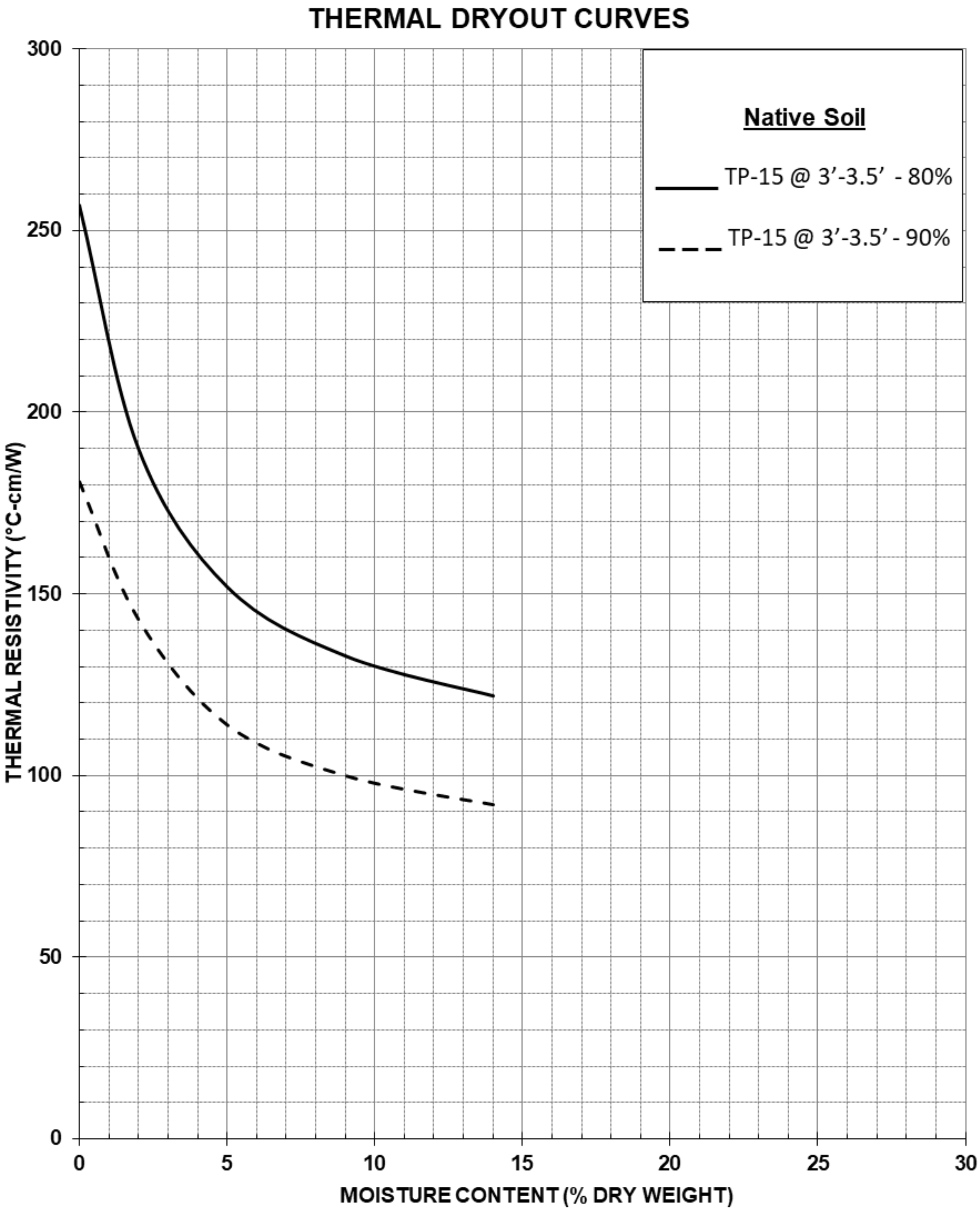
Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soil Samples

