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DRAFT GEOTECHNICAL DATA REPORT (GDR)

SAFER BAY PROJECT

(STA 00+00 TO 69+00)

**EAST PALO ALTO
SAN MATEO COUNTY, CALIFORNIA**

Prepared for

Sherwood Design Engineers

2548 Mission Street
San Francisco, California 94110

Prepared by

Geosyntec Consultants, Inc.
803 2nd Street, Suite D
Davis, CA 95616

Project Number: WG3607

April 30, 2026

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Matthew H. Weil, PE, GE
Senior Geotechnical Engineer

David Umberg, PE, GE
Senior Geotechnical Engineer

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ACRONYMS AND ABBREVIATIONS

ASTM	ASTM International
C. Cruz	C. Cruz Sub-Surface Locators, Inc.
CA Method	California Test Method
CA MUTCD	California Manual on Uniform Traffic Control Devices
City	the City of East Palo Alto
CGS	California Geological Survey
Cooper	Cooper Testing Labs, Inc.
Costera	Costera Waste & Environmental, Inc.
CPT	Cone Penetration Test
ESA	Environmental Science Associates
FEMA	Federal Emergency Management Agency
fs	CPT sleeve friction
GCL	Geosynthetic Clay Liner
GDR	Geotechnical Data Report
Geosyntec	Geosyntec Consultants, Inc.
GPS	global positioning system
HDR	HDR, Inc.
ICU	isotropically consolidated undrained triaxial compression
IDW	investigation derived waste
MC	Modified California Sampler
MR	Mud-rotary
M _w	Moment magnitude
N	blow counts per foot
N60	blow counts per foot, normalized to standard 60% hammer efficiency
NAD83	North American Datum of 1983
NAVD88	North American Vertical Datum of 1988
Pitcher	Pitcher Services, LLC
Project	East Palo Alto portion of the SAFER Bay Project
QA/QC	quality assurance and quality control

qt	CPT cone tip resistance
SAFER	Strategy to Advance Flood Protection, Ecosystems, and Recreation
San Mateo EHS	San Mateo County Health Environmental Health Services
SCPT	Seismic Cone Penetration Test
Sherwood	Sherwood Design Engineers, Ltd.
Shelby	Shelby tube sampler
SPT	Standard Penetration Test
STA	Station on SAFER Bay Control Line (see ESA 2024)
THA	Task Hazard Assessment
u	pore pressure
UCERF3	The Third Uniform California Earthquake Rupture Forecast
UU	unconsolidated undrained triaxial compression
USA	Underground Service Alert
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Services
VST	Vane Shear Test
WRA	WRA Environmental Consultants

1. INTRODUCTION

1.1 Purpose and Scope

The City of East Palo Alto (the City) has identified an approximately 1.33-mile-long project site that is proposed for improvements to the flood protection system. These improvements are part of the Strategy to Advance Flood Protection, Ecosystems, and Recreation along the San Francisco Bay Project (SAFER Bay Project) (the Project), a multi-jurisdictional, public-private collaboration to protect communities in East Palo Alto and Menlo Park along a 7.5-mile section of shoreline along the southeastern San Francisco Bay. The project site described in this report is a subcomponent of the SAFER Bay located in East Palo Alto, California (Figure 1).

The City aims to complete the design and entitlement process for the portions of the Project located on the City's shoreline, which will deliver increased flood protection to the City's lowest lying areas and providing consideration of up to 3.5 feet of future sea level rise.

The current phase of the Project includes investigation and design for improvement of two levee reaches associated with the SAFER Bay Project (Environmental Science Associates [ESA] 2024):

- The South of Bay Road Reach: This reach is located between O'Connor Street and Bay Road, between Stations (STA) 0+00 to 52+27. The design for this reach is currently at the 30% level (HDR, Inc. [HDR] 2024a) and features realignment and widening of the existing Bay Trail using a levee/floodwall hybrid, including constructing a sheet pile wall to an elevation of approximately 25 to -40 feet and constructing a raised/widened embankment with 3H:1V (horizontal:vertical) side slopes on the waterside and 2H:1V side slopes on the landside.
- The North of Bay Road Reach: This reach is located north of Bay Road and terminates within the Ravenswood Open Space Preserve, between Stations 52+27 and 69+00¹. The design for this reach is currently at the 10% level (HDR 2024c) and features a realignment and widening of the existing Bay Trail with a levee embankment with 3H:1V side slopes on both the waterside and landside.

In addition to flood protection improvements, both reaches also include design of associated on-site habitat mitigation, infrastructure improvements, and improved public trail access.

As part of the design effort, Sherwood Design Engineers, Ltd. (Sherwood) teamed with Geosyntec Consultants, Inc. (Geosyntec) along with several other consultants (the "Sherwood Team") who are working collaboratively to perform the site investigation, complete the design, and advance the entitlement process. Geosyntec led the investigation stage, performing a subsurface geotechnical investigation, collecting geotechnical soil samples, coordinating laboratory testing, and preparing this Geotechnical Data Report (GDR). The primary objective of the field investigation was to

¹ According to SAFER Bay planning documents (e.g., ESA 2024), the full North of Bay Road reach extends from STA 52+27 to approximately 100+01; however, based on direction from Sherwood and the City, the site explorations described in this GDR were intended to be targeted to the southern portion of this reach.

collect information needed to evaluate the stability, seepage, and settlement of the proposed flood protection system along the approximately 1.33-mile segment of the Project. The results of this investigation will be used to facilitate the next phases through final design.

The geotechnical exploration was performed by Pitcher Services, LLC (Pitcher) (License #1044895), a licensed C-57 drilling contractor of East Palo Alto, California, under subcontract to and at the direction of Geosyntec.

1.2 Geotechnical Data Report Contents

This GDR describes the subsurface geotechnical exploration completed as part of the Project and presents:

- Exploration results, including drilled borings, cone penetration tests (CPTs), and vane shear tests (VST);
- Survey data documenting the as-drilled boring locations and surface elevations;
- Boring logs, including select laboratory test results;
- CPT results;
- VST results; and
- Laboratory test results.

The borings and CPT explorations performed for this project are summarized in Table 1 and shown in Figures 2 and 3.

This GDR is intended to provide data for support of the design of the flood protection system but does not include interpretation of the data. Data interpretation and geotechnical analysis for the flood protection system design will be described in a subsequent design report.

1.3 Organization of Report

The remainder of this GDR is organized into the following sections:

- Section 2 briefly summarizes the geologic setting for the project area.
- Section 3 describes the field exploration program including the investigation's approach, health and safety procedures, county drilling permits, utility clearance, sampling techniques, drilling and logging procedures, CPT explorations, VST explorations, site restoration, and surveys.
- Section 4 describes the geotechnical laboratory testing program.
- Section 5 discusses quality assurance and quality control (QA/QC) processes.
- Section 6 provides limitations relating to the use of this GDR.
- Section 7 lists the references that were used to develop this document.

Boring logs are included as Appendix A. CPT results are included as Appendix B. VST results are included in Appendix C. Geotechnical laboratory test results are included as Appendix D. Daily field reports and a photographic log are included in Appendix E and F, respectively. Historical explorations and laboratory data are included in Appendix G and H, respectively.

2. GEOLOGIC AND SEISMIC SETTING

2.1 Regional Geology

The Site lies within the Coast Ranges geomorphic province, characterized by northwest-trending faults, mountain ranges, and valleys. Lateral movement along the San Andreas, Hayward, and Calaveras faults and down warping of the area between the fault zones formed a structural trough bounded by the Diablo Ranges on the east and the Santa Cruz mountains on the west. The geologic depression between these two mountain ranges is occupied by the San Francisco Bay. The ranges are primarily composed of older consolidated sedimentary and igneous rocks, with groundwater flow within rock limited to fractures (EKI 2017).

The San Francisco Bay depression was formed relatively recently in geologic history, first inundated by the Pacific Ocean during the late Pleistocene epoch over the course of four worldwide inter-glacial episodes (Fio and Leighton 1995). Sea level rise increased the base level of streams resulting in lowered hydraulic gradients and the deposition of thick layers of silt and clay within the estuarine and marshland environments and the slow-moving channels that enter the Bay. As sea level fell, the older bay bottom silts and clays were eroded and reworked as new channels were formed depositing coarser sands and gravels (Fio and Leighton 1995). The resulting sedimentary sequence formed interfingering, laterally discontinuous layers of gravel, sand, and clay material creating a heterogeneous mixture of fine- and coarse-grained materials (EKI 2017).

The Site is located within the San Mateo Plain Groundwater Basin, located along the southeastern edge of San Mateo County and southwestern region of the San Francisco Bay. The Basin is approximately 40 square miles spanning the flatlands between the Santa Cruz Mountains and the San Francisco Bay. The Site is situated on variable thickness Quaternary-aged alluvium (Qa) and Quaternary estuarine deposits (Qbm) (Dibblee and Minch 2007). The alluvium mapped as Qa is generally composed of fine-grained sand, silt, and gravel. The estuarine material mapped as Qbm is generally composed of extremely variable organic clay and silty clay, representing the San Francisco Bay Mud. The Bay Mud is the uppermost sequence of fine-grained material acting as a low permeability aquitard up to 200 feet thick in some areas of the Basin. The Bay Mud does not appear to be regionally continuous with various incised channel deposits present in many areas of the Basin (EKI 2017). The alluvial fan sequences bounded by the Bay Mud aquitards create the major aquifers of the region (EKI 2017).

2.2 Seismic Setting

The San Francisco Bay area is a seismically active region that is home to numerous Holocene-active faults that have formed along a tectonic plate boundary known as the San Andreas transform zone. The San Andreas transform zone, which separates the North American Plate to the east from the Pacific Plate to the west, is dominated by northwest trending, right-lateral (dextral), strike-slip faults of the San Andreas Fault system. Holocene-active faults are faults that have a documented record of slip in the last 11,700 years, have the potential to produce ground surface rupture, and are subject to the regulatory requirements of the Alquist Priolo Fault Zoning Act of 1972 (California Geological Survey [CGS] 2024). Major Holocene-active faults in the vicinity of the

Site include the San Andreas, Hayward, and Calaveras Fault Zones. These fault zones and their respective distances from the Site are summarized in the table below.

Nearby Holocene-Active Faults

Fault Name	Distance and Direction from Site
San Andreas	About 8.3 miles to southwest
Hayward	About 10.5 miles to the northeast
Calaveras	About 15.7 miles to the northeast

The San Francisco Bay area is also home to many more Quaternary faults of uncertain activity, which have the potential to slip and produce strong ground motions. The Third Uniform California Earthquake Rupture Forecast (UCERF3) is a state-wide probabilistic fault rupture model that estimates the likelihood that any recognized Quaternary fault will experience a magnitude 6.7 or larger earthquake in the next 30 years.

The San Andreas Fault is the closest Holocene-active fault to the project Site. The San Andreas is a northwest-southeast trending, right lateral strike slip fault spanning a majority of California at over 680 miles in length (Bryant and Lundberg 2002). The closest section to the Site is the peninsula section of the San Andreas Fault. According to UCERF3, the peninsula section has a mean 30-year probability of an earthquake equal to or greater than 6.7 moment magnitude (M_w) (30-year $M > 6.7$ probability) of 6.42 percent (%). The Hayward and Calaveras faults are both a part of the greater San Andreas fault system, similarly northwest-southeast trending and right lateral strike slip faults. The closest section of the Hayward fault has a 30-year $M_w > 6.7$ probability of 22.3%. The closest section of the Calaveras fault has a 30-year $M_w > 6.7$ probability of 7.7%. Other active faults within ~10 miles of the Site include the Monte Vista-Shannon fault ($M_w > 6.7$ probability of 0.9%), the Silver Creek fault ($M_w > 6.7$ probability of 0.2%), the Mission fault ($M_w > 6.7$ probability of 1.1%), and the Pilarcitos fault ($M_w > 6.7$ probability of 0.3%).

3. PROJECT SUBSURFACE EXPLORATION

3.1 Preparation

Prior to the field exploration, Geosyntec prepared a *Field Investigation Work Plan* (Geosyntec 2025) which described the objectives of the investigation, the proposed exploration locations, the drilling and sampling methodology, and proposed laboratory investigation program.

The Work Plan and field exploration program was developed after reviewing/considering:

- Available geological maps;
- FEMA and the United States Army Corps of Engineers (USACE) Guidance for flood protection structures (FEMA 2021; USACE 2022);
- Draft Environmental Impact Report, SAFER Bay Project (ESA 2024)
- 30 Percent Design, SAFER Bay, South of Bay Road Project (HDR 2024a);
- Preliminary Geotechnical Report for South of Bay Road (Draft), SAFER Bay Project (HDR 2024b);
- 10% Programmatic Plans, Map and Construction Plan for Strategy to Advance Flood Protection, Ecosystems and Recreation along San Francisco Bay, SAFER Bay – North of Bay Road, Dumbarton Approach, Tech Campus, Bayfront Express, Bedwell Bayfront Park, and Marsh Road Projects (HDR 2024c);
- Geotechnical Data Report, SFPUC Ravenswood Facility to Bedwell Bayfront Park, SAFER Bay Project, Task Order No. 4 (HDR 2025); and
- Multiple visits to the SAFER Bay Project area to understand access constraints.

Further details about preparation and permitting for the exploration are provided in the sections below.

3.1.1 Permitting and Access Agreements

Prior to the investigation, the Sherwood Team obtained the following permits and authorizations for the work:

- A Letter of Concurrence with the Section 7 Biological Assessment for the proposed geotechnical investigation, describing FEMA’s consultation with the United States Fish and Wildlife Services (USFWS) (FEMA 2022) and the associated required Avoidance and Minimization Measures;
- A Special Use Permit for explorations within the Don Edwards San Francisco Bay National Wildlife Refuge (Permit # 2025-18) (Don Edwards 2025);
- A long-term science/conservation field work permit from the Midpeninsula Regional Open Space District for explorations within the Ravenswood Open Space Preserve (Permit No. 49841) (Midpeninsula 2026);

- An encroachment permit from the City of East Palo Alto for explorations within the City of East Palo Alto right-of-way (Permit No. PW2025-0205) (City of East Palo Alto 2025);
- An encroachment permit from the City of Palo Alto for explorations within the City of Palo Alto right-of-way (Permit No. 26ENC-00012) (City of Palo Alto 2026); and
- Drilling Permits from San Mateo County Health Environmental Health Services (San Mateo EHS) for geotechnical drilling (Permit No. 26-00019085) (San Mateo EHS 2026).

Copies of the site permits and access agreements were kept on site during the investigation.

3.1.2 Traffic Control

Due to space and site access limitations, portions of the San Francisco Bay Trail needed to be closed to the general public to perform the explorations. The work areas that required trail closures are detailed in traffic control plans which were included as attachments to the exploration Work Plan (Geosyntec 2025).

During the work, areas of the Bay Trail that required closure were blocked off using barricades, cones, and signs conforming to the most recent California Manual on Uniform Traffic Control Devices (CA MUTCD). Detours were established around the closed area and were demarcated with detour signs, cones, and maps posted on either end of the trail closure area.

The geotechnical exploration was performed between 7 am and 5 pm Monday through Friday. At the completion of each work shift, equipment was moved off the existing levee, and the Bay Trail was reopened to the general public when not performing explorations.

3.1.3 Health and Safety

A site-specific Task Hazard Assessment (THA) was prepared to address potential hazards associated with the site and proposed field activities. The THA was included as an attachment to the exploration Work Plan (Geosyntec 2025).

Once on site, field personnel participated in a site safety tailgate prior to the start of drilling. Daily tailgate meetings on health and safety were held each morning before commencement of drilling, and meetings were documented on an On-Site Health and Safety Tailgate Meeting Record Form.

3.1.4 Utility Clearance

Prior to performing the subsurface exploration, Geosyntec contracted the services of C. Cruz Sub-Surface Locators, Inc. (C. Cruz) of Milpitas, California. C. Cruz conducted an underground utility location survey to search for the presence of potentially buried utilities within a minimum 20-ft radius around each exploration location. Geosyntec also placed an Underground Service Alert (USA) North call a minimum of 2 working days prior to beginning the subsurface exploration.

Where C. Cruz or USA identified an underground utility in close proximity to a proposed exploration location, the proposed location was relocated and resurveyed. Additionally, the proximity to overhead utilities was considered at each exploration location to ensure work was performed a safe working distance away from any lines.

3.1.5 Surveying

The final marked locations of the soil borings and CPTs were recorded by Geosyntec field personnel using a survey-grade global positioning system (GPS) unit. The GPS had a horizontal and vertical accuracy of 1 foot or better. As-marked exploration coordinates were recorded in terms of the California State Plane Coordinate System, North American Datum of 1983 (NAD83), Zone 3. Elevations were recorded based on the North American Vertical Datum of 1988 (NAVD88). The as-built locations for boring and CPT explorations are provided in Table 1, Figures 2 and 3, and on the boring logs.

3.1.6 Site Kickoff

Prior to drilling, Geosyntec's Project Manager reviewed the following with the field exploration team and the drilling team:

- Field exploration goals, objectives, and scope;
- Utility clearance, permits, and security;
- Sampling procedures and sample requirements for laboratory testing;
- Boring logging protocol and storage of samples;
- Criteria for determining final/maximum depth of borings;
- Backfill requirements and disposal of cuttings and drill fluids;
- Protocol to be followed when approached by members of the public seeking information regarding ongoing work; and
- Completion of daily forms and reports.

3.2 Subsurface Exploration

The subsurface investigation was performed from 12 January 2026 to 23 January 2026. The exploration was conducted using a combination of CPT and soil borings advanced by Pitcher with oversight by Geosyntec.

The investigation consisted of the following explorations:

- 27 CPTs, of which 18 were located within the South of Bay Road reach and 9 were located within the North of Bay Road reach; and
- 6 soil borings, of which 4 were located within the South of Bay Road reach and 2 were located within the North of Bay Road reach.

The locations of the borings and CPTs are shown in Figures 2 and 3 for the South of Bay Road and North of Bay Road reaches, respectively. The exploration depths and coordinates are shown in Table 1. The locations of current and historical explorations within the South of Bay Road and North of Bay Road reaches are provided in Figures 4 and 5, respectively. A list of historical

explorations and their location, depth, and exploration type is provided in Table 2.

The subsurface investigation was observed and documented by Geosyntec field staff under the supervision of a California-licensed Professional Engineer. Geosyntec field personnel documented the subsurface activities, including confirmation of drilling depths, logging the soil, and performing sampling as described in the exploration Work Plan (Geosyntec 2025).

A qualified biologist from WRA Environmental Consultants (WRA) was also on site for the full duration of the geotechnical investigation. The WRA biologist monitored and documented geotechnical exploration activities adjacent to tidal wetland habitat, inspected for the presence of sensitive species, and verified compliance with the project Avoidance and Minimization Measures.

Geosyntec and Pitcher's field operations were summarized in Daily Field Reports which are provided in Appendix E. A photographic log is also included in Appendix F.

3.2.1 Soil Borings

The soil borings were completed between 13-16 January and 20-21 January 2026. A total of six borings were performed by Geosyntec for the SAFER Bay Project stations 00+00 to 69+00 to supplement the existing subsurface information. The borings were drilled using the mud-rotary (MR) procedure. Borings B1 through B4 were completed using a CME 850 track mounted drill rig while borings B5 and B6 used a Geoprobe 7822DT limited access drill rig.

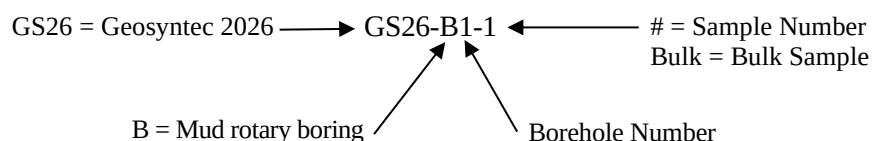
For borings through the existing levee, Pitcher installed casing through the embankment material prior to starting the MR drilling technique in the foundation soils beneath the existing embankment to advance the boring to the target depth. Drilling mud (bentonite and water) was used as the drilling fluid and was passed through the drill rods and around the bit while drilling to flush cuttings to the surface of the borehole, reduce drill rod friction, minimize sloughing, and cool the bit.

3.2.1.1 Boring Logs

A boring log was completed for each boring completed. The completed boring logs were reviewed by Geosyntec's Project Manager. Drafts of each log were generated using gINT software. Once laboratory test results were received, the data was reviewed and logs were updated, as needed. Where discrepancies between field logging and laboratory test data occurred, the field engineer and the Field Exploration Manager reviewed the log and, if necessary, re-evaluated the samples to finalize the boring log. Final boring logs are included in Appendix A.

3.2.1.2 Sample Identification

Each sample was labeled with the applicable borehole and sample numbers. Boreholes and the applicable Shelby tube, MC, and SPT samples were identified according to the following protocol:



3.2.1.3 Types of Samplers and In-Situ Testing

Three types of soil samplers were used to collect material during the soil boring field investigation program: Modified California (MC) samplers, thin-walled Shelby tubes, and Standard Penetration Tests (SPTs). Borings were approximately 4-3/4 inches in diameter. Sampling methods and selection are further detailed in the sections below.

The locations and names of samples are noted on the boring logs (Appendix A). Pitcher had previously measured energy ratios of the hammer used to drive the sampler for the two drill rigs used for this investigation. The corresponding energy ratios are listed on the boring logs.

3.2.1.4 Bulk Samples

Bulk samples were the first samples taken from each borehole. Pitcher used a hand auger to advance the first five feet to clear for utilities and placed the material from the auger onto a piece of plastic for observation by depth. Bulk samples were then examined, logged, and stored in 5-gallon plastic buckets by Geosyntec field personnel.

3.2.1.5 Shelby Tube Sampling

Thin-walled Shelby tube samplers were pushed where finer grained materials were encountered. The tubes were generally 3 feet long (advanced 30-inches) with an outer diameter of 3 inches and an inner diameter of 2.75 inches. Sampling methods were in accordance with the procedures described in ASTM International's (ASTM) 1587, *Standard Practice for Thin-Walled Tube Sampling of Soils for Geotechnical Purposes*. The driller advanced the samplers by continuous pushing to minimize sample disturbance. The hydraulic pressures used to advance the Shelby Tube was recorded over the sample interval. Samples were capped and sealed for storage and transportation. Samples were stored and transported vertically, to minimize disturbance.

3.2.1.6 Modified California Sampling

The MC sampler is a 3-inch outside diameter and 2.5-inch interior diameter sampler which was used to obtain samples in stiffer clays and coarse-grained material and measure blows counts. Sampling methods were in accordance with the procedures described in ASTM D 3550, *Standard Practice for Thick Walled, Ring-Line, Split Barrel, Drive Sampling of Soils*. The samplers were advanced 18 inches using a 140-pound, automatic trip hammer, falling through a vertical height of 30 inches. The number of blows required for each 6-inch penetration was recorded on the boring logs.

3.2.1.7 SPT Drive Sampling

A standard SPT sampler with a 2-inch outside diameter and a 1.375-inch inside diameter was used for sample collection for the project and to measure blow counts. Sampling methods were in accordance with the procedures described in ASTM D 1586, *Penetration Test and Split-Barrel Sampling of Soils*. The samplers were advanced 18 inches using a 140-pound, automatic trip hammer, falling through a vertical height of 30 inches. The number of blows required for each 6-inch penetration was recorded on the boring logs.

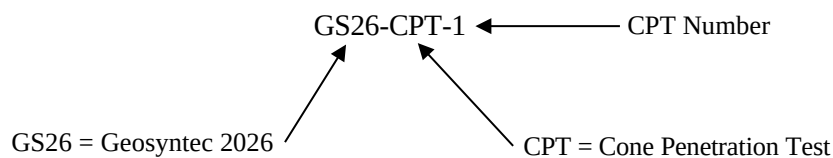
3.2.2 Cone Penetration Testing

The CPT investigation was completed between 12-16 January and 19-23 January 2026. CPT is an in-situ test used to provide a relatively continuous profile of soil data including cone tip resistance (qt), sleeve friction (fs), and pore pressure (u). CPT data is used to develop stratigraphy, strength, consolidation, and other parameter estimates for the subsurface units using the collected data. CPTs were performed in accordance with ASTM D 5778, *Standard Test Method for Electronic Friction Cone and Piezocone Penetration Testing of Soils*. CPT holes were approximately 2 inches in diameter.

3.2.2.1 CPT Explorations

CPT explorations were completed using either a 30-ton truck-mounted rig or a 5,900-pound limited access CPT rig. The CPT rigs were equipped with a 2-inch diameter cone. The upper 5 feet of the exploration and limited access rig counterbalance support holes were cleared using a hand auger. The cone was pushed into the subsurface using a hydraulic ram through the center of the truck. No cuttings were generated during the CPT borings.

Each CPT was identified according to the following protocol:



Twenty-seven CPTs were completed during the project. Six CPTs borings were placed adjacent to borings to correlate between the two exploration methods (mud-rotary borings vs. CPT) for the project.

3.2.2.2 Pore Pressure Dissipation Testing

Pore pressure dissipation testing was performed at various depths during advancement of CPT explorations. Dissipation testing is a record of the decay in pore pressure monitored during a pause in penetration. As described in the *Guide to Cone Penetration Testing*, (Robertson & Cabal 2022), these tests are conducted below the groundwater table to provide a measurement of the groundwater level at that exploration and provide an estimate of hydraulic conductivity. These tests were conducted when coarse grained material was encountered to provide information that can be incorporated into seepage analyses. For the following cases, the pore pressure dissipation was slower, indicating a finer grained material, and the decision was made to terminate the test:

- GS26-CPT-15 at a depth of 20.41 feet
- GS26-CPT-17 at a depth of 28.61 feet
- GS26-CPT-17 at a depth of 29.20 feet
- GS26-CPT-25 at a depth of 23.49 feet

Dissipation test results are included with the CPT reports, in Appendix B, for each respective exploration. The estimated depth to groundwater ranged from approximately 1.5 feet to 14 feet below the ground surface.

3.2.2.3 Seismic Cone Penetration Testing

Seismic Cone Penetration Tests (SCPT) were performed at 5-foot intervals for five of the CPTs (GS26-CPT-5, GS26-CPT-10, GS26-CPT-16, GS26-CPT-21, GS26-CPT-25). The SCPT was used to measure the time for the shear wave to travel to the cone penetrometer tip to estimate the shear wave velocity profile of the subsurface. The shear wave was introduced using a hammer and weight at the surface and recorded by a velocity seismometer located within the cone penetrometer tip.

Seismic CPT results are included with the CPT reports in Appendix B, for each exploration.

3.2.3 Vane Shear Testing

Vane Shear Tests (VST) are used to provide undrained shear strengths of cohesive soils by pushing a four-bladed vane into undisturbed soil to the desired depth and rotating it using a torque head. This test can be used to estimate in-situ peak and remolded undrained shear strengths of the soil. VSTs were performed in accordance with ASTM D 2573, *Standard Test Method for Field Vane Shear Test in Cohesive Soil*.

For the Project, VSTs were performed at borehole B3 (VST ID GS26-B-3) and B6 (VST ID GS26-B-6). Both VST locations were performed at depths of 6.5 feet and 11.5 feet. VST GS26-B-3 encountered refusal at both depths while GS26-B-6 sheared and undisturbed and remolded strength results can be estimated at both depths.

3.3 Exploration Completion

Following boring completion, the boreholes and CPTs were backfilled using a cement/bentonite grout mixture. The mix required by San Mateo County EHS was used and is given below:

- Water: 7 gallons
- Portland cement: 1 sack (94 pounds)
- Bentonite: Up to 7.5 pounds

The grout mixture was pumped into the hole using a tremie pipe from the bottom to the surface. When the grout mixture reached the top of the hole, the tremie pipe was removed and additional grout mixture was added to make up for the volume lost by removing the tremie pipe. If asphalt was penetrated, the borehole was topped with cold patch asphalt having a thickness approximately equal to that of the surrounding surface.

Explorations at GS26-CPT-16, GS26-B-4, GS26-CPT-12, and GS26-CPT-13 required penetration through existing arsenic-impacted soil. Based on Geosyntec's communication with the City, Sherwood, and the land owner, Geosyntec understands that the parcel containing GS26-CPT-16,

GS26-B-4 had been previously capped with an engineered cover consisting of 1 foot on clean soil over a geosynthetic clay liner (GCL) while the parcel containing GS26-CPT-12 and GS26-CPT-13 was capped with clean soil.

During hand augering of GS26-B-4, GCL was encountered approximately 8 inches below ground surface. This GCL was removed to complete the exploration to the target depth. After drilling was completed at GS26-B-4, the borehole was backfilled using cement/bentonite grout mix until level with the surrounding GCL (approximately 8 inches below surrounding grade). To repair the penetrated GCL, a 2-foot by 5-foot area around the borehole was exposed by hand until the existing GCL was encountered. Bentonite powder was then placed on the exposed GCL and a 2-foot by 5-foot piece of new GCL was placed on top of and overlapping the existing GCL and bentonite powder to reinstate containment. Clean soil was then placed above the GCL to match the surrounding grade. Geosyntec understands that arsenic may also be present in the upper fill soil at GS26-CPT-16, GS26-CPT-12, and GS26-CPT-13; however, no GCL was encountered at these locations, therefore, no new GCL was placed during exploration completion, and these explorations were backfilled with grout until the ground surface.

Soil with suspected contamination was not submitted for geotechnical laboratory testing. Hand auger and soil boring samples were logged and then drummed for off-site disposal.

Upon completion of each exploration, the drill sites were cleaned and restored to approximate pre-exploration conditions. Where CPTs and borings penetrated a paved surface, the surface was patched to existing grade with an asphalt cold patch.

3.4 Investigation Derived Waste

Soil cuttings, excess grout, and drilling mud generated during the investigation were managed as investigation derived waste (IDW) and containerized into 55-gallon drums. The drums were labeled and temporarily stored behind a locked gate at the O'Connor pump station at the end of the investigation. Following the field investigation, the drums were profiled for waste disposal and were off-hauled by Costera Waste & Environmental, Inc. (Costera), a licensed waste disposal contractor under subcontract to Pitcher.

4. LABORATORY TESTING

Samples obtained during the exploration program were reviewed and selected soil samples were sent to Cooper Testing Labs, Inc. (Cooper) in Palo Alto, California. Laboratory tests were performed to evaluate index properties, strength properties, consolidation properties, chemical properties, and other soil performance properties. Samples were selected for testing from representative materials at various locations along the proposed alignment of the levee/floodwall. Table 3 provides a summary of the tests conducted on each sample.

4.1 Index Testing

Soil samples underwent grain-size analyses, hydrometer analyses, moisture-density analyses, organic content, and Atterberg limits tests.

The mechanical grain-size analyses (ASTM D 6913) were performed on 16 samples to measure the size and distribution of the particles in coarse fraction of the soil. Two grain-size analyses tests included hydrometer analysis (ASTM D6913/D7928) to estimate the distribution of particle sizes finer than 0.075 mm (particles passing through a Number 200 sieve).

Moisture content tests (ASTM D2216) and unit weight tests (ASTM D7263b) were each performed on 16 samples to measure the in-situ moisture-density of suspected soil types. Moisture and unit weight were also measured and reported for triaxial and consolidation testing.

Organic content tests (ASTM D2974) were performed on 4 shallow samples where organic odors/dark coloration was noted in the logs.

Atterberg limits tests (ASTM D 4318) were performed on 16 samples to obtain information on the relationship between water content and the plastic behavior of the soils. Atterberg limits tests were generally performed on fine-grained soils that exhibited plastic behavior.

Results of laboratory index tests are presented in Appendix D.

4.2 Strength and Consolidation Testing

Triaxial compression and consolidation tests were performed on selected Shelby tube samples at different depths to obtain strength and consolidation properties.

Results of strength and consolidation tests are presented in Appendix D.

4.2.1 Isotropically Consolidated Undrained (ICU) Tests

Isotropically-consolidated undrained triaxial compression (ICU) tests with pore water pressure measurements (ASTM D4767) were performed on 9 samples. Tests were performed on relatively undisturbed soil samples to evaluate shear strengths of the soils. The triaxial tests were performed on soil samples obtained by Shelby tubes and were x-rayed by the lab prior to testing. The x-rays were reviewed to identify any locations within the Shelby tubes that appear damaged/disturbed or otherwise presented concerns about their suitability for testing..

The specimens selected for the ICU tests were saturated in a triaxial cell and then consolidated, depending on the depth from which the sample was taken and consolidation testing results. The samples were tested in axial compression, accomplished by increasing the axial load on the sample in a strain-controlled fashion.

4.2.2 Unconsolidated Undrained (UU) Tests

Unconsolidated undrained triaxial compression (UU) tests (ASTM D2850) were performed on 14 relatively undisturbed cohesive soil samples to estimate the strength characteristics of the soils. The triaxial tests were performed on soil samples obtained by Shelby tubes and were confined at pressures selected to approximately match the in-situ condition.

4.2.3 Consolidation Tests

One-dimensional consolidation tests (ASTM D2435) were performed on 22 relatively undisturbed cohesive soil samples. Consolidation test results were used to evaluate the compressibility of the samples and to estimate the maximum past pressures of soils.

4.3 Corrosion Testing

Three shallow soil samples were tested for resistivity and pH (CA Method 643), sulfate content (CA Method 417), and chloride content (CA Method 422) to inform potential corrosivity during the service life of the sheet pile wall steel and concrete cap.

4.4 Other Performance Testing

Compaction and swell tests were conducted on shallow soil samples to provide baseline soil characteristics of the potential levee fill material and considerations for construction and maintenance of the levee.

4.4.1 Testing of Compaction Characteristics Using Modified Effort

Compaction testing using modified effort (ASTM D1557) was performed on 4 samples to estimate maximum relative density and optimum moisture contents of surface material that may be used as levee fill material.

4.4.2 Expansion Index Test

Expansion index testing (ASTM D4829) was performed on 1 shallow sample to obtain swelling characteristics of the potential levee fill material for construction and serviceability of the levee.

5. QUALITY ASSURANCE AND QUALITY CONTROL

5.1 SPT Hammer Energy Measurement

Pitcher performed a hammer energy measurement prior to the project to evaluate the amount of energy the drilling rig hammer delivers. Although the previous energy measurements were performed separately, these energy measurements are considered relevant because they were performed on the same automatic hammer and drill rig.

Hammer calibrations were conducted by GRL Engineers, Inc. The hammers' energy efficiency was estimated to be approximately 87% for the CME 850 track mounted drill rig used for GS26-B-1 through GS26-B-4 and approximately 97% for the Geoprobe 7822DT drill rig used for GS26-B-5 and GS26-B-6.

The sum of the number of hammer blows required for the second and third 6 inches of penetration during SPTs are known as an SPT N value. SPT N values are sensitive to the energy efficiency of each specific SPT hammer used. The energy efficiency of the hammer allows for the normalization of the blow counts to a standard 60% efficiency which is represented by N60 and used for numerous correlations. Hammer energy efficiency and N60 values for SPTs can be found on the boring logs in Appendix A.

5.2 Quality Assurance/Control Procedures

Field quality control measures were performed by Geosyntec field personnel, who also supervised field activities during the geotechnical investigation.

Boring logs were created by:

- Documenting field sampling details and soil descriptions on boring logs
- Performing quality control checks on field logs by field engineer.
- Submitting logs to Geosyntec's Project Manager for review.
- Engineers reviewing laboratory test results to assess consistency with field boring logs.
- Wherever appropriate, field log soil classifications and descriptions were updated based on laboratory test results.
- Geotechnical staff members reviewing updated boring logs.

6. LIMITATIONS

This compiled data report and its attachments were prepared by Geosyntec staff under the direction of California-licensed Professional Engineers and internally reviewed in conformance with company review policies. This geotechnical data collection and preparation of this report have been performed in accordance with the standard of care commonly used as the state-of-practice in the engineering profession. Standard of care is defined as the ordinary diligence exercised by fellow practitioners in this area performing the same services under similar circumstances during the same period.

Subsurface conditions described in this report are based on subsurface soil and groundwater conditions at limited exploration locations. Variations in subsurface conditions may exist between exploration locations, and the project team may not be able to identify all adverse conditions along the levee/floodwall alignment.

No warranty, either express or implied, is made in the furnishing of this report, which is the result of geotechnical services. Geosyntec makes no warranty that actual encountered site and subsurface conditions will exactly conform to the conditions described herein.

Data presented in this report are time-sensitive in that they apply only to locations and conditions existing at the time of the exploration and preparation of this report. Data should not be applied to any other projects in or near the area of this study, nor should they be applied at a future time without appropriate verification.

This report is for the use of Sherwood Design Engineers and the City of East Palo Alto on the SAFER Bay project. Use by any other party is at their own discretion and risk.

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TABLES

Table 1: Investigation Locations

SAFER Bay Project
East Palo Alto, California

Location ID	Investigation Type	Existing Elevation (feet) ^{[1],[2]}	Completed Depth (feet)	Latitude ^{[1],[2]}	Longitude ^{[1],[2]}
GS26-B-1	Mud-rotary boring	13.6	71.5	37.461376	-122.124329
GS26-CPT-1	Cone penetration test		70.2		
GS26-CPT-2	Cone penetration test	12.3	70.2	37.462198	-122.124583
GS26-CPT-3	Cone penetration test	12.2	70.2	37.463067	-122.124869
GS26-CPT-4	Cone penetration test	4.9	70.2	37.463129	-122.125669
GS26-B-2	Mud-rotary boring	11.4	71.5	37.463976	-122.125162
GS26-CPT-5 ^[4]	Cone penetration test		72.0		
GS26-CPT-6	Cone penetration test	11.4	70.2	37.465240	-122.125582
GS26-CPT-7	Cone penetration test	11.7	70.2	37.466076	-122.125836
GS26-CPT-8	Cone penetration test	11.4	70.2	37.466768	-122.126049
GS26-CPT-9	Cone penetration test	10.7	70.2	37.468637	-122.124931
GS26-B-3 ^[3]	Mud-rotary boring	8.9	71.5	37.468625	-122.126238
GS26-CPT-10 ^[4]	Cone penetration test		42.2		
GS26-CPT-11	Cone penetration test	11.5	70.2	37.468906	-122.127016
GS26-CPT-12	Cone penetration test	7.6	70.2	37.469627	-122.127334
GS26-CPT-13	Cone penetration test	7.2	70.2	37.469897	-122.127619
GS26-CPT-14	Cone penetration test	9.7	42.3	37.471259	-122.127699
GS26-CPT-15	Cone penetration test	9.8	70.2	37.472463	-122.127715
GS26-B-4	Mud-rotary boring	8.7	71.5	37.474133	-122.126888
GS26-CPT-16 ^[4]	Cone penetration test		72.0		
GS26-CPT-17	Cone penetration test	10.0	60.1	37.474110	-122.126820
GS26-CPT-18	Cone penetration test	10.0	64.2	37.474762	-122.126411
GS26-CPT-19	Cone penetration test	3.4	70.2	37.475600	-122.125543
GS26-CPT-20	Cone penetration test	4.8	69.1	37.475441	-122.125936
GS26-B-5	Mud-rotary boring	5.5	63.0	37.475375	-122.126467
GS26-CPT-21 ^[4]	Cone penetration test		70.9		
GS26-CPT-22	Cone penetration test	4.3	70.2	37.476107	-122.127407
GS26-CPT-23	Cone penetration test	4.7	70.2	37.476483	-122.127863
GS26-CPT-24	Cone penetration test	3.6	67.0	37.477024	-122.128537
GS26-B-6 ^[3]	Mud-rotary boring	3.2	44.5	37.477579	-122.129233
GS26-CPT-25 ^[4]	Cone penetration test		72.0		
GS26-CPT-26	Cone penetration test	4.0	60.7	37.478205	-122.129977
GS26-CPT-27	Cone penetration test	5.8	68.2	37.478809	-122.130748

Notes:

[1] Exploration locations and elevations are based on GPS survey of as-built locations and are accurate to within approximately 1 foot.

[2] Latitude and Longitude are based on the North American Datum of 1983 (NAD83), California State Plane, Zone 3, US Survey Feet. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).

[3] Vane Shear Tests performed at these locations.

[4] CPT location also included shear wave velocity measurements at 5-ft intervals.

Table 2: Historical Investigation Locations

SAFER Bay Project
East Palo Alto, California

Name of Investigation Point	Reference	Investigation Type	Depth (feet)	Latitude ^{[1][2]}	Longitude ^{[1][2]}
W-102	Geomatrix Consultants (n.d.)	Environmental well log	32.0	37.470892	-122.127855
W-115		Environmental well log	14.0	37.471734	-122.127478
W-114		Environmental well log	12.5	37.472675	-122.127401
CPT-108	HDR (2024)	CPT	70.0	37.463650	-122.125061
CPT-107		CPT	70.0	37.465171	-122.126428
CPT-106		CPT	70.0	37.467773	-122.126363
CPT-105		CPT	70.0	37.470238	-122.127408
CPT-104		CPT	70.0	37.472838	-122.127518
B-107		Geotechnical boring	51.5	37.475067	-122.126063
A-SCPT4	Arup (2021)	SCPT	121.0	37.471008	-122.127924
A-B3		Geotechnical boring	51.5	37.471060	-122.127910
A-B2		Geotechnical boring	50.0	37.472863	-122.127811
A-CPT2		CPT	128.0	37.473070	-122.128220
A-CPT3		CPT	101.0	37.473216	-122.127598
TRC-EB-5	TRC (2018)	Geotechnical boring	51.5	37.470624	-122.127823
TRC-CPT-5		CPT	101.0	37.471600	-122.128341
TRC-CPT-6		CPT	101.0	37.471991	-122.128684
B-06	HDR (2016)	Geotechnical boring	50.0	37.465581	-122.125696
NM-CPT-1	Ninyo & Moore, Inc. (2016)	CPT	80.3	37.475268	-122.128415
NM-CPT-2		CPT	95.8	37.474723	-122.12808
NM B-2		Geotechnical boring	36.5	37.475023	-122.128949
NM-B-3		Geotechnical boring	51.5	37.474559	-122.128409
NM-B-4	Ninyo & Moore, Inc. (2014)	Geotechnical boring	20.0	37.468732	-122.127814
NM-B-5		Geotechnical boring	20.0	37.474623	-122.127073
I-CPT-2	Iris Environmental (2013)	CPT	74.0	37.475184	-122.127606
I-CPT-3		CPT	75.0	37.475616	-122.127939
RCPT-08	Iris Environmental (2015)	CPT	83.0	37.475946	-122.128451
RCPT-12		CPT	83.0	37.476225	-122.128502
RCPT-15		CPT	111.7	37.476522	-122.128942
RCPT-17		CPT	118.6	37.476708	-122.129086
RCPT-18		CPT	118.6	37.476784	-122.129551
RCPT-19		CPT	119.2	37.477049	-122.129884
RCPT-20		CPT	119.5	37.477234	-122.129817
RCPT-24		CPT	119.0	37.476640	-122.129473
GEI-B-5	GEI (2012)	Geotechnical boring	51.5	37.461798	-122.122366
GEI-CPT-4		CPT	80.1	37.460347	-122.124328
W-135A	AMEC/Geomatrix (2011)	Environmental well log	6.5	37.468860	-122.127059
RSD-3	AMEC/Geomatrix (2009)	Environmental Boring (direct push)	15.0	37.468682	-122.12692
RSD-2		Environmental Boring (direct push)	15.0	37.468742	-122.127005
RSD-1		Environmental Boring (direct push)	20.0	37.468827	-122.127024

Table 2: Historical Investigation Locations

SAFER Bay Project
East Palo Alto, California

Name of Investigation Point	Reference	Investigation Type	Depth (feet)	Latitude ^{[1][2]}	Longitude ^{[1][2]}
LNy-EB-5	Lowney Associates (2002)	Geotechnical boring	40.0	37.460685	-122.1242
W-142	Geomatrix Consultants (2001)	Environmental well log	33.0	37.472000	-122.127937
LNy-EB-103	Lowney Associates (2000)	Geotechnical boring	26.5	37.470709	-122.127906
LNy-EB-104		Geotechnical boring	6.5	37.471556	-122.128379
LNy-EB-109		Geotechnical boring	16.5	37.472003	-122.128397
LNy-EB-107		Geotechnical boring	20.0	37.472301	-122.128785
W-127	Geomatrix Consultants (1998)	Environmental well log	9.5	37.471342	-122.127592
W-123	Geomatrix Consultants (1988)	Environmental well log	15.0	37.471670	-122.127304
W-124		Environmental well log	32.0	37.471649	-122.127329
W-122		Environmental well log	36.0	37.472508	-122.127635
M-1	Geomatrix Consultants (1987)	Environmental well log	12.5	37.471720	-122.127707
M-3		Environmental well log	11.5	37.471896	-122.127691
M-4		Environmental well log	6.0	37.472059	-122.127832
M-9		Environmental well log	9.5	37.472637	-122.12723
ES-B-1	Earth Systems Consultants (1983)	Geotechnical boring	44.5	37.461040	-122.123535
ES-B5		Geotechnical boring	50.0	37.461217	-122.124061
ES-B6		Geotechnical boring	25.0	37.463142	-122.12491
ES-B7		Geotechnical boring	20.0	37.464783	-122.125444
ES-B8		Geotechnical boring	20.0	37.466673	-122.126032
ES-B4		Geotechnical boring	24.0	37.468354	-122.126522
RW-5B	Arcadis U.S. (2004)	Geotechnical boring	42.5	37.476489	-122.128499

Notes:

[1] Historical exploration locations are approximate and are based on the locations shown on the Preliminary Geotechnical Report for South of Bay Road (HDR 2024b) and Geotechnical Data Report SFPUC Ravenswood Facility to Bedwell Bayfront Park (HDR 2025).

[2] Latitude and Longitude are based on the North American Datum of 1983 (NAD83), California State Plane, Zone 3, US Survey Feet. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).

Abbreviations:

Arup: Arup North America Ltd.

GEI: GEI Consultants, Inc.

n.d.: no date

CPT: cone penetration test

HDR: HDR Consultants, Inc.

SCPT: seismic cone penetration test

Table 2: Historical Investigation Locations

SAFER Bay Project
East Palo Alto, California

Name of Investigation Point	Reference	Investigation Type	Depth (feet)	Latitude ^{[1][2]}	Longitude ^{[1][2]}

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TRC. 2018. *Geotechnical Investigation Report, 1175 Weeks Street and 1990 Bay Road Development, East Palo Alto, California*. Report No. 315276. (As referenced in Arup [2021]; source report was not made available to HDR.)

Table 3: Geotechnical Laboratory Test Results Summary

Boring	Sample ID	Depth	Sampler	Soil Description	USCS	Moisture and Density		Atterberg Limits			Organic Content	Expansion Index	pH	Resistivity @ 15.5 °C	Chloride	Sulfate	Grain Size Distribution				TX-UU ^[2]		TX-CU ^[4]		Maximum Dry Density	Optimum Moisture Content
						Moisture Content ^[1]	Wet Unit Weight ^[1]	LL	PL	PI							Gravel	Sand	Fine		Confining Pressure	Undrained Shear Stress	φ'	c'		
		(ft)				(%)	(pcf)				(%)			(Ohm-cm)	(mg/kg)	(mg/kg)	(%)	(%)	% Clay	% Silt	(psf)	(psf)	Degrees	(psf)	pcf	%
B1	Bulk	0-5'	Bulk	Brown Clayey SAND	SC	--	--	--	--	--	--	--	8.1	605	58	4108	--	--	--	--	--	--	--	--	119.3	12.8
B1	B1-1	5-7.5'	Shelby	Black Sandy CLAY	CL	33.7	117.2	--	--	--	3.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B1	B1-2	7.5-9'	SPT	Dark Gray Fat CLAY w/ Sand	CH	--	--	69	22	47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B1	B1-3	10-12.5'	Shelby	Gray Fat CLAY	CH	48.4	106.8	86	34	52	--	--	--	--	--	--	--	--	--	--	--	--	27	400	--	--
B1	B1-4	12.5-14'	SPT		CL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B1	B1-5	15-17.5'	Shelby	Gray Sandy CLAY w/ Gravel	CH	29.6	120.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B1	B1-6	17.5-19'	SPT			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B1	B1-7	20-22.5'	Shelby			25.8	124.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B1	B1-8	22.5-24'	SPT			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B1	B1-9	25-26.5'	SPT			24.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B1	B1-10	30-31.5'	SPT	Olive Brown Clayey SAND	SC	--	--	--	--	--	--	--	--	--	--	--	6.2	64.8	10.1	18.9	--	--	--	--	--	--
B1	B1-11	35-36.6'	SPT			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B1	B1-12	40-41.5'	Mod-Cal	Yellowish Brown Sandy CLAY	CL	25.2	125.3	--	--	--	--	--	--	--	--	--	--	--	--	--	2318	520	--	--	--	--
B1	B1-13	45-46.5'	Mod-Cal	Olive Brown Sandy CLAY	CH	33.7	118.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B1	B1-14	50-52.5'	Shelby	Yellowish Brown CLAY (Grain Size/Consolidation Sample)	CL	32.4	116.9	--	--	--	--	--	--	--	--	--	1.1	4.1	94.8		2664	2585	--	--	--	--
				Olive Gray Sandy SILT (TXUU Sample)	ML	31.2	119.7																			
B1	B1-15	55-56.5'	SPT			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B1	B1-16	60-61.5'	Mod-Cal	Light Olive Brown CLAY w/ Sand	CL	25.5	126.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B1	B1-17	65-67.5'	Shelby			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B1	B1-18	70-71.5'	SPT	Olive CLAY w/ Sand	CH	26.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B2	Bulk	0-5'	Bulk			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B2	B2-1	5-6.5'	SPT	Black Sandy CLAY	CH	32.0	--	--	--	--	4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B2	B2-2	10-11.5'	SPT	Very Dark Gray Sandy CLAY	CH	43.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B2	B2-3	15-17.5'	Shelby	Olive Brown Lean Clayey SAND w/ Gravel (Consolidation Sample)	SC	25.9	124.1	30	16	14	--	--	--	--	--	--	--	--	--	--	1166	245	--	--	--	--
				Olive Brown Sandy CLAY (TXUU Sample)	CL	34.5	113.5				--	--	--	--	--	--	--	--	--	--			--	--	--	--
B2	B2-4	20-21.5'	SPT	Olive Brown Clayey SAND	SC	--	--	--	--	--	--	--	--	--	--	--	10.0 ^[3]	57.3 ^[3]	32.7 ^[3]	--	--	--	--	--	--	--
B2	B2-5	22.5-24'	SPT			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B2	B2-6	25-27.5'	Shelby	Yellowish Brown Lean CLAY w/ Sand, trace Gravel (from Atterberg/Consolidation Sample)	CL	36.9	115.5	47	25	22	--	--	--	--	--	--	--	--	--	--	1570	1060	--	--	--	--
				Olive Brown Sandy CLAY (from TXUU Sample)	CL	30.9	120.3				--	--	--	--	--	--	--	--	--	--			--	--	--	--
B2	B2-7	30-32.5'	Shelby	Olive Brown Sandy CLAY w/ Gravel	CL	15.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B2	B2-8	35-36.5'	SPT	Olive Brown Clayey SAND w/ Gravel	SC	--	--	--	--	--	--	--	--	--	--	--	32.8 ^[3]	49.5 ^[3]	17.7 ^[3]	--	--	--	--	--	--	--
B2	B2-9	40-41.5'	SPT	Olive Brown Poorly Graded GRAVEL w/ Clay	GP-GC	--	--	--	--	--	--	--	--	--	--	--	81.5 ^[3]	13.1 ^[3]	5.4 ^[3]	--	--	--	--	--	--	--
B2	B2-10	45-46.5'	Mod-Cal			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B2	B2-11	50-51.5'	Mod-Cal			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B2	B2-12	55-57.5'	Shelby	Olive Brown Sandy CLAY	CL	24.5	124.5	--	--	--	--	--	--	--	--	--	--	--	--	--	2707	615	--	--	--	--
				Olive Gray Sandy CLAY	CL	26.4	124.9				--	--	--	--	--	--	--	--	--	--			--	--	--	--
B2	B2-13	60-62.5'	Shelby		CH	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B2	B2-14	65-67.5'	Shelby	Dark Olive Brown Clayey SAND	SC	--	--	--	--	--	--	--	--	--	--	--	0.0	79.2	20.8	--	--	--	--	--	--	--
B2	B2-15	70-71.5'	SPT		SM	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 3: Geotechnical Laboratory Test Results Summary

Boring	Sample ID	Depth	Sampler	Soil Description	USCS	Moisture and Density		Atterberg Limits			Organic Content	Expansion Index	pH	Resistivity @ 15.5 °C	Chloride	Sulfate	Grain Size Distribution				TX-UU ^[3]		TX-CU ^[4]		Maximum Dry Density	Optimum Moisture Content
						Moisture Content ^[1]	Wet Unit Weight ^[1]	LL	PL	PI							Gravel	Sand	Fine		Confining Pressure	Undrained Shear Stress	φ'	c'		
						(%)	(pcf)				(%)						(%)	(%)	% Clay	% Silt	(psf)	(psf)	Degrees	(psf)	pcf	%
B3	Bulk	0-5'	Bulk	Brown Clayey SAND w Gravel	SC	--	--	--	--	--	--	--	8.2	104	3948	917	--	--	--	--	--	--	--	--	127.2	10.7
B3	B3-1	5-6.5'	SPT	Olive Brown Sandy CLAY	CL	26.7	--	--	--	--	2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B3	B3-2	7-9.5'	Osterberg	Olive Gray Sandy CLAY	CL	30.0	119.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	35	0	--	--
B3	B3-3	10-11.5'	SPT			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B3	B3-4	15-17.5'	Shelby			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B3	B3-5	20-21.5'	Mod-Cal			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B3	B3-6	25-27.5'	Shelby	Olive Sandy Lean CLAY	CL	--	--	38	16	22	--	--	--	--	--	--	11.6 ^[3]	27.3 ^[3]	61.1 ^[3]		--	--	--	--	--	--
B3	B3-7	30-31.5'	SPT			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B3	B3-8	35-37.5'	Shelby			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B3	B3-9	40-41.5'	SPT			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B3	B3-10	45-46.5'	Mod-Cal	Olive Brown CLAY	CL	--	--	--	--	--	--	--	--	--	--	--	7.3 ^[3]	1.5 ^[3]	91.2 ^[3]		--	--	--	--	--	--
B3	B3-11	50-51.5'	SPT			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B3	B3-12	55-57.5'	Shelby	Olive Gray Fat CLAY	CH	35.5	115.3	61	24	37	--	--	--	--	--	--	--	--	--	--	--	--	25	500	--	--
B3	B3-13	60-62.5'	Shelby	Olive Gray SILT w/ Sand	ML	30.3	122.7	29	23	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B3	B3-14	65-66.5'	SPT	Gray Silty SAND	SM	26.2	--	--	--	--	--	--	--	--	--	--	0.0	64.6	35.4		--	--	--	--	--	--
B3	B3-15	70-71.5'	SPT			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B4	-	0-5'	-			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B4	B4-1	5-7.5'	Shelby	Olive Gray Sandy SILT	ML	30.6	119.3	--	--	--	1.6	--	--	--	--	--	--	--	--	--	403	350	--	--	--	--
				Olive Gray Sandy CLAY	CL	26.0	124.1	--	--	--	--	--	--	--	--	--	--	--	--	--			--	--	--	--
B4	B4-2	7.5-9'	SPT			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B4	B4-3	10-11.5'	SPT	Olive Gray Sandy Silty CLAY	CL-ML	26.7	--	23	17	6	--	--	--	--	--	--	0.4	47.7	51.9		--	--	--	--	--	--
B4	B4-4	15-16.5'	Mod-Cal	Dark Gray Fat CLAY w/ Sand	CH	41.9	111.0	65	23	42	--	--	--	--	--	--	--	--	--	--	734	825	--	--	--	--
					CH	36.8	116.6	--	--	--	--	--	--	--	--	--	--	--	--	--			--	--	--	--
B4	B4-5	20-22.5'	Shelby	Olive Gray CLAY w/ Sand	CH	--	--	--	--	--	--	--	--	--	--	--	5.4	19.8	74.8		--	--	--	--	--	--
B4	B4-6	22.5-24'	SPT			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B4	B4-7	25-26.5'	Mod-Cal	Pale Olive CLAY w/ Sand	CH	23.1	127.8	--	--	--	--	--	--	--	--	--	0.1	18.7	81.2		--	--	--	--	--	--
B4	B4-8	30-31.5'	SPT	Olive Brown Sandy CLAY	CH	23.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B4	B4-9	35-36.5'	Mod-Cal	Greenish Gray Fat CLAY w/Sand	CH	30.3	121.1	58	20	38	--	--	--	--	--	--	8.0 ^[3]	13.1 ^[3]	78.9 ^[3]		1555	1685	--	--	--	--
				Olive Brown Sandy CLAY	CH	27.0	123.4				--	--	--	--	--	--	--	--	--	--			--	--	--	--
B4	B4-10	40-42.5'	Shelby	Olive Brown Sandy CLAY	CL	26.0	121.1	--	--	--	--	--	--	--	--	--	0.0	42.9	57.1		--	--	--	--	--	--
B4	B4-11	45-46.5'	Mod-Cal			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B4	B4-12	50-52.5'	Shelby			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B4	B4-13	55-57.5'	Shelby	Olive Gray Lean CLAY	CL	27.8	122.6	49	22	27	--	--	--	--	--	--	--	--	--	--	--	--	30 ^[5]	0 ^[5]	--	--
B4	B4-14	60-61.5'	SPT			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B4	B4-15	65-67.5'	Shelby	Gray Sandy CLAY	CL	26.7	122.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B4	B4-16	70-71.5'	SPT			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 3: Geotechnical Laboratory Test Results Summary

Boring	Sample ID	Depth	Sampler	Soil Description	USCS	Moisture and Density		Atterberg Limits			Organic Content	Expansion Index	pH	Resistivity @ 15.5 °C	Chloride	Sulfate	Grain Size Distribution				TX-UU ^[2]		TX-CU ^[4]		Maximum Dry Density	Optimum Moisture Content
						Moisture Content ^[1]	Wet Unit Weight ^[1]	LL	PL	PI							Gravel	Sand	Fine		Confining Pressure	Undrained Shear Stress	φ'	c'		
		(ft)				(%)	(pcf)				(%)			(Ohm-cm)	(mg/kg)	(mg/kg)	(%)	(%)	% Clay	% Silt	(psf)	(psf)	Degrees	(psf)	pcf	%
B5	Bulk	0-5'	Bulk	Gravish Brown Clayey SAND	SC	--	--	--	--	--	--	--	9.0	512	581	128	--	--	--	--	--	--	--	--	126.4	10.6
B5	B5-1	5-7.5'	Shelby	Olive Brown Sandy CLAY	CL	28.7	120.9	--	--	--	--	--	--	--	--	--	--	--	--	--	619	450	--	--	--	--
B5	B5-2	7.5-9'	SPT			21.0	123.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B5	B5-3	10-12.5'	Shelby	Yellowish Brown Sandy CLAY w/ Gravel	CL	29.8	116.3	--	--	--	--	--	--	--	--	--	--	--	--	--	907	925	--	--	--	--
B5	B5-4	12.5-14'	SPT	Olive Gray CLAY w/ Sand	CL	20.8	128.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B5	B5-5	15-17.5'	Shelby	Olive Gray Clayey SAND	SC	--	--	--	--	--	--	--	--	--	--	--	2.5	47.8	21.1	28.6	--	--	--	--	--	--
B5	B5-6	17.5-19'	SPT	Olive Gray Silty SAND	SM	26.6	124.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B5	B5-7	20-21.5'	SPT			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B5	B5-8	25-27.5'	Shelby	Greenish Gray Sandy CLAY w/ Gravel (from Consolidation Sample)	CL	24.2	122.4	--	--	--	--	--	--	--	--	--	--	--	--	--	1454	1935	--	--	--	--
				Gray Sandy CLAY (from TXUU Sample)	CL	22.0	127.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B5	B5-9	27.5-29'	SPT	Olive Sandy Lean CLAY w/ Gravel	CL	23.9	--	45	17	28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B5	B5-10	30-31.5'	Mod-Cal	Greenish Gray Sandy CLAY w/ Gravel	CL	26.3	125.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B5	B5-11	35-36.5'	SPT	Light Olive Brown Sandy CLAY w/ Gravel	CL	30.6	--	40	20	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B5	B5-12	40-42.5'	Shelby	Olive SILT	ML	24.2	122.3	--	--	--	--	--	--	--	--	--	--	--	--	--	2045	750	--	--	--	--
B5	B5-13	45-47.5'	Shelby	Olive Sandy CLAY	CL	27.5	122.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B5	B5-14	47.5'-49'	SPT	Light Olive Brown Sandy CLAY w/ Gravel	CL	30.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B5	B5-15	50-52.5'	Shelby	Olive Gray Sandy CLAY	CL	31.2	120.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B5	B5-16	52.5-54'	SPT		CL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B5	B5-17	55-57.5'	Shelby	Olive Gray Sandy CLAY	CL	35.8	113.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B5	B5-18	60-62.5'	Shelby	Olive Gray Sandy CLAY	CL	27.0	124.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B6	Bulk	0-5'	Bulk	Brown Clayey SAND w/ Gravel	SC	--	--	--	--	--	--	43	--	--	--	--	--	--	--	--	--	--	--	--	129.5	9.4
B6	B6-1	6.5-8'	SPT	Dark Gray Fat CLAY w/ Sand & organics	CH	61.4	--	78	32	46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B6	B6-2	8-10.5' (tip-21") 8-10.5' (tip-5")	Shelby	Bluish Gray Fat Clay	CH	53.0	105.6	60	24	36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
						38.7	114.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B6	B6-3	15-17.5'	Shelby	Bluish Gray Sandy Lean CLAY	CL	--	--	40	19	21	--	--	--	--	--	--	1.0	29.0	70.0		749	555	--	--	--	--
B6	B6-4	20-21.5'	SPT		CL	35.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B6	B6-5	25-27.5'	Shelby	Yellowish Brown CLAY w/ Sand	CL	19.4	128.8	--	--	--	--	--	--	--	--	--	5.7	15.3	79.0		1094	2720	--	--	--	--
B6	B6-6	30-31.5'	SPT	Light Olive Brown Sandy CLAY w/ Gravel	CL	25.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B6	B6-7	40-42.5'	Shelby	Yellowish Brown CLAY w/ Sand	CL	22.2	126.5	--	--	--	--	--	--	--	--	--	0.0	17.8	82.2		--	--	--	--	--	--
B6	B6-8	42.5-44'	SPT	Yellowish Brown CLAY w/ Sand	CL	32.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Symbols:

--	not tested
%	percentage
% Gravel	percentage of sample coarser than #40 sieve (by mass)
% Sand	percentage of sample between #200 and #40 sieve (by mass)
% Fines	percentage of sample passing #200 sieve (by mass)

Abbreviations:

LL	liquid limit
PI	plasticity limit
PL	plastic limit
ft	feet
pcf	pounds per cubic feet
ASTM	American Society for Testing and Materials

Shelby	Thin-walled Shelby tube sampler
SPT	Standard Penetration Test
Mod Cal	Modified California sampler
TX-UU	Unconsolidated undrained triaxial compression
TX-CU	Consolidated undrained triaxial compression

Notes:

- [1] Moisture content and wet unit weights are based on moisture-density measurements (ASTM D7263b) where available; otherwise, these values have been extracted from initial readings from strength, consolidation, or organic content tests.
- [2] TX-UU samples were subject to an isotropic confining pressure of slightly higher than the estimated in-situ stress, and back-pressure saturated prior to shear. Undrained shear strength was taken as half the peak deviator stress at 5% strain.
- [3] Due to the small sample size, relative to the largest particle size, this data should be considered to be approximate.
- [4] TX-CU strengths were plotted at the peak deviator stress or at 15% strain, whichever ever occurred first.
- [5] Second specimen experienced premature peak stress due to a pre-existing fissure within the sample. Strength was estimated using the remaining specimen results assuming an effective cohesion of 0 psf.

Table 4: Vane Shear Test Results Summary*Geosyntec Consultants*SAFER Bay Project
East Palo Alto, California

Location ID	Tested Depth (feet)	τ_{peak} (kPa)	τ_{remolded} (kPa)	PI (based on nearby data)	Estimated Correction Factor ¹	Uncorrected		Corrected	
						τ_{peak} (psf)	τ_{remolded} (psf)	τ_{peak} (psf)	τ_{remolded} (psf)
GS26-B-3 ²	6.5								
GS26-B-3 ²	11.5								
GS26-B-6	6.5	37.78	11.98	46	0.9	790	250	710	230
GS26-B-6	11.5	20.58	3.39	36	0.8	430	70	340	60

Notes¹Field Vane Correction Factor based on chart from Bjerrum (1972).²Grayed out boxes did not reach a peak shear stress and are unusable data³Values from Pitcher VST Report (See Appendix C).

Table 5: Pore Pressure Dissipation Test Results Summary*Geosyntec Consultants*SAFER Bay Project
East Palo Alto, California

Location ID	Existing Ground Elevation (feet) ^{[1],[2]}	Pore Pressure Dissipation Test Depth (feet below ground surface)	Estimated Depth to Groundwater (feet below ground surface) ^[3]	Estimated Groundwater Elevation (feet) ^[2]
GS26-CPT-1	13.62	33.27	14.59	-0.97
GS26-CPT-2	12.31	16.47	11.71	0.60
GS26-CPT-3	12.16	16.60	12.68	-0.52
	12.16	65.94	12.87	-0.71
GS26-CPT-4	4.90	14.04	4.23	0.66
GS26-CPT-5	11.39	34.25	9.67	1.72
GS26-CPT-6	11.45	38.25	8.70	2.74
GS26-CPT-9	10.74	44.36	8.91	1.83
	10.74	70.21	10.67	0.07
GS26-CPT-11	11.45	29.72	5.09	6.36
GS26-CPT-12	7.62	24.15	3.02	4.60
GS26-CPT-13	7.21	21.59	4.51	2.70
GS26-CPT-14	9.72	37.53	4.78	4.95
GS26-CPT-15	9.76	20.41	-- ⁽⁴⁾	-- ⁽⁴⁾
GS26-CPT-16	8.71	13.45	1.70	7.01
GS26-CPT-17	9.98	28.61	-- ⁽⁴⁾	-- ⁽⁴⁾
	9.98	29.20	-- ⁽⁴⁾	-- ⁽⁴⁾
GS26-CPT-18	10.04	14.89	6.68	3.36
	10.04	44.23	6.63	3.41
	10.04	63.06	6.93	3.11
GS26-CPT-19	3.36	15.03	3.35	0.01
GS26-CPT-20	4.78	16.27	4.61	0.17
GS26-CPT-21	5.54	14.11	8.65	-3.11
GS26-CPT-22	4.34	14.57	4.87	-0.53
GS26-CPT-23	4.66	32.94	4.65	0.01
GS26-CPT-24	3.61	33.14	5.10	-1.48
GS26-CPT-25	3.16	23.49	-- ⁽⁴⁾	-- ⁽⁴⁾
	3.16	34.58	1.40	1.77
GS26-CPT-26	4.02	60.76	1.82	2.20
GS26-CPT-27	5.78	14.89	7.03	-1.25

Notes:

[1] Existing ground elevations are based on GPS measurements of as-built exploration locations and are accurate to within approximately 1 foot (See Table 1).

[2] Elevations are based on the North American Vertical Datum of 1988 (NAVD88).

[3] Depth to groundwater is based on the estimated hydrostatic pore pressure at the end of the pore pressure dissipation test (see Appendix B).

[4] Pore Pressure Dissipation test was not extended for a sufficient length of time to obtain a reliable estimate of hydrostatic conditions.

FIGURES





Legend

- Boring and CPT Location
- CPT Location
- Proposed SAFER Bay Control Line and Stations¹
- Trail
- Street

Notes:

CPT = cone penetration test

1. SAFER Bay Control Line and Stations are based on: HDR 2024. SAFER Bay, South of Bay Road Project, 30 Percent Design. June.

2. Exploration locations are based on GPS survey of as-built locations and are accurate to within approximately 1 foot.

3. Aerial imagery source: Nearmap, July 2025.

4. See Figure 2 for exploration locations south of Bay Road.

N

0 200 Feet

**Geotechnical Exploration Locations
(North of Bay Road STA 52+27 to 69+00)**

SAFER East Palo Alto
East Palo Alto, California

Geosyntec
consultants

Figure

3

WG3607

March 2026



Historical Investigation Locations¹

- Exploratory Boring, HDR (2024)
- Exploratory Boring, Arup (2021)
- Exploratory Boring, Ninyo & Moore (2016)
- CPT, Ninyo & Moore (2016)
- CPT, IRIS (2015)
- Exploratory Boring, Ninyo & Moore (2014)
- CPT, IRIS (2013)
- Exploratory Boring, Arcadis (2004)

Legend

- Boring and CPT Location
- CPT Location
- Proposed SAFER Bay Control Line and Stations²
- Street
- Trail

Notes:

- CPT = cone penetration test
- Historical boring locations are approximate and are based on the locations shown on the Preliminary Geotechnical Report for South of Bay Road (HDR 2024) and the Geotechnical Data Report SFPUC Ravenswood Facility to Bedwell Bayfront Park (HDR, 2025).
 - SAFER Bay Control Line and Stations are based on: HDR 2024. SAFER Bay, South of Bay Road Project, 30 Percent Design. June.
 - Exploration locations are based on GPS survey of as-built locations and are accurate to within approximately 1 foot.
 - Aerial imagery source: Nearmap, July 2025.
 - See Figure 4 for current and historical exploration locations south of Bay Road.



Current and Historical Geotechnical Exploration Locations (North of Bay Road STA 52+27 to 69+00)

SAFER East Palo Alto
East Palo Alto, California

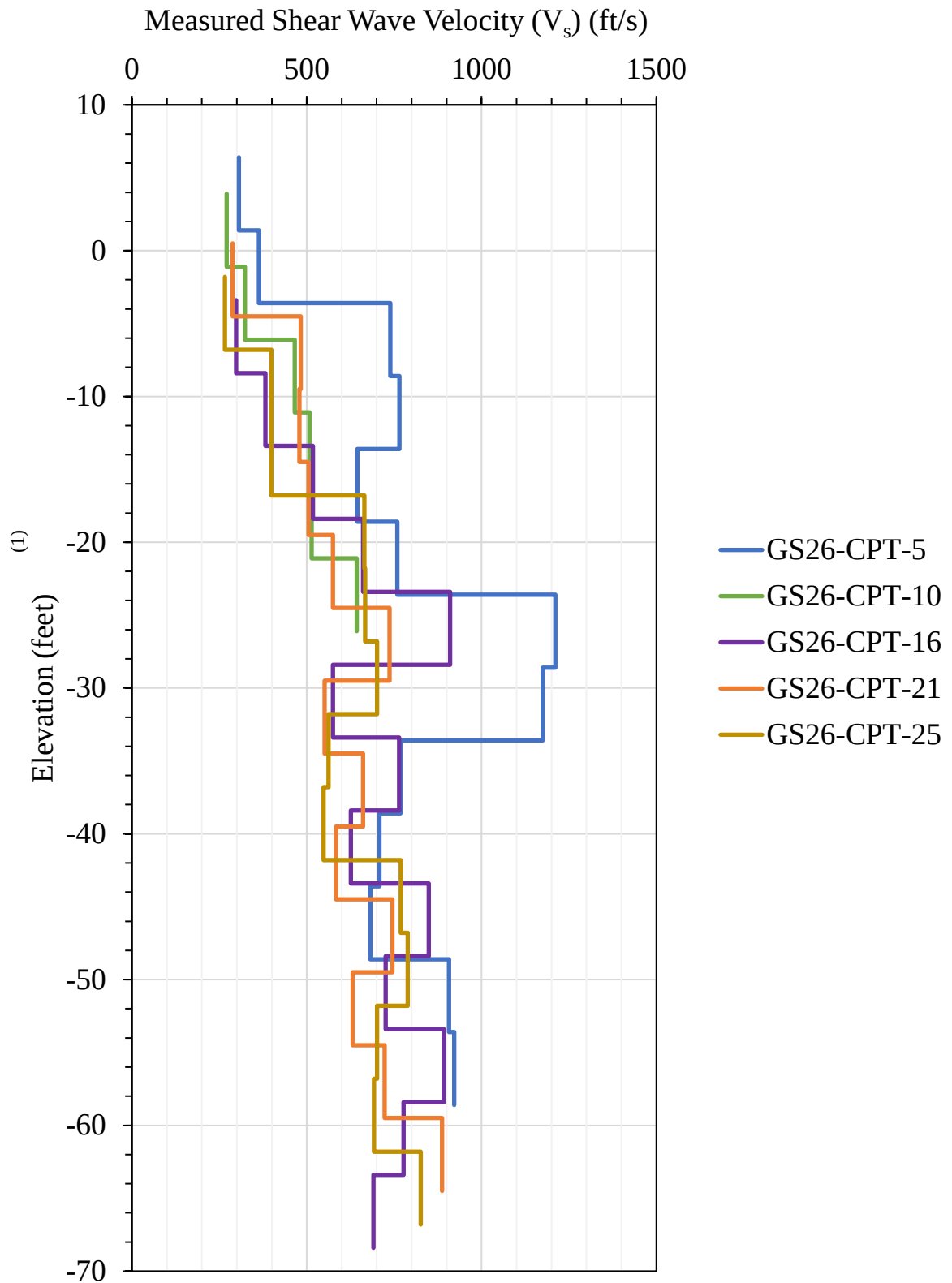
Geosyntec
consultants

Figure

5

WG3607

March 2026



Notes:

1. Elevations are based on the North American Vertical Datum of 1988 (NAVD88).
2. Shear wave velocity profiles are based on seismic cone penetration tests at 5-ft intervals in the CPTs indicated. For further details, refer to Appendix B.

Shear Wave Velocity Profiles

SAFER East Palo Alto
East Palo Alto, California

Geosyntec
consultants

Figure

6

WG3607

March 2026

APPENDIX A

Boring Logs

GROUP SYMBOLS AND NAMES

Graphic	Group Names	Graphic	Group Names	Graphic	Group Names
	Lean Clay (CL)		Lean Clay with Sand (CL)		Sandy Lean Clay (CL)
	Silty Clay (CL-ML)		Silty Clay with Sand (CL-ML)		Silt (ML)
	Silt with Sand (ML)		Sandy Silt (ML)		Poorly Graded Sand (SP)
	Poorly Graded Sand with Gravel (SP)		Poorly Graded Sand with Clay (SP-SC)		Poorly Graded Sand with Silt (SP-SM)
	Well-Graded Sand (SW)		Well-Graded Sand with Clay (SW-SC)		Well-Graded Sand with Silt (SW-SM)
	Well-Graded Sand with Silt and Gravel (SW-SM)		Clayey Sand (SC)		Silty Clayey Sand (SC-SM)
	Silty Sand (SM)		Silty Sand with Gravel (SM)		Well-Graded Gravel with Sand (GW)
	Well-Graded Gravel with Clay and Sand (GW-GC)		Well-Graded Gravel with Silt and Sand (GW-GM)		Clayey Gravel with Sand (GC)
	Silty Gravel with Sand (GM)		Gravelly Lean Clay with Sand (CL)		Lean Clay with Gravel (CL)
	Fat Clay (CH)		Fat Clay with Gravel (CH)		Gravelly Lean Clay (CL)
	Fat Clay with Sand (CH)		Gravelly Fat Clay with Sand (CH)		Sandy Lean Clay with Gravel (CL)
	Organic Silt (OL)		Organic Silt with Gravel (OL)		Clayey Sand with Gravel (SC)
	Organic Elastic Silt (OH)		Poorly Graded Gravel with Sand (GP)		Poorly Graded Sand with Silt and Gravel (SP-SM)
	Clayey Sand with Gravel (SC)				

Note: Soils were classified in the field in general accordance with ASTM D2488-06, Standard Practice for Description and Identification of Soils (Visual Manual Procedure). Where laboratory testing was performed, classifications were modified in general accordance with ASTM D2487-06, Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).

Borderline symbols, two group symbols separated by a slash, may be used in field visual classification when (1) percentage of fines is estimated to be between 45% and 55%, (2) percentages of sand and gravel are estimated to be about the same, (3) soil could be either well graded or poorly graded, (4) soil could be either a silt or a clay, or (5) fine-grained soil has properties indicating that it is at the boundary between low and high plasticity. Refer to DWR Soil and Rock Logging, Classification, and Presentation Manual for guidelines in the use of borderline symbols.

WELL GRAPHIC SYMBOLS

	Blank casing in cement grout		Blank casing in filter sand		Native backfill or slough
	Blank casing in bentonite seal		Slotted casing in filter sand		Vibrating wire piezometer

FIELD AND LABORATORY TESTS

AL	Atterberg Limits - Liquid Limit, Plastic Limit, Plasticity Index (AASHTO T 89-02 & T 90-00)
CL	Collapse Potential (ASTM D 5333-03)
CN	Consolidation (ASTM D 2435-04)
CP	Relative Compaction (CTM 216 - 06)
CR	Corrosion, Sulfates, Chlorides (CTM 643 - 99; CTM 417 - 06; CTM 422 - 06)
CU	Consolidated Undrained Triaxial (ASTM D 4767-02)
DS	Direct Shear (ASTM D 3080-04)
EI	Expansion Index (ASTM D 4829-03)
HD	Hydrometer (ASTM)
N₆₀	N ₆₀ (ASTM)=N _m *(E _{ri} /60)
OC	Organic Content (ASTM D 2974-07)
PA	Particle Size Analysis (ASTM D 422-63 [2002])
PE	Permeability (CTM 220 - 05)
PM	Pressure Meter
PP	Pocket Penetrometer
RV	R-Value (CTM 301 - 00)
SE	Sand Equivalent (CTM 217 - 99)
SG	Specific Gravity (AASHTO T 100-06)
SL	Shrinkage Limit (ASTM D 427-04)
SW	Swell Potential (ASTM D 4546-03)
TV	Pocket Torvane
UC	Unconfined Compression (ASTM D 2166-06)
UU	Unconsolidated Undrained Triaxial (ASTM D 2850-03)
UW	Unit Weight (ASTM D 4767-04)
VS	Vane Shear (AASHTO T 223 - 96 [2004])
WC	Water Content (ASTM D 2216-05)

SAMPLER GRAPHIC SYMBOLS

	Standard Penetration Test (1.4 in. ID)
	Standard California (2.5 in. ID)
	Modified California (2.0 in. ID)
	Shelby Tube (2.87 in. or 2.37 in. ID)
	Bag Sample
	Sonic Core
	HQ Core
	Punch Core

WATER LEVEL SYMBOLS

	First water encountered during drilling
	Water level measured at end of drilling
	Static water level reading (short-term)
	Static water level reading (long-term)

CONSISTENCY OF COHESIVE SOILS (AASHTO 1988)

Descriptor	Pocket Penetrometer (tsf)	Torvane (tsf)
Very Soft	< 0.25	< 0.12
Soft	0.25 - 0.50	0.12 - 0.25
Medium Stiff	0.50 - 1.0	0.25 - 0.50
Stiff	1.0 - 2.0	0.50 - 1.0
Very Stiff	2.0 - 4.0	1.0 - 2.0
Hard	> 4.0	> 2.0

APPARENT DENSITY OF COHESIONLESS SOILS (ASTM 6066-96 (2004))

Descriptor	SPT N(60) - Value (blows / foot)
Very Loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE (ASTM D 2488-06)

Descriptor	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

SOIL PARTICLE SIZE (ASTM D 2488-06)

Descriptor		Size
Boulder		> 12 inches
Cobble		3 to 12 inches
Gravel	Coarse	3/4 inch to 3 inches
	Fine	No. 4 Sieve to 3/4 inch
Sand	Coarse	No. 10 Sieve to No. 4 Sieve
	Medium	No. 40 Sieve to No. 10 Sieve
	Fine	No. 200 Sieve to No. 40 Sieve
Silt and Clay		Passing No. 200 Sieve

PLASTICITY OF FINE-GRAINED SOILS (ASTM D 2488-06)

Descriptor	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled, and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll, and not much time is required to reach the plastic limit; it cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.

DRY STRENGTH OF FINE-GRAINED SOILS (ASTM D 2488-06)

Descriptor	Criteria
None	Dry specimen crumbles into powder with mere pressure of handling.
Low	Dry specimen crumbles into powder with some finger pressure.
Medium	Dry specimen breaks into pieces or crumbles with considerable finger pressure.
High	Dry specimen cannot be broken with finger pressure; will break into pieces between thumb and a hard surface.
Very High	Dry specimen cannot be broken between thumb and a hard surface.

DILATANCY OF FINE-GRAINED SOILS (ASTM D 2488-06)

Descriptor	Criteria
None	No visible change in the specimen.
Slow	Water appears slowly on the surface of the specimen during shaking and does not disappear, or disappears slowly, upon squeezing.
Rapid	Water appears quickly on the surface of the specimen during shaking and disappears quickly upon squeezing.

TOUGHNESS OF FINE-GRAINED SOILS (ASTM D 2488-06)

Descriptor	Criteria
Low	Only slight pressure is required to roll the thread near the plastic limit. The thread and the lump are weak and soft.
Medium	Medium pressure is required to roll the thread to near the plastic limit. The thread and the lump have medium stiffness.
High	Considerable pressure is required to roll the thread to near the plastic limit. The thread and the lump have very high stiffness.

CEMENTATION (ASTM D 2488-06)

Descriptor	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure
Strong	Will not crumble or break with finger pressure.

DATE STARTED 1/16/2026	DATE COMPLETED 1/16/2026	GROUND ELEVATION 13.62 feet	ELEVATION DATUM NAVD88	TOTAL DEPTH OF BORING 71.5
DRILLING CONTRACTOR Pitcher		DRILLER'S NAME N/A	HELPER'S NAME	TOTAL DEPTH OF FILL N/A
DRILLING METHOD Mud Rotary		DRILL RIG MAKE AND MODEL CME 850		CONSULTANT COMPANY Geosyntec
DRILL BIT SIZE AND TYPE (HOLE DIAMETER) 5" diameter		DRILLING ROD TYPE AND DIAMETER 4-3/4"		FIELD LOGGER E. Kurwa
BOREHOLE INCLINATION N/A		CASING TYPE, DIAMETER, INSTALLATION DEPTH 5" diameter		FIELD LOG REVIEWER J. Merani
SAMPLER TYPE(S) SPT, ModCal, Shelby		SPT HAMMER TYPE Autohammer; 140 lbs/30"		HAMMER EFFICIENCY 87%
BOREHOLE BACKFILL OR COMPLETION Grout		GROUNDWATER READING:	DURING DRILLING	AFTER DRILLING (DATE-TIME)

ELEVATION (ft)	DEPTH (feet)	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery (%)	Blows per 6 in.	N ₆₀ (ASTM)	Organics (%)	LABORATORY DATA					REMARKS
										Water Content (%)	Liquid Limit	Plasticity Index	% G S S T	Unit Weight (pcf)	
	0		ASPHALT.												0820;
	1		Clayey SAND (SC); olive tan; ~60% sand; ~30% fines; ~10% gravel [FILL].												Hand auger in upper 5' followed by installation of 5" dia casing to 9 ft bgs
	2					100%									
	3														
10	4														
	5		Sandy CLAY (CH); dark gray; ~60% fines; ~40% sand; moist; medium stiff [YBM].												0830;
	6				GS26-B1-1	83%				33.7				117.2	1'-200 psi;
	7														2'-300 psi;
	8		Fat CLAY with sand (CH); dark gray with olive tint; medium stiff; high plasticity; brown sand lenses and organic lenses observed [YBM].		GS26-B1-2	20%	1 3 3	9			69	47			0835;
5	9														5" casing to 9 ft bgs
	10		Fat CLAY (CH); dark gray; ~>80% fines; moist; very soft; low plasticity [YBM].												0910;
	11				GS26-B1-3	67%				48.4	86	52		106.8	1'-100 psi;
	12														2'-150 psi;
	13		As above.		GS26-B1-4	20%	0 0 2	3							2.5'-200 psi
0	14														0920
	15		Sandy CLAY with gravel (CH); light gray; moist; medium stiff; high plasticity; organics observed [YBM].		GS26-B1-5	83%				29.6				120.5	0930;
	16														1'-200 psi;
	17														2'-200 psi;
	18		Silty CLAY with gravel (CH); light gray; moist; medium stiff; high plasticity; organics observed.		GS26-B1-6	40%	1 2 3	7							2.5'-250 psi
-5	19														0933
	20		Sandy CLAY with gravel (CL); light gray; ~60% fines; ~30% sand; ~10% gravel; slightly moist; stiff; low plasticity [OBC].		GS26-B1-7	83%				25.8				124.9	0950;
	21														1'-200 psi;
	22														2'-300 psi;
	23		As above except ~60% fines; ~40% sand; stiff [OBC].		GS26-B1-8	70%	2 5 5	15							2.5'-300 psi
-10	24														0955

(continued)

Borehole Location: 2' South of CPT-1 County: San Mateo
Coordinates: **Northing:** 1994551.80 **Easting:** 6090246.19
Latitude: 37.461376 **Longitude:** 122.124329

Survey Method: GPS Coord. System: NAD 1983, US Survey Feet

LOG OF BORING GS26-B1

Sheet 1 of 3

SAFER Bay - East Palo Alto

ELEVATION (ft)	DEPTH (feet)	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery (%)	Blows per 6 in.	N ₆₀ (ASTM)	Organics (%)	LABORATORY DATA					REMARKS
										Water Content (%)	Liquid Limit	Plasticity Index	% S S	Unit Weight (pcf)	
	24			X											
	25		Sandy CLAY (CL); becomes stiffer.	X	GS26-B1-9	50%	3 7 7	20		24.9					1020
	26			X											
	27														
	28														
-15	29														
	30		Clayey SAND (SC); dark brown with olive tint; moist; dense [COARSE GRAINED].	X	GS26-B1-10	50%	6 12 14	38					6.2 64.8 29		1040
	31			X											
	32														
	33														
-20	34														
	35		Sandy CLAY (CL); dark brown; ~60% fines; ~35% sand; ~5% gravel; slightly moist; medium stiff; low plasticity [OBC].	X	GS26-B1-11	60%	4 3 3	9							1055
	36			X											
	37														
	38														
-25	39														
	40		As above except without gravel.	X	GS26-B1-12	90%	2 5 5			25.2				125.3	1120; GS26-B1-12A; GS26-B1-12B; GS26-B1-12C
	41			X											
	42														
	43														
-30	44														
	45		Sandy CLAY (CL); gray; ~60% fines; ~40% sand; very stiff; low plasticity [OBC].	X	GS26-B1-13	60%	4 9 7			33.7				118.9	1145; GS26-B1-13B; GS26-B1-13C
	46			X											
	47														
	48														
-35	49														
	50		CLAY (CL); gray; very stiff; low plasticity [OBC].		GS26-B1-14	83%				32.4 31.2			1.1 4.1 94.8	116.9 119.7	1210; 1'-150 psi; 2'-300 psi; 2.5' - 350 psi
	51														
	52														
	53														
-40	54														

(continued)

ELEVATION (ft)	DEPTH (feet)	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery (%)	Blows per 6 in.	N ₆₀ (ASTM)	Organics (%)	LABORATORY DATA					REMARKS
										Water Content (%)	Liquid Limit	Plasticity Index	% SS	Unit Weight (pcf)	
	54														
	55		GRAVEL with sand (GP); dark brown to gray; ~60% gravel; ~40% sand; moist; medium dense [COARSE GRAINED].	X	GS26-B1-15	10%	15 12 5	25							1240
	56														
	57														
	58														
-45	59														
	60		CLAY with sand (CL); dark brown to gray; ~65% fines; ~35% gravel; moist; very stiff; low plasticity [OBC].	X	GS26-B1-16	60%	6 7 14			25.5				126.1	1322; GS26-B1-16B; GS26-B1-16C; caving; re-drilling done for test
	61														
	62														
	63														
-50	64														
	65		Silty CLAY with gravel (CL); gray; ~85% fines; ~15% gravel; moist; very stiff; low plasticity [OBC].		GS26-B1-17	67%									1340; 1'-300 psi; 2'-350 psi; 2.5'-350 psi; Shelby tube deformed at bottom possibly from gravel
	66														
	67														
	68														
-55	69														
	70		CLAY with sand (CL); dark gray; ~100% fines; moist; very stiff; low plasticity [OBC].	X	GS26-B1-18	40%	6 11 13	35		26.3					1410
	71														
	72		Boring terminated at 71.5 feet bgs.												
	73														
	74														
	75														
	76														
	77														
	78														
-65	79														
	80														
	81														
	82														
	83														
-70	84														

DATE STARTED 1/13/2026	DATE COMPLETED 1/13/2026	GROUND ELEVATION 11.39 feet	ELEVATION DATUM NAVD88	TOTAL DEPTH OF BORING 71.5
DRILLING CONTRACTOR Pitcher		DRILLER'S NAME N/A	HELPER'S NAME	TOTAL DEPTH OF FILL N/A
DRILLING METHOD Mud Rotary		DRILL RIG MAKE AND MODEL CME 850		CONSULTANT COMPANY Geosyntec
DRILL BIT SIZE AND TYPE (HOLE DIAMETER) 5" diameter 10 ft depth		DRILLING ROD TYPE AND DIAMETER 4-3/4" NWJ Rods		FIELD LOGGER E. Kurwa
BOREHOLE INCLINATION N/A		CASING TYPE, DIAMETER, INSTALLATION DEPTH 5" diameter 10 ft depth		FIELD LOG REVIEWER J. Merani
SAMPLER TYPE(S) SPT, ModCal, Shelby		SPT HAMMER TYPE Autohammer, 140 lbs/30"		HAMMER EFFICIENCY 87%
BOREHOLE BACKFILL OR COMPLETION Grout		GROUNDWATER READING:	DURING DRILLING	AFTER DRILLING (DATE-TIME)

ELEVATION (ft)	DEPTH (feet)	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery (%)	Blows per 6 in.	N ₆₀ (ASTM)	Organics (%)	LABORATORY DATA					REMARKS
										Water Content (%)	Liquid Limit	Plasticity Index	% G S S T	Unit Weight (pcf)	
	0		ASPHALT.												0910; Hand auger in upper 5' followed by installation of 5" dia casing to 10 ft bgs
	1		Clayey SAND (SC); brown to olive tan; ~60% sand; ~40% fines [FILL].												
	2					100%									
	3														
	4														
	5		Sandy CLAY (CH); dark gray; ~70% fines; ~30% sand; moist; medium stiff; high plasticity; organics observed [FILL].		GS26-B2-1	15%	2 3 4	10		32					Soil cuttings indicate CLAY (CL); dark gray; low plasticity 0912
	6														
	7														
	8														
	9														
	10		Sandy CLAY (CH); very dark gray; ~100% fines; moist; soft; high plasticity [YBM].		GS26-B2-2	100%	0 1 2	4		43.4					0935
	11														
	12														
	13														
	14														
	15		Lean Clayey SAND with gravel (SC); brown with olive tan; ~75% fines; ~25% sand; moist; soft; low plasticity [YBM].		GS26-B2-3	83%				25.9 34.5	30	14		124.1 113.5	1005; 2.5'-200 psi
	16														
	17														
	18		Sandy GRAVEL (GP); [COARSE GRAINED].												
	19														
	20		Clayey SAND (SC); brown to olive tan; wet; medium dense [COARSE GRAINED].		GS26-B2-4	20%	5 5 5	15					10.0 57.3 32.7		1020
	21														
	22														
	23		Silty CLAY with sand (CL); brown; wet to slightly moist; medium stiff; low plasticity [OBC].		GS26-B2-5	30%	4 2 4	9							
	24														

(continued)

Borehole Location: 5' South of CPT-5 County: San Mateo
Coordinates: Northing: 1995502.51 Easting: 6090020.95
Latitude: 37.463976 Longitude: 122.125162

Survey Method: GPS Coord. System: NAD 1983, US Survey Feet

LOG OF BORING GS26-B2

Sheet 1 of 3

SAFER Bay - East Palo Alto

ELEVATION (ft)	DEPTH (feet)	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery (%)	Blows per 6 in.	N ₆₀ (ASTM)	Organics (%)	LABORATORY DATA					REMARKS
										Water Content (%)	Liquid Limit	Plasticity Index	% SS % FS	Unit Weight (pcf)	
-15	24		Lean CLAY with sand (CL); olive tan; wet; stiff [OBC].		GS26-B2-6	83%				36.9 30.9	47	22		115.5 120.3	1.5'-200 psi; 2.5'-300 psi
	25														
	26														
	27														
	28														
-20	29		Sandy CLAY with gravel (CL); brown; wet; medium dense [OBC].		GS26-B2-7	79%				15.6					1100; 1'-250 psi; 2'-300 psi; 2.5'-350-400 psi
	30														
	31														
	32														
	33														
-25	34		Clayey SAND with gravel (SC); brown; wet; dense [COARSE GRAINED].		GS26-B2-8	60%	11 14 14	41					32.8 49.5 17.7	1115	
	35														
	36														
	37														
	38														
-30	39		Poorly graded GRAVEL with clay (GP-GC); brown; wet; very dense [COARSE GRAINED].		GS26-B2-9	10%	14 25 20	65					81.5 13.1 5.4	1135	
	40														
	41														
	42														
	43														
-35	44		SAND with gravel (SP); brown; ~<15% fines; wet; very dense [COARSE GRAINED].		GS26-B2-10	50%	12 24 25	71						1155; GS26-B2-10A; GS26-B2-10B; GS26-B2-10C	
	45														
	46														
	47														
	48														
-40	49		Sandy CLAY (CL); dark gray with olive tan; wet; very stiff; medium plasticity [OBC].		GS26-B2-11	50%	7 9 7	23						1220; GS26-B2-11B; GS26-B2-11C	
	50														
	51														
	52														
	53														
	54														

(continued)

ELEVATION (ft)	DEPTH (feet)	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery (%)	Blows per 6 in.	N ₆₀ (ASTM)	Organics (%)	LABORATORY DATA					REMARKS
										Water Content (%)	Liquid Limit	Plasticity Index	γ _{sat} %	Unit Weight (pcf)	
-45	54		Sandy CLAY (CL); dark gray with olive tan; wet; medium stiff; low plasticity [OBC].		GS26-B2-12	42%				24.5 26.4				124.5 124.9	1240; 1'-300 psi; 2'-400 psi; 2.5'-450 psi
	55														
	56														
	57														
-50	58		Silty CLAY (CH); dark gray with brown tan; high moisture; stiff.		GS26-B2-13	58%									1'-350 psi; 2'-400 psi; 2.5'-400 psi
	59														
	60														
	61														
-55	62		Clayey SAND (SC); dark olive brown; moist; very dense [COARSE GRAINED].		GS26-B2-14	58%							0.0 79.2 20.8		1'-300 psi; 2'-400 psi; 2.5'-450-500 psi; 8" 550 psi-refusal
	63														
	64														
	65														
-60	66		Silty SAND (SM); dark gray with olive tint; wet; very dense; poorly graded [COARSE GRAINED].		GS26-B2-15	40%	23 32 22	78							1415
	67														
	68														
	69														
-65	70	Boring terminated at 71.5 feet bgs.													
	71														
	72														
	73														
	74														
	75														
	76														
	77														
	78														
	79														
	80														
	81														
	82														
	83														
	84														

Borehole Location: 5' South of CPT-5 County: San Mateo
 Coordinates: Northings: 1995502.51 Easting: 6090020.95
Latitude: 37.463976 Longitude: 122.125162

Survey Method: GPS Coord. System: NAD 1983, US Survey Feet

LOG OF BORING GS26-B2

Sheet 3 of 3

SAFER Bay - East Palo Alto

DATE STARTED 1/14/2026	DATE COMPLETED 1/14/2026	GROUND ELEVATION 8.90 feet	ELEVATION DATUM NAVD88	TOTAL DEPTH OF BORING 71.5
DRILLING CONTRACTOR Pitcher		DRILLER'S NAME N/A	HELPER'S NAME	TOTAL DEPTH OF FILL N/A
DRILLING METHOD Mud Rotary		DRILL RIG MAKE AND MODEL CME 850		CONSULTANT COMPANY Geosyntec
DRILL BIT SIZE AND TYPE (HOLE DIAMETER) 5" diameter 10 ft depth		DRILLING ROD TYPE AND DIAMETER 4-3/4"		FIELD LOGGER E. Kurwa
BOREHOLE INCLINATION N/A		CASING TYPE, DIAMETER, INSTALLATION DEPTH 5" diameter 10 ft depth		FIELD LOG REVIEWER J. Merani
SAMPLER TYPE(S) SPT, ModCal, Shelby		SPT HAMMER TYPE Autohammer, 140 lbs/30"		HAMMER EFFICIENCY 87%
BOREHOLE BACKFILL OR COMPLETION Grout		GROUNDWATER READING:	DURING DRILLING	AFTER DRILLING (DATE-TIME)

ELEVATION (ft)	DEPTH (feet)	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery (%)	Blows per 6 in.	N ₆₀ (ASTM)	Organics (%)	LABORATORY DATA					REMARKS
										Water Content (%)	Liquid Limit	Plasticity Index	% G S S T	Unit Weight (pcf)	
	0		Clayey SAND with gravel (SC); brown; slightly moist; with organics [FILL].												0840; Hand auger in upper 5' followed by installation of 5" dia casing to 10 ft bgs
	1														
	2					100%									
	3		As above except changes to moist.												
	4														
5	5														Soil cuttings observed change to Silty CLAY (CL); dark gray with blue tan; moist; ~100% fines; low plasticity; soft
	6		Sandy CLAY (CL); olive brown; moist; low plasticity; red lenses of sand and trace organics [YBM].		GS26-B3-1	30%	0 1 2	4		26.7					0933
	7														0945;
	8				GS26-B3-2	67%				30				119.7	350 psi
0	9														
	10														1010
	11		Silty CLAY (CH); dark gray; ~100% fines; moist; very soft; high plasticity; trace organics [YBM].		GS26-B3-3	30%	0 0 1	1							1110; VST-20 kPa at 1 min; 90 kPa at 14 min 24 sec
	12														
	13														
-5	14														
	15		As above except becomes stiffer [OBC].												1120; 1'-200 psi; 2'-300 psi; 2.5'-350 psi
	16				GS26-B3-4	33%									
	17														
	18														
-10	19														
	20														
	21		Sandy Fat CLAY (CH); light gray with red lenses; ~85% fines; ~15% sand; slightly moist; very stiff; high plasticity; red traces of sand observed [OBC].		GS26-B3-5	60%	8 9 10								1125; GS26-B3-5B; GS26-B3-5C
	22														
	23														
	24														

(continued)

Borehole Location: South of Bay Rd. County: San Mateo
Coordinates: **Northing:** 1997202.48 **Easting:** 6089734.27
Latitude: 37.468625 **Longitude:** 122.126238

Survey Method: GPS Coord. System: NAD 1983, US Survey Feet

LOG OF BORING GS26-B3

Sheet 1 of 3

SAFER Bay - East Palo Alto

ELEVATION (ft)	DEPTH (feet)	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery (%)	Blows per 6 in.	N ₆₀ (ASTM)	Organics (%)	LABORATORY DATA					REMARKS
										Water Content (%)	Liquid Limit	Plasticity Index	% SS 20	Unit Weight (pcf)	
-24															
-25															
-26			Sandy Lean CLAY (CL); olive; slightly moist; very stiff; low plasticity [OBC].		GS26-B3-6	75%					38	22	11.6 27.3 61.1		1145; 1'-200-250 psi; 2'-300 psi; 2.5'-400 psi
-27															
-28															
-29															
-30															
-31			Sandy Lean CLAY (CL); dark gray with olive tint; slightly moist; stiff; low plasticity [OBC].		GS26-B3-7	40%	3 4 5	13							1200
-32															
-33															
-34															
-35															
-36			Silty SAND with gravel (SM); light gray with red lenses; slightly moist; medium dense to dense [COARSE GRAINED].		GS26-B3-8	83%									1220; 1'-100 psi; 2'-200 psi; 2.5'-500-550 psi
-37															
-38															
-39															
-40			Lean CLAY (CL); light brown; ~100% fines; slightly moist; stiff; low plasticity [OBC].		GS26-B3-9	40%	4 5 9	20							1230
-41															
-42															
-43															
-44															
-45			CLAY (CL); light brown; stiff; low plasticity [OBC].		GS26-B3-10	100%	3 5 8						7.3 1.5 91.2		1300; GS26-B3-10A; GS26-B3-10B; GS26-B3-10C
-46															
-47															
-48															
-49															
-50			As above except slightly moist; red sand lenses observed.		GS26-B3-11	30%	2 4 6	15							1320
-51															
-52															
-53															
-54															

(continued)

ELEVATION (ft)	DEPTH (feet)	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery (%)	Blows per 6 in.	N ₆₀ (ASTM)	Organics (%)	LABORATORY DATA					REMARKS
										Water Content (%)	Liquid Limit	Plasticity Index	% S S	Unit Weight (pcf)	
-54															
-55			Fat CLAY (CH); olive gray; moist; stiff; trace organics [OBC].		GS26-B3-12	83%				35.5	61	37		115.3	1340; 1'-200 psi; 2'-300 psi; 2.5'-400 psi
-56															
-57															
-58															
-59															
-50															
-60			SILT with sand (ML); slightly moist; stiff; low plasticity [OBC].		GS26-B3-13	83%				30.3	29	6		122.7	1400; 1'-50 psi; 2'-150 psi; 2.5'-400 psi
-61															
-62															
-63															
-55															
-65			Silty SAND (SM); gray; slightly moist; dense [COARSE GRAINED].		GS26-B3-14	80%	6 11 20	45		26.2			0.0 64.6 35.4		1415
-66															
-67															
-68															
-69															
-60															
-70			As above.		GS26-B3-15	60%	8 10 14	35							1430
-71															
-72			Boring terminated at 71.5 feet bgs.												
-73															
-65															
-74															
-75															
-76															
-77															
-78															
-70															
-79															
-80															
-81															
-82															
-83															
-84															

Borehole Location: South of Bay Rd. County: San Mateo
 Coordinates: Northing: 1997202.48 Easting: 6089734.27
Latitude: 37.468625 Longitude: 122.126238

Survey Method: GPS Coord. System: NAD 1983, US Survey Feet

LOG OF BORING GS26-B3

Sheet 3 of 3

SAFER Bay - East Palo Alto

DATE STARTED 1/15/2026	DATE COMPLETED 1/15/2026	GROUND ELEVATION 8.71 feet	ELEVATION DATUM NAVD88	TOTAL DEPTH OF BORING 71.5
DRILLING CONTRACTOR Pitcher		DRILLER'S NAME N/A	HELPER'S NAME	TOTAL DEPTH OF FILL N/A
DRILLING METHOD Mud Rotary		DRILL RIG MAKE AND MODEL CME 850		CONSULTANT COMPANY Geosyntec
DRILL BIT SIZE AND TYPE (HOLE DIAMETER) 5" diameter 5 ft depth		DRILLING ROD TYPE AND DIAMETER 4-3/4"		FIELD LOGGER E. Kurwa
BOREHOLE INCLINATION N/A		CASING TYPE, DIAMETER, INSTALLATION DEPTH 5" diameter 5 ft depth		FIELD LOG REVIEWER J. Merani
SAMPLER TYPE(S) SPT, ModCal, Shelby		SPT HAMMER TYPE Autohammer, 140 lbs/30"		HAMMER EFFICIENCY 87%
BOREHOLE BACKFILL OR COMPLETION Grout + GCL		GROUNDWATER READING:	DURING DRILLING	AFTER DRILLING (DATE-TIME)

ELEVATION (ft)	DEPTH (feet)	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery (%)	Blows per 6 in.	N ₆₀ (ASTM)	Organics (%)	LABORATORY DATA					REMARKS
										Water Content (%)	Liquid Limit	Plasticity Index	% G S T	Unit Weight (pcf)	
	0		Silty SAND (SM); moist; with organics [FILL].												0815; Hand auger in upper 5' followed by installation of 5" dia casing to 5 ft bgs. Geosynthetic Clay Liner (GCL) at 8" bgs. Replaced upon borehole completion by exposing surrounding GCL by hand overlapping new GCL above existing. Casing 0-5 ft bgs; rig down from 0915-11200
	1					100%									
	2														
	3														
5	4		Sandy CLAY (CL); dark gray; moist; trace organics [YBM].												Soil cuttings indicate Sandy CLAY (CL); dark gray; moist; low plasticity 1120; 1'-150 psi; 2'-200 psi; 2.5'-250 psi
	5		As above except soft; low plasticity; organics and trash observed [YBM].												
	6				GS26-B4-1	50%				30.6	26.0			119.3	
	7													124.1	
	8		As above.		GS26-B4-2	10%	1 2 2	6							1130 1135
0	9														
	10		Sandy Silty CLAY (CL-ML); olive gray; moist; very soft [YBM].		GS26-B4-3	70%	1 1 1	3		26.7	23	6	0.4 47.7 51.9		
	11														
	12														1140; GS26-B4-4A; GS26-B4-4B; GS26-B4-4C
	13														
-5	14														
	15		Fat CLAY with sand (CH); dark gray; slightly moist; medium stiff; high plasticity [OBC].		GS26-B4-4	80%	0 3 4			41.9 36.8	65	42		111 116.6	
	16														1150; 1'-150 psi; 2'-200 psi; 2.5'-300 psi
	17														
	18														
	19														
	20		CLAY with sand (CH); olive gray; slightly moist; stiff [OBC].		GS26-B4-5	83%							5.4 19.8 74.8		1200
	21														
	22														
	23		CLAY with sand (CH); light gray with brown lenses; ~75% fines; ~25% sand; moist; stiff; high plasticity [OBC].		GS26-B4-6	40%	3 5 6	16							
-15	24														

(continued)

Borehole Location: 3' South of CPT-16 County: San Mateo
Coordinates: **Northing:** 1999210.63 **Easting:** 6089580.58
Latitude: 37.474133 **Longitude:** 122.126888

Survey Method: GPS Coord. System: NAD 1983, US Survey Feet

LOG OF BORING GS26-B4

Sheet 1 of 3

SAFER Bay - East Palo Alto

ELEVATION (ft)	DEPTH (feet)	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery (%)	Blows per 6 in.	N ₆₀ (ASTM)	Organics (%)	LABORATORY DATA					REMARKS
										Water Content (%)	Liquid Limit	Plasticity Index	% S S	Unit Weight (pcf)	
	24			X											
	25		CLAY with sand (CH); pale olive; moist; very stiff; high plasticity [OBC].	X	GS26-B4-7	60%	6 9 13			23.1			0.1 18.7 81.2	127.8	1210; GS26-B4-7B; GS26-B4-7C
	26														
	27														
	28		As above except color changes to olive brown and higher sand content; slightly moist; medium stiff [YBM].	X	GS26-B4-8	40%	1 3 4	10		23.9					1230
-20	29														
	30														
	31		Fat CLAY with sand (CH); greenish gray; slightly moist; stiff; high plasticity [OBC].	X	GS26-B4-9	50%	6 9 9			30.3 27.0	58	38	8.0 13.1 78.9	121.1 123.4	1240; GS26-B4-9B; GS26-B4-9C
-25	32														
	33														
	34		Sandy CLAY (CL); olive brown; moist; stiff [OBC].	I	GS26-B4-10	83%				26			0.0 42.9 57.1	121.1	1300; 1'-150 psi; 2'-200 psi; 2.5'-300 psi
-30	35														
	36														
	37		Clayey SAND with gravel (SC); light gray with red lenses; moist; medium dense [COARSE GRAINED].	X	GS26-B4-11	100%	3 5 6								1320; GS26-B4-11A; GS26-B4-11B; GS26-B4-11C
-35	38														
	39														
	40		Silty CLAY (CL); gray; ~100% fines; moist; medium stiff; low plasticity [OBC].	I	GS26-B4-12	83%									1340; 1'-300 psi; 2'-350 psi; 2.5'-450 psi
-40	41														
	42														
	43														
-45	44														
	45														
	46														
	47														
	48														
	49														
	50														
	51														
	52														
	53														
	54														

(continued)

ELEVATION (ft)	DEPTH (feet)	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery (%)	Blows per 6 in.	N ₆₀ (ASTM)	Organics (%)	LABORATORY DATA					REMARKS
										Water Content (%)	Liquid Limit	Plasticity Index	% SS	Unit Weight (pcf)	
	54														
	55		Lean CLAY (CL); olive gray; medium stiff; low plasticity [OBC].												
	56				GS26-B4-13	50%				27.8	49	27		122.6	1400; 1'-300 psi; 2'-500 psi; 2.5'-500 psi
	57														
	58														
-50	59														
	60		Sandy CLAY (CL); gray with brown lenses; ~70% fines; ~30% sand; slightly moist; very stiff; low plasticity [OBC].		GS26-B4-14	40%	4 8 10	26							1420
	61														
	62														
	63														
-55	64														
	65		Sandy CLAY (CL); gray; moist; very stiff [OBC].		GS26-B4-15	0%				26.7				122.2	1440; 1'-150 psi; 2'-200 psi; 2.5'-400 psi
	66														
	67														
-60	68														
	69														
	70		Clayey SAND (SC); dark gray; moist; medium dense [COARSE GRAINED].		GS26-B4-16	50%	6 8 7	22							1510
	71														
	72		Boring terminated at 71.5 feet bgs.												
	73														
-65	74														
	75														
	76														
	77														
	78														
-70	79														
	80														
	81														
	82														
	83														
-75	84														

Borehole Location: 3' South of CPT-16County: San MateoCoordinates: Northing: 1999210.63Easting: 6089580.58Latitude: 37.474133Longitude: 122.126888Survey Method: GPSCoord. System: NAD 1983, US Survey Feet

LOG OF BORING GS26-B4

Sheet 3 of 3

SAFER Bay - East Palo Alto

DATE STARTED 1/21/2026	DATE COMPLETED 1/21/2026	GROUND ELEVATION 5.54 feet	ELEVATION DATUM NAVD88	TOTAL DEPTH OF BORING 63.0
DRILLING CONTRACTOR Pitcher	DRILLER'S NAME N/A	HELPER'S NAME	TOTAL DEPTH OF FILL N/A	
DRILLING METHOD Mud Rotary	DRILL RIG MAKE AND MODEL Geoprobe 7822DT			CONSULTANT COMPANY Geosyntec
DRILL BIT SIZE AND TYPE (HOLE DIAMETER) 5" diameter 5 ft depth	DRILLING ROD TYPE AND DIAMETER 4-3/4"			FIELD LOGGER E. Kurwa
BOREHOLE INCLINATION N/A	CASING TYPE, DIAMETER, INSTALLATION DEPTH 5" diameter 5 ft depth			FIELD LOG REVIEWER J. Merani
SAMPLER TYPE(S) SPT, ModCal, Shelby	SPT HAMMER TYPE Autohammer; 140 lbs/30"			HAMMER EFFICIENCY 97%
BOREHOLE BACKFILL OR COMPLETION Grout	GROUNDWATER READING: DURING DRILLING AFTER DRILLING (DATE-TIME)			

ELEVATION (ft)	DEPTH (feet)	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery (%)	Blows per 6 in.	N ₆₀ (ASTM)	Organics (%)	LABORATORY DATA					REMARKS
										Water Content (%)	Liquid Limit	Plasticity Index	% G S T	Unit Weight (pcf)	
5	0		ASPHALT.			100%								0815; Hand auger in upper 5' followed by installation of 5" dia casing to 5 ft bgs	
	1		Clayey SAND (SC); grayish brown; ~60% fines; ~30% sand; ~10% gravel; slightly moist; soft; low plasticity; organics observed [FILL].												
	2														
	3														
	4														
0	5		Sandy CLAY (CL); olive brown; ~65% fines; ~35% sand; moist; medium stiff; low plasticity [FILL].		GS26-B5-1	83%			28.7 21.0			120.9 123.9	0845; 1'-200 psi; 2'-250 psi; 2.5'-250 psi		
	6														
	7														
	8		As above.			GS26-B5-2	60%	2 3 3	10					0855	
	9														
-5	10		CLAY with sand (CL); olive gray; ~85% fines; ~15% sand; moist; stiff; gray lenses of clay and traces of organics observed [YBM].		GS26-B5-3	83%			29.8 20.8			116.3 128.7	0910; 1'-200 psi; 2'-250 psi; 2.5'-250 psi		
	11														
	12														
	13		Clayey SAND (SC); olive gray; moist; loose [COARSE GRAINED].			GS26-B5-4	40%	0 2 4	10			2.5 47.8 49.7	0915		
	14														
-10	15		Silty SAND (SM); olive gray; trace gravel; moist; medium dense [COARSE GRAINED].		GS26-B5-5	67%			26.6			124.2	0935; 1'-350 psi; 2'-300 psi; 2.5'-300 psi		
	16														
	17														
	18		As above.			GS26-B5-6	25%	4 7 7	23				0940		
	19														
-15	20		As above except transition from coarse grained material to clay at 21'.			GS26-B5-7	10%	2 2 3	8				1000		
	21														
	22														
	23														
	24														

(continued)

Borehole Location: 4' West of CPT-21 County: San Mateo
Coordinates: **Northing:** 1999660.90 **Easting:** 6089710.54
Latitude: 37.475375 **Longitude:** 122.126467

Survey Method: GPS Coord. System: NAD 1983, US Survey Feet

LOG OF BORING GS26-B5

Sheet 1 of 3

SAFER Bay - East Palo Alto

ELEVATION (ft)	DEPTH (feet)	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery (%)	Blows per 6 in.	N ₆₀ (ASTM)	Organics (%)	LABORATORY DATA					REMARKS
										Water Content (%)	Liquid Limit	Plasticity Index	% S S G	Unit Weight (pcf)	
-24															
-25			Sandy CLAY with gravel (CL); greenish gray; ~75% fines; ~15% sand; ~10% gravel; moist; very stiff; low plasticity [OBC].		GS26-B5-8	83%				24.2				122.4	1030; 1'-300 psi; 2'-350 psi; 2.5'-450 psi
-26										22.0				127.9	
-27															
-28			As above.		GS26-B5-9	50%	6 9 7	26		23.9	45	28			1040
-29															
-30			As above.		GS26-B5-10	60%	10 14 14			26.3				125.3	1115; GS26-B5-10B; GS26-B5-10C
-31															
-32															
-33															
-34															
-35			As above except light olive brown; medium stiff.		GS26-B5-11	60%	2 3 3	10		30.6	40	20			1140
-36															
-37															
-38															
-39															
-40			SILT (ML); olive; ~100% fines; moist; very stiff; low plasticity [OBC].		GS26-B5-12	67%				24.2				122.3	1230; 1'-250 psi; 2'-500 psi; 2.5'-500 psi
-41															
-42															
-43															
-44															
-45			Sandy CLAY (CL); olive; ~80% fines; ~20% sand; moist; very stiff; low plasticity [OBC].		GS26-B5-13	83%				27.5				122.7	1310; 1'-300 psi; 2'-350 psi; 2.5'-400 psi
-46															
-47															
-48			Sandy CLAY with gravel (CL); light olive brown; ~100% fines; moist; stiff; low plasticity [OBC].		GS26-B5-14	60%	3 6 5	18		30.3					1330
-49															
-50			As above.		GS26-B5-15	83%				31.2				120.9	1405; 1'-200 psi; 2'-250 psi; 2.5'-400 psi
-51															
-52															
-53			Sandy CLAY (CL); olive gray; moist; very stiff; low plasticity [OBC].		GS26-B5-16	70%	3 8 8	26							1420; Some gravel in upper
-54															

(continued)

ELEVATION (ft)	DEPTH (feet)	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery (%)	Blows per 6 in.	N ₆₀ (ASTM)	Organics (%)	LABORATORY DATA					REMARKS
										Water Content (%)	Liquid Limit	Plasticity Index	% SS	Unit Weight (pcf)	
-54	54			X											portion of sample and drops to none towards bottom
-55	55		As above.												1500;
	56				GS26-B5-17	75%				35.8				113.2	1'-300 psi;
	57														2'-500 psi;
	58														2.5'-500 psi
	59														
-55	60		As above except ~15% gravel observed.												1520;
	61				GS26-B5-18	83%				27				124.8	1'-300 psi;
	62														2'-400 psi;
	63														2.5'-500 psi
	63		Boring terminated at 63 feet bgs.												
	64														
	65														
-60	66														
	67														
	68														
	69														
	70														
-65	71														
	72														
	73														
	74														
	75														
-70	76														
	77														
	78														
	79														
	80														
-75	81														
	82														
	83														
	84														

Borehole Location: 4' West of CPT-21 County: San Mateo
 Coordinates: Northing: 1999660.90 Easting: 6089710.54
 Latitude: 37.475375 Longitude: 122.126467

Survey Method: GPS Coord. System: NAD 1983, US Survey Feet

LOG OF BORING GS26-B5

Sheet 3 of 3

SAFER Bay - East Palo Alto

DATE STARTED 1/20/2026	DATE COMPLETED 1/20/2026	GROUND ELEVATION 3.16 feet	ELEVATION DATUM NAVD88	TOTAL DEPTH OF BORING 44.5
DRILLING CONTRACTOR Pitcher	DRILLER'S NAME N/A	HELPER'S NAME	TOTAL DEPTH OF FILL N/A	
DRILLING METHOD Mud Rotary	DRILL RIG MAKE AND MODEL Geoprobe 7822DT			CONSULTANT COMPANY Geosyntec
DRILL BIT SIZE AND TYPE (HOLE DIAMETER) 5" diameter 5 ft depth	DRILLING ROD TYPE AND DIAMETER 4-3/4"			FIELD LOGGER E. Kurwa
BOREHOLE INCLINATION N/A	CASING TYPE, DIAMETER, INSTALLATION DEPTH 5" diameter 5 ft depth			FIELD LOG REVIEWER J. Merani
SAMPLER TYPE(S) SPT, Vane, ModCal, Shelby	SPT HAMMER TYPE Autohammer; 140 lbs/30"			HAMMER EFFICIENCY 97%
BOREHOLE BACKFILL OR COMPLETION Grout	GROUNDWATER READING: DURING DRILLING			AFTER DRILLING (DATE-TIME)

ELEVATION (ft)	DEPTH (feet)	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery (%)	Blows per 6 in.	N ₆₀ (ASTM)	Organics (%)	LABORATORY DATA					REMARKS
										Water Content (%)	Liquid Limit	Plasticity Index	% G S S	Unit Weight (pcf)	
	0		ASPHALT.												0930; Hand auger in upper 5' followed by installation of 5" dia casing to 5 ft bgs
	1		Clayey SAND with gravel (SC); brown with olive tint; ~50% sand; ~35% fines; ~15% gravel; slightly moist [FILL].			100%									
	2														
	3														
	4														
	5														1010
	6														
	7		Fat CLAY with sand and organics (CH); no gravel observed; changes to very soft; organics observed.		GS26-B6-1	35%	0 0 1	2		61.4	78	46			1050; sheared to 52 kPa at 5 min 3 sec; remold test 1130; 20 revs;
	8		Fat CLAY (CH); bluish gray; no organics observed.												1'-300 psi;
	9				GS26-B6-2	83%				53.0 38.7	60	36		105.6 114.7	2'-400 psi;
	10														2.5'-450 psi
	11														1150; shear to 31 kpa at 5 min 38 sec; rig broke at 1245
	12														
	13														
	14														
	15		Sandy Lean CLAY (CL); bluish gray; moist; medium stiff; low plasticity [YBM].												1250;
	16				GS26-B6-3	50%					40	21	1.0 29.0 70.0		1'-300 psi;
	17														2'-380 psi;
	18														2.5'-350 psi
	19														
	20		Silty CLAY (CL); gray with olive tint; ~100% fines; moist; medium stiff; low plasticity [OBC].												
	21				GS26-B6-4	50%	1 3 4	11		35.4					1320
	22														
	23														
	24														

(continued)

Borehole Location: 3' South of CPT-25 County: San Mateo
Coordinates: **Northing:** 2000477.26 **Easting:** 6088921.94
Latitude: 37.477579 **Longitude:** 122.129233

Survey Method: GPS Coord. System: NAD 1983, US Survey Feet

LOG OF BORING GS26-B6

Sheet 1 of 2

SAFER Bay - East Palo Alto

ELEVATION (ft)	DEPTH (feet)	Material Graphics	CLASSIFICATION OF MATERIALS (Description)	Sample Location	Sample Number	Recovery (%)	Blows per 6 in.	N ₆₀ (ASTM)	Organics (%)	LABORATORY DATA					REMARKS
										Water Content (%)	Liquid Limit	Plasticity Index	% S S	Unit Weight (pcf)	
-24															
-25			CLAY with sand (CL); yellowish brown; moist; stiff [OBC].		GS26-B6-5	83%				19.4			5.7 15.3 79	128.8	1340; 1'-400 psi; 2'-500 psi; 2.5'-600 psi Shelby tube contained silty clay at 25'
-30			Sandy CLAY with gravel (CL); dark gray; moist; stiff; low plasticity; sand observed in light brown lenses [OBC].		GS26-B6-6	40%	4 6 5	18		25.8					1405
-35			CLAY with sand (CL); yellowish brown; moist; medium stiff [OBC].		GS26-B6-7	83%				22.2			0.0 17.8 82.2	126.5	1445; 1'-300 psi; 2'-400 psi; 2.5'-400 psi
-40			CLAY with sand (CL); yellowish brown; moist; stiff [OBC].		GS26-B6-8	10%	3 5 6	18		32.3					1500
-45			Boring terminated at 44.5 feet bgs.												
-50															
-54															

APPENDIX B

CPT Results



CONE PENETRATION TESTING (CPT) REPORT

Pitcher Services LLC

Prepared for: Geosyntec
Project P7261003
January 27, 2026

Prepared by: Chris McAleer
cmcaleer@pitcherservicesllc.com

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Cone Penetration Testing (CPT) Procedure	3
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APPENDIX A: Cone Penetration Test Plots

APPENDIX B: Pore Pressure Dissipation Test Plots

APPENDIX C: Seismic Plots & Tables

Pitcher Services CPT Report

January 27, 2026

Geosyntec

Attn: David Umberg

Subject: CPT Site Investigation
Bay Trail
East Palo Alto, CA
PITCHER Project Number: P7261003

Dear Mr. Umberg:

The following report presents the results of Pitcher Services' Cone Penetration Test investigation for the above referenced site. The following testing services were performed:

1	Cone Penetration Tests	(CPTU)	☒
2	Pore Pressure Dissipation Tests	(PPD)	☒
3	Seismic Cone Penetration Tests	(SCPTU)	☒
4	Groundwater Samples	(GWS)	☐
5	Soil Samples	(SS)	☐
6	Vapor Samples	(VS)	☐

A list of reference papers providing additional background on the specific tests conducted is provided in the bibliography following the text of the report. If you would like a copy of any of these publications or should you have any questions or comments regarding the contents of this report, please do not hesitate to contact me at (650) 328-8910.

Sincerely,

CPT Reports Team
Pitcher Services, LLC.



Cone Penetration Testing (CPT) Procedure

Pitcher Services carries out all Cone Penetration Tests (CPT) using an integrated electronic cone system, Figure CPT.

The cone takes measurements of tip resistance (q_c), sleeve resistance (f_s), and penetration pore water pressure (u_2). Measurements are taken at either 2.5 or 5cm intervals during penetration to provide a nearly continuous profile. CPT data reduction and basic interpretation is performed in real time facilitating on-site decision making. The above-mentioned parameters are stored electronically for further analysis and reference. All CPT soundings are performed in accordance with revised ASTM standards (D 5778-12).

The 5mm thick, porous plastic filter element is located directly behind the cone tip in the u_2 location. A new saturated filter element is used on each sounding to measure both penetration pore pressures as well as measurements during a dissipation test (PPDT). Prior to each test, the filter element is fully saturated with oil under vacuum pressure to improve accuracy.

When the sounding is completed, the test hole is backfilled according to client specifications. If grouting is used, the procedure generally consists of pushing a hollow tremie pipe with a "knock out" plug to the termination depth of the CPT hole. Grout is then pumped under pressure as the tremie pipe is pulled from the hole. Disruption or further contamination to the site is therefore minimized.

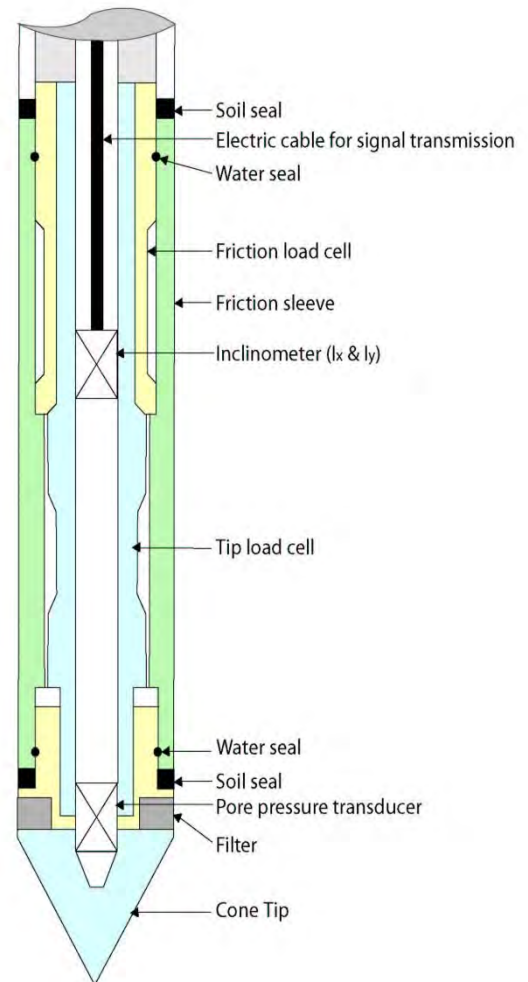


Figure CPT

15cm² Standard Cone Specifications

Dimensions	
Cone base area	15 cm ²
Sleeve surface area	225 cm ²
Cone net area ratio	0.75
Specifications	
Cone load cell	
Full scale range	180 kN (20 tons)
Overload capacity	150%
Full scale tip stress	120 MPa (1,200 tsf)
Repeatability	120 kPa (1.2 tsf)
Sleeve load cell	
Full scale range	31 kN (3.5 tons)
Overload capacity	150%
Full scale sleeve stress	1,400 kPa (15 tsf)
Repeatability	1.4 kPa (0.015 tsf)
Pore pressure transducer	
Full scale range	7,000 kPa (1,000 psi)
Overload capacity	150%
Repeatability	7 kPa (1 psi)

Note: The repeatability during field use will depend somewhat on ground conditions, abrasion, maintenance and zero load stability.

Cone Penetration Test Data & Interpretation

The Cone Penetration Test (CPT) data collected are presented in graphical and electronic form in the report. The plots include interpreted Soil Behavior Type (SBT) based on the charts described by Robertson (2010) (Figure SBT). Typical plots display SBT based on the non-normalized charts of Robertson (2010) or normalized data (2009 and 2016). For CPT soundings deeper than 30m, we recommend the use of the normalized charts of Robertson (2009 and 2016) which can be displayed as SBTn. The report also includes spreadsheet output of computer calculations of basic interpretation in terms of SBT and SBTn and various geotechnical parameters using current published correlations based on the comprehensive review by Lunne, Robertson and Powell (1997), as well as recent updates by Robertson and Cabal (Guide to Cone Penetration Testing 7th Edition, 2022). The interpretations are presented only as a guide for geotechnical use and should be carefully reviewed. Pitcher Services, LLC does not warranty the correctness or the applicability of any of the geotechnical parameters interpreted by the software and does not assume any liability for use of the results in any design or review. The user should be fully aware of the techniques and limitations of any method used in the software. Some interpretation methods require input of the groundwater level to calculate vertical effective stress. An estimate of the in-situ groundwater level has been made based on field observations and/or CPT results but should be verified by the user.

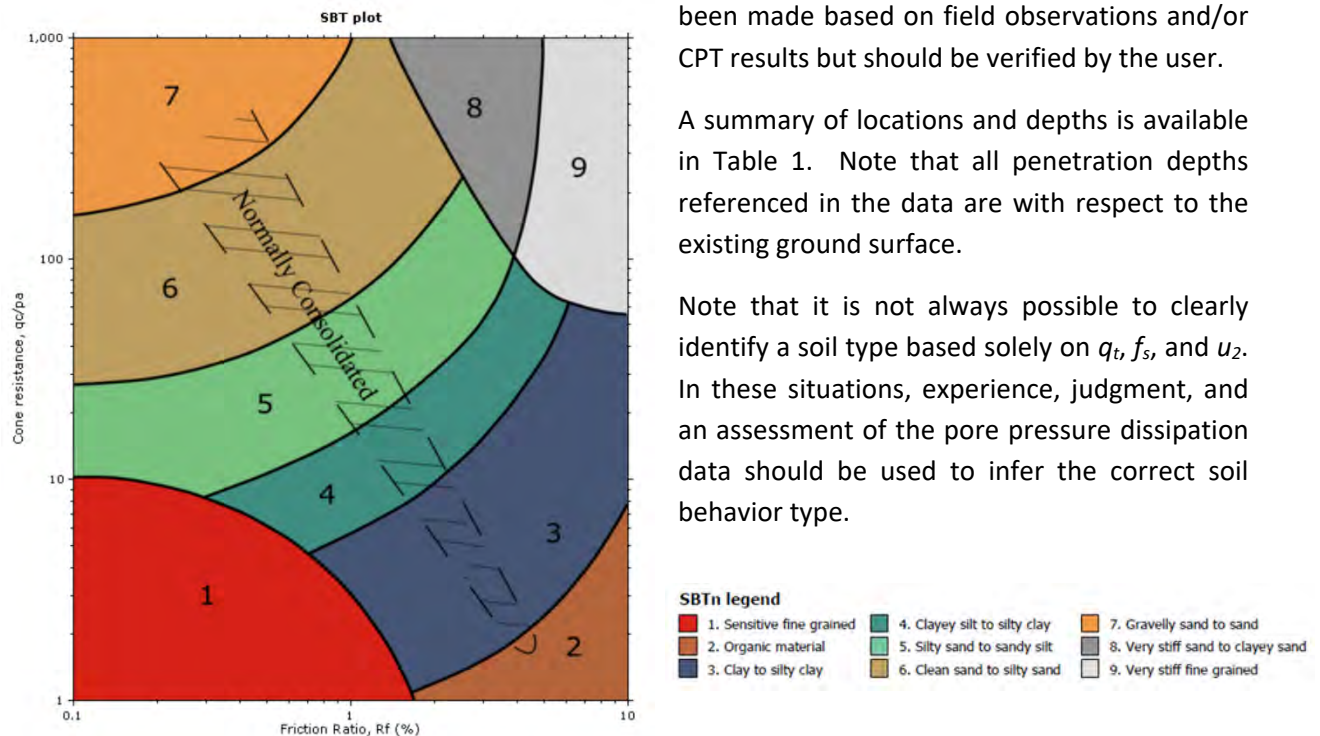


Figure SBT (After Robertson 2010) – Note: Colors may vary slightly compared to plots

Pore Pressure Dissipation Tests (PPDTs)

Pore Pressure Dissipation Tests (PPDT's) conducted at various intervals can be used to measure equilibrium water pressure (at the time of the CPT). If conditions are hydrostatic, the equilibrium water pressure can be used to determine the approximate depth of the ground water table. A PPDT is conducted when penetration is halted at specific intervals determined by the field representative. The variation of the penetration pore pressure (u) with time is measured behind the tip of the cone and recorded.

Pore pressure dissipation data can be interpreted to provide estimates of:

- Equilibrium piezometric pressure
- Phreatic Surface
- In situ horizontal coefficient of consolidation (c_h)
- In situ horizontal coefficient of permeability (k_h)

To correctly interpret the equilibrium piezometric pressure and/or the phreatic surface, the pore pressure must be monitored until it reaches equilibrium, *Figure PPDT*. This time is commonly referred to as t_{100} , the point at which 100% of the excess pore pressure has dissipated.

A complete reference on pore pressure dissipation tests is presented by Robertson et al. 1992 and Lunne et al. 1997.

A summary of the pore pressure dissipation tests completed for this project is included in Table 1.

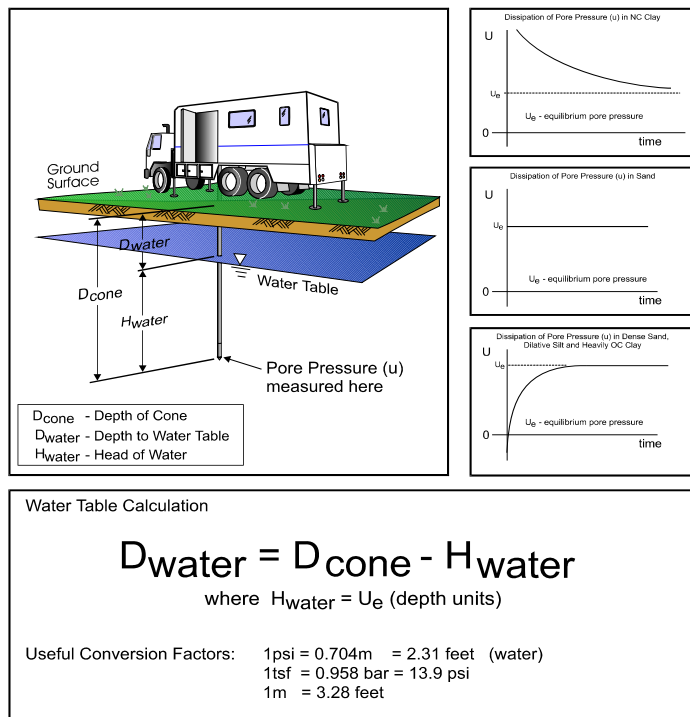


Figure PPDT

Seismic Cone Penetration Tests (SCPT)

Seismic Cone Penetration Testing (SCPT) can be conducted at various intervals during the Cone Penetration Test. Shear wave velocity (V_s) can then be calculated over a specified interval with depth. A small interval for seismic testing, such as 1-1.5m (3-5ft) allows for a detailed look at the shear wave profile with depth. Conversely, a larger interval such as 3-6m (10-20ft) allows for a more average shear wave velocity to be calculated. Pitcher Services' cones have a horizontally active geophone located 0.68m (2.23ft) behind the tip.

To conduct the seismic shear wave test, the penetration of the cone is stopped and the rods are decoupled from the rig. An automatic hammer is triggered to send a shear wave into the soil. The distance from the source to the cone is calculated knowing the total depth of the cone and the horizontal offset distance between the source and the cone. To calculate an interval velocity, a minimum of two tests must be performed at two different depths. The arrival times between the two wave traces are compared to obtain the difference in time (Δt). The difference in depth is calculated (Δd) and velocity can be determined using the simple equation: $v = \Delta d / \Delta t$

Multiple wave traces can be recorded at the same depth to improve quality of the data.

A complete reference on seismic cone penetration tests is presented by Robertson et al. 1986 and Lunne et al. 1997.

A summary of the shear wave velocities, arrival times and wave traces are provided with the report.

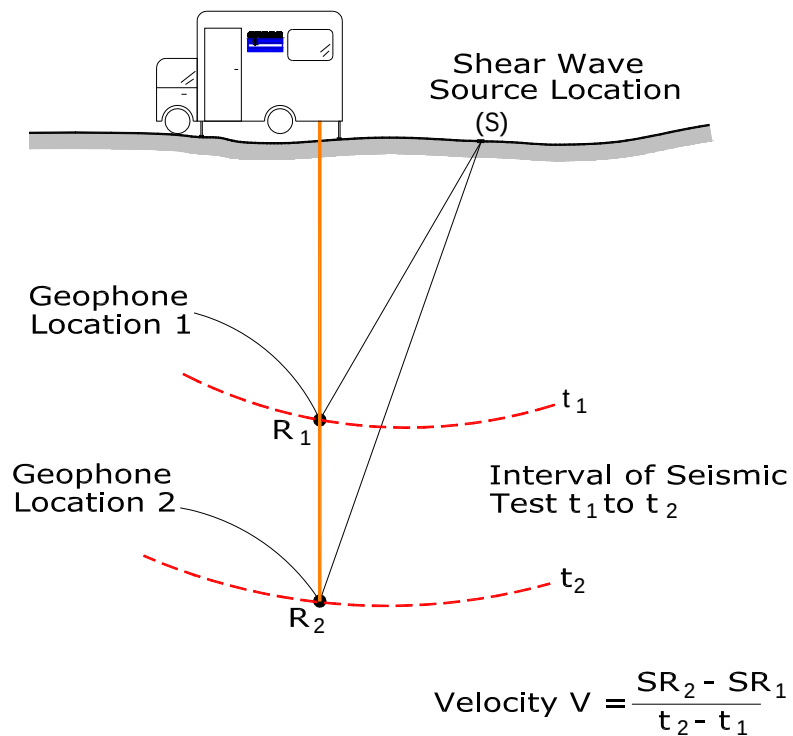


Figure SCPT

Soil Sampling

Pitcher Services uses a piston-type push-in sampler to obtain small soil samples without generating any soil cuttings, *Figure SS*. Two different types of samplers (12 and 18 inch) are used depending on the soil type and density. The soil sampler is initially pushed in a "closed" position to the desired sampling interval using the CPT pushing equipment. Keeping the sampler closed minimizes the potential of cross contamination. The inner tip of the sampler is then retracted leaving a hollow soil sampler with inner 1¼" diameter sample tubes. The hollow sampler is then pushed in a locked "open" position to collect a soil sample. The filled sampler and push rods are then retrieved to the ground surface. Because the soil enters the sampler at a constant rate, the opportunity for 100% recovery is increased. For environmental analysis, the soil sample tube ends are sealed with Teflon and plastic caps. Often, a longer "split tube" can be used for geotechnical sampling.

For a detailed reference on direct push soil sampling, refer to Robertson et al, 1998.

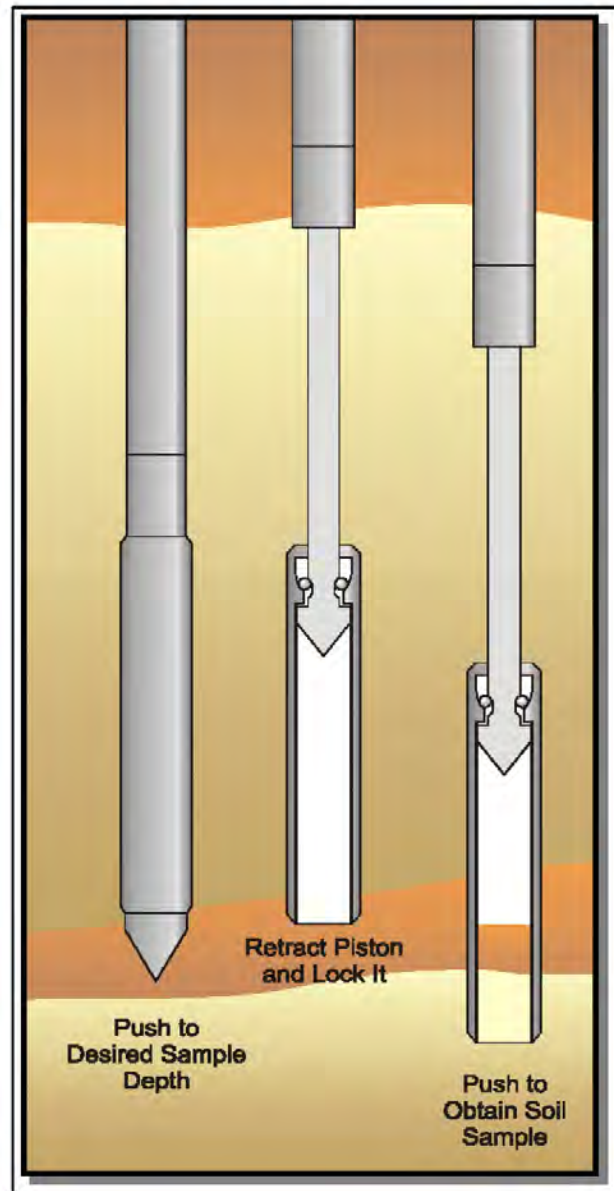


Figure SS

Ground Water Sampling

Pitcher Services conducts groundwater sampling using a sampler as shown in *Figure GWS*. The groundwater sampler has a retrievable stainless steel or disposable PVC screen with steel drop off tip. This allows for samples to be taken at multiple depth intervals within the same sounding location. In areas of slower water recharge, provisions may be made to set temporary PVC well screens during sampling to allow the pushing equipment to advance to the next sample location while the groundwater is allowed to infiltrate.

The groundwater sampler operates by advancing 44.5mm (1¾ inch) hollow push rods with the filter tip in a closed configuration to the base of the desired sampling interval. Once at the desired sample depth, the push rods are retracted; exposing the encased filter screen and allowing groundwater to infiltrate hydrostatically from the formation into the inlet screen. A small diameter bailer (approximately ½ or ¾ inch) is lowered through the push rods into the screen section for sample collection. The number of downhole trips with the bailer and time necessary to complete the sample collection at each depth interval is a function of sampling protocols, volume requirements, and the yield characteristics and storage capacity of the formation. Upon completion of sample collection, the push rods and sampler, with the exception of the PVC screen and steel drop off tip are retrieved to the ground surface, decontaminated and prepared for the next sampling event.

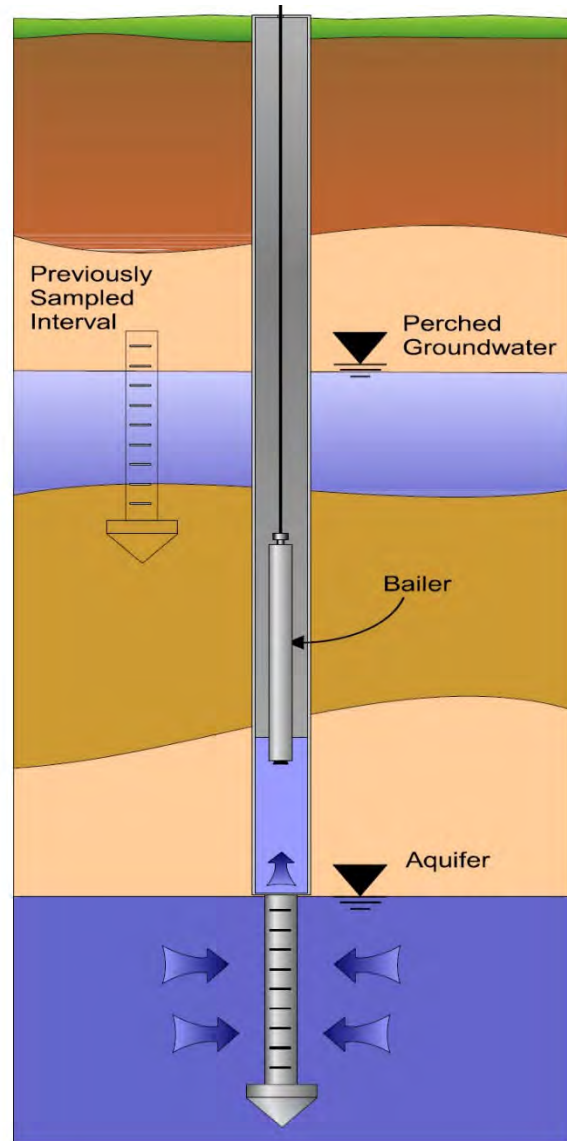


Figure GWS

For a detailed reference on direct push groundwater sampling, refer to Zemo et. al., 1992.

References

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Robertson, P.K., T. Lunne and J.J.M. Powell, "Geo-Environmental Application of Penetration Testing", Geotechnical Site Characterization, Robertson & Mayne (editors), 1998 Balkema, Rotterdam, ISBN 90 5410 939 4 pp 35-47.

Copies of ASTM Standards are available through www.astm.org

Pitcher Services CPT Report

Table 1: Cone Penetration Testing Summary

CPT Sounding Identification	Date	Termination Depth (ft)	Depth of Soil Samples (ft)	Depth of Groundwater Samples (ft)	Depth of Pore Pressure Dissipation Tests (ft)
GS26-CPT-1	1/15/2026	70.21	-	-	33.27
GS26-CPT-2	1/12/2026	70.21	-	-	16.47
GS26-CPT-3	1/12/2026	70.21	-	-	16.60, 65.94
GS26-CPT-4	1/13/2026	70.21	-	-	14.04
GS26-CPT-5	1/12/2026	72.05	-	-	34.25
GS26-CPT-6	1/15/2026	70.21	-	-	38.25
GS26-CPT-7	1/15/2026	70.21	-	-	-
GS26-CPT-8	1/15/2026	70.21	-	-	-
GS26-CPT-9	1/22/2026	70.21	-	-	44.36, 70.21
GS26-CPT-10	1/13/2026	42.19	-	-	-
GS26-CPT-11	1/22/2026	70.21	-	-	29.72
GS26-CPT-12	1/14/2026	70.21	-	-	24.15
GS26-CPT-13	1/23/2026	70.21	-	-	21.59
GS26-CPT-14	1/16/2026	42.32	-	-	37.53
GS26-CPT-15	1/16/2026	70.21	-	-	20.41
GS26-CPT-16	1/14/2026	72.05	-	-	13.45
GS26-CPT-17	1/16/2026	60.10	-	-	28.61, 29.20
GS26-CPT-18	1/23/2026	64.24	-	-	14.89, 44.23, 63.06
GS26-CPT-19	1/20/2026	70.21	-	-	15.03
GS26-CPT-20	1/20/2026	69.16	-	-	16.27
GS26-CPT-21	1/20/2026	70.93	-	-	14.11
GS26-CPT-22	1/21/2026	70.21	-	-	14.57
GS26-CPT-23	1/21/2026	70.21	-	-	32.94
GS26-CPT-24	1/22/2026	67.06	-	-	33.14
GS26-CPT-25	1/22/2026	72.05	-	-	23.49, 34.58
GS26-CPT-26	1/23/2026	60.76	-	-	60.76
GS26-CPT-27	1/23/2026	68.24	-	-	14.89

APPENDIX A:

