Appendix F:
Geology and Soils Supporting Information

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F.1 - Geotechnical Engineering Report

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Geotechnical Engineering Report

Tracy Ridge Warehouses
Tracy, California
January 30, 2019
Terracon Project No. NA185148

Prepared for:
Ridge Capital, Inc.
Sacramento, California

Prepared by:
Terracon Consultants, Inc.
Lodi, California

January 30, 2019

Ridge Capital, Inc.
12345 Street Name
Sacramento, California 95814

Attn: Pat Hastie, Construction Manager
P: (916) 417-1878
E: Patrick.hastie@ridgecapitalinc.com

Re: Geotechnical Engineering Report
Tracy Ridge Warehouses
6599 W. Grant Line Road
Tracy, California
Terracon Project No. NA185148

Dear Mr. Hastie:

We have completed the Geotechnical Engineering services for the above referenced project. This study was performed in general accordance with Terracon Proposal No. PNA185148 dated September 20, 2018. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations and floor slabs 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.

Patrick C. Dell, Senior Associate
Geotechnical Engineer 2186
Geotechnical Department Manager

Garret S.H. Hubbart, Principal
Geotechnical Engineer 2588
Office Manager

Reviewed by:

Ryan Feist

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

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES
SITE LOCATION AND EXPLORATION PLANS
EXPLORATION RESULTS
SUPPORTING INFORMATION

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

REPORT SUMMARY

Topic [1]	Overview Statement [2]
Project Description	Four warehouses: 660,920 square feet (sf); 628,140 sf; 155,040 sf; 130,080 sf Max. Column loads (assumed): 150 to 250 kips Max. Wall loads (assumed): 3 to 4 kips per lineal foot Up to 4 feet of fill to achieve final grade Little excavation other than foundation construction Expected traffic for pavement areas: ■ 100 autos/light trucks per day ■ Up to 150 tractor trailer trucks per day
Geotechnical Characterization	Lean clays range in depth from about 3½ feet to about 20 plus feet below the ground surface. Below the surface clays were interbedded layers of silts, sands, and clays. Groundwater encountered at depths ranging between 13½ and 16 feet below the ground surface.
Earthwork	Existing lean clays can be used for engineered fill below the upper 18 inches of building pad subgrade unless chemically treated. Clays are sensitive to moisture variation. Chemical treatment of subgrade soils may be performed in building pad and pavement areas.
Shallow Foundations	Shallow foundations will be sufficient. Shallow foundations should bear on chemically treated engineered fill, a sand/cement slurry, or engineered fill. Allowable bearing pressure = 2,500 psf for foundations bearing on chemically treated subgrade or sand/cement slurry Allowable bearing pressure = 1,250 psf for foundations bearing on engineered fill Expected settlements: 1 -inch total, <½ inch differential
Deep Foundations	Deep foundations are not necessary for this site.
Retaining Walls	None anticipated
Pavements	With subgrade prepared as noted in **Earthwork**. Concrete: ■ 5 inches Portland Cement Concrete (PCC) over 4.0 inches of aggregate base in Light Duty areas ■ 6.5 inches PCC over 6.0 inches of aggregate base in Main Truck Traffic areas Asphalt: ■ 3.0 inches Asphaltic Concrete (AC) over 10.0 inches aggregate base over native compacted subgrade in Light Duty areas ■ 6.0 inches AC over 22.0 inches aggregate base over native compacted subgrade in Main Truck Traffic areas ■ 3.0 inches Asphaltic Concrete (AC) over 4.0 inches aggregate base over 12 inches of chemically treated subgrade in Light Duty areas ■ 6.0 inches AC over 8.0 inches aggregate base over 16 inches of chemically treated subgrade in Main Truck Traffic areas
General Comments	This section contains important information about the limitations of this geotechnical engineering report.

1. If the reader is reviewing this report as a pdf, the topics above can be used to access the appropriate section of the report by simply clicking on the topic itself.
2. This summary is for convenience only. It should be used in conjunction with the entire report for design purposes.

Geotechnical Engineering Report

Tracy Ridge Warehouses
6599 W. Grant Line Road
Tracy, California

Terracon Project No. NA185148
January 30, 2019

INTRODUCTION

This report presents the results of our subsurface exploration and geotechnical engineering services performed for the proposed Tracy Ridge Warehouses project to be located at 6599 W. Grant Line Road in Tracy, California. The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Groundwater conditions
- Site preparation and earthwork
- Excavation considerations
- Seismic site classification per 2016 CBC
- Foundation design and construction
- Floor slab design and construction
- Lateral earth pressures
- Pavement design and construction
- Stormwater pond considerations

The geotechnical engineering Scope of Services for this project included the advancement of forty-one (41) test borings to depths ranging from approximately 6½ to 51½ feet below existing site grades (bgs). In addition, thirteen (13) cone penetrometer tests (CPTs) were advanced to depth ranging from approximately 20½ to 50½ feet bgs.

Maps showing the site and boring and CPT locations are shown in the **Site Location** and **Exploration Plan** sections, respectively. The results of the laboratory testing performed on soil samples obtained from the site during the field exploration are included on the boring logs and/or as separate graphs in the **Exploration Results** section.

SITE CONDITIONS

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

Item	Description
Parcel Information	The project is located at 6599 W. Grant Line Road in Tracy, California. The property encompasses approximately 123 acres. The approximate coordinates of the site are 37.7586˚N and 121.3872˚W. See **Site Location**
Existing Improvements	The majority of the site is currently an agricultural field with residential and farm related structures near the southwest corner of the property. An irrigation canal is present along the northern and eastern sides of the site. Evidence of underground irrigation pipes is also present over the site.
Current Ground Cover	The majority of the site is agricultural land that was plowed just before our field exploration activities. The area around the structures is covered with gravel.
Existing Topography	The site slopes gently down from the south to the north with about 7 feet of vertical drop over 2700 feet.
Geology	The surficial soil deposits consist of Holocene-age alluvial fan deposits (Qf).

PROJECT DESCRIPTION

Our initial understanding of the project was provided in our proposal and was discussed during project planning. A period of collaboration has transpired since the project was initiated, and our final understanding of the project conditions is as follows:

Item	Description
Information Provided	We were provided a conceptual site plan prepared by others for another warehouse development project on this site. Following our field explorations, we were provided an updated site plan with the proposed warehouse locations on January 9, 2019. Originally, three warehouses were planned. The updated site plan indicates a total of four warehouses will be constructed. The warehouse located at the north end of the site will be 660,920 sf; the warehouse in the middle of the site will be 628,140 sf; the warehouse in the southwest corner of the site will be 155, 040 sf; and the warehouse in the southeast corner will be 130,080 sf.
Project Description	The project will consist of constructing four warehouses, surrounded by pavement. A storm water basin will be constructed on the property to the north.
Proposed Structures	The project includes construction of four warehouses.
Building Construction	The proposed warehouses will be concrete tilt-up with concrete slab-on-grade floors. We understand each of the warehouses will be constructed on a dock-high fill pad.

Item	Description
Finished Floor Elevations	Unknown.
Maximum Loads (assumed)	■ Columns: 150 to 250 kips ■ Walls: 3 to 4 kips per linear foot (klf) Slabs: 150 pounds per square foot (psf)
Grading/Slopes (assumed)	No grading plans were provided for our review. However, we anticipate up to 3 feet of cut and 4 feet of fill will be required to develop final grade.
Below-Grade Structures	None
Free-Standing Retaining Walls	None
Pavements (assumed)	Paved driveway and parking will be constructed on around the warehouses. We assume both rigid (concrete) and flexible (asphalt) pavement sections should be considered. Please confirm this assumption. Anticipated traffic is as follows: ■ Autos/light trucks: 100 vehicles per day ■ Light delivery and trash collection vehicles: 10 vehicles per week ■ Tractor-trailer trucks: 50 to 150 vehicles per warehouse per day The pavement design period is 20 years.
Estimated Start of Construction	Unknown

GEOTECHNICAL CHARACTERIZATION

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 Clay**	Lean and fat clay with varying amounts of sand; stiff to hard; medium to high plasticity
2	**Soft to Stiff Fine-Grained Soil**	Lean clay with varying amounts of sand; sandy silts; soft to stiff
3	**Silty Sand**	Sands-silty and poorly graded sand with varying amounts of silt and gravel; Sandy silts-non-plastic, medium dense

Groundwater was encountered in many of the borings at depths between 12½ and 16 feet below the existing ground surface.

GEOTECHNICAL OVERVIEW

The near surface, stiff to hard medium plasticity lean clay and high plasticity fat clay could become unstable with typical earthwork and construction traffic, especially after precipitation events. The effective site drainage should be completed early in the construction sequence and maintained after construction to avoid potential issues. If possible, the grading should be performed during the warmer and drier times of the year. If grading is performed during the winter months, an increased risk for possible undercutting and replacement of unstable subgrade will persist. Additional site preparation recommendations, including subgrade improvement and fill placement, are provided in the **Earthwork** section.

The soils which form the bearing stratum for shallow foundations are plastic and exhibit potential for shrink-swell movements with changes in moisture. Soft and compressible soils are also present at relatively shallow depths throughout this site. The **Shallow Foundations** section addresses support of the building bearing on chemically treated native clay soils, a sand/cement slurry, or engineered fill. The **Floor Slabs** section addresses slab-on-grade support of the buildings.

Both rigid and flexible pavement systems may be used for this site. The **Pavements** section addresses the design of pavement systems.

Expansive soils are present on this site. This report provides recommendations to help mitigate the effects of soil shrinkage and expansion. However, even if these procedures are followed, some movement and (at least minor) cracking in the structure should be anticipated. The severity of cracking and other damage such as uneven floor slabs will probably increase if modification of the site results in excessive wetting or drying of the expansive soils. Eliminating the risk of movement and distress may not be feasible, but it may be possible to further reduce the risk of movement if significantly more expensive measures are used during construction. Some of these options are discussed in this report.

Given the compressible soil encountered at the site and since column and wall loads are unknown at this time, we are presenting three ground modification options for support of the conventional shallow foundations.

Option 1 would provide for a higher allowable bearing pressure. For **Option 1**, the native soils beneath foundation bearing elevations will need to be improved by chemically treating them to a depth of 3 feet with either lime or cement.

Option 2 would provide for a higher allowable bearing pressure. For **Option 2**, the native soils beneath foundation bearing elevations will need to be over excavated a minimum of 3 feet and replaced with a sand/cement slurry.

Option 3 would provide a lower allowable bearing pressure. For **Option 3**, the native soils will need to be over excavated and replaced with a minimum of 3 feet of compacted engineered fill.

Either of Options 1 or 2 would spread out the loads from foundations and reduce the influence of the construction loads on the soft soil layers, thus reducing the potential for unacceptable settlements. The chemically treated soil or sand/cement slurry would extend a specified distance laterally past the edges of the structural foundations. Option 3 has the most risk for post construction settlement.

The building floor slabs may be supported on one of the following options:

Option A: Conventional shallow foundation system with a concrete slab-on-grade floor supported on a minimum of 18 inches of non-expansive engineered fill (**CSFS with EF**).

Option B: Conventional shallow foundation system with a concrete slab-on-grade floor supported on a minimum of 18 inches of lime treated subgrade (**CSFS with LTS**).

Options A and B provide methods in dealing with the expansive soils. **Option A (CSFS with EF)** would provide stable foundations but would have the potential of some movement due to some moisture variation in the subgrade. **Option B (CSFS with LTS)** would prove stable foundations and would have the least potential of some movement due to some moisture variation in the subgrade. We would be please to discuss other construction alternatives with you upon request.

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

EARTHWORK

Earthwork is anticipated to include clearing and grubbing, excavations, and fill placement. The following sections provide recommendations for use in the preparation of specifications for the work. Recommendations include critical quality criteria, as necessary, to render the site in the state considered in our geotechnical engineering evaluation for foundations, floor slabs, and pavements.

Site Preparation

Prior to placing fill, all existing concrete slabs, foundations, pavements, irrigation pipes, debris, deleterious materials, existing vegetation and root mat should be completely removed and properly disposed of off-site, as necessary. Complete stripping of the topsoil should be performed in the proposed building and parking/driveway areas.

The subgrade should be proofrolled with an adequately loaded vehicle such as a fully-loaded tandem-axle dump truck. The proofrolling should be performed under the direction of the Geotechnical Engineer. Areas excessively deflecting under the proofroll should be delineated and subsequently addressed by the Geotechnical Engineer. Such areas should either be removed or modified by stabilizing with lime or cement or geogrids with aggregate base. Excessively wet or dry material should either be removed, or moisture conditioned and recompacted.

Fill Material Types

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

Imported earth materials for use as engineered fill should be pre-approved by our representative prior to construction. For **Option A: (CSFS with EF)**, native soils may not be used within the surface 18 inches of the building pad and will require imported non-expansive engineered fill. Only **Option B: (CSFS with LTS)**, utilizing lime treated subgrade with a conventional foundation system, will be allowed to bear directly on the compacted lime treated clay soils. Imported non-expansive soils may be used as fill material for the following:

- general site grading
- foundation areas
- slab-on-grade floor
- pavement subgrade
- foundation backfill
- trench backfill
- exterior slabs-on-grade

Soils for use as compacted engineered fill material within the proposed building pad area should conform to non-expansive materials as indicated in the following recommendations:

Gradation	**Percent Finer by Weight (ASTM C 136)**
3”	100
No. 4 Sieve	50 - 100
No. 200 Sieve	15 - 50

- Liquid Limit — 30 (max)
- Plasticity Index — 10 (max)
- Maximum Expansive Index* — 20 (max)

*ASTM D 4829

The on-site clayey soils will not meet the specifications above. Engineered fill should be placed and compacted in horizontal lifts, using equipment and procedures that will produce

recommended moisture contents and densities throughout the lift. Fill lifts should not exceed ten inches in loose thickness.

Fill Compaction Requirements

Recommended compaction and moisture content criteria for engineered fill materials are as follows:

Material Type and Location	Per the Modified Proctor Test (ASTM D 1557)		
	Minimum Compaction Requirement (%)	Range of Moisture Contents for Compaction Above Optimum	
		Minimum	Maximum
On-site clayey soils (chemically treated or untreated)	90	+2%	+4%
Low volume change (non-expansive) imported fill:			
Beneath foundations:	90	0%	+3%
Beneath slabs	90	0%	+3%
Miscellaneous backfill:	90	0%	+3%
Beneath pavement:	95	0%	+3%
Utility Trenches*:	90	0%	+4%
Bottom of native soil excavation receiving fill:	90	+2%	+4%

*The upper 12 inches beneath pavement should be compacted to 95% of the maximum dry density as determined in the ASTM D1557 test method.

We recommend that compacted native soil or any engineered fill be tested for moisture content and relative compaction during placement. Should the results of the in-place density tests indicate the specified moisture content or compaction requirements have not been met, the area represented by the test should be reworked and retested as required until the specified moisture content and relative compaction requirements are achieved.

Once rough grading is performed, **Option B: (CSFS with LTS)** involves treating the building pad subgrade soils with a certain percentage of high calcium quicklime, usually 4.5 to 6 percent based on the dry unit weight of the soil, for a depth of 18 inches. Based on our experience with similar type projects in the general area, for estimating purposes we recommend using 5 percent lime and a soil unit weight of 110 pounds per cubic foot. For an 18-inch treatment depth, this results in a spread rate of 8.3 pounds per square foot. Additional lime may be needed in areas where water has been allowed to pond or from recent rains. The actual amount of lime to be used should be determined by our office through a mix design by laboratory testing **at least three weeks prior** to the start of grading operations. The mix design can also be performed at any time prior to the

3 weeks before the beginning of grading operations. The lime or cement treated soil should produce a minimum unconfined compressive strength of 350 pounds per square inch (psi). The lime treatment should be performed in accordance with the guidelines in Section 24 of the Caltrans Standard Specifications, latest edition.

Lime/Cement Treatment

As indicated, we have provided an option of performing ground improvement under the foundations for an increased allowable bearing capacity. Lime/cement treatment of the engineered fill should be performed after the required cuts are made for the foundation excavations and the required depth of engineered fill has been placed and compacted. The lime treatment should be performed in accordance with the guidelines in Section 24 of the Caltrans Standard Specifications, latest edition. The cement treatment should be performed in accordance with the recommendations provided in the **Supporting Information** section. The lime/cement treatment should be limited to the column and wall lines.

This procedure involves treating the clay under the foundations with a certain percentage of lime or cement, usually 4 to 6 percent based on the dry unit weight of the soil, for a depth of 36 inches. The maximum effective depth of lime/cement treatment is about 18 inches, so the lime/cement treatment will need to be performed in two 18-inch thick lifts. This can be accomplished in several ways, either treating the soil in place or using a mixing table. For estimating purposes, we recommend using 5.5 percent lime or cement and a soil unit weight of 110 pounds per cubic foot. For an 18-inch treatment depth, this results in an estimated minimum spread rate of 9.1 pounds per square foot. The actual amount of lime or cement to be used should be determined by our office through a mix design by laboratory testing **at least three weeks prior** to the start of grading operations. The mix design can also be performed at any time prior to the 3 weeks before the beginning of grading operations. The lime or cement treated soil should produce a minimum unconfined compressive strength of 350 pounds per square inch (psi).

Sand/Cement Slurry Ground Improvement

As indicated, we have also provided an option of performing ground improvement under the foundations for an increased allowable bearing capacity by using a sand/cement slurry beneath the foundations. The sand/cement slurry should be placed after the required cuts are made for the foundation excavations. After the cuts are made to the bottom of the foundations, the native clay soils should be over excavated 3 feet to allow for placement of the sand/cement slurry. The placement of the sand/cement slurry should be limited to the column and wall lines. The sand/cement slurry should have a minimum compressive strength of 350 psi.

Utility Trench Backfill

For low permeability subgrades, utility trenches are a common source of water infiltration and migration. Utility trenches penetrating beneath the buildings should be effectively sealed to restrict water intrusion and flow through the trenches, which could migrate below the buildings. The trench should provide an effective trench plug that extends at least 5 feet from the face of the building exteriors. 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 structural fill stated previously in this report.

If lime treatment is performed on the building pads or within the pavement subgrade prior to utility construction, lime treated spoils shall not be used for backfill. Within the building pad, the upper 12 inches of utility trench backfill should consist of either 12 inches of compacted class 2 aggregate base or a controlled density low strength material, such as a lean concrete or sand/cement slurry mix. Below that depth, imported low volume change soil or moisture conditioned native clay may be used for backfill. Within the pavement areas, a controlled density low strength material, such as a lean concrete or sand/cement slurry mix of the shall be used for backfill of utility trenches. Aggregate base shall not be used as backfill of trenches in pavement areas with lime treated subgrade.

Grading and Drainage

All grades must provide effective drainage away from the buildings during and after construction and should be maintained throughout the life of the structures. Water retained next to the buildings can result in soil movements greater than those discussed in this report. Greater movements can result in unacceptable differential floor slab and/or foundation movements, cracked slabs and walls, and roof leaks. The roofs should have gutters/drains with downspouts that discharge onto splash blocks at a distance of at least 10 feet from the buildings.

Exposed ground should be sloped and maintained at a minimum 5% away from the buildings for at least 10 feet beyond the perimeter of the buildings. Locally, flatter grades may be necessary to transition ADA access requirements for flatwork. After building construction and landscaping have been completed, final grades should be verified to document effective drainage has been achieved. Grades around the structures should also be periodically inspected and adjusted, as necessary, as part of the structures' maintenance program. Where paving or flatwork abuts the structure, a maintenance program should be established to effectively seal and maintain joints and prevent surface water infiltration.

Planters located within 10 feet of the structures should be self-contained to prevent water from accessing the building and pavement subgrade soils. Locate sprinkler mains and spray heads a minimum of 5 feet away from the building perimeters. Low-volume, drip-style landscape irrigation should be used near the buildings. Collect roof runoff in drains

or gutters. Discharge roof drains and downspouts onto pavements which slope away from the buildings or connect them to tight lines that discharge into storm drains.

Exterior Slab Design and Construction

Exterior slabs-on-grade, exterior architectural features, and utilities founded on, or in backfill may experience some movement due to the volume change of the backfill. To reduce the potential for damage caused by movement, we recommend:

- Minimizing moisture increases in the backfill
- Controlling moisture density during placement of backfill
- Using designs which allow vertical movement between the exterior features and adjoining structural elements
- Placing effective control joints on relatively close centers
- Ensure clay subgrade soils are in a moist condition prior to slab construction
- Reinforce slabs with a minimum No. 4 bars at 12 inches on center

Earthwork Construction Considerations

Shallow excavations for the proposed structures are anticipated to be accomplished with conventional construction equipment. Upon completion of filling and grading, care should be taken to maintain the subgrade water content prior to construction of floor slabs. Based upon the subsurface conditions determined from the geotechnical explorations, subgrade soils consist of lean and fat clays and are anticipated to be relatively workable with the understanding that moisture conditioning may require more processing than non-expansive soils. However, the workability of the subgrade may be affected by precipitation, repetitive construction traffic or other factors.

Construction traffic over the completed subgrades should be avoided. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. Water collecting over or adjacent to construction areas should be removed. If the subgrade desiccates, saturates, or is disturbed, the affected material should be removed, or the materials should be scarified, moisture conditioned, and recompacted prior to floor slab construction.

We recommend that the earthwork portion of this project be completed during extended periods of dry weather if possible. If earthwork is completed during the wet season (typically November through April) it may be necessary to take extra precautionary measures to protect subgrade soils. Wet season earthwork operations may require additional mitigation measures beyond that which would be expected during the drier summer and fall months. This could include ground stabilization utilizing lime or cement treatment of the subgrade, diversion of surface runoff around exposed soils, and draining of ponded water on the site. Once subgrades are established, it may be necessary to protect the exposed subgrade soils from construction traffic.

Flatwork and pavements will be subject to post construction movement due to the expansive clay soils. Maximum grades practical should be used for paving and flatwork to prevent water from ponding. Allowances in final grades should also consider post-construction movement of flatwork, particularly if such movement would be critical.

As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendices, and in accordance with any applicable local, and/or state regulations.

Construction site safety is the sole responsibility of the contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety, or the contractor's activities; such responsibility shall neither be implied nor inferred.

Construction Observation and Testing

The earthwork efforts should be monitored under the direction of the Geotechnical Engineer. Monitoring should include documentation of adequate removal of vegetation and topsoil, proofrolling, and mitigation of areas delineated by the proofroll to require mitigation.

Each lift of compacted fill should be tested, evaluated, and reworked, as necessary, until approved by the Geotechnical Engineer prior to placement of additional lifts. Each lift of fill should be tested for density and water content at a frequency of at least one test for every 5,000 square feet of compacted fill in the building areas and 10,000 square feet in pavement areas. One density and water content test should be performed for each 12-inch thick lift for every 50 linear feet of compacted utility trench backfill.

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

In addition to the documentation of the essential parameters necessary for construction, the continuation of the Geotechnical Engineer into the construction phase of the project provides the continuity to maintain the Geotechnical Engineer's evaluation of subsurface conditions, including assessing variations and associated design changes. During lime treatment operations, full-time observations and testing shall be performed, along with daily sampling and laboratory tests consisting of at least one set of 3 unconfined compression tests of the treated soil to confirm conformance with the project design parameters.

SHALLOW FOUNDATIONS

As discussed in the **Geotechnical Characterization** section, we encountered relatively layers of soft, compressible soil between the depths of 10 and 20 feet over the entire site. Foundations supported directly on native soils would impose significant loads on this layer that could result in settlement greater than 1 inch, which would cause distress to the structures.

Given the compressible soil encountered at the site and column and wall loads are unknown at this time, we are presenting three ground modification options for supporting the structures on shallow conventional foundations. Once the structural loads are determined, Terracon should be consulted to determine if any of our recommendations need to be revised.

Option 1 would provide for a higher allowable bearing pressure. For **Option 1**, the native soils beneath foundations will need to be improved by chemically treating them to a depth of 3 feet with either lime or cement. The chemically treated subgrade should have a minimum unconfined compressive strength of 350 psi.

Option 2 would provide for a higher allowable bearing pressure. For **Option 2**, the native soils beneath foundations will need to be over excavated a minimum of 3 feet and replaced with a sand/cement slurry. The sand/cement slurry should have a minimum compressive strength of 350 psi.

Option 3 would provide a lower allowable bearing pressure. For **Option 3**, the native soils will need to be over excavated and replaced with a minimum of 3 feet of compacted engineered fill.

Either of Options 1 or 2 would spread out the loads from foundations and reduce the influence of the construction loads on the soft soil layers, thus reducing the potential for unacceptable settlements. The chemically treated soil or sand/cement slurry would extend a specified distance laterally past the edges of the structural foundations, see **Foundation Construction Considerations** below for more details.

If the site has been prepared in accordance with the requirements noted in **Earthwork**, the following design parameters are applicable for shallow foundations.

Design Parameters

Item	Description
Maximum Net Allowable Bearing pressure [1, 2]	Option 1: 2,500 psf Option 2: 2,500 psf Option 3: 1,250 psf
Required Bearing Stratum [3]	Option 1: 3 feet of chemically treated soil Option 2: 3 feet of sand/cement slurry Option 3: 3 feet of compacted engineered fill

Item	Description
Minimum Foundation Dimensions	Columns: 30 inches Continuous: 18 inches
Maximum Foundation Dimensions	Options 1 and 2: Columns: 10 feet; Continuous: 4 feet Option 3: Columns: 14 feet; Continuous 5 feet
Ultimate Passive Resistance [4] **(equivalent fluid pressures)**	350 pcf
Ultimate Coefficient of Sliding Friction [5]	0.32
Minimum Embedment below Finished Grade [6]	24 inches
Estimated Total Settlement from Structural Loads [2]	about 1 inch or less
Estimated Differential Settlement [2, 7]	About ½ of total settlement

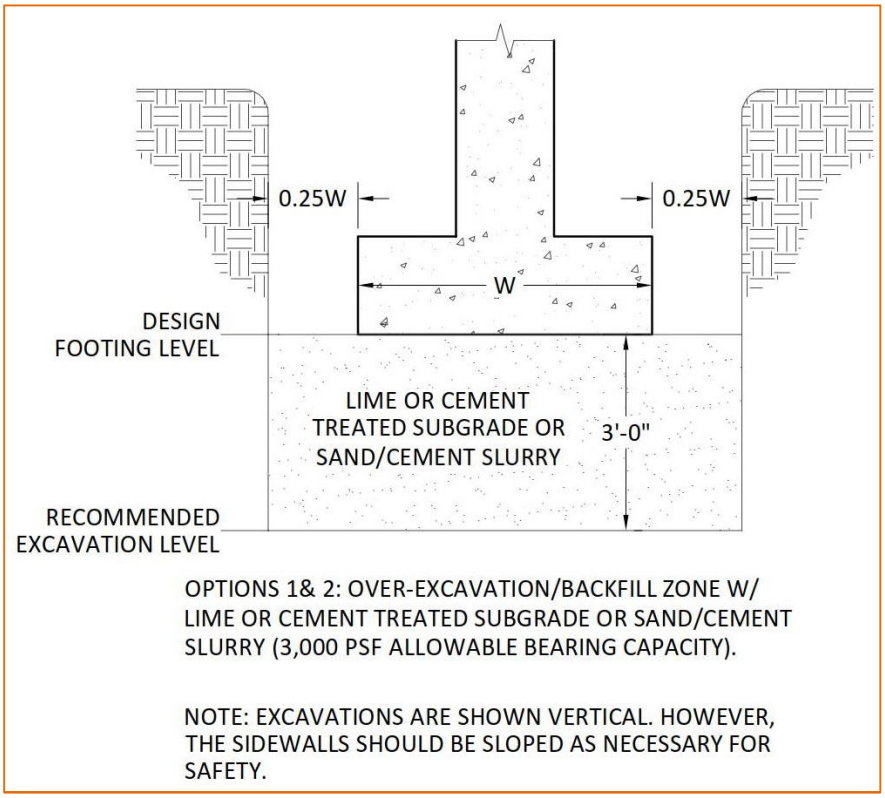
1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. An appropriate factor of safety has been applied. These bearing pressures can be increased by 1/3 for transient loads unless those loads have been factored to account for transient conditions. Values assume that exterior grades are relatively flat around the structure.
2. Values provided are for maximum loads noted in **Project Description**.
3. Unsuitable or soft soils should be over-excavated and replaced per the recommendations presented in the **Earthwork**.
4. Use of passive earth pressures require the sides of the excavation for the spread footing foundation to be nearly vertical and the concrete placed neat against these vertical faces or that the footing forms be removed and compacted structural fill be placed against the vertical footing face. If passive resistance is used to resist lateral loads, the base friction should be reduced by 25 percent.
5. Can be used to compute sliding resistance where foundations are placed on suitable soil/materials. Should be neglected for foundations subject to net uplift conditions.
6. Embedment necessary to minimize the effects of seasonal water content variations. Finished grade is defined as the lowest adjacent grade within five feet of the foundation for perimeter (exterior) footings.
7. Differential settlements are as measured over a span of 40 feet.

Foundation Construction Considerations

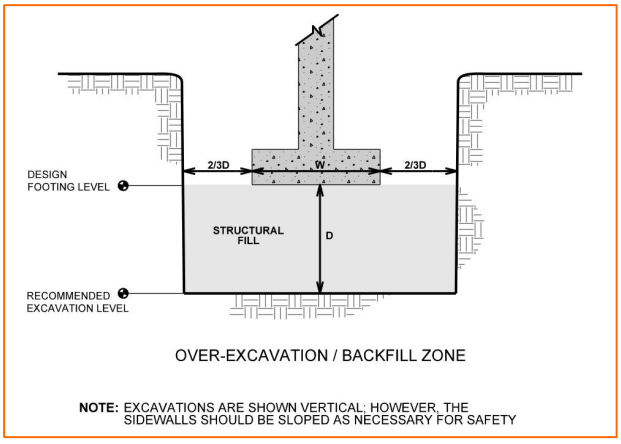
As noted in **Earthwork**, the footing excavations should be evaluated under the direction of the Geotechnical Engineer. The base of all foundation excavations should be free of water and loose soil, prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance.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

As discussed above, two of the options for support of the foundations involve supporting the foundations on lime/cement treated subgrade or a sand/cement slurry. These options are illustrated on the sketch below.