JSI Dolores Canyon Solar Project – Boulder, CO

June 2020 **Figure 7**

Geotherm USA

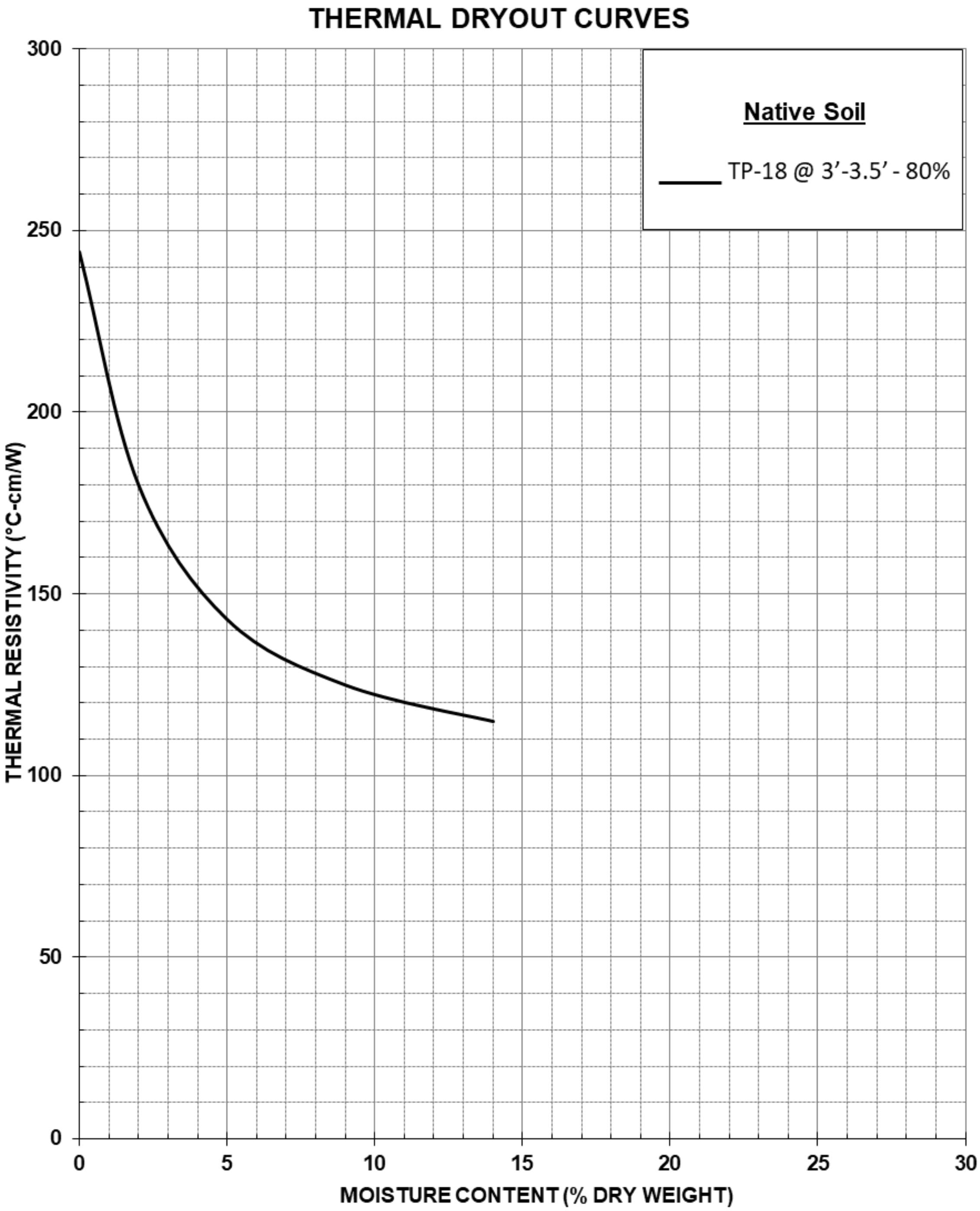


Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soil Samples

JSI Dolores Canyon Solar Project – Boulder, CO

June 2020 **Figure 8**

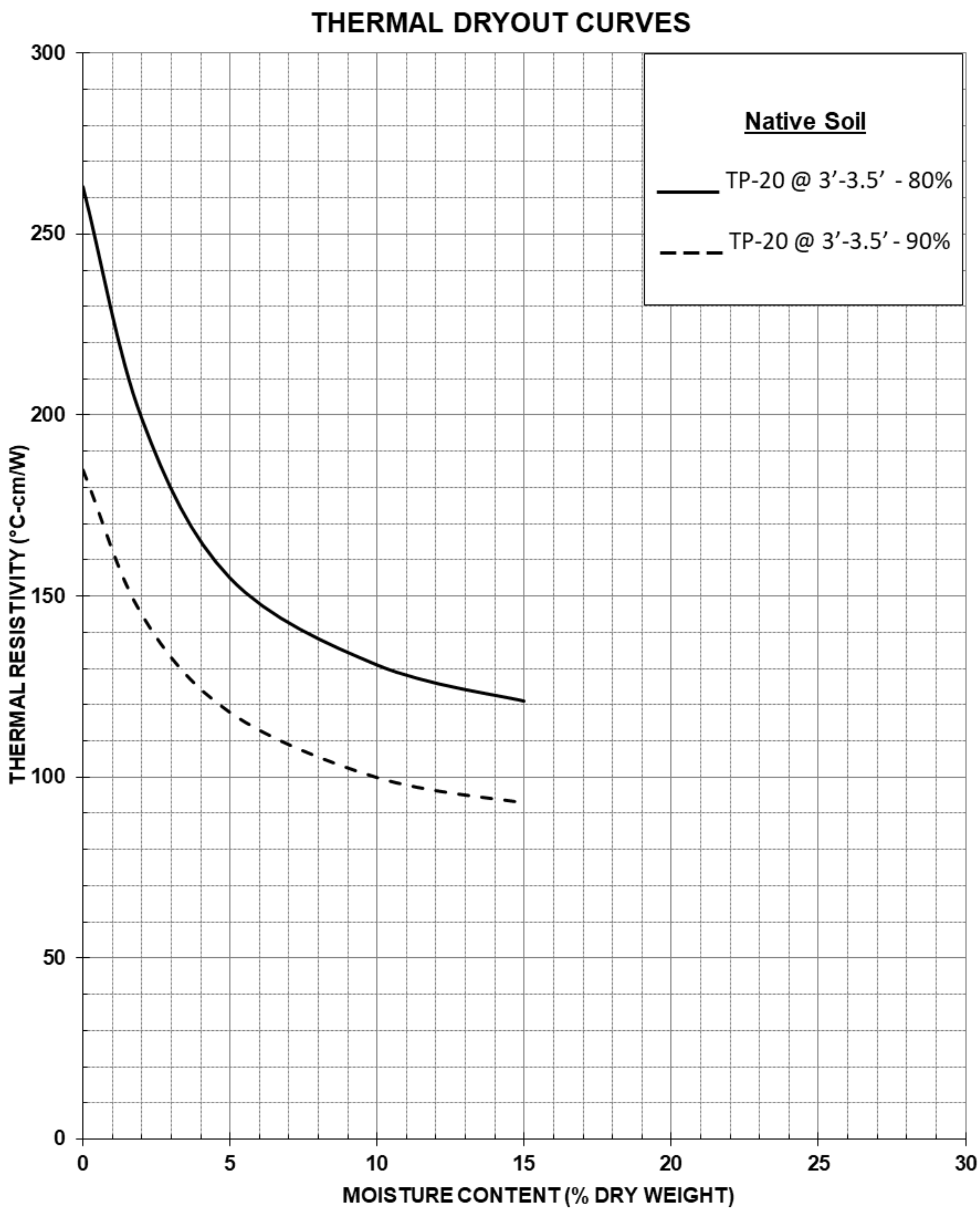


Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soil Samples

JSI Dolores Canyon Solar Project – Boulder, CO

June 2020 **Figure 9**

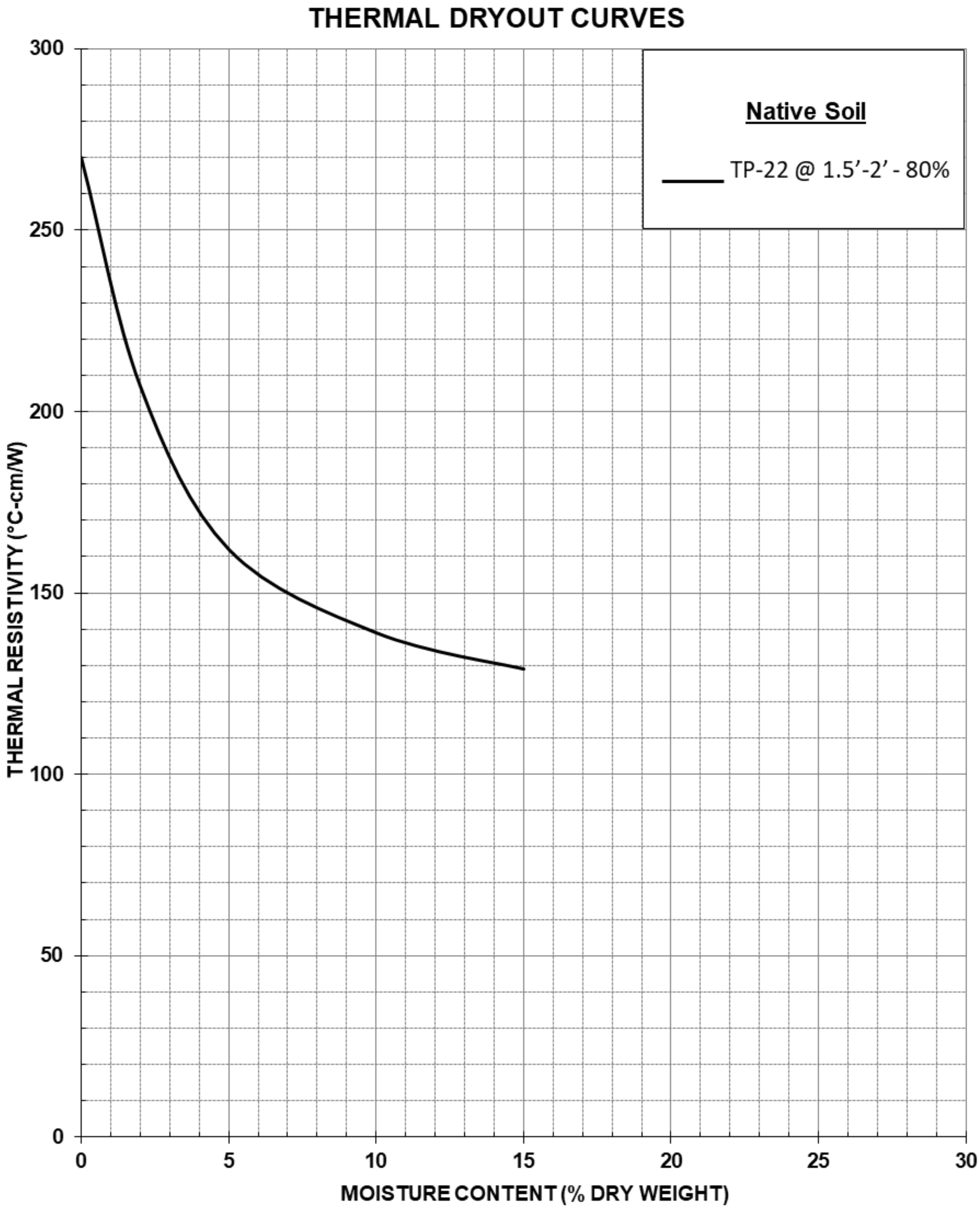


Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soil Samples

JSI Dolores Canyon Solar Project – Boulder, CO

June 2020 **Figure 10**

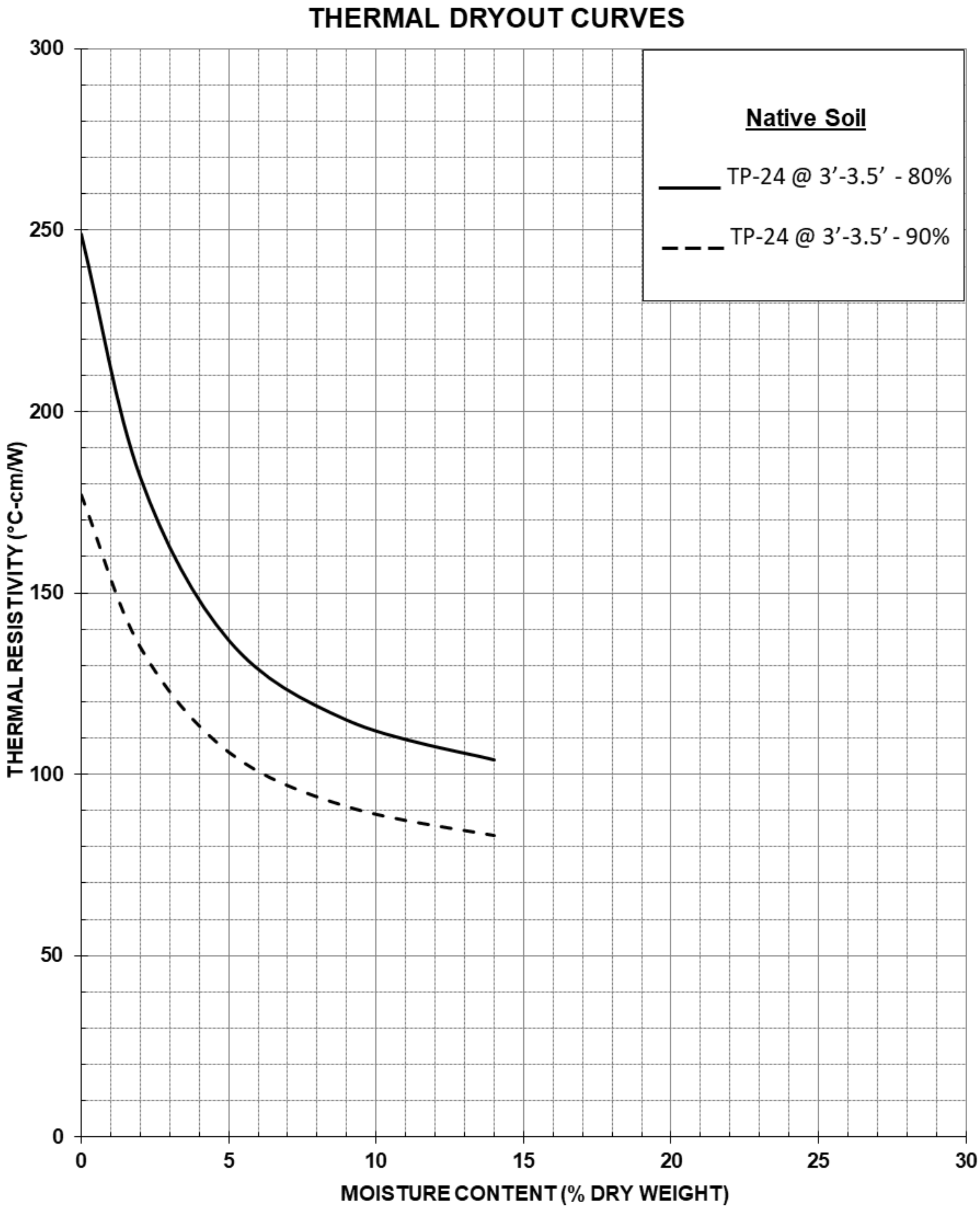


Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soil Samples

JSI Dolores Canyon Solar Project – Boulder, CO

June 2020 **Figure 11**



Terracon Consultants, Inc. (Project No. 61195223)

Thermal Analysis of Native Soil Samples

JSI Dolores Canyon Solar Project – Boulder, CO

June 2020 **Figure 12**

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

Terracon GeoReport

Client
JSI Construction Group LLC

Project
Dolores Canyon Solar Project

Sample Submitted By: Terracon (61) **Date Received:** 5/26/2020 **Lab No.: 20-0739**

Results of Corrosion Analysis

Sample Number	--	--	--	--
Sample Location	BH-2	BH-4	BH-6	BH-8
Sample Depth (ft.)	0.0-2.0	5.0-7.0	7.5-9.5	0.0-2.0
pH Analysis, ASTM G 51	7.13	7.49	7.88	7.45
Water Soluble Sulfate (SO4), ASTM C 1580 (ppm)	133	138	113	127
Sulfides, AWWA 4500-S D, (mg/kg)	Nil	Nil	Nil	Nil
Chlorides, ASTM D 512, (ppm)	27	30	33	33
Red-Ox, ASTM G 200, (mV)*	+687	+690	+684	+695
Resistivity (As-Received), ASTM G 187, (ohm-cm)	19400	6499	4171	2813
Resistivity (Saturated), ASTM G 187, (ohm-cm)	2546	1943	1742	2613

*Measured using a Ag/AgCl electrode

Analyzed By: Trisha Campo
Trisha Campo
Chemist

750 Pilot Road, Suite F
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(702) 597-9393