CPT PLOTS

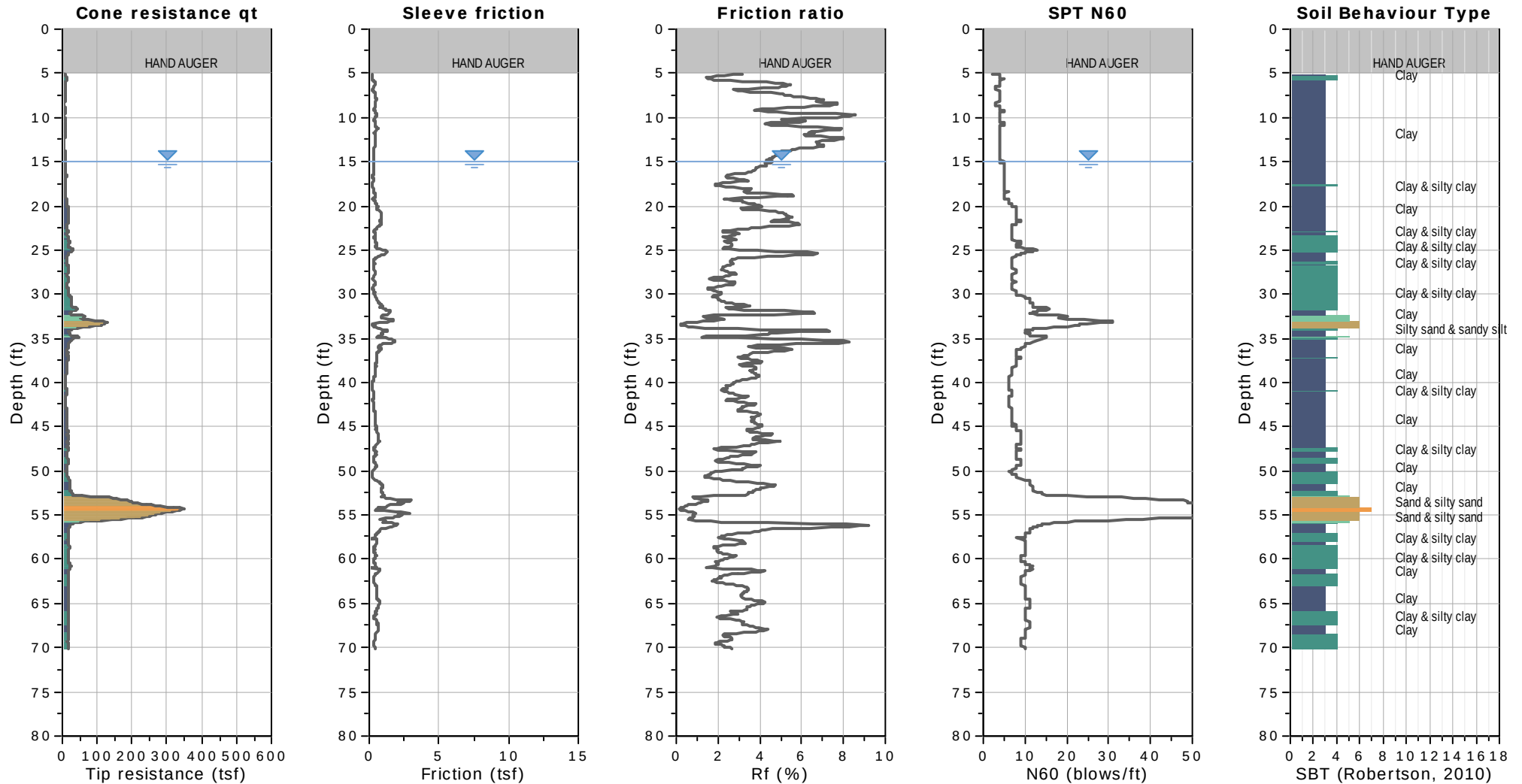


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/15/2026



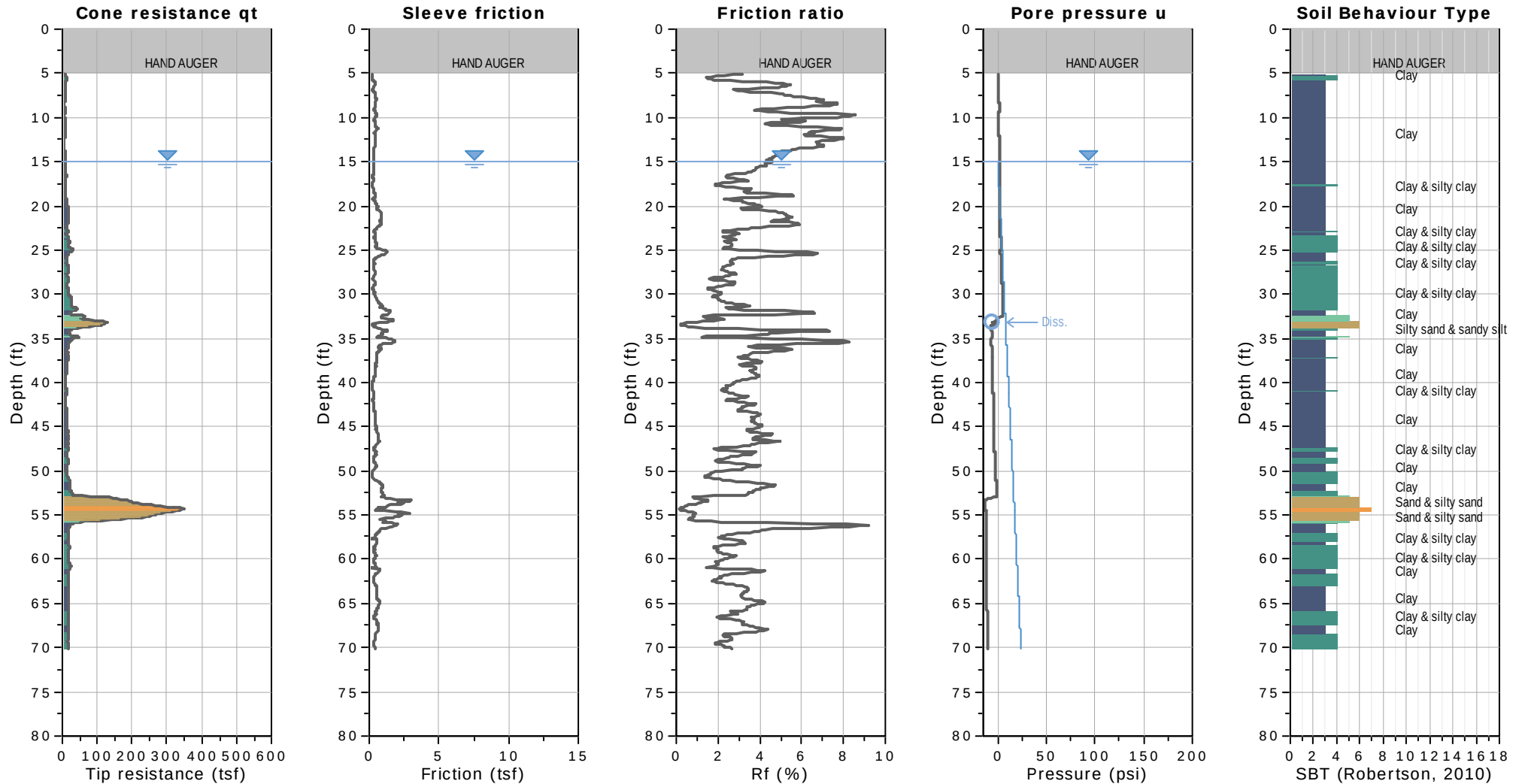


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/15/2026



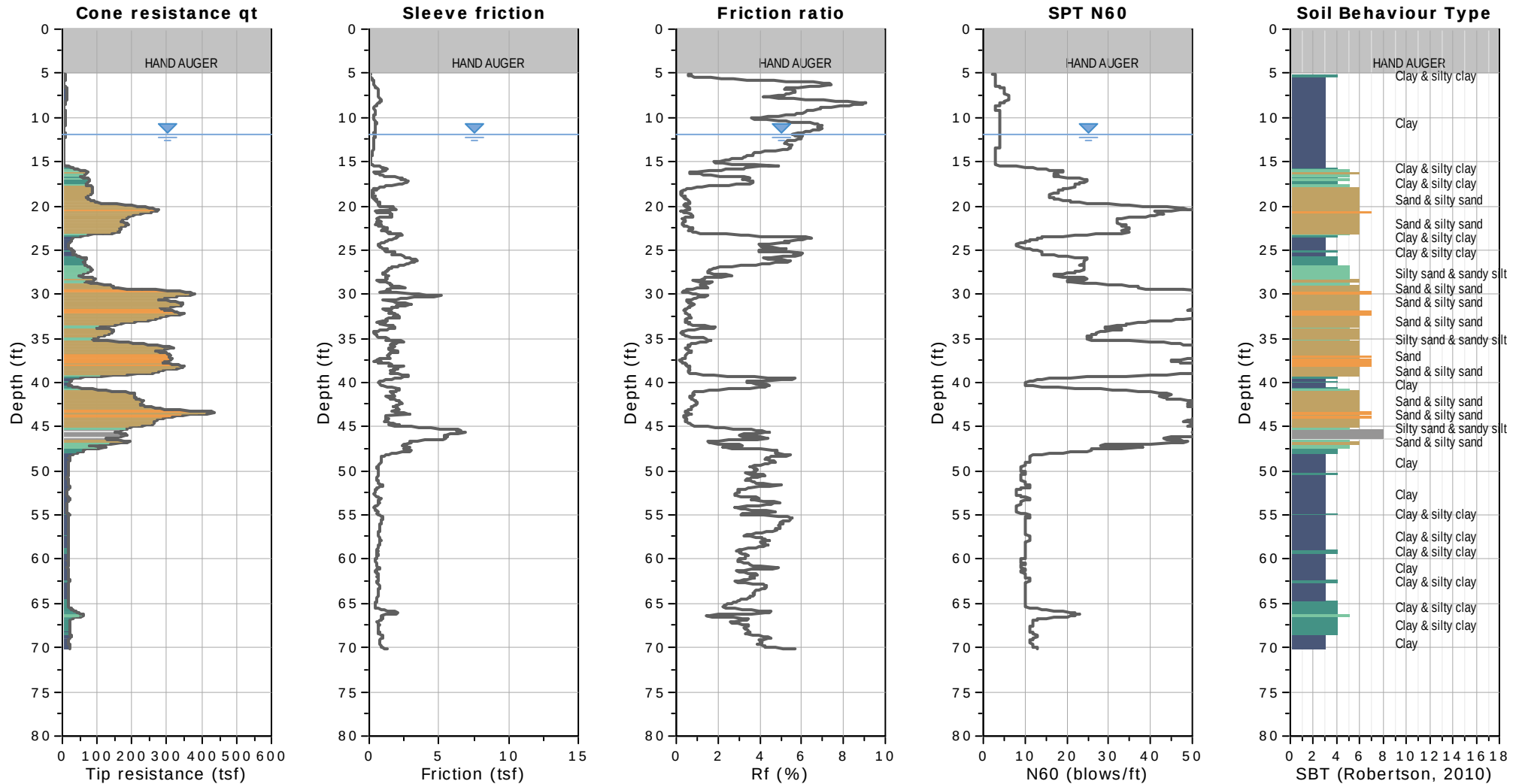


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 240760

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/12/2026



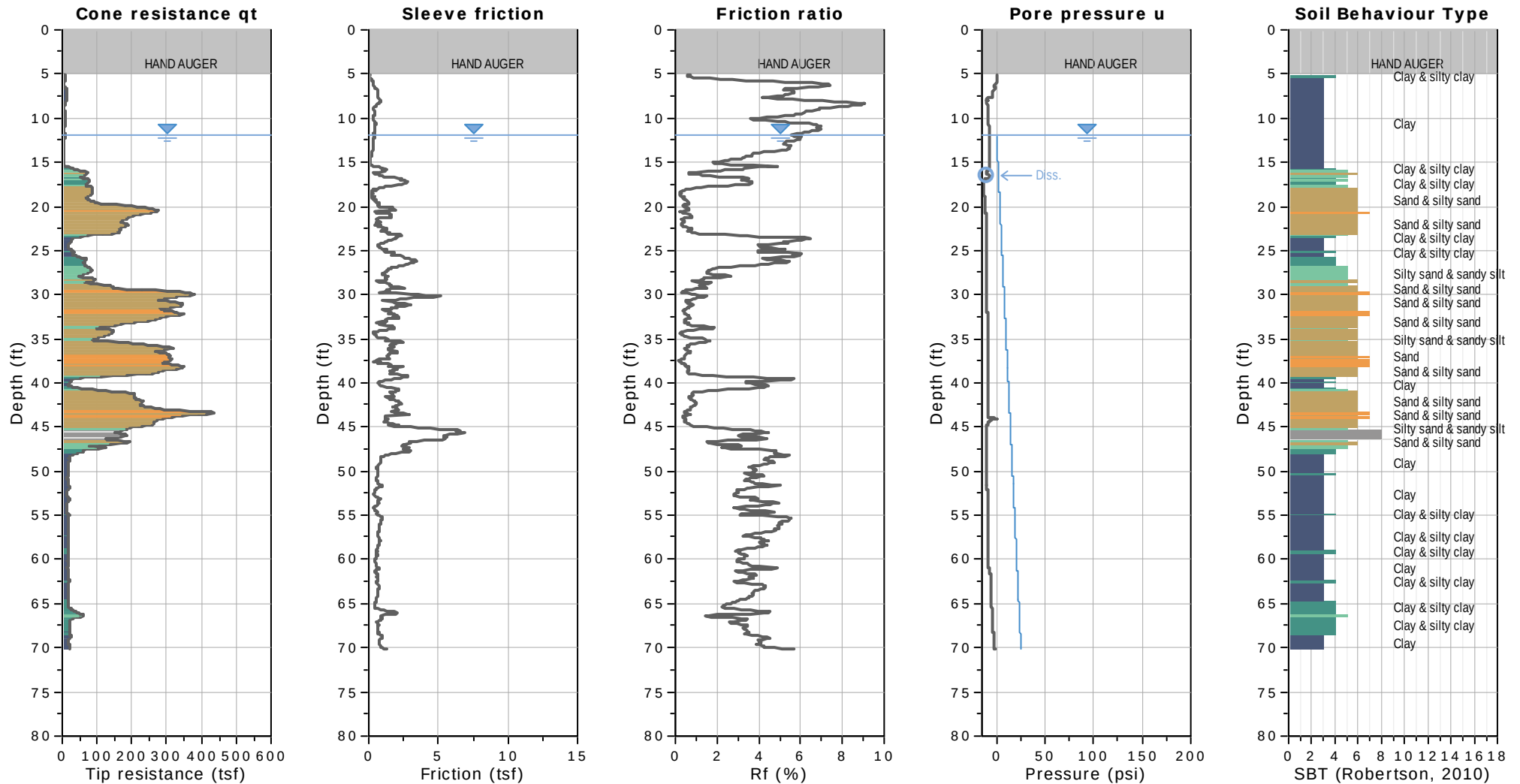


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 240760

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/12/2026



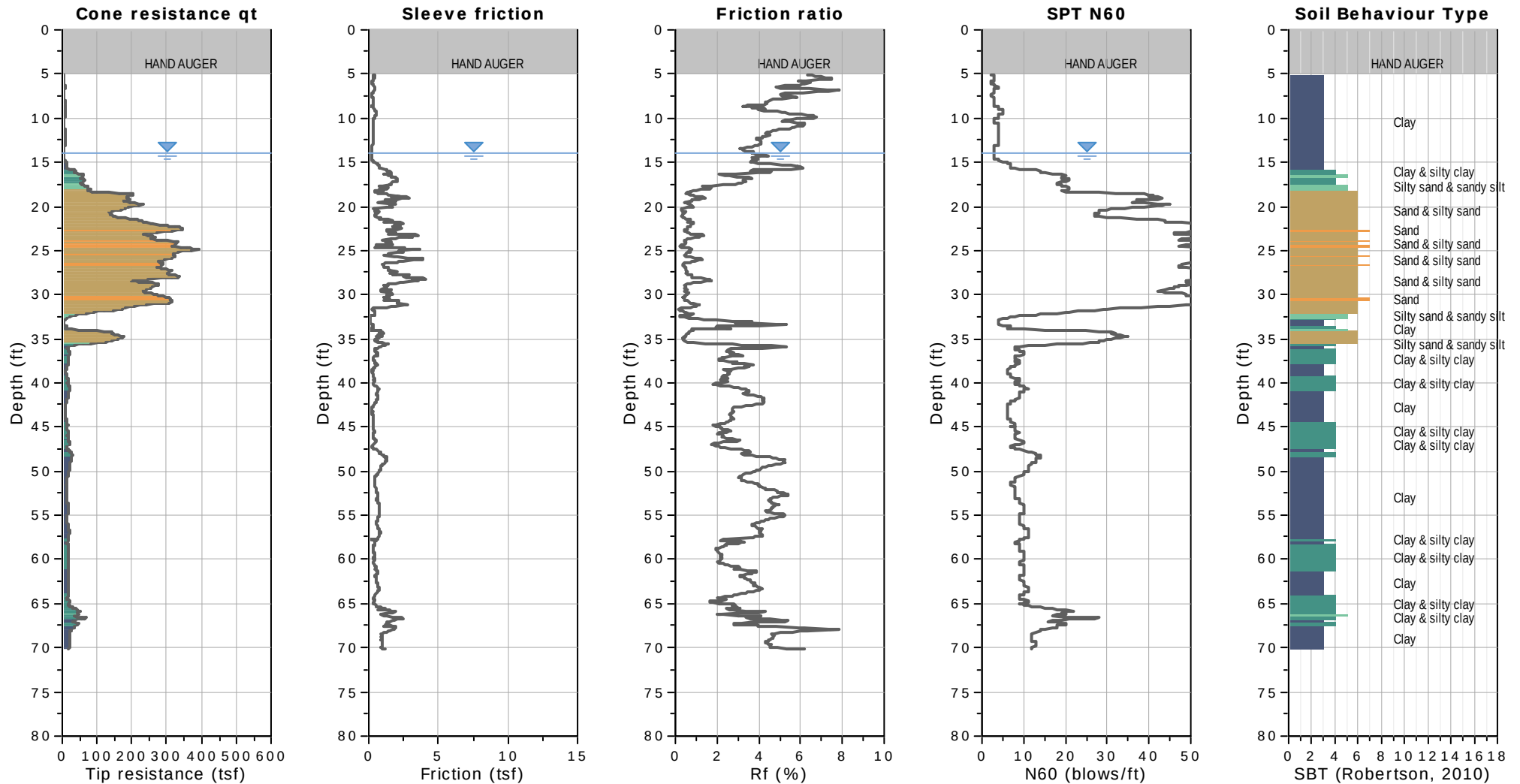


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/12/2026



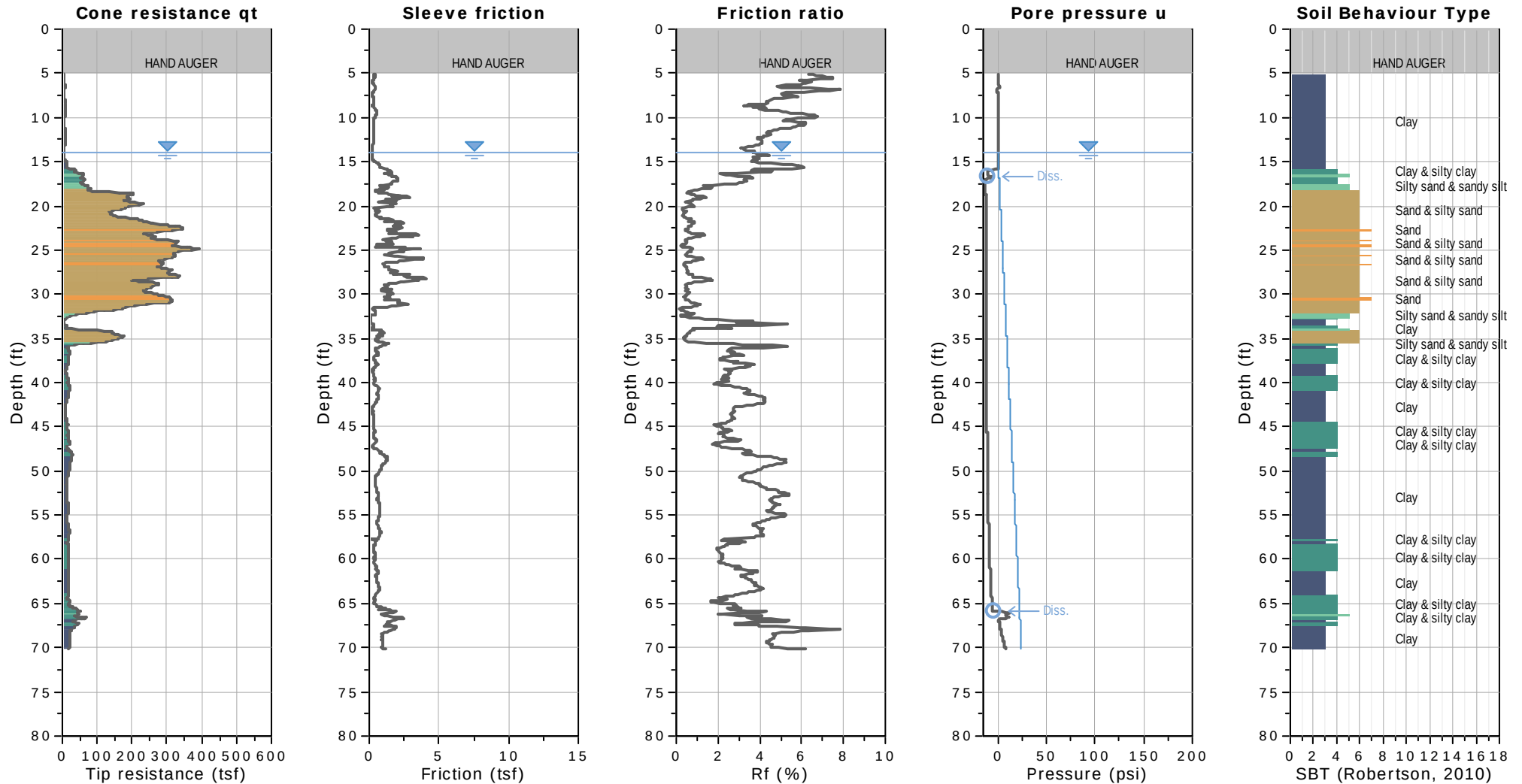


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/12/2026



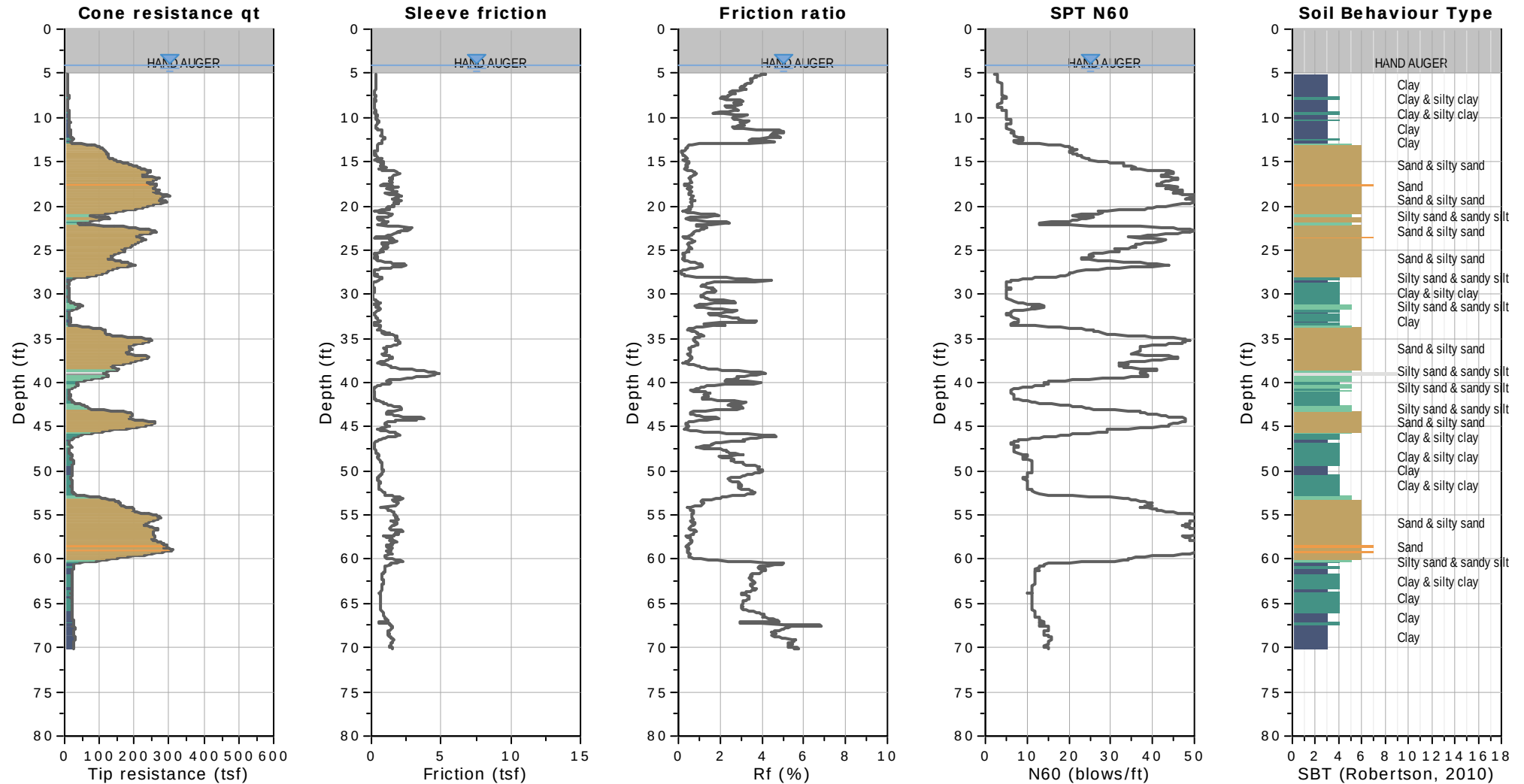


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/13/2026



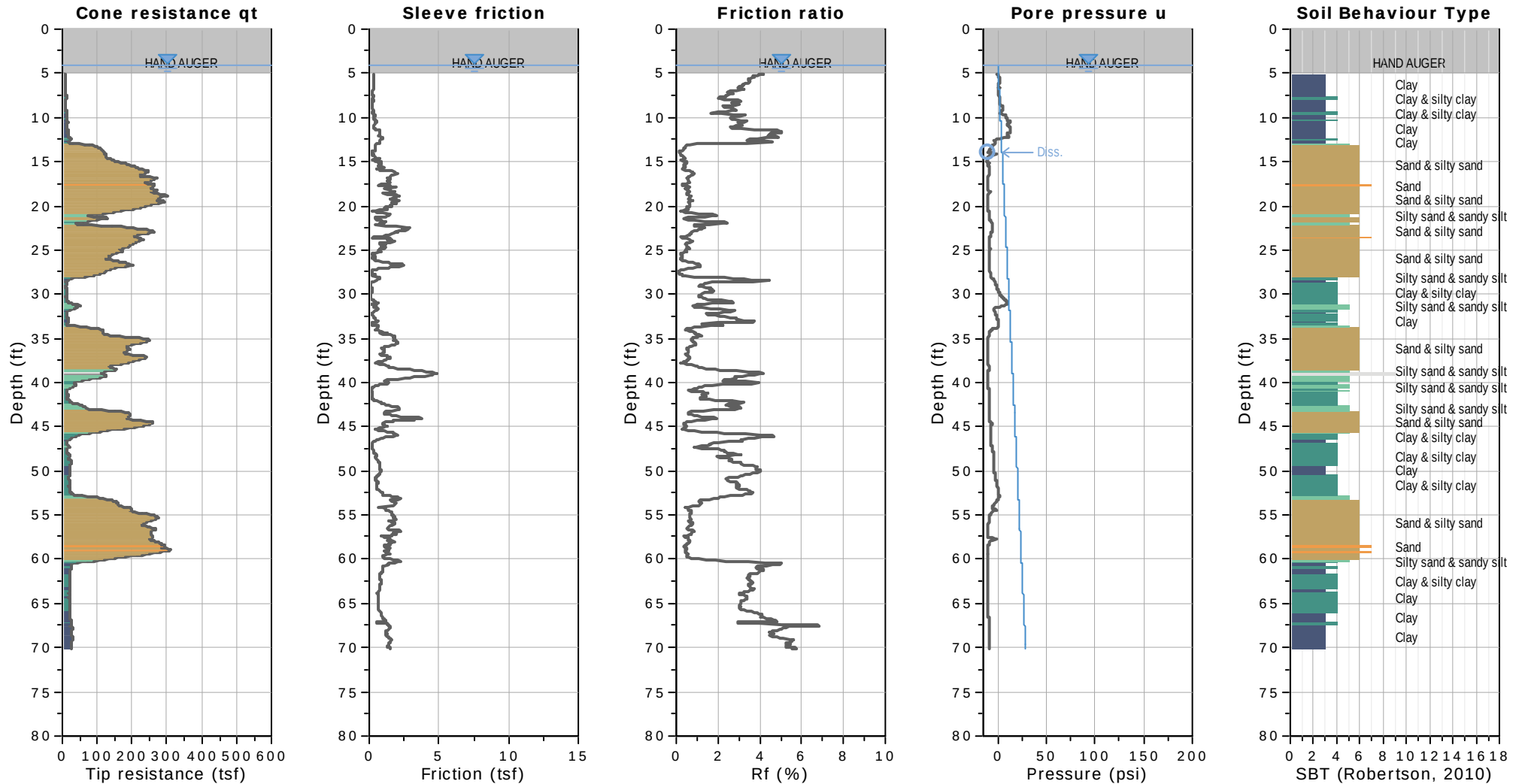


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/13/2026



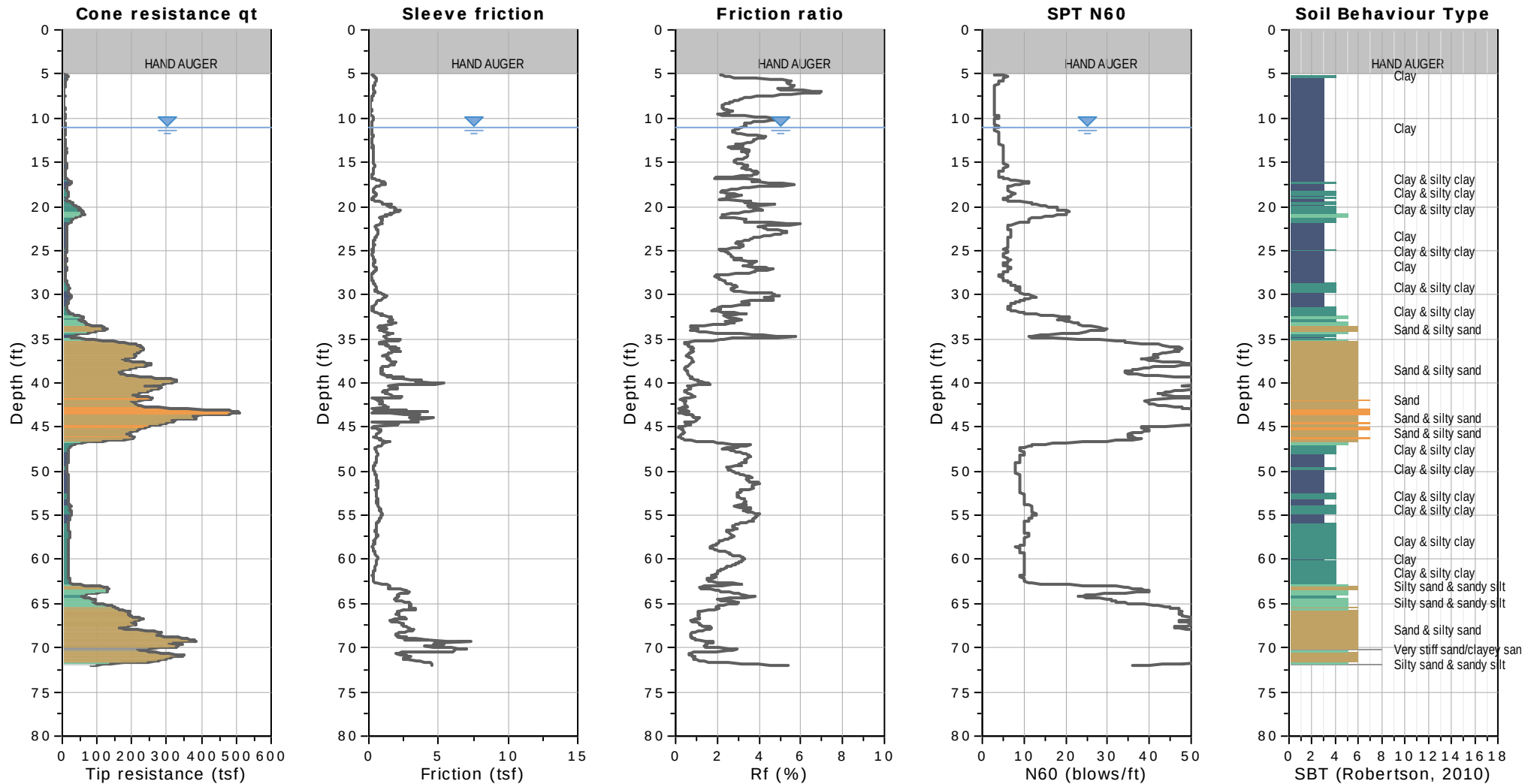


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 72.05 ft, Date: 1/12/2026



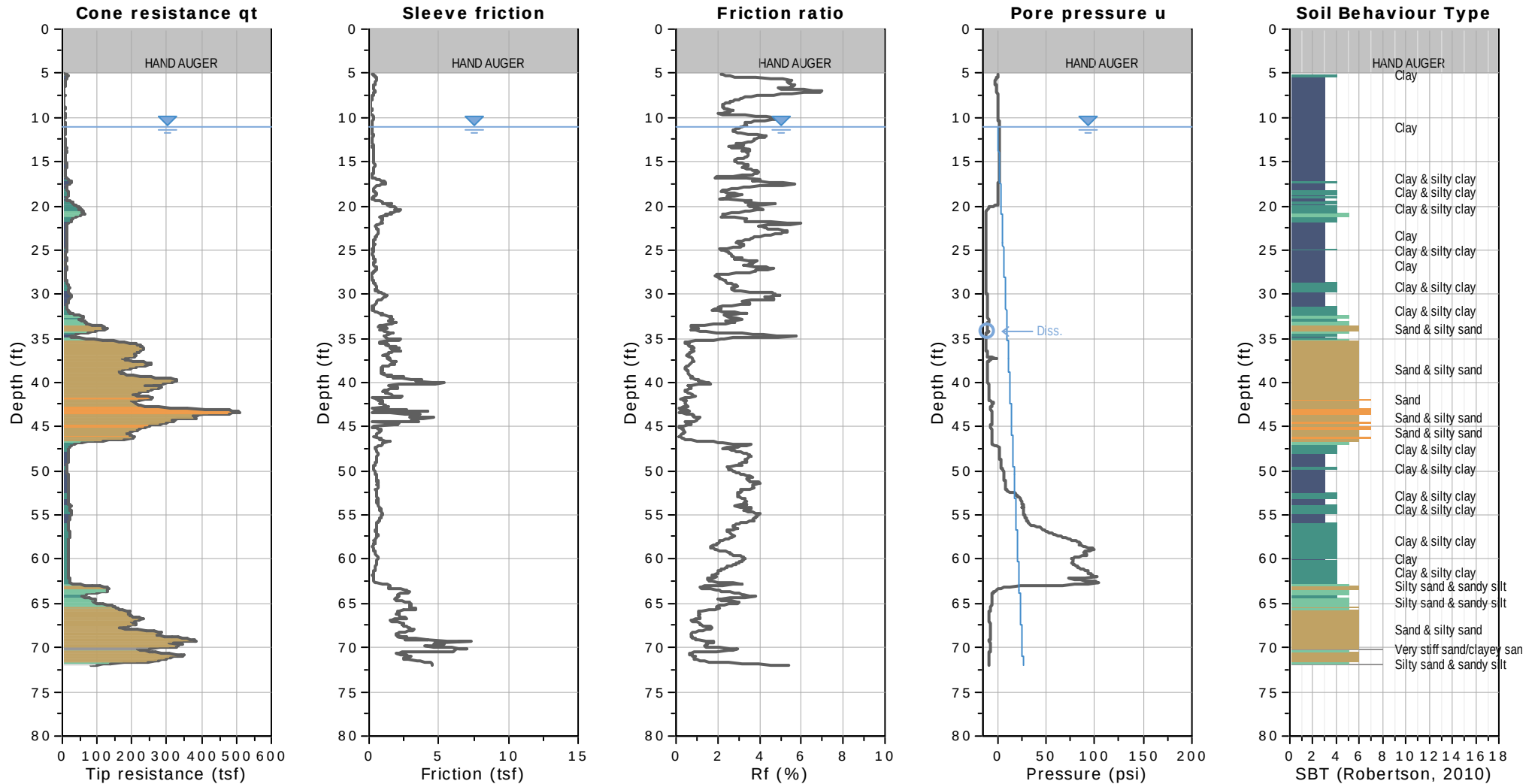


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 72.05 ft, Date: 1/12/2026



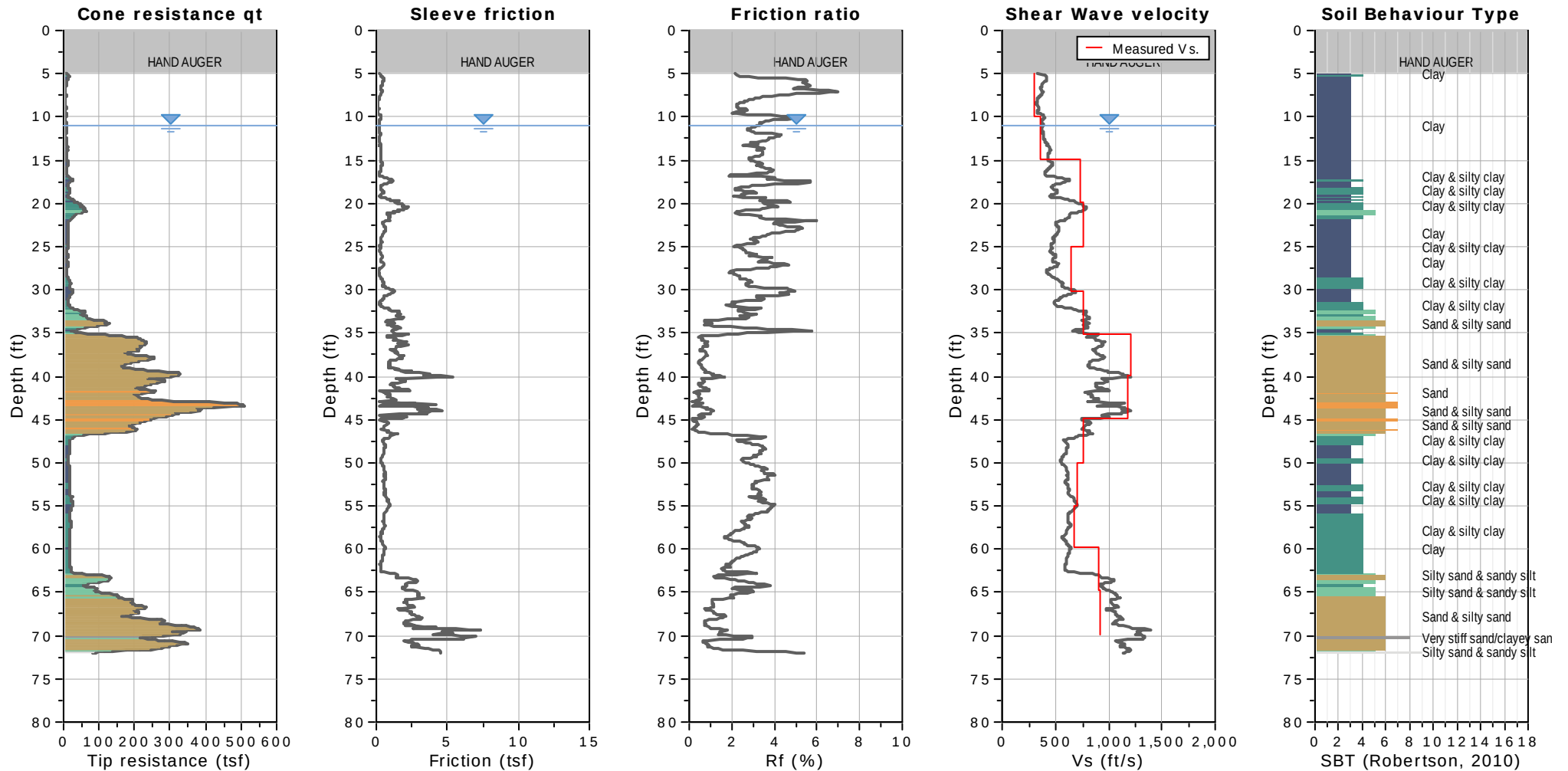


CLIENT: Geosyntec

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

FIELD REP: Elizabeth E.
Cone ID: 2501022

Total depth: 72.05 ft, Date: 1/12/2026



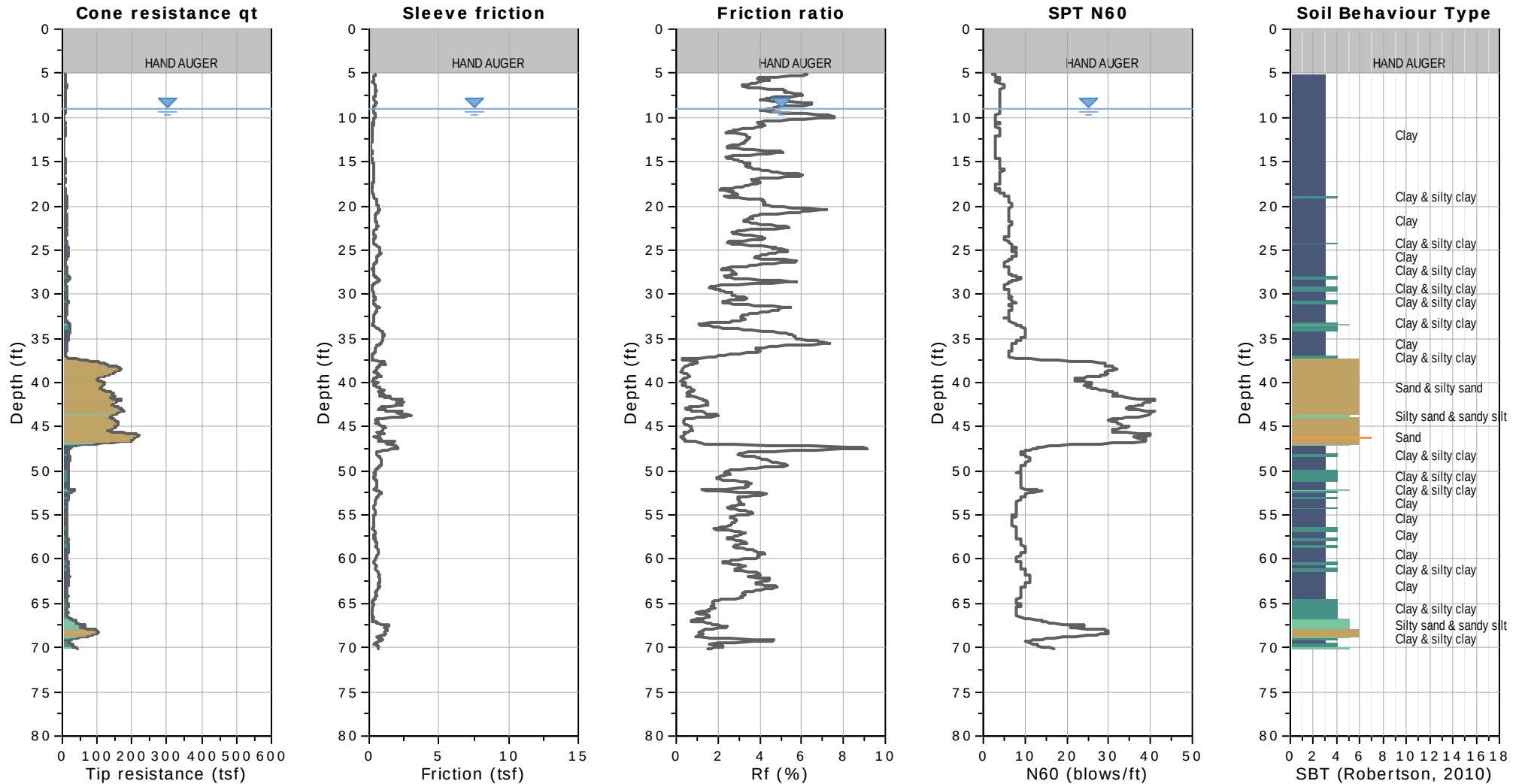


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/15/2026



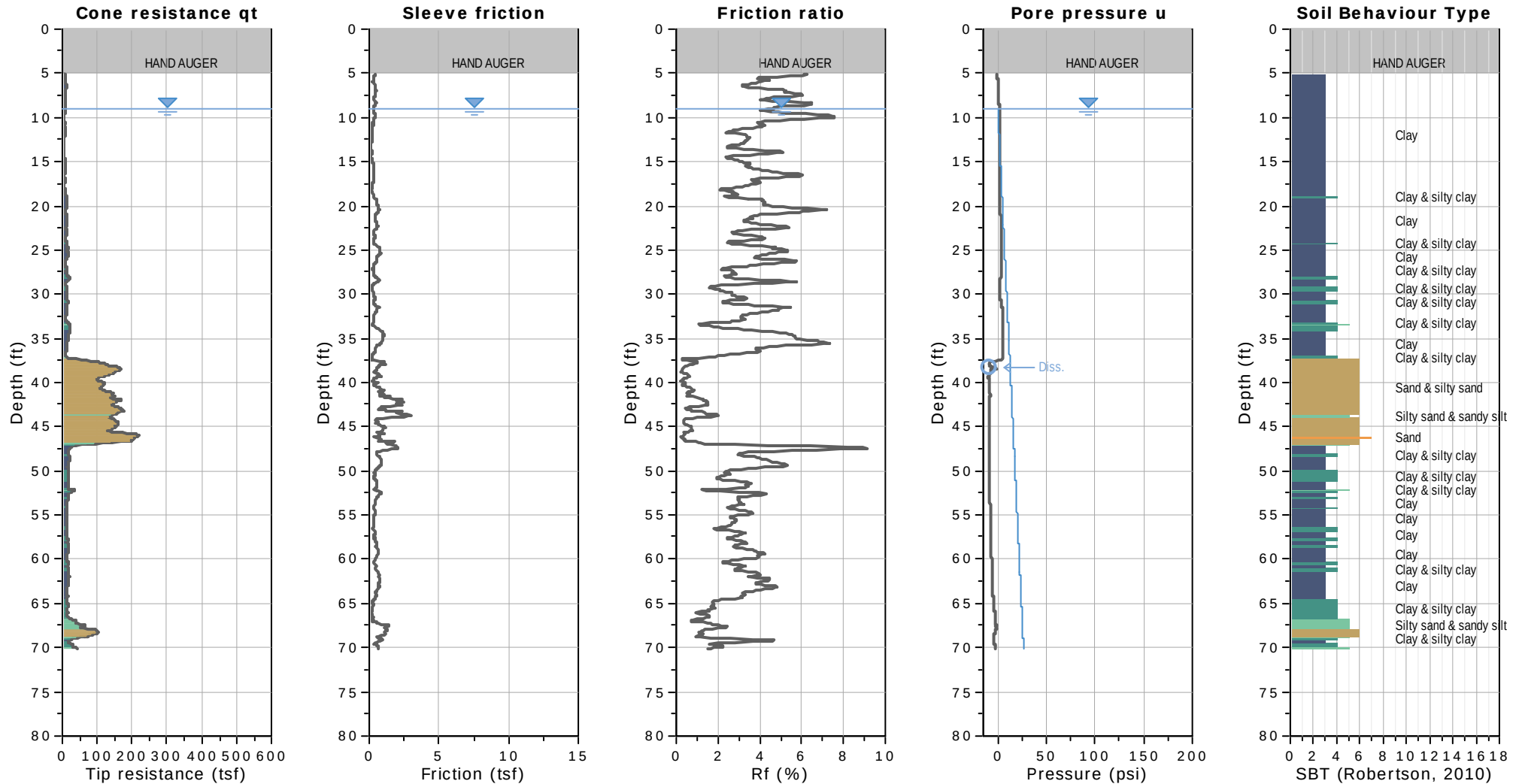


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/15/2026



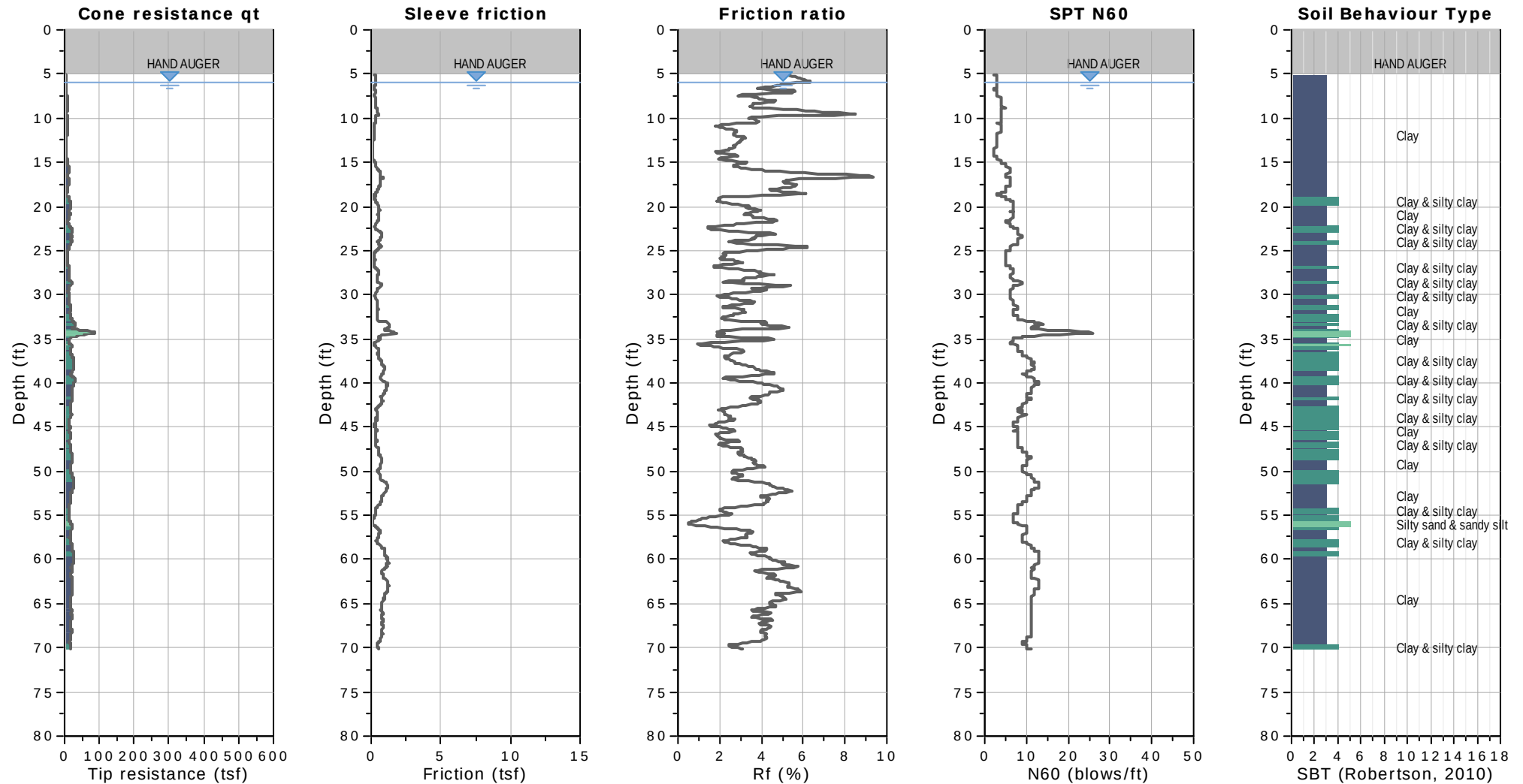


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/15/2026



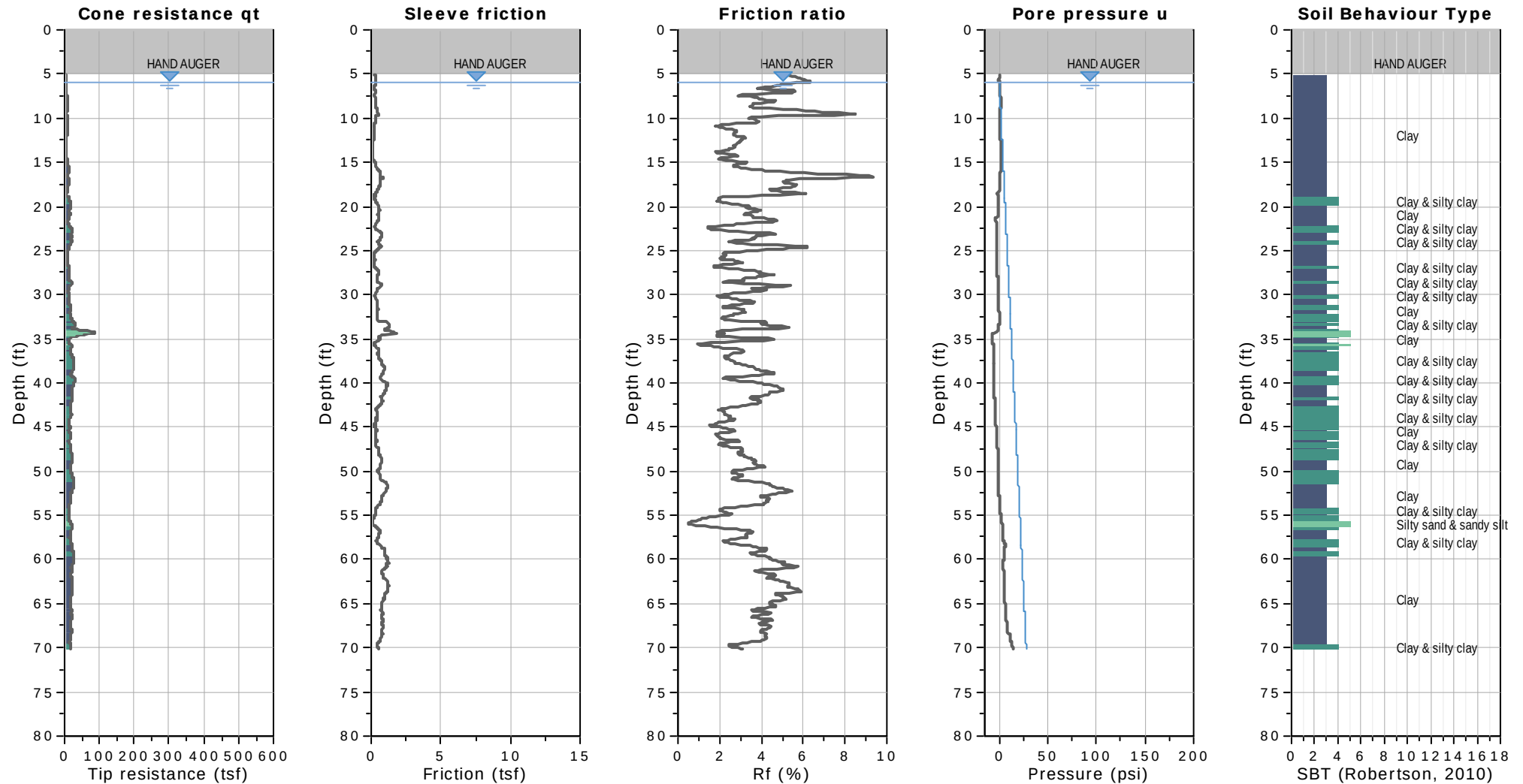


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/15/2026





SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

**FIELD REP: Elizabeth E.
Cone ID: 2501022**

Total depth: 70.21 ft, Date: 1/15/2026





SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

**FIELD REP: Elizabeth E.
Cone ID: 2501022**

Total depth: 70.21 ft, Date: 1/15/2026



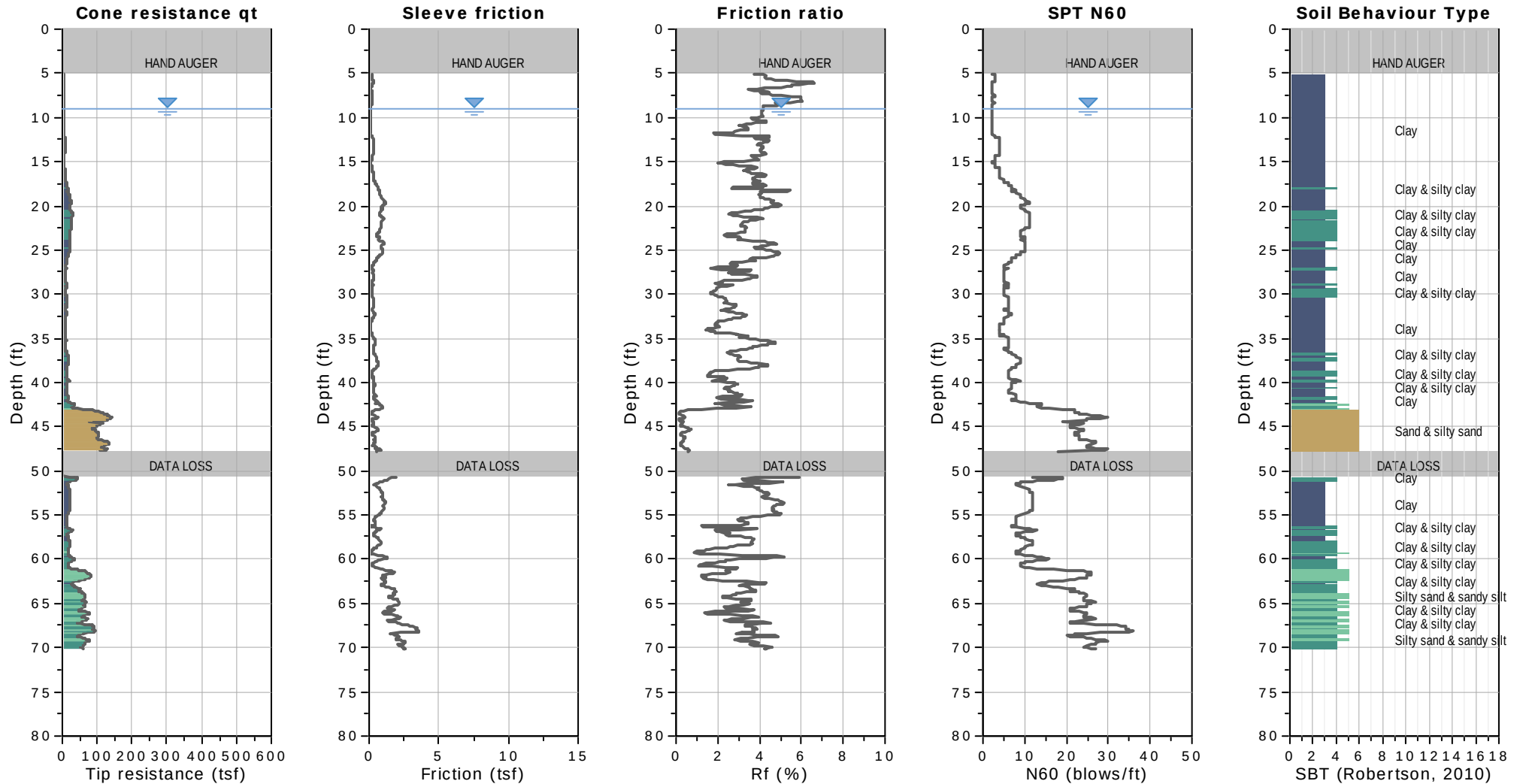


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/22/2026



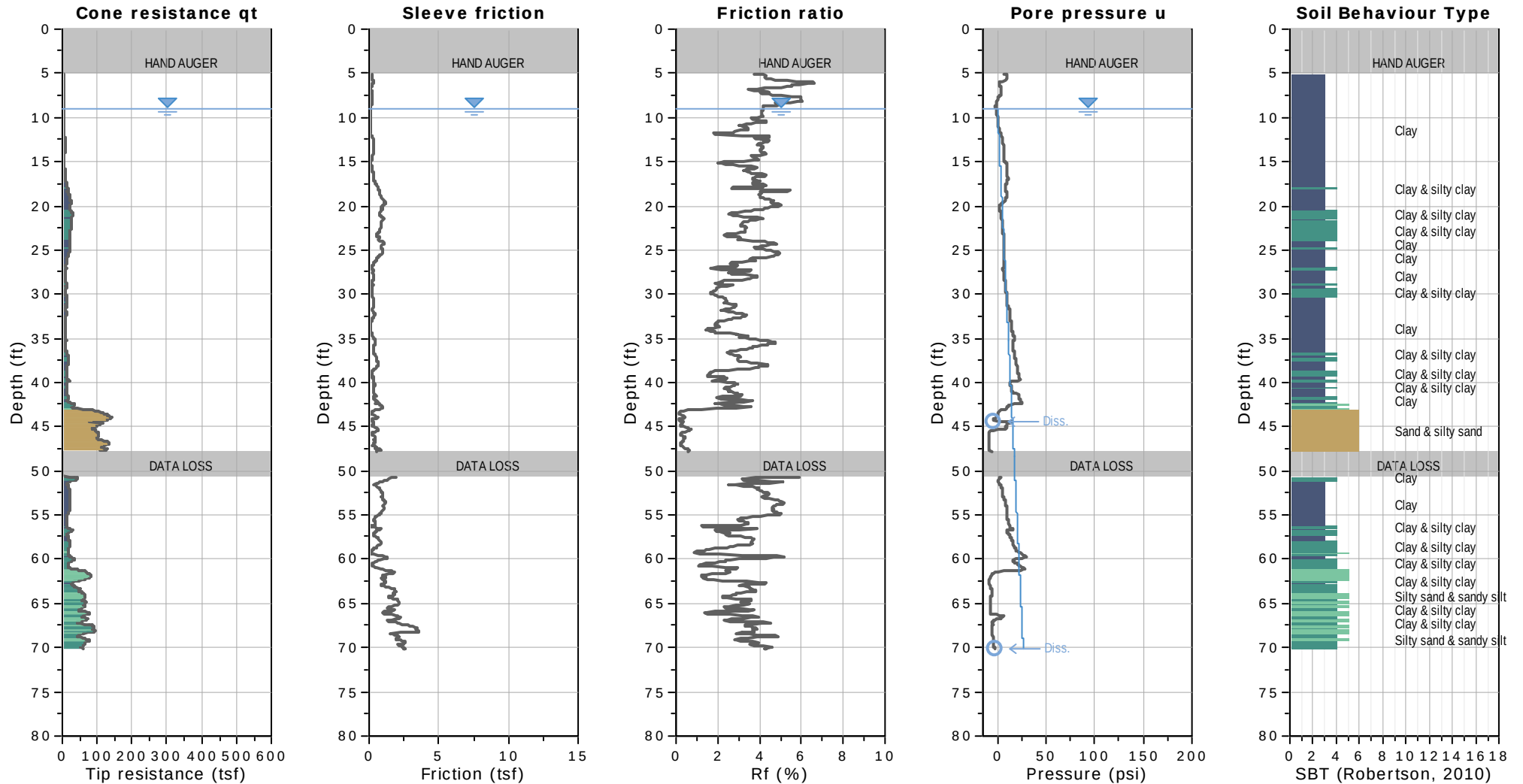


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/22/2026



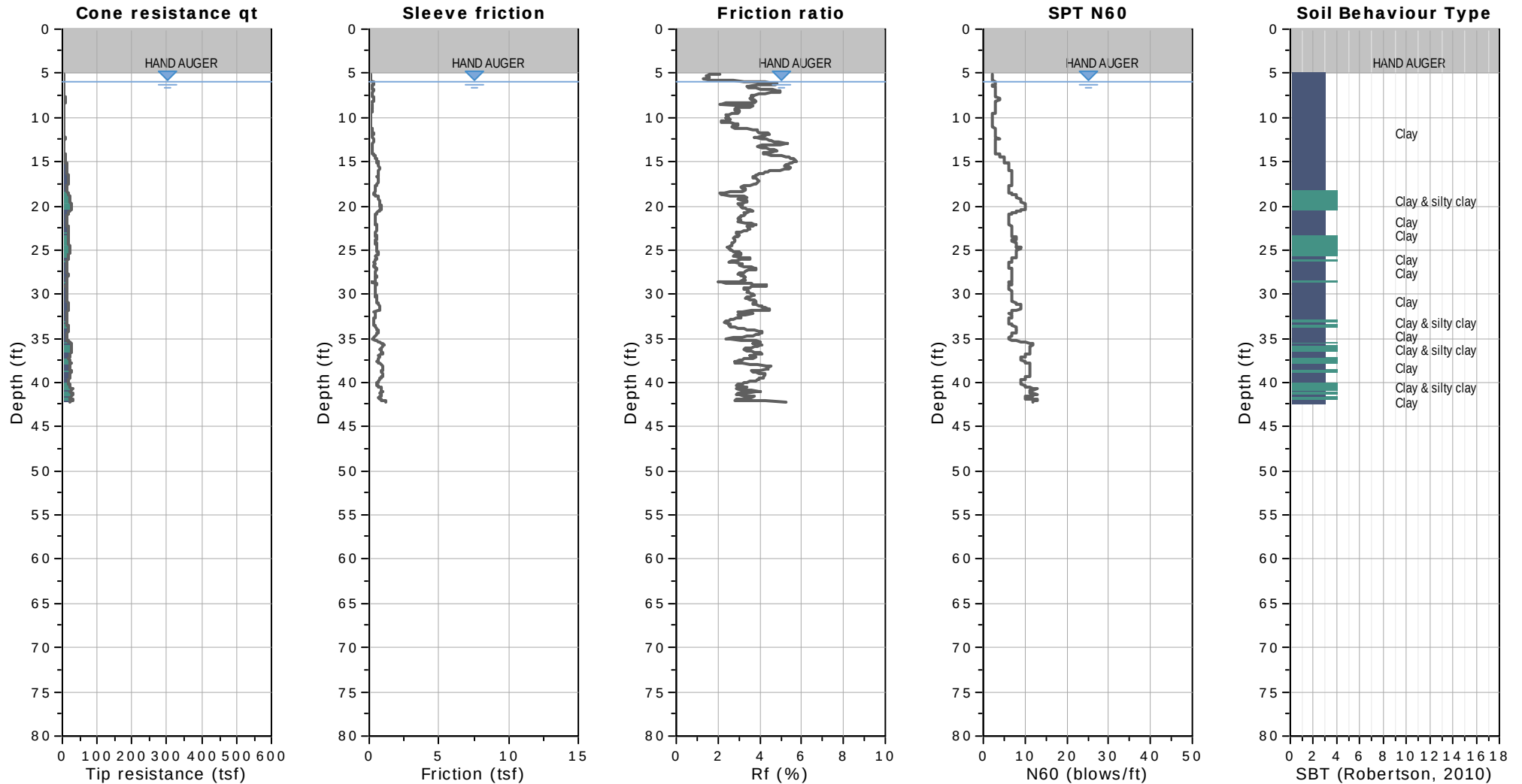


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 42.19 ft, Date: 1/13/2026



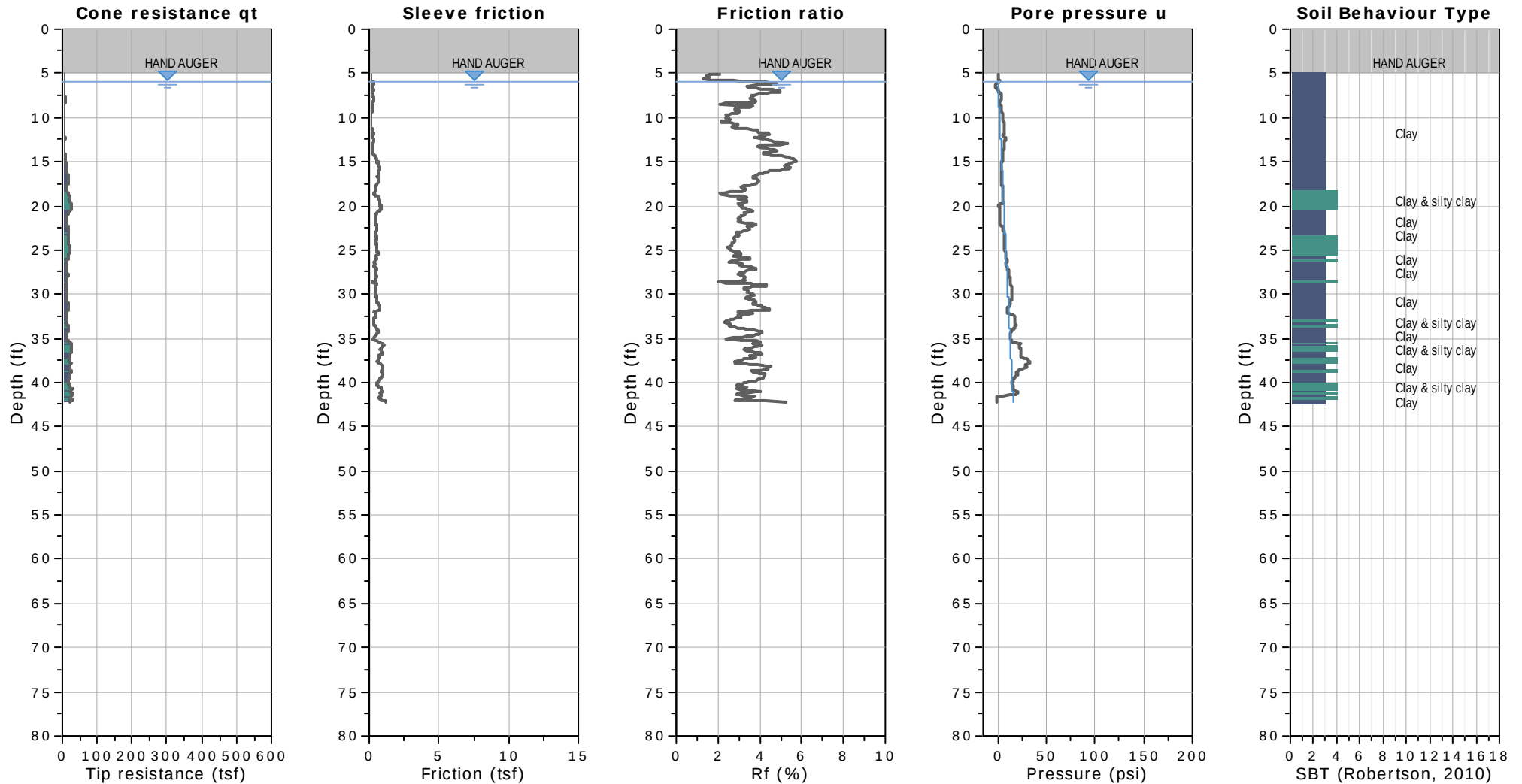


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 42.19 ft, Date: 1/13/2026



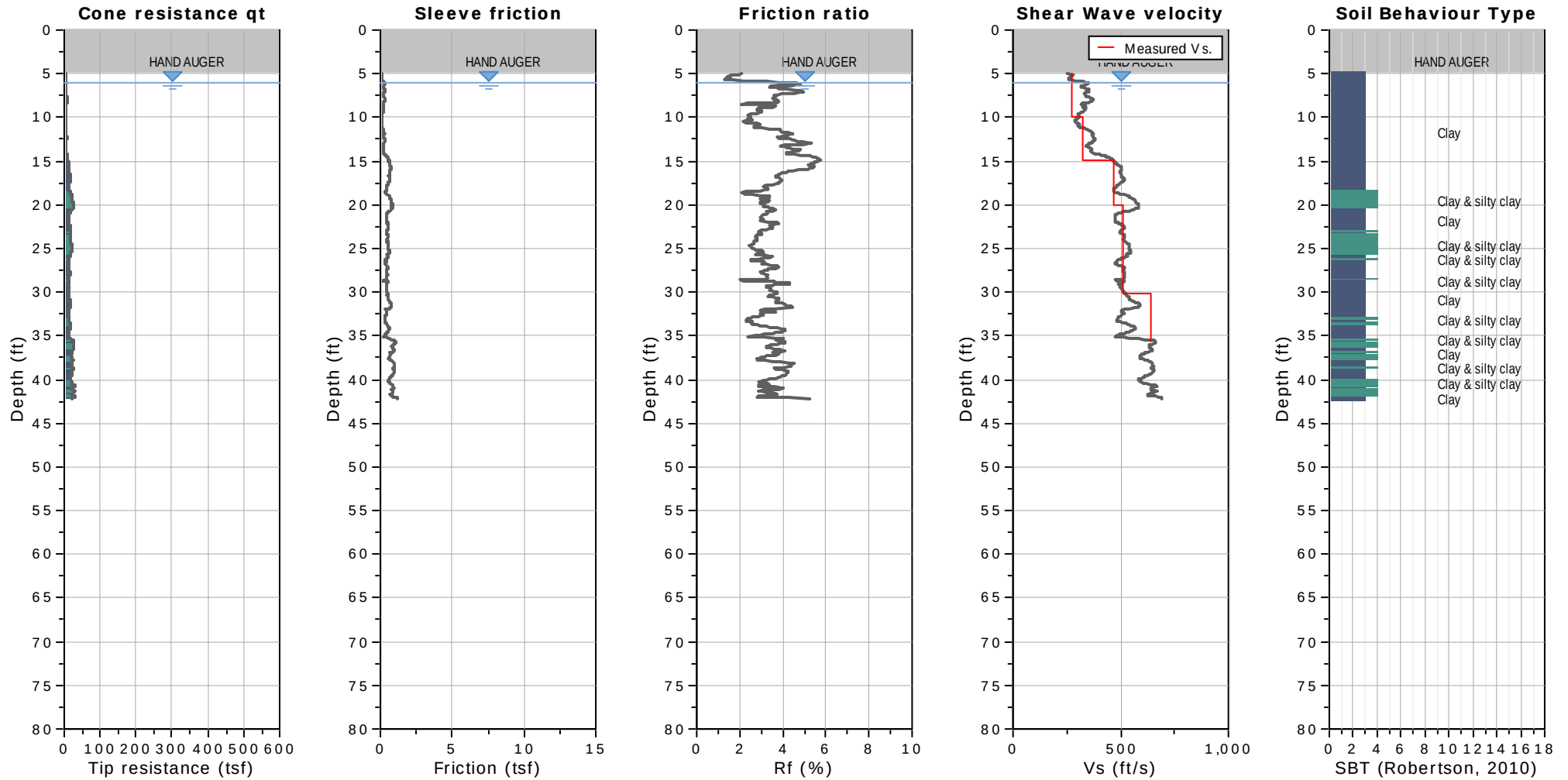


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 42.19 ft, Date: 1/13/2026



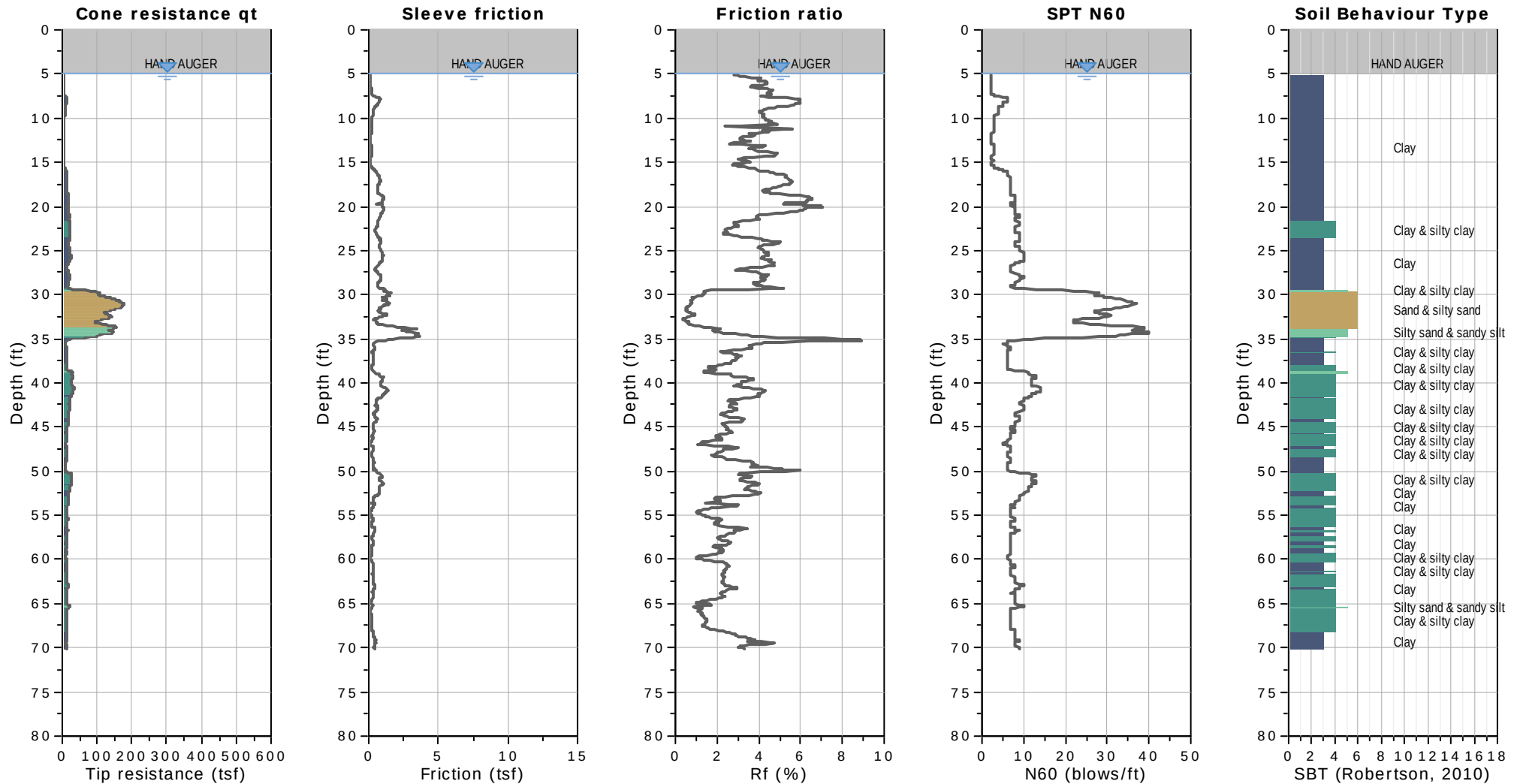


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/22/2026



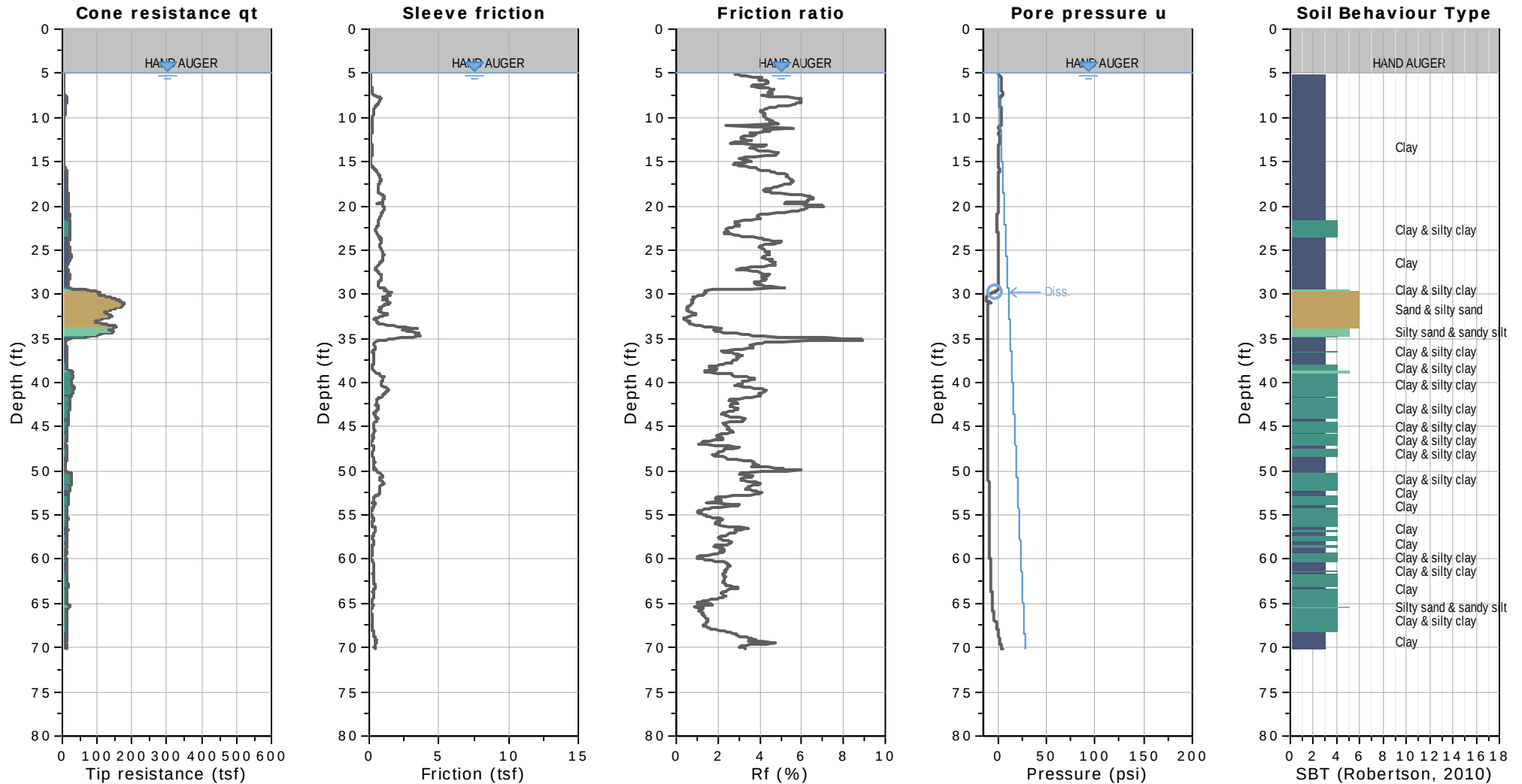


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/22/2026



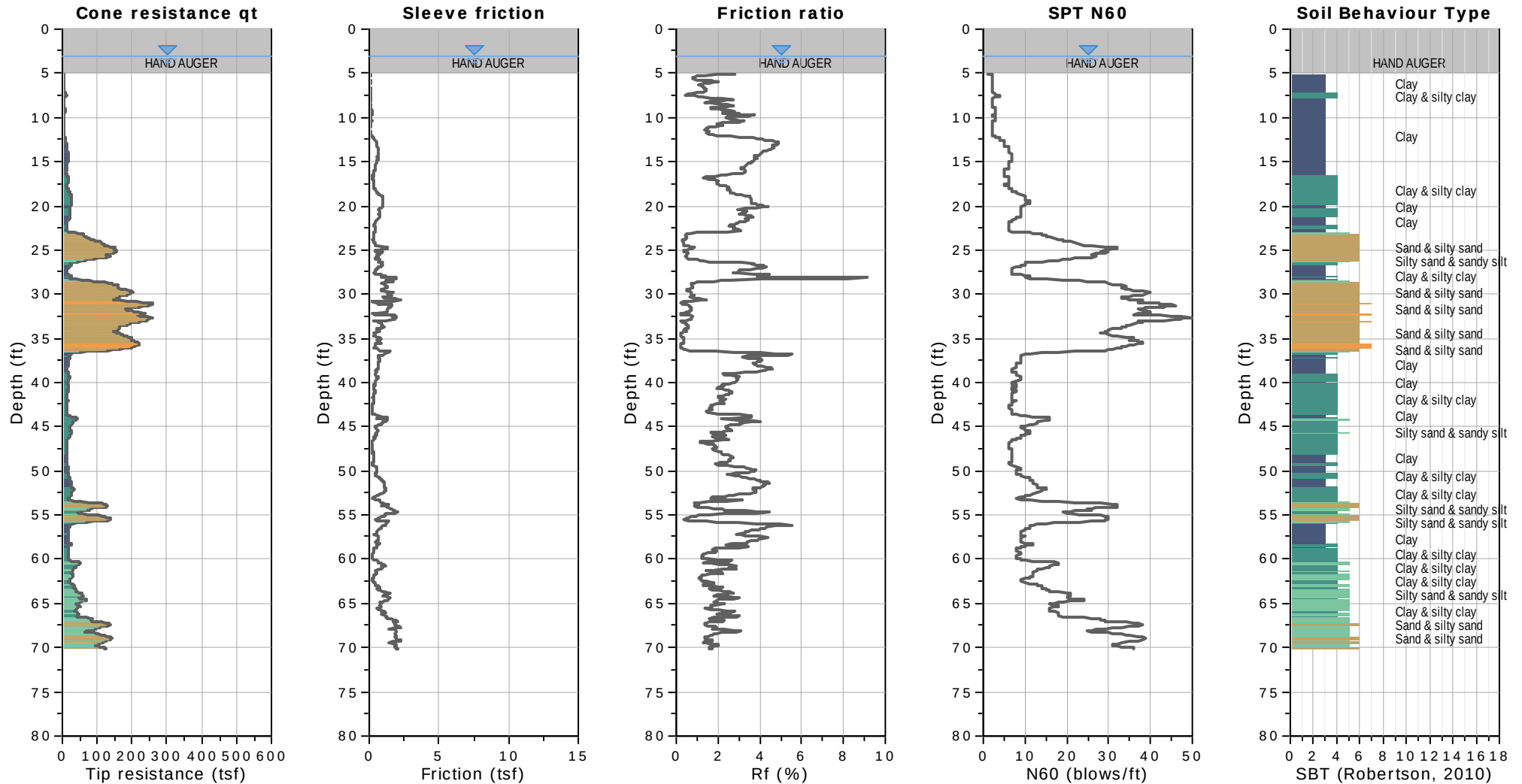


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/14/2026



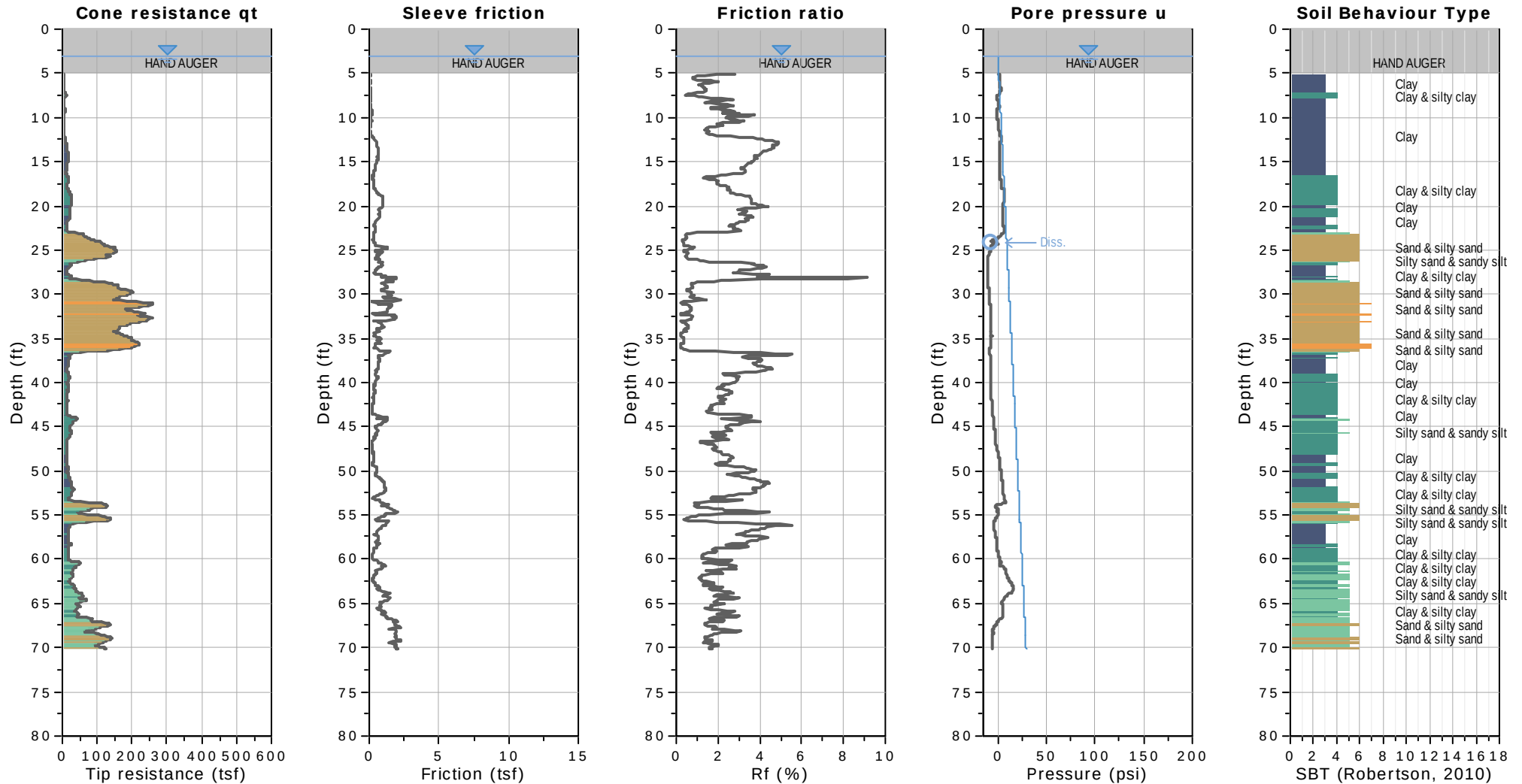


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/14/2026



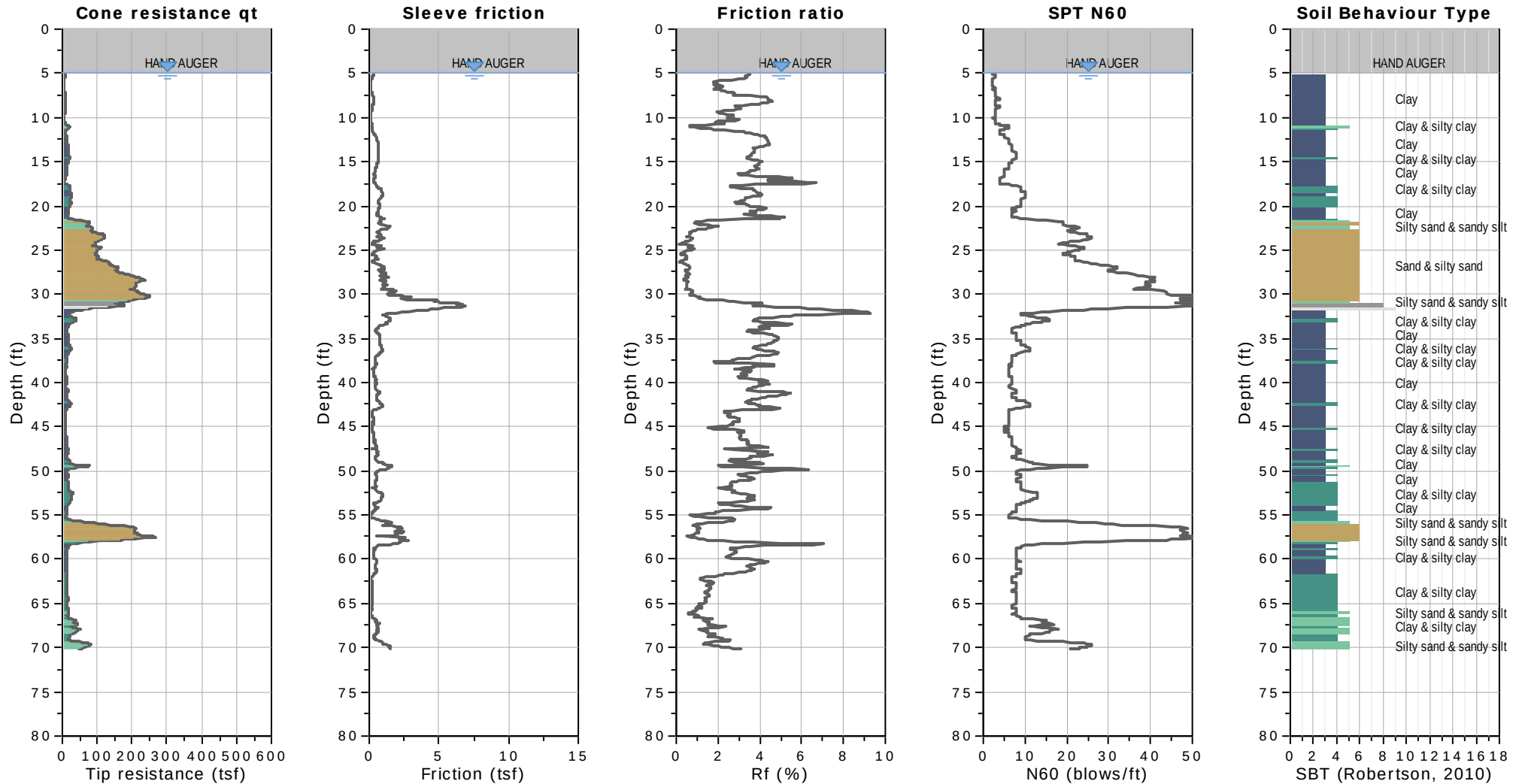


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/23/2026



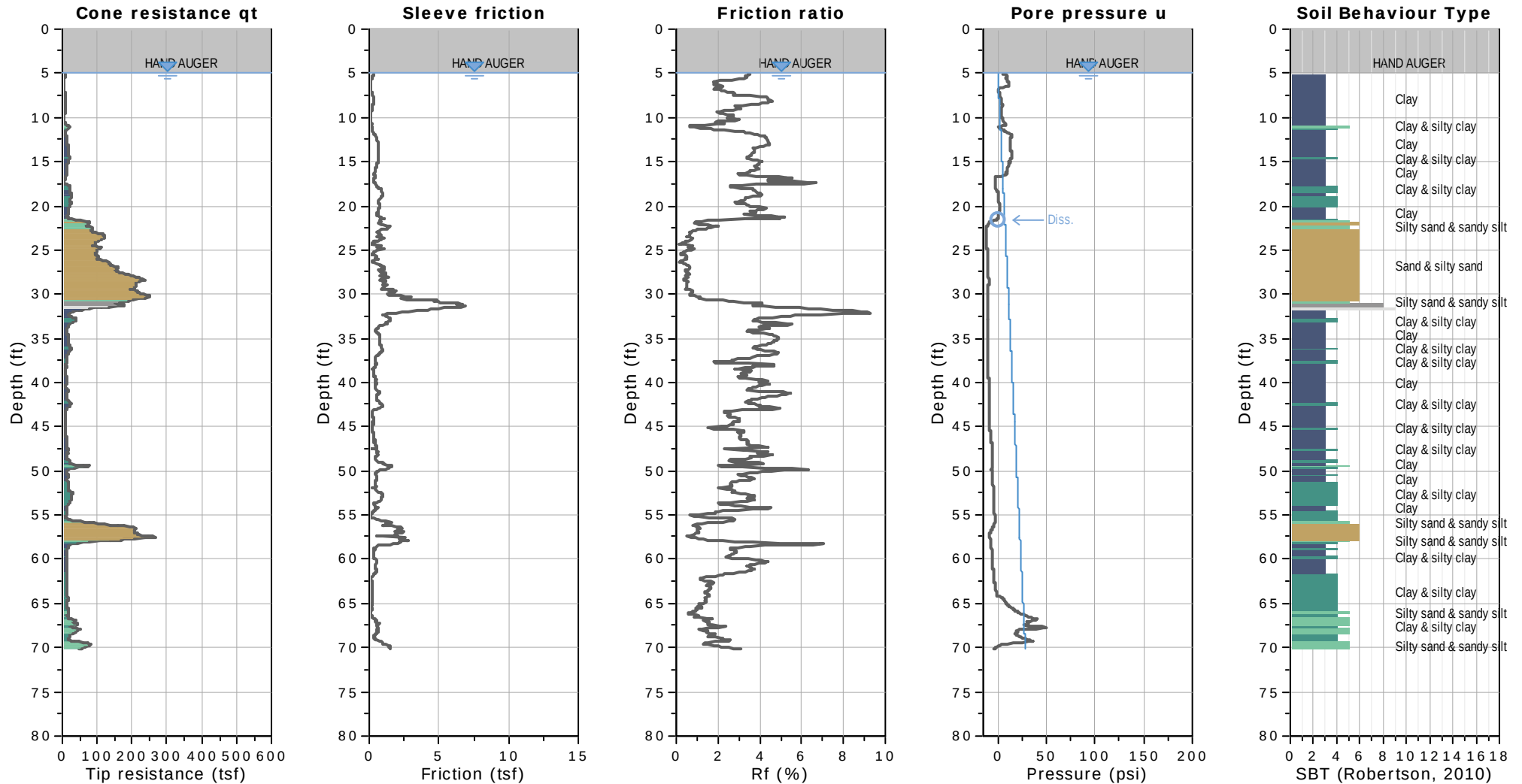


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/23/2026



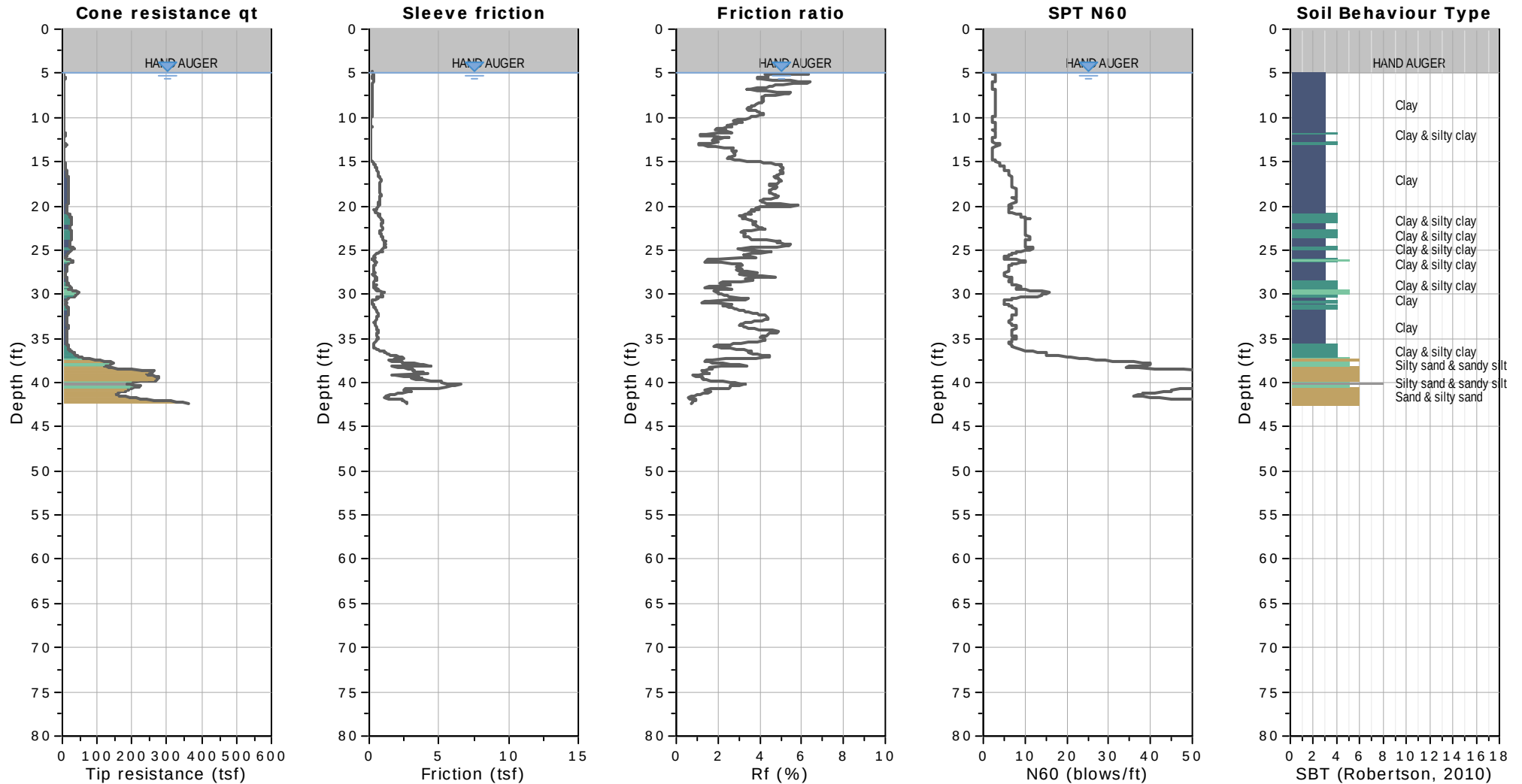


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 42.32 ft, Date: 1/16/2026



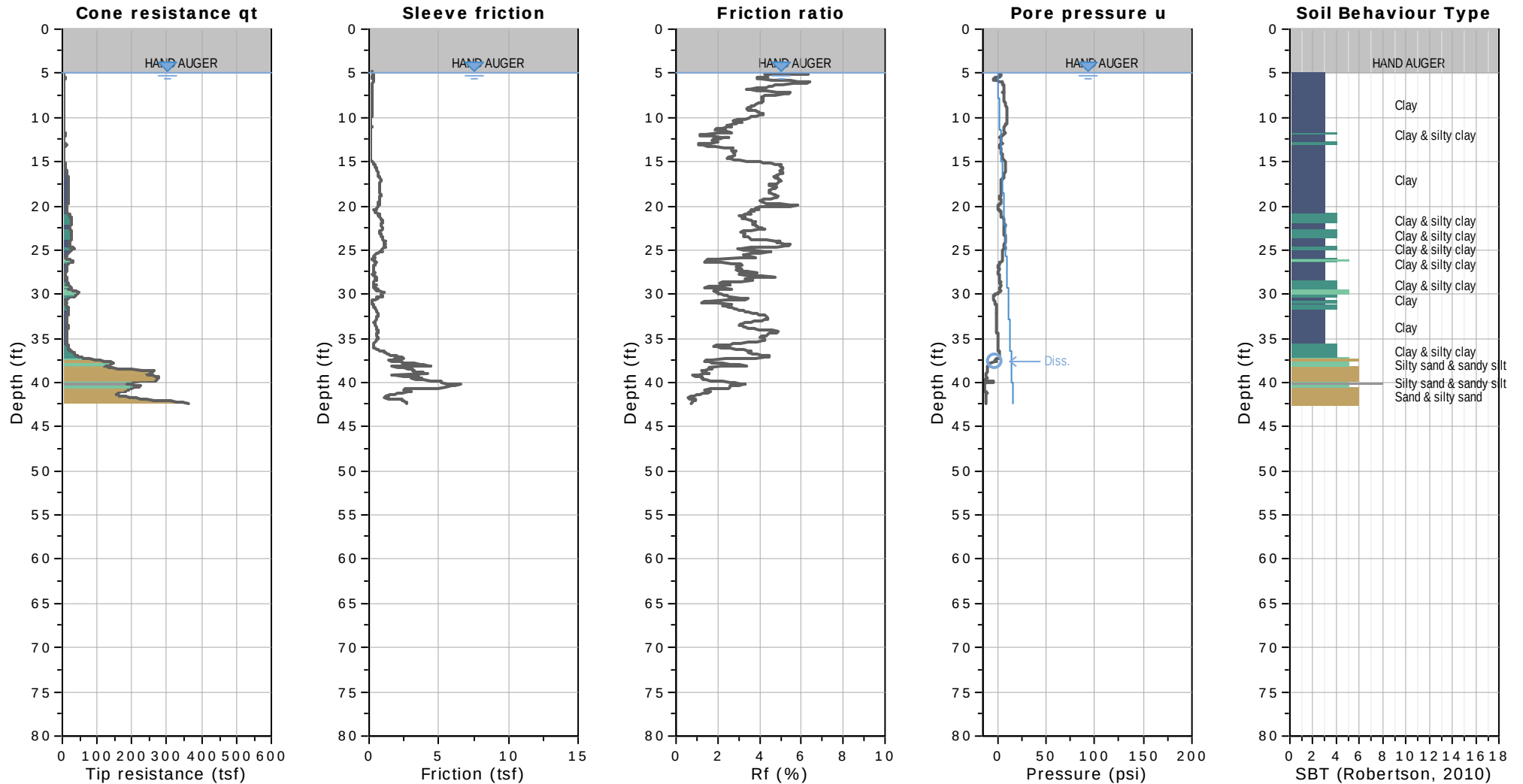


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 42.32 ft, Date: 1/16/2026



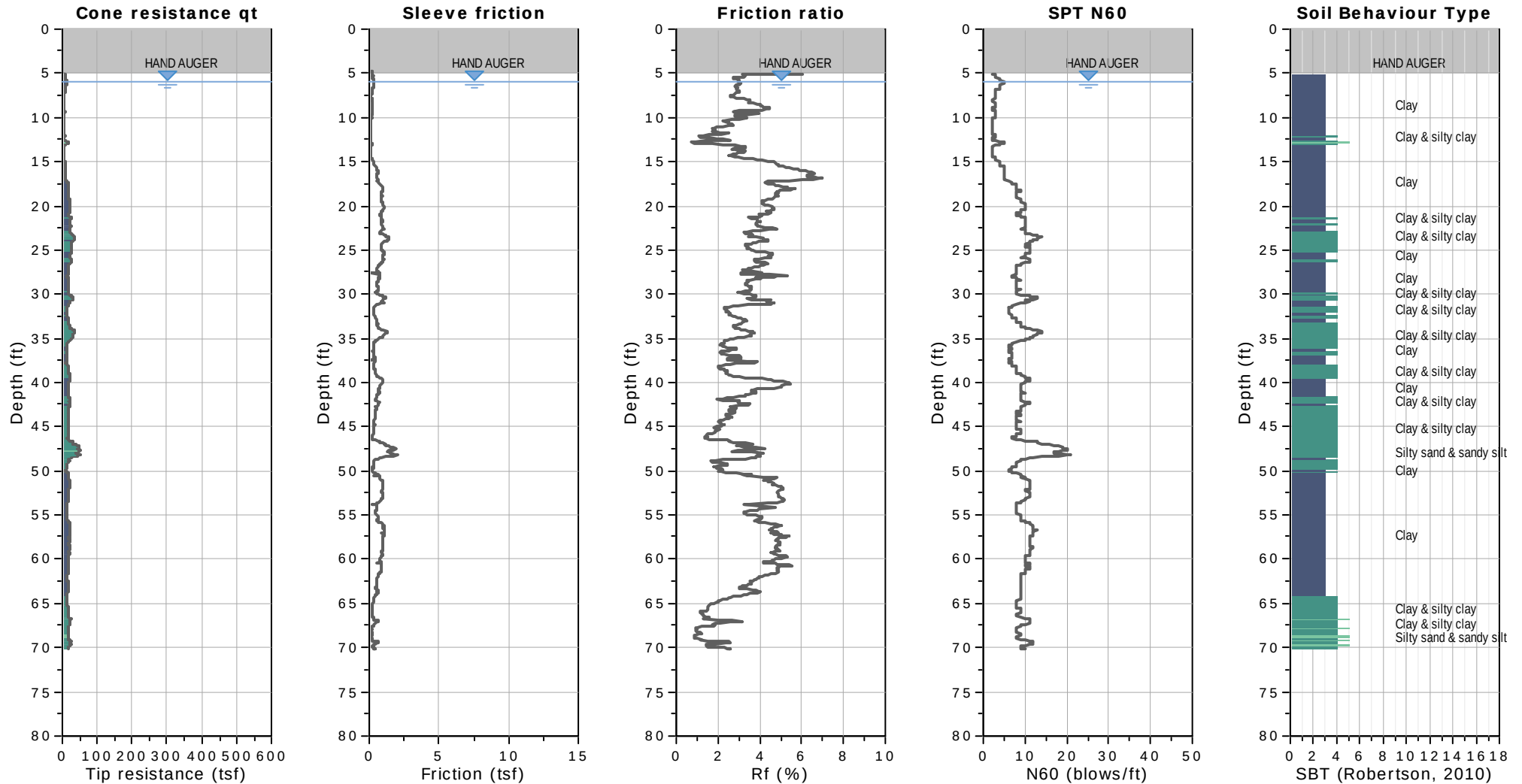


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/16/2026



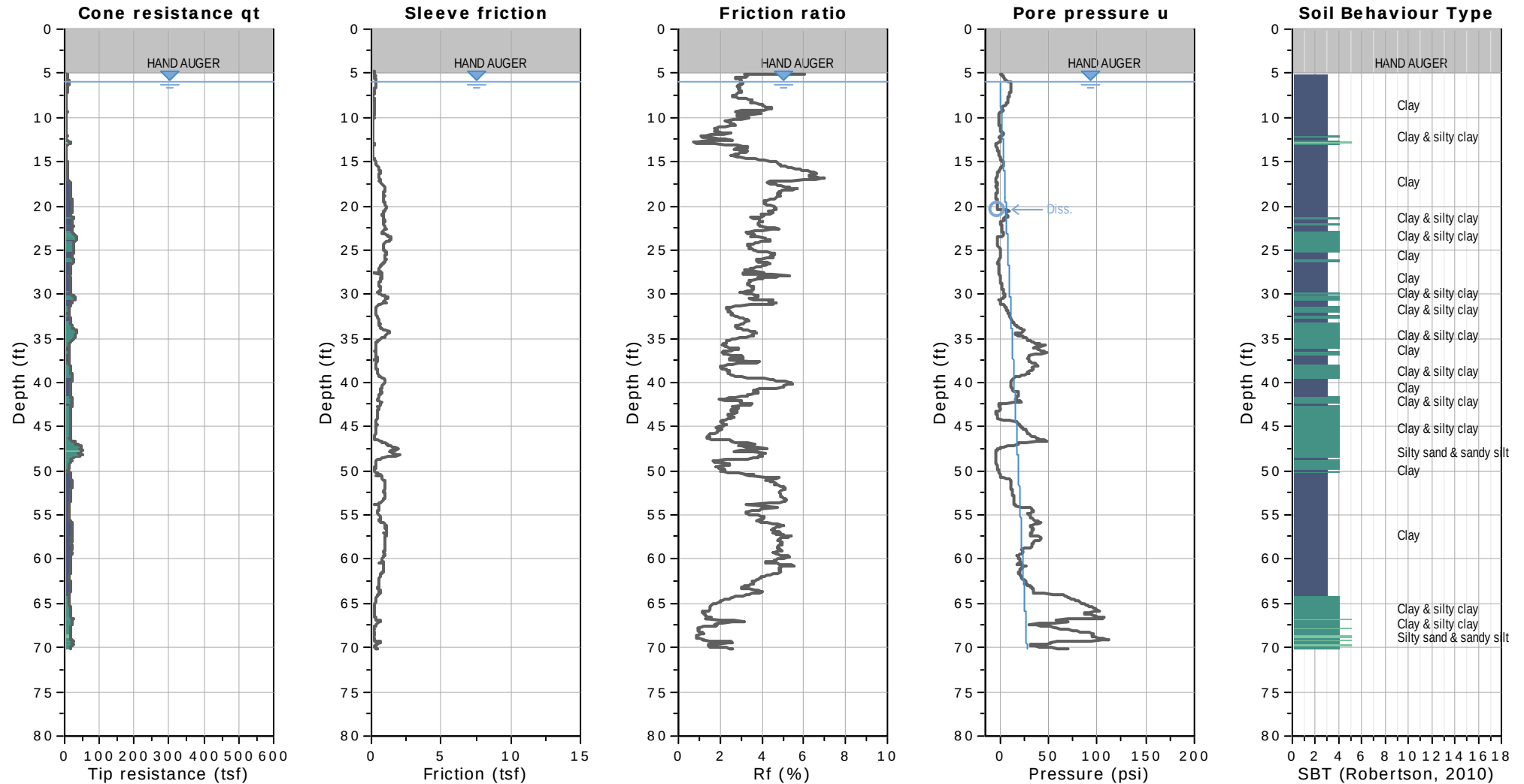


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/16/2026



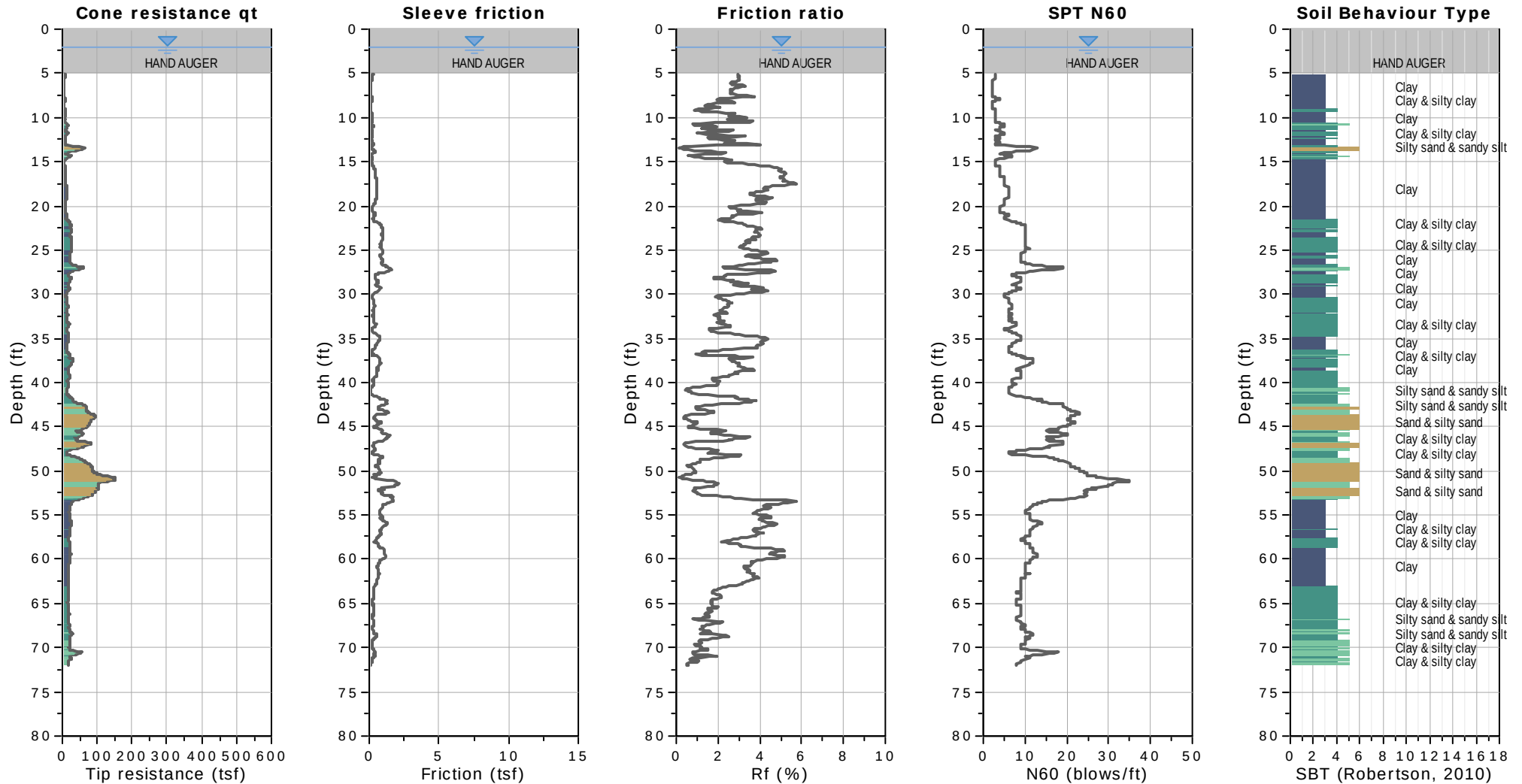


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 72.05 ft, Date: 1/14/2026



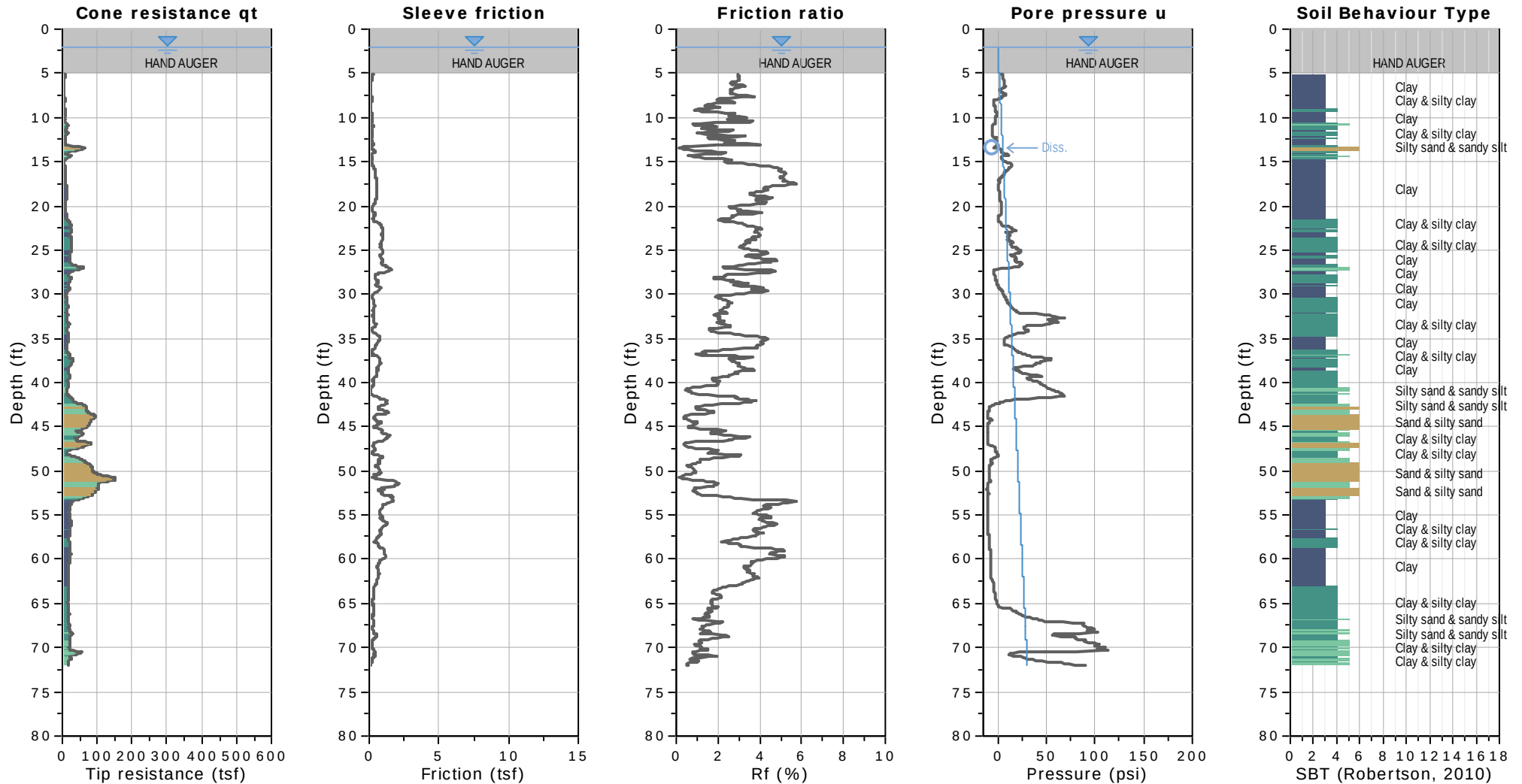


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 72.05 ft, Date: 1/14/2026



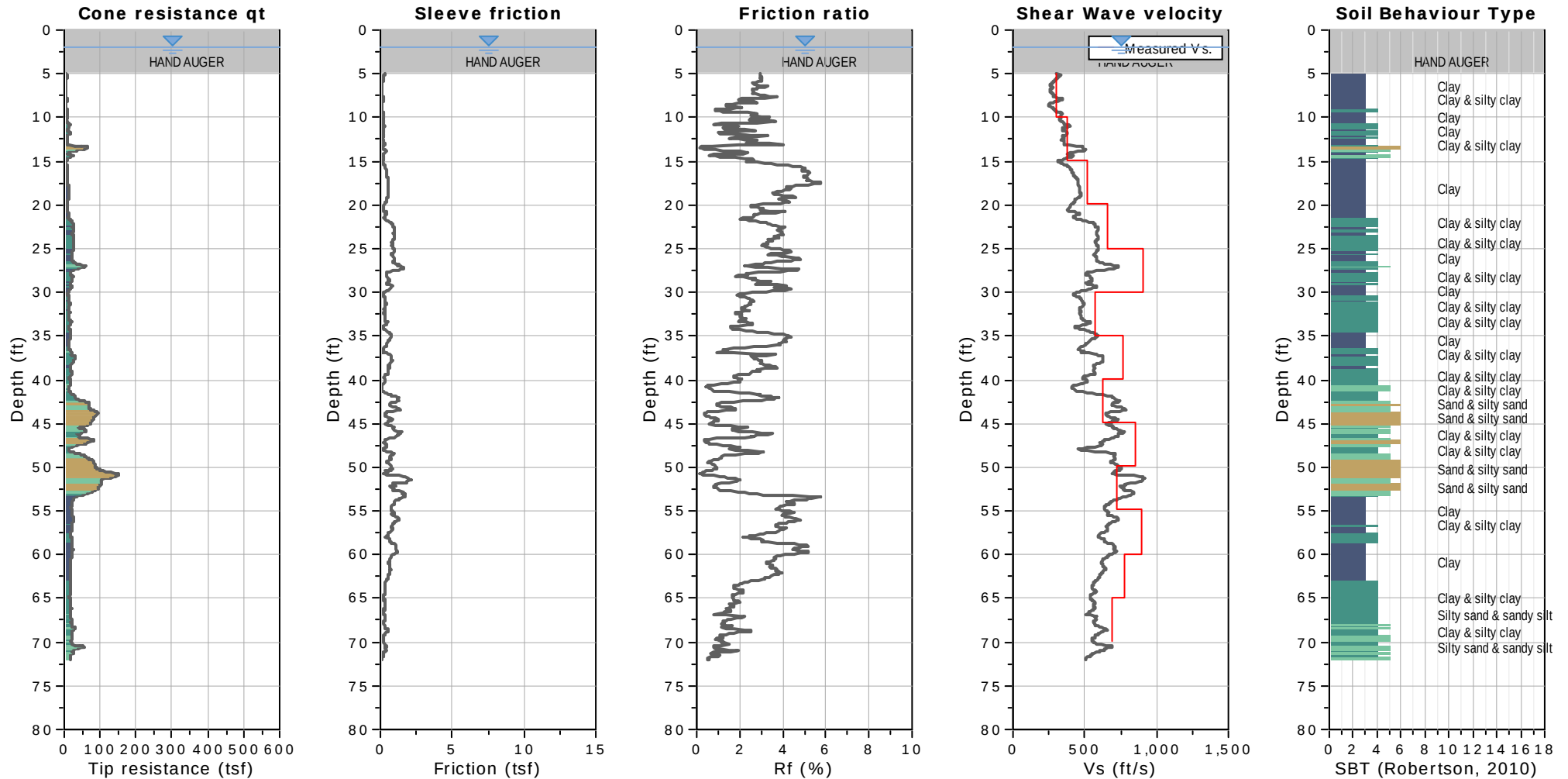


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 72.05 ft, Date: 1/14/2026



SBTn legend

1. Sensitive fine grained	4. Clayey silt to silty clay	7. Gravelly sand to sand
2. Organic material	5. Silty sand to sandy silt	8. Very stiff sand to clayey sand
3. Clay to silty clay	6. Clean sand to silty sand	9. Very stiff fine grained

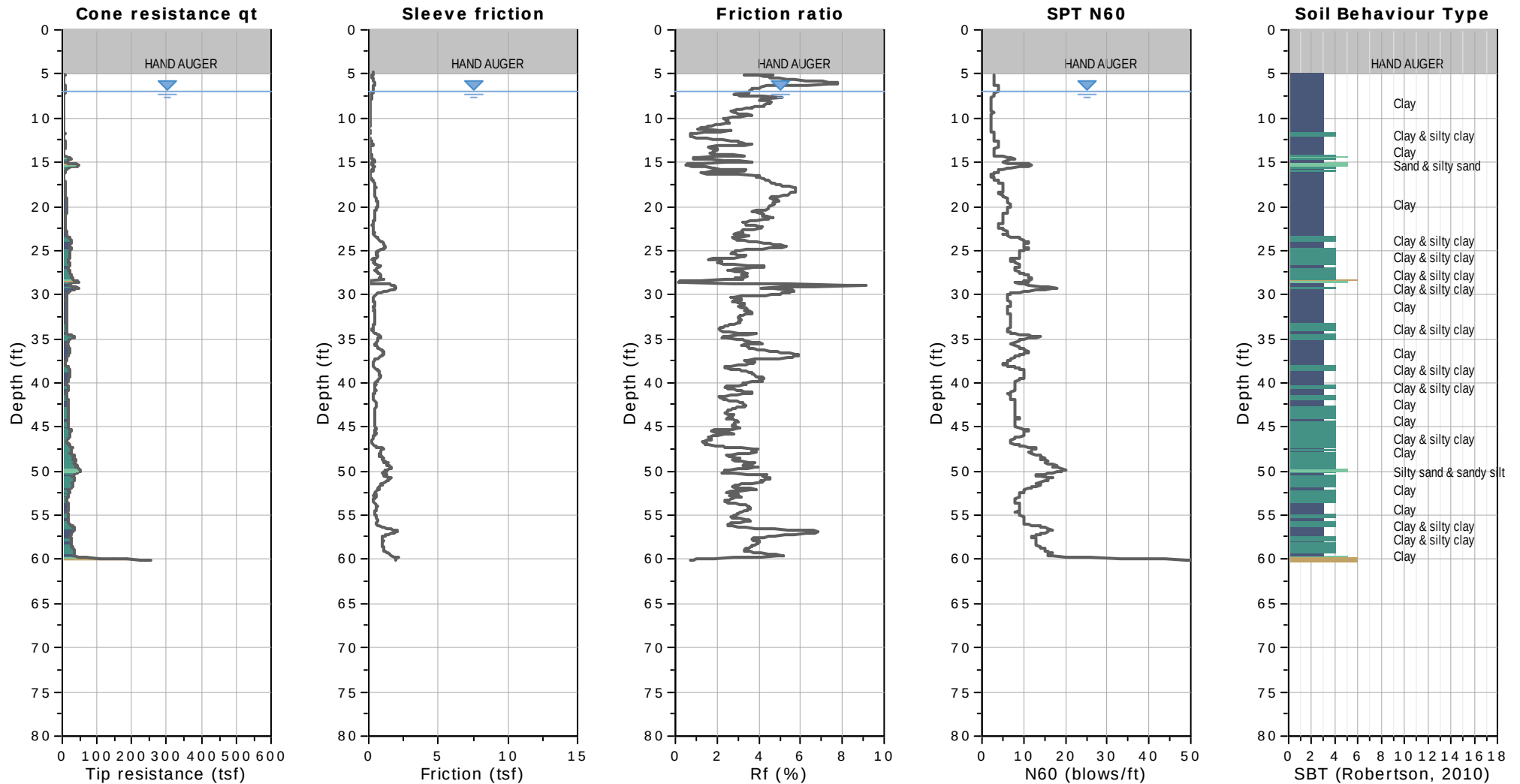


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 60.10 ft, Date: 1/16/2026



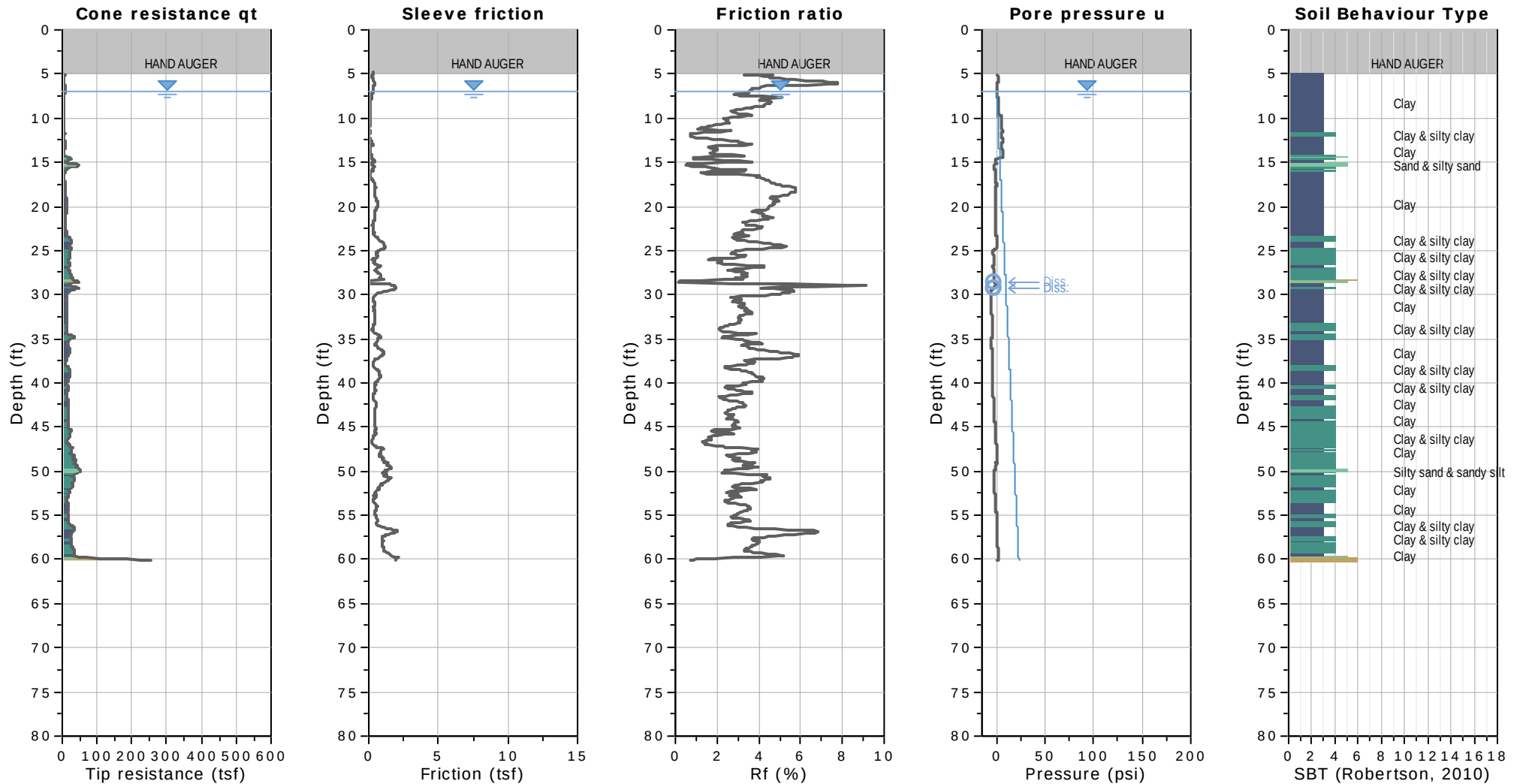


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 60.10 ft, Date: 1/16/2026



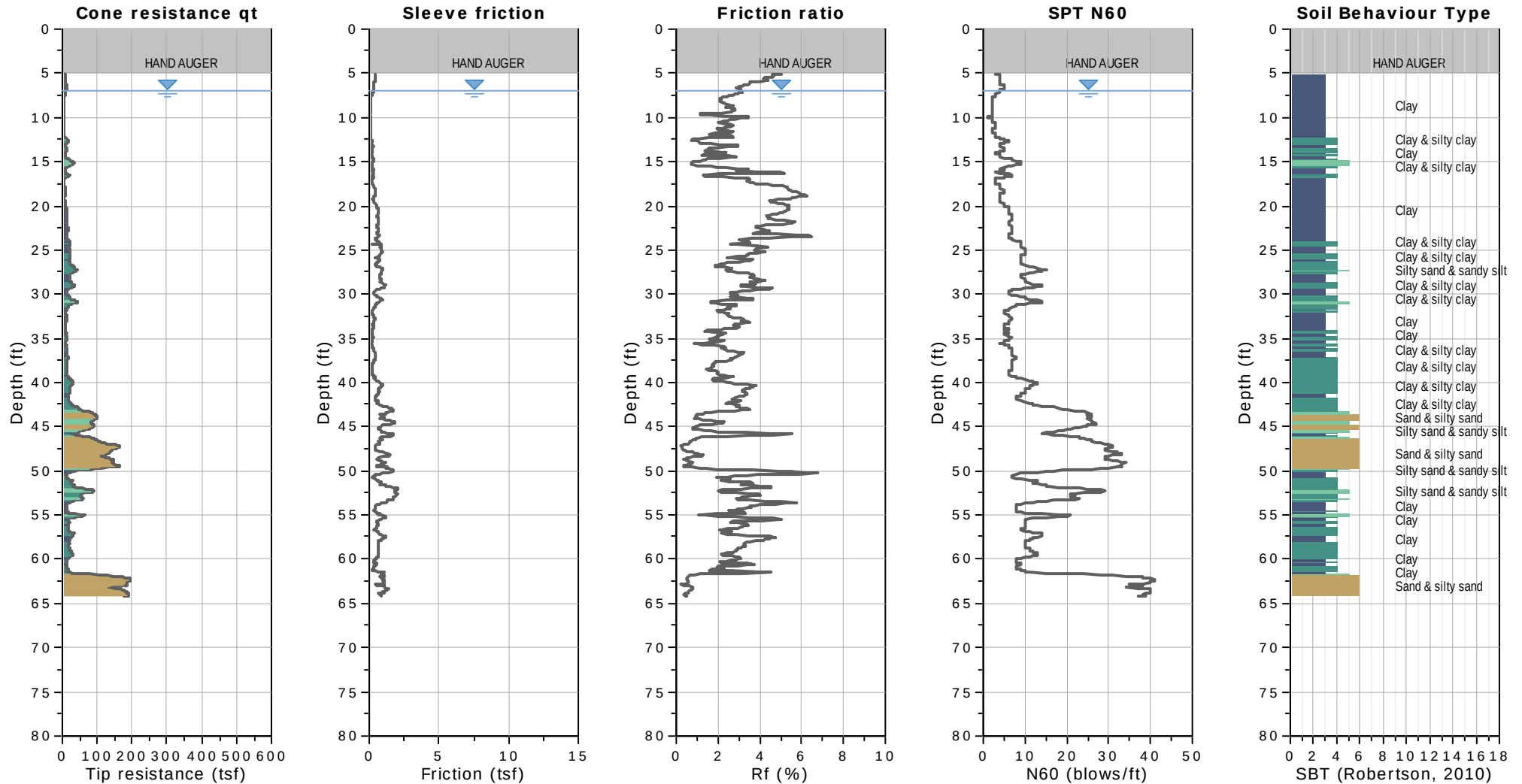


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 64.24 ft, Date: 1/23/2026



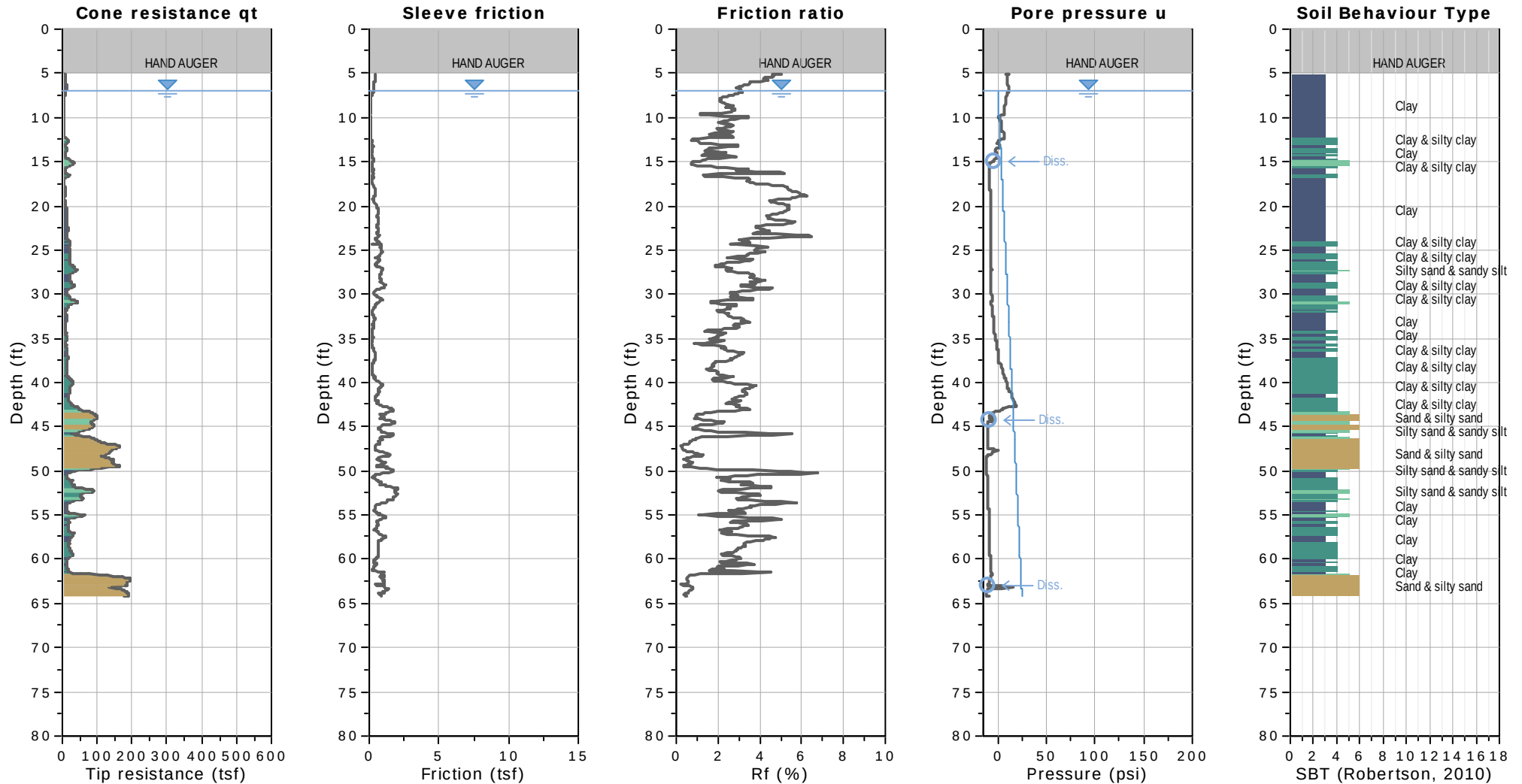


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 64.24 ft, Date: 1/23/2026



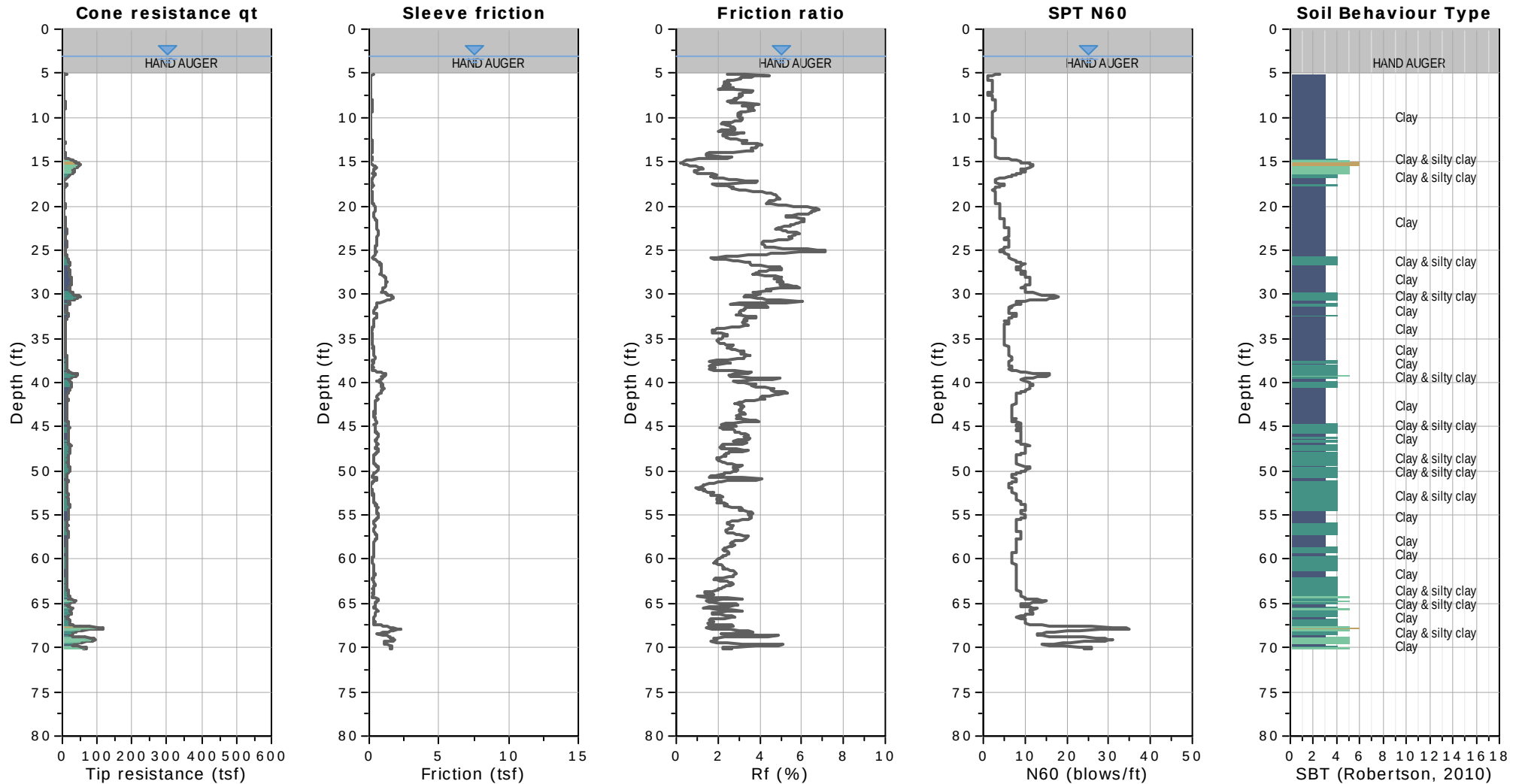


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/20/2026



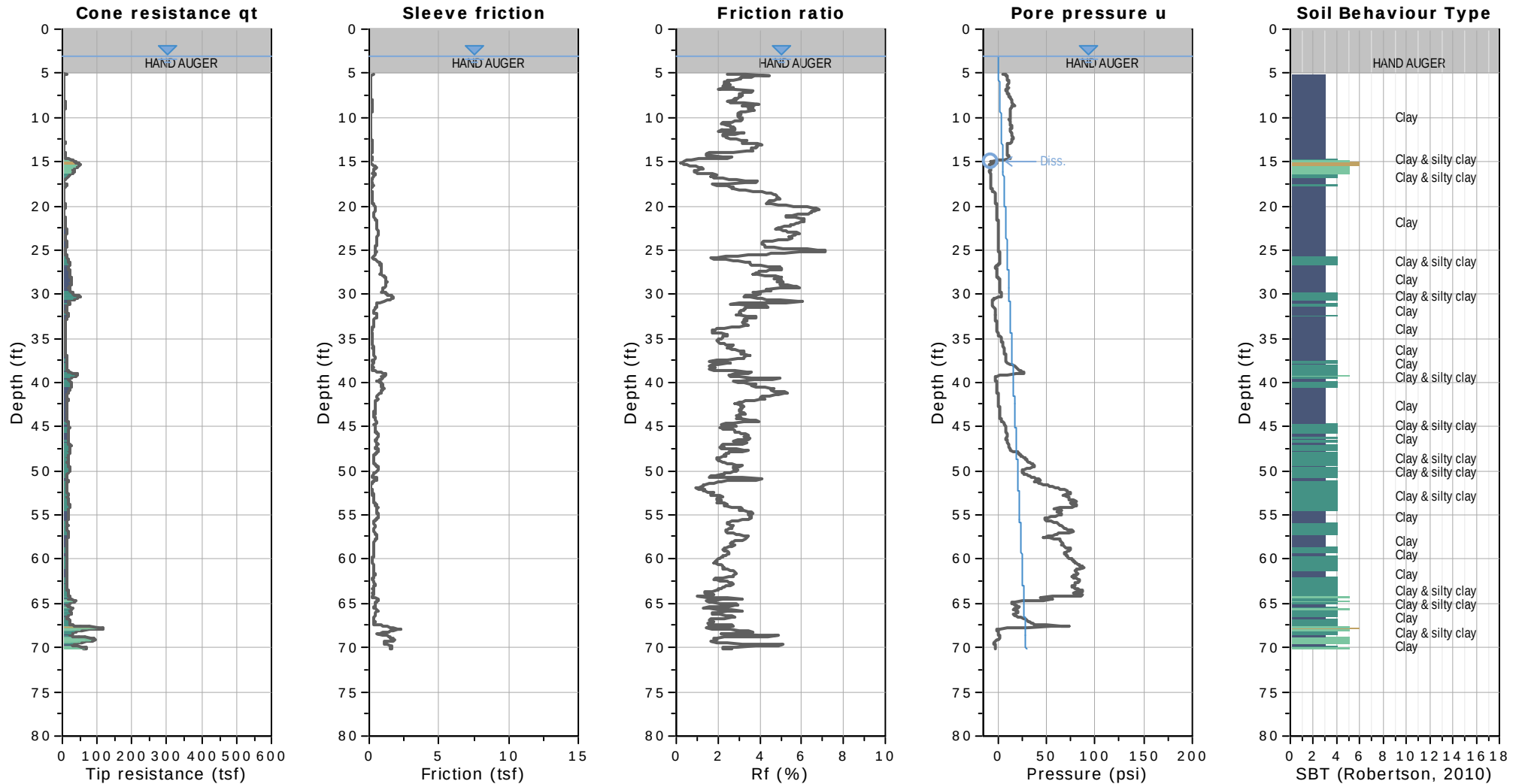


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/20/2026



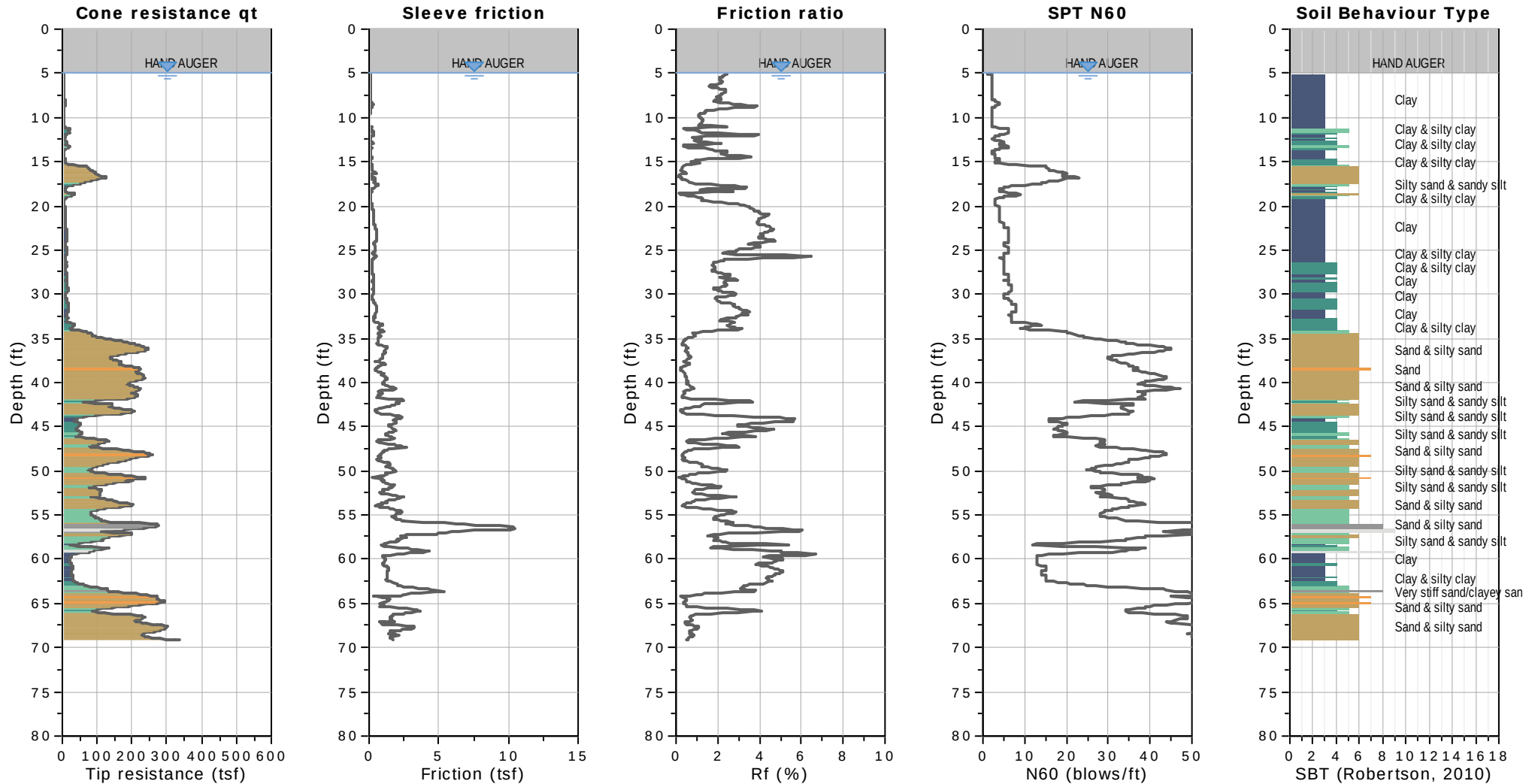


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 69.16 ft, Date: 1/20/2026



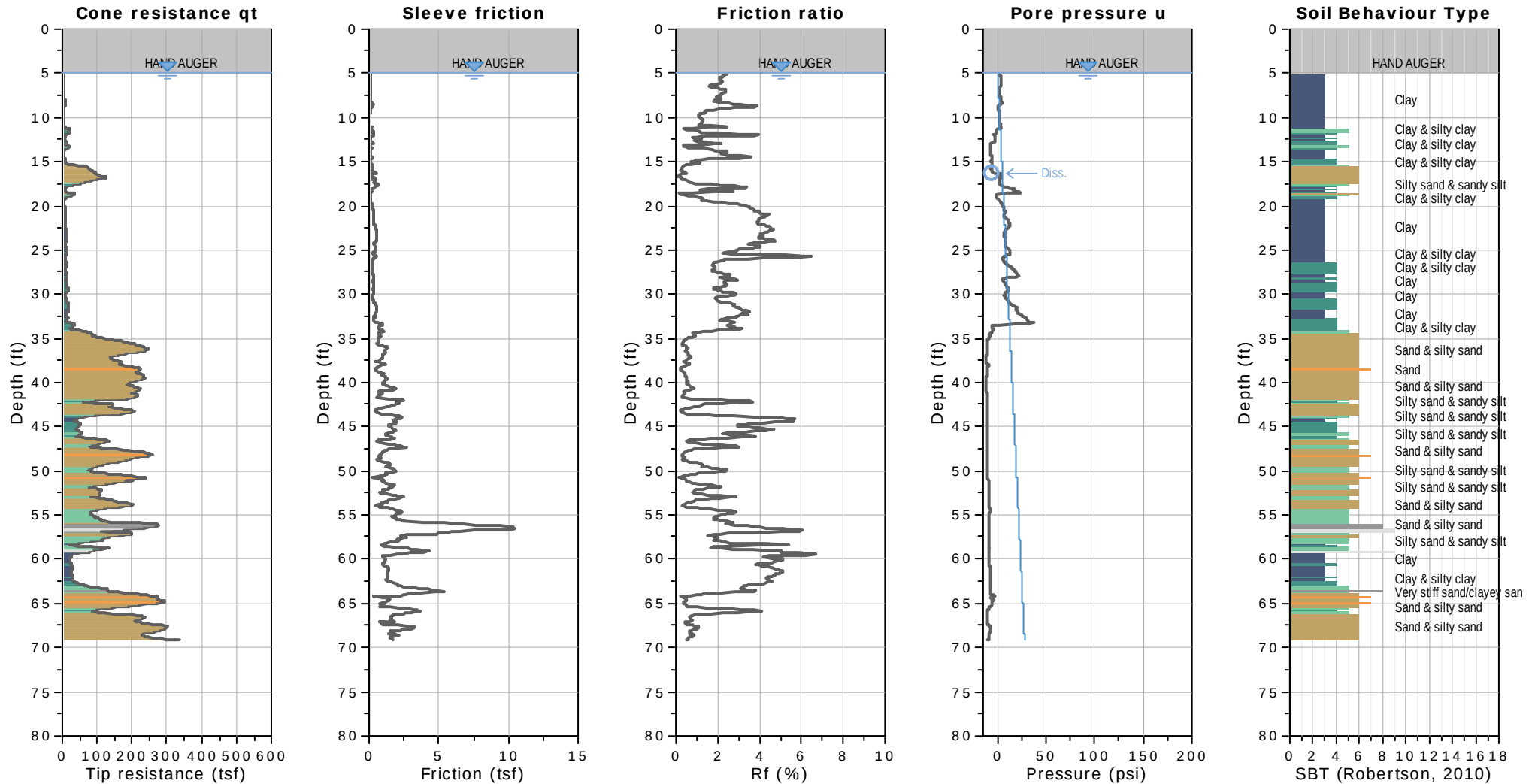


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 69.16 ft, Date: 1/20/2026



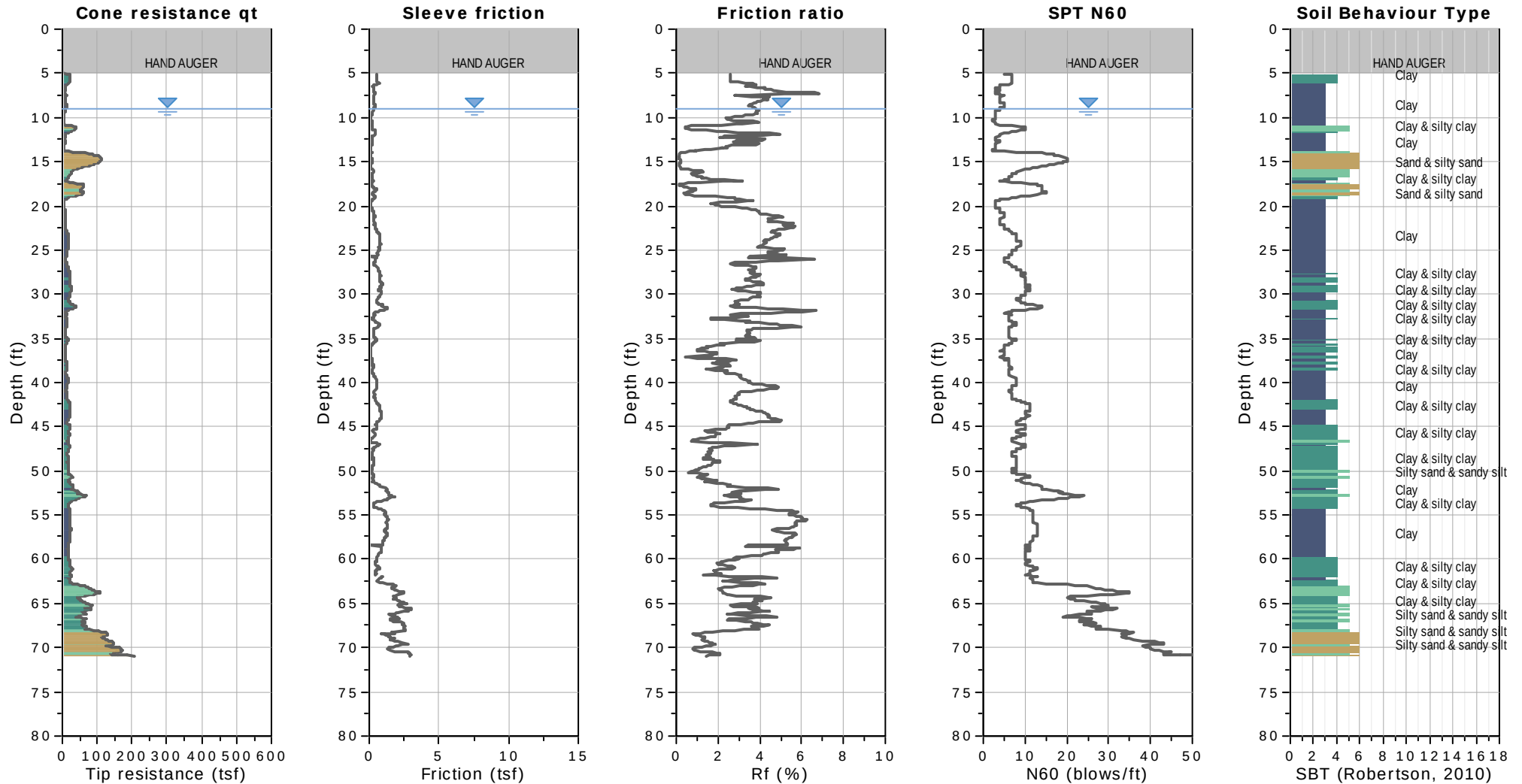


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.93 ft, Date: 1/20/2026



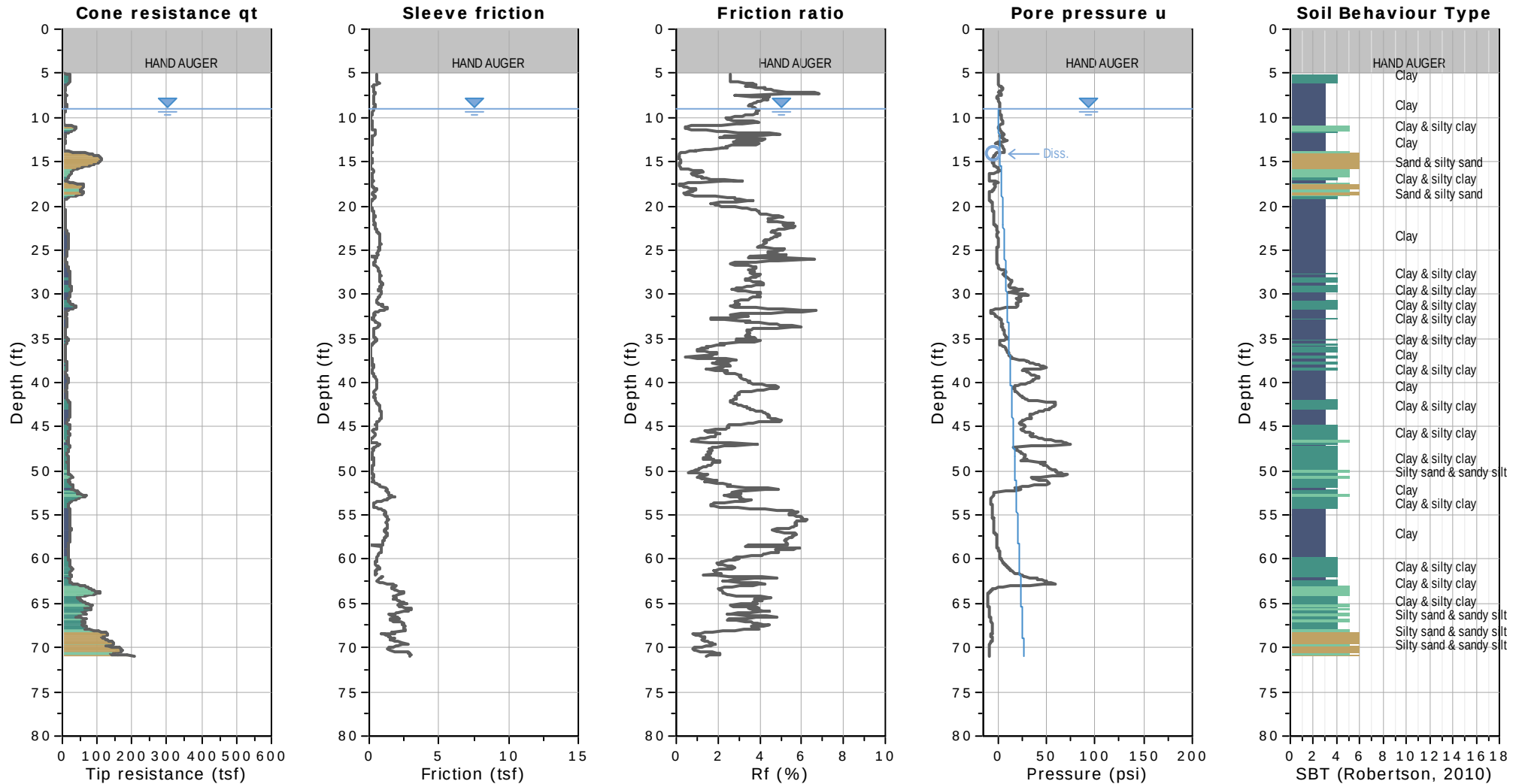


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.93 ft, Date: 1/20/2026



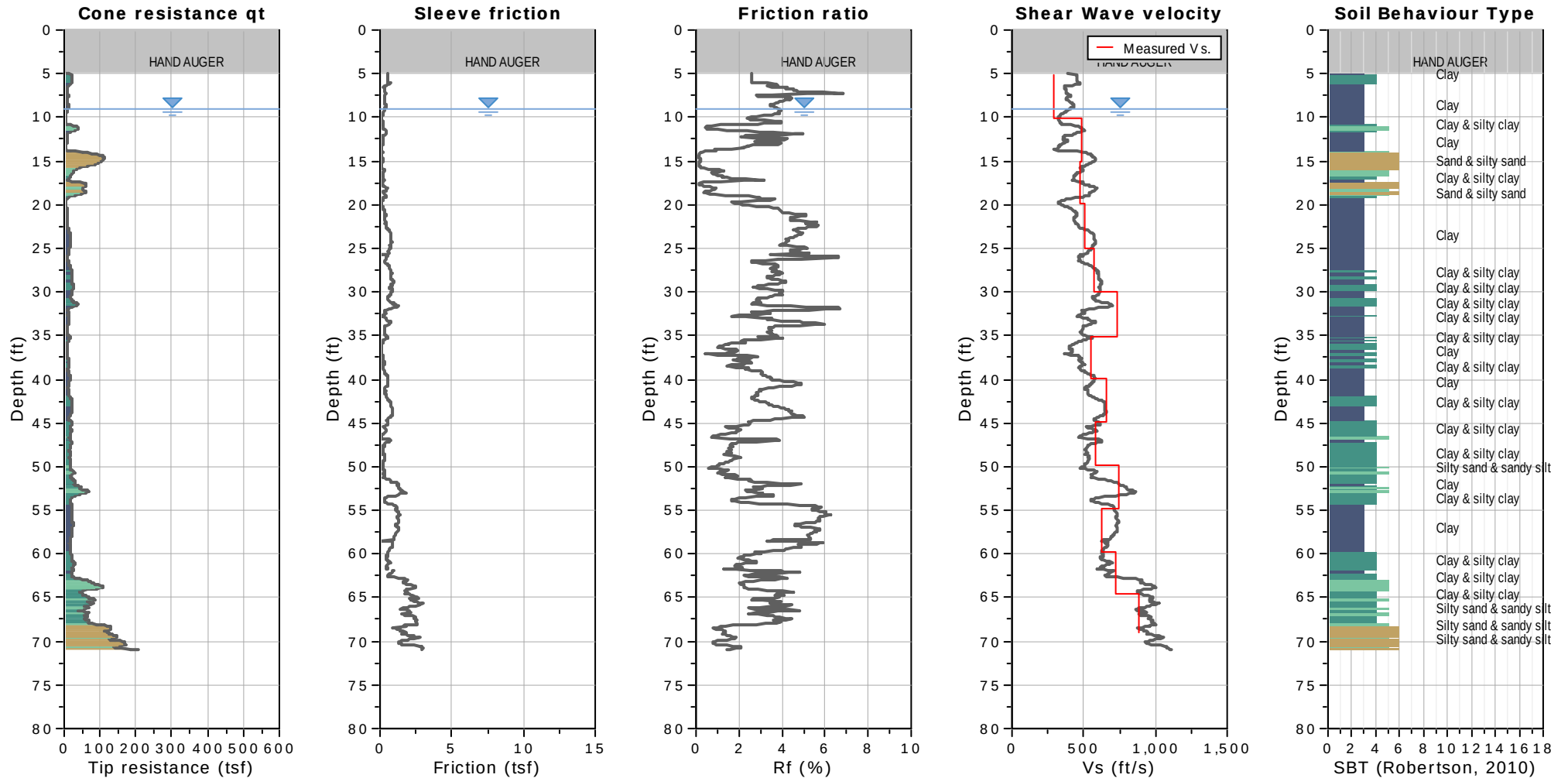


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.93 ft, Date: 1/20/2026



SBTn legend

1. Sensitive fine grained	4. Clayey silt to silty clay	7. Gravelly sand to sand
2. Organic material	5. Silty sand to sandy silt	8. Very stiff sand to clayey sand
3. Clay to silty clay	6. Clean sand to silty sand	9. Very stiff fine grained

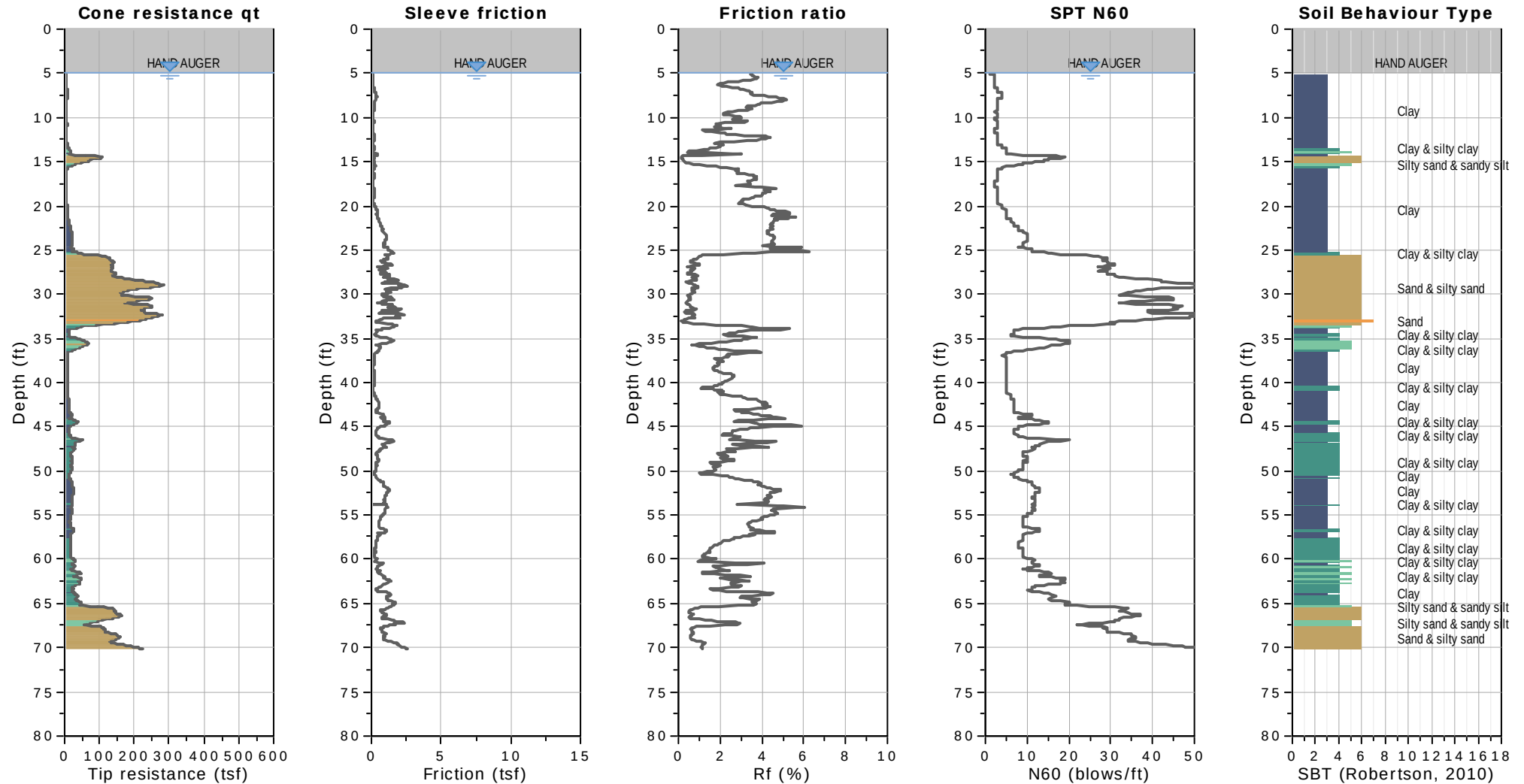


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/21/2026



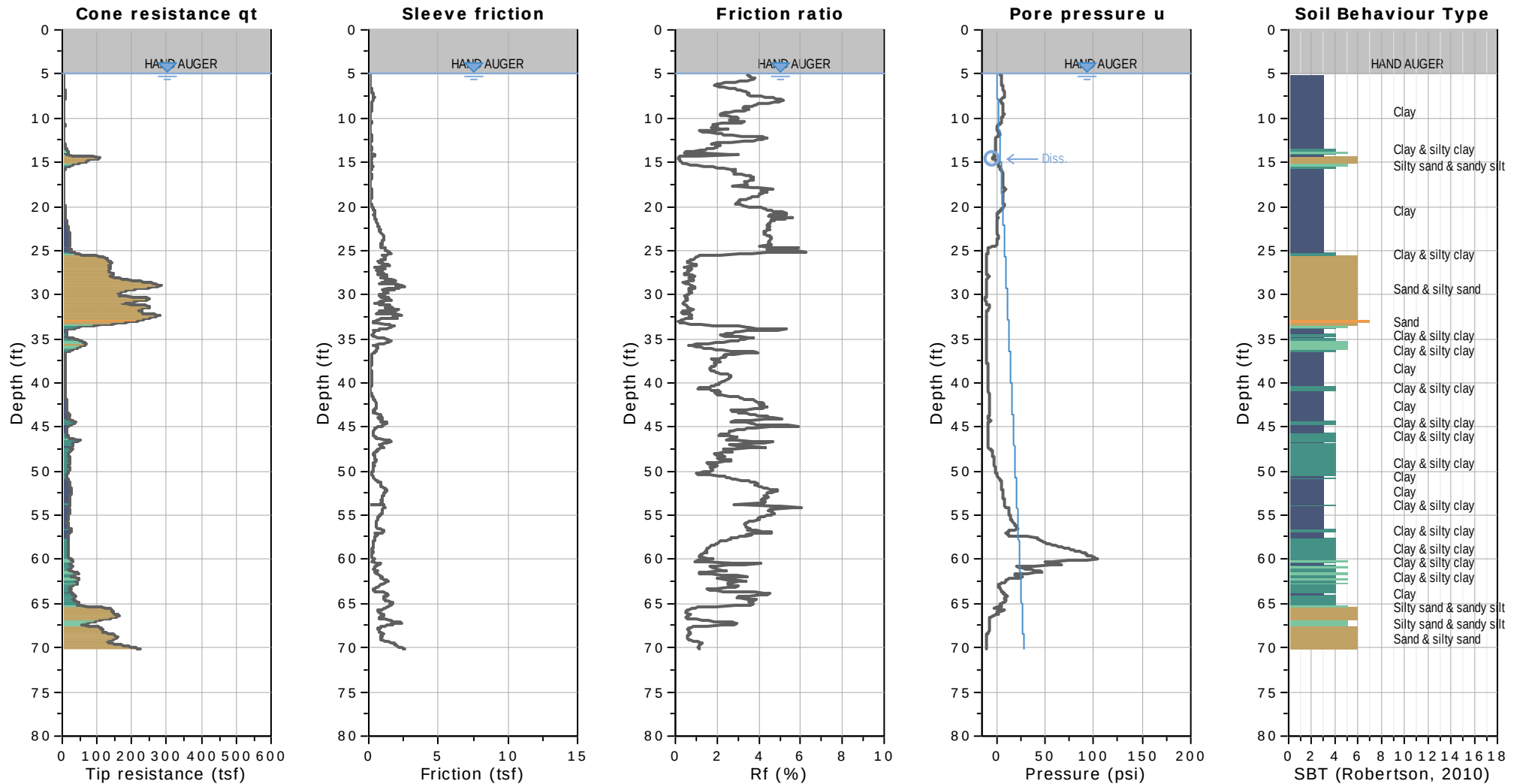


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/21/2026



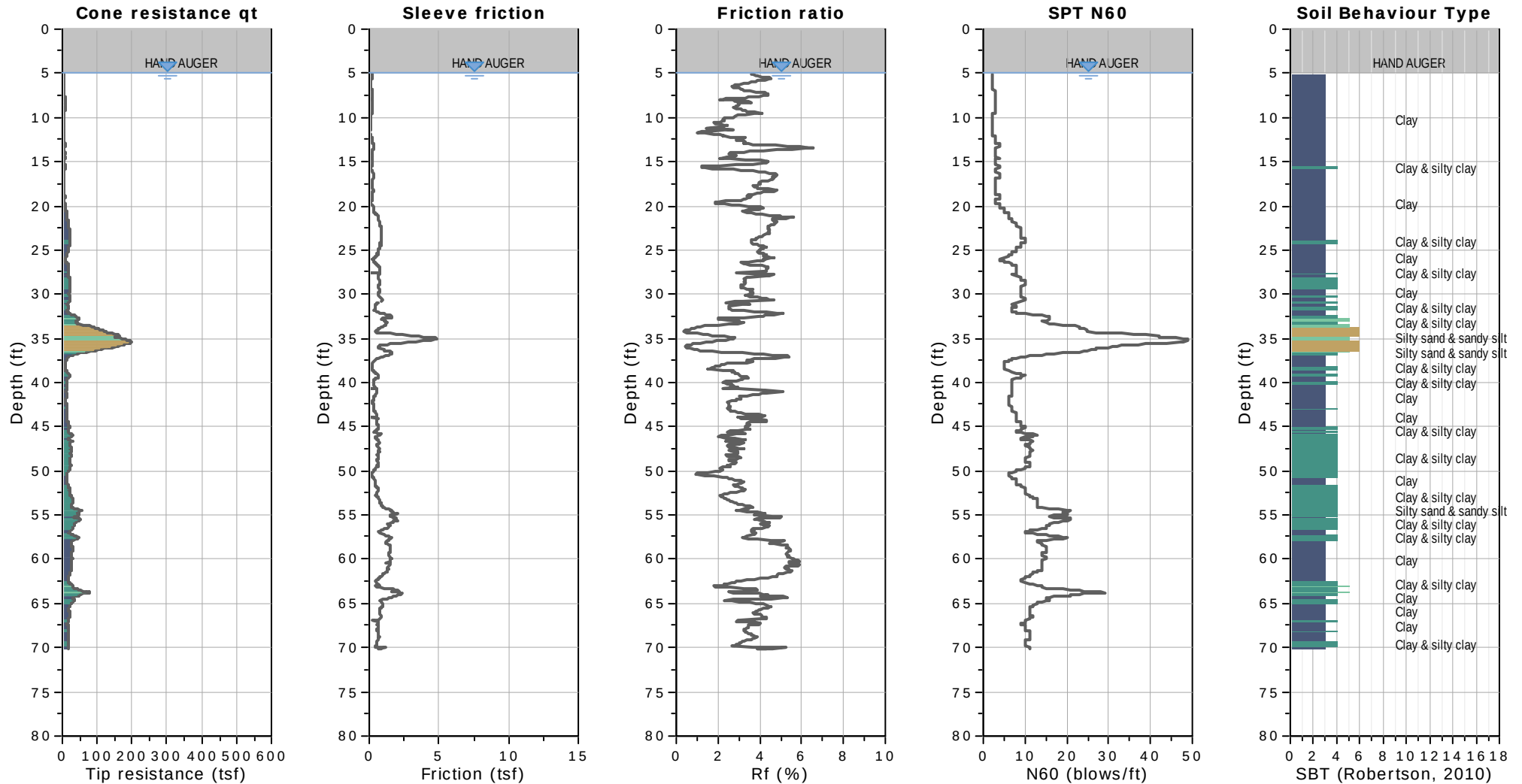


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/21/2026



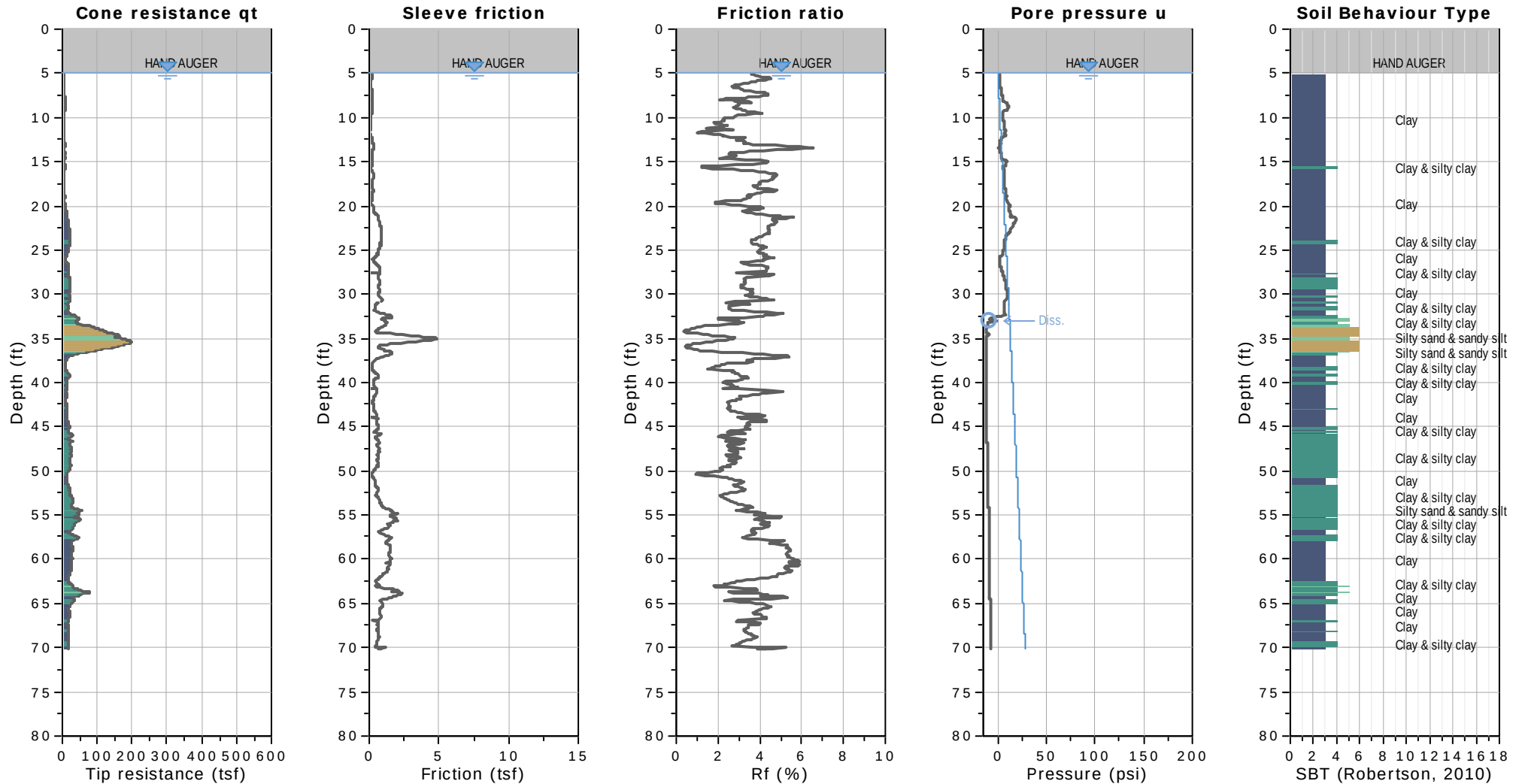


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 70.21 ft, Date: 1/21/2026



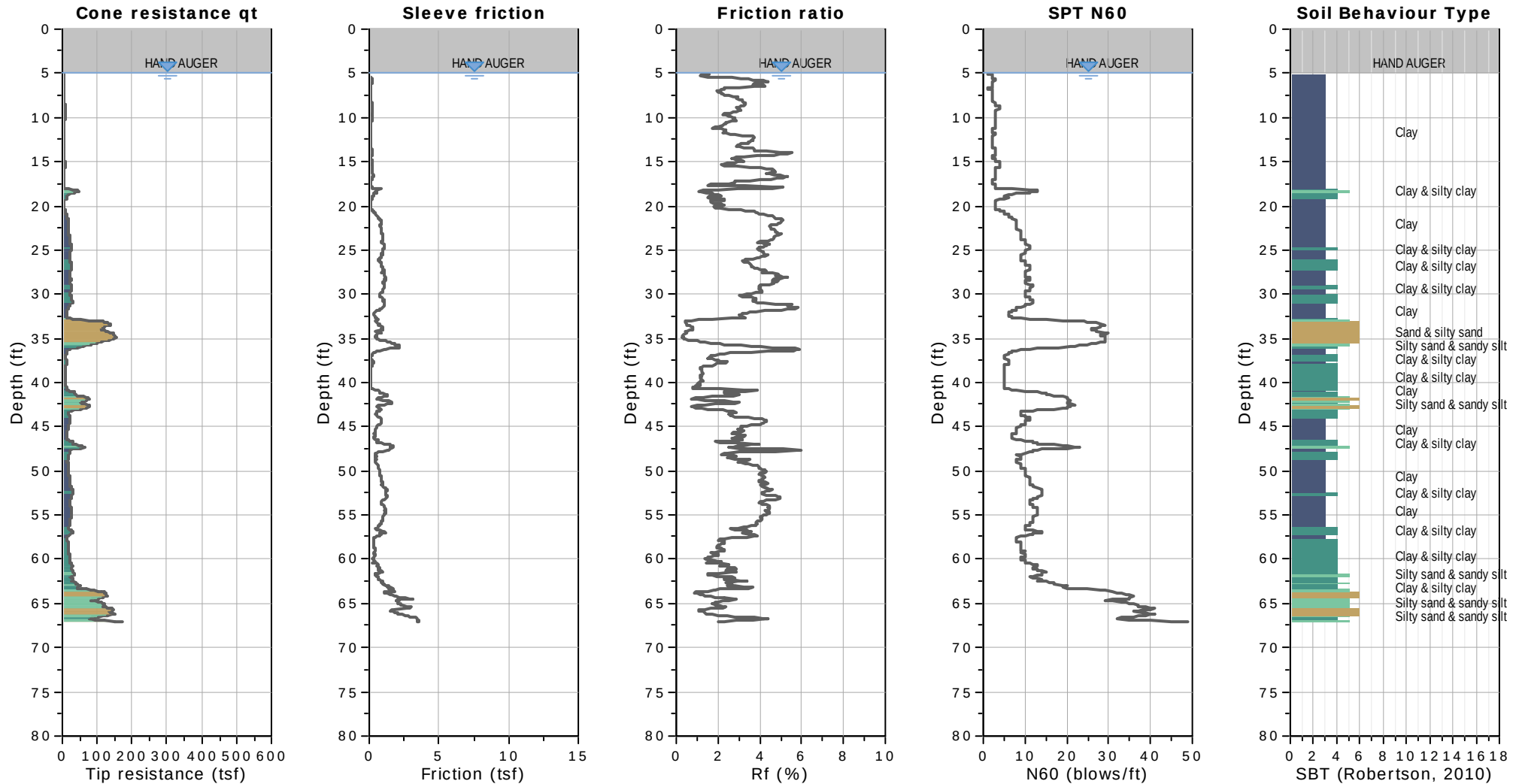


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 67.06 ft, Date: 1/21/2026



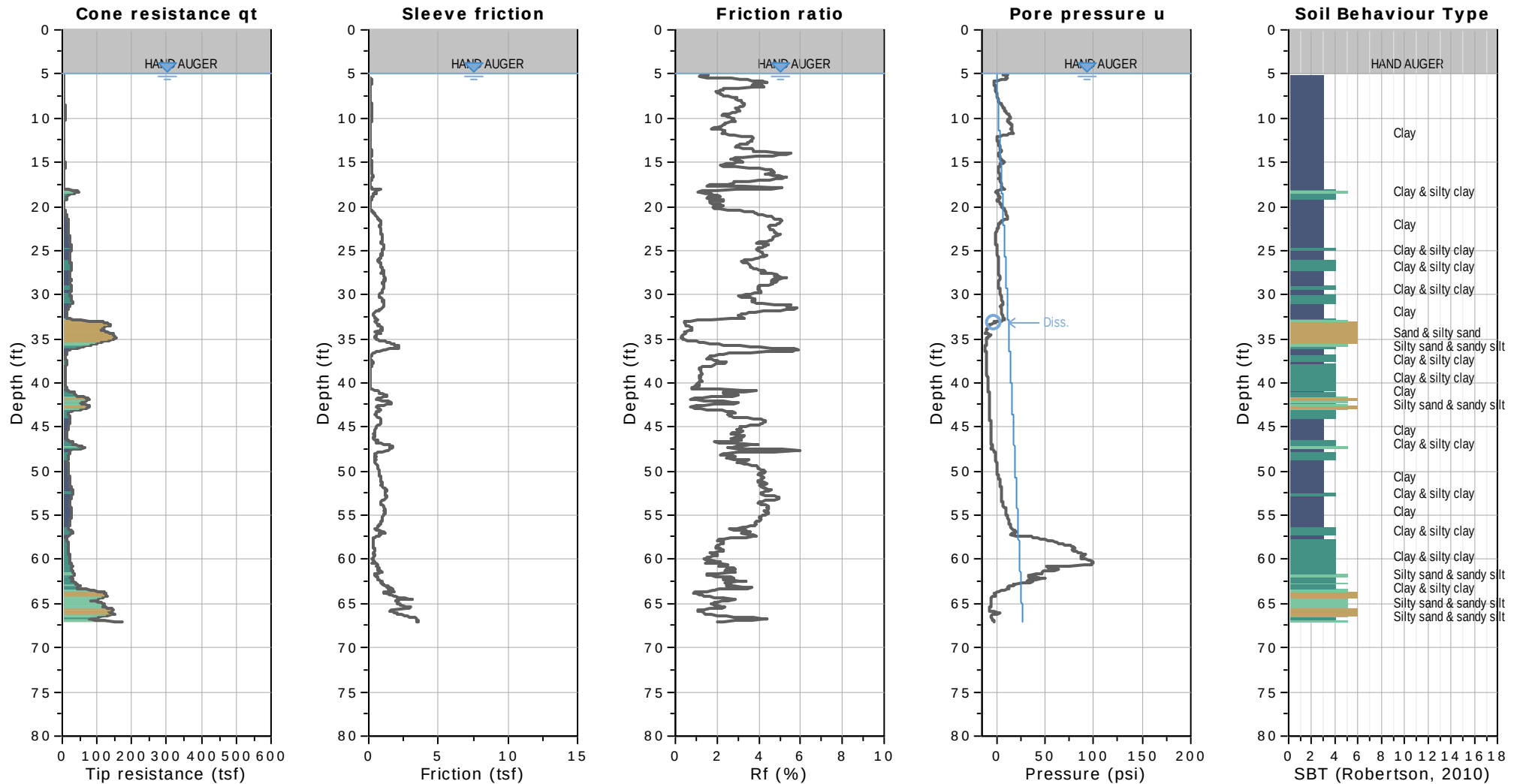


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 67.06 ft, Date: 1/21/2026



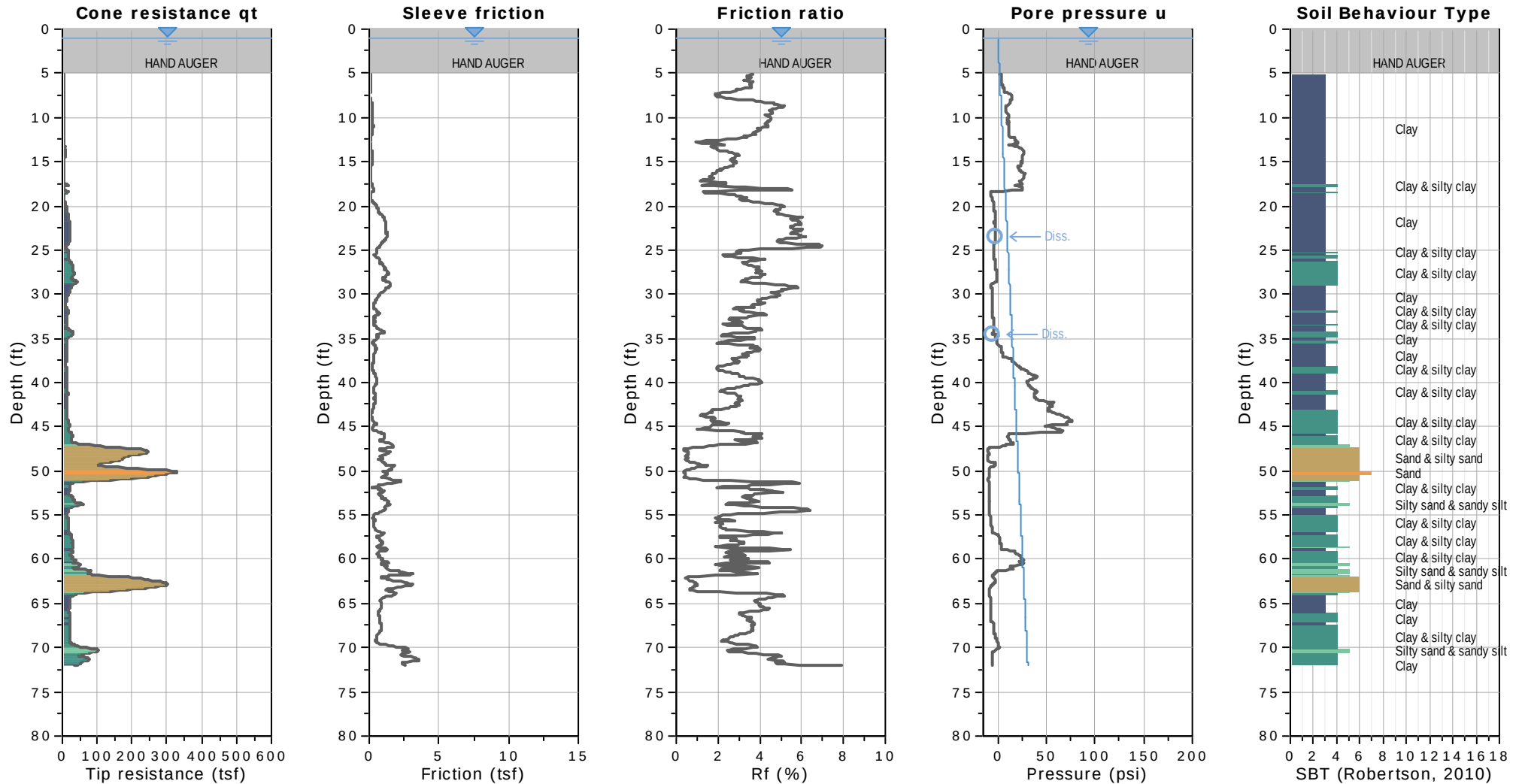


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 72.05 ft, Date: 1/19/2026



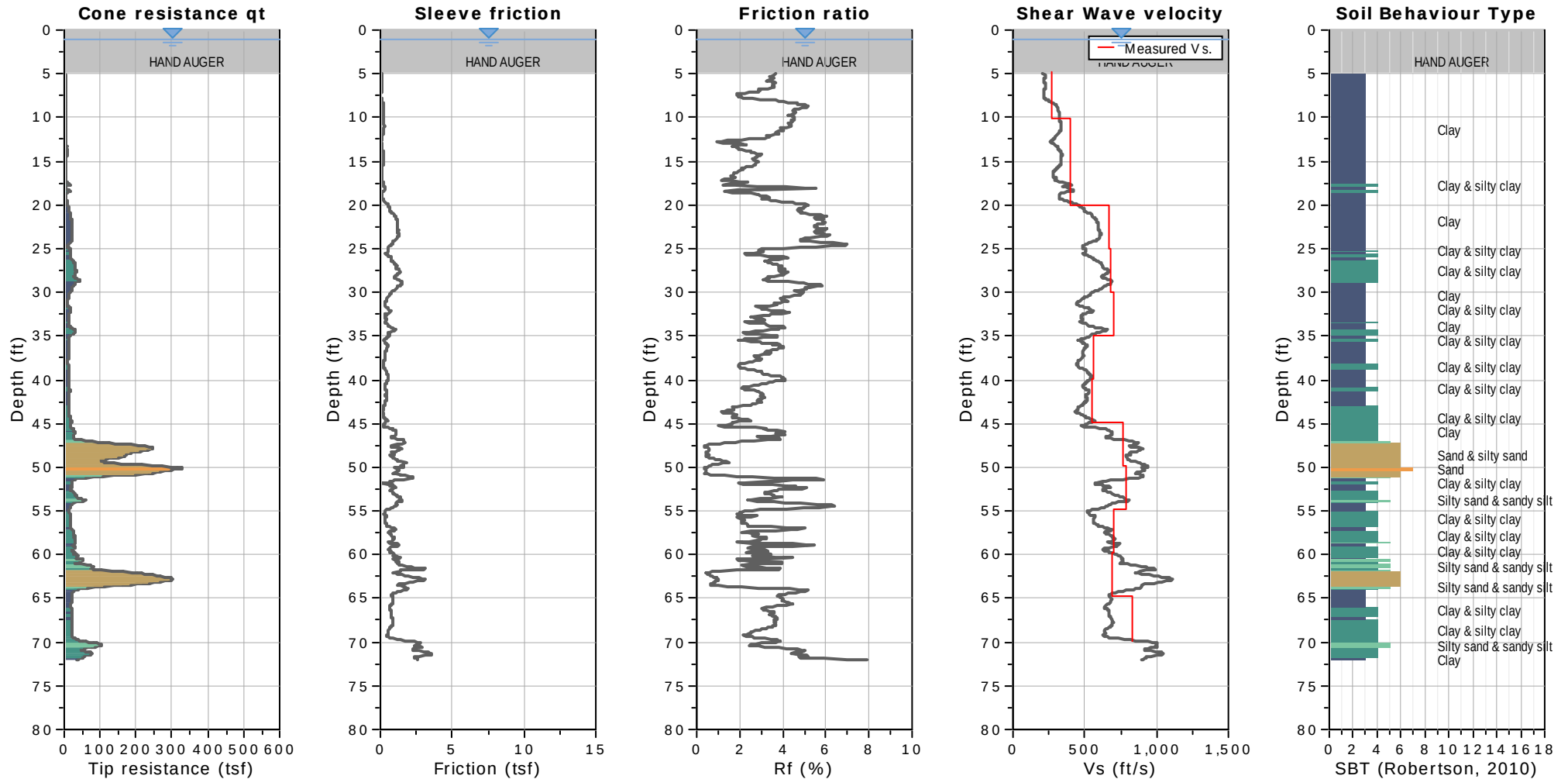


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 72.05 ft, Date: 1/19/2026



SBTn legend

1. Sensitive fine grained	4. Clayey silt to silty clay	7. Gravelly sand to sand
2. Organic material	5. Silty sand to sandy silt	8. Very stiff sand to clayey sand
3. Clay to silty clay	6. Clean sand to silty sand	9. Very stiff fine grained