Options1 and 2:



Over-excavation for structural fill placement below footings should be conducted as shown below. The over-excavation should be backfilled up to the footing base elevation, with engineered fill placed, as recommended in the **Earthwork** section.



To ensure foundations have adequate support, special care should be taken when footings are located adjacent to trenches. The bottom of such footings should be at least 1 foot below an imaginary plane with an inclination of 1.5 horizontal to 1.0 vertical extending upward from the nearest edge of the adjacent trench.

We recommend that the elevation of the bottom of the foundations be verified by a surveyor. The surveyor should also verify the lateral extents of the overexcavation and lime/cement treatment to ensure that the foundation treatment extend the recommended amount past the proposed perimeter of the foundations.

SEISMIC CONSIDERATIONS

The seismic design requirements for the project are based on Seismic Design Category. Site Classification is required to determine the Seismic Design Category for a structure. The Site Classification is based on the upper 100 feet of the site profile defined by a weighted average value of either shear wave velocity, standard penetration resistance, or undrained shear strength in accordance with Section 20.4 of ASCE 7-10.

Description	Value
2016 California Building Code Site Classification (CBC) [1]	D [2]
Site Latitude	37.7576°N
Site Longitude	121.3872°W
S_s Spectral Acceleration for a Short Period	1.346g
S_1 Spectral Acceleration for a 1-Second Period	0.451g
F_a Site Coefficient for a Short Period	1.000
F_v Site Coefficient for a 1-Second Period	1.549
S_{Ms} Maximum Considered Spectral Response Acceleration for a Short Period	1.346g
S_{M1} Maximum Considered Spectral Response Acceleration for a 1-Second Period	0.698g
S_{DS} Design Spectral Acceleration for a Short Period [3]	0.898g
S_{D1} Spectral Acceleration for a 1-Second Period [3]	0.465g
PGA_M Peak Ground Acceleration	0.506g

1. Seismic site classification in general accordance with the *2016 California Building Code*, which refers to ASCE 7-10 with March 2013 errata.
2. The 2016 California Building Code (CBC) uses a site profile extending to a depth of 100 feet for seismic site classification. Borings at this site were extended to a maximum depth of 51½ feet. The site properties below the boring depth to 100 feet were estimated based on our experience and knowledge of geologic conditions of the general area. Additional deeper borings or geophysical testing may be performed to confirm the conditions below the current boring depth.
3. These values were obtained using online seismic design maps and tools provided by the USGS (http://earthquake.usgs.gov/hazards/designmaps/).

LIQUEFACTION

Liquefaction is a mode of ground failure that results from the generation of high pore water pressures during earthquake ground shaking, causing loss of shear strength. Liquefaction is typically a hazard where loose sandy soils or non-plastic fine-grained soils exist below groundwater. The California Geologic Survey (CGS) has designated certain areas within California as potential liquefaction hazard zones. These are areas considered at a risk of liquefaction-related ground failure during a seismic event, based upon mapped surficial deposits and the presence of a relatively shallow water table. The project site is not located within a liquefaction hazard zone mapped by the CGS.

However, due to the shallow depth to groundwater and the soil conditions encountered in our exploratory borings, detailed liquefaction analyses were conducted utilizing the computer program LiquefyPro. We assumed a groundwater depth of 12 feet bgs in our analyses based on historic groundwater elevations. The analysis uses correlations based on CPT measurements recorded at uniform intervals throughout the CPT. The analyses of potential liquefaction were calculated based on the soil conditions encountered in CPTs 1, 7, and 13. An analysis was performed for the north, middle, and southern portions of the site. Based on the analyses, the liquefaction potential is judged to be moderate due to the presence of several layers of relatively loose sandy soils. Total settlement due to liquefaction is expected to be between about ½ to 1 inch across the site based on the soil conditions at the referenced field exploration locations. The northern portion of the site should experience less than ½ inch of liquefaction-induced settlement while the middle and southern portions could experience between ¾ and 1 inch of liquefaction-induced settlement. Estimates of settlement due to liquefaction are generally expected to vary on the order of a factor of 2. Differential settlement across the building pads should be approximately one-half of the total settlement.

FLOOR SLABS

The subgrade soils are comprised of medium plasticity lean clays and high plasticity fat clays exhibiting the potential to swell with increased water content. Increases in water content will cause the clays to swell and damage the floor slabs. To reduce the swell potential, at least the upper 18 inches of subgrade soils below the floor slab (excluding the floor slab support course) should be an approved Low Volume Change (LVC) material consisting of non-expansive engineered fill (**Option A**) or 18 inches of lime or cement treated subgrade (**Option B**).

Due to the potential for significant moisture fluctuations of subgrade material beneath floor slabs supported at-grade, the Geotechnical Engineer should evaluate the material within 18 inches of

the bottom of the LVC zone immediately prior to placement of additional fill or floor slabs. Soils below the specified water contents within this zone should be moisture conditioned or replaced with structural fill as stated in our **Earthwork** section.

Design parameters for floor slabs assume the requirements for **Earthwork** have been followed.

Floor Slab Design Parameters

Item	Description
Floor Slab Support [1]	Minimum 4 inches of free-draining (less than 6% passing the U.S. No. 200 sieve) crushed aggregate beneath floor slabs which will be covered with moisture sensitive floor coverings [2] Minimum 6 inches of compacted class 2 aggregate base beneath the warehouse floor slabs At least 18 inches of non-expansive soils or 18 inches of lime or cement treated soils
Estimated Modulus of Subgrade Reaction [3]	250 pounds per square inch per inch (psi/in) for point loads

1. Floor slabs should be structurally independent of building footings or walls to reduce the possibility of floor slab cracking caused by differential movements between the slab and foundation.
2. Free-draining granular material should have less than 5% fines (material passing the No. 200 sieve). Other design considerations such as cold temperatures and condensation development could warrant more extensive design provisions.
3. Modulus of subgrade reaction is an estimated value based upon our experience with the subgrade condition, the requirements noted in **Earthwork**, and the floor slab support as noted in this table. It is provided for point loads. For large area loads the modulus of subgrade reaction would be lower.

The use of a vapor retarder should be considered beneath concrete slabs-on-grade covered with wood, tile, carpet, or other moisture sensitive or impervious coverings, or when the slab will support equipment sensitive to moisture. When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

Saw-cut control joints should be placed in the slab to help control the location and extent of cracking. For additional recommendations refer to the ACI Design Manual. Joints or cracks should be sealed with a water-proof, non-extruding compressible compound specifically recommended for heavy duty concrete pavement and wet environments.

Where floor slabs are tied to perimeter walls or turn-down slabs to meet structural or other construction objectives, our experience indicates differential movement between the walls and slabs will likely be observed in adjacent slab expansion joints or floor slab cracks beyond the

length of the structural dowels. The Structural Engineer should account for potential differential settlement through use of sufficient control joints, appropriate reinforcing or other means.

Floor Slab Construction Considerations

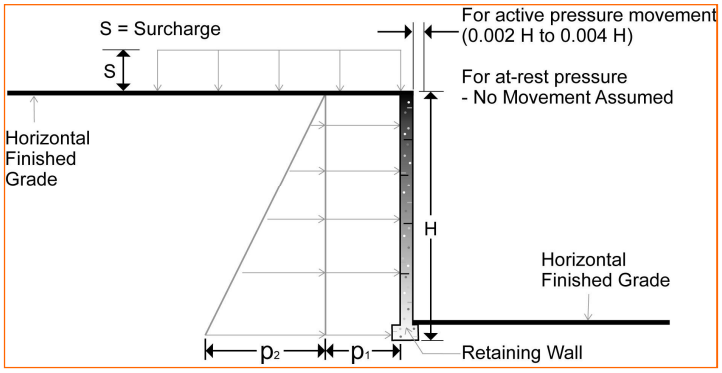
Finished subgrade, within and for at least 10 feet beyond the floor slab, should be protected from traffic, rutting, or other disturbance and maintained in a relatively moist condition until floor slabs are constructed. If the subgrade should become damaged or desiccated prior to construction of floor slabs, the affected material should be removed, and structural fill should be added to replace the resulting excavation. Final conditioning of the finished subgrade should be performed immediately prior to placement of the floor slab support course.

The Geotechnical Engineer should approve the condition of the floor slab subgrades immediately prior to placement of the floor slab support course, reinforcing steel, and concrete. Attention should be paid to high traffic areas that were rutted and disturbed earlier, and to areas where backfilled trenches are located.

LATERAL EARTH PRESSURES

Design Parameters

Structures with unbalanced backfill levels on opposite sides should be designed for earth pressures at least equal to values indicated in the following table. Earth pressures will be influenced by structural design of the walls, conditions of wall restraint, methods of construction and/or compaction and the strength of the materials being restrained. Two wall restraint conditions are shown in the diagram below. Active earth pressure is commonly used for design of free-standing cantilever retaining walls and assumes wall movement. The “at-rest” condition assumes no wall movement and is commonly used for basement walls, loading dock walls, or other walls restrained at the top. The recommended design lateral earth pressures do not include a factor of safety and do not provide for possible hydrostatic pressure on the walls (unless stated).



Lateral Earth Pressure Design Parameters			
Earth Pressure Condition [1]	**Coefficient for Backfill Type** [2]	**Surcharge Pressure** [3, 4, 5] **p_1 (psf)**	**Effective Fluid Pressures (psf)** [2, 4, 5] **Unsaturated** [6]
Active (Ka)	Granular - 0.31	(0.31)S	(40)H
At-Rest (Ko)	Granular - 0.47	0.47)S	(55)H
Passive (Kp)	Granular - 3.25	---	(390)H

1. For active earth pressure, wall must rotate about base, with top lateral movements 0.002 H to 0.004 H, where H is wall height. For passive earth pressure, wall must move horizontally to mobilize resistance.
2. Uniform, horizontal backfill, compacted to at least 90% of the ASTM D 1557 maximum dry density, rendering a maximum unit weight of 120 pcf.
3. Uniform surcharge, where S is surcharge pressure. The project structural engineer should provide any surcharge loading.
4. Loading from heavy compaction equipment is not included.
5. No safety factor is included in these values.
6. To achieve "Unsaturated" conditions, follow guidelines in **Subsurface Drainage for Below-Grade Walls** below.

Backfill placed against structures should consist of granular soils or low plasticity cohesive soils. For the granular values to be valid, the granular backfill must extend out and up from the base of the wall at an angle of at least 45 and 60 degrees from vertical for the active and passive cases, respectively.

PAVEMENTS

General Pavement Comments

Pavement designs are provided for the traffic conditions and pavement life conditions as noted in **Project Description** and in the following sections of this report. A critical aspect of pavement performance is site preparation. Pavement designs noted in this section must be applied to the site which has been prepared as recommended in the **Earthwork** section.

Support characteristics of subgrade for pavement design do not account for shrink/swell movements of an expansive clay subgrade, such as soils encountered on this project. Thus, the pavement may be adequate from a structural standpoint, yet still experience cracking and deformation due to shrink/swell related movement of the subgrade.

Design of Asphaltic Concrete (AC) pavements are based on the procedures in the Caltrans Highway Design Manual, 2012 edition. Design of Portland Cement Concrete (PCC) pavements are based upon American Concrete Institute (ACI) 330R-01; Guide for Design and Construction of Concrete Parking Lots.

Six samples of the near surface soils (two from around each originally proposed building) were obtained and classified at our laboratory by an engineer. The samples were tested to determine their Resistance Value (R-value). The tests produced R-values of 5. Therefore, a design R-value of 5 was used for the AC and PCC pavement designs.

Based on this low R-value, the conventional pavement sections will be relatively thick. The deeper pavement sections will require more off haul of material if the same grades are kept. As an alternative to conventional pavement sections, lime treatment of the subgrade soils may be performed to improve their physical support characteristics and reducing the pavement section. Lime treated pavement subgrades are also more stable during wet weather and long term.

As previously mentioned in the **Earthwork** section, this procedure involves treating the pavement subgrade soils with a certain percentage of high calcium quicklime, usually 5 to 6 percent based on the dry unit weight of the soil, for a depth of 12 inches. For estimating purposes, we recommend using 5.5 percent lime and a soil unit weight of 110 pounds per cubic foot. For 12-inch and 16-inch treatment depths, this results in an estimated minimum spread rate of 6.1 and 8.1 pounds per square foot, respectively. The actual amount of lime to be used should be determined by our office and by laboratory testing **at least three weeks prior** to the start of grading operations. Lime treatment is performed after rough grading of the pavement areas is completed. The lime treatment should be performed in accordance with the guidelines in Section 24 of the Caltrans Standard Specifications, latest edition. Recommendations for both conventional and lime treated pavement sections are presented below.

We have provided pavement sections for traffic indices (TI) of 5.0 through 9.5. A TI of 5.0 is typically used to design main passenger vehicle pavement areas. A TI of 7.0 corresponds to approximately 10 tractor trailers per day; a TI of 9.5 corresponds to approximately 150 tractor trailers per day. The project civil engineer should be allowed to select the most appropriate TI for the anticipated traffic loadings. If additional recommendations are needed due to other TIs, we should be contacted to provide the revised pavement sections.

Pavement Section Thicknesses

The following table provides options for AC and PCC Sections:

Asphaltic Concrete Design (Subgrade R-value = 5)						
Layer	**Thickness (inches)**					
	TI=5.0	**TI= 6.0**	**TI= 7.0**	**TI=8.0**	**TI= 9.0**	**TI= 9.5**
AC [1]	3.0	3.5	4.0	5.0	5.5	6.0
Aggregate Base	10.0	13.0	15.5	18.0	20.5	22.0

Asphaltic Concrete Design (Subgrade R-value = 5)						
Layer	**Thickness (inches)**					
	TI=5.0	**TI= 6.0**	**TI= 7.0**	**TI=8.0**	**TI= 9.0**	**TI= 9.5**

1. All materials should meet the current Caltrans Standard Specifications, latest edition

Portland Cement Concrete Design (Subgrade R-value = 5)			
Layer	**Thickness (inches)**		
	Car Parking and Access Lanes [1]	**Main Truck Parking** [1]	**Dumpster Pads** [1,3]
PCC [2]	5.0	7.5	6.5
Aggregate base [2]	4.0	6.0	6.0

1. Car Parking and Access Lanes: ADTT = 1 truck per day
   Truck Parking: ADTT = 150 trucks per day
   Dumpster Pads: Per Category C
2. All materials should meet the current Caltrans Highway Design Manual specifications.
3. The trash container pad should be large enough to support the container and the tipping axle of the collection truck.

The following tables provides options for AC and PCC pavement sections supported by lime treated soil. Lime treatment is performed after rough grading of the pavement areas is completed.

Asphaltic Concrete Design (Lime Treated Subgrade)						
Layer	**Thickness (inches)**					
	TI=5.0	**TI= 6.0**	**TI= 7.0**	**TI=8.0**	**TI= 9.0**	**TI= 9.5**
AC [1]	3.0	3.5	4.0	5.0	5.5	6.0
Aggregate Base	4.0	4.0	6.0	7.0	6.0	8.0
Chemically Treated Subgrade[1,2]	12.0	12.0	12.0	12.0	16.0	16.0

1. All materials should meet the current Caltrans Highway Design Manual specifications.
2. Chemically treated subgrade shall have a minimum unconfined compressive strength of 300 psi.

Portland Cement Concrete Design (Lime Treated Subgrade)			
Layer	Thickness (inches)		
	Car Parking and Access Lanes [1]	Main Truck Parking [1]	Dumpster Pads [1,3]
PCC [2]	5.0	6.0	6.5
Aggregate base [2]	4.0	4.0	4.0
Chemically Treated Subgrade [4]	12.0	12.0	12.0

1. Car Parking and Access Lanes: ADTT = 1 truck per day
   Truck Parking: ADTT = 150 trucks per day
   Dumpster Pads: Per Category C
2. All materials should meet the current Caltrans Highway Design Manual specifications.
3. The trash container pad should be large enough to support the container and the tipping axle of the collection truck.
4. Chemically treated subgrade shall have a minimum unconfined compressive strength of 300 psi.

The estimated pavement sections provided in this report are minimums for the assumed design criteria, and as such, periodic maintenance should be expected. Areas for parking of heavy vehicles, concentrated turn areas, and start/stop maneuvers could require thicker pavement sections. Edge restraints (i.e. concrete curbs or aggregate shoulders) should be planned along curves and areas of maneuvering vehicles. A maintenance program including surface sealing, joint cleaning and sealing, and timely repair of cracks and deteriorated areas will increase the pavement's service life. As an option, thicker sections could be constructed to decrease future maintenance.

Concrete for rigid pavements should have a minimum 28-day compressive strength of 4,000 psi, a modulus of rupture of 500 psi, and be placed with a maximum slump of 4 inches. Proper joint spacing will also be required to prevent excessive slab curling and shrinkage cracking. Joints should be sealed to prevent entry of foreign material and dowelled where necessary for load transfer.

Where practical, we recommend early-entry cutting of crack-control joints in PCC pavements. Cutting of the concrete in its "green" state typically reduces the potential for micro-cracking of the pavements prior to the crack control joints being formed, compared to cutting the joints after the concrete has fully set. Micro-cracking of pavements may lead to crack formation in locations other than the sawed joints, and/or reduction of fatigue life of the pavement.

Pavement design methods are intended to provide structural sections with adequate thickness over a subgrade such that wheel loads are reduced to a level the subgrade can support. The support characteristics of the subgrade for pavement design do not account for shrink/swell

movements of a potentially expansive clay subgrade such as the soils encountered on this site. Thus, the pavement may be adequate from a structural standpoint, yet still experience cracking and deformation due to shrink/swell related movement of the subgrade. It is, therefore, important to minimize moisture changes in the subgrade to reduce shrink/swell movements.

Openings in pavements, such as decorative landscaped areas, are sources for water infiltration into surrounding pavement systems. Water can collect in the islands and migrate into the surrounding subgrade soils thereby degrading support of the pavement. This is especially applicable for islands with raised concrete curbs, irrigated foliage, and low permeability near-surface soils. The civil design for the pavements with these conditions should include features to restrict or to collect and discharge excess water from the islands. Examples of features are edge drains connected to the storm water collection system, longitudinal subdrains, or other suitable outlet and impermeable barriers preventing lateral migration of water such as a cutoff wall installed to a depth below the pavement structure.

Dishing in parking lots surfaced with AC is usually observed in frequently-used parking stalls (such as near the front of buildings) and occurs under the wheel footprint in these stalls. The use of higher-grade asphaltic cement, or surfacing these areas with PCC, should be considered. The dishing is exacerbated by factors such as irrigated islands or planter areas, sheet surface drainage to the front of structures, and placing the ACC directly on a compacted clay subgrade.

Rigid PCC pavements will perform better than AC in areas where short-radii turning and braking are expected (i.e. entrance/exit aprons) due to better resistance to rutting and shoving. In addition, PCC pavement will perform better in areas subject to large or sustained loads. An adequate number of longitudinal and transverse control joints should be placed in the rigid pavement in accordance with ACI and/or AASHTO requirements. Expansion (isolation) joints must be full depth and should only be used to isolate fixed objects abutting or within the paved area.

PCC pavement details for joint spacing, joint reinforcement, and joint sealing should be prepared in accordance with American Concrete Institute (ACI 330R-01 and ACI 325R.9-91). PCC pavements should be provided with mechanically reinforced joints (doweled or keyed) in accordance with ACI 330R-01.

Pavement Drainage

Pavements should be sloped to provide rapid drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration. In addition, the pavement subgrade should be graded to provide positive drainage within the granular base section. Appropriate sub-drainage or connection to a suitable daylight outlet should be provided to remove water from the granular subbase.

The pavement surfacing and adjacent sidewalks should be sloped to provide rapid drainage of surface water. Water should not be allowed to pond on or adjacent to slabs, since it could saturate the subgrade and contribute to premature pavement or slab deterioration.

Pavement Maintenance

The pavement sections represent minimum recommended thicknesses and, as such, periodic maintenance should be anticipated. Therefore, preventive maintenance should be planned and provided for through an on-going pavement management program. Maintenance activities are intended to slow the rate of pavement deterioration and to preserve the pavement investment. Maintenance consists of both localized maintenance (e.g. crack and joint sealing and patching) and global maintenance (e.g. surface sealing). Preventive maintenance is usually the priority when implementing a pavement maintenance program. Additional engineering observation is recommended to determine the type and extent of a cost-effective program. Even with periodic maintenance, some movements and related cracking may still occur and repairs may be required.

Pavement performance is affected by its surroundings. In addition to providing preventive maintenance, the civil engineer should consider the following recommendations in the design and layout of pavements:

1. Final grade adjacent to paved areas should slope down from the edges at a minimum 2%.
2. Subgrade and pavement surfaces should have a minimum 2% slope to promote proper surface drainage.
3. Install below pavement drainage systems surrounding areas anticipated for frequent wetting.
4. Install joint sealant and seal cracks immediately.
5. Seal all landscaped areas in or adjacent to pavements to reduce moisture migration to subgrade soils.
6. Place compacted, low permeability backfill against the exterior side of curb and gutter.
7. Place curb, gutter and/or sidewalk directly on clay subgrade soils rather than on unbound granular base course materials.

PERCOLATION TEST

One percolation test was performed within the proposed stormwater retention basin located on the adjacent property to the north. The results of the percolation test are presented in the following table:

Test ID	Depth of test, ft.	Percolation Rate, inches per hour	Percolation Rate, minutes per inch

P1	5	0.36	167

Since our test was performed using clean water, the storm water runoff will likely contain materials such as silt, leaves, oil residues, and other matter that may reduce the infiltration characteristics of the soils, we therefore recommend that an appropriate safety factor be applied to the estimated percolation rate for use in design. The safety factor should consider the level of filtration the system can provide. All intakes should be cleaned regularly following significant rains and prior to the beginning of the rainy season.

We have provided the following considerations for the design and construction of the storm water collection system. The long-term percolation rate will depend on many factors, and can be reduced if the following conditions are present:

- Variability of site soils.
- Fine layering of soils, or
- Maintenance and pre-treatment (filtration) of the influent are not performed regularly.

Subsurface Soil Variations: Variations in subsurface soil conditions and the presence of fine layering can affect the percolation rate of the receptor soils. Low permeability and finely layered, fine-grained alluvial soils (silt) were encountered over the project site. These mixtures impede vertical percolation of storm water.

Construction Considerations: The percolation rate of the receptor soils will be reduced in the event that fine sediment, organic materials, and/or oil residue are allowed to basin. The use of a filtration system is highly recommended as well as a maintenance program.

Operation of heavy equipment during construction may densify the receptor soils in the bottom of the storm drain system. The soils exposed in the bottom of the system should not be compacted and should remain in their native condition.

Maintenance of Facilities: Satisfactory long-term performance of the bottom of the system will require some degree of maintenance.

CORROSIVITY

The table below lists the results of laboratory soluble sulfate, soluble chloride, electrical resistivity, 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.

Corrosivity Test Results Summary						
Boring	**Sample Depth (feet)**	**Soil Description**	**Soluble Sulfate (ppm)**	**Soluble Chloride (ppm)**	**Electrical Resistivity (Ω-cm)**	**pH**
B1	1- 2½	Lean Clay	116	30	1164	8.04
B13	1- 2½	Lean Clay	234	70	970	7.98
B21/23	1- 2½	Lean Clay	278	60	970	7.87

The sulfate test results indicate that the soil from boring B1 classifies as Class S0 according to Table 19.3.1.1 of ACI 318-14. This indicates that the sulfate level is negligible when considering corrosion to concrete. The samples from B13 and B21/23 classify as Class S1 according to Table 19.3.1.1 of ACI 318-14 which indicate soils having a sulfate level that are corrosive to concrete.

The chloride test results indicate that the soils have a relatively low chloride content present. According to Table 19.3.1.1 of ACI 318-14, the soil should not be considered an external source of chloride (i.e. sea water, etc.) to concrete foundations. Consequently, chloride classes of C0 and C1 should be used where applicable. C0 is defined as, “Concrete dry or protected from moisture” and C1 is defined as, “Concrete exposed to moisture but not to an external source of chlorides”. For the amount of chlorides allowed in concrete mix designs, Table 19.3.2.1 of ACI 318-14 shall be adhered to as appropriate.

Based on the results of the sulfate content test results from boring B1, ACI 318-14, Section 19.3 does not specify the type of cement or a maximum water-cement ratio for concrete for sulfate Class S0. Based on the results of the sulfate content tests for boring B13 and B21/23, ACI 318-14 Section 19.3 Table 19.3.2.1 specifies the use of Type II cement, a maximum water/cement ratio of 0.50, and a minimum compressive strength of 4,000 pounds per square inch.

For further information, see ACI 318-14, Section 19.3.

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 studies 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

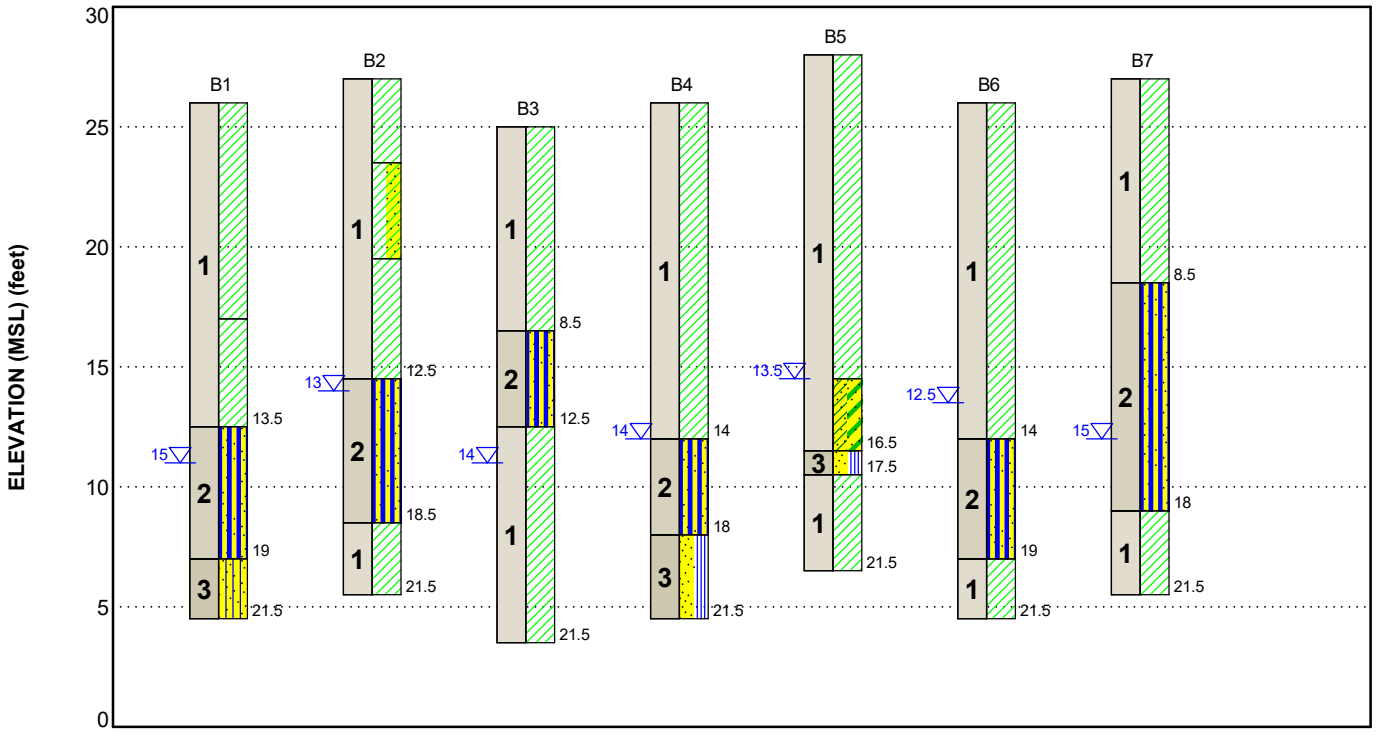
Contents:

GeoModel (3 pages)

GEOMODEL

Tracy Ridge Warehouses ■ Tracy, CA
1/25/2019 ■ Terracon Project No. NA185148

North Warehouse



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 Clay**	Lean clay with varying amounts of sand, stiff to hard; medium to high plasticity
2	**Soft to Stiff Fine-grained Soil**	Lean clay with varying amounts of sand; sandy silts, soft to stiff
3	**Silty Sand**	Sands- silty and poorly grade sand with varying amounts of silt and gravel; Sandy silts-non-plastic, medium dense

LEGEND

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

- First Water Observation
- Second Water Observation
- Third Water Observation

Groundwater levels are temporal. The levels shown are representative of the date and time of our exploration. Significant changes are possible over time. Water levels shown are as measured during and/or after drilling. In some cases, boring advancement methods mask the presence/absence of groundwater. See individual logs for details.