Client
JSI Construction Group LLC

Project
Dolores Canyon Solar Project

Sample Submitted By: Terracon (61) **Date Received:** 5/26/2020 **Lab No.: 20-0739**

Results of Corrosion Analysis

Sample Number	--	--	--	--
Sample Location	BH-10	BH-12	BH-14	BH-16
Sample Depth (ft.)	2.5-4.5	7.5-9.5	5.0-7.0	2.5-4.5
pH Analysis, ASTM G 51	7.58	7.70	7.63	7.70
Water Soluble Sulfate (SO4), ASTM C 1580 (ppm)	122	171	107	37
Sulfides, AWWA 4500-S D, (mg/kg)	Nil	Nil	Nil	Nil
Chlorides, ASTM D 512, (ppm)	33	27	38	63
Red-Ox, ASTM G 200, (mV)*	+690	+691	+690	+687
Resistivity (As-Received), ASTM G 187, (ohm-cm)	1746	3977	1843	2619
Resistivity (Saturated), ASTM G 187, (ohm-cm)	1072	1876	1608	1742

*Measured using a Ag/AgCl electrode

Analyzed By: Trisha Campo
Trisha Campo
Chemist

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(702) 597-9393

Terracon GeoReport

Client
JSI Construction Group LLC

Project
Dolores Canyon Solar Project

Sample Submitted By: Terracon (61) **Date Received:** 5/26/2020 **Lab No.: 20-0739**

Results of Corrosion Analysis

Sample Number	--	--	--	--
Sample Location	BH-18	BH-20	BH-22	BH-24
Sample Depth (ft.)	2.0-4.0	7.5-9.5	2.5-4.5	0.0-2.0
pH Analysis, ASTM G 51	7.98	8.26	8.11	7.90
Water Soluble Sulfate (SO4), ASTM C 1580 (ppm)	128	163	189	68
Sulfides, AWWA 4500-S D, (mg/kg)	Nil	Nil	Nil	Nil
Chlorides, ASTM D 512, (ppm)	55	52	43	50
Red-Ox, ASTM G 200, (mV)*	+685	+684	+686	+688
Resistivity (As-Received), ASTM G 187, (ohm-cm)	4171	2813	2910	3007
Resistivity (Saturated), ASTM G 187, (ohm-cm)	2077	2211	2613	2613

*Measured using a Ag/AgCl electrode

Analyzed By: [signature]
Trisha Campo
Chemist

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Terracon GeoReport

Client
JSI Construction Group LLC

Project
Dolores Canyon Solar Project

Sample Submitted By: Terracon (61) **Date Received:** 5/26/2020 **Lab No.: 20-0739**