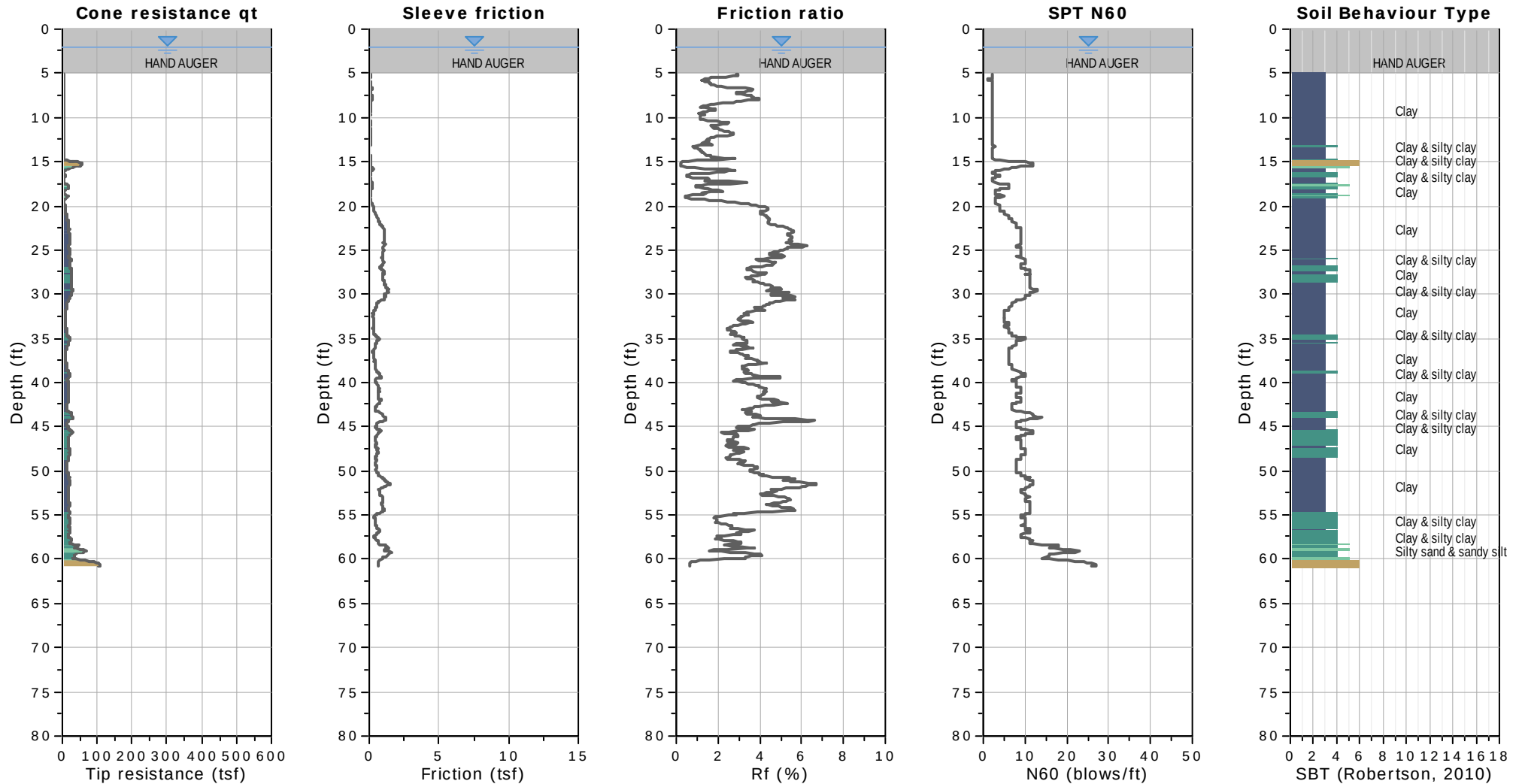


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 60.76 ft, Date: 1/19/2026



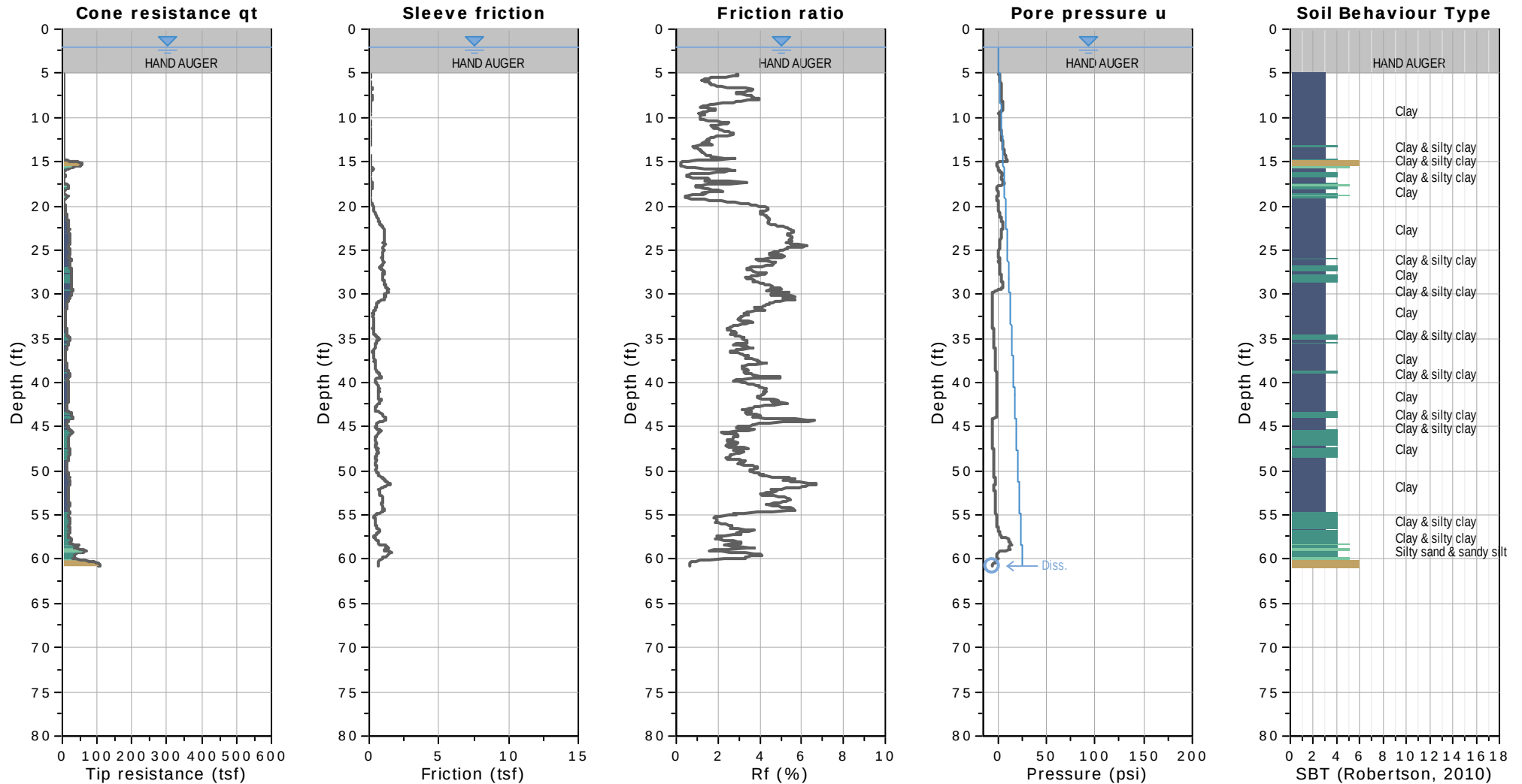


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 60.76 ft, Date: 1/19/2026



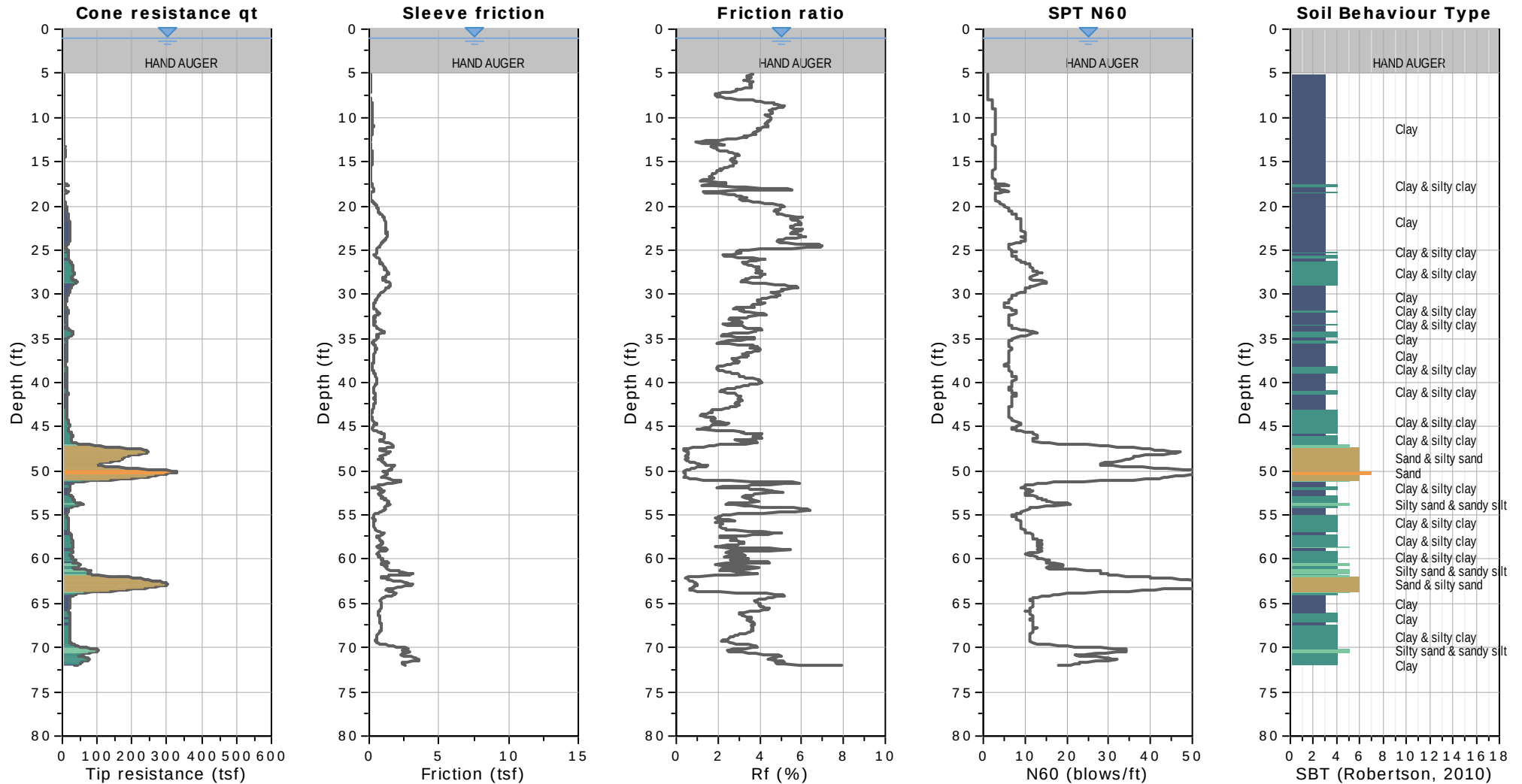


CLIENT: Geosyntec

FIELD REP: Elizabeth E.
Cone ID: 2501022

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 72.05 ft, Date: 1/19/2026





CLIENT: Geosyntec

**FIELD REP: Elizabeth E.
Cone ID: 2501022**

SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 68.24 ft, Date: 1/19/2026





SITE: SAFER Bay - Bay Trail, East Palo Alto, 94303

Total depth: 68.24 ft, Date: 1/19/2026



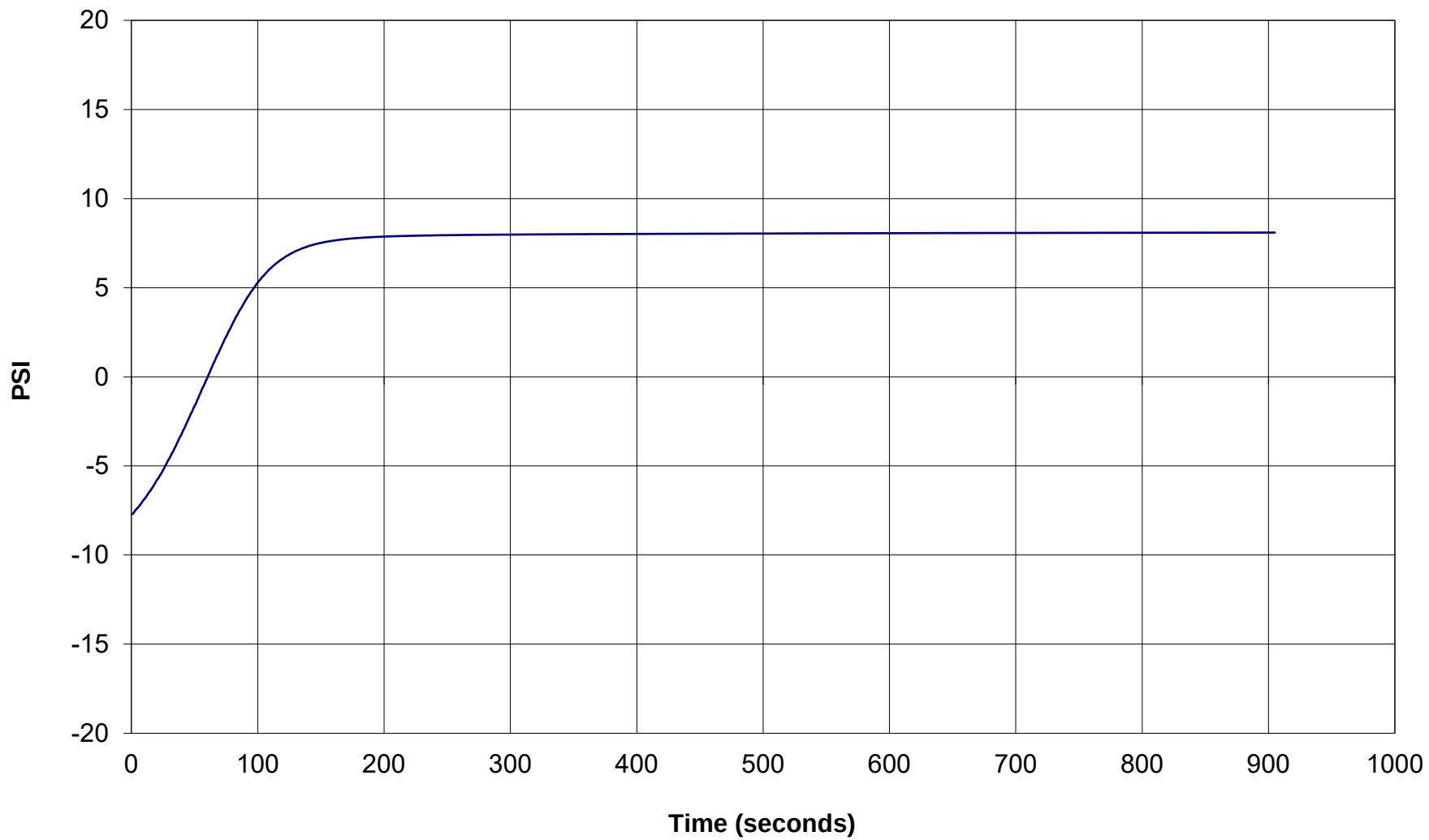
APPENDIX B:

PORE PRESSURE DISSIPATION TEST PLOTS



Pitcher Services, LLC
Pore Pressure Dissipation Test

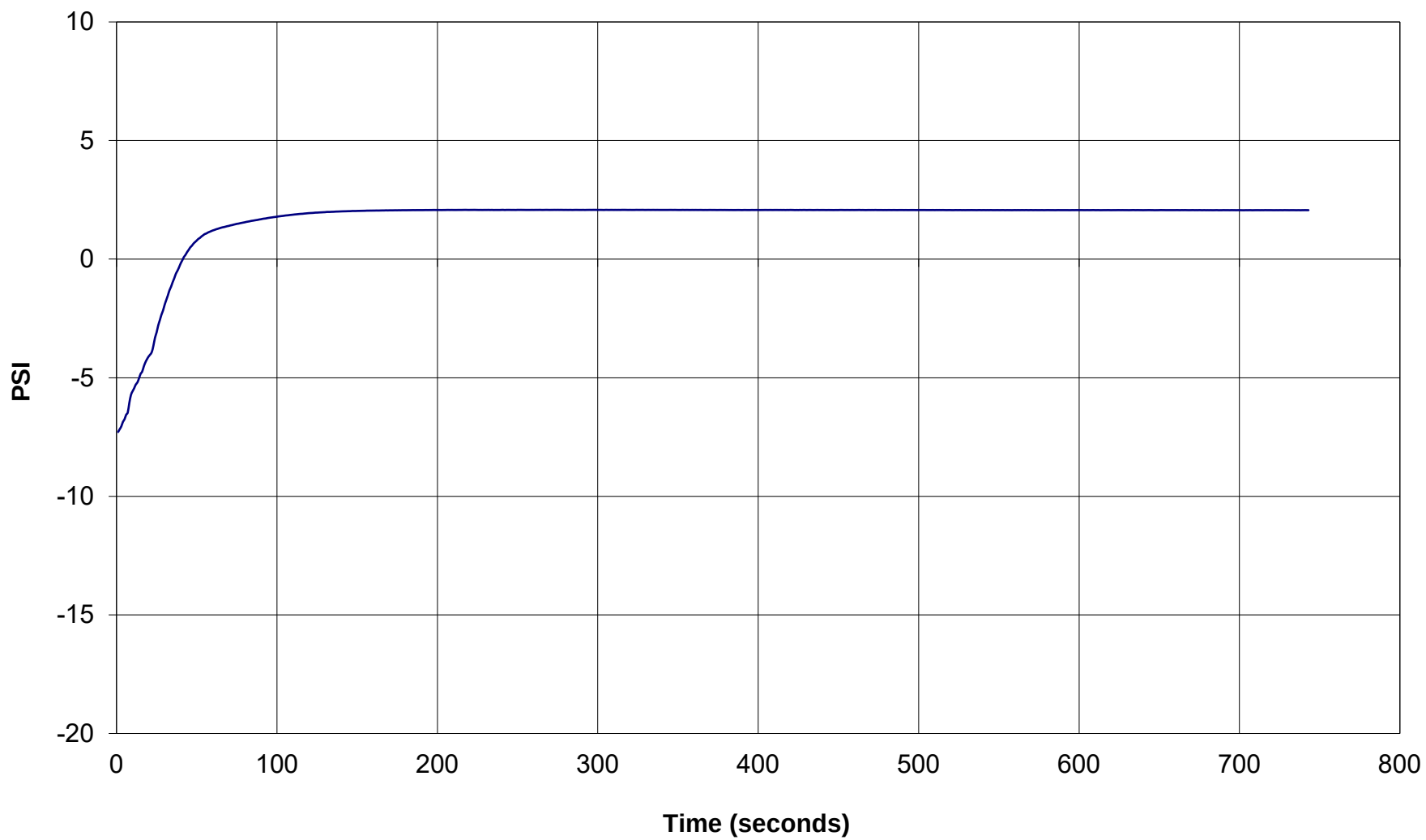
Sounding: CPT-1
Depth (ft): 33.27
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

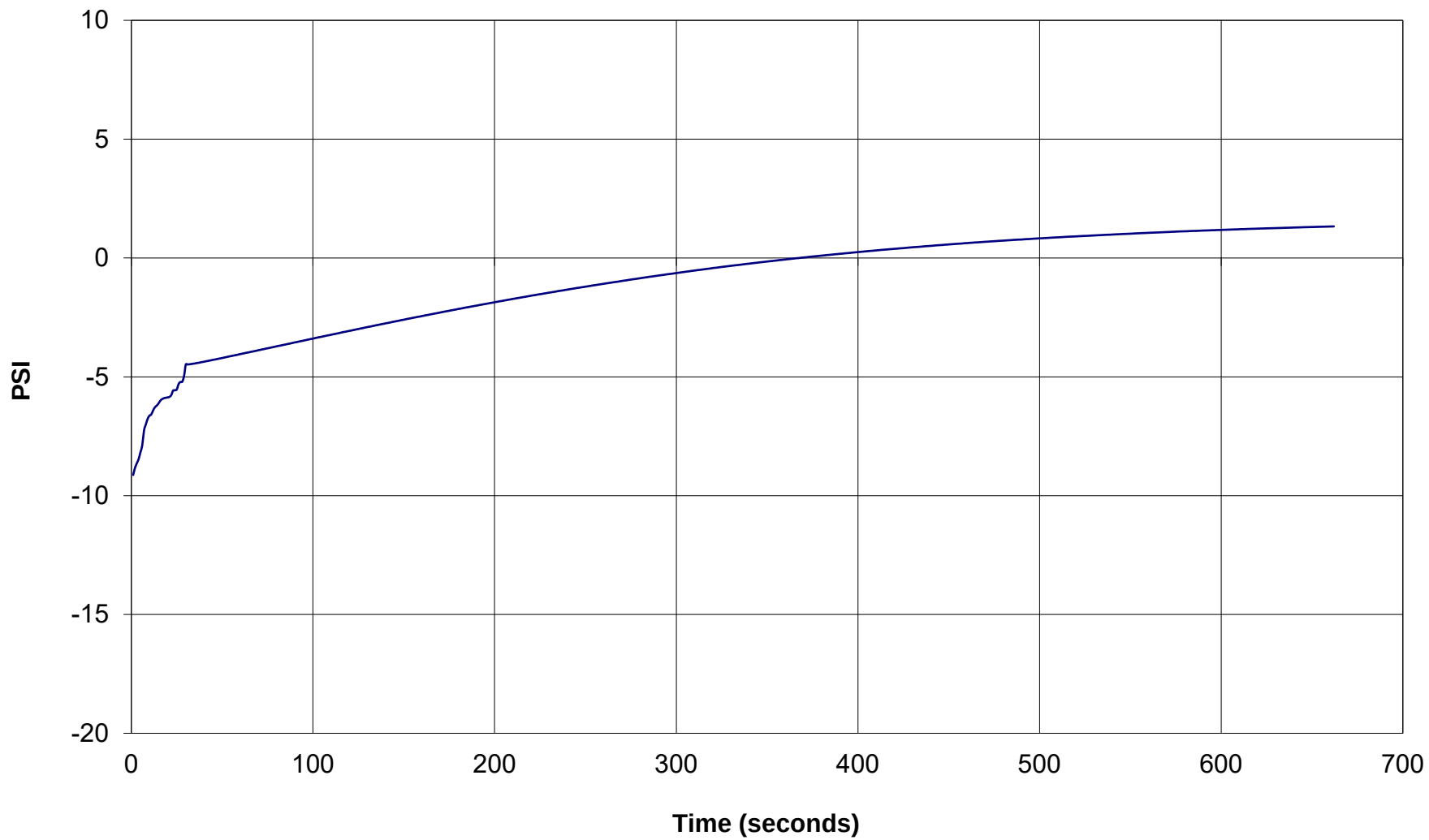
Sounding: CPT-2
Depth (ft): 16.47
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

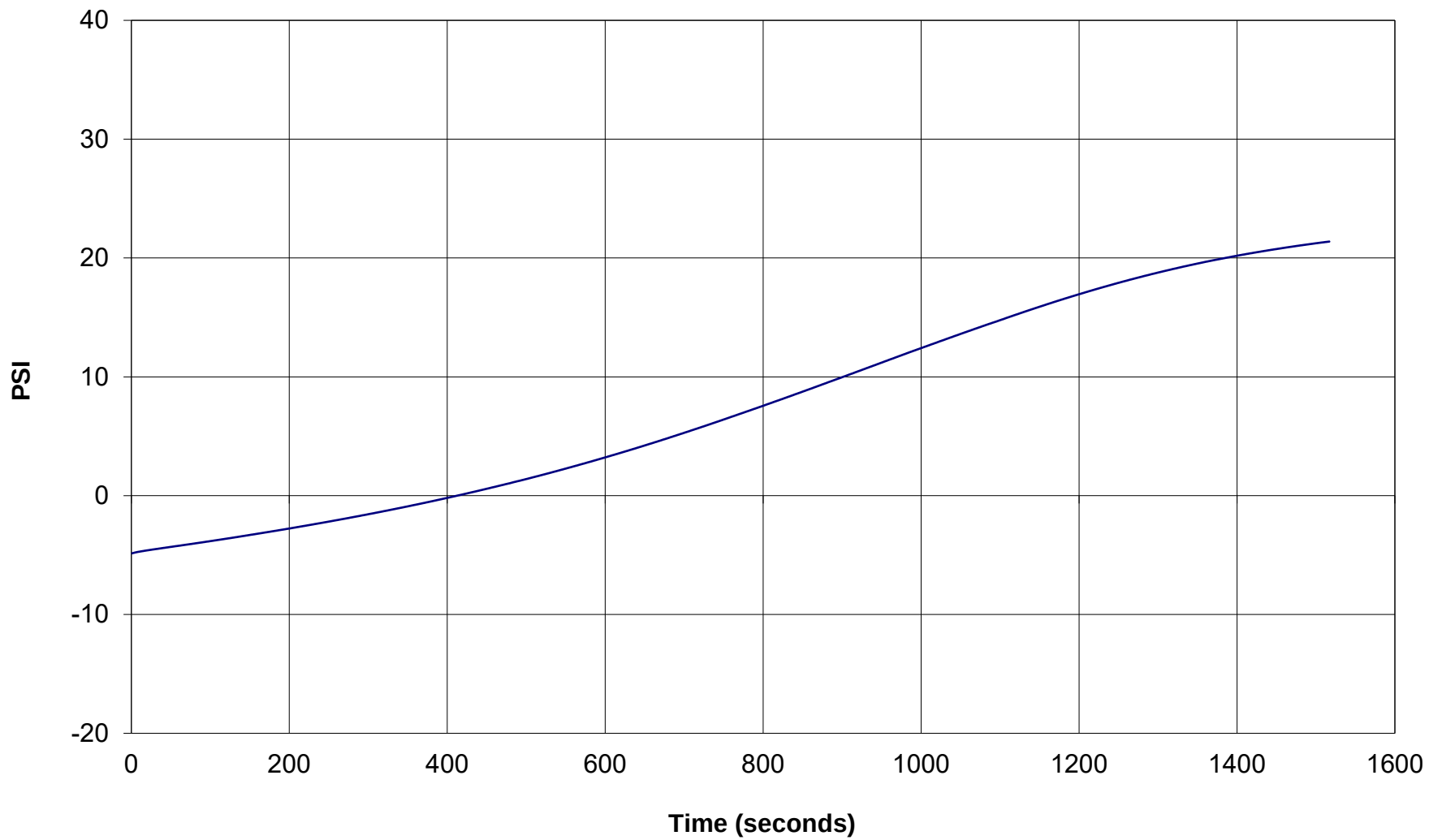
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Depth (ft): 16.60
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

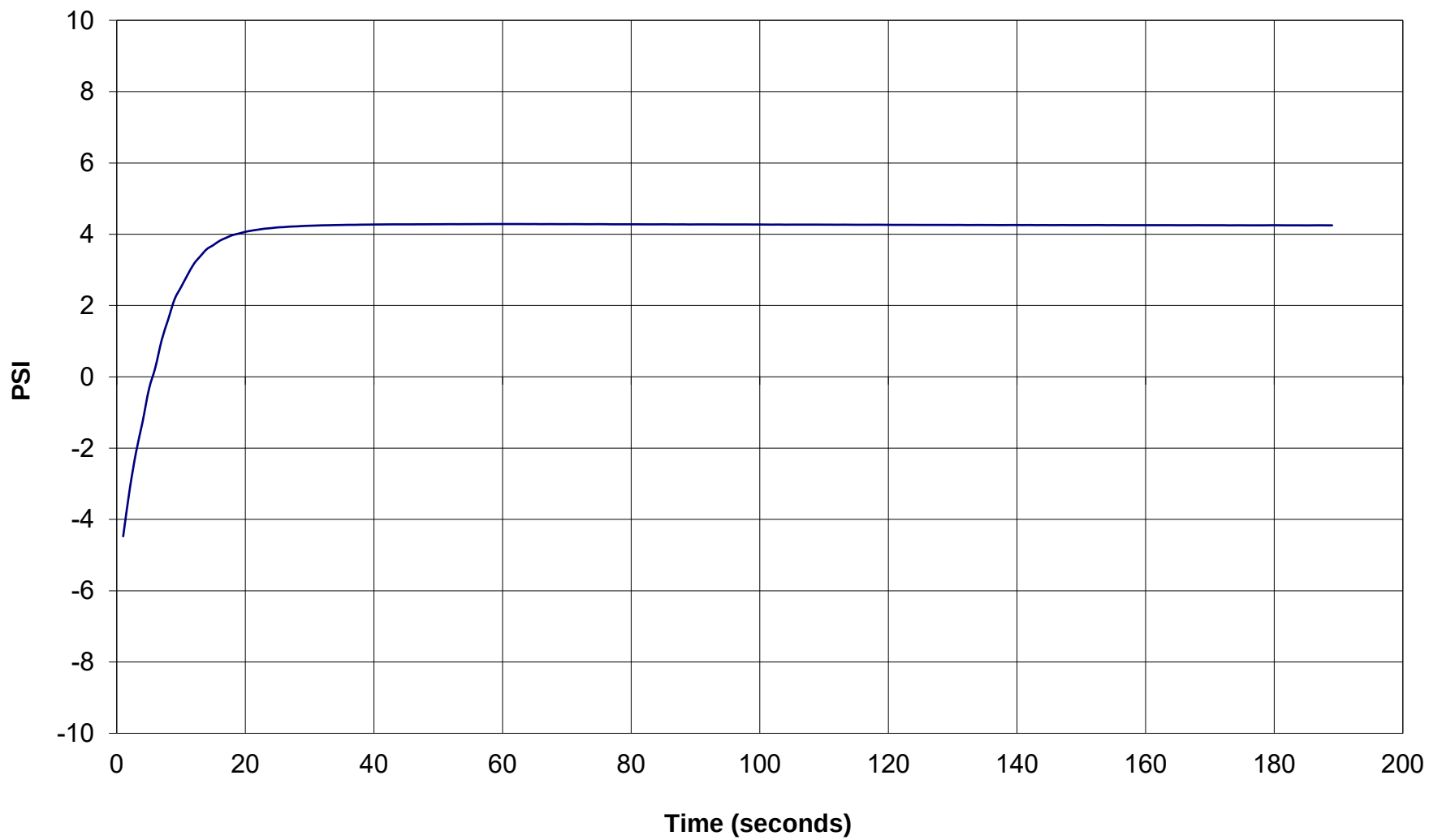
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Depth (ft): 65.94
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

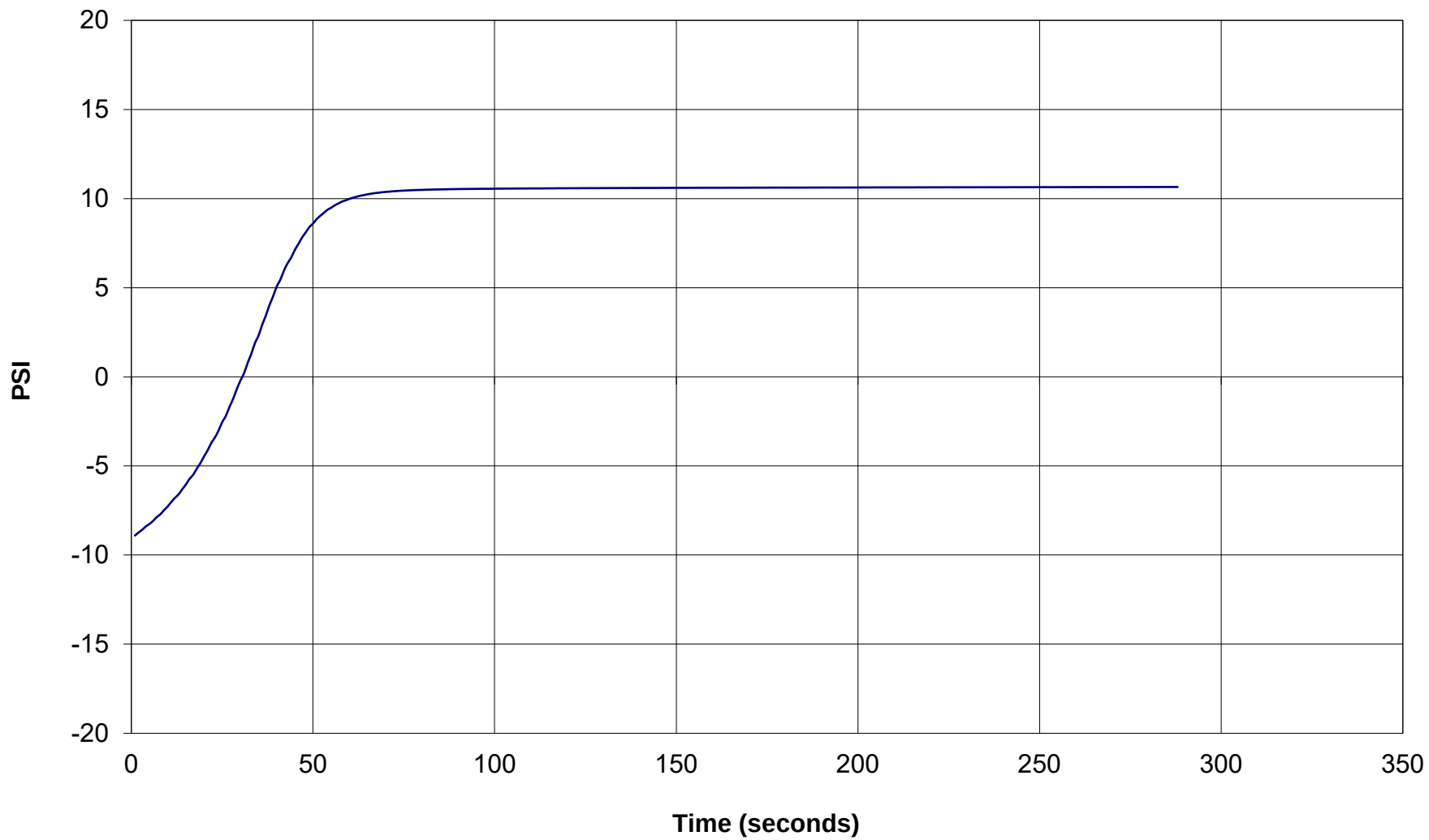
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Depth (ft): 14.04
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

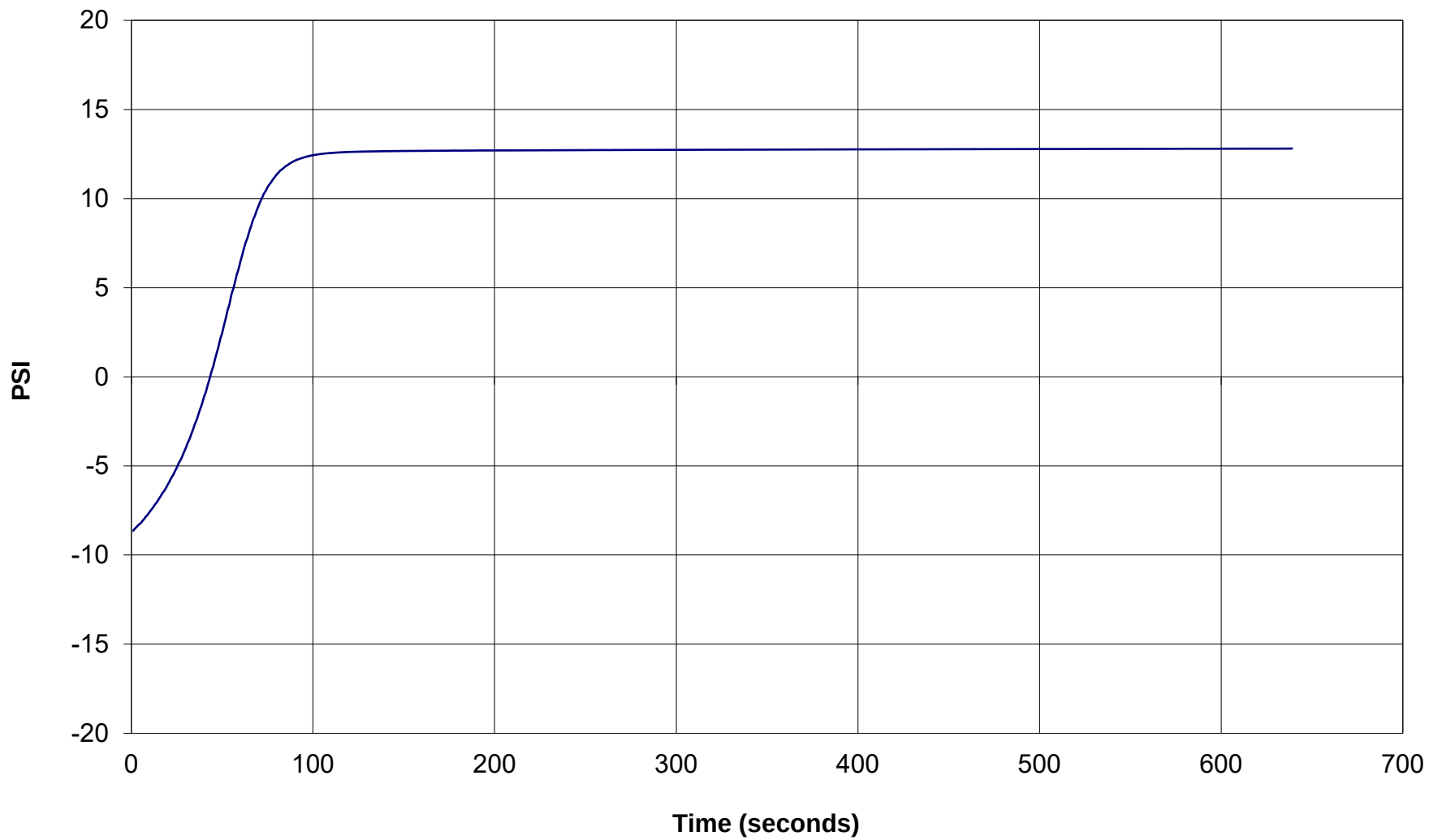
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Depth (ft): 34.25
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

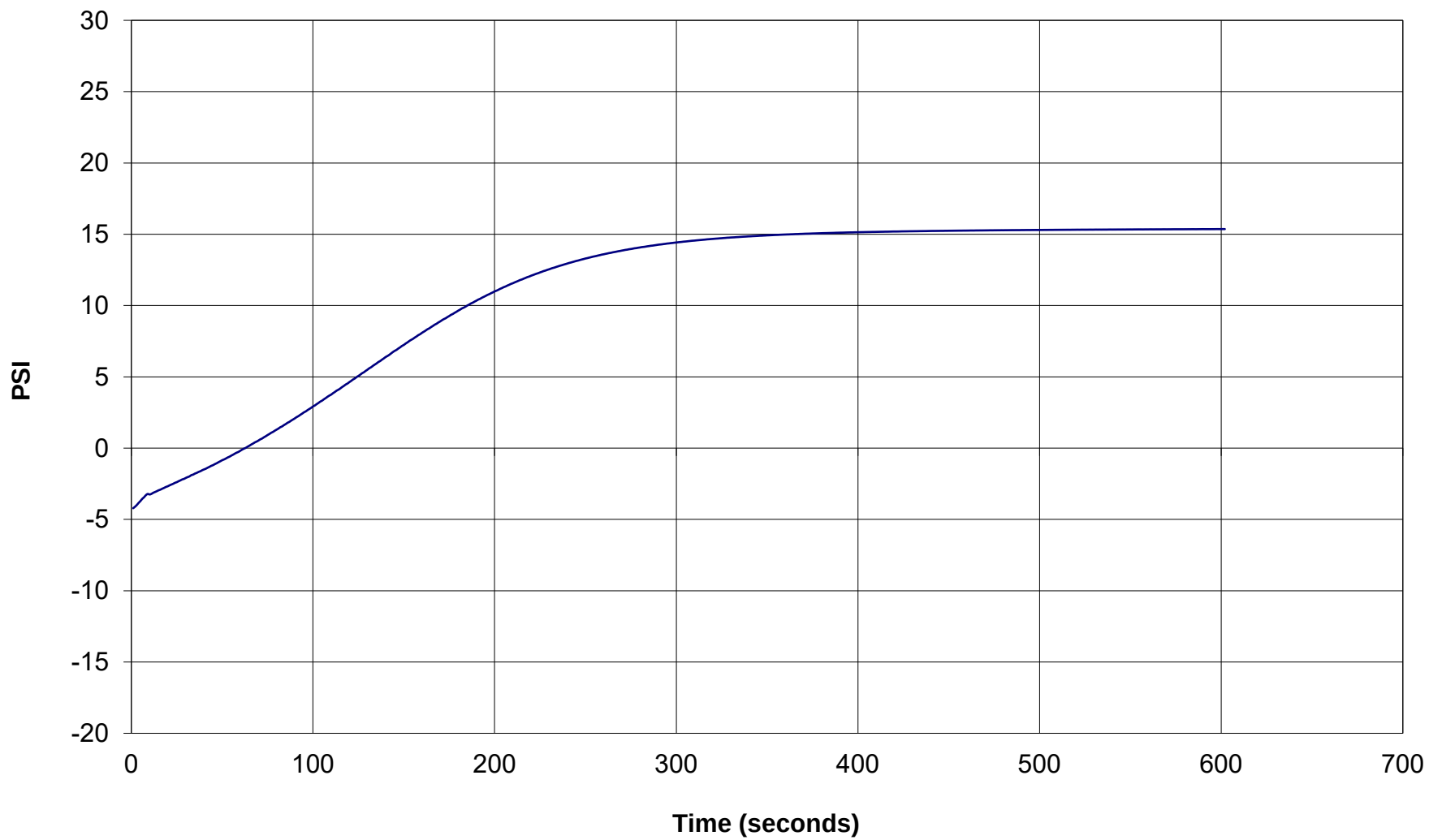
Sounding: CPT-6
Depth (ft): 38.25
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

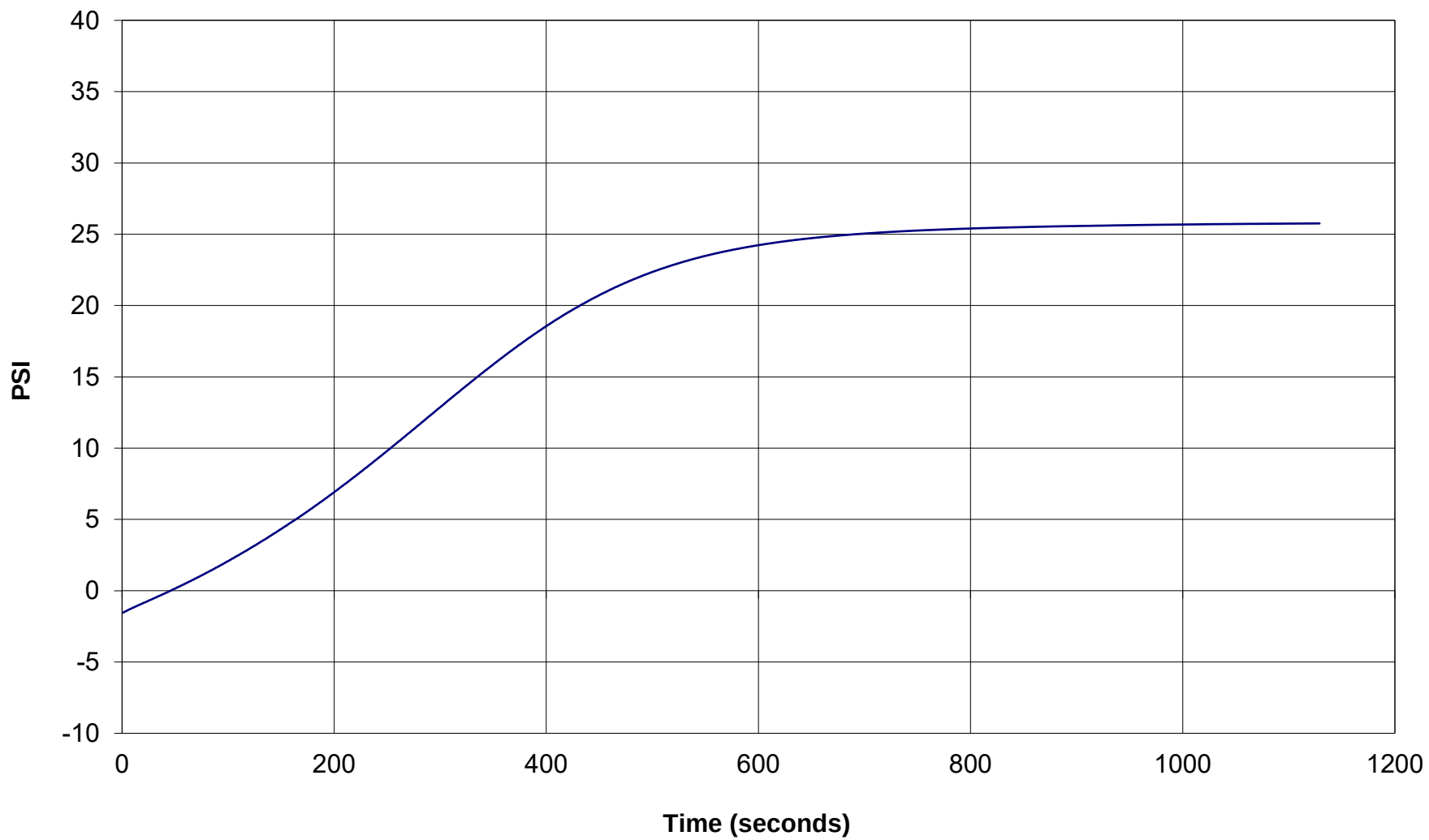
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Depth (ft): 44.36
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

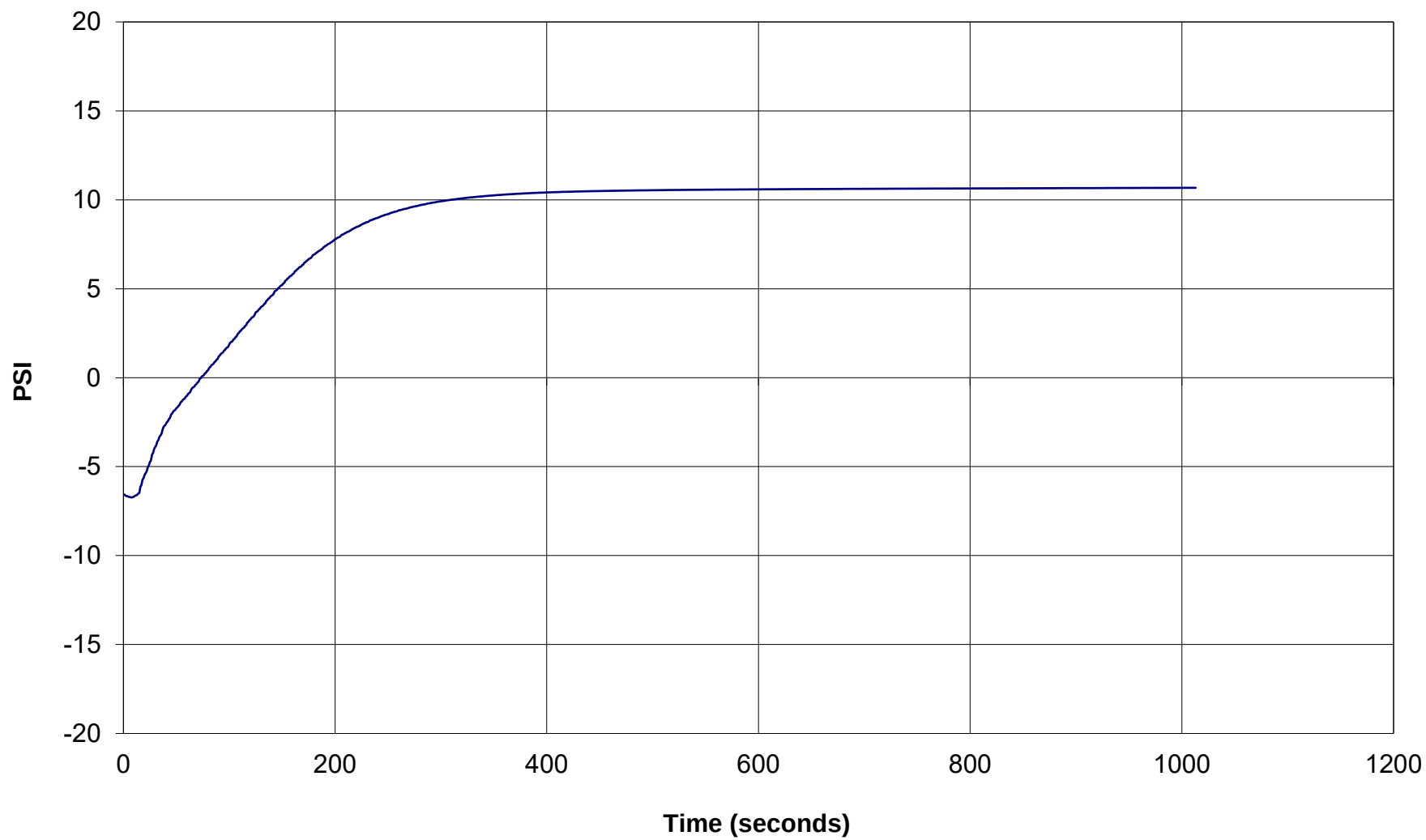
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Depth (ft): 70.21
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

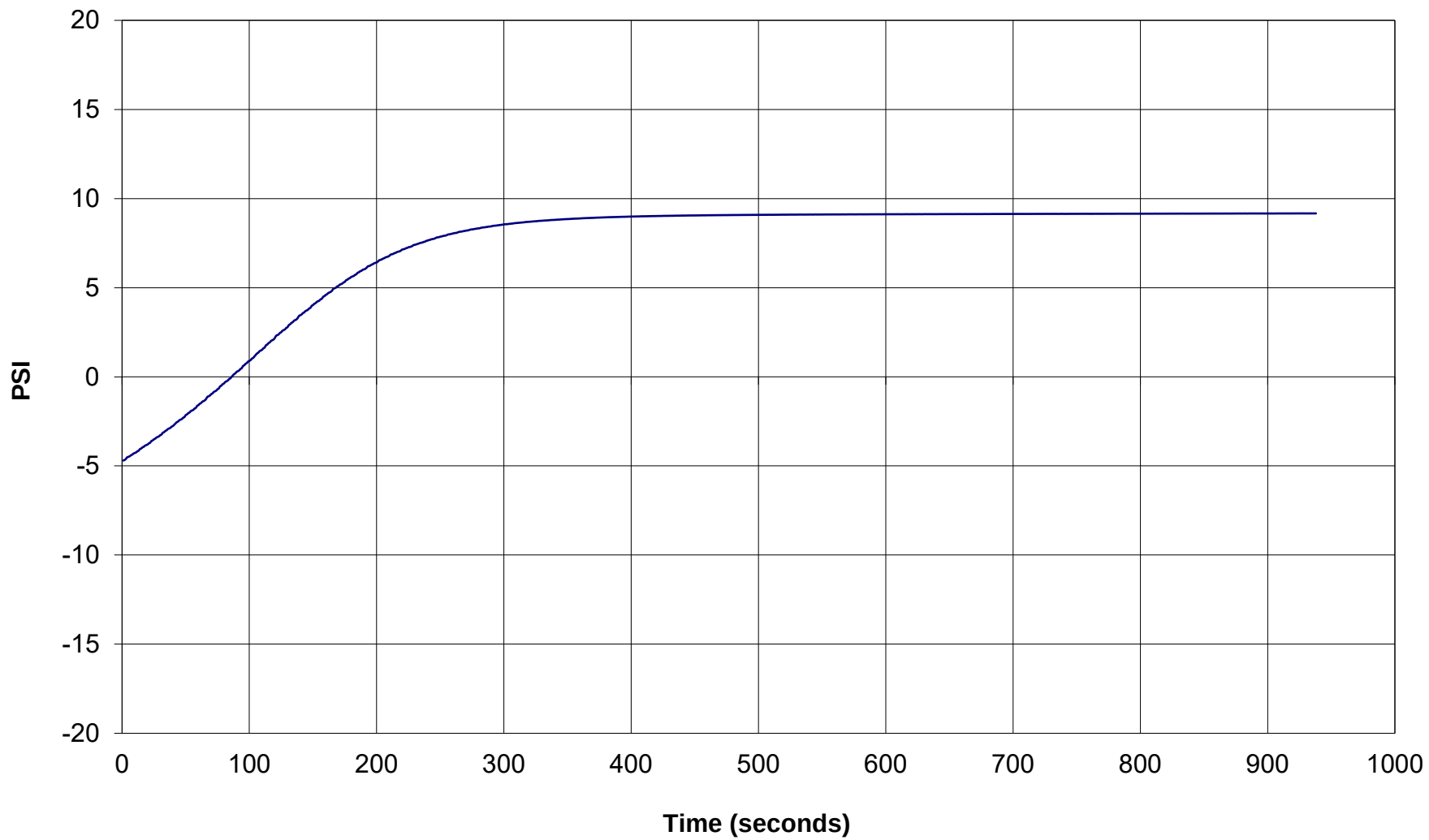
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Depth (ft): 29.72
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

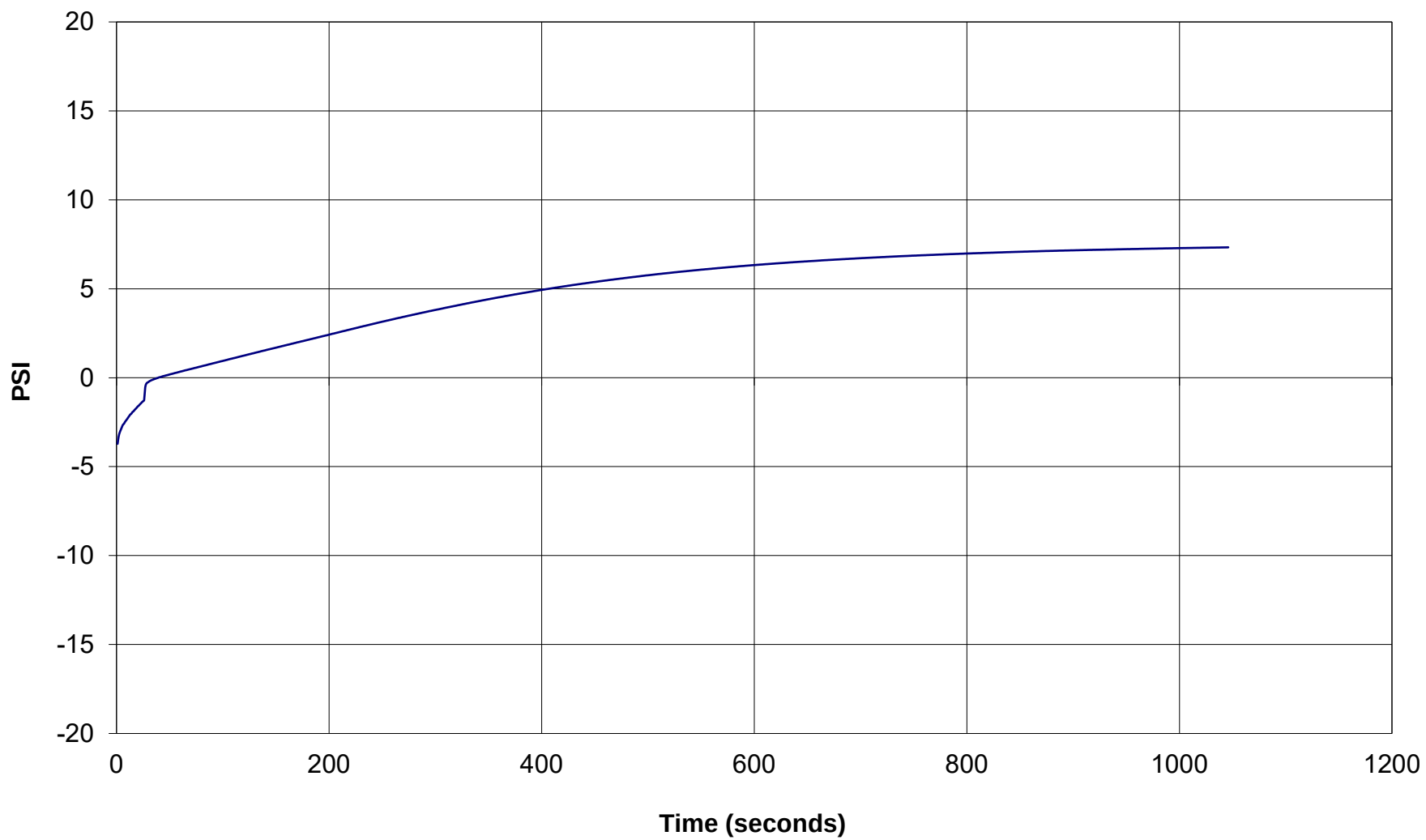
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Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

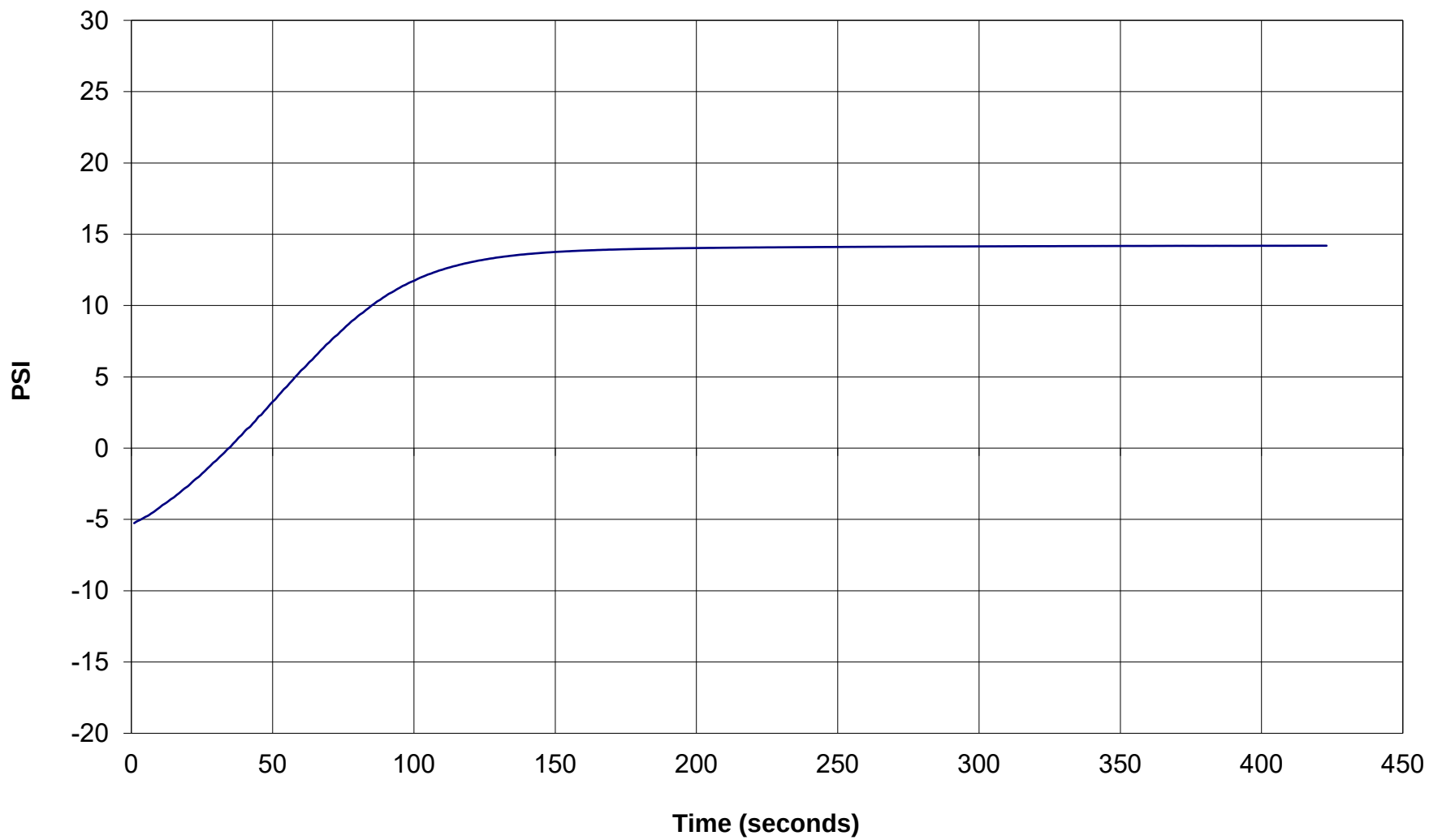
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Depth (ft): 21.59
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

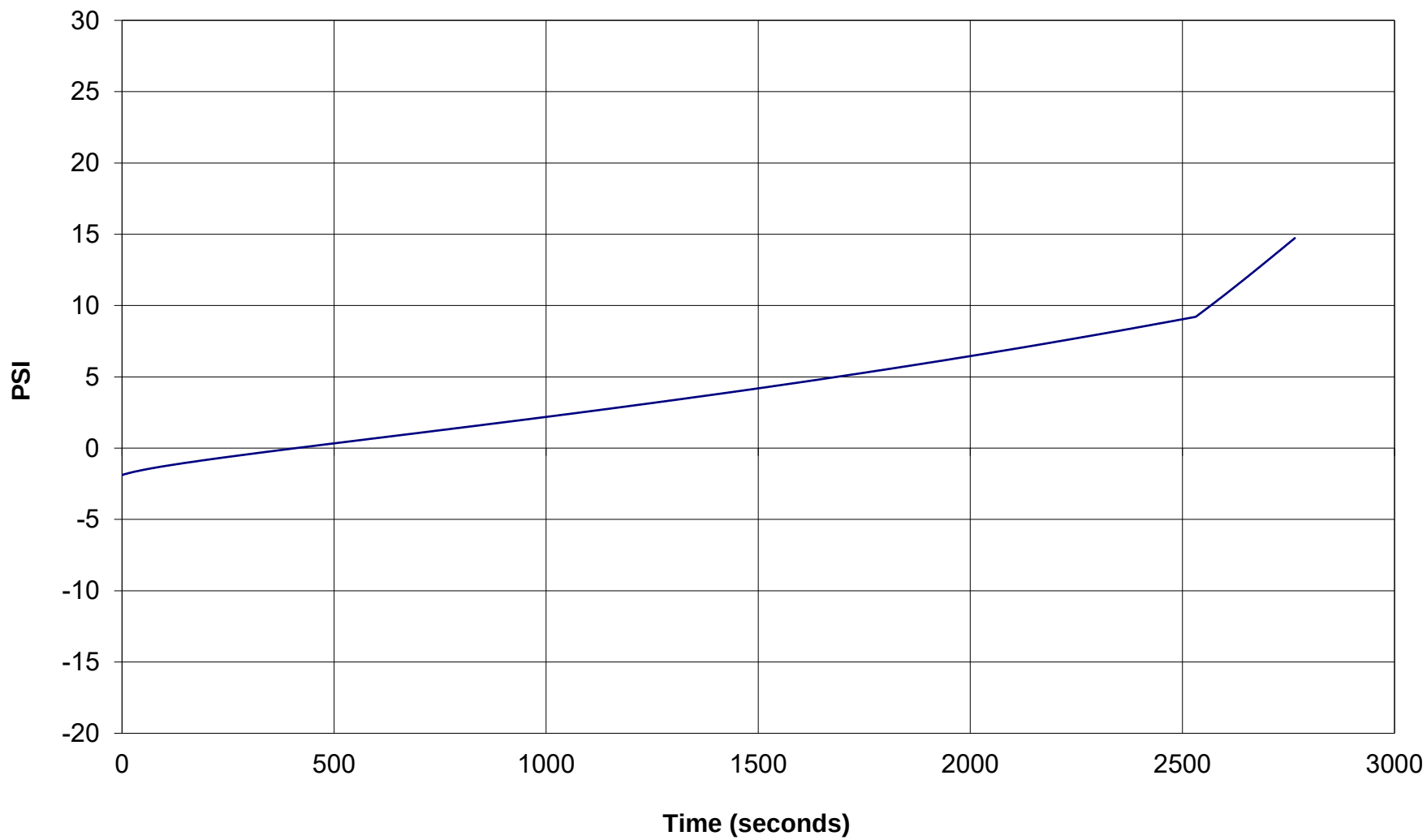
Sounding: CPT-14
Depth (ft): 37.53
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

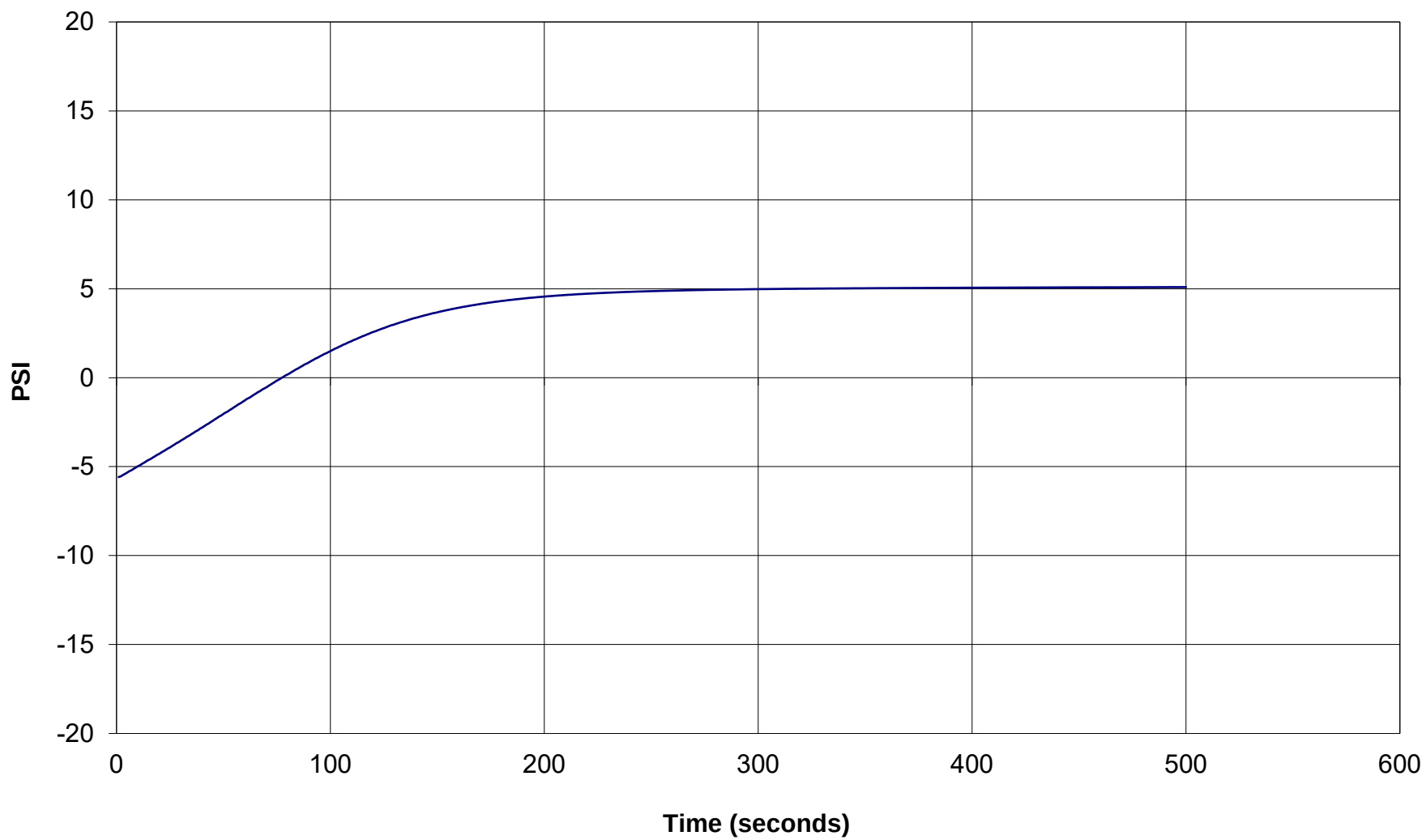
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Depth (ft): 20.41
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

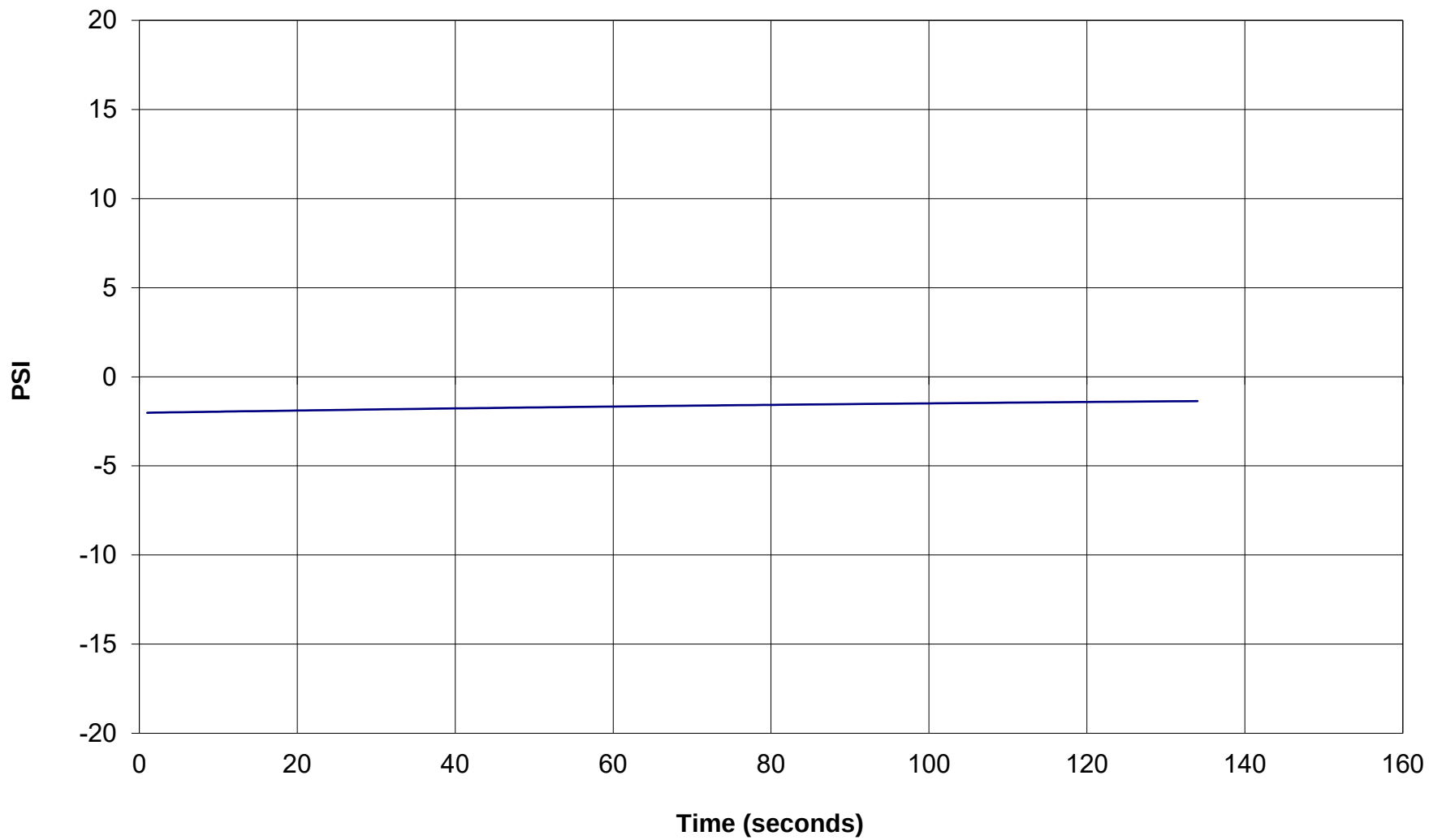
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Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

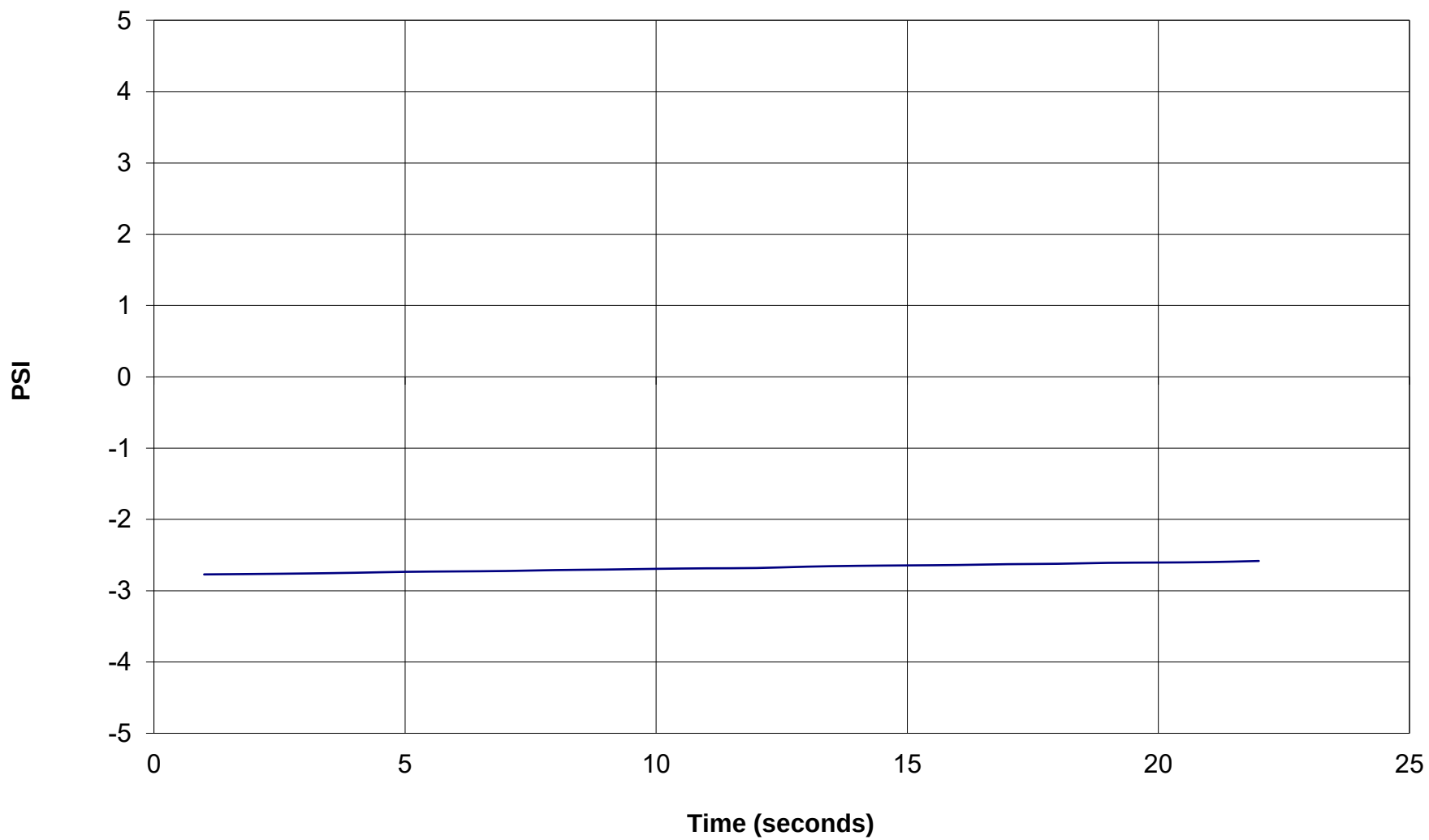
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Depth (ft): 28.61
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

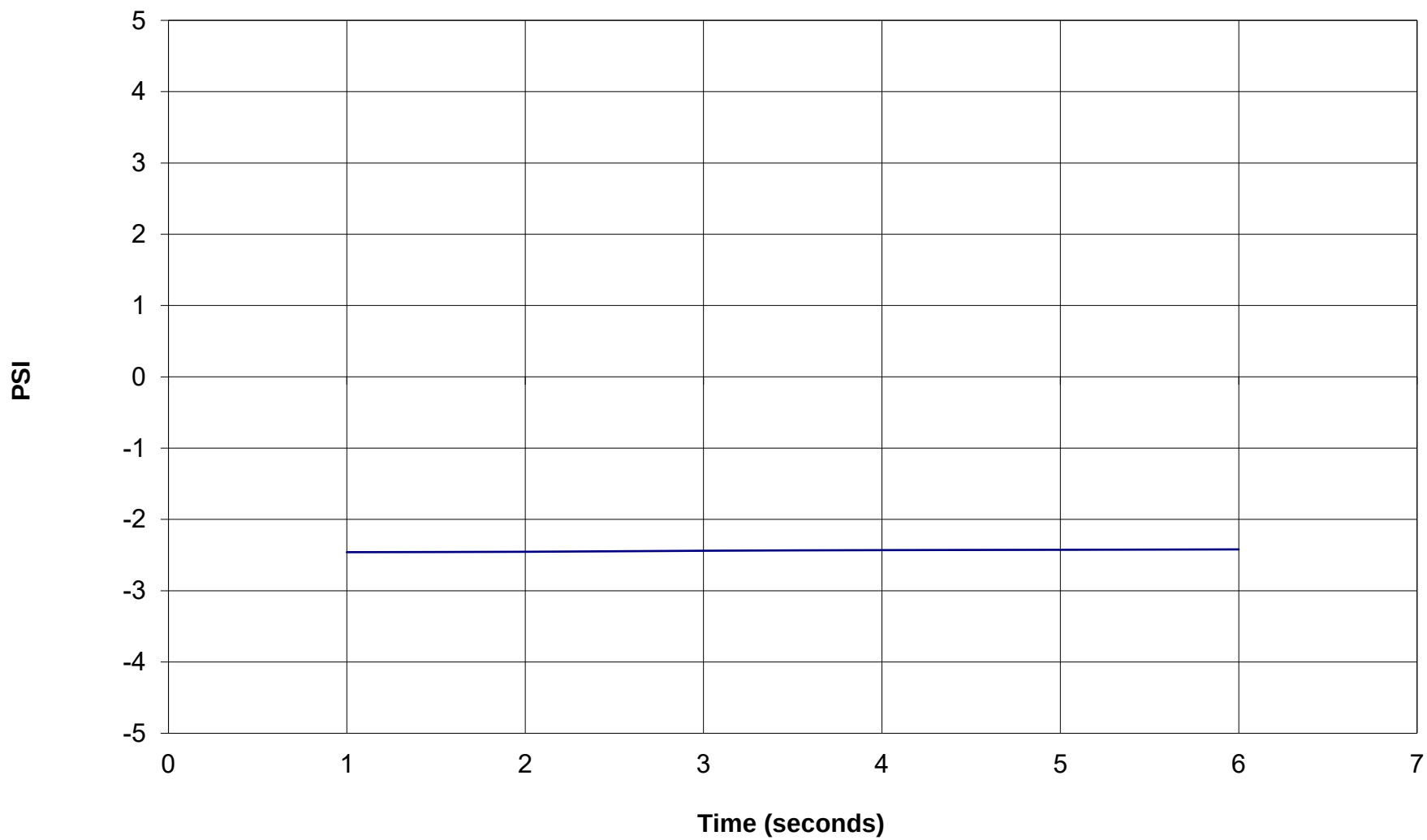
Sounding: CPT-17
Depth (ft): 29.20
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

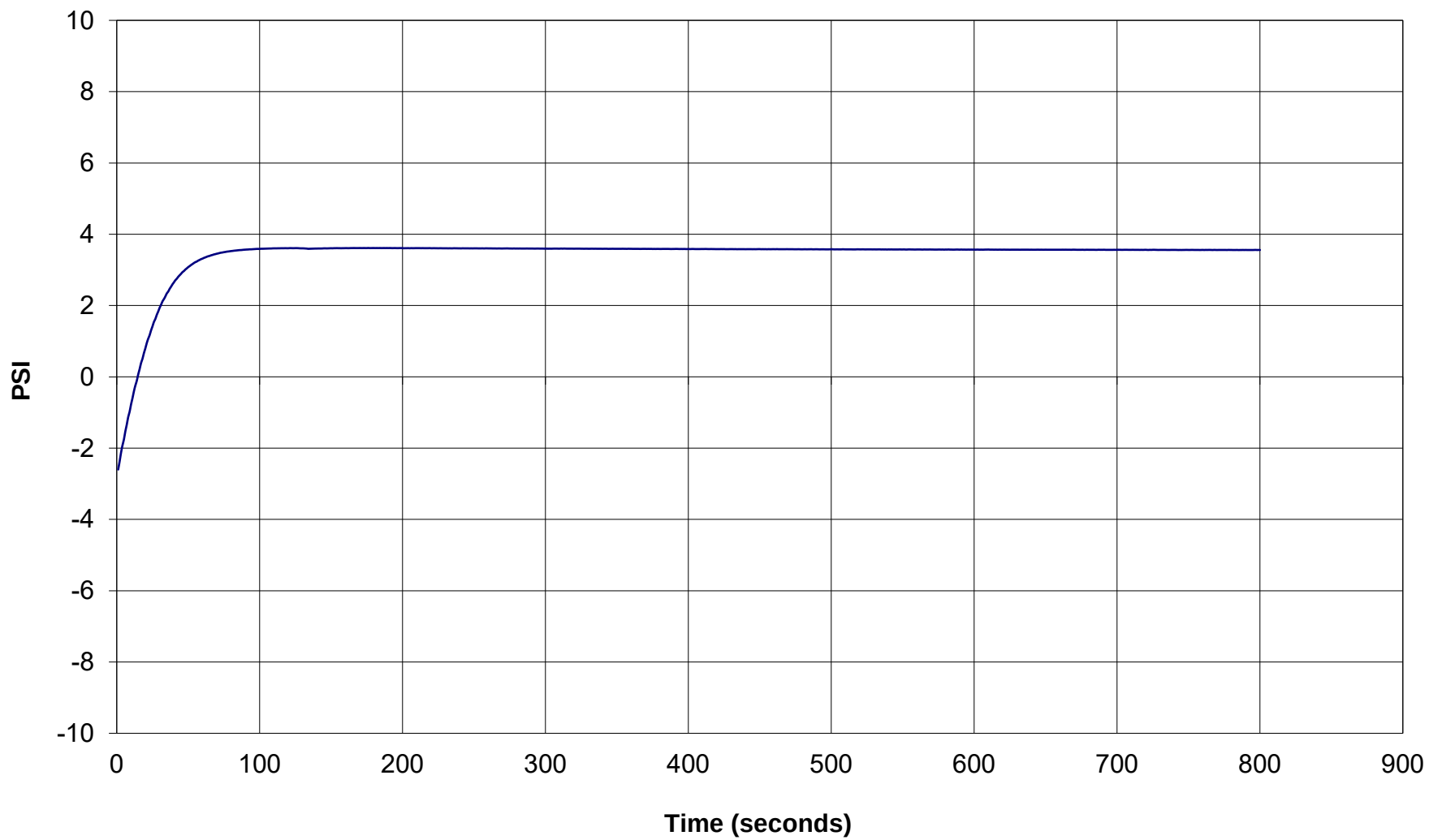
Sounding: CPT-17
Depth (ft): 29.20
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

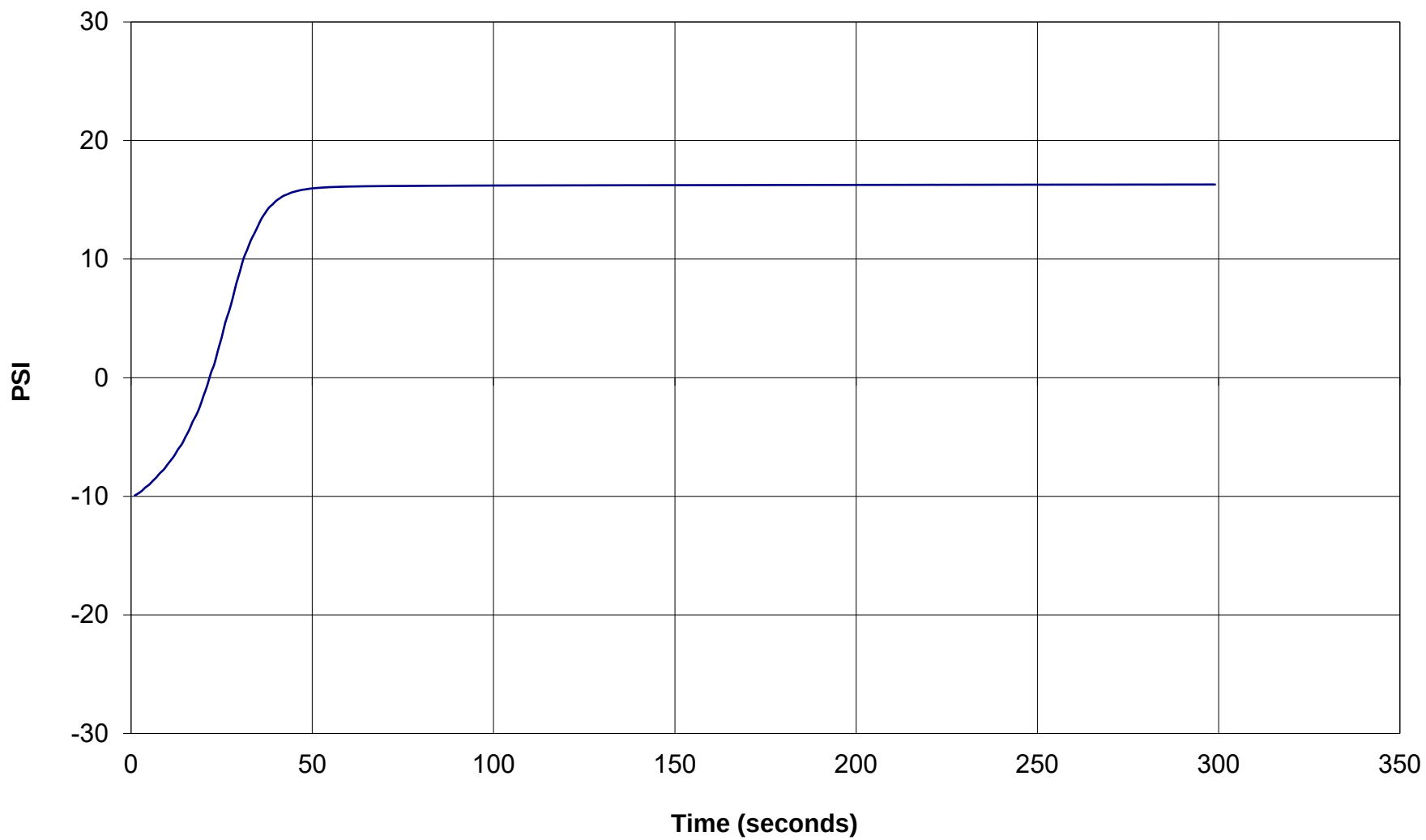
Sounding: CPT-18
Depth (ft): 14.89
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

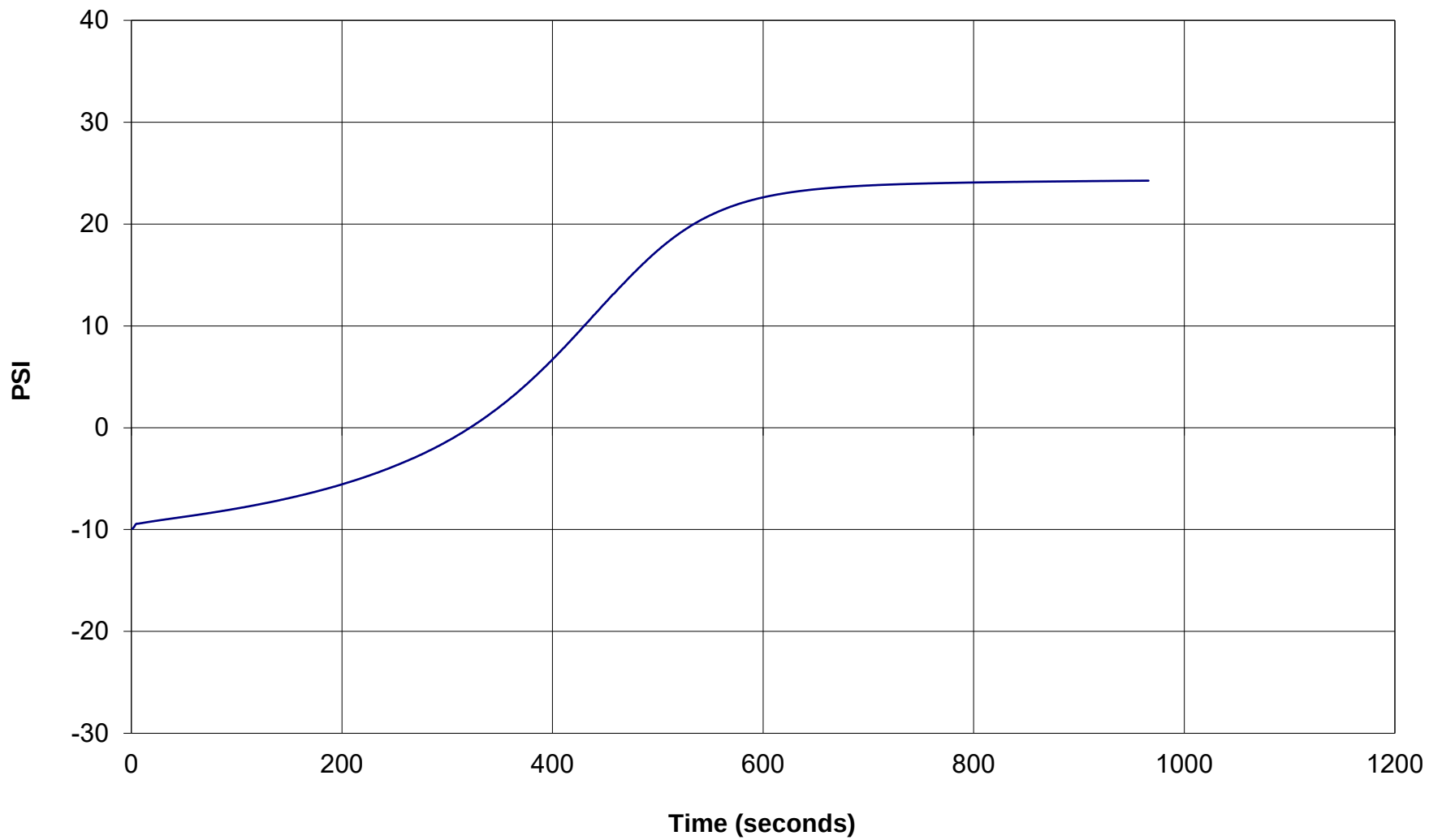
Sounding: CPT-18
Depth (ft): 44.23
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

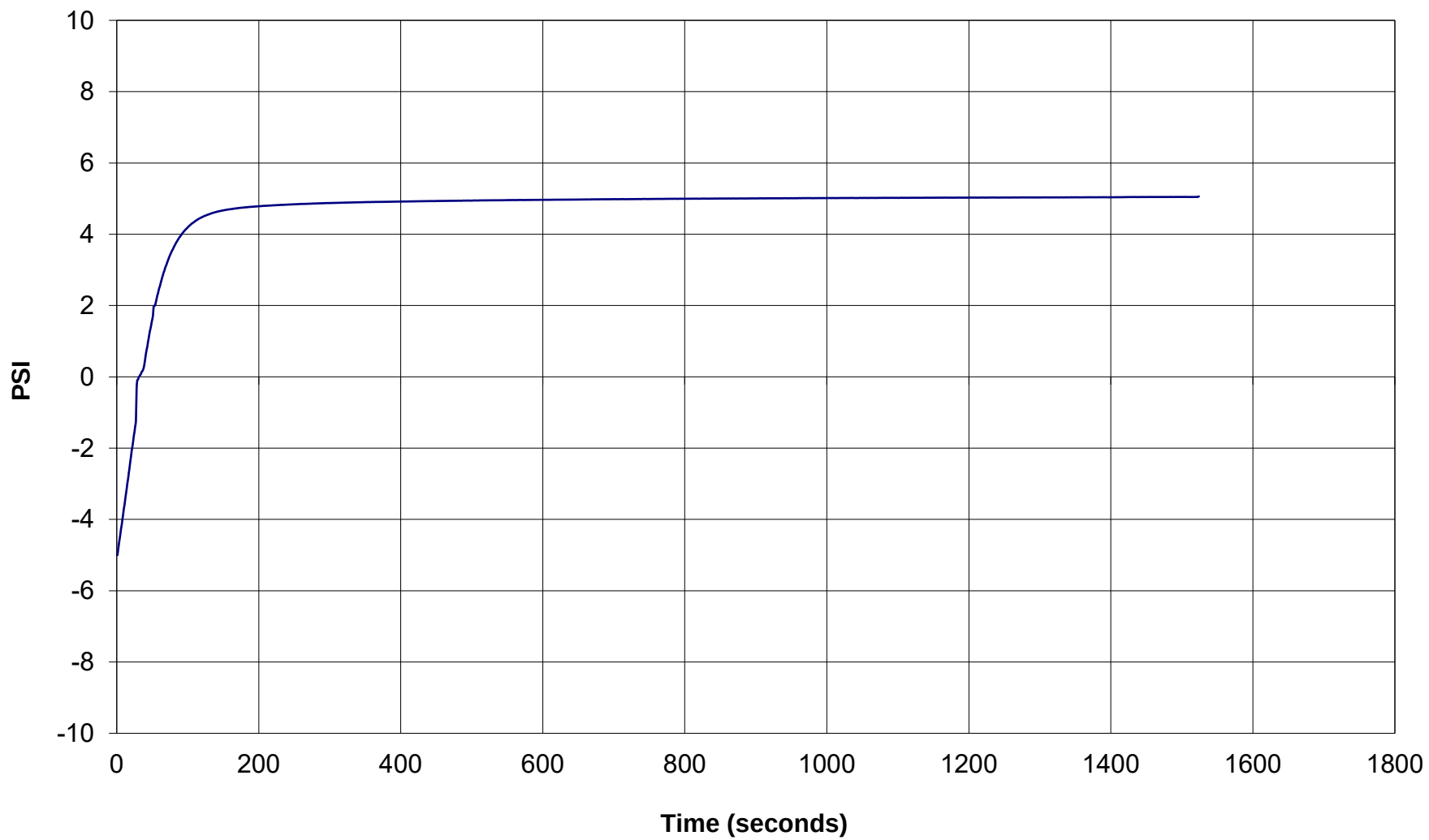
Sounding: CPT-18
Depth (ft): 63.06
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

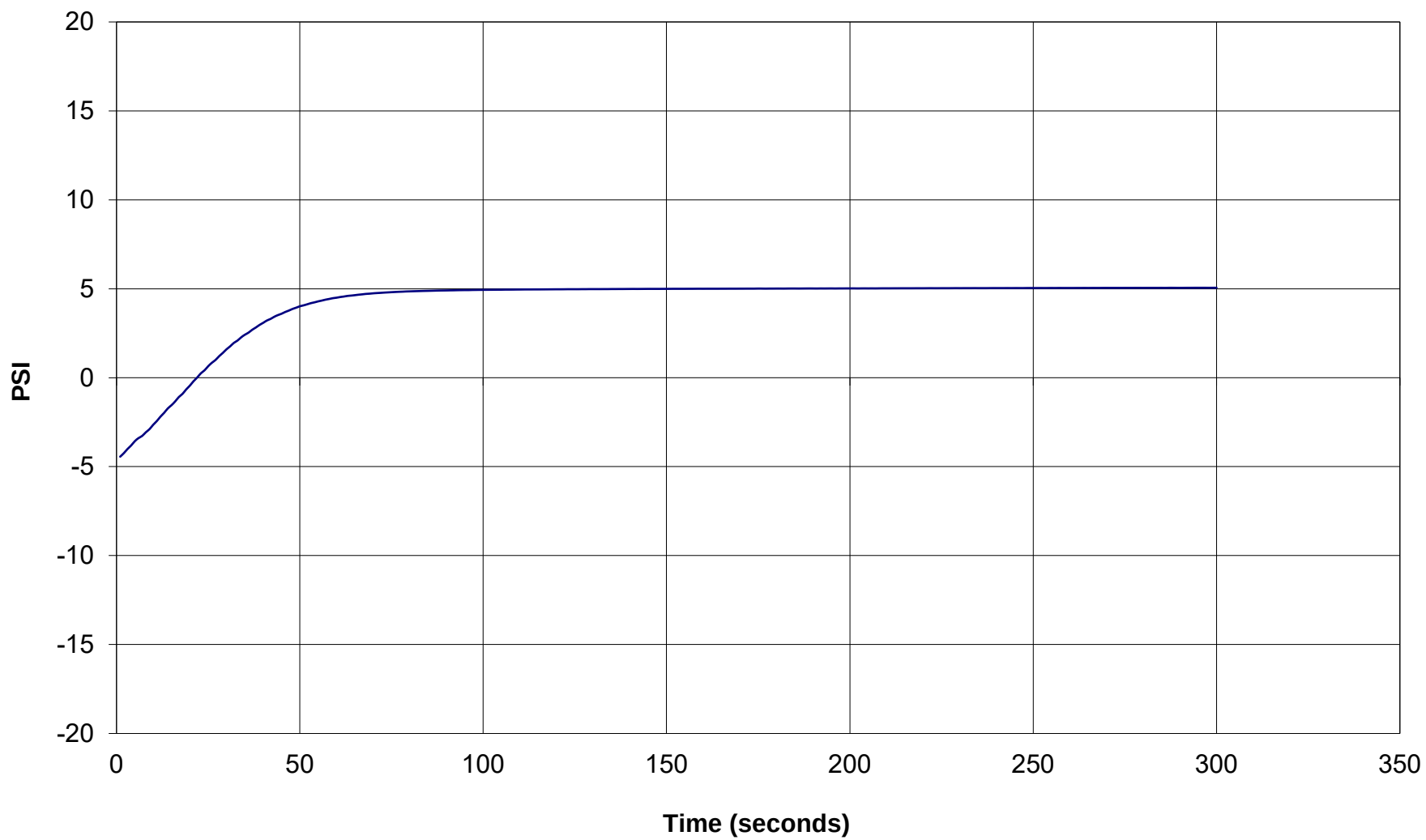
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Depth (ft): 15.03
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

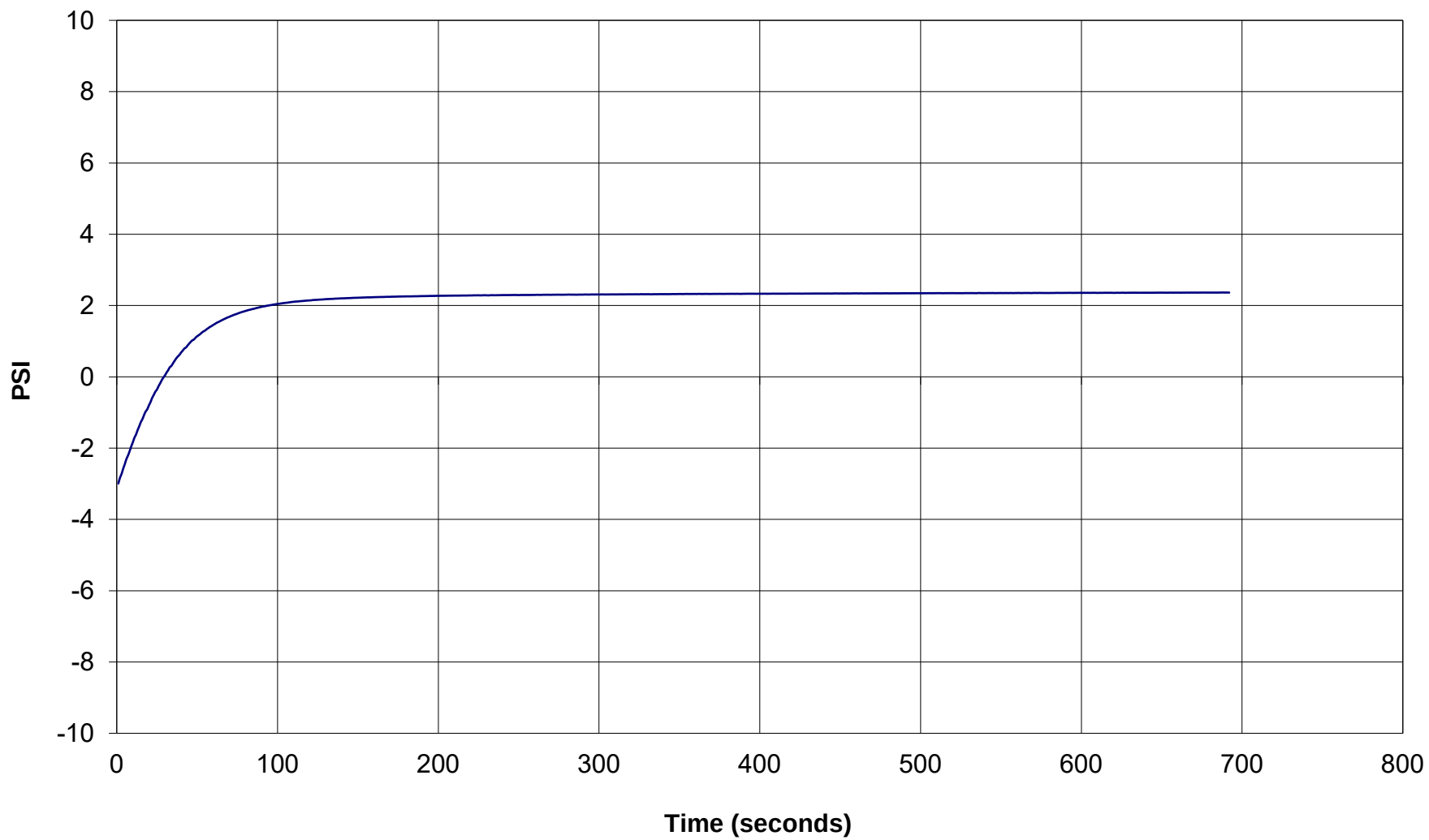
Sounding: CPT-20
Depth (ft): 16.27
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

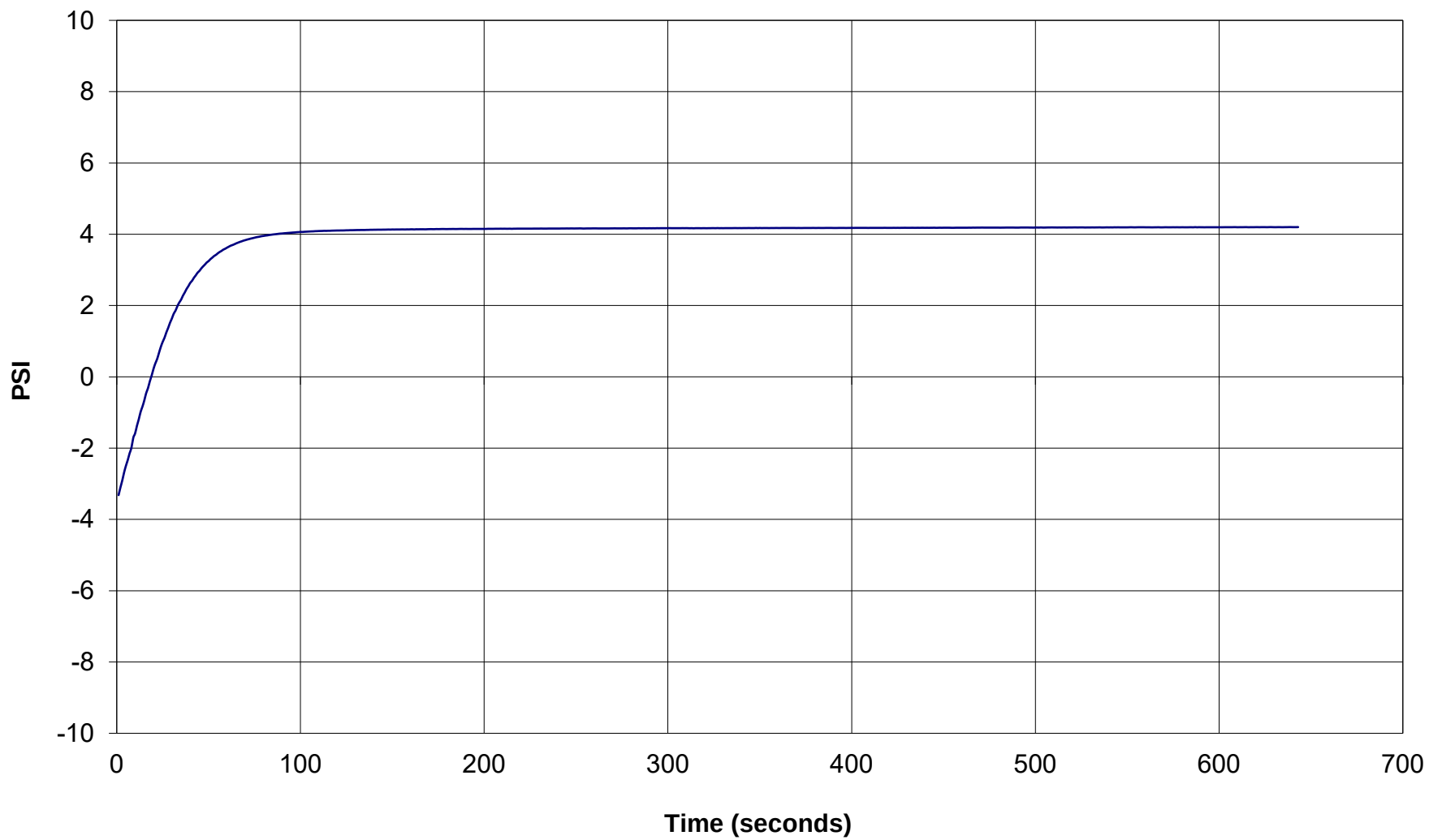
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Depth (ft): 14.11
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

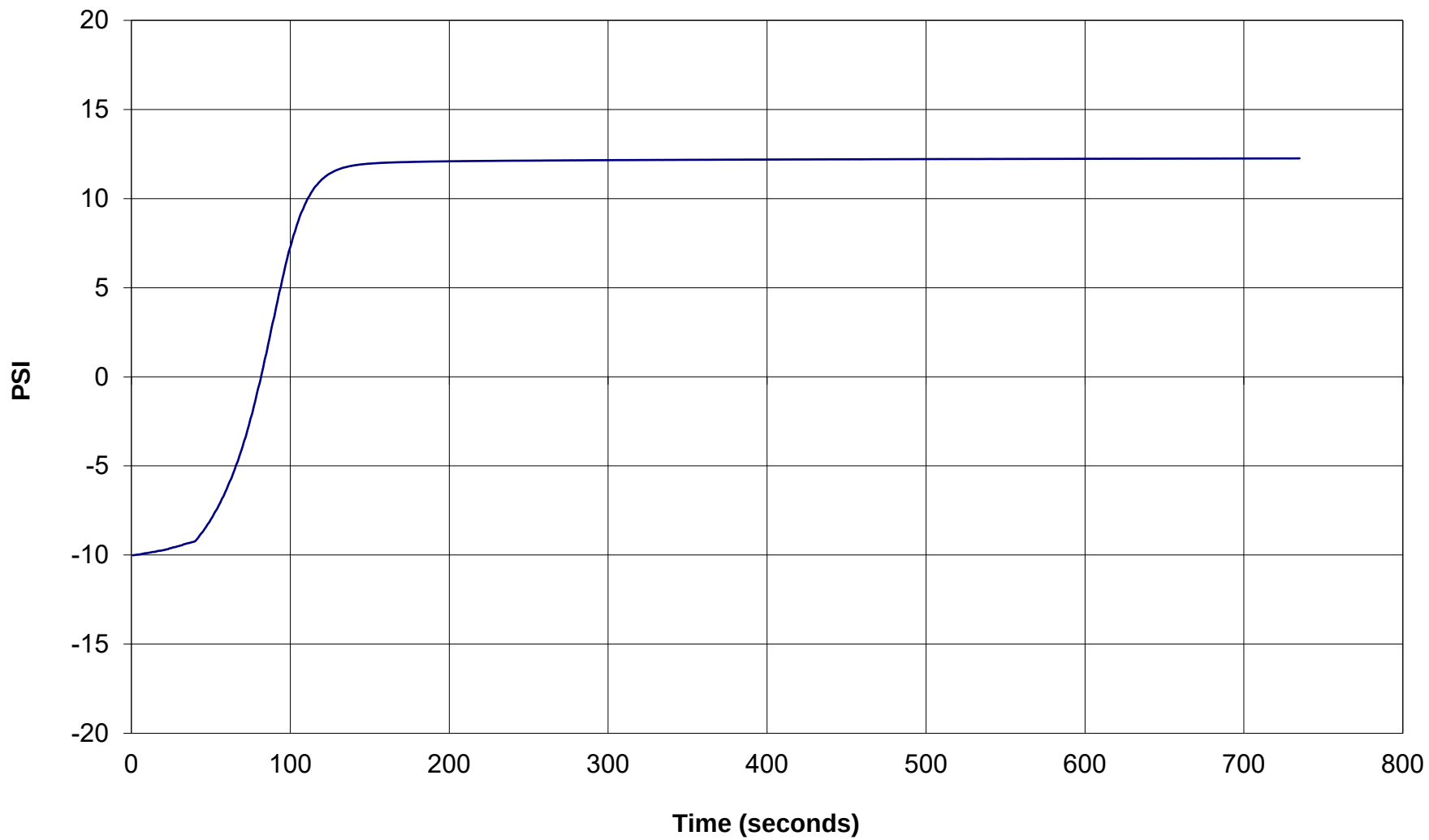
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Depth (ft): 14.57
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

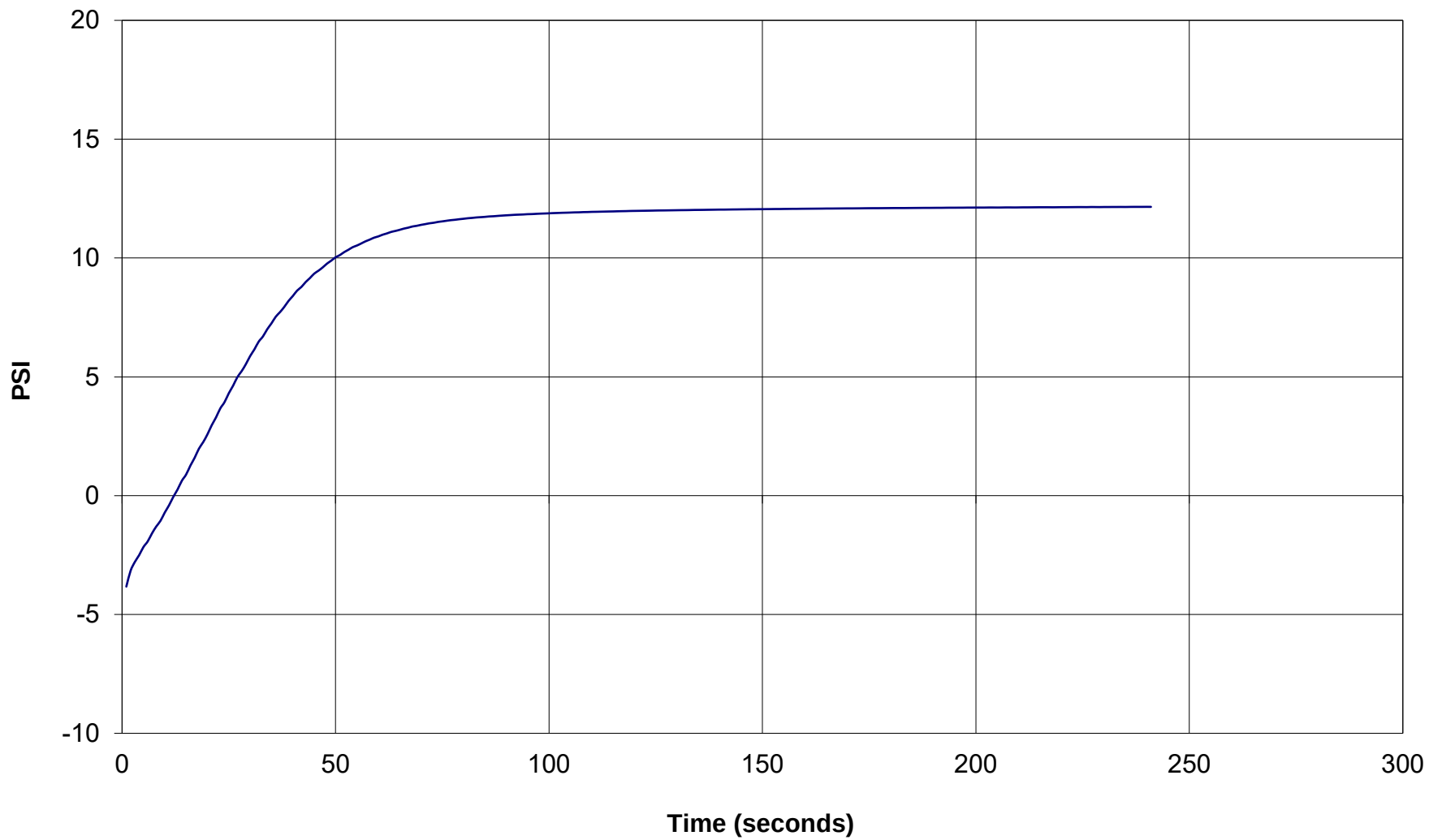
Sounding: CPT-23
Depth (ft): 32.94
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

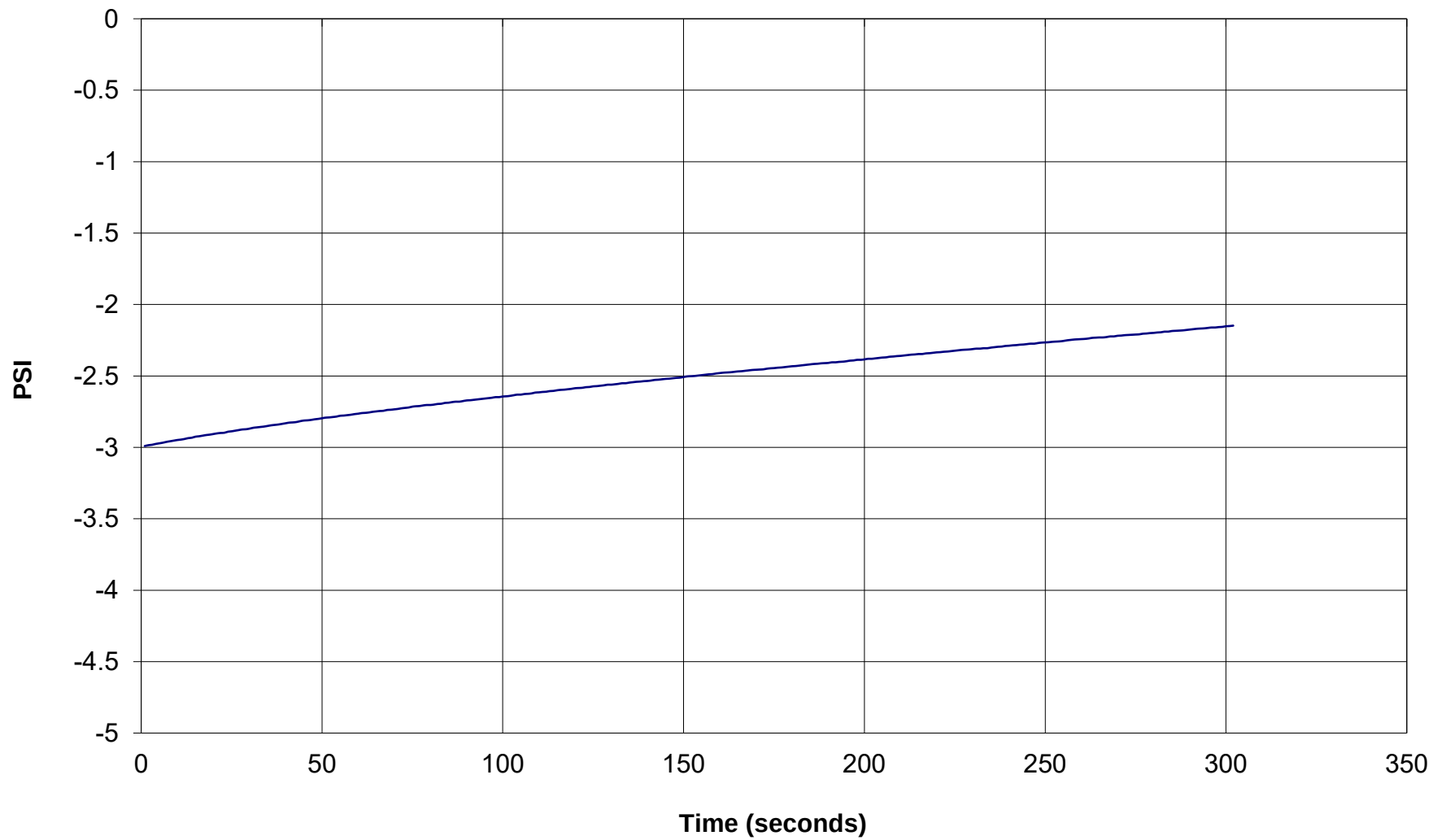
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Depth (ft): 33.14
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

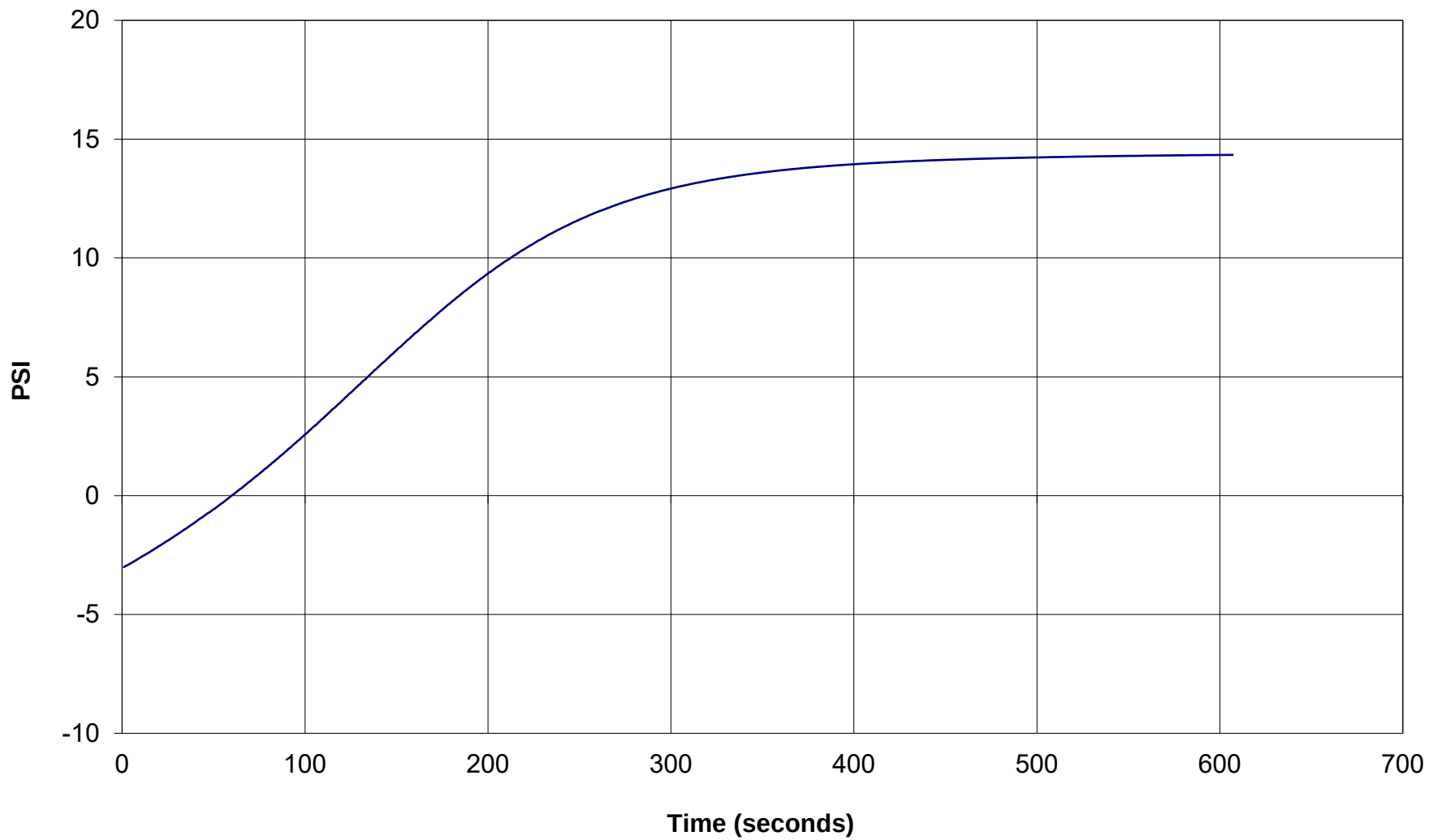
Sounding: CPT-25
Depth (ft): 23.49
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

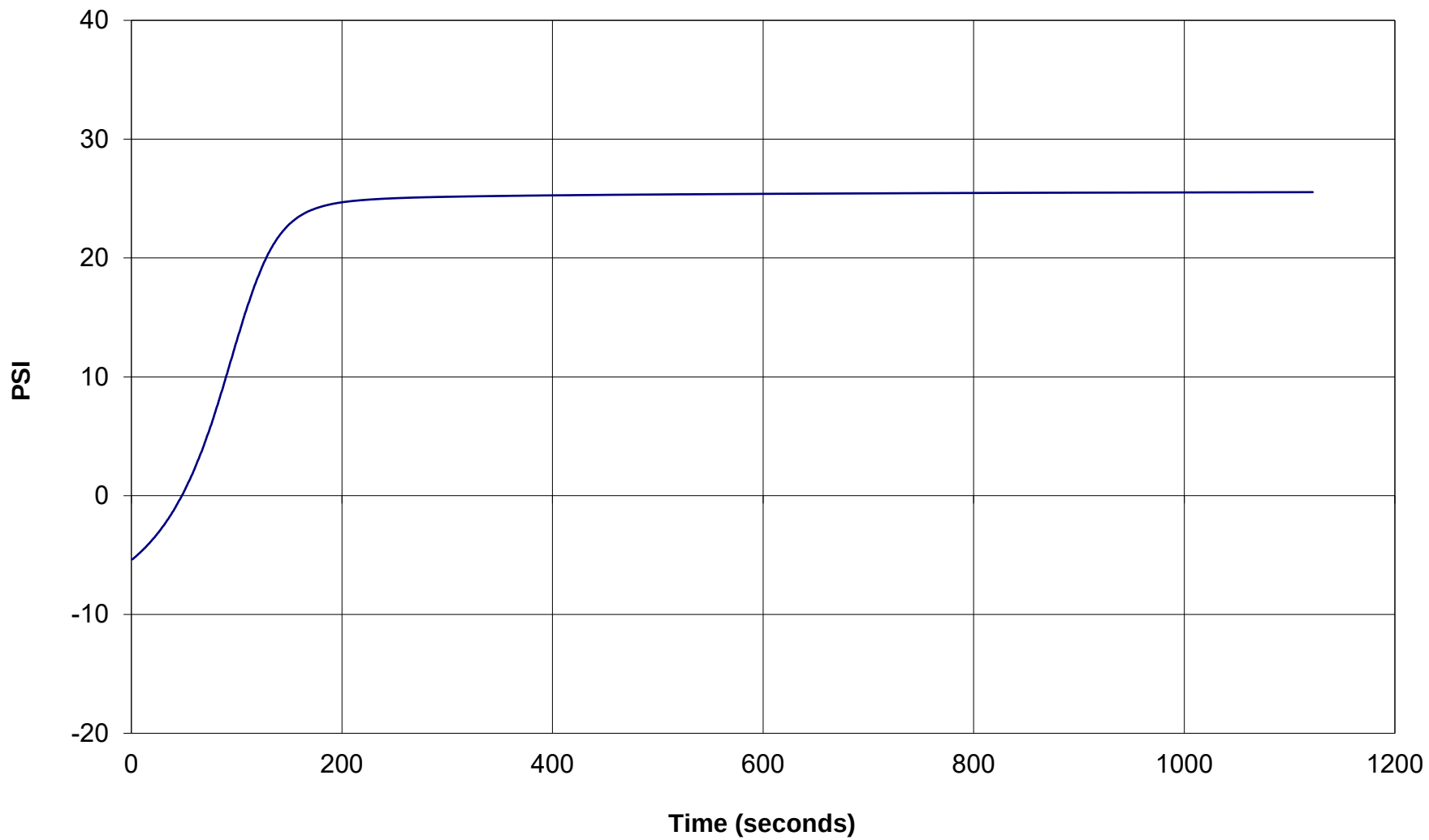
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Depth (ft): 34.58
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

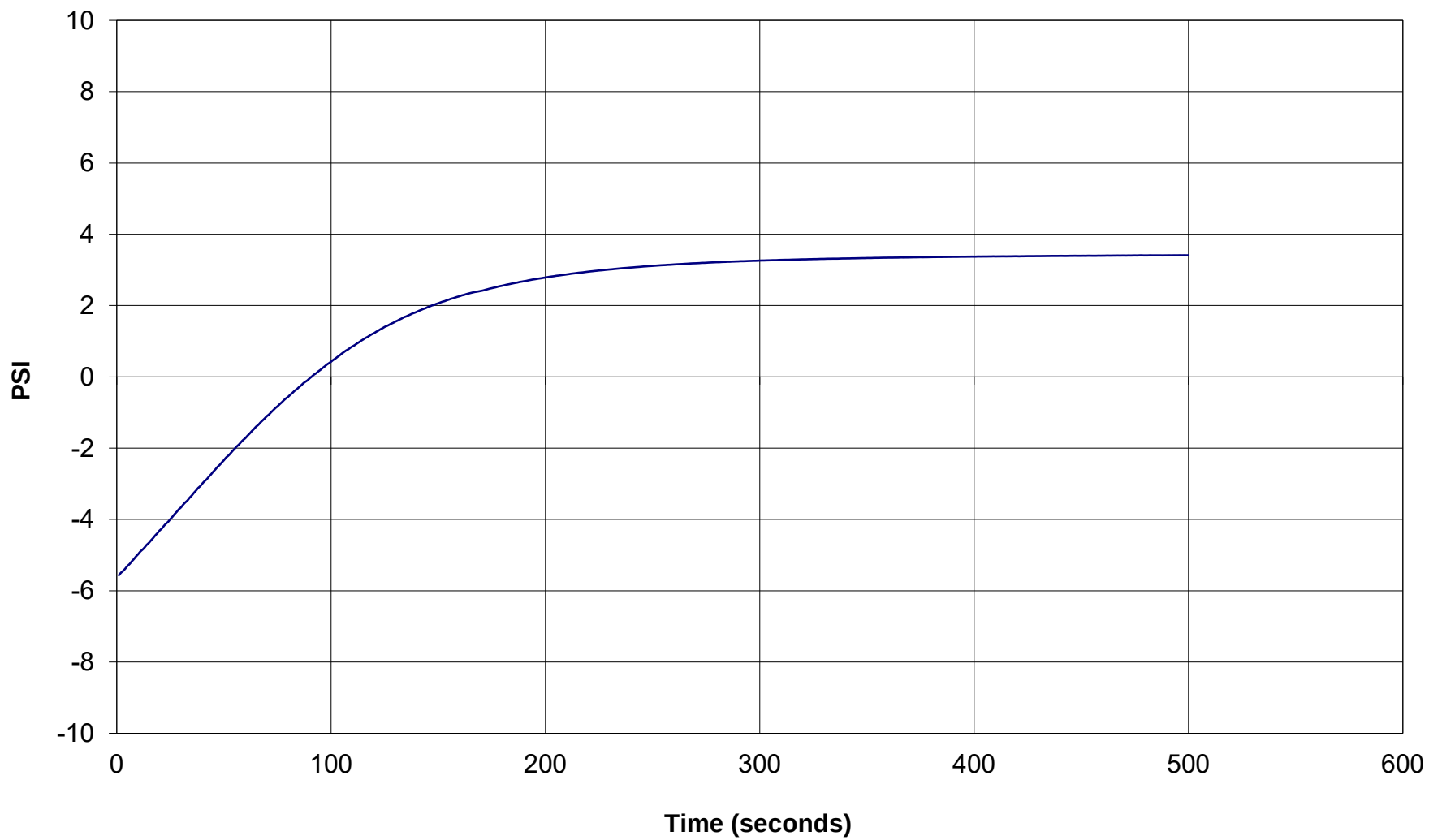
Sounding: CPT-26
Depth (ft): 60.76
Site: Bay Trail
East Palo Alto





Pitcher Services, LLC
Pore Pressure Dissipation Test

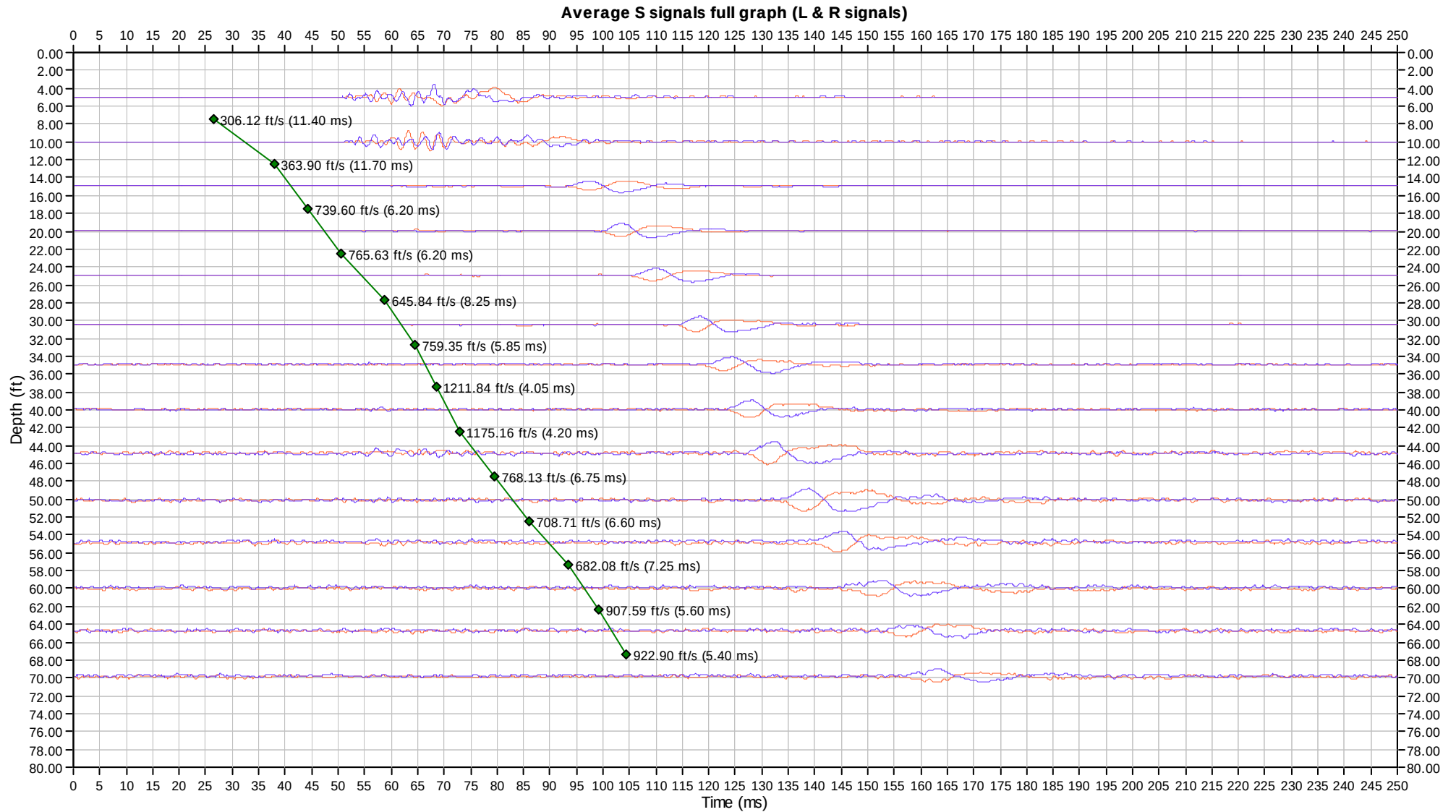
Sounding: CPT-27
Depth (ft): 14.89
Site: Bay Trail
East Palo Alto

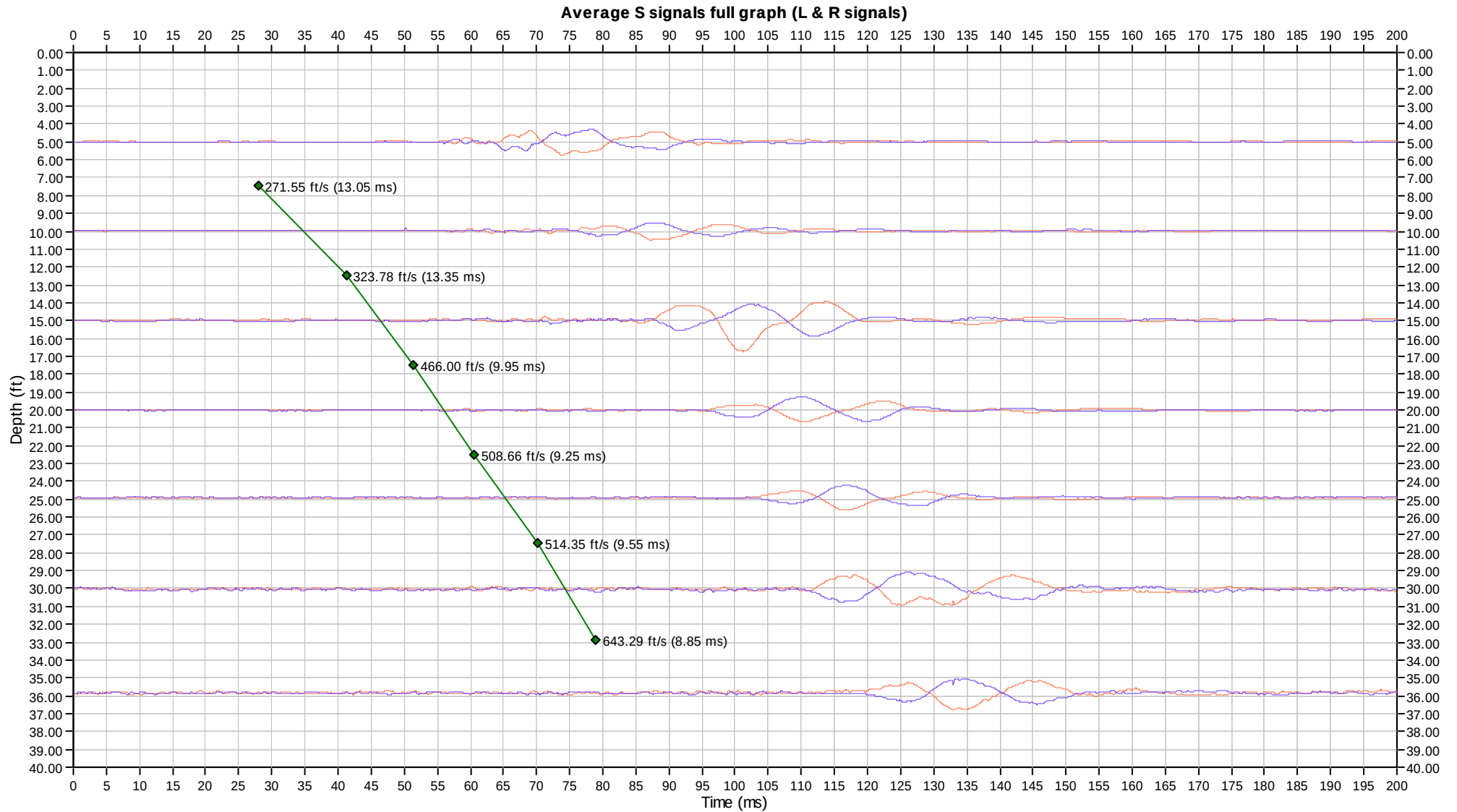


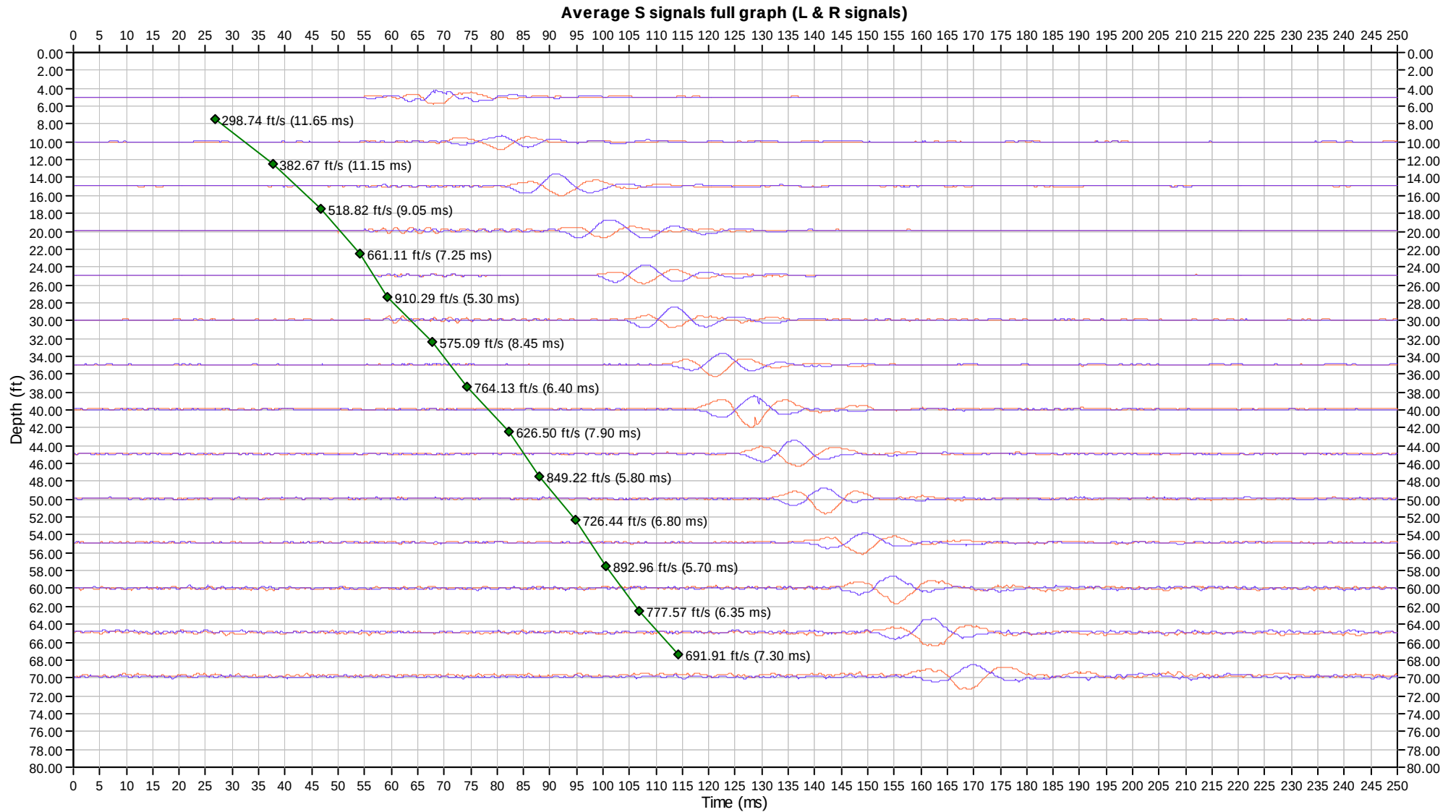
APPENDIX C:

SEISMIC

PLOTS & TABLES

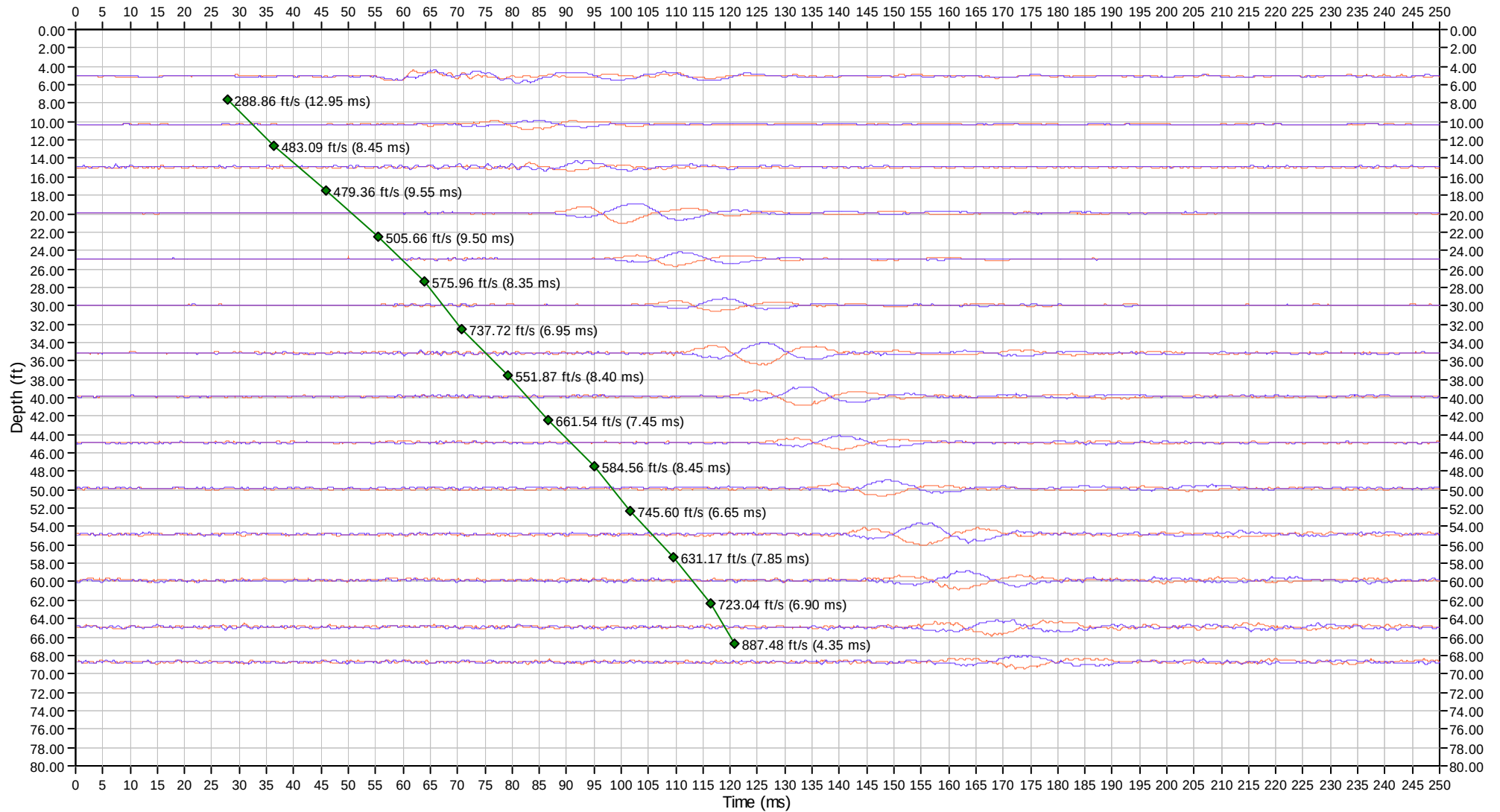


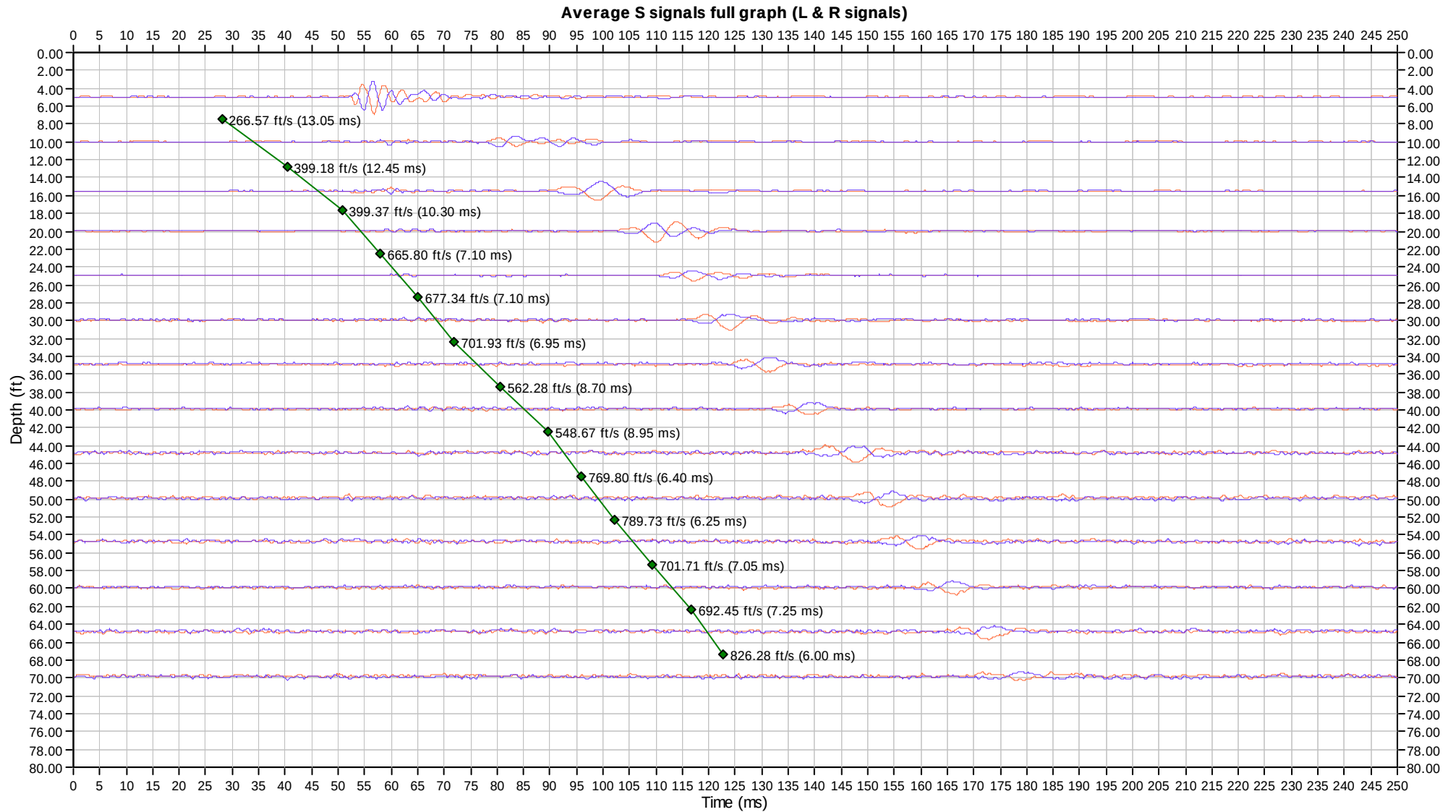






Average S signals full graph (L & R signals)





APPENDIX C

VST Results



VANE SHEAR TESTING (VST) REPORT

Pitcher Services LLC

Prepared for: Geosyntec

January 27, 2026

Prepared by: Eleni Pateras
reports@greggdrilling.com



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Geonor H-10 Technical Specification 4

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APPENDIX A: Vane Shear Test Plots

Pitcher Services Vane Testing

January 27, 2026

Geosyntec

Attn: Isha

Subject: VST Site Investigation
Bay Trail Exploration
East Palo Alto, CA
Pitcher Project Number: P7261003

Dear Isha:

The following report presents the results of Pitcher's Vane Shear Test investigation for the above referenced site. The following testing services were performed:

1	Vane Shear Tests	(VST)	☒
2	Pressuremeter Tests	(PST)	☐
3	Dilatometer Tests	(DMT)	☐

A list of reference papers providing additional background on the specific tests conducted is provided in the bibliography following the text of the report. If you would like a copy of any of these publications or should you have any questions or comments regarding the contents of this report, please do not hesitate to contact me at reports@greggdrilling.com.

Sincerely,

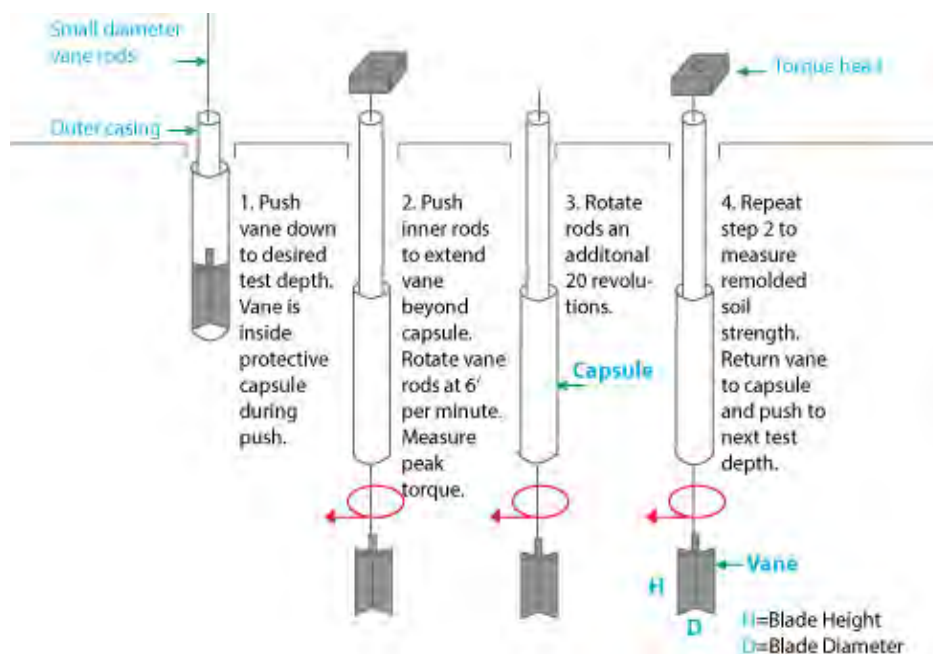
Eleni Pateras
Gregg Drilling, LLC.

Background

The Vane Shear Test (VST) is an in-situ method for determining the peak and remoulded undrained shear strength of cohesive soils. The VST involves pushing a four-bladed vane into undisturbed soil and slowly rotating it from the surface to determine the torque required to shear soil in cylindrical surface. The vane rod should be rigid enough to transfer load during the test. For, proper determination of soil strength friction of vane rod and instrument should be accounted for. This method is mostly useful for determining in-situ shear strength of soil where sample for laboratory test cannot be obtained. The test is carried out as per ASTM D2573 standards.

Gregg Drilling uses a Geonor H-10 vane to measure the in-place undrained shear strength (s_{uv}) of soft to stiff clays & silts. An appropriately sized vane is selected based on the anticipated peak undrained shear strength for the soils encountered at the site. A small vane is typically used for stiff soils, whereas the large vane is required in softer soils. Gregg's Geonor field vane test can be operated with either a 55mm or a 65mm diameter vane.

The vane is advanced to the test depth by pushing on small diameter vane rods. Once the vane rods and the vane reach the test depth the torque recording head is placed over the push rods and locked to the vane rod string. The vane rods are then loaded using the torque recording head until yielding of the surrounding soil occurs. Once yielding occurs, rotation of the vane is continued to characterize the soils post yielding shear resistance, Figure FVST. The vane is then manually rotated clockwise twenty times to completely remold the soil. Once the soil is remolded, the motor is again engaged onto the torque head. The vane is then rotated to record the remolded strength of the soil. Measurements can be taken with both a manual read-out and a digital read-out for increased accuracy.



Geonor H-10 Technical Specification

Installation: pressure push-in, no hammering. By hand with the Geonor ground-anchored jacking system or with hydraulic drilling rig.

Instrument: Gear driven, accuracy of torque reading: +/- 0.5% of range.

Measurement range: From 0-60 kPa (0-6 T/m²) and 0-100 kPa (0-10 T/m²)

Lower section:

Total length with the vane extended: 1430mm

Max outer diameter: 77mm

Weight: 15kg

Two different sizes of vanes available: 55mm x 110mm and 65mm x 130mm

Instrument:

Max outer diameter: 320mm

Weight including instrument box: 16kg

Vane Borer H-10 complete for 30m depth consists mainly of:

- Readout instrument complete
- Vane borer lower part with vanes
- Set of spare vanes and protection tube
- 30 extension tubes and rods
- Preboring equipment complete
- Complete insertion/extraction with rack jack, ball cone clamp, anchoring screws etc.
- Steel transport cases



Pitcher Services Vane Testing

Table 1: Field Vane Test Sounding Summary

Boring ID	Date	Test Depth (ft)	Comments
GS26-B-3	1/14/2026	6.5	Refusal
GS26-B-3	1/14/2026	11.5	Refusal, no shear
GS26-B-6	1/14/2026	6.5	Shear, Undisturbed test & remolded test
GS26-B-6	1/14/2026	11.5	Shear, Undisturbed test & remolded test

APPENDIX A:

VST PLOTS

CLIENT

SITE

LOCATION

VANE TYPE

VANE DIAMETER, d (mm)

VANE LENGTH, l (mm)

Geosyntec

Bay Trail Exploration

GS26-B-3

Geonor H-10

65

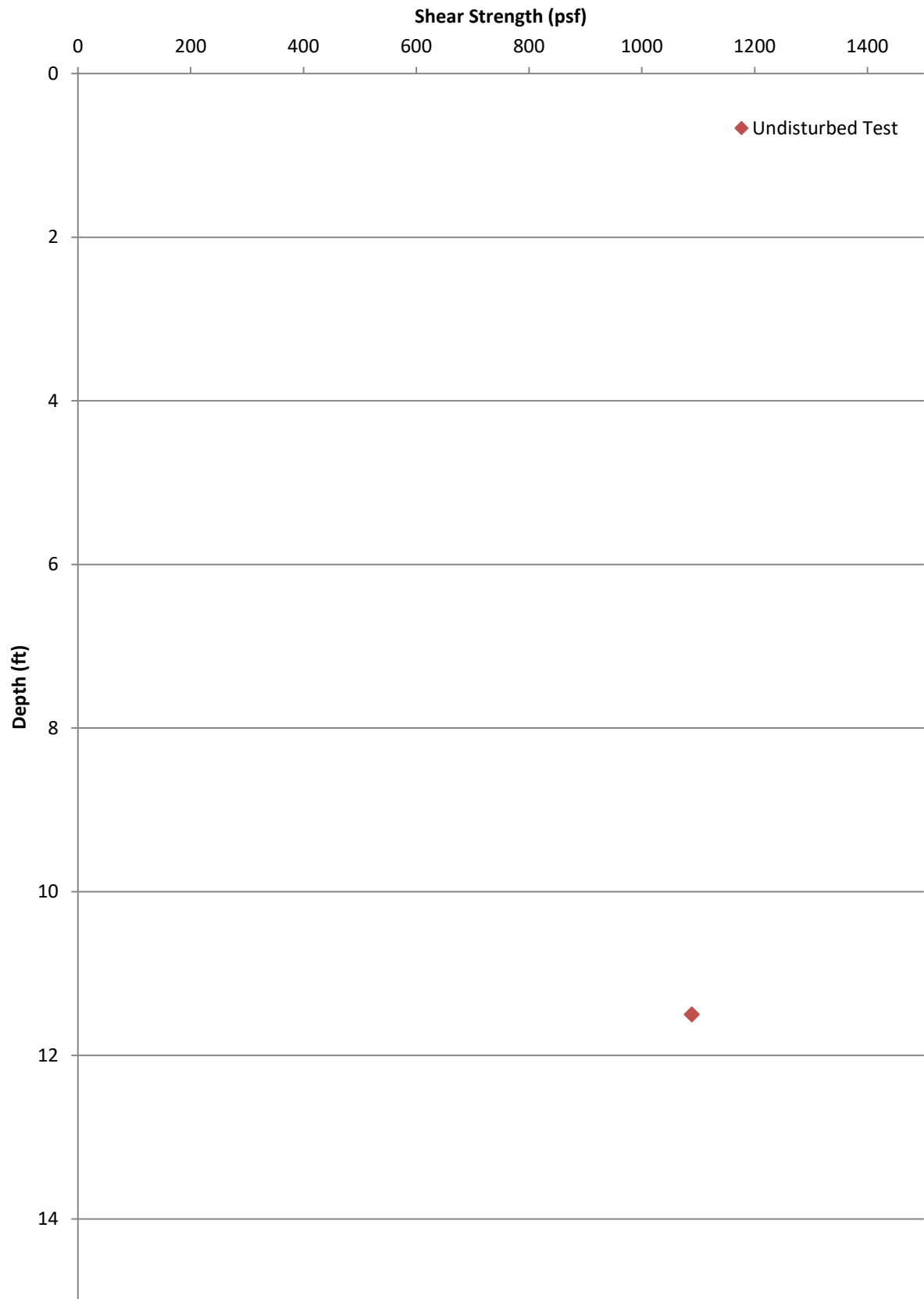
130

GREGG

					REMOLDED			SENSITIVITY
DEPTH	DEPTH	PEAK INSTRUMENT READING	SHEAR STRENGTH	SHEAR STRENGTH	STEADY-STATE	SHEAR	SHEAR	
					INSTRUMENT READING	STRENGTH	STRENGTH	
(m)	(ft)	(N)	(kPa)	(psf)	(N)	(kPa)	(psf)	
1.98	6.5	NA	NA	NA	NA	NA	NA	NA
3.51	11.5	299.86	52.11	1088.53	NA	NA	NA	NA

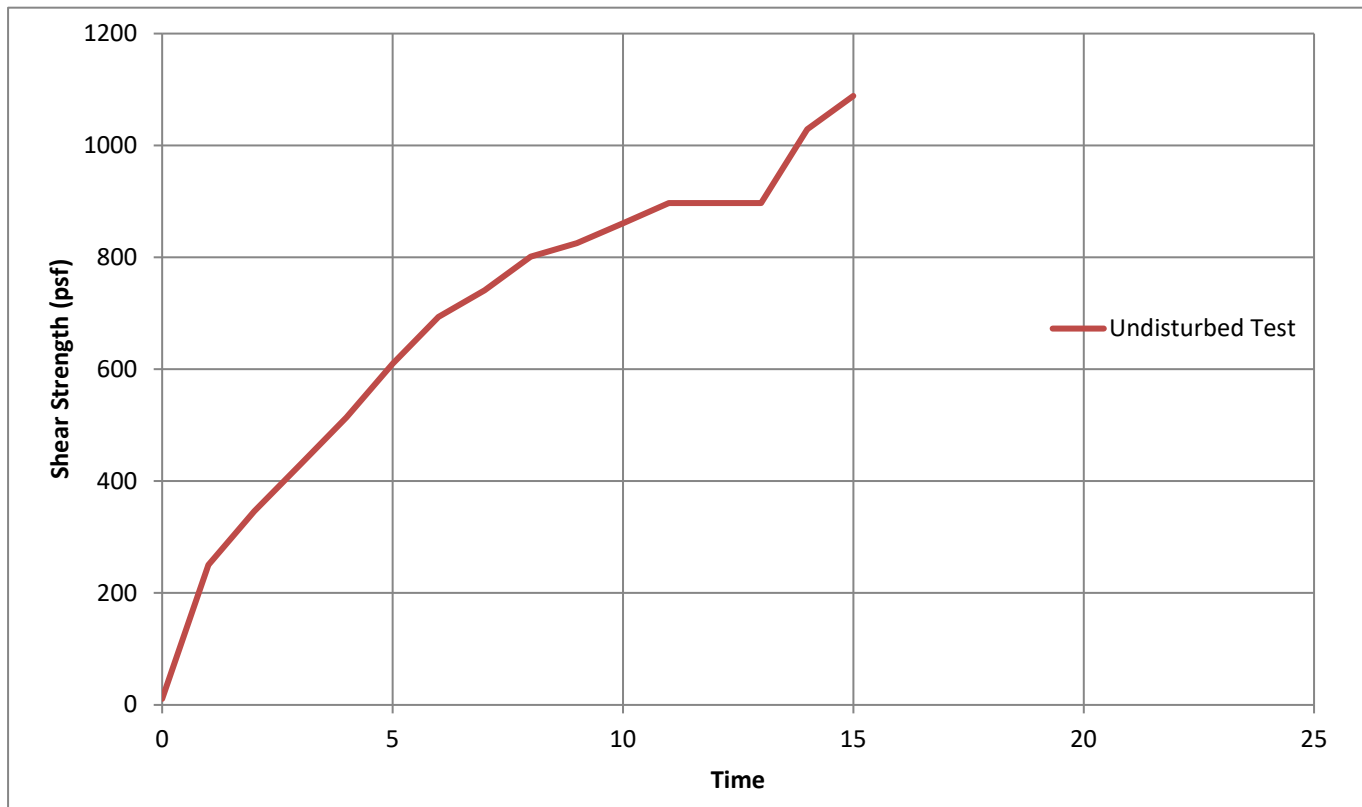


Bay Trail Exploration - Boring GS26-B-3



Location: GS26-B-3
Depth: 11.5

**Max Shear
Strength:** 52.11 kPa
1088.53 psf



CLIENT

SITE

LOCATION

VANE TYPE

VANE DIAMETER, d (mm)

VANE LENGTH, l (mm)

Geosyntec

Bay Trail Exploration

GS26-B-6

Geonor H-10

65

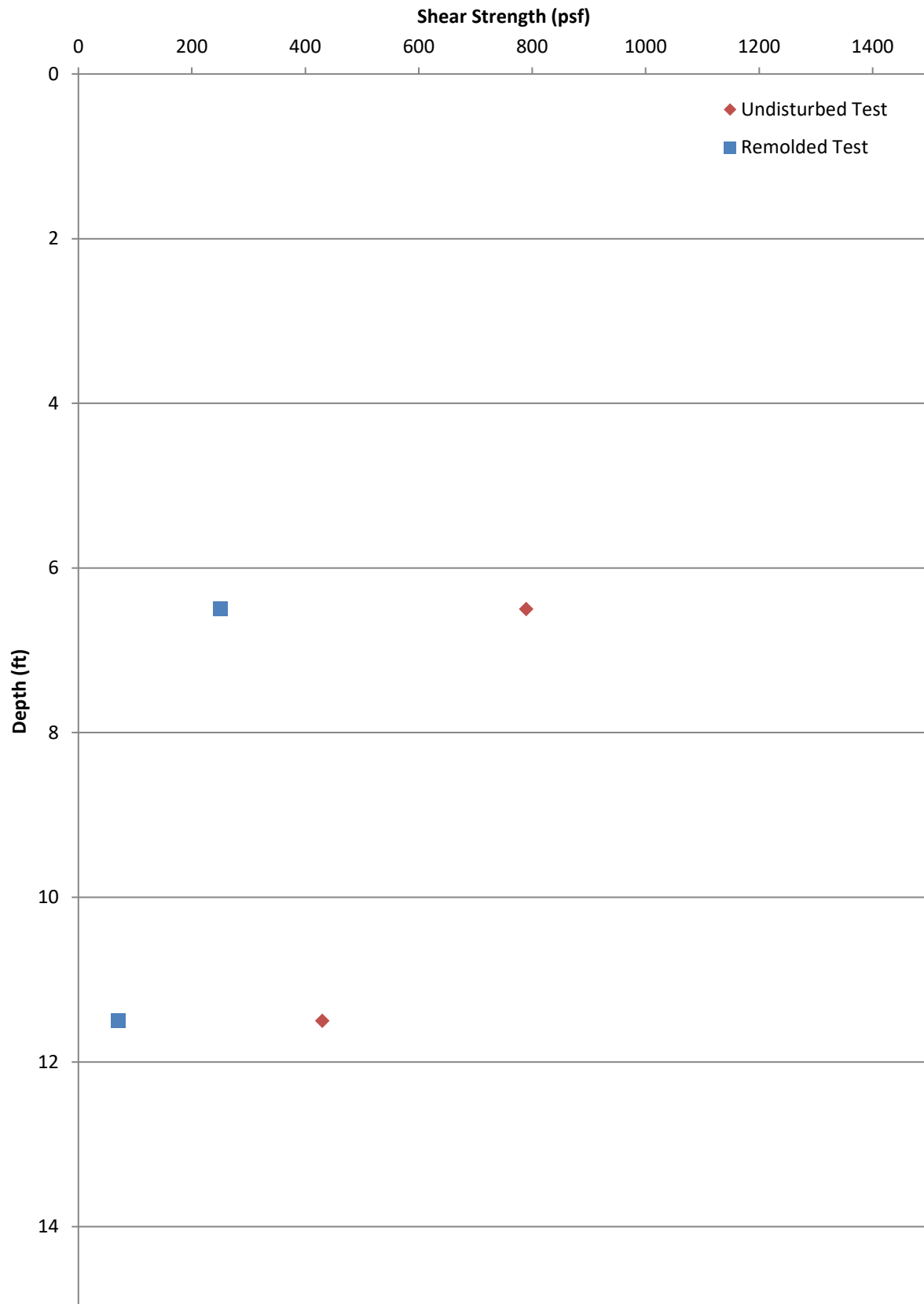
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GREGG

					REMOLDED			SENSITIVITY
DEPTH	DEPTH	PEAK INSTRUMENT READING	SHEAR STRENGTH	SHEAR STRENGTH	STEADY-STATE	SHEAR	SHEAR	
					INSTRUMENT READING	STRENGTH	STRENGTH	
(m)	(ft)	(N)	(kPa)	(psf)	(N)	(kPa)	(psf)	
1.98	6.5	217.39	37.78	789.18	68.96	11.98	250.34	3.2
3.51	11.5	118.44	20.58	429.96	19.48	3.39	70.73	6.1

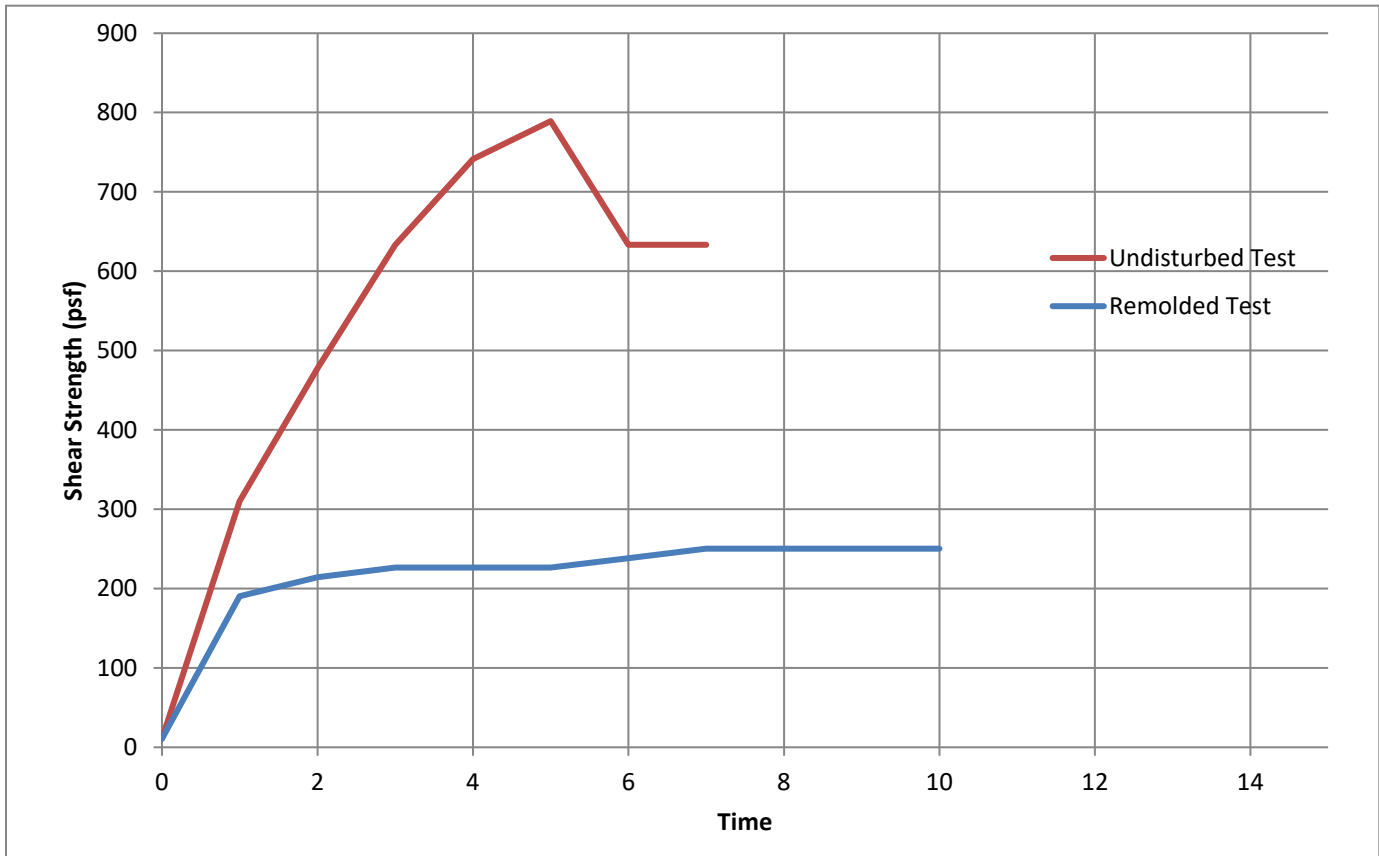


Bay Trail Exploration - Boring GS26-B-6



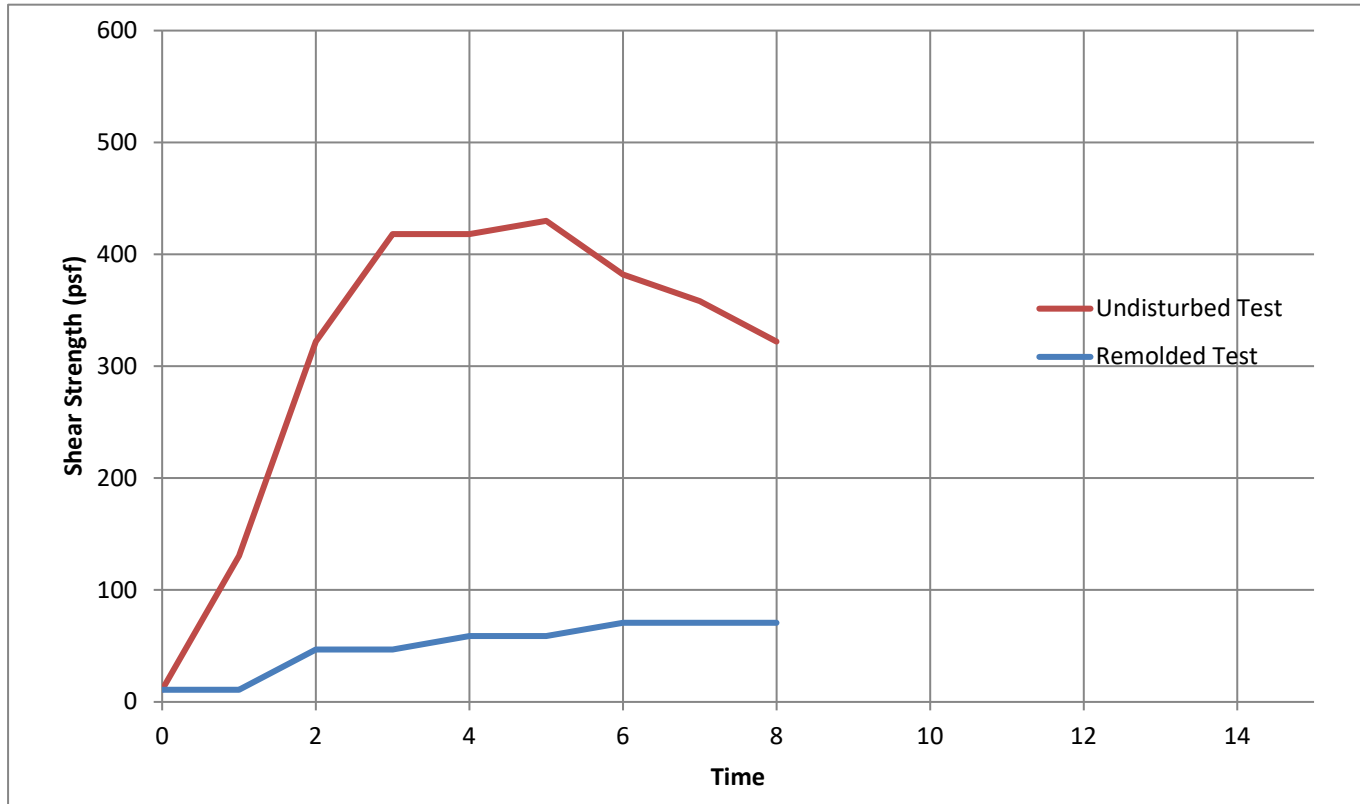
Location: GS26-B-6
Depth: 6.5

Max Shear Strength: 37.78 kPa
789.18 psf
Steady-state remolded: 250.34 psf



Location: GS26-B-6
Depth: 11.5

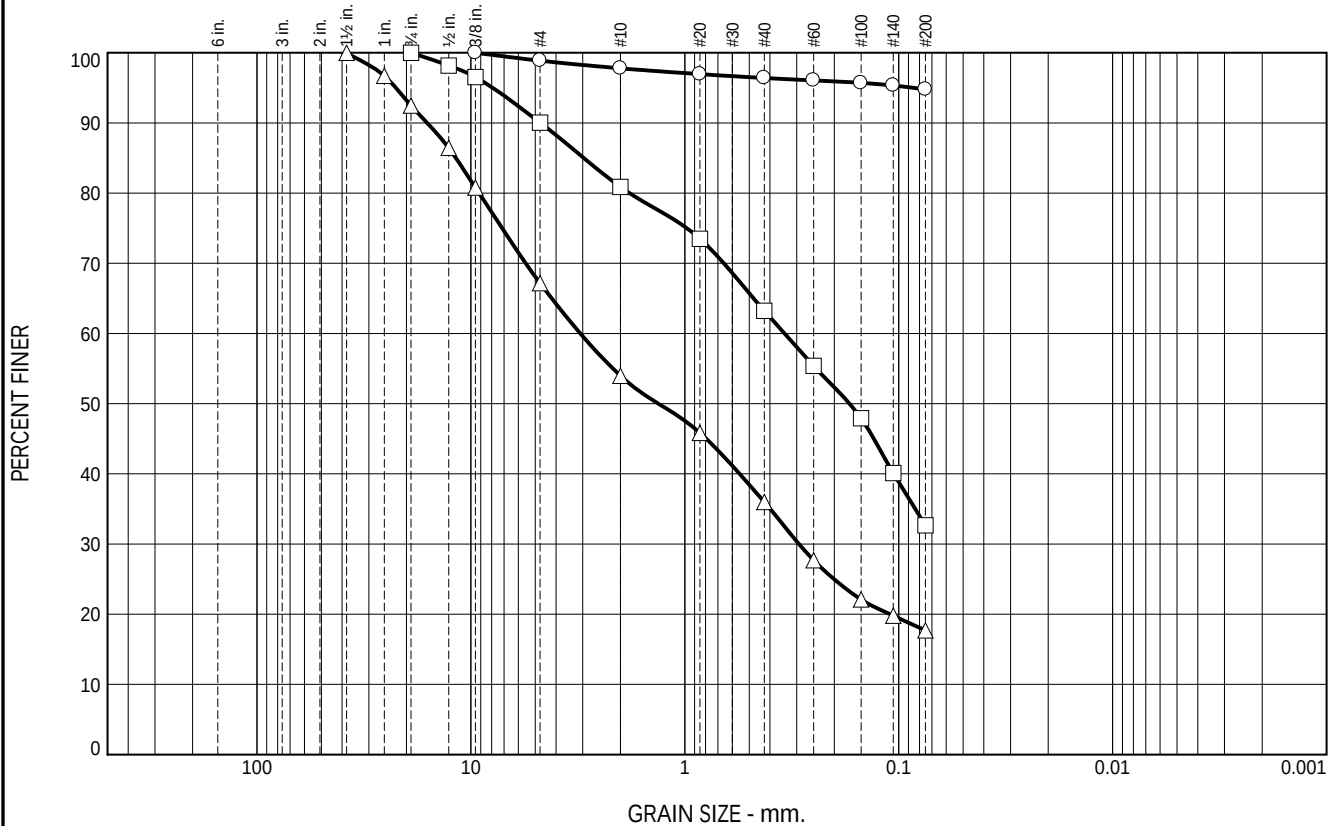
Max Shear
Strength: 20.58 kPa
429.96 psf
Steady-state remolded: 70.73 psf



APPENDIX D

Laboratory Test Results

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PL	PI
○	0.0	1.1	4.1	94.8					
□	0.0	10.0	57.3	32.7					
△	0.0	32.8	49.5	17.7					

SIEVE inches size	PERCENT FINER		
	○	□	△
1.5			100.0
1"			96.7
3/4"		100.0	92.5
1/2"		98.2	86.4
3/8"	100.0	96.5	80.8
GRAIN SIZE			
D ₆₀		0.3416	3.0777
D ₃₀			0.2928
D ₁₀			
COEFFICIENTS			
C _c			
C _u			

SIEVE number size	PERCENT FINER		
	○	□	△
#4	98.9	90.0	67.2
#10	97.8	80.9	54.0
#20	97.0	73.5	45.8
#40	96.4	63.2	36.0
#60	96.1	55.4	27.7
#100	95.7	47.9	22.1
#140	95.3	40.1	19.8
#200	94.8	32.7	17.7

Material Description

○ Yellowish Brown CLAY

□ Olive Brown Clayey SAND

△ Olive Brown Clayey SAND w/ Gravel

REMARKS:

○

□ Due to the small sample size, relative to the largest particle size, this data should be considered to be approximate.