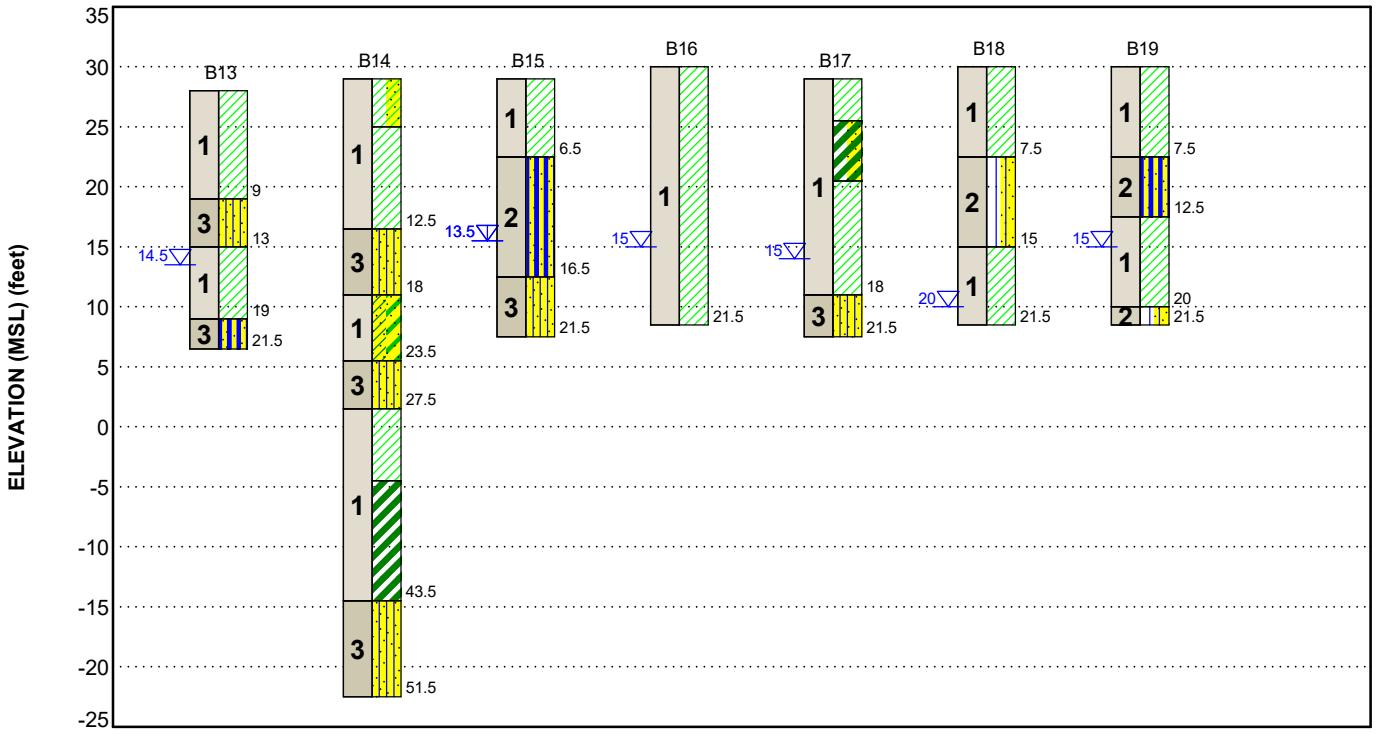
NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project. Numbers adjacent to soil column indicate depth below ground surface.

GEOMODEL

Tracy Ridge Warehouses ■ Tracy, CA
1/25/2019 ■ Terracon Project No. NA185148

Terracon GeoReport

Middle Warehouse



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 Clay**	Lean clay with varying amounts of sand, stiff to hard; medium to high plasticity
2	**Soft to Stiff Fine-grained Soil**	Lean clay with varying amounts of sand; sandy silts, soft to stiff
3	**Silty Sand**	Sands- silty and poorly grade sand with varying amounts of silt and gravel; Sandy silts-non-plastic, medium dense

LEGEND

- Lean Clay
- Lean Clay with Sand
- Fat Clay with Sand
- Silty Sand
- Sandy Lean Clay/Clayey Sand
- Silt with Sand
- Sandy Silt
- Fat Clay

- First Water Observation
- Second Water Observation
- Third Water Observation

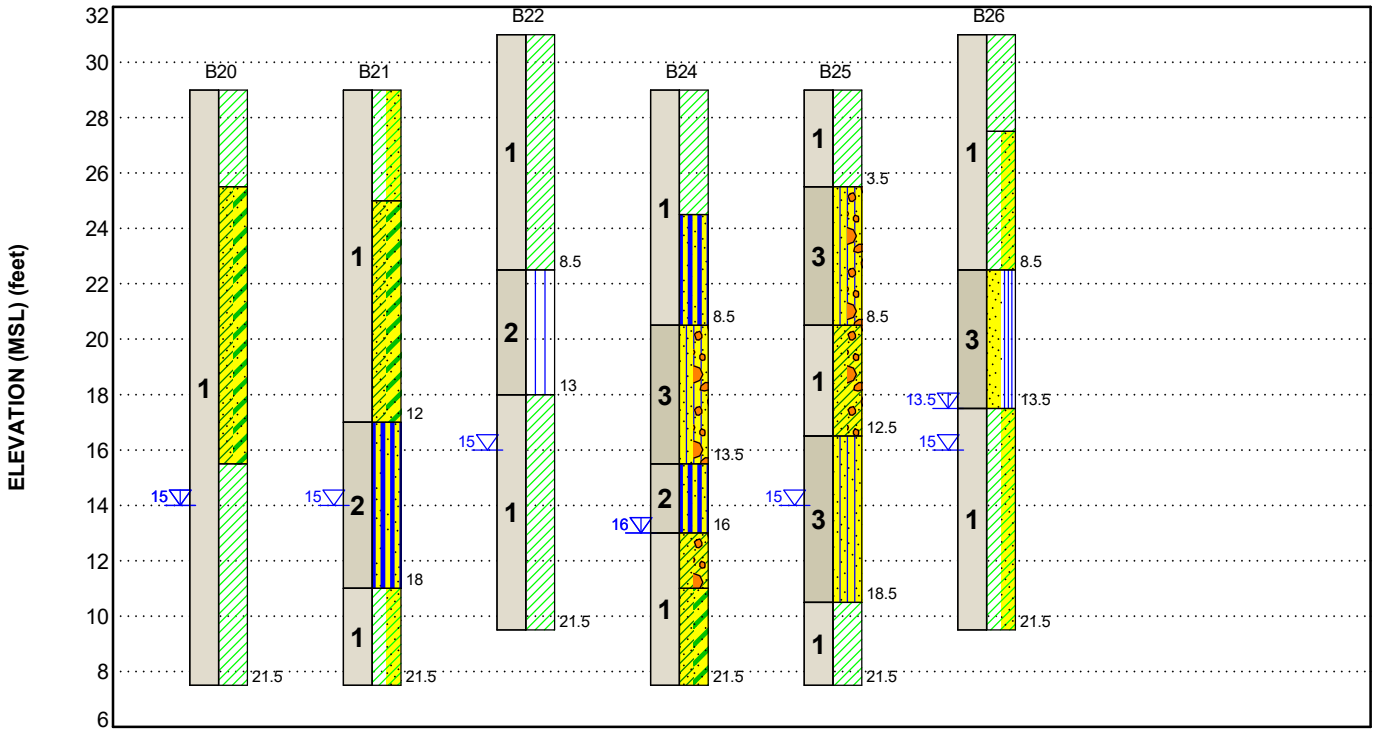
Groundwater levels are temporal. The levels shown are representative of the date and time of our exploration. Significant changes are possible over time. Water levels shown are as measured during and/or after drilling. In some cases, boring advancement methods mask the presence/absence of groundwater. See individual logs for details.

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

Tracy Ridge Warehouses ■ Tracy, CA
1/25/2019 ■ Terracon Project No. NA185148

South Warehouse



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 Clay**	Lean clay with varying amounts of sand, stiff to hard; medium to high plasticity
2	**Soft to Stiff Fine-grained Soil**	Lean clay with varying amounts of sand; sandy silts, soft to stiff
3	**Silty Sand**	Sands- silty and poorly grade sand with varying amounts of silt and gravel; Sandy silts-non-plastic, medium dense

LEGEND

- Lean Clay
- Sandy Lean Clay/Clayey Sand
- Lean Clay with Sand
- Sandy Silt
- Silt
- Silty Sand with Gravel
- Sandy Lean Clay with Gravel
- Silty Sand
- Poorly-graded Sand with Silt

- First Water Observation
- Second Water Observation
- Third Water Observation

Groundwater levels are temporal. The levels shown are representative of the date and time of our exploration. Significant changes are possible over time. Water levels shown are as measured during and/or after drilling. In some cases, boring advancement methods mask the presence/absence of groundwater. See individual logs for details.

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

Number of Borings	Boring Depth (feet)	Planned Location
1	51½	Proposed building areas
19	21½	Proposed building areas
11	6½	Proposed building areas
7	21½	Proposed pavement areas
4	6½	Proposed pavement areas

Number of CPTs	CPT Depth (feet)	Planned Location
2	51½	Proposed building areas
1	51½	Proposed pavement areas
8	21½	Proposed building areas
2	21½	Proposed pavement areas

Boring and CPT Layout and Elevations: Unless otherwise noted, Terracon personnel provided the boring and CPT layout. Coordinates were obtained with a handheld GPS unit (estimated horizontal accuracy of about ±10 feet) and approximate elevations were obtained by interpolation from Google Earth Pro™. If elevations and a more precise boring and CPT layout are desired, we recommend the boring and CPT locations be surveyed.

The original exploration plan indicated all of the 51½- and 21½-foot deep borings and CPTs were to be located within the proposed building areas. However, due to the change in the proposed building locations provided to us following completion of our field explorations, several of these borings and CPTs are now located within proposed pavement areas and several of the 6½-foot deep borings are located within the proposed building areas.

Subsurface Exploration Procedures: We advanced the borings with a truck-mounted rotary drill rig using continuous hollow stem flight augers. Due to the shallow groundwater, the 51½-foot deep boring was drilled using the mud rotary drilling method. We obtained samples at depths of 1 foot and 5 feet and at intervals of 5 feet thereafter. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. A 2.5-inch O.D. split-barrel Modified California

sampling spoon with 2.0-inch I.D. tube lined sampler was used for sampling. Tube-lined, split-barrel sampling procedures are similar to standard split spoon sampling procedure; however, blow counts are not equivalent to the SPT blow counts. We observed and recorded groundwater levels during drilling and sampling. As required by the San Joaquin County Environmental Health Department, all borings were backfilled with neat cement grout after their completion. The upper portion of the boreholes were backfilled with native soil to allow the farmer to continue farming operations without hitting the grout backfill.

For the cone penetrometer testing, the CPT rig hydraulically pushes an instrumented cone through the soil while nearly continuous readings are recorded to a portable computer. The cone is equipped with electronic load cells to measure tip resistance and sleeve resistance and a pressure transducer to measure the generated ambient pore pressure. The face of the cone has an apex angle of 60° and an area of 15 cm^2. Digital data representing the tip resistance, friction resistance, pore water pressure, and probe inclination angle are recorded about every 2 centimeters while advancing through the ground at a rate between 1½ and 2½ centimeters per second. These measurements are correlated to various soil properties used for geotechnical design. No soil samples are gathered through this subsurface investigation technique. CPT testing was conducted in general accordance with ASTM D5778 “Standard Test Method for Performing Electronic Friction Cone and Piezocone Penetration Testing of Soils.”

The sampling depths, penetration distances, and other sampling information was recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification by a Geotechnical Engineer. Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual classifications of the materials encountered during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. The final boring logs represent the Geotechnical Engineer's interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

Percolation Testing: As requested, one percolation test was performed in the property just to the north of the project site. This test was performed at a depth of about 5 feet below the existing ground surface. The test was performed by drilling a test hole and then placing about 2 inches of gravel in the bottom of the hole. The hole was then cased with PVC pipe and gravel was placed around the outside of the pipe. Water was added to the hole and allowed to soak overnight. The percolation test was performed the next day. The test was performed by adding water to the hole to provide for about 3 feet of head above the bottom of the test hole. Readings of the drop in water surface elevation were made at 30 minute intervals over a period of 4 hours.

Laboratory Testing

The project engineer reviewed the field data and assigned laboratory tests to understand the engineering properties of the various soil strata, as necessary, for this project. Procedural standards noted below are for reference to methodology in general. In some cases, variations to

methods were applied because of local practice or professional judgment. Standards noted below include reference to other, related standards. Such references are not necessarily applicable to describe the specific test performed.

- ASTM D2216 Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
- ASTM D4318 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
- ASTM D2166/D2166M Standard Test Method for Unconfined Compressive Strength of Cohesive Soil
- ASTM D2435/D2435M Standard Test Methods for One-Dimensional Consolidation Properties of Soils Using Incremental Loading
- ASTM D1140 Standard Test Method for Determining the Amount of Material Finer than No. 200 Sieve by Soil Washing
- ASTM D2844 Standard Test Method for Resistance Value R-Value and Expansion Pressure of Compacted Soils
- Corrosivity tests

The laboratory testing program included examination of soil samples by an engineer. Based on the material's texture and plasticity, we described and classified the soil samples in accordance with the Unified Soil Classification System.

SITE LOCATION AND EXPLORATION PLANS

Contents:

Site Location Plan
Exploration Plan

Note: All attachments are one page unless noted above.

SITE LOCATION

Tracy Ridge Warehouses ■ Tracy, California
January 30, 2019 ■ Terracon Project No. NA185148

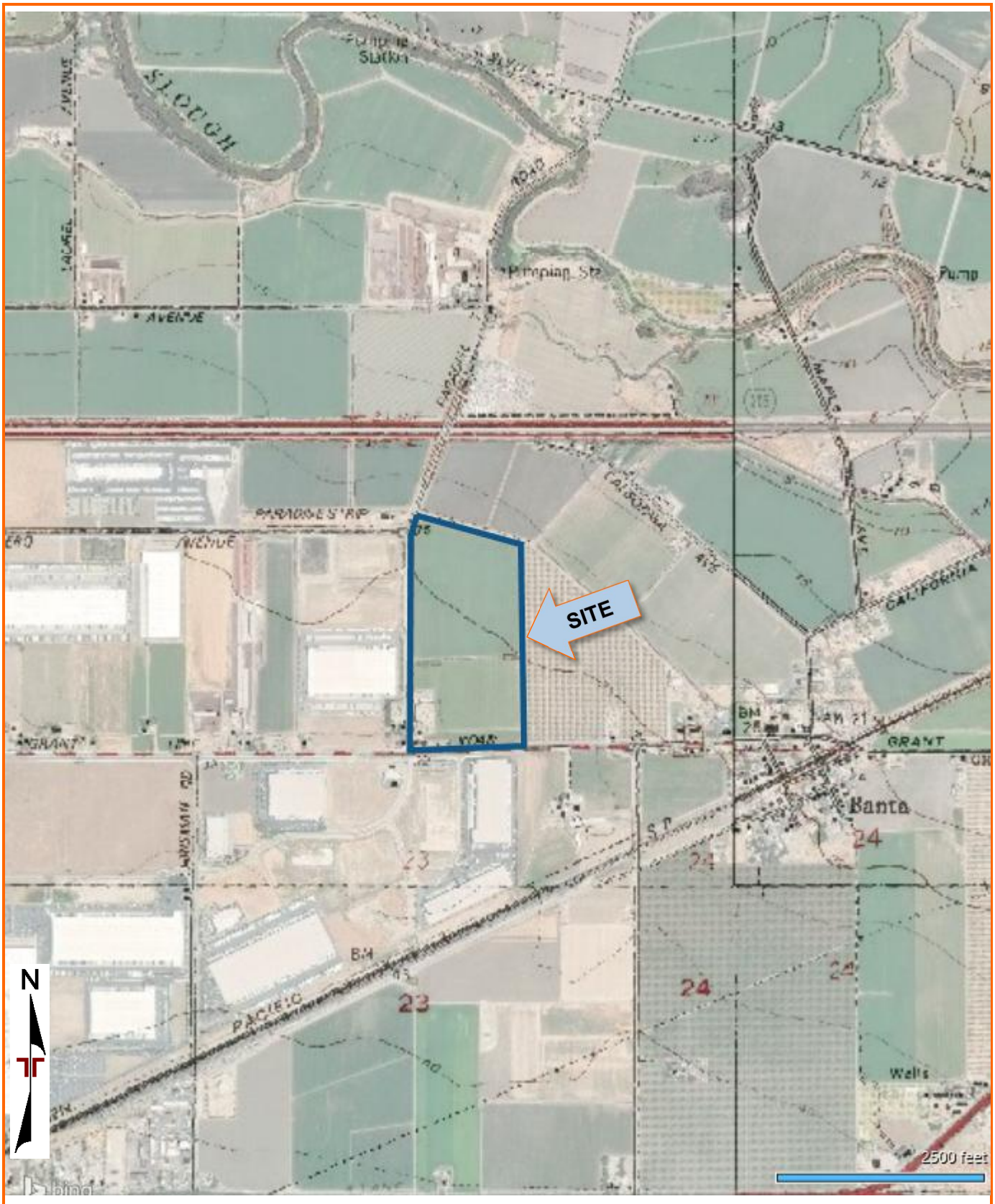


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

EXPLORATION PLAN

Tracy Ridge Warehouses ■ Tracy, California
January 30, 2019 ■ Terracon Project No. NA185148

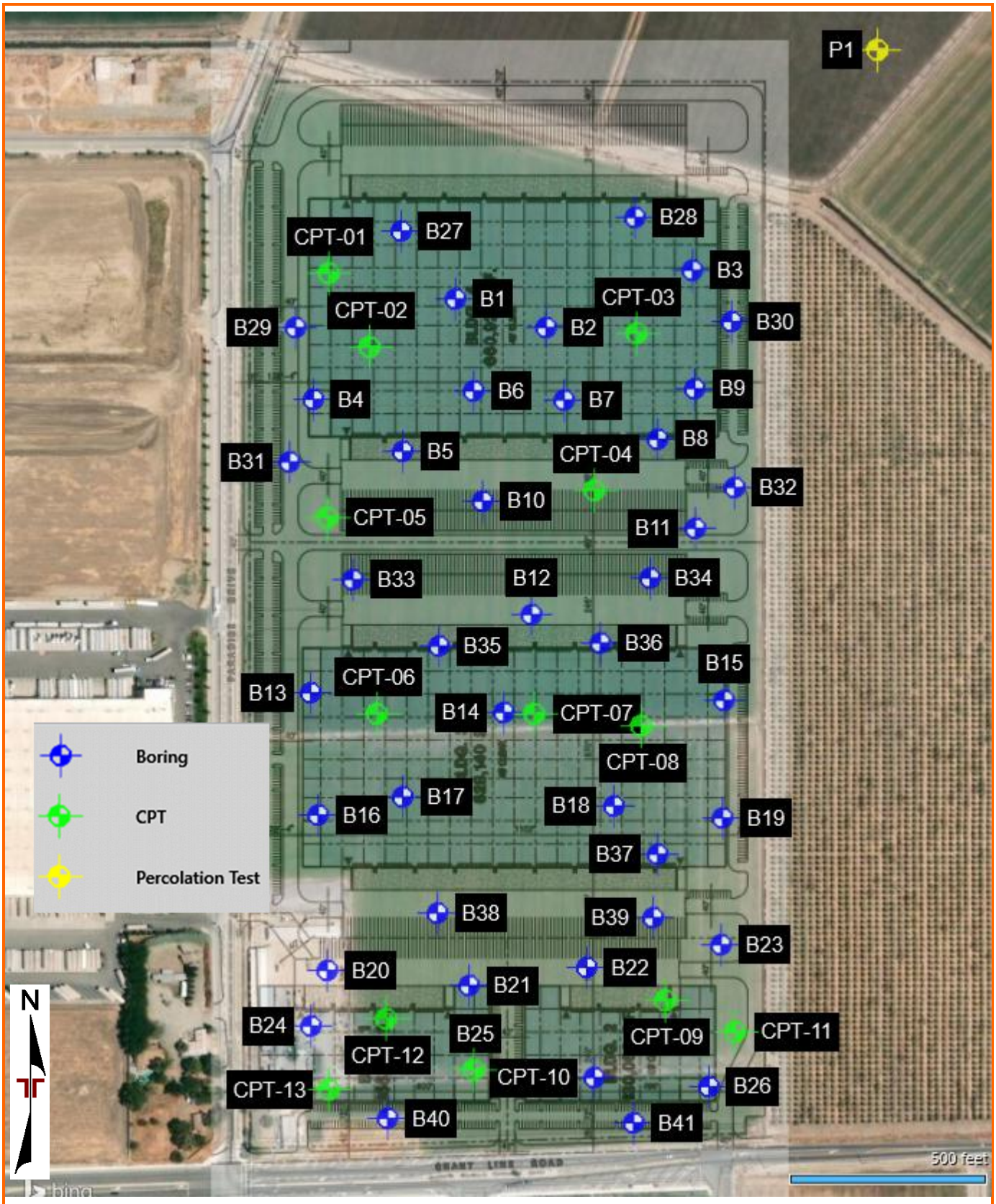


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

EXPLORATION RESULTS

Contents:

Boring Logs (B-1 through B-41)
CPT Logs (CPT-1 through CPT-13)
Atterberg Limits
Consolidation (3 tests)
Unconfined Compressive Strength (7 tests)
Corrosivity

Note: All attachments are one page unless noted above.

BORING LOG NO. B1

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7605° Longitude: -121.3875°
Northing: 37.76045863 Easting: -121.3875482

Approximate Surface Elev.: 26 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1			**LEAN CLAY (CL)**, medium plasticity, dark brown, hard												
							5-5-8	4.5+ (HP)				19	102		
				5			5-5-9	4.25 (HP)	UC	2.63	3.7	23	97		
		9.0	17+/-												
			LEAN CLAY (CL), medium plasticity, brown, very stiff, trace sand	10			3-7-9	3.75 (HP)				26	96		
		13.5	12.5+/-												
2			**SILTY CLAY (CL-ML)**, fine to medium grained, brown, very stiff	15	▽		4-7-10	2.75 (HP)				20	108	25-21-4	
		19.0	7+/-												
3			**SILTY SAND (SM)**, fine to medium grained, brown, medium dense	20			10-20-27					15	112		
		21.5	4.5+/-												
			Boring Terminated at 21.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-05-2018 Boring Completed: 11-05-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B2

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7603° Longitude: -121.3867°
Northing: 37.760258 Easting: -121.3867468

Approximate Surface Elev.: 27 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
			LEAN CLAY (CL), medium plasticity, brown, stiff												
		3.5	23.5+/-				4-5-9	1.5 (HP)				20	95		
1			**LEAN CLAY WITH SAND (CL)**, fine grained, medium plasticity, dark brown, hard	5			4-7-11	4.5+ (HP)				21	103		
		7.5	19.5+/-												
			LEAN CLAY (CL), medium plasticity, yellow brown, hard	10			5-8-9	4.5+ (HP)				21	103		
		12.5	14.5+/-												
2			**SANDY SILT (ML)**, fine grained, nonplastic, brown, soft	15	▽		3-4-5	.25 (HP)				26	94		
		18.5	8.5+/-												
1			**LEAN CLAY (CL)**, medium plasticity, brown, very stiff, trace sand	20			5-7-8	2.25 (HP)				19	102		
		21.5	5.5+/-												
			Boring Terminated at 21.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-07-2018 Boring Completed: 11-07-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B3

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7607° Longitude: -121.3855°
Northing: 37.76065925 Easting: -121.3854512

Approximate Surface Elev.: 25 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1															
			LEAN CLAY (CL), dark brown, hard												
							5-5-7	4.5+ (HP)				17	108	39-19-20	
			brown	5			3-6-10	4.25 (HP)				19	109		
		8.5	16.5+/-												
2			**SANDY SILT (ML)**, fine grained, nonplastic, brown with grey, stiff												
				10			2-1-3	1.25 (HP)				28	82		
		12.5	12.5+/-												
1			**LEAN CLAY (CL)**, medium plasticity, brown, stiff		▽										
				15			4-6-9	1.75 (HP)				24	98		
				20			4-5-8	1.5 (HP)				26	100		
		21.5	3.5+/-												
			Boring Terminated at 21.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-07-2018 Boring Completed: 11-07-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B4

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7598° Longitude: -121.3888°
Northing: 37.75975551 Easting: -121.3888065

Approximate Surface Elev.: 26 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1			**LEAN CLAY (CL)**, medium plasticity, dark brown, hard												
							3-4-6	4.5+ (HP)				20	99		
			fine grained, brown, trace sand												
				5			5-10-13	4.5+ (HP)				21	95		
			very stiff	10			2-3-6	2.0 (HP)				39	87		
		14.0	12+/-		▽										
2			**SANDY SILT (ML)**, fine grained, nonplastic, brown, stiff	15			3-3-4	1 (HP)				29	98		
		18.0	8+/-												
3			**POORLY GRADED SAND WITH SILT (SP-SM)**, fine to medium grained, brown, medium dense	20											
							6-10-14					22	104		
		21.5	4.5+/-												
			Boring Terminated at 21.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-08-2018 Boring Completed: 11-08-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B5

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7594° Longitude: -121.388°
Northing: 37.75939213 Easting: -121.3880157

Approximate Surface Elev.: 28 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1			**LEAN CLAY (CL)**, dark brown, hard												
							3-4-5	4.5+ (HP)				19	104	40-17-23	
			brown, very stiff	5			4-5-8	2.75 (HP)				21	105		
				10			2-4-7	2.75 (HP)				25	91		
		13.5	14.5+/-		▽										
			SANDY LEAN CLAY (CL), fine to medium grained, medium plasticity, brown, very stiff	15			5-9-18	2.0 (HP)				21	111		
		16.5	11.5+/-												
3		17.5	10.5+/-												
			POORLY GRADED SAND WITH SILT (SP-SM), fine to medium grained, brown												
1			**LEAN CLAY (CL)**, medium plasticity, hard	20			6-8-10	4.25 (HP)				26	97		
		21.5	6.5+/-												
			Boring Terminated at 21.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-08-2018 Boring Completed: 11-08-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B6

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7598° Longitude: -121.3874°
Northing: 37.75981451 Easting: -121.3873879

Approximate Surface Elev.: 26 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1															
			LEAN CLAY (CL), medium plasticity, dark brown, very stiff												
							5-5-6	3 (HP)				23	97		
			brown	5			6-9-11	4 (HP)				22	103		
		14.0	12+/-	10			4-5-9	3.5 (HP)				21	106		
2			**SANDY SILT (ML)**, fine grained, medium plasticity, brown, very stiff	15			3-4-3	3.0 (HP)				29	98		
		19.0	7+/-												
1			**LEAN CLAY (CL)**, medium plasticity, brown, very stiff	20			4-9-8	2.5 (HP)				20	101		
		21.5	4.5+/-												
			Boring Terminated at 21.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *24 hours after drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-08-2018 Boring Completed: 11-08-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B7

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7598° Longitude: -121.3866°
Northing: 37.75975115 Easting: -121.3865865

Approximate Surface Elev.: 27 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1			**LEAN CLAY (CL)**, medium plasticity, dark brown, hard												
							4-6-6	4.5+ (HP)				17	97		
			fine grained, medium plasticity, brown, stiff, trace sand	5											
							2-4-4	1.5 (HP)	UC	1.05	15	21	104		
		8.5	18.5+/-												
2			**SANDY SILT (ML)**, fine grained, low plasticity, yellow brown, medium stiff	10											
							3-6-5	.75 (HP)				23	100		
				15	▽										
							3-5-6	2 (HP)				20			
		18.0	9+/-												
1			**LEAN CLAY (CL)**, fine grained, medium plasticity, brown, very stiff, trace sand	20											
							5-8-9	2.75 (HP)				21	101		
		21.5	5.5+/-												
			Boring Terminated at 21.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-07-2018 Boring Completed: 11-07-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B8

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7595° Longitude: -121.3858°
Northing: 37.7594766 Easting: -121.3857584

Approximate Surface Elev.: 26 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
							4-5-6	4.75 (HP)				20	100		
1		3.5	22.5+/-	5											
							3-3-6	2 (HP)				13	112		
		8.0	18+/-												
2		14.0	12+/-	10			2-3-4	1 (HP)				27	93		
				15	▽		5-7-7					21	93		45
3		18.0	8+/-												
		21.5	4.5+/-	20			33-27-26					8	112		

LEAN CLAY (CL), medium plasticity, dark brown, hard

LEAN CLAY WITH SAND (CL), fine grained, medium plasticity, yellow brown, stiff

SILT (ML), low plasticity, brown, stiff

CLAYEY SAND (SC), fine to medium grained, brown

POORLY GRADED SAND WITH GRAVEL (SP), medium to coarse grained, brown, dense

Boring Terminated at 21.5 Feet

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-07-2018 | Boring Completed: 11-07-2018

Drill Rig: CME 75 | Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B9

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7598° Longitude: -121.3854°
Northing: 37.75983081 Easting: -121.3854302

Approximate Surface Elev.: 25 (Ft.) +/-

MODEL LAYER	DEPTH	ELEVATION (Ft.)	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
			LEAN CLAY (CL), medium plasticity, dark brown, hard												
	3.0	22+/-													
1			**LEAN CLAY WITH SAND (CL)**, fine to medium grained, medium plasticity, brown, very stiff				4-5-6	4.5 (HP)				21	101		
				5			3-4-6	3.5 (HP)				21	104		
	9.0	16+/-													
2			**SILT (ML)**, low plasticity, brown, stiff	10			1-2-3	1.75 (HP)				31	87		
	14.0	11+/-													
			SANDY SILT (ML), fine grained, nonplastic, brown, medium stiff	15	▽		5-6-7	.75 (HP)				17	114		
	18.0	7+/-													
3			**POORLY GRADED SAND (SP)**, brown, medium dense	20			13-10-15					14	115		
	21.5	3.5+/-													
			Boring Terminated at 21.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-08-2018 Boring Completed: 11-08-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B10

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.759° Longitude: -121.3873°
Northing: 37.75904367 Easting: -121.3873078

Approximate Surface Elev.: 27 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1		0	27												
							6-6-6	4.5+ (HP)				23	98		
				5			4-7-8	4.0 (HP)				27	96		
				10			6-5-6	3.75 (HP)				25	94		
		13.0	14+/-												
3				15	▽		2-2-4					22	103		45
				20			8-12-20					17	114		
		21.5	5.5+/-												

LEAN CLAY (CL), medium plasticity, dark brown, hard

brown, very stiff

SILTY SAND (SM), fine to medium grained, brown, very loose

fine to coarse grained, medium dense

Boring Terminated at 21.5 Feet

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-08-2018 Boring Completed: 11-08-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B11

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7589° Longitude: -121.3854°
Northing: 37.7588536 Easting: -121.3854245