Results of Corrosion Analysis

Sample Number	--	--	--	--
Sample Location	BH-26	BH-29	BH-30	BH-32
Sample Depth (ft.)	5.0-6.5	2.5-4.5	5.0-7.0	2.5-4.5
pH Analysis, ASTM G 51	8.37	8.01	8.15	8.01
Water Soluble Sulfate (SO4), ASTM C 1580 (ppm)	147	75	32	145
Sulfides, AWWA 4500-S D, (mg/kg)	Nil	Nil	Nil	Nil
Chlorides, ASTM D 512, (ppm)	40	38	52	33
Red-Ox, ASTM G 200, (mV)*	+687	+689	+686	+685
Resistivity (As-Received), ASTM G 187, (ohm-cm)	1940	13580	5917	8148
Resistivity (Saturated), ASTM G 187, (ohm-cm)	1876	2546	4355	3350

*Measured using a Ag/AgCl electrode

Analyzed By: Trisha Campo

Trisha Campo
Chemist

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(702) 597-9393

Terracon GeoReport

Client
JSI Construction Group LLC

Project
Dolores Canyon Solar Project

Sample Submitted By: Terracon (61) **Date Received:** 5/26/2020 **Lab No.: 20-0739**

Results of Corrosion Analysis

Sample Number	--	--	--	--
Sample Location	BH-34	BH-36	BH-38	BH-40
Sample Depth (ft.)	7.5-8.5	5.0-7.0	2.5-3.5	5.0-7.0
pH Analysis, ASTM G 51	8.27	8.20	8.07	7.64
Water Soluble Sulfate (SO4), ASTM C 1580 (ppm)	47	54	195	197
Sulfides, AWWA 4500-S D, (mg/kg)	Nil	Nil	Nil	Nil
Chlorides, ASTM D 512, (ppm)	72	27	58	120
Red-Ox, ASTM G 200, (mV)*	+683	+688	+683	+678
Resistivity (As-Received), ASTM G 187, (ohm-cm)	17460	5432	3589	4268
Resistivity (Saturated), ASTM G 187, (ohm-cm)	1809	3015	2278	1407

*Measured using a Ag/AgCl electrode

Analyzed By: [signature]
Trisha Campo
Chemist

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Client
JSI Construction Group LLC

Project
Dolores Canyon Solar Project

Sample Submitted By: Terracon (61) **Date Received:** 5/26/2020 **Lab No.: 20-0739**

Results of Corrosion Analysis

Sample Number	--	--
Sample Location	BH-42	BH-44
Sample Depth (ft.)	2.5-3.5	2.5-3.5
pH Analysis, ASTM G 51	8.44	8.16
Water Soluble Sulfate (SO4), ASTM C 1580 (ppm)	171	156
Sulfides, AWWA 4500-S D, (mg/kg)	Nil	Nil
Chlorides, ASTM D 512, (ppm)	43	40
Red-Ox, ASTM G 200, (mV)*	+684	+685
Resistivity (As-Received), ASTM G 187, (ohm-cm)	8827	3298
Resistivity (Saturated), ASTM G 187, (ohm-cm)	2881	2211

*Measured using a Ag/AgCl electrode

Analyzed By: [signature]
Trisha Campo
Chemist

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Las Vegas, Nevada 89119
(702) 597-9393

Terracon GeoReport

Client
JSI Construction Group LLC

Project
Dolores Canyon Solar Project

Sample Submitted By: Terracon (61) **Date Received: 5/26/2020** **Lab No: 20-0739**

Results of Chemical Analysis

Sample Location	Sample Depth (ft.)	Buffer Capacity, ASTM E1910 (milliequivalents of base per gram of product) *reagent: 0.05 N HCl	Neutral Salts, WREP-125, 4th ed. (dS m^{-1})
BH-2	0.0 - 2.0	0.057	2.20E-04
BH-4	5.0 - 7.0	0.035	1.70E-04
BH-6	7.5 - 9.5	0.070	2.17E-04
BH-8	0.0 - 2.0	0.025	1.01E-04
BH-10	2.5 - 4.5	0.040	1.89E-04
BH-12	7.5 - 9.5	0.055	2.23E-04
BH-14	5.0 - 7.0	0.035	2.09E-04
BH-16	2.5 - 4.5	0.045	3.51E-04
BH-18	2.0 - 4.0	0.055	3.11E-04
BH-20	7.5 - 9.5	0.045	3.20E-04
BH-22	2.5 - 4.5	0.045	2.13E-04
BH-24	0.0 - 2.0	0.060	5.33E-04
BH-26	5.0 - 6.5	0.060	4.59E-04
BH-29	2.5 - 4.5	0.040	2.11E-04
BH-30	5.0 - 7.0	0.025	5.27E-04
BH-32	2.5 - 4.5	0.065	4.80E-04
BH-34	7.5 - 8.5	0.080	4.86E-04
BH-36	5.0 - 7.0	0.070	3.06E-04
BH-38	2.5 - 3.5	0.055	3.99E-04
BH-40	5.0 - 7.0	0.060	6.38E-04
BH-42	2.5 - 4.5	0.045	4.32E-04
BH-44	2.5 - 4.5	0.040	7.14E-04

Analyzed By Trisha Campo

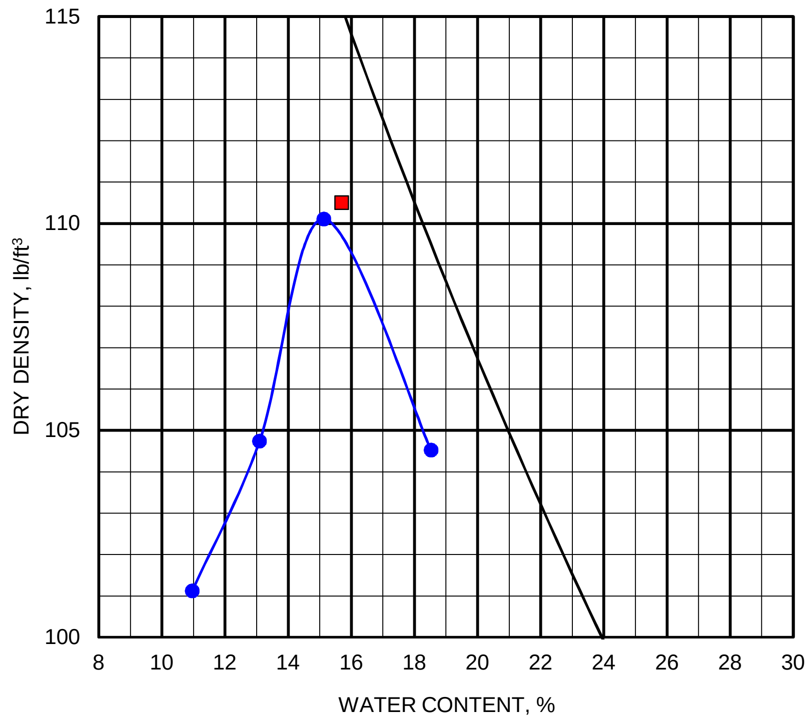
Trisha Campo
Chemist

GRADATION RESULTS

SIEVE SIZE	PERCENT PASSING
No. 10	100
No. 20	100
No. 40	100
No. 80	99
No. 100	99
No. 200	83

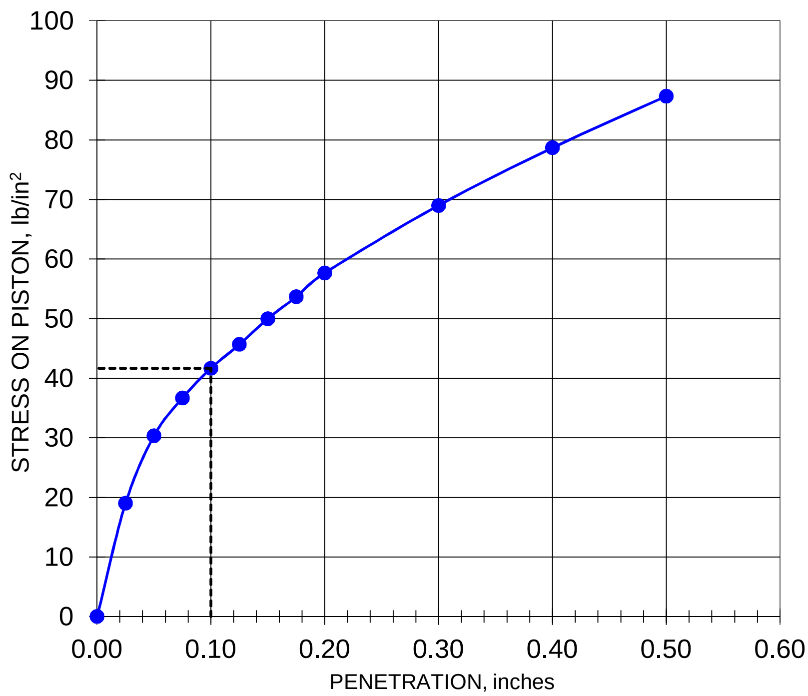
Liquid Limit: **31**
Plasticity Index: **17**