△ Due to the small sample size, relative to the largest particle size, this data should be considered to be approximate.

○ Source of Sample: B1

Depth: 50-52'

Sample Number: B1-14

□ Source of Sample: B2

Depth: 20-21.5'

Sample Number: B2-4

△ Source of Sample: B2

Depth: 35-36.5'

Sample Number: B2-8

COOPER TESTING LABORATORY

Client: Geosyntec Consultants

Project: WG3607

Project No.: 461-392

Figure

Particle Size Distribution Report

	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PL	PI
○	0.0	81.5	13.1	5.4					
□	0.0	0.0	79.2	20.8					
△	0.0	11.6	27.3	61.1		CL	38	16	22

SIEVE inches size	PERCENT FINER		
	○	□	△
1.5	100.0		100.0
1"	87.6		100.0
3/4"	77.8		91.2
1/2"	55.1		91.2
3/8"	40.5		91.2
GRAIN SIZE			
D ₆₀	13.8591	0.1347	
D ₃₀	7.3174	0.0995	
D ₁₀	0.5050		
COEFFICIENTS			
C _c	7.65		
C _u	27.44		

SIEVE number size	PERCENT FINER		
	○	□	△
#4	18.5		88.4
#10	14.8	100.0	85.7
#20	11.5	100.0	83.1
#40	9.5	100.0	80.2
#60	7.8	99.9	76.3
#100	6.6	71.0	71.5
#140	6.0	33.9	67.4
#200	5.4	20.8	61.1

Material Description

○ Olive Brown Poorly Graded GRAVEL w/ Clay

□ Dark Olive Brown Clayey SAND

△ Olive Sandy Lean CLAY

REMARKS:

○ Due to the small sample size, relative to the largest particle size, this data should be considered to be approximate.

□

△ Due to the small sample size, relative to the largest particle size, this data should be considered to be approximate.

○ Source of Sample: B2 Depth: 40-41.5'

□ Source of Sample: B2 Depth: 65-67.5'

△ Source of Sample: B3 Depth: 25-27.5'

Sample Number: B2-9

Sample Number: B2-14

Sample Number: B3-6

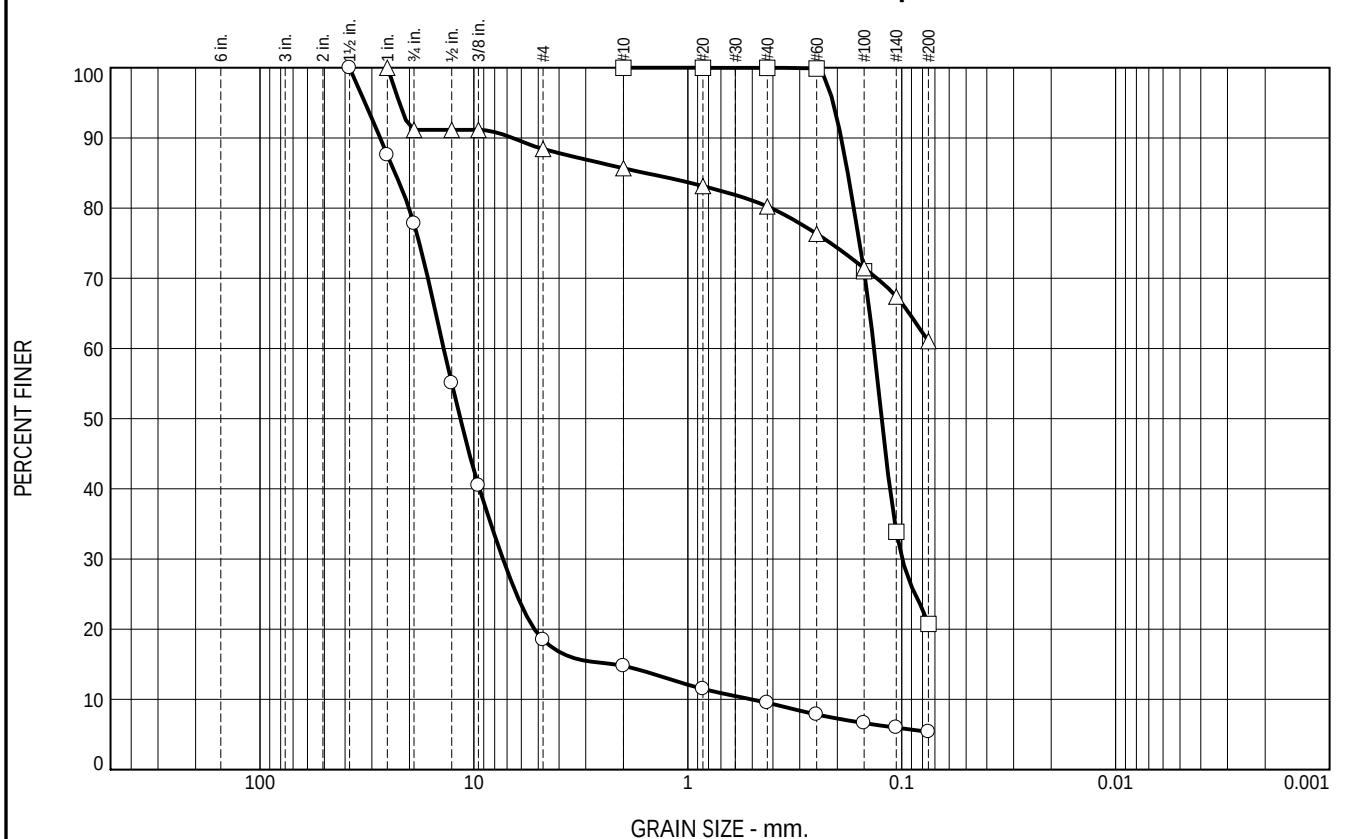
COOPER TESTING LABORATORY

Client: Geosyntec Consultants

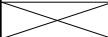
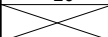
Project: WG3607

Project No.: 461-392

Figure



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PL	PI
○	0.0	81.5	13.1	5.4					
□	0.0	0.0	79.2	20.8					
△	0.0	11.6	27.3	61.1		CL	38	16	22

SIEVE inches size	PERCENT FINER		
	○	□	△
1.5	100.0		
1"	87.6		100.0
3/4"	77.8		91.2
1/2"	55.1		91.2
3/8"	40.5		91.2
	GRAIN SIZE		
D ₆₀	13.8591	0.1347	
D ₃₀	7.3174	0.0995	
D ₁₀	0.5050		
	COEFFICIENTS		
C _c	7.65		
C _u	27.44		

SIEVE number size	PERCENT FINER		
	○	□	△
#4	18.5		88.4
#10	14.8	100.0	85.7
#20	11.5	100.0	83.1
#40	9.5	100.0	80.2
#60	7.8	99.9	76.3
#100	6.6	71.0	71.5
#140	6.0	33.9	67.4
#200	5.4	20.8	61.1

○ Olive Brown Poorly Graded GRAVEL w/
Clay

☐ Dark Olive Brown Clayey SAND

△Olive Sandy Lean CLAY

REMARKS:

☐ Due to the small sample size, relative to the largest particle size, this data should be considered to be approximate.

△Due to the small sample size, relative to the largest particle size, this data should be considered to be approximate.

○ Source of Sample: B2	Depth: 40-41.5'
□ Source of Sample: B2	Depth: 65-67.5'
△ Source of Sample: B3	Depth: 25-27.5'

Sample Number: B2-9
Sample Number: B2-14
Sample Number: B3-6

COOPER TESTING LABORATORY

Client:	Geosyntec Consultants
Project:	WG3607

Project No.: 461-392

Figure

Particle Size Distribution Report

	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PL	PI
○	0.0	7.3	1.5	91.2					
□	0.0	0.0	64.6	35.4					
△	0.0	0.4	47.7	51.9		CL-ML	23	17	6

SIEVE inches size	PERCENT FINER		
	○	□	△
1.5	100.0		
1"	93.2		
3/4"	93.2		
1/2"	93.2		
3/8"	93.0		100.0
GRAIN SIZE			
D ₆₀		0.1402	0.1007
D ₃₀			
D ₁₀			
COEFFICIENTS			
C _c			
C _u			

SIEVE number size	PERCENT FINER		
	○	□	△
#4	92.7	100.0	99.6
#10	92.5	100.0	98.8
#20	92.3	100.0	97.5
#40	92.2	99.8	93.2
#60	92.0	93.8	84.0
#100	91.9	63.3	68.9
#140	91.7	48.1	61.3
#200	91.2	35.4	51.9

Material Description

○ Olive Brown CLAY

□ Gray Silty SAND

△ Olive Gray Sandy Silty CLAY

REMARKS:

○ Due to the small sample size, relative to the largest particle size, this data should be considered to be approximate.

□

△

○ Source of Sample: B3 Depth: 45-46.5' Sample Number: B3-10

□ Source of Sample: B3 Depth: 65-66.5' Sample Number: B3-14

△ Source of Sample: B4 Depth: 10-11.5' Sample Number: B4-3

COOPER TESTING LABORATORY

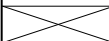
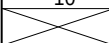
Client: Geosyntec Consultants

Project: WG3607

Project No.: 461-392

Figure

	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PL	PI
○	0.0	7.3	1.5	91.2					
□	0.0	0.0	64.6	35.4					
△	0.0	0.4	47.7	51.9		CL-ML	23	17	6

SIEVE inches size	PERCENT FINER		
	○	□	△
1.5	100.0		100.0
1"	93.2		
3/4"	93.2		
1/2"	93.2		
3/8"	93.0		
	GRAIN SIZE		
D ₆₀	0.1402	0.1007	
D ₃₀			
D ₁₀			
	COEFFICIENTS		
C _c			
C _u			

SIEVE number size	PERCENT FINER		
	○	□	△
#4	92.7	100.0	99.6
#10	92.5	100.0	98.8
#20	92.3	100.0	97.5
#40	92.2	99.8	93.2
#60	92.0	93.8	84.0
#100	91.9	63.3	68.9
#140	91.7	48.1	61.3
#200	91.2	35.4	51.9

☐ Olive Brown CLAY

☐ Gray Silty SAND

△Olive Gray Sandy Silty CLAY

REMARKS:

○ Due to the small sample size, relative to the largest particle size, this data should be considered to be approximate.

○Source of Sample: B3

Depth: 45-46.5'

Sample Number: B3-10

☐ Source of Sample: B3

Depth: 65-66.5'

Sample Number: B3-14

△Source of Sample: B4

Depth: 10-11.5'

Sample Number: B4-3

COOPER TESTING LABORATORY

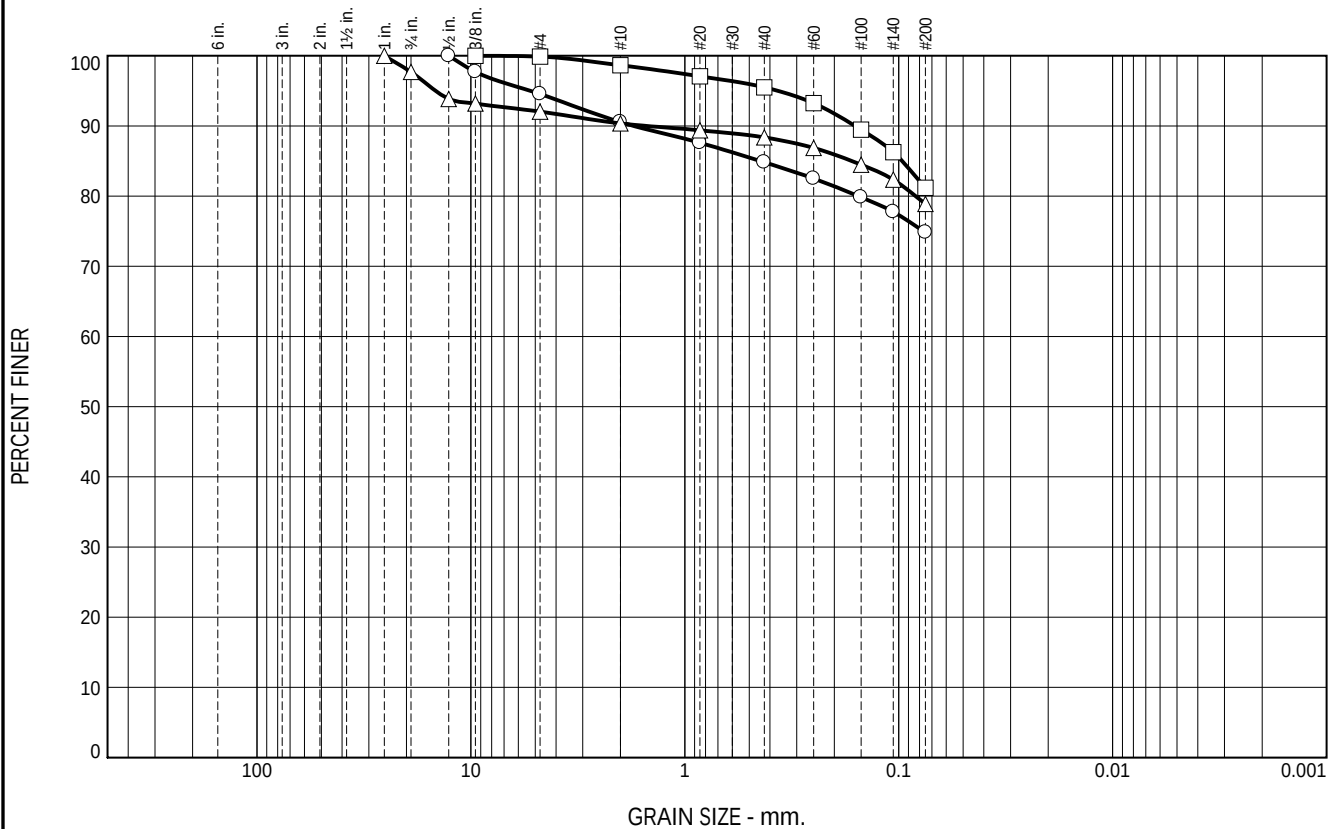
Client: Geosyntec Consultants

Project: WG3607

Project No.: 461-392

Figure

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PL	PI
○	0.0	5.4	19.8	74.8					
□	0.0	0.1	18.7	81.2					
△	0.0	8.0	13.1	78.9		CH	58	20	38

SIEVE inches size	PERCENT FINER		
	○	□	△
1"			100.0
3/4"			97.7
1/2"	100.0		93.8
3/8"	97.7	100.0	93.2
GRAIN SIZE			
D ₆₀			
D ₃₀			
D ₁₀			
COEFFICIENTS			
C _c			
C _u			

SIEVE number size	PERCENT FINER		
	○	□	△
#4	94.6	99.9	92.0
#10	90.6	98.7	90.4
#20	87.6	97.1	89.4
#40	84.8	95.5	88.4
#60	82.5	93.2	86.9
#100	79.8	89.5	84.5
#140	77.8	86.3	82.4
#200	74.8	81.2	78.9

Material Description

○ Olive Gray CLAY w/ Sand

□ Pale Olive CLAY w/ Sand

△ Greenish Gray Fat CLAY w/ Sand

REMARKS:

○

□

△ Due to the small sample size, relative to the largest particle size, this data should be considered to be approximate.

○ Source of Sample: B4

Depth: 20-22.5'

Sample Number: B4-5

□ Source of Sample: B4

Depth: 25.5-26'

Sample Number: B4-7B

△ Source of Sample: B4

Depth: 36-36.5'

Sample Number: B4-9B

COOPER TESTING LABORATORY

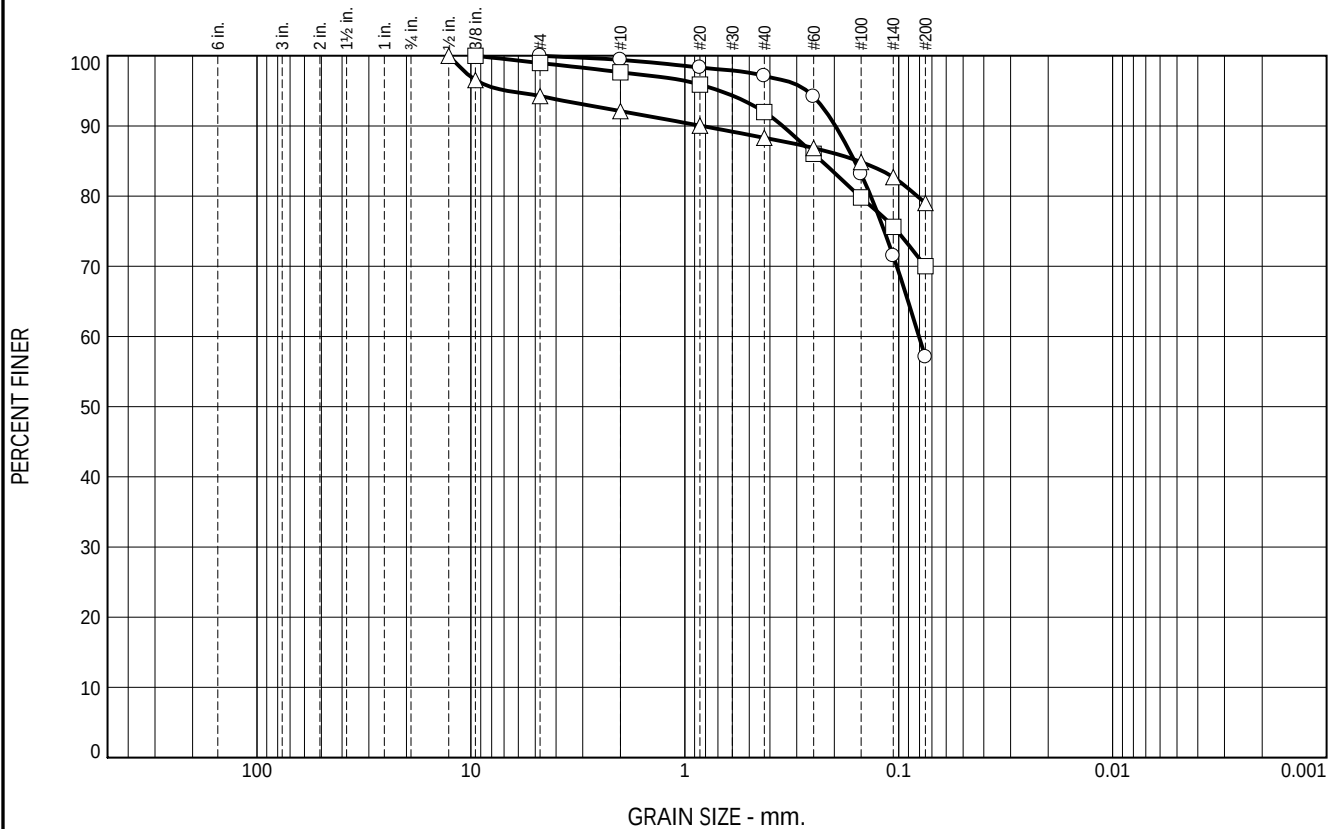
Client: Geosyntec Consultants

Project: WG3607

Project No.: 461-392

Figure

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PL	PI
○	0.0	0.0	42.9	57.1					
□	0.0	1.0	29.0	70.0		CL	40	19	21
△	0.0	5.7	15.3	79.0					

SIEVE inches size	PERCENT FINER		
	○	□	△
1/2"			100.0
3/8"		100.0	96.5
GRAIN SIZE			
D ₆₀	0.0804		
D ₃₀			
D ₁₀			
COEFFICIENTS			
C _c			
C _u			

SIEVE number size	PERCENT FINER		
	○	□	△
#4	100.0	99.0	94.3
#10	99.4	97.6	92.1
#20	98.3	95.9	90.1
#40	97.1	92.0	88.3
#60	94.2	86.0	86.9
#100	83.1	79.8	84.9
#140	71.5	75.6	82.7
#200	57.1	70.0	79.0

Material Description

○ Olive Brown Sandy CLAY

□ Bluish Gray Sandy Lean CLAY

△ Yellowish Brown CLAY w/ Sand

REMARKS:

○

□

△

○ Source of Sample: B4 Depth: 40-42.5' Sample Number: B4-10
 □ Source of Sample: B6 Depth: 15-17.5' Sample Number: B6-3
 △ Source of Sample: B6 Depth: 25-27.5' Sample Number: B6-5

COOPER TESTING LABORATORY

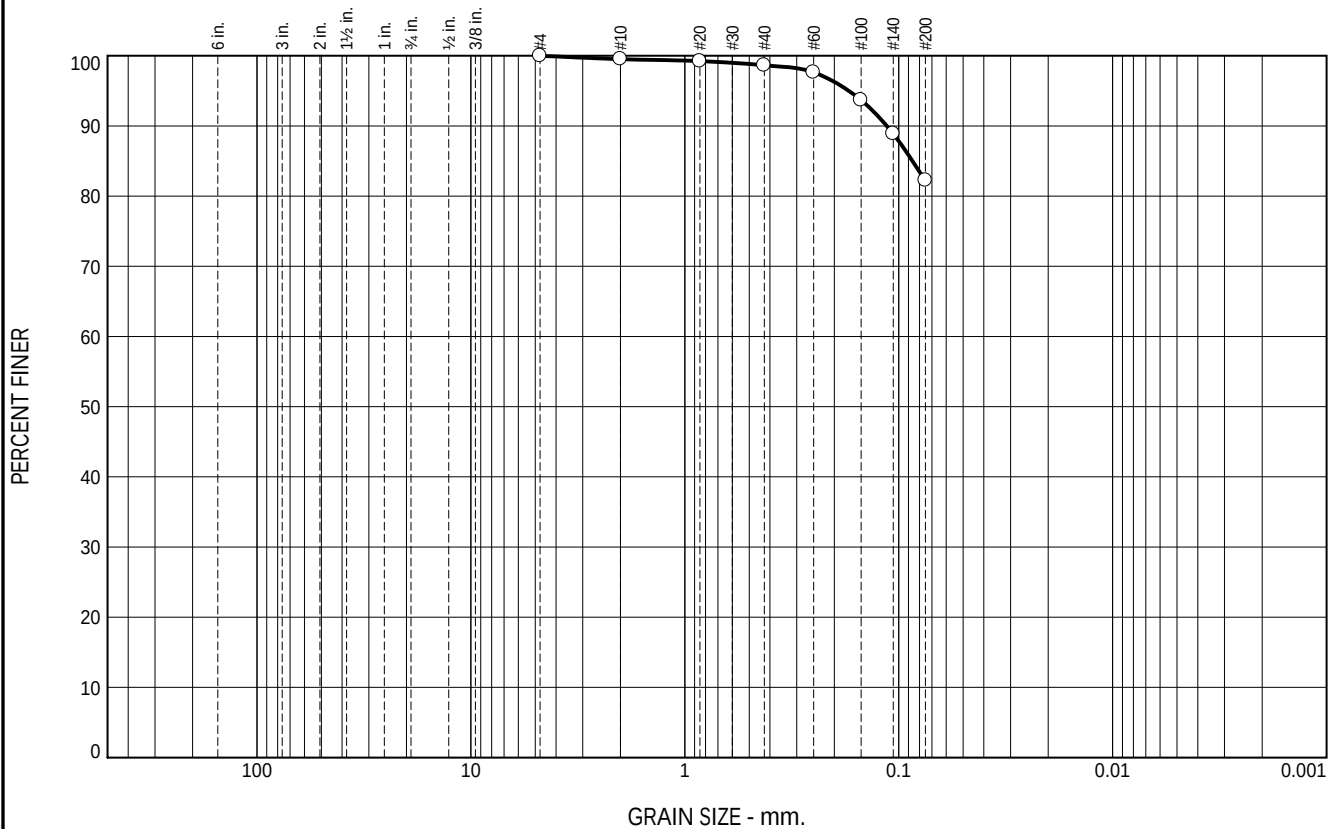
Client: Geosyntec Consultants

Project: WG3607

Project No.: 461-392

Figure

Particle Size Distribution Report



+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PL	PI
0.0	0.0	17.8	82.2					

SIEVE inches size	PERCENT FINER		
○			
GRAIN SIZE			
D ₆₀			
D ₃₀			
D ₁₀			
COEFFICIENTS			
C _c			
C _u			

SIEVE number size	PERCENT FINER		
○			
#4	100.0		
#10	99.5		
#20	99.2		
#40	98.6		
#60	97.6		
#100	93.7		
#140	88.9		
#200	82.2		

Material Description
 ○ Yellowish Brown CLAY w/ Sand

REMARKS:
 ○

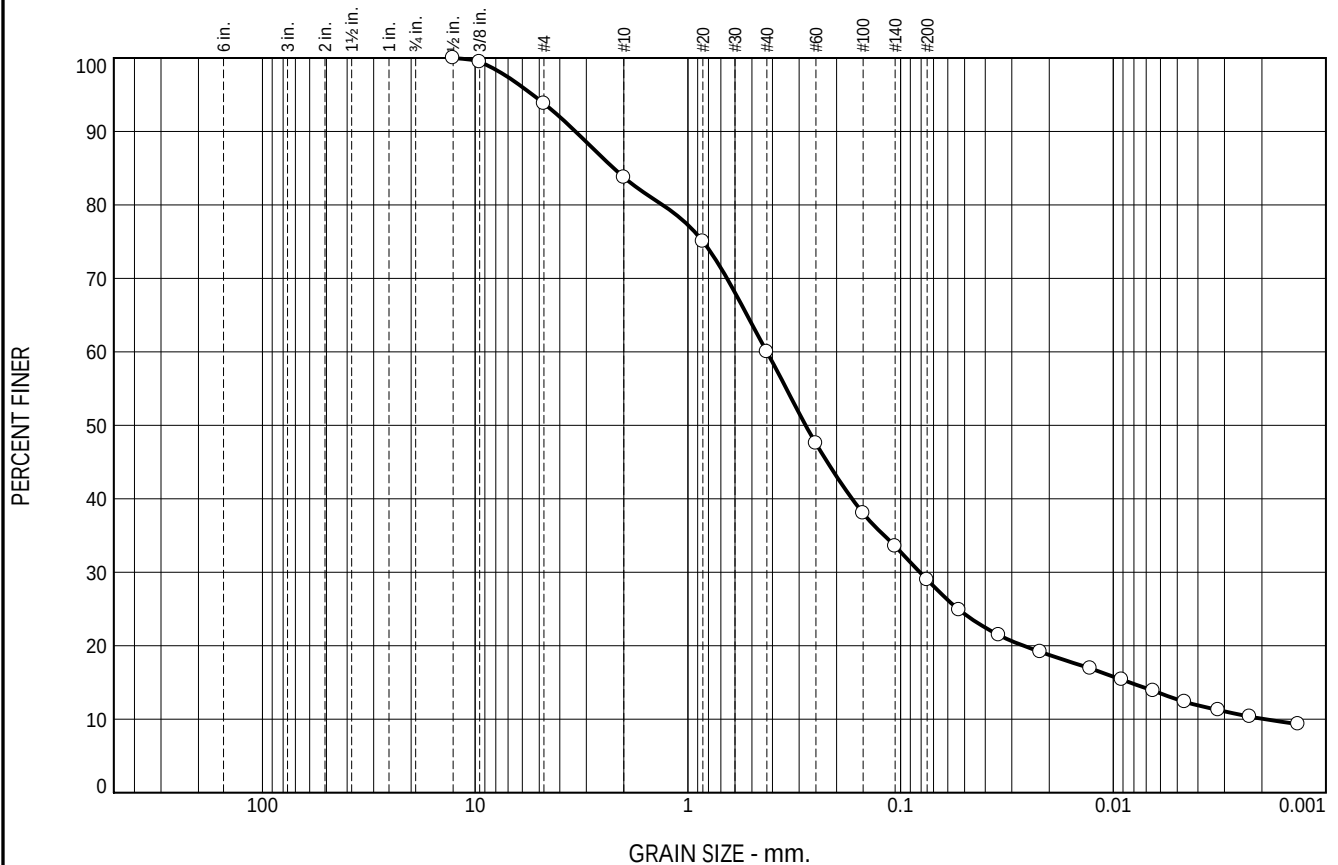
○ Source of Sample: B6 Depth: 40-42.5' Sample Number: B6-7

COOPER TESTING LABORATORY

Client: Geosyntec Consultants
 Project: WG3607
 Project No.: 461-392

Figure

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	6.2	10.0	23.8	31.0	18.9	10.1

SIEVE SIZE OR DIAMETER	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1/2"	100.0		
3/8"	99.5		
#4	93.8		
#10	83.8		
#20	75.0		
#40	60.0		
#60	47.5		
#100	38.0		
#140	33.5		
#200	29.0		
#270	24.9		
0.0345 mm.	21.5		
0.0220 mm.	19.2		
0.0128 mm.	16.9		
0.0091 mm.	15.4		
0.0065 mm.	13.9		
0.0046 mm.	12.4		
0.0032 mm.	11.3		
0.0023 mm.	10.4		
0.0014 mm.	9.3		

* (no specification provided)

<u>Soil Description</u>		
Olive Brown Clayey SAND		
<u>Atterberg Limits</u>		
PL=	LL=	PI=
<u>Coefficients</u>		
D ₉₀ = 3.3777	D ₈₅ = 2.2341	D ₆₀ = 0.4253
D ₅₀ = 0.2795	D ₃₀ = 0.0813	D ₁₅ = 0.0084
D ₁₀ = 0.0019	C _u = 219.03	C _c = 8.00
<u>Classification</u>		
USCS=	AASHTO=	
<u>Remarks</u>		

Source of Sample: B1 Depth: 30-31.5'
Sample Number: B1-10

Date:

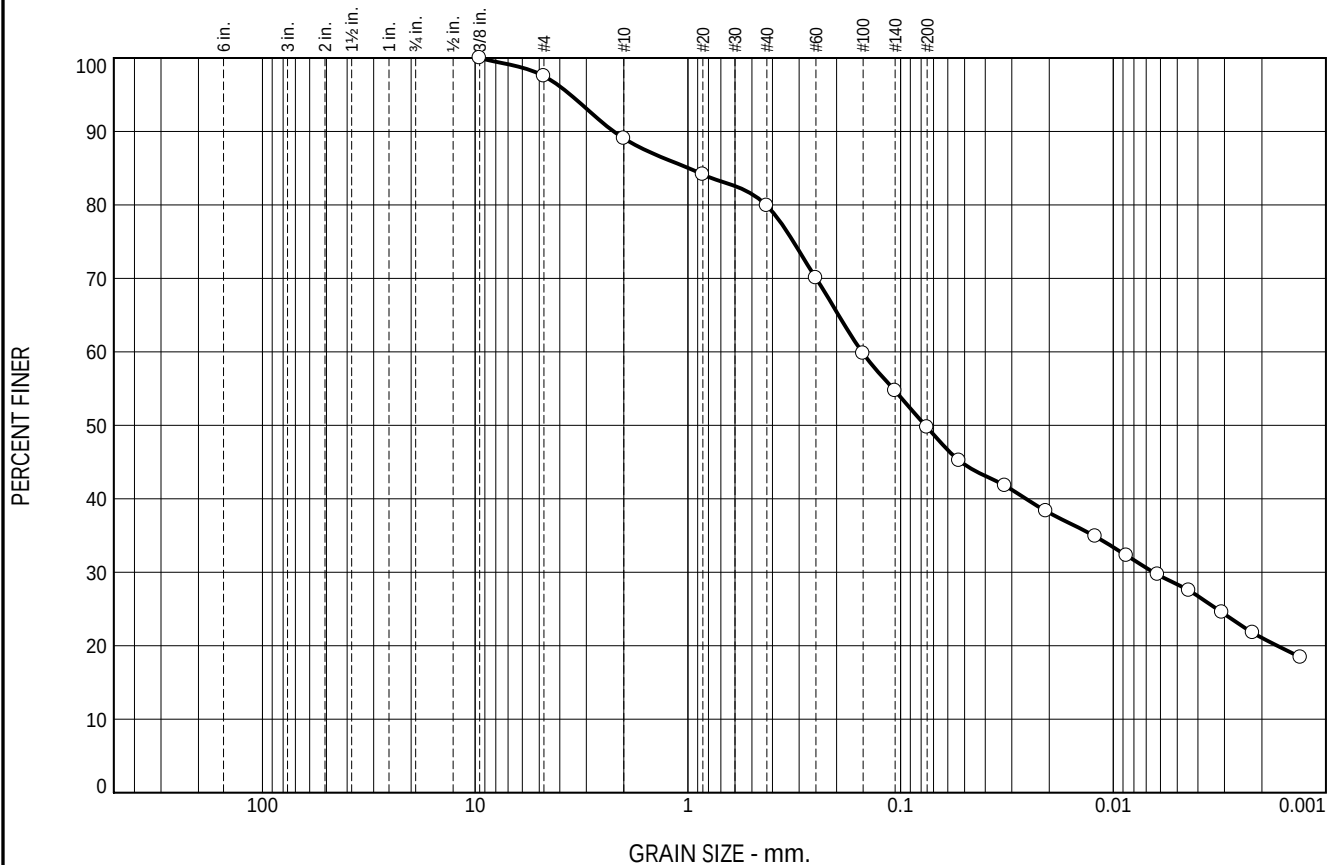
COOPER TESTING LABORATORY

Client: Geosyntec Consultants
Project: WG3607

Project No: 461-392

Figure

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.5	8.5	9.1	30.2	28.6	21.1

SIEVE SIZE OR DIAMETER	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/8"	100.0		
#4	97.5		
#10	89.0		
#20	84.1		
#40	79.9		
#60	70.0		
#100	59.8		
#140	54.7		
#200	49.7		
#270	45.2		
0.0323 mm.	41.8		
0.0207 mm.	38.3		
0.0121 mm.	34.8		
0.0087 mm.	32.3		
0.0062 mm.	29.7		
0.0044 mm.	27.5		
0.0031 mm.	24.5		
0.0022 mm.	21.7		
0.0013 mm.	18.4		

* (no specification provided)

Soil Description		
Olive Gray Clayey SAND		
Atterberg Limits		
PL=	LL=	PI=
Coefficients		
D ₉₀ = 2.2334	D ₈₅ = 0.9928	D ₆₀ = 0.1519
D ₅₀ = 0.0765	D ₃₀ = 0.0065	D ₁₅ =
D ₁₀ =	C _u =	C _c =
Classification		
USCS=	AASHTO=	
Remarks		

Source of Sample: B5 Depth: 12.5-14'
Sample Number: B5-4

Date:

COOPER TESTING LABORATORY

Client: Geosyntec Consultants
Project: WG3607

Project No: 461-392

Figure



Moisture-Density-Porosity Report

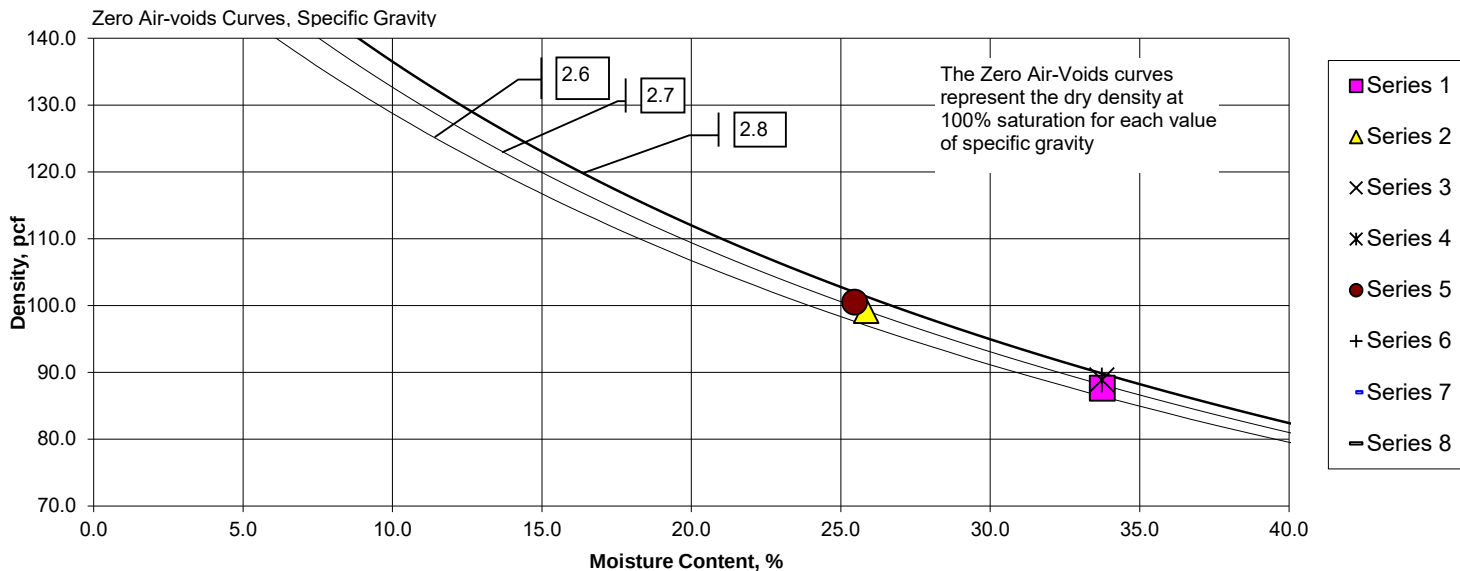
Cooper Testing Labs, Inc. (ASTM D7263b)

CTL Job No: 461-392a Project No. WG3607 By: RU
 Client: Geosyntec Consultants Date: 04/06/26
 Project Name: _____ Remarks: _____

Boring:	B1	B1	B1	B1	B1	B1	B2	B2
Sample:	B1-1	B1-7	B1-9	B1-13B	B1-16C	B1-18	B2-1	B2-2
Depth, ft:	5-7.5	20-22.5	25-26.5	45.5-46	61-61.5	70-71.5	5-6.5	10-11.5
Visual Description:	Black Sandy CLAY	Olive Brown Sandy CLAY	Light Olive Brown Sandy CLAY	Olive Brown Sandy CLAY	Light Olive Brown CLAY w/ Sand	Olive CLAY w/ Sand	Black Sandy CLAY	Very Dark Gray Sandy CLAY
Actual G_s								
Assumed G_s	2.75	2.75		2.75	2.75			
Moisture, %	33.7	25.8	24.9	33.7	25.5	26.3	32.0	43.4
Wet Unit wt, pcf	117.2	124.9		118.9	126.1			
Dry Unit wt, pcf	87.6	99.2		88.9	100.5			
Dry Bulk Dens.pb, (g/cc)	1.40	1.59		1.42	1.61			
Saturation, %	96.8	97.3		99.6	98.9			
Total Porosity, %	49.0	42.2		48.2	41.5			
Volumetric Water Cont., θ_w, %	47.4	41.1		48.0	41.0			
Volumetric Air Cont., θ_a, %	1.6	1.1		0.2	0.5			
Void Ratio	0.96	0.73		0.93	0.71			
Series	1	2	3	4	5	6	7	8

Note: All reported parameters are from the as-received sample condition unless otherwise noted. If an assumed specific gravity (G_s) was used then the saturation, porosities, and void ratio should be considered approximate.

Moisture-Density





Moisture-Density-Porosity Report

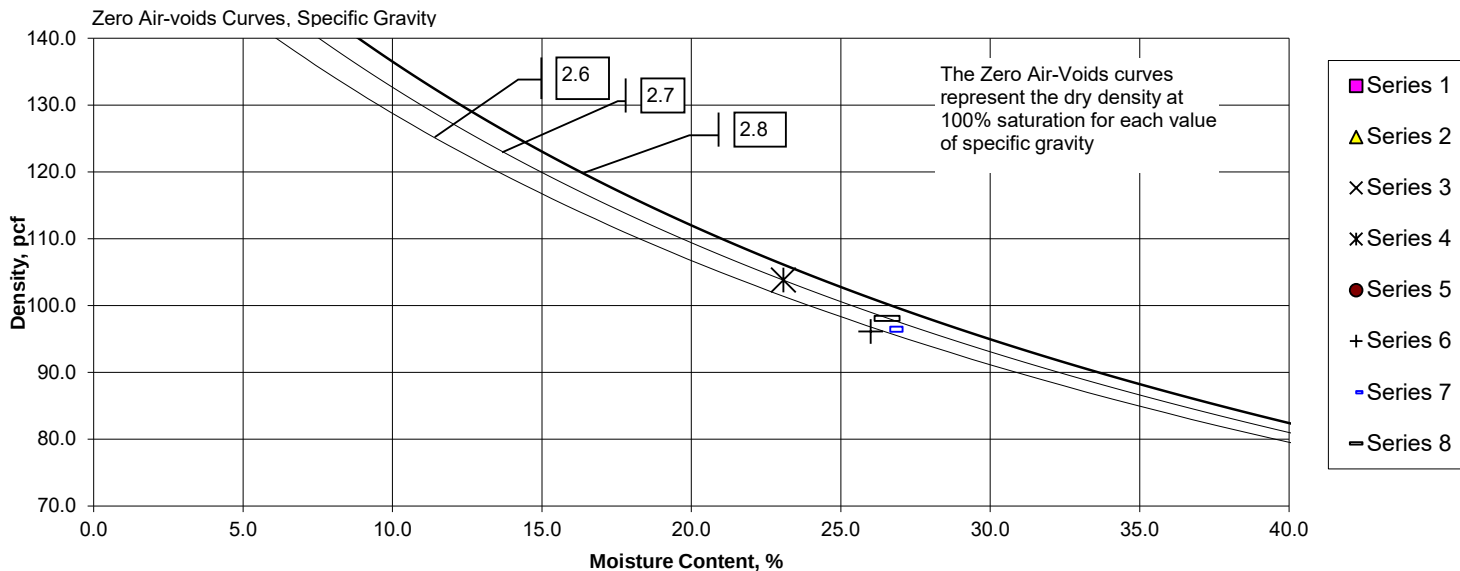
Cooper Testing Labs, Inc. (ASTM D7263b)

CTL Job No: 461-392b Project No. WG3607 By: RU
 Client: Geosyntec Consultants Date: 04/06/26
 Project Name: _____ Remarks: _____

Boring:	B2	B3	B4	B4	B4	B4	B4	B5
Sample:	B2-7	B3-14	B4-3	B4-7B	B4-8	B4-10	B4-15	B5-5
Depth, ft:	30-32.5	65-66.5	10-11.5	25.5-26	30-31.5	40-42.5	65-67.5	15-17.5
Visual Description:	Olive Brown Sandy CLAY w/ Gravel	Gray Silty SAND	Olive Gray Sandy Silty CLAY	Pale Olive CLAY w/ Sand	Olive Brown Sandy CLAY	OLive Brown Sandy CLAY	Gray Sandy CLAY	Olive Gray Silty SAND
Actual G_s								
Assumed G_s				2.75		2.75	2.75	2.70
Moisture, %	15.6	26.2	26.7	23.1	23.9	26.0	26.7	26.6
Wet Unit wt, pcf				127.8		121.1	122.2	124.2
Dry Unit wt, pcf				103.8		96.1	96.5	98.1
Dry Bulk Dens.pb, (g/cc)				1.66		1.54	1.55	1.57
Saturation, %				97.1		91.0	94.1	99.8
Total Porosity, %				39.5		44.0	43.8	41.8
Volumetric Water Cont., θ_w, %				38.4		40.0	41.2	41.7
Volumetric Air Cont., θ_a, %				1.1		4.0	2.6	0.1
Void Ratio				0.65		0.79	0.78	0.72
Series	1	2	3	4	5	6	7	8

Note: All reported parameters are from the as-received sample condition unless otherwise noted. If an assumed specific gravity (G_s) was used then the saturation, porosities, and void ratio should be considered approximate.

Moisture-Density





Moisture-Density-Porosity Report

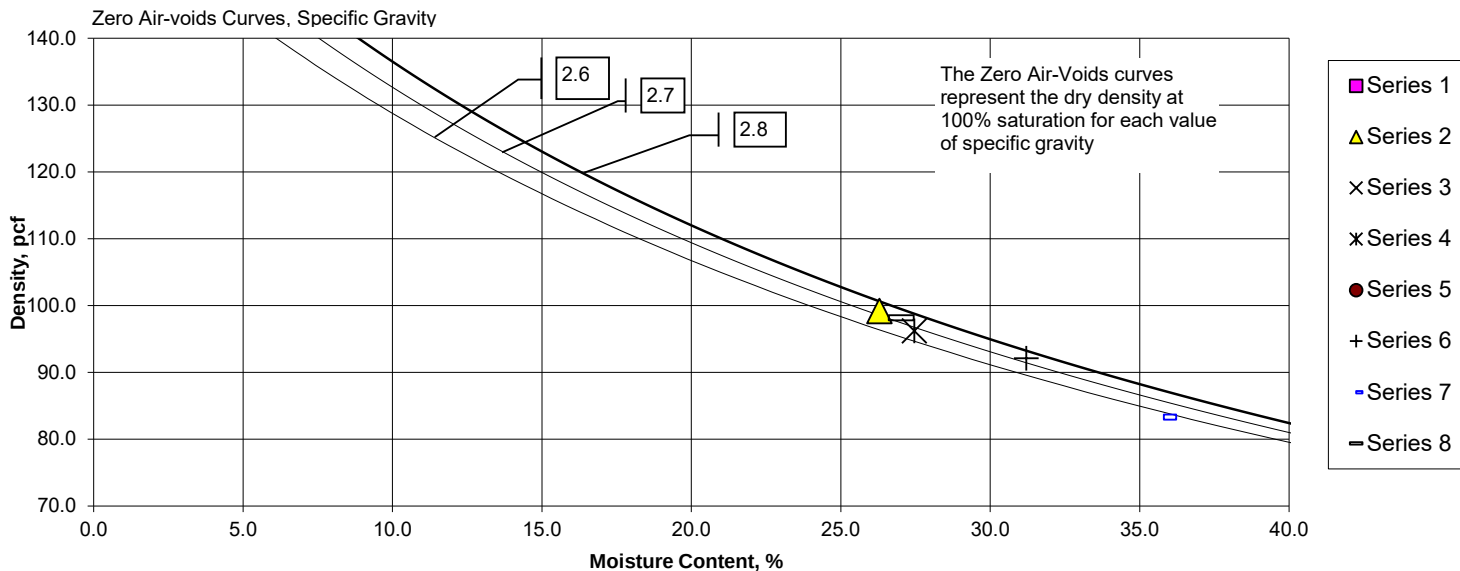
Cooper Testing Labs, Inc. (ASTM D7263b)

CTL Job No: 461-392c Project No. WG3607 By: RU
 Client: Geosyntec Consultants Date: 04/06/26
 Project Name: _____ Remarks: _____

Boring:	B5	B5	B5	B5	B5	B5	B5	B5
Sample:	B5-9	B5-10C	B5-11	B5-13	B5-14	B5-15	B5-17	B5-18
Depth, ft:	27.5-29	30-31.5	35-36.5	45-47.5	47.5-49	50-52.5	55-57.5	60-62.5
Visual Description:	Olive Sandy Lean CLAY w/ Gravel	Greenish Gray Sandy CLAY w/ Gravel	Light Olive Brown Sandy CLAY w/ Gravel	Olive Sandy CLAY	Light Olive Brown Sandy CLAY w/ Gravel	Olive Gray Sandy CLAY	Olive Gray Sandy CLAY	Olive Gray Sandy CLAY
Actual G_s								
Assumed G_s		2.75		2.75		2.75	2.75	2.75
Moisture, %	23.9	26.3	30.6	27.5	30.3	31.2	35.8	27.0
Wet Unit wt, pcf		125.3		122.7		120.9	113.2	124.8
Dry Unit wt, pcf		99.2		96.2		92.1	83.4	98.2
Dry Bulk Dens.pb, (g/cc)		1.59		1.54		1.48	1.34	1.57
Saturation, %		99.0		96.3		99.3	93.0	99.4
Total Porosity, %		42.2		43.9		46.3	51.4	42.8
Volumetric Water Cont., θ_w, %		41.8		42.3		46.0	47.8	42.5
Volumetric Air Cont., θ_a, %		0.4		1.6		0.3	3.6	0.3
Void Ratio		0.73		0.78		0.86	1.06	0.75
Series	1	2	3	4	5	6	7	8

Note: All reported parameters are from the as-received sample condition unless otherwise noted. If an assumed specific gravity (G_s) was used then the saturation, porosities, and void ratio should be considered approximate.

Moisture-Density





Moisture-Density-Porosity Report

Cooper Testing Labs, Inc. (ASTM D7263b)

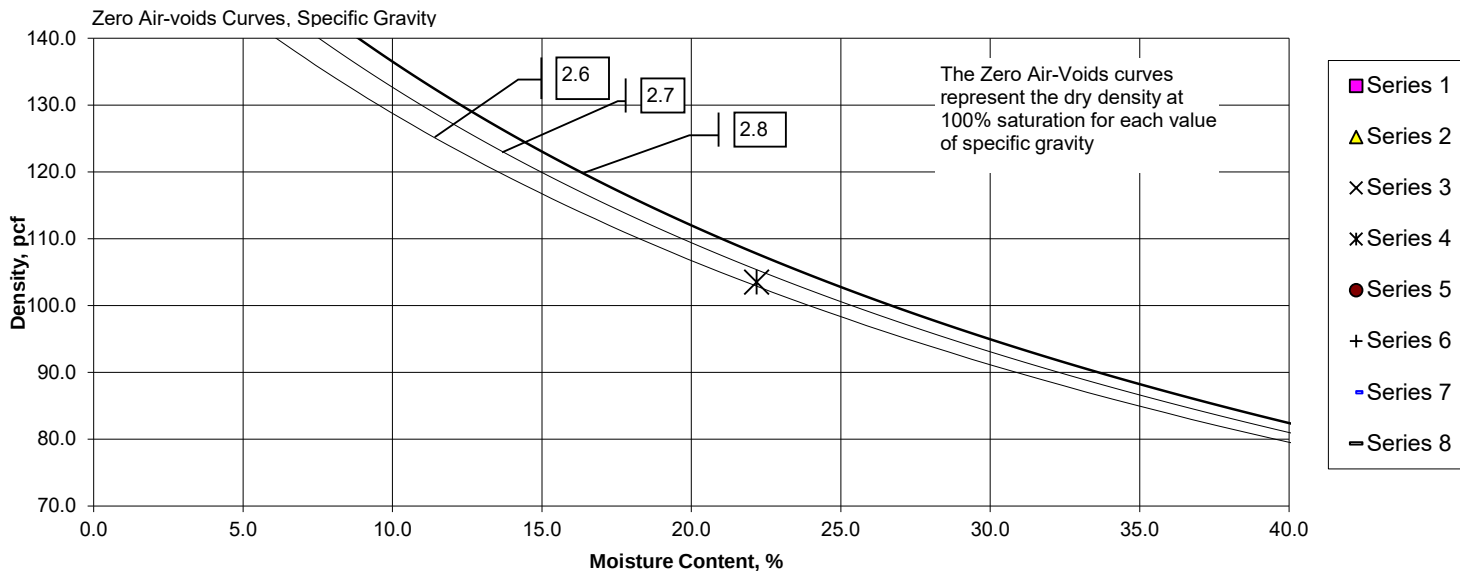
CTL Job No: 461-392d
Client: Geosyntec Consultants
Project Name:

Project No. WG3607
Date: 04/06/26
By: RU
Remarks:

Boring:	B6	B6	B6	B6	B6			
Sample:	B6-1	B6-4	B6-6	B6-7	B6-8			
Depth, ft:	6.5-8	20-21.5	30-31.5	40-42.5	42.5-44			
Visual Description:	Dark Gray Fat CLAY w/ Sand & organics	Gray CLAY w/ Sand	Light Olive Brown Sandy CLAY w/ Gravel	Yellowish Brown CLAY w/ Sand	Light Olive Brown Sandy CLAY			
Actual G_s								
Assumed G_s				2.75				
Moisture, %	61.4	35.4	25.8	22.2	32.3			
Wet Unit wt, pcf				126.5				
Dry Unit wt, pcf				103.5				
Dry Bulk Dens.pb, (g/cc)				1.66				
Saturation, %				92.6				
Total Porosity, %				39.7				
Volumetric Water Cont., θ_w , %				36.8				
Volumetric Air Cont., θ_a , %				2.9				
Void Ratio				0.66				
Series	1	2	3	4	5	6	7	8

Note: All reported parameters are from the as-received sample condition unless otherwise noted. If an assumed specific gravity (G_s) was used then the saturation, porosities, and void ratio should be considered approximate.

Moisture-Density





Organic Content Test

ASTM D 2974-20 (Method A - 440 °C)

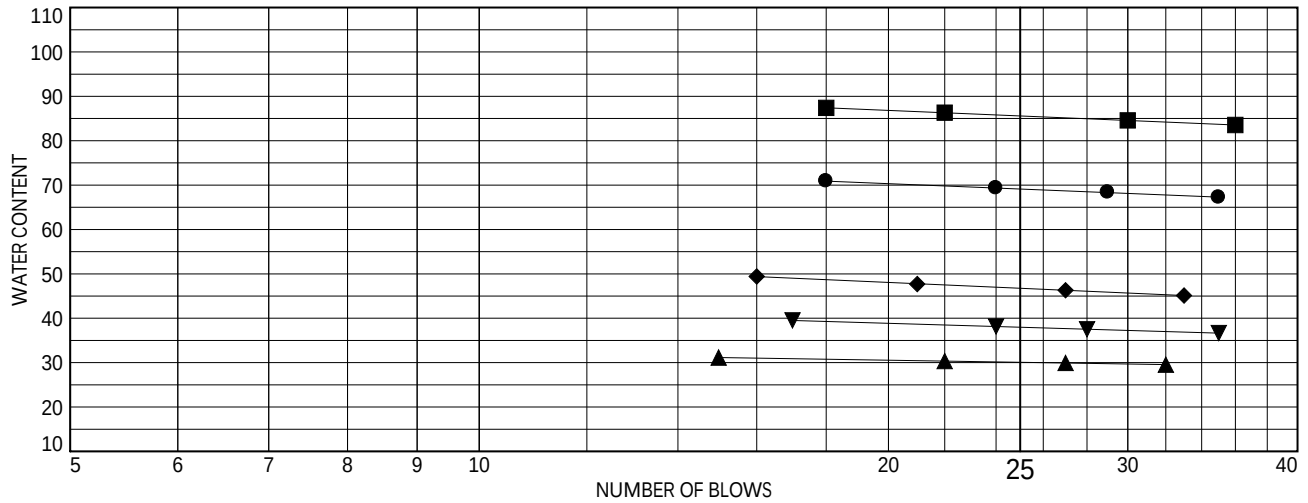
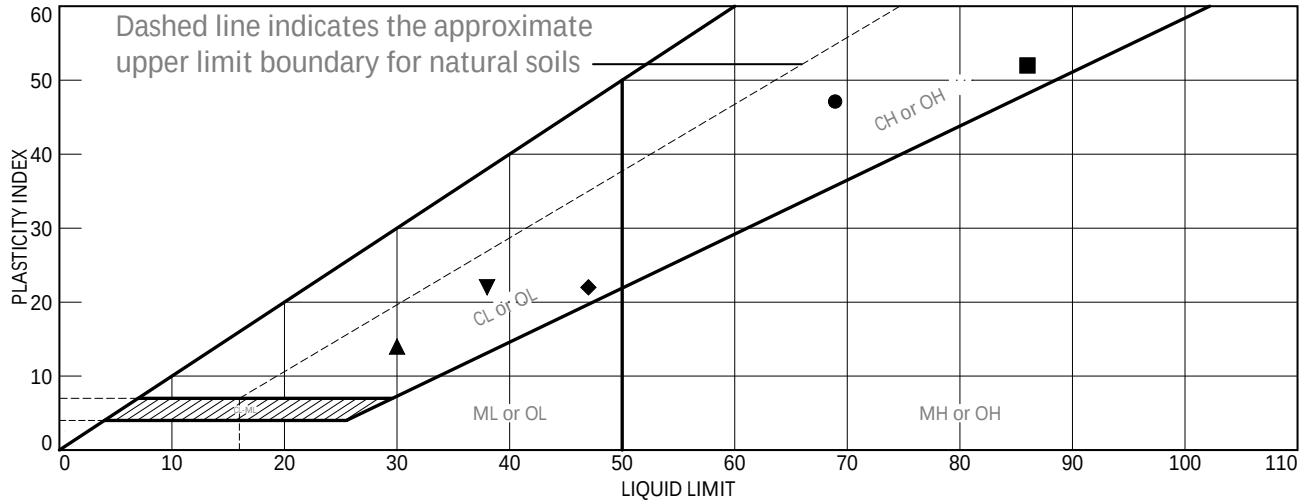
CTL Number: 461-392 **Project Name:** _____ **Date:** 3/17/2026
Client Name: Geosyntec Consultants **Project Number:** WG3607 **By:** RU

Boring	B1	B2	B3	B4				
Sample	B1-1	B2-1	B3-1	B4-1				
Depth (ft)	5-7.5	5-6.5	5-6.5	5-7.5				
Visual Description	Black Sandy CLAY	Black Sandy CLAY	Olive Brown Sandy CLAY	Olive Gray Sandy CLAY				
Dish Number								
Dish weight (g)	74.38	75.81	83.34	75.84				
Soil, Org, Dish & H ₂ O (g)	193.23	223.69	244.33	250.62				
Oven Dry wt (110°C) (g)	163.24	187.85	210.39	210.90				
Furnace Dry wt. (440°C) (g)	159.99	183.34	207.86	208.70				
Moisture Content (%)	33.7	32.0	26.7	29.4				
Ash Content (%)	96.3	96.0	98.0	98.4				
Organic Material (%)	3.7	4.0	2.0	1.6				

Note: ASTM provides no guidelines for including information about the organic content of a sample in the description when the wet/dry liquid limit data is not available. CTL developed the following guidelines to fill this gap:

- 0-5%: The organics are either not mentioned or mentioned as being "trace".
- 5-15%: The soil is considered as inorganic and is classified, as per ASTM 2487, with "with organics" included in the description.
- 15-50%: The soil is considered as organic and is described, per ASTM 2487.
- > 50%: The soil is described as "Peat".

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Dark Gray Fat CLAY w/ Sand	69	22	47			
■	Gray Fat CLAY	86	34	52			
▲	Olive Brown Lean Clayey SAND w/ Gravel	30	16	14			
◆	Yellowish Brown Lean CLAY w/ Sand, trace Gravel	47	25	22			
▼	Olive Sandy Lean CLAY	38	16	22	80.2	61.1	CL

Project No. 461-392 Client: Geosyntec Consultants
Project: WG3607

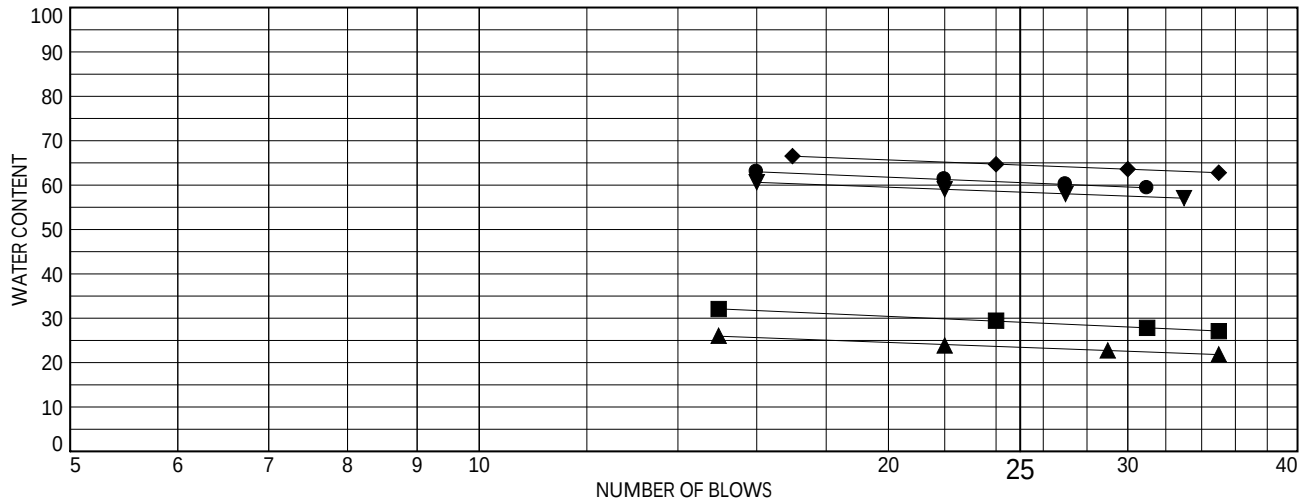
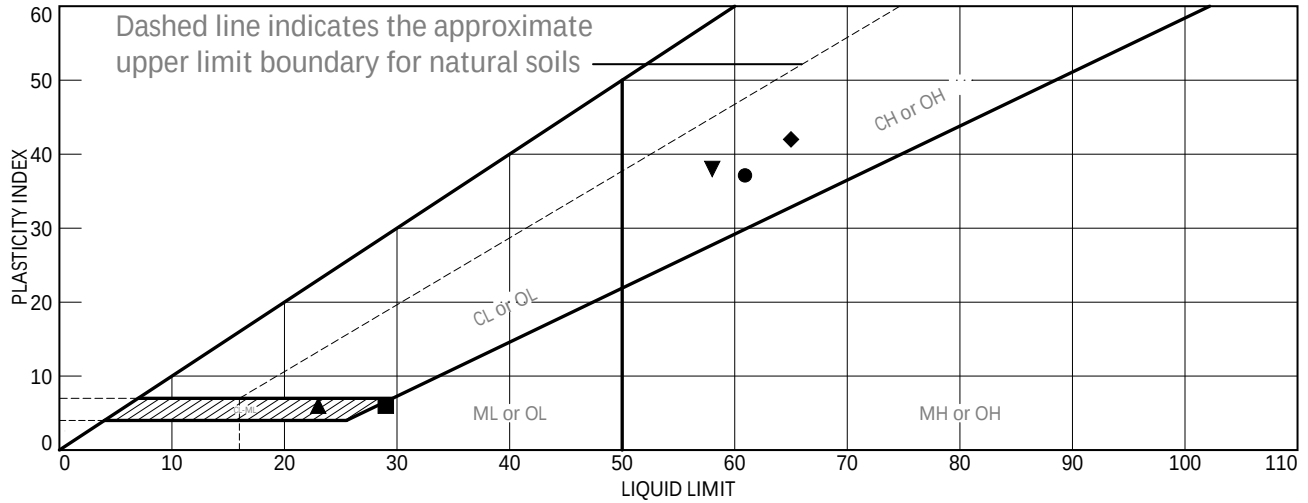
Remarks:

● Source of Sample: B1 Depth: 7.5-9' Sample Number: B1-2
 ■ Source of Sample: B1 Depth: 10-12.5' Sample Number: B1-3
 ▲ Source of Sample: B2 Depth: 15-17.5' Sample Number: B2-3
 ◆ Source of Sample: B2 Depth: 25-27.5' Sample Number: B2-6
 ▼ Source of Sample: B3 Depth: 25-27.5' Sample Number: B3-6

COOPER TESTING LABORATORY

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Olive Gray Fat CLAY	61	24	37			
■	Olive Gray SILT w/ Sand	29	23	6			
▲	Olive Gray Sandy Silty CLAY	23	17	6	93.2	51.9	CL-ML
◆	Dark Gray Fat CLAY w/ Sand	65	23	42			
▼	Greenish Gray Fat CLAY w/ Sand	58	20	38	88.4	78.9	CH

Project No. 461-392 Client: Geosyntec Consultants
Project: WG3607

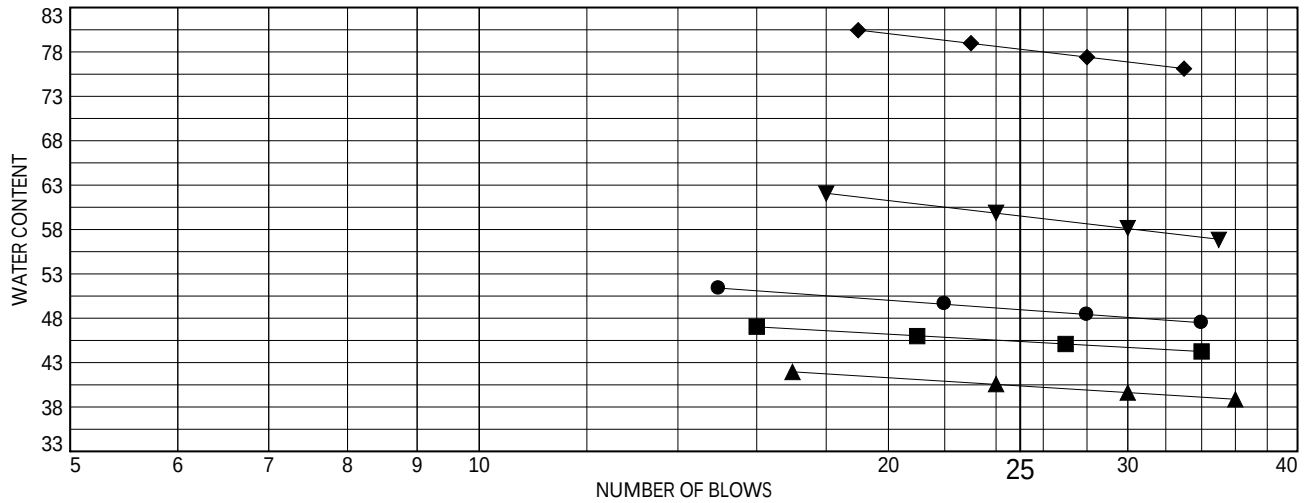
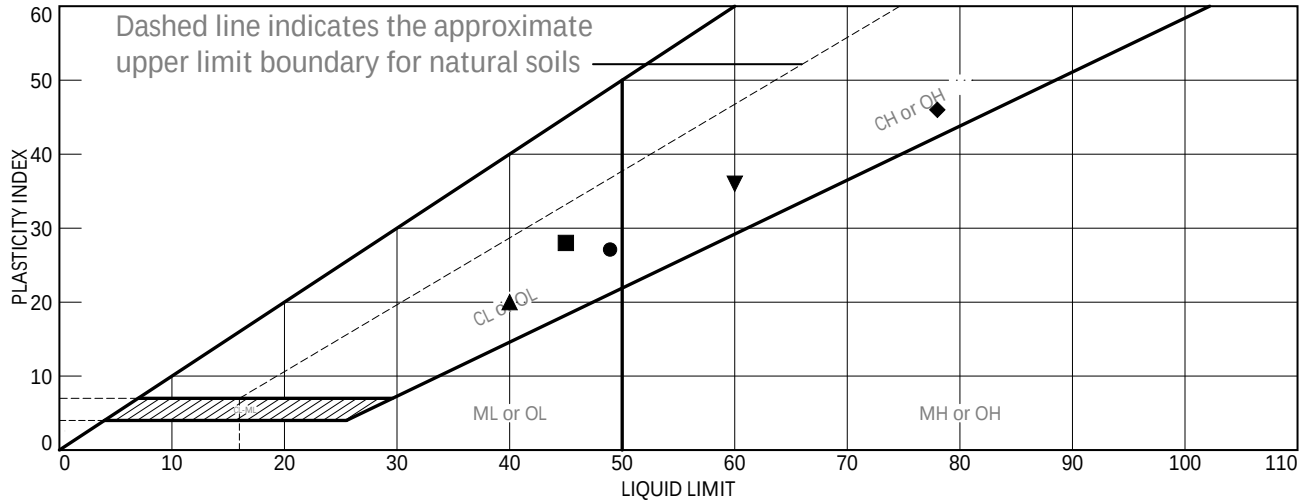
Remarks:

● Source of Sample: B3 Depth: 55-57.5' Sample Number: B3-12
 ■ Source of Sample: B3 Depth: 60-62.5' Sample Number: B3-13
 ▲ Source of Sample: B4 Depth: 10-11.5' Sample Number: B4-3
 ◆ Source of Sample: B4 Depth: 15.5-16' Sample Number: B4-4
 ▼ Source of Sample: B4 Depth: 36-36.5' Sample Number: B4-9B

COOPER TESTING LABORATORY

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Olive Gray Lean CLAY	49	22	27			
■	Olive Sandy Lean CLAY w/ Gravel	45	17	28			
▲	Light Olive Brown Sandy CLAY w/ Gravel	40	20	20			
◆	Dark Gray Fat CLAY w/ Sand & organics	78	32	46			
▼	Bluish Gray Fat CLAY	60	24	36			

Project No. 461-392

Client: Geosyntec Consultants

Project: WG3607

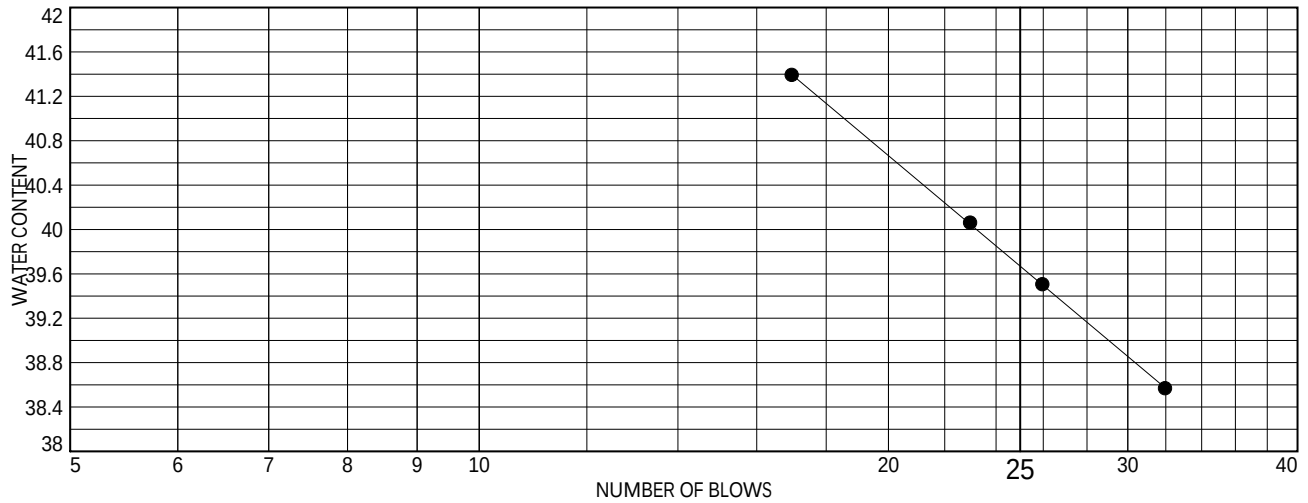
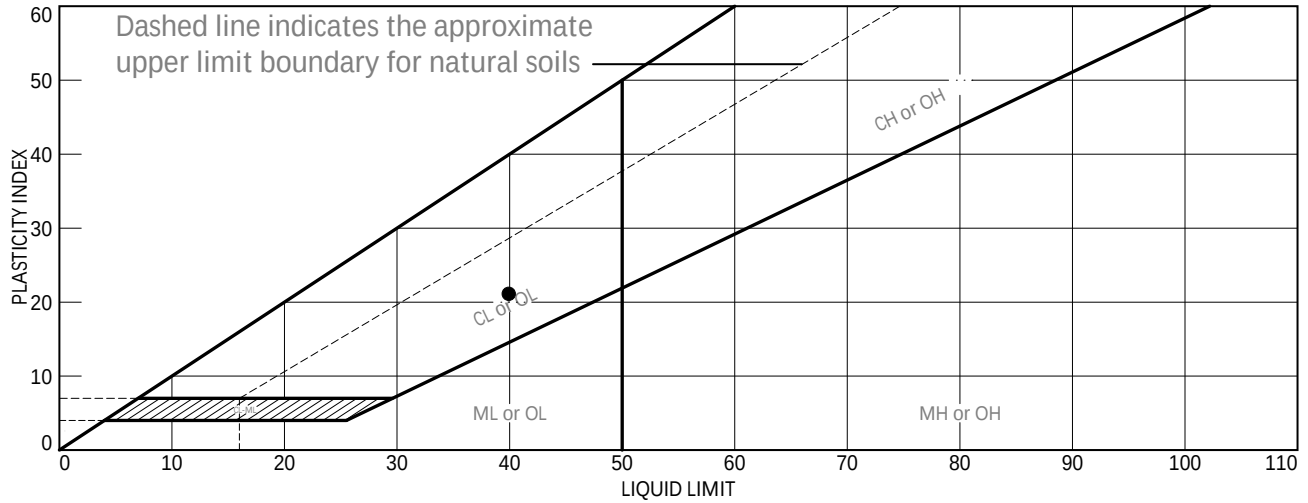
Remarks:

● Source of Sample: B4 Depth: 55-57.5' Sample Number: B4-13
 ■ Source of Sample: B5 Depth: 27.5-29' Sample Number: B5-9
 ▲ Source of Sample: B5 Depth: 35-36.5' Sample Number: B5-11
 ◆ Source of Sample: B6 Depth: 6.5-8' Sample Number: B6-1
 ▼ Source of Sample: B6 Depth: 8-10.5' Sample Number: B6-2

COOPER TESTING LABORATORY

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Bluish Gray Sandy Lean CLAY	40	19	21	92.0	70.0	CL

Project No. 461-392

Client: Geosyntec Consultants

Project: WG3607

● Source of Sample: B6

Depth: 15-17.5'

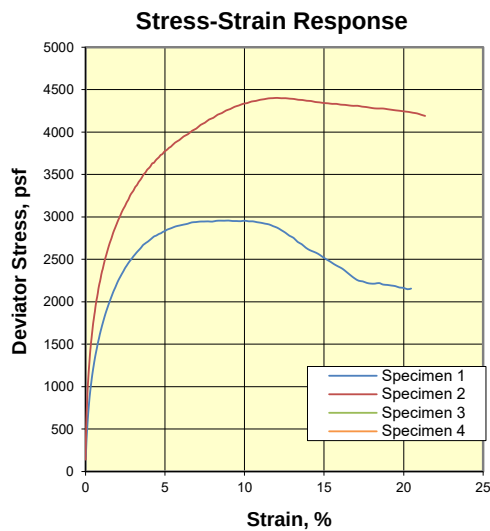
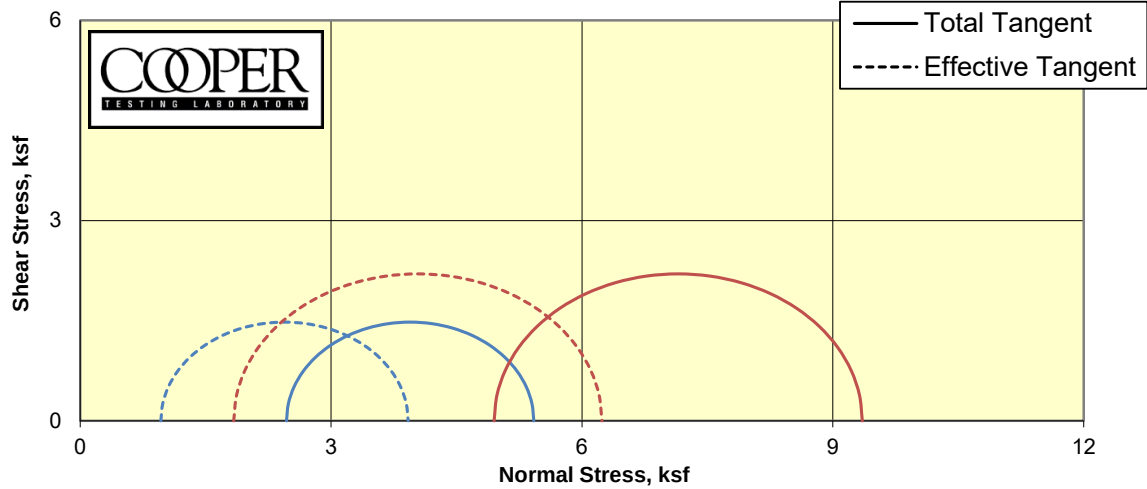
Sample Number: B6-3

Remarks:

COOPER TESTING LABORATORY

Figure

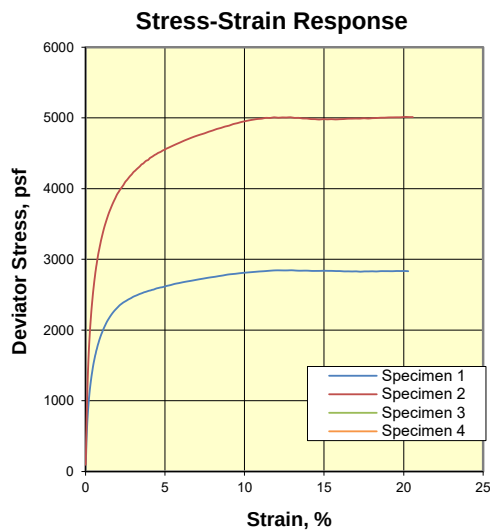
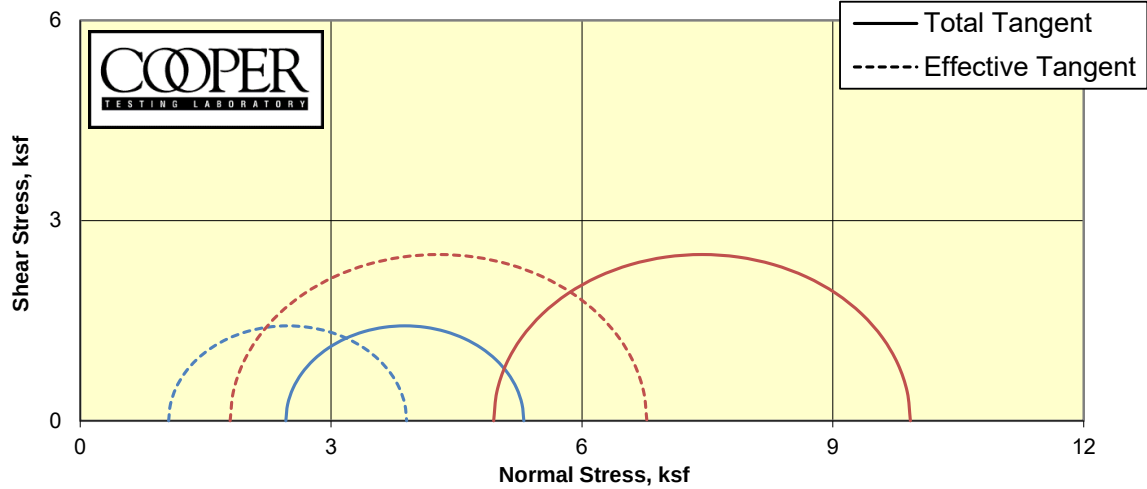
**Consolidated Undrained Triaxial Compression with Pore Pressure
ASTM D4767**



CTL Number:	461-392		
Client Name:	Geosyntec Consultants		
Project Name:			
Project Number:	WG3607		
Date:	4/1/2026	By:	MD/DC
Total C		ksf	
Total phi		degrees	
Eff. C		ksf	
Eff. Phi		degrees	©

Specimen	1	2	3	4
Boring	B1	B1		
Sample	B1-3	B1-3		
Depth	10-12.5	10-12.5		
Visual Description	Gray Fat CLAY	Gray Fat CLAY		
MC (%)	56.1	52.3		
Dry Density (pcf)	66.5	70.5		
Saturation (%)	96.4	99.0		
Void Ratio	1.630	1.479		
Diameter (in)	2.84	2.83		
Height (in)	6.06	6.00		
	Final			
MC (%)	50.5	40.4		
Dry Density (pcf)	72.4	82.0		
Saturation (%)	100.0	100.0		
Void Ratio	1.414	1.131		
Diameter (in)	2.75	2.71		
Height (in)	5.92	5.62		
Cell Pressure (psi)	67.2	84.5		
Back Pressure (psi)	50.1	50.1		
	Effective Stresses At:			
Strain (%)	9.0	12.0		
Deviator (ksf)	2.958	4.403		
Excess PP (psi)	10.4	21.6		
Sigma 1 (ksf)	3.922	6.239		
Sigma 3 (ksf)	0.964	1.836		
P (ksf)	2.443	4.037		
Q (ksf)	1.479	2.202		
Stress Ratio	4.068	3.399		
Rate (in/min)	0.0005	0.0005		

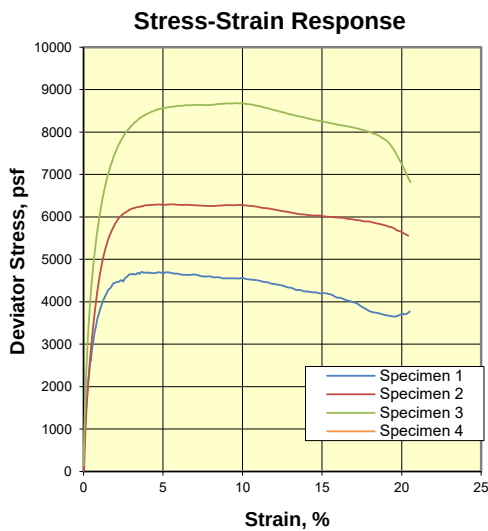
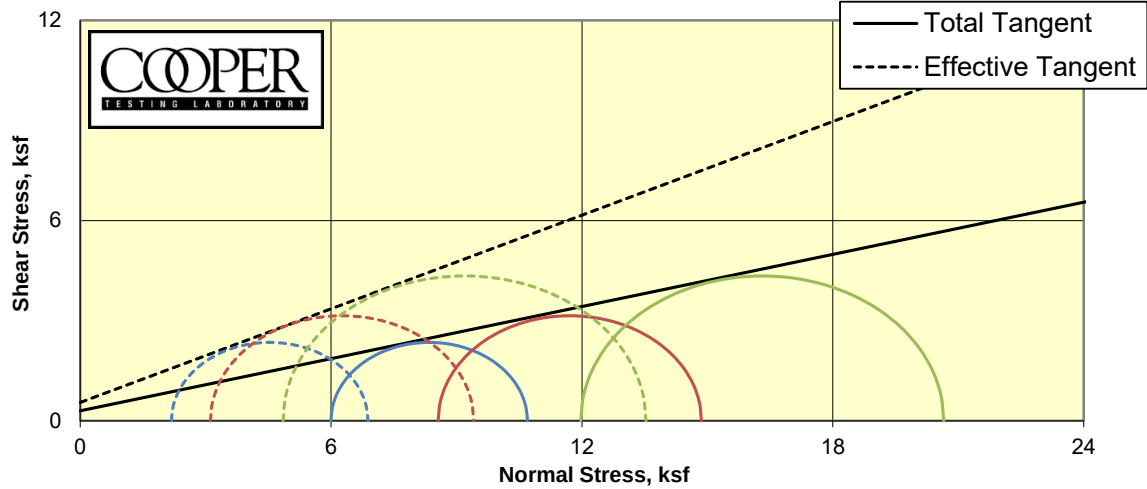
**Consolidated Undrained Triaxial Compression with Pore Pressure
ASTM D4767**



CTL Number:	461-392		
Client Name:	Geosyntec Consultants		
Project Name:			
Project Number:	WG3607		
Date:	4/1/2026	By:	MD/DC
Total C		ksf	
Total phi		degrees	
Eff. C		ksf	
Eff. Phi		degrees	©

Specimen	1	2	3	4
Boring	B3	B3		
Sample	B3-2	B3-2		
Depth	7.9.5(Tip-12")	7.9.5(Tip-5")		
Visual Description	Olive Gray Sandy CLAY	Olive Gray Sandy CLAY		
MC (%)	31.3	29.1		
Dry Density (pcf)	91.7	90.5		
Saturation (%)	98.6	89.2		
Void Ratio	0.872	0.898		
Diameter (in)	2.86	2.86		
Height (in)	6.00	6.03		
	Final			
MC (%)	29.0	25.7		
Dry Density (pcf)	95.5	100.6		
Saturation (%)	100.0	100.0		
Void Ratio	0.798	0.707		
Diameter (in)	2.82	2.75		
Height (in)	5.92	5.86		
Cell Pressure (psi)	67.3	84.5		
Back Pressure (psi)	50.2	50.2		
	Effective Stresses At:			
Strain (%)	13.0	15.0		
Deviator (ksf)	2.846	4.983		
Excess PP (psi)	9.7	21.9		
Sigma 1 (ksf)	3.903	6.776		
Sigma 3 (ksf)	1.057	1.793		
P (ksf)	2.480	4.284		
Q (ksf)	1.423	2.492		
Stress Ratio	3.692	3.780		
Rate (in/min)	0.0005	0.0005		

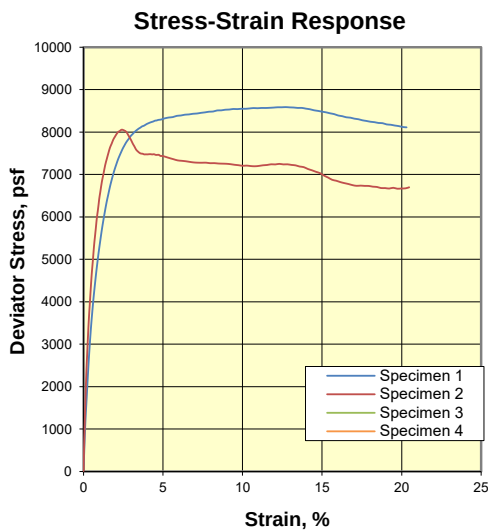
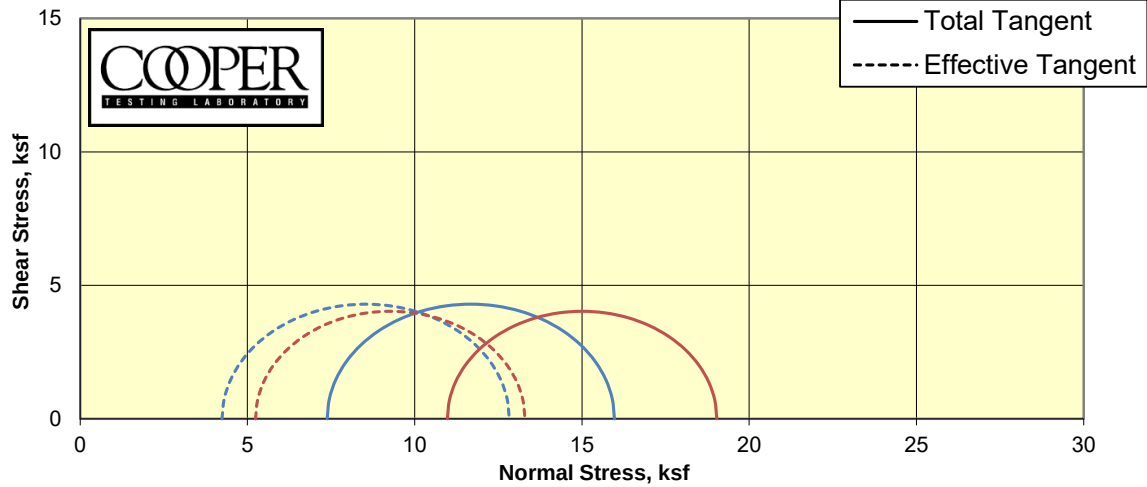
**Consolidated Undrained Triaxial Compression with Pore Pressure
ASTM D4767**



CTL Number:	461-392		
Client Name:	Geosyntec Consultants		
Project Name:			
Project Number:	WG3607		
Date:	4/6/2026	By:	MD/DC
Total C	0.300	ksf	
Total phi	14.6	degrees	
Eff. C	0.550	ksf	
Eff. Phi	25.1	degrees	©

Specimen	1	2	3	4
Boring	B3	B3	B3	
Sample	B3-12	B3-12	B3-12	
Depth	55-57.5(Tip-18")	55-57.5(Tip-11")	55-57.5	
Visual Description	Olive Gray Fat CLAY	Olive Gray Fat CLAY	Olive Gray Fat CLAY	
MC (%)	35.8	31.8	33.1	
Dry Density (pcf)	85.8	91.4	89.4	
Saturation (%)	98.5	99.4	98.7	
Void Ratio	1.001	0.879	0.921	
Diameter (in)	2.85	2.85	2.85	
Height (in)	6.02	6.00	6.02	
	Final			
MC (%)	31.5	29.1	28.2	
Dry Density (pcf)	92.0	95.4	96.7	
Saturation (%)	100.0	100.0	100.0	
Void Ratio	0.866	0.800	0.775	
Diameter (in)	2.79	2.82	2.78	
Height (in)	5.87	5.88	5.86	
Cell Pressure (psi)	121.4	139.2	163.6	
Back Pressure (psi)	79.7	79.8	80.5	
	Effective Stresses At:			
Strain (%)	3.7	5.6	9.5	
Deviator (ksf)	4.699	6.297	8.682	
Excess PP (psi)	26.5	37.8	49.5	
Sigma 1 (ksf)	6.881	9.411	13.532	
Sigma 3 (ksf)	2.182	3.114	4.850	
P (ksf)	4.531	6.262	9.191	
Q (ksf)	2.350	3.149	4.341	
Stress Ratio	3.154	3.022	2.790	
Rate (in/min)	0.0005	0.0005	0.0005	

**Consolidated Undrained Triaxial Compression with Pore Pressure
ASTM D4767**

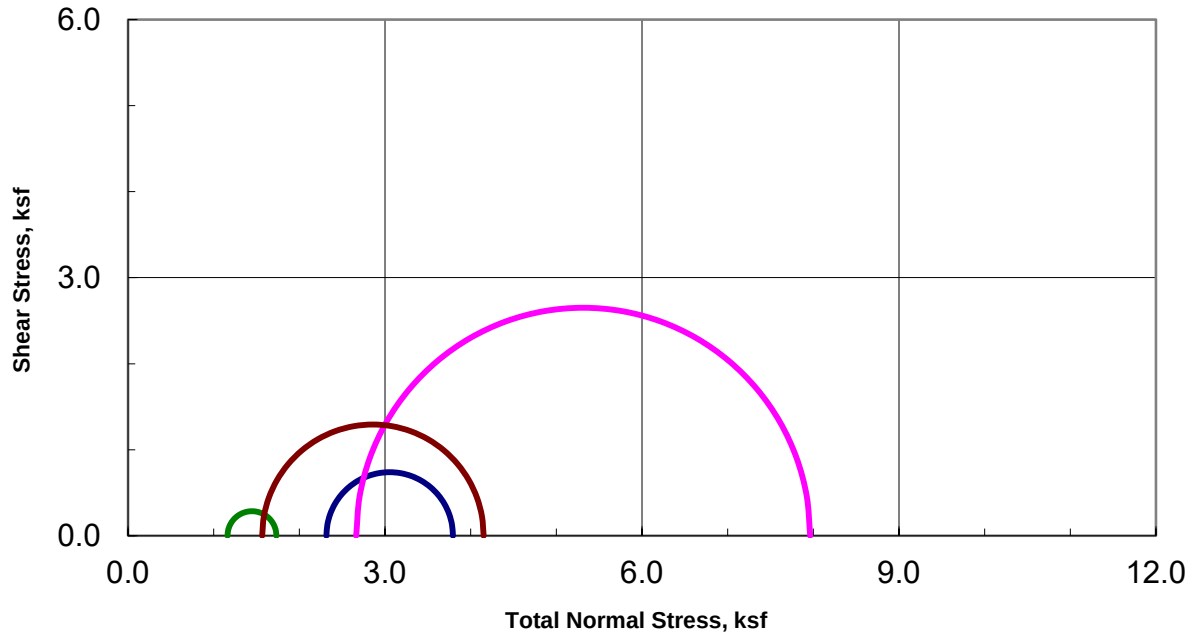


CTL Number: 461-392
 Client Name: Geosyntec Consultants
 Project Name:
 Project Number: WG3607
 Date: 4/7/2026 By: MD/DC
 Total C: ksf
 Total phi: degrees
 Eff. C: ksf
 Eff. Phi: degrees ©

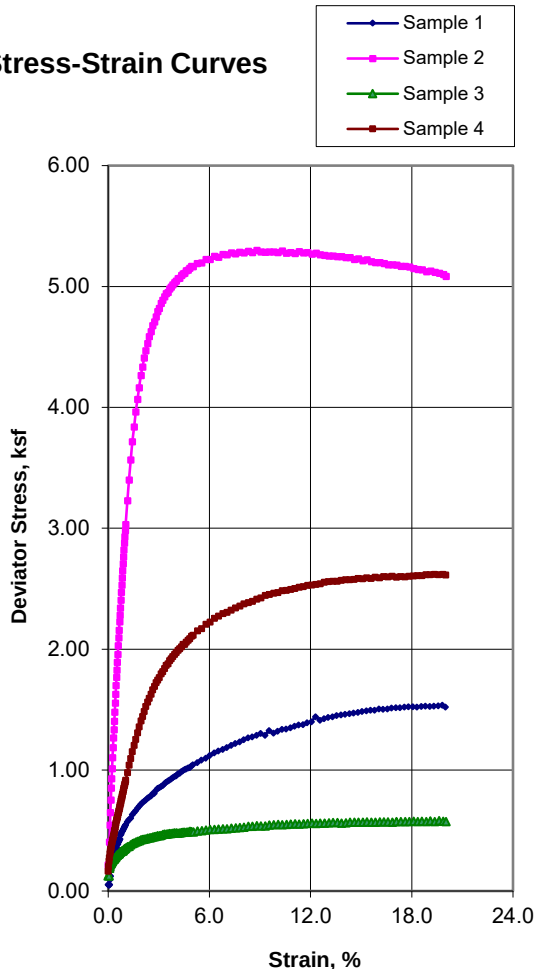
Specimen	1	2	3	4
Boring	B4	B4		
Sample	B4-13	B4-13		
Depth	55-57.5(Tip-3")	55-57.5(Tip-10")		
Visual Description	Olive Gray Lean CLAY	Olive Gray Lean CLAY		
MC (%)	25.2	27.4		
Dry Density (pcf)	99.9	96.8		
Saturation (%)	94.4	95.3		
Void Ratio	0.749	0.805		
Diameter (in)	2.86	2.87		
Height (in)	5.96	5.97		
	Final			
MC (%)	24.3	25.0		
Dry Density (pcf)	104.0	102.8		
Saturation (%)	100.0	100.0		
Void Ratio	0.680	0.700		
Diameter (in)	2.82	2.82		
Height (in)	5.87	5.83		
Cell Pressure (psi)	101.3	126.1		
Back Pressure (psi)	50.0	49.9		
	Effective Stresses At:			
Strain (%)	12.7	2.4		
Deviator (ksf)	8.589	8.055		
Excess PP (psi)	21.8	39.8		
Sigma 1 (ksf)	12.828	13.296		
Sigma 3 (ksf)	4.239	5.241		
P (ksf)	8.534	9.269		
Q (ksf)	4.294	4.028		
Stress Ratio	3.026	2.537		
Rate (in/min)	0.0005	0.0005		



Unconsolidated-Undrained Triaxial Test ASTM D2850



Stress-Strain Curves



Sample Data

	1	2	3	4
Moisture %	25.2	31.2	34.5	30.9
Dry Den,pcf	100.1	91.2	84.4	91.9
Void Ratio	0.683	0.848	0.998	0.835
Saturation %	99.6	99.2	93.2	99.9
Height in	5.02	5.97	5.94	5.96
Diameter in	2.41	2.86	2.87	2.85
Cell psi	16.1	18.5	8.1	10.9
Strain %	15.00	8.80	15.00	15.00
Deviator, ksf	1.477	5.300	0.570	2.586
Rate %/min	1.00	1.00	1.00	1.00
in/min	0.050	0.060	0.059	0.060
Job No.:	461-392a			
Client:	Geosyntec Consultants			
Project:	WG3607			
Boring:	B1	B1	B2	B2
Sample:	B1-12B	B1-14	B2-3	B2-6
Depth ft:	40.5-41	50-52.5	15-17.5	25-27.5

Visual Soil Description

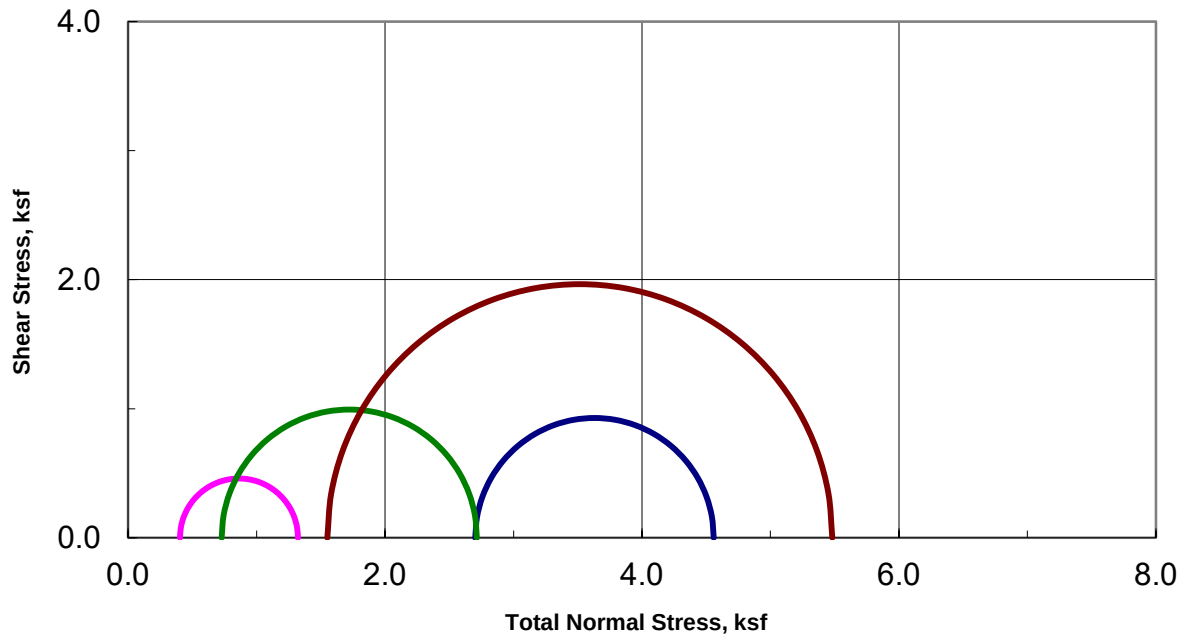
Sample #	
1	Yellowish Brown Sandy CLAY
2	Olive Gray Sandy SILT
3	Olive Brown Sandy CLAY
4	Olive Brown Sandy CLAY

Remarks:

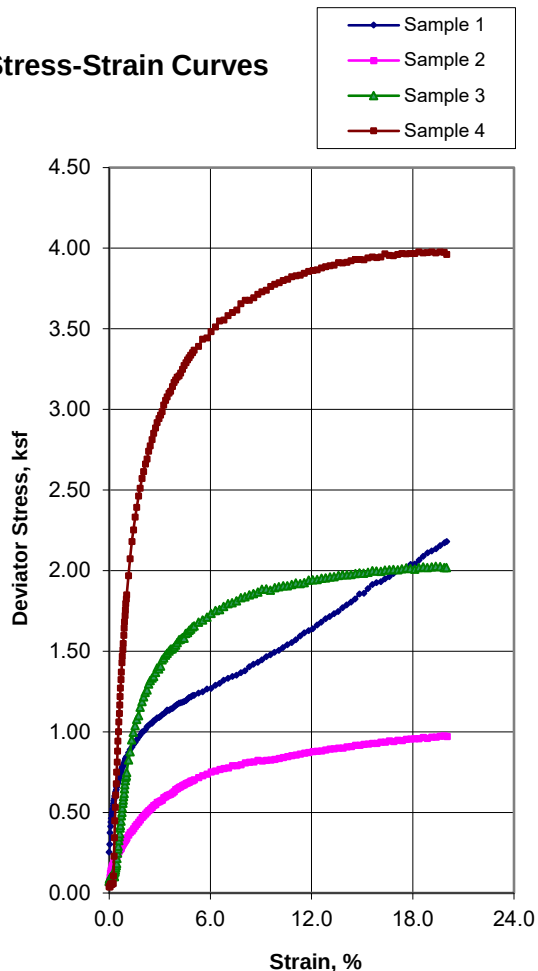
Note: Strengths are picked at the peak deviator stress or 15% strain which ever occurs first per ASTM D2850.



Unconsolidated-Undrained Triaxial Test ASTM D2850



Stress-Strain Curves



Sample Data

	1	2	3	4
Moisture %	26.4	26.0	36.8	27.0
Dry Den,pcf	98.8	98.5	85.2	97.2
Void Ratio	0.737	0.743	1.014	0.766
Saturation %	98.4	96.4	99.8	97.1
Height in	5.96	5.93	5.03	5.04
Diameter in	2.87	2.87	2.40	2.41
Cell psi	18.8	2.8	5.1	10.8
Strain %	15.00	15.00	15.00	15.00
Deviator, ksf	1.856	0.918	1.987	3.930
Rate %/min	1.00	1.00	1.00	1.00
in/min	0.060	0.059	0.050	0.050
Job No.:	461-392b			
Client:	Geosyntec Consultants			
Project:	WG3607			
Boring:	B2	B4	B4	B4
Sample:	B2-12	B4-1	B4-4	B4-9C
Depth ft:	55-57.5	5-7.5	16-16.5	35-36.5

Visual Soil Description

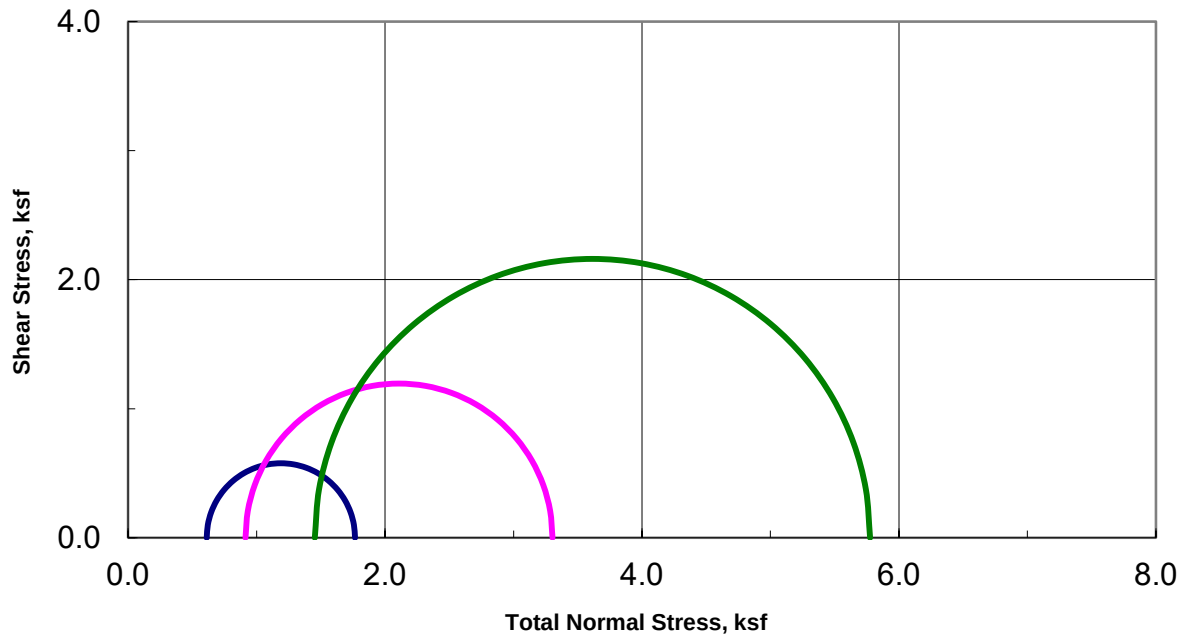
Sample #	
1	Olive Gray Sandy CLAY
2	Olive Gray Sandy CLAY
3	Dark Gray Fat CLAY w/ Sand
4	Olive Brown Sandy CLAY

Remarks:

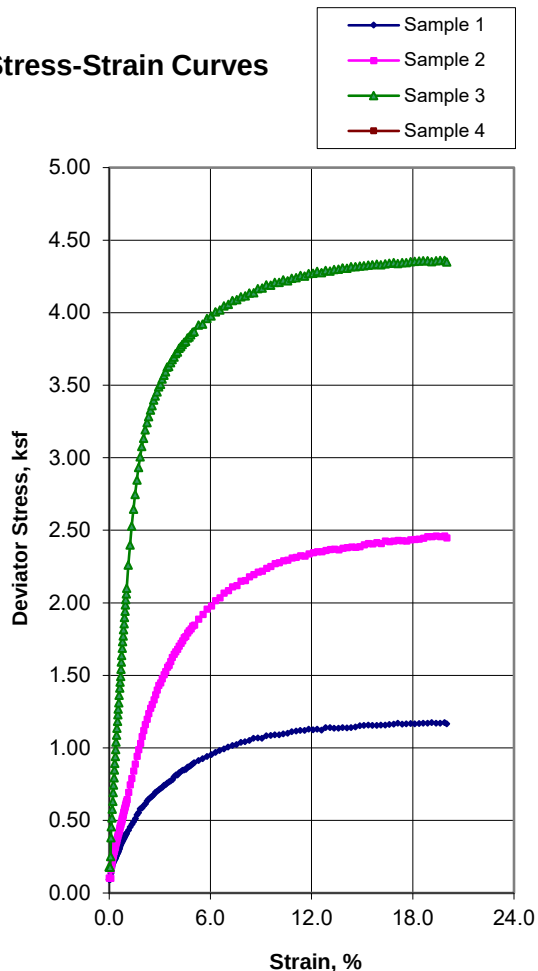
Note: Strengths are picked at the peak deviator stress or 15% strain which ever occurs first per ASTM D2850.



Unconsolidated-Undrained Triaxial Test ASTM D2850



Stress-Strain Curves



Sample Data

	1	2	3	4
Moisture %	21.0	20.8	22.0	
Dry Den,pcf	102.4	106.5	104.8	
Void Ratio	0.646	0.582	0.608	
Saturation %	87.8	96.3	97.6	
Height in	5.94	5.96	5.97	
Diameter in	2.86	2.85	2.86	
Cell psi	4.3	6.3	10.1	
Strain %	15.00	15.00	15.00	
Deviator, ksf	1.154	2.390	4.322	
Rate %/min	1.00	1.00	1.00	
in/min	0.059	0.059	0.060	

Job No.: 461-392c

Client: Geosyntec Consultants

Project: WG3607

Boring:

Sample:

Depth ft:

B5	B5	B5	
B5-1	B5-3	B5-8	
5-7.5	10-12.5	25-27.8	

Visual Soil Description

Sample #

1 Olive Brown Sandy CLAY

2 Olive Gray CLAY w/ Sand

3 Gray Sandy CLAY

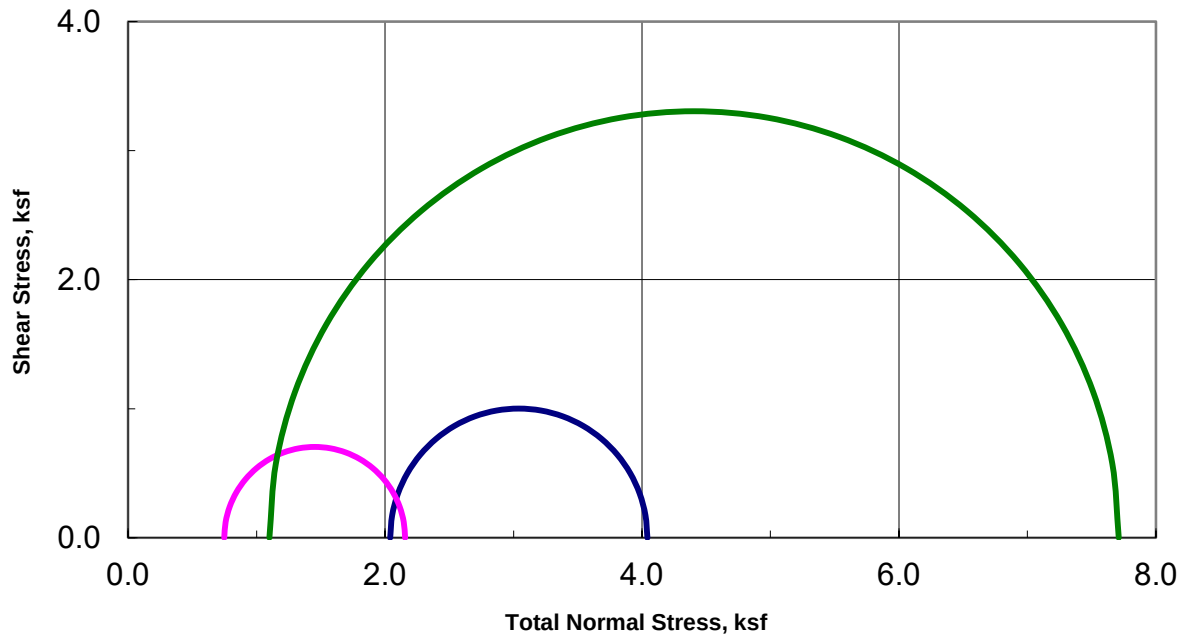
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Remarks:

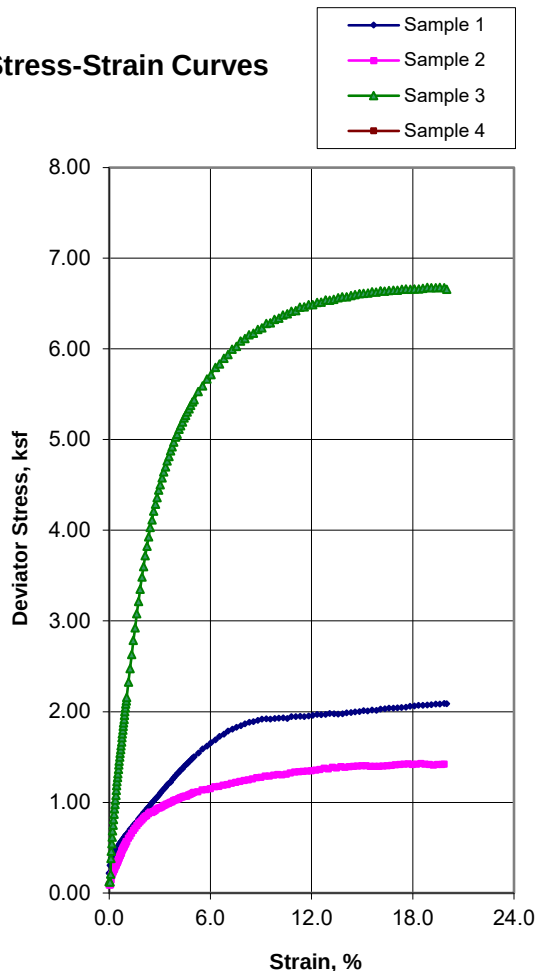
Note: Strengths are picked at the peak deviator stress or 15% strain which ever occurs first per ASTM D2850.



Unconsolidated-Undrained Triaxial Test ASTM D2850



Stress-Strain Curves



Sample Data

	1	2	3	4
Moisture %	25.2	32.2	19.4	
Dry Den,pcf	97.3	89.9	107.9	
Void Ratio	0.732	0.875	0.563	
Saturation %	92.9	99.5	92.9	
Height in	6.06	6.02	5.98	
Diameter in	2.65	2.86	2.88	
Cell psi	14.2	5.2	7.6	
Strain %	15.00	15.00	15.00	
Deviator, ksf	2.002	1.408	6.610	
Rate %/min	1.00	0.99	1.00	
in/min	0.061	0.060	0.060	

Job No.:	461-392d			
Client:	Geosyntec Consultants			
Project:	WG3607			
Boring:	B5	B6	B6	
Sample:	B5-12	B6-3	B6-5	
Depth ft:	40-42.5	15-17.5	25-27.5	

Visual Soil Description

Sample #	Description
1	Olive SILT
2	Bluish Gray Sandy Lean CLAY
3	Yellowish Brown CLAY w/ Sand
4	

Remarks:

Note: Strengths are picked at the peak deviator stress or 15% strain which ever occurs first per ASTM D2850.

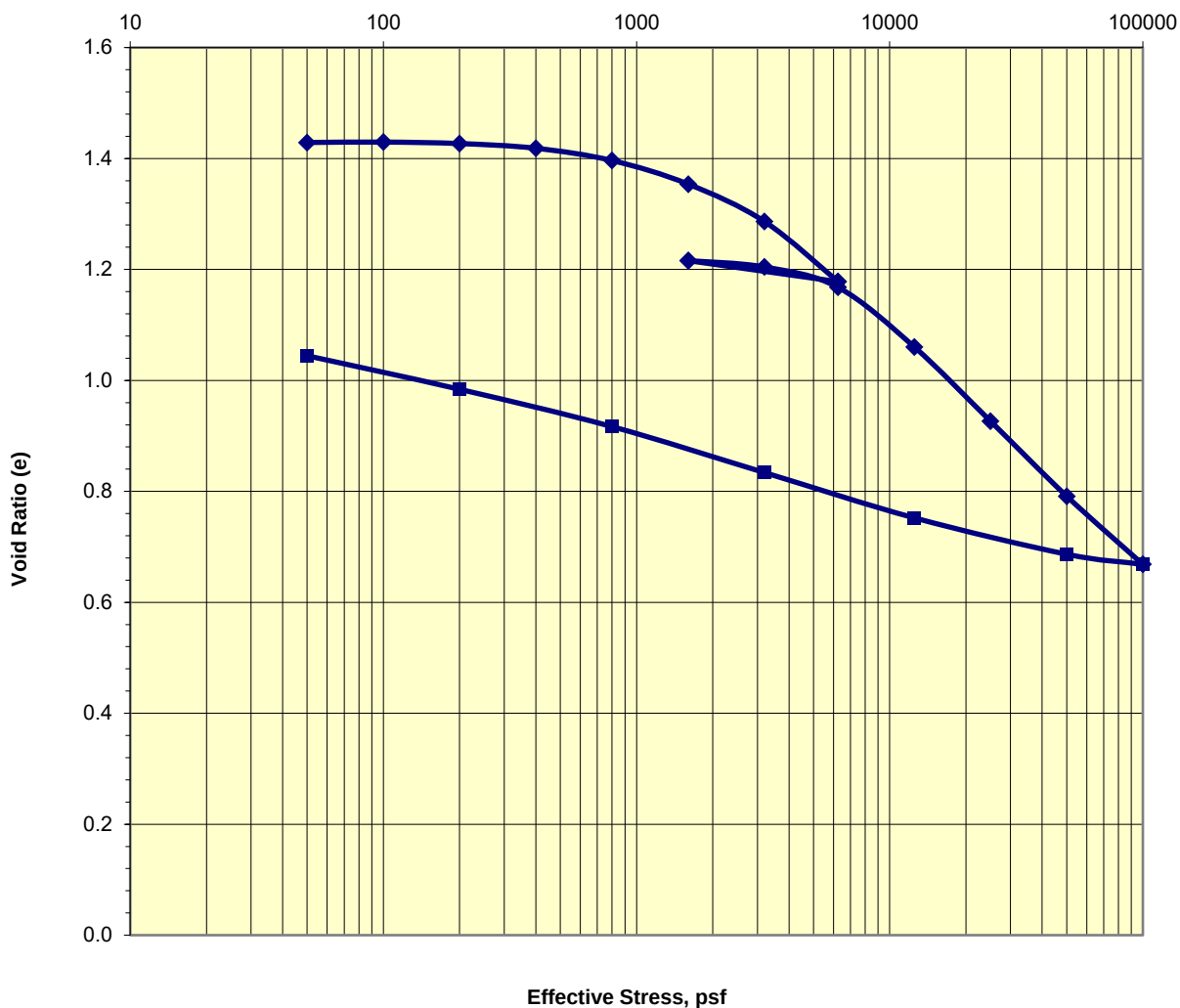


Consolidation Test

ASTM D2435

Job No.:	461-392	Boring:	B1	Run By:	HM
Client:	Geosyntec Consultants	Sample:	B1-3	Reduced:	RU
Project:	WG3607	Depth, ft.:	10-12.5(Tip-2.5")	Checked:	PJ
Soil Type:	Gray Fat CLAY			Date:	3/25/2026

e-Log-P Curve



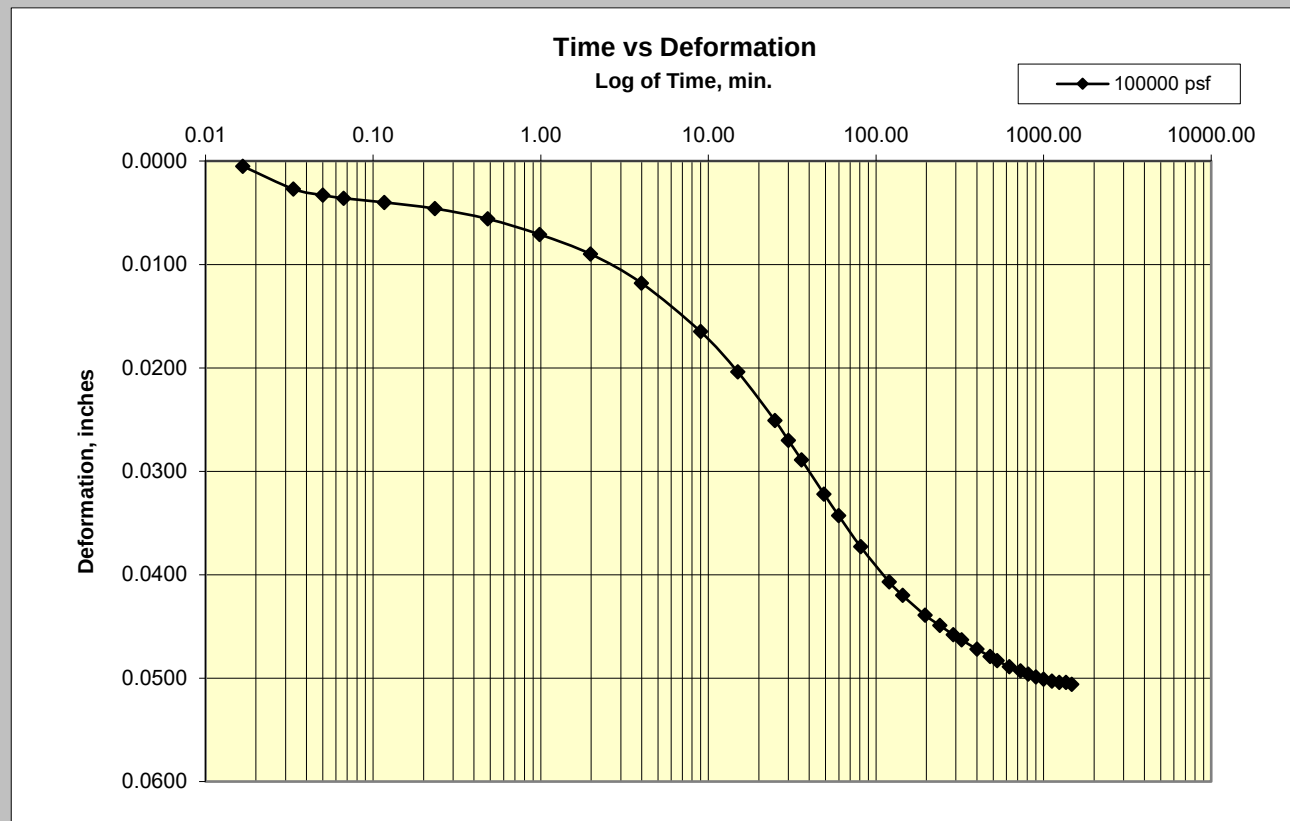
Assumed Gs	2.8	Initial	Final
Moisture %:		48.4	37.9
Dry Density, pcf:		72.0	84.8
Void Ratio:		1.429	1.060
% Saturation:		94.9	100.0

Remarks:

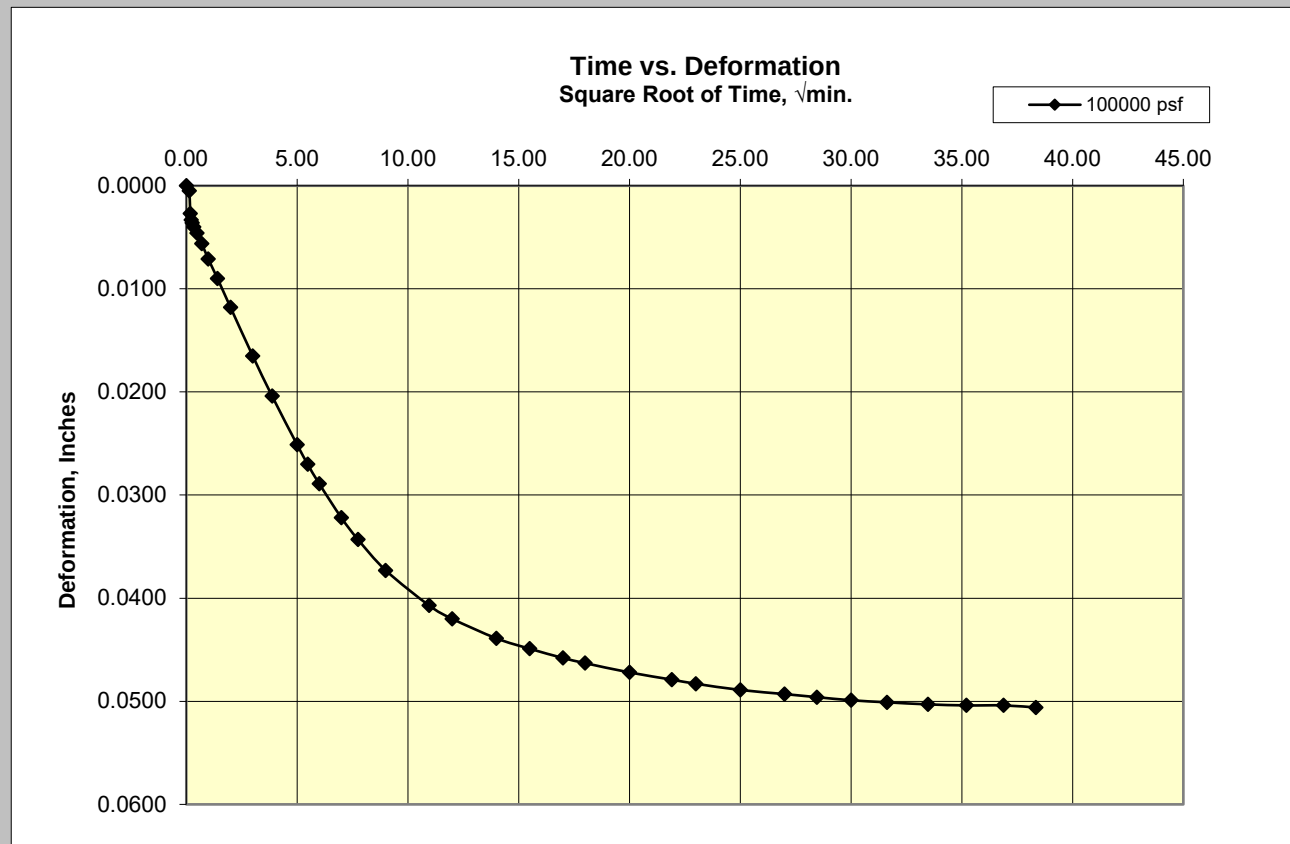
Cooper Testing Labs, Inc.

Load 15

100000 psf



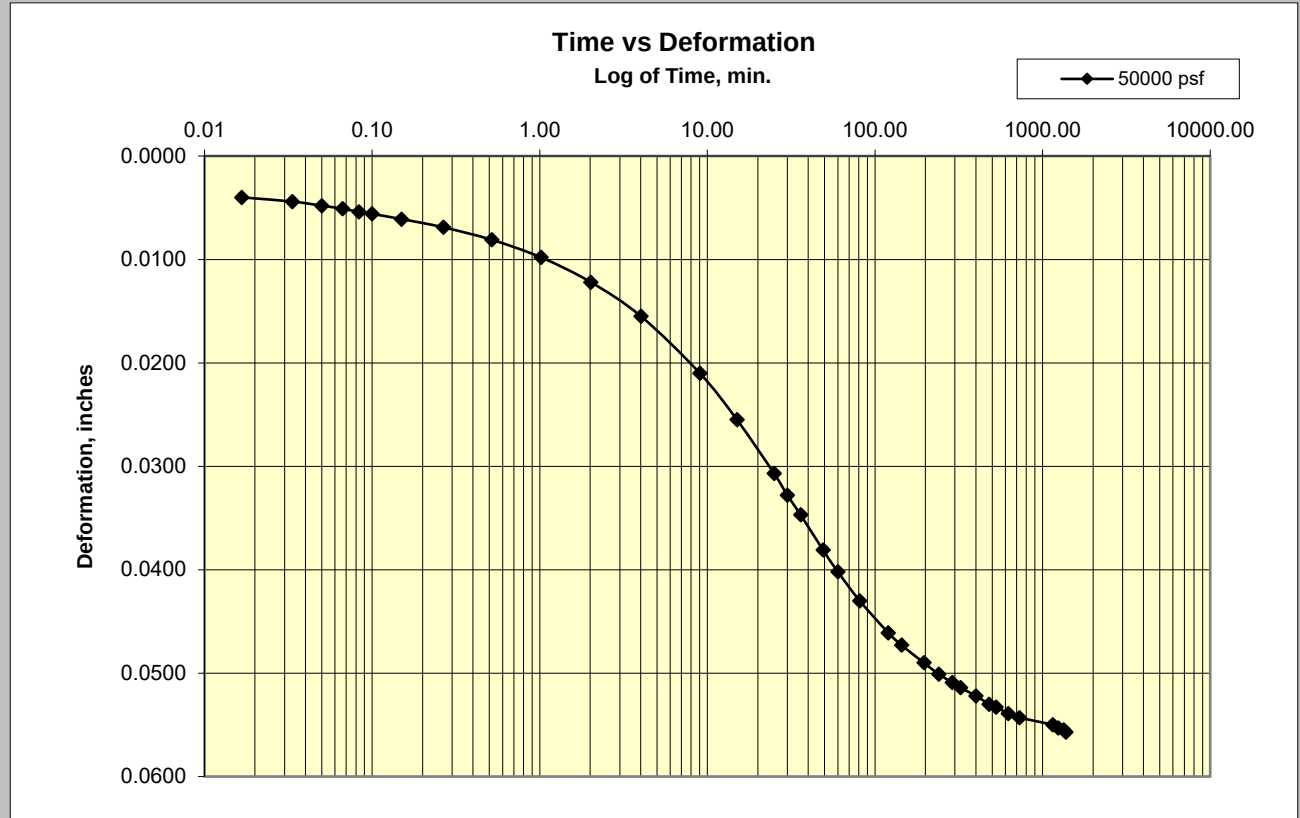
100000 psf



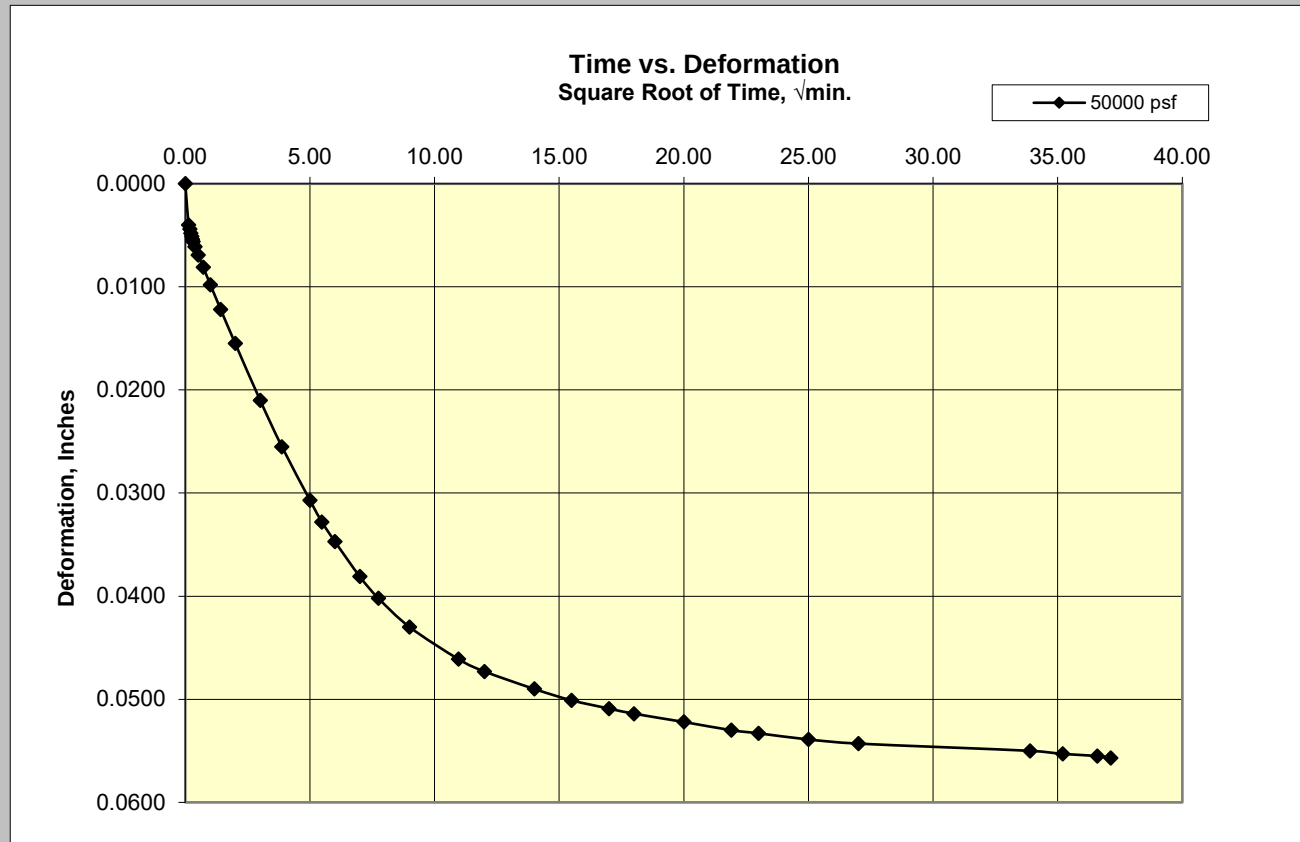
Cooper Testing Labs, Inc.

Load 14

50000 psf



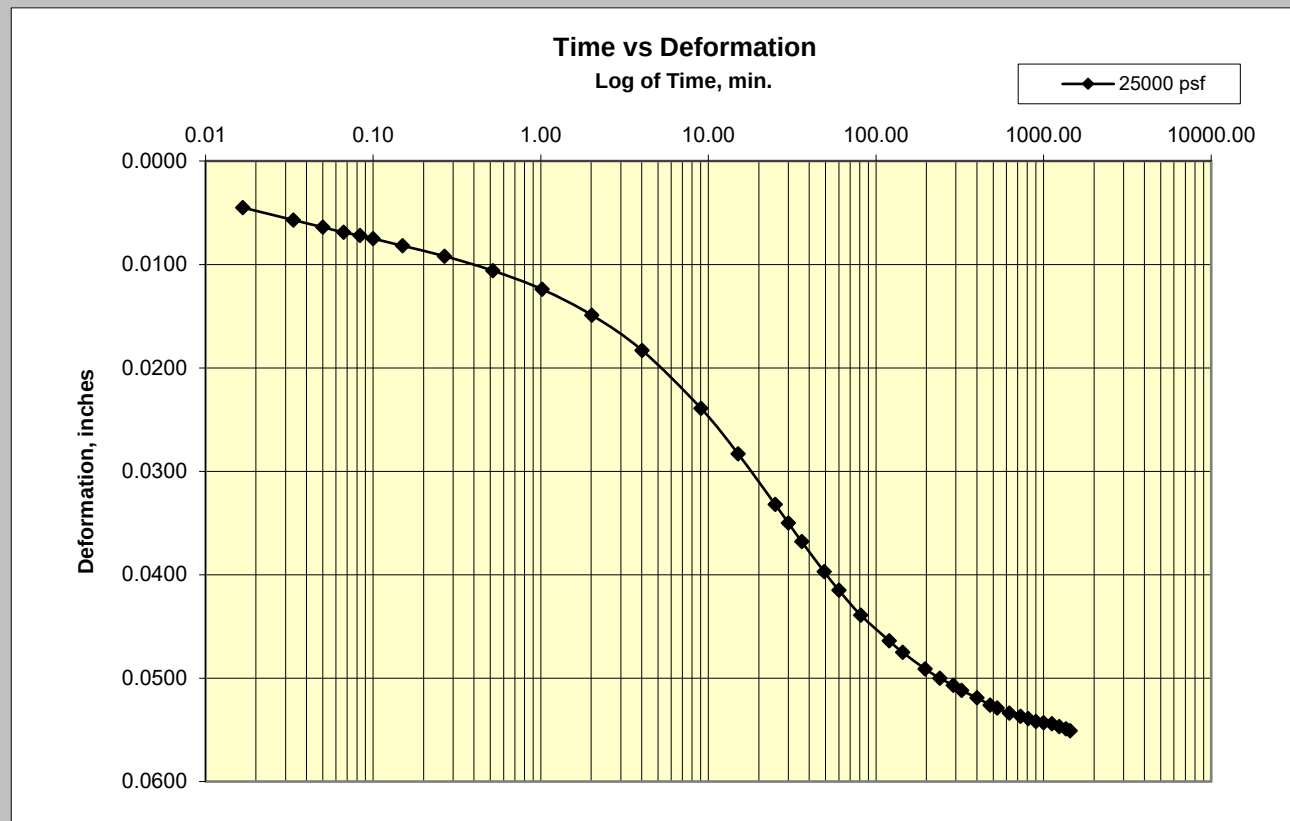
50000 psf



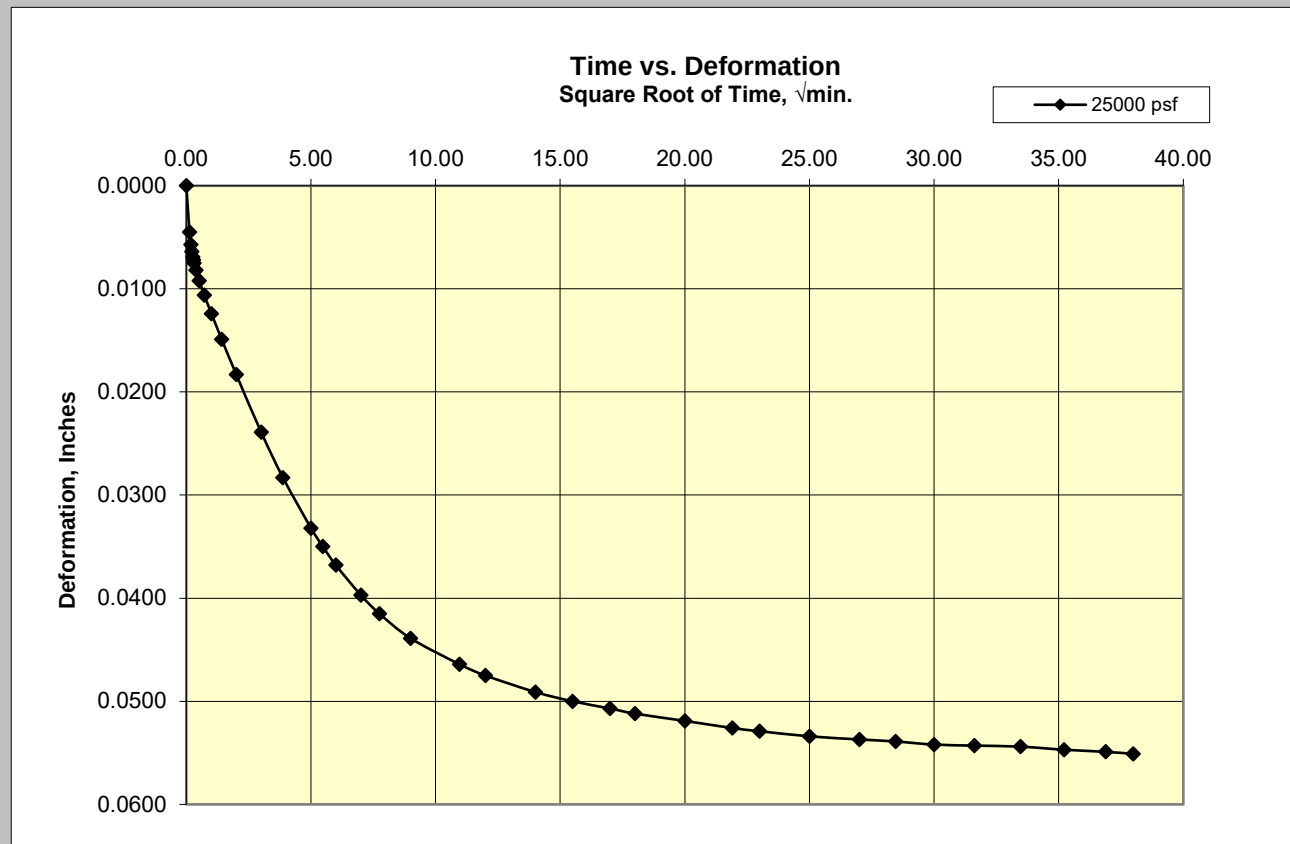
Cooper Testing Labs, Inc.

Load 13

25000 psf



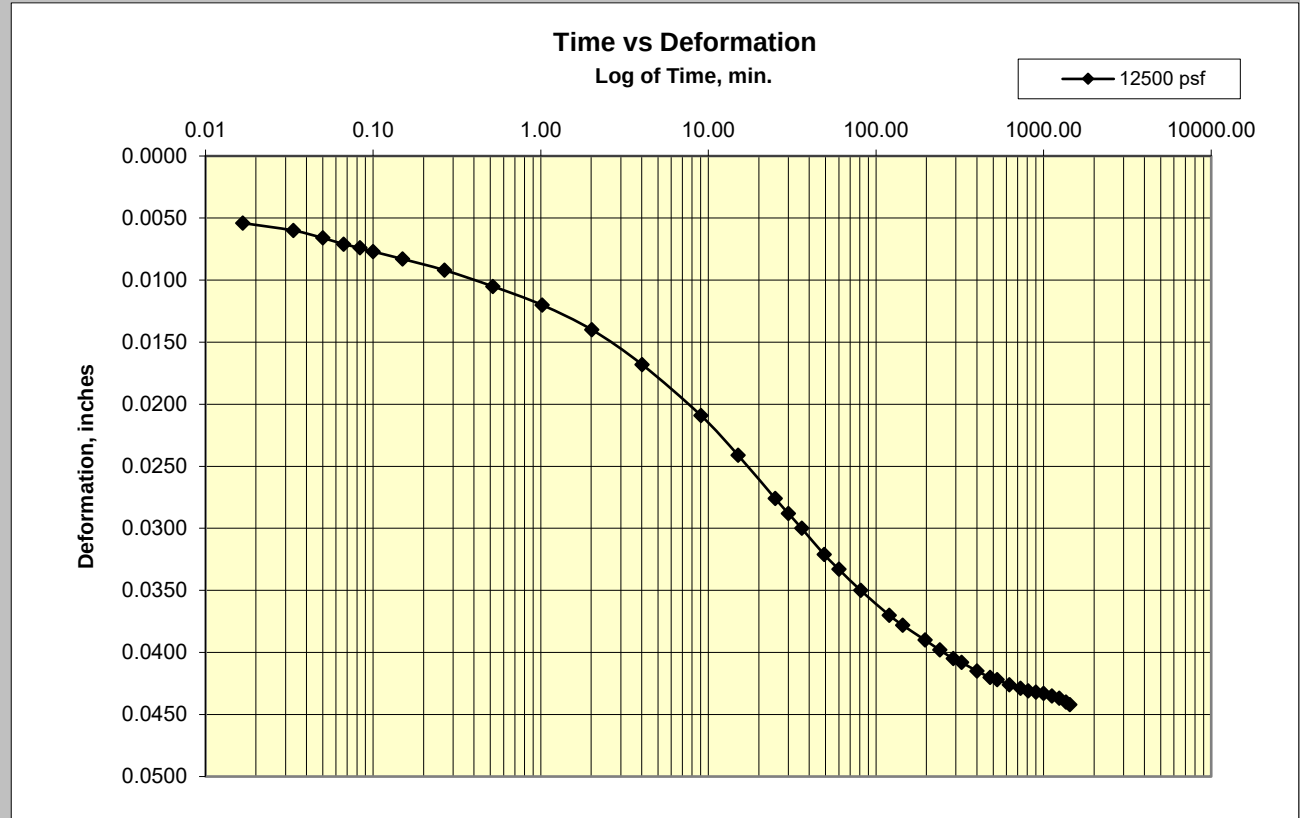
25000 psf



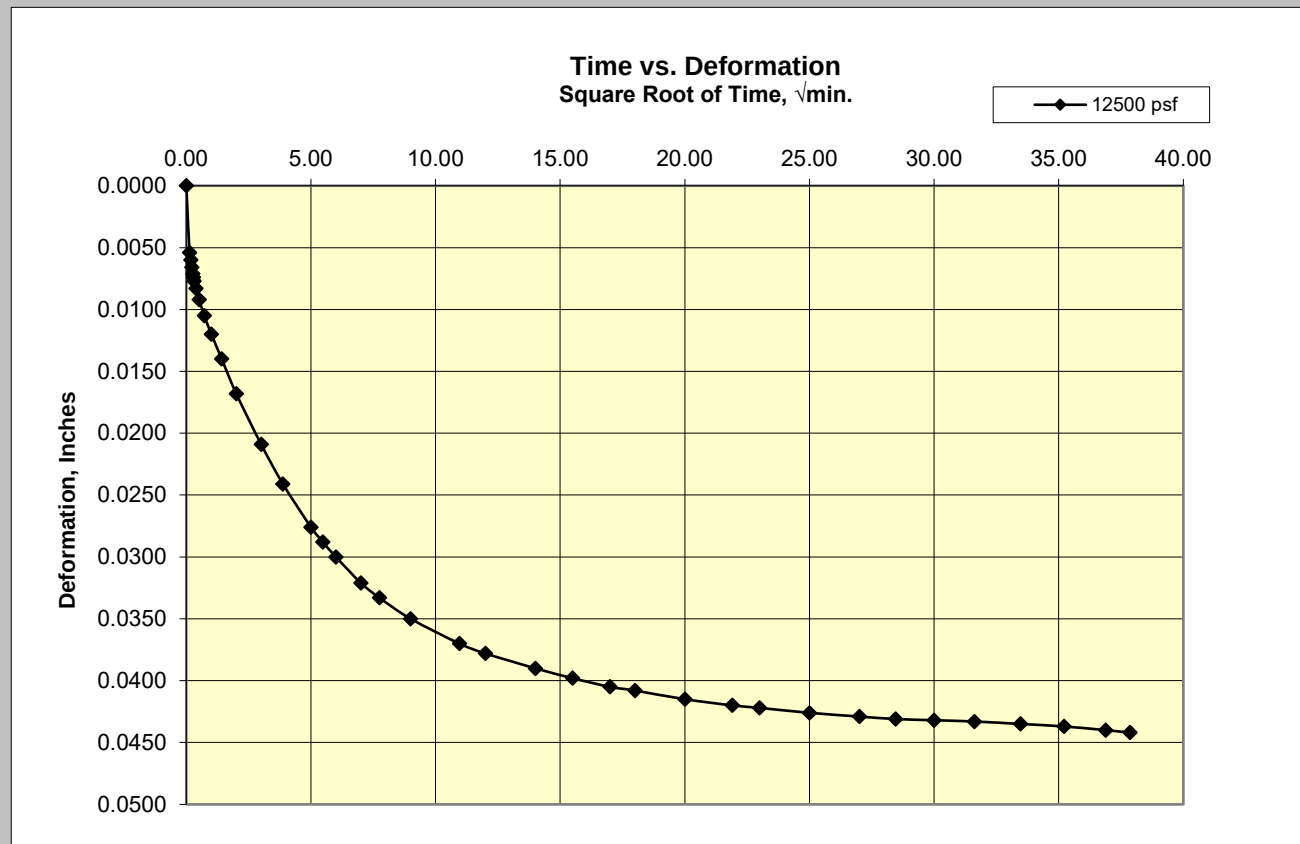
Cooper Testing Labs, Inc.

Load 12

12500 psf



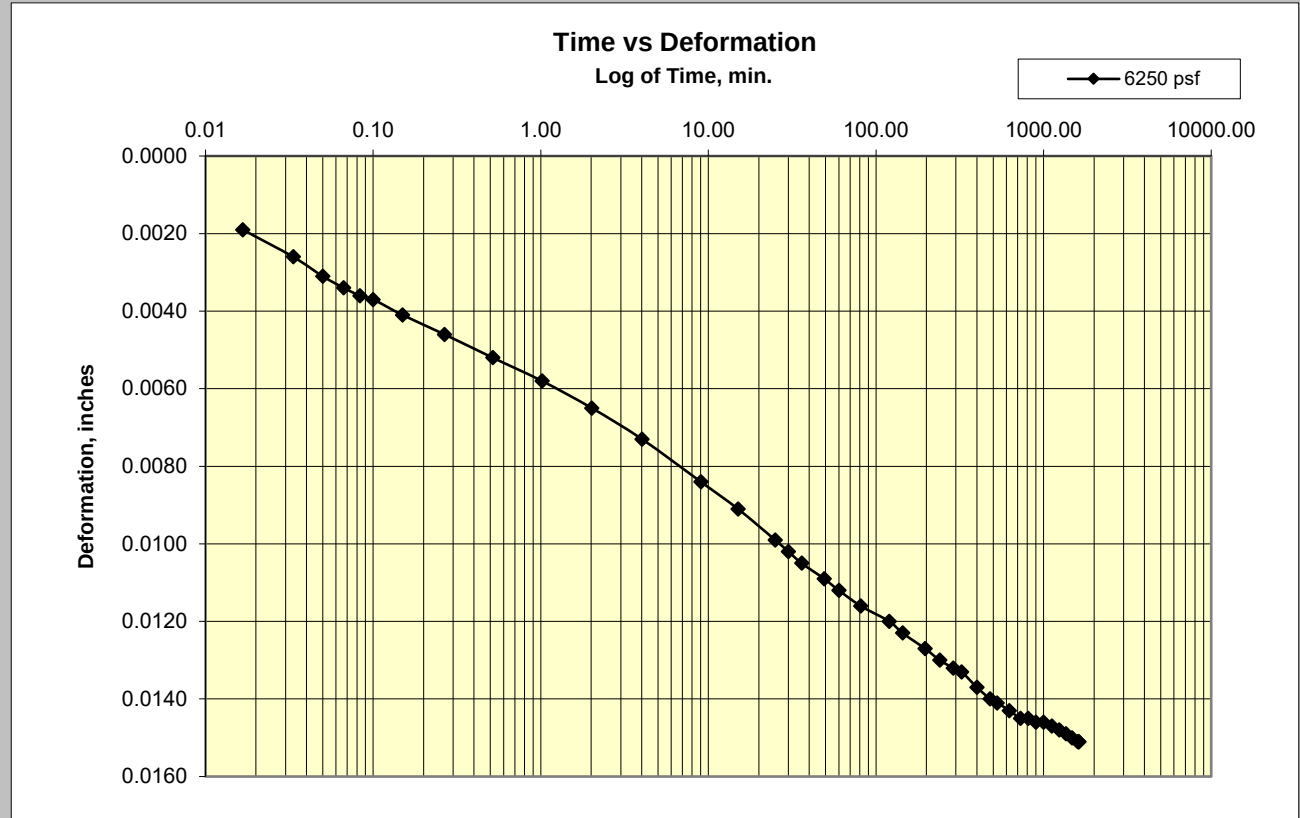
12500 psf



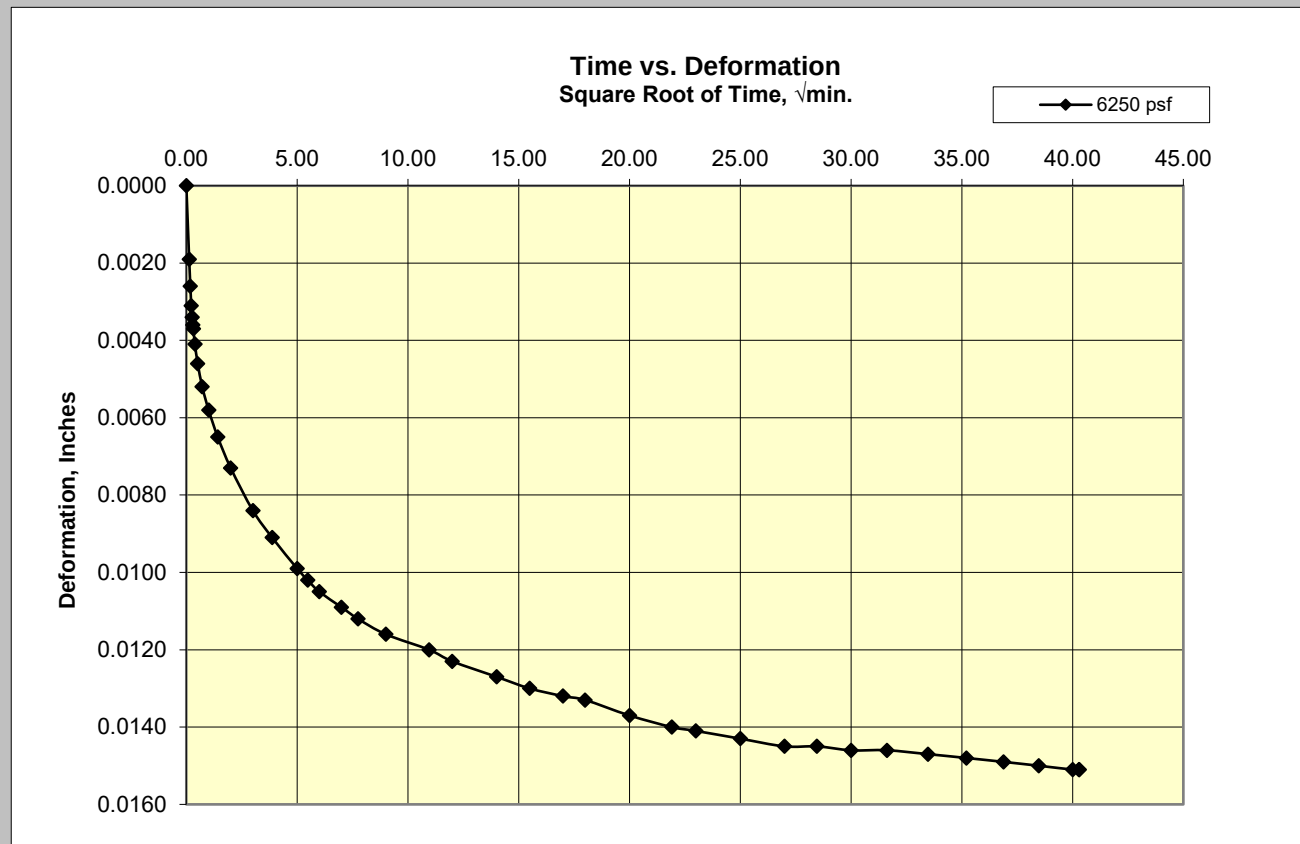
Cooper Testing Labs, Inc.

Load 11

6250 psf



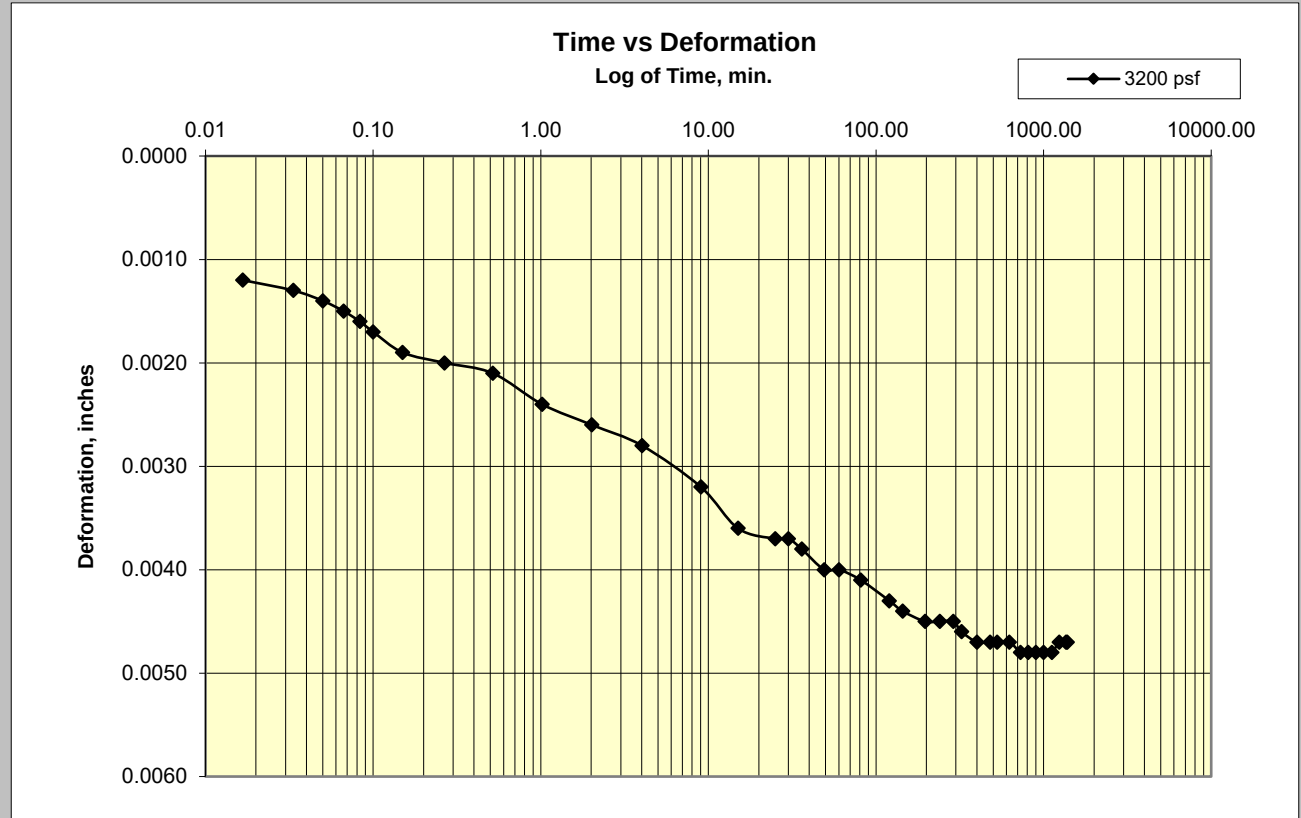
6250 psf



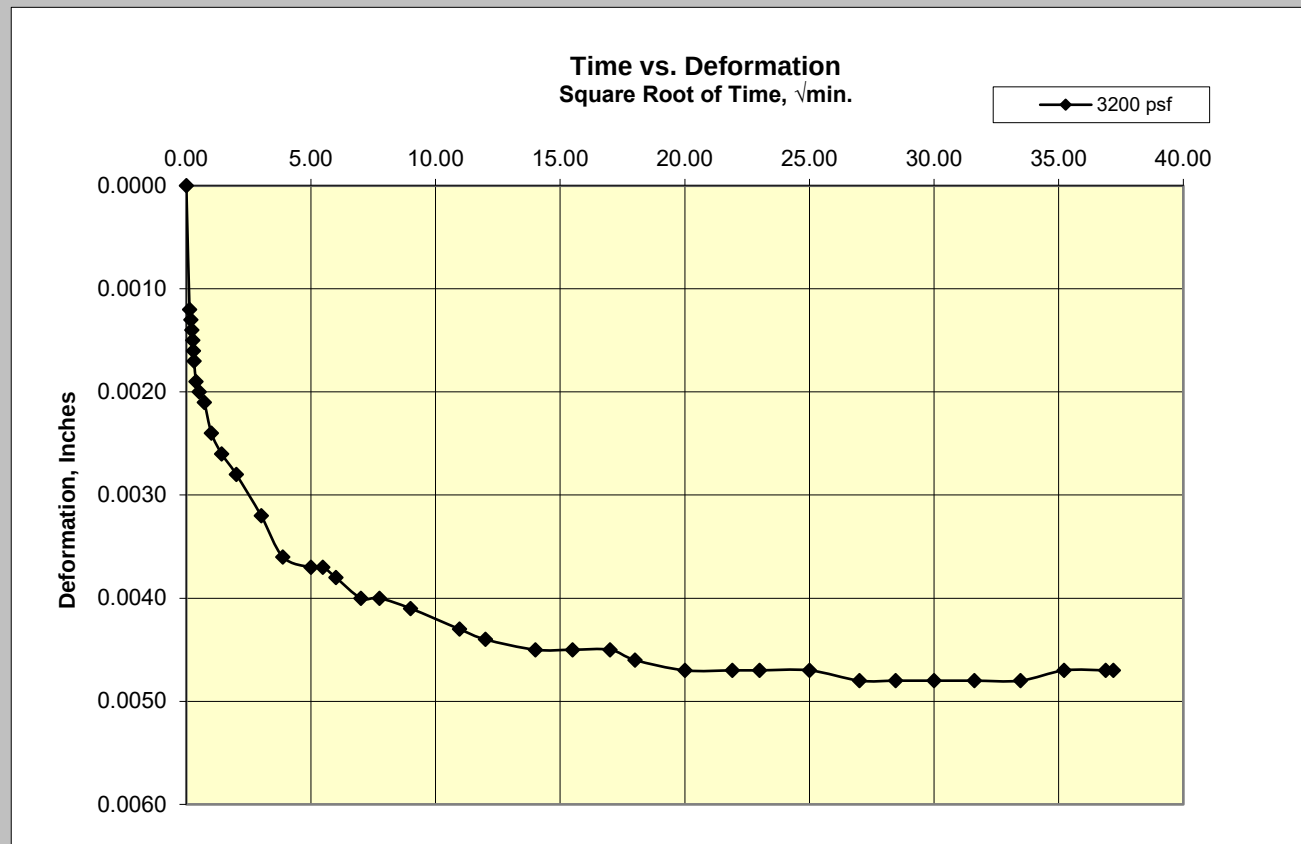
Cooper Testing Labs, Inc.

Load 10

3200 psf



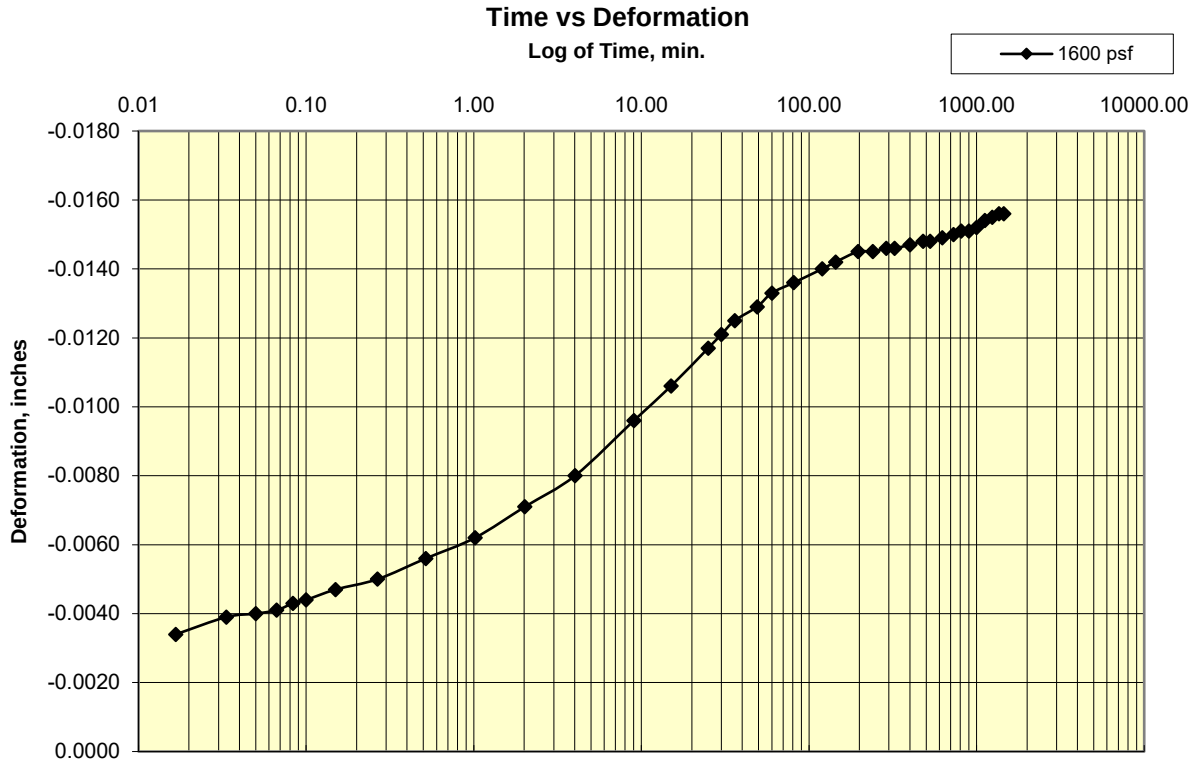
3200 psf



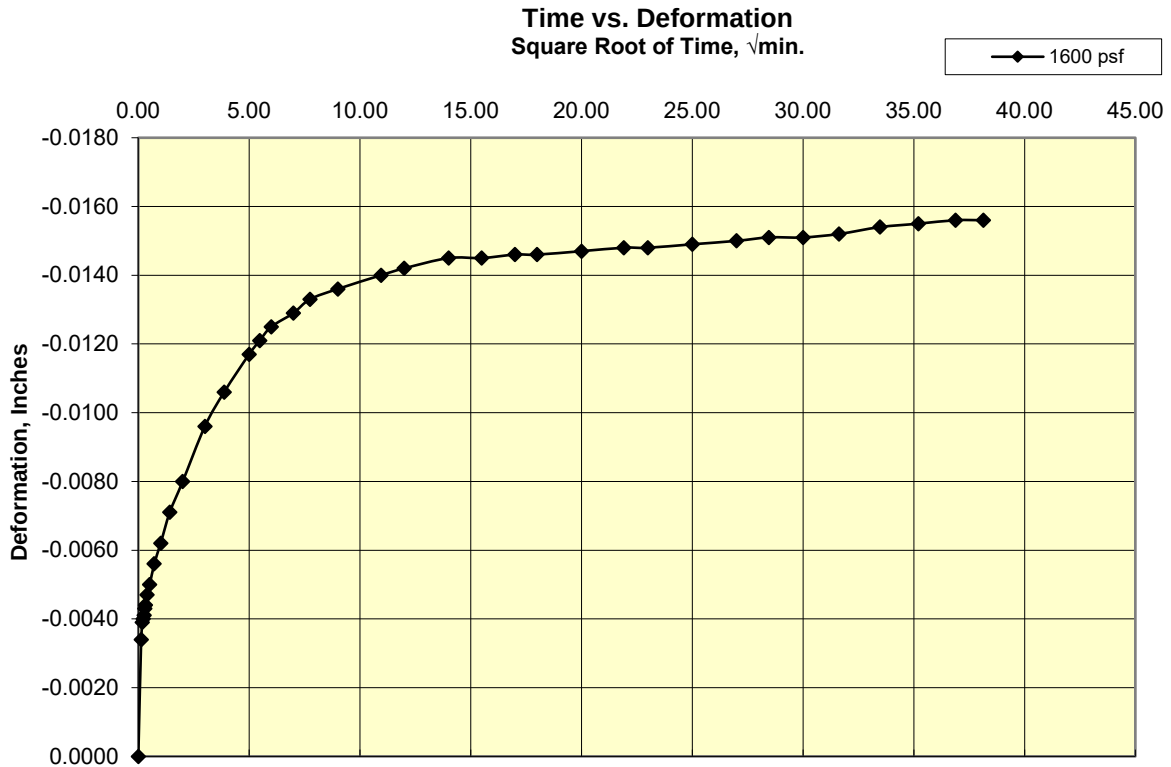
Cooper Testing Labs, Inc.