Approximate Surface Elev.: 28 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1															
			LEAN CLAY (CL), dark brown, very stiff												
			brown				3-5-6	4.5+ (HP)	UC	3.08	5.7	20	106		
				5			3-6-7	2.5 (HP)				22	102	47-19-28	
		9.0	19+/-												
2			**SANDY SILT (ML)**, fine to medium grained, nonplastic, brown, soft to medium stiff	10			1-1-2	.5 (HP)				25	93		
		12.5	15.5+/-												
1			**LEAN CLAY (CL)**, medium plasticity, brown, hard	15	▽		4-8-11	4.5 (HP)				20	107		
		17.0	11+/-												
3			**POORLY GRADED SAND (SP)**, fine to coarse grained, brown, dense	20			27-27-27					6	134		
		21.5	6.5+/-												
			Boring Terminated at 21.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-08-2018 Boring Completed: 11-08-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B12

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7583° Longitude: -121.3869°
Northing: 37.75825 Easting: -121.386876

Approximate Surface Elev.: 30 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
			LEAN CLAY (CL), medium plasticity, dark brown, very stiff												
							3-4-5	2.75 (HP)				21	101		
			fine grained, brown, trace sand	5			2-3-3	2.5 (HP)				24	99		
1		8.5	21.5+/-												
1			**LEAN CLAY WITH SAND (CL)**, fine grained, medium plasticity, brown, very stiff	10			5-5-4	3.25 (HP)				19	97		
1		14.0	16+/-												
			LEAN CLAY (CL), medium plasticity, brown, very stiff	15	▽		6-10-11	4.0 (HP)				24	104		
1		19.0	11+/-												
3			**SILTY SAND (SM)**, fine to medium grained, brown	20			8-13-16					18	114		
3		21.5	8.5+/-												
			Boring Terminated at 21.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-09-2018 Boring Completed: 11-09-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B13

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7577° Longitude: -121.3888°
Northing: 37.7577026 Easting: -121.3888304

Approximate Surface Elev.: 28 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1			**LEAN CLAY (CL)**, medium plasticity, dark brown, very stiff												
							4-5-6	2.75 (HP)				16	84		
			stiff	5											
							2-2-3	1.25 (HP)				28	92		
		9.0													
3			**SILTY SAND (SM)**, fine to medium grained, brown, loose	10			1-3-5					24	96		
		13.0													
1			**LEAN CLAY (CL)**, medium plasticity, brown, medium stiff	15	▽		4-3-4	1 (HP)				28	94		
		19.0													
3			**SANDY SILT (ML)**, fine grained, low plasticity, brown, very stiff	20			2-5-16					24	103		
		21.5													
			Boring Terminated at 21.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-09-2018 Boring Completed: 11-09-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B14

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7576° Longitude: -121.3871°
Northing: 37.75756532 Easting: -121.3871208

Approximate Surface Elev.: 29 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1															
			LEAN CLAY WITH SAND (CL), medium plasticity, brown, stiff												
		4.0	25+/-				4-6-6					13			
			LEAN CLAY (CL), fine grained, low to medium plasticity, brown, stiff	5			2-3-5 N=8					18			
		12.5	16.5+/-	10			2-4-4 N=8					21			
3			**SILTY SAND (SM)**, fine to medium grained, brown, loose	15			2-2-4 N=6					25			34
		18.0	11+/-												
1			**SANDY LEAN CLAY (CL)**, fine grained, medium plasticity, brown, very stiff	20			4-5-9 N=14	3.0 (HP)				22			64
		23.5	5.5+/-												
3			**SILTY SAND (SM)**, fine to medium grained, brown, very dense	25			5-11-12 N=23					24			18
		27.5	1.5+/-												

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

Hammer Type: Automatic

Advancement Method:
Mud Rotary

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

902 Industrial Way
Lodi, CA

Boring Started: 11-14-2018 Boring Completed: 11-14-2018

Drill Rig: D50 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B14

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7576° Longitude: -121.3871°
Northing: 37.75756532 Easting: -121.3871208

Approximate Surface Elev.: 29 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
			LEAN CLAY (CL), brown, very stiff												
		33.5	-4.5+/-	30		X	3-6-10 N=16	2.5 (HP)				37		43-26-17	
1			**FAT CLAY (CH)**, fine grained, brown, very stiff, trace sand	35		X	4-7-11 N=18	3.25 (HP)				31		51-25-26	
		43.5	-14.5+/-	40		X	5-7-10 N=17	2.0 (HP)				26			
3			**SILTY SAND (SM)**, fine to medium grained, brown, very dense	45		X	18-25-37 N=62					23			20
		51.5	-22.5+/-	50		X	12-28-37 N=65					22			
			Boring Terminated at 51.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
Mud Rotary

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

902 Industrial Way
Lodi, CA

Boring Started: 11-14-2018 Boring Completed: 11-14-2018

Drill Rig: D50 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B15

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7576° Longitude: -121.3852°
Northing: 37.7576498 Easting: -121.3851707

Approximate Surface Elev.: 29 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1															
							4-5-5	4.5+ (HP)				16	99		
				5			3-7-9	2.75 (HP)				24	101		
2				10			2-3-4	1.0 (HP)				23	96		62
					▽										
				15			2-5-11					18	105		
3															
				20			8-11-14					19	109		

LEAN CLAY (CL), medium plasticity, dark brown, hard

fine grained, brown, very stilff, trace sand

6.5 22.5+/-

SANDY SILT (ML), fine grained, nonplastic, brown, medium stiff

16.5 12.5+/-

SILTY SAND (SM), fine to medium grained, brown, medium dense

21.5 7.5+/-

Boring Terminated at 21.5 Feet

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

▽ *At completion of drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-09-2018 Boring Completed: 11-14-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B17

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.757° Longitude: -121.388°
Northing: 37.75697397 Easting: -121.3880157

Approximate Surface Elev.: 29 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1			**LEAN CLAY (CL)**, medium plasticity, dark brown, hard												
		3.5	25.5+/-				3-5-4	4.5+ (HP)				19	100		
			FAT CLAY WITH SAND (CH), fine grained, brown, very stiff	5			4-6-8	2.25 (HP)				22	97	61-22-39	
		8.5	20.5+/-												
1			**LEAN CLAY (CL)**, fine grained, yellow brown, medium stiff, trace sand	10			4-4-4	1.0 (HP)				24	92		
				15	▽		2-2-2	0.75 (HP)				35	87		
		18.0	11+/-												
3			**SILTY SAND (SM)**, fine to medium grained, yellow brown, medium dense	20			5-6-8					19	97		
		21.5	7.5+/-												
			Boring Terminated at 21.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-12-2018 Boring Completed: 11-12-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B18

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7569° Longitude: -121.3861°
Northing: 37.75691062 Easting: -121.3861458

Approximate Surface Elev.: 30 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1															
							5-7-8					17	85		
				5											
							4-10-11	4.0 (HP)				22	89		
		7.5	22.5+/-												
2				10			3-4-4	0.5 (HP)				28	72		80
		15.0	15+/-												
1				15			4-7-10	2.25 (HP)				18	92		
					▽										
		21.5	8.5+/-	20			6-10-10	2.0 (HP)				23	106		

LEAN CLAY (CL), medium plasticity, dark brown, stiff

yellow brown, very stiff

SILT WITH SAND (ML), nonplastic, yellow brown, soft

LEAN CLAY (CL), medium plasticity, yellow brown, very stiff, trace sand

Boring Terminated at 21.5 Feet

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-12-2018 Boring Completed: 11-12-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B19

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7568° Longitude: -121.3852°
Northing: 37.75682614 Easting: -121.3851841

Approximate Surface Elev.: 30 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1															
							5-6-6					13			
				5											
							2-4-5	1.25 (HP)				18	86		
		7.5	22.5+/-												
2															
				10			1-1-2	1.0 (HP)				27	90		
		12.5	17.5+/-												
1					▽										
				15			3-5-7	3.0 (HP)				23	91		
		20.0	10+/-												
2				20			1-1-3	0.25 (HP)				23	93		
		21.5	8.5+/-												

LEAN CLAY (CL), medium plasticity, dark brown, stiff

yellow brown

SANDY SILT (ML), fine grained, nonplastic, yellow brown, medium stiff

LEAN CLAY (CL), medium plasticity, yellow brown, very stiff

SILT WITH SAND (ML), fine grained, yellow brown and gray, soft

Boring Terminated at 21.5 Feet

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-12-2018 Boring Completed: 11-12-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B20

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7558° Longitude: -121.3887°
Northing: 37.75575959 Easting: -121.3886835

Approximate Surface Elev.: 29 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
			LEAN CLAY (CL), medium plasticity, brown, very stiff												
							13-14-14					12			
		3.5	25.5+/-												
			SANDY LEAN CLAY (CL), fine grained, medium plasticity, brown, stiff	5											
							4-6-6	2.0 (HP)				20	93		
1			medium stiff	10											
							2-2-6	1.0 (HP)				23	91		
		13.5	15.5+/-												
			LEAN CLAY (CL), fine grained, brown, medium stiff, trace sand	15	▽										
							1-2-4	1.0 (HP)				30	91		
			hard	20											
							4-11-12	4.5+ (HP)				19	106		
		21.5	7.5+/-												
			Boring Terminated at 21.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

▽ *At completion of drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-14-2018 Boring Completed: 11-14-2018

Drill Rig: D50 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B21

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7557° Longitude: -121.3874°
Northing: 37.75565399 Easting: -121.387428

Approximate Surface Elev.: 29 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
			LEAN CLAY WITH SAND (CL), fine grained, medium plasticity, dark brown, stiff												
		4.0	25+/-				3-7-10					16			
1			**SANDY LEAN CLAY (CL)**, fine grained, medium plasticity, yellow brown, stiff	5			4-7-9	2.0 (HP)				15	98		
			soft to medium stiff	10			2-2-4	0.75 (HP)	UC	0.23	1.8	26	90		
		12.0	17+/-												
2			**SANDY SILT (ML)**, low plasticity, yellow brown	15	▽		6-7-8	2.75 (HP)				22	98		
		18.0	11+/-												
1			**LEAN CLAY WITH SAND (CL)**, fine grained, medium plasticity, reddish yellow, very stiff	20			5-8-13	2.0 (HP)				23	98		
		21.5	7.5+/-												
			Boring Terminated at 21.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-12-2018 Boring Completed: 11-12-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B22

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7558° Longitude: -121.3864°
Northing: 37.75578071 Easting: -121.3863862

Approximate Surface Elev.: 31 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1			**LEAN CLAY (CL)**, fine to medium grained, medium plasticity, dark brown and light brown, stiff				4-6-8					16			
1			yellow brown, stiff to very stiff	5			5-8-12	3.75 (HP)	UC	2.00	5.5	18	98		
		8.5													
2		13.0	**SILT (ML)**, fine grained, nonplastic, yellow brown, soft, trace sand	10			2-1-2	0.25 (HP)				29	78		
		18+/-													
1		21.5	**LEAN CLAY (CL)**, medium plasticity, yellow brown, very stiff	15	▽		3-7-8	3.75 (HP)				23	95		
		9.5+/-		20			4-5-9	2.5 (HP)				29	88		
			Boring Terminated at 21.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-12-2018 Boring Completed: 11-12-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B23

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7559° Longitude: -121.3852°
Northing: 37.75593911 Easting: -121.3851974

Approximate Surface Elev.: 32 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1															
							4-6-6	4.5+ (HP)				16			
				5			1-5-9	2.0 (HP)				19	89		
				10			3-5-5	2.5 (HP)				30	78		
				15	▽		4-7-8					22	83		20
				20			29-20-18					10	105		

LEAN CLAY (CL), medium plasticity, dark brown, hard

yellow brown, stiff

13.5 18.5+/-

3

SILTY SAND (SM), fine to medium grained, yellow brown, medium dense

20.0 12+/-

SILTY SAND WITH GRAVEL (SM), fine to coarse grained, yellow brown, dense

21.5 10.5+/-

Boring Terminated at 21.5 Feet

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-13-2018 Boring Completed: 11-13-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B24

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7554° Longitude: -121.3888°
Northing: 37.75537083 Easting: -121.3888276

Approximate Surface Elev.: 29 (Ft.) +/-

MODEL LAYER	DEPTH	ELEVATION (Ft.)	DESCRIPTION	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1	0	29	**LEAN CLAY (CL)**, medium plasticity, brown, very stiff										
					10-11-13					15			
	4.5	24.5+/-											
			SANDY SILT (ML), fine grained, nonplastic, brown, dense										
	5				10-23-25	2.25 (HP)				8	99		
	8.5	20.5+/-											
3			**SILTY SAND WITH GRAVEL (SM)**, fine to coarse grained, brown, medium dense										
	10				9-10-11					10	117		15
	13.5	15.5+/-											
2			**SANDY SILT (ML)**, fine grained, nonplastic, brown, medium dense										
	15			▽	11-12-11	3.75 (HP)				19	94		
	16.0	13+/-											
1			**SANDY LEAN CLAY WITH GRAVEL (CL)**, fine to coarse grained, medium plasticity, brown, very stiff										
	18.0	11+/-											
			SANDY LEAN CLAY (CL), fine to medium grained, brown, hard										
	20				7-10-14	4.25 (HP)				16	112		
	21.5	7.5+/-											
			Boring Terminated at 21.5 Feet										

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

▽ *At completion of drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-14-2018 Boring Completed: 11-14-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B25

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7551° Longitude: -121.3874°
Northing: 37.75506263 Easting: -121.3873745

Approximate Surface Elev.: 29 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1															
			LEAN CLAY (CL), fine to medium grained, medium plasticity, dark brown, hard												
		3.5	25.5+/-				5-7-8	4.5+ (HP)				14			
3			**SILTY SAND WITH GRAVEL (SM)**, medium to coarse grained, brown and gray, loose	5			3-4-4					6	102		25
		8.5	20.5+/-												
1			**SANDY LEAN CLAY WITH GRAVEL (CL)**, fine to coarse grained, medium plasticity, yellow brown, medium stiff	10			4-5-5	0.75 (HP)				9	94		
		12.5	16.5+/-												
3			**SILTY SAND (SM)**, fine to coarse grained, yellow brown, gray and brown, medium dense	15	▽		8-9-18					17	96		
		18.5	10.5+/-												
1			**LEAN CLAY (CL)**, medium plasticity, yellow brown, stiff	20			2-4-5	1.5 (HP)				41	82		
		21.5	7.5+/-												
			Boring Terminated at 21.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-12-2018 Boring Completed: 11-12-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B26

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7549° Longitude: -121.3853°
Northing: 37.75494647 Easting: -121.3853043

Approximate Surface Elev.: 31 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
			LEAN CLAY (CL), medium plasticity, brown, stiff												
							4-5-5					17			
		3.5	27.5+/-												
1			**LEAN CLAY WITH SAND (CL)**, fine grained, brown, very stiff	5			4-7-10	3.5 (HP)				19	97	29-15-14	
		8.5	22.5+/-												
3			**POORLY GRADED SAND WITH SILT (SP-SM)**, fine to coarse grained, brown, medium dense	10			3-9-10					3	98		
		13.5	17.5+/-		▽										
			LEAN CLAY WITH SAND (CL), fine grained, medium plasticity, brown, stiff to very stiff	15	▽		3-5-7	2.25 (HP)	UC	1.50	15	22	96		
1															
		21.5	9.5+/-	20			2-4-8	1.5 (HP)				20	109		
			Boring Terminated at 21.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with bentonite grout 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

▽ *While drilling*

▽ *At completion of drilling*

902 Industrial Way
Lodi, CA

Boring Started: 11-14-2018 Boring Completed: 11-14-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B27

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7609° Longitude: -121.388°
Northing: 37.76093379 Easting: -121.388029

Approximate Surface Elev.: 34 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1		0													
			LEAN CLAY (CL), medium plasticity, dark brown, very stiff				3-4-5	2.25 (HP)				23	95		
				5			4-8-10	2.5 (HP)				22	102		
		6.3	27.5+/-												
		6.5	27.5+/- **SANDY LEAN CLAY (CL)**, medium plasticity, brown, very stiff												
			Boring Terminated at 6.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with soil 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

902 Industrial Way
Lodi, CA

Boring Started: 11-06-2018 Boring Completed: 11-06-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B28

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.761° Longitude: -121.386°
Northing: 37.76102883 Easting: -121.3859588

Approximate Surface Elev.: 25 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1															
			LEAN CLAY (CL), medium plasticity, dark brown, very stiff				6-6-6	2.75 (HP)				19	106		
			brown, stiff	5			2-2-2	1.25 (HP)				21	102		
		6.5	18.5+/-												
			Boring Terminated at 6.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with soil 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

902 Industrial Way
Lodi, CA

Boring Started: 11-06-2018 Boring Completed: 11-06-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B29

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7603° Longitude: -121.389°
Northing: 37.760258 Easting: -121.388964

Approximate Surface Elev.: 28 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1		0	28												
							4-5-7	4.5 (HP)				14	104		
				5											
							4-5-6	3.5 (HP)				18	85		
		6.5	21.5+/-												

LEAN CLAY (CL), dark brown, hard

brown, very stiff

Boring Terminated at 6.5 Feet

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with soil 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

902 Industrial Way
Lodi, CA

Boring Started: 11-06-2018 Boring Completed: 11-06-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B30

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

MODEL LAYER	GRAPHIC LOG	LOCATION See Exploration Plan Latitude: 37.7603° Longitude: -121.3851° Northing: 37.76030024 Easting: -121.3851039 Approximate Surface Elev.: 29 (Ft.) +/- DEPTH / ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1		**LEAN CLAY (CL)**, medium plasticity, dark brown, very stiff												
						4-5-8	3.75 (HP)				19	105		
		brown	5											
						4-7-9	3.5 (HP)				15	115		
		6.5 / 22.5+/-												
		Boring Terminated at 6.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with soil 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

902 Industrial Way
Lodi, CA

Boring Started: 11-06-2018 | Boring Completed: 11-06-2018

Drill Rig: CME 75 | Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B31

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7593° Longitude: -121.389°
Northing: 37.75931821 Easting: -121.3890174

Approximate Surface Elev.: 26 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1		0	26												
							5-4-4					15	100		
				5											
							2-4-8					22	104		
		6.5	19.5+/-												

LEAN CLAY (CL), medium plasticity, dark brown, medium stiff

brown, stiff

Boring Terminated at 6.5 Feet

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with soil 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

902 Industrial Way
Lodi, CA

Boring Started: 11-09-2018 Boring Completed: 11-09-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B32

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7591° Longitude: -121.3851°
Northing: 37.7591387 Easting: -121.3850772

Approximate Surface Elev.: 27 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1															
							7-7-9	4.0 (HP)				18	107		
				5			4-5-7	2.25 (HP)				30	96		
		6.5	20.5+/-												

LEAN CLAY (CL), medium plasticity, dark brown, very stiff

brown

Boring Terminated at 6.5 Feet

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with soil 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

902 Industrial Way
Lodi, CA

Boring Started: 11-06-2018 Boring Completed: 11-06-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B33

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7585° Longitude: -121.3885°
Northing: 37.75849457 Easting: -121.3884564

Approximate Surface Elev.: 28 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1			**LEAN CLAY (CL)**, medium plasticity, dark brown, very stiff												
		3.5	24.5+/-				4-5-5	3.75 (HP)				16	111		
			SANDY LEAN CLAY (CL), fine grained, medium plasticity, brown, stiff	5											
		6.5	21.5+/-				2-3-3	2 (HP)				17	107		
			Boring Terminated at 6.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with soil 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

902 Industrial Way
Lodi, CA

Boring Started: 11-06-2018 Boring Completed: 11-06-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B34

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7585° Longitude: -121.3858°
Northing: 37.75850513 Easting: -121.3858252

Approximate Surface Elev.: 30 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1			**LEAN CLAY (CL)**, medium plasticity, dark brown, very stiff												
							5-5-7	3.5 (HP)				22	100		
		3.5	26.5+/-												
			LEAN CLAY WITH SAND (CL), fine grained, medium plasticity, brown, stiff	5											
							2-3-4	2 (HP)				30	91		
		6.5	23.5+/-												
			Boring Terminated at 6.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with soil 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

902 Industrial Way
Lodi, CA

Boring Started: 11-06-2018 Boring Completed: 11-06-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B35

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.758° Longitude: -121.3877°
Northing: 37.75802995 Easting: -121.3876951

Approximate Surface Elev.: 31 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1			**LEAN CLAY (CL)**, medium plasticity, dark brown, hard												
		3.5	27.5+/-				5-5-7	4.5+ (HP)				18	109		
			LEAN CLAY WITH SAND (CL), fine grained, medium plasticity, brown, very stiff	5											
		6.5	24.5+/-				4-8-9	3 (HP)				20	109		
			Boring Terminated at 6.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with soil 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

902 Industrial Way
Lodi, CA

Boring Started: 11-06-2018 | Boring Completed: 11-06-2018

Drill Rig: CME 75 | Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B36

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7581° Longitude: -121.3863°
Northing: 37.75805107 Easting: -121.386266

Approximate Surface Elev.: 32 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
			LEAN CLAY (CL), medium plasticity, dark brown, very stiff												
1		2.5	29.5+/-				5-6-7	4 (HP)				17	109		
			FAT CLAY (CH), fine to medium grained, brown												
		4.5	27.5+/-												
3			**CLAYEY SAND (SC)**, fine to medium grained, brown	5			2-3-3	2.0 (HP)				14	104		
		6.5	25.5+/-												
			Boring Terminated at 6.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with soil 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

902 Industrial Way
Lodi, CA

Boring Started: 11-06-2018 Boring Completed: 11-06-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B37

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7566° Longitude: -121.3858°
Northing: 37.7565727 Easting: -121.3857584

Approximate Surface Elev.: 28 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1															
			LEAN CLAY (CL), medium plasticity, dark brown, very stiff				4-5-6	2.5 (HP)				18			
			brown, stiff	5			3-2-3	1.5 (HP)				16			
		6.5	21.5+/-												

Boring Terminated at 6.5 Feet

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with soil 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

902 Industrial Way
Lodi, CA

Boring Started: 11-12-2018 Boring Completed: 11-12-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B38

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7562° Longitude: -121.3877°
Northing: 37.75616087 Easting: -121.3877085

Approximate Surface Elev.: 27 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1															
			LEAN CLAY (CL), medium plasticity, dark brown, hard												
							5-5-5	4.5+ (HP)				15	107		
		3.5	23.5+/-												
			LEAN CLAY WITH SAND (CL), fine grained, medium plasticity, brown, stiff	5											
							2-2-4	2.0 (HP)				20	102		
		6.5	20.5+/-												
			Boring Terminated at 6.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with soil 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

902 Industrial Way
Lodi, CA

Boring Started: 11-06-2018 Boring Completed: 11-06-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B39

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7561° Longitude: -121.3858°
Northing: 37.75612919 Easting: -121.3857985

Approximate Surface Elev.: 26 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1			**LEAN CLAY (CL)**, medium plasticity, dark brown, hard												
							4-6-6	4.5+ (HP)				15			
		3.5	22.5+/-												
			LEAN CLAY WITH SAND (CL), fine grained, medium plasticity, brown, stiff	5											
							2-2-3	1.5 (HP)				18	96		
		6.5	19.5+/-												
			Boring Terminated at 6.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with soil 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

902 Industrial Way
Lodi, CA

Boring Started: 11-12-2018 Boring Completed: 11-12-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B40

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7547° Longitude: -121.3881°
Northing: 37.7547247 Easting: -121.3881492

Approximate Surface Elev.: 30 (Ft.) +/-

DEPTH ELEVATION (Ft.)

MODEL LAYER	GRAPHIC LOG	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1		0											
					4-4-5	4.25 (HP)				18	92		
		5			3-4-4	1.5 (HP)				20	92		

LEAN CLAY (CL), medium plasticity, dark brown, hard, trace sand

brown, stiff

6.5 23.5+/-

Boring Terminated at 6.5 Feet

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with soil 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

902 Industrial Way
Lodi, CA

Boring Started: 11-06-2018 Boring Completed: 11-06-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

BORING LOG NO. B41

PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

LOCATION See Exploration Plan

Latitude: 37.7547° Longitude: -121.386°
Northing: 37.75469302 Easting: -121.3859721

Approximate Surface Elev.: 31 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	LABORATORY HP (tsf)	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (tsf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
1			**LEAN CLAY (CL)**, medium plasticity, dark brown, hard, trace sand												
							3-4-6	4.25 (HP)				16	101		
				5											
		5.5	25.5+/-												
3		6.5	24.5+/- **SILTY SAND (SM)**, fine to medium grained, brown, loose				2-2-2					8	102		
			Boring Terminated at 6.5 Feet												

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

Hammer Type: Automatic

Advancement Method:
6" Hollow stem auger

Abandonment Method:
Boring backfilled with soil 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.

Elevations obtained using Google Earth

Notes:

WATER LEVEL OBSERVATIONS

Groundwater not encountered

902 Industrial Way
Lodi, CA

Boring Started: 11-06-2018 Boring Completed: 11-06-2018

Drill Rig: CME 75 Driller: R. Anderson

Project No.: NA185148

CPT LOG NO. CPT-01

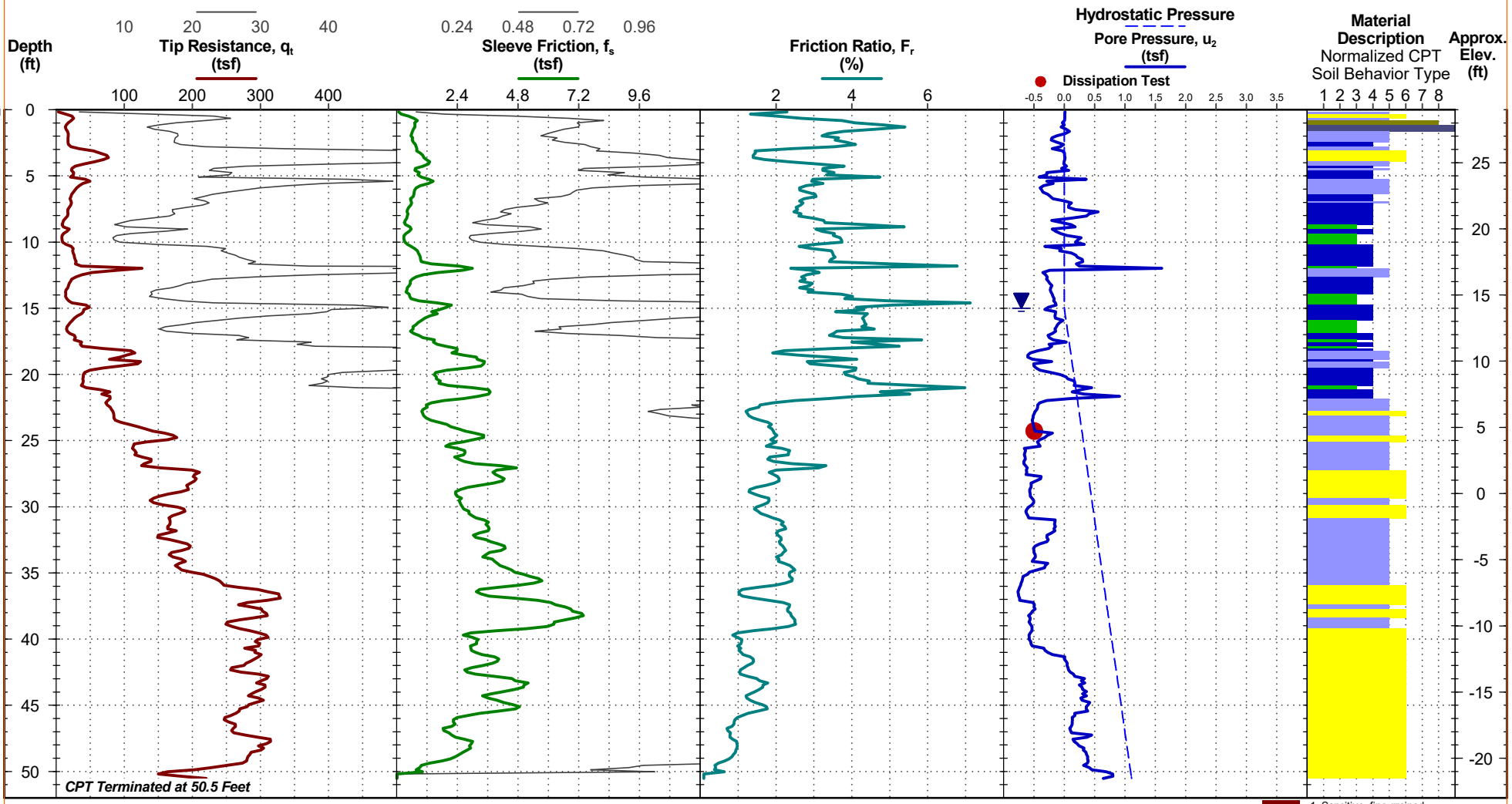
PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

TEST LOCATION: See Exploration Plan

Approx. Surface Elev: 29 ft +/-
Latitude: 37.76063813°
Longitude: -121.3886568°



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

Dead weight of rig used as reaction force.
CPT sensor calibration reports available upon request.