Maximum Dry Density, lb/ft^3: **110.5** Test Method: **ASTM D 698**
Optimum Moisture, %: **15.7** (ZERO AIR VOIDS FOR SPECIFIC GRAVITY OF 2.6)



CALIFORNIA BEARING RATIO

Dry Density,	
Before Soaking, lb/ft^3:	**106.8**
After Soaking, lb/ft^3:	**105.3**
Relative Compaction, %:	**97**
Moisture Content,	
Before Compaction, %:	**15.8**
Top 1-inch After Soaking, %:	**19.2**
Average After Soaking, %:	**19.1**
Surcharge Weight, lb:	**10**
Soaking Period, hr:	**96**
Swell, %:	**1.4**
CBR Value, %:	**4.2**



SAMPLE - IDENTIFICATION
TP-2 @ 3

CLASSIFICATION
Lean Clay with Sand (CL)

Terracon GeoReport

GRADATION, MOISTURE-DENSITY AND CALIFORNIA BEARING RATIO TEST RESULTS

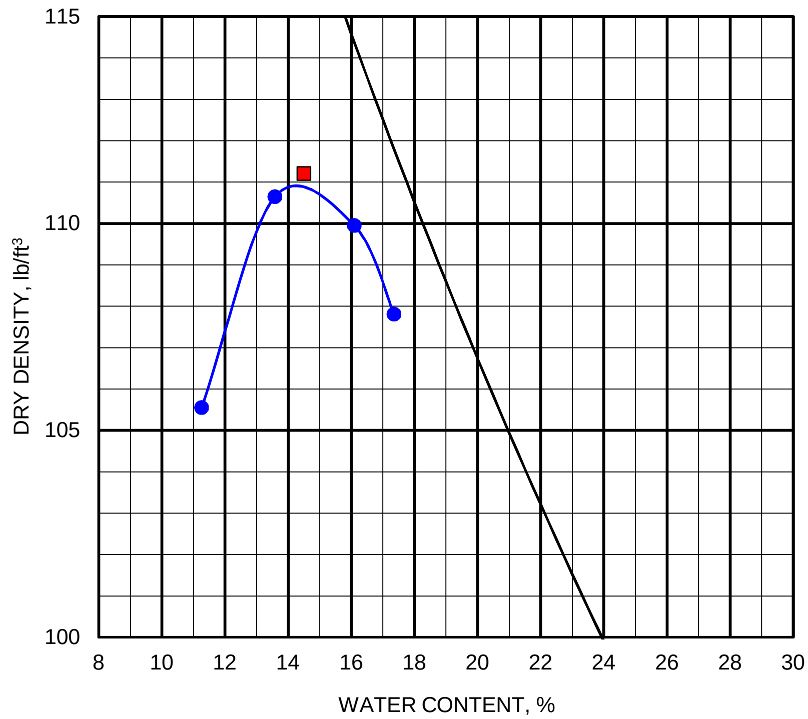
Project Name: **JSI - Dolores Canyon Solar Project**
Location: **Cahone, CO**
Project No.: **61195223**
Date: **6/20/20**

GRADATION RESULTS

SIEVE SIZE	PERCENT PASSING
No. 20	**100**
No. 40	**100**
No. 80	**99**
No. 100	**99**
No. 200	**87**

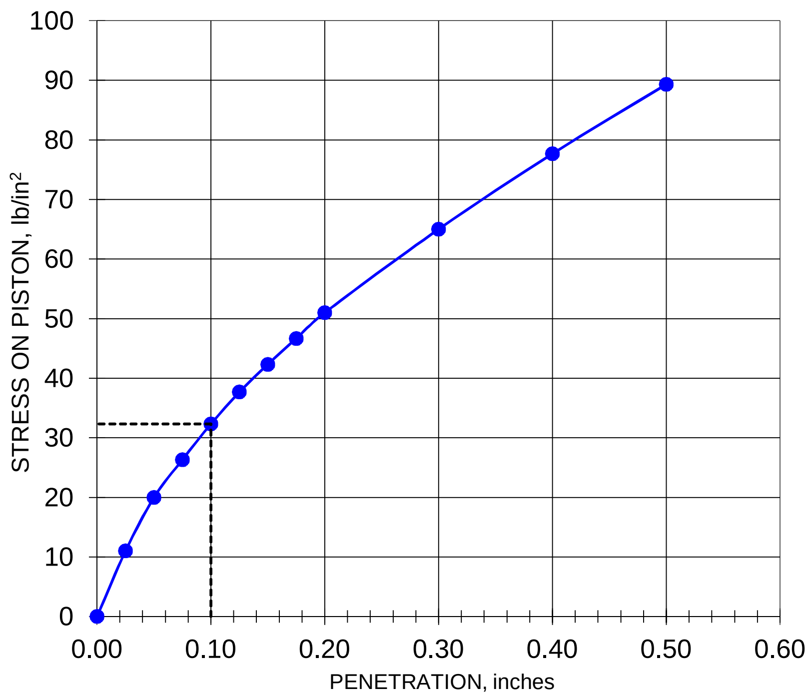
Liquid Limit: **29**
Plasticity Index: **15**

Maximum Dry Density, lb/ft^3: **111.2** Test Method: **ASTM D 698**
Optimum Moisture, %: **14.5** (ZERO AIR VOIDS FOR SPECIFIC GRAVITY OF 2.6)



CALIFORNIA BEARING RATIO

Dry Density,	
Before Soaking, lb/ft^3:	**111.2**
After Soaking, lb/ft^3:	**108.5**
Relative Compaction, %:	**100**
Moisture Content,	
Before Compaction, %:	**15.5**
Top 1-inch After Soaking, %:	**19.1**
Average After Soaking, %:	**18.2**
Surcharge Weight, lb:	**10**
Soaking Period, hr:	**96**
Swell, %:	**1.1**
CBR Value, %:	**3.2**



SAMPLE - IDENTIFICATION
TP-8 @ 3

CLASSIFICATION
Lean Clay (CL)

Terracon GeoReport

GRADATION, MOISTURE-DENSITY AND CALIFORNIA BEARING RATIO TEST RESULTS

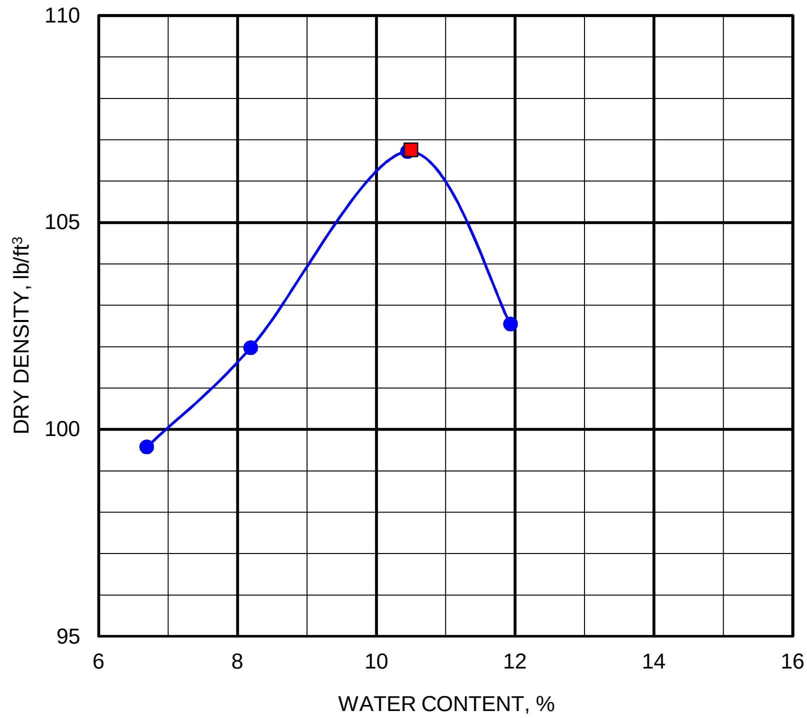
Project Name: **JSI - Dolores Canyon Solar Project**
Location: **Cahone, CO**
Project No.: **61195223**
Date: **6/20/20**