Load 9

1600 psf



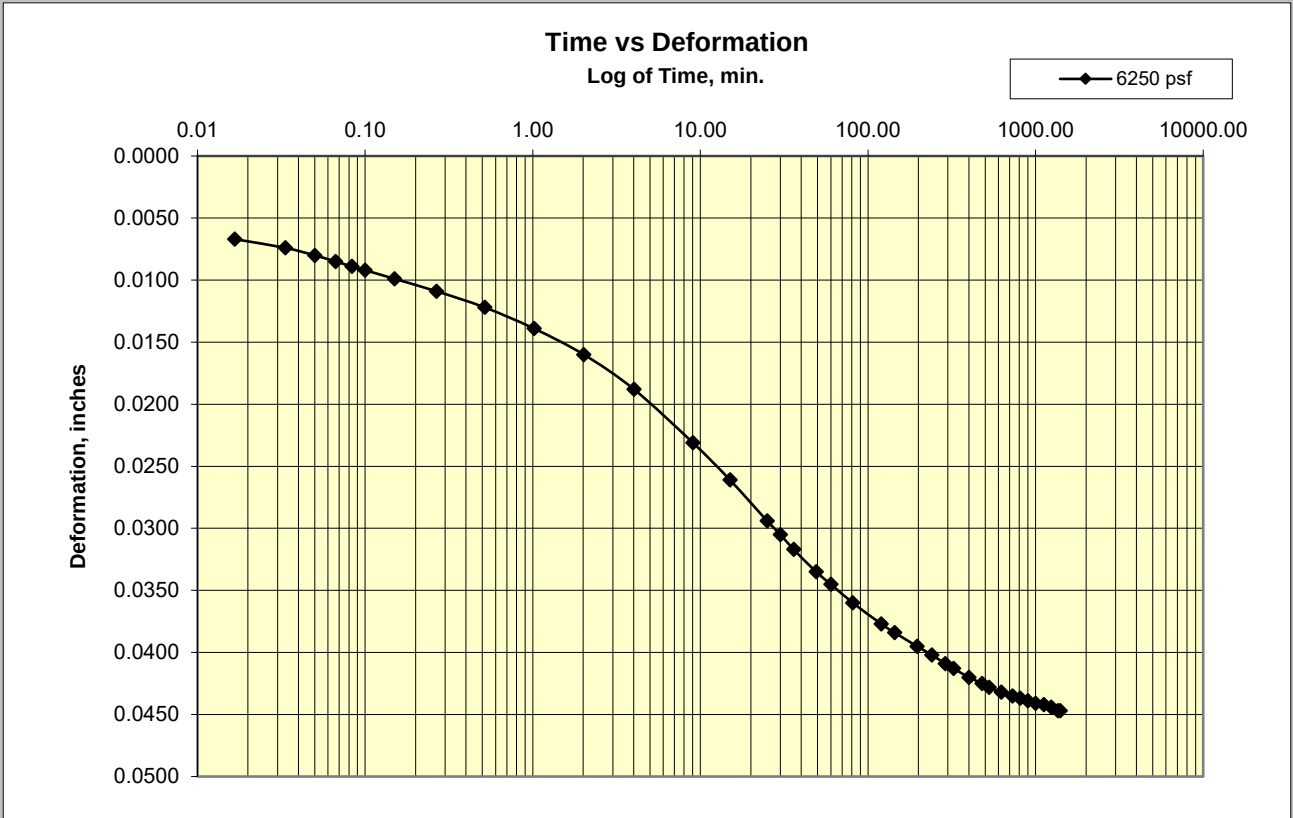
1600 psf



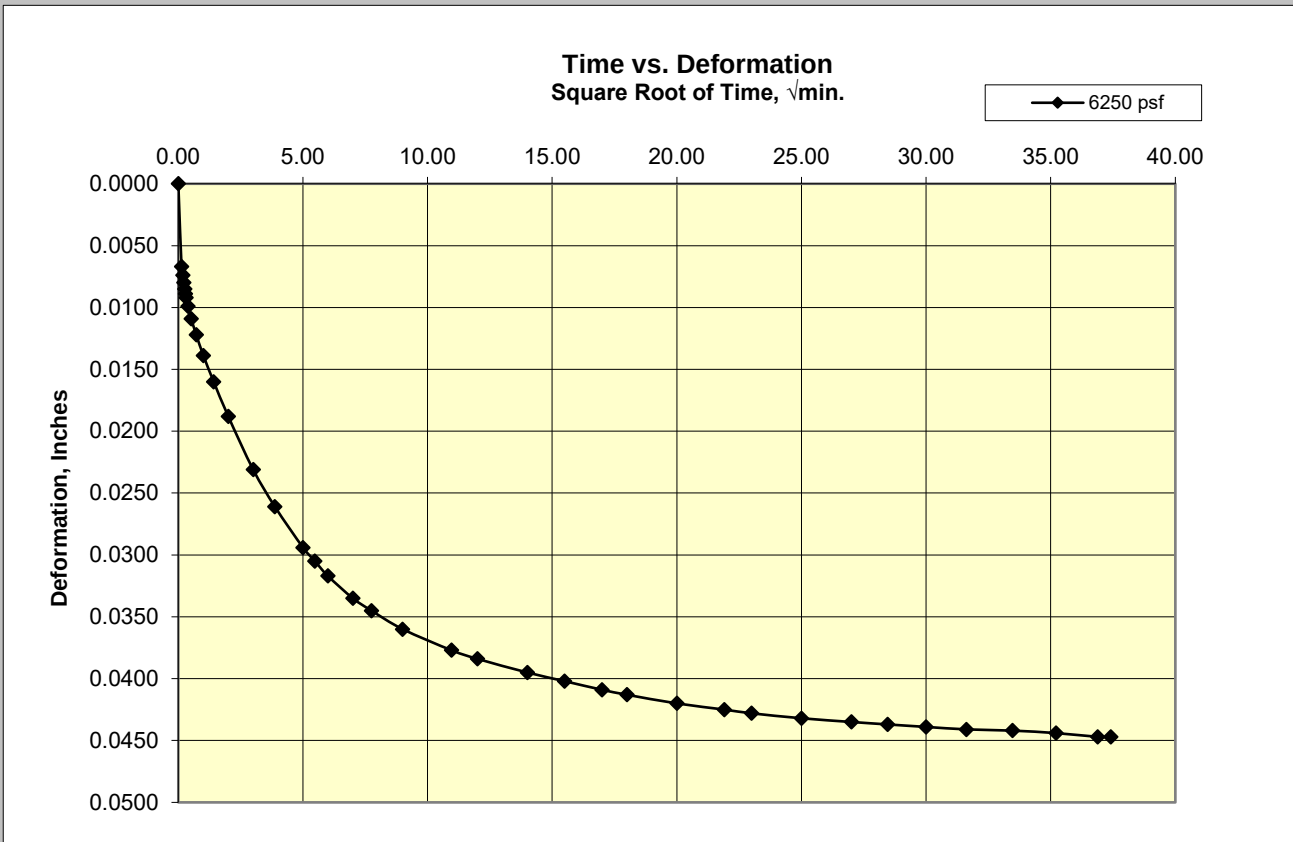
Cooper Testing Labs, Inc.

Load 8

6250 psf



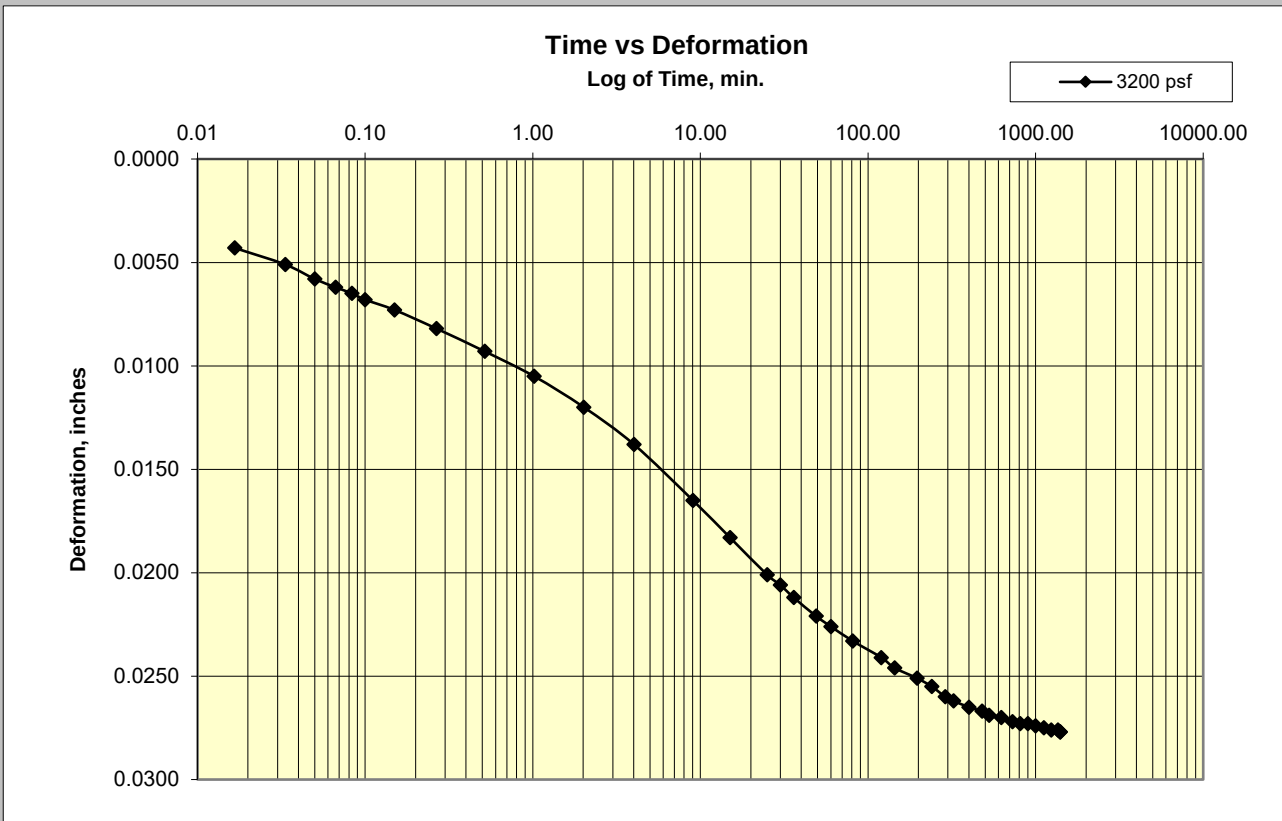
6250 psf



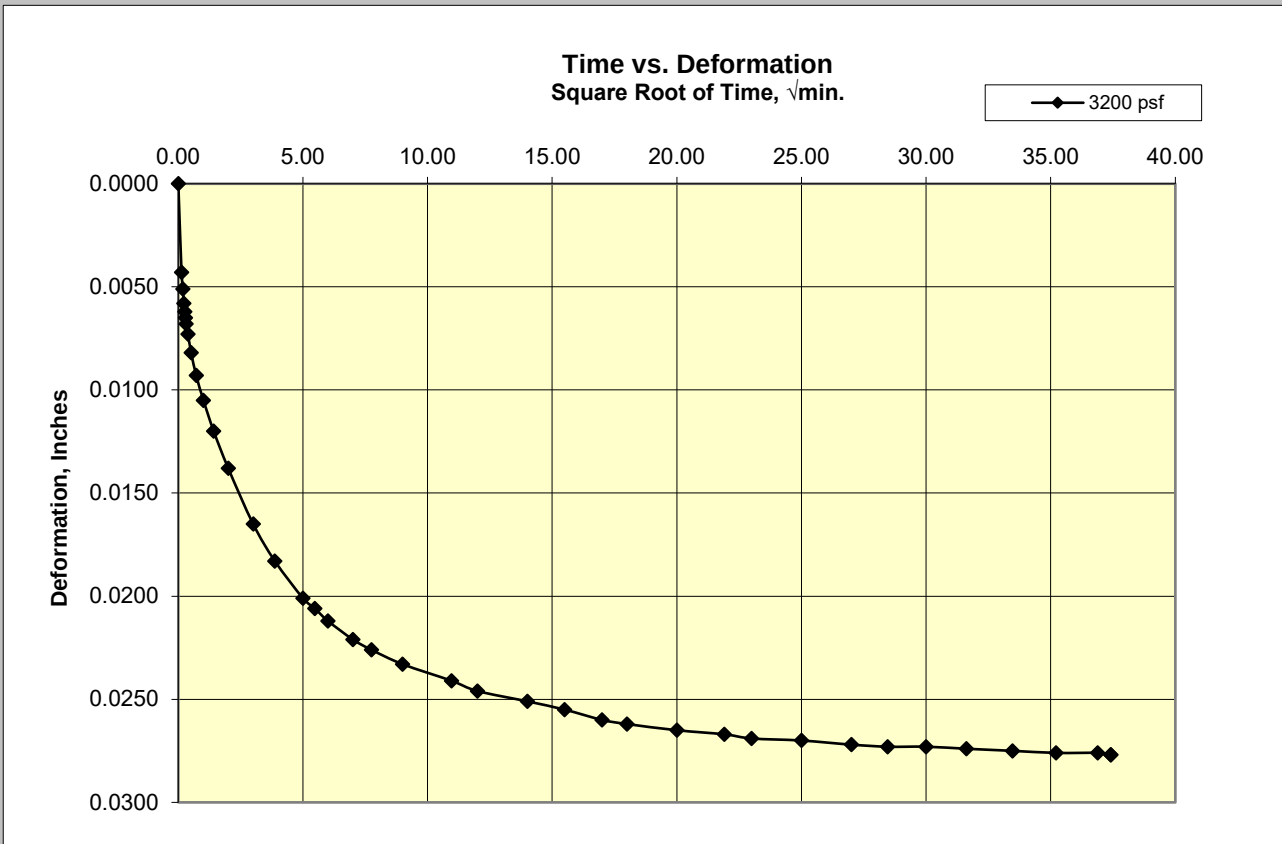
Cooper Testing Labs, Inc.

Load 7

3200 psf



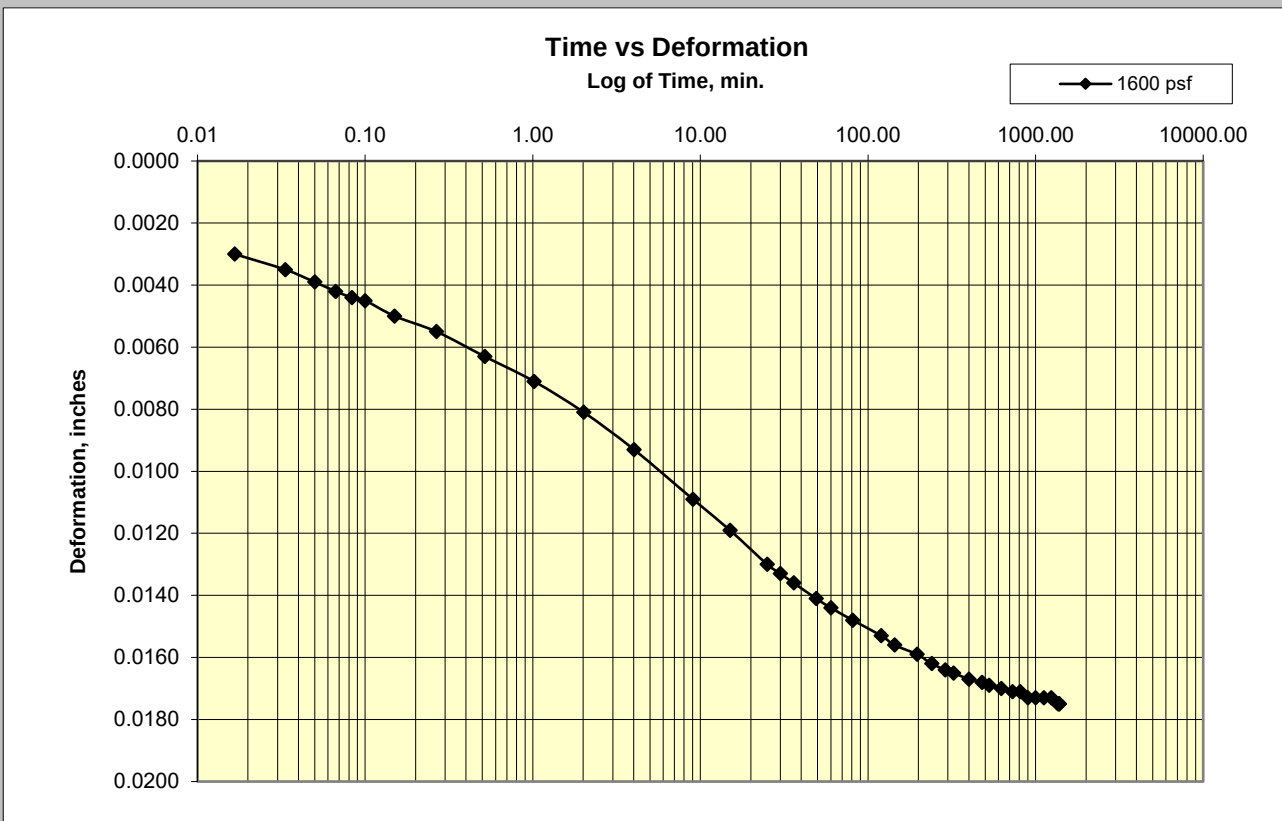
3200 psf



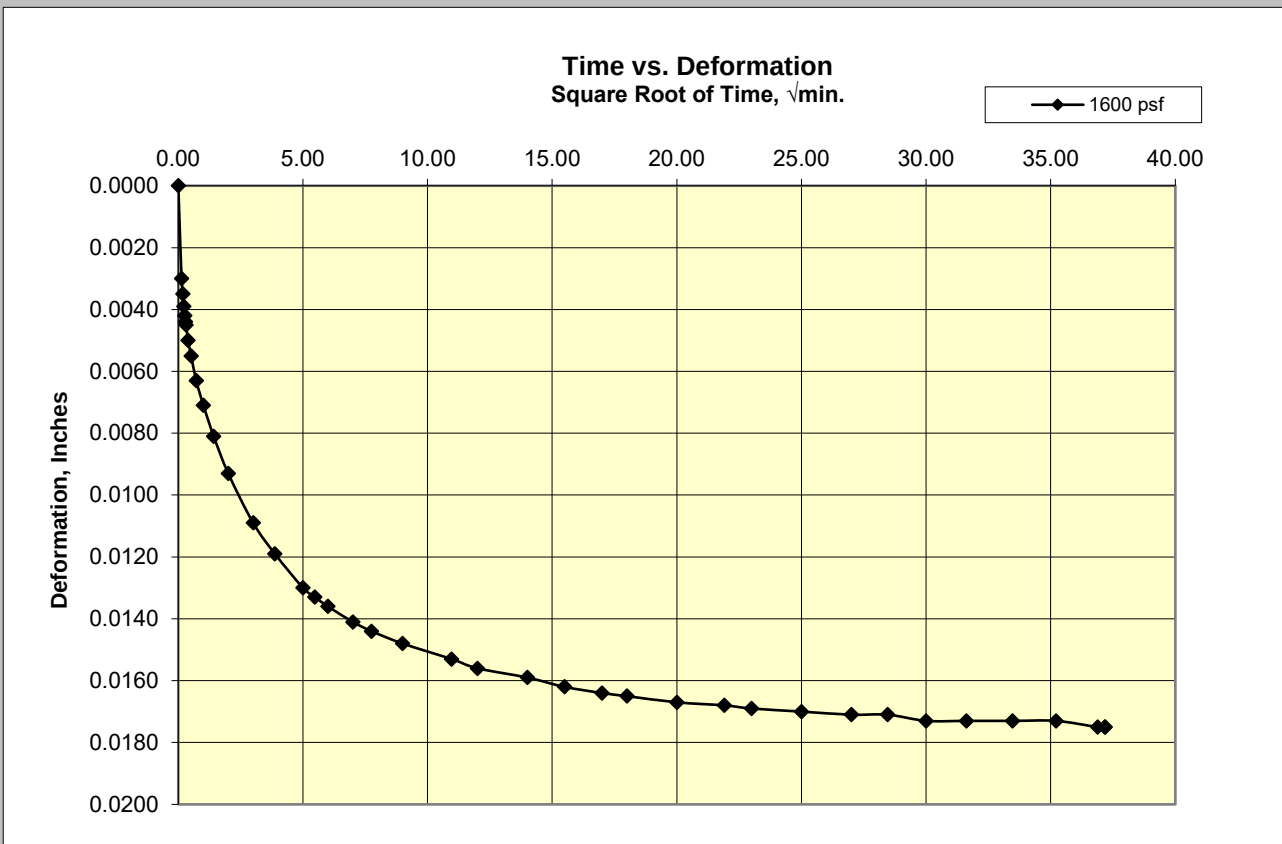
Cooper Testing Labs, Inc.

Load 6

1600 psf



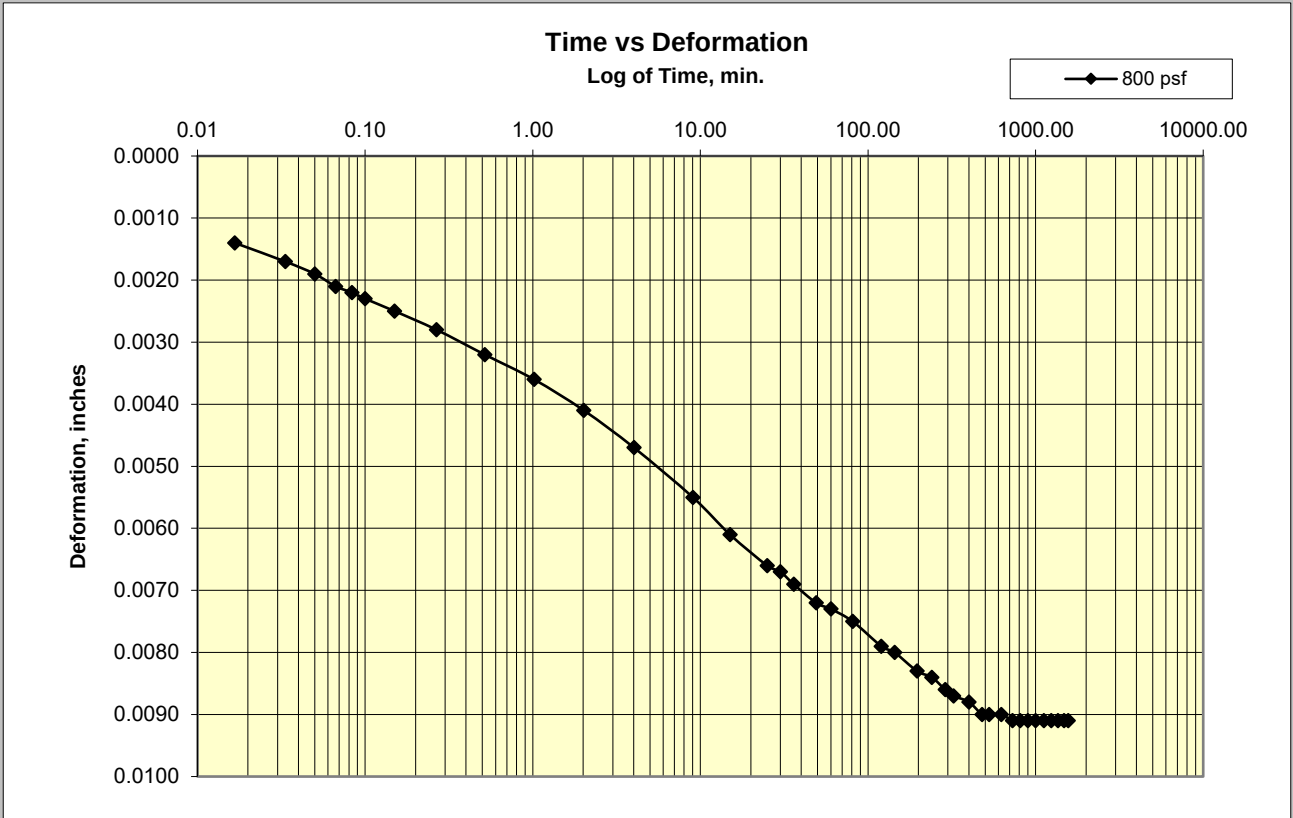
1600 psf



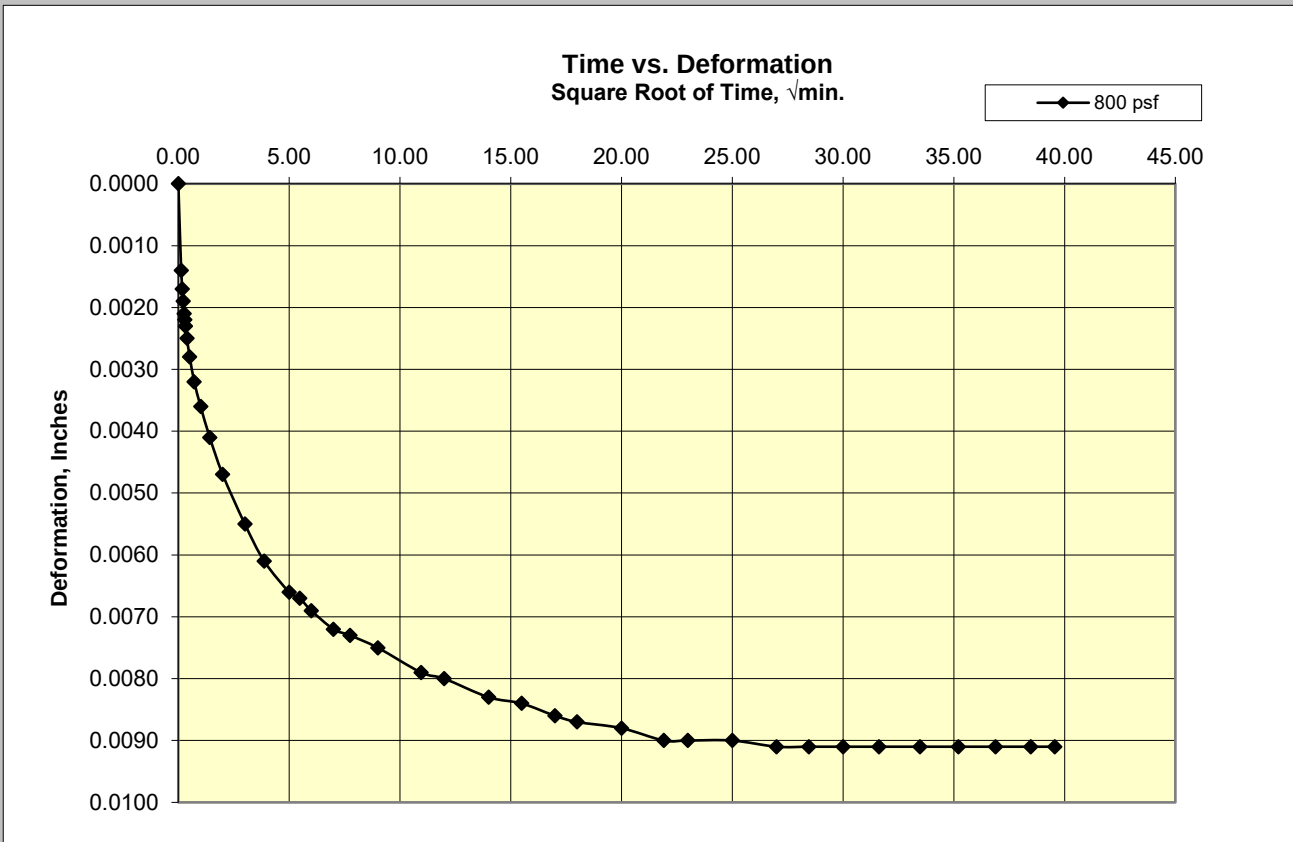
Cooper Testing Labs, Inc.

Load 5

800 psf



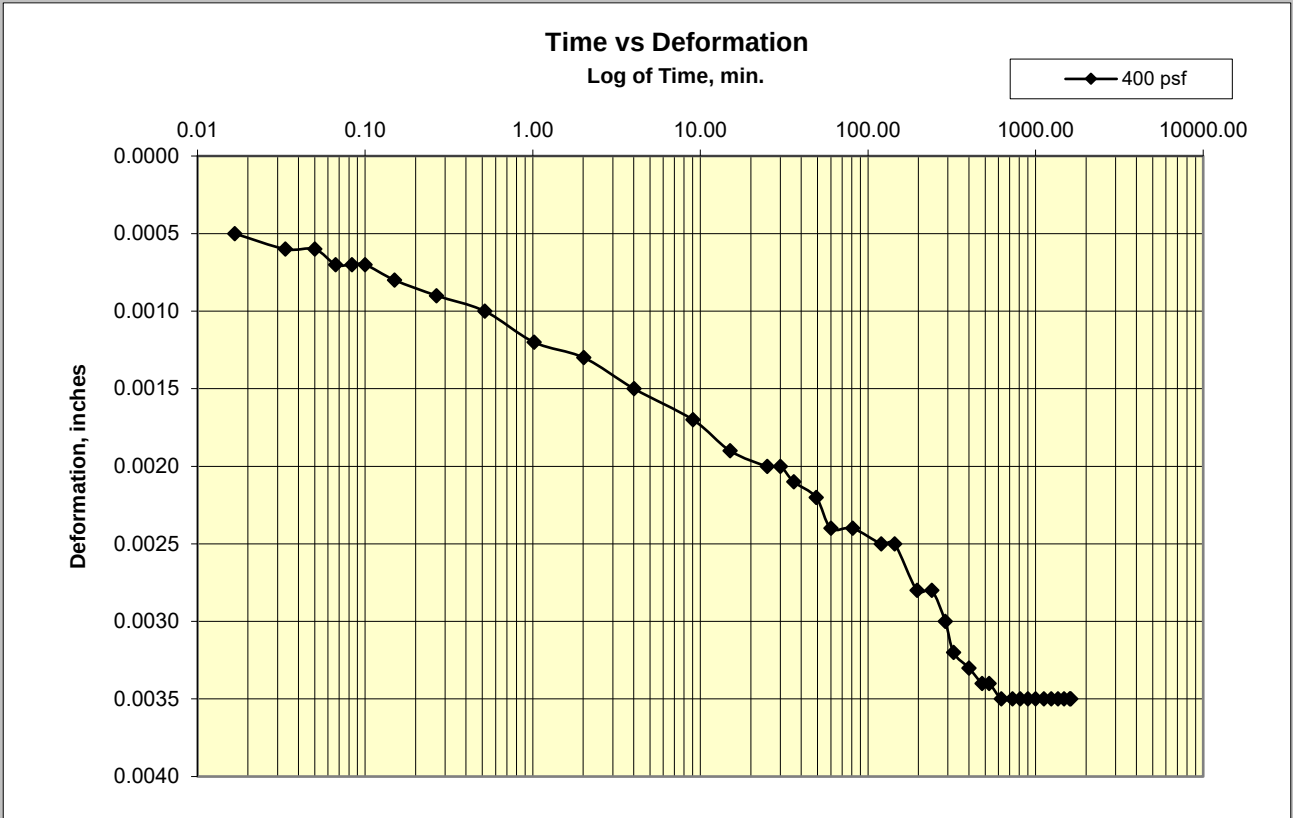
800 psf



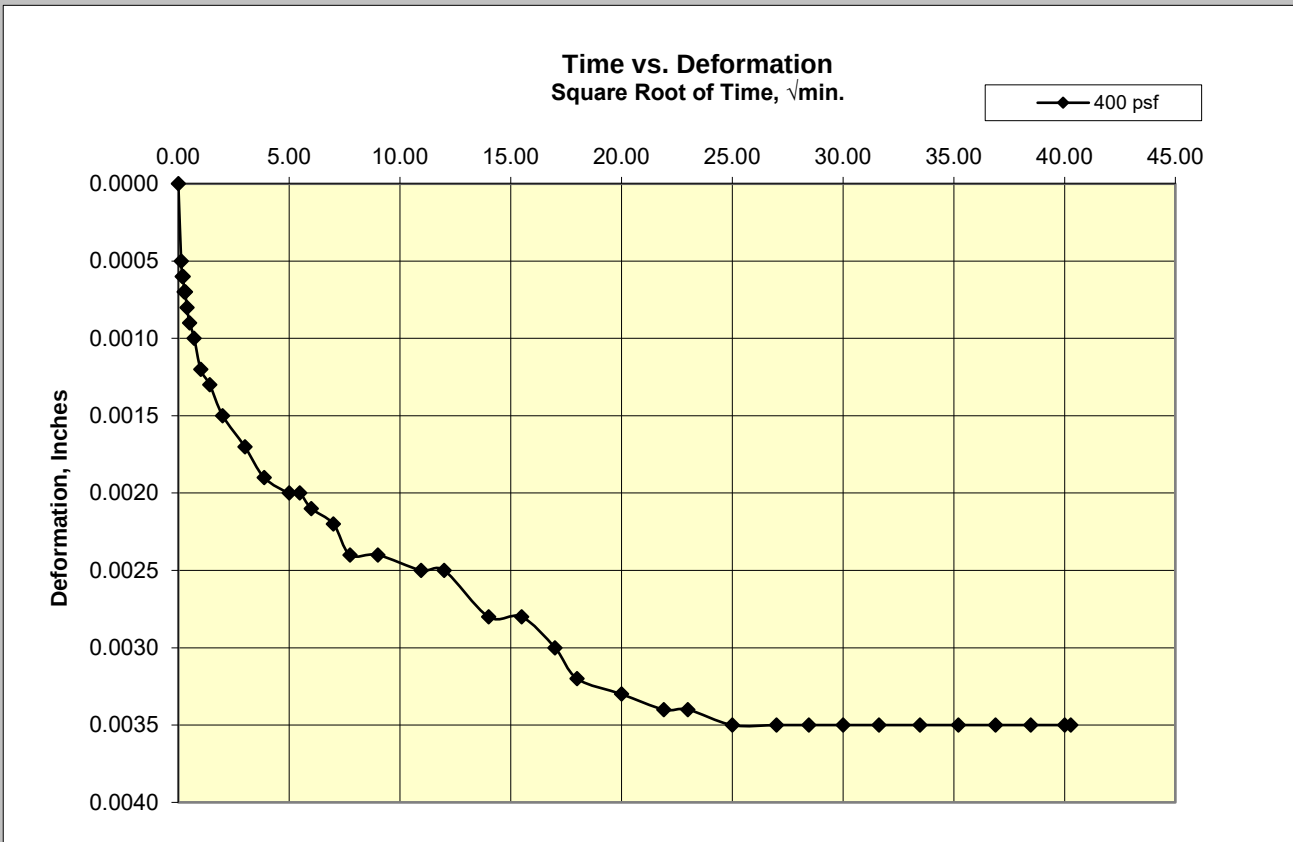
Cooper Testing Labs, Inc.

Load 4

400 psf



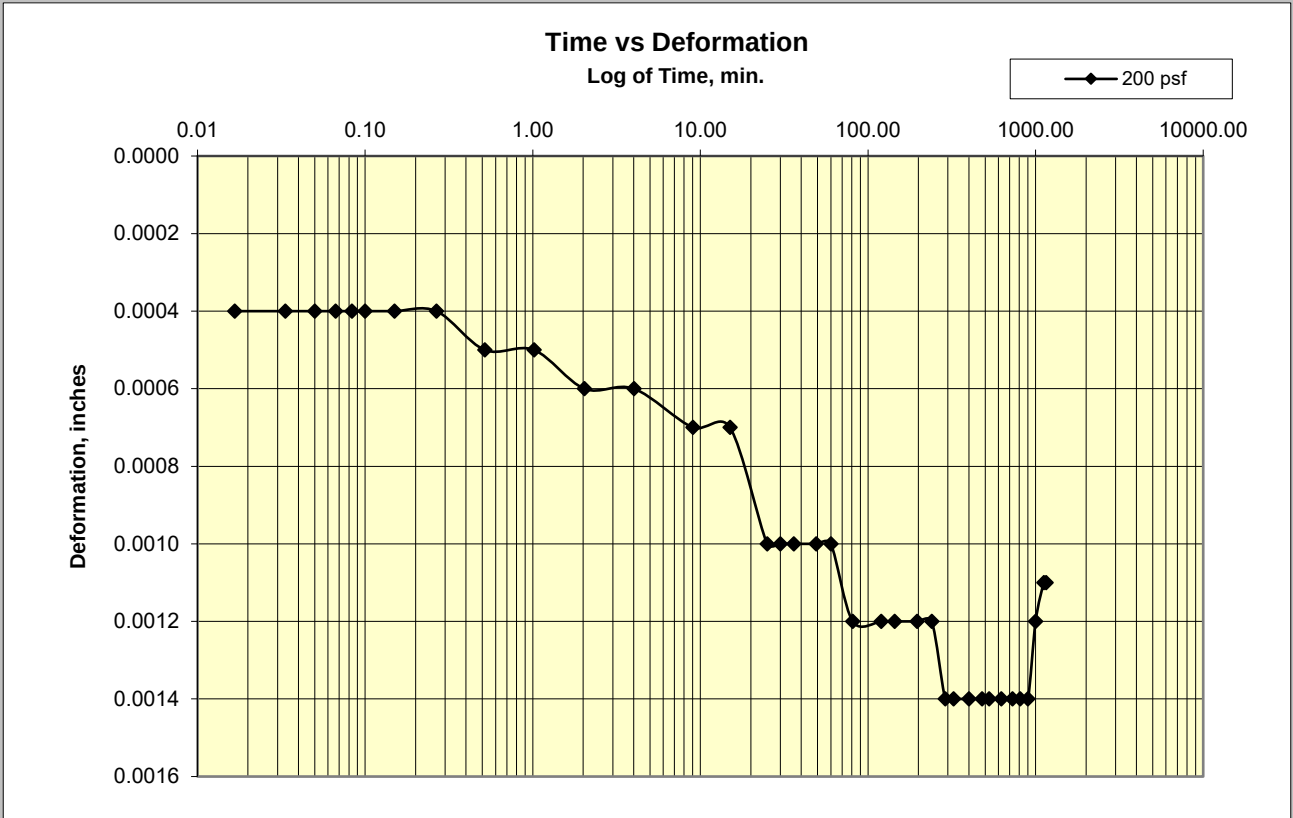
400 psf



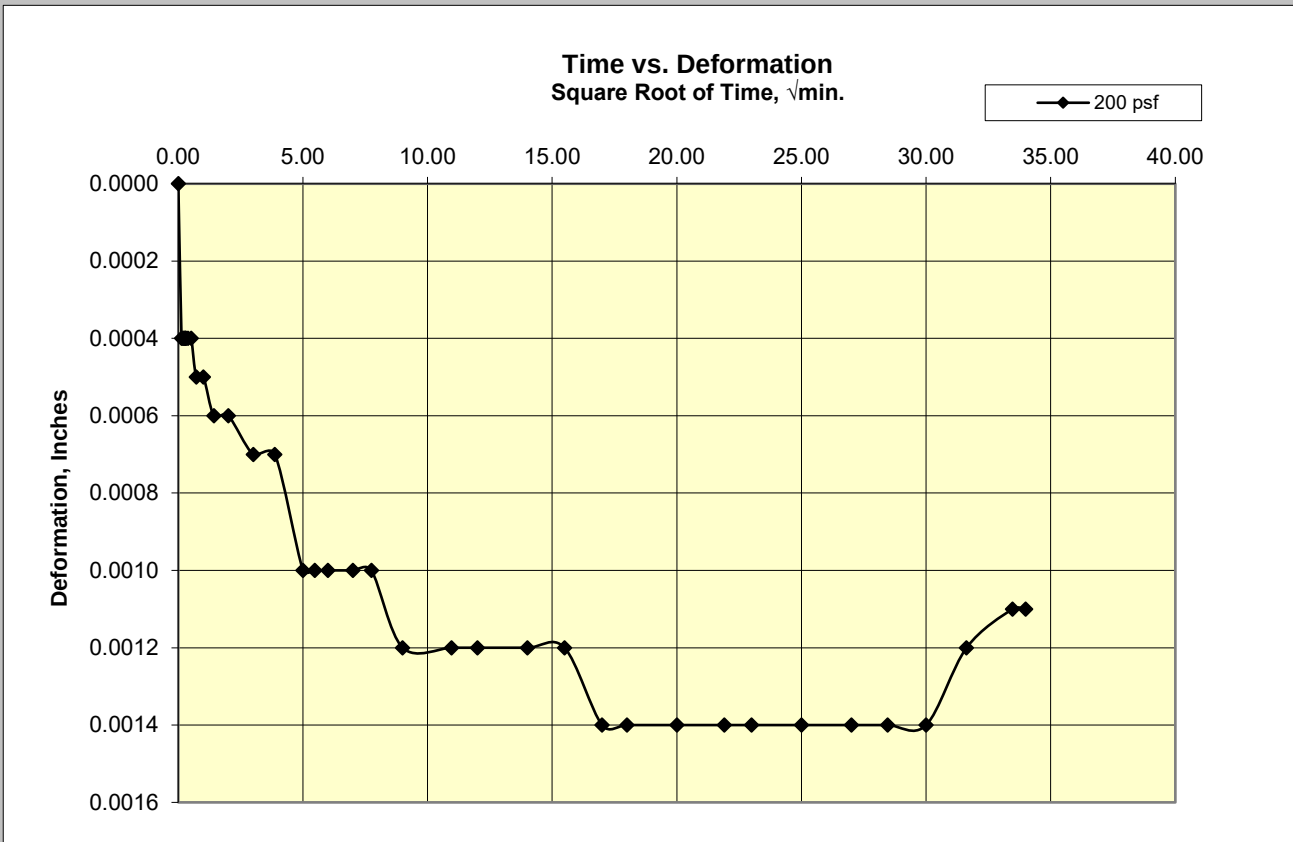
Cooper Testing Labs, Inc.

Load 3

200 psf



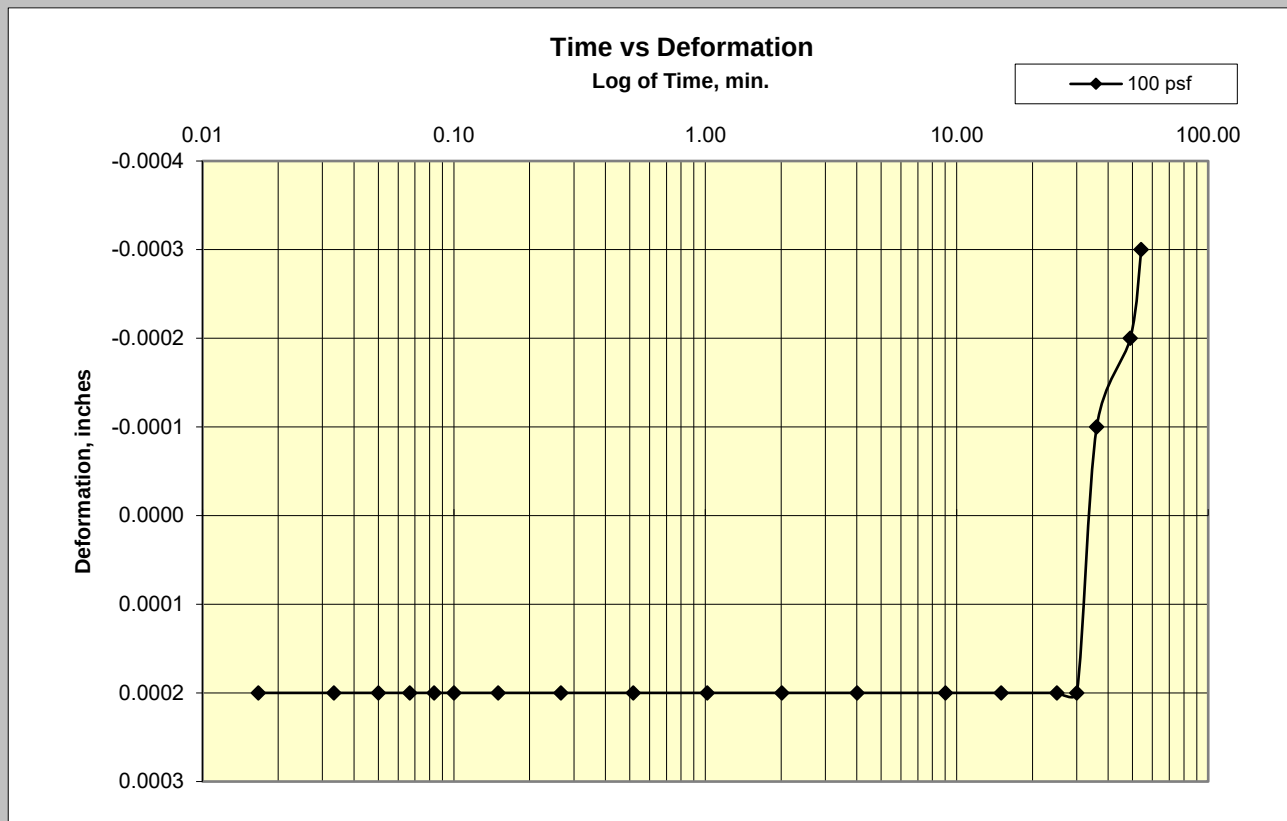
200 psf



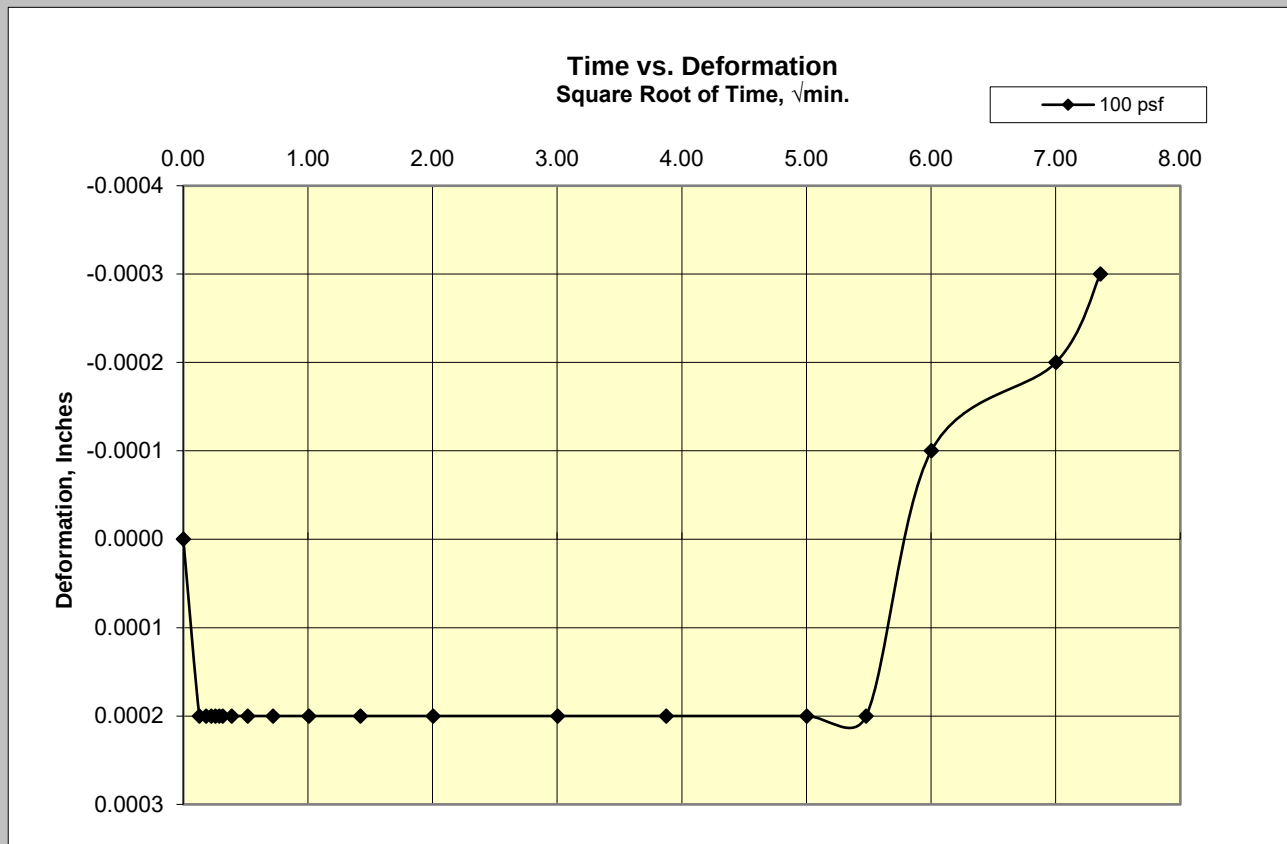
Cooper Testing Labs, Inc.

Load 2

100 psf



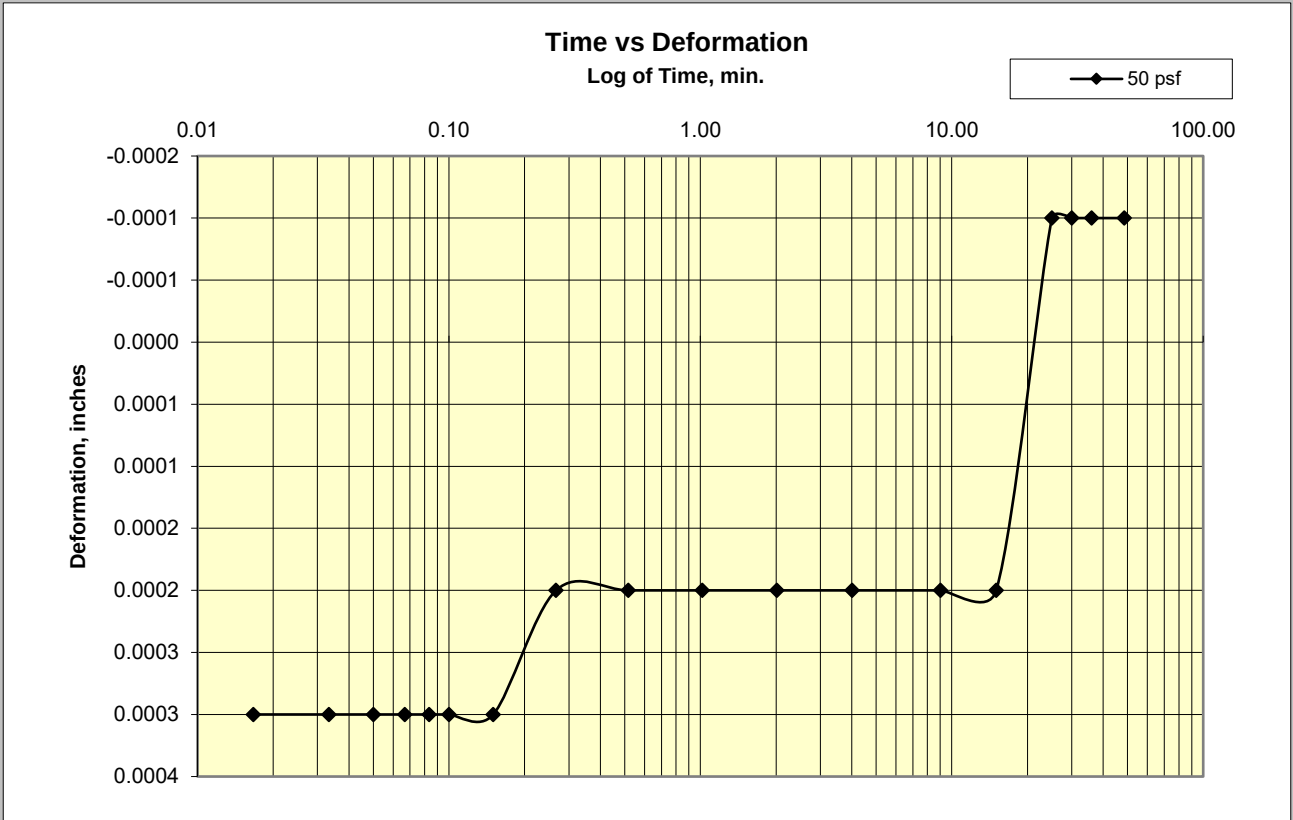
100 psf



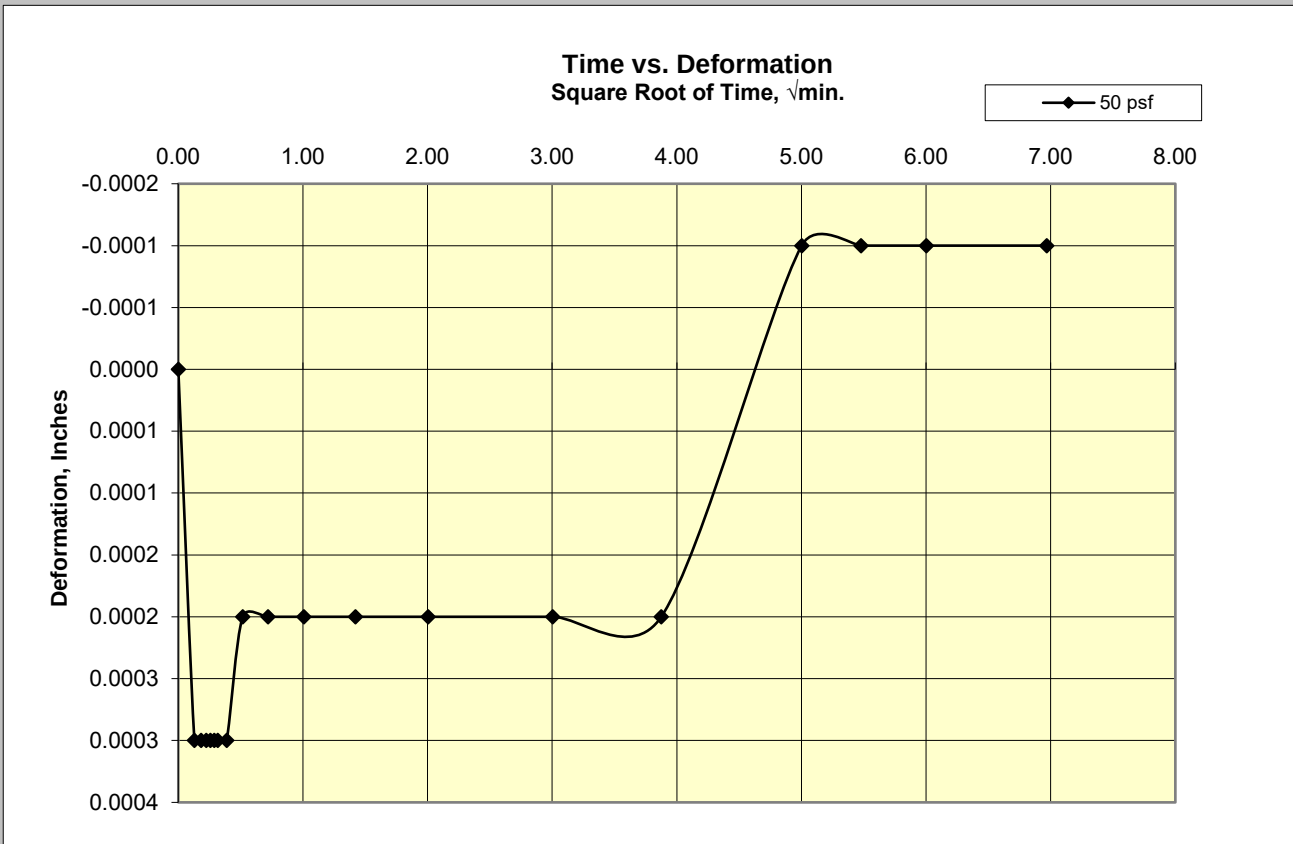
Cooper Testing Labs, Inc.

Load 1

50 psf



50 psf



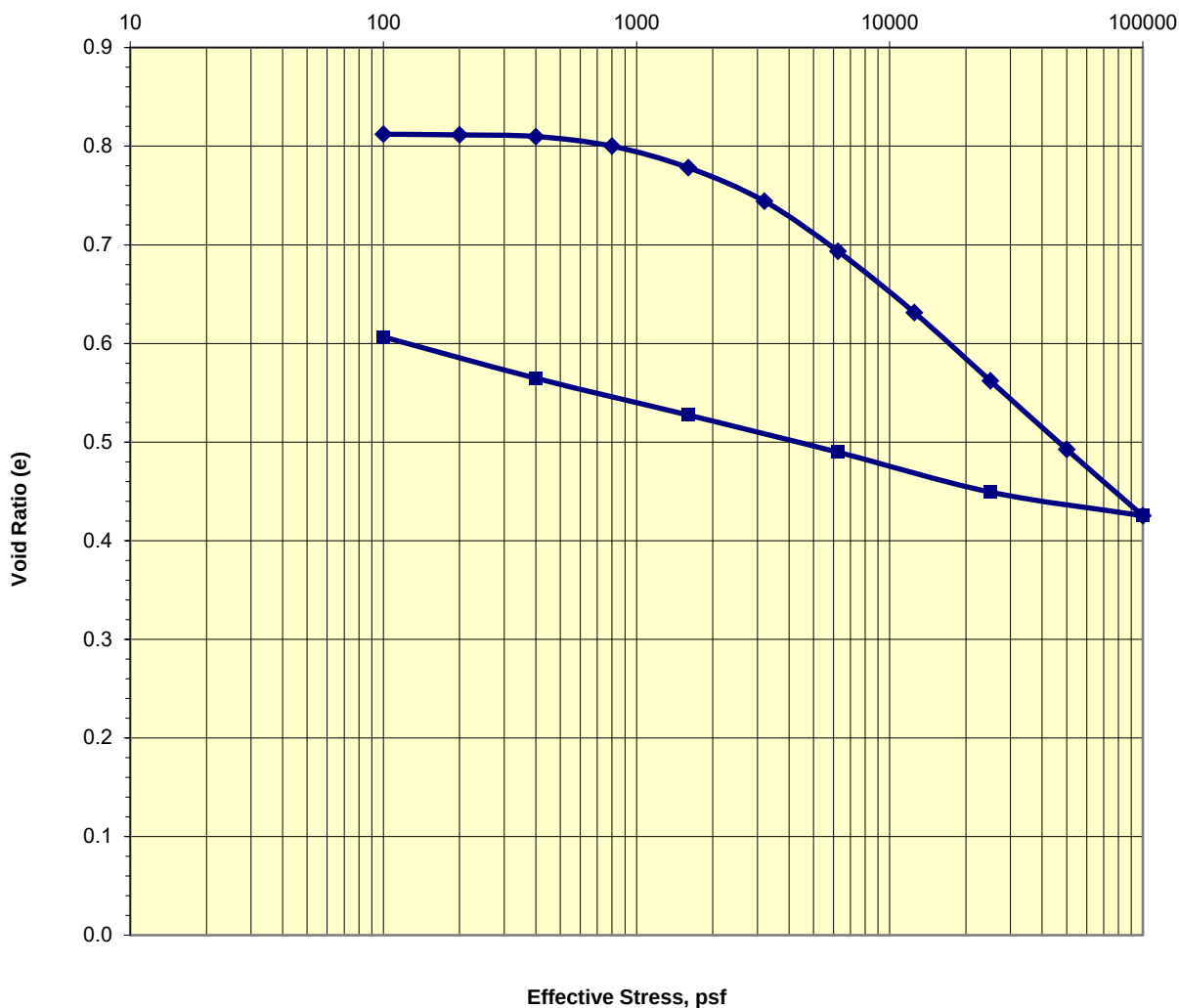


Consolidation Test

ASTM D2435

Job No.:	461-392	Boring:	B1	Run By:	HM
Client:	Geosyntec Consultants	Sample:	B1-5	Reduced:	RU
Project:	WG3607	Depth, ft.:	15-17.5	Checked:	PJ
Soil Type:	Gray Sandy CLAY w/ Gravel			Date:	3/24/2026

e-Log-P Curve

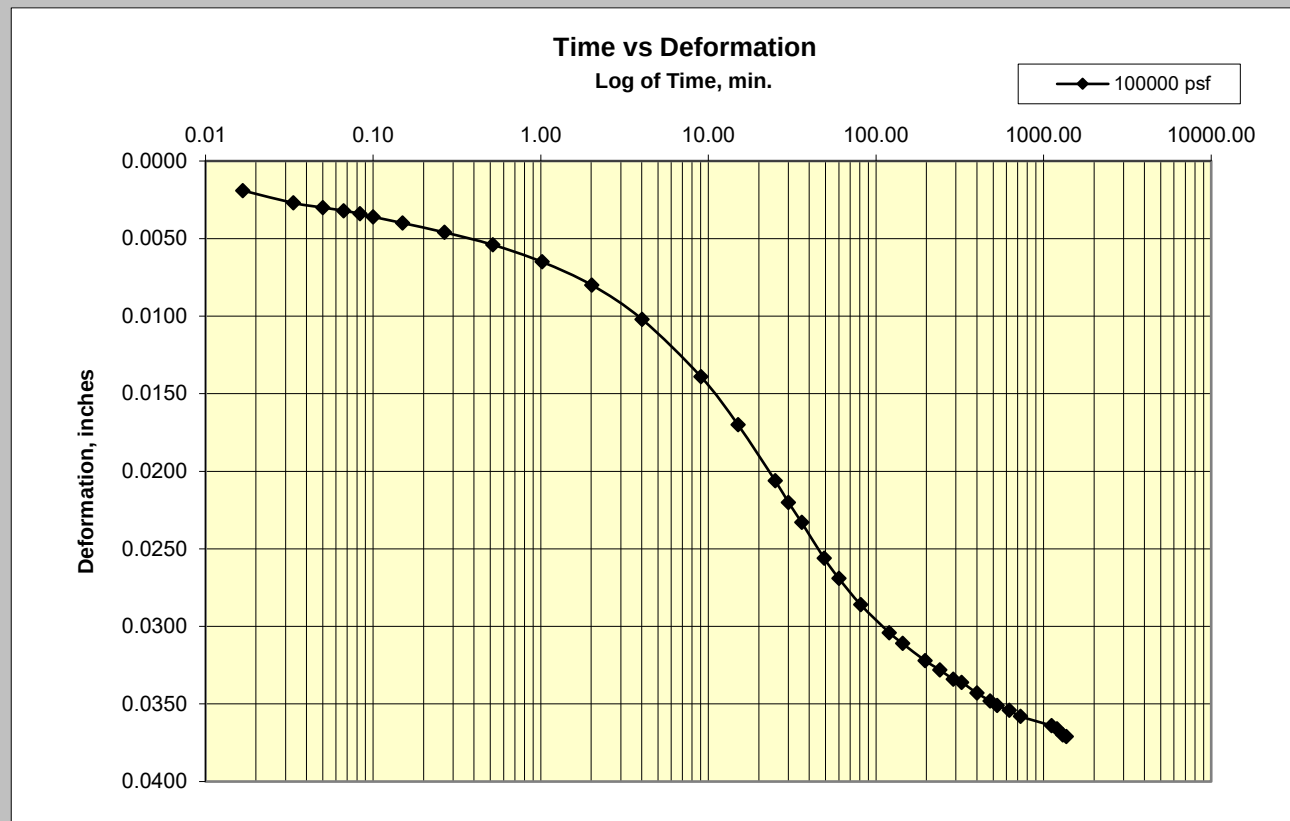


Assumed Gs	2.7	Initial	Final	Remarks:
Moisture %:		29.6	21.9	
Dry Density, pcf:		93.0	105.9	
Void Ratio:		0.813	0.592	
% Saturation:		98.3	100.0	

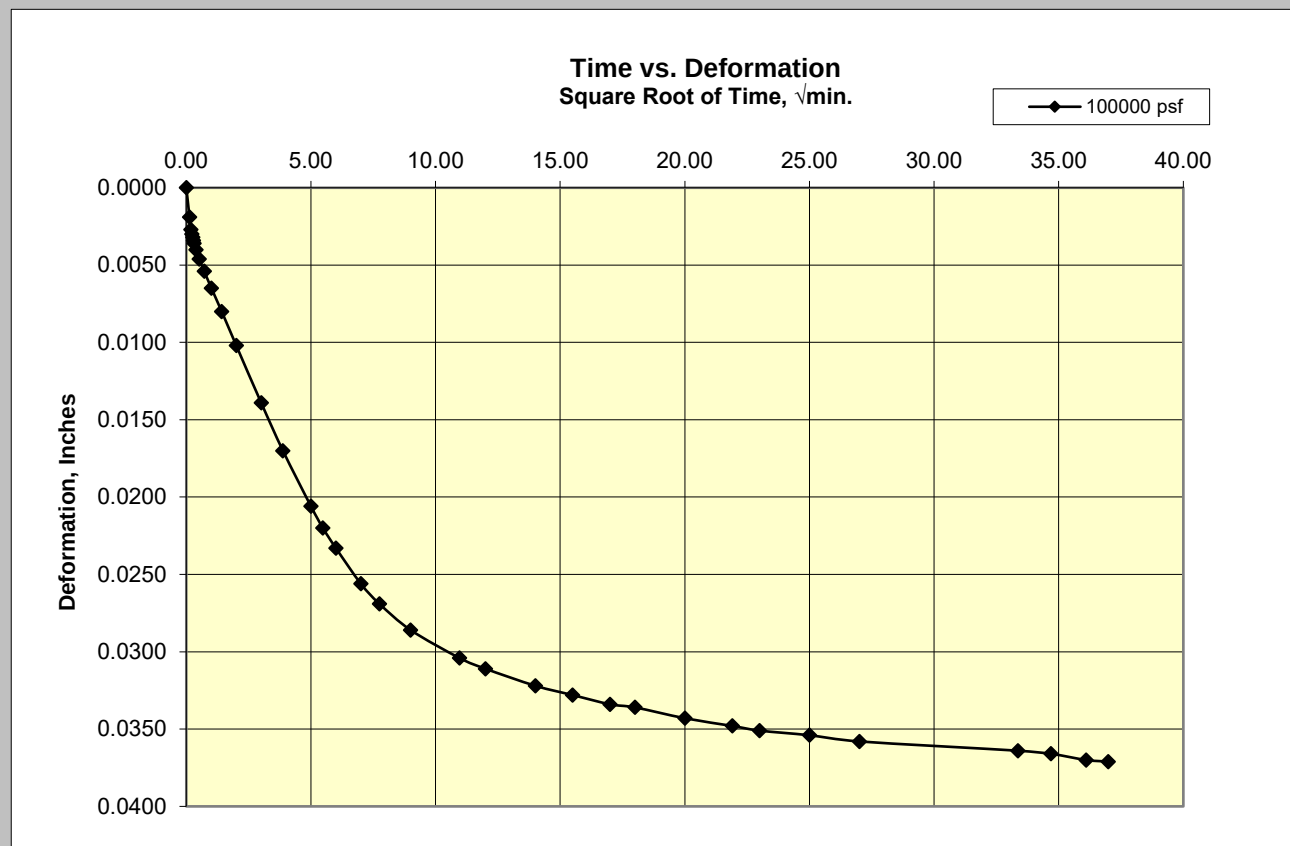
Cooper Testing Labs, Inc.

Load 11

100000 psf



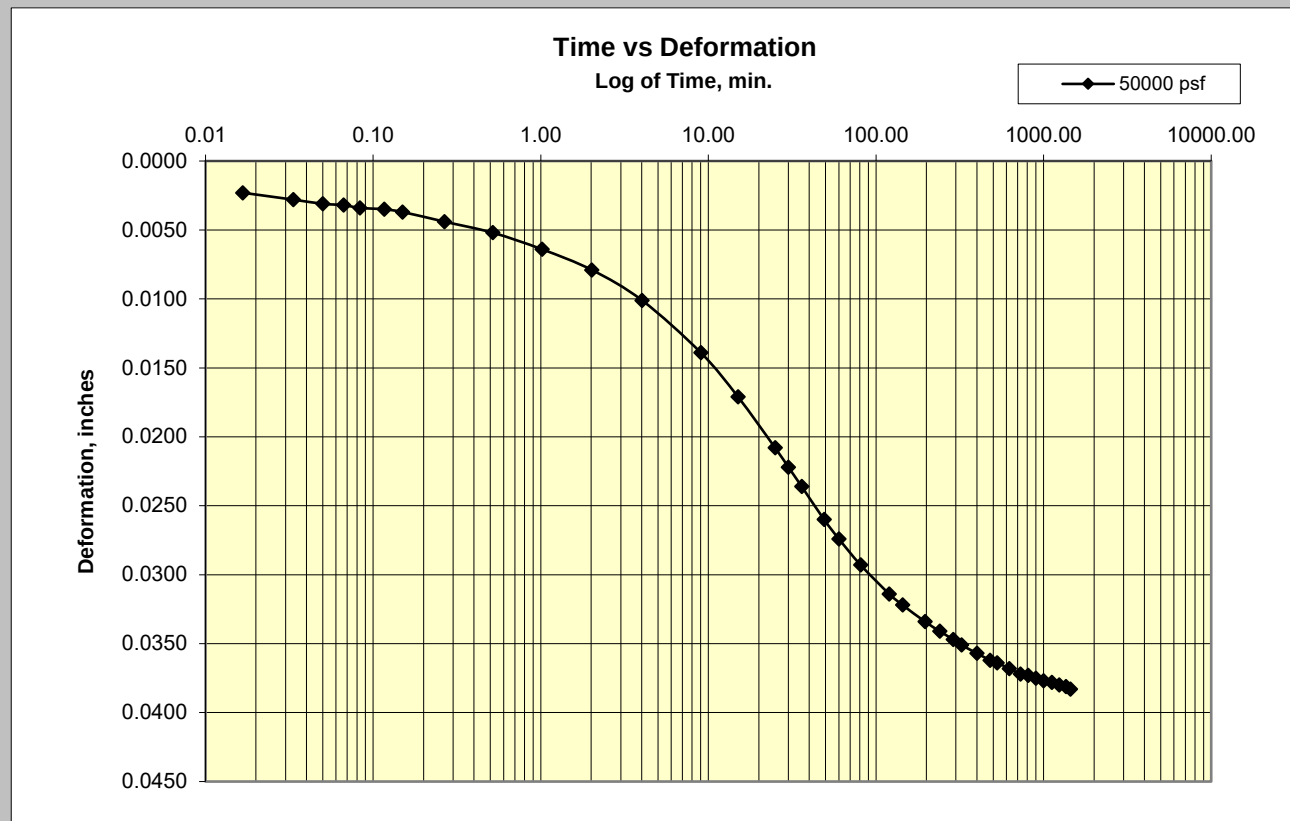
100000 psf



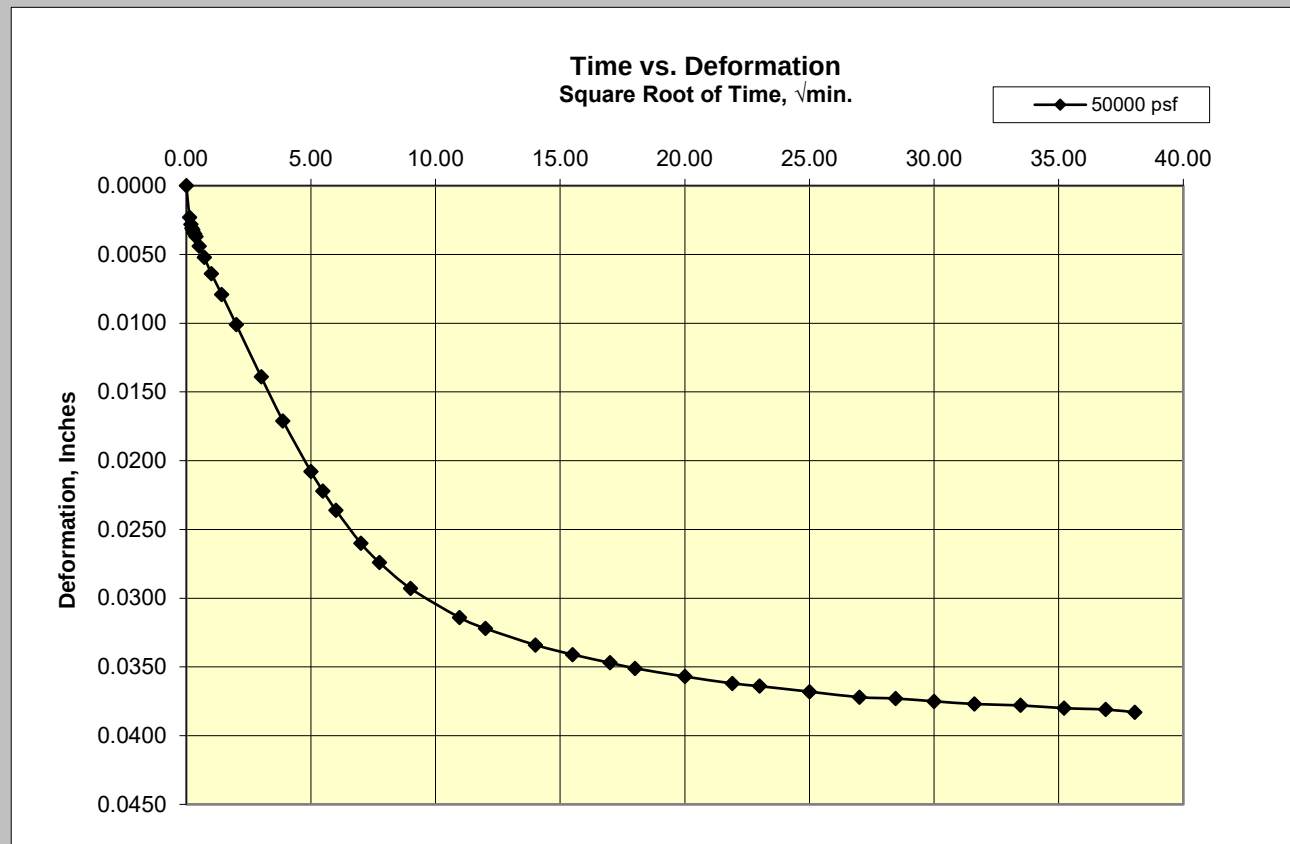
Cooper Testing Labs, Inc.

Load 10

50000 psf



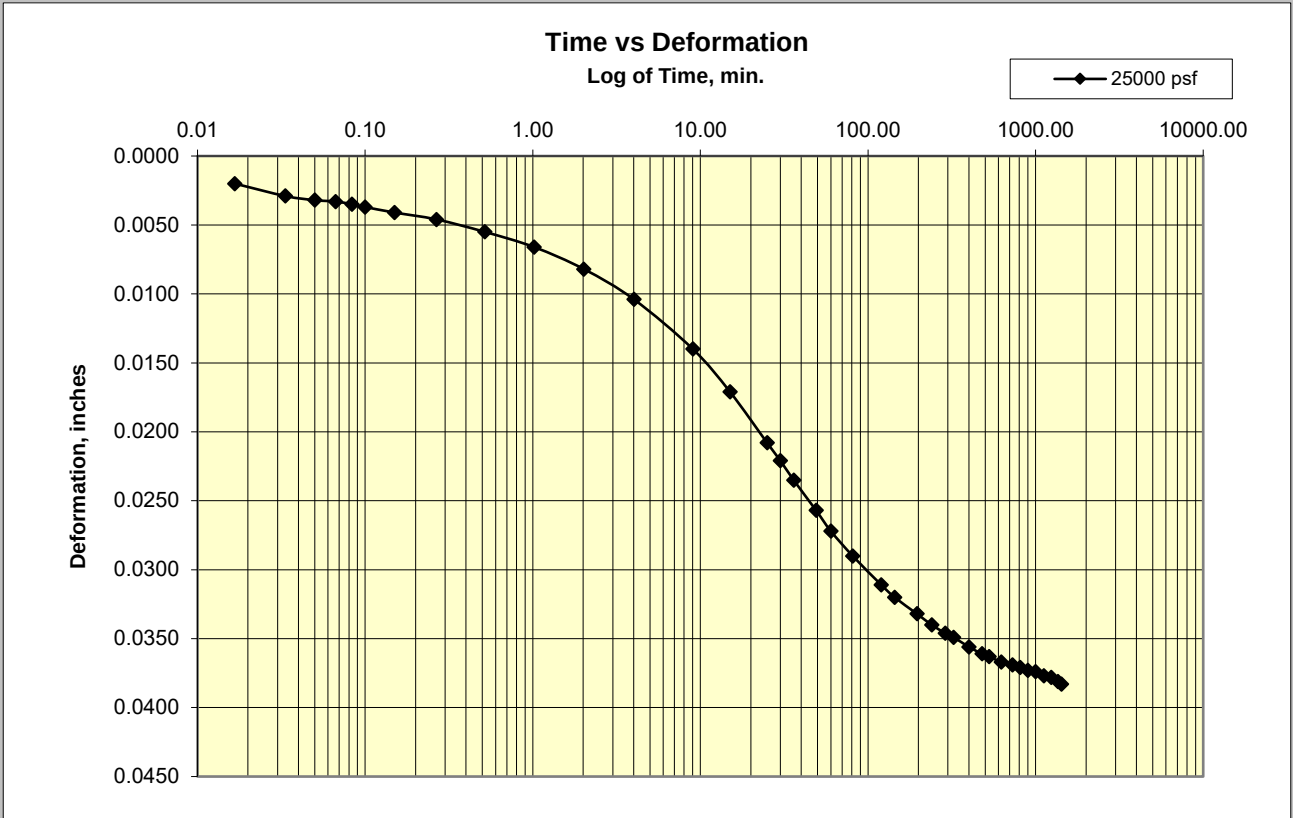
50000 psf



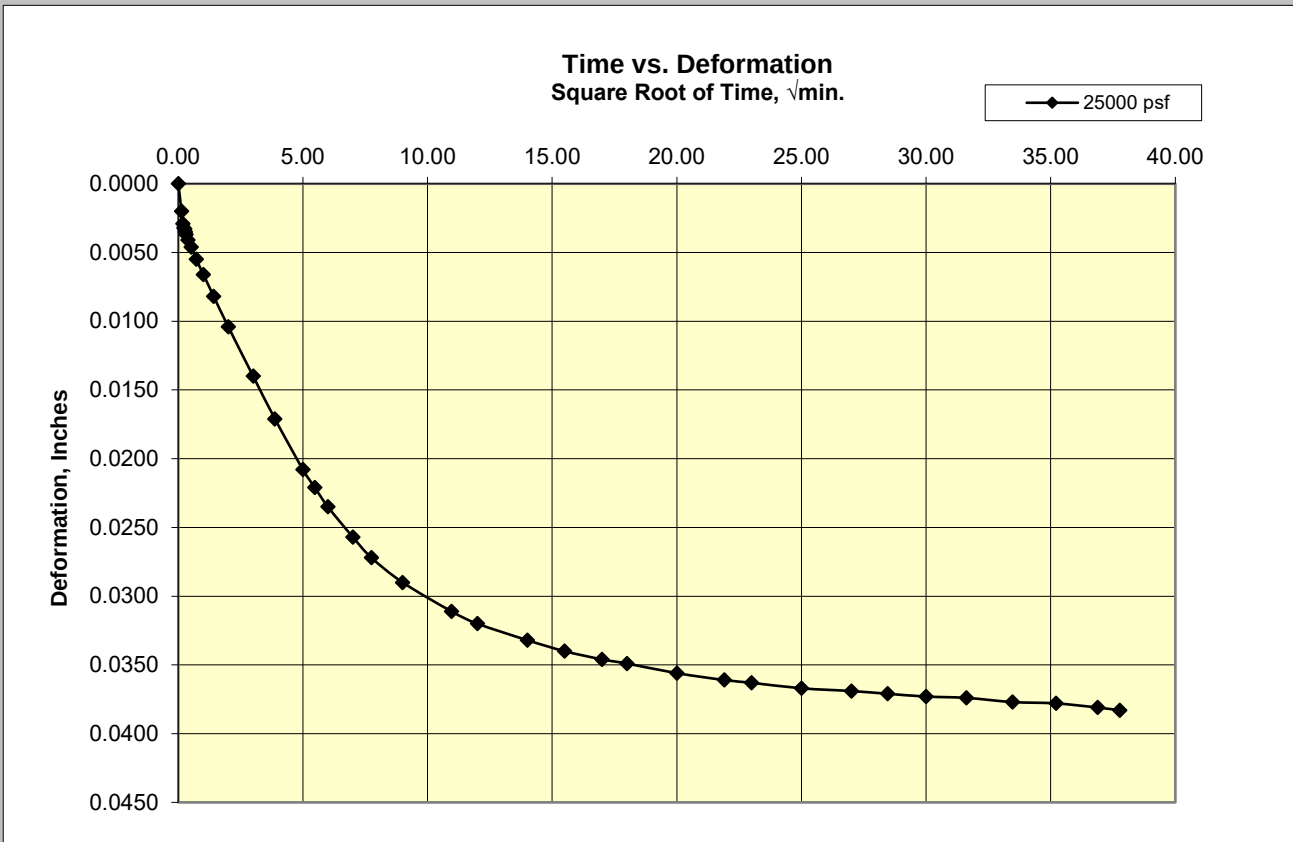
Cooper Testing Labs, Inc.

Load 9

25000 psf



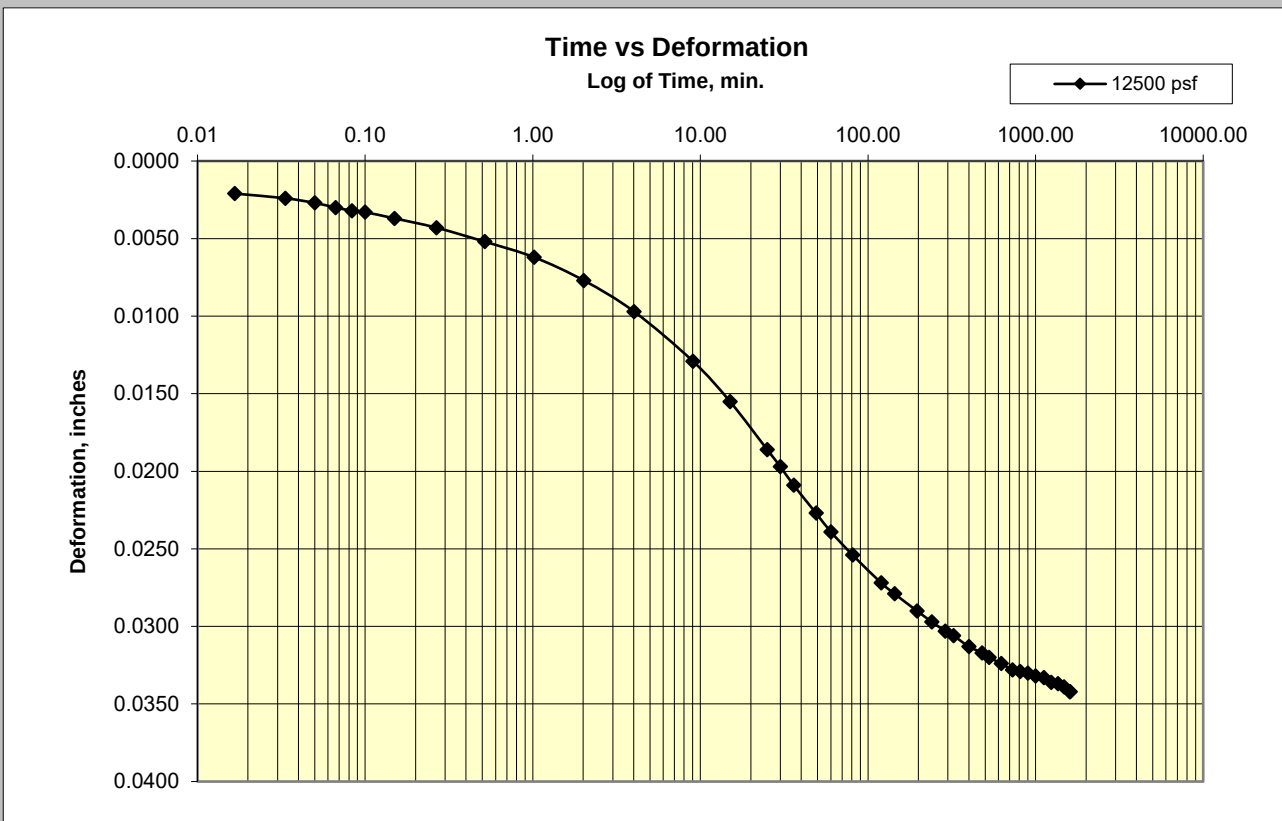
25000 psf



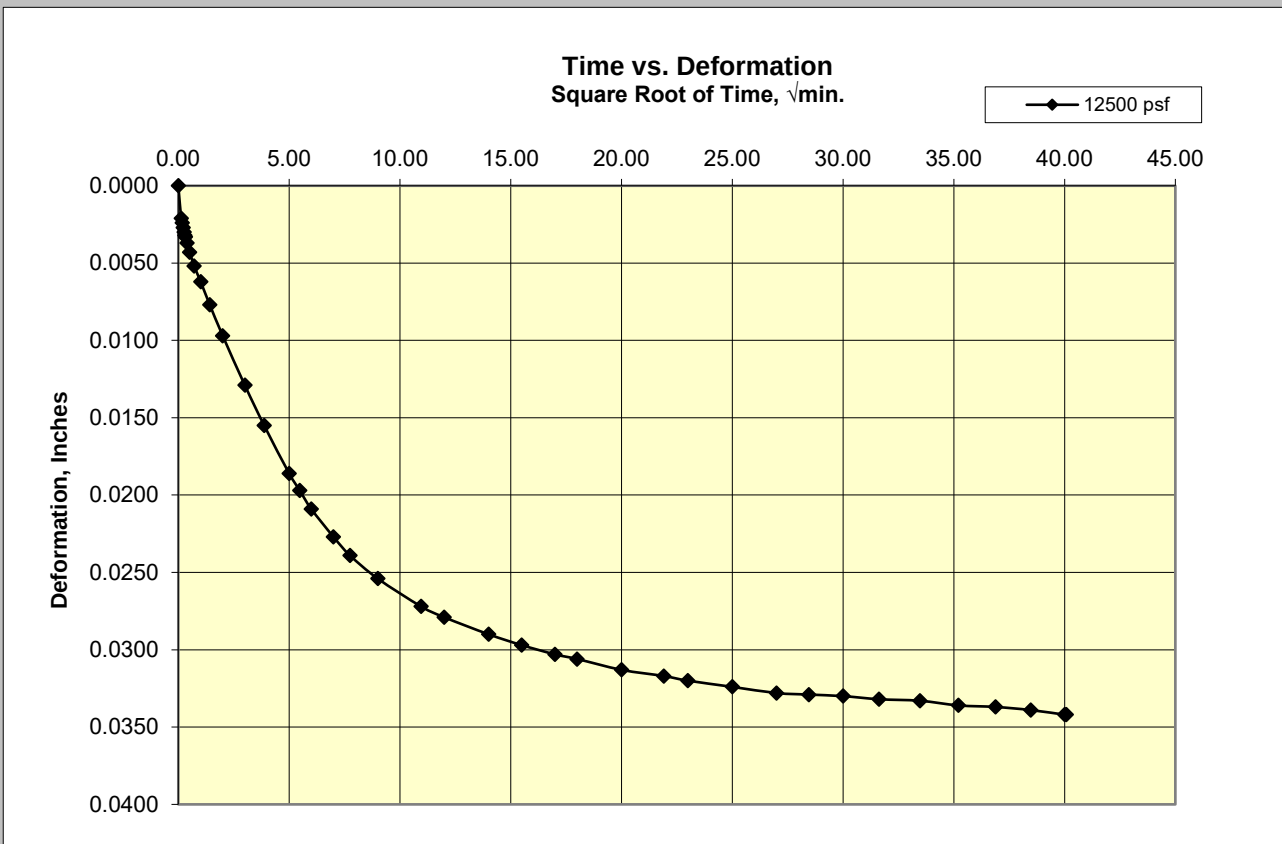
Cooper Testing Labs, Inc.

Load 8

12500 psf



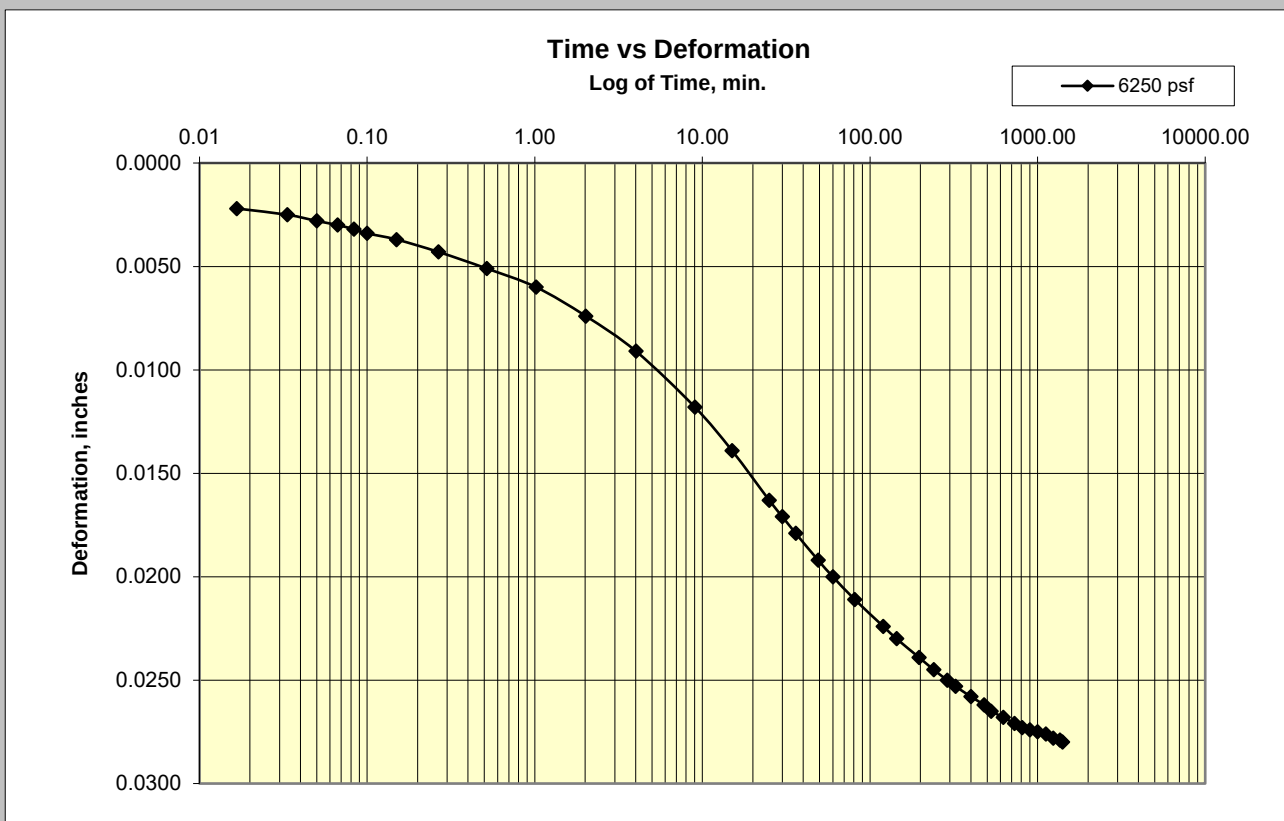
12500 psf



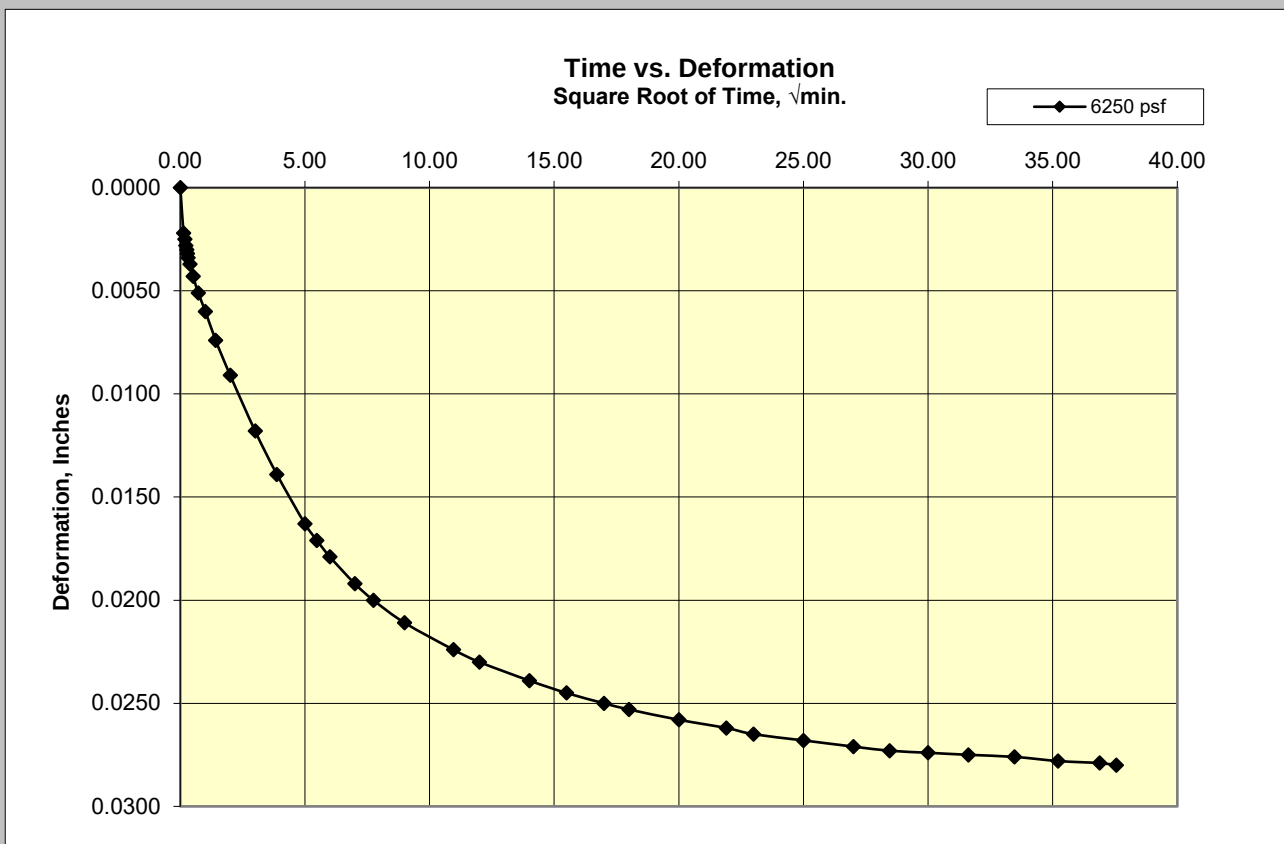
Cooper Testing Labs, Inc.

Load 7

6250 psf



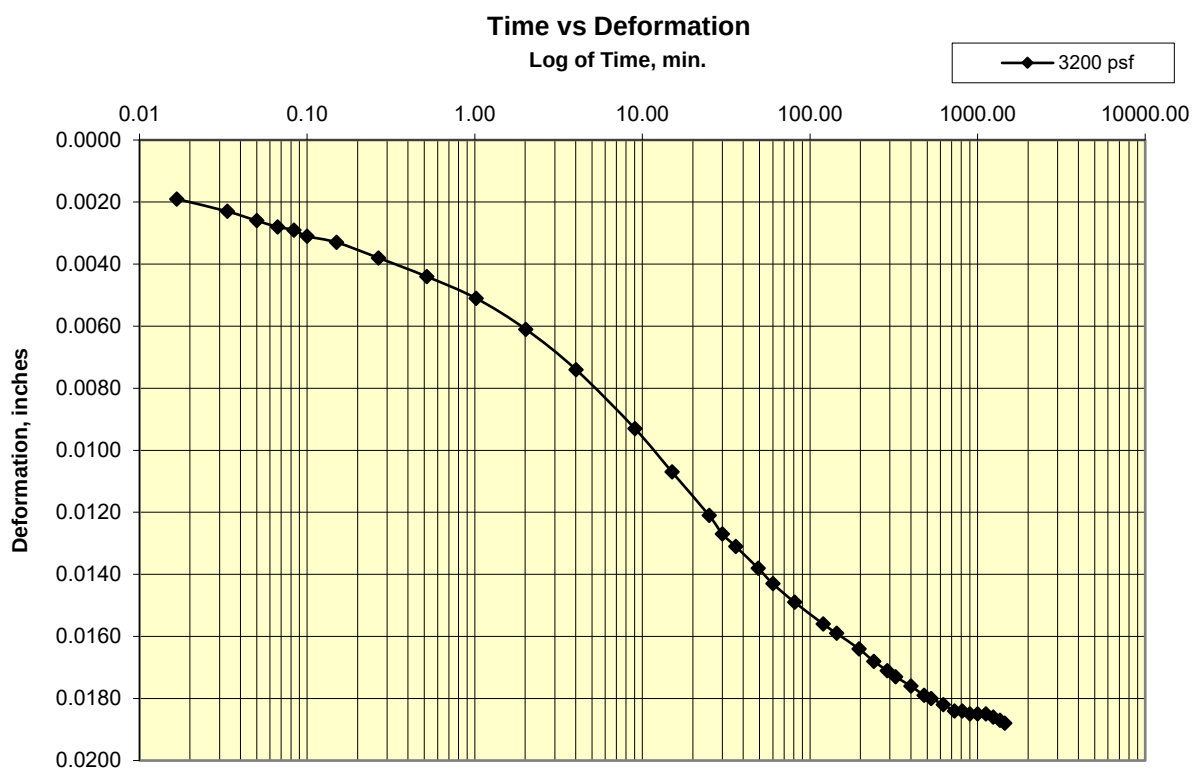
6250 psf



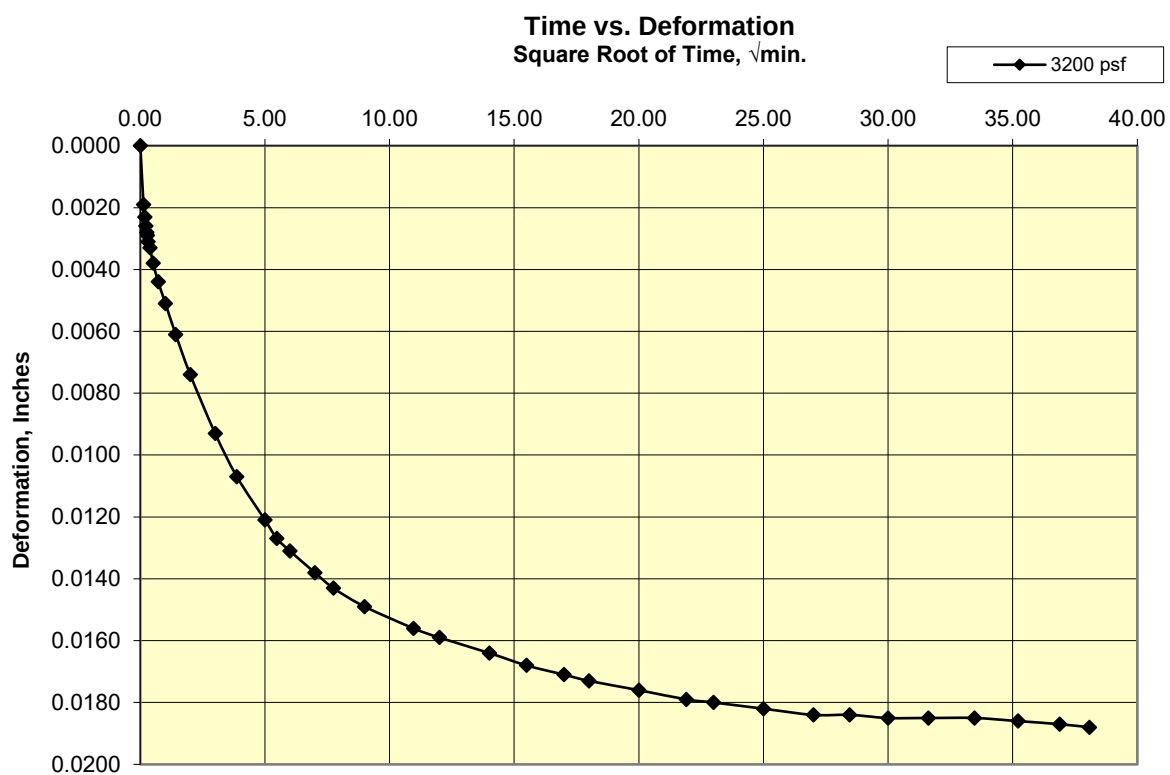
Cooper Testing Labs, Inc.

Load 6

3200 psf



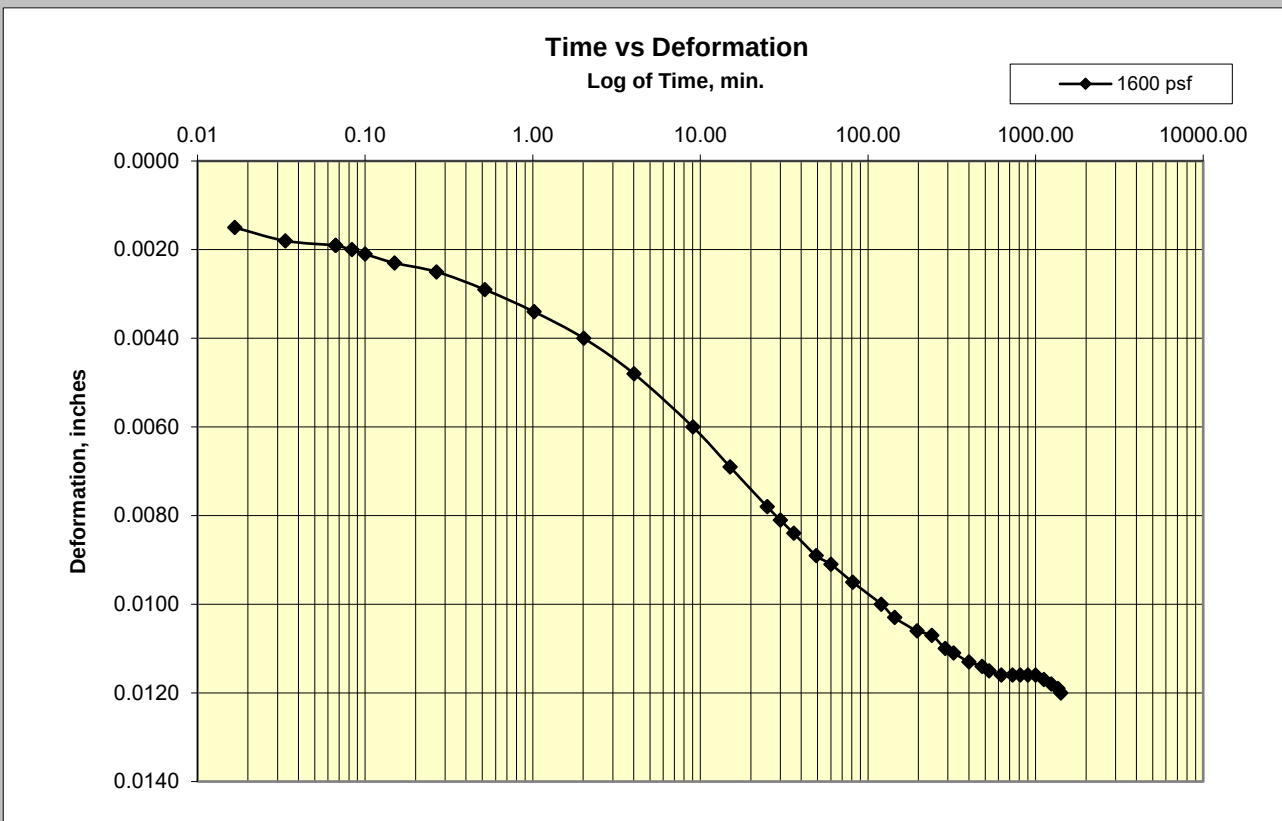
3200 psf



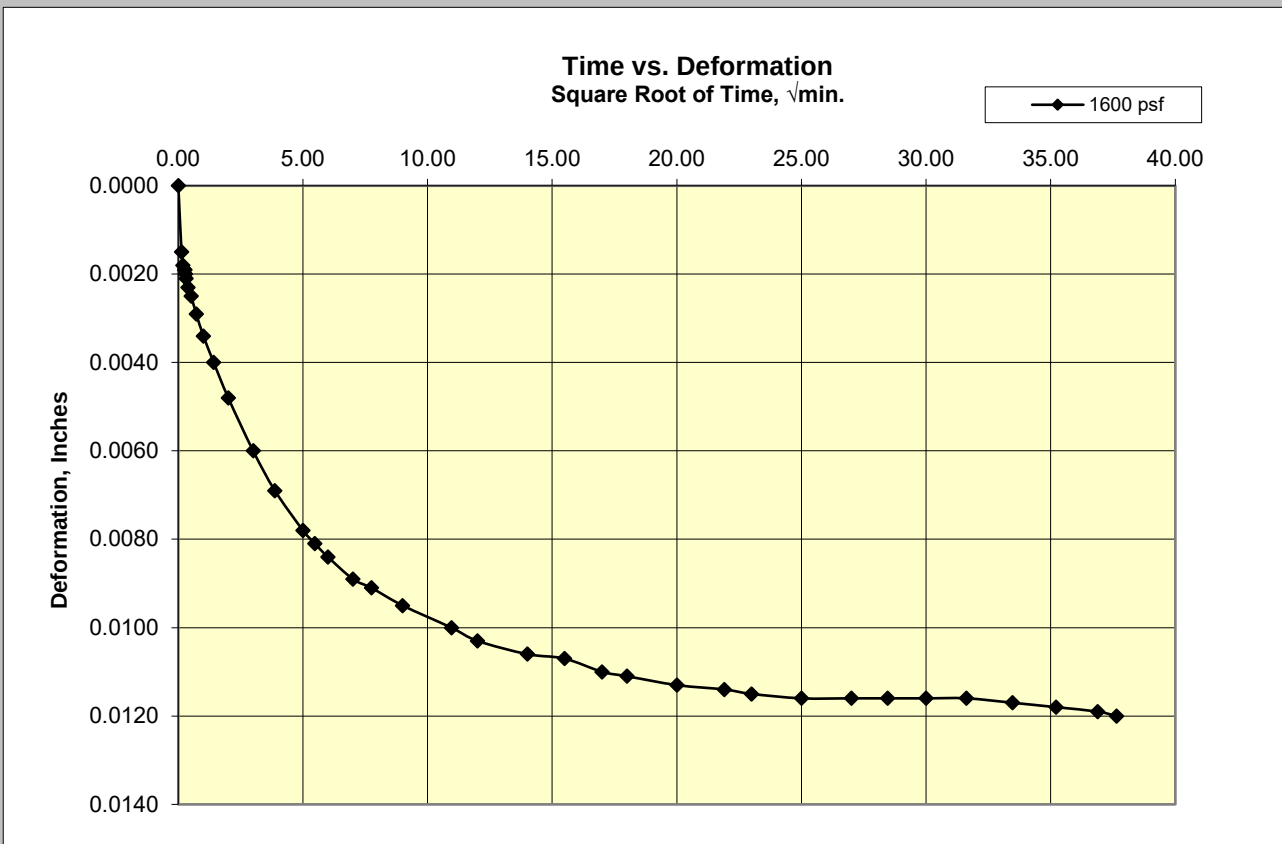
Cooper Testing Labs, Inc.

Load 5

1600 psf



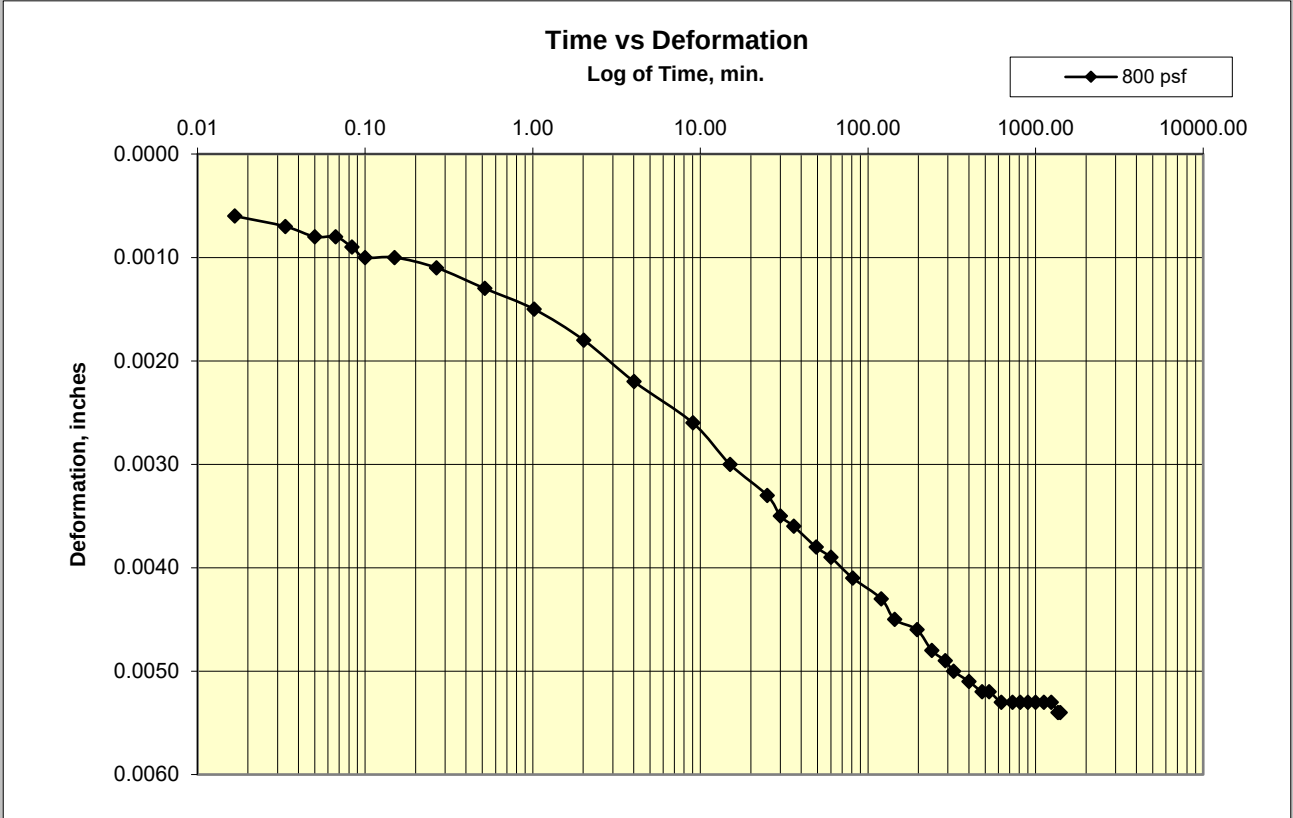
1600 psf



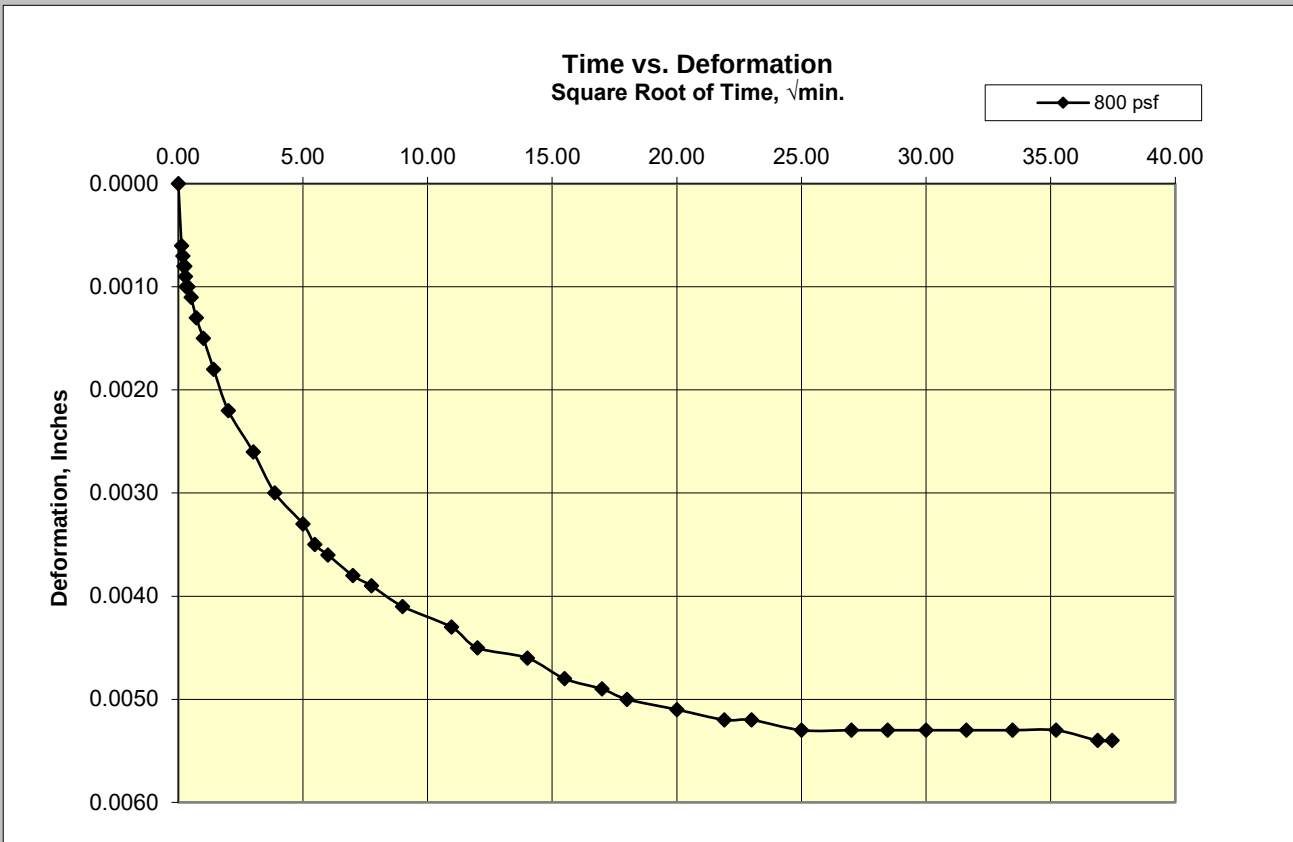
Cooper Testing Labs, Inc.

Load 4

800 psf



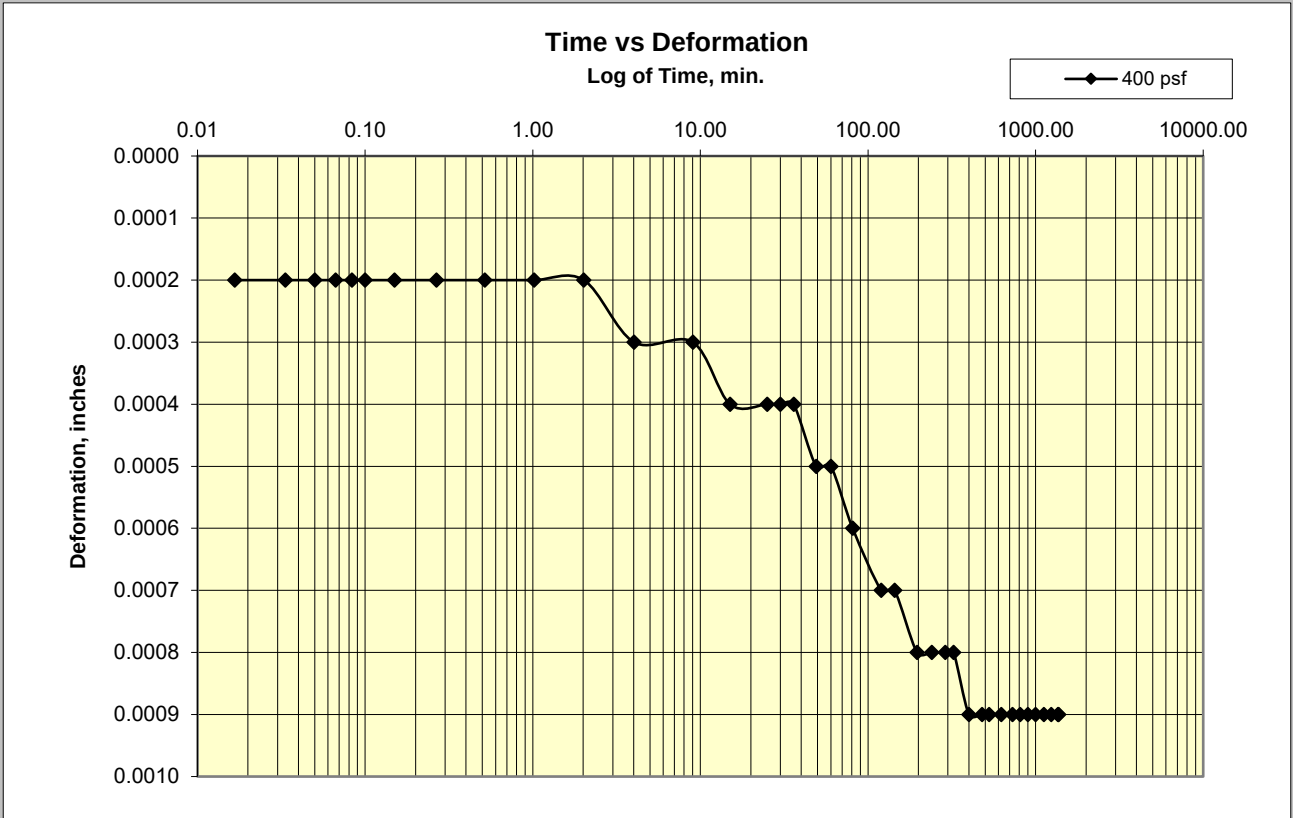
800 psf



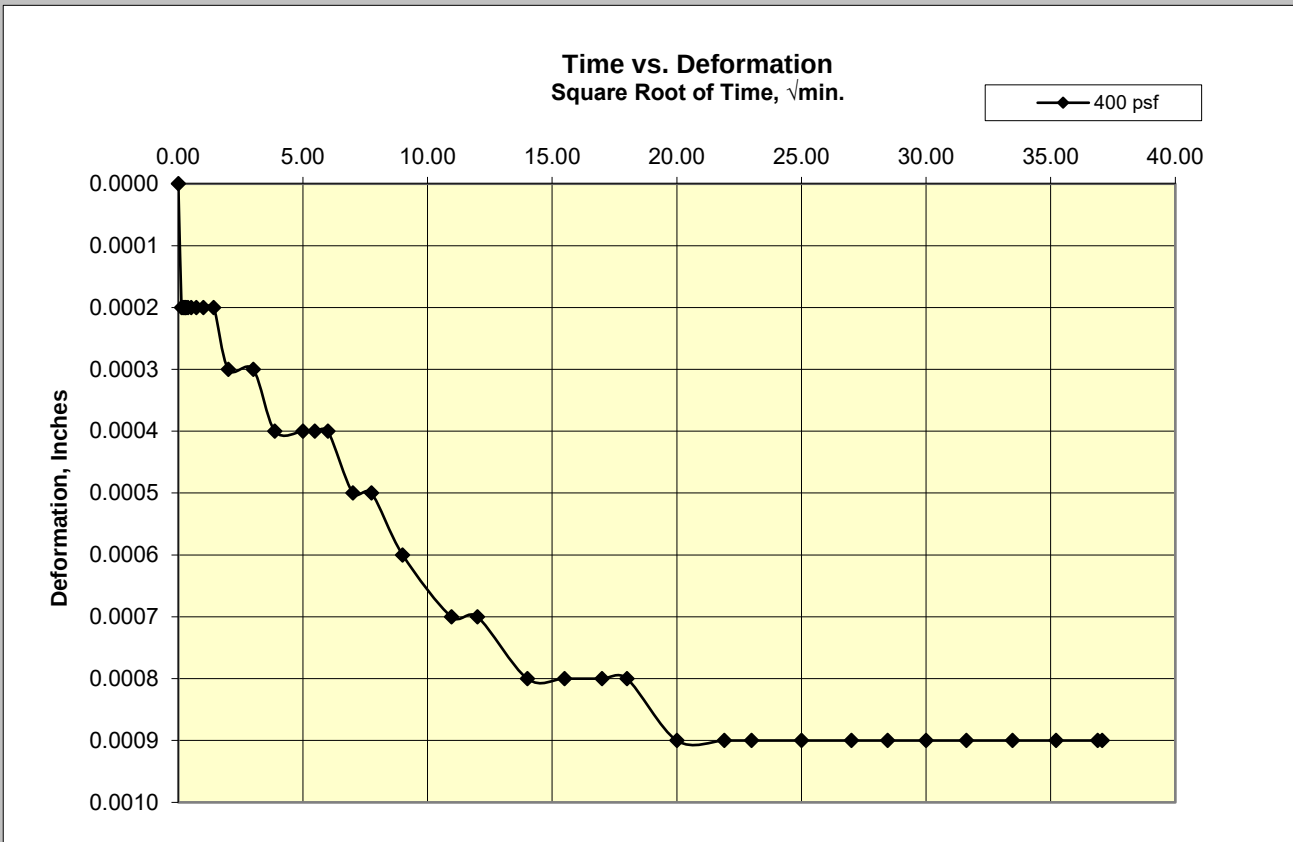
Cooper Testing Labs, Inc.

Load 3

400 psf



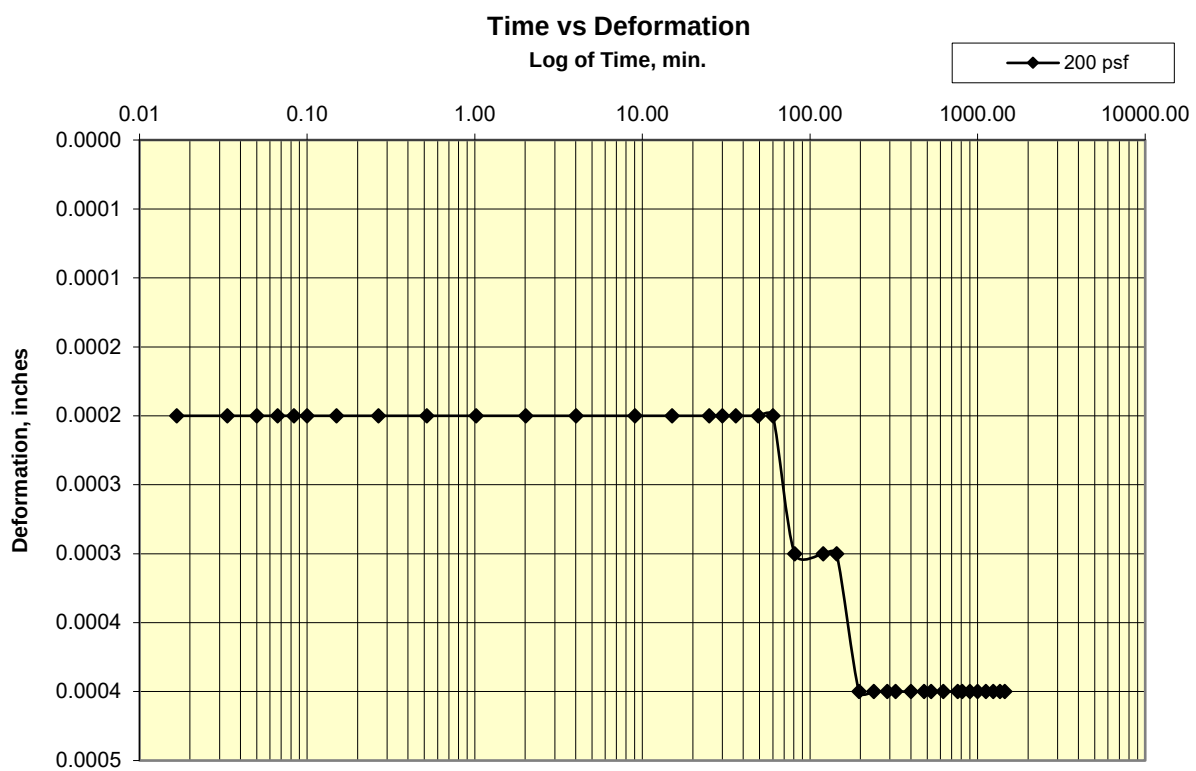
400 psf



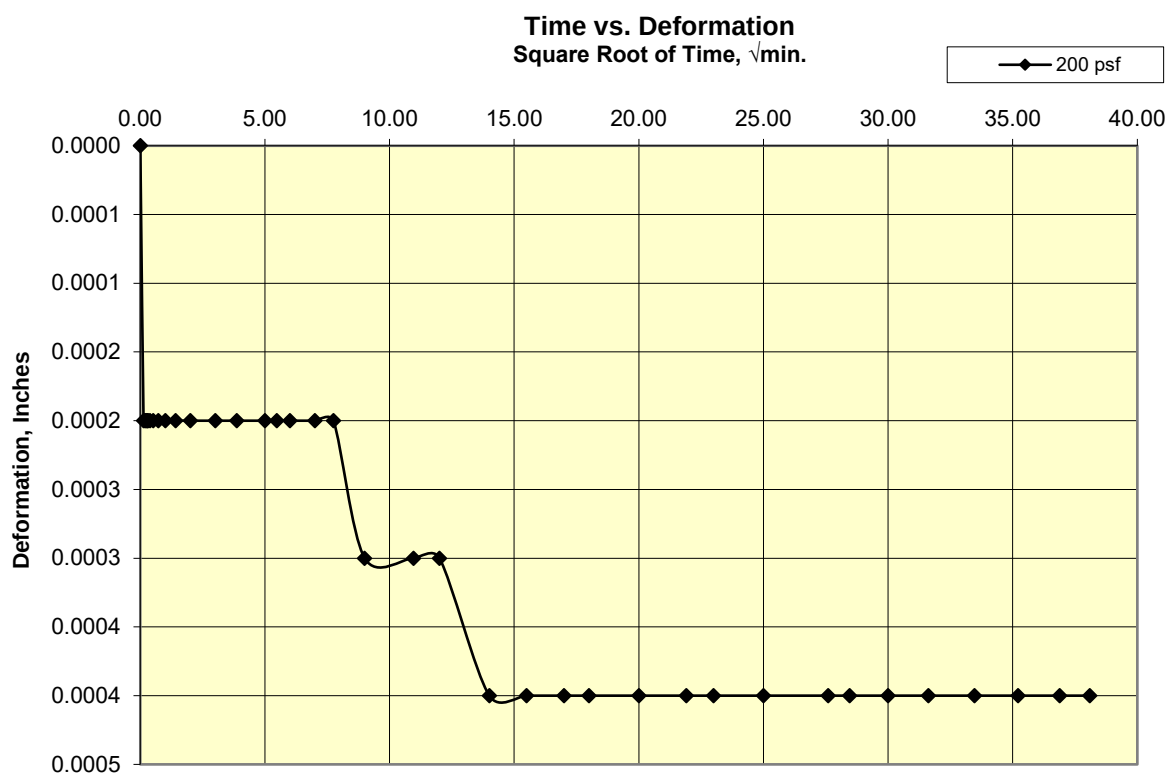
Cooper Testing Labs, Inc.

Load 2

200 psf



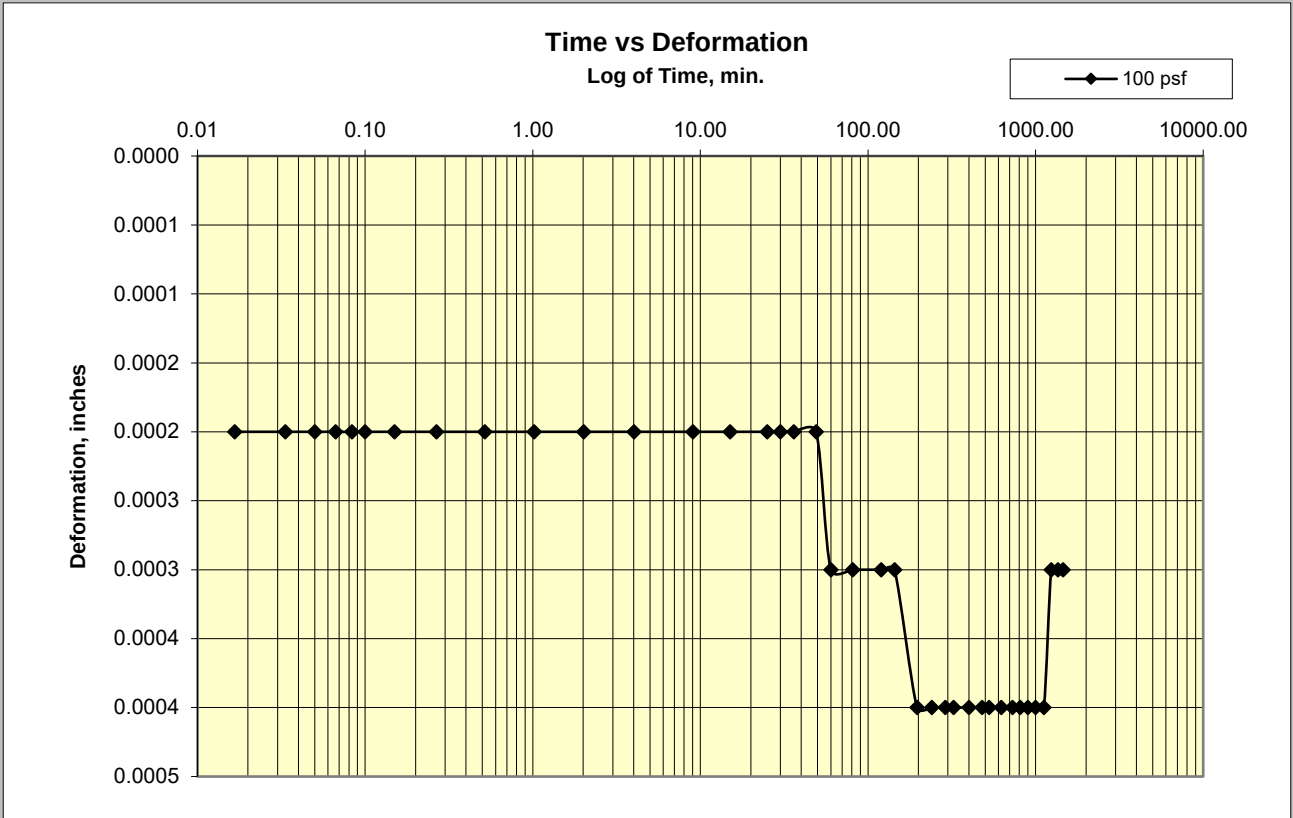
200 psf



Cooper Testing Labs, Inc.

Load 1

100 psf



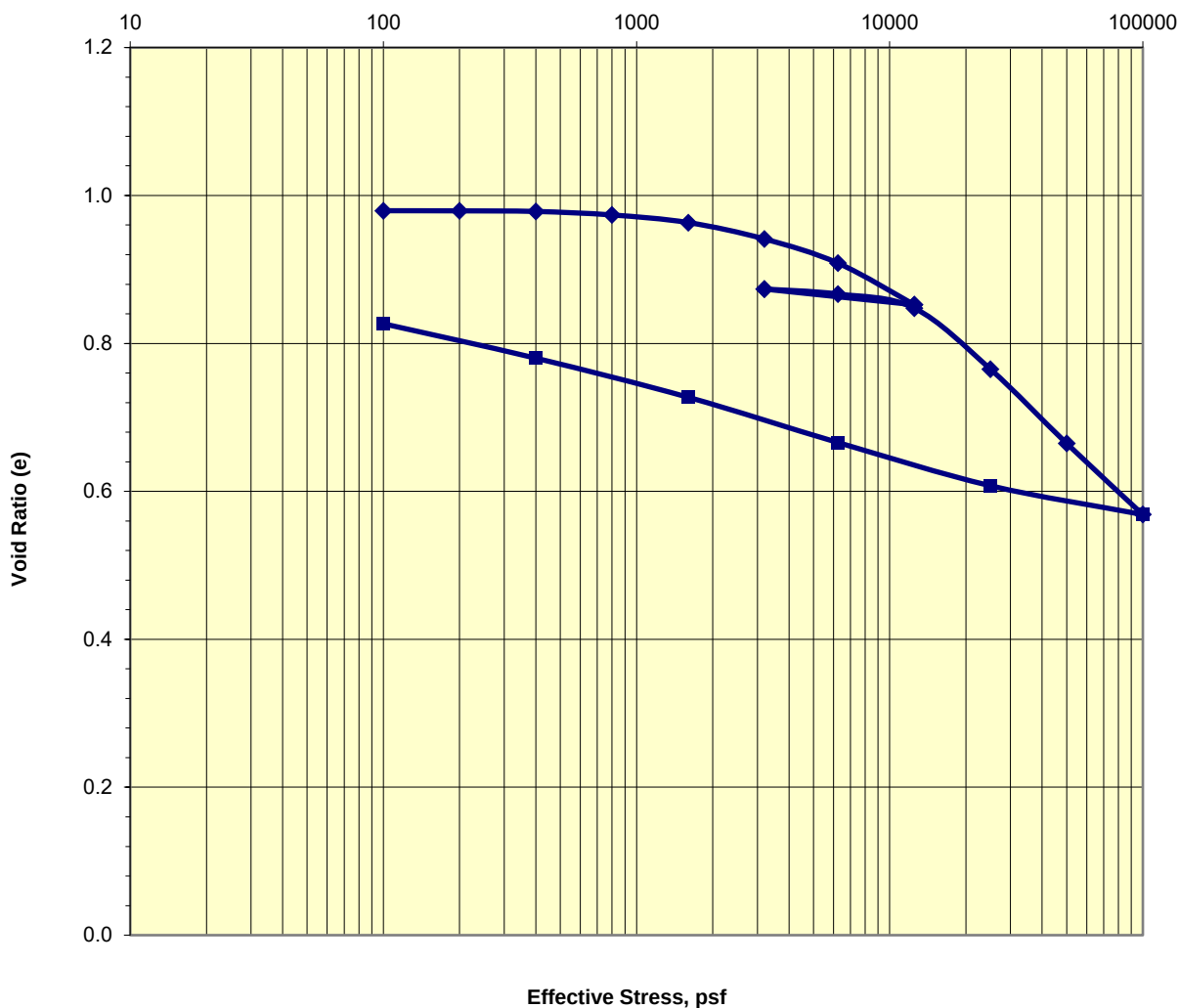


Consolidation Test

ASTM D2435

Job No.: 461-392 Boring: B1 Run By: HM
Client: Geosyntec Consultants Sample: B1-14 Reduced: RU
Project: WG3607 Depth, ft.: 50-52 Checked: PJ
Soil Type: Yellowish Brown CLAY Date: 3/24/2026

e-Log-P Curve



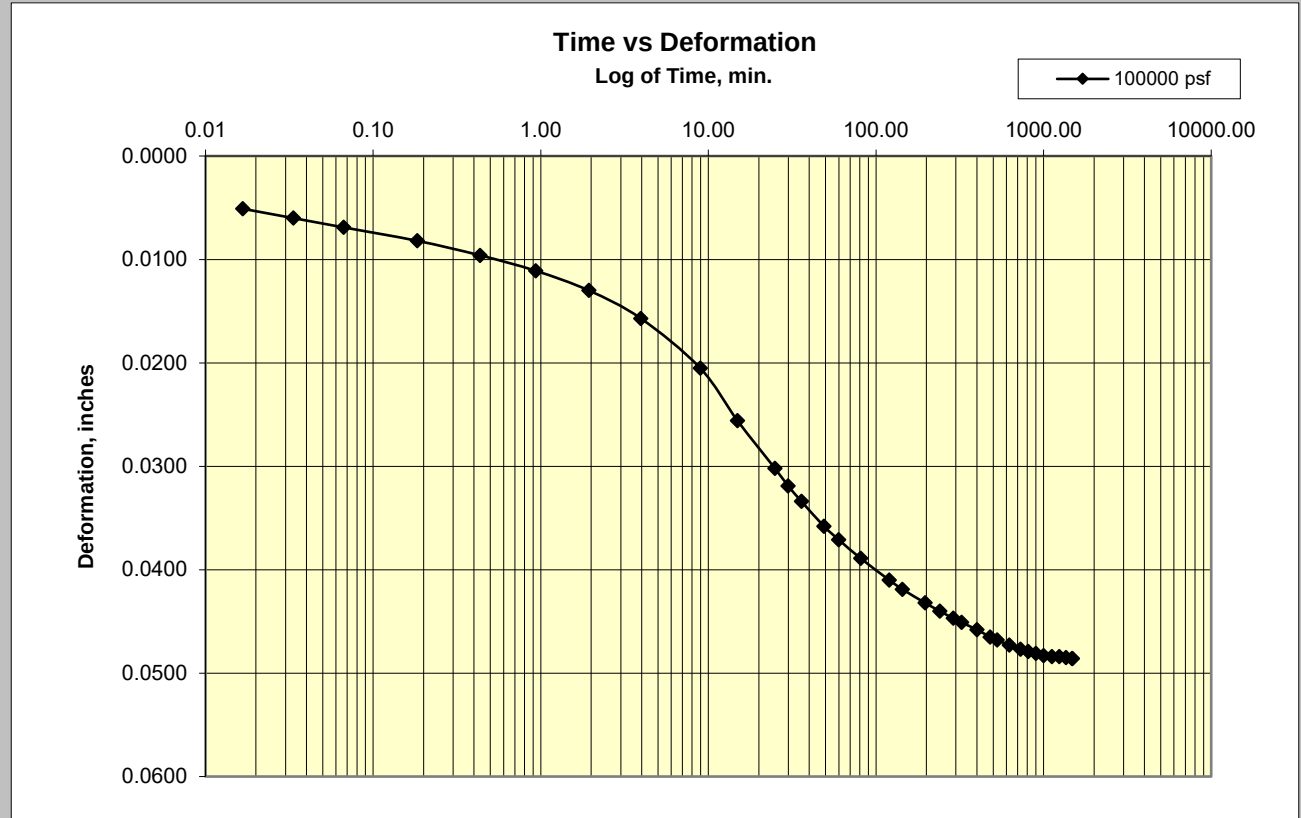
Assumed Gs	2.8	Initial	Final
Moisture %:		32.4	30.8
Dry Density, pcf:		88.3	93.9
Void Ratio:		0.980	0.862
% Saturation:		92.5	100.0

Remarks:

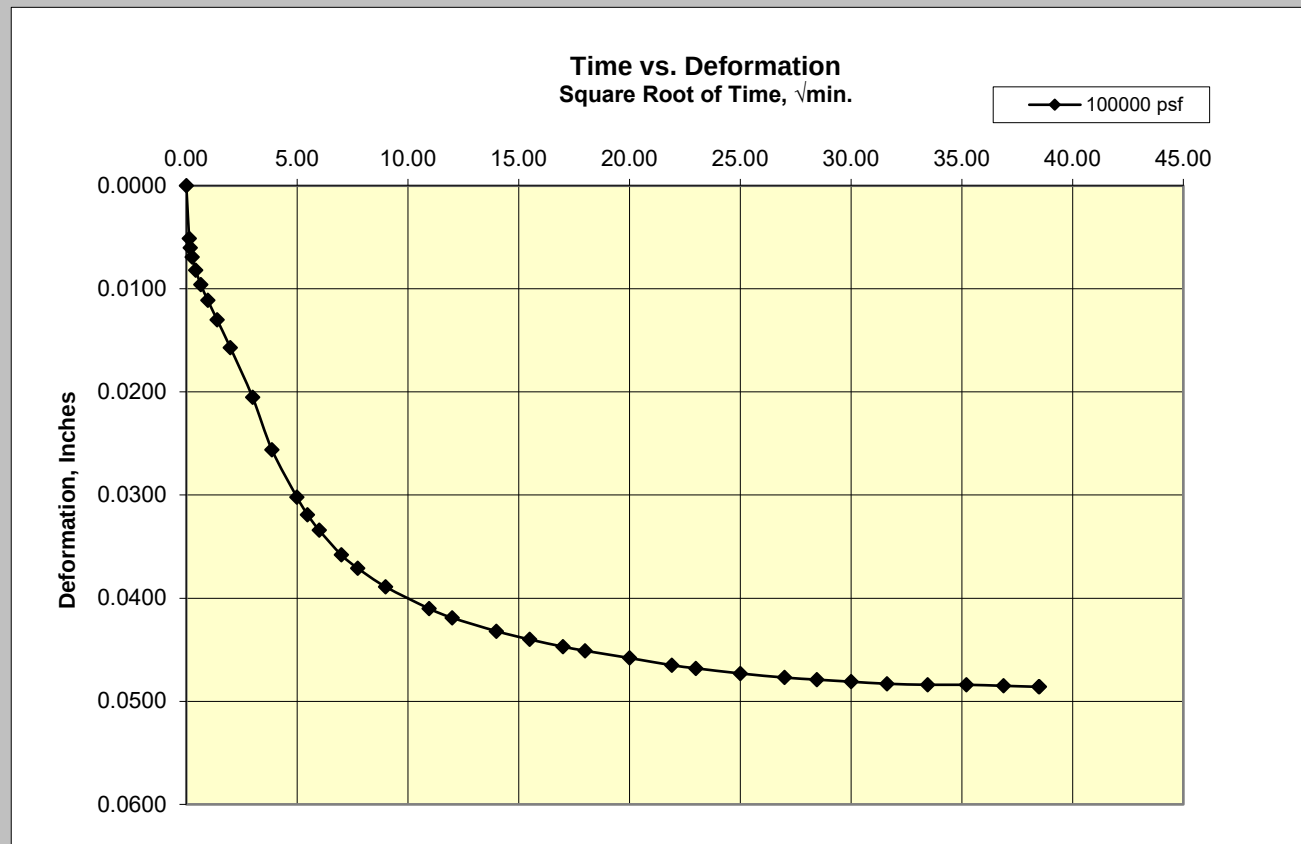
Cooper Testing Labs, Inc.

Load 14

100000 psf



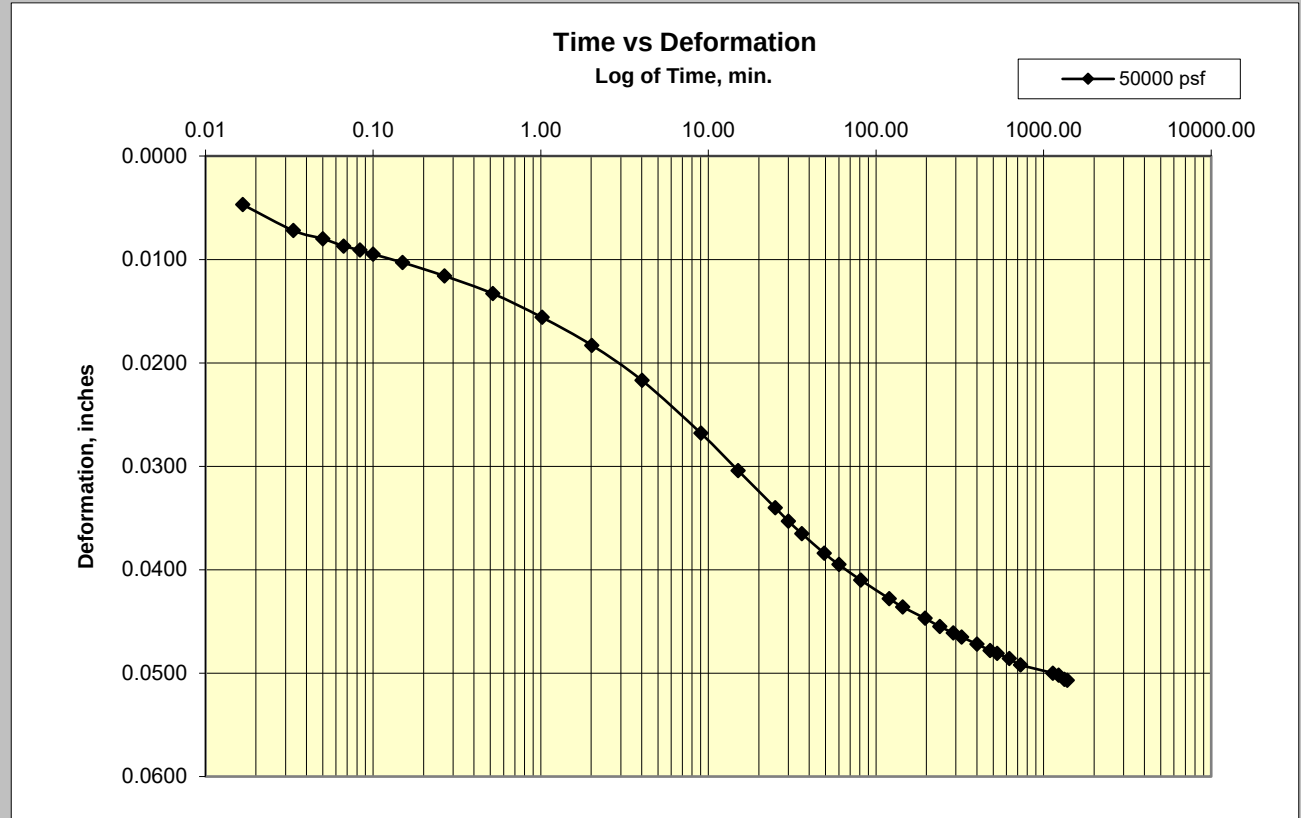
100000 psf



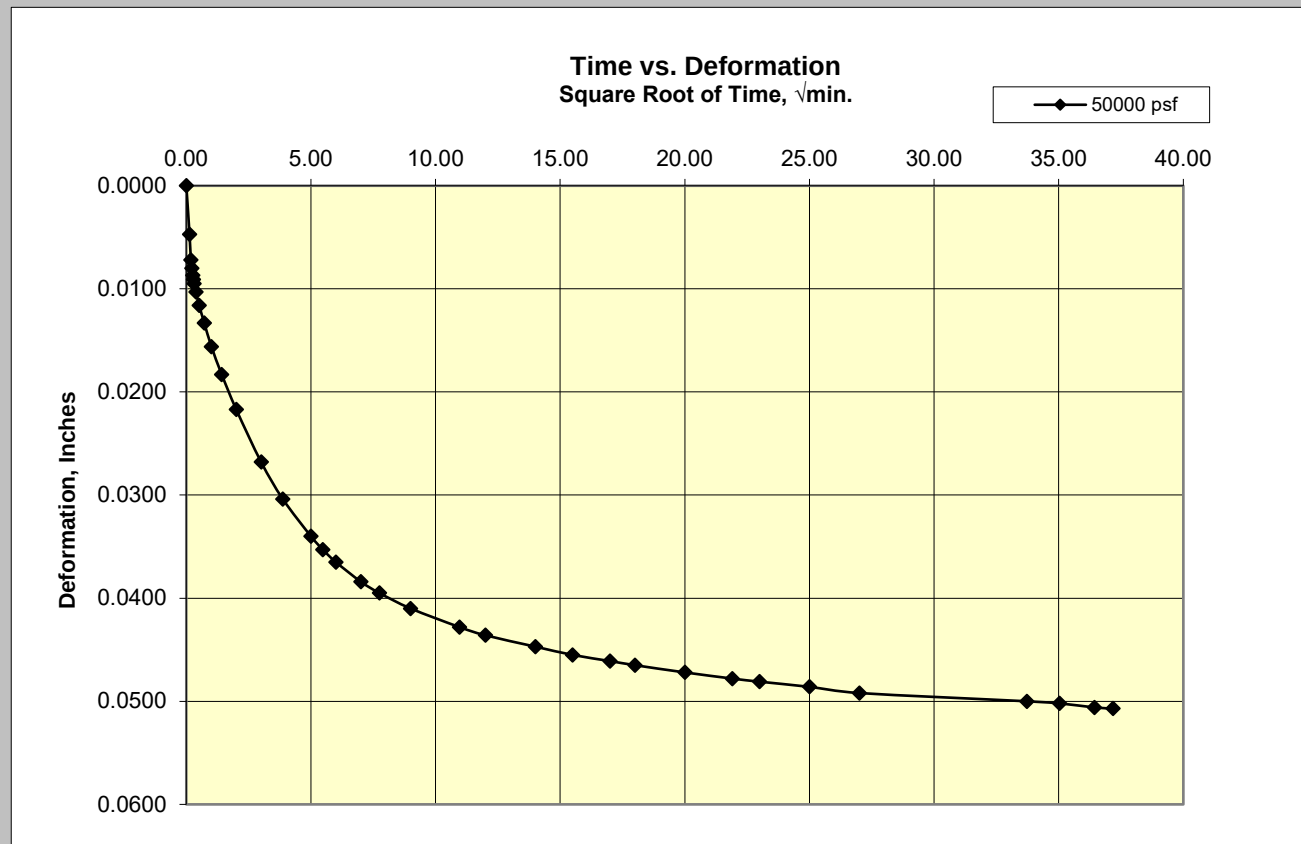
Cooper Testing Labs, Inc.

Load 13

50000 psf



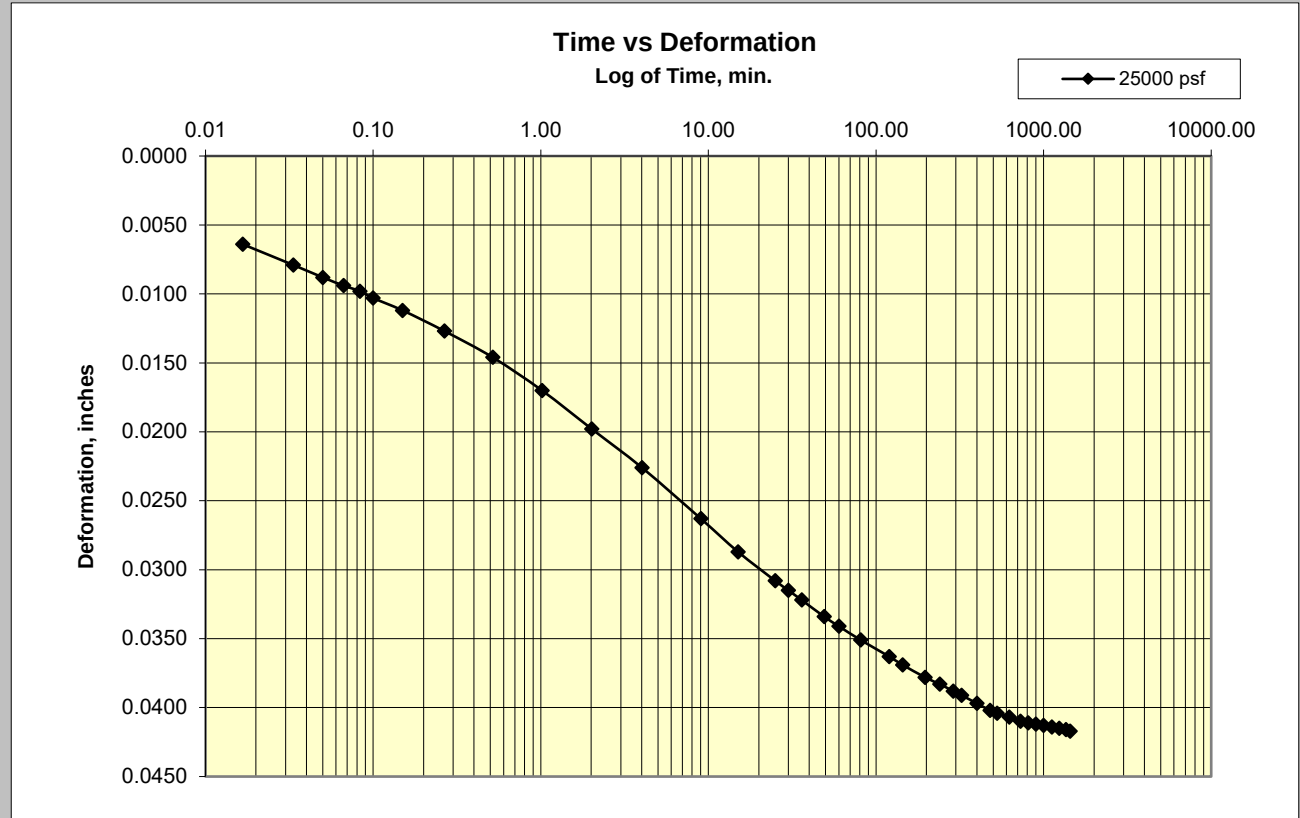
50000 psf



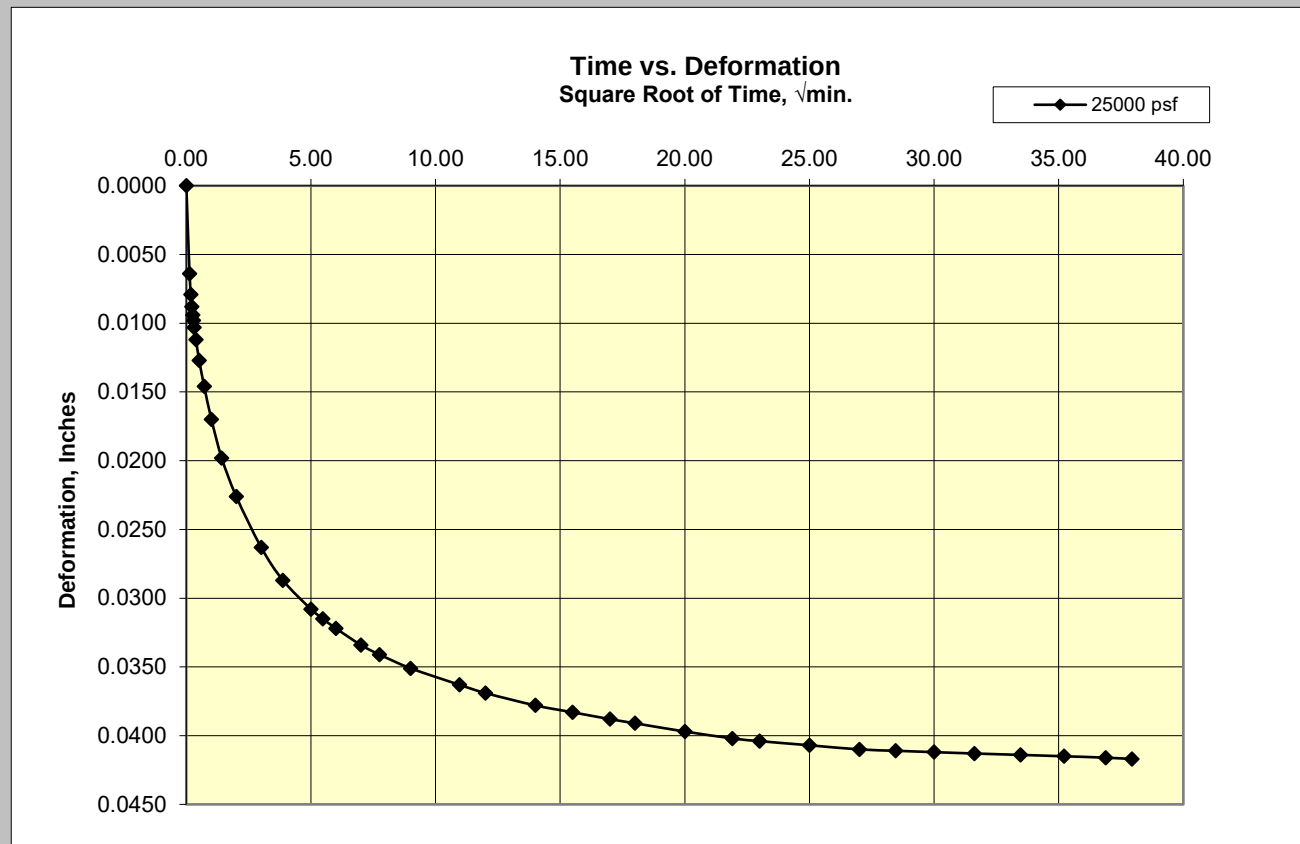
Cooper Testing Labs, Inc.

Load 12

25000 psf



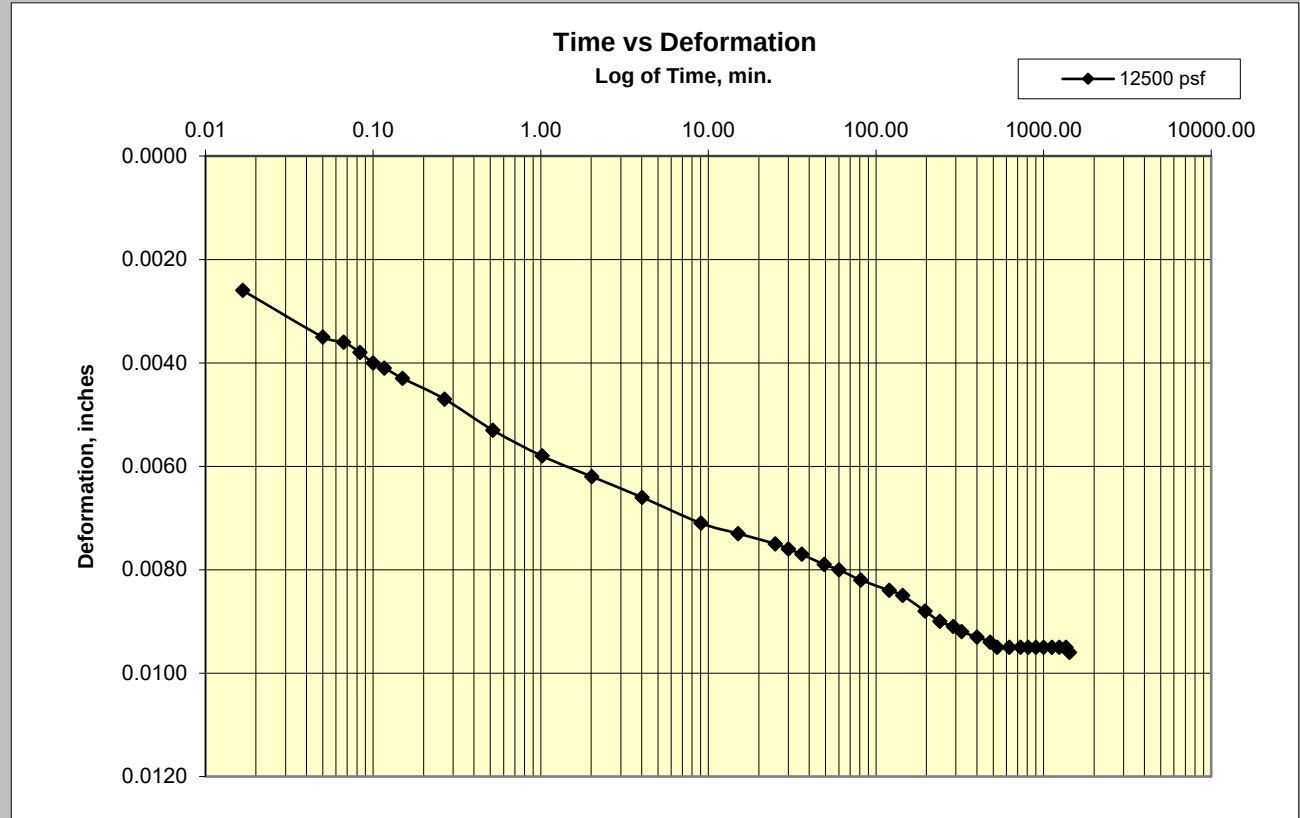
25000 psf



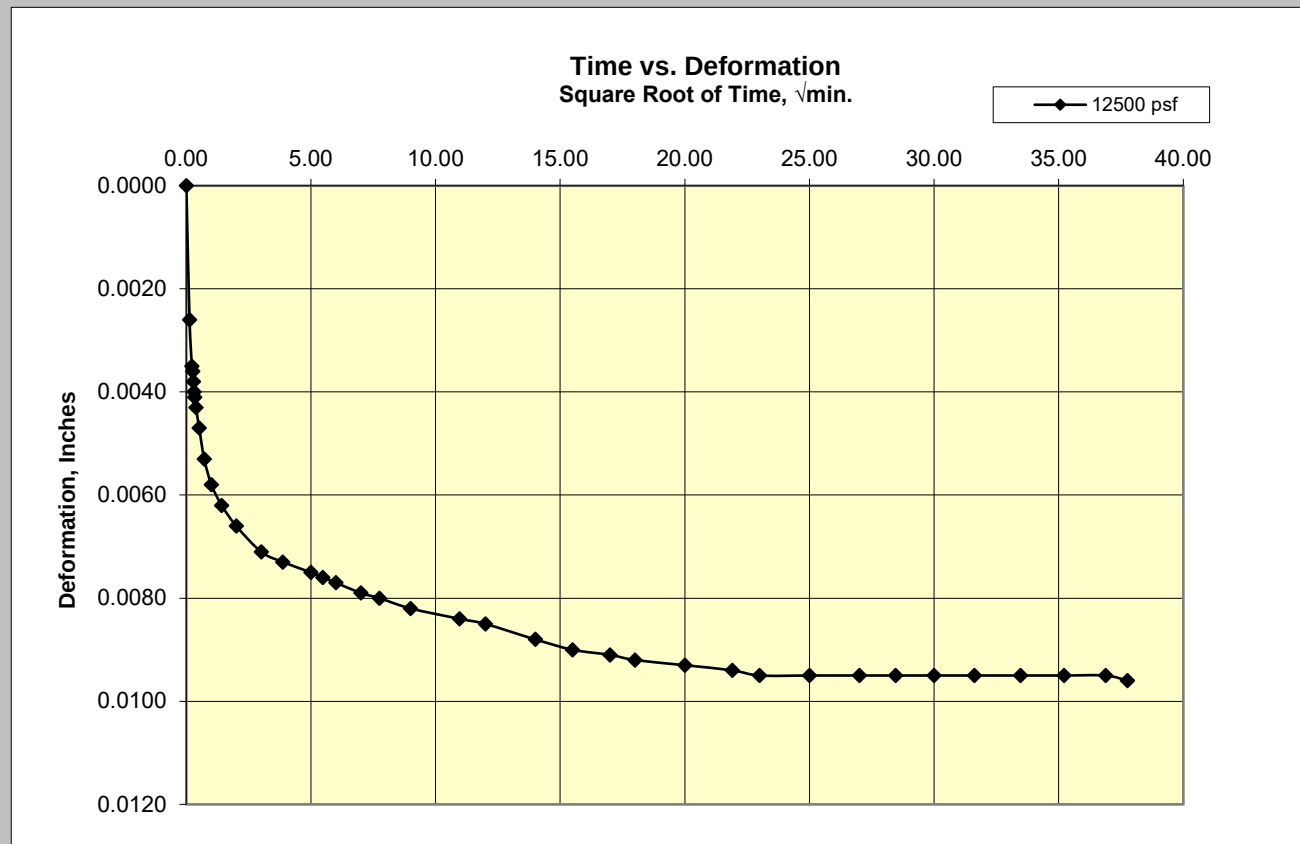
Cooper Testing Labs, Inc.

Load 11

12500 psf



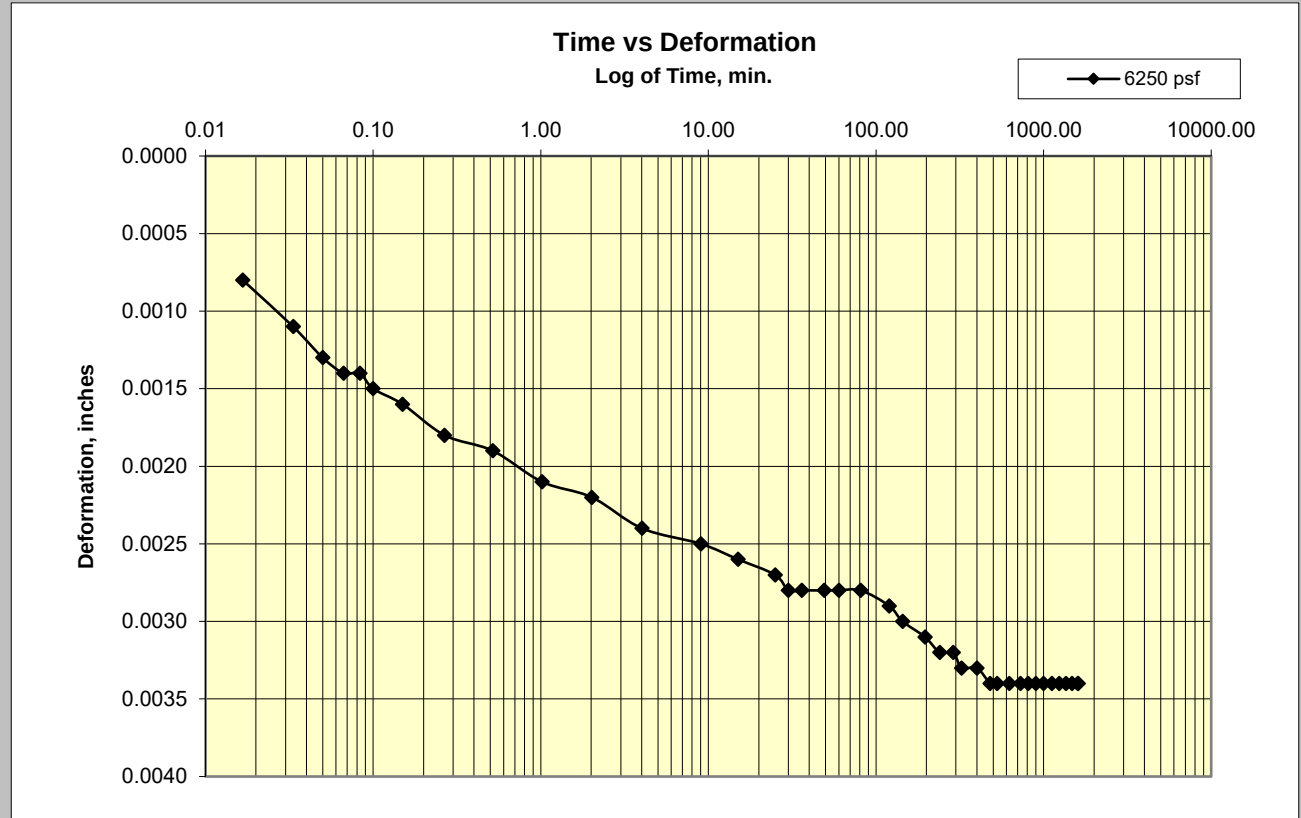
12500 psf



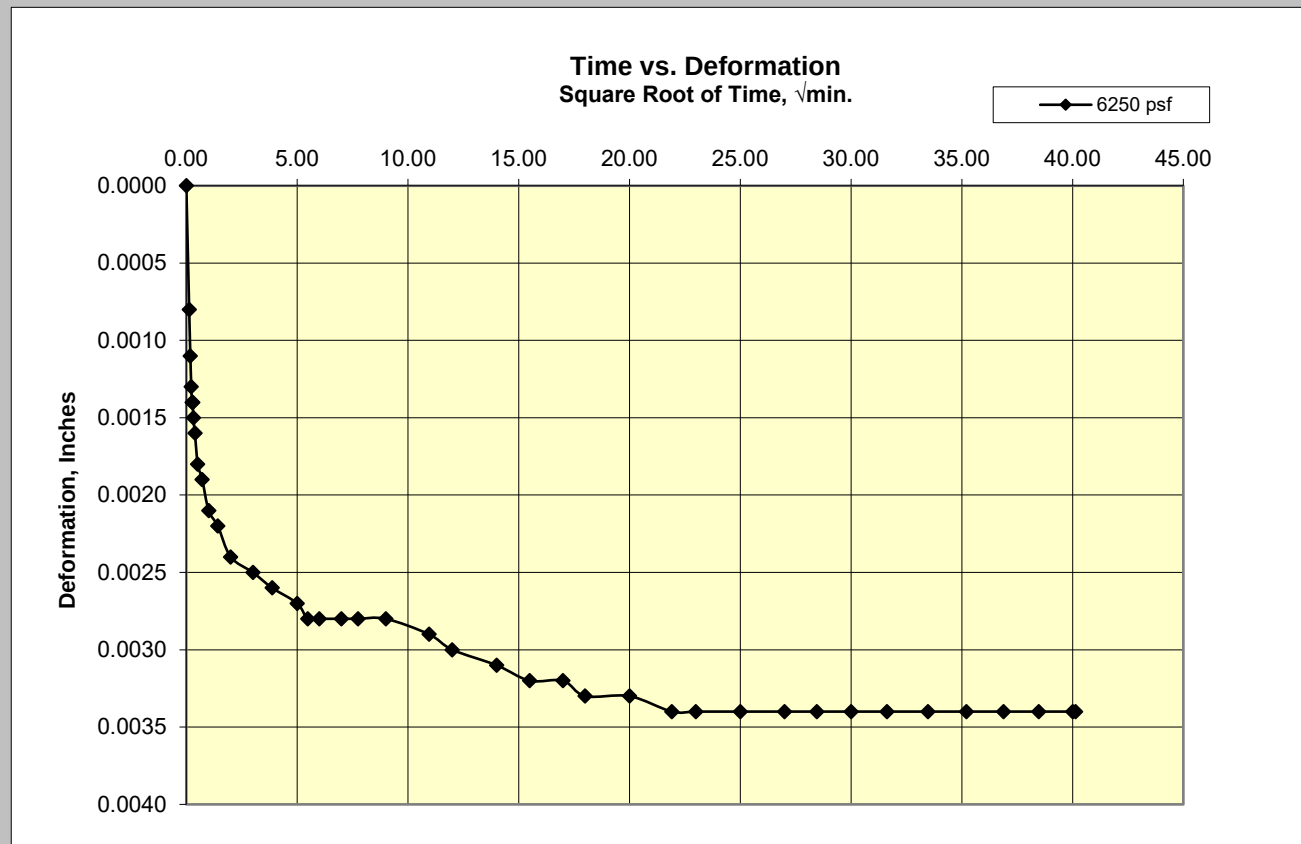
Cooper Testing Labs, Inc.

Load 10

6250 psf



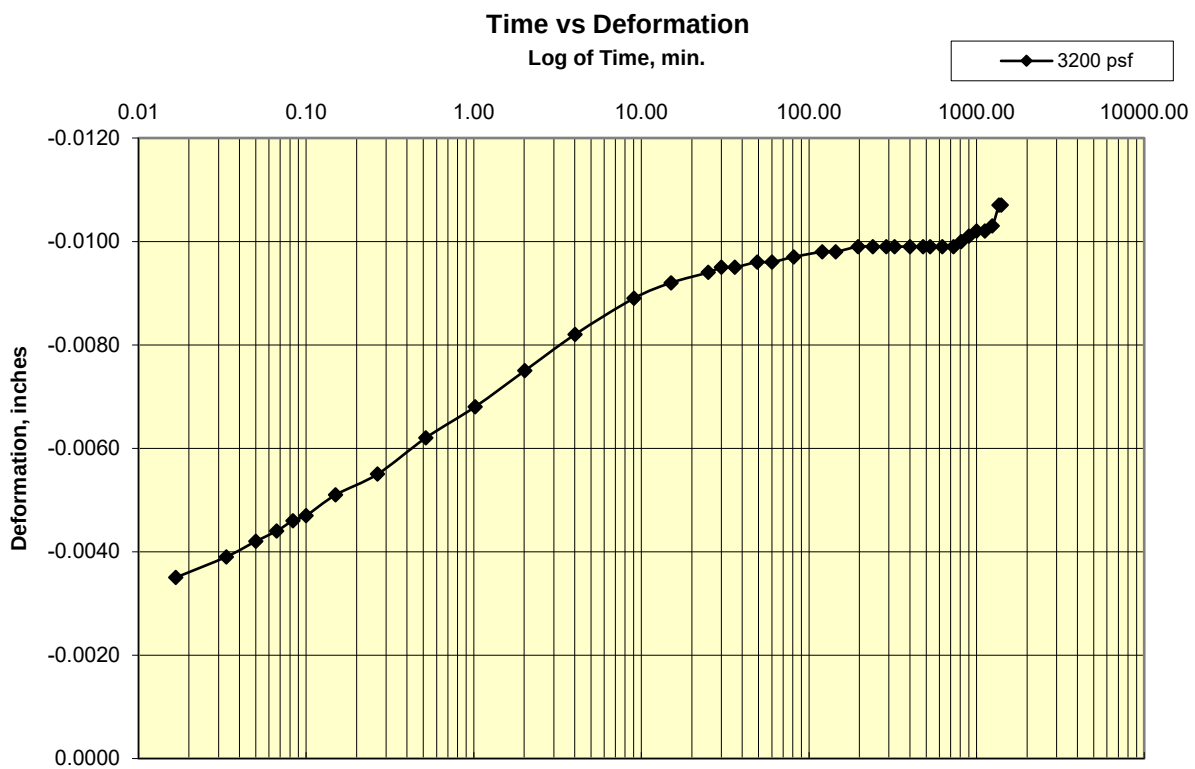
6250 psf



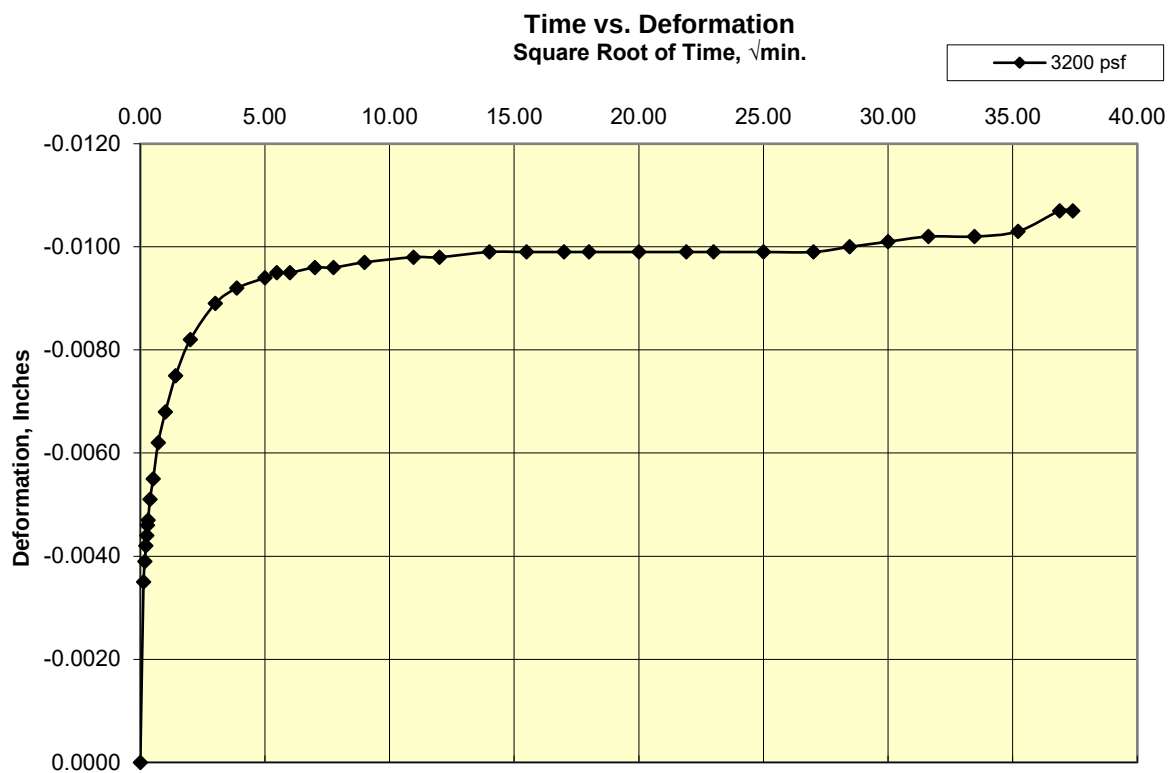
Cooper Testing Labs, Inc.