1 Sensitive, fine grained
2 Organic soils - clay
3 Clay - silty clay to clay
4 Silt mixtures - clayey silt to silty clay
5 Sand mixtures - silty sand to sandy silt
6 Sands - clean sand to silty sand
7 Gravelly sand to dense sand
8 Very stiff sand to clayey sand
9 Very stiff fine grained

WATER LEVEL OBSERVATION
▼ 15 ft estimated water depth
(used in normalizations and correlations; See Supporting Information)

Probe no. DDG1418

Terracon
902 Industrial Way
Lodi, CA

CPT Started: 11/8/2018
CPT Completed: 11/8/2018
Rig: CPT
Operator: Middle Earth
Project No.: NA185148

CPT LOG NO. CPT-02

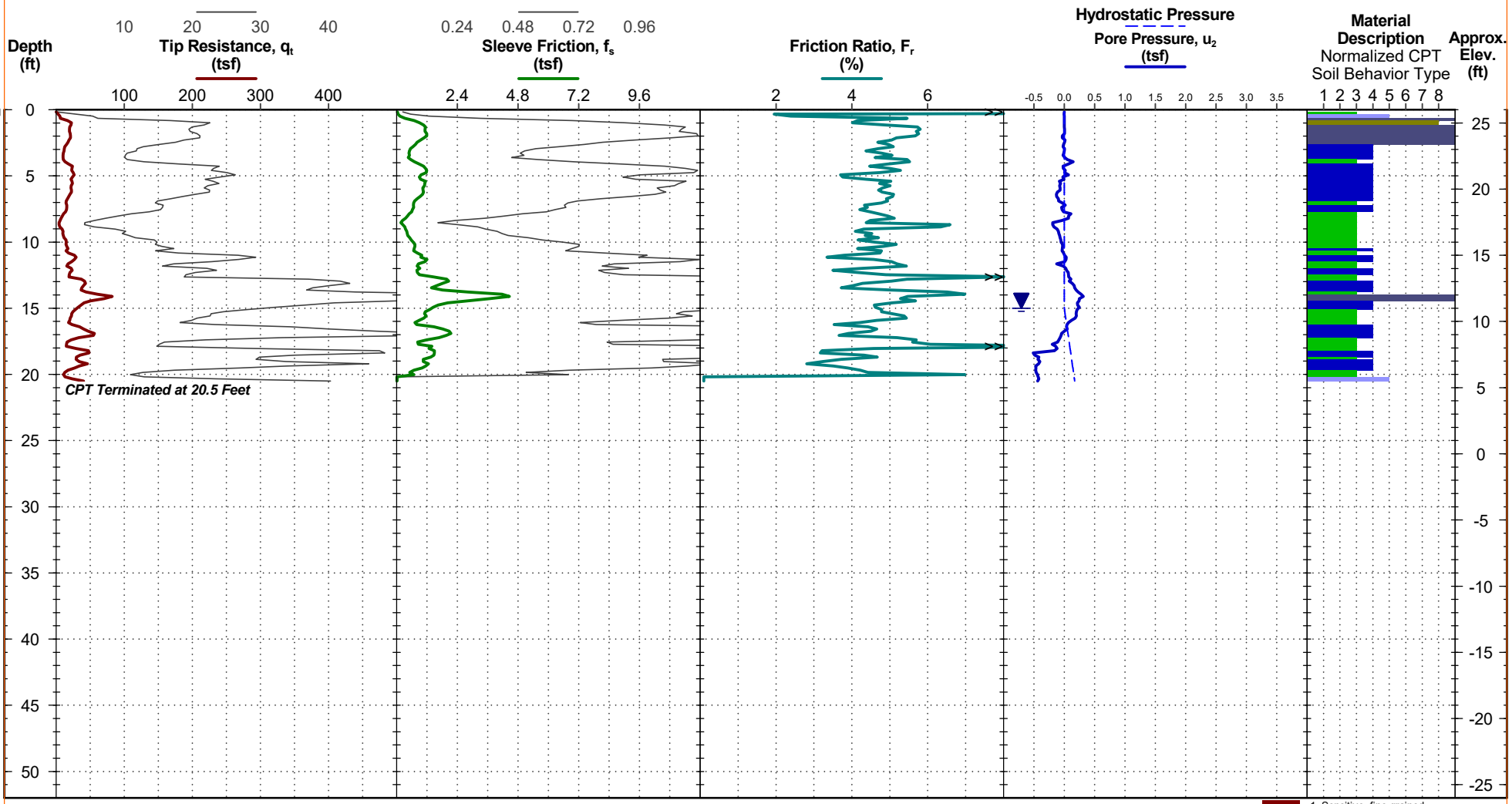
PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

TEST LOCATION: See Exploration Plan

Approx. Surface Elev: 26 ft +/-
Latitude: 37.75542167°
Longitude: -121.3881492°



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

Dead weight of rig used as reaction force.
CPT sensor calibration reports available upon request.

WATER LEVEL OBSERVATION
15 ft estimated water depth
(used in normalizations and correlations; See Supporting Information)

Probe no. DDG1418

Terracon
902 Industrial Way
Lodi, CA

CPT Started: 11/8/2018
CPT Completed: 11/8/2018
Rig: CPT
Operator: Middle Earth
Project No.: NA185148

CPT LOG NO. CPT-03

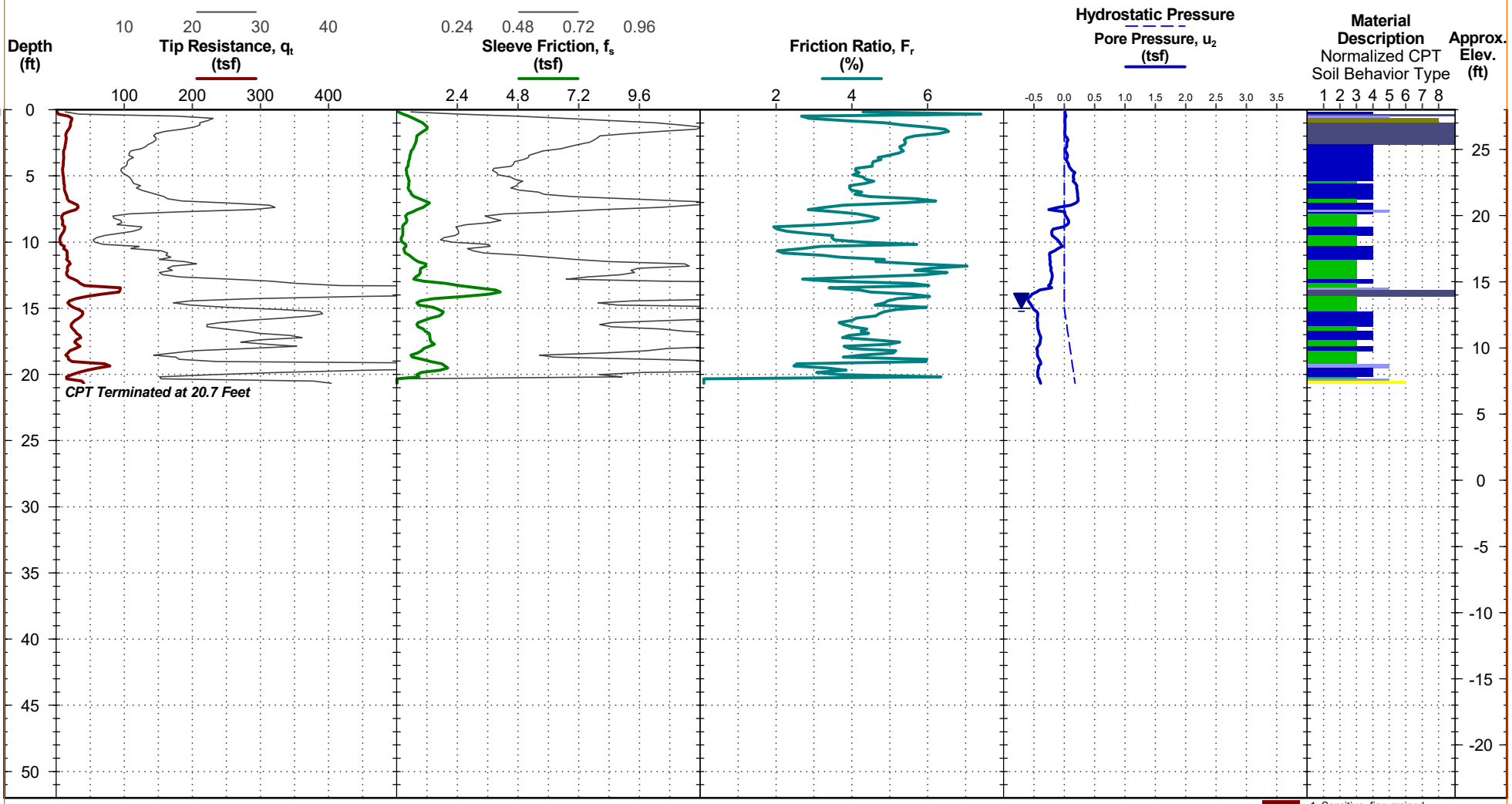
PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

TEST LOCATION: See Exploration Plan

Approx. Surface Elev: 28 ft +/-
Latitude: 37.75500983°
Longitude: -121.3863194°



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

Dead weight of rig used as reaction force.
CPT sensor calibration reports available upon request.

1 Sensitive, fine grained
2 Organic soils - clay
3 Clay - silty clay to clay
4 Silt mixtures - clayey silt to silty clay
5 Sand mixtures - silty sand to sandy silt
6 Sands - clean sand to silty sand
7 Gravelly sand to dense sand
8 Very stiff sand to clayey sand
9 Very stiff fine grained

WATER LEVEL OBSERVATION
15 ft estimated water depth
(used in normalizations and correlations; See Supporting Information)

Probe no. DDG1418

Terracon
902 Industrial Way
Lodi, CA

CPT Started: 11/8/2018
CPT Completed: 11/8/2018
Rig: CPT
Operator: Middle Earth
Project No.: NA185148

CPT LOG NO. CPT-04

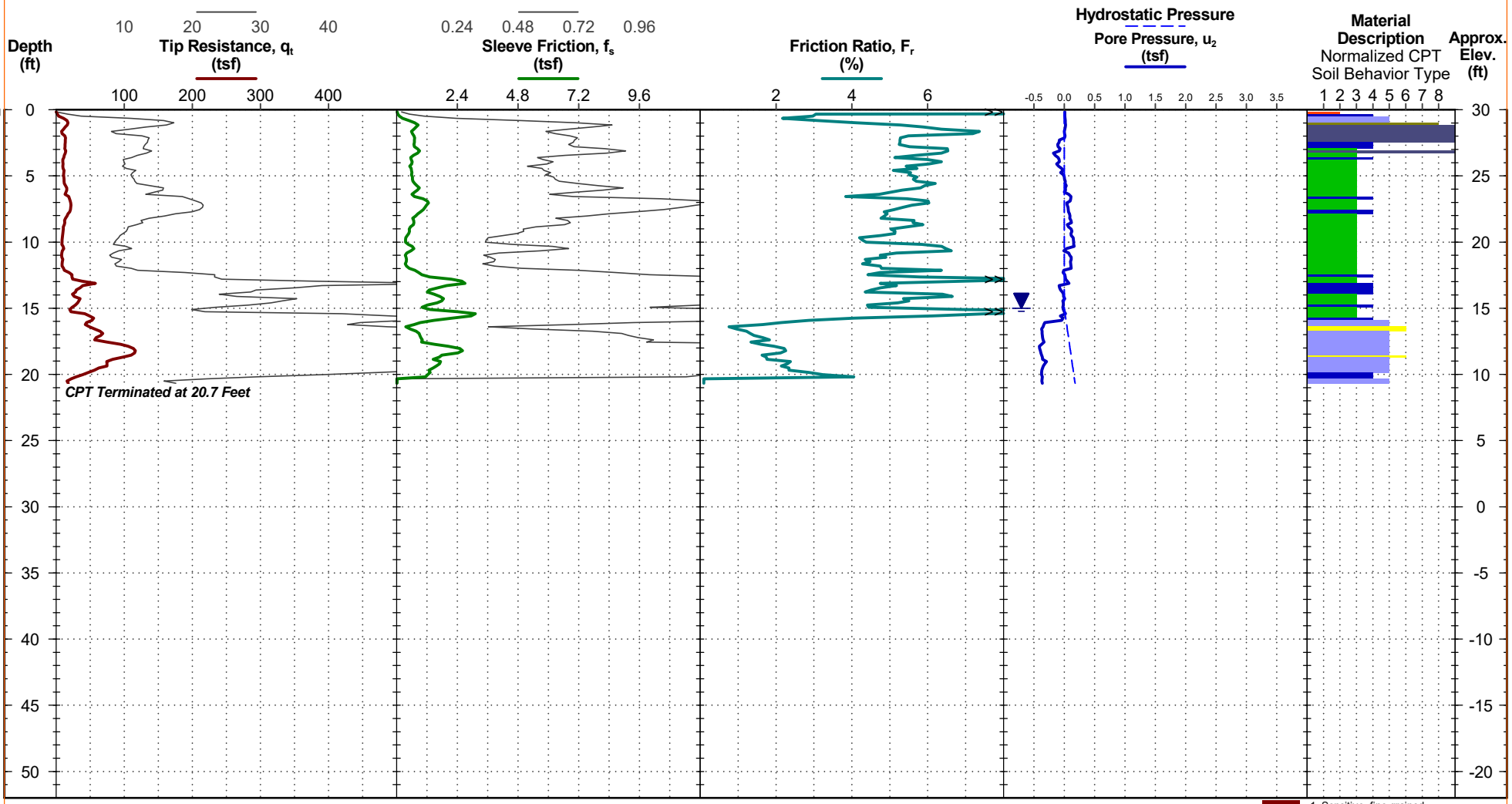
PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

TEST LOCATION: See Exploration Plan

Approx. Surface Elev: 30 ft +/-
Latitude: 37.75554839°
Longitude: -121.3856783°



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

Dead weight of rig used as reaction force.
CPT sensor calibration reports available upon request.

1 Sensitive, fine grained
2 Organic soils - clay
3 Clay - silty clay to clay
4 Silt mixtures - clayey silt to silty clay
5 Sand mixtures - silty sand to sandy silt
6 Sands - clean sand to silty sand
7 Gravelly sand to dense sand
8 Very stiff sand to clayey sand
9 Very stiff fine grained

WATER LEVEL OBSERVATION
▼ 15 ft estimated water depth
(used in normalizations and correlations; See Supporting Information)

Probe no. DDG1418

Terracon
902 Industrial Way
Lodi, CA

CPT Started: 11/8/2018
CPT Completed: 11/8/2018
Rig: CPT
Operator: Middle Earth
Project No.: NA185148

CPT LOG NO. CPT-05

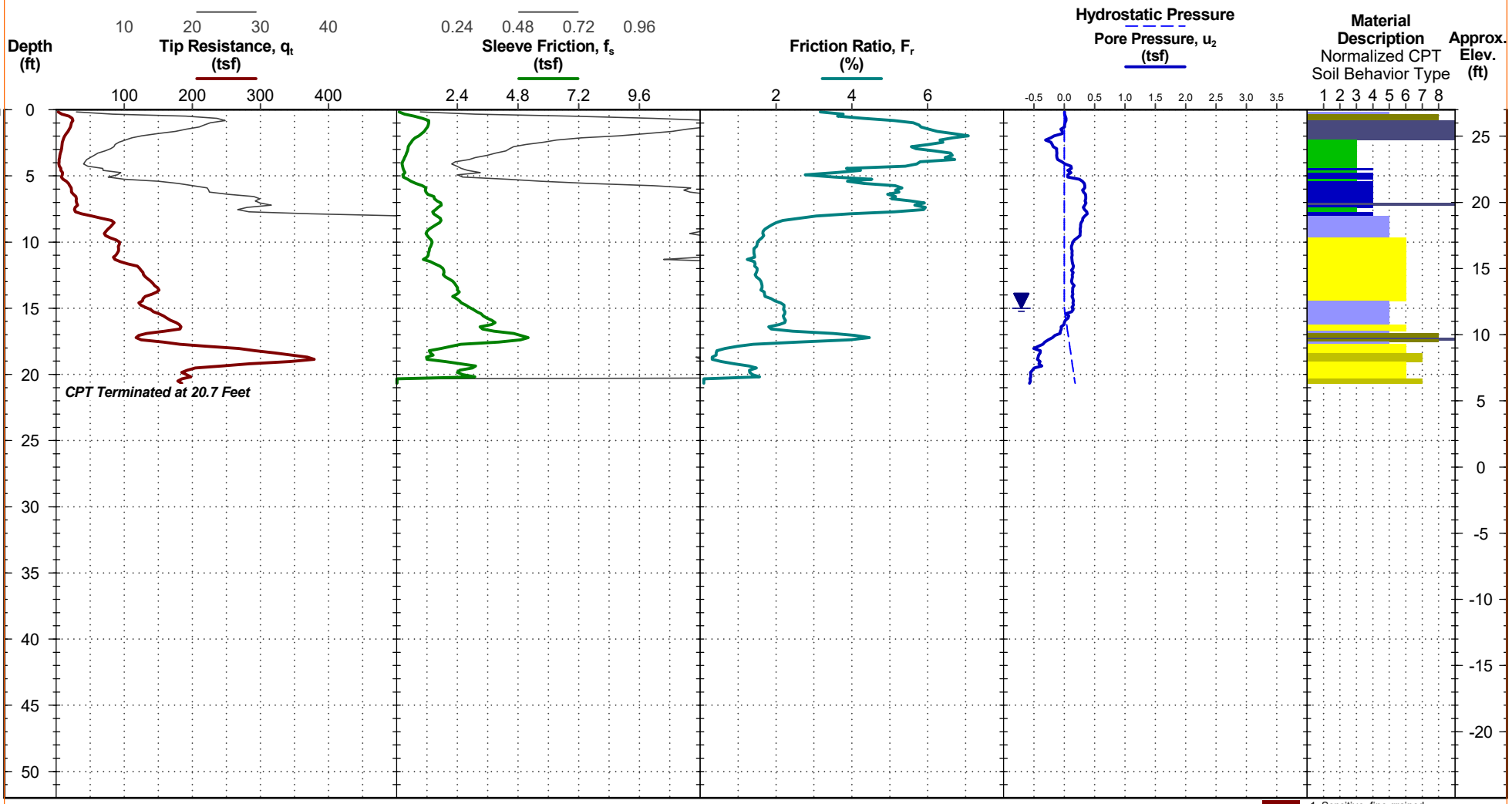
PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

TEST LOCATION: See Exploration Plan

Approx. Surface Elev: 27 ft +/-
Latitude: 37.75532899°
Longitude: -121.3850598°



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

Dead weight of rig used as reaction force.
CPT sensor calibration reports available upon request.

WATER LEVEL OBSERVATION
15 ft estimated water depth
(used in normalizations and correlations; See Supporting Information)

Probe no. DDG1418

Terracon
902 Industrial Way
Lodi, CA

CPT Started: 11/8/2018
CPT Completed: 11/8/2018
Rig: CPT
Operator: Middle Earth
Project No.: NA185148

CPT LOG NO. CPT-06

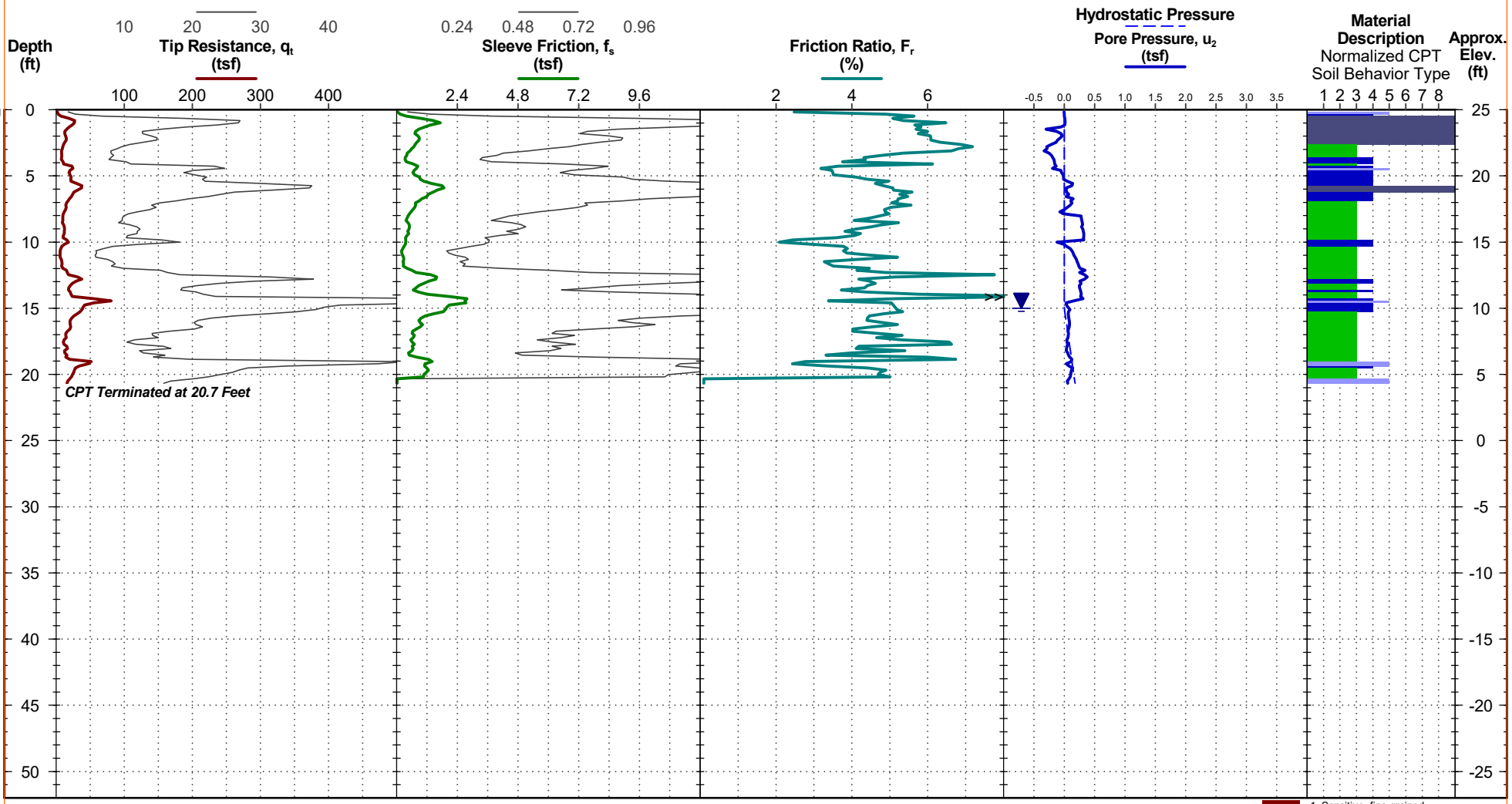
PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

TEST LOCATION: See Exploration Plan

Approx. Surface Elev: 25 ft +/-
Latitude: 37.76012073°
Longitude: -121.3882961°



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

Dead weight of rig used as reaction force.
CPT sensor calibration reports available upon request.

1 Sensitive, fine grained
2 Organic soils - clay
3 Clay - silty clay to clay
4 Silt mixtures - clayey silt to silty clay
5 Sand mixtures - silty sand to sandy silt
6 Sands - clean sand to silty sand
7 Gravelly sand to dense sand
8 Very stiff sand to clayey sand
9 Very stiff fine grained

WATER LEVEL OBSERVATION
▼ 15 ft estimated water depth
(used in normalizations and correlations; See Supporting Information)

Probe no. DDG1418

Terracon
902 Industrial Way
Lodi, CA

CPT Started: 11/8/2018
CPT Completed: 11/8/2018
Rig: CPT
Operator: Middle Earth
Project No.: NA185148

CPT LOG NO. CPT-07

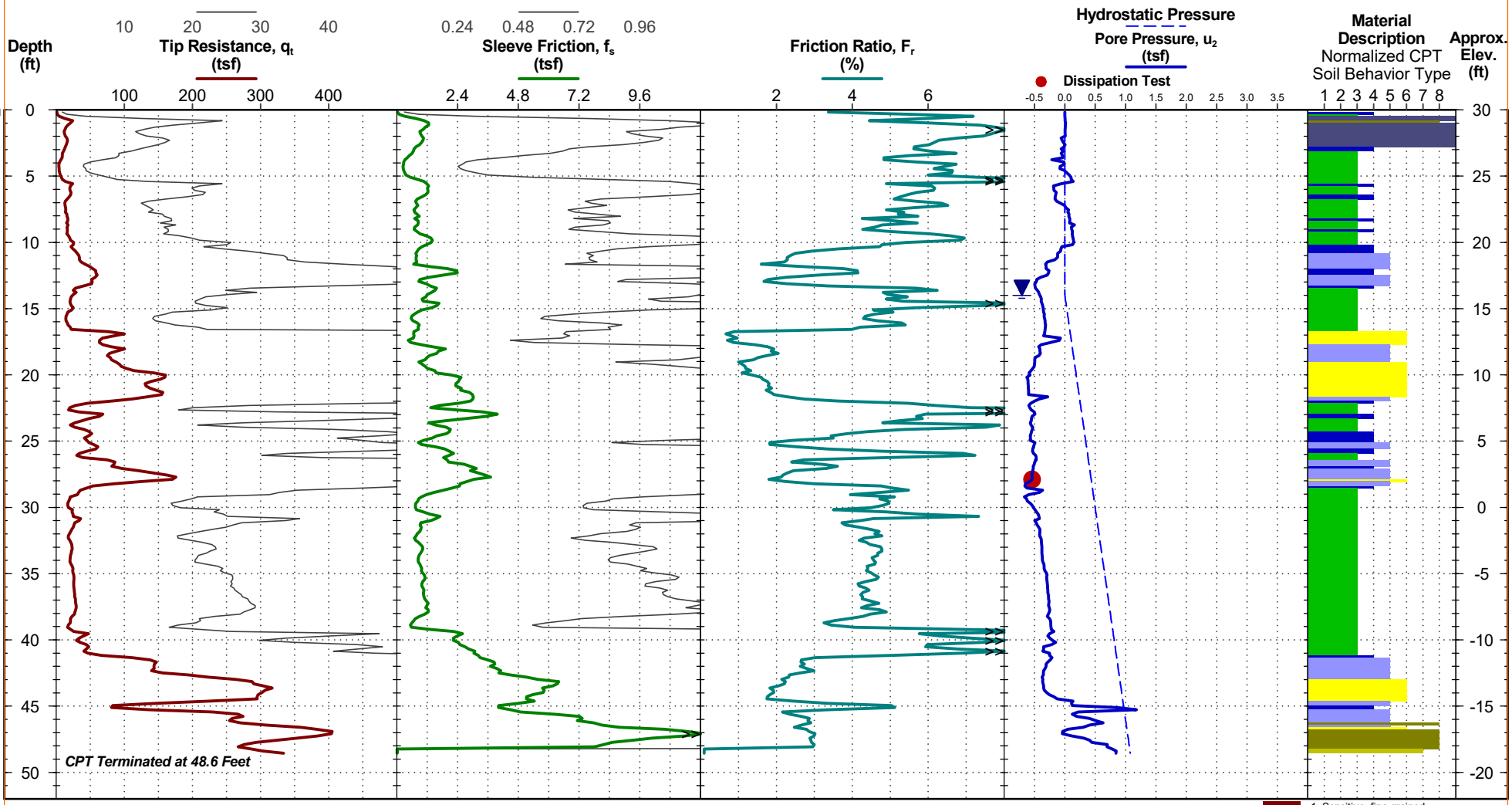
PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

TEST LOCATION: See Exploration Plan

Approx. Surface Elev: 30 ft +/-
Latitude: 37.76021576°
Longitude: -121.385932°



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

Dead weight of rig used as reaction force.
CPT sensor calibration reports available upon request.

1 Sensitive, fine grained
2 Organic soils - clay
3 Clay - silty clay to clay
4 Silt mixtures - clayey silt to silty clay
5 Sand mixtures - silty sand to sandy silt
6 Sands - clean sand to silty sand
7 Gravelly sand to dense sand
8 Very stiff sand to clayey sand
9 Very stiff fine grained

WATER LEVEL OBSERVATION
▼ 14 ft estimated water depth
(used in normalizations and correlations; See Supporting Information)

Probe no. DDG1418

Terracon
902 Industrial Way
Lodi, CA

CPT Started: 11/8/2018
CPT Completed: 11/8/2018
Rig: CPT
Operator: Middle Earth
Project No.: NA185148

CPT LOG NO. CPT-08

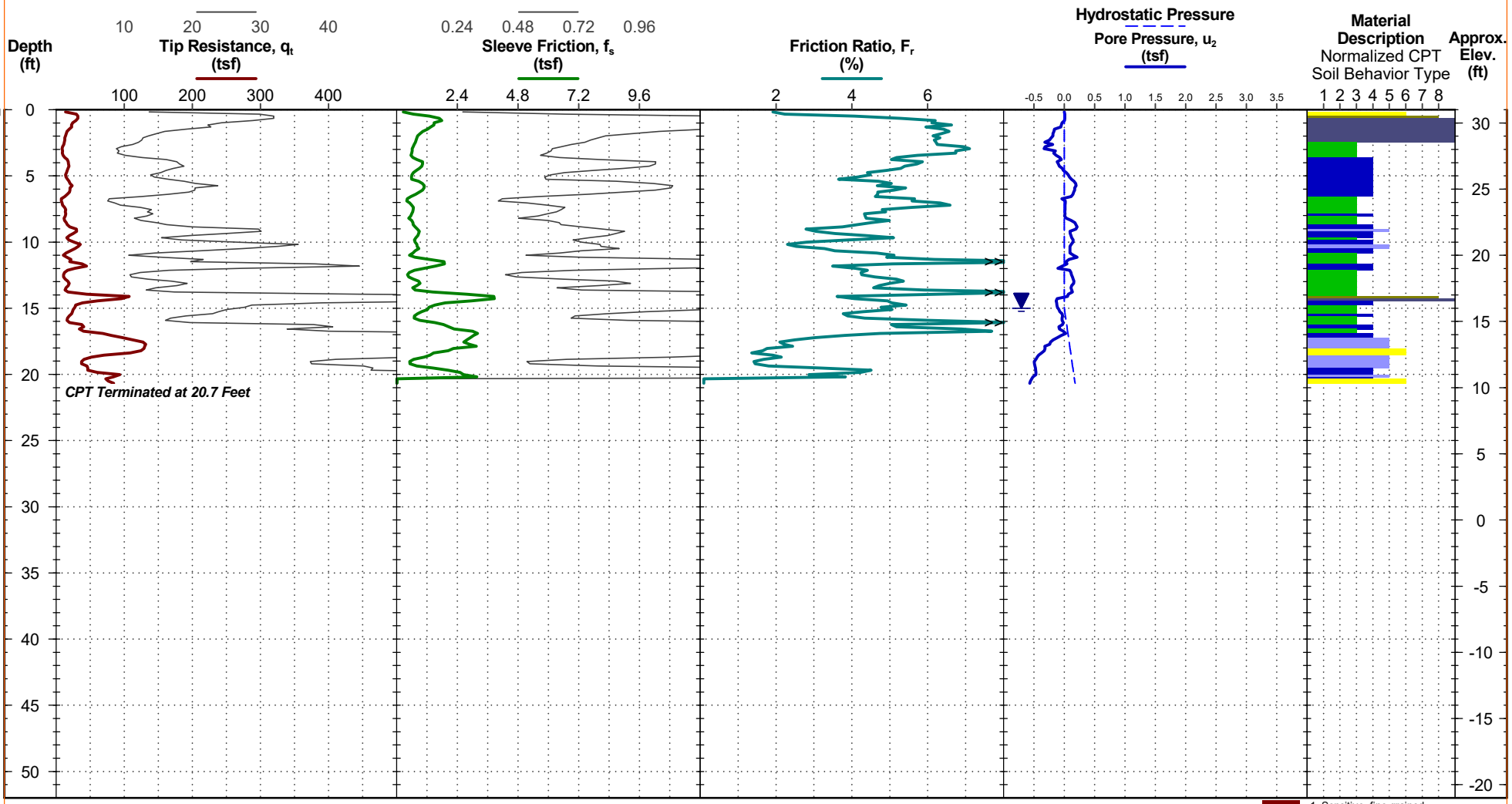
PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

TEST LOCATION: See Exploration Plan

Approx. Surface Elev: 31 ft +/-
Latitude: 37.75892751°
Longitude: -121.3886701°



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

Elevations obtained using Google Earth

Dead weight of rig used as reaction force.