GRADATION RESULTS

SIEVE SIZE	PERCENT PASSING
3/8"	100
No. 4	100
No. 8	99
No. 10	99
No. 20	99
No. 40	99
No. 80	98
No. 100	97
No. 200	83

Liquid Limit: 28
Plasticity Index: 15

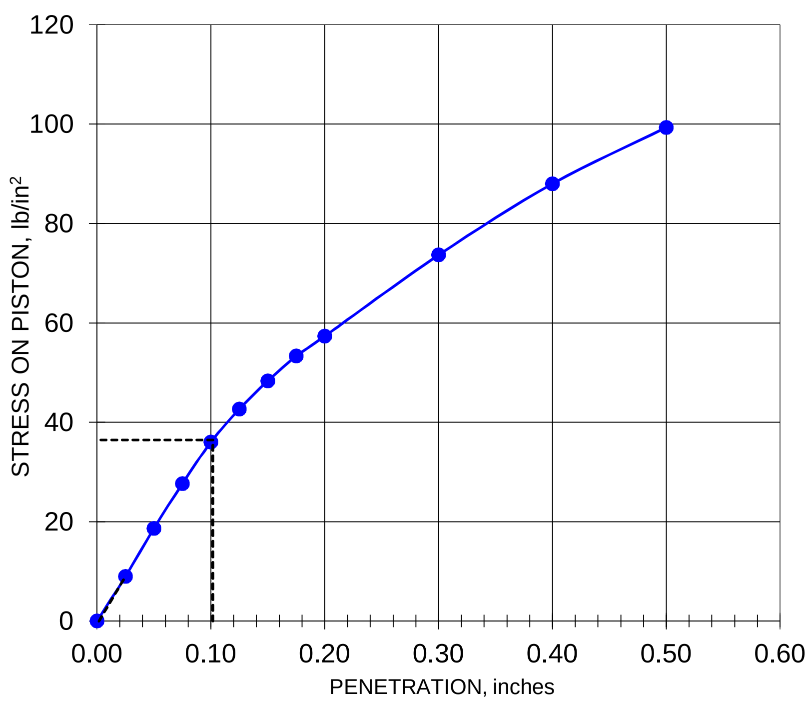
Maximum Dry Density, lb/ft^3: 106.75 Test Method: **ASTM D 698**
Optimum Moisture, %: 10.5 (ZERO AIR VOIDS FOR SPECIFIC GRAVITY OF 2.6)



CALIFORNIA BEARING RATIO

Dry Density,

Before Soaking, lb/ft^3:	106.9
After Soaking, lb/ft^3:	104.0
Relative Compaction, %:	100
Moisture Content,	
Before Compaction, %:	10.5
Top 1-inch After Soaking, %:	20.9
Average After Soaking, %:	18.7
Surcharge Weight, lb:	10
Soaking Period, hr:	96
Swell, %:	2.2
CBR Value, %:	3.6



SAMPLE - IDENTIFICATION
TP-10 @ 3

CLASSIFICATION
Lean Clay with Sand (CL)

Terracon GeoReport

GRADATION, MOISTURE-DENSITY AND CALIFORNIA BEARING RATIO TEST RESULTS

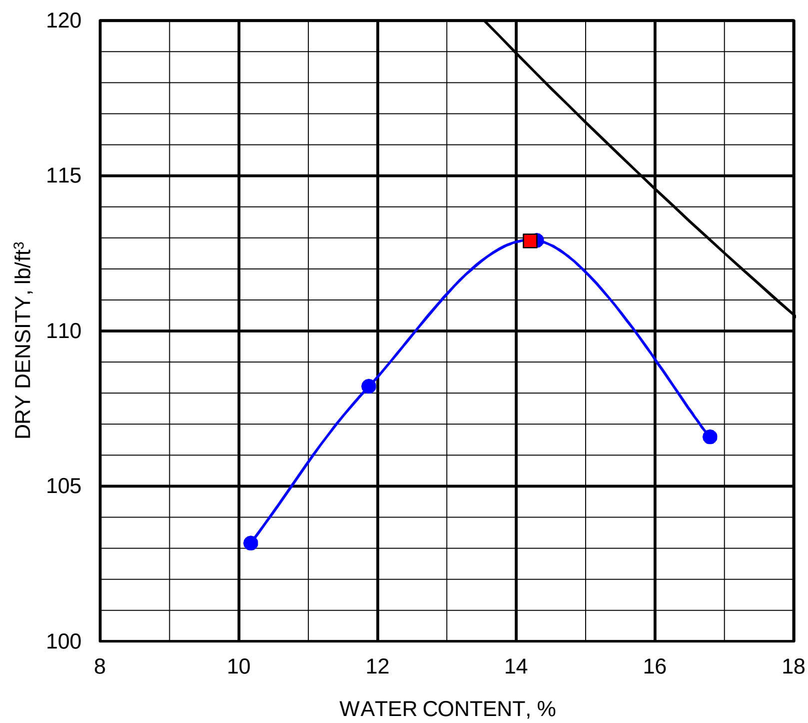
Project Name: **JSI - Dolores Canyon Solar Project**
Location: **Cahone, CO**
Project No.: **61195223**
Date: **6/20/20**

GRADATION RESULTS

SIEVE SIZE	PERCENT PASSING
3/8"	**100**
No. 4	**100**
No. 8	**100**
No. 10	**100**
No. 20	**100**
No. 40	**100**
No. 80	**99**
No. 100	**98**
No. 200	**83**

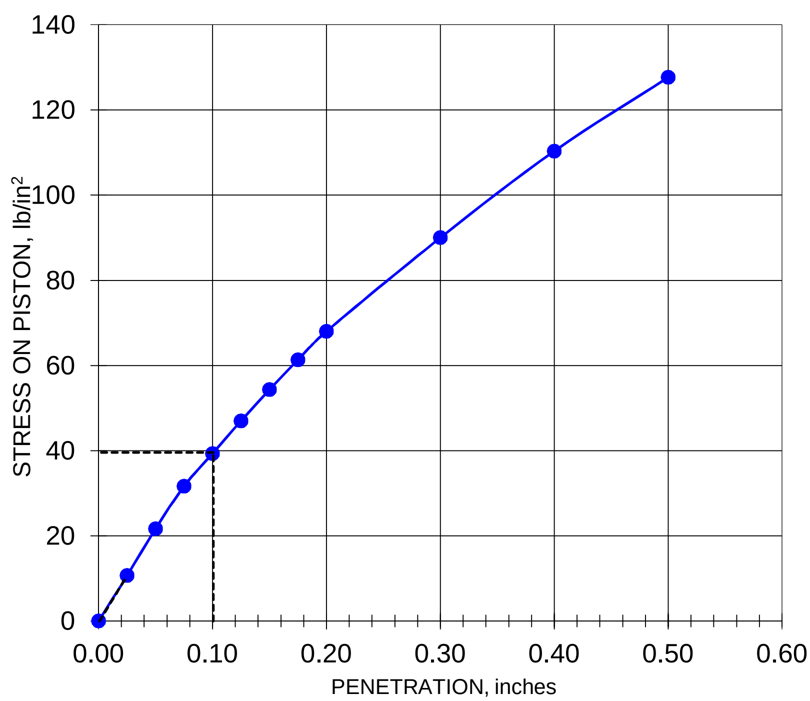
Liquid Limit: **28**
Plasticity Index: **11**