Load 9

3200 psf



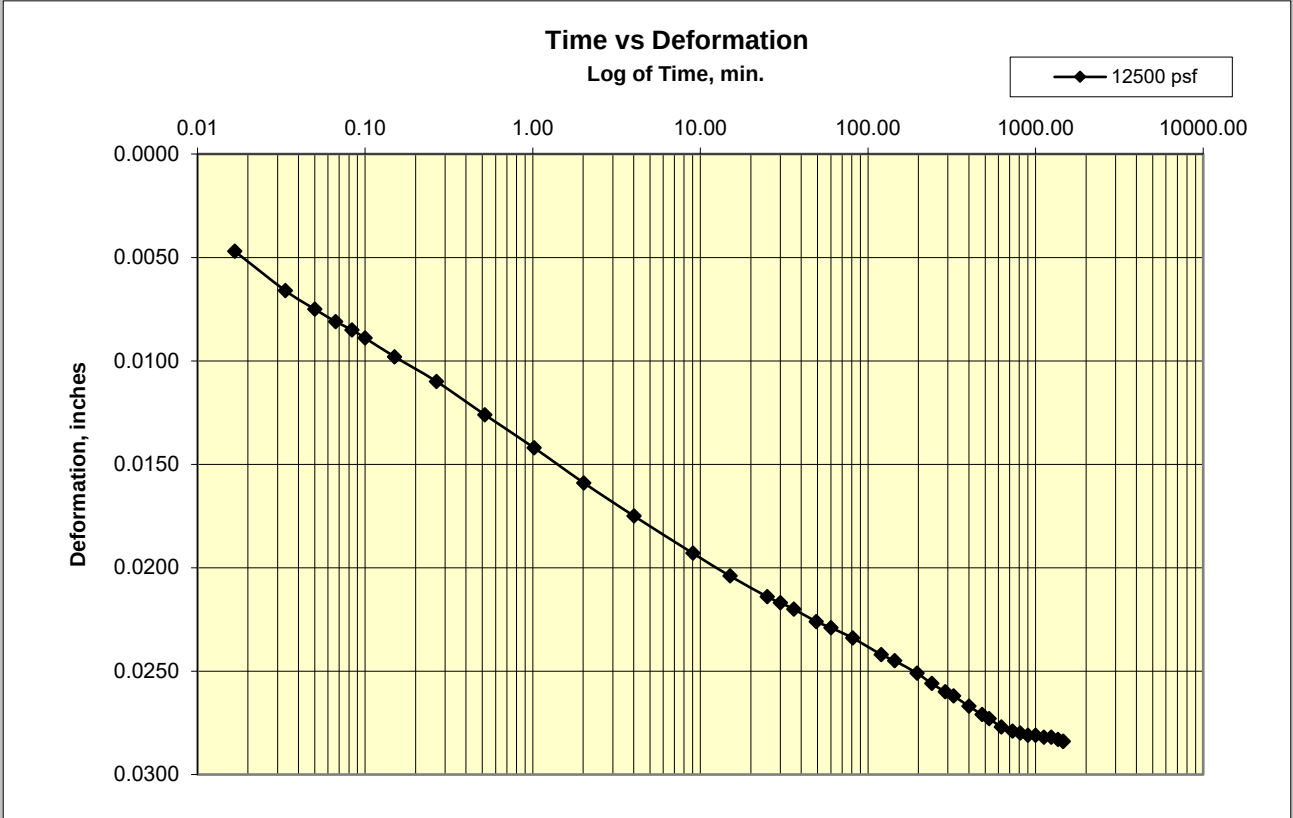
3200 psf



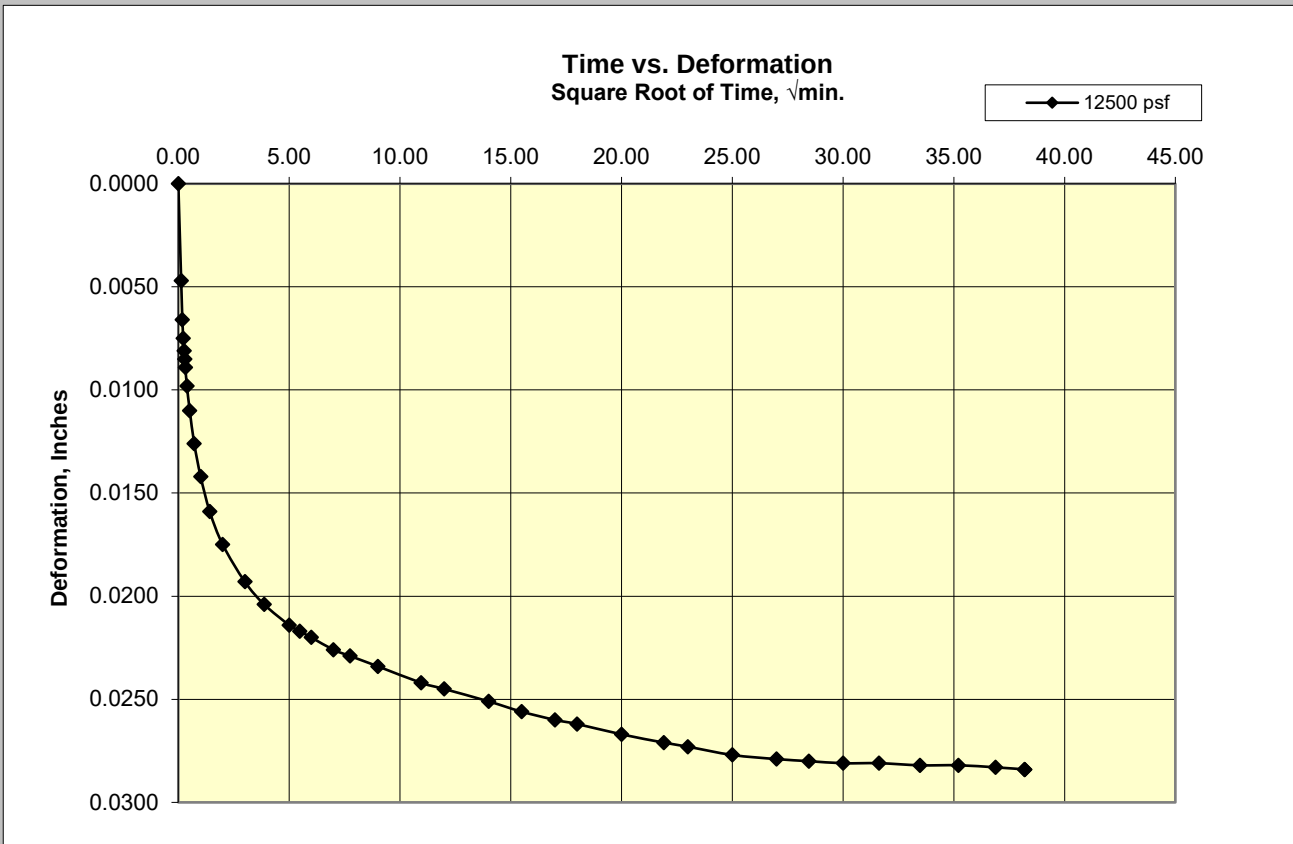
Cooper Testing Labs, Inc.

Load 8

12500 psf



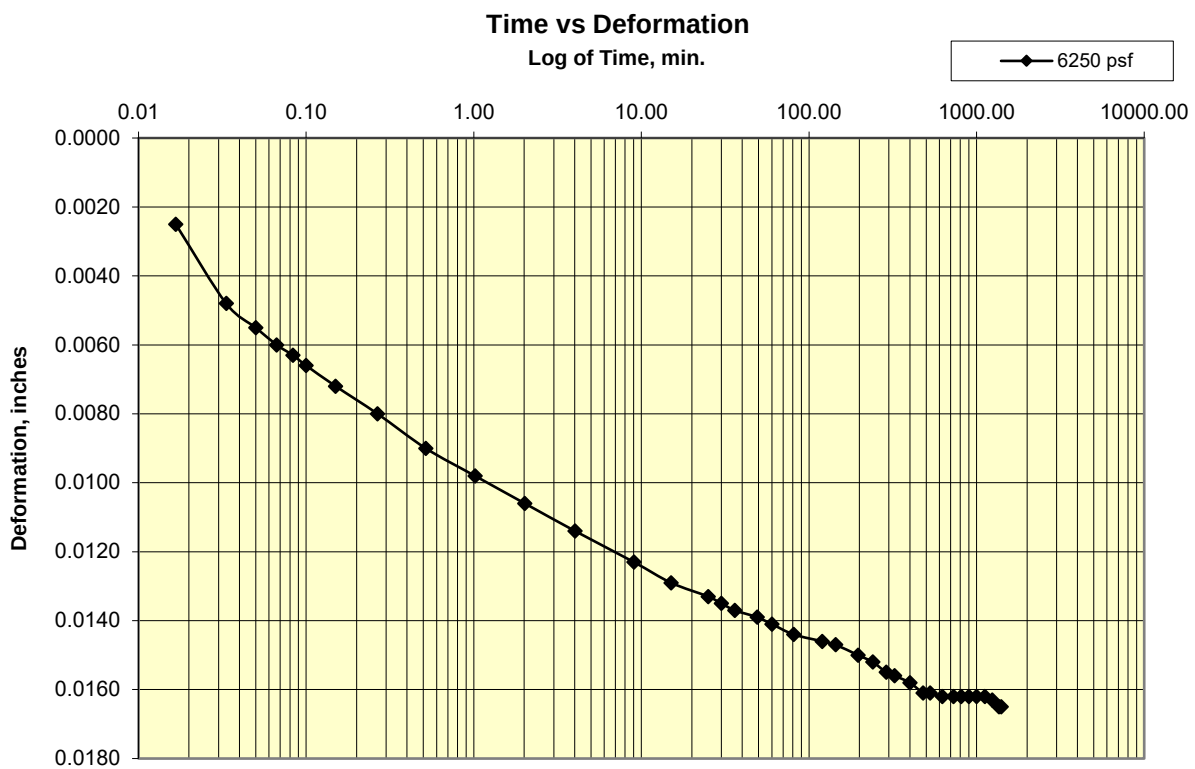
12500 psf



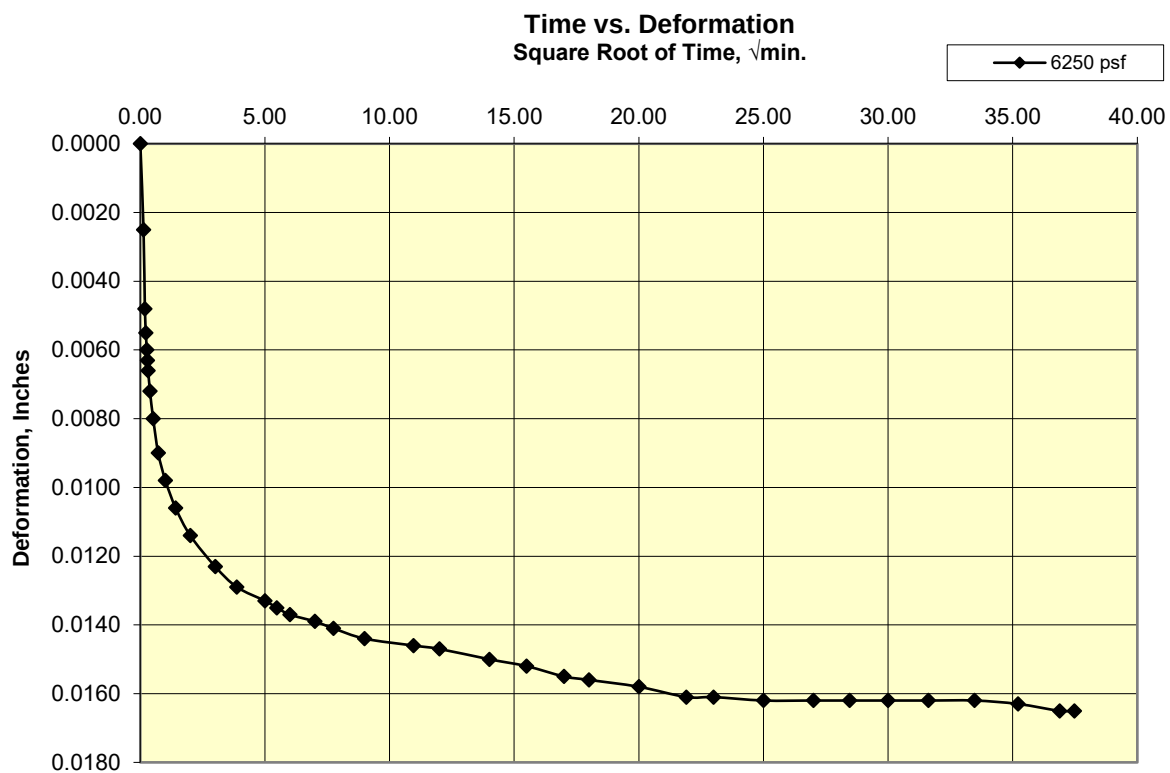
Cooper Testing Labs, Inc.

Load 7

6250 psf



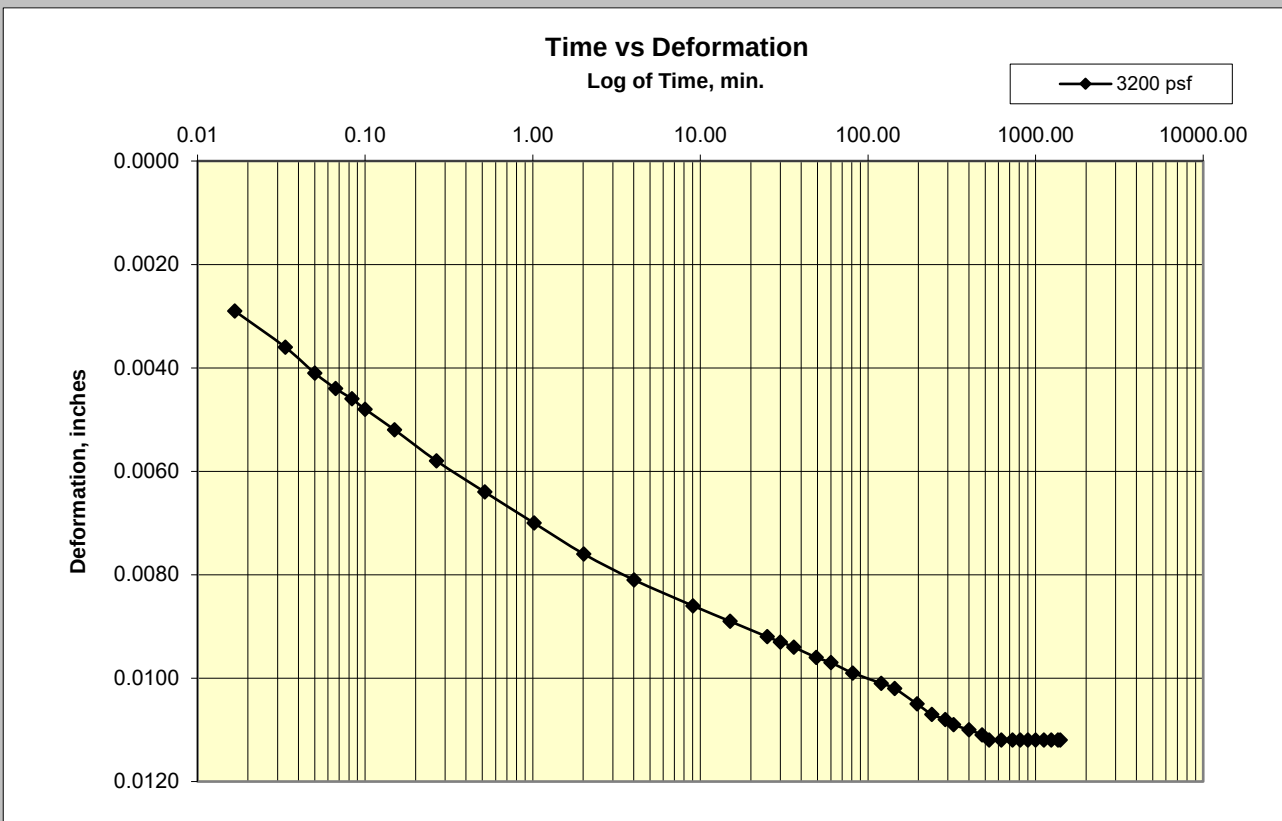
6250 psf



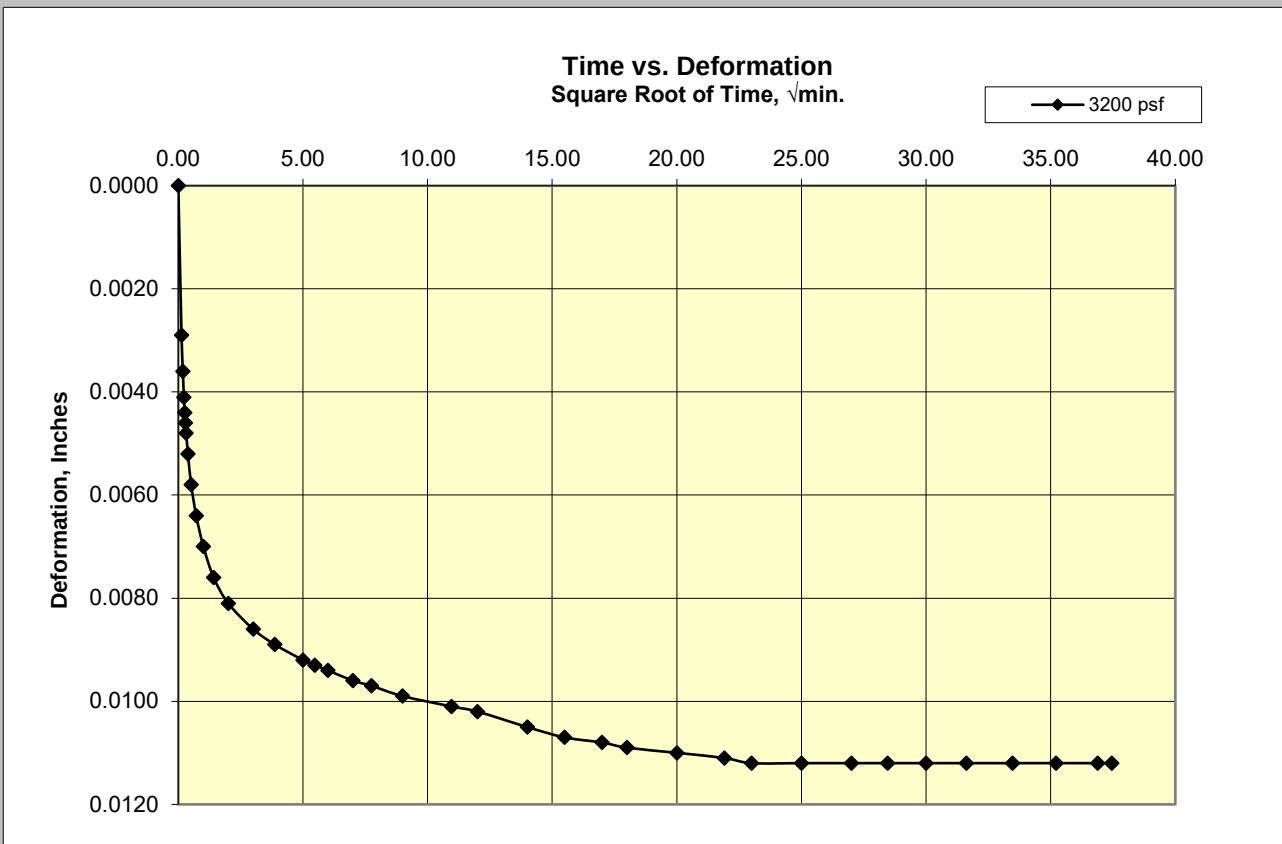
Cooper Testing Labs, Inc.

Load 6

3200 psf



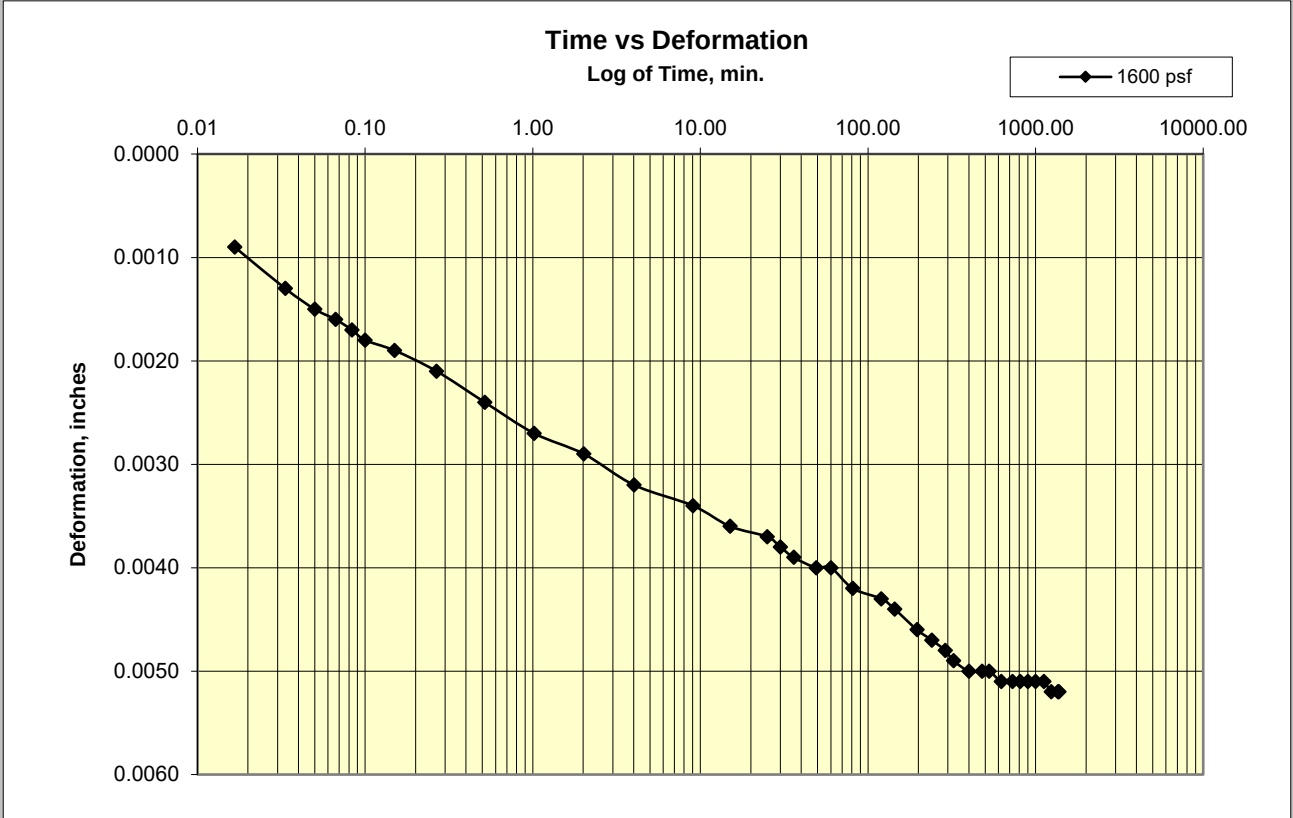
3200 psf



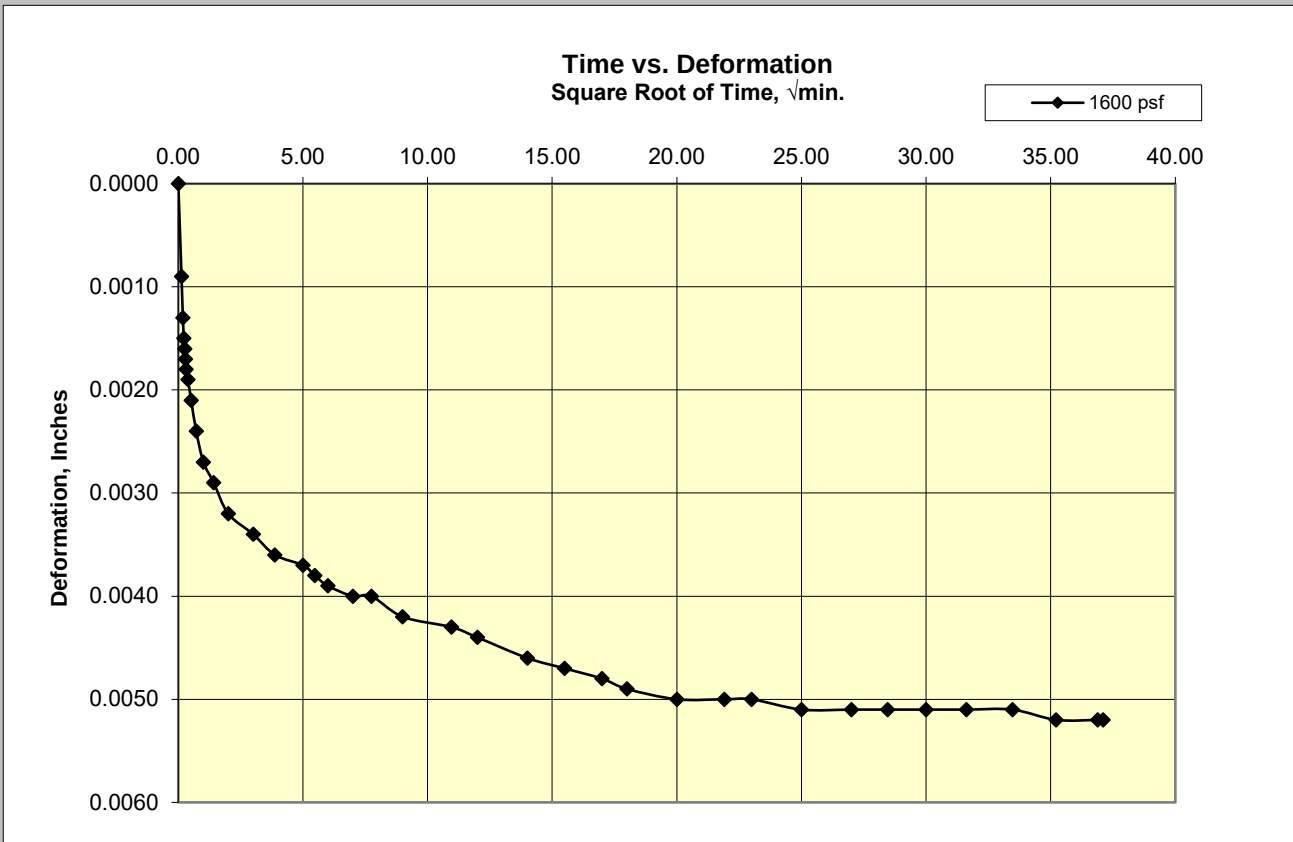
Cooper Testing Labs, Inc.

Load 5

1600 psf



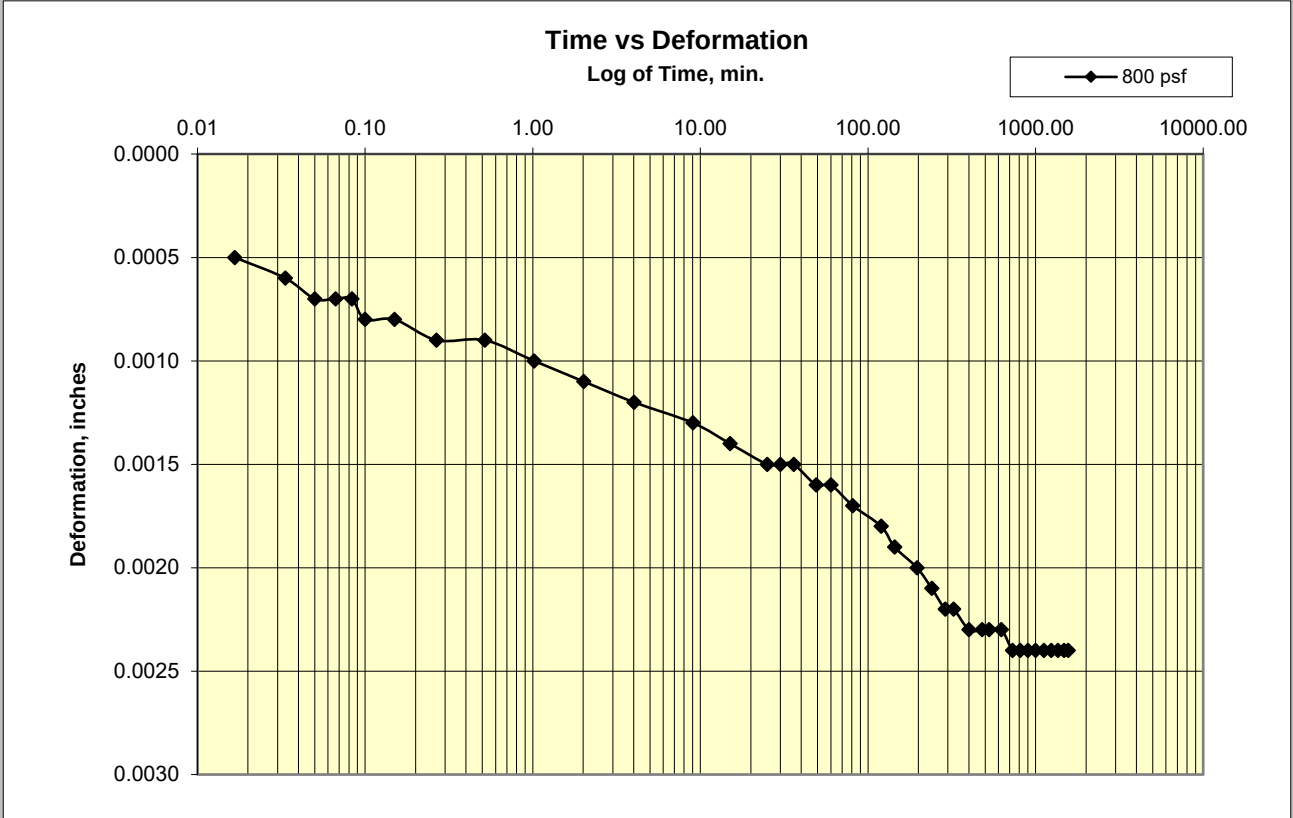
1600 psf



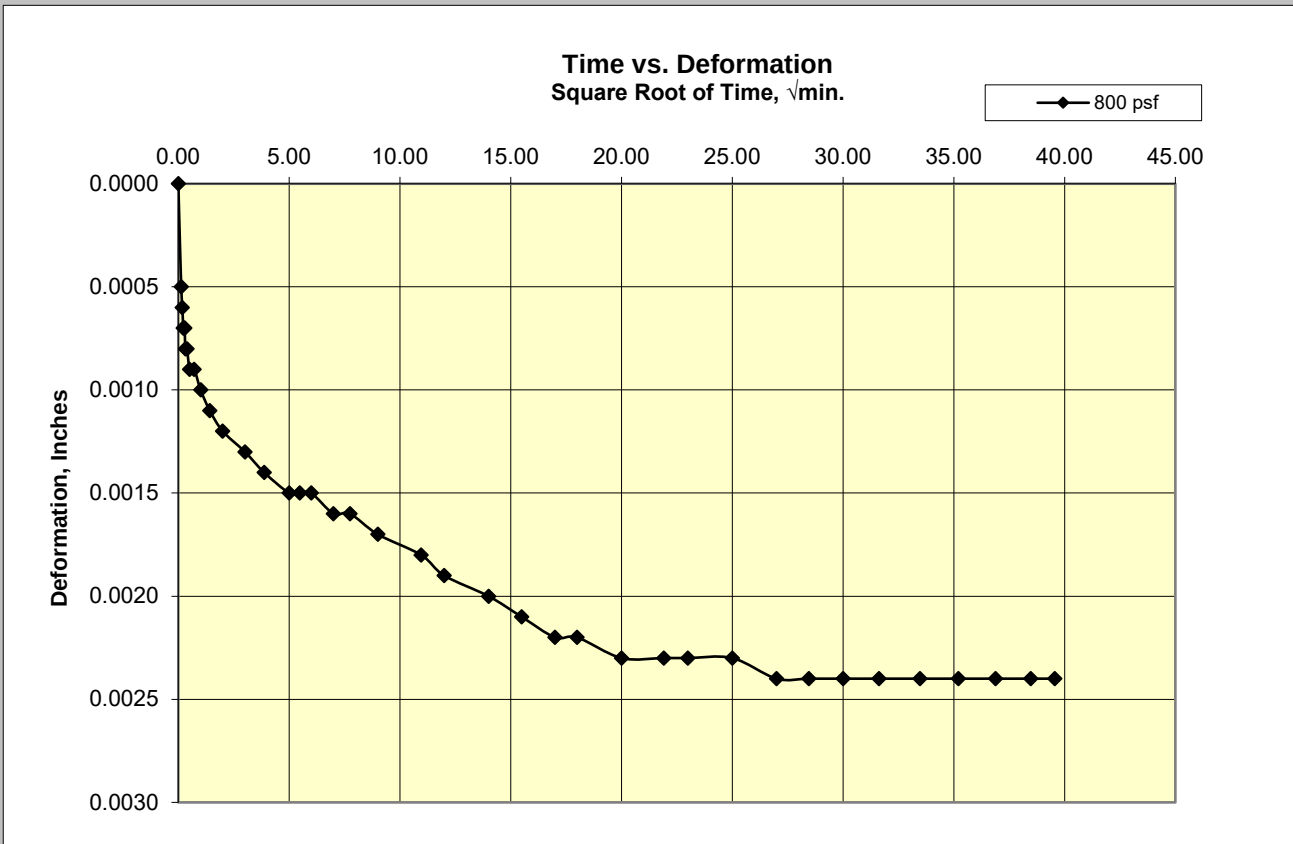
Cooper Testing Labs, Inc.

Load 4

800 psf



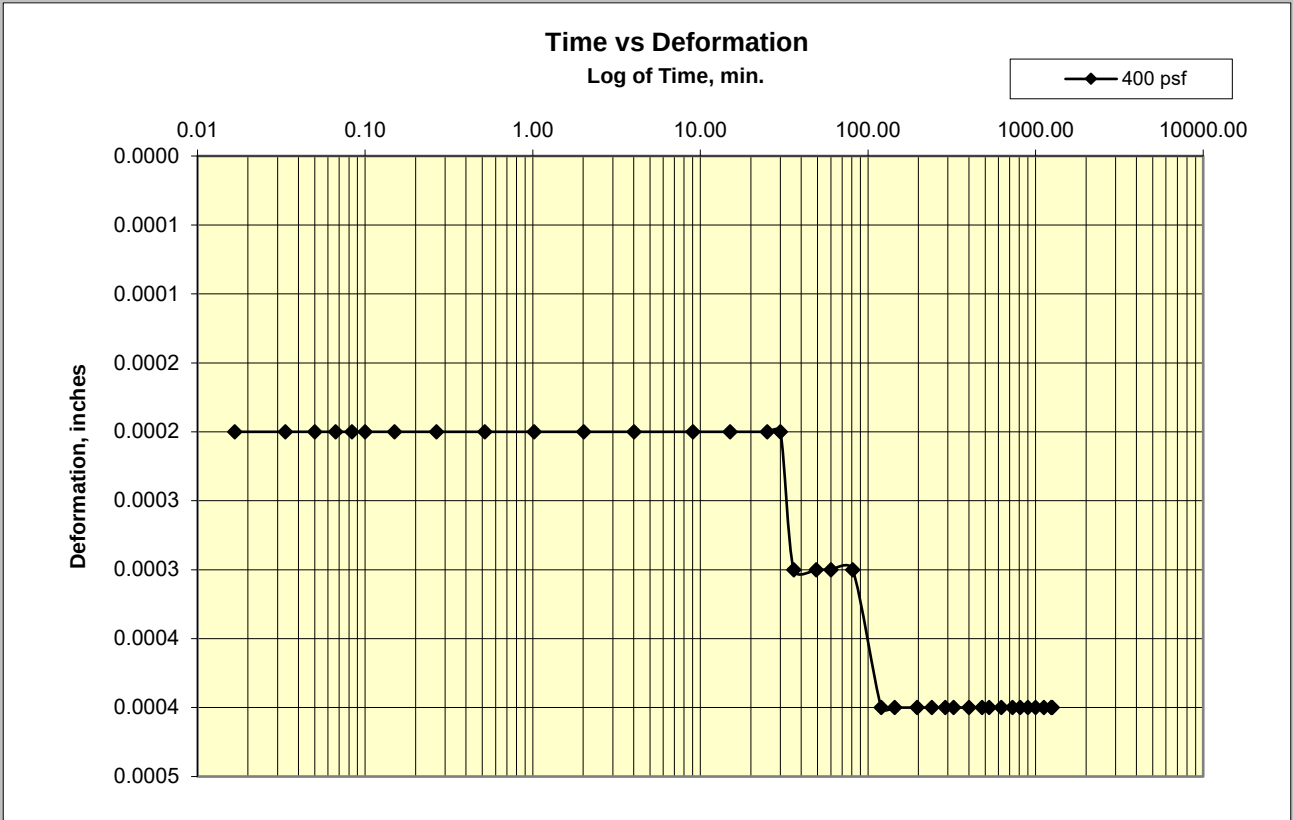
800 psf



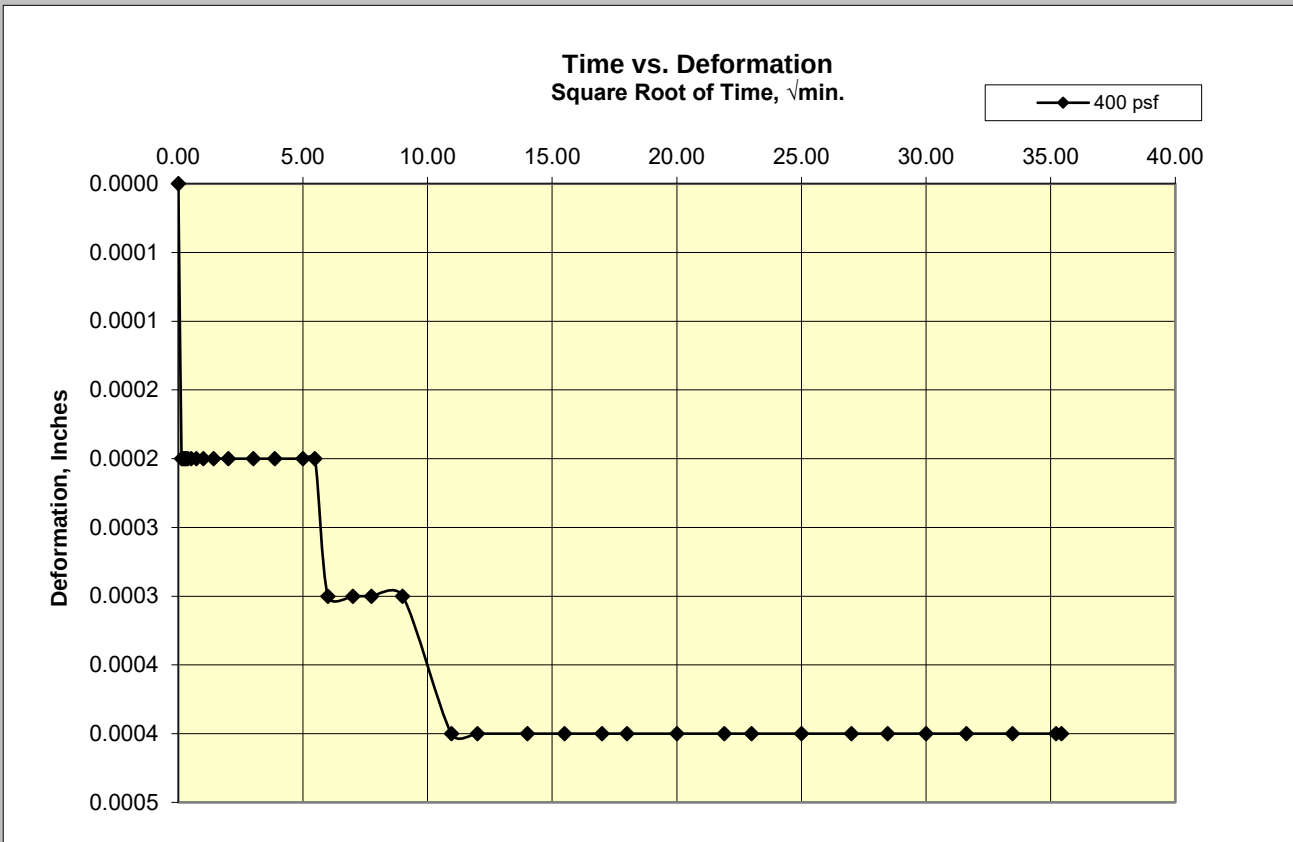
Cooper Testing Labs, Inc.

Load 3

400 psf



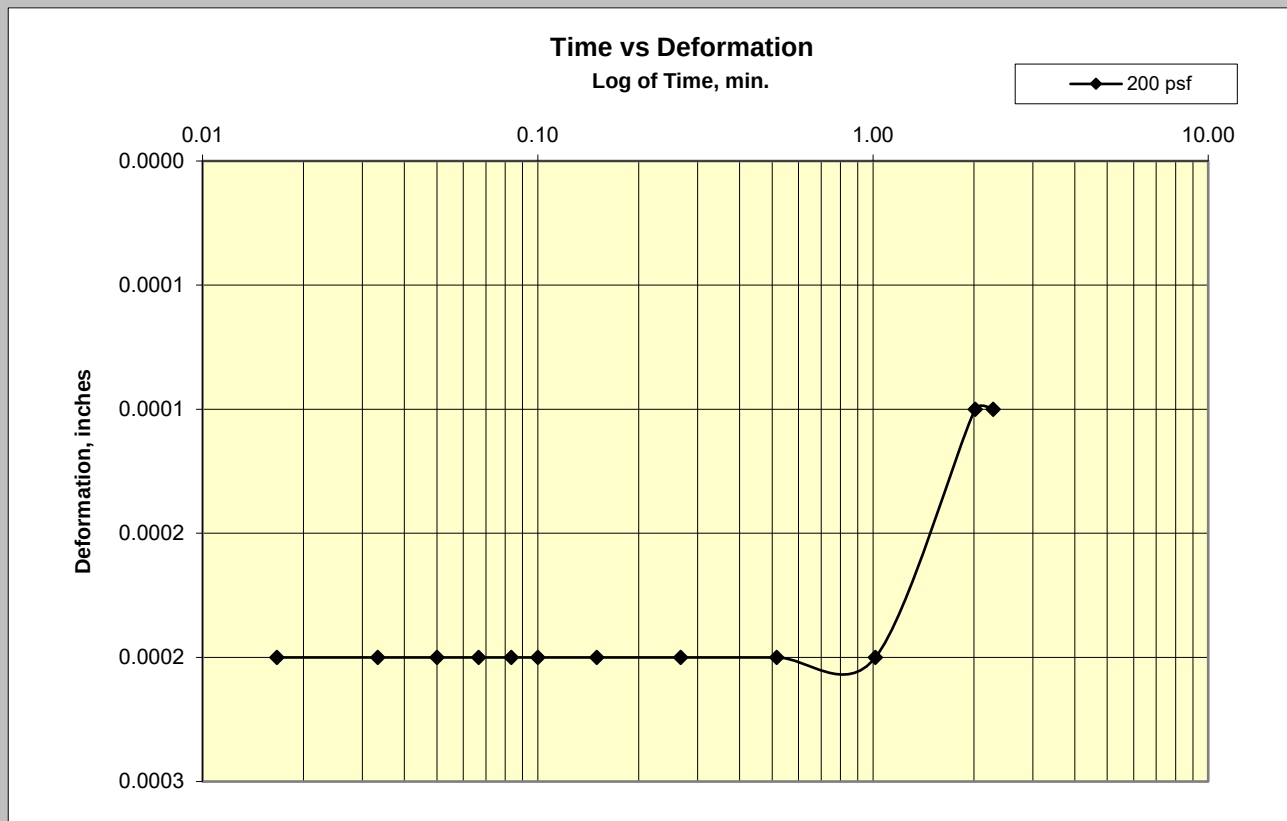
400 psf



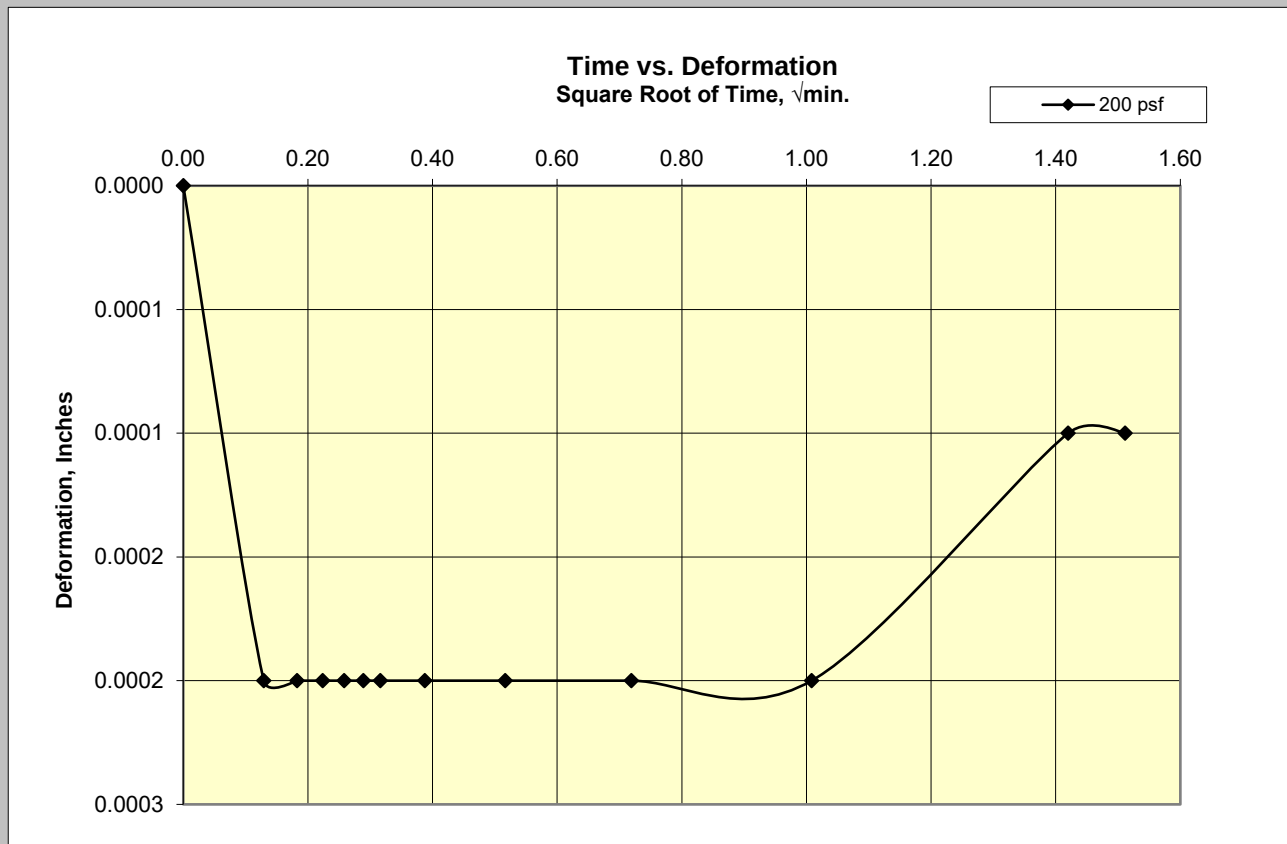
Cooper Testing Labs, Inc.

Load 2

200 psf



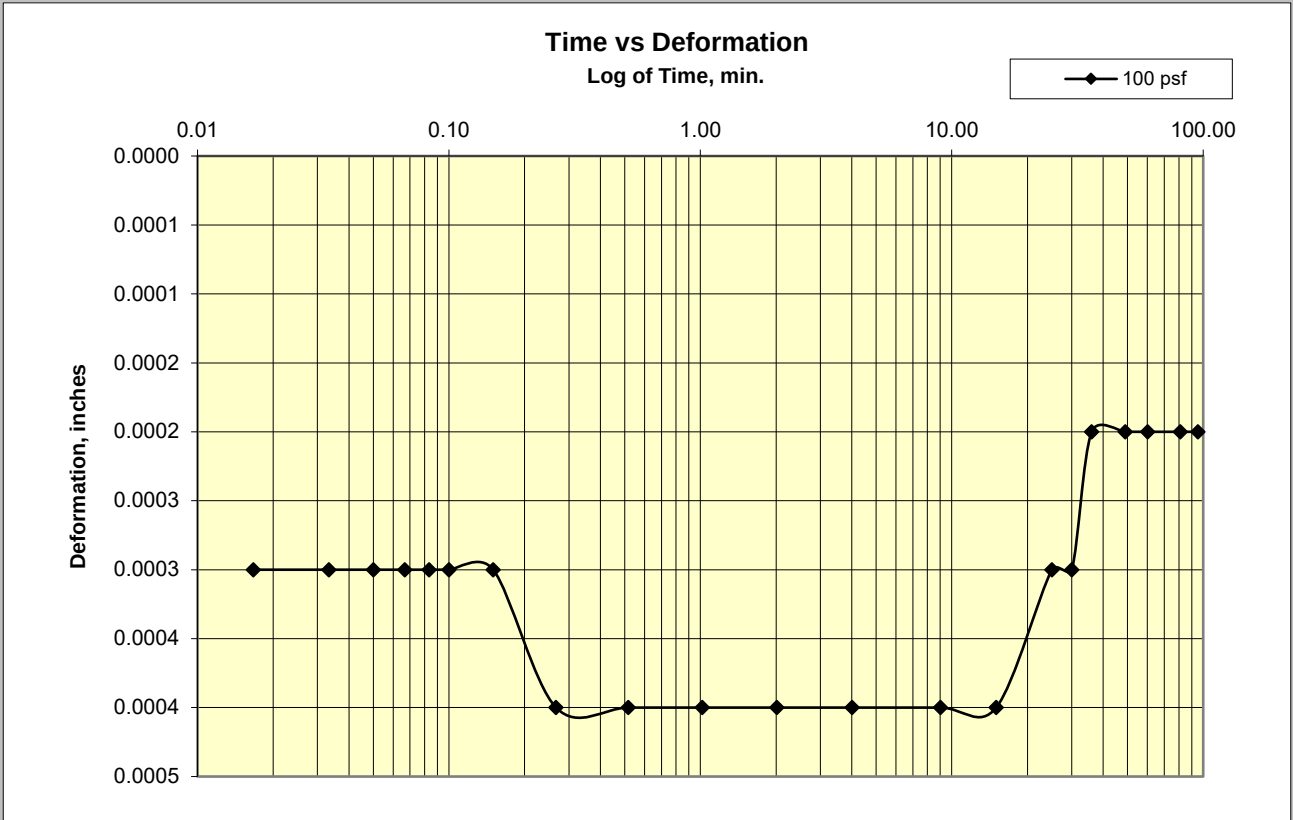
200 psf



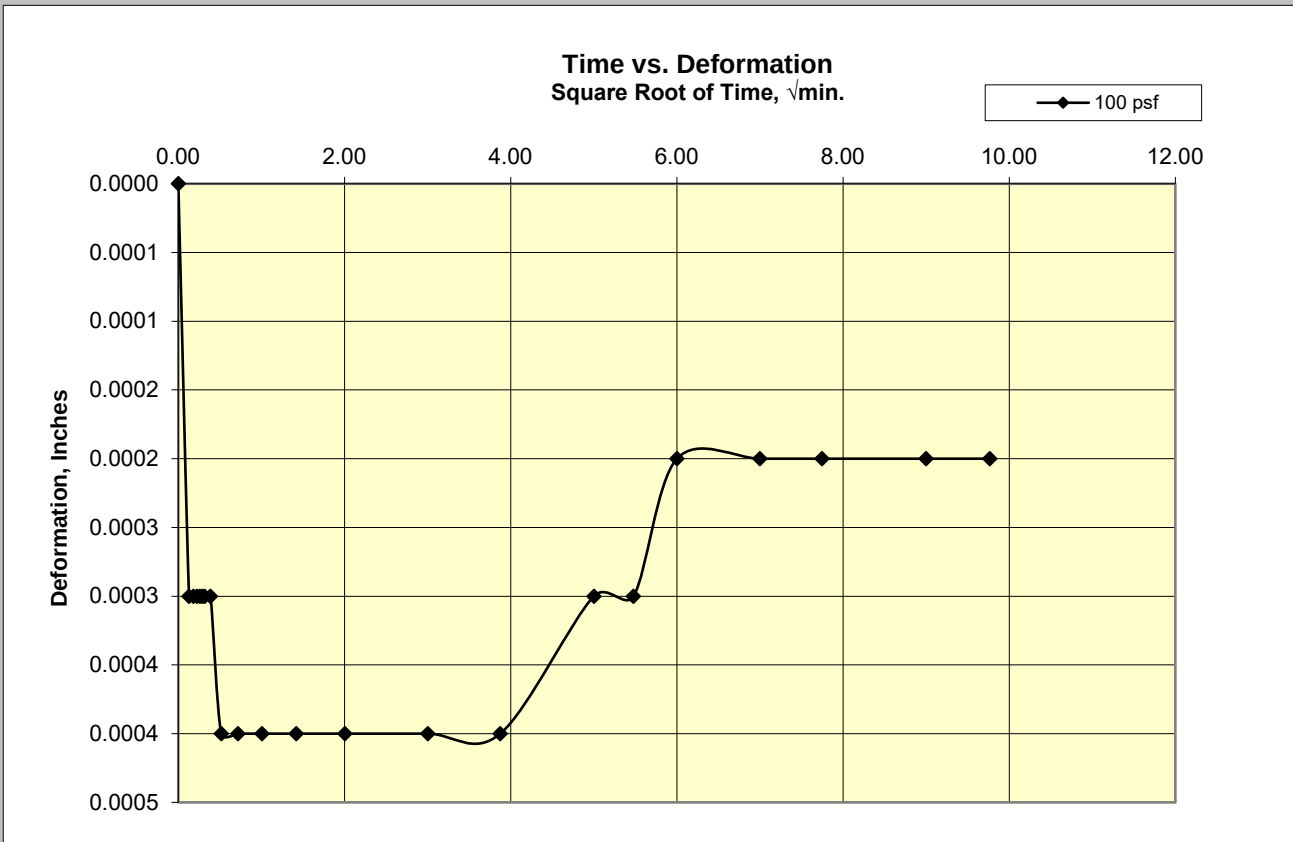
Cooper Testing Labs, Inc.

Load 1

100 psf



100 psf



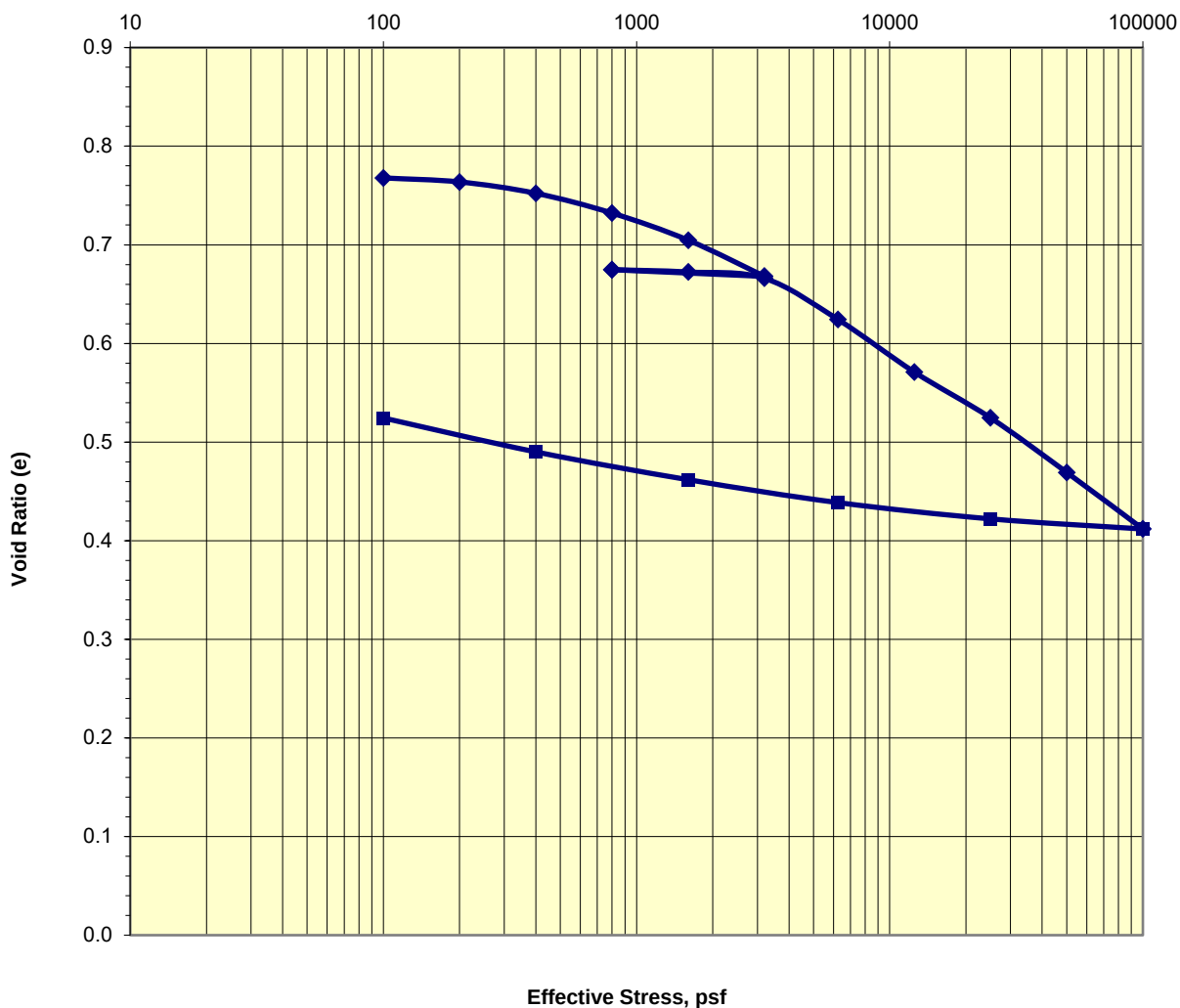


Consolidation Test

ASTM D2435

Job No.:	461-392	Boring:	B2	Run By:	HM
Client:	Geosyntec Consultants	Sample:	B2-3	Reduced:	RU
Project:	WG3607	Depth, ft.:	15-17.5	Checked:	PJ
Soil Type:	Olive Brown Lean Clayey SAND w/ Gravel			Date:	3/26/2026

e-Log-P Curve

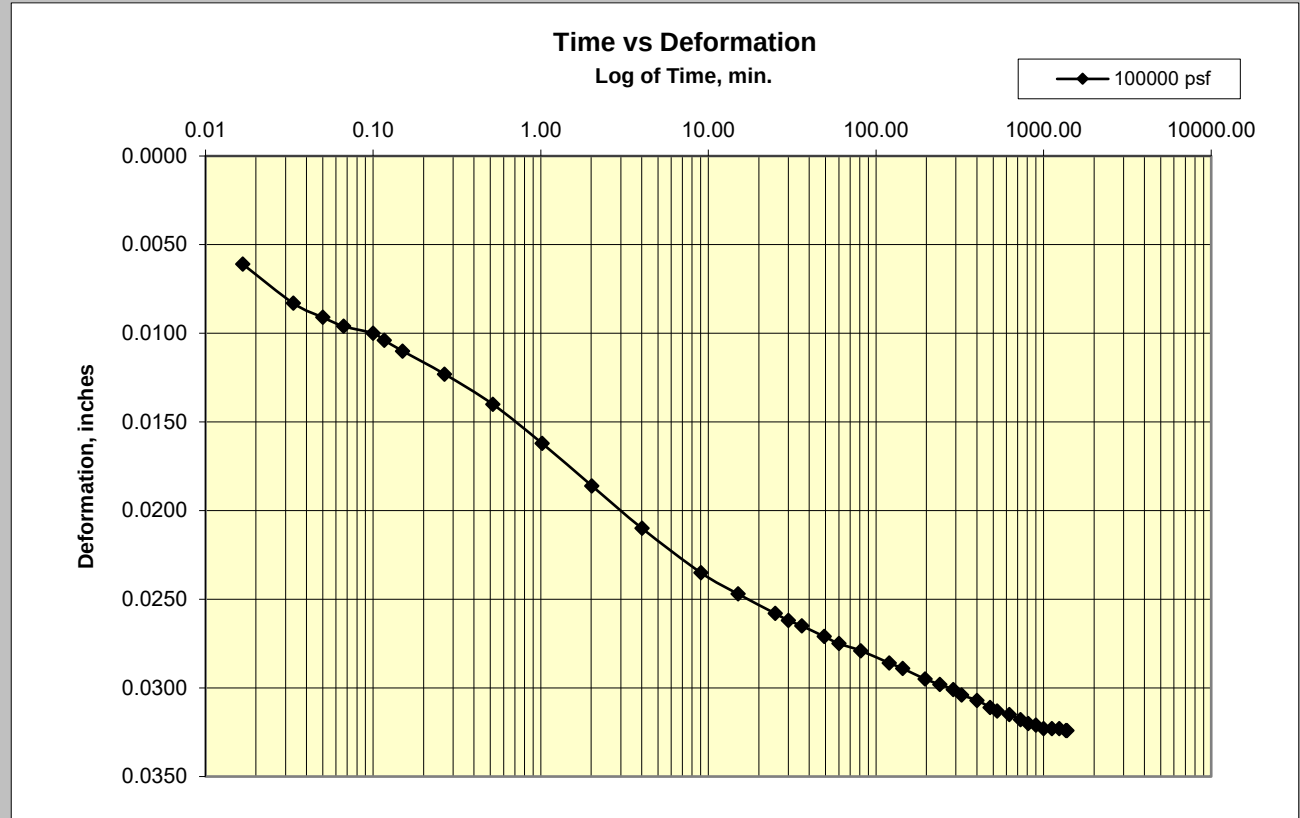


Assumed Gs	2.8	Initial	Final	Remarks:
Moisture %:		25.9	18.8	
Dry Density, pcf:		98.6	114.6	
Void Ratio:		0.773	0.525	
% Saturation:		93.7	100.0	

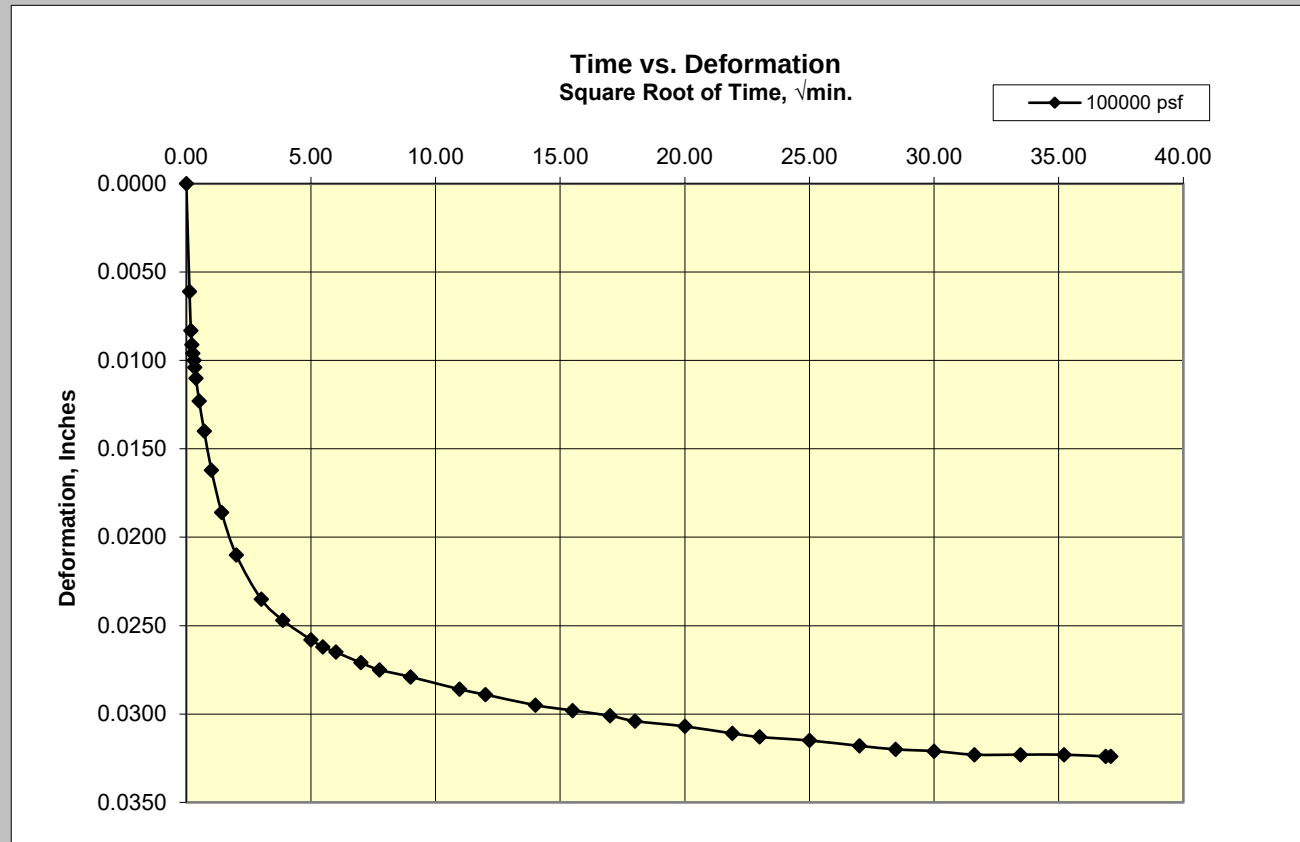
Cooper Testing Labs, Inc.

Load 14

100000 psf



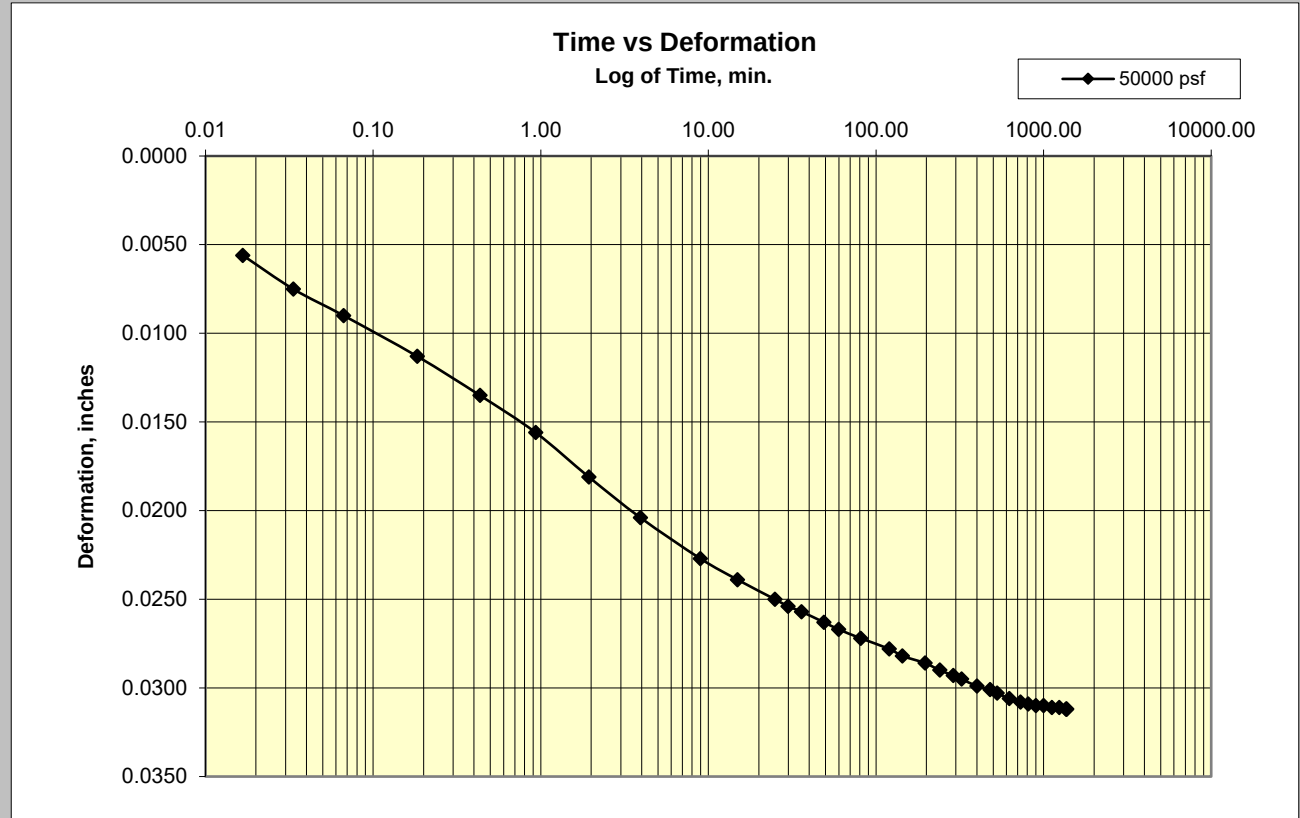
100000 psf



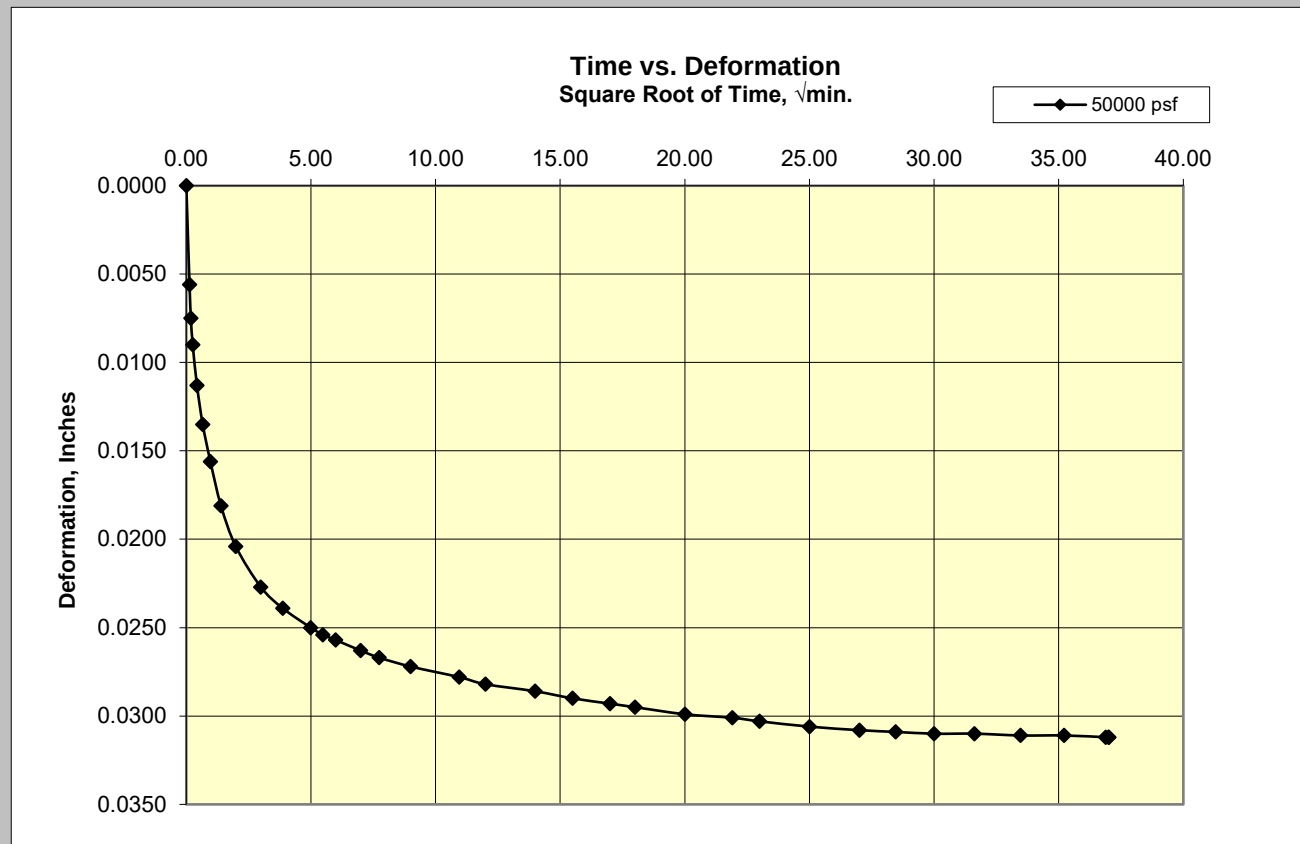
Cooper Testing Labs, Inc.

Load 13

50000 psf



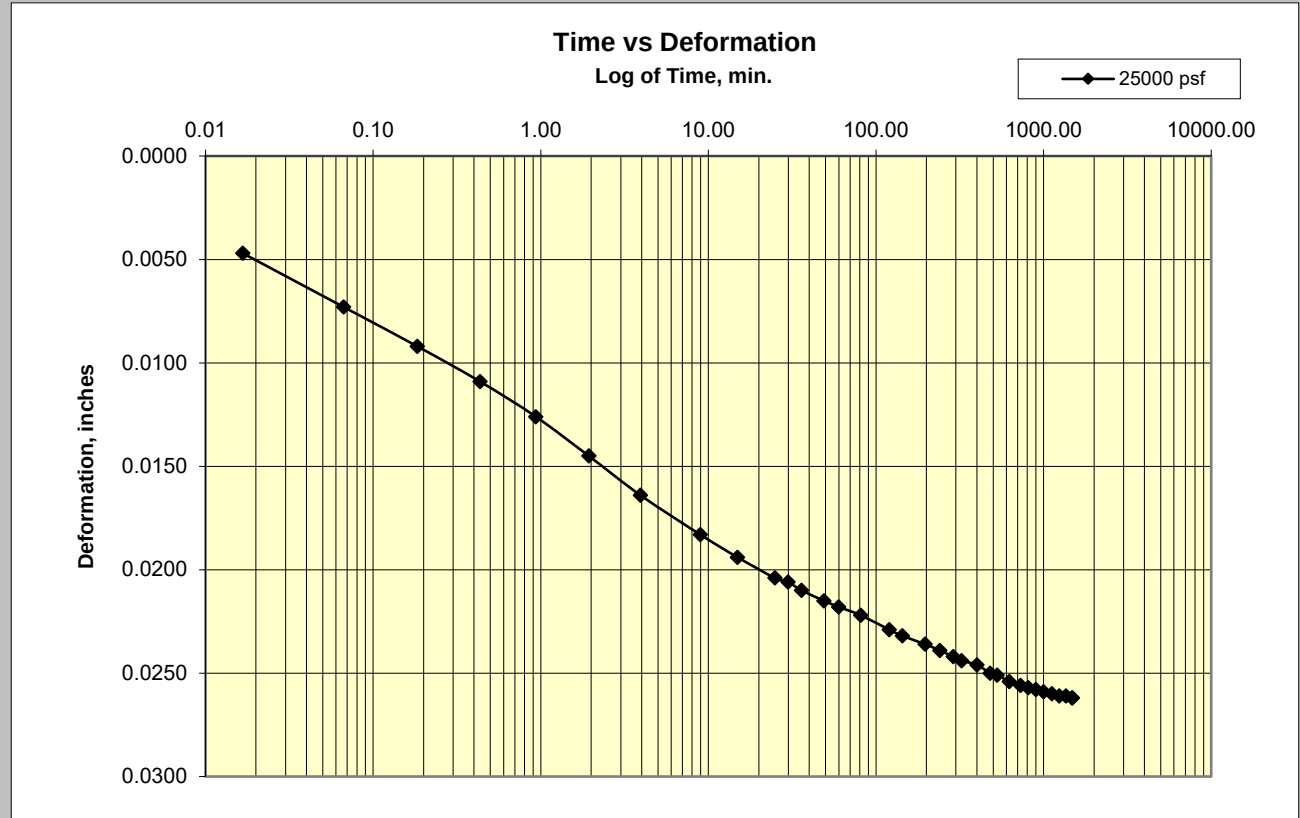
50000 psf



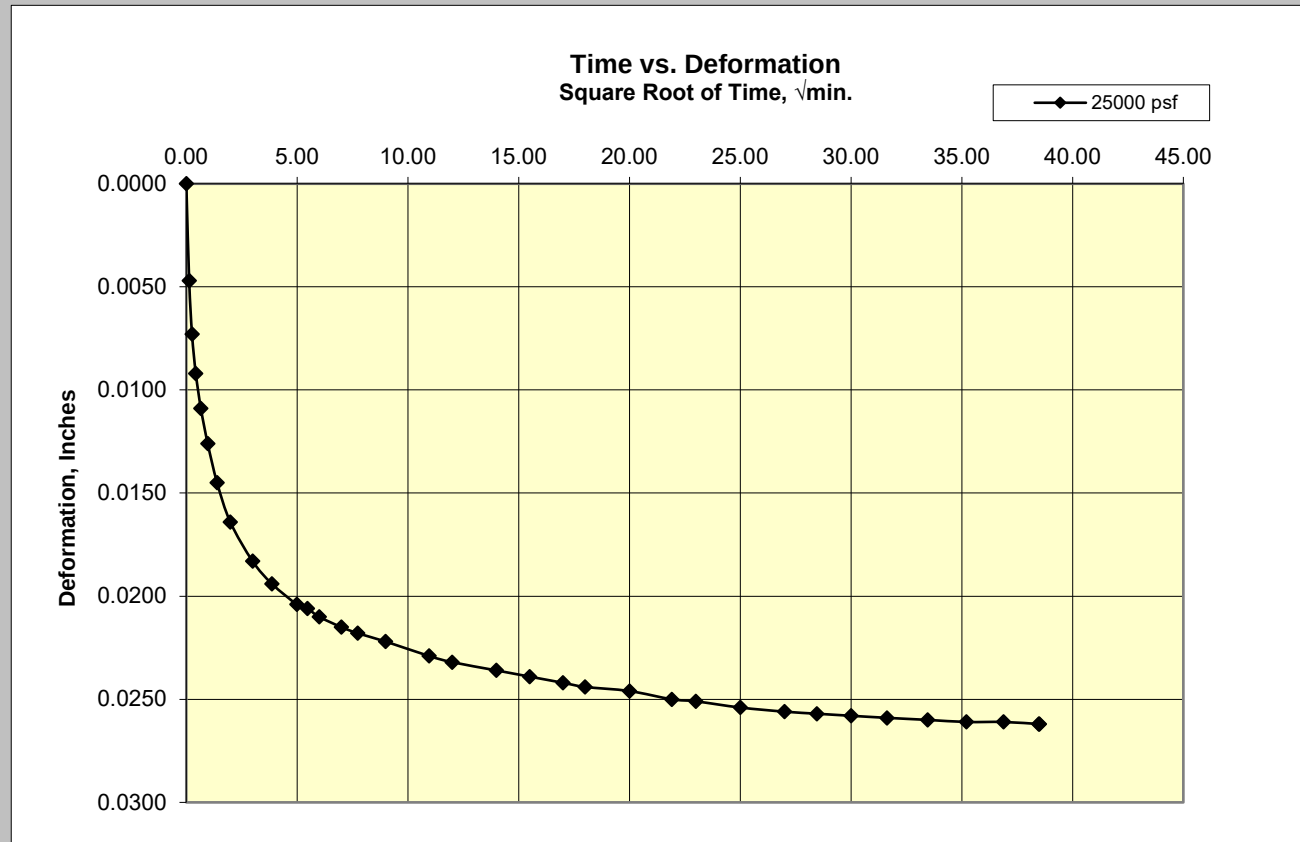
Cooper Testing Labs, Inc.

Load 12

25000 psf



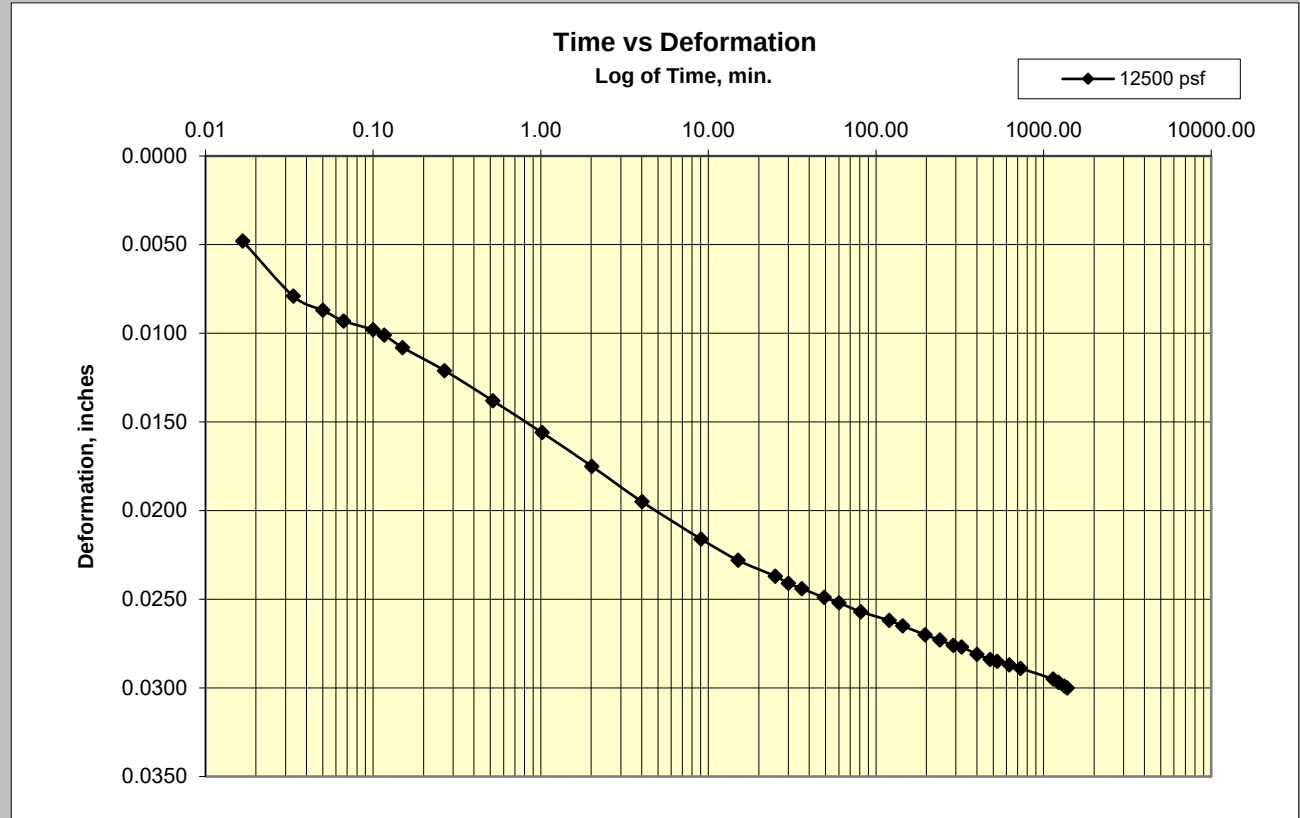
25000 psf



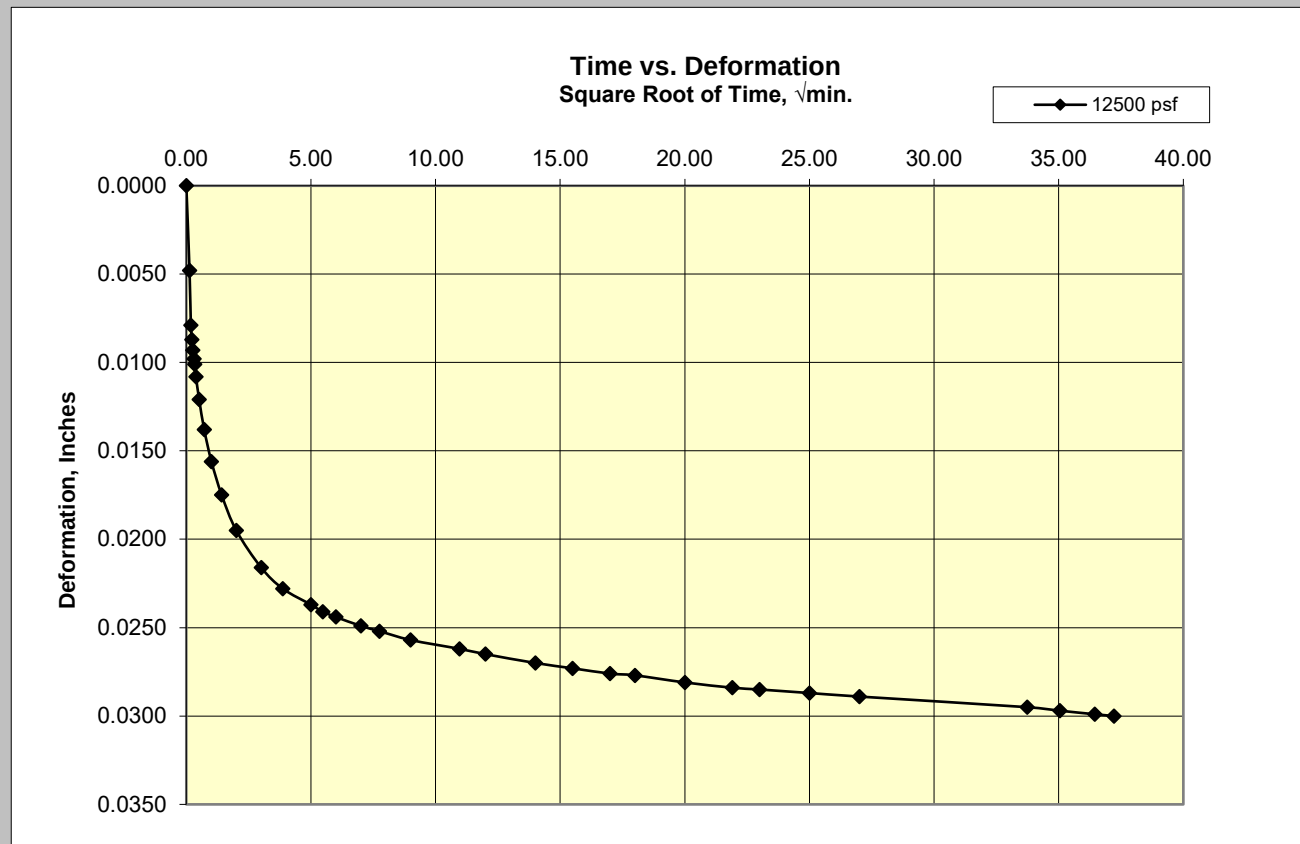
Cooper Testing Labs, Inc.

Load 11

12500 psf



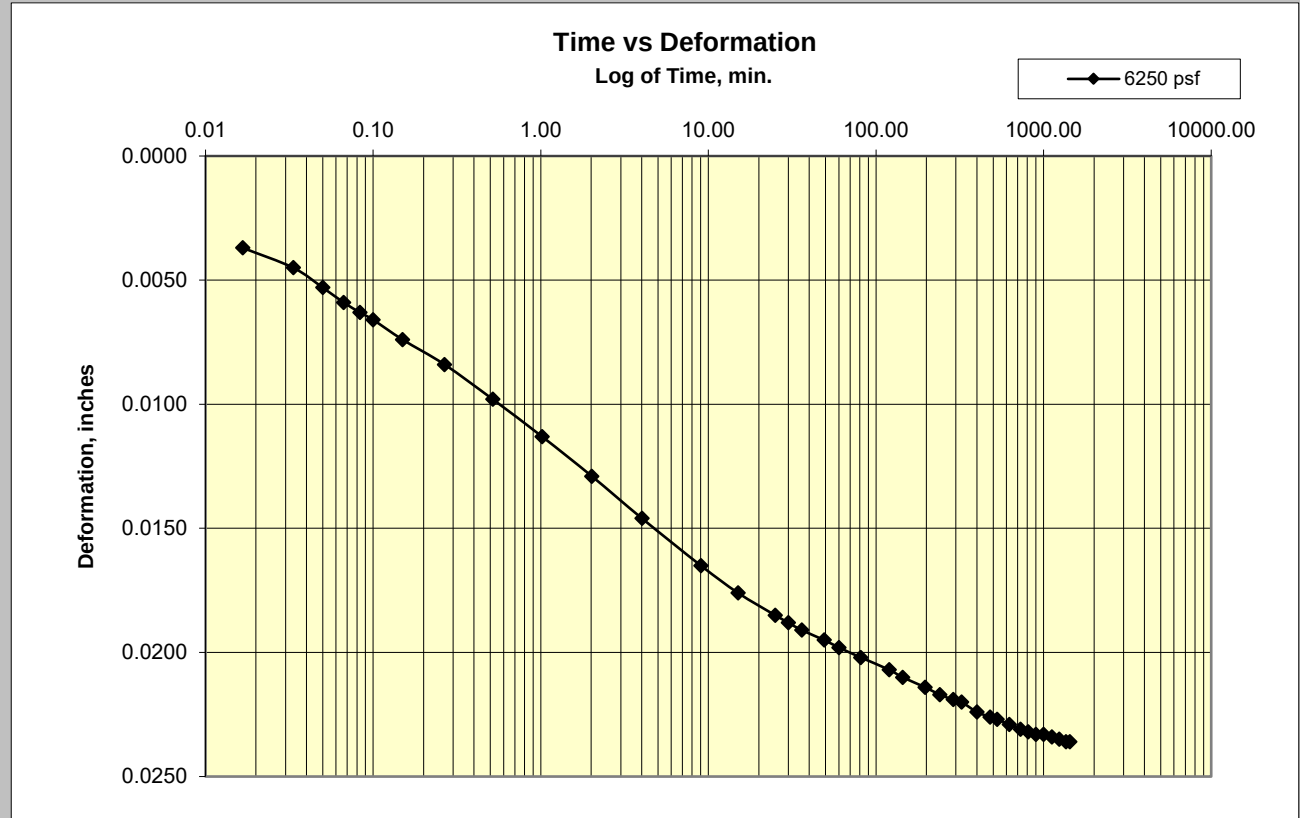
12500 psf



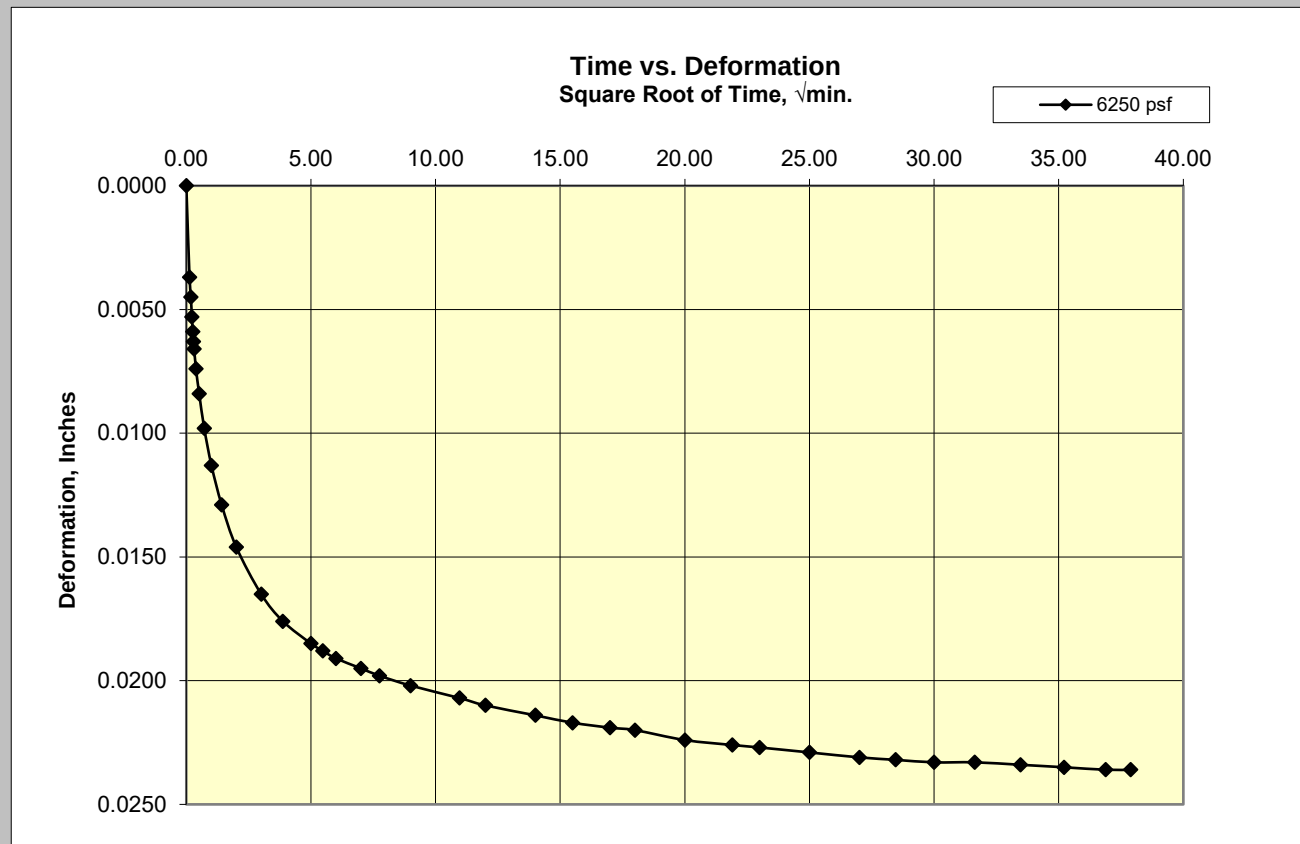
Cooper Testing Labs, Inc.

Load 10

6250 psf



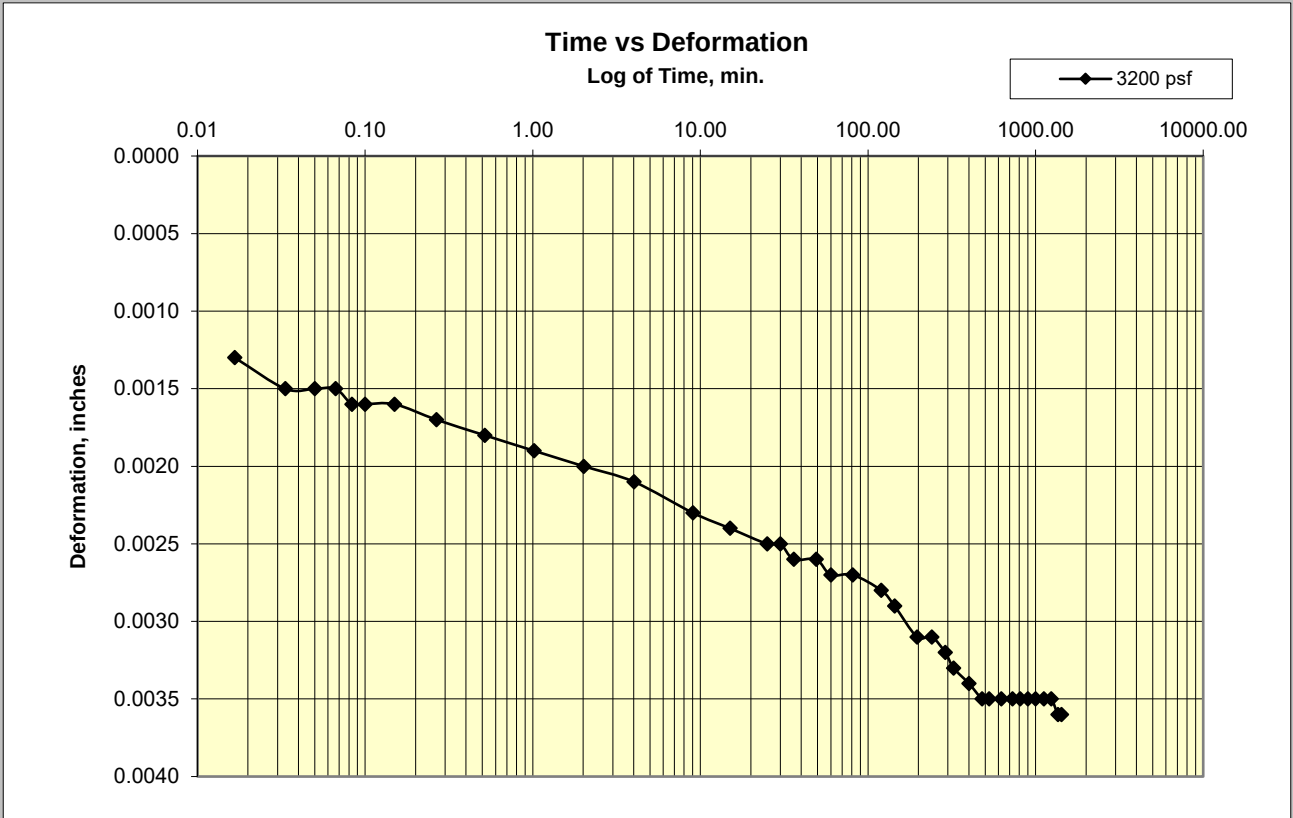
6250 psf



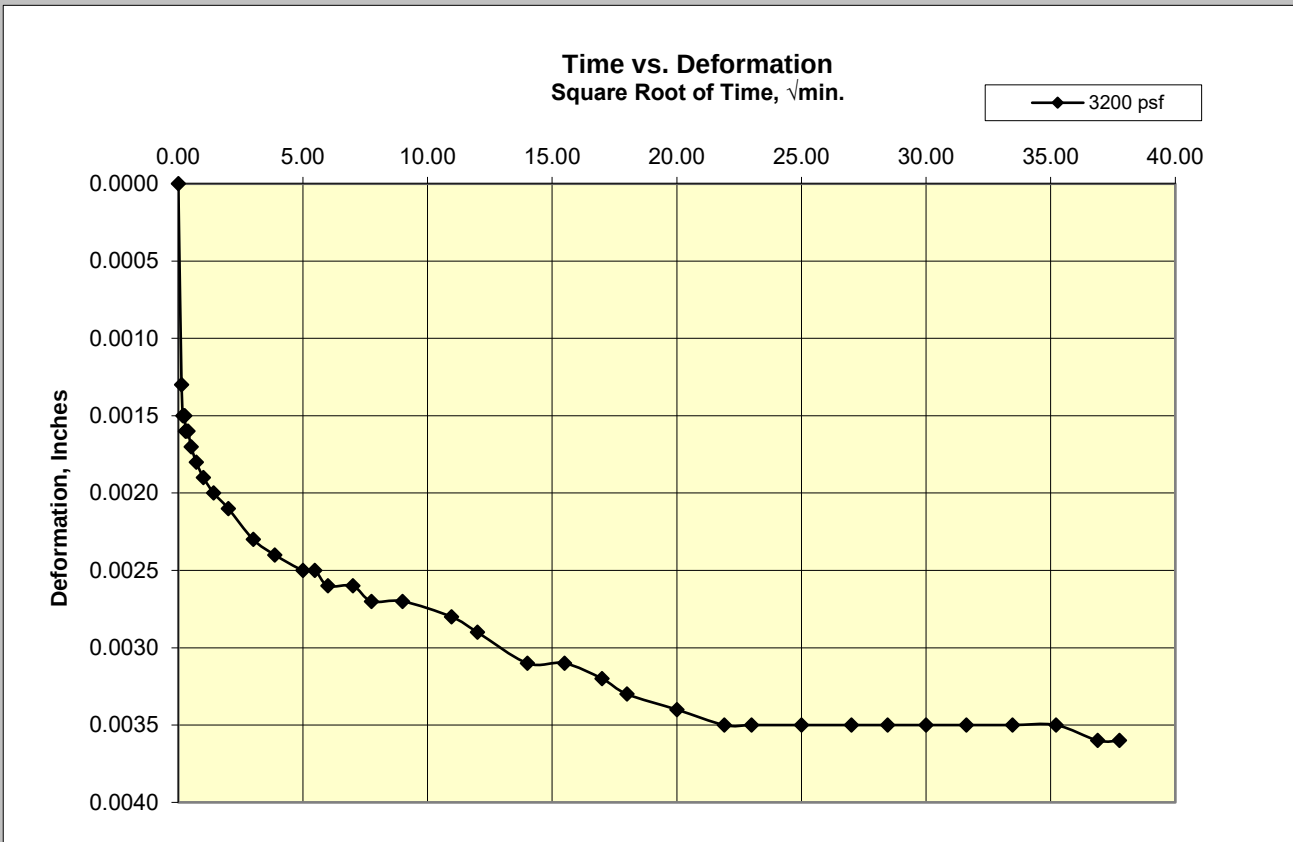
Cooper Testing Labs, Inc.

Load 9

3200 psf



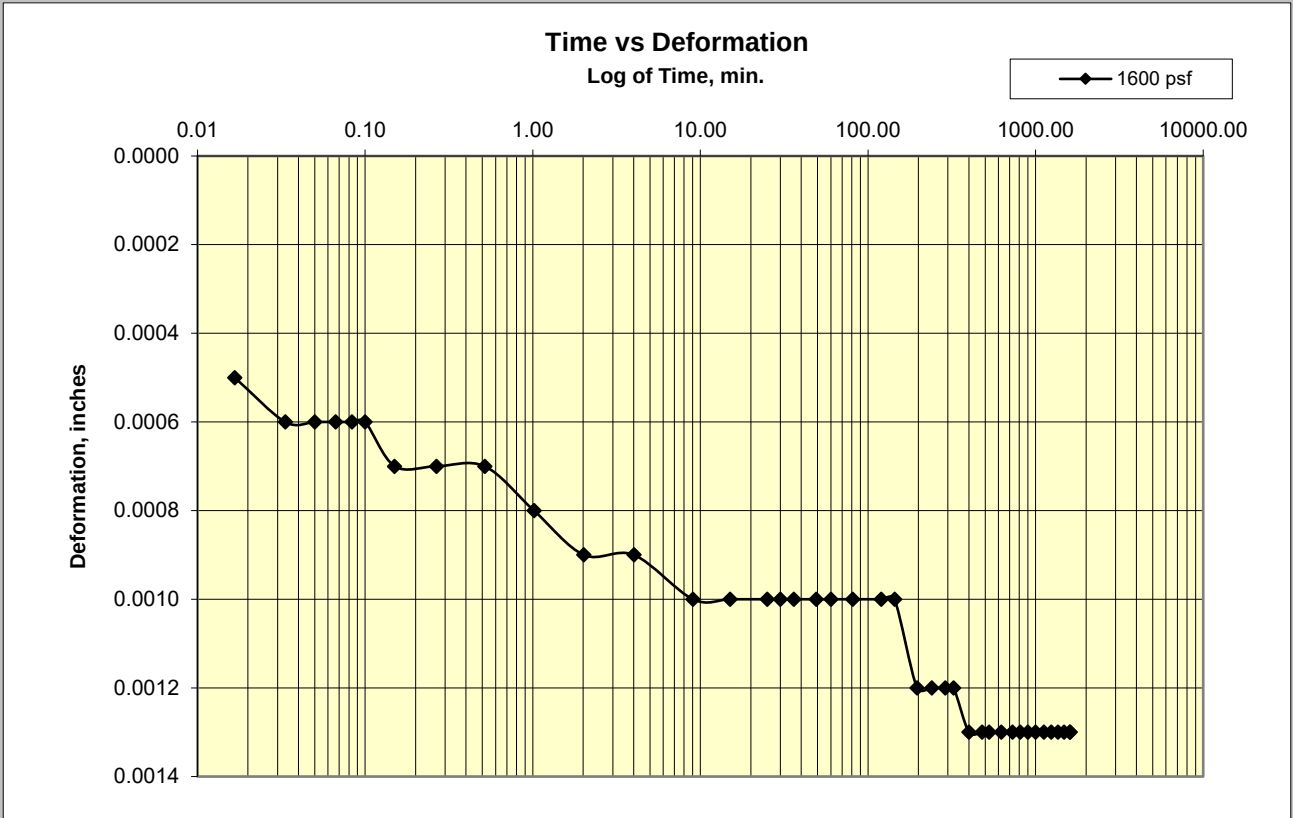
3200 psf



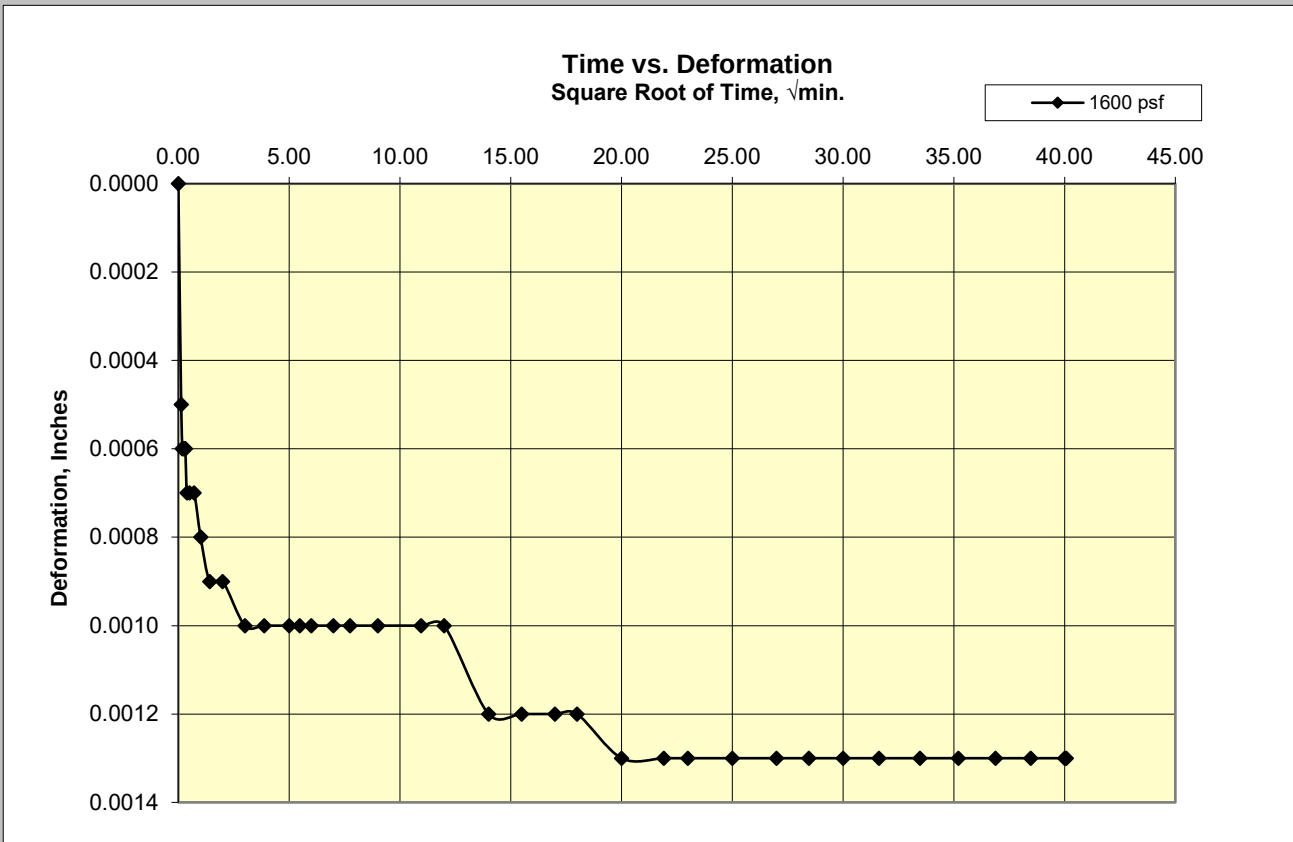
Cooper Testing Labs, Inc.

Load 8

1600 psf



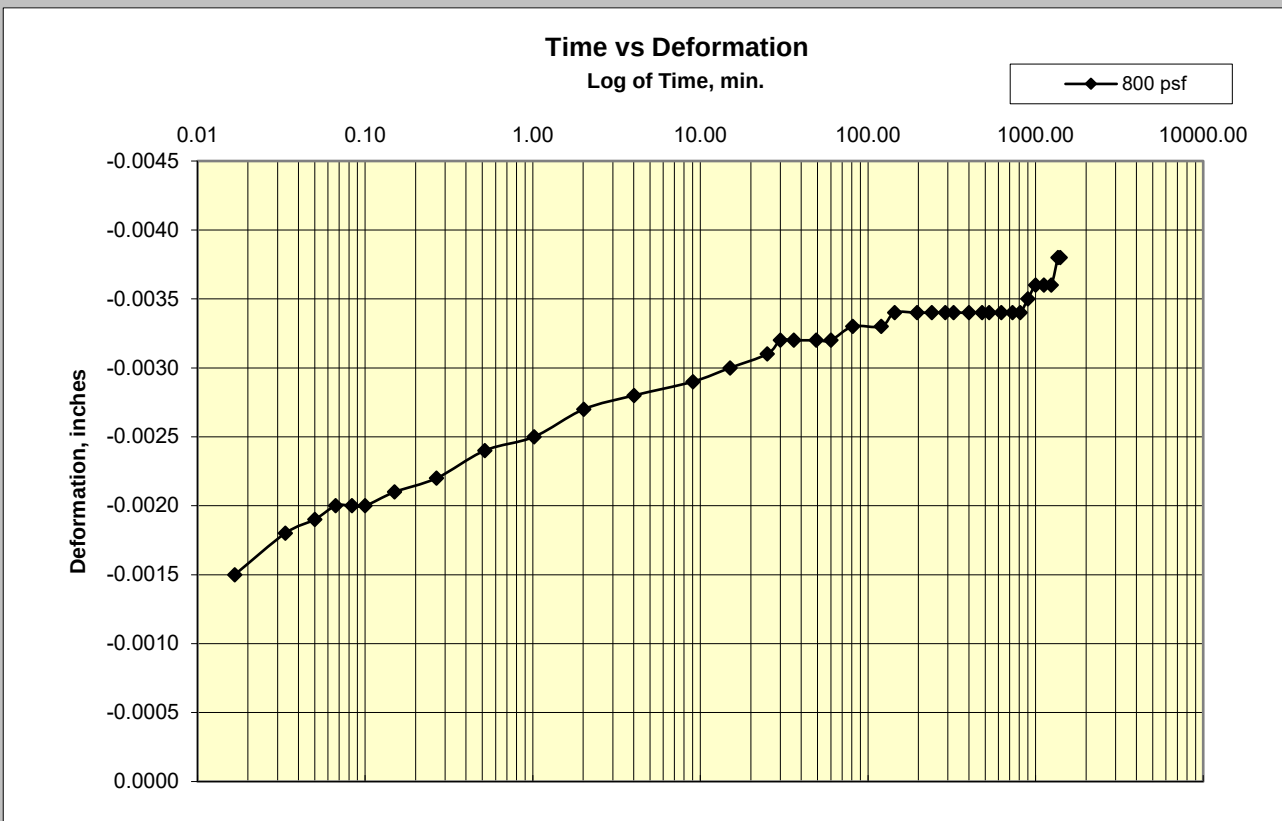
1600 psf



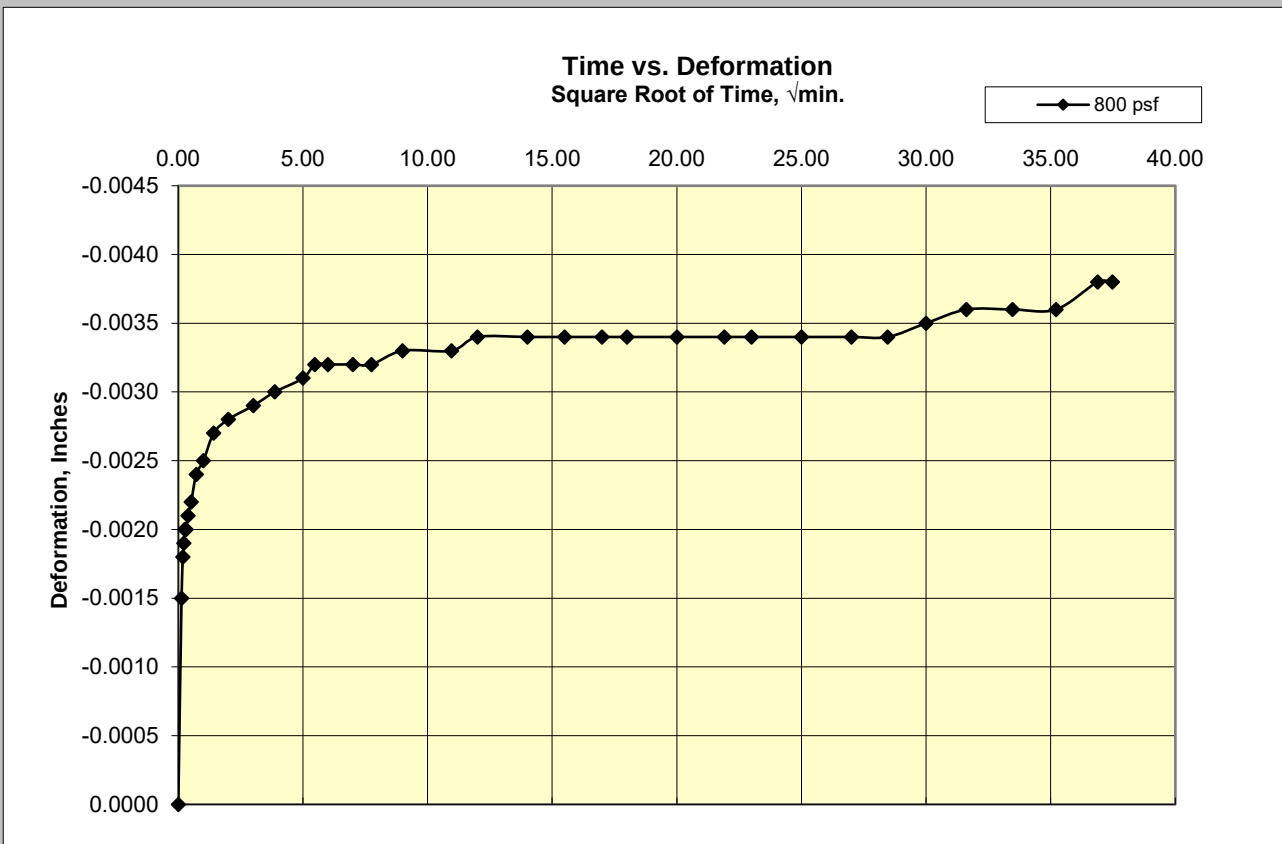
Cooper Testing Labs, Inc.

Load 7

800 psf



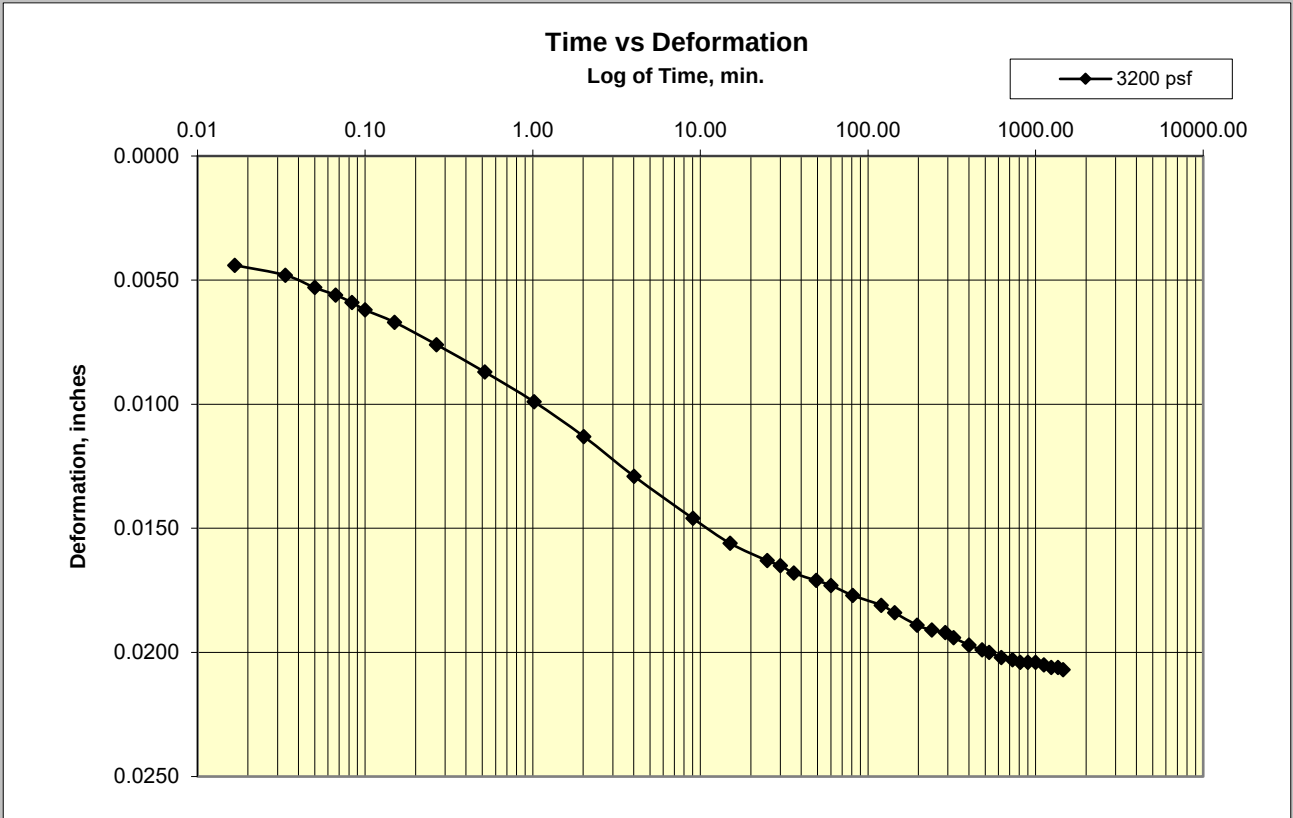
800 psf



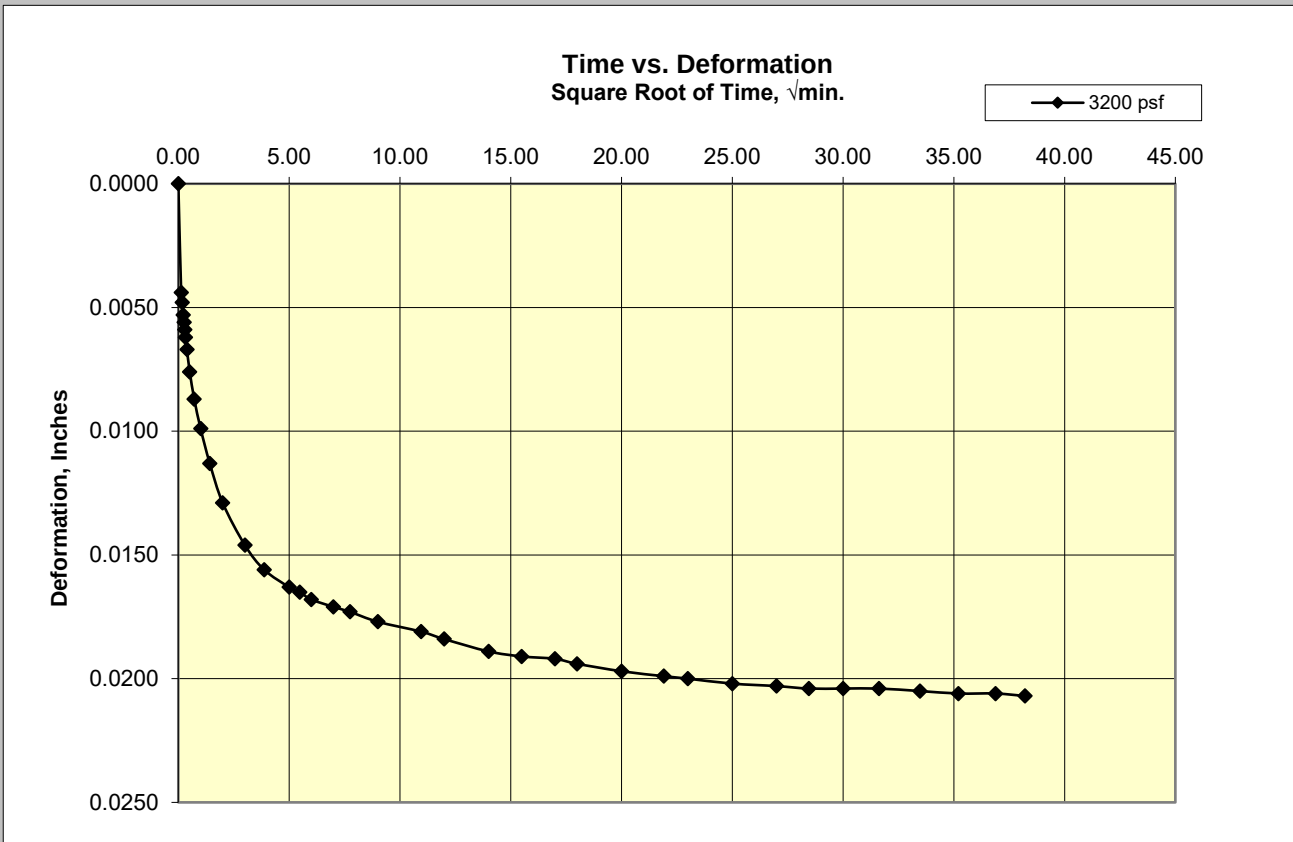
Cooper Testing Labs, Inc.

Load 6

3200 psf



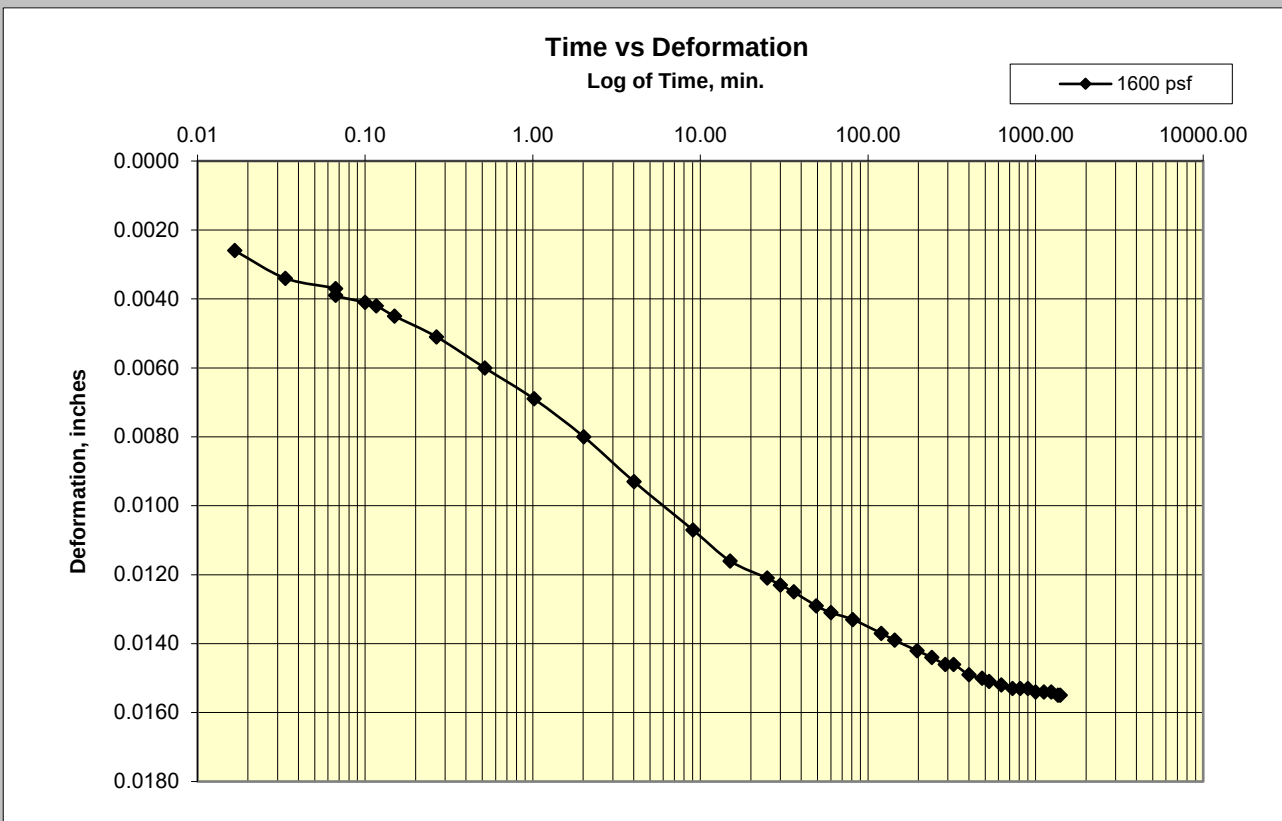
3200 psf



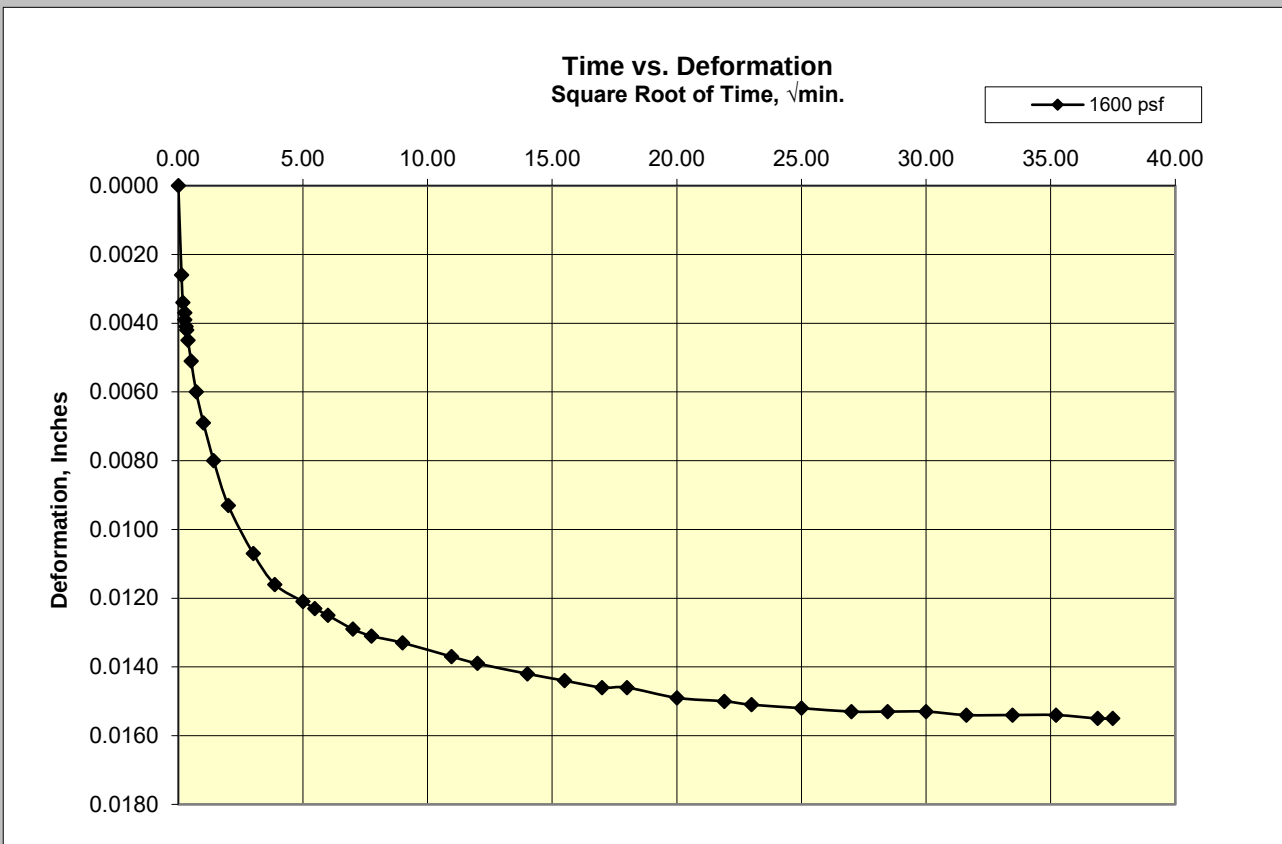
Cooper Testing Labs, Inc.

Load 5

1600 psf



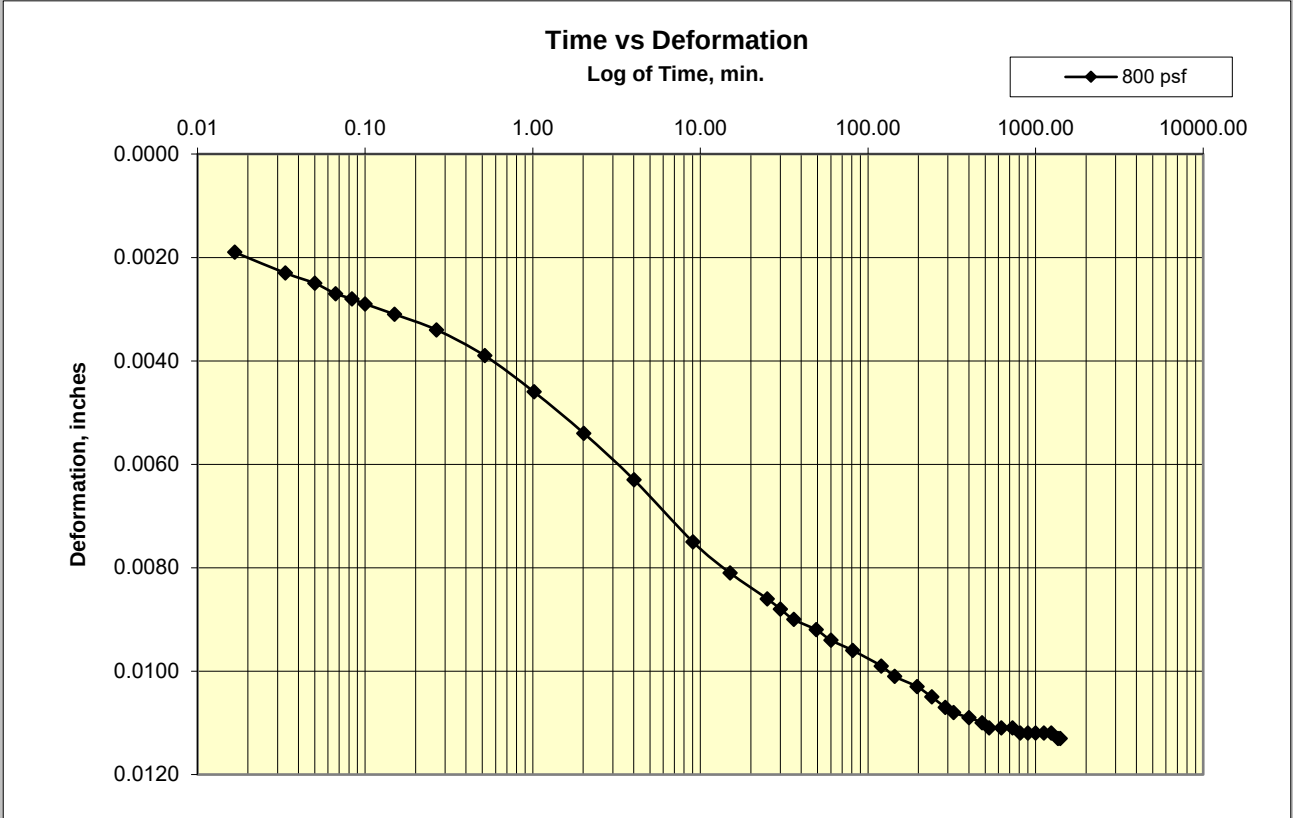
1600 psf



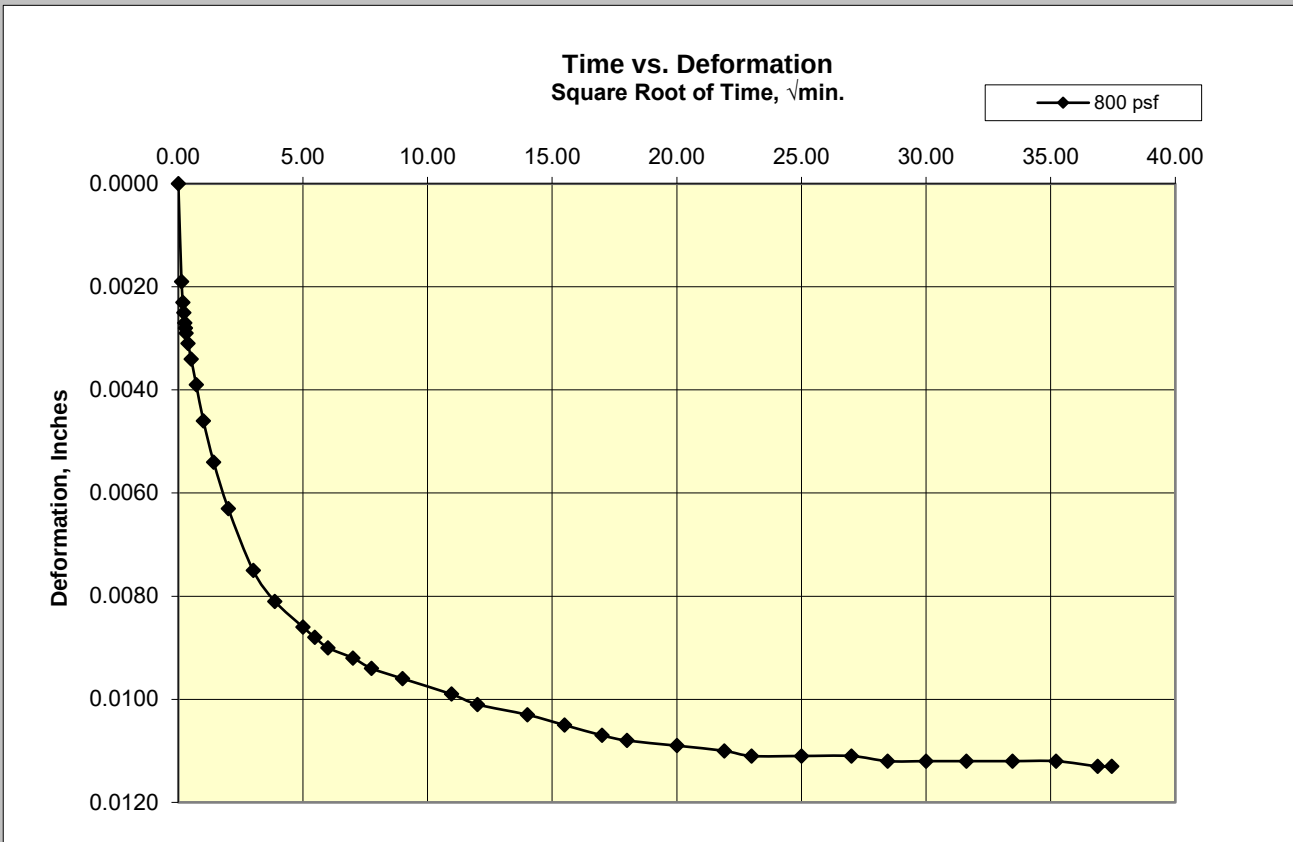
Cooper Testing Labs, Inc.

Load 4

800 psf



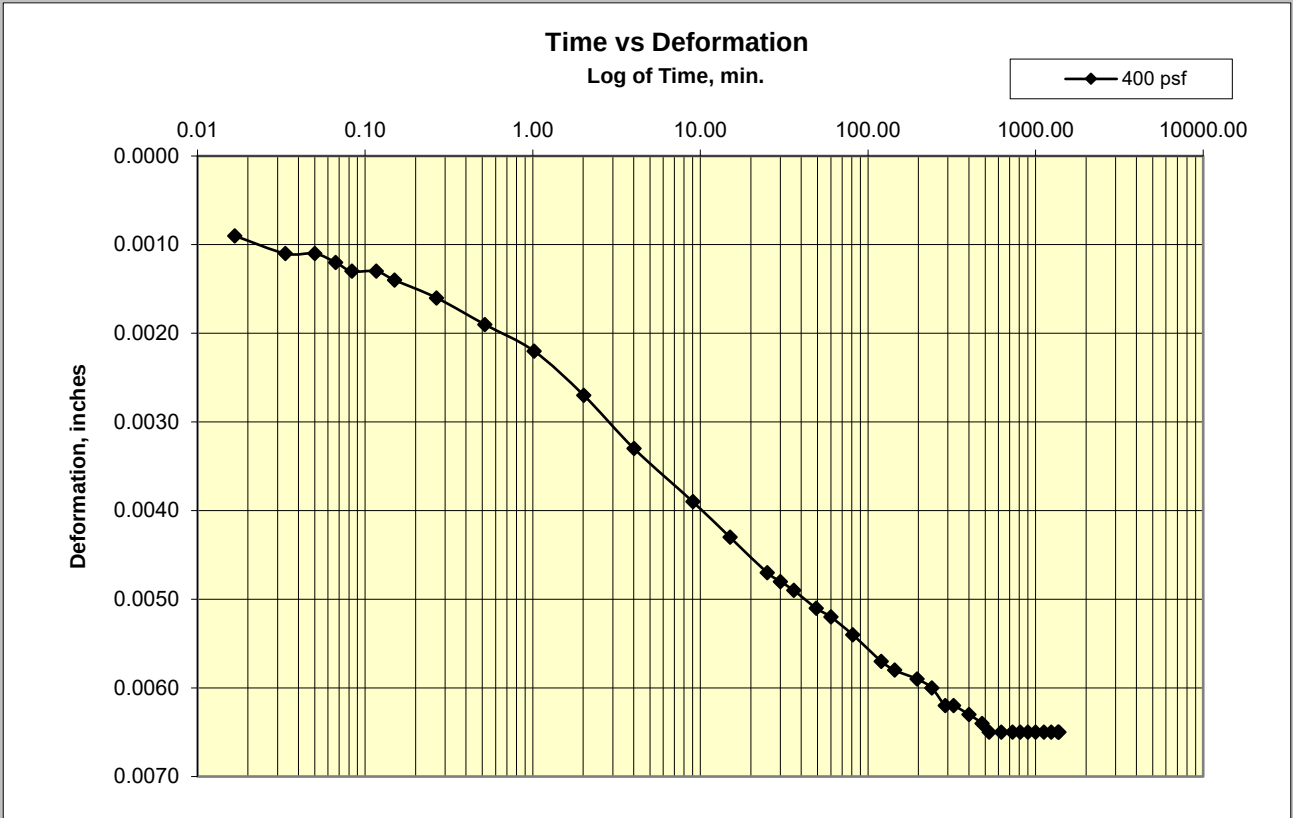
800 psf



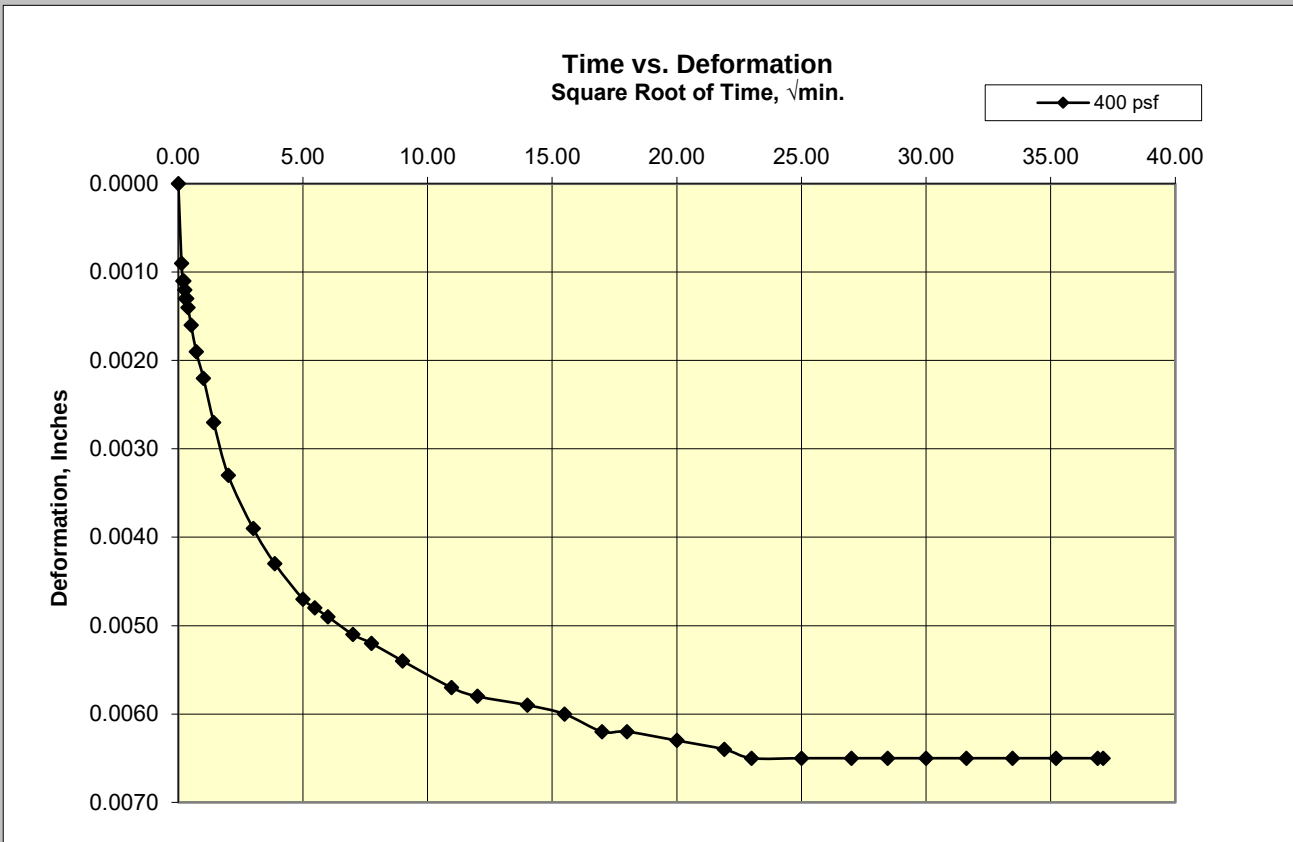
Cooper Testing Labs, Inc.

Load 3

400 psf



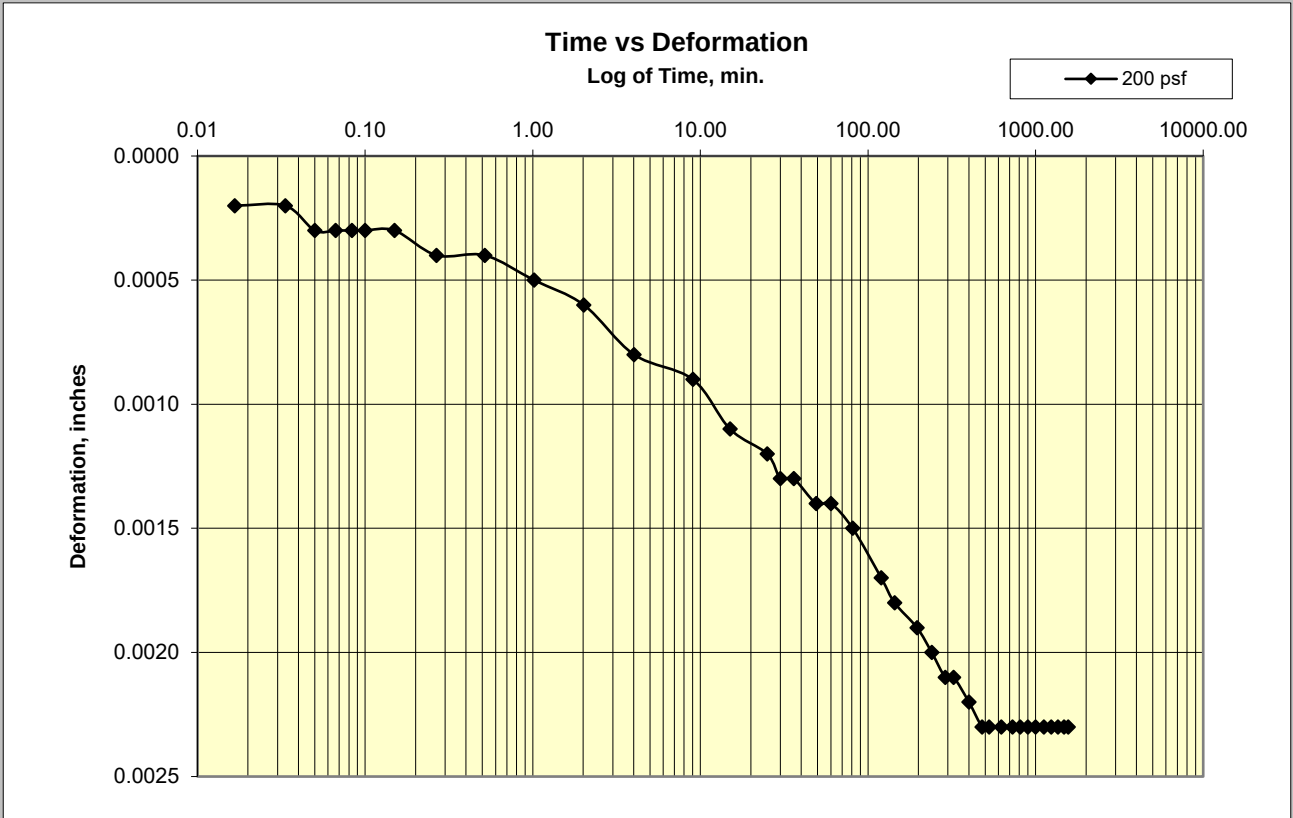
400 psf



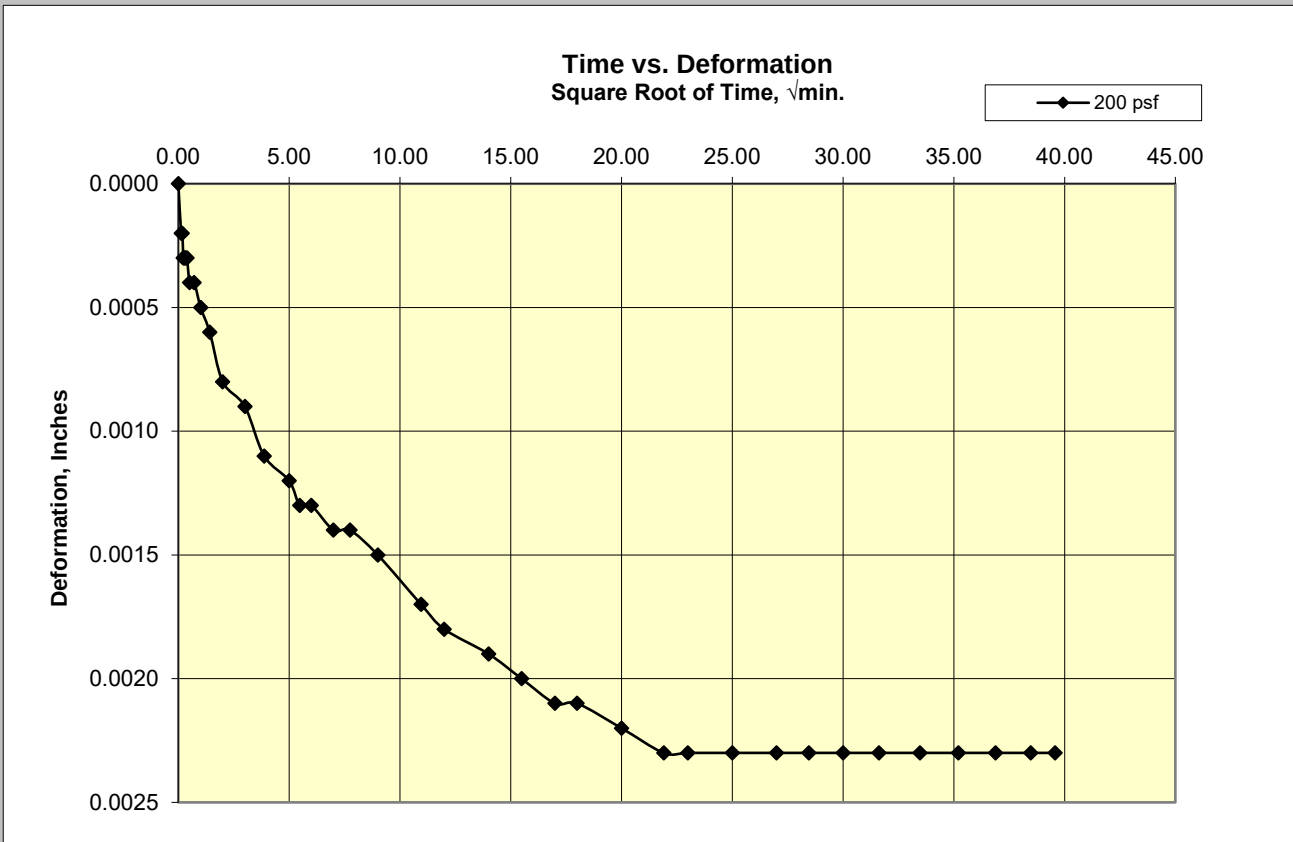
Cooper Testing Labs, Inc.

Load 2

200 psf



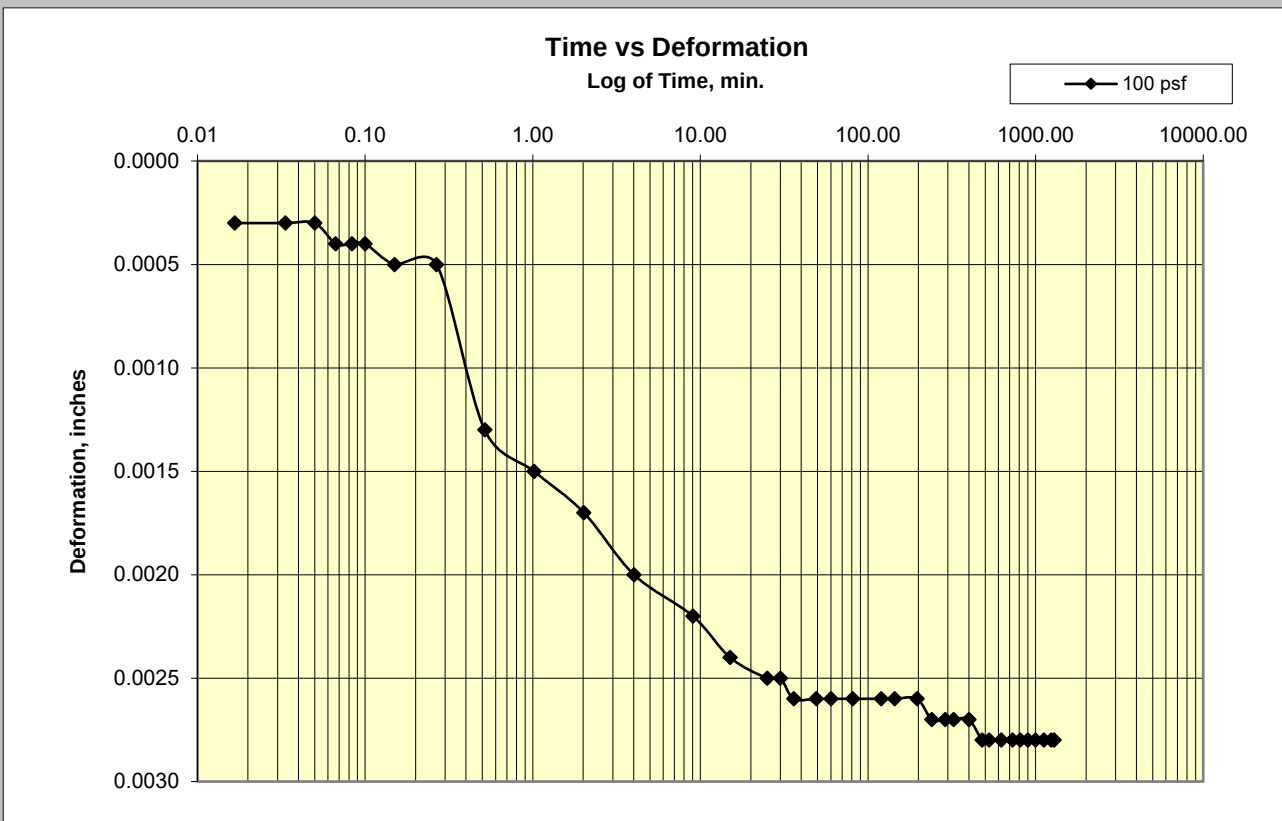
200 psf



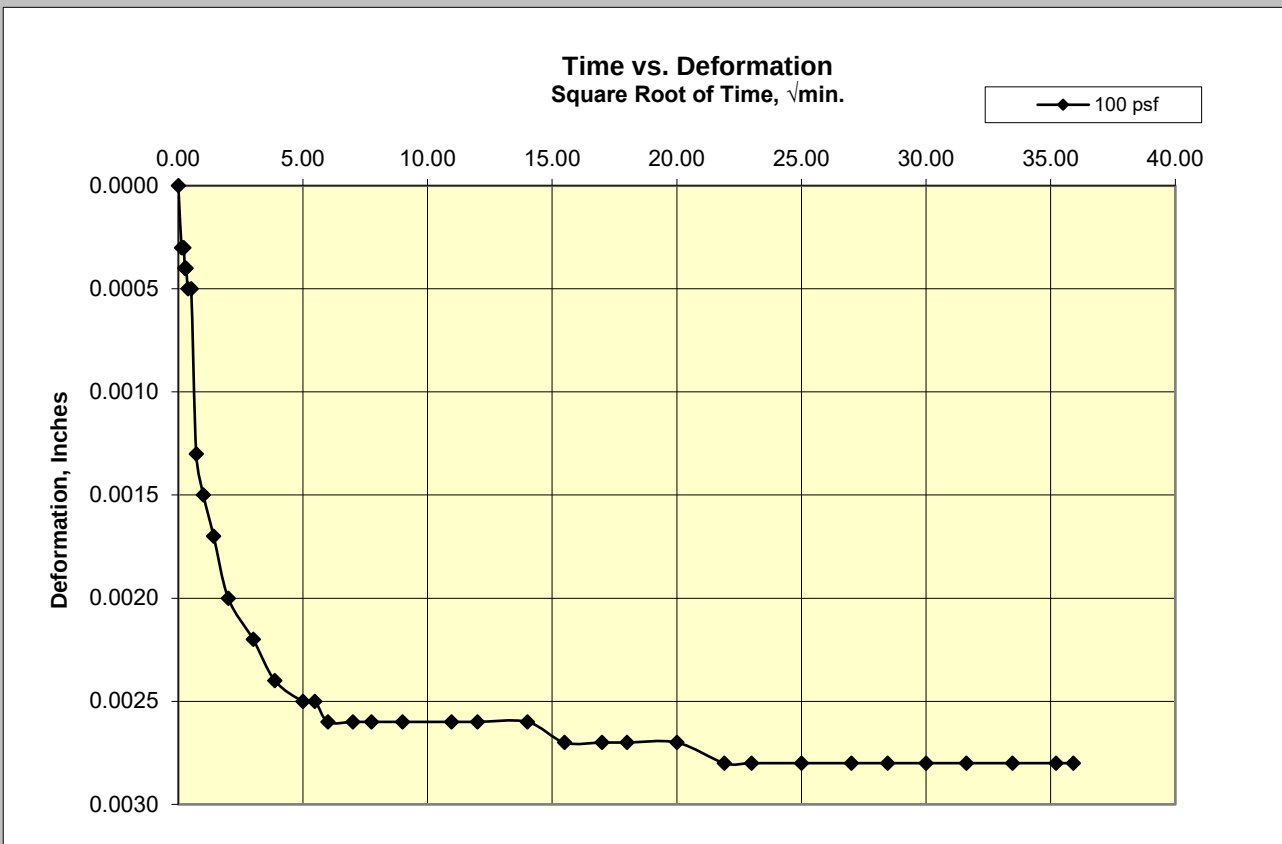
Cooper Testing Labs, Inc.

Load 1

100 psf



100 psf



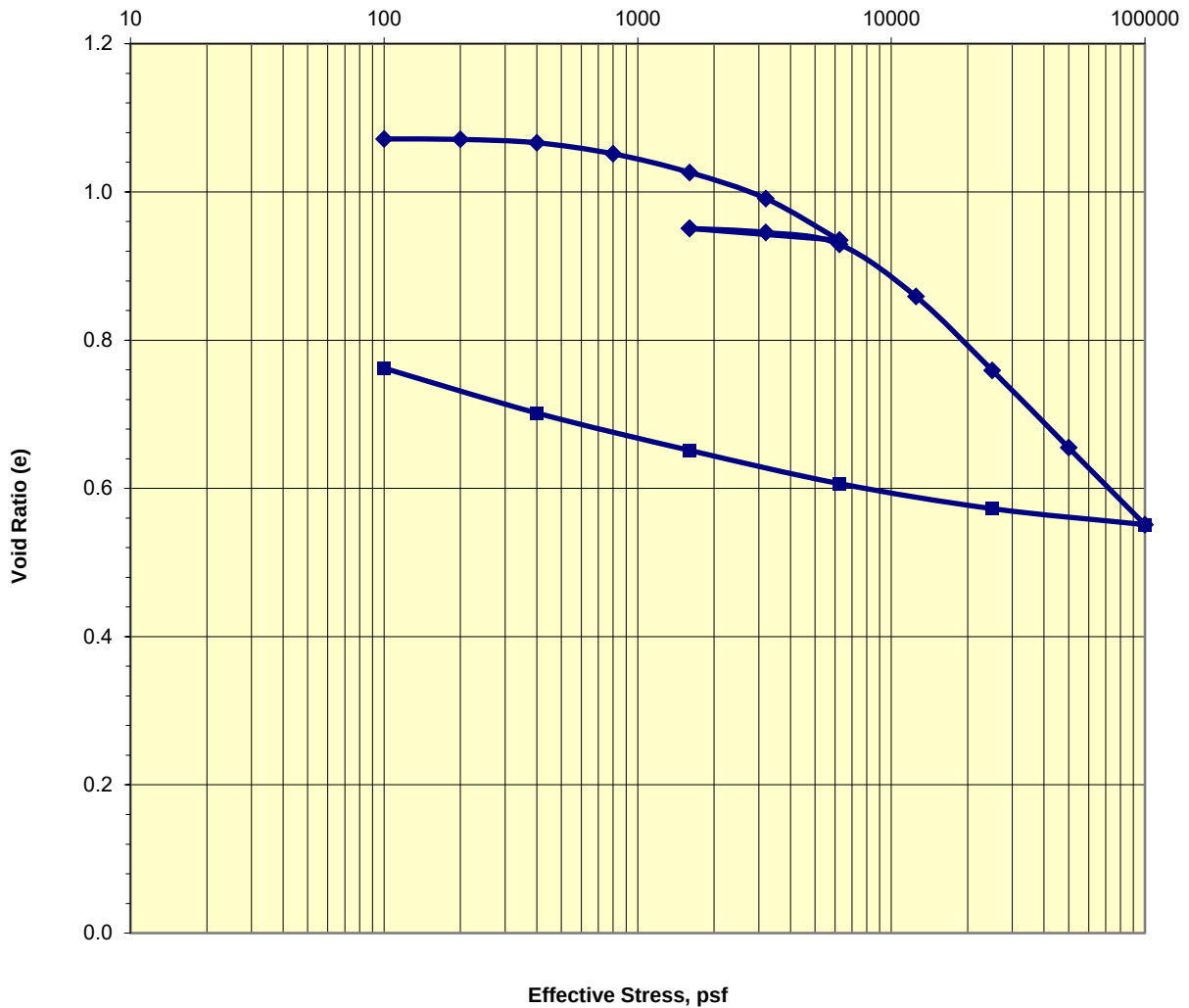


Consolidation Test

ASTM D2435

Job No.:	461-392	Boring:	B2	Run By:	HM
Client:	Geosyntec Consultants	Sample:	B2-6	Reduced:	RU
Project:	WG3607	Depth, ft.:	25-27.5	Checked:	PJ
Soil Type:	Yellowish Brown Lean CLAY w/ Sand, trace Gravel			Date:	3/27/2026

e-Log-P Curve

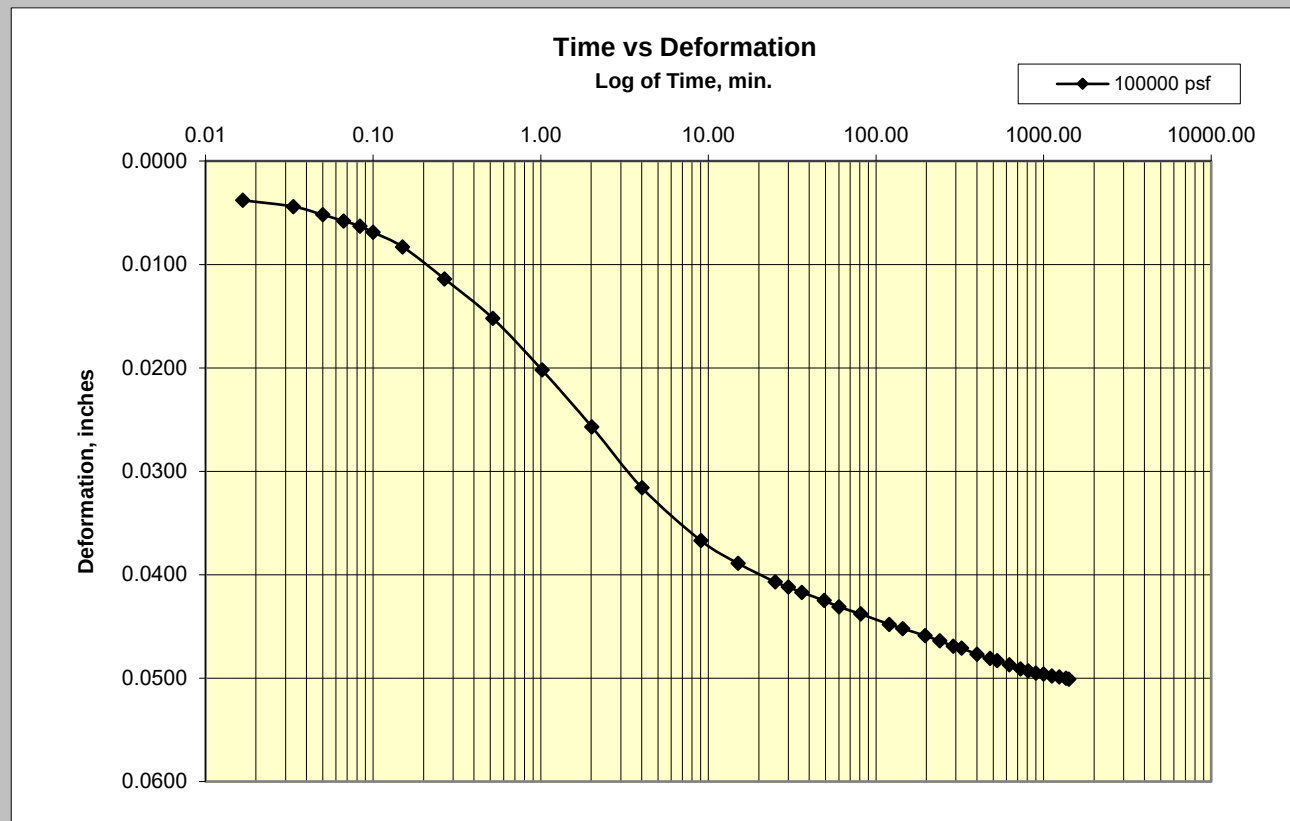


Assumed Gs	2.8	Initial	Final	Remarks:
Moisture %:		36.9	27.4	
Dry Density, pcf:		84.4	98.9	
Void Ratio:		1.072	0.767	
% Saturation:		96.3	100.0	

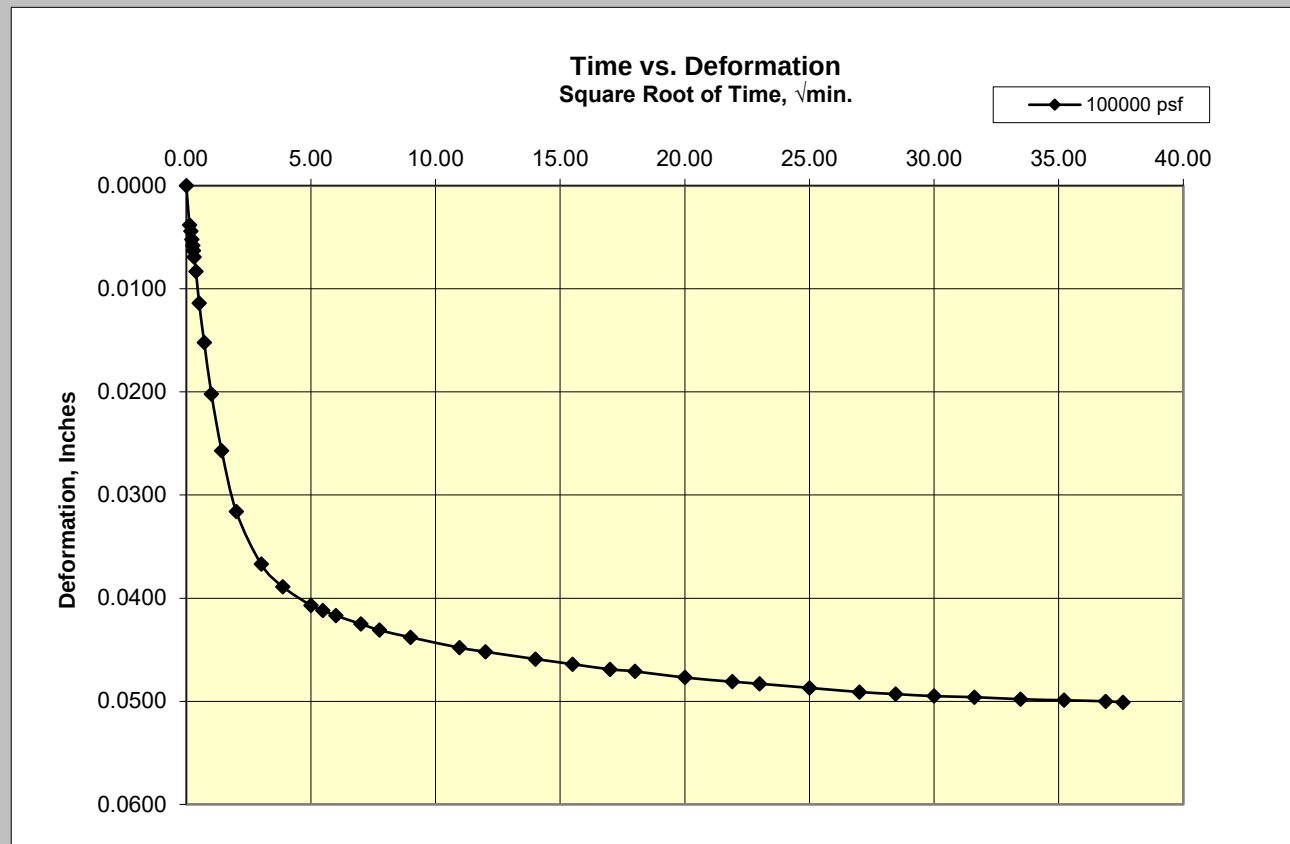
Cooper Testing Labs, Inc.