CPT sensor calibration reports available upon request.

1 Sensitive, fine grained
2 Organic soils - clay
3 Clay - silty clay to clay
4 Silt mixtures - clayey silt to silty clay
5 Sand mixtures - silty sand to sandy silt
6 Sands - clean sand to silty sand
7 Gravelly sand to dense sand
8 Very stiff sand to clayey sand
9 Very stiff fine grained

WATER LEVEL OBSERVATION

▼ 15 ft estimated water depth
(used in normalizations and correlations; See Supporting Information)

Probe no. DDG1418

Terracon
902 Industrial Way
Lodi, CA

CPT Started: 11/8/2018

CPT Completed: 11/8/2018

Rig: CPT

Operator: Middle Earth

Project No.: NA185148

CPT LOG NO. CPT-09

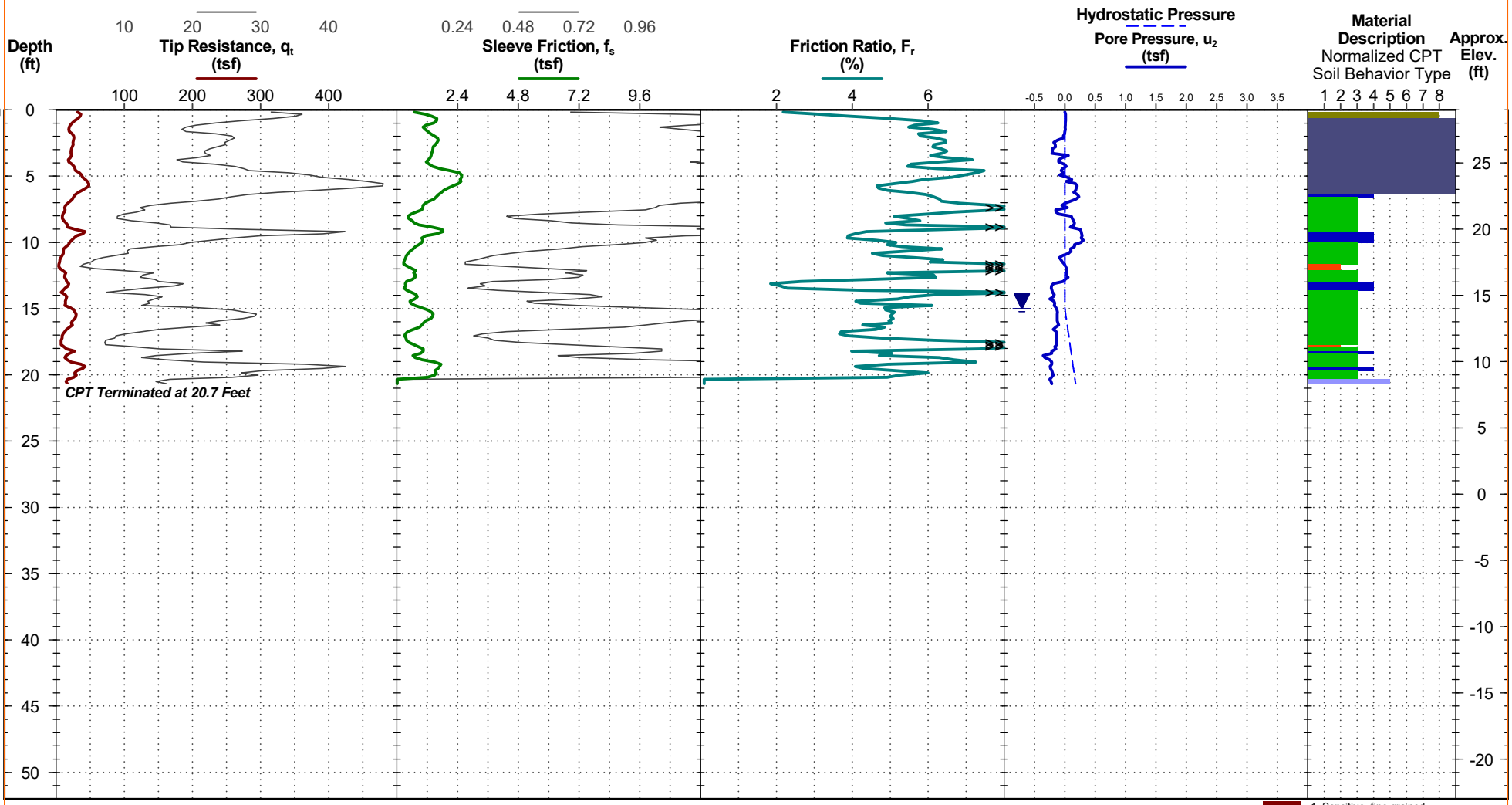
PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

TEST LOCATION: See Exploration Plan

Approx. Surface Elev: 29 ft +/-
Latitude: 37.75911758°
Longitude: -121.386306°



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

Dead weight of rig used as reaction force.
CPT sensor calibration reports available upon request.

1 Sensitive, fine grained
2 Organic soils - clay
3 Clay - silty clay to clay
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5 Sand mixtures - silty sand to sandy silt
6 Sands - clean sand to silty sand
7 Gravelly sand to dense sand
8 Very stiff sand to clayey sand
9 Very stiff fine grained

WATER LEVEL OBSERVATION
▼ 15 ft estimated water depth
(used in normalizations and correlations; See Supporting Information)

Probe no. DDG1418

Terracon
902 Industrial Way
Lodi, CA

CPT Started: 11/8/2018
CPT Completed: 11/8/2018
Rig: CPT
Operator: Middle Earth
Project No.: NA185148

CPT LOG NO. CPT-10

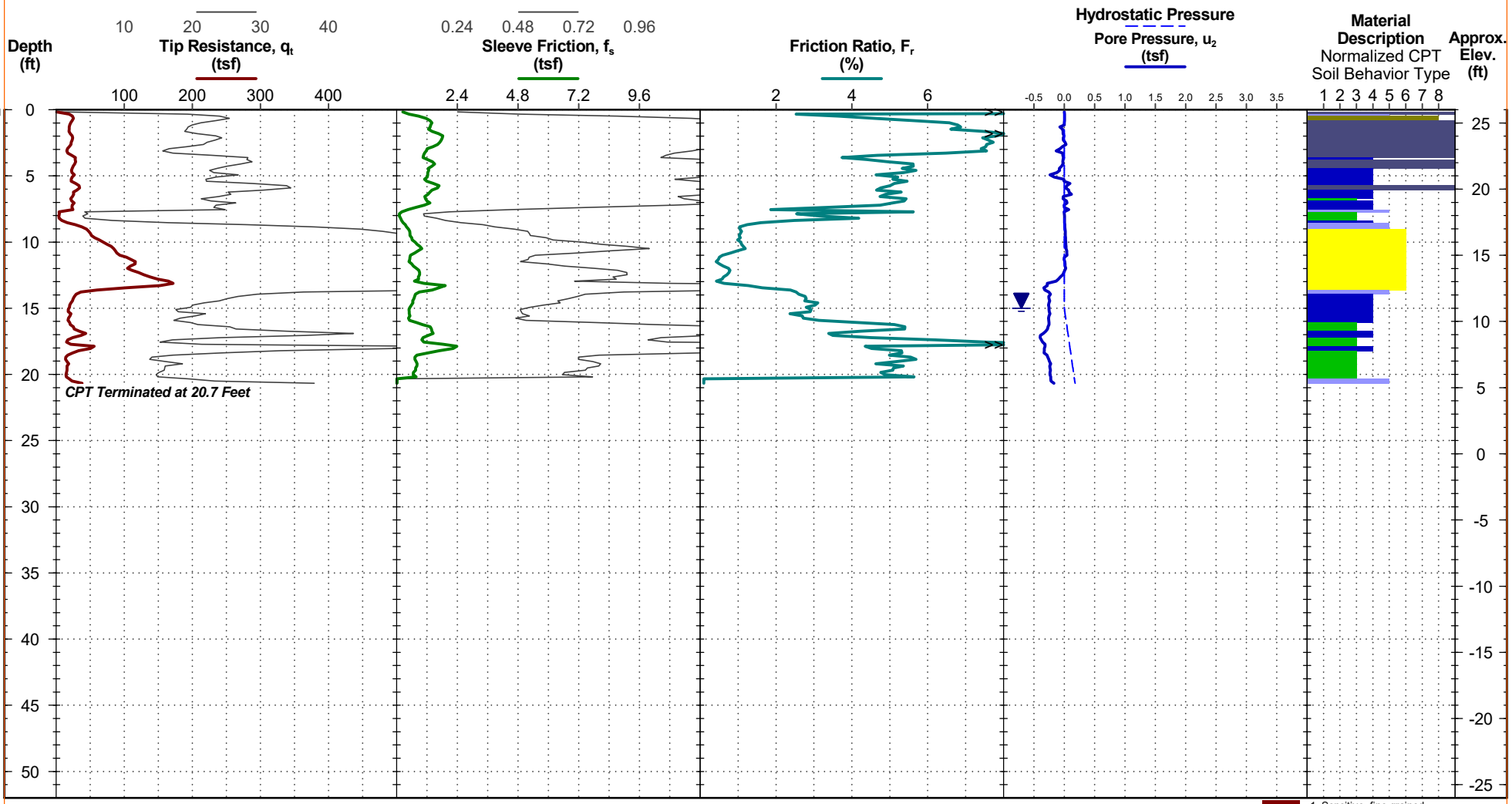
PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

TEST LOCATION: See Exploration Plan

Approx. Surface Elev: 26 ft +/-
Latitude: 37.75755476°
Longitude: -121.3882294°



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

Dead weight of rig used as reaction force.
CPT sensor calibration reports available upon request.

WATER LEVEL OBSERVATION
15 ft estimated water depth
(used in normalizations and correlations; See Supporting Information)

Probe no. DDG1418

Terracon
902 Industrial Way
Lodi, CA

CPT Started: 11/8/2018
CPT Completed: 11/8/2018
Rig: CPT
Operator: Middle Earth
Project No.: NA185148

CPT LOG NO. CPT-11

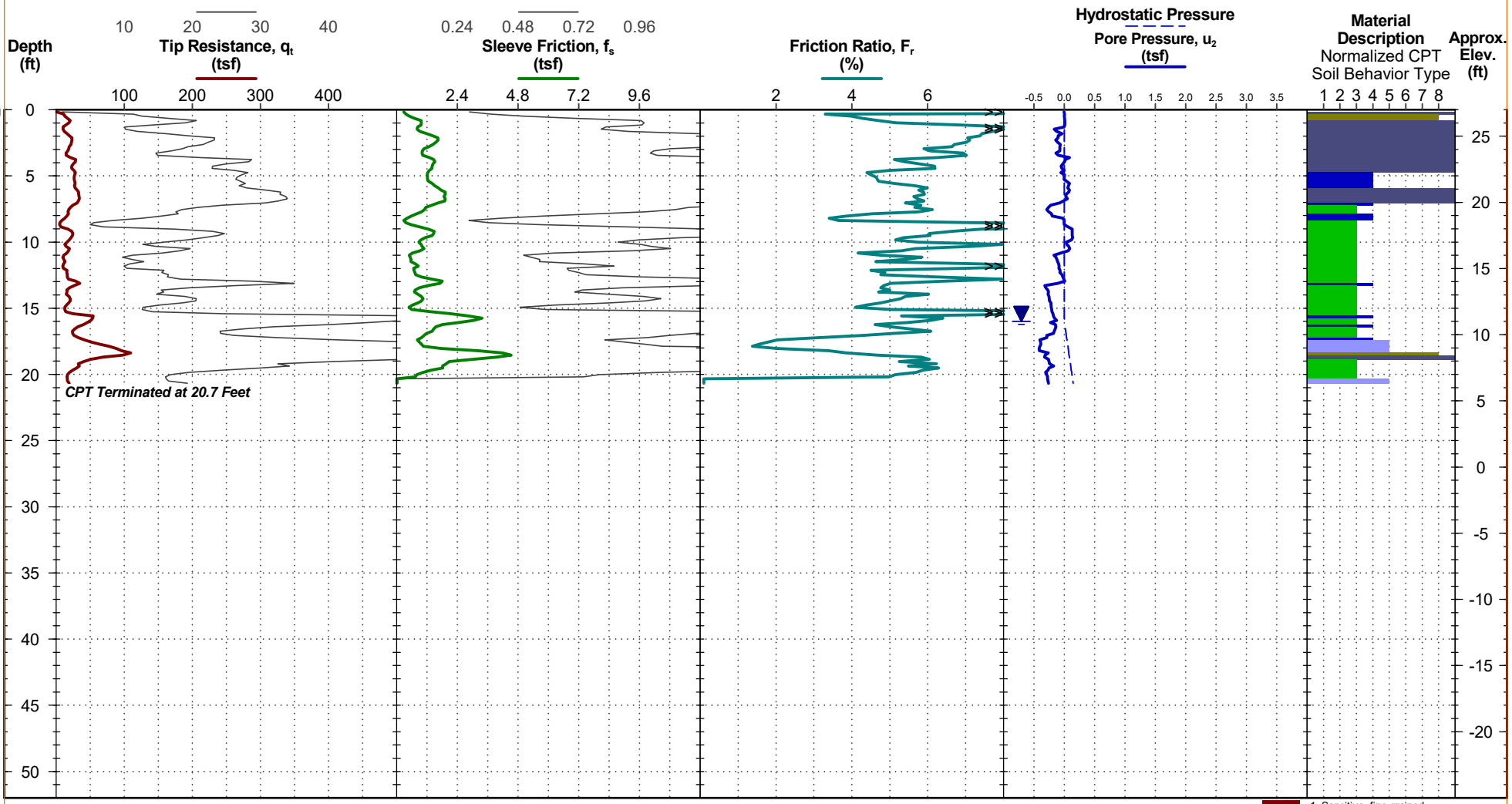
PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

TEST LOCATION: See Exploration Plan

Approx. Surface Elev: 27 ft +/-
Latitude: 37.75755483°
Longitude: -121.3868379°



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

Dead weight of rig used as reaction force.
CPT sensor calibration reports available upon request.

1 Sensitive, fine grained
2 Organic soils - clay
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5 Sand mixtures - silty sand to sandy silt
6 Sands - clean sand to silty sand
7 Gravelly sand to dense sand
8 Very stiff sand to clayey sand
9 Very stiff fine grained

WATER LEVEL OBSERVATION
▼ 16 ft estimated water depth
(used in normalizations and correlations; See Supporting Information)

Probe no. DDG1418

Terracon
902 Industrial Way
Lodi, CA

CPT Started: 11/8/2018
CPT Completed: 11/8/2018
Rig: CPT
Operator: Middle Earth
Project No.: NA185148

CPT LOG NO. CPT-12

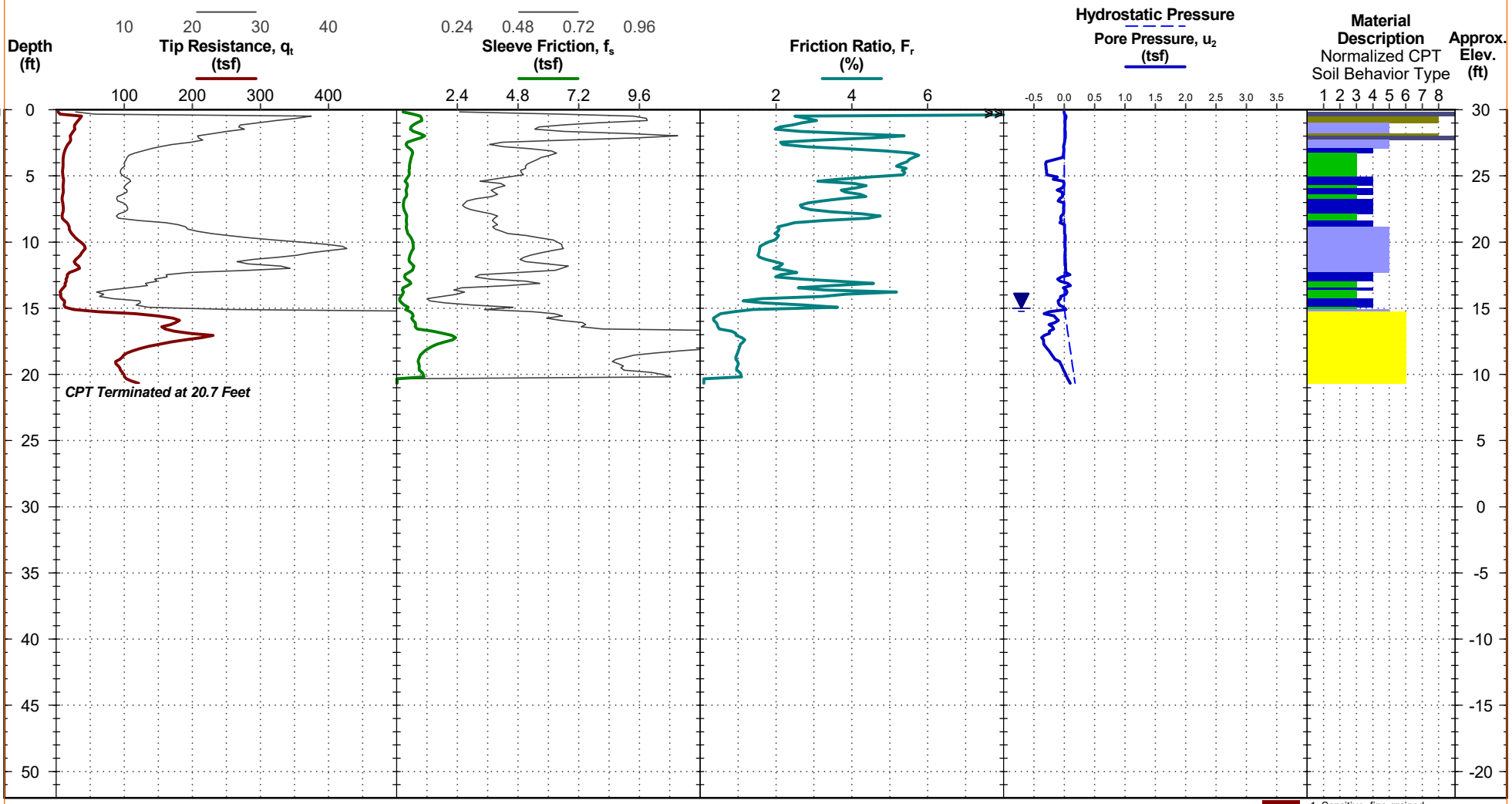
PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

TEST LOCATION: See Exploration Plan

Approx. Surface Elev: 30 ft +/-
Latitude: 37.75747028°
Longitude: -121.385892°



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

Dead weight of rig used as reaction force.
CPT sensor calibration reports available upon request.

1 Sensitive, fine grained
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7 Gravelly sand to dense sand
8 Very stiff sand to clayey sand
9 Very stiff fine grained

WATER LEVEL OBSERVATION
15 ft estimated water depth
(used in normalizations and correlations; See Supporting Information)

Probe no. DDG1418

Terracon
902 Industrial Way
Lodi, CA

CPT Started: 11/8/2018
CPT Completed: 11/8/2018
Rig: CPT
Operator: Middle Earth
Project No.: NA185148

CPT LOG NO. CPT-13

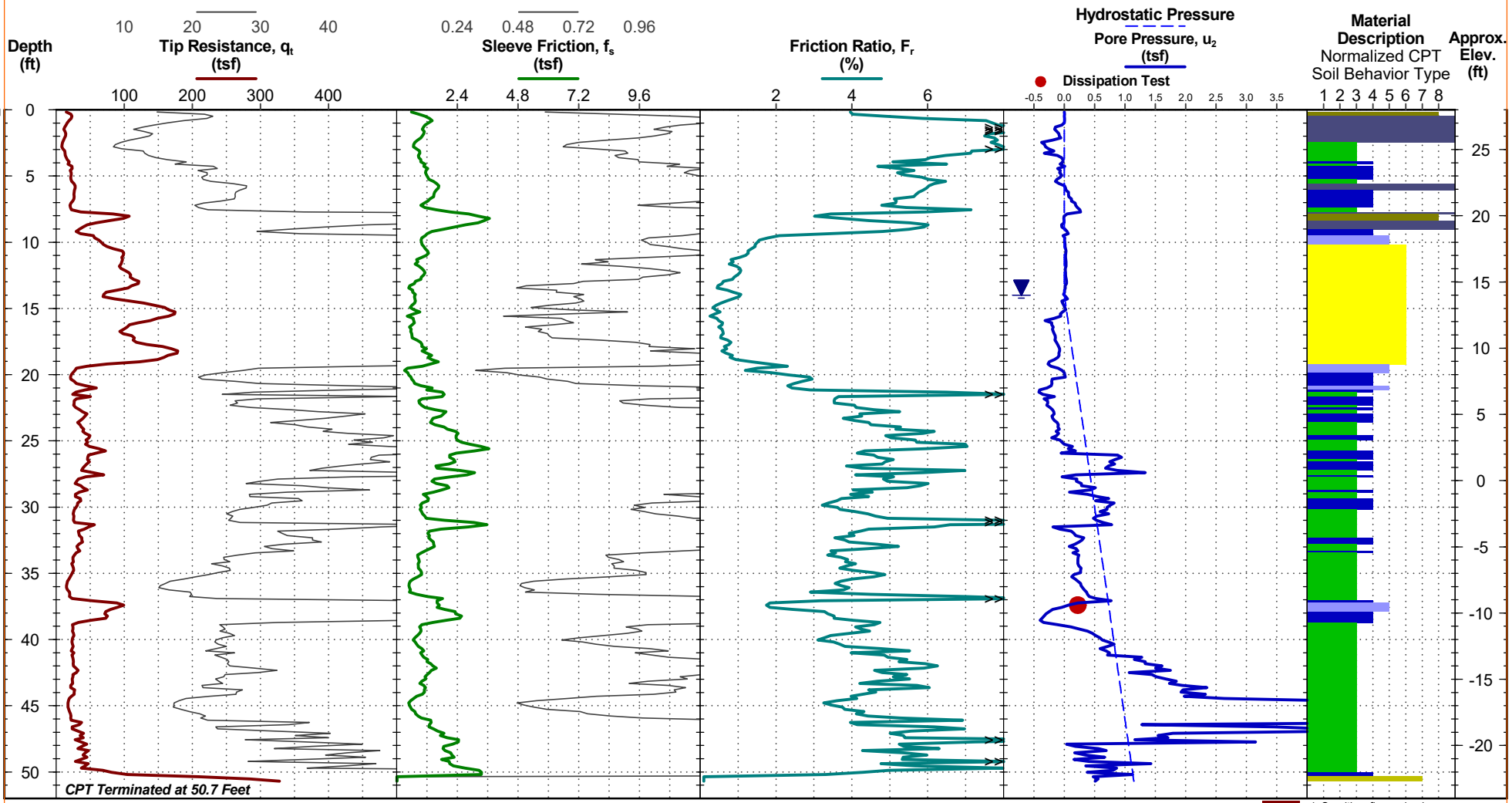
PROJECT: Tracy Ridge Warehouses

CLIENT: Ridge Capital, Inc.
Sacramento, CA

SITE: 6599 W Grant Line Road
Tracy, CA

TEST LOCATION: See Exploration Plan

Approx. Surface Elev: 28 ft +/-
Latitude: 37.75492534°
Longitude: -121.3886568°



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

Elevations obtained using Google Earth

Dead weight of rig used as reaction force.

CPT sensor calibration reports available upon request.

1 Sensitive, fine grained
2 Organic soils - clay
3 Clay - silty clay to clay
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7 Gravelly sand to dense sand
8 Very stiff sand to clayey sand
9 Very stiff fine grained

WATER LEVEL OBSERVATION

▼ 14 ft estimated water depth
(used in normalizations and correlations; See Supporting Information)

Probe no. DDG1418

Terracon
902 Industrial Way
Lodi, CA

CPT Started: 11/8/2018

CPT Completed: 11/8/2018

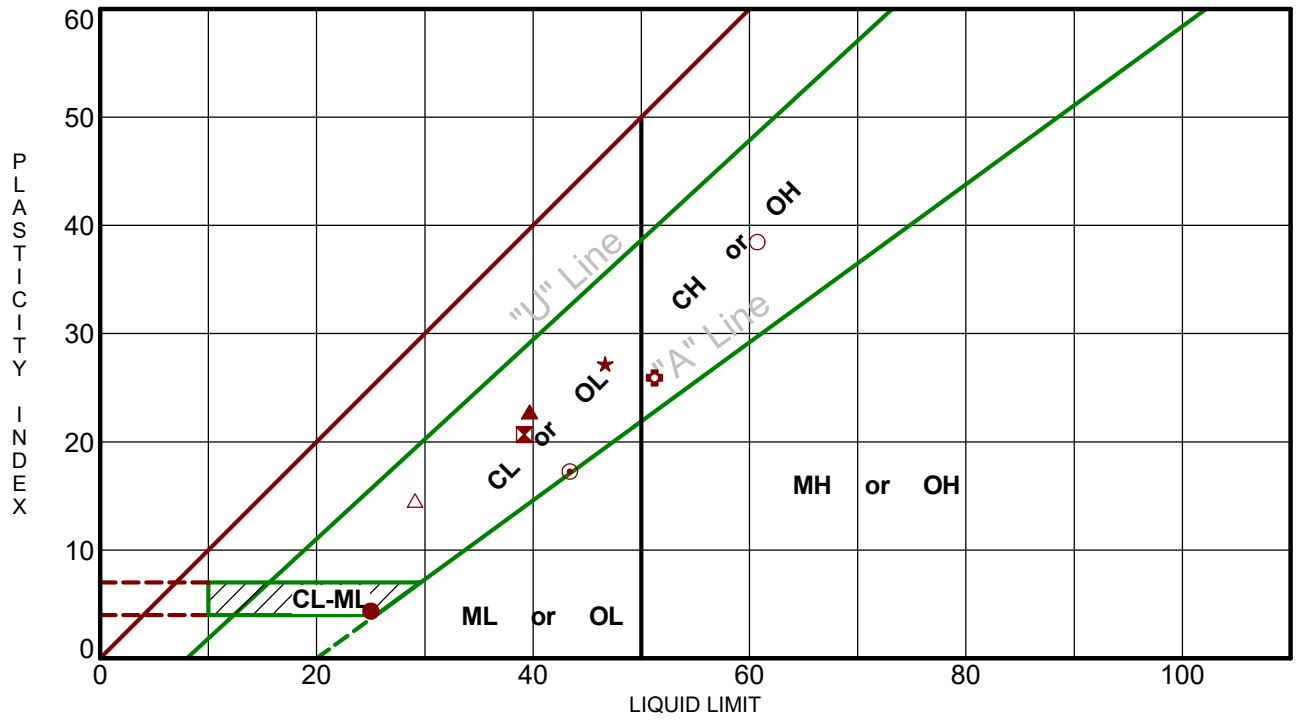
Rig: CPT

Operator: Middle Earth

Project No.: NA185148

ATTERBERG LIMITS RESULTS

ASTM D4318



Boring ID		Depth	LL	PL	PI	Fines	USCS	Description
●	B1	15 - 16.5	25	21	4		CL-ML	SILTY CLAY
⊠	B3	1 - 2.5	39	19	20		CL	LEAN CLAY
▲	B5	1 - 2.5	40	17	23		CL	LEAN CLAY
★	B11	5 - 6.5	47	19	28		CL	LEAN CLAY
⊙	B14	30 - 31.5	43	26	17		CL	LEAN CLAY
✿	B14	35 - 36.5	51	25	26		CH	FAT CLAY
○	B17	5 - 6.5	61	22	39		CH	FAT CLAY
△	B26	5 - 6.5	29	15	14		CL	LEAN CLAY