Maximum Dry Density, lb/ft^3: **112.9** Test Method: **ASTM D 698**
Optimum Moisture, %: **14.2** (ZERO AIR VOIDS FOR SPECIFIC GRAVITY OF 2.6)



CALIFORNIA BEARING RATIO

Dry Density,	
Before Soaking, lb/ft^3:	**112.2**
After Soaking, lb/ft^3:	**111.0**
Relative Compaction, %:	**99**
Moisture Content,	
Before Compaction, %:	**14.7**
Top 1-inch After Soaking, %:	**17.5**
Average After Soaking, %:	**16.4**
Surcharge Weight, lb:	**10**
Soaking Period, hr:	**96**
Swell, %:	**0.8**
CBR Value, %:	**4.0**



SAMPLE - IDENTIFICATION
TP-10 @ 3

CLASSIFICATION
Lean Clay with Sand (CL)

Terracon

GRADATION, MOISTURE-DENSITY AND CALIFORNIA BEARING RATIO TEST RESULTS

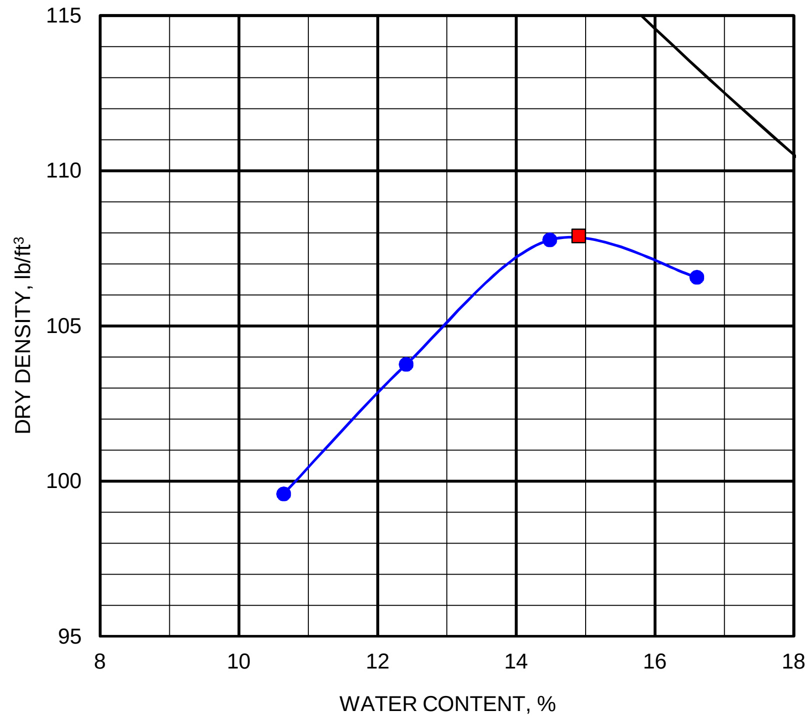
Project Name: **JSI - Dolores Canyon Solar Project**
Location: **Cahone, CO**
Project No.: **61195223**
Date: **6/20/20**

GRADATION RESULTS

SIEVE SIZE	PERCENT PASSING
1/2"	100
3/8"	99
No. 4	99
No. 8	98
No. 10	97
No. 20	95
No. 40	92
No. 80	83
No. 100	81
No. 200	67

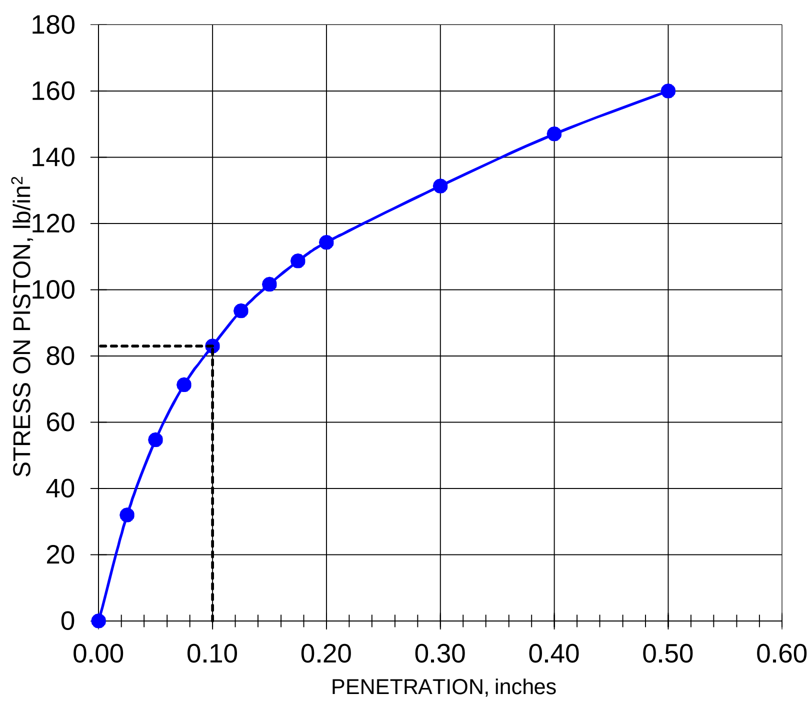
Liquid Limit: **35**
Plasticity Index: **17**

Maximum Dry Density, lb/ft^3: **107.9** Test Method: **ASTM D 698**
Optimum Moisture, %: **14.9** (ZERO AIR VOIDS FOR SPECIFIC GRAVITY OF 2.6)



CALIFORNIA BEARING RATIO

Dry Density,	
Before Soaking, lb/ft^3:	106.6
After Soaking, lb/ft^3:	106.2
Relative Compaction, %:	99
Moisture Content,	
Before Compaction, %:	14.1
Top 1-inch After Soaking, %:	17.9
Average After Soaking, %:	18.2
Surcharge Weight, lb:	10
Soaking Period, hr:	96
Swell, %:	1.2
CBR Value, %:	8.3



SAMPLE - IDENTIFICATION
TP-22 @ 3

CLASSIFICATION
Sandy Lean Clay (CL)

Terracon GeoReport

GRADATION, MOISTURE-DENSITY AND CALIFORNIA BEARING RATIO TEST RESULTS

Project Name: **JSI - Dolores Canyon Solar Project**
Location: **Cahone, CO**
Project No.: **61195223**
Date: **6/20/20**

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	Dry Density (pcf)	Water Content (%)	Surcharge (psf)	Expansion (%)	Expansion Index EI_{50}	pH	Resistivity (ohm-cm)	Sulfates (ppm)	
BH-1	0	CL		11													2
BH-1	5	CH		18	84	51	23	28									
BH-1	12.5			14													2
BH-2	2.5	CL		12	85	25	16	9									
BH-2	7.5			16													2
BH-3	0	CL		14													2
BH-3	5	CL		14	84	36	16	20									
BH-3	15			16													2
BH-4	2.5	CL		11	81	32	15	17									
BH-4	7.5			22													2
BH-5	0	CL		12	86	25	16	9									
BH-5	5			14													2
BH-5	10			17													2
BH-6	0	CL		12													2
BH-6	5	CL	110	16	82	32	18	14									1
BH-6	10			20													2
BH-7	2.5	CL		12													2
BH-8	2.5	CL	107	17	88	31	16	15									1
BH-8	12.5	CL	106	17	88	37	16	21									1
BH-9	2.5			16													2
BH-10	0	CL		14													2
BH-10	5	CL		24	85	48	19	29									
BH-10	10			15													2
BH-11	2.5	CL		16	85	33	16	17									
BH-11	7.5			28													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: JSI - Dolores Canyon Solar Project