Load 14

100000 psf



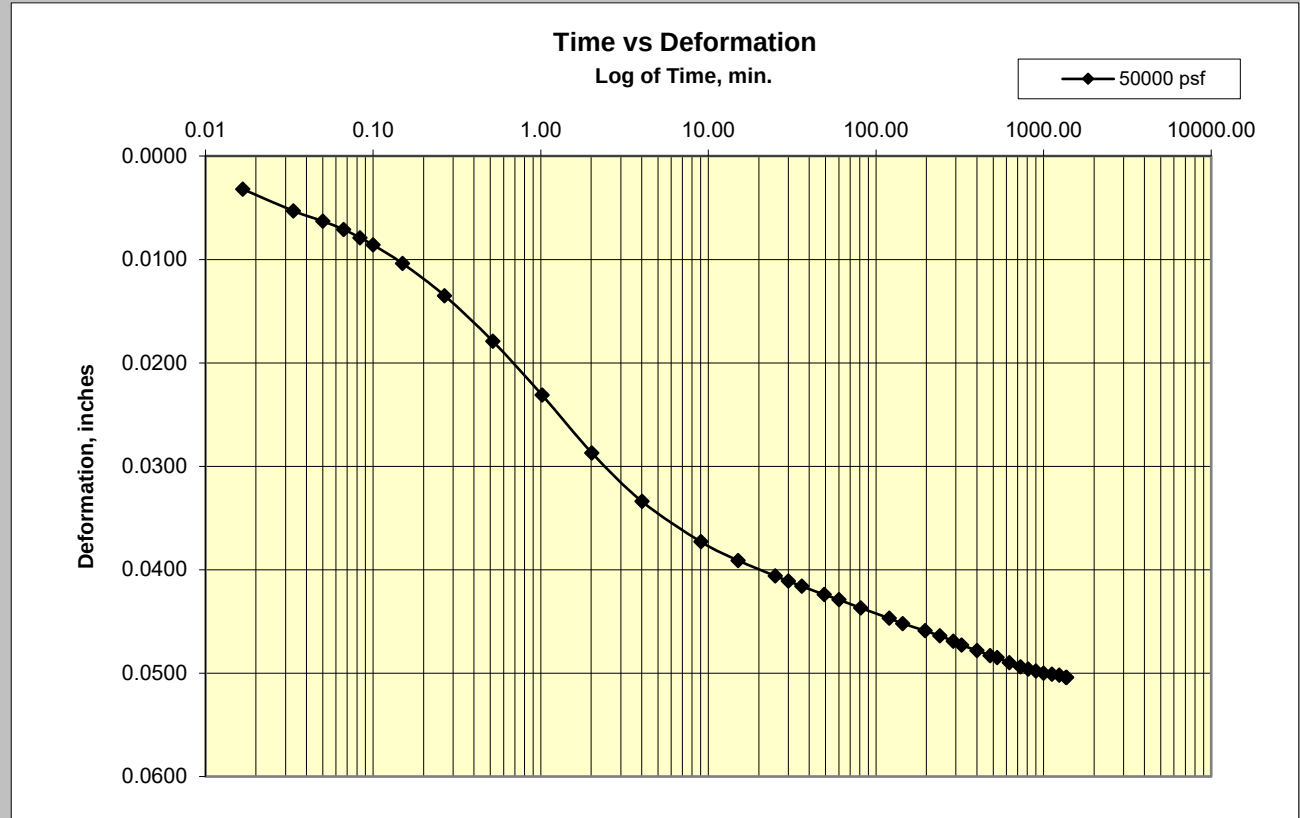
100000 psf



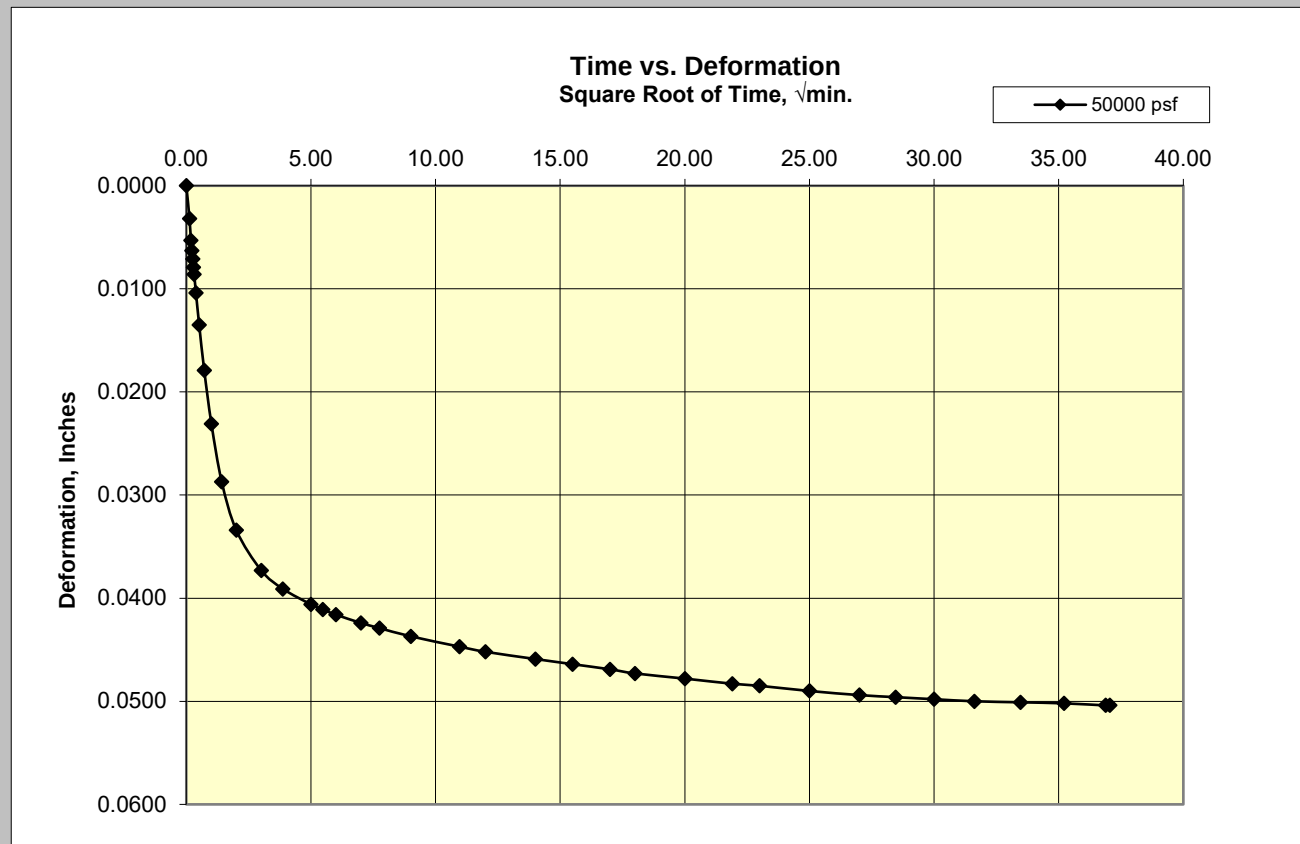
Cooper Testing Labs, Inc.

Load 13

50000 psf



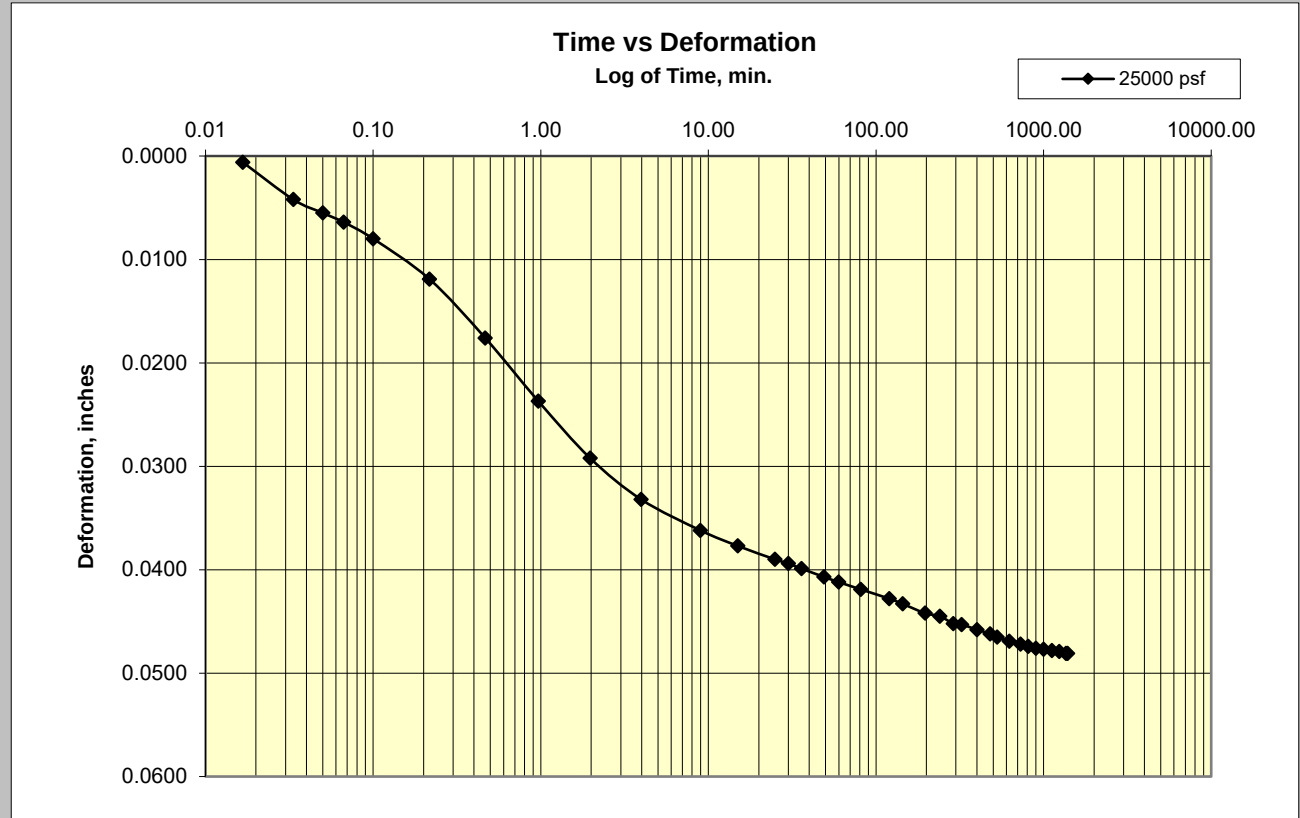
50000 psf



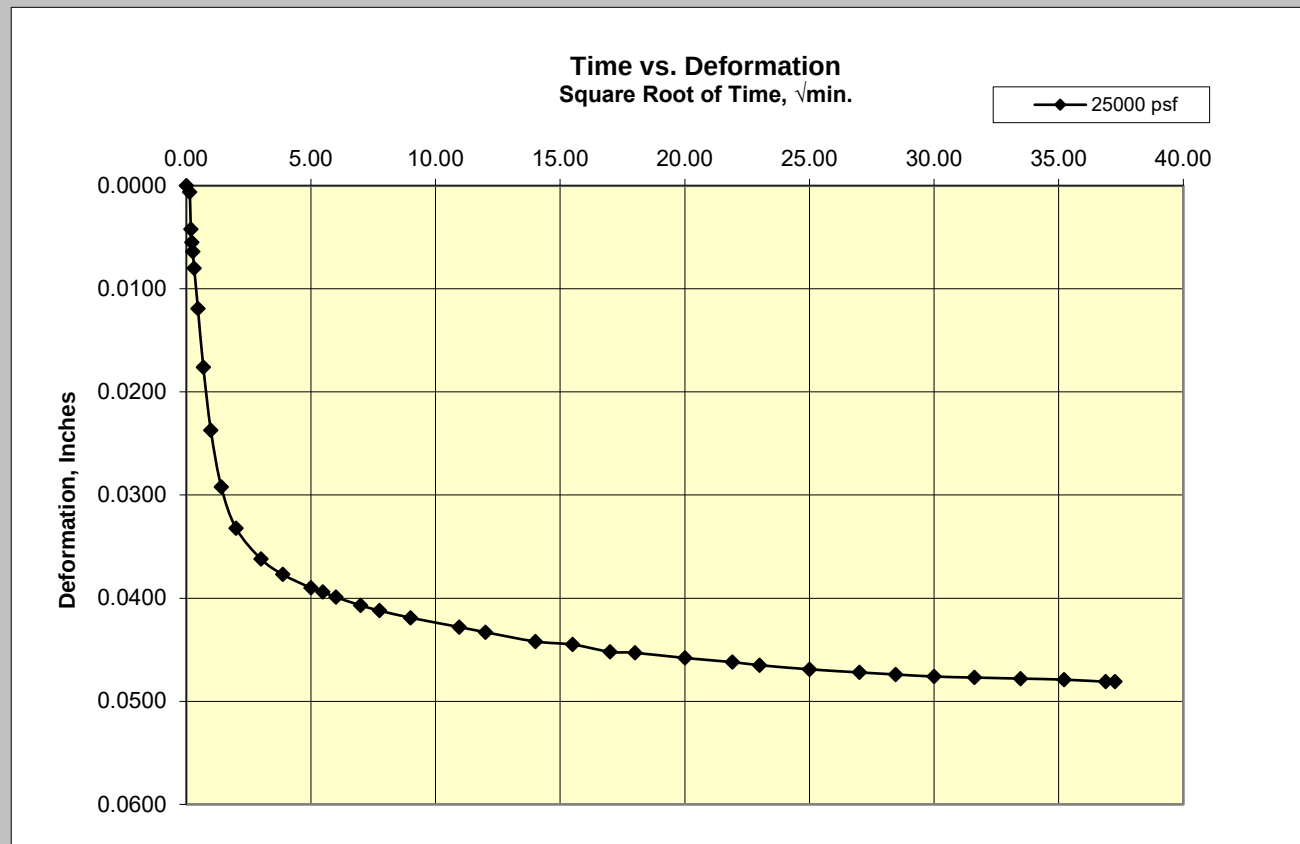
Cooper Testing Labs, Inc.

Load 12

25000 psf



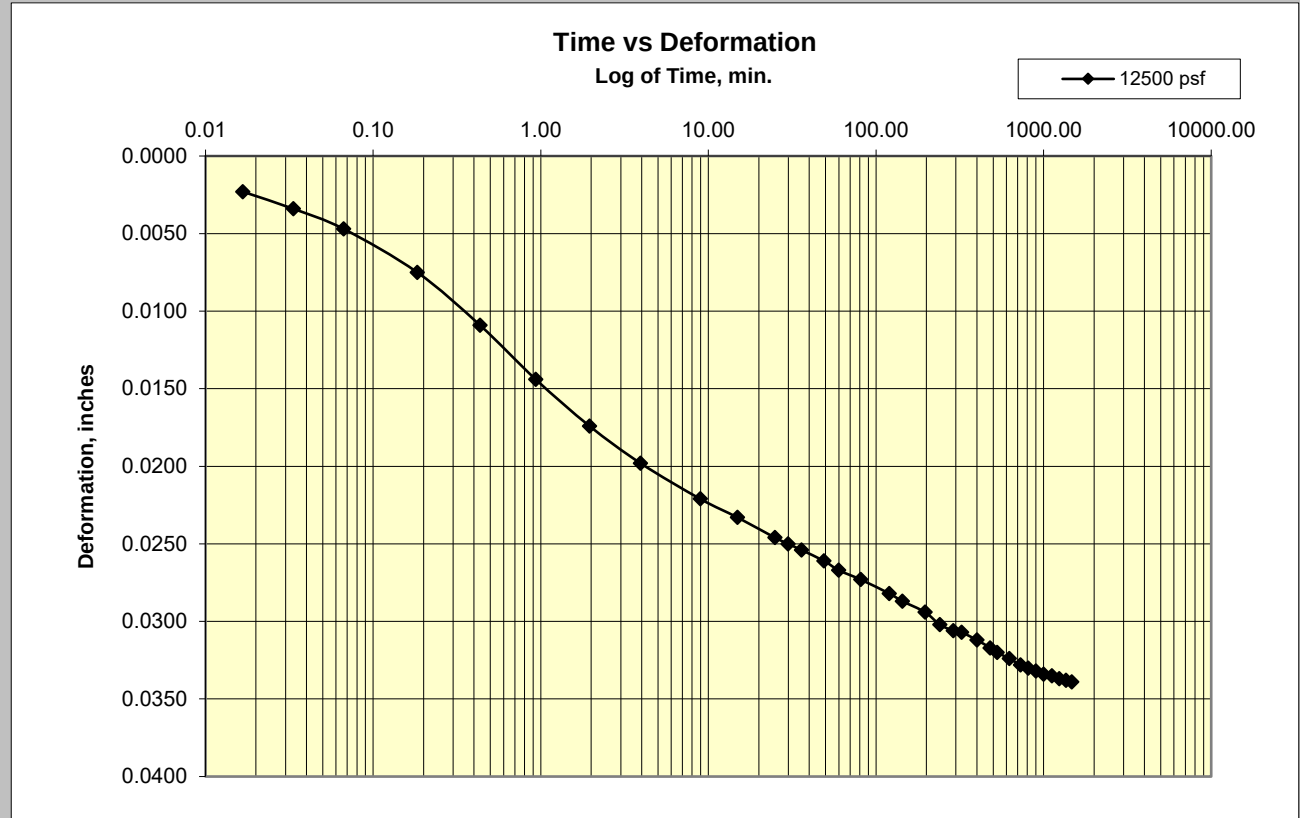
25000 psf



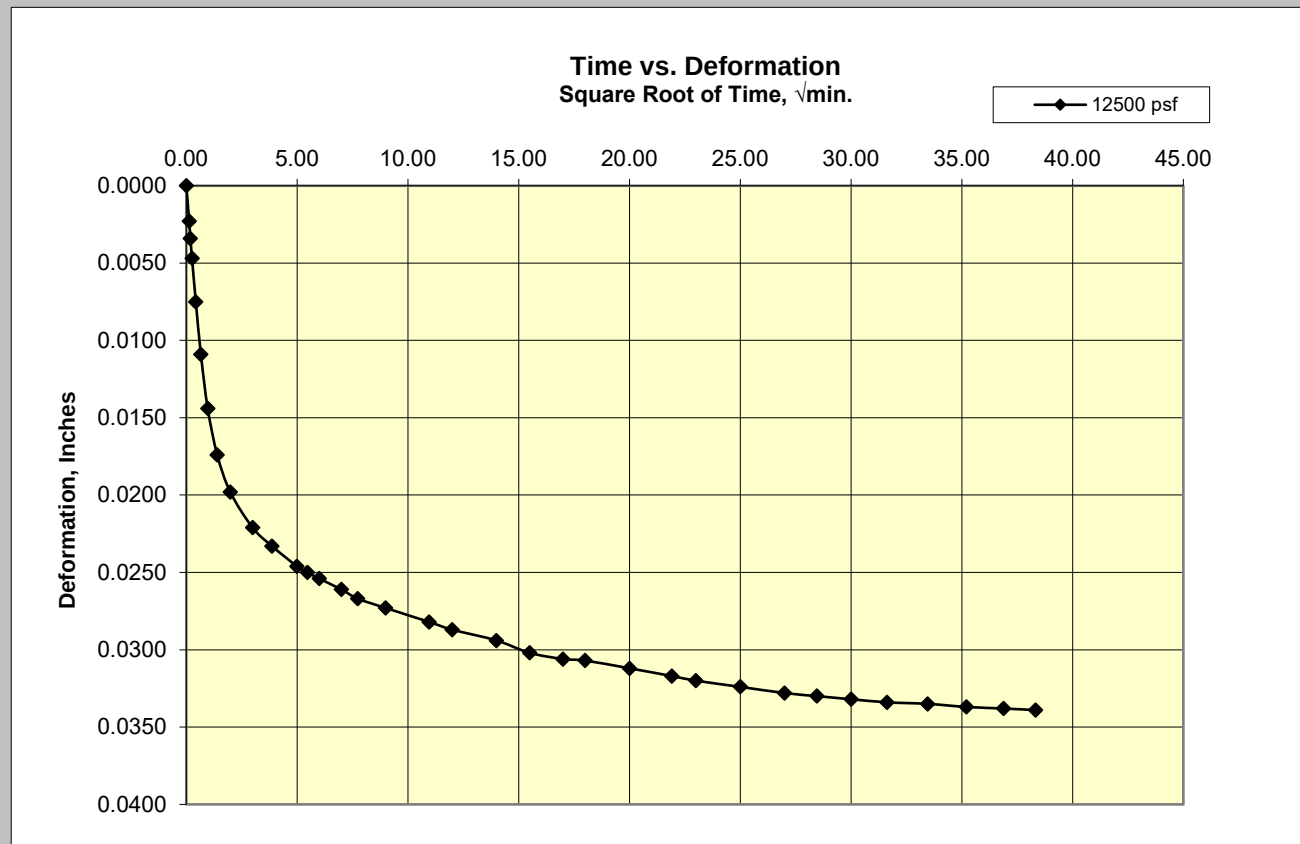
Cooper Testing Labs, Inc.

Load 11

12500 psf



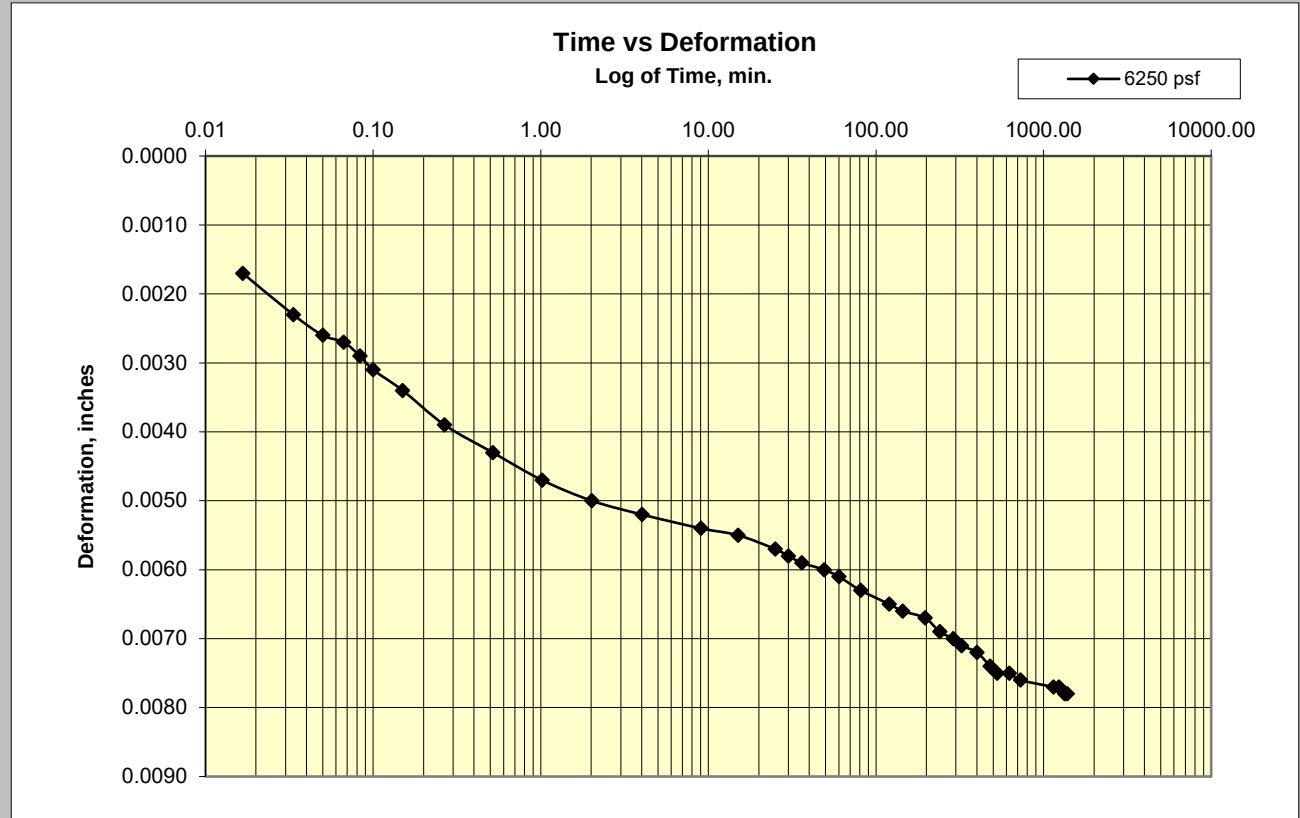
12500 psf



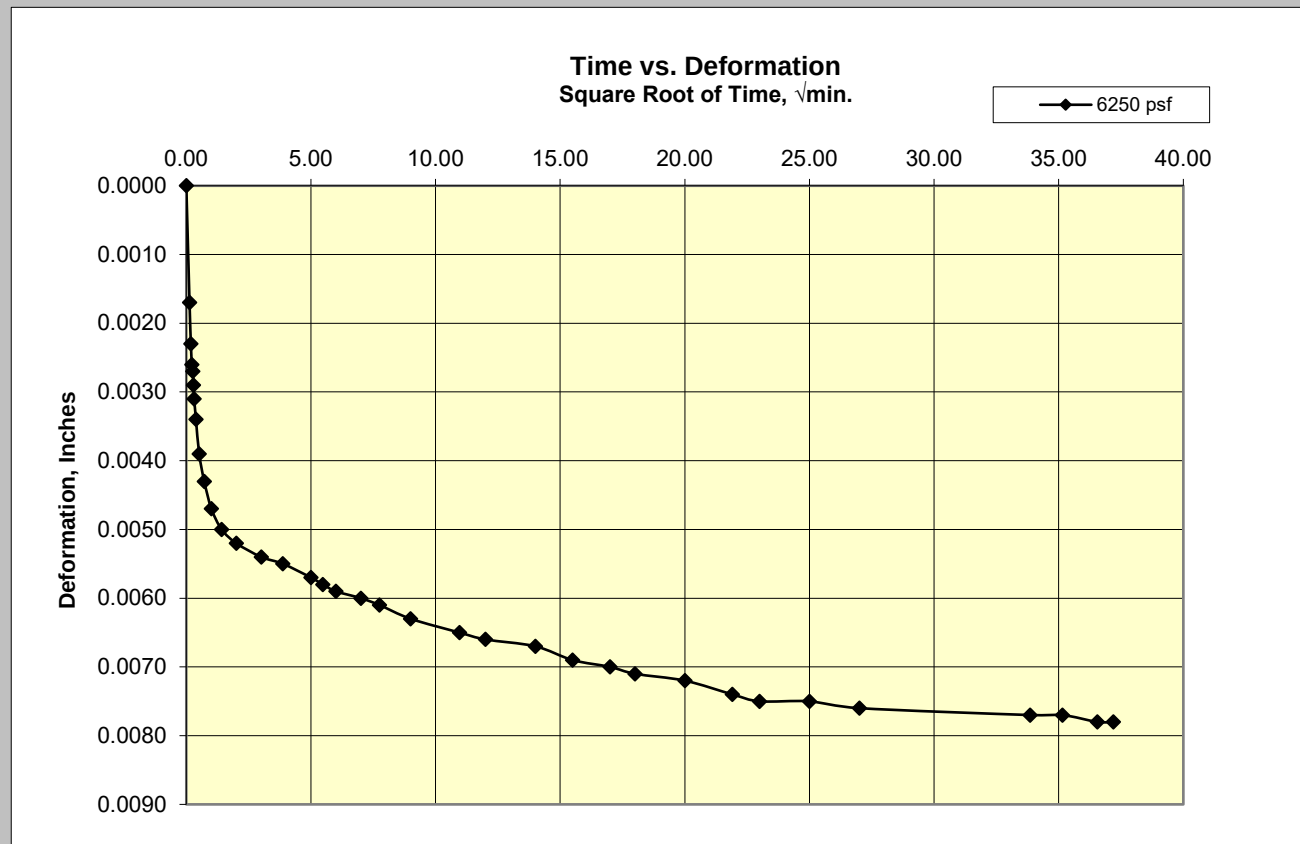
Cooper Testing Labs, Inc.

Load 10

6250 psf



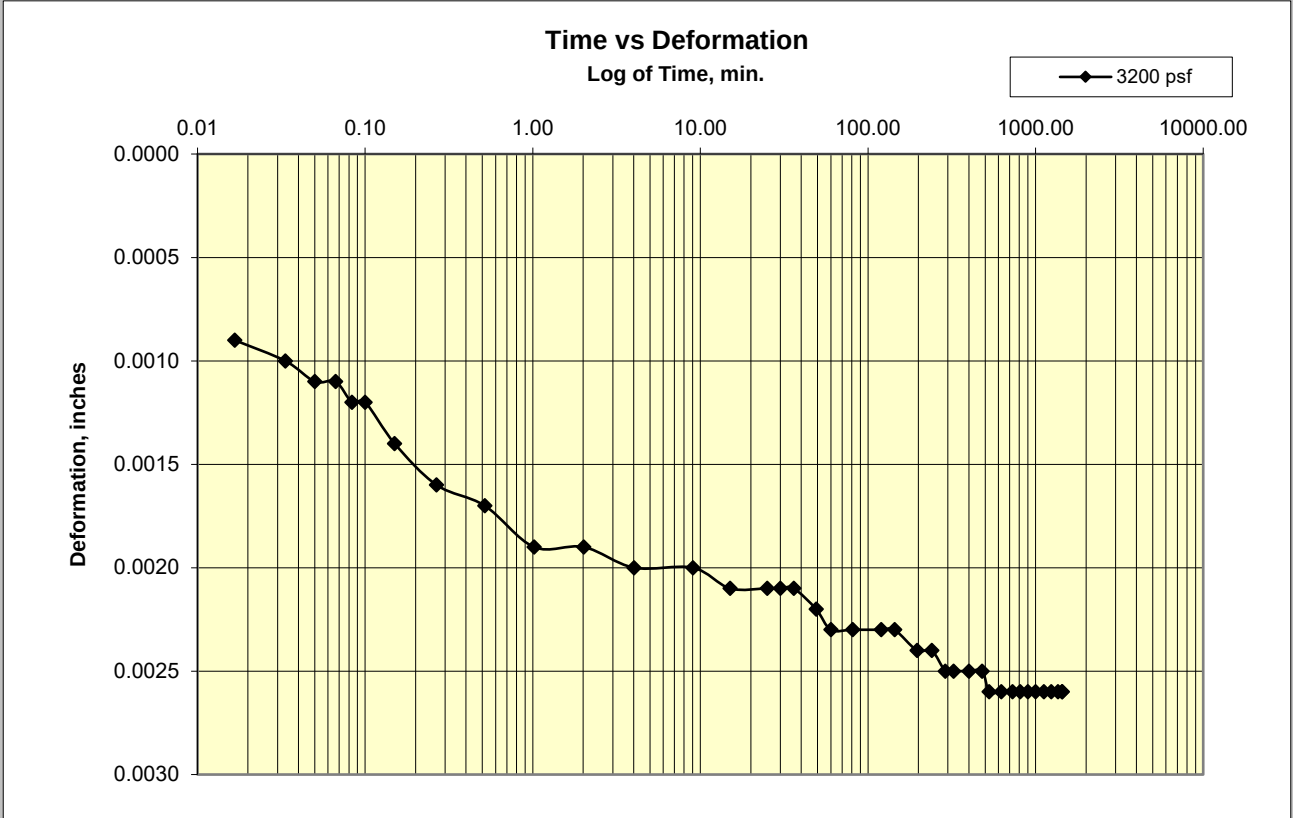
6250 psf



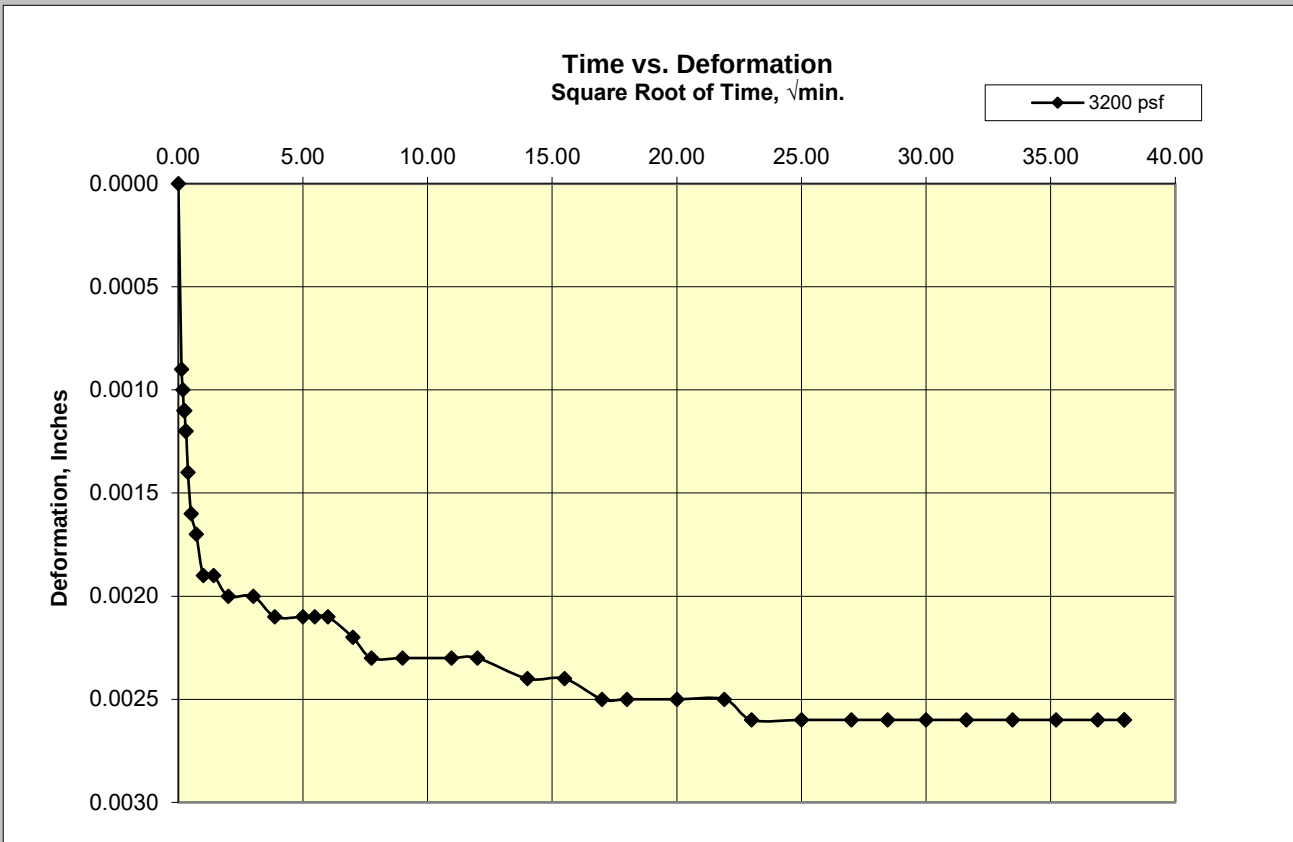
Cooper Testing Labs, Inc.

Load 9

3200 psf



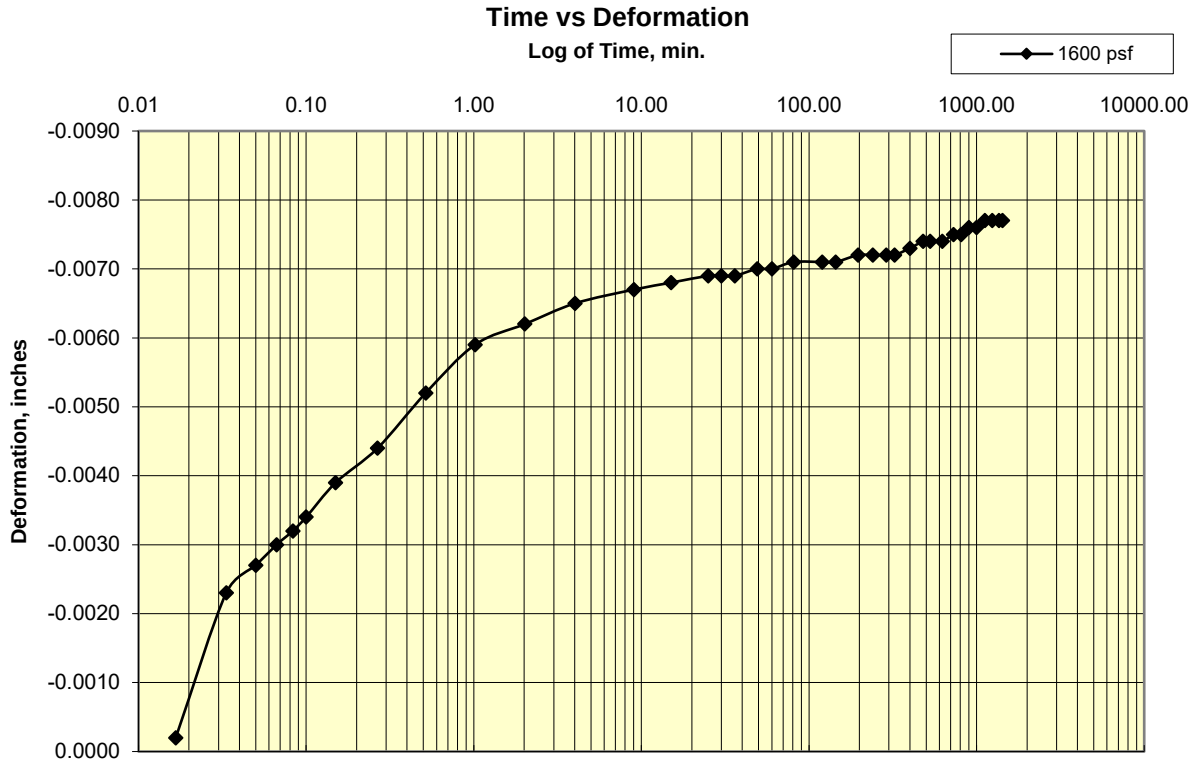
3200 psf



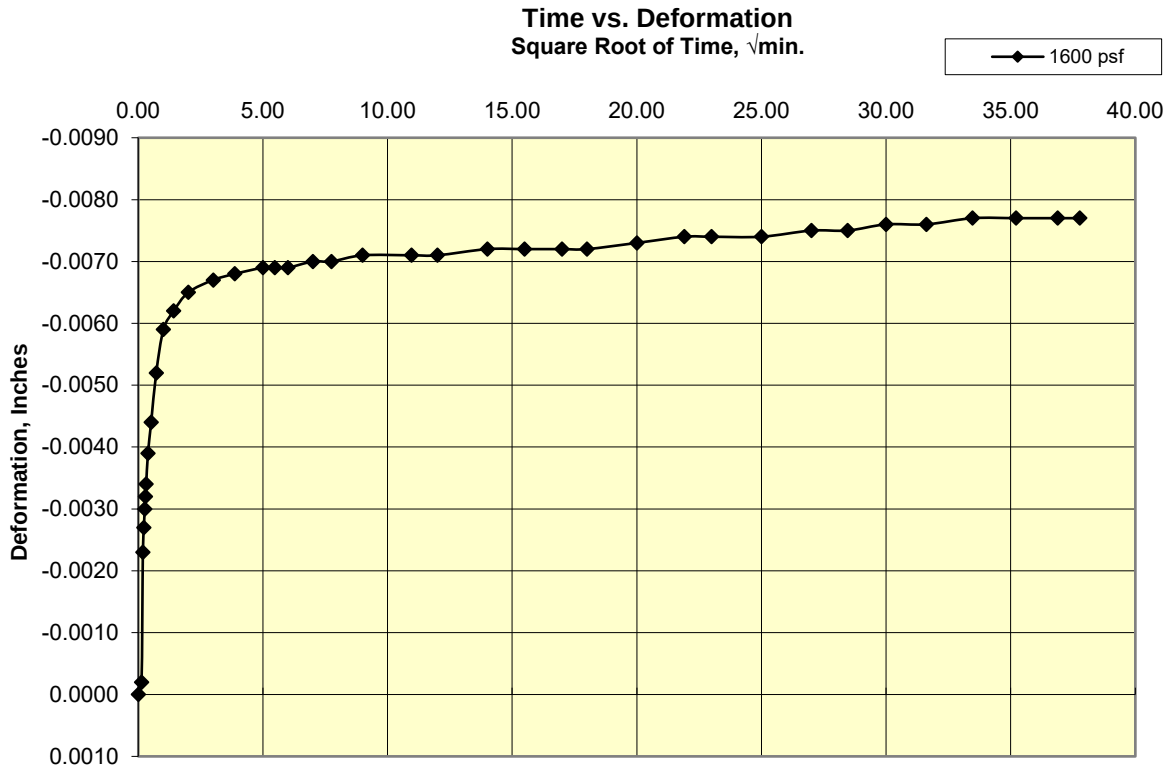
Cooper Testing Labs, Inc.

Load 8

1600 psf



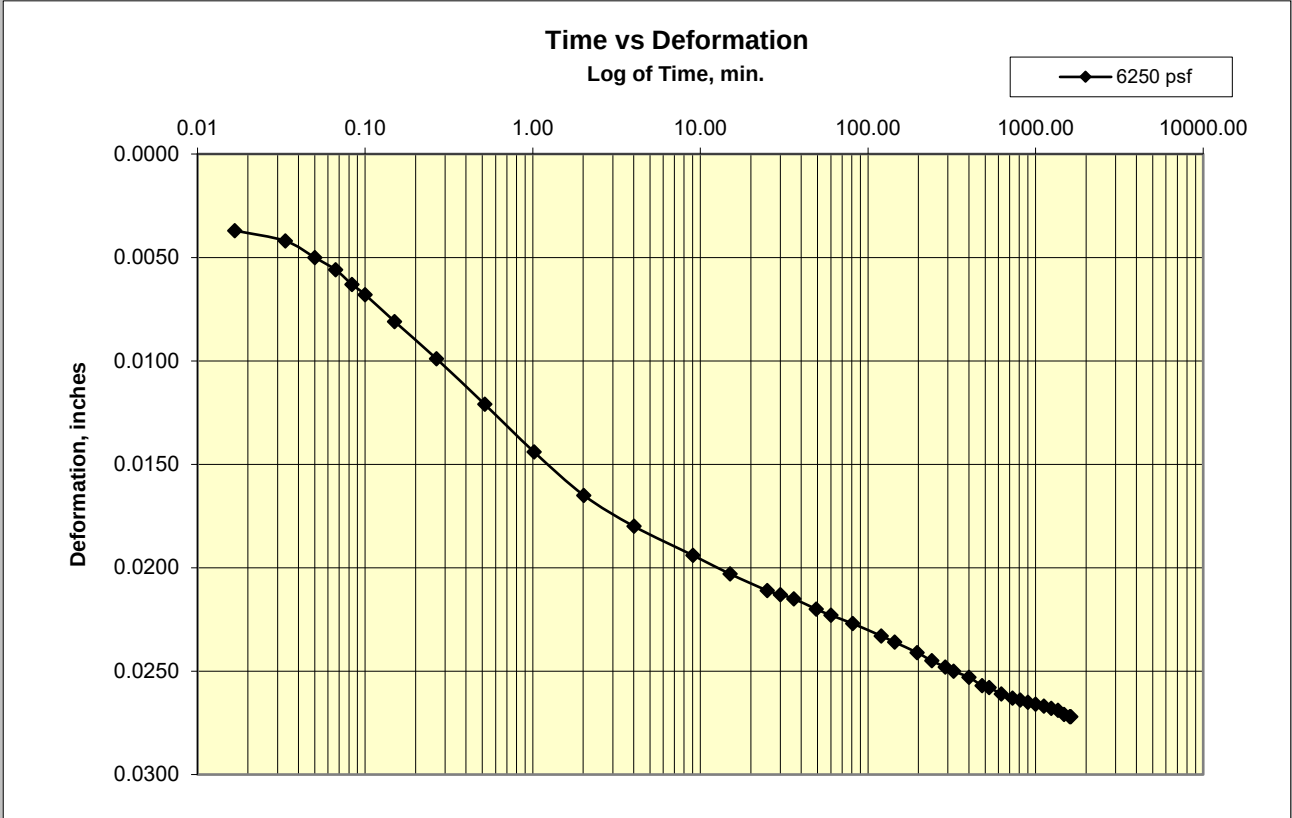
1600 psf



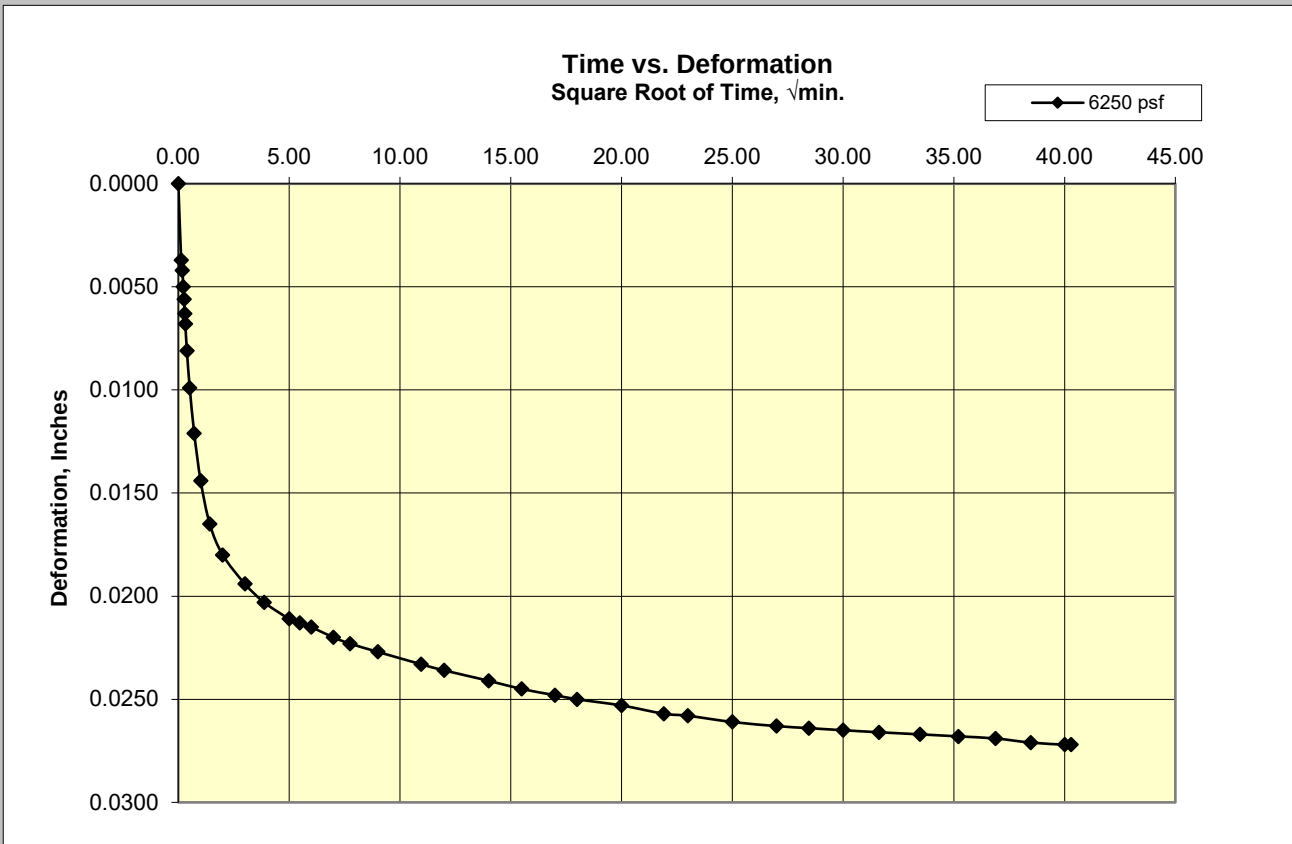
Cooper Testing Labs, Inc.

Load 7

6250 psf



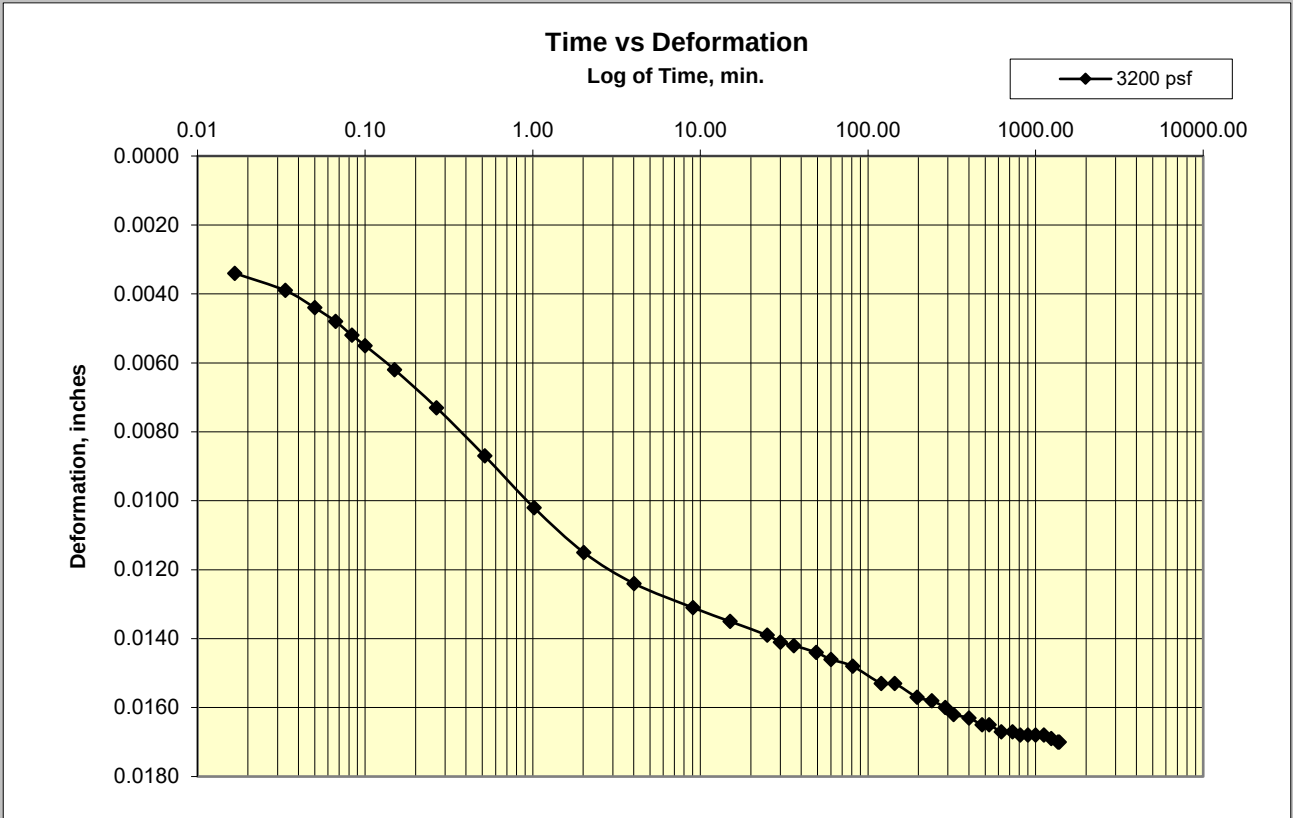
6250 psf



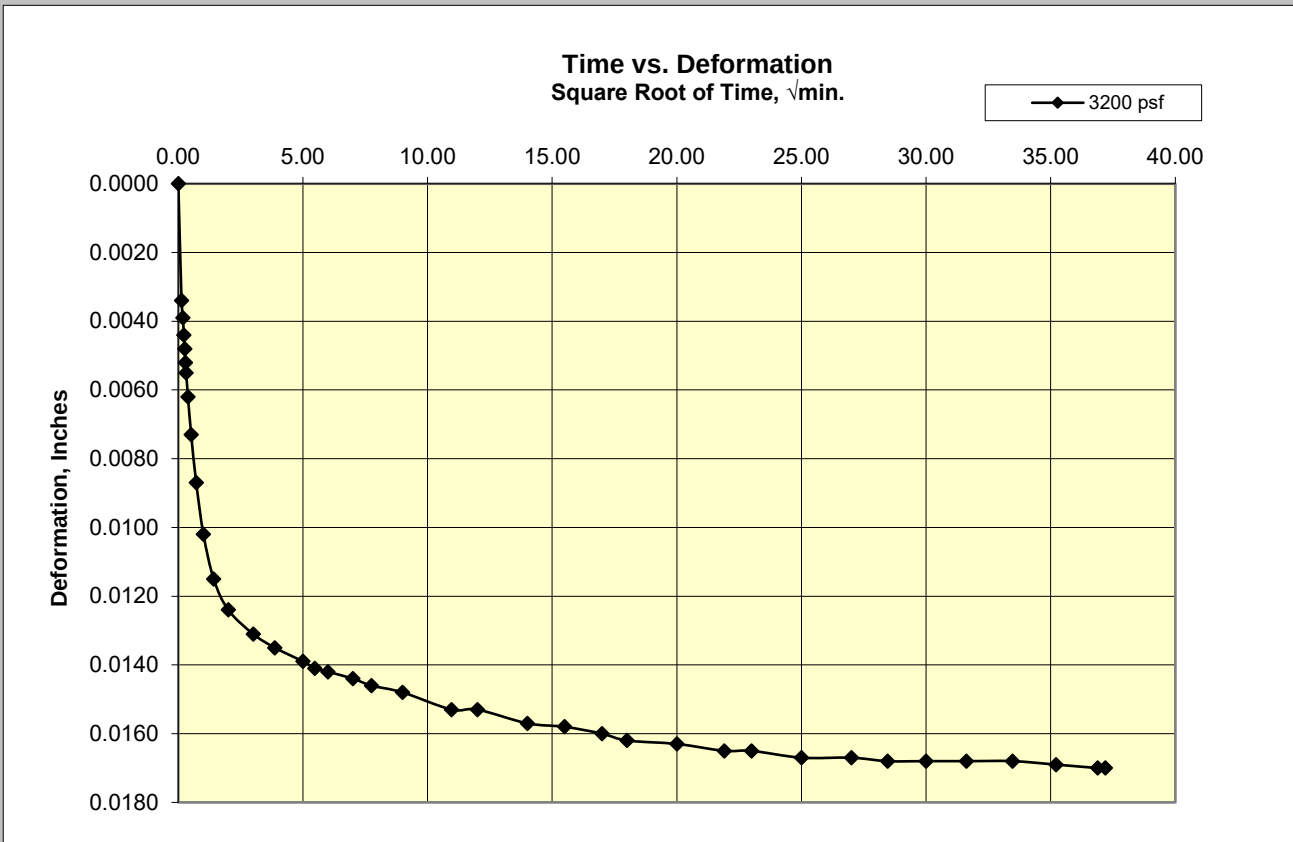
Cooper Testing Labs, Inc.

Load 6

3200 psf



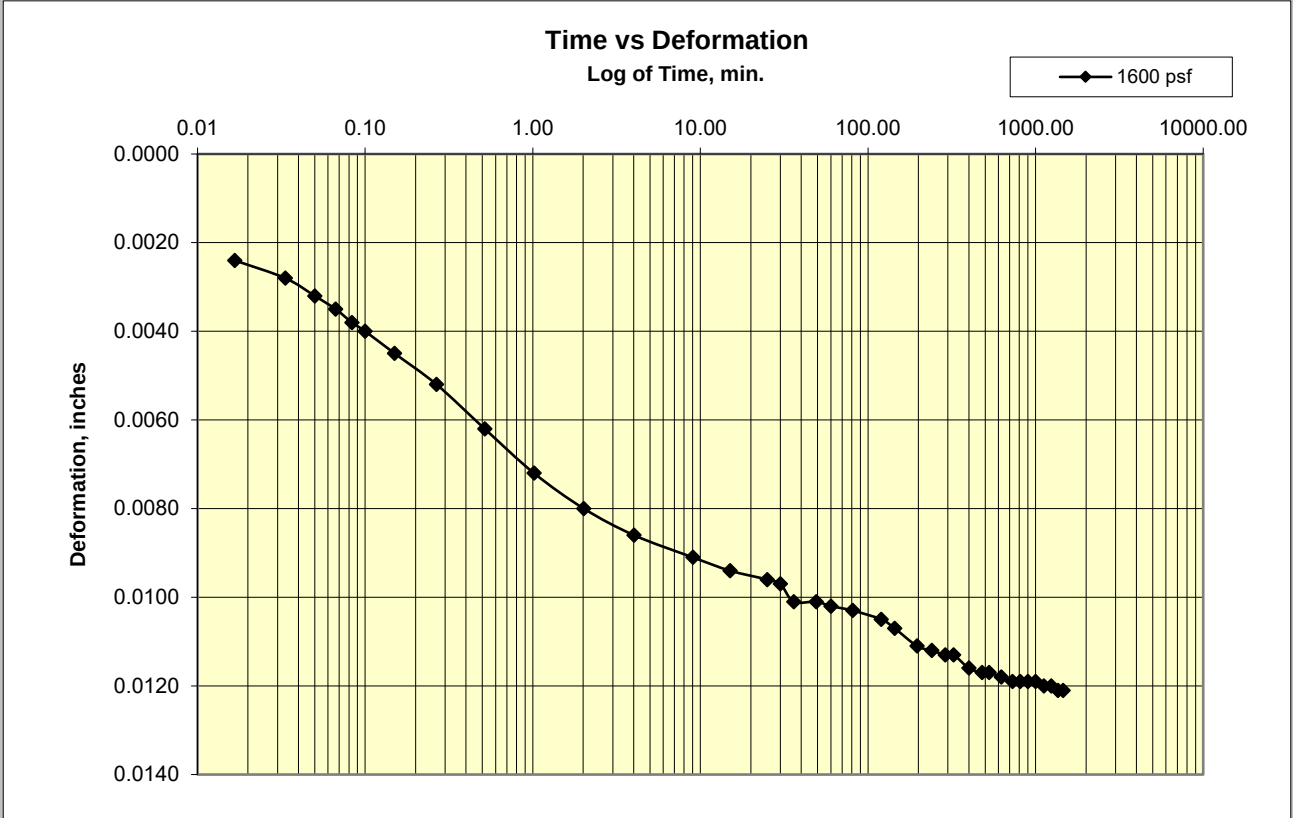
3200 psf



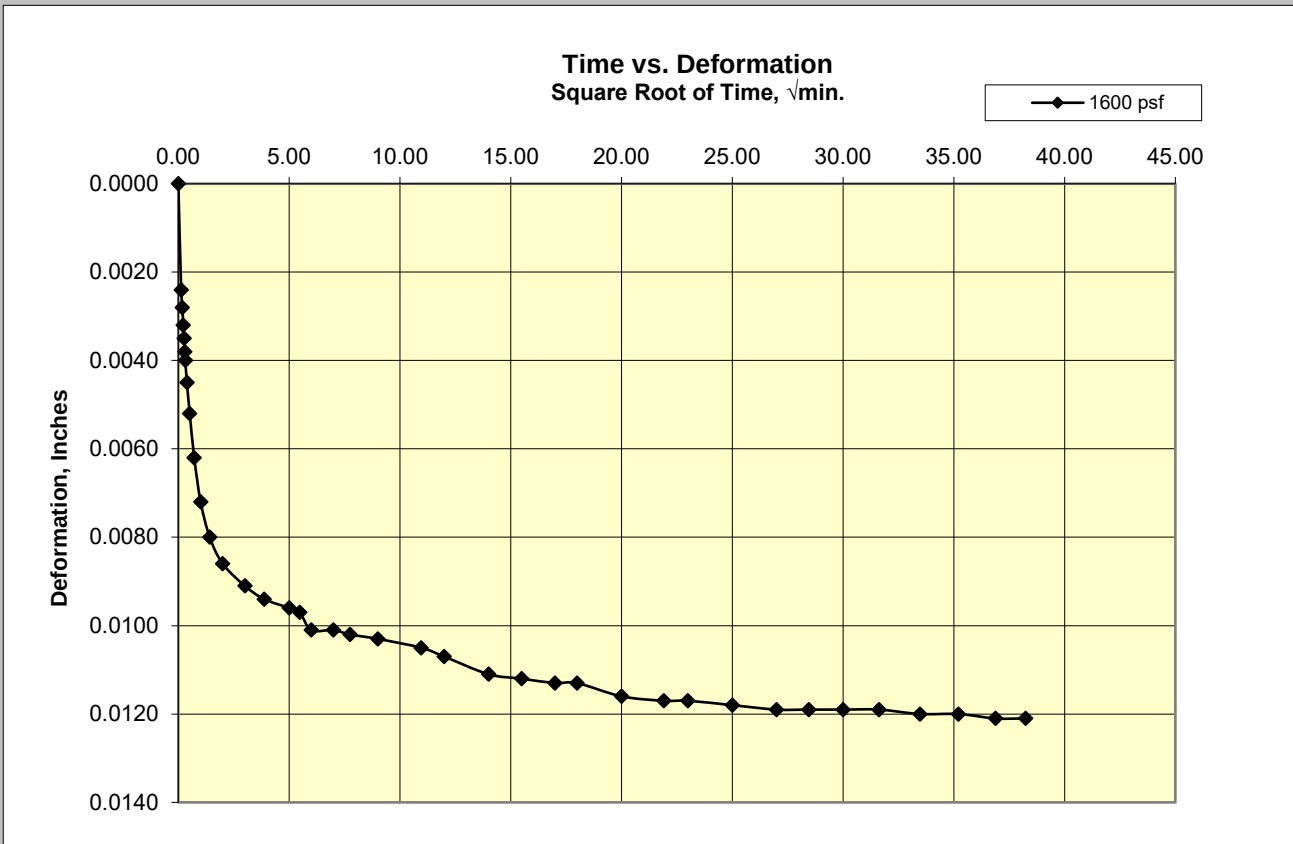
Cooper Testing Labs, Inc.

Load 5

1600 psf



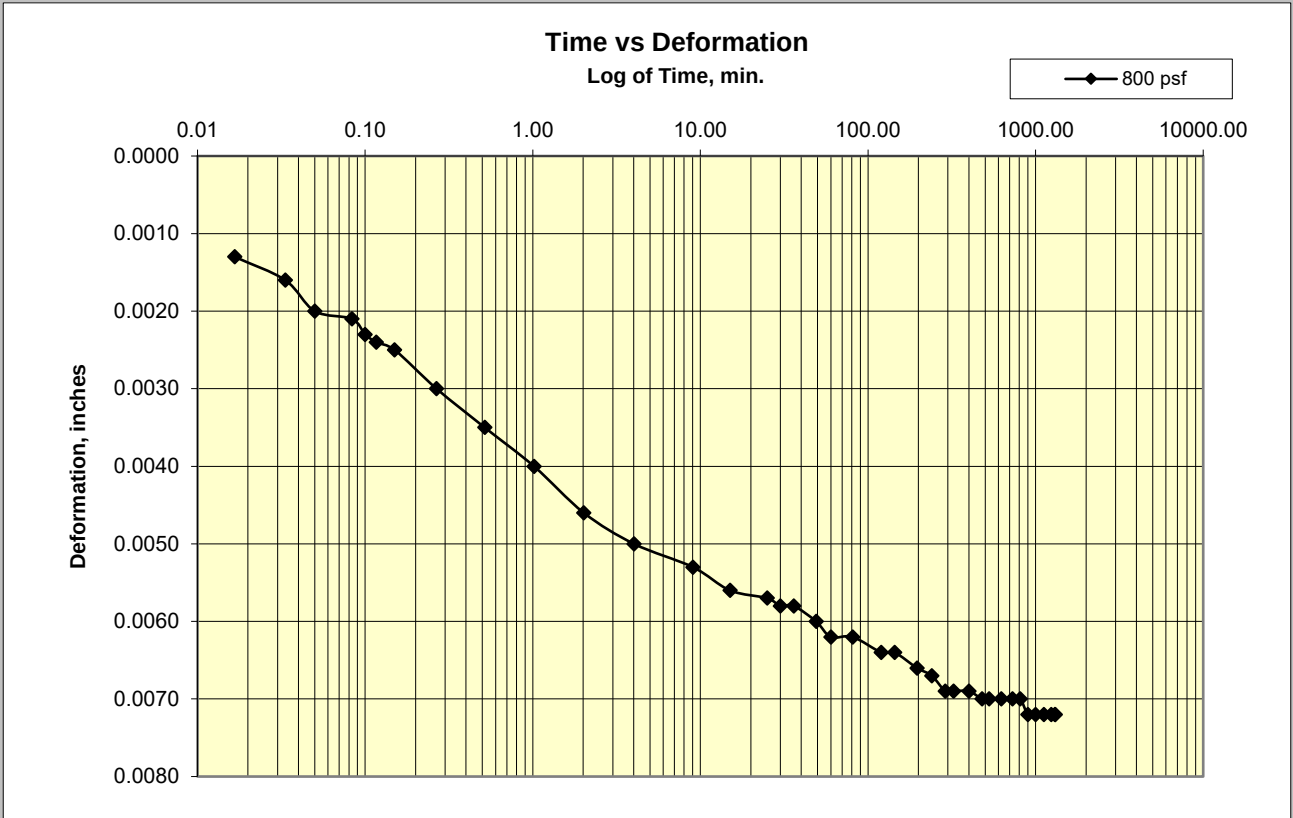
1600 psf



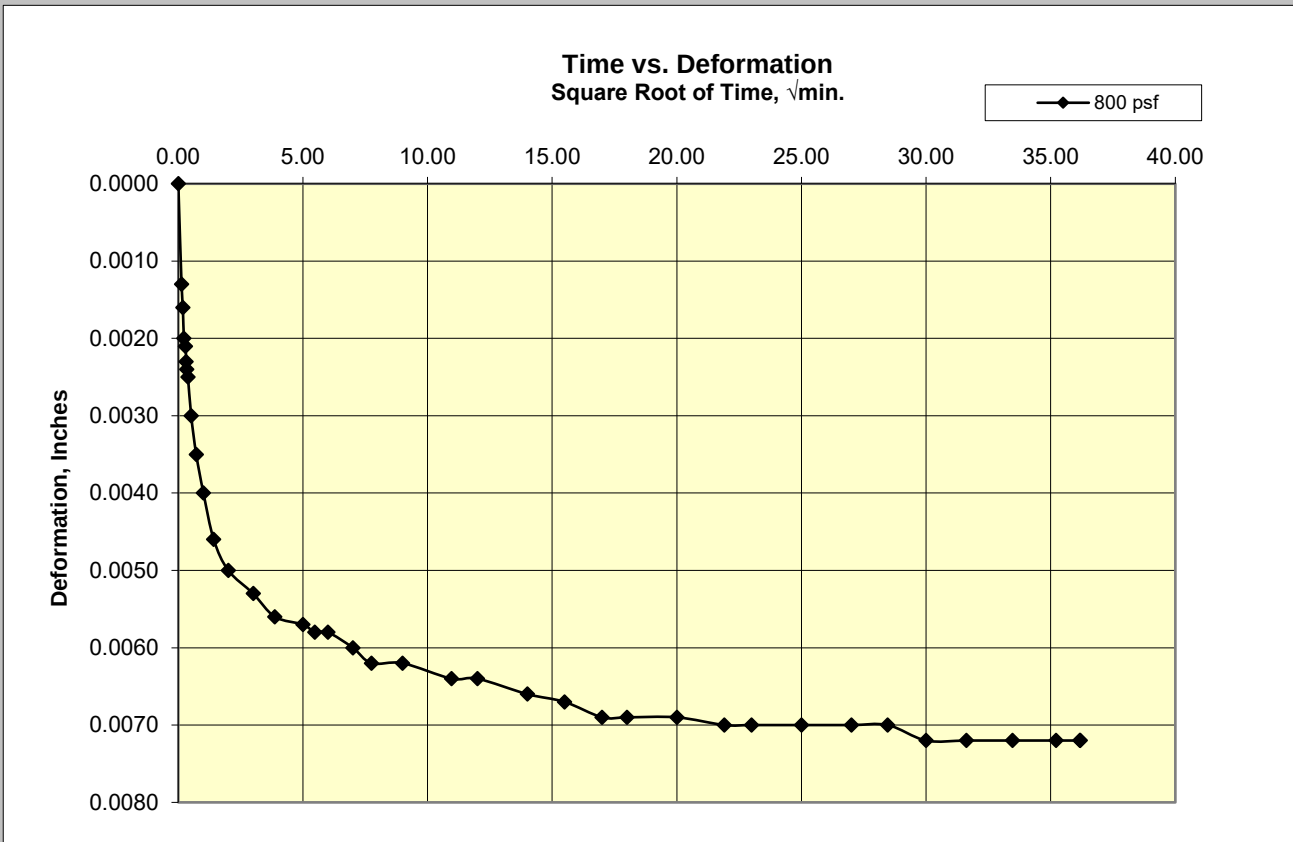
Cooper Testing Labs, Inc.

Load 4

800 psf



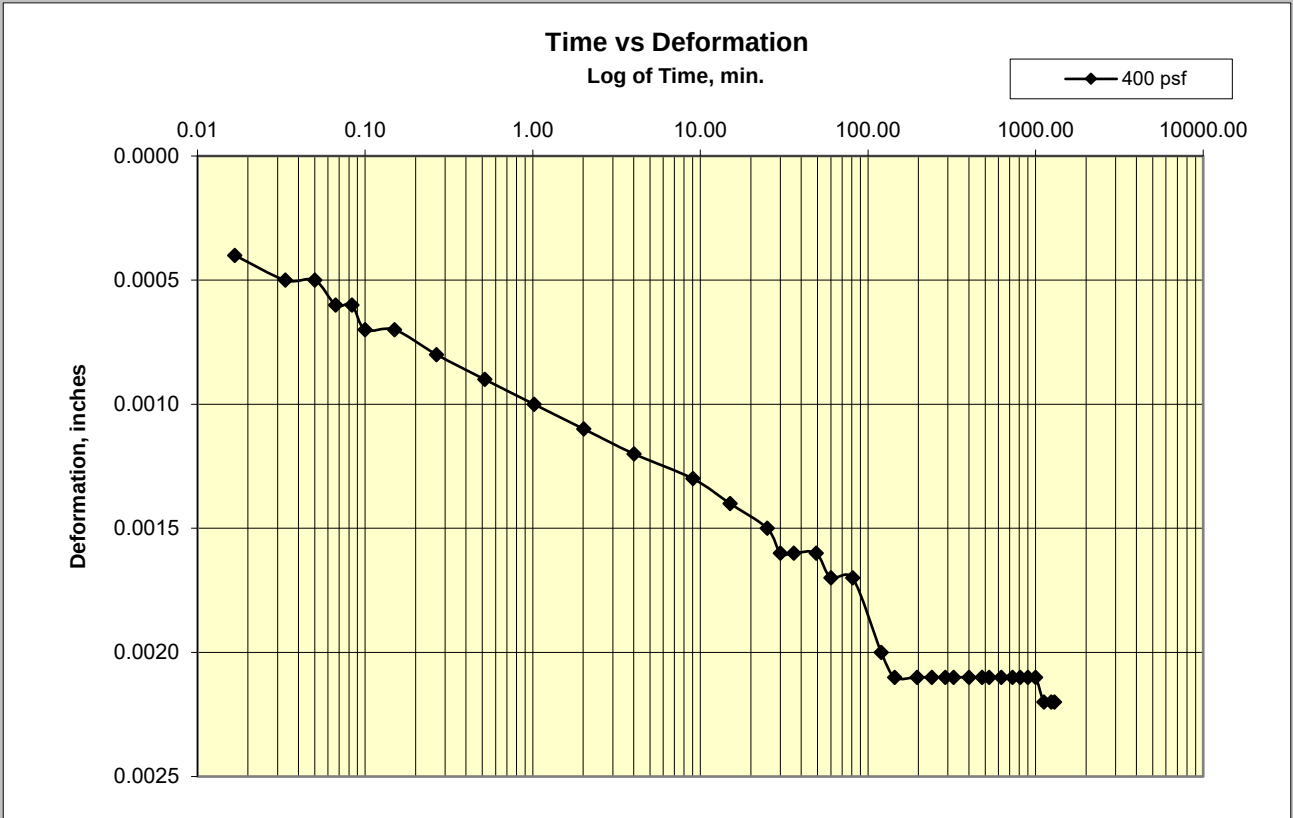
800 psf



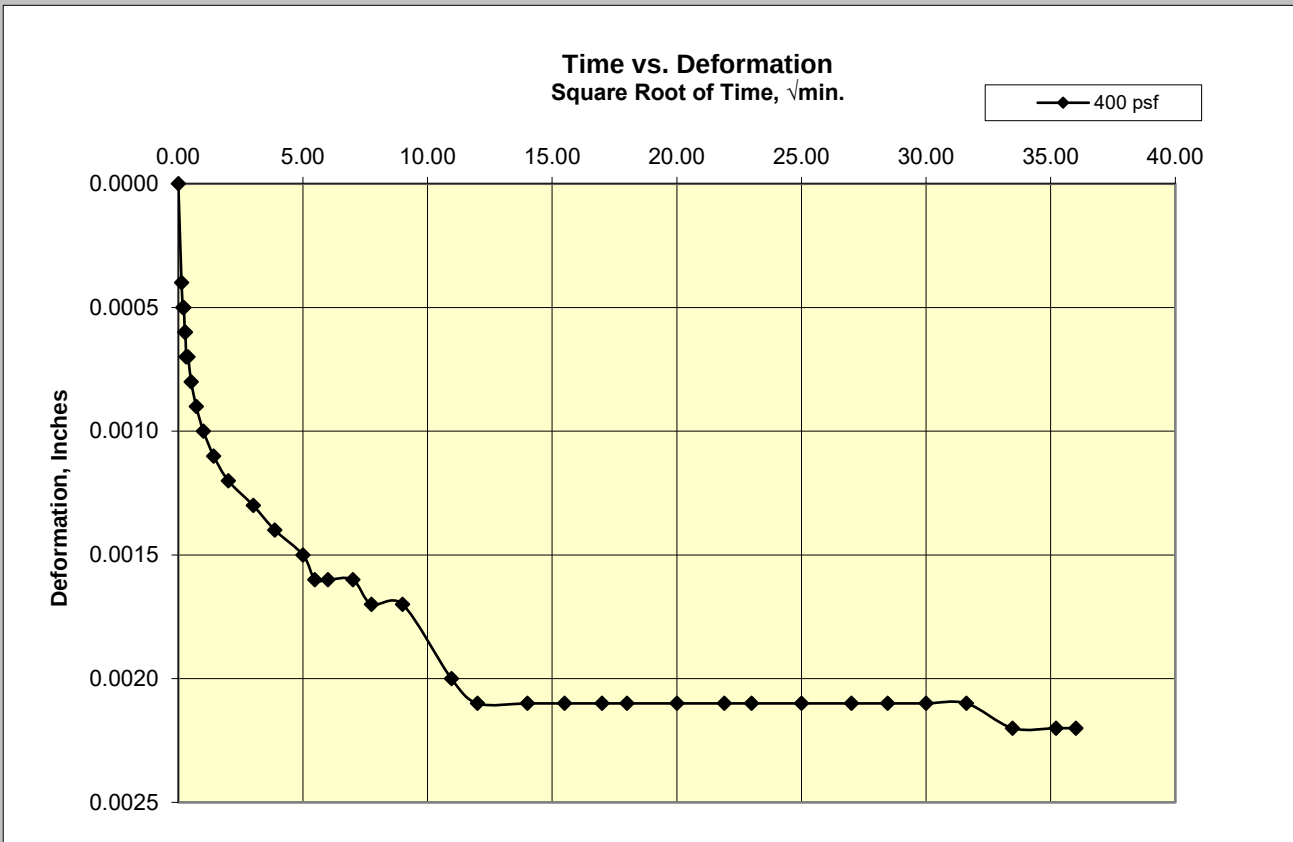
Cooper Testing Labs, Inc.

Load 3

400 psf



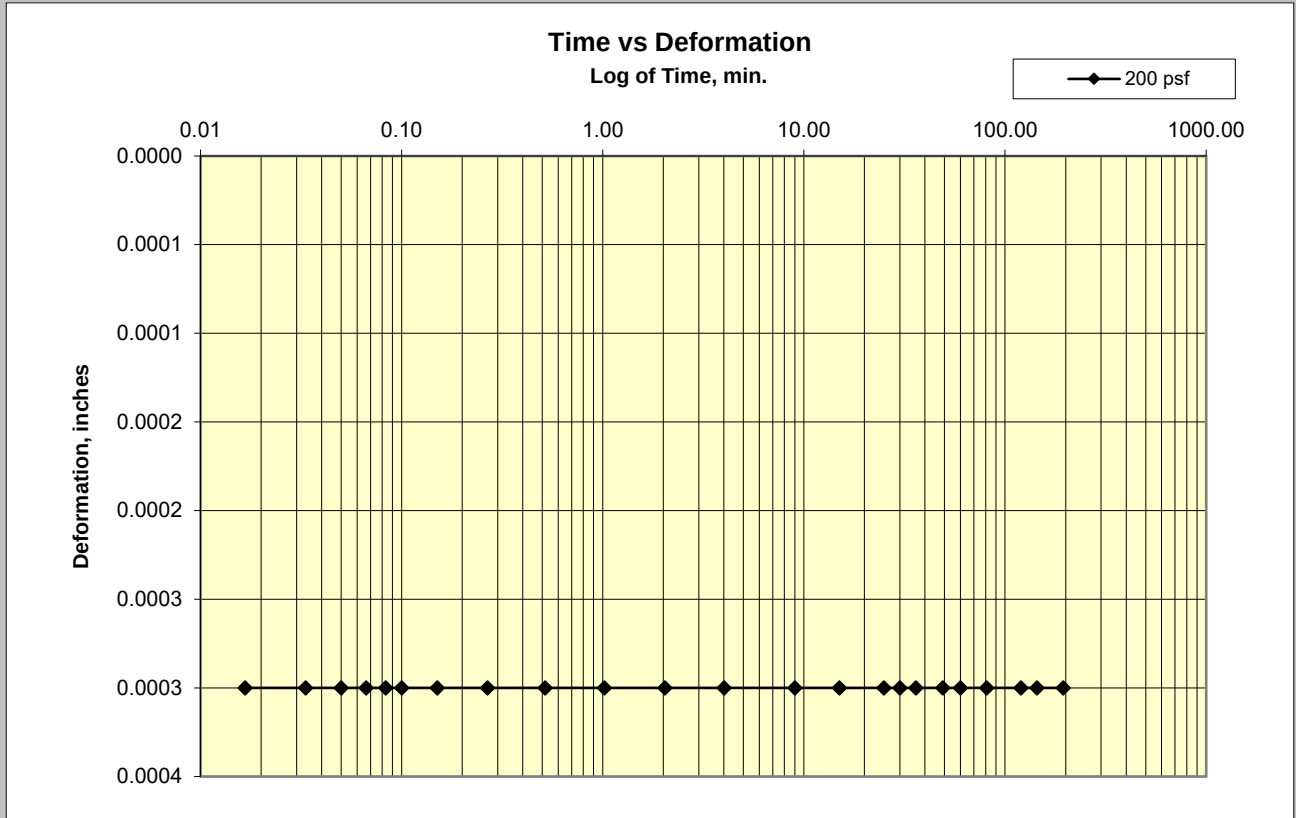
400 psf



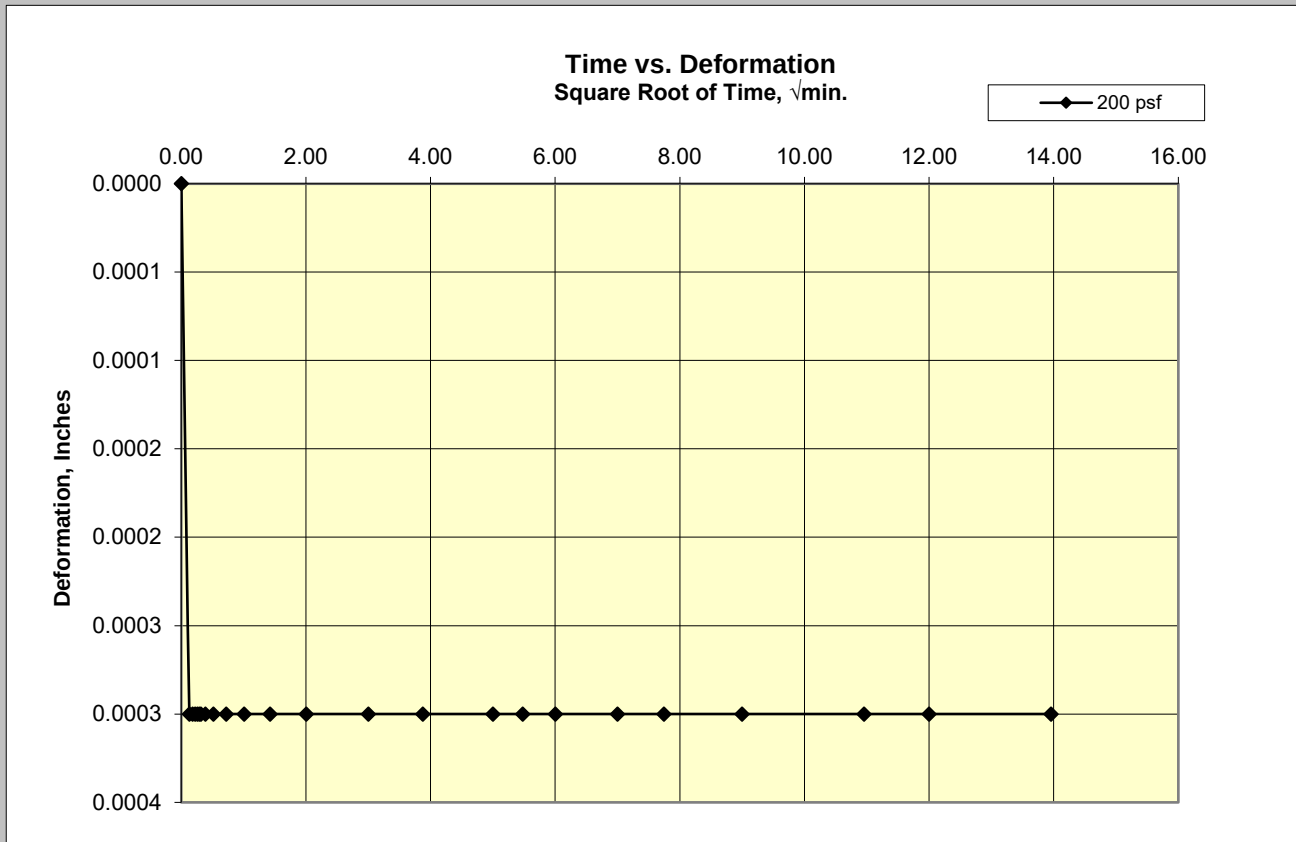
Cooper Testing Labs, Inc.

Load 2

200 psf



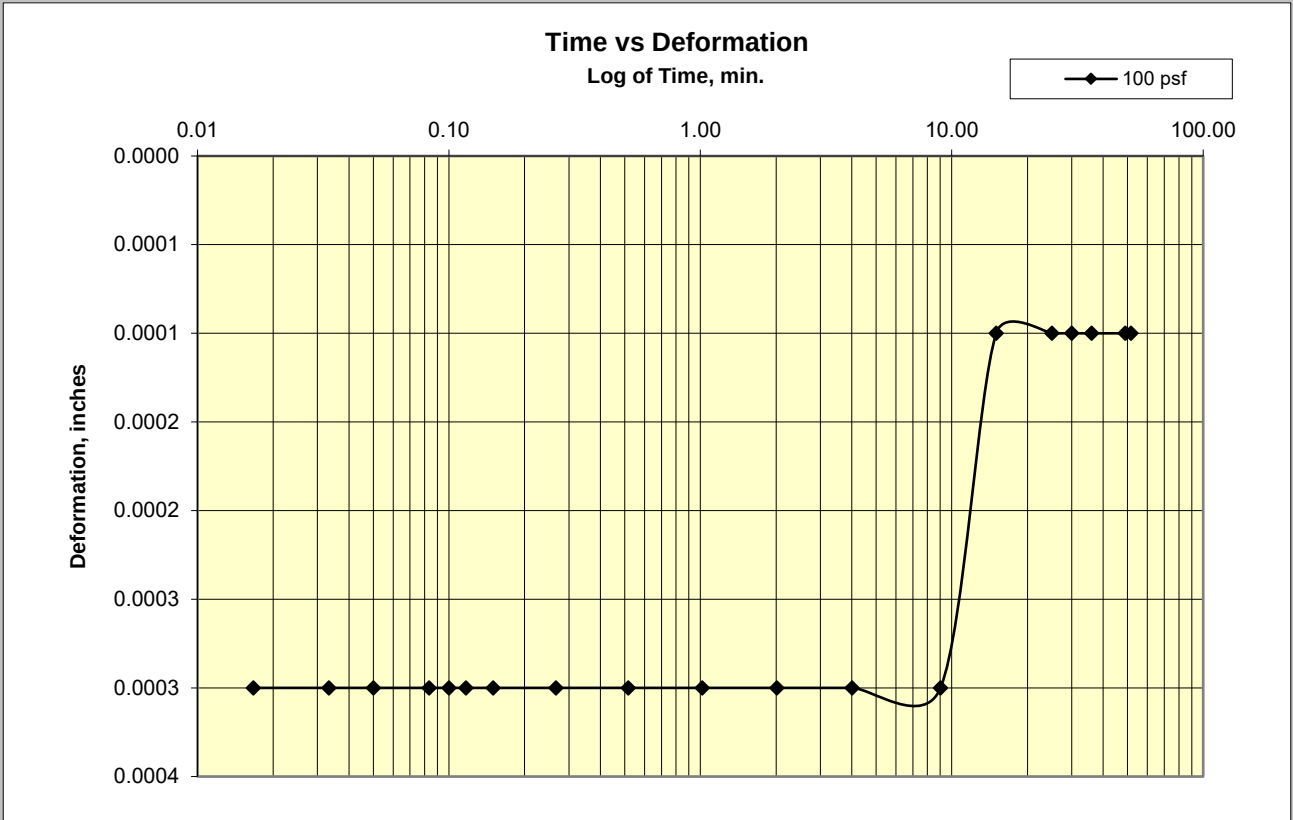
200 psf



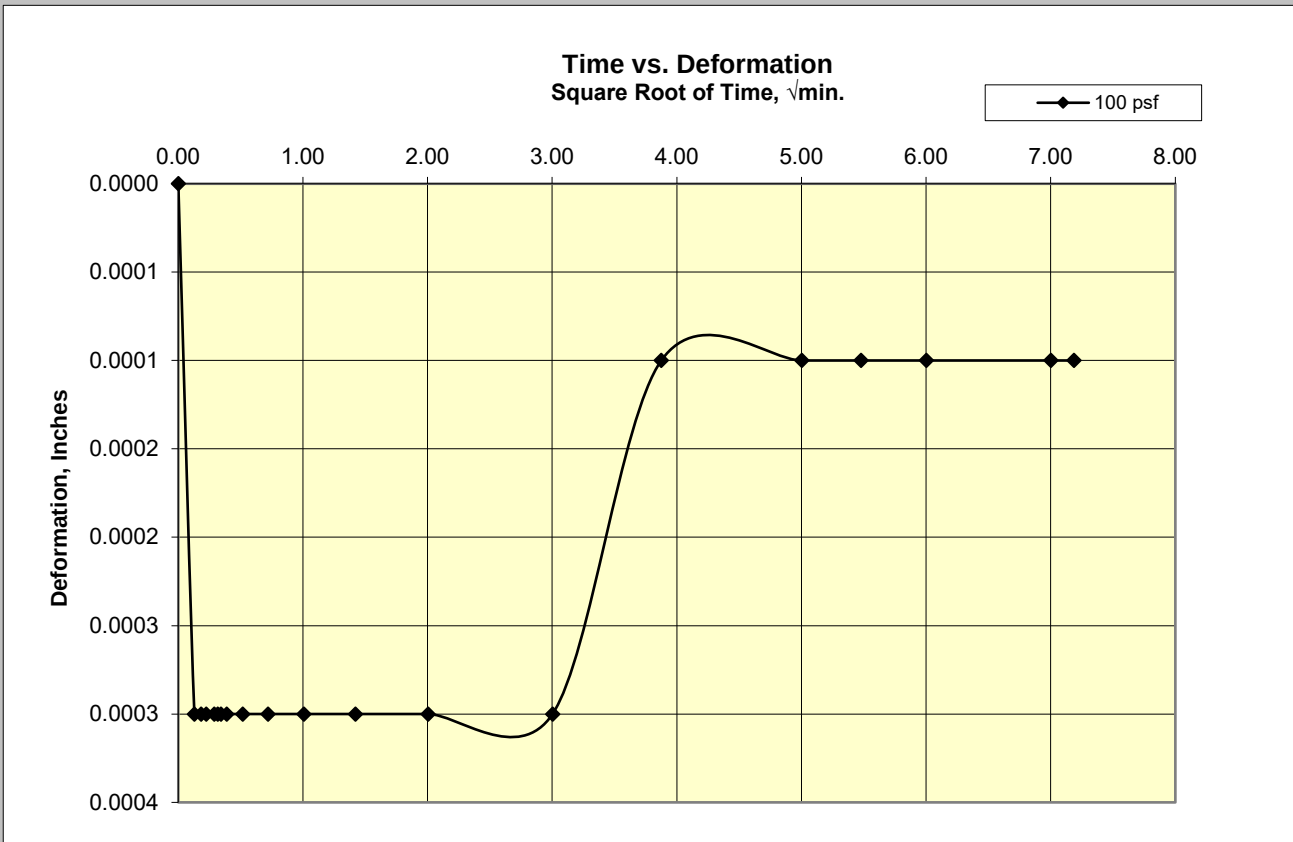
Cooper Testing Labs, Inc.

Load 1

100 psf



100 psf



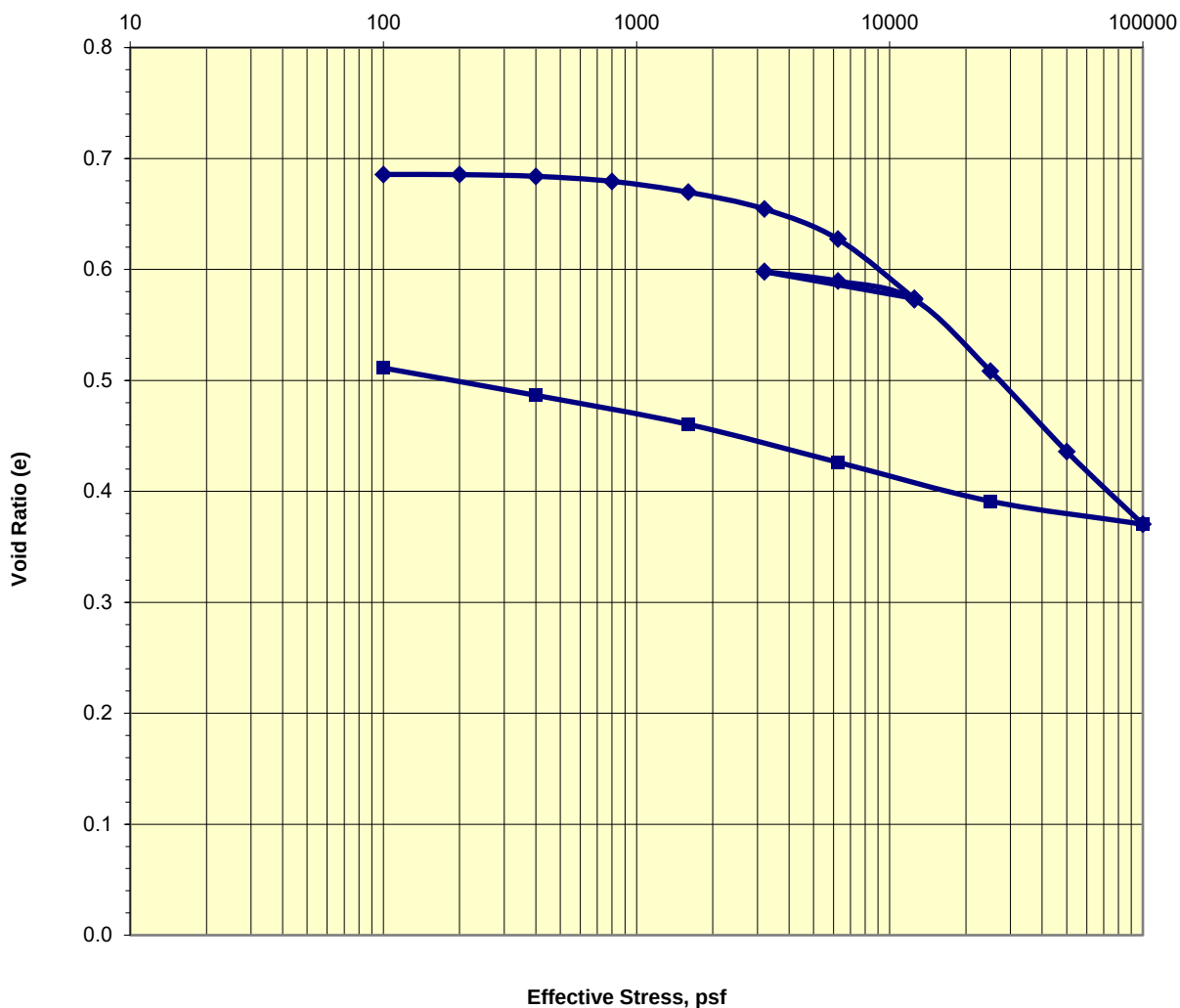


Consolidation Test

ASTM D2435

Job No.:	461-392	Boring:	B2	Run By:	HM
Client:	Geosyntec Consultants	Sample:	B2-12	Reduced:	RU
Project:	WG3607	Depth, ft.:	55-57.5	Checked:	PJ
Soil Type:	Olive Brown Sandy CLAY			Date:	3/27/2026

e-Log-P Curve



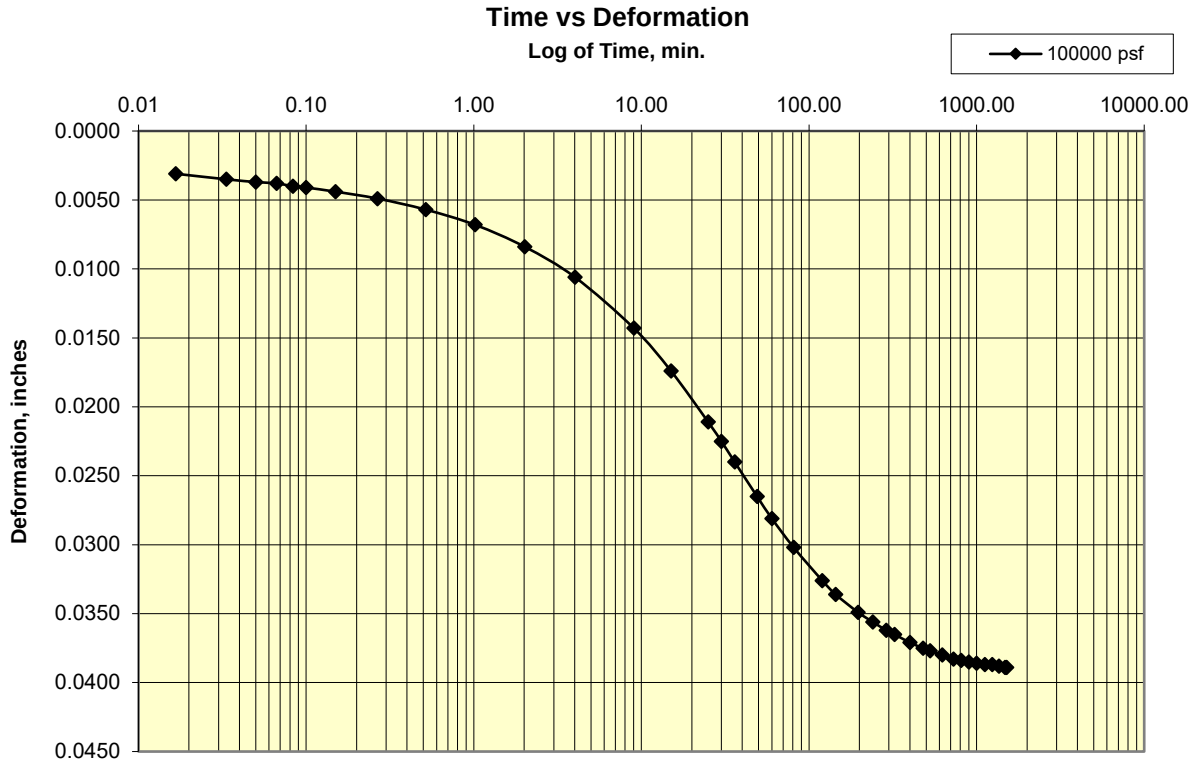
Assumed Gs	2.7	Initial	Final
Moisture %:		24.5	19.1
Dry Density, pcf:		100.0	111.3
Void Ratio:		0.686	0.515
% Saturation:		96.6	100.0

Remarks:

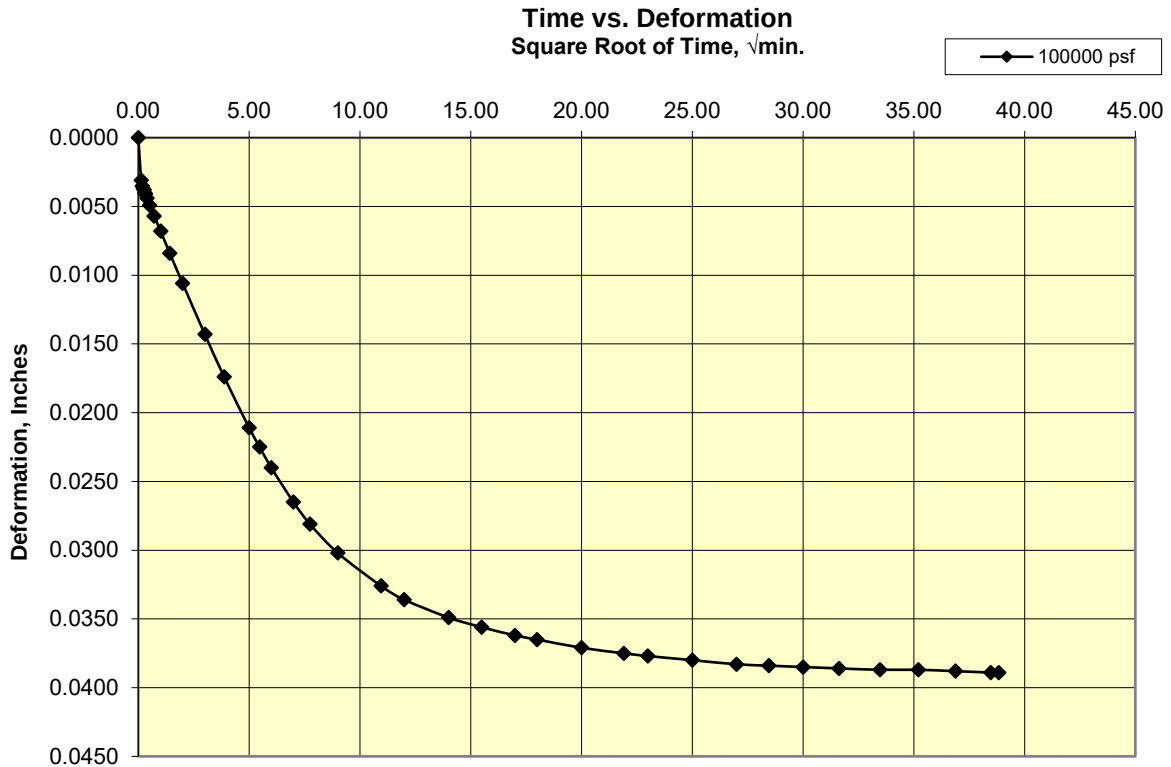
Cooper Testing Labs, Inc.

Load 14

100000 psf



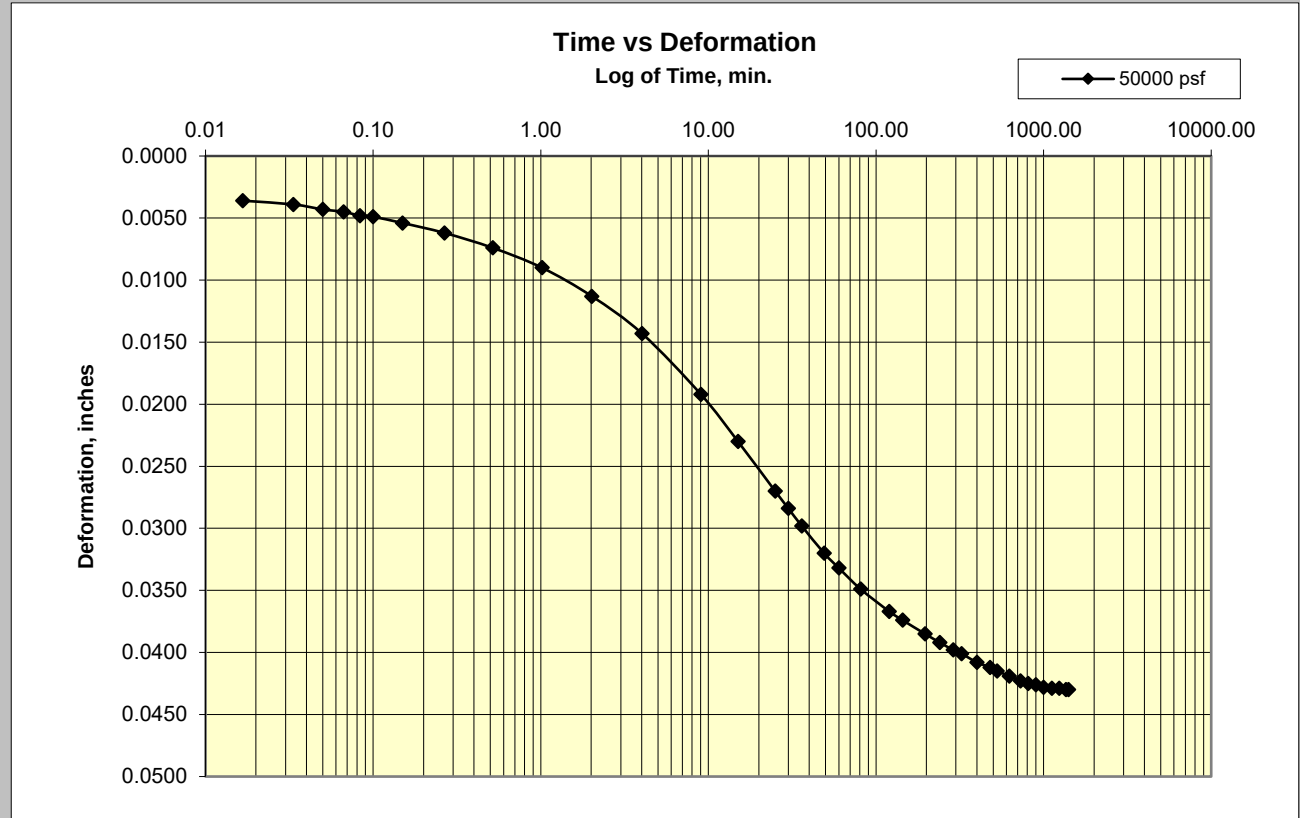
100000 psf



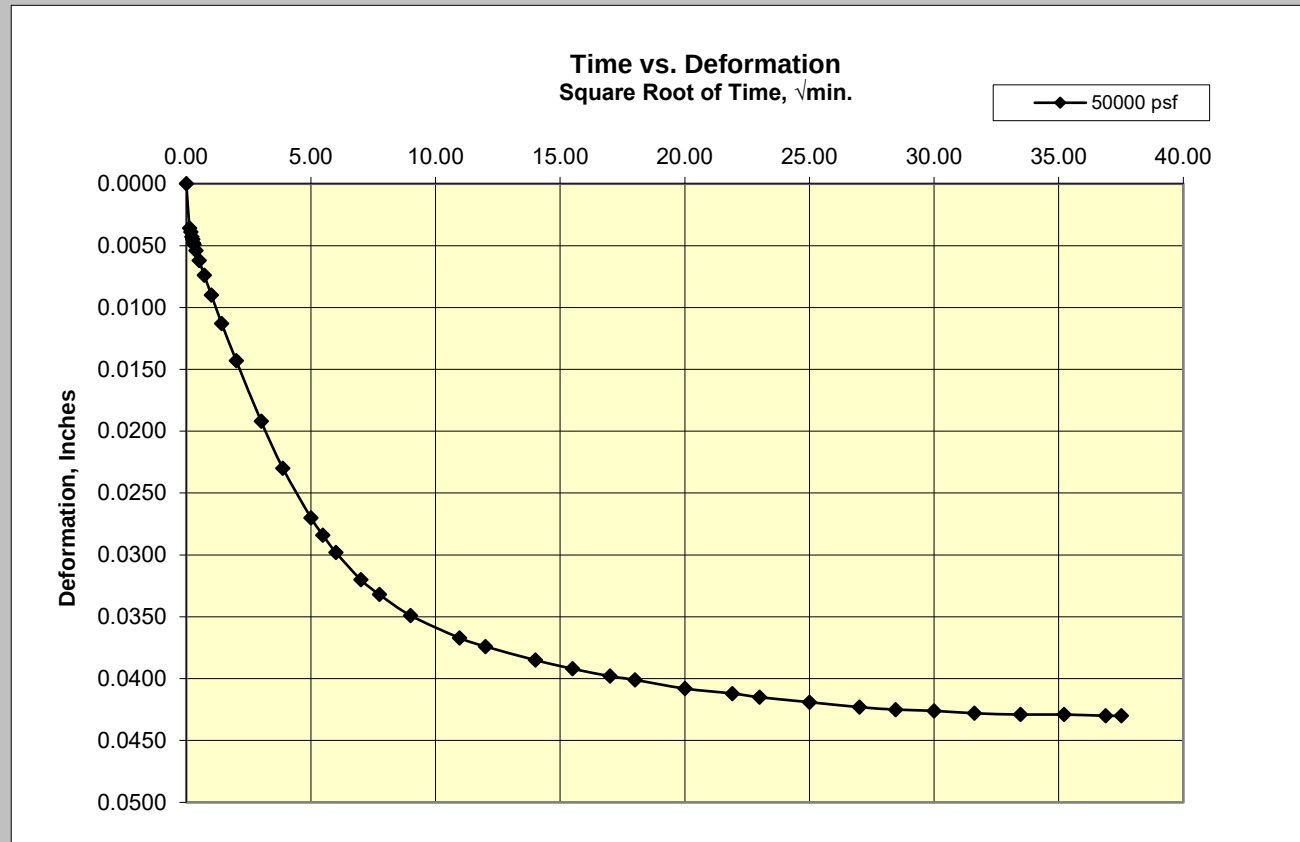
Cooper Testing Labs, Inc.

Load 13

50000 psf



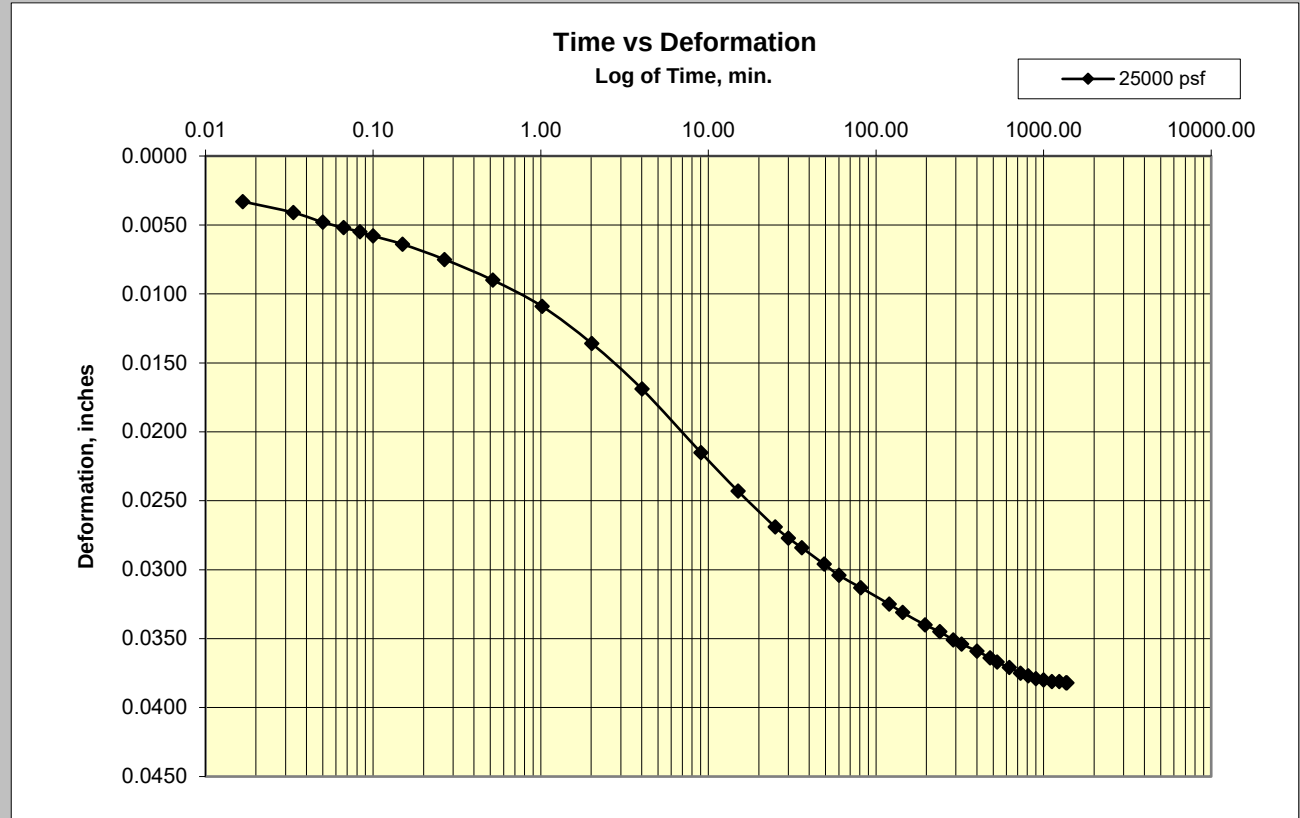
50000 psf



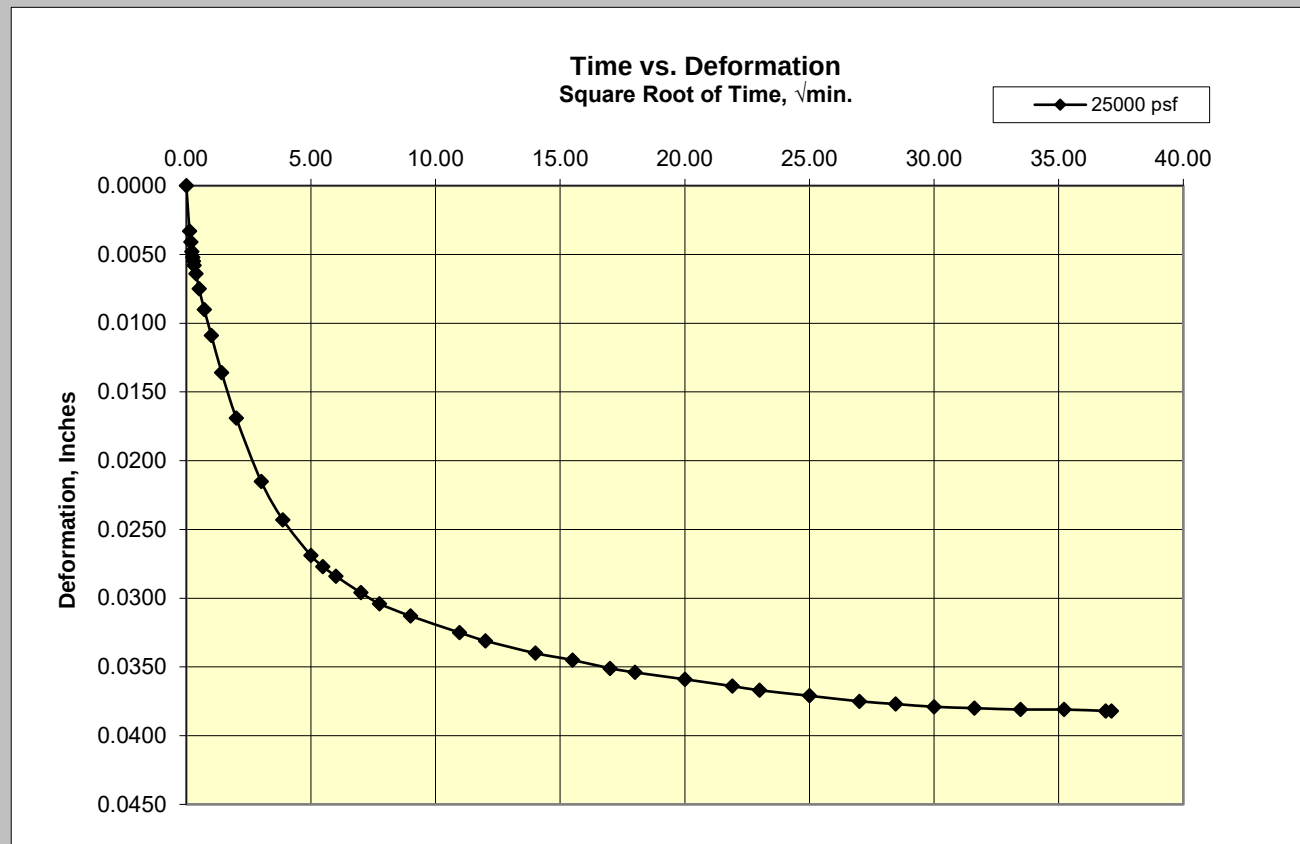
Cooper Testing Labs, Inc.

Load 12

25000 psf



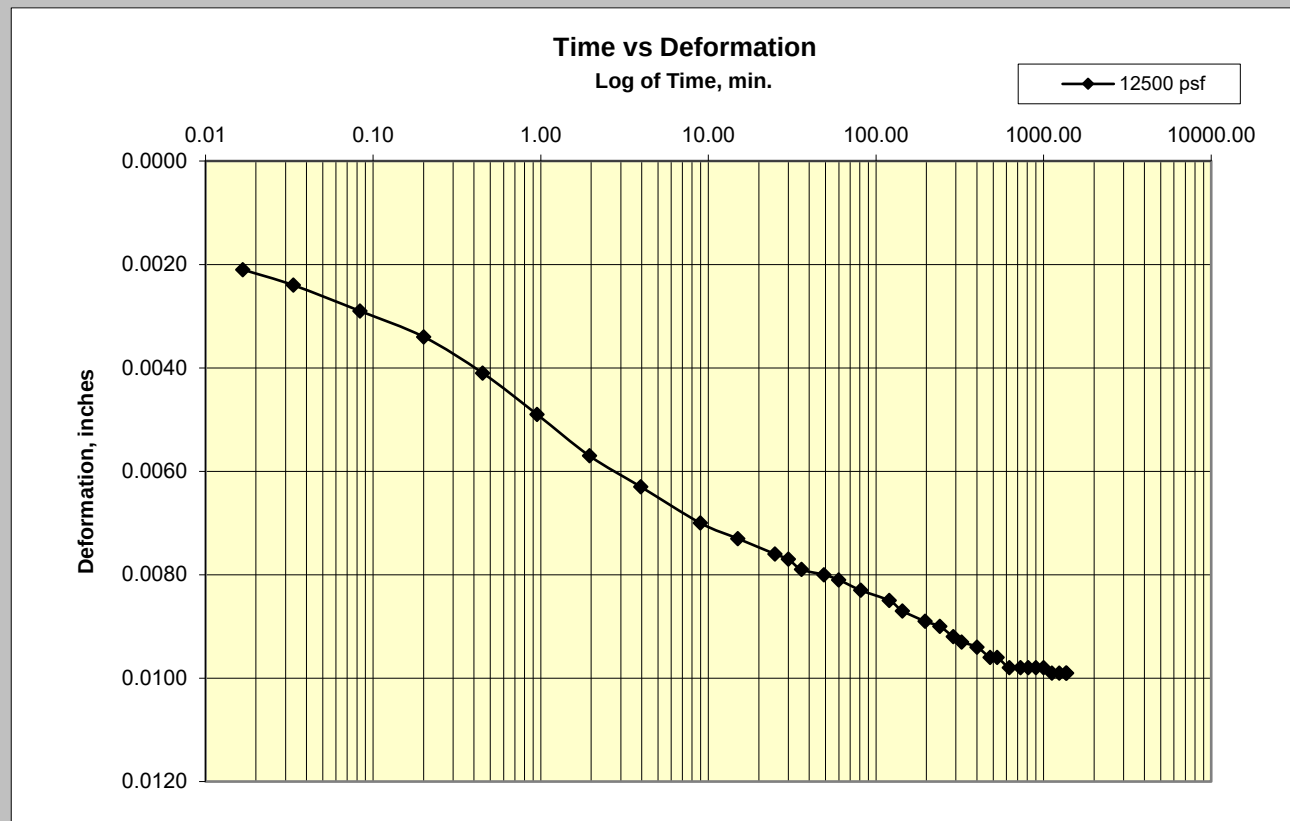
25000 psf



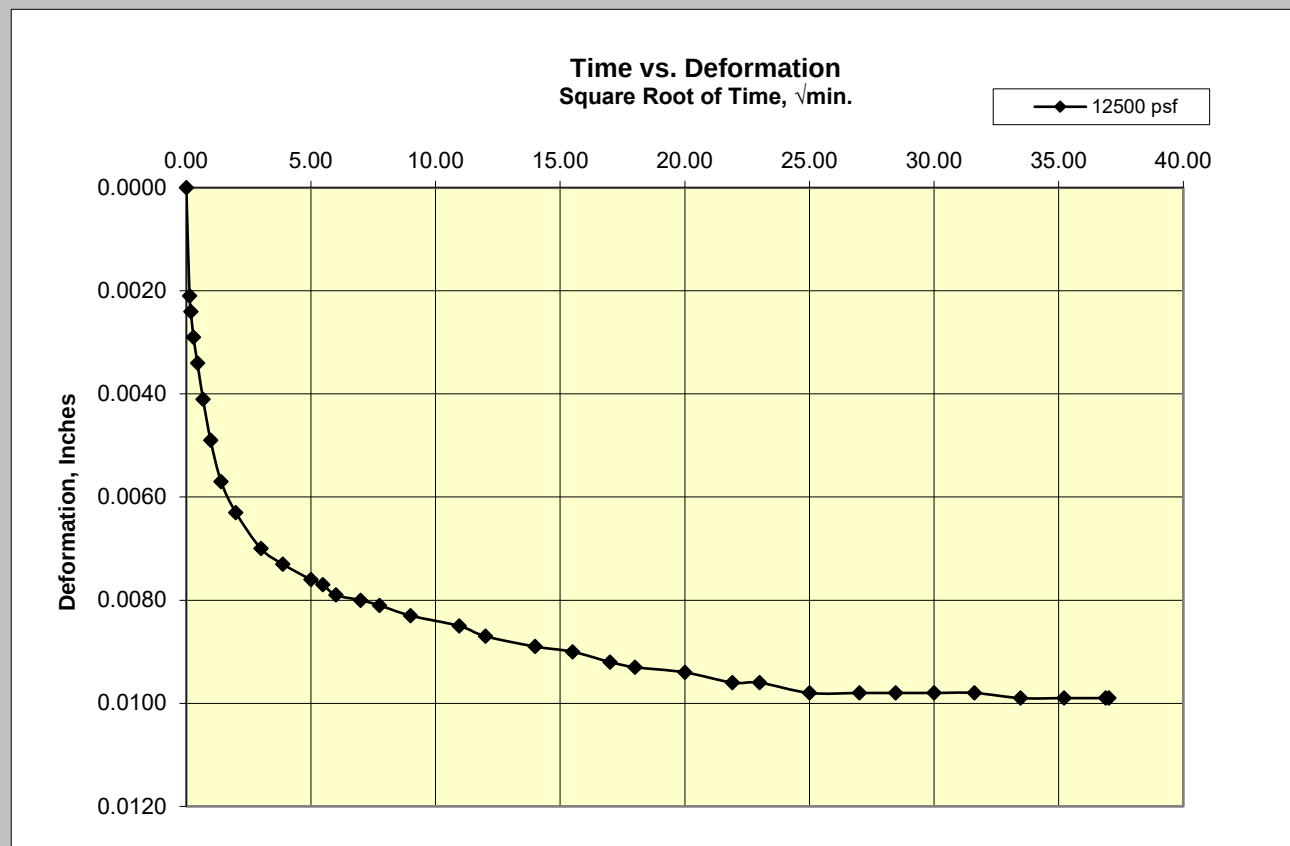
Cooper Testing Labs, Inc.

Load 11

12500 psf



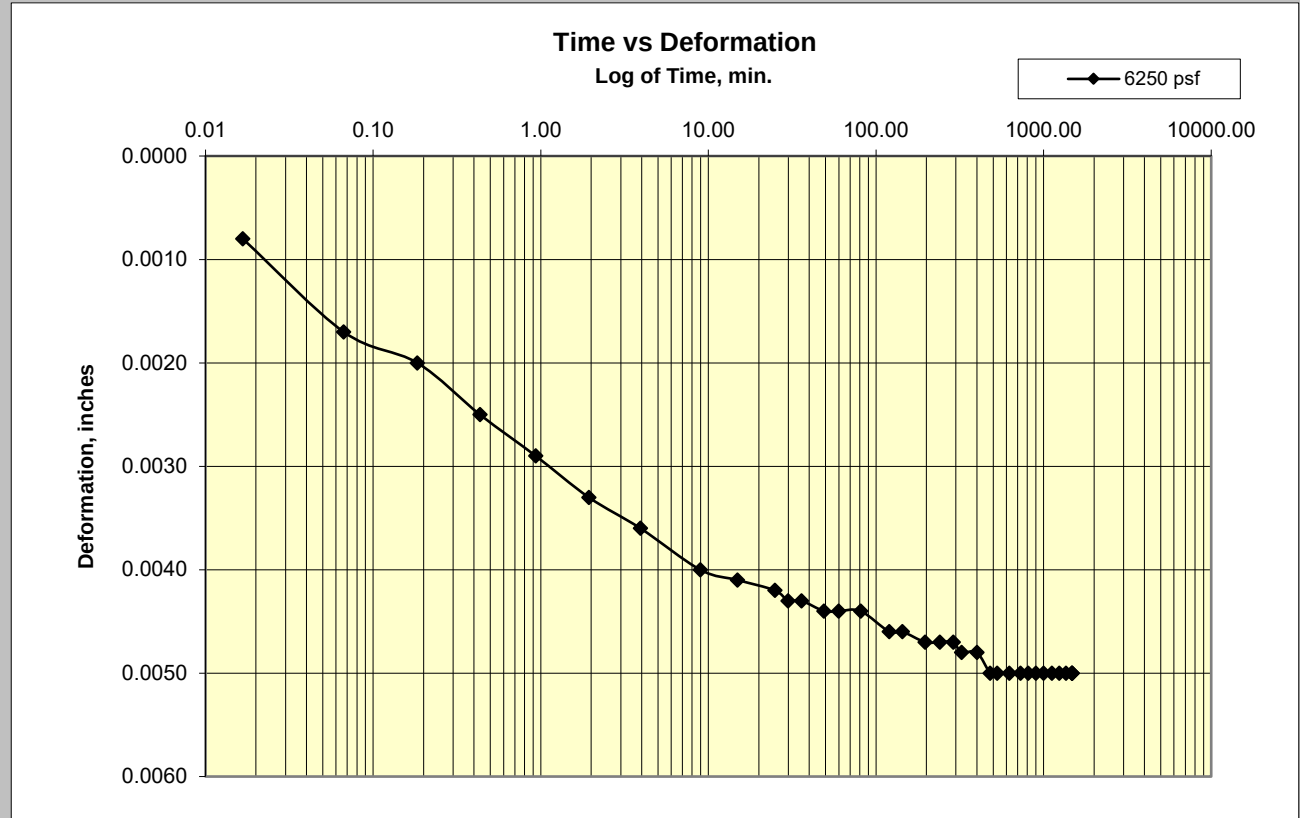
12500 psf



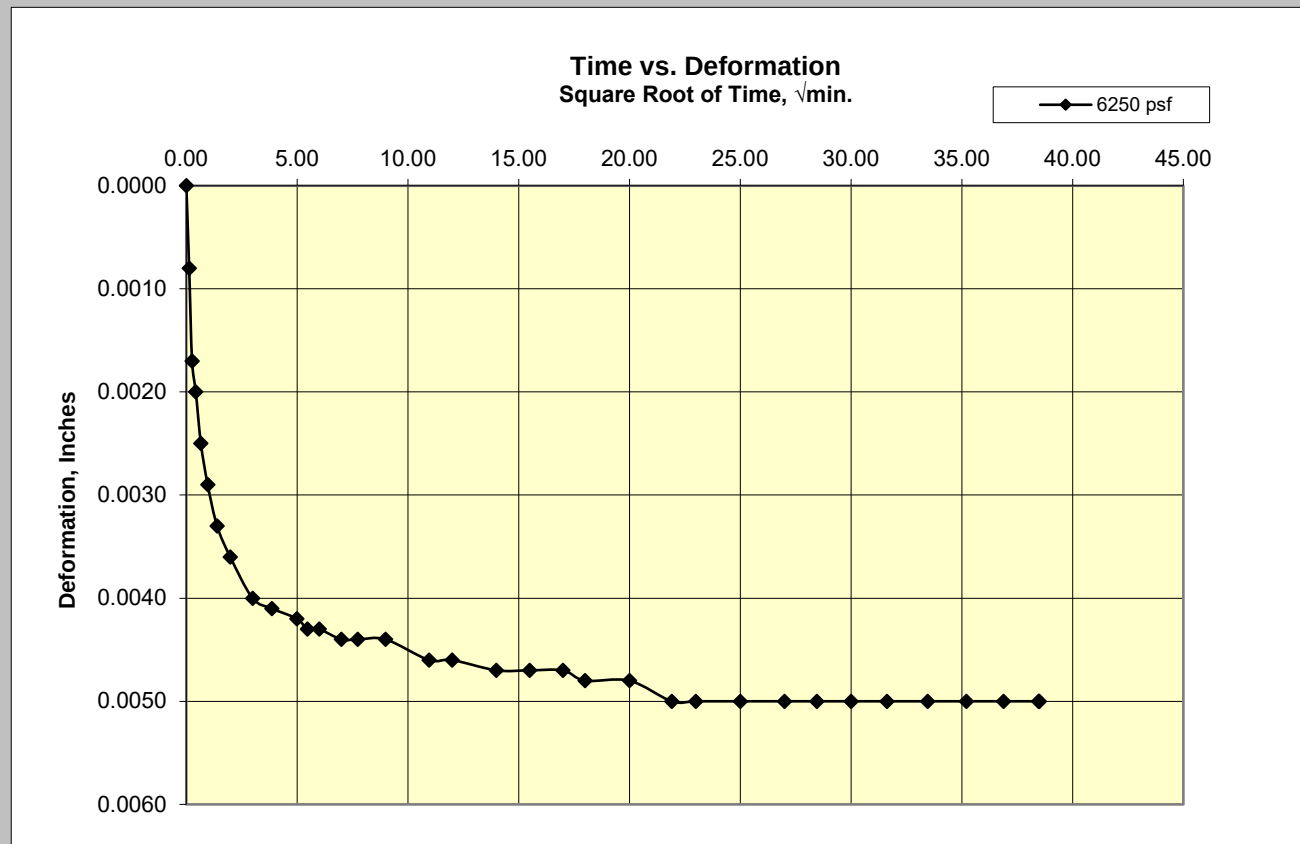
Cooper Testing Labs, Inc.

Load 10

6250 psf



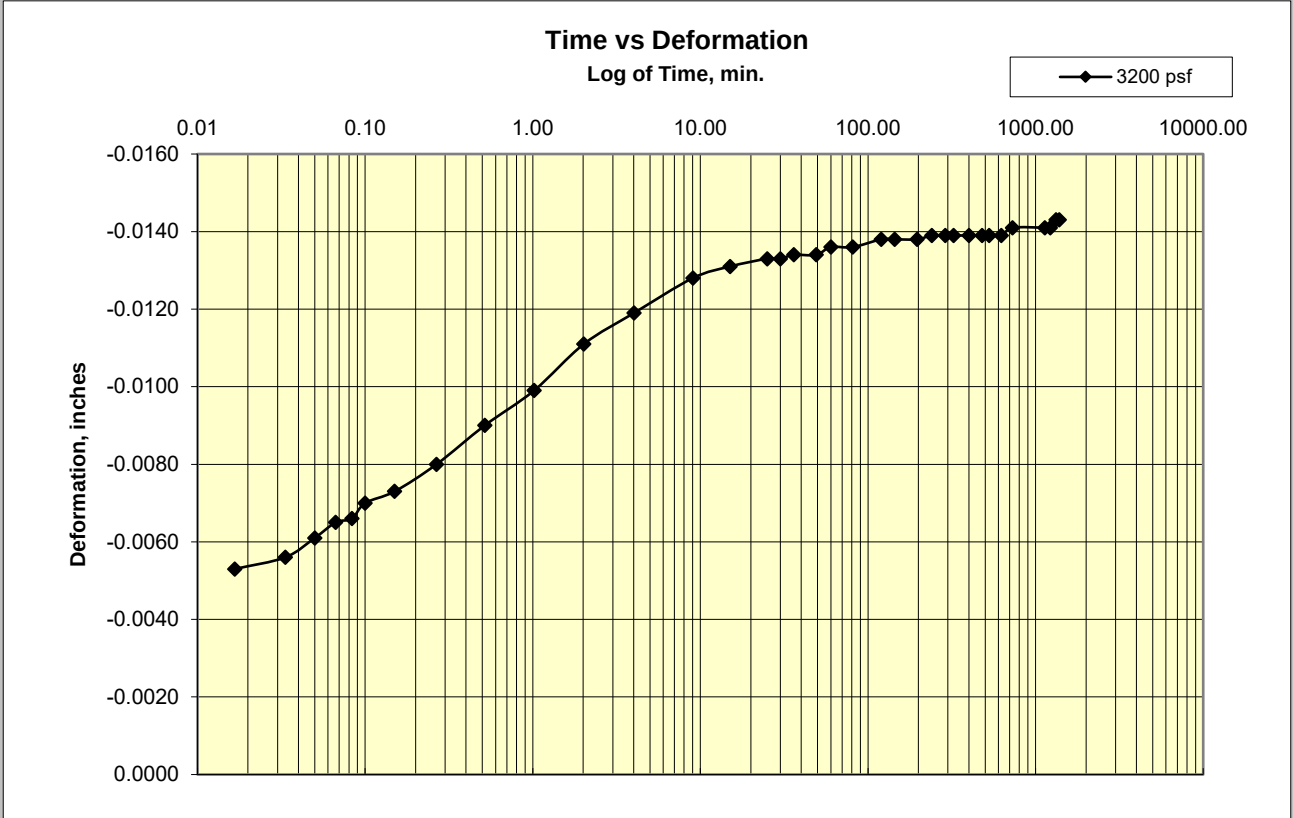
6250 psf



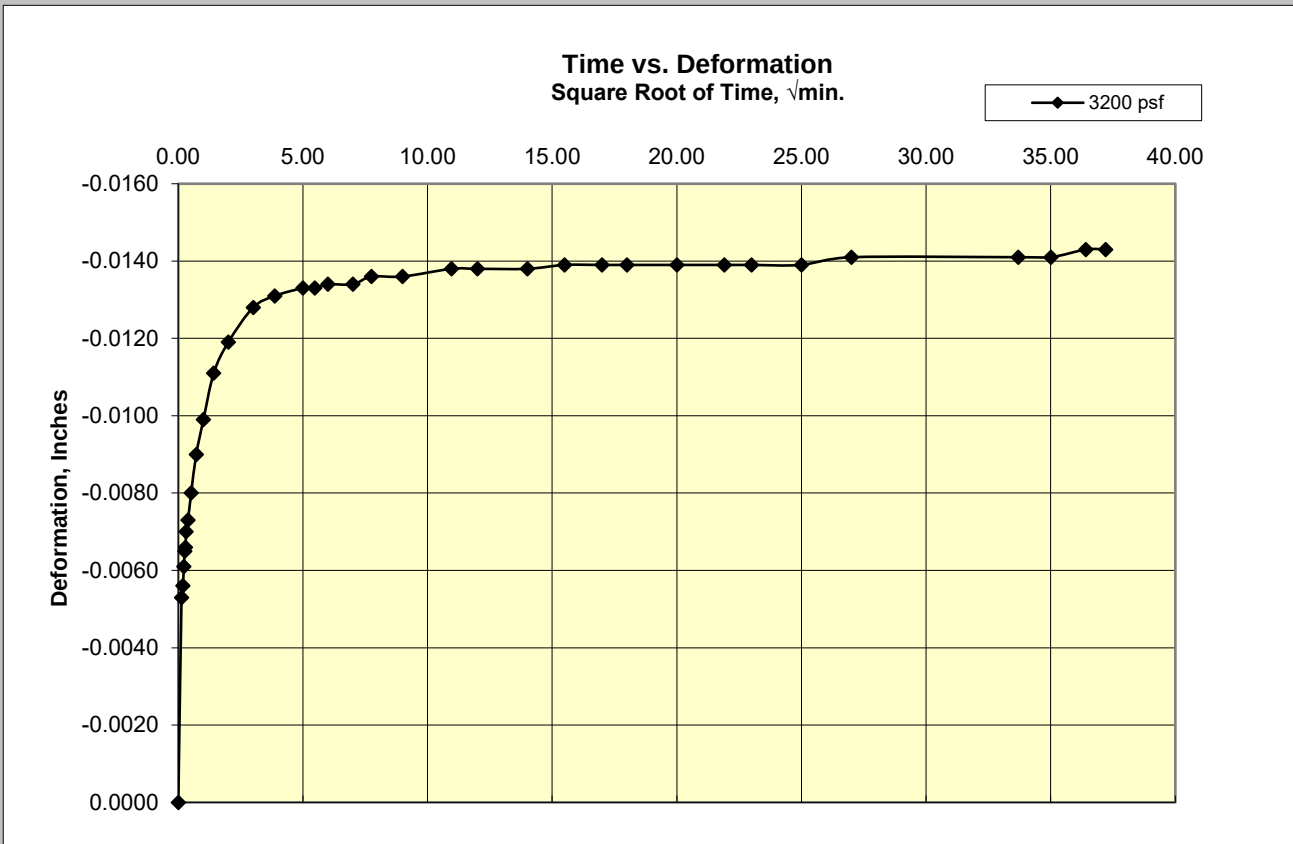
Cooper Testing Labs, Inc.

Load 9

3200 psf



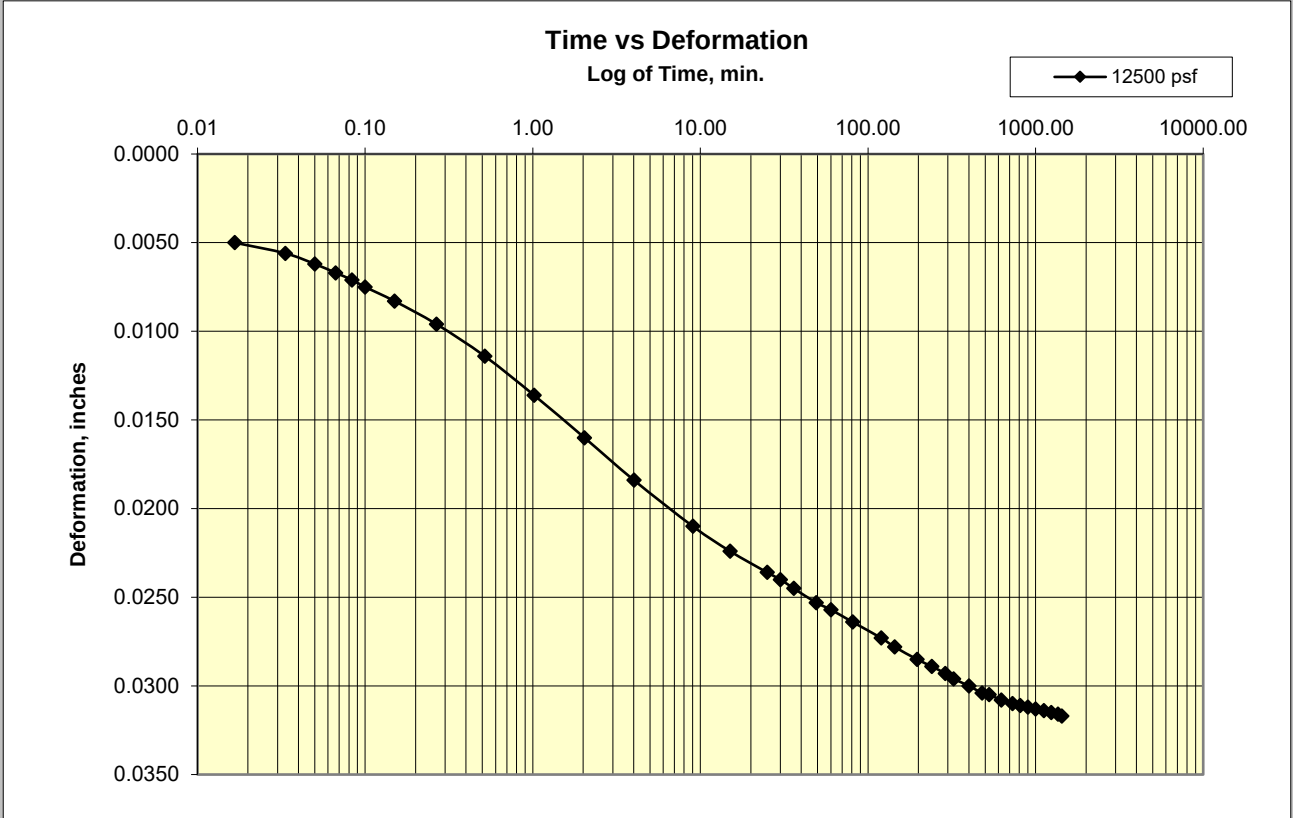
3200 psf



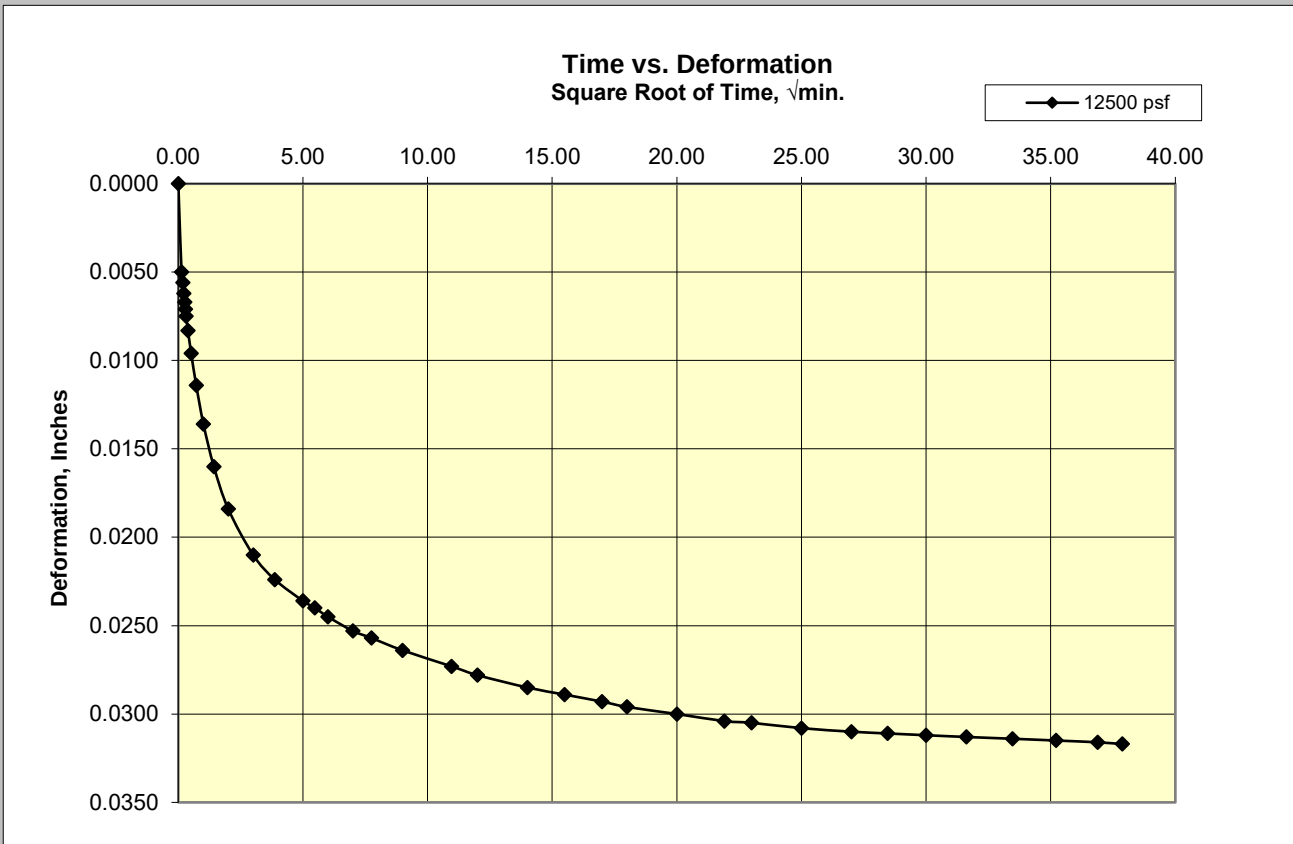
Cooper Testing Labs, Inc.

Load 8

12500 psf



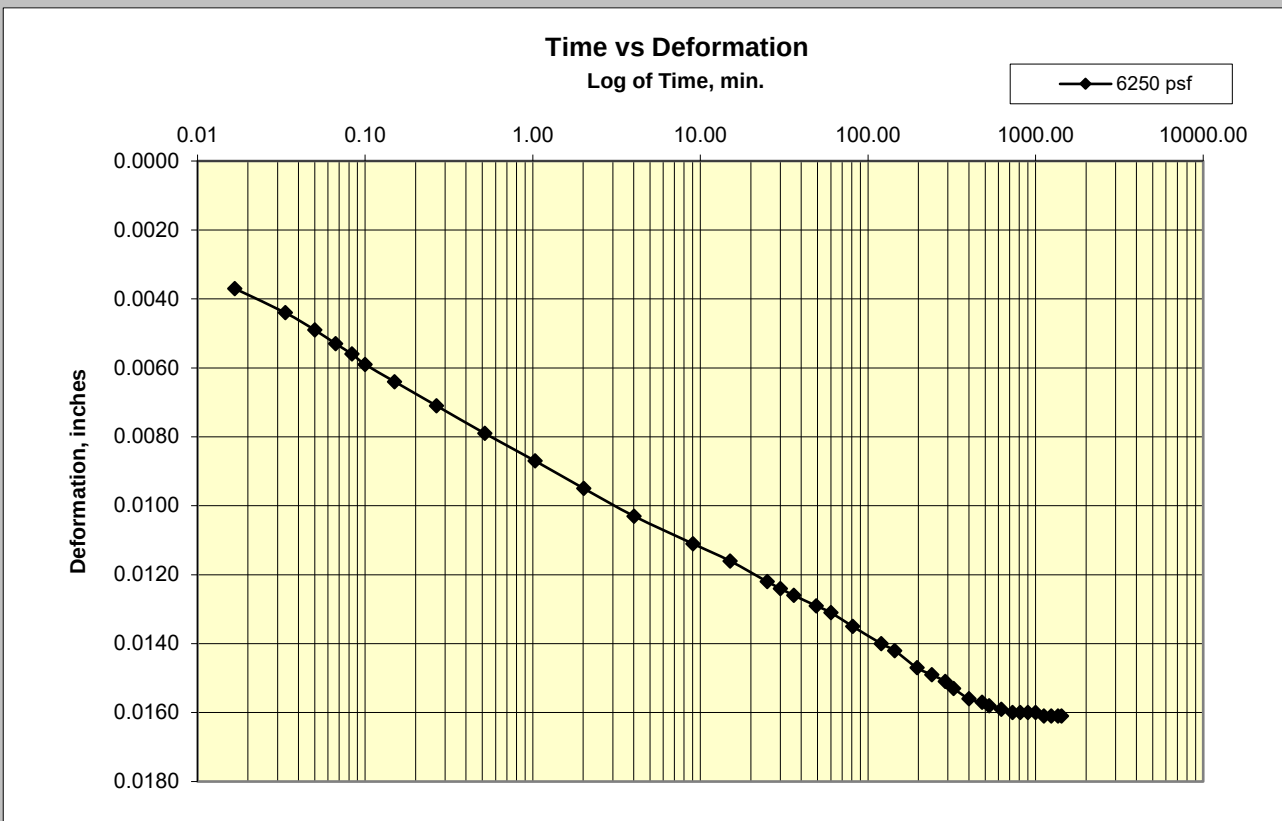
12500 psf



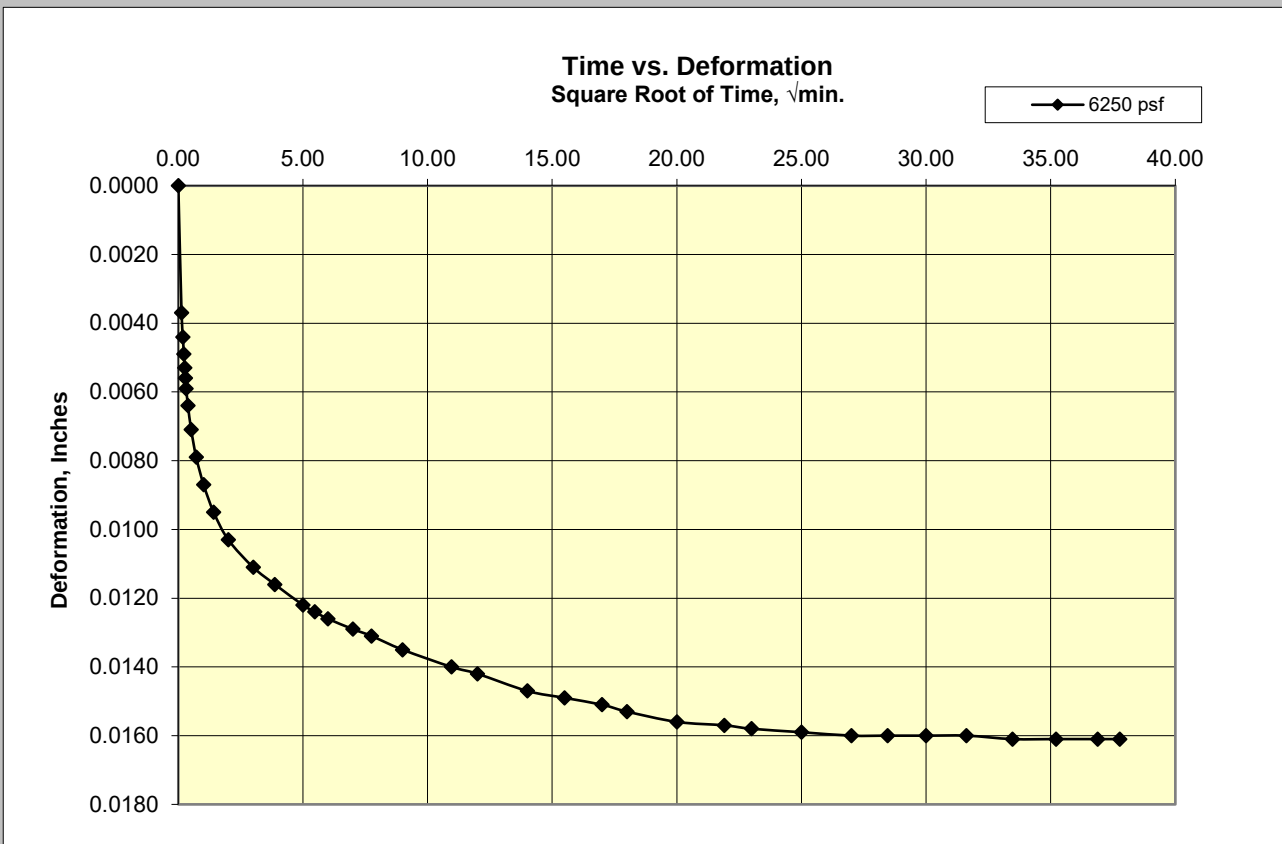
Cooper Testing Labs, Inc.

Load 7

6250 psf



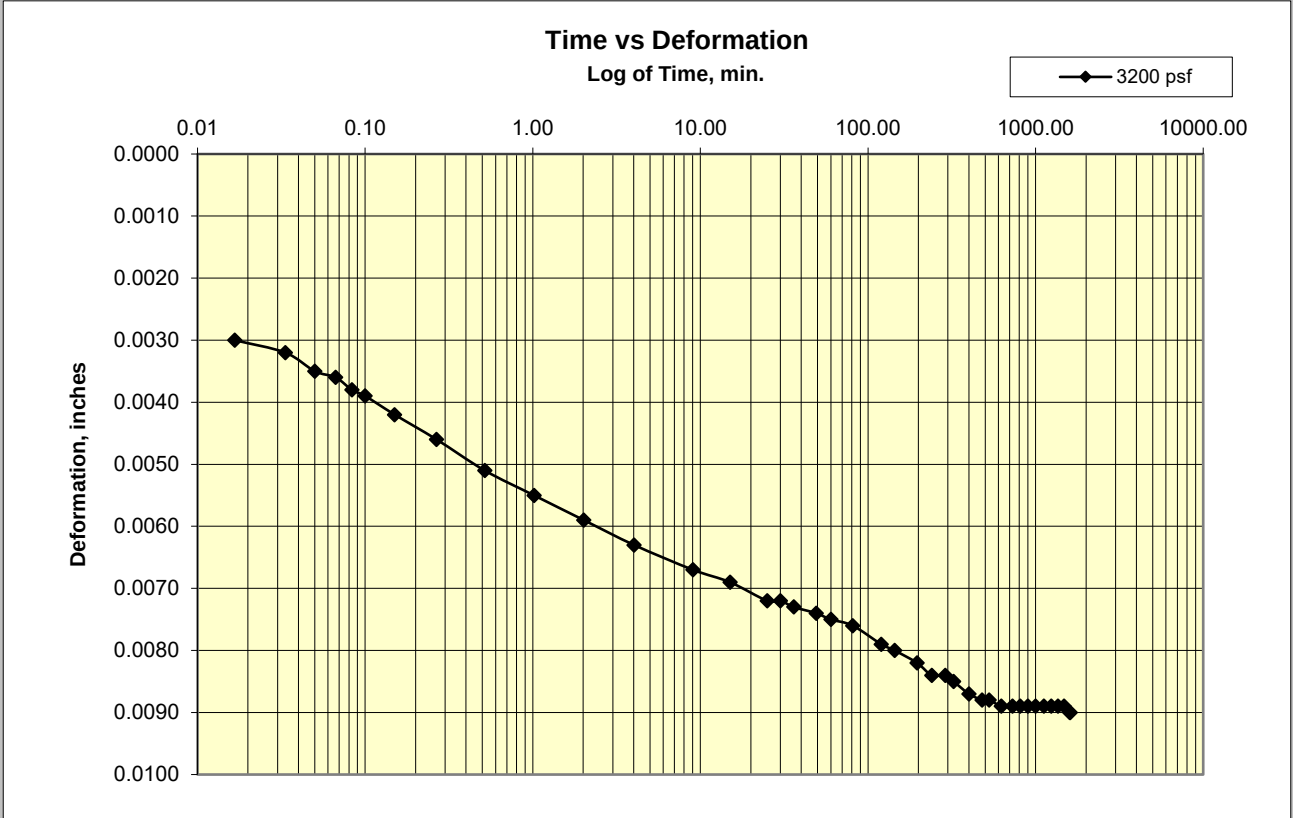
6250 psf



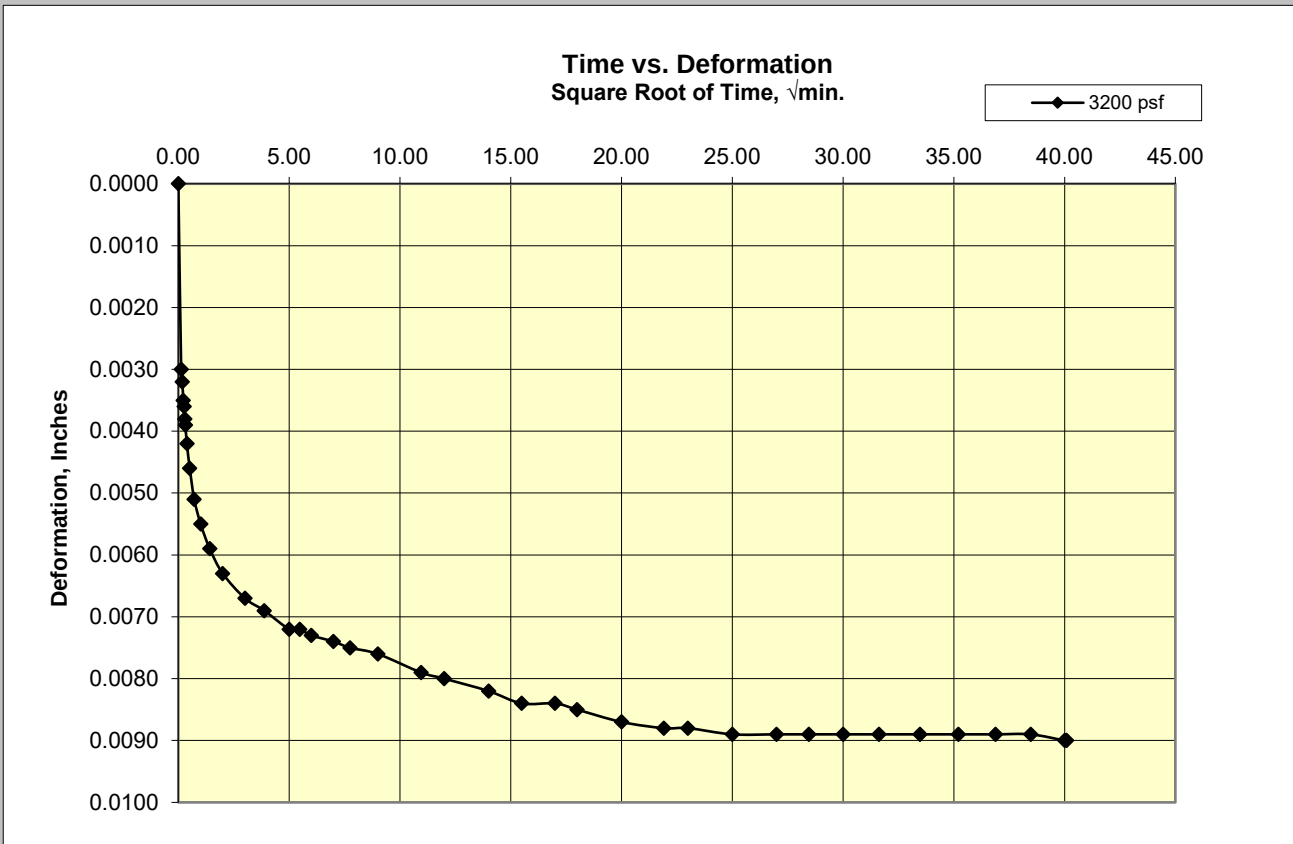
Cooper Testing Labs, Inc.

Load 6

3200 psf



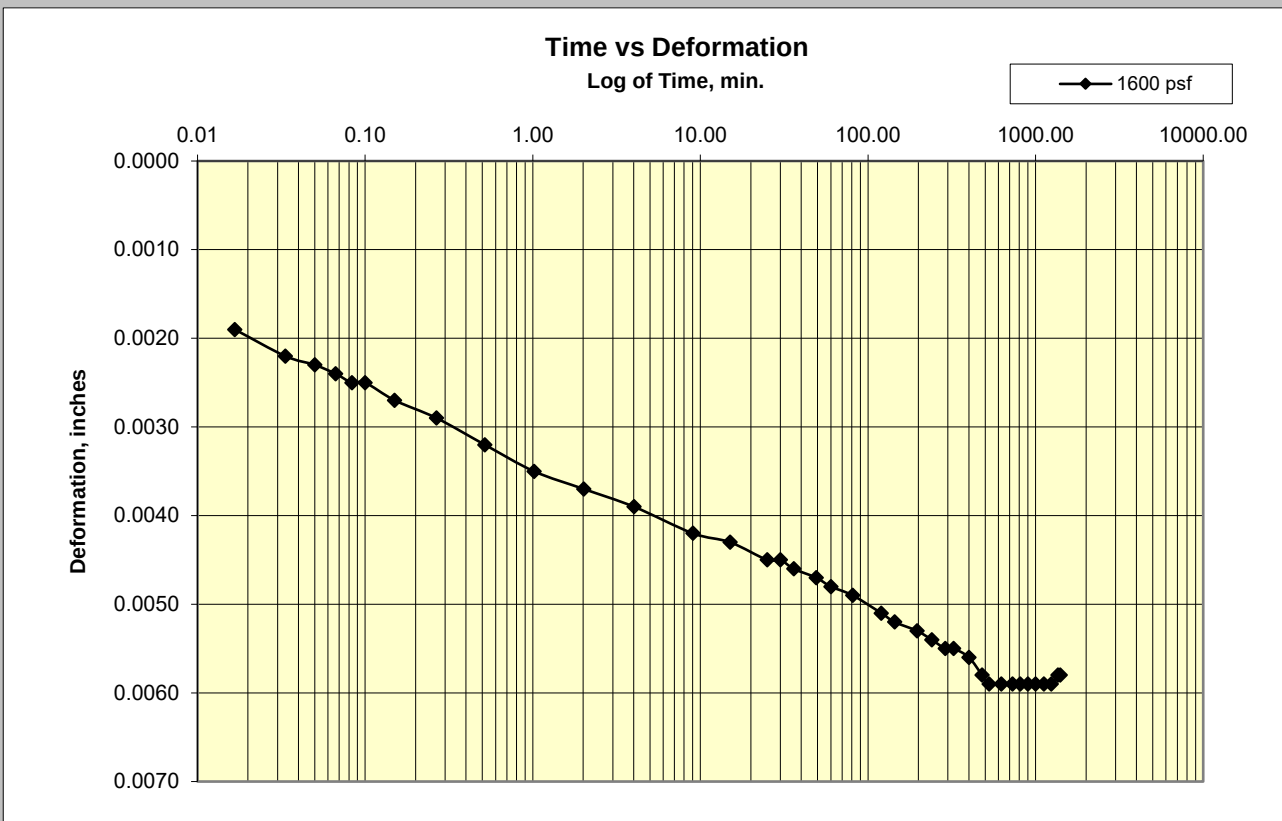
3200 psf



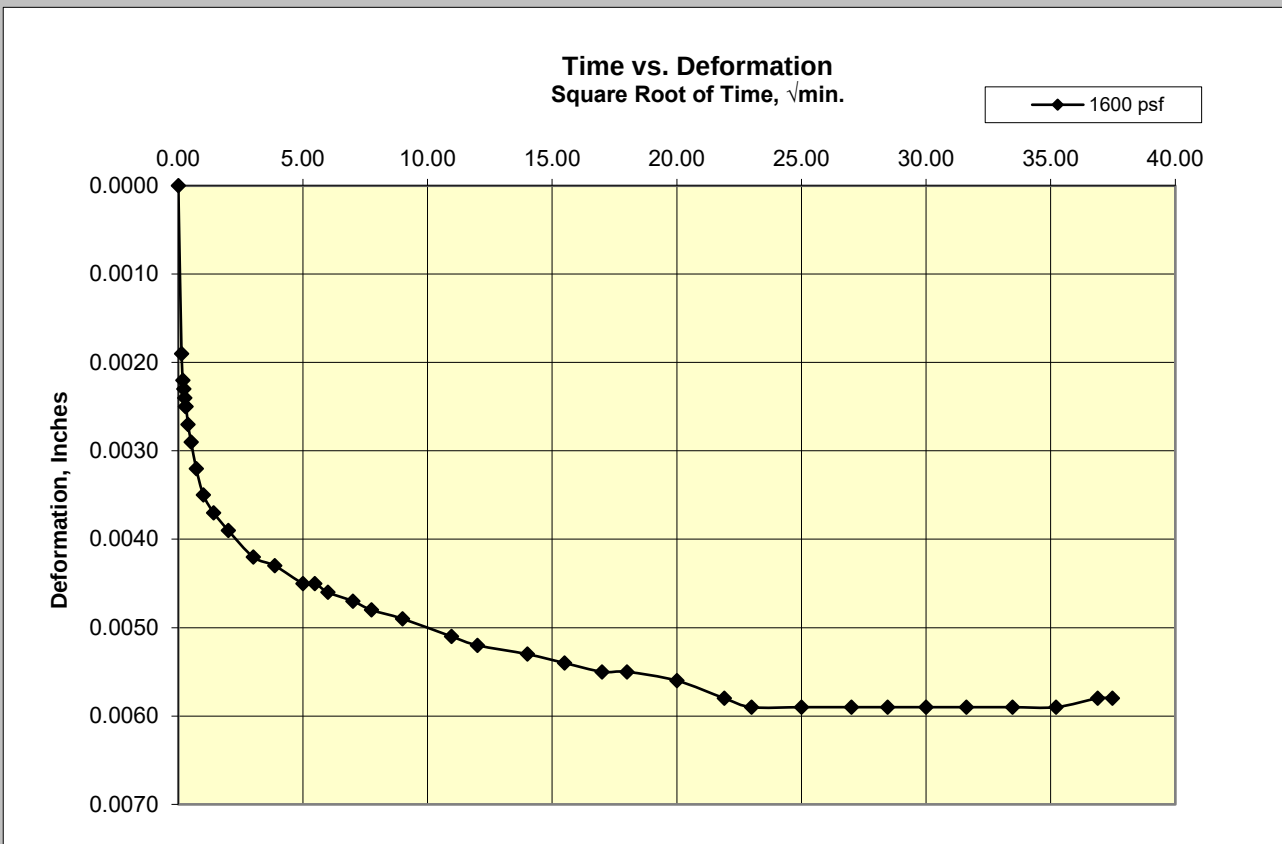
Cooper Testing Labs, Inc.

Load 5

1600 psf



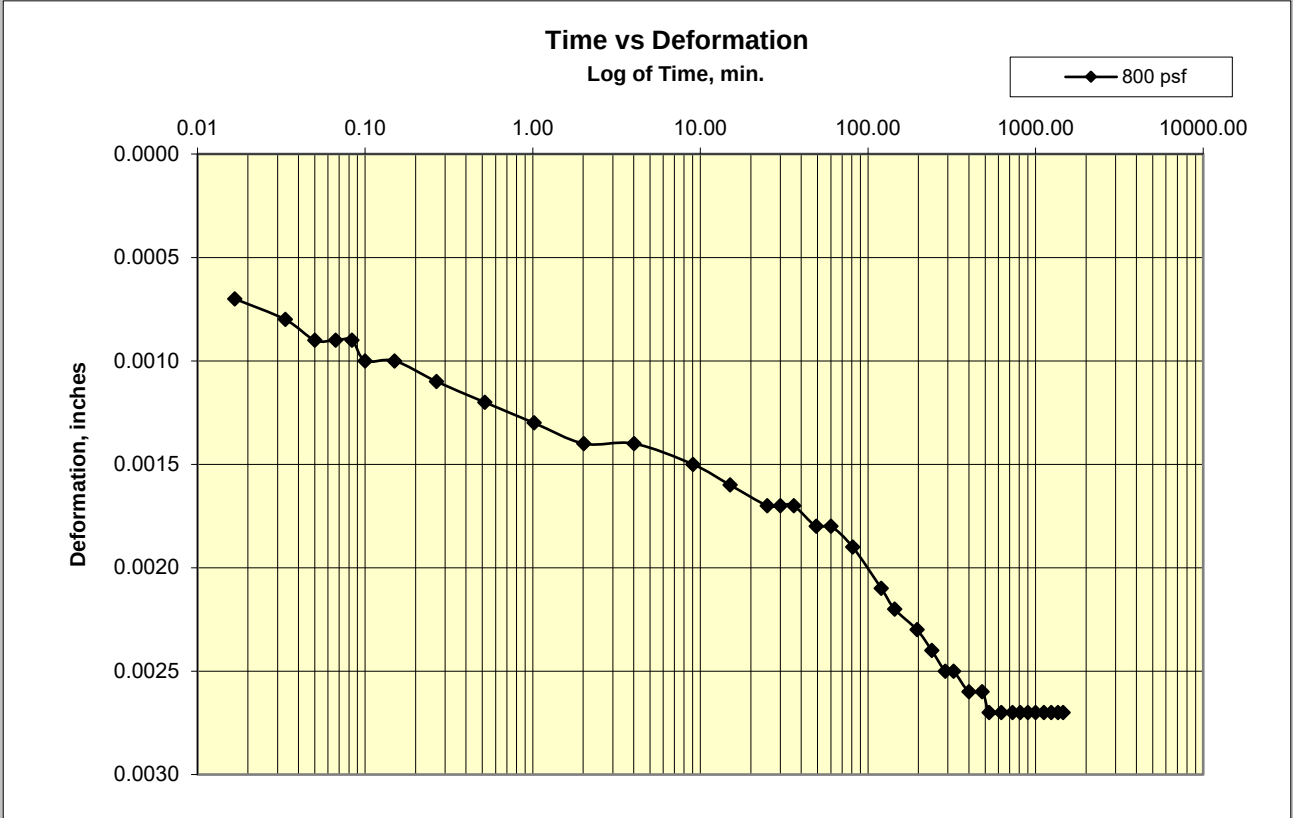
1600 psf



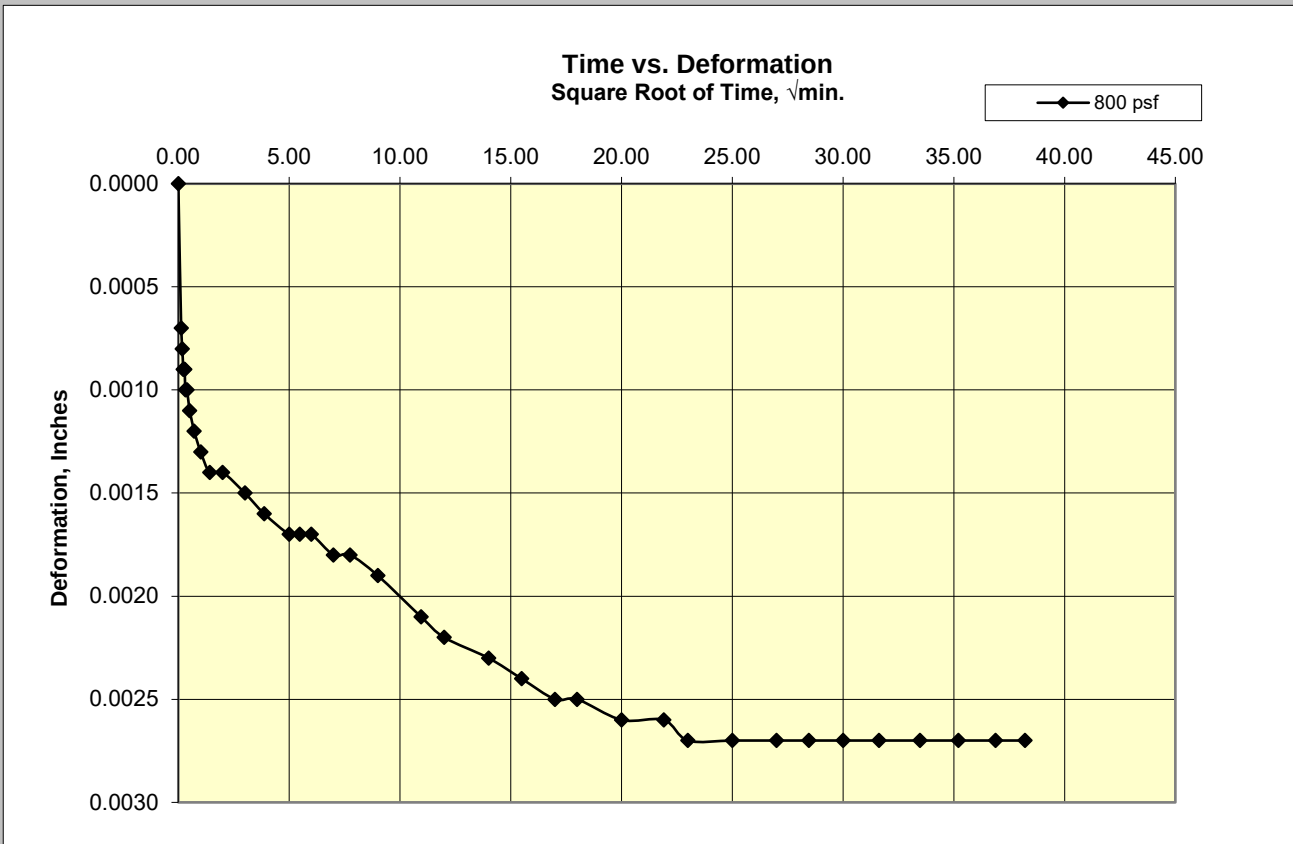
Cooper Testing Labs, Inc.