PROJECT: Tracy Ridge Warehouses

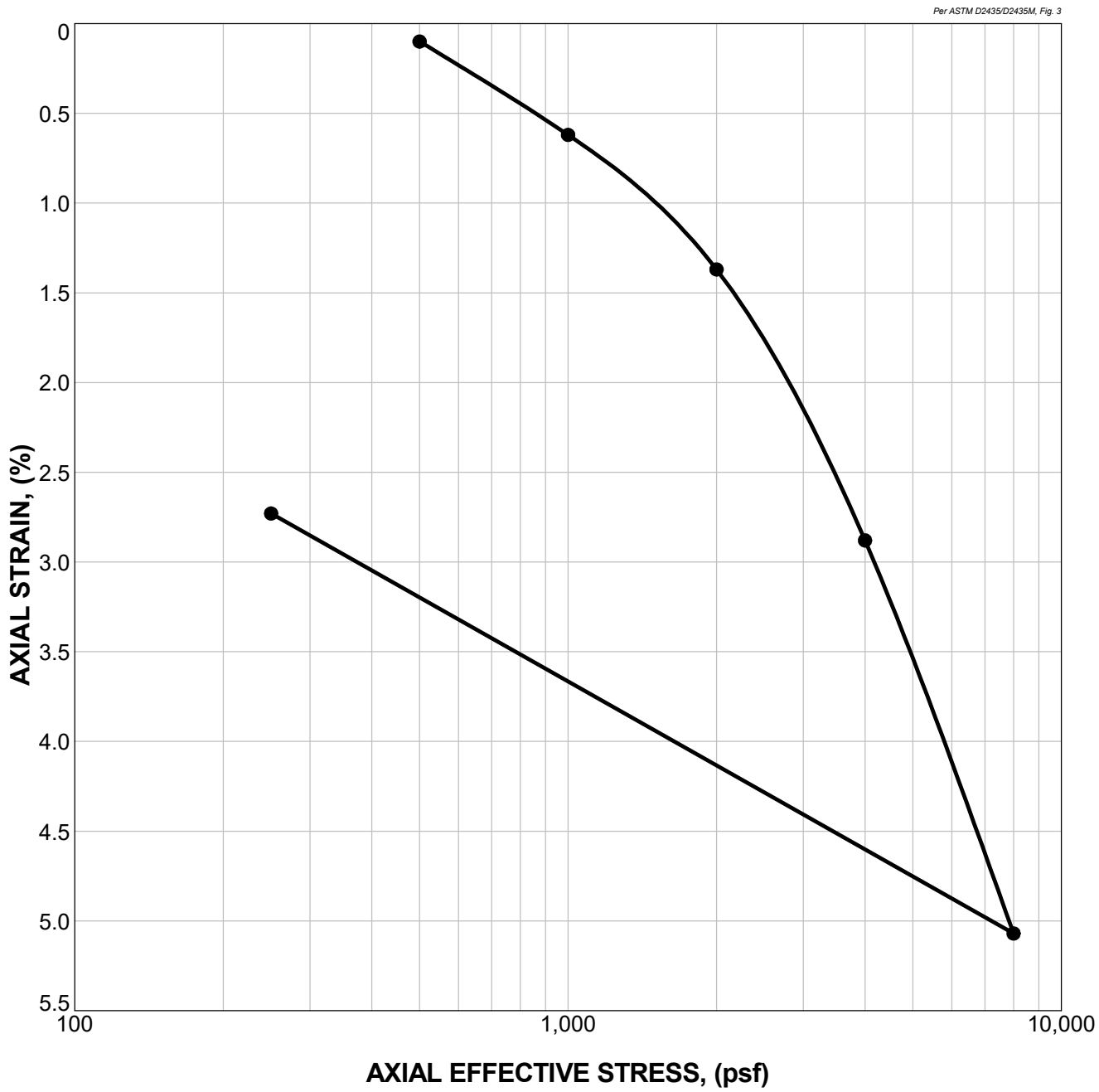
PROJECT NUMBER: NA185148

SITE: 6599 W Grant Line Road
Tracy, CA

Terracon
902 Industrial Way
Lodi, CA

CLIENT: Ridge Capital, Inc.
Sacramento, CA

CONSOLIDATION TEST (D2435)



Natural		Initial Dry Density (pcf)	LL	PI	Sp. Gr.	Overburden (psf)	P_c (psf)	C_c (% / log stress)	C_r (% / log stress)	Initial Void Ratio
Saturation	Moisture									
91.2 %	37.3 %	78.7			2.60	1150	2,947	7.275	1.555	1.062

MATERIAL DESCRIPTION	USCS	AASHTO
LEAN CLAY	CL	

NOTES:

Borehole: B4 Depth: 10 ft Specimen #: 3

PROJECT: Tracy Ridge Warehouses

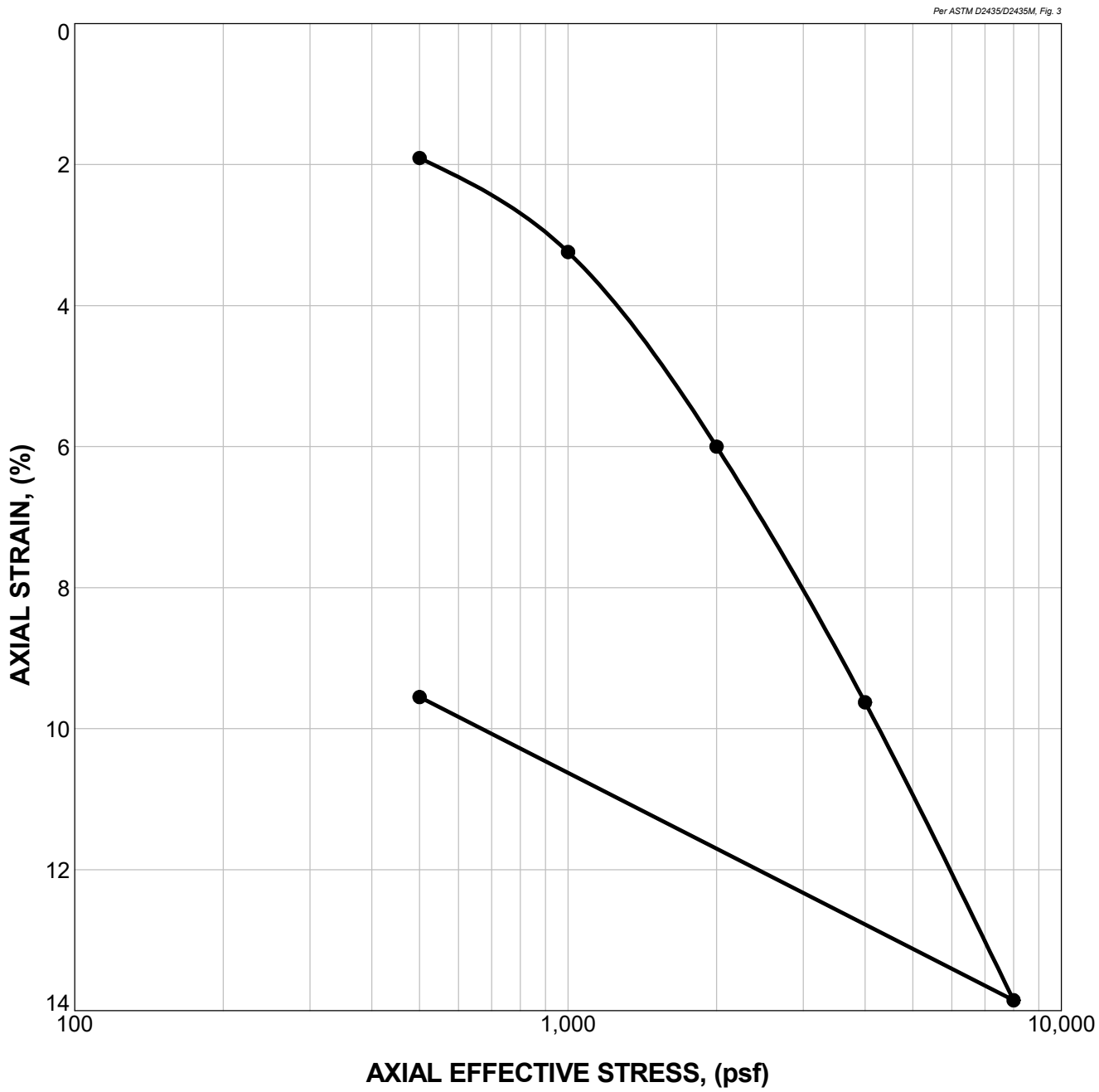
PROJECT NUMBER: NA185148

SITE: 6599 W Grant Line Road
Tracy, CA

Terracon
902 Industrial Way
Lodi, CA

CLIENT: Ridge Capital, Inc.
Sacramento, CA

CONSOLIDATION TEST (D2435)



Natural		Initial Dry Density (pcf)	LL	PI	Sp. Gr.	Overburden (psf)	P_c (psf)	C_c (% / log stress)	C_r (% / log stress)	Initial Void Ratio
Saturation	Moisture									
85.8 %	29.9 %	86.0			2.65	1725	5,230	14.041	3.572	0.925

MATERIAL DESCRIPTION	USCS	AASHTO
LEAN CLAY	CL	

NOTES:

Borehole: B17 Depth: 15 ft Specimen #: 4

PROJECT: Tracy Ridge Warehouses

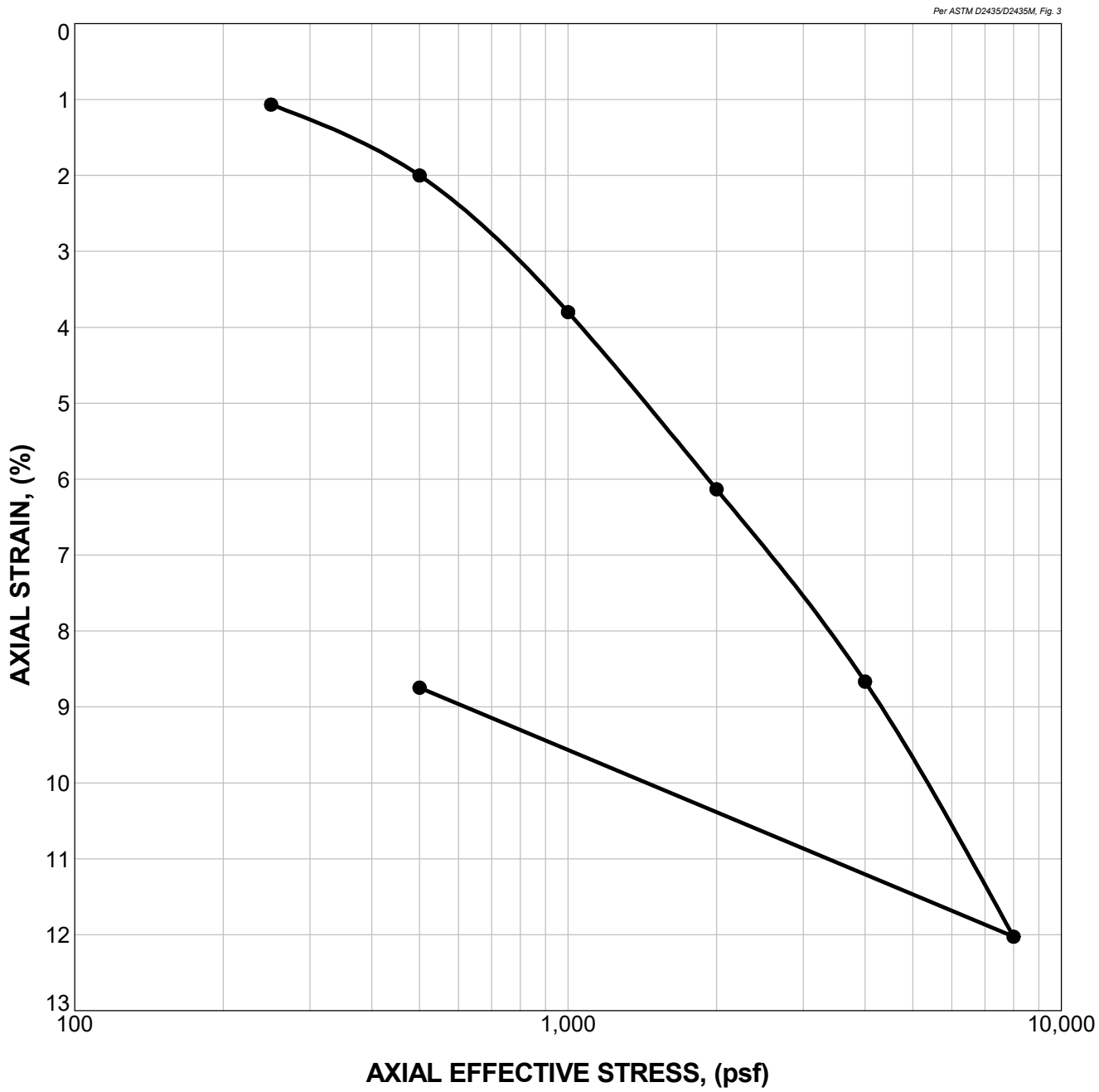
PROJECT NUMBER: NA185148

SITE: 6599 W Grant Line Road
Tracy, CA

Terracon
902 Industrial Way
Lodi, CA

CLIENT: Ridge Capital, Inc.
Sacramento, CA

CONSOLIDATION TEST (D2435)



Natural		Initial Dry Density (pcf)	LL	PI	Sp. Gr.	Overburden (psf)	P_c (psf)	C_c (% / log stress)	C_r (% / log stress)	Initial Void Ratio
Saturation	Moisture									
85.0 %	35.9 %	78.0			2.65	1100	2,141	11.162	2.724	1.120

MATERIAL DESCRIPTION	USCS	AASHTO
SANDY LEAN CLAY	CL	

NOTES:

Borehole: B20 Depth: 10 ft Specimen #: 3

PROJECT: Tracy Ridge Warehouses

PROJECT NUMBER: NA185148

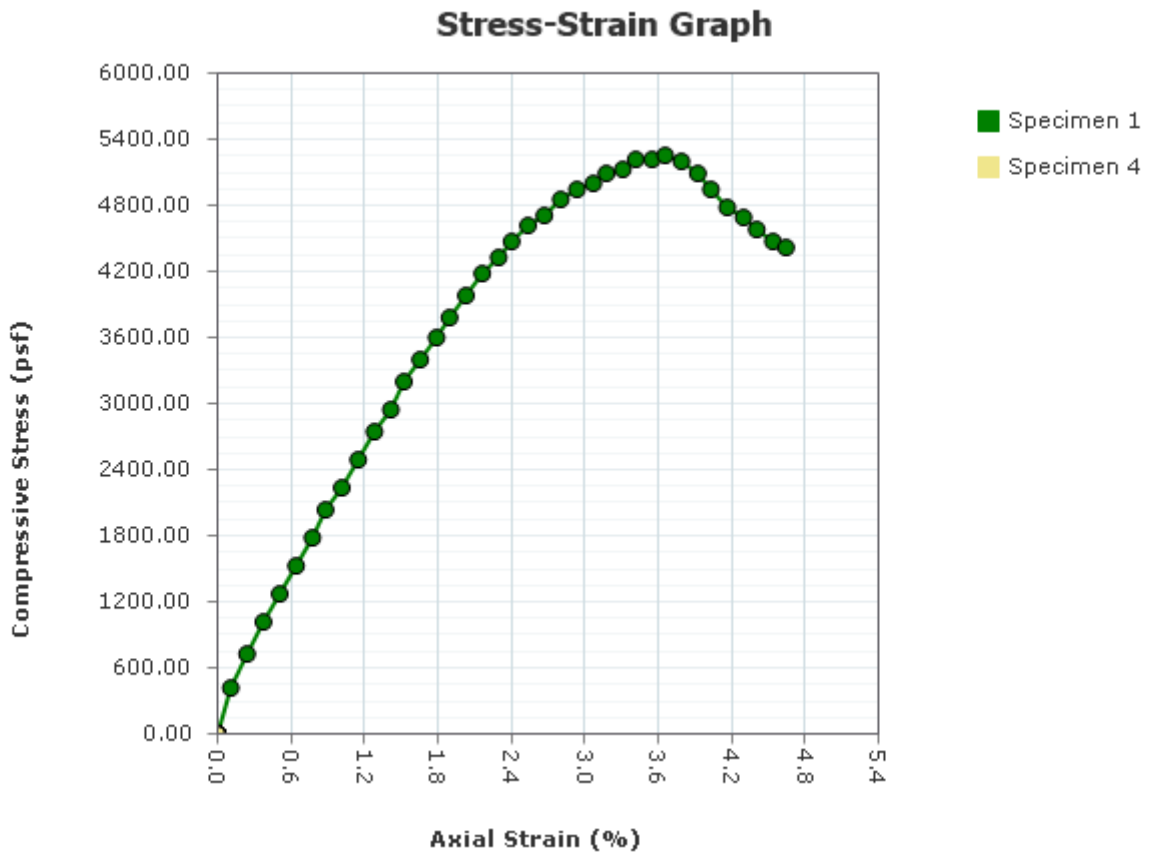
SITE: 6599 W Grant Line Road
Tracy, CA

Terracon
902 Industrial Way
Lodi, CA

CLIENT: Ridge Capital, Inc.
Sacramento, CA

Unconfined Compression Test

D2166



Project:	Tracy Ridge Warehouses
Project Number:	NA185148
Received Date:	11/29/2018
Sampling Date:	11/29/2018
Sample Number:	B1-2-1
Sample Depth:	5 ft
Boring Number:	B1
Location:	6599 W. Grant Line Road, Tracy, CA
Client Name:	Patrick Hastie
Remarks:	

Unconfined Compression Test

D2166

Before Test	Specimen Number 1	2	3	4	5	6	7	8
Moisture Content (%):	19.4							
Wet Density (pcf)	124.6							
Dry Density (pcf)	104.3							
Saturation (%):	84.1							
Void Ratio:	0.628							
Height (in)	3.7467							
Diameter (in)	1.8867							
Strain Limit @ 15% (in)	0.6							
Height To Diameter Ratio:	1.99							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Failure Angle (°):								
Strain Rate (in/min)	0.04							
Strain Rate (%/min):	1.07							
Unconfined Compressive Strength (psf)	5260.30							
Undrained Shear Strength (psf)	2630.15							
Strain at Failure (%):	3.66							

Specific Gravity:	2.7	Plastic Limit:	0	Liquid Limit:	0
Type:		Soil Classification:			

Project:	Tracy Ridge Warehouses
Project Number:	NA185148
Sampling Date:	11/29/2018
Sample Number:	B1-2-1
Sample Depth:	5 ft
Boring Number:	B1
Location:	6599 W. Grant Line Road, Tracy, CA
Client Name:	Patrick Hastie
Remarks:	

Specimen 1 Failure Sketch

Specimen 2 Failure Sketch

Specimen 3 Failure Sketch

Specimen 4 Failure Sketch

Specimen 5 Failure Sketch

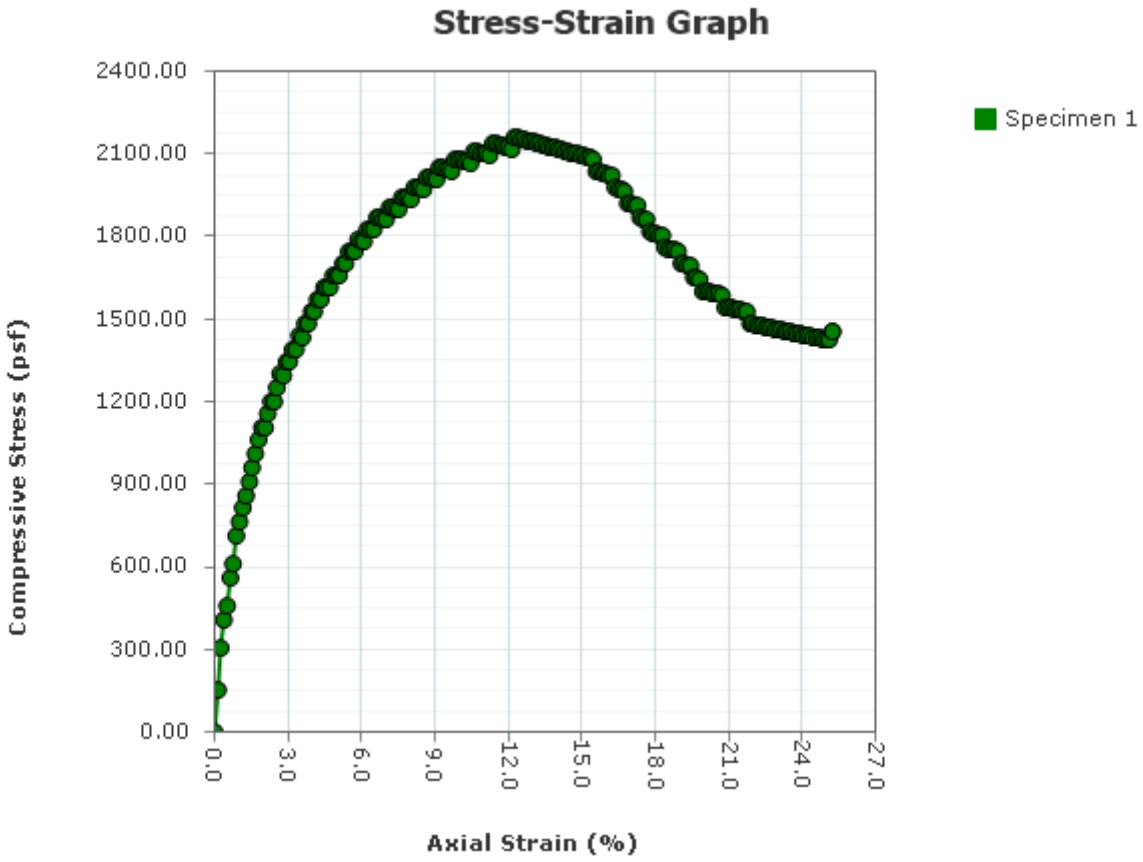
Specimen 6 Failure Sketch

Specimen 7 Failure Sketch

Specimen 8 Failure Sketch

Unconfined Compression Test

D2166



Project:	Tracy Ridge Warehouses
Project Number:	NA185148
Received Date:	11/27/2018
Sampling Date:	11/27/2018
Sample Number:	B7-2-1
Sample Depth:	5 ft
Boring Number:	B7
Location:	6599 W. Grant Line Rd, Tracy, CA
Client Name:	Patrick Hastie
Remarks:	

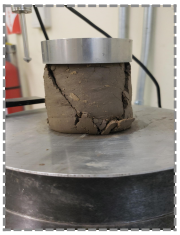
Unconfined Compression Test

D2166

	Specimen Number							
Before Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Moisture Content (%):	20.1							
Wet Density (pcf)	128.6							
Dry Density (pcf)	107.1							
Saturation (%):	93.4							
Void Ratio:	0.585							
Height (in)	3.7400							
Diameter (in)	1.8900							
Strain Limit @ 15% (in)	0.6							
Height To Diameter Ratio:	1.98							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Failure Angle (°):								
Strain Rate (in/min)	0.04							
Strain Rate (%/min):	1.07							
Unconfined Compressive Strength (psf)	2095.47							
Undrained Shear Strength (psf)	1047.74							
Strain at Failure (%):	14.95							

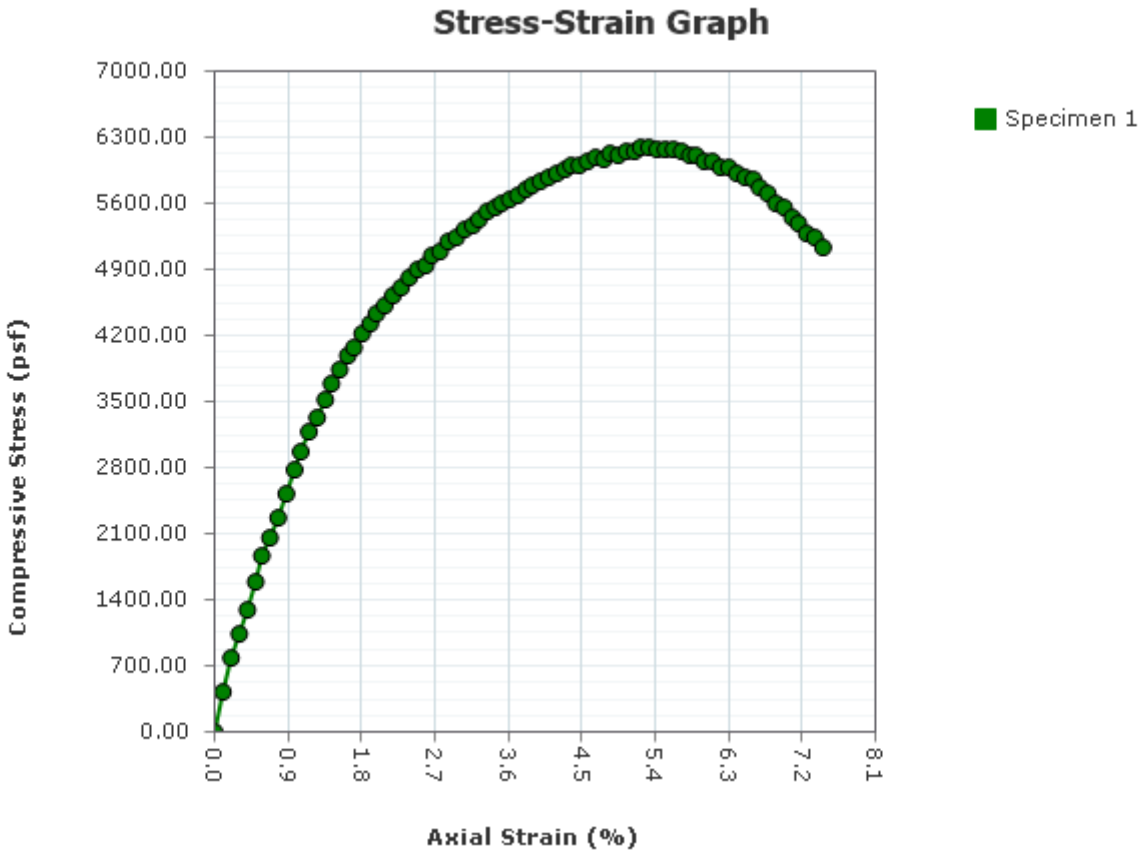
Specific Gravity:	2.7	Plastic Limit:	0	Liquid Limit:	0
Type:		Soil Classification:			

Project:	Tracy Ridge Warehouses
Project Number:	NA185148
Sampling Date:	11/27/2018
Sample Number:	B7-2-1
Sample Depth:	5 ft
Boring Number:	B7
Location:	6599 W. Grant Line Rd, Tracy, CA
Client Name:	Patrick Hastie
Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch
							

Unconfined Compression Test

D2166



Project:	Tracy Ridge Warehouses
Project Number:	NA185148
Received Date:	11/29/2018
Sampling Date:	11/29/2018
Sample Number:	B11-1-1
Sample Depth:	1 ft
Boring Number:	B11
Location:	6599 W. Grant Line Rd., Tracy, CA
Client Name:	Patrick Hastie
Remarks:	

Unconfined Compression Test

D2166

	Specimen Number							
Before Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Moisture Content (%):	20.6							
Wet Density (pcf)	128.7							
Dry Density (pcf)	106.8							
Saturation (%):	94.7							
Void Ratio:	0.591							
Height (in)	3.9833							
Diameter (in)	1.8800							
Strain Limit @ 15% (in)	0.6							
Height To Diameter Ratio:	2.12							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Failure Angle (°):								
Strain Rate (in/min)	0.04							
Strain Rate (%/min):	1.00							
Unconfined Compressive Strength (psf)	6162.11							
Undrained Shear Strength (psf)	3081.05							
Strain at Failure (%):	5.72							

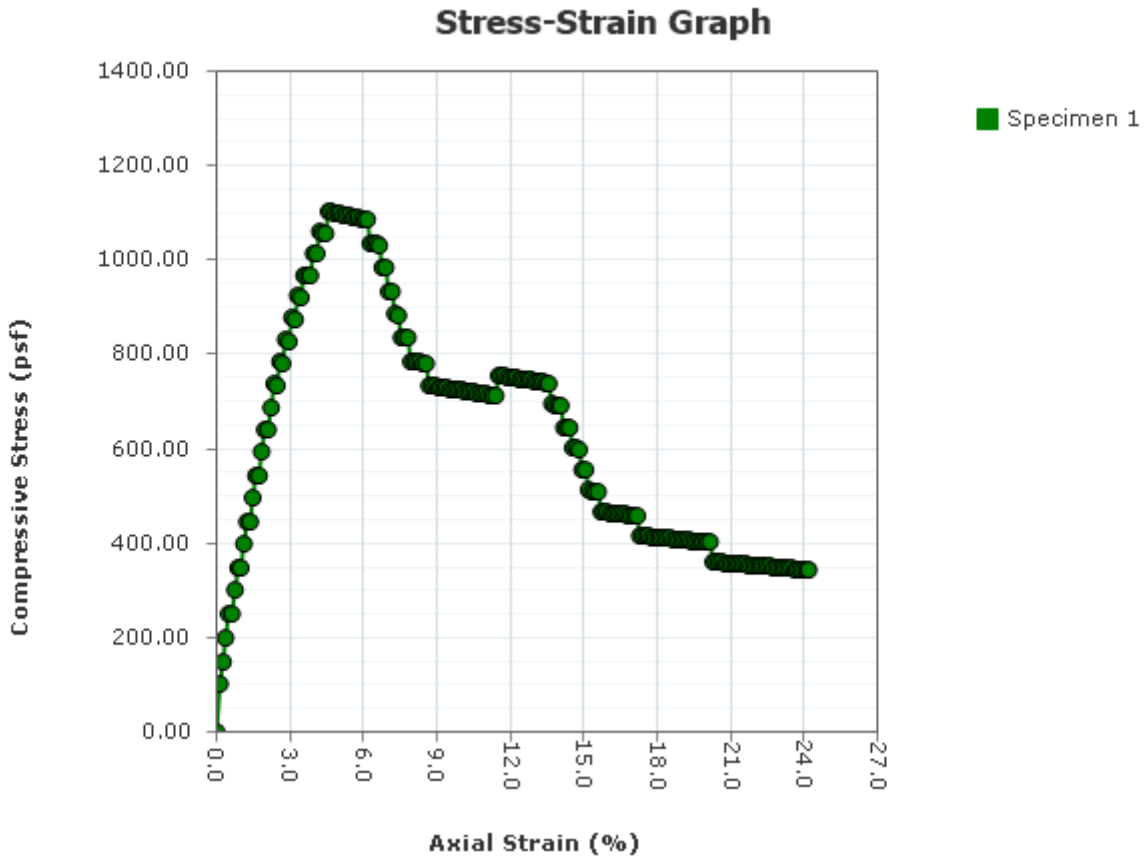
Specific Gravity:	2.7	Plastic Limit:	0	Liquid Limit:	0
Type:		Soil Classification:			