SITE: County Road M.4
Cahone, CO

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT

PH. 801-545-8500 FAX. 801-545-8600

PROJECT NUMBER: 61195223

CLIENT: JSI Construction Group LLC
Boulder, CO

EXHIBIT: B-1

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	Dry Density (pcf)	Water Content (%)	Surcharge (psf)	Expansion (%)	Expansion Index EI_{50}	pH	Resistivity (ohm-cm)	Sulfates (ppm)	
BH-11	12.5			13													2
BH-12	0	CL		16													2
BH-12	5	CL		12	77	31	17	14									
BH-12	10			12													2
BH-13	2.5	CL		10	85	26	16	10									
BH-14	0	CL		15													2
BH-14	2.5			14													2
BH-14	5			17													2
BH-15	2.5	CL		13	85	30	16	14									
BH-15	7.5			16													2
BH-16	0	CL		16	85	29	16	13									
BH-16	5			32													2
BH-17	2.5			17													2
BH-17	7.5	CL		19	87	38	15	23									
BH-18	0	CL		18													2
BH-18	5	CL	108	21	78	36	15	21									1
BH-19	0	CL		13	87	30	16	14									
BH-19	5			14													2
BH-20	2.5	CL		11	85	24	16	8									
BH-20	10			11													2
BH-21	5	CL		18	82	27	16	11									
BH-21	7.5	CL		16	87	30	16	14									
BH-22	0	CL		13	89	30	16	14									
BH-22	5			16													2
BH-23	5	CL-ML		9	82	24	18	6									

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: JSI - Dolores Canyon Solar Project

SITE: County Road M.4
Cahone, CO

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT
PH. 801-545-8500 FAX. 801-545-8600

PROJECT NUMBER: 61195223

CLIENT: JSI Construction Group LLC
Boulder, CO

EXHIBIT: B-2

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			Dry Density (pcf)	Water Content (%)	Surcharge (psf)	Expansion (%)	Expansion Index EI_{50}	pH	Resistivity (ohm-cm)	Sulfates (ppm)	
						LL	PL	PI									
BH-23	10			20													2
BH-24	2.5	CL	93	9	83	30	16	14									1
BH-24	10	CL		10	89	38	15	23									
BH-25	2.5	CL		22	58	35	24	11									
BH-25	7.5			7													2
BH-26	2.5	CL		11	79	26	15	11									
BH-26	7.5			14													2
BH-27	0	ML		15													2
BH-28	0	CL		16													2
BH-28	5	CL		16	86	32	15	17									
BH-28	10			12													2
BH-29	0	CL		7													2
BH-29	5			15													2
BH-30	0	CL		12	86	30	14	16									
BH-30	7.5	CL		18	88	35	15	20									
BH-31	2.5	CL	84	9	84	27	16	11									1
BH-31	7.5			10													2
BH-32	0	CL		15													2
BH-32	7.5			15													2
BH-33	0	CL		12													2
BH-33	5	CL		9	67	33	16	17									
BH-34	2.5	CL		8	83	27	15	12									
BH-34	5			14													2
BH-35	0	CL		12													2
BH-35	5			17													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: JSI - Dolores Canyon Solar Project

SITE: County Road M.4
Cahone, CO

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT
PH. 801-545-8500 FAX. 801-545-8600

PROJECT NUMBER: 61195223

CLIENT: JSI Construction Group LLC
Boulder, CO

EXHIBIT: B-3

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	Dry Density (pcf)	Water Content (%)	Surcharge (psf)	Expansion (%)	Expansion Index EI_{50}	pH	Resistivity (ohm-cm)	Sulfates (ppm)	
BH-36	0	CL		11	87	30	15	15									
BH-36	7.5			15													2
BH-37	0	CL		12													2
BH-37	7	SC-SM		14	42	25	20	5									
BH-38	0	CL		14													2
BH-38	5			12													2
BH-39	0	CL		8													2
BH-39	5	CL		13	85	35	15	20									
BH-40	2.5			25													2
BH-41	0	CL		17													2
BH-41	5	CL		14	84	31	15	16									
BH-42	0	CL		11	83	30	15	15									
BH-42	5	CL		16	83	36	16	20									
BH-43	0	CL		9													2
BH-44	0	CL		11													2
BH-44	5	CL		14													2
BH-45	0	CL		12													2
BH-45	5	CL		13	68	33	16	17									
B-1-1	10			17													2
B-1-1	20			15													2
B-1-2	5	CL		10	87	31	15	16									
B-1-2	10			15													2
B-1-3	2.5	CL		13	82	33	16	17									
B-1-3	7.5			16													2
B-2-1	7.5			17													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: JSI - Dolores Canyon Solar Project

SITE: County Road M.4
Cahone, CO

Terracon
6949 S High Tech Dr Ste 100
Midvale, UT
PH. 801-545-8500 FAX. 801-545-8600

PROJECT NUMBER: 61195223

CLIENT: JSI Construction Group LLC
Boulder, CO

EXHIBIT: B-4

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	Dry Density (pcf)	Water Content (%)	Surcharge (psf)	Expansion (%)	Expansion Index EI_{50}	pH	Resistivity (ohm-cm)	Sulfates (ppm)	
B-2-4	2.5	CL		14	88	24	16	8									
B-2-4	7.5			16													2
B-2-4	15			15													2
B-3-1	12.5			11													2
B-3-2	2.5	CL		9	85	26	15	11									
B-3-3	5	CL		18	74	48	27	21									
B-3-3	15			9													2
B-4-1	10	CL		26													2
B-4-3	2.5	CL		14	87	41	19	22									
B-4-4	5	CL		11	82	34	17	17									
B-5-1	2.5	CL		11	86	29	17	12									
B-5-1	7.5	CL		18	89	36	17	19									
B-5-2	5	CL		13	81	29	15	14									
B-6-1	7.5	SM		9	40	21	18	3									
B-6-2	5	CL		13	79	41	18	23									
B-6-2	12.5			16													2
B-6-3	5	CL		16	84	32	15	17									
B-6-4	5	CL		13	80	27	15	12									
TP-01	3	CL		15	87	30	14	16									
TP-02	3	CL		14	83	31	14	17									
TP-04	3	CL		16	80	26	14	12									
TP-07	3	CL		16	85	30	14	16									
TP-08	3	CL		14	87	29	14	15									
TP-10	3	CL		9	83	28	17	11									
TP-12	3	CL		13	82	33	17	16									

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: JSI - Dolores Canyon Solar Project

SITE: County Road M.4
Cahone, CO

Terracon

6949 S High Tech Dr Ste 100
Midvale, UT

PH. 801-545-8500 FAX. 801-545-8600

PROJECT NUMBER: 61195223

CLIENT: JSI Construction Group LLC
Boulder, CO

EXHIBIT: B-5

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	Dry Density (pcf)	Water Content (%)	Surcharge (psf)	Expansion (%)	Expansion Index EI_{50}	pH	Resistivity (ohm-cm)	Sulfates (ppm)	
TP-15	3	CL		10	83	29	17	12									
TP-18	3	CL		12	83	28	17	11									
TP-20	3	CL		13	82	35	18	17									
TP-22	1.5	CL		10	67	35	18	17									
TP-24	3	CL		7	79	27	18	9									
TP 1-1	3	ML			77	NP	NP	NP									
TP 1-2	3	CL			81	29	19	10									
TP 2-1	3	CL-ML			81	26	19	7									
TP 2-2	3	CL			87	27	17	10									
TP 2-3	3	CL			82	26	18	8									
TP 3-1	3	CL			84	30	19	11									
TP 3-2	3	CL			78	36	19	17									
TP 4-1	3	CL			76	31	18	13									
TP 4-2	3	CL			75	34	20	14									

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: JSI - Dolores Canyon Solar Project

SITE: County Road M.4
Cahone, CO

Terracon

6949 S High Tech Dr Ste 100
Midvale, UT

PH. 801-545-8500 FAX. 801-545-8600

PROJECT NUMBER: 61195223

CLIENT: JSI Construction Group LLC
Boulder, CO

EXHIBIT: B-6