Load 4

800 psf



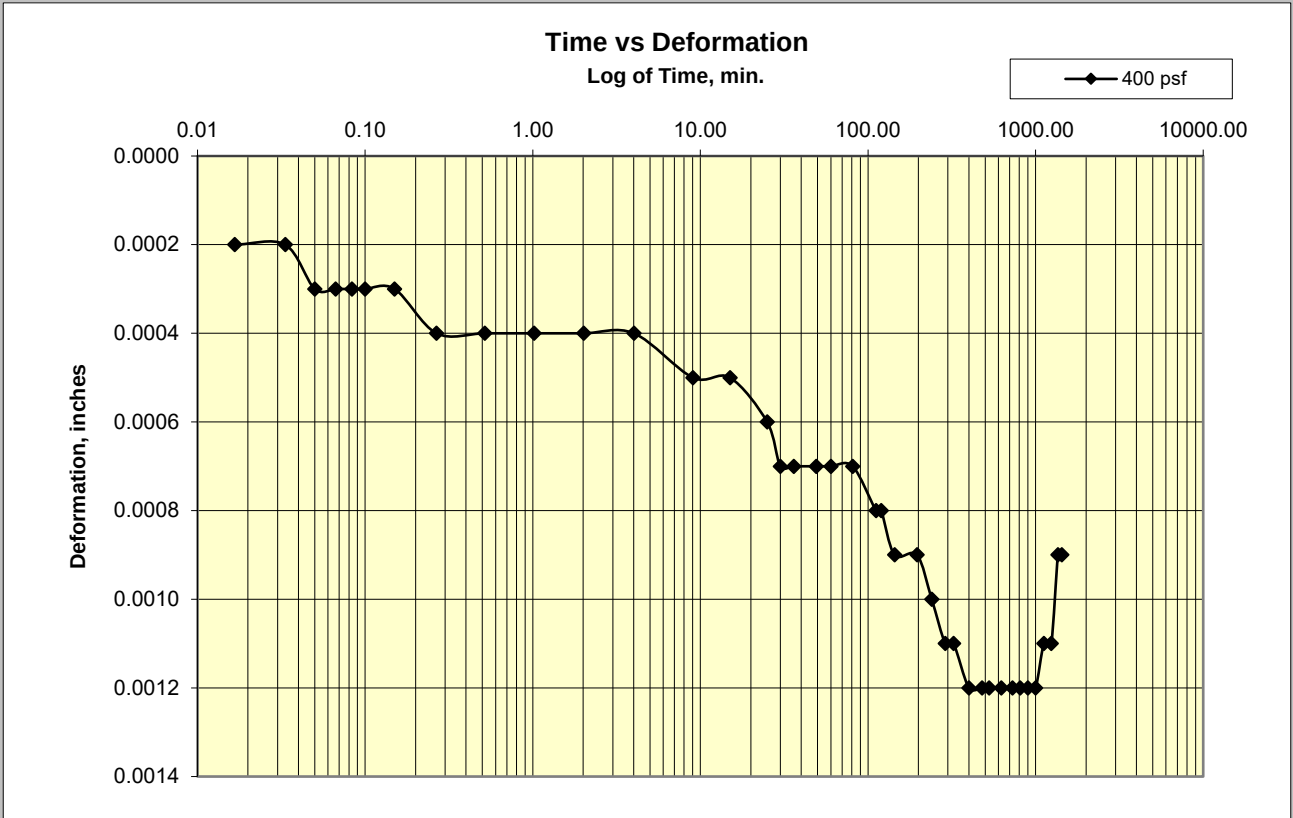
800 psf



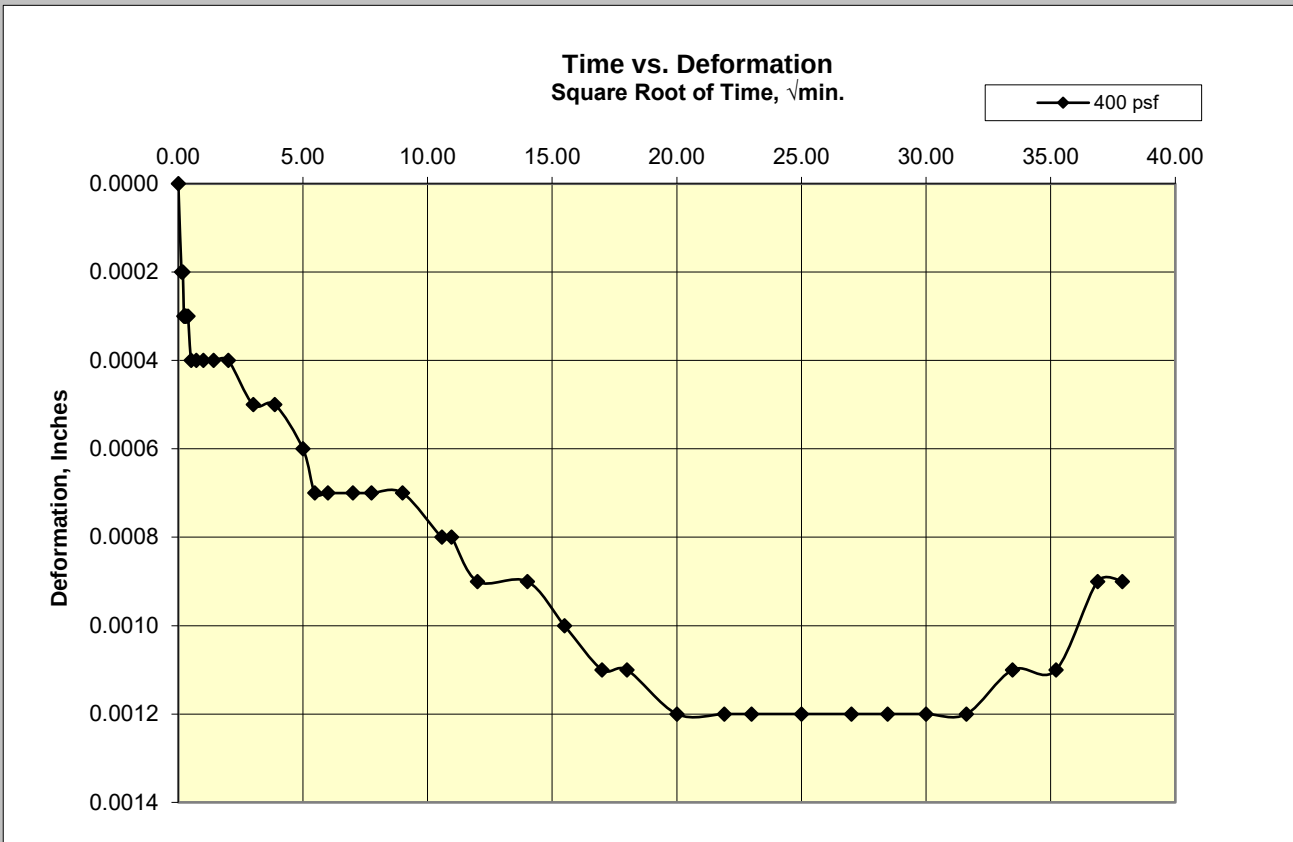
Cooper Testing Labs, Inc.

Load 3

400 psf



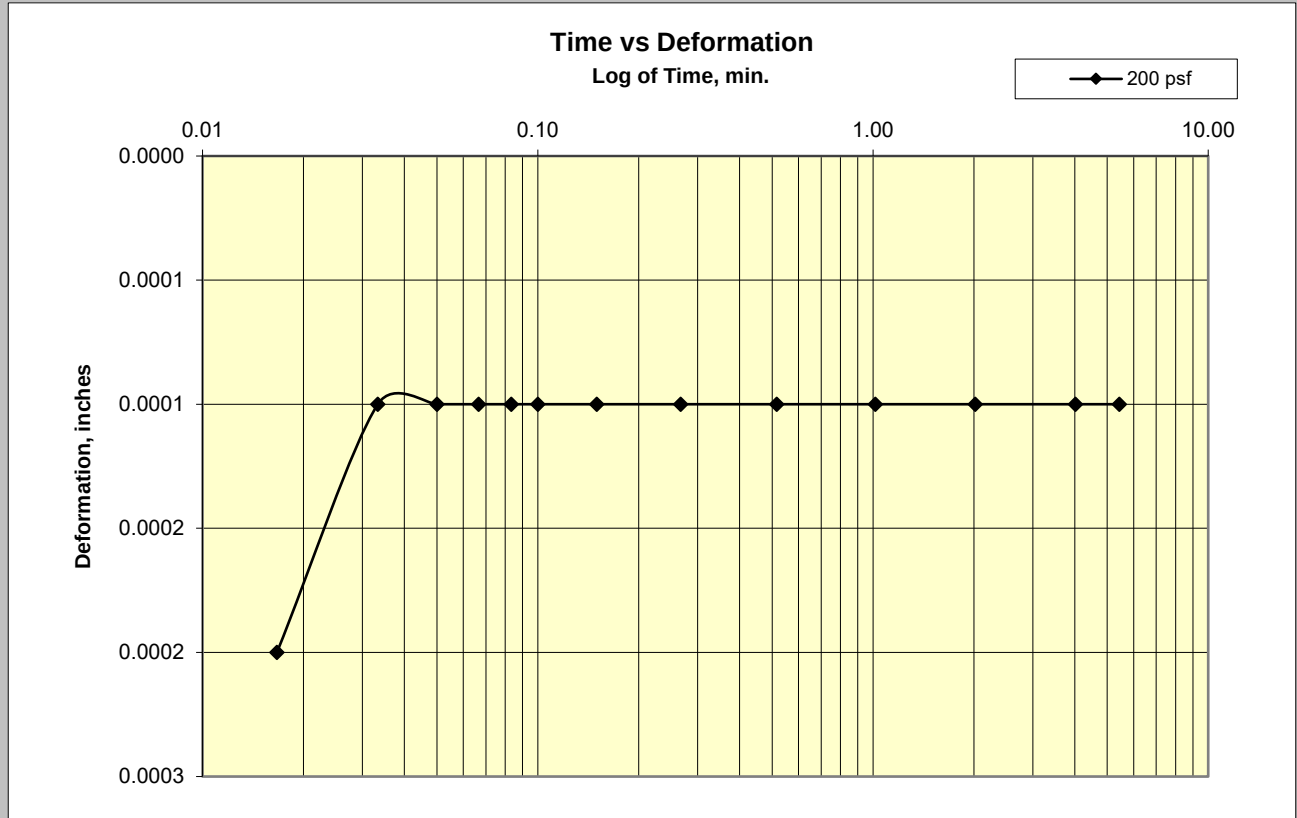
400 psf



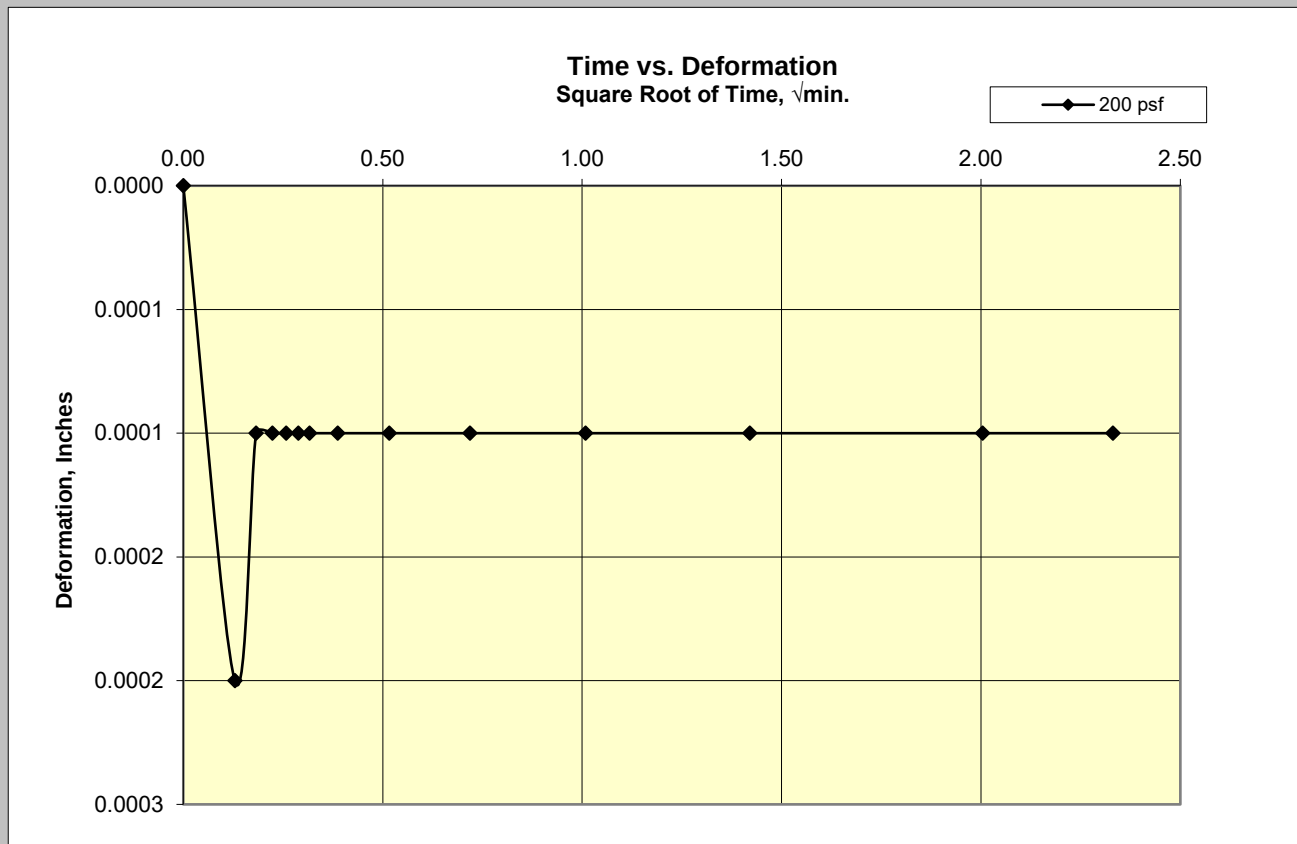
Cooper Testing Labs, Inc.

Load 2

200 psf



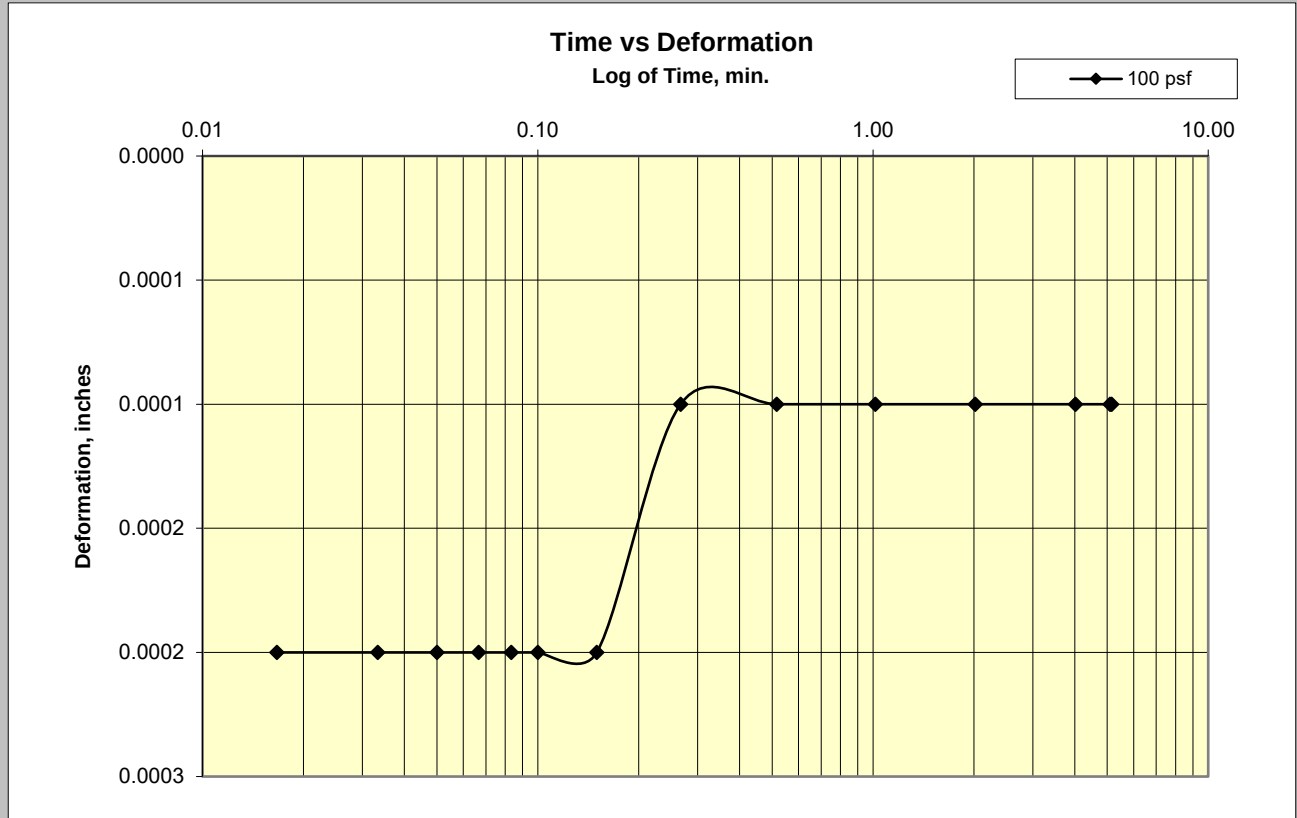
200 psf



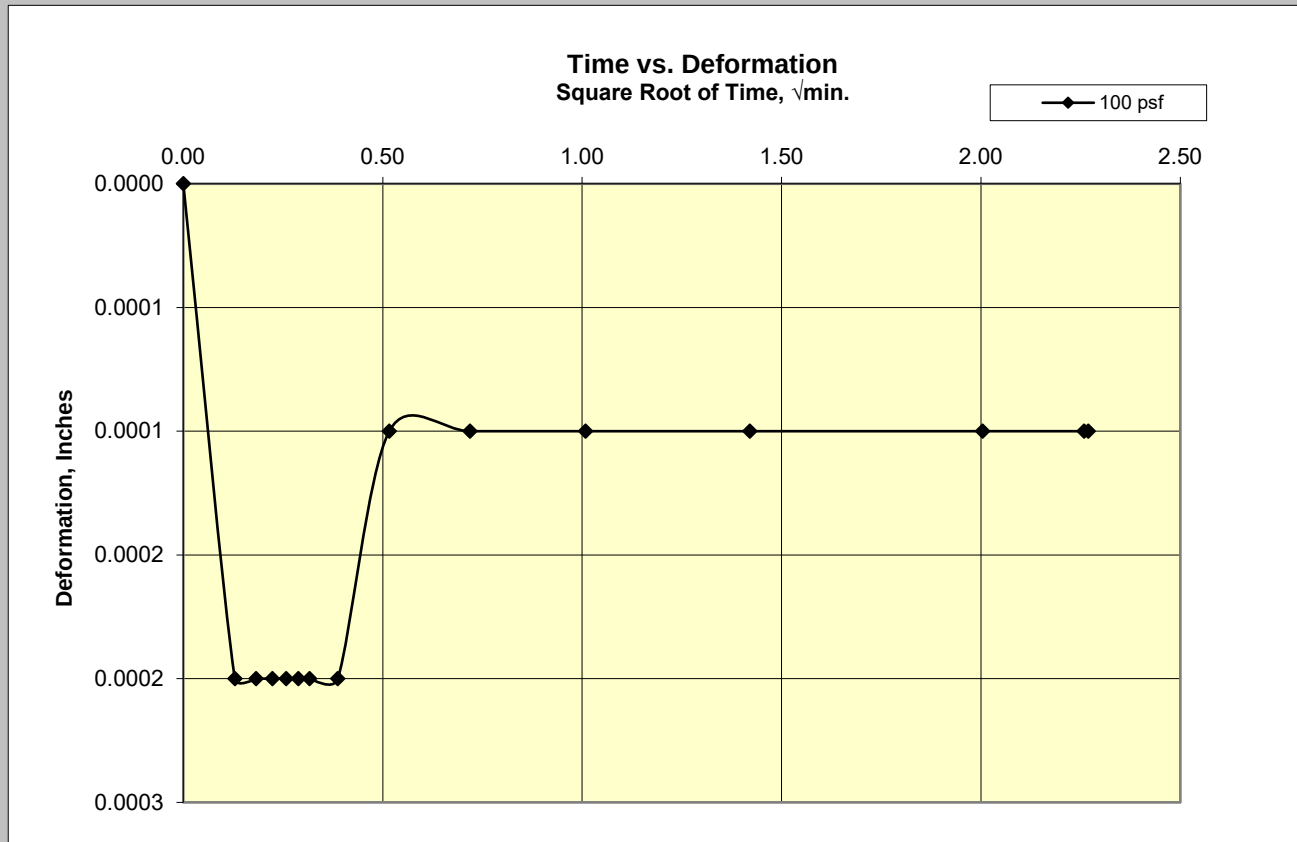
Cooper Testing Labs, Inc.

Load 1

100 psf



100 psf



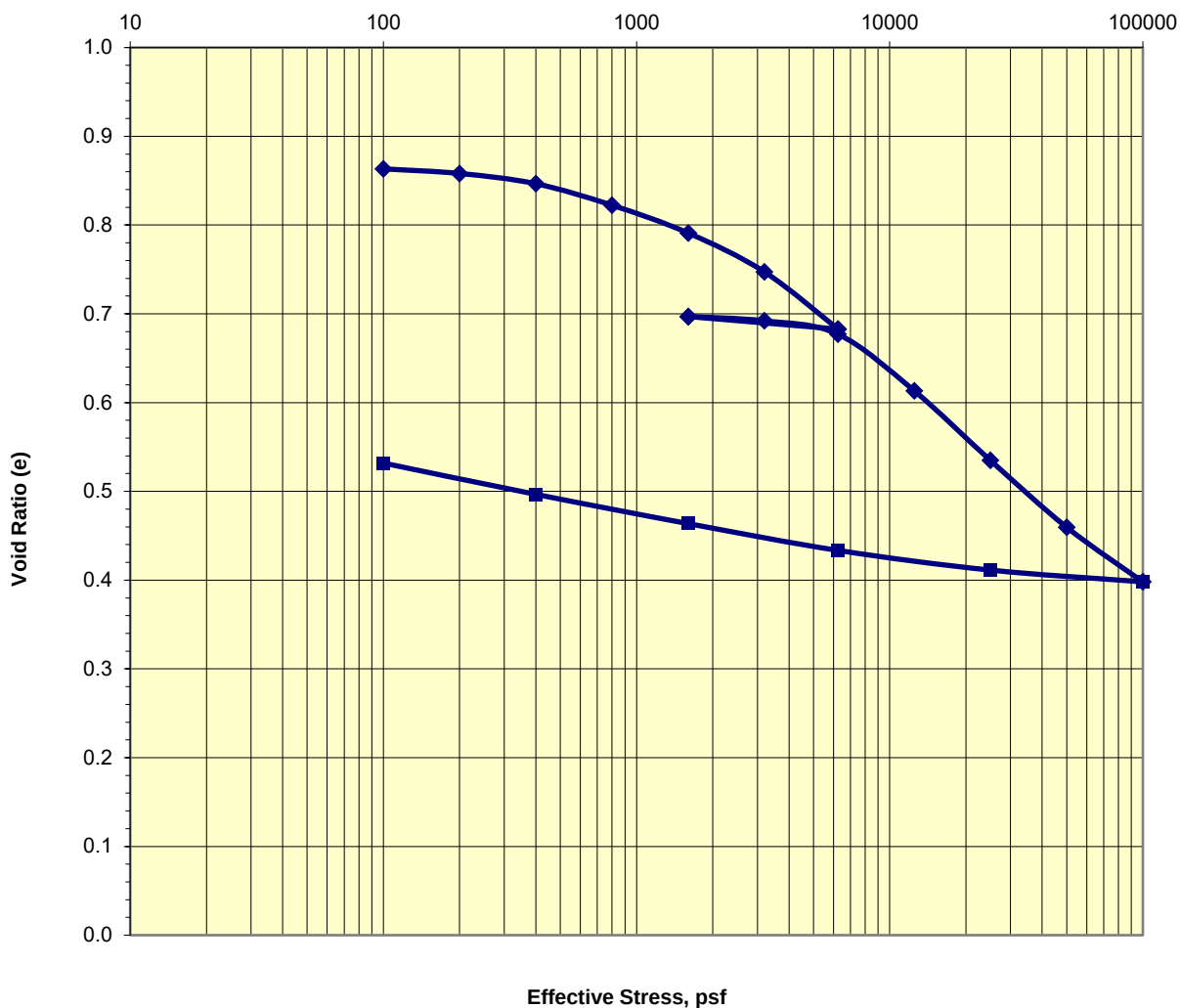


Consolidation Test

ASTM D2435

Job No.:	461-392	Boring:	B3	Run By:	HM
Client:	Geosyntec Consultants	Sample:	B3-2	Reduced:	RU
Project:	WG3607	Depth, ft.:	7-9.5(Tip-2")	Checked:	PJ
Soil Type:	Olive Gray Sandy CLAY			Date:	3/24/2026

e-Log-P Curve



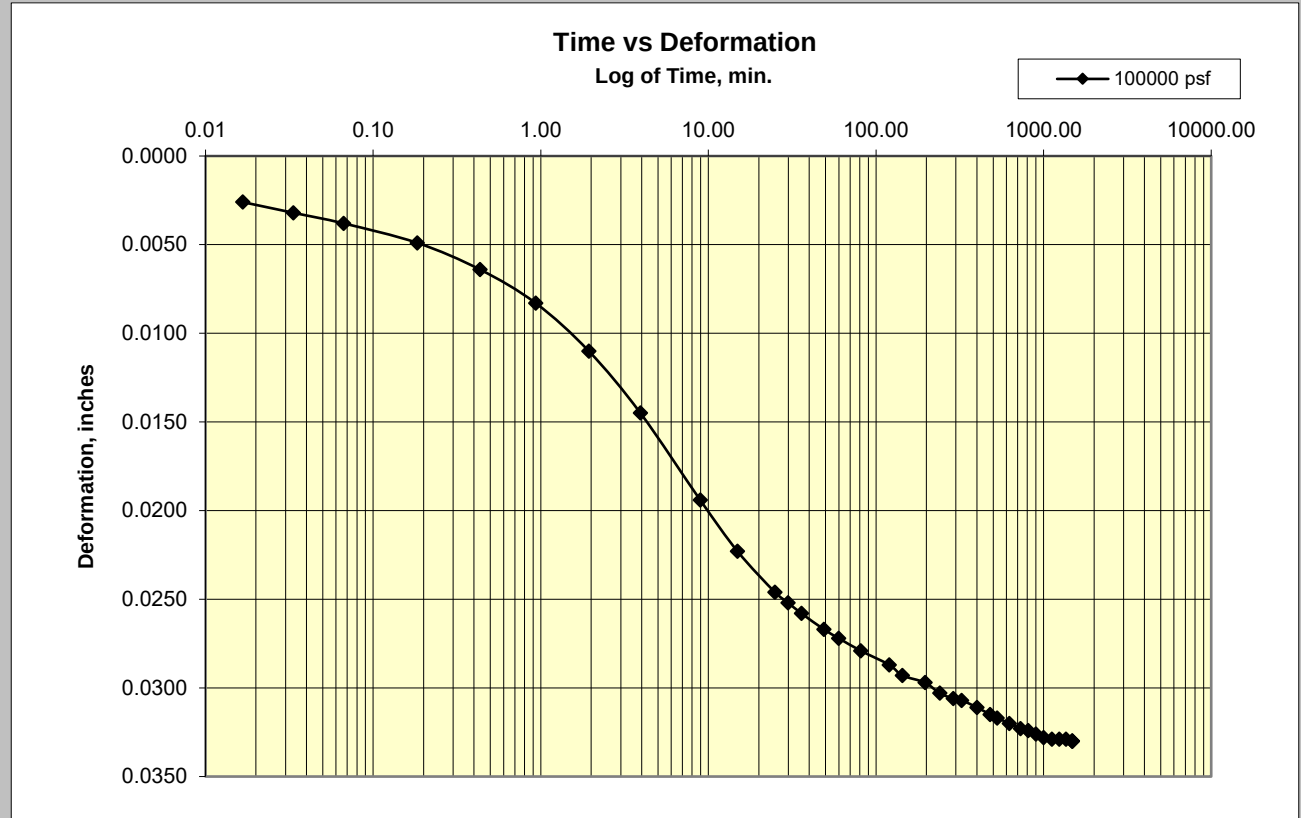
Assumed Gs	2.75	Initial	Final
Moisture %:		30.0	20.1
Dry Density, pcf:		92.1	110.6
Void Ratio:		0.863	0.552
% Saturation:		95.5	100.0

Remarks:

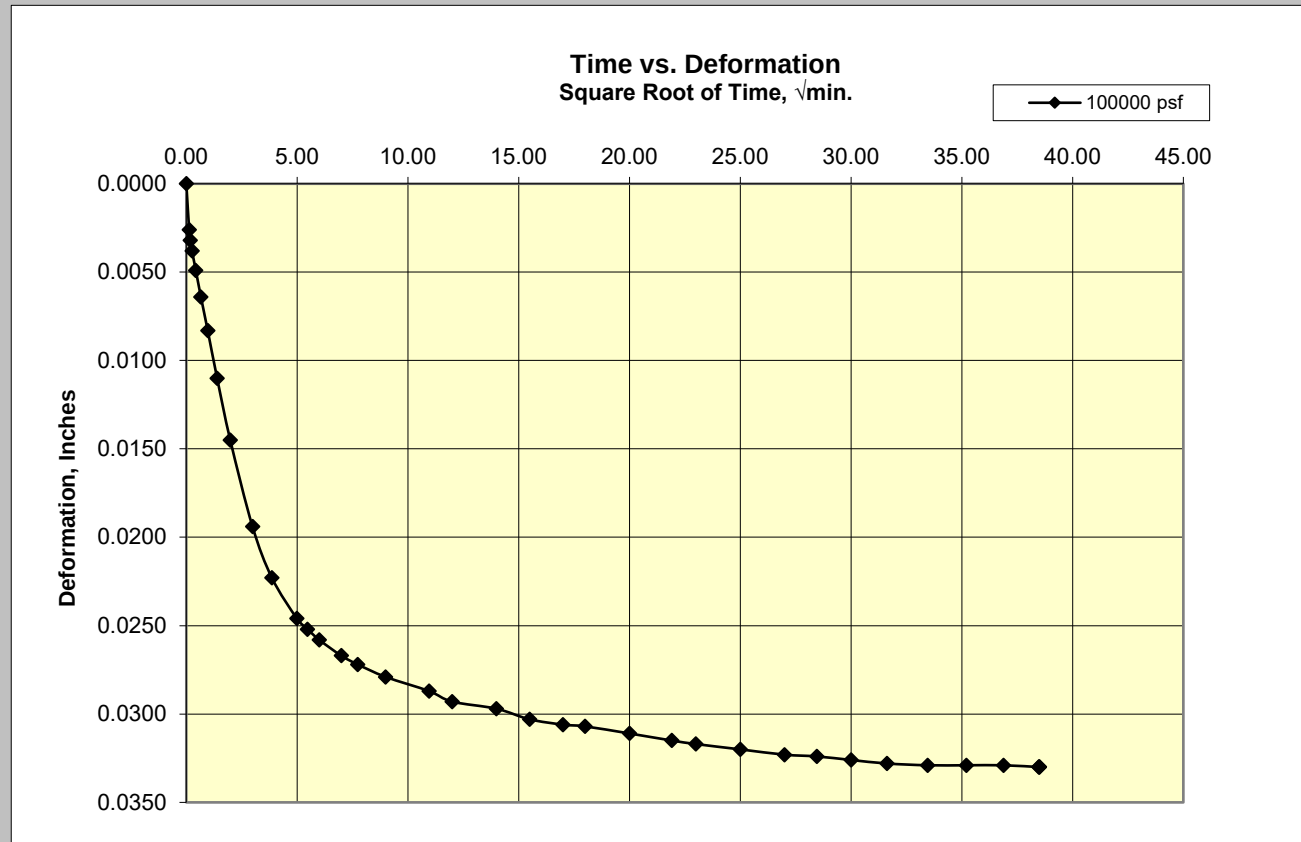
Cooper Testing Labs, Inc.

Load 14

100000 psf



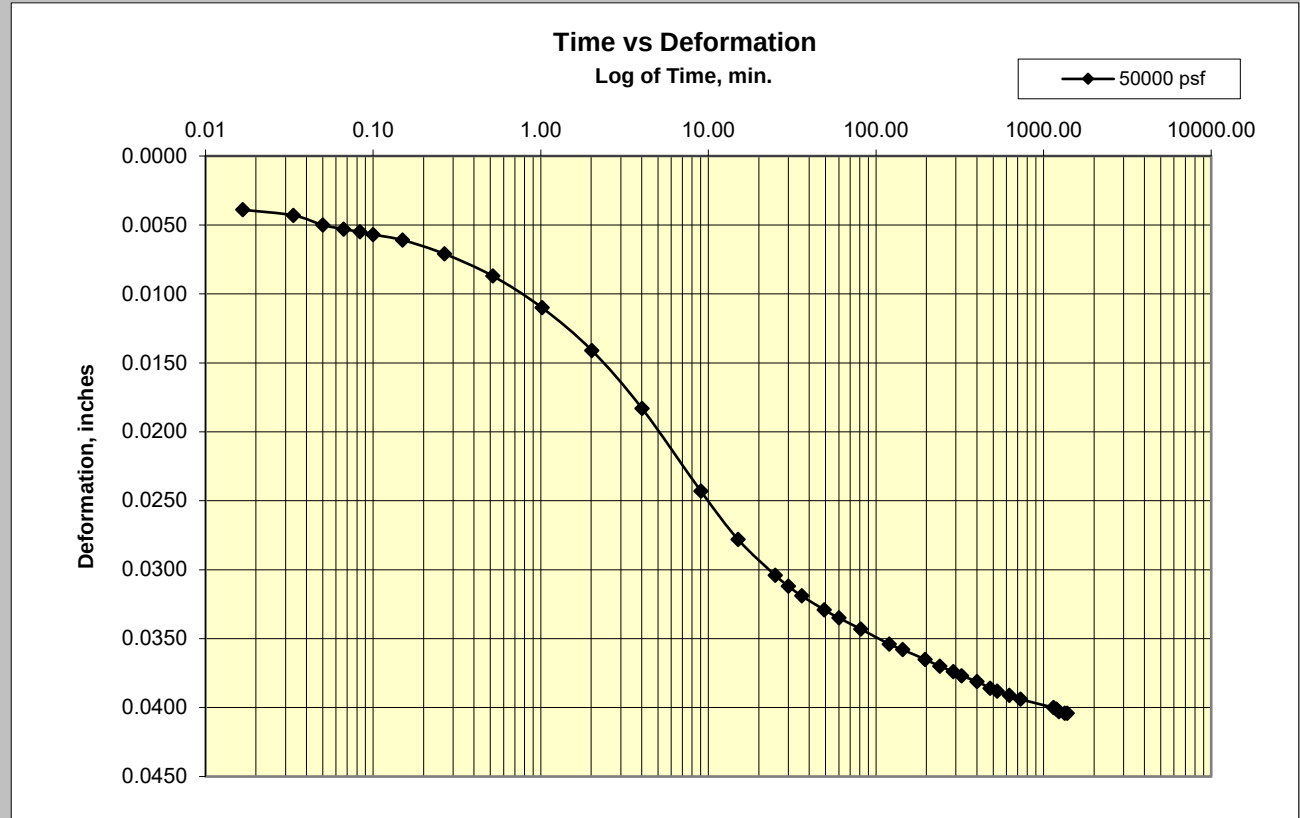
100000 psf



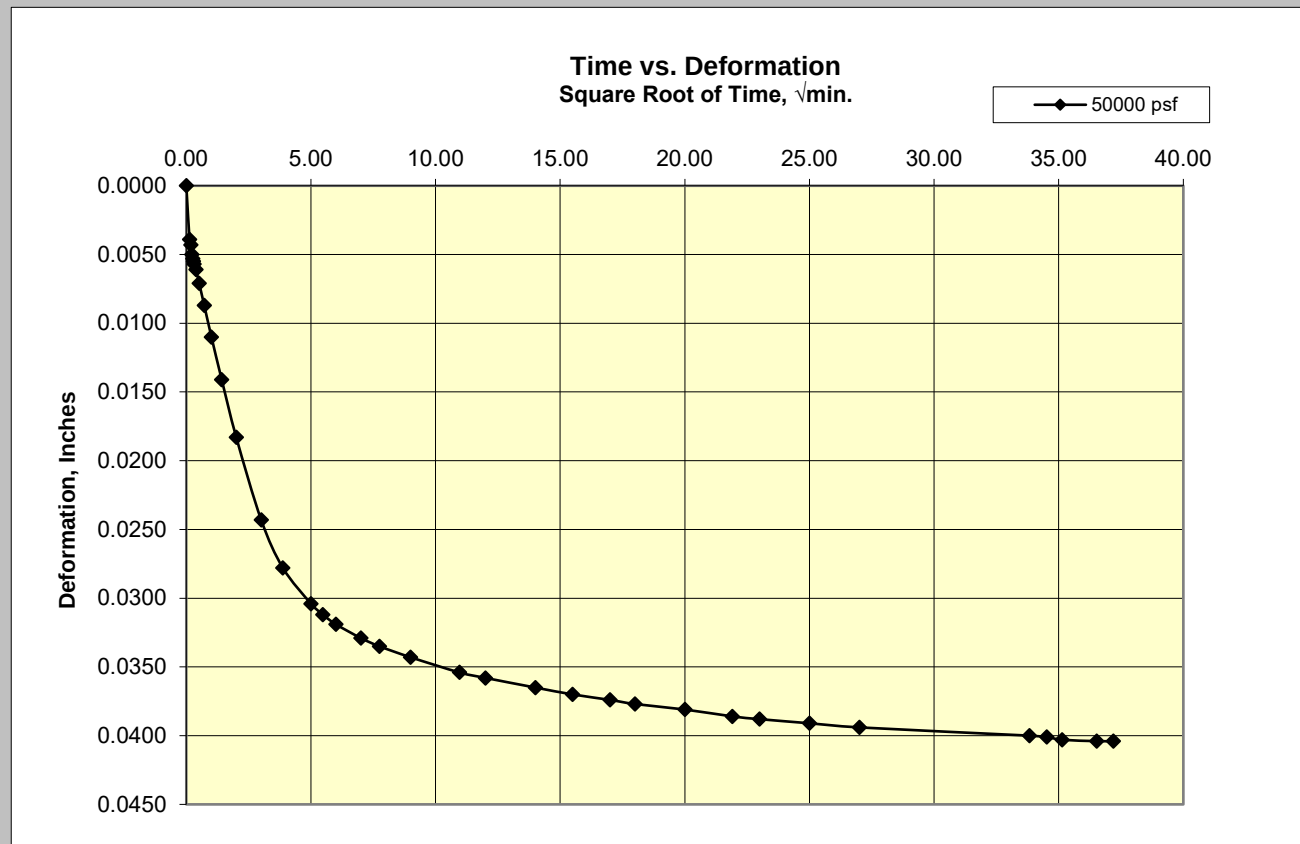
Cooper Testing Labs, Inc.

Load 13

50000 psf



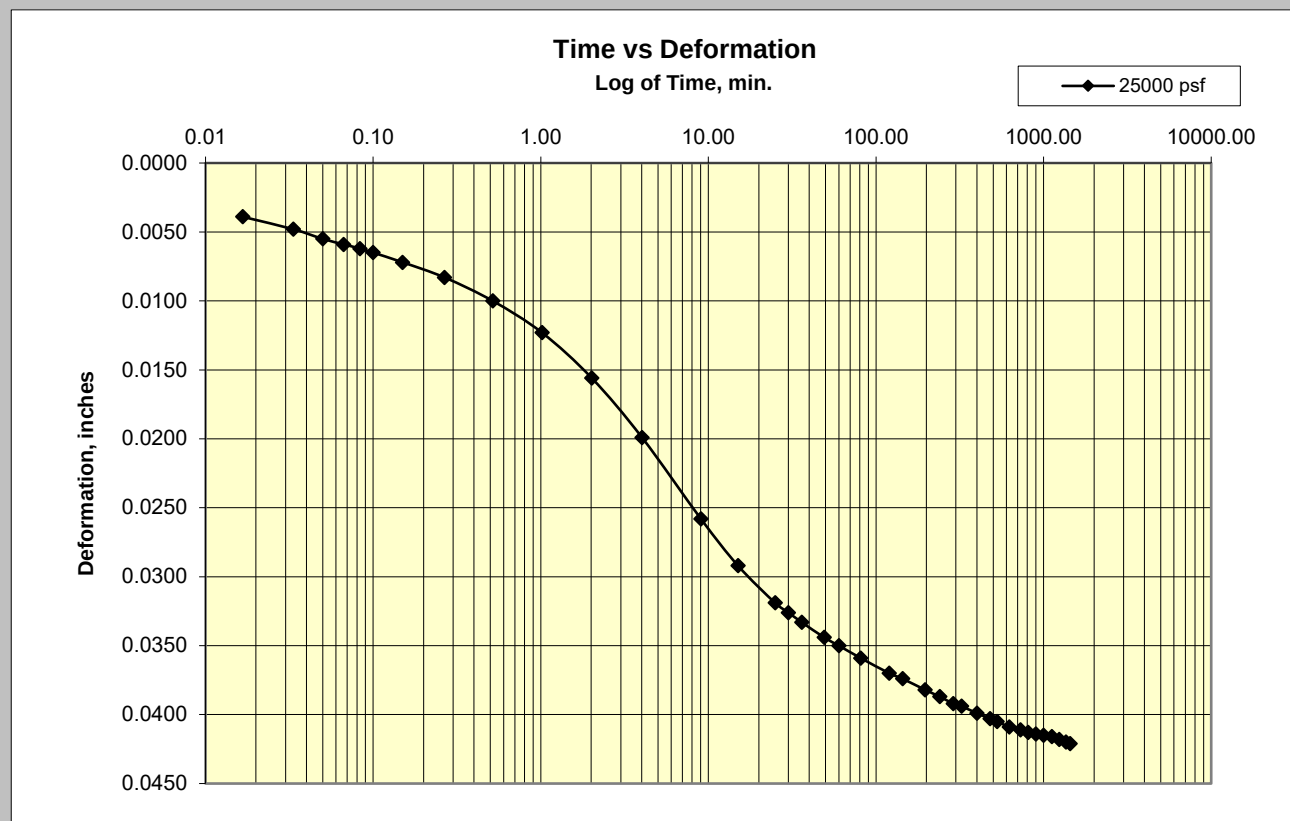
50000 psf



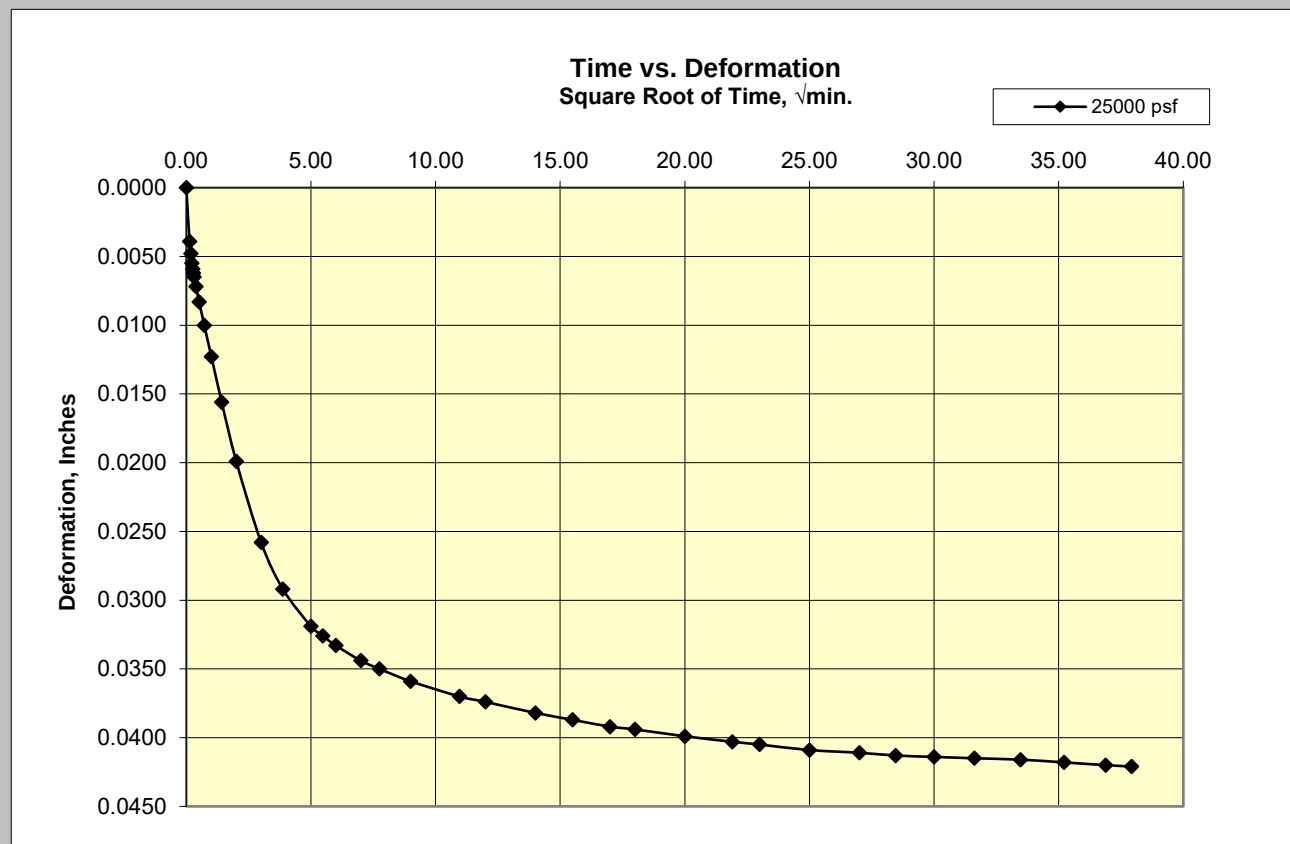
Cooper Testing Labs, Inc.

Load 12

25000 psf



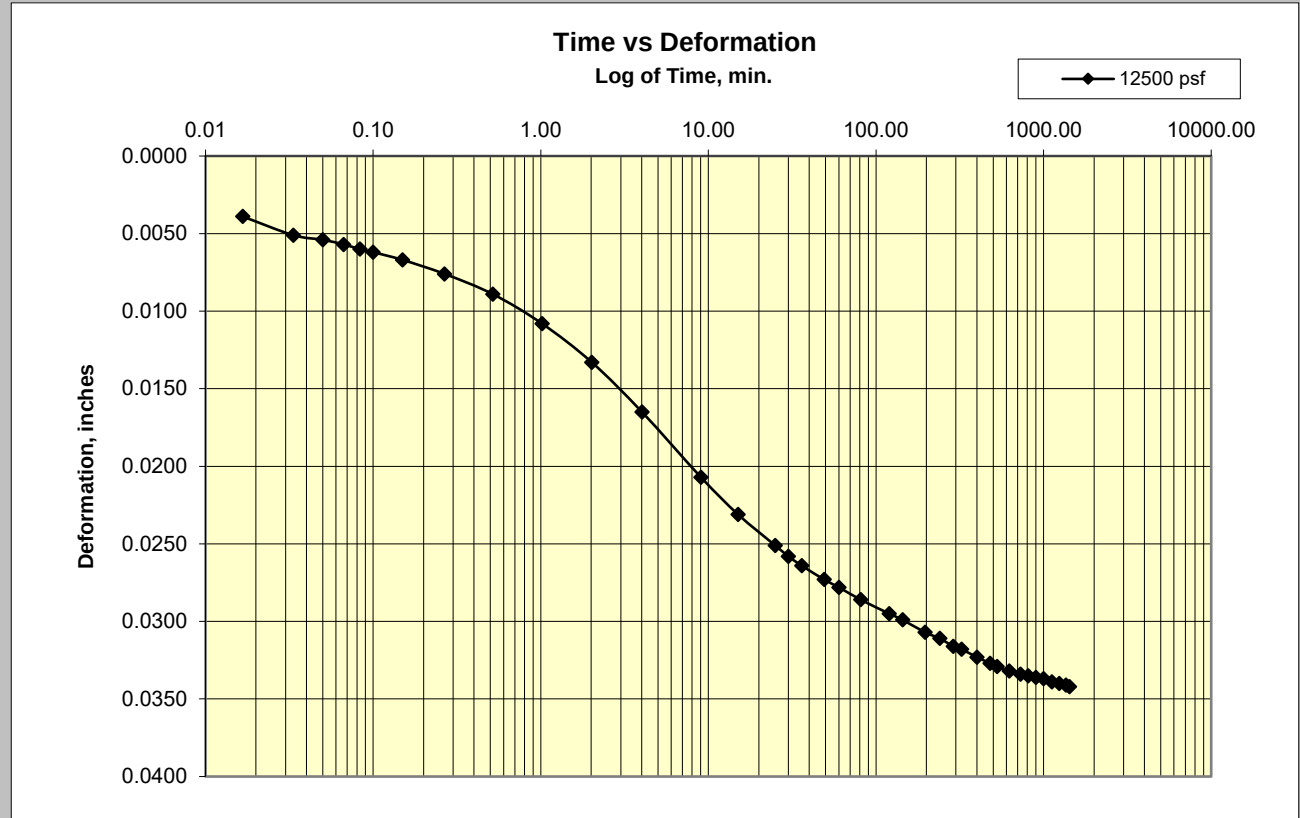
25000 psf



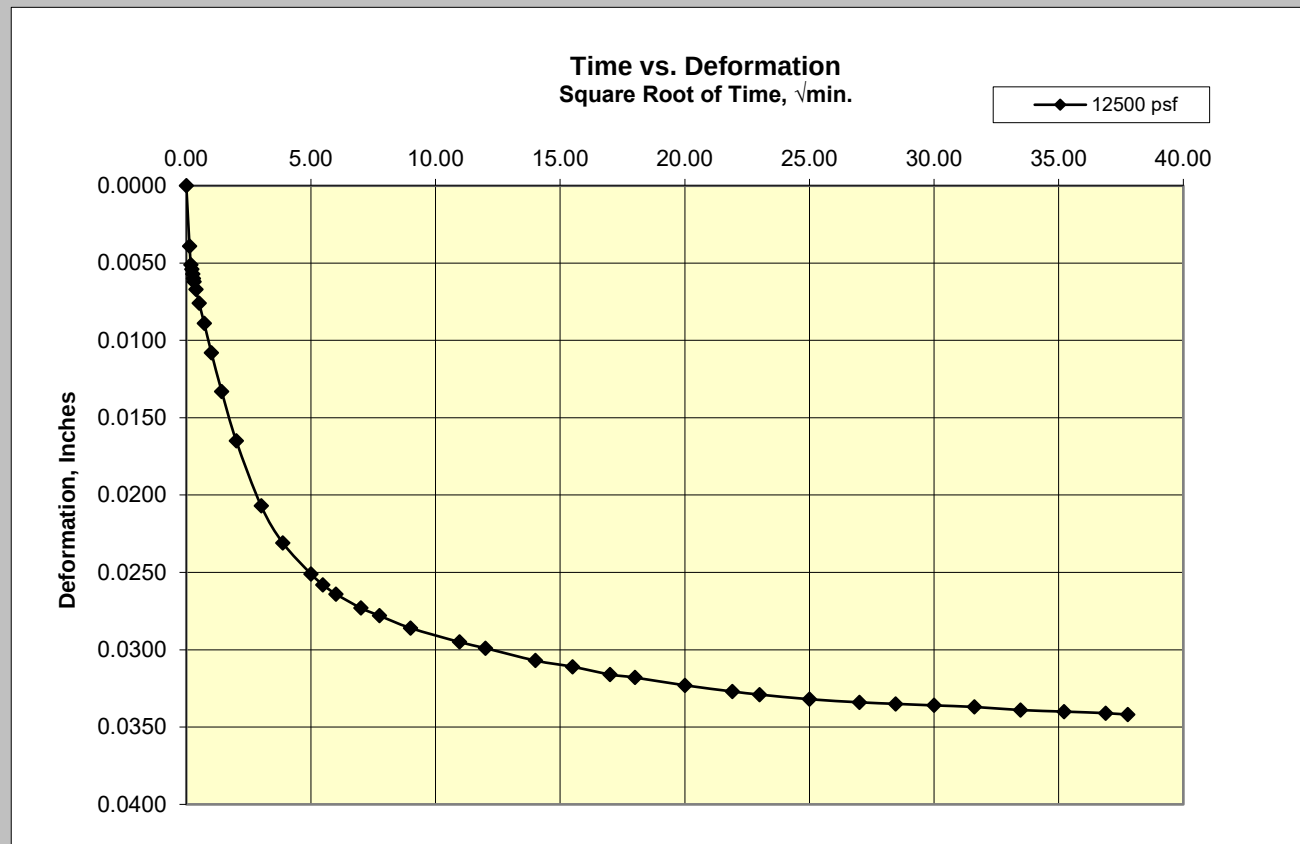
Cooper Testing Labs, Inc.

Load 11

12500 psf



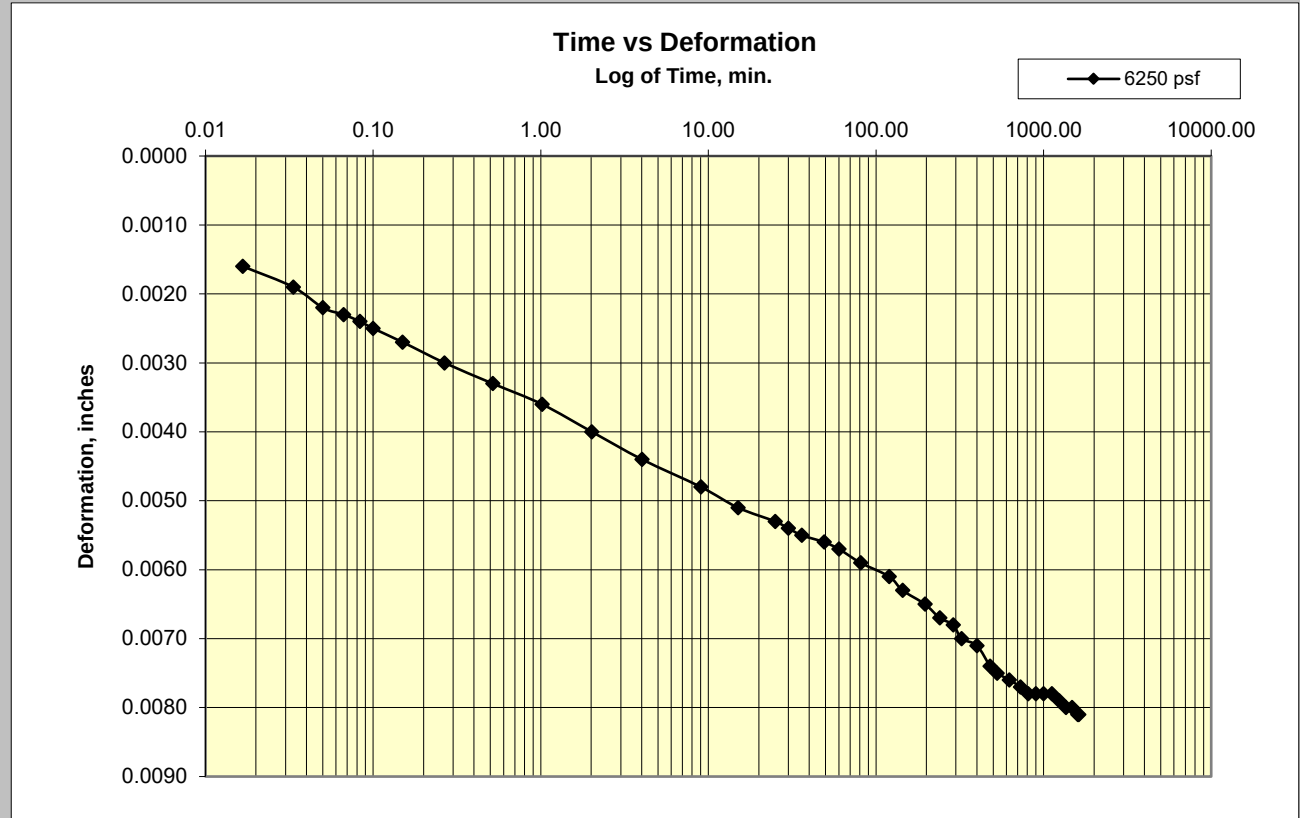
12500 psf



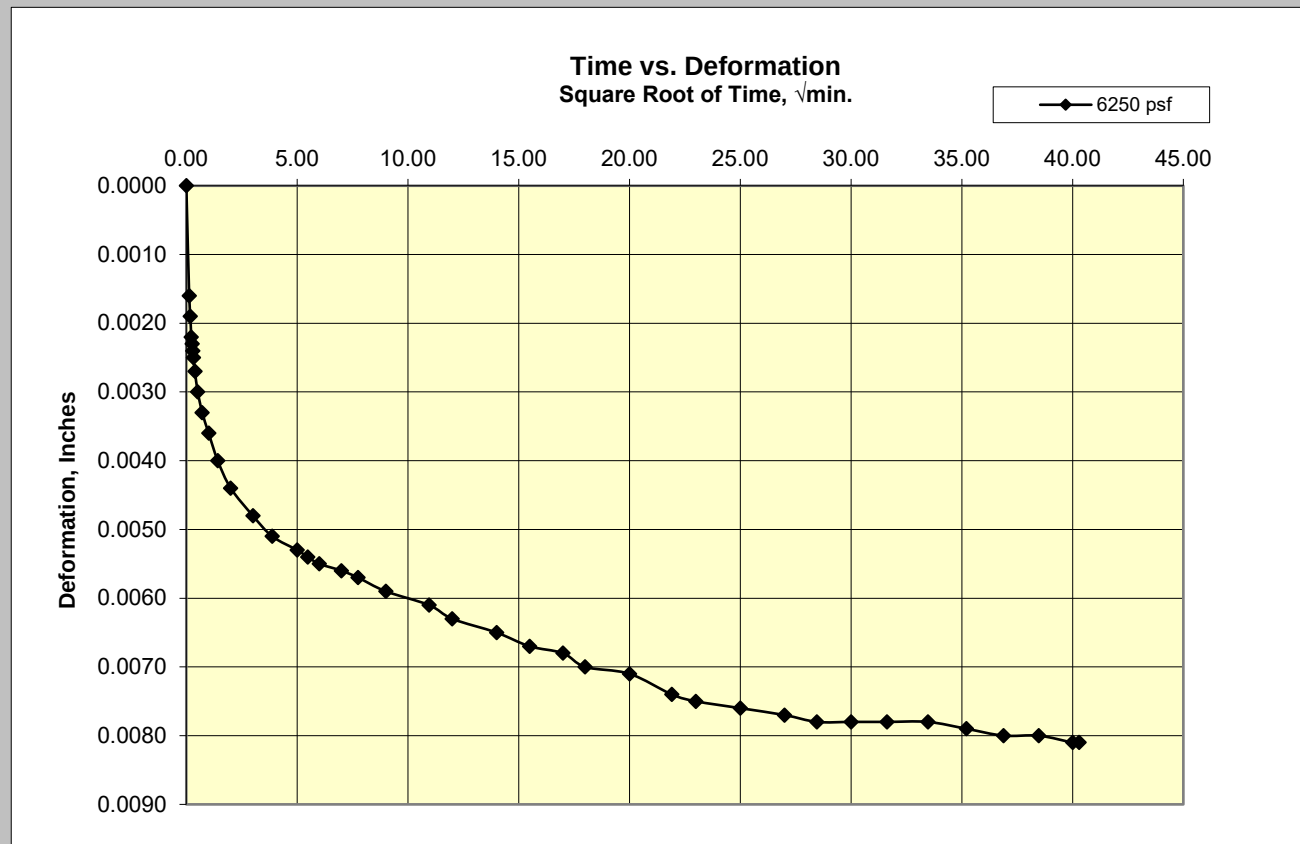
Cooper Testing Labs, Inc.

Load 10

6250 psf



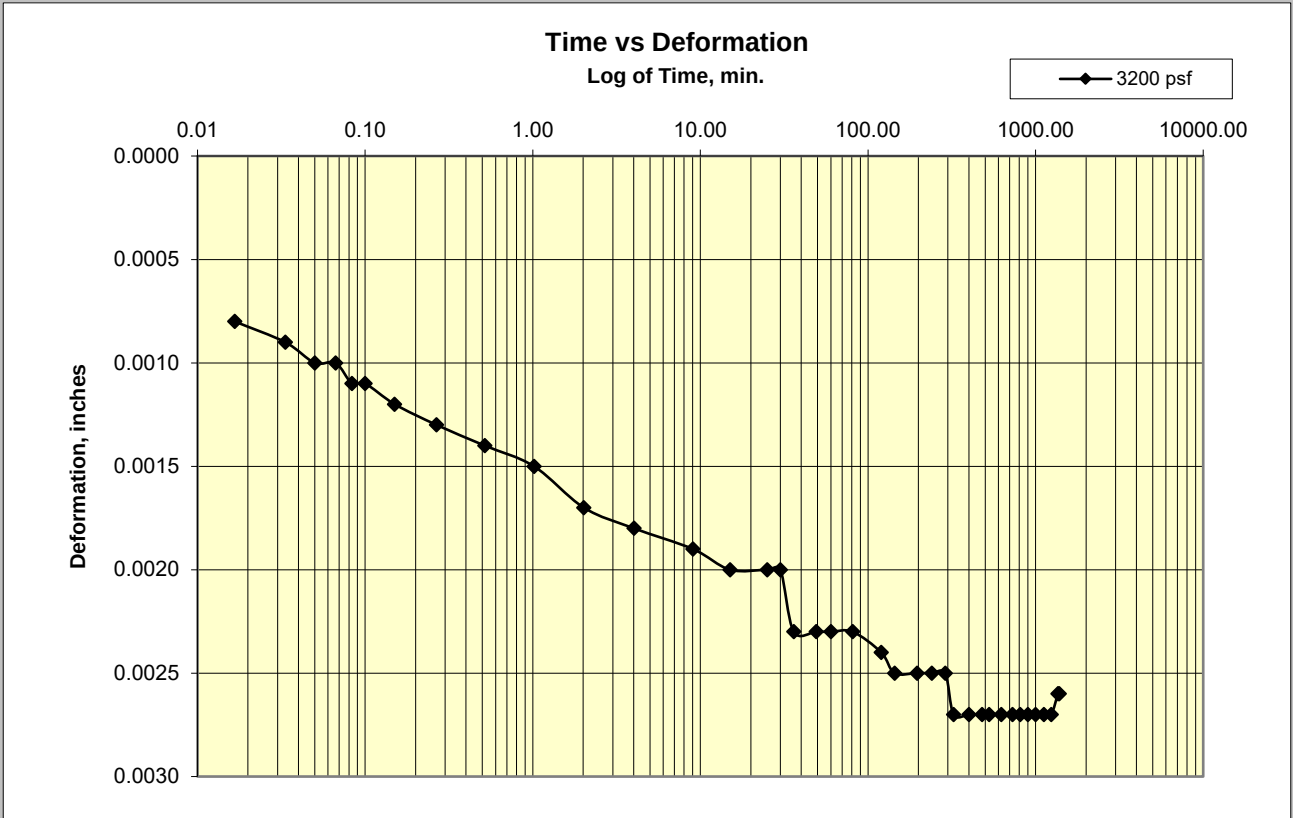
6250 psf



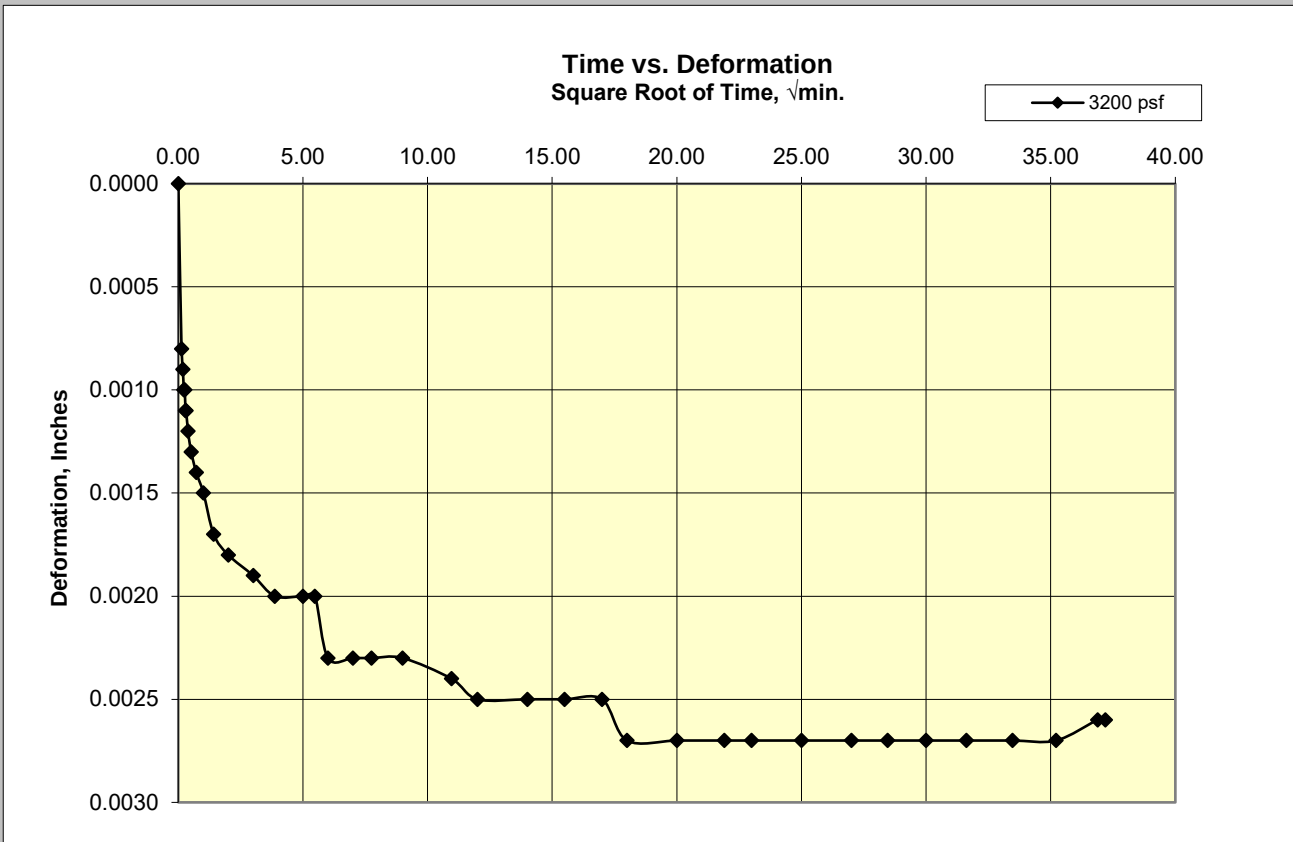
Cooper Testing Labs, Inc.

Load 9

3200 psf



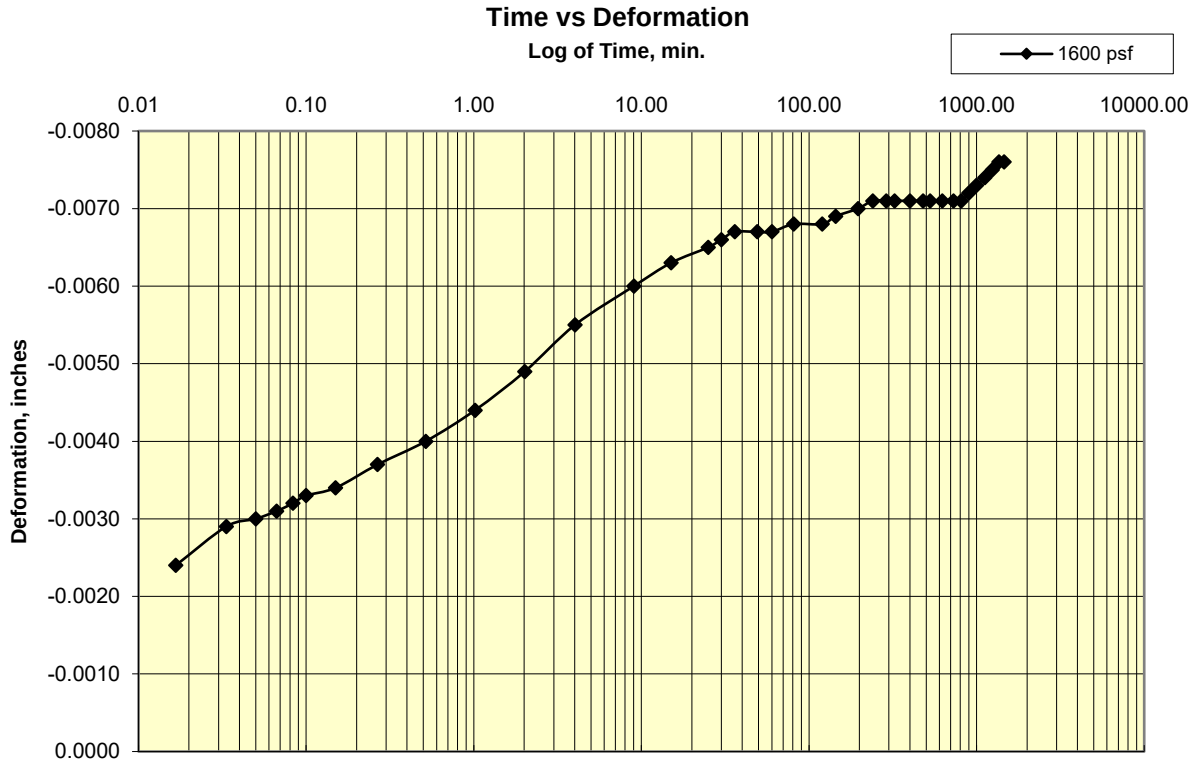
3200 psf



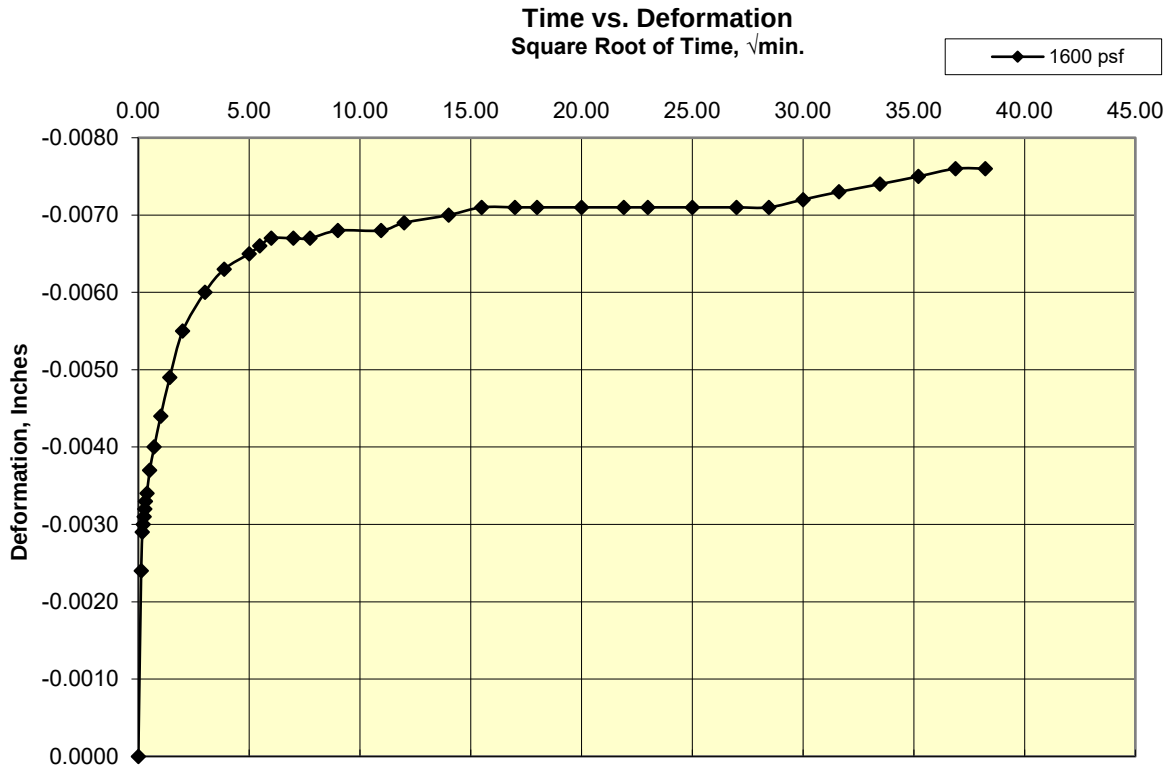
Cooper Testing Labs, Inc.

Load 8

1600 psf



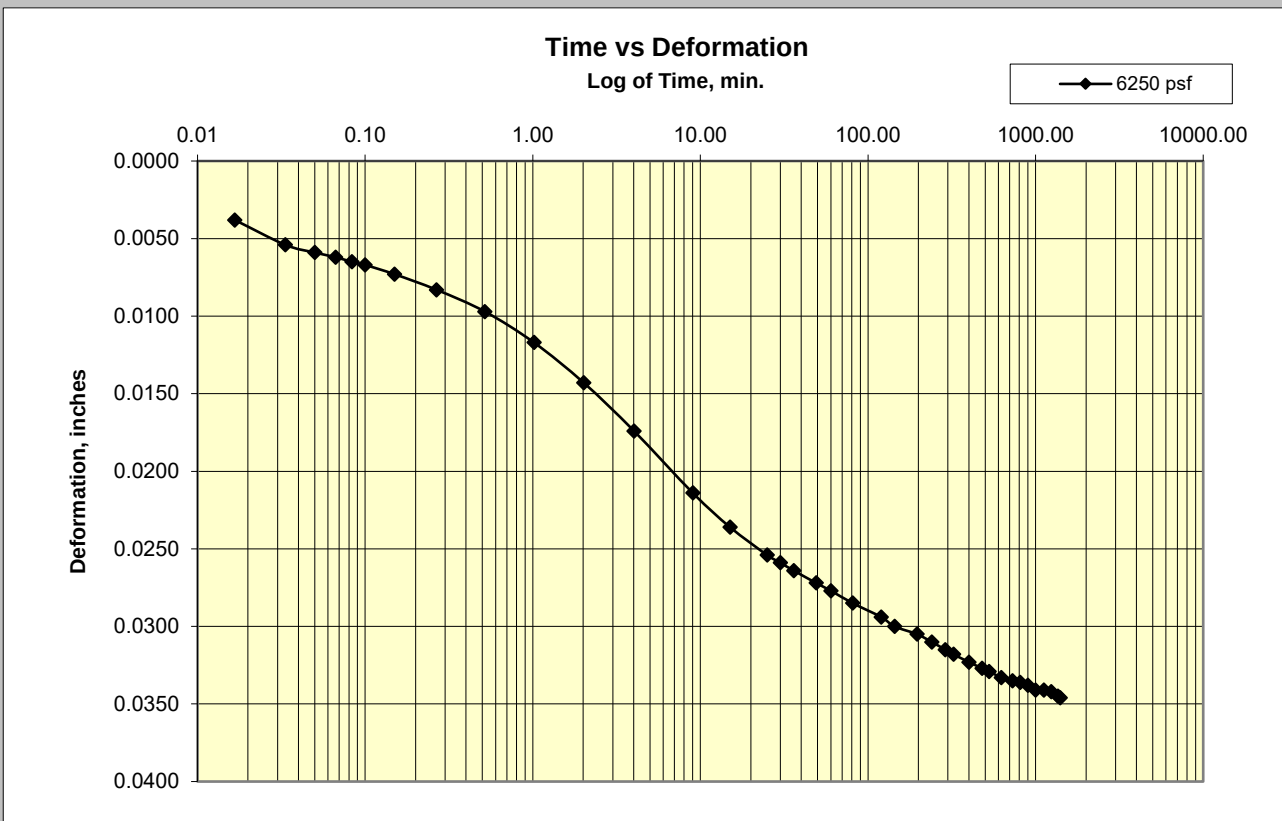
1600 psf



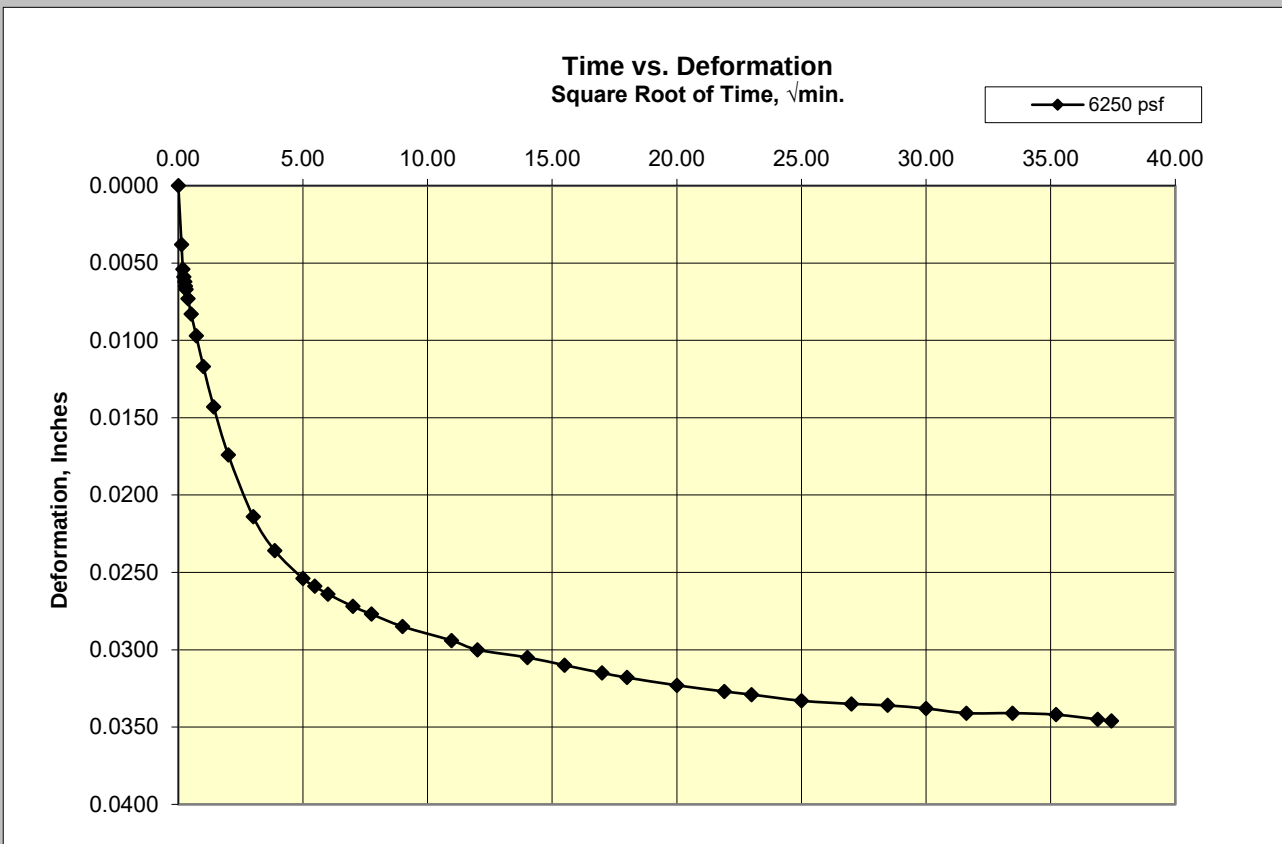
Cooper Testing Labs, Inc.

Load 7

6250 psf



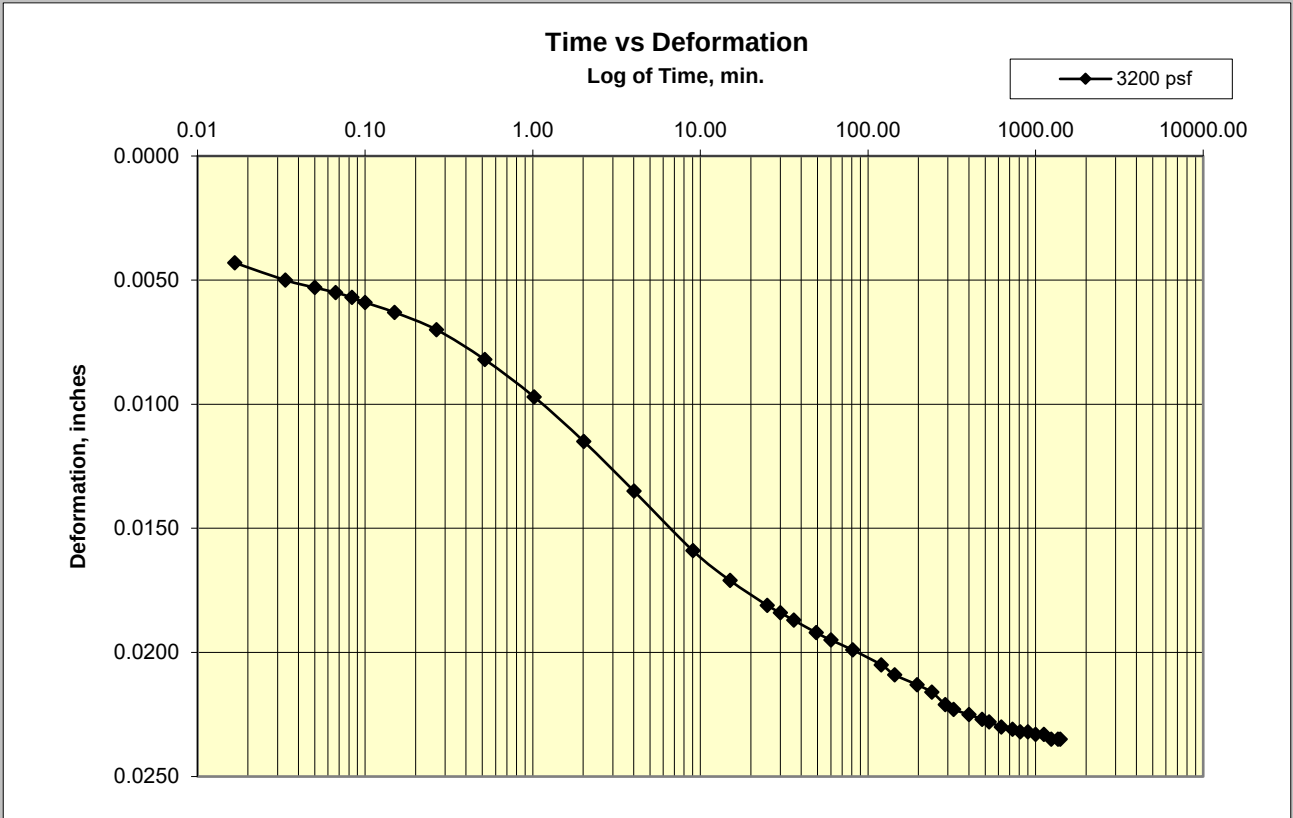
6250 psf



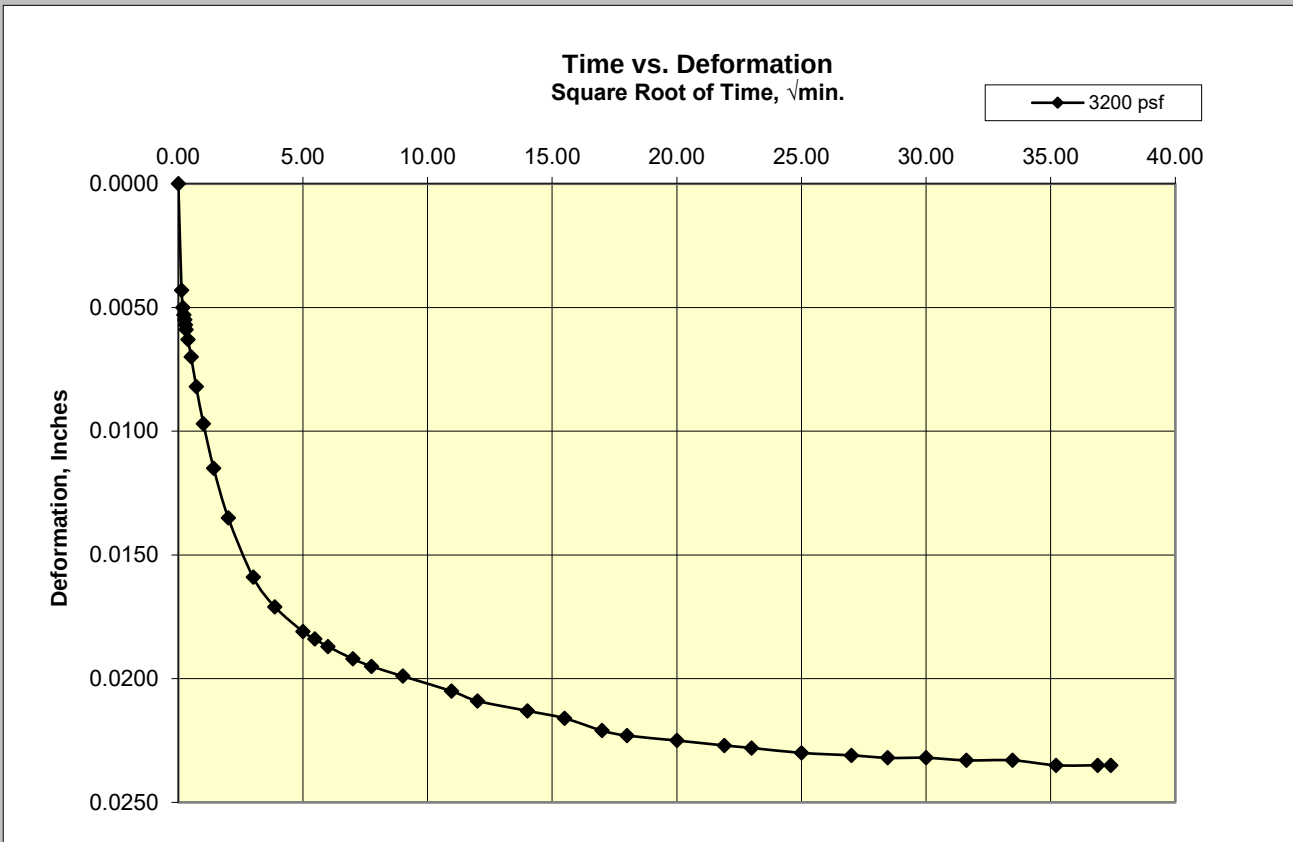
Cooper Testing Labs, Inc.

Load 6

3200 psf



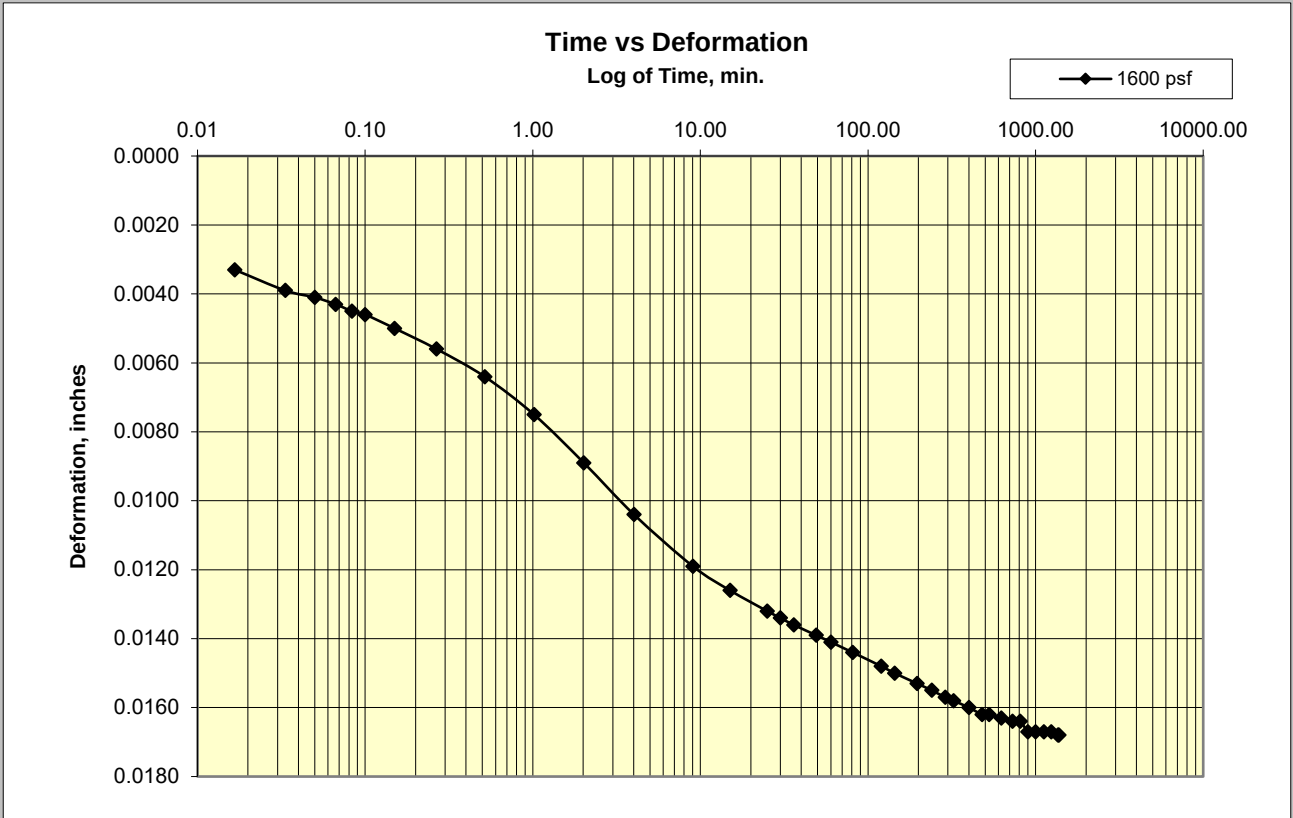
3200 psf



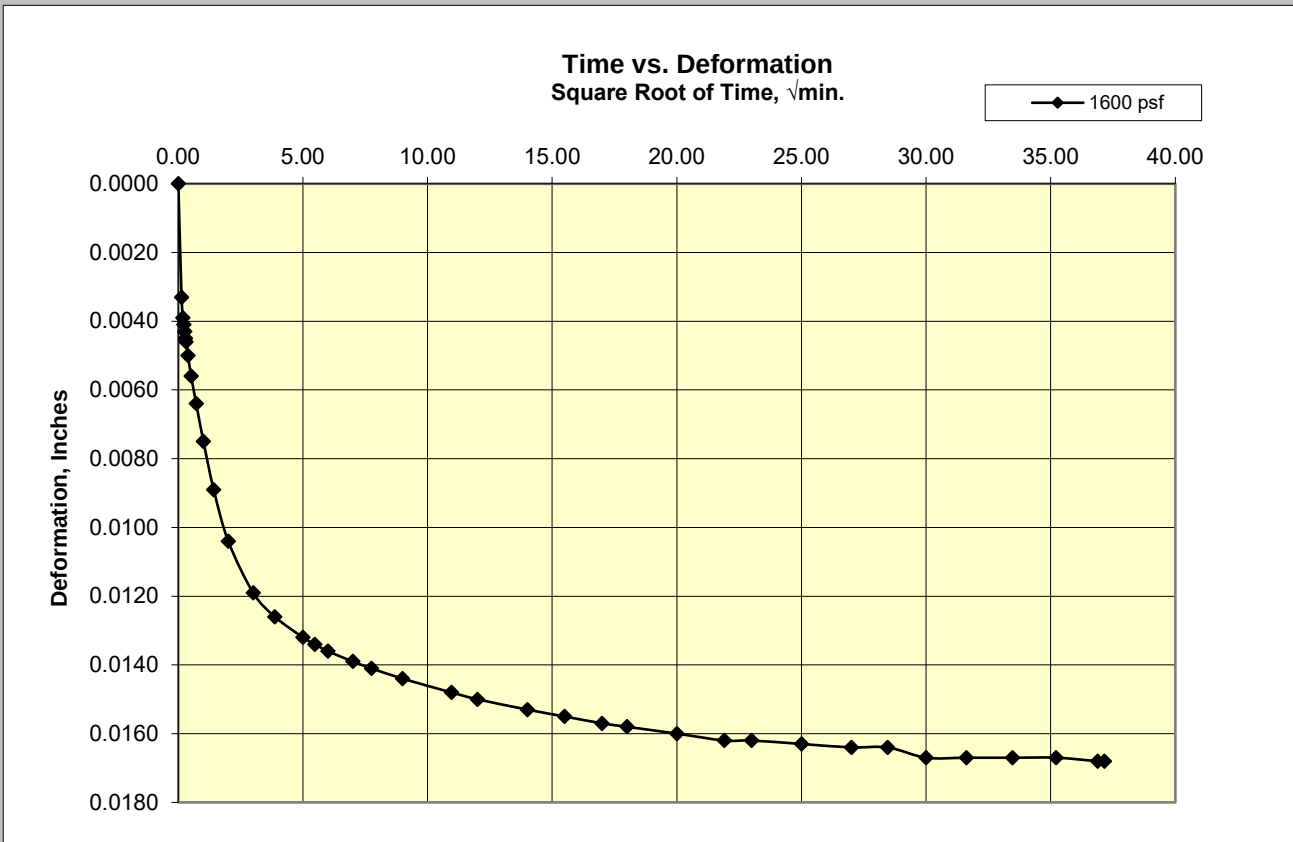
Cooper Testing Labs, Inc.

Load 5

1600 psf



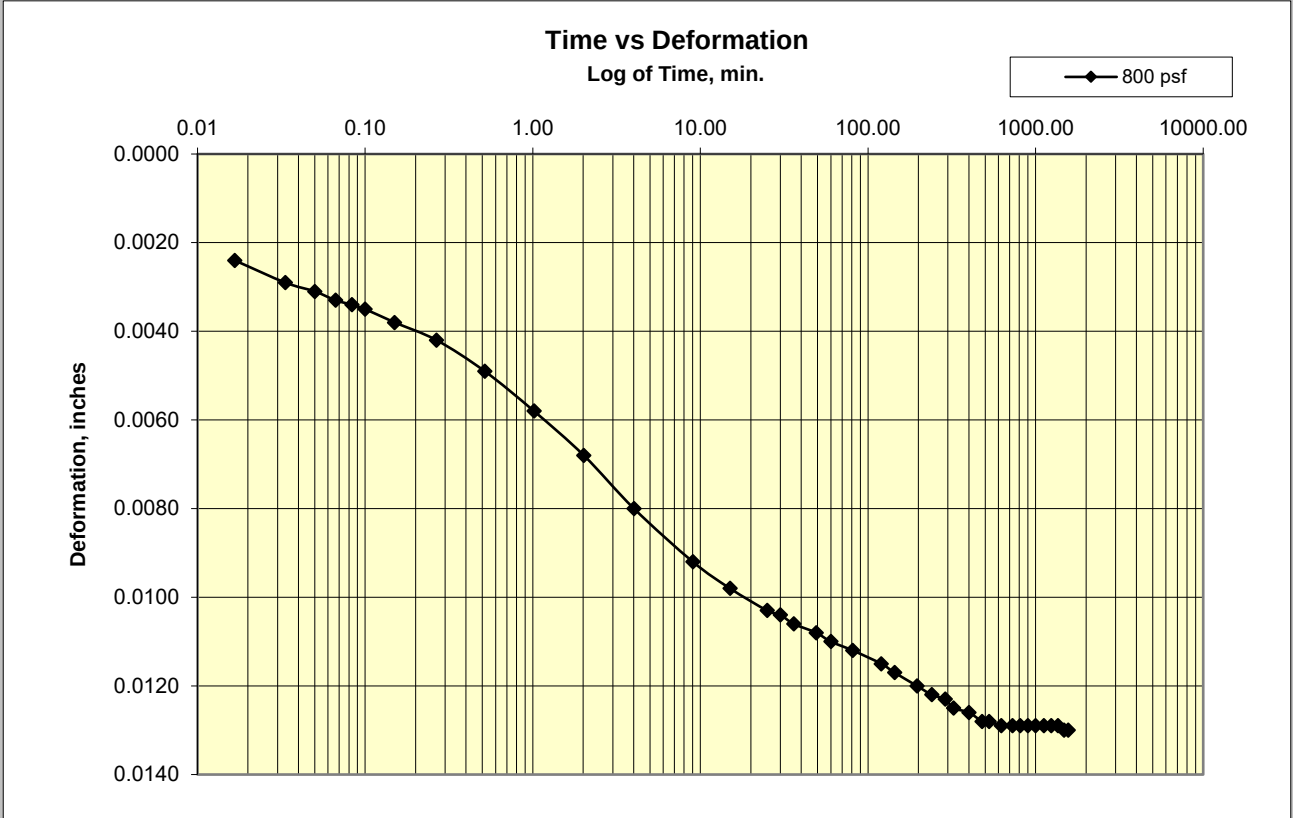
1600 psf



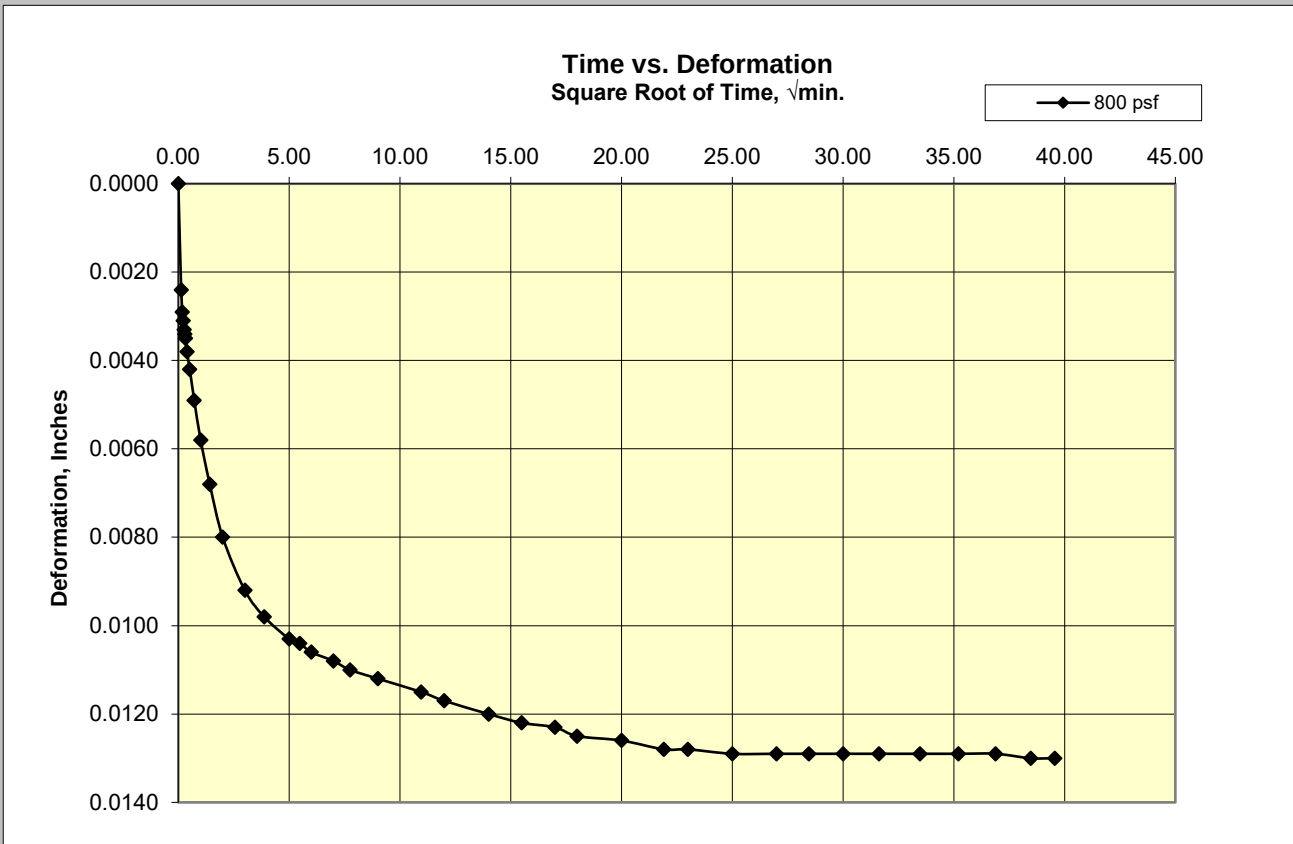
Cooper Testing Labs, Inc.

Load 4

800 psf



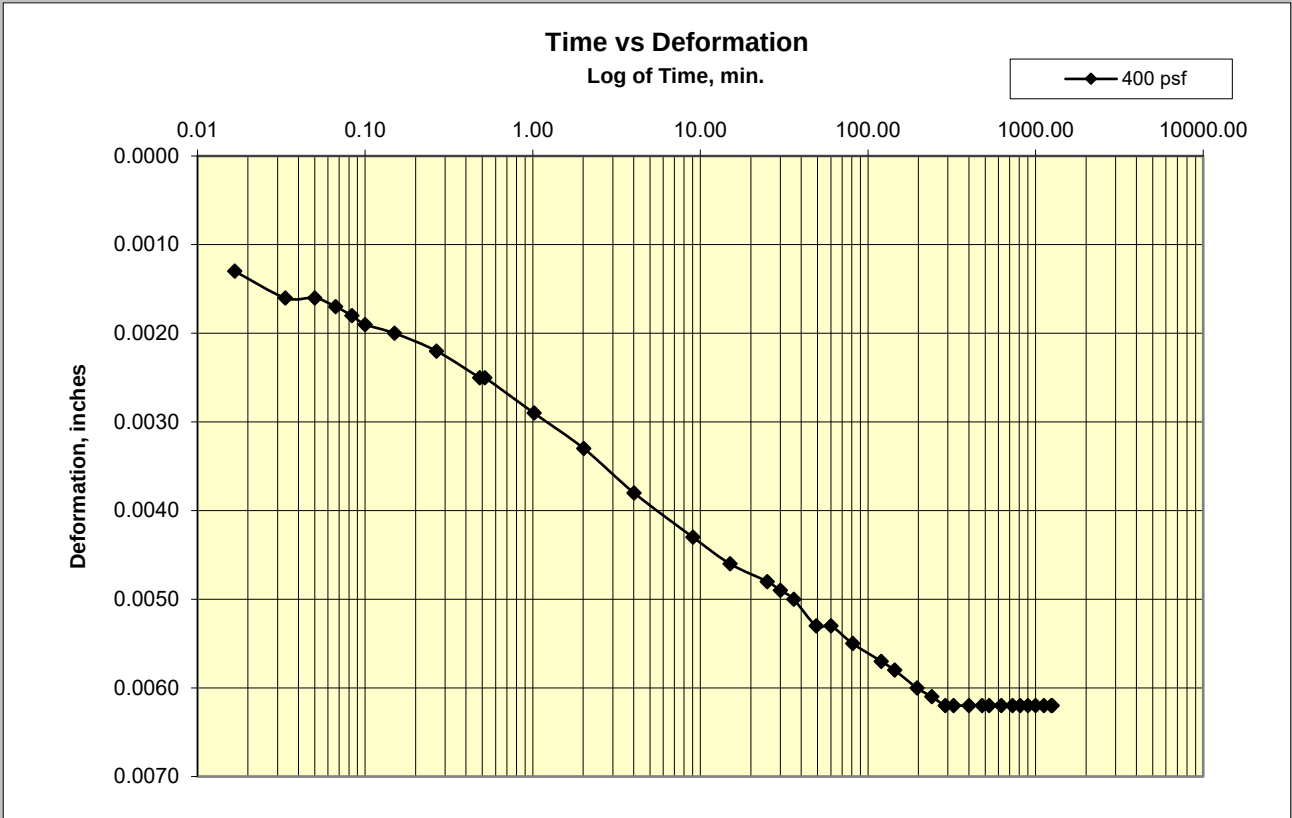
800 psf



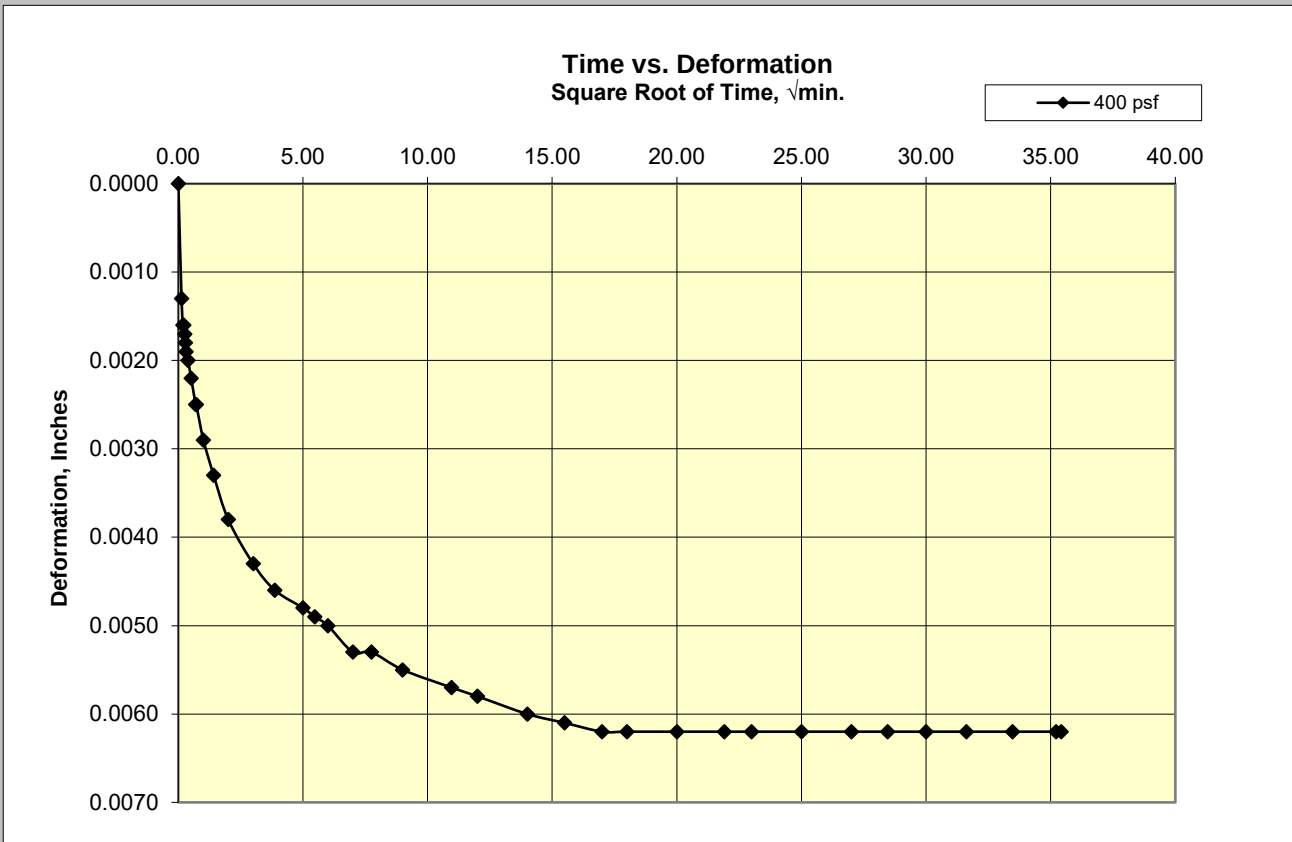
Cooper Testing Labs, Inc.

Load 3

400 psf



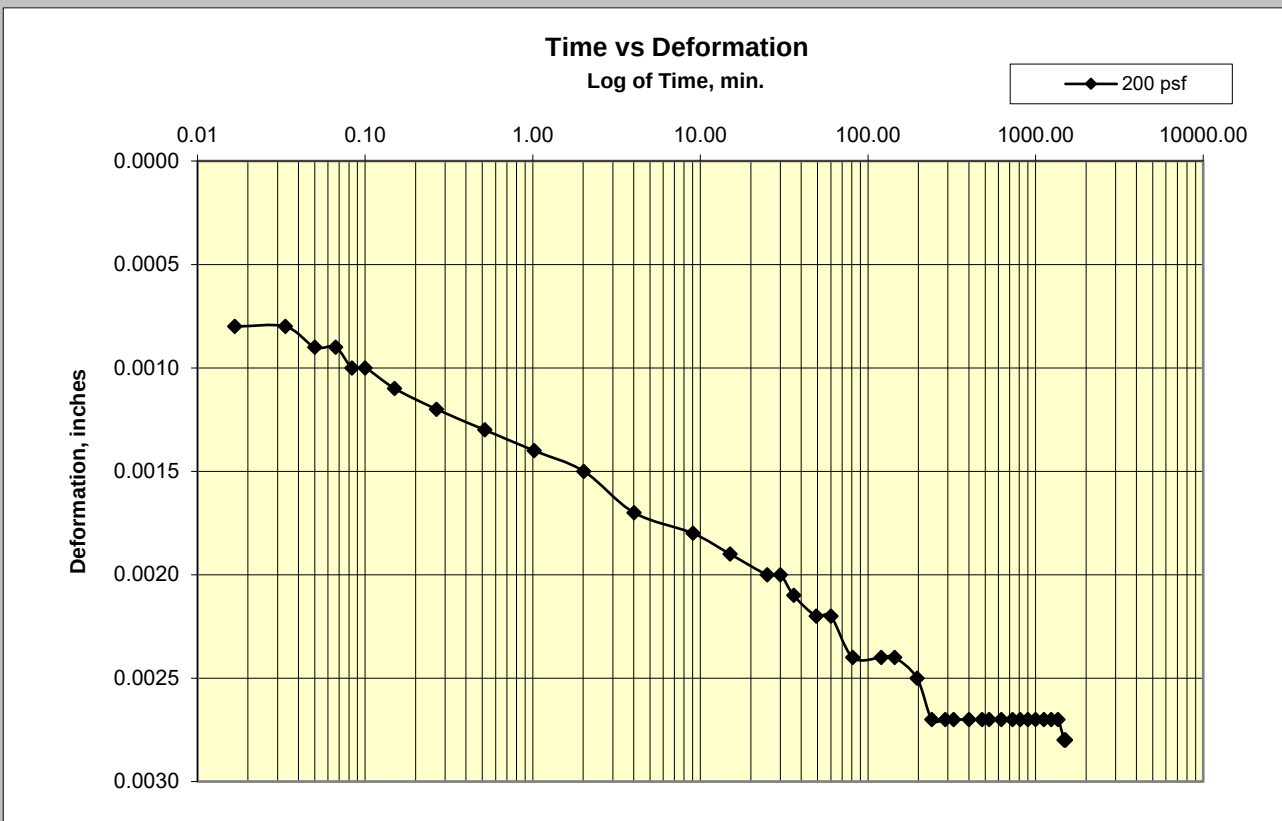
400 psf



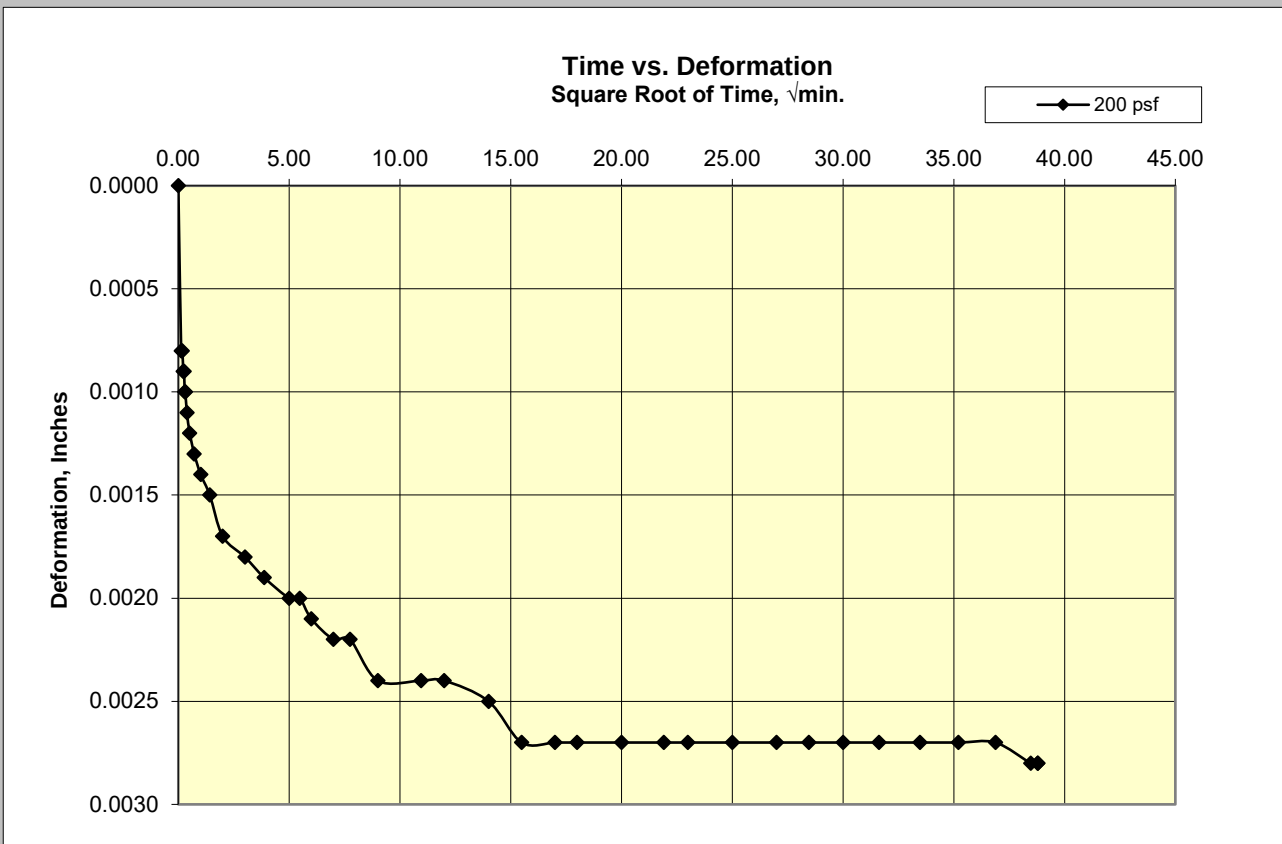
Cooper Testing Labs, Inc.

Load 2

200 psf



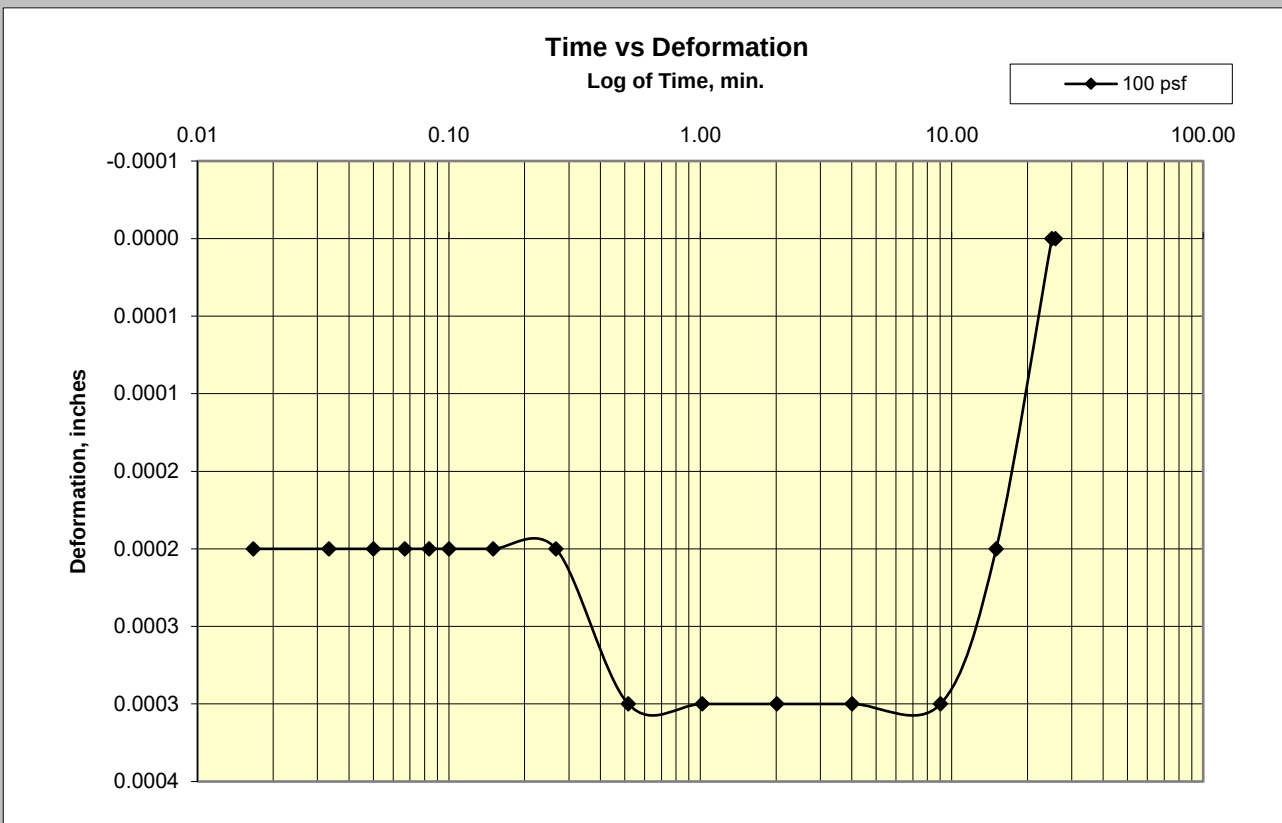
200 psf



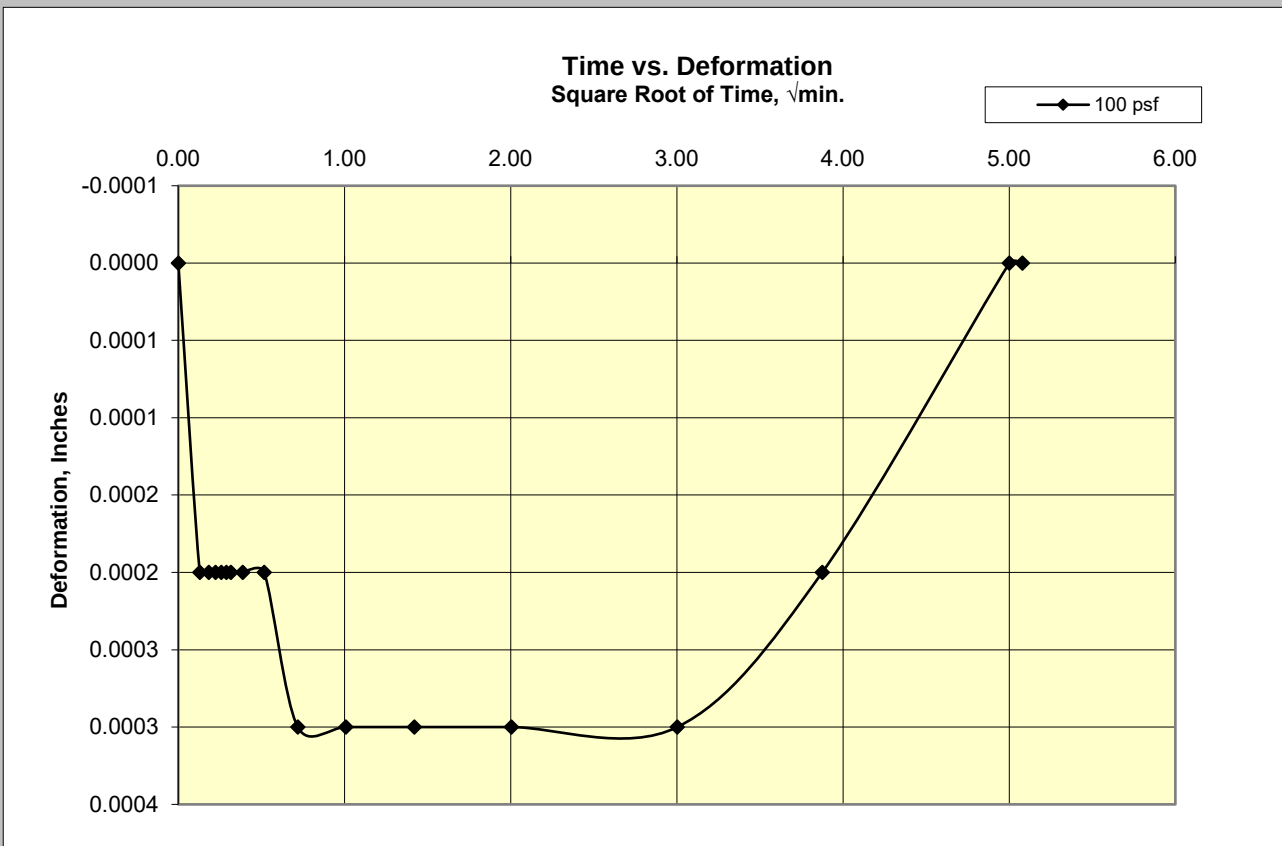
Cooper Testing Labs, Inc.

Load 1

100 psf



100 psf



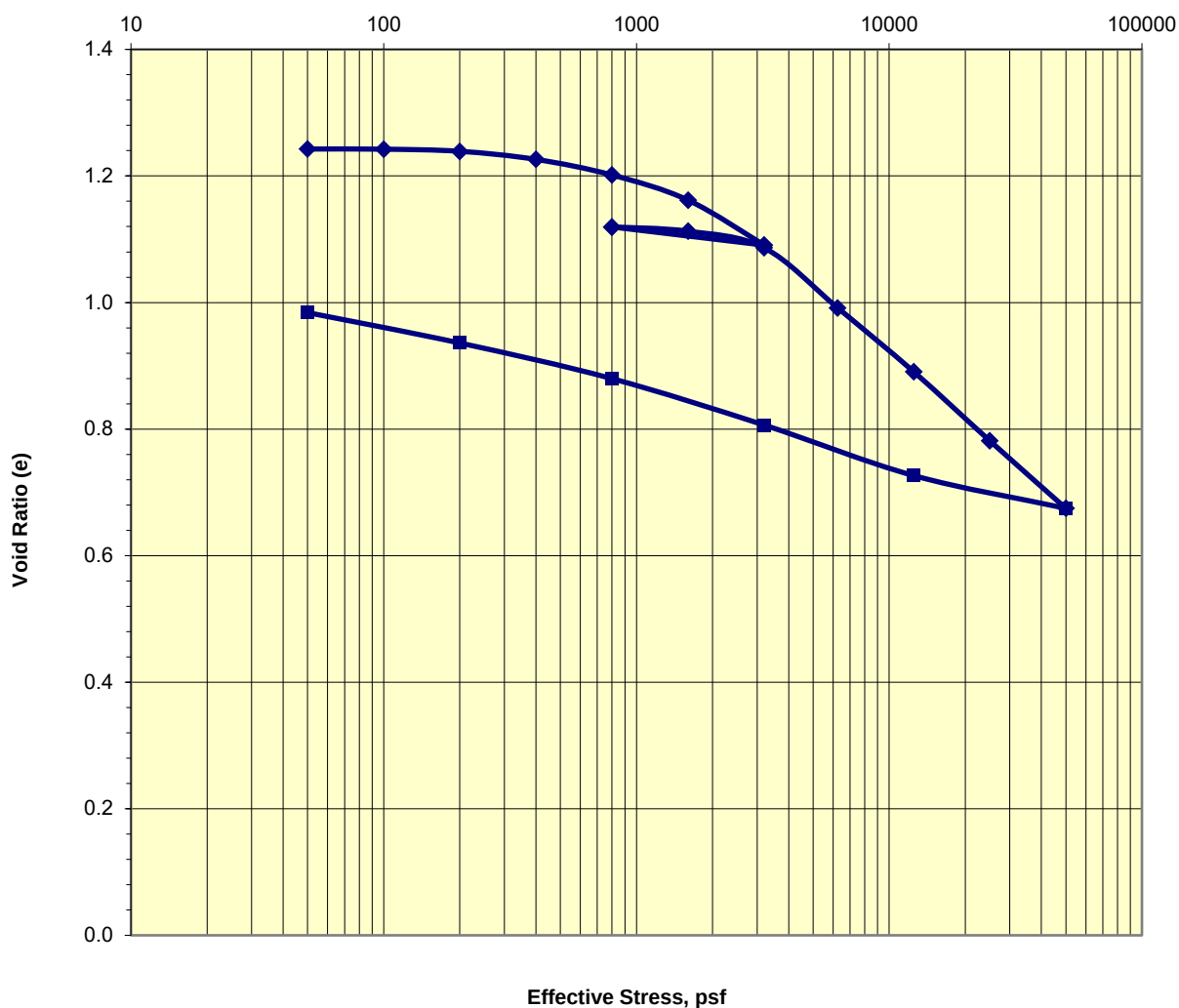


Consolidation Test

ASTM D2435

Job No.:	461-392	Boring:	B3	Run By:	HM
Client:	Geosyntec Consultants	Sample:	B3-4	Reduced:	RU
Project:	WG3607	Depth, ft.:	15-17.5	Checked:	PJ
Soil Type:	Dark Gray CLAY			Date:	4/17/2026

e-Log-P Curve

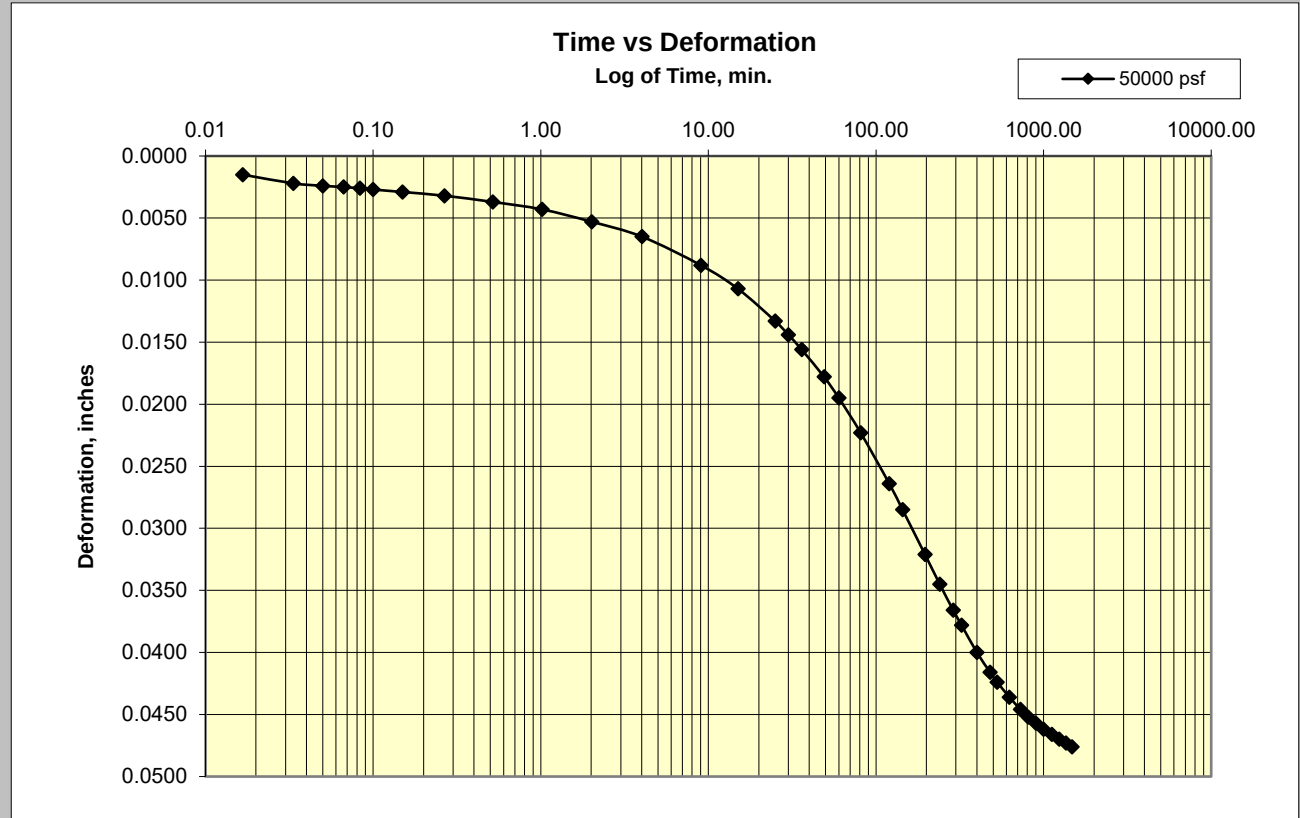


Assumed Gs	2.8	Initial	Final	Remarks:
Moisture %:		41.8	35.8	
Dry Density, pcf:		77.9	87.3	
Void Ratio:		1.243	1.002	
% Saturation:		94.3	100.0	

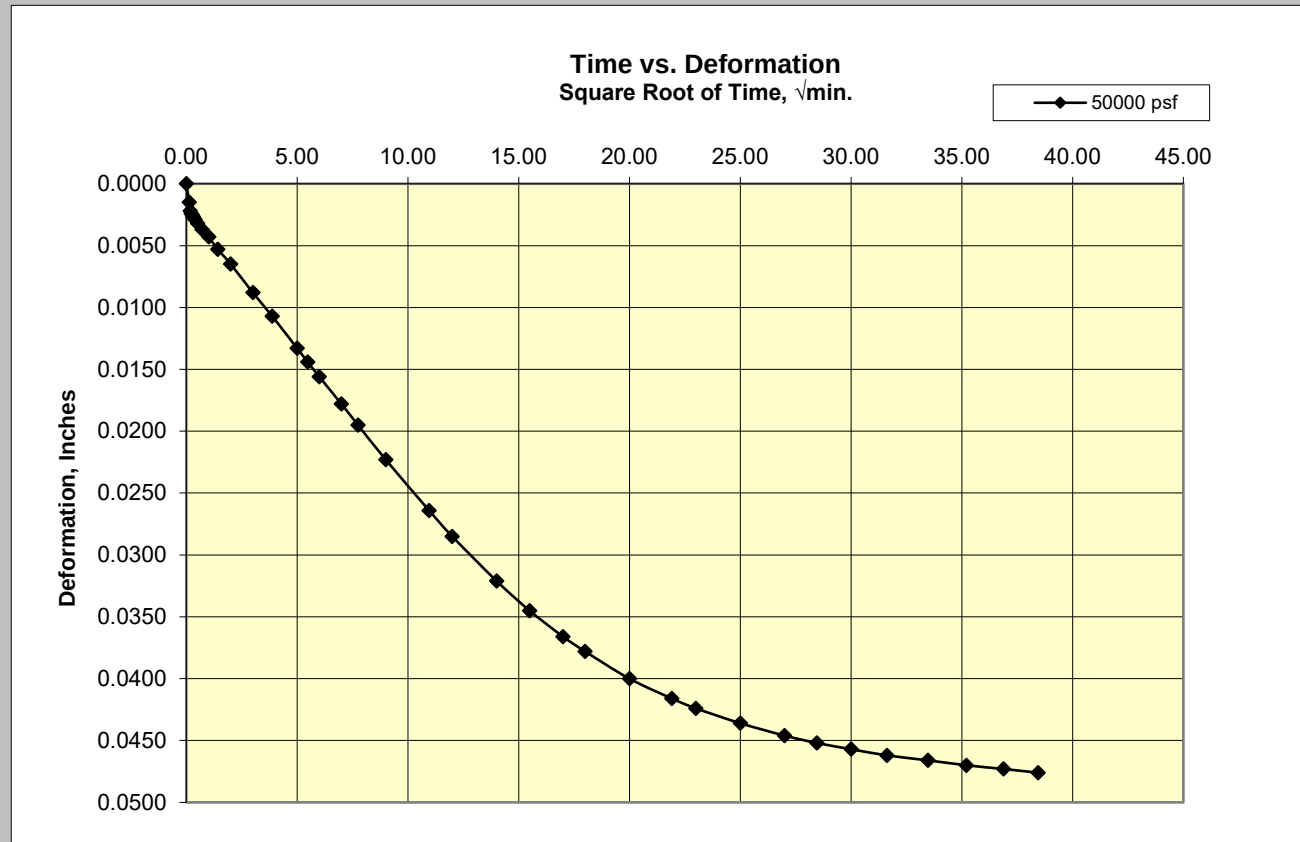
Cooper Testing Labs, Inc.

Load 14

50000 psf



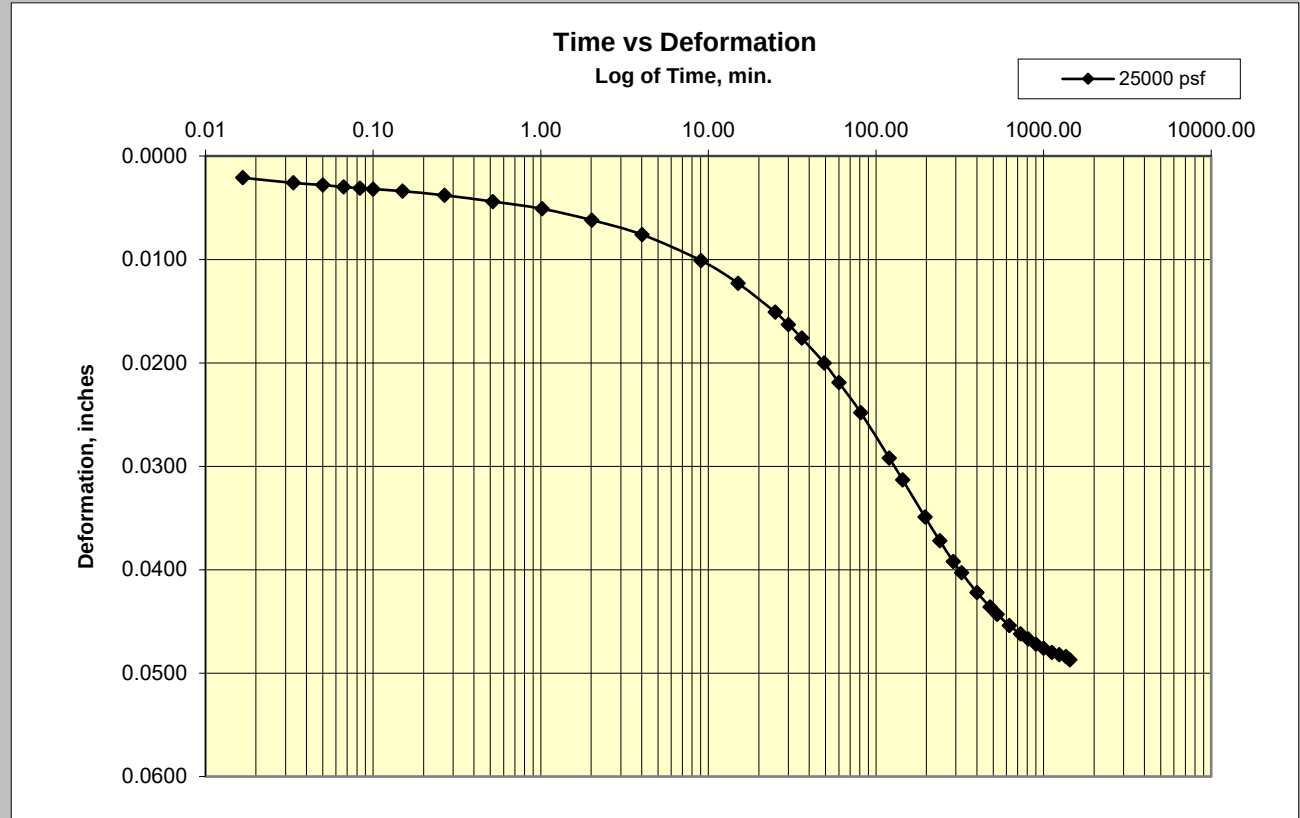
50000 psf



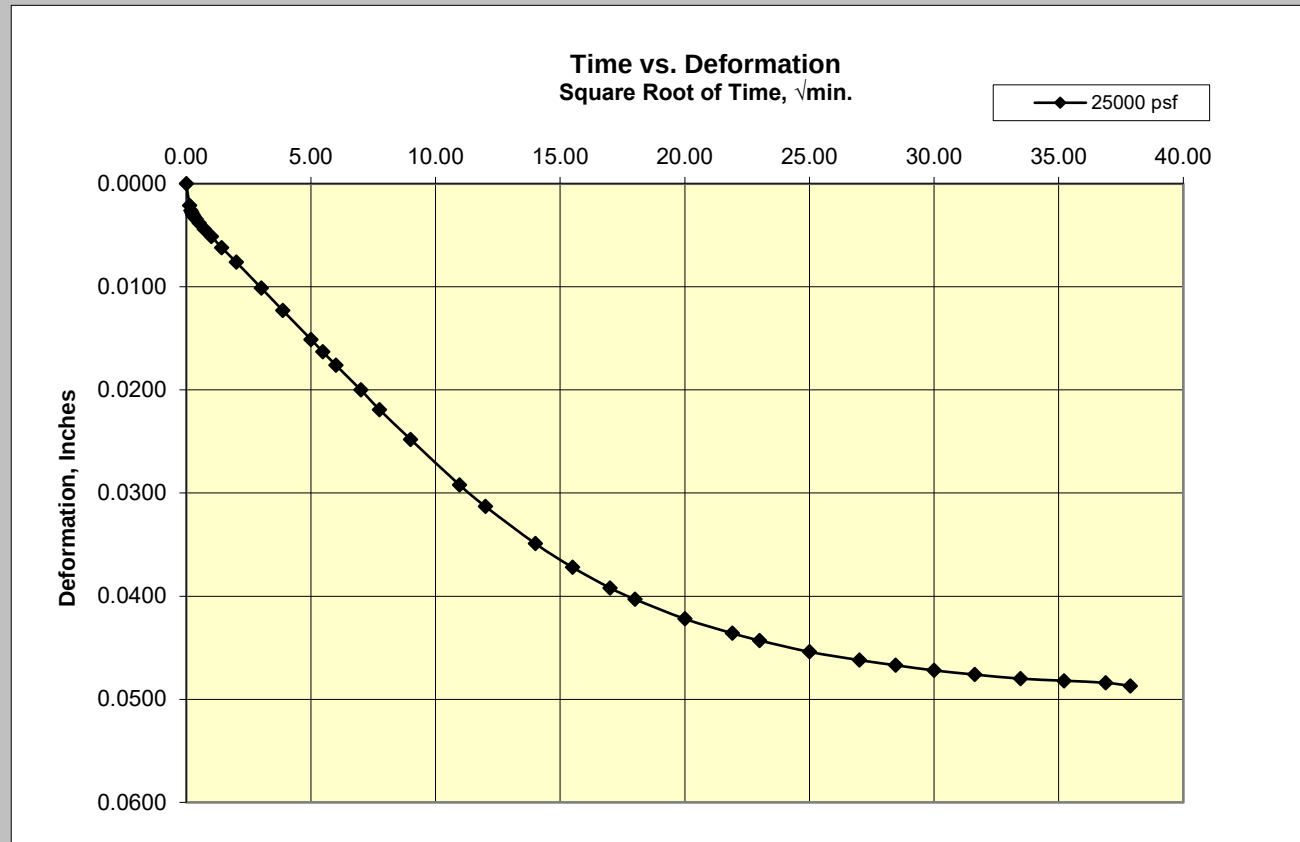
Cooper Testing Labs, Inc.

Load 13

25000 psf



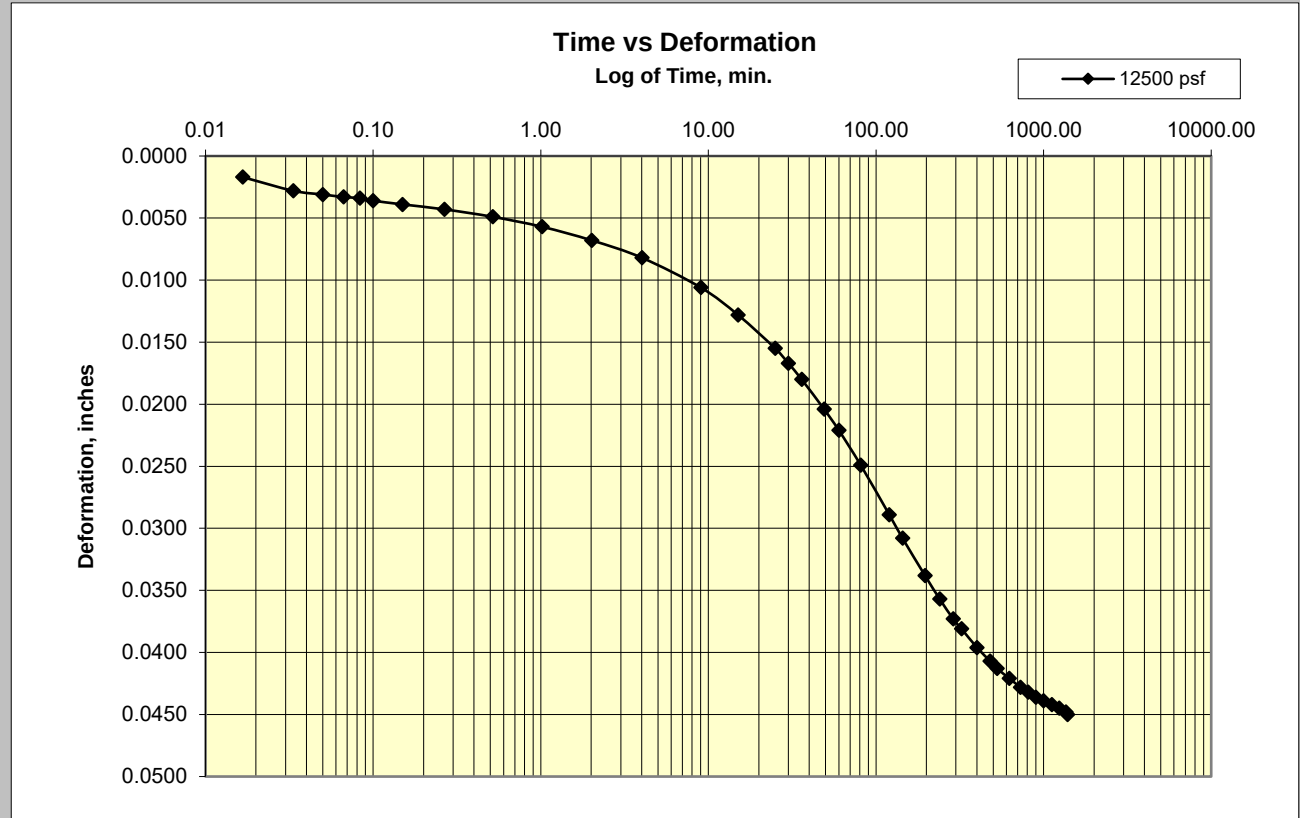
25000 psf



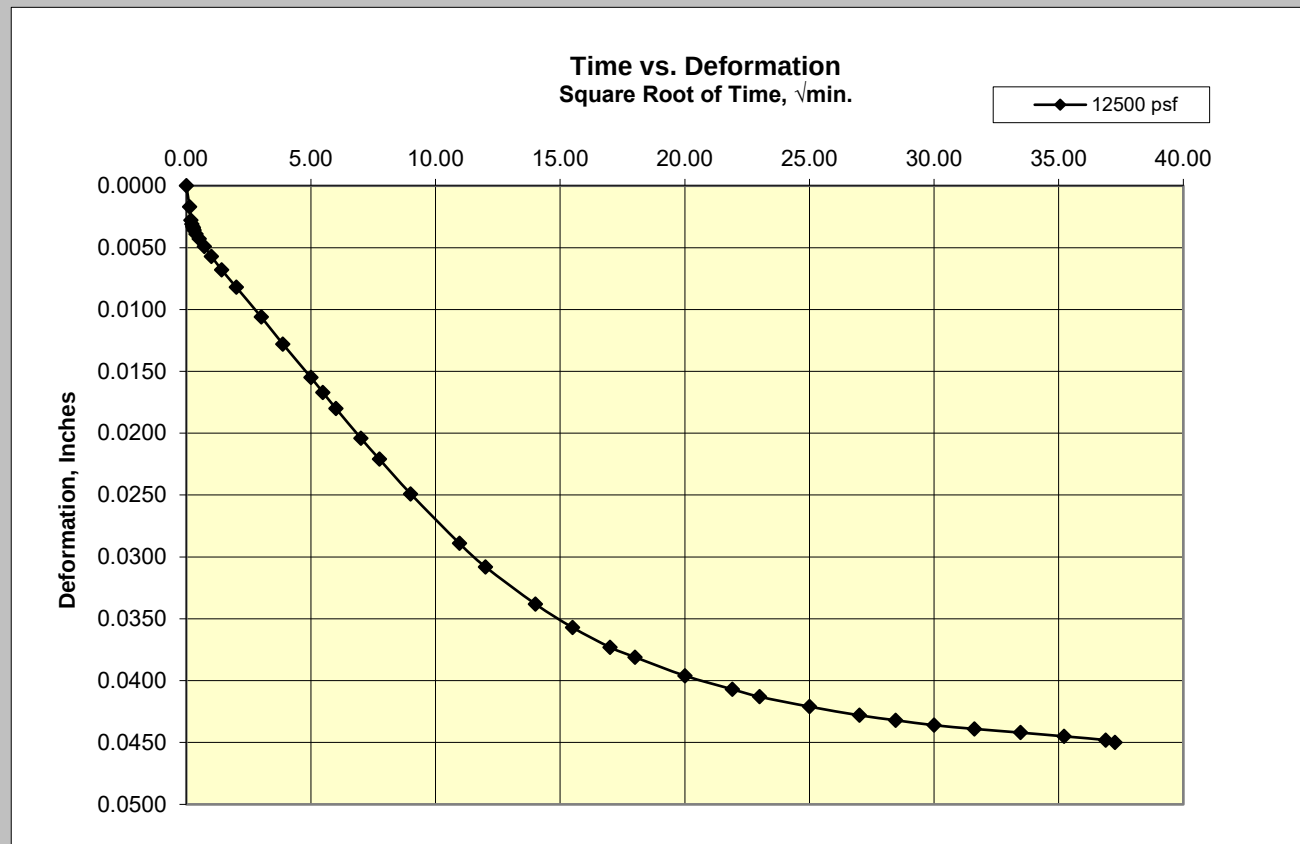
Cooper Testing Labs, Inc.

Load 12

12500 psf



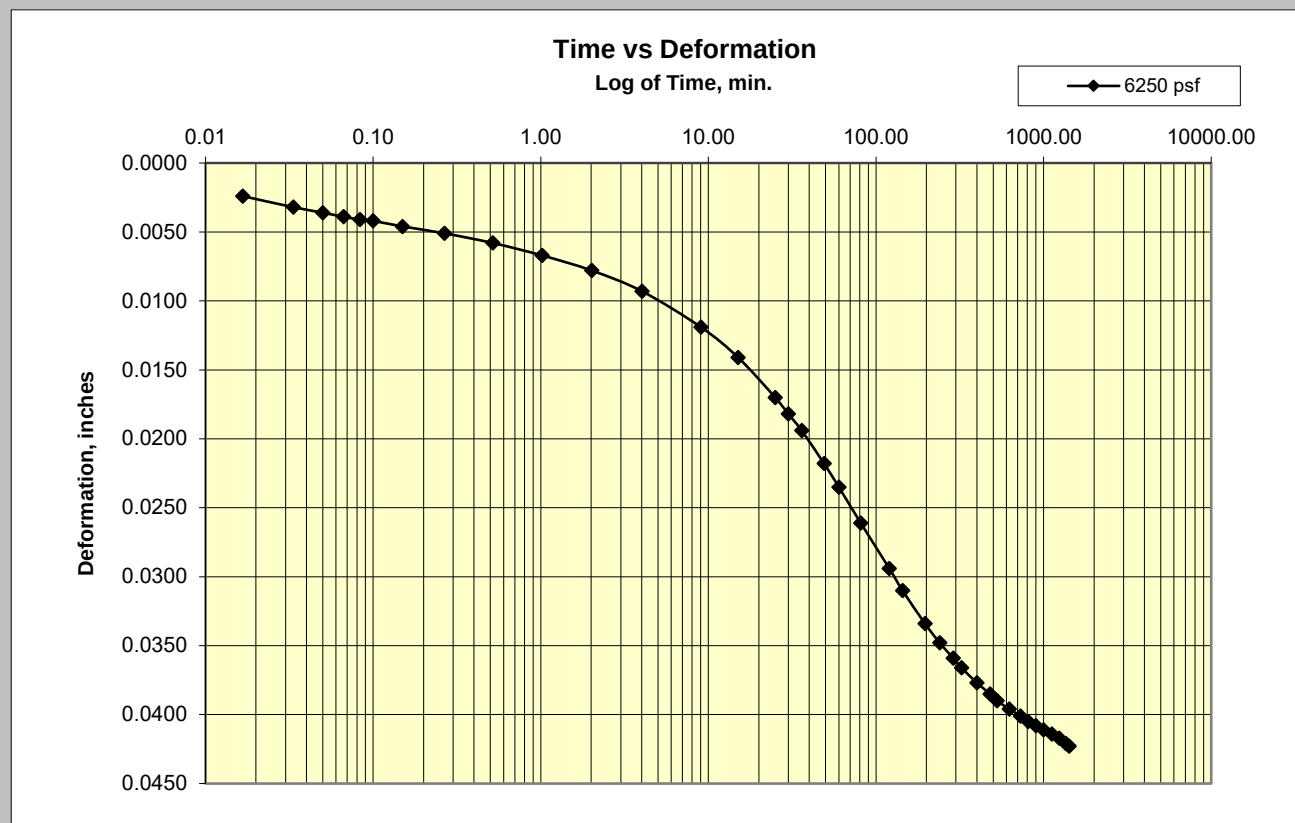
12500 psf



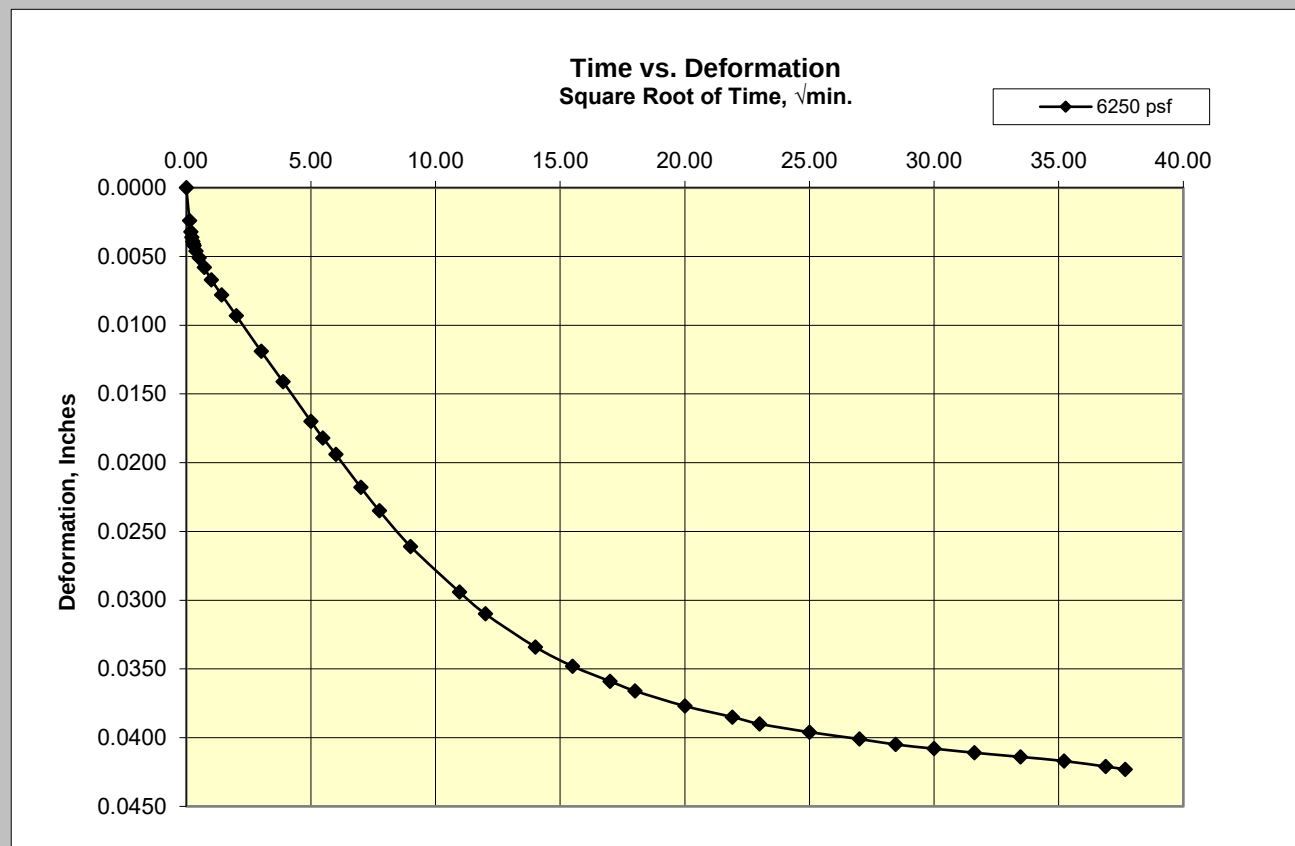
Cooper Testing Labs, Inc.

Load 11

6250 psf



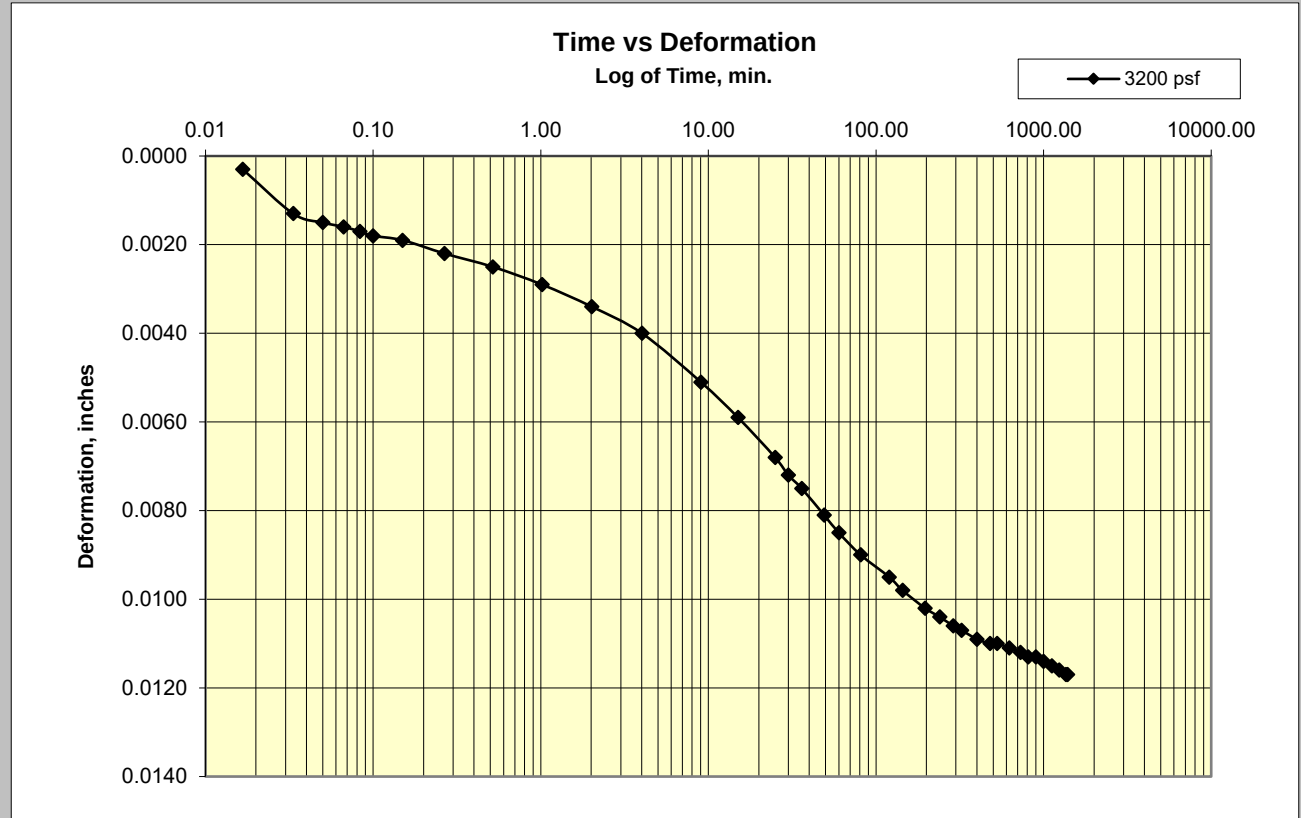
6250 psf



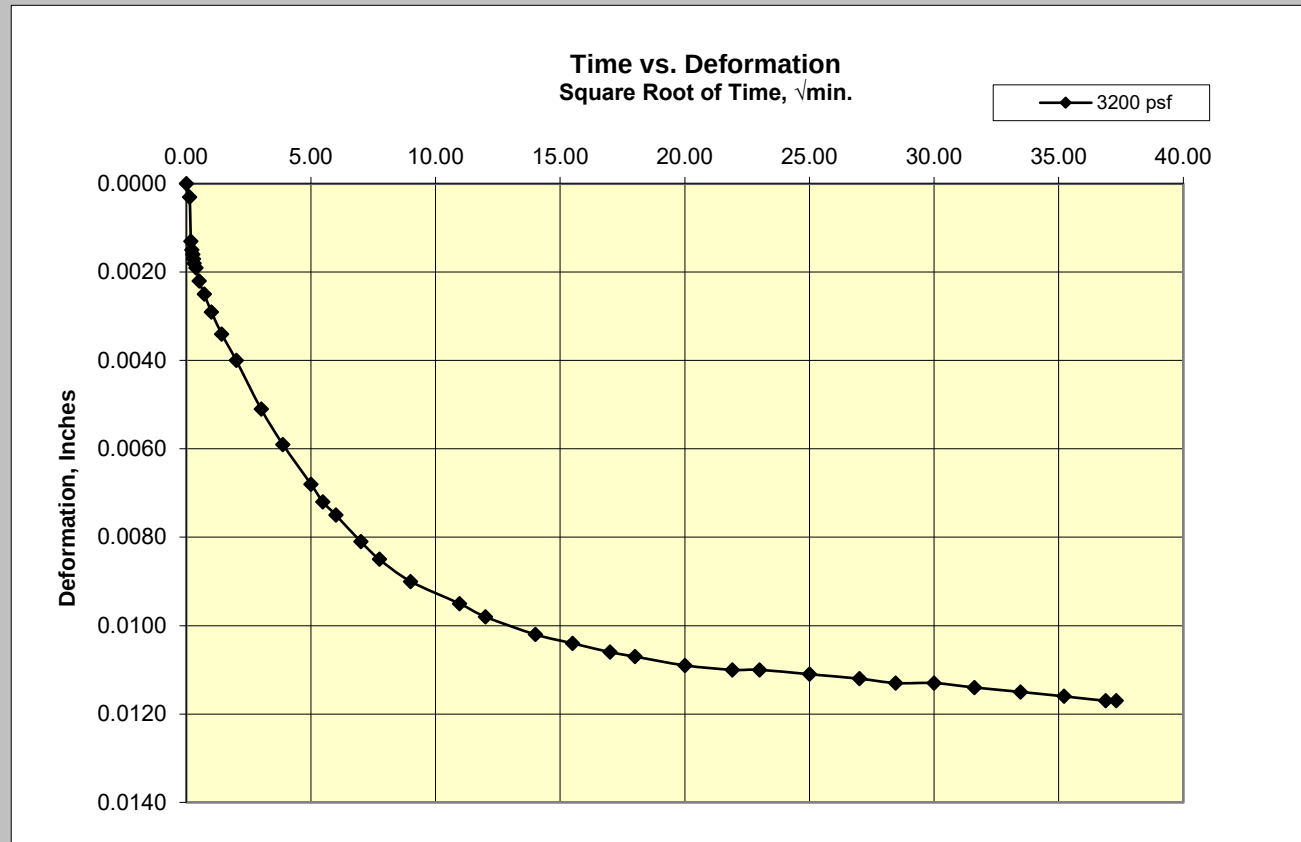
Cooper Testing Labs, Inc.

Load 10

3200 psf



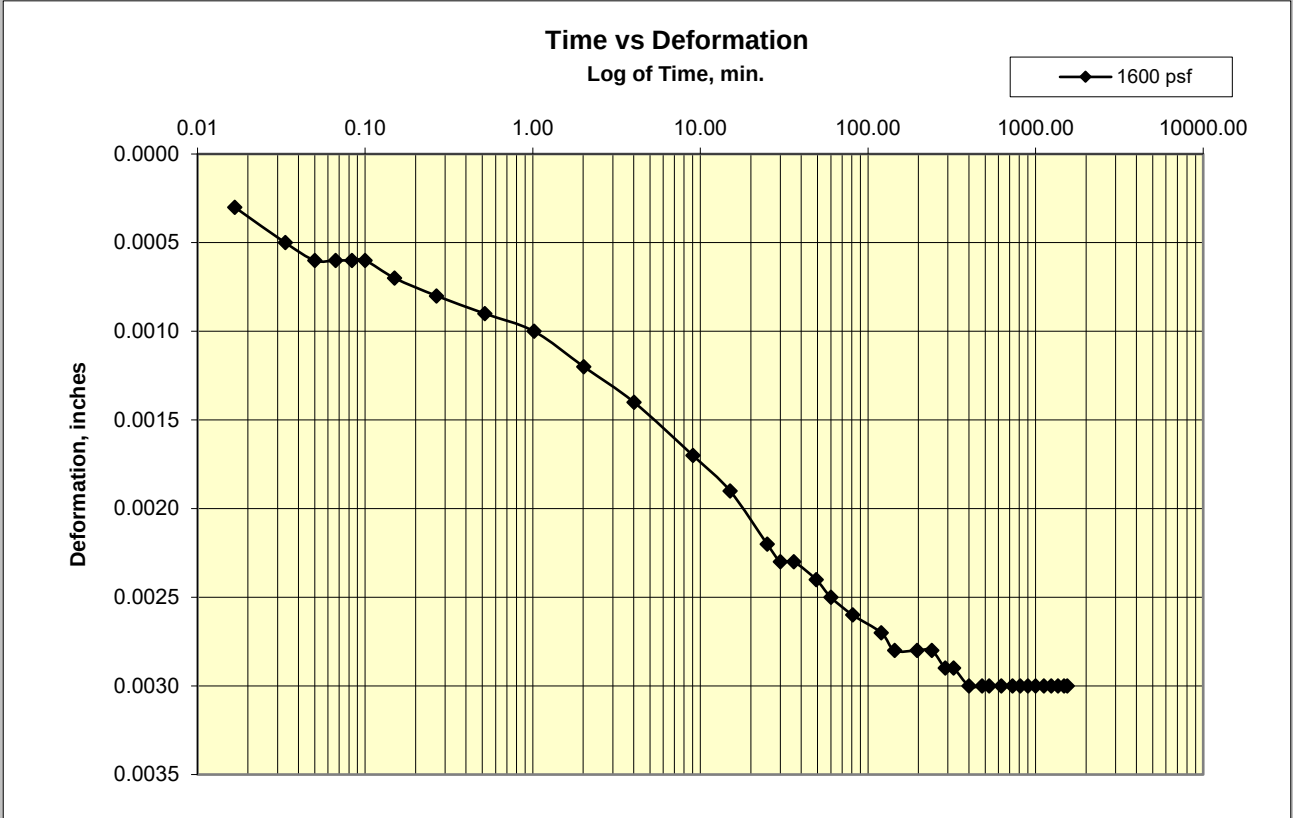
3200 psf



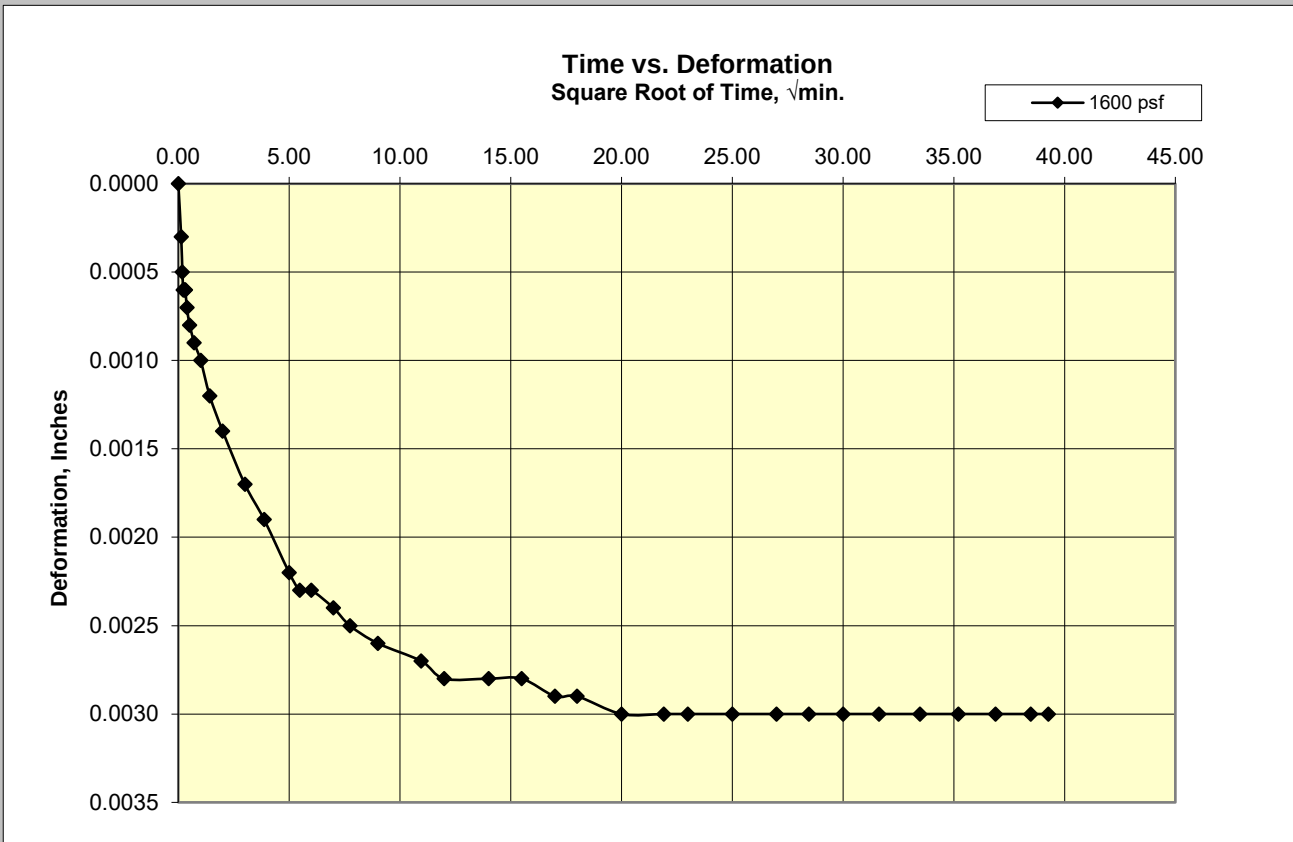
Cooper Testing Labs, Inc.

Load 9

1600 psf



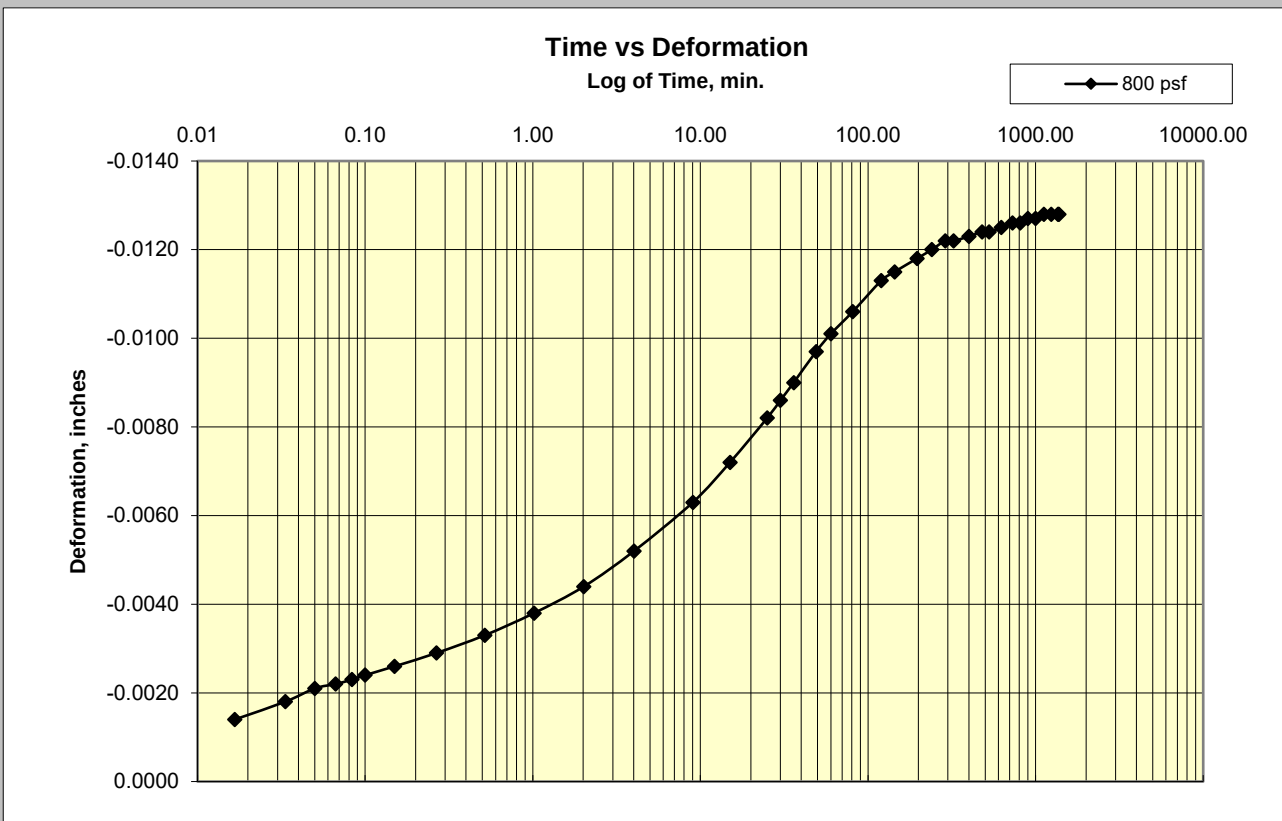
1600 psf



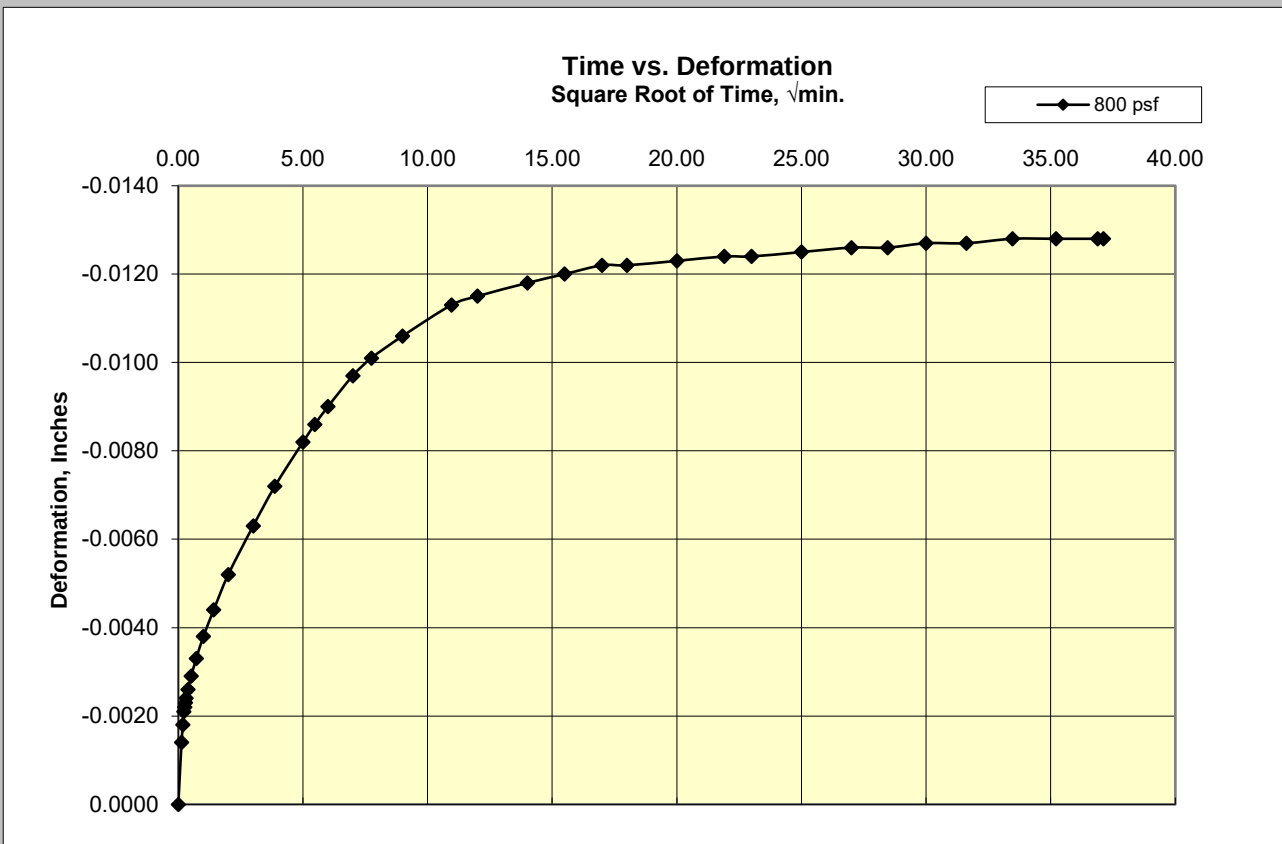
Cooper Testing Labs, Inc.

Load 8

800 psf