Project:	Tracy Ridge Warehouses
Project Number:	NA185148
Sampling Date:	11/29/2018
Sample Number:	B11-1-1
Sample Depth:	1 ft
Boring Number:	B11
Location:	6599 W. Grant Line Rd., Tracy, CA
Client Name:	Patrick Hastie
Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch
							

Unconfined Compression Test

D2166



Project:	Tracy Ridge Warehouses
Project Number:	NA185148
Received Date:	11/29/2018
Sampling Date:	11/29/2018
Sample Number:	B16-3-1
Sample Depth:	10 ft
Boring Number:	B16
Location:	6599 W. Grant Line Rd., Tracy, CA
Client Name:	Patrick Hastie
Remarks:	

Unconfined Compression Test

D2166

	Specimen Number							
Before Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Moisture Content (%):	24.9							
Wet Density (pcf)	123.6							
Dry Density (pcf)	98.9							
Saturation (%):	94.6							
Void Ratio:	0.716							
Height (in)	3.8700							
Diameter (in)	1.9100							
Strain Limit @ 15% (in)	0.6							
Height To Diameter Ratio:	2.03							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Failure Angle (°):								
Strain Rate (in/min)	0.04							
Strain Rate (%/min):	1.03							
Unconfined Compressive Strength (psf)	1084.85							
Undrained Shear Strength (psf)	542.42							
Strain at Failure (%):	6.15							

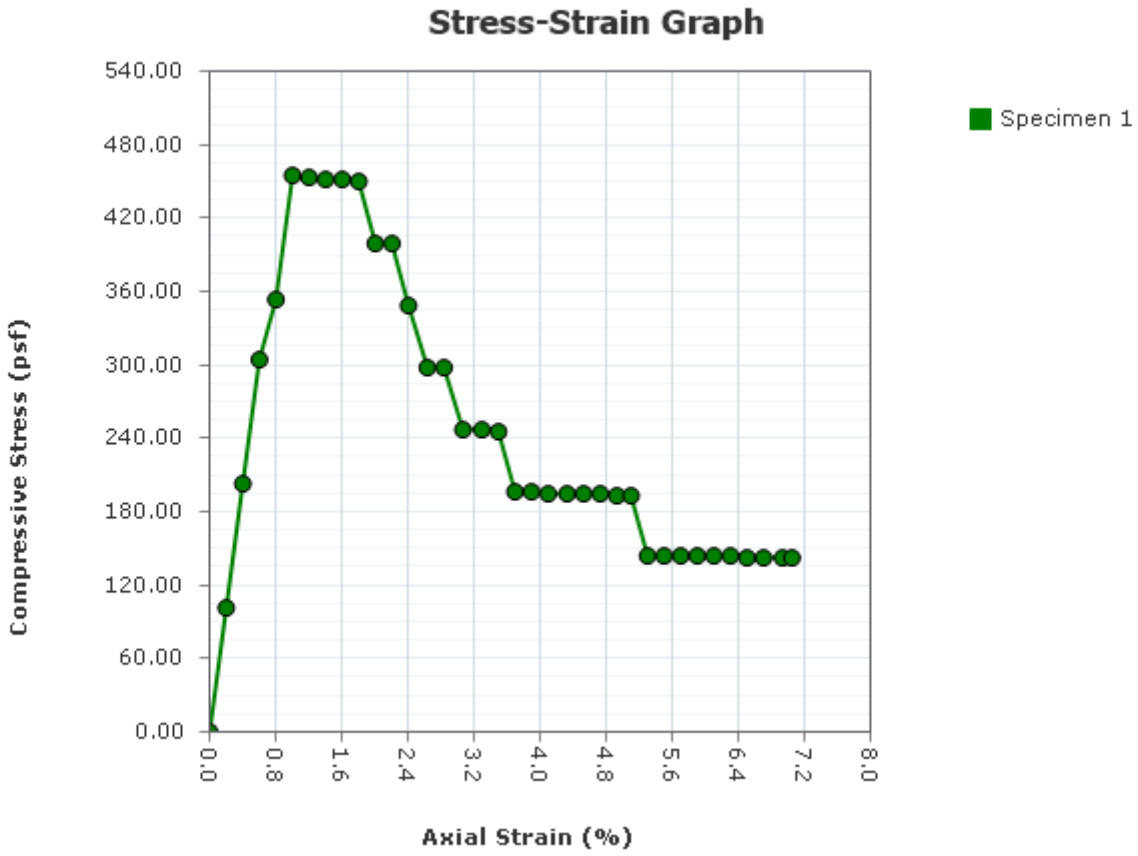
Specific Gravity:	2.7	Plastic Limit:	0	Liquid Limit:	0
Type:		Soil Classification:			

Project:	Tracy Ridge Warehouses
Project Number:	NA185148
Sampling Date:	11/29/2018
Sample Number:	B16-3-1
Sample Depth:	10 ft
Boring Number:	B16
Location:	6599 W. Grant Line Rd., Tracy, CA
Client Name:	Patrick Hastie
Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch
							

Unconfined Compression Test

D2166



Project:	Tracy Ridge Warehouses
Project Number:	NA185148
Received Date:	11/29/2018
Sampling Date:	11/29/2018
Sample Number:	B21-3-1
Sample Depth:	10 ft
Boring Number:	B21
Location:	6599 W. Grant Line Rd., Tracy, CA
Client Name:	Patrick Hastie
Remarks:	

Unconfined Compression Test

D2166

	Specimen Number							
Before Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Moisture Content (%):	23.2							
Wet Density (pcf)	127.9							
Dry Density (pcf)	103.8							
Saturation (%):	99.3							
Void Ratio:	0.635							
Height (in)	3.4900							
Diameter (in)	1.8967							
Strain Limit @ 15% (in)	0.5							
Height To Diameter Ratio:	1.84							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Failure Angle (°):								
Strain Rate (in/min)	0.04							
Strain Rate (%/min):	1.15							
Unconfined Compressive Strength (psf)	450.42							
Undrained Shear Strength (psf)	225.21							
Strain at Failure (%):	1.81							

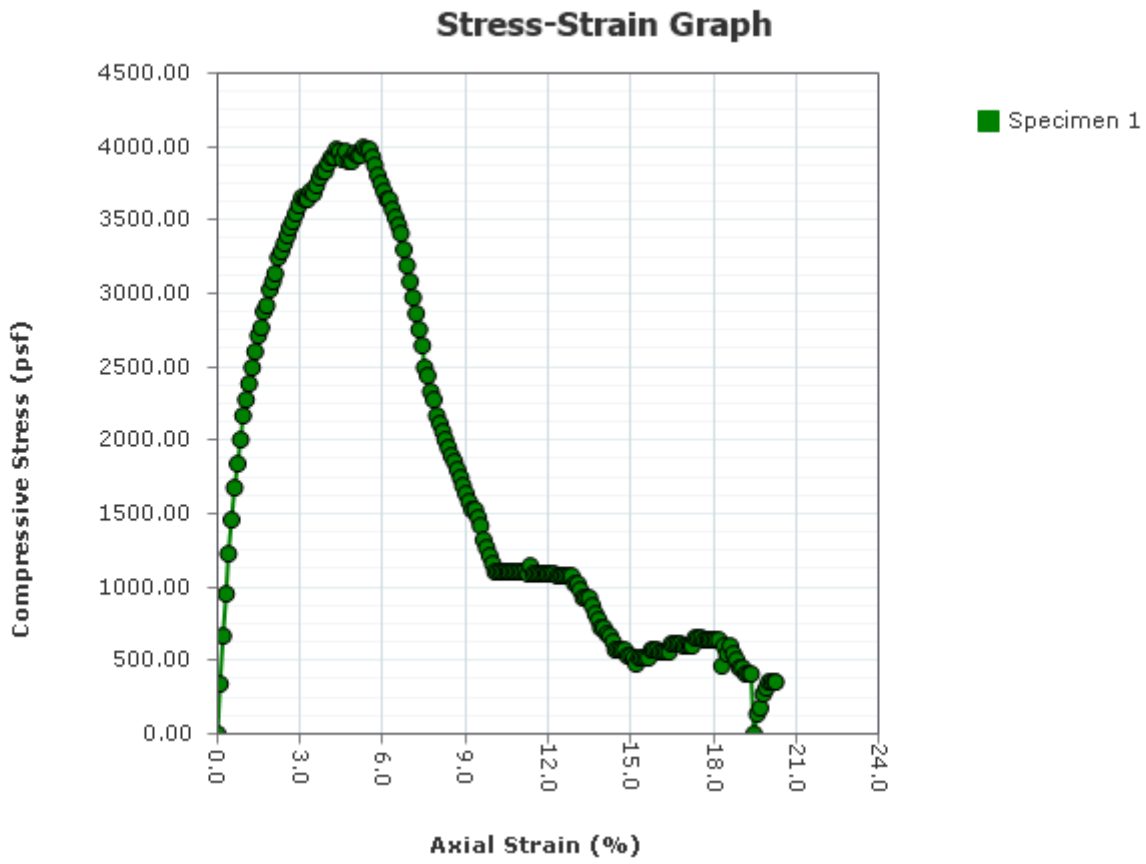
Specific Gravity:	2.7	Plastic Limit:	0	Liquid Limit:	0
Type:		Soil Classification:			

Project:	Tracy Ridge Warehouses
Project Number:	NA185148
Sampling Date:	11/29/2018
Sample Number:	B21-3-1
Sample Depth:	10 ft
Boring Number:	B21
Location:	6599 W. Grant Line Rd., Tracy, CA
Client Name:	Patrick Hastie
Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch
							

Unconfined Compression Test

D2166



Project:	Tracy Ridge Warehouses
Project Number:	NA185148
Received Date:	11/29/2018
Sampling Date:	11/29/2018
Sample Number:	B22-2-1
Sample Depth:	5 ft
Boring Number:	B22
Location:	6599 W. Grant Line Rd., Tracy, CA
Client Name:	Patrick Hastie
Remarks:	

Unconfined Compression Test

D2166

	Specimen Number							
Before Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Moisture Content (%):	18.3							
Wet Density (pcf)	127.0							
Dry Density (pcf)	107.4							
Saturation (%):	85.7							
Void Ratio:	0.582							
Height (in)	3.5933							
Diameter (in)	1.8067							
Strain Limit @ 15% (in)	0.5							
Height To Diameter Ratio:	1.99							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Failure Angle (°):								
Strain Rate (in/min)	0.04							
Strain Rate (%/min):	1.11							
Unconfined Compressive Strength (psf)	3980.73							
Undrained Shear Strength (psf)	1990.37							
Strain at Failure (%):	5.51							

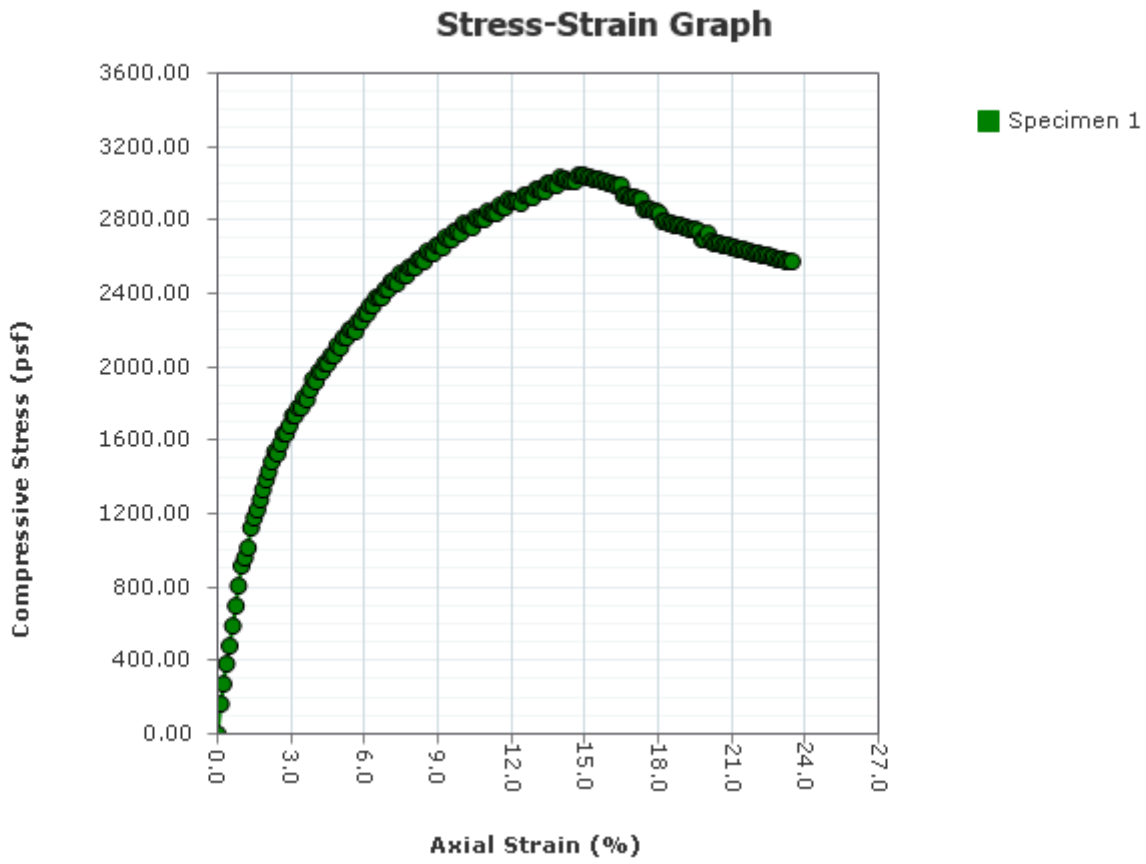
Specific Gravity:	2.7	Plastic Limit:	0	Liquid Limit:	0
Type:		Soil Classification:			

Project:	Tracy Ridge Warehouses
Project Number:	NA185148
Sampling Date:	11/29/2018
Sample Number:	B22-2-1
Sample Depth:	5 ft
Boring Number:	B22
Location:	6599 W. Grant Line Rd., Tracy, CA
Client Name:	Patrick Hastie
Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch
							

Unconfined Compression Test

D2166



Project:	Tracy Ridge Warehouses
Project Number:	NA185148
Received Date:	11/29/2018
Sampling Date:	11/29/2018
Sample Number:	B26-4-1
Sample Depth:	15 ft
Boring Number:	B26
Location:	6599 W. Grant Line Rd., Tracy, CA
Client Name:	Patrick Hastie
Remarks:	

Unconfined Compression Test

D2166

	Specimen Number							
Before Test	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Moisture Content (%):	22.2							
Wet Density (pcf)	127.9							
Dry Density (pcf)	104.7							
Saturation (%):	96.9							
Void Ratio:	0.623							
Height (in)	3.8900							
Diameter (in)	1.8400							
Strain Limit @ 15% (in)	0.6							
Height To Diameter Ratio:	2.11							
Test Data	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Failure Angle (°):								
Strain Rate (in/min)	0.04							
Strain Rate (%/min):	1.03							
Unconfined Compressive Strength (psf)	3039.46							
Undrained Shear Strength (psf)	1519.73							
Strain at Failure (%):	14.96							

Specific Gravity:	2.7	Plastic Limit:	0	Liquid Limit:	0
Type:		Soil Classification:			

Project:	Tracy Ridge Warehouses
Project Number:	NA185148
Sampling Date:	11/29/2018
Sample Number:	B26-4-1
Sample Depth:	15 ft
Boring Number:	B26
Location:	6599 W. Grant Line Rd., Tracy, CA
Client Name:	Patrick Hastie
Remarks:	

Specimen 1 Failure Sketch	Specimen 2 Failure Sketch	Specimen 3 Failure Sketch	Specimen 4 Failure Sketch	Specimen 5 Failure Sketch	Specimen 6 Failure Sketch	Specimen 7 Failure Sketch	Specimen 8 Failure Sketch
							

SUPPORTING INFORMATION

Contents:

Cement Treated Subgrade Preparation
General Notes
Unified Soil Classification System

Note: All attachments are one page unless noted above.

Cement Treated Subgrade Preparation

Subgrade will consist of on-site soil which is amended with Portland cement. The quantity of Portland cement shall not be less than 10 percent of the specified amount. For estimating purposes, the dry density of the subgrade should be considered to be 120 pounds per cubic foot (pcf).

In general, the cement treated soil should be uniformly mixed and moisture conditioned, compacted, and cured. Mixing and moisture conditioning should be performed in place within the proposed treated areas. The mixing operations should be performed in conformance with the following:

The thickness of the cement treated soil should not exceed the penetrating capacity of the mixing apparatus or the compaction equipment.

The required spread rate of cement shall be evenly spread over the layer of untreated soil.

The cement/soil mixture shall be thoroughly mixed using an approved mixing apparatus, such as a cross-shaft mixer or agricultural rototiller. Disking or raking is not considered a suitable means of mixing.

At the time of mixing, the soil shall be uniformly moisture conditioned to at least 4% above the optimum moisture content.

The soil/cement mixture shall be uniformly compacted to at least 95% of the maximum wet density obtained in the Caltrans 219 test procedure.

Compaction shall be achieved with kneading type compactors, such as sheepsfoot or open-hub rollers.

The operations of cement application, mixing, spreading, compaction, and final grading shall be continuous and shall be completed within 4 hours of the application of cement.

The total elapsed time between the addition of water to the soil/cement mixture and the start of compaction shall not exceed 2 hours.

Soil/cement that has not been compacted shall not be left undisturbed for longer than 30 minutes.

Fine grading shall begin immediately upon completion of compaction.

Fine grade soil/cement shall be final compacted by a smooth drum roller.

Final compaction and final grading of soil/cement mixture shall be completed within 2 hours of initial compaction.

The subgrade shall be constructed in a series of parallel lines of convenient length and width. Construction of adjoining lanes shall overlap the previous lane by at least 1 foot to provide a bond and subgrade continuity.

If placement of foundations do not immediately follow completion of the cement treatment operations, the finished soil/cement subgrade shall be cured by keeping the material continuously moist for a period of at least 7 days or until the footings are constructed. Failure to keep the soil/cement subgrade moist may result in cracking and degradation of the subgrade, resulting in a loss of bearing capacity.

Heavy construction traffic shall be kept off the finished soil/cement subgrade for at least 3 days.

A minimum compressive strength of 400 psi is required for the cured soil cement mixture. For quality control testing, a minimum two (2) bulk samples shall be obtained for each day of soil cement mixing. These bulk samples shall include two compressive strength tests for strength verification.

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

Tracy Ridge Warehouses ■ Tracy, CA

January 31, 2019 ■ Terracon Project No. NA185148

Terracon GeoReport

SAMPLING	WATER LEVEL	FIELD TESTS
Modified California Ring Sampler Standard Penetration Test	**Water Initially Encountered** **Water Level After a Specified Period of Time** **Water Level After a Specified Period of Time** Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.	**N** Standard Penetration Test Resistance (Blows/Ft.) **(HP)** Hand Penetrometer **(T)** Torvane **(DCP)** Dynamic Cone Penetrometer **UC** Unconfined Compressive Strength **(PID)** Photo-Ionization Detector **(OVA)** Organic Vapor Analyzer

DESCRIPTIVE SOIL CLASSIFICATION

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

LOCATION AND ELEVATION NOTES

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

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance			CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance			
Descriptive Term (Density)	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**	**Descriptive Term (Consistency)**	**Unconfined Compressive Strength Qu, (tsf)**	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**
Very Loose	0 - 3	0 - 6	Very Soft	less than 0.25	0 - 1	< 3
Loose	4 - 9	7 - 18	Soft	0.25 to 0.50	2 - 4	3 - 4
Medium Dense	10 - 29	19 - 58	Medium Stiff	0.50 to 1.00	4 - 8	5 - 9
Dense	30 - 50	59 - 98	Stiff	1.00 to 2.00	8 - 15	10 - 18
Very Dense	> 50	> 99	Very Stiff	2.00 to 4.00	15 - 30	19 - 42
			Hard	> 4.00	> 30	> 42

RELATIVE PROPORTIONS OF SAND AND GRAVEL		RELATIVE PROPORTIONS OF FINES	
Descriptive Term(s) of other constituents	Percent of Dry Weight	**Descriptive Term(s) of other constituents**	**Percent of Dry Weight**
Trace	<15	Trace	<5
With	15-29	With	5-12
Modifier	>30	Modifier	>12

GRAIN SIZE TERMINOLOGY		PLASTICITY DESCRIPTION	
Major Component of Sample	**Particle Size**	**Term**	**Plasticity Index**
Boulders	Over 12 in. (300 mm)	Non-plastic	0
Cobbles	12 in. to 3 in. (300mm to 75mm)	Low	1 - 10
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)	Medium	11 - 30
Sand	#4 to #200 sieve (4.75mm to 0.075mm	High	> 30
Silt or Clay	Passing #200 sieve (0.075mm)		

UNIFIED SOIL CLASSIFICATION SYSTEM

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

[A] Based on the material passing the 3-inch (75-mm) sieve.

[B] If field sample contained cobbles or boulders, or both, add “with cobbles or boulders, or both” to group name.

[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ³ 15% sand, add “with sand” to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add “with organic fines” to group name.

[I] If soil contains ³ 15% gravel, add “with gravel” to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add “with sand” or “with gravel,” whichever is predominant.

[L] If soil contains ³ 30% plus No. 200 predominantly sand, add “sandy” to group name.

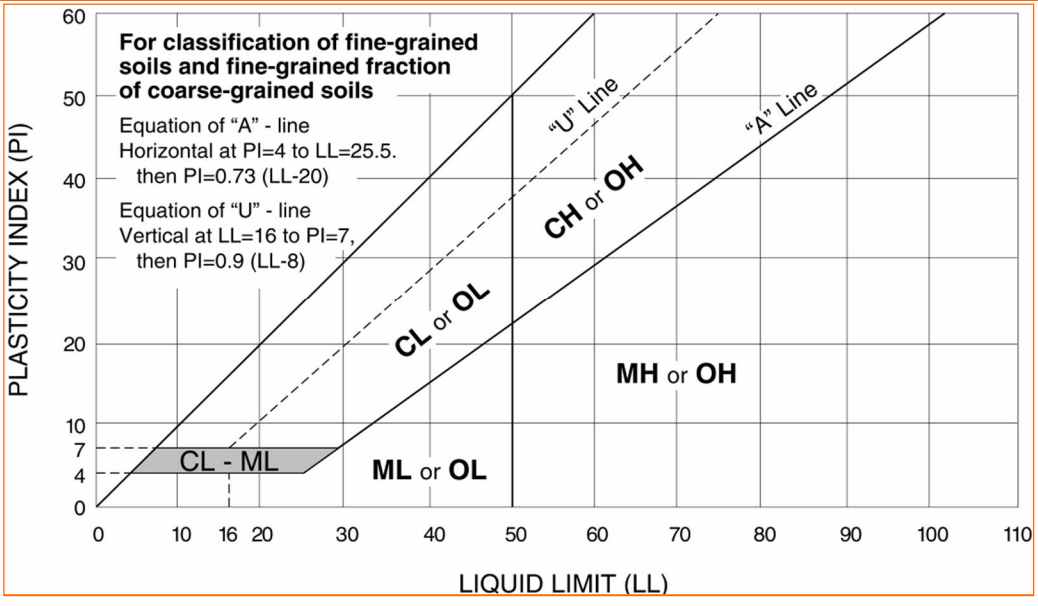
[M] If soil contains ³ 30% plus No. 200, predominantly gravel, add “gravelly” to group name.

[N] PI ³ 4 and plots on or above “A” line.

[O] PI < 4 or plots below “A” line.

[P] PI plots on or above “A” line.

[Q] PI plots below “A” line.



F.2 - Paleontological Records Search

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Kenneth L. Finger, Ph.D.
Consulting Paleontologist

18208 Judy St., Castro Valley, CA 94546-2306 510.305.1080 klfpaleo@comcast.net

April 3, 2020

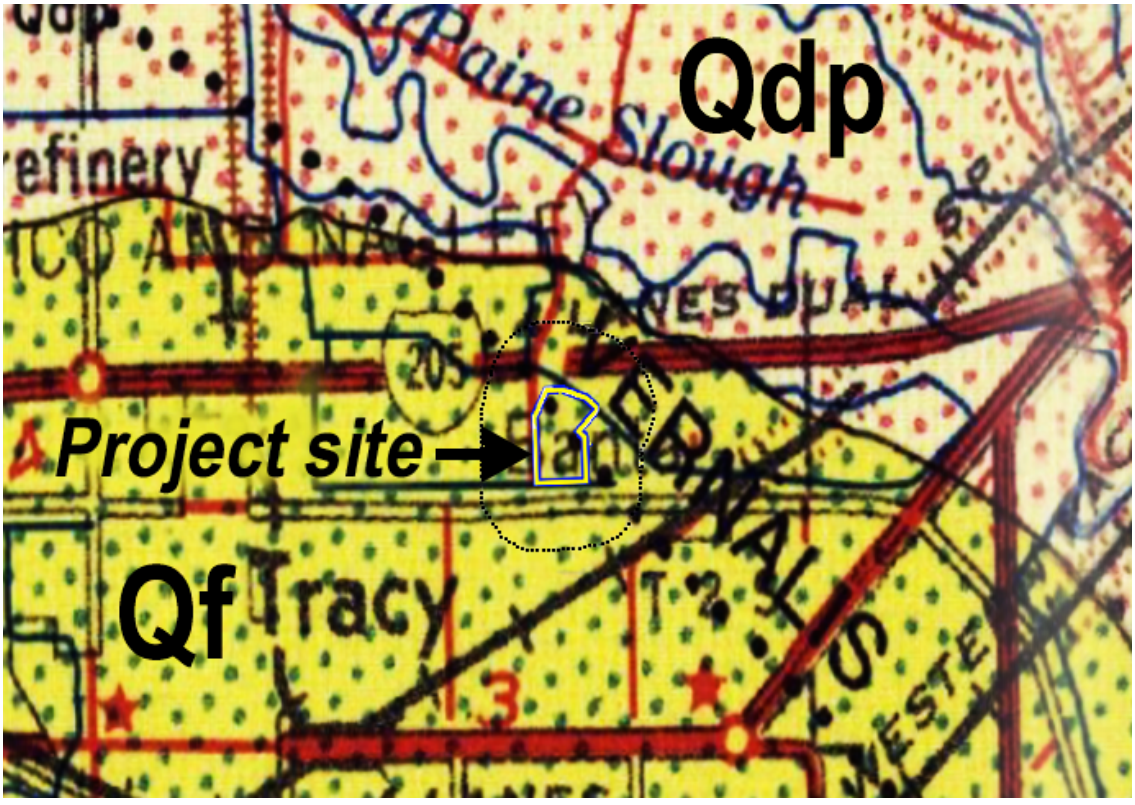
Dana DePietro
FirstCarbon Solutions
1350 Treat Boulevard, Suite 380
Walnut Creek, CA 94597

Re: Paleontological Records Search:
Tracy Alliance Project (1726.0011), San Joaquin County

Dear Dr. DePietro:

As per your request, I have performed a records search on the University of California Museum of Paleontology (UCMP) database for the proposed Tracy Alliance project east of Tracy and just northwest of town of Banta. Its Public Land Survey (PLS) location of the project site is E½, Sec. 14, T2S, R5E, Union Island quadrangle (1978 USGS 7.5-series topographic map). The project site is on relatively flat terrain between Highway 205 and California Avenue to the north, Paradise Road to the west, and Grant Line Road to the south. Google Earth imagery shows this site is on farmland. Its surface is heavily disturbed by tilling for crops.

Geologic Units



According to the part of the geologic map by Wagner, Bortugno, and McJunkin (1991) shown here, the entire project site (outline at center) and its surrounding half-mile search area (dotted outline) are located on an extensive unit of unnamed alluvial fan deposits (Qf). Just north of the search area, the younger Dos Palos Alluvium (Qdp) is surficial. The map legend does not delineate the Holocene/Pleistocene boundary, but both of these geologic units are arranged midway among nine informal units that are stratigraphically above (younger than) the late Pleistocene Modesto Formation, suggesting that the Qf and Qdp are Holocene. This is supported by Dibblee's (1981) geologic map of the south adjacent Tracy quadrangle, where the Dos Palos alluvium (therein identified as Holocene "surficial deposits") is shown to extend from the north. The valley fill in this area at least hundreds of feet thick; thus, subsurface late Pleistocene or older deposits will not be impacted by project activities.

Records Search Results

The Holocene deposits in the Tracy Alliance project area are too young to have any paleontological potential and therefore have no paleontological sensitivity. Nevertheless, a records search of the UCMP database was performed on the Union Island and Tracy quadrangles. The Union Island quadrangle has only one locality, where Late Cretaceous foraminifers (microfossils) were recovered from a well seven miles east of the project site. The Tracy quadrangle has three localities, all of which yielded vertebrate fossils. Pleistocene horse was recorded approximately nine miles southwest of the project site. Collected four miles beyond that site were *Hipparion* (extinct horse) and *Gomphotherium* (extinct elephant) from the Miocene San Pablo Formation and the type of the Late Jurassic marine reptile *Ichthyosaurus californicus* (Camp, 1942; Hilton, 2003).

Remarks and Recommendations

No further paleontological mitigation is recommended because the proposed project site is mapped as Holocene alluvium and no Pleistocene or older units are in its vicinity. This project has no potential of impacting any significant paleontological resources.

Sincerely

Ken Finger

References Cited

Camp, C.L., 1942. *Ichthyosaur* rostra from central California. Journal of Paleontology 16(3): 362–371.

Dibblee, T.W., 1981, Preliminary geologic map of the Tracy quadrangle, San Joaquin County, California. U.S. Geological Survey, Open-File Report 81-464, scale 1:62,500.

Hilton. R.P., 2003, Dinosaurs and other Mesozoic reptiles of California. University of California Press, Berkeley, 356 p.

Wagner, D.L., Bortugno, E.J., and McJunkin, R.D., 1991, Geologic map of the San Francisco-San Jose quadrangle, California, 1:250,000: California Division of Mines and Geology, Regional Geologic Map 5A, scale 1:250,000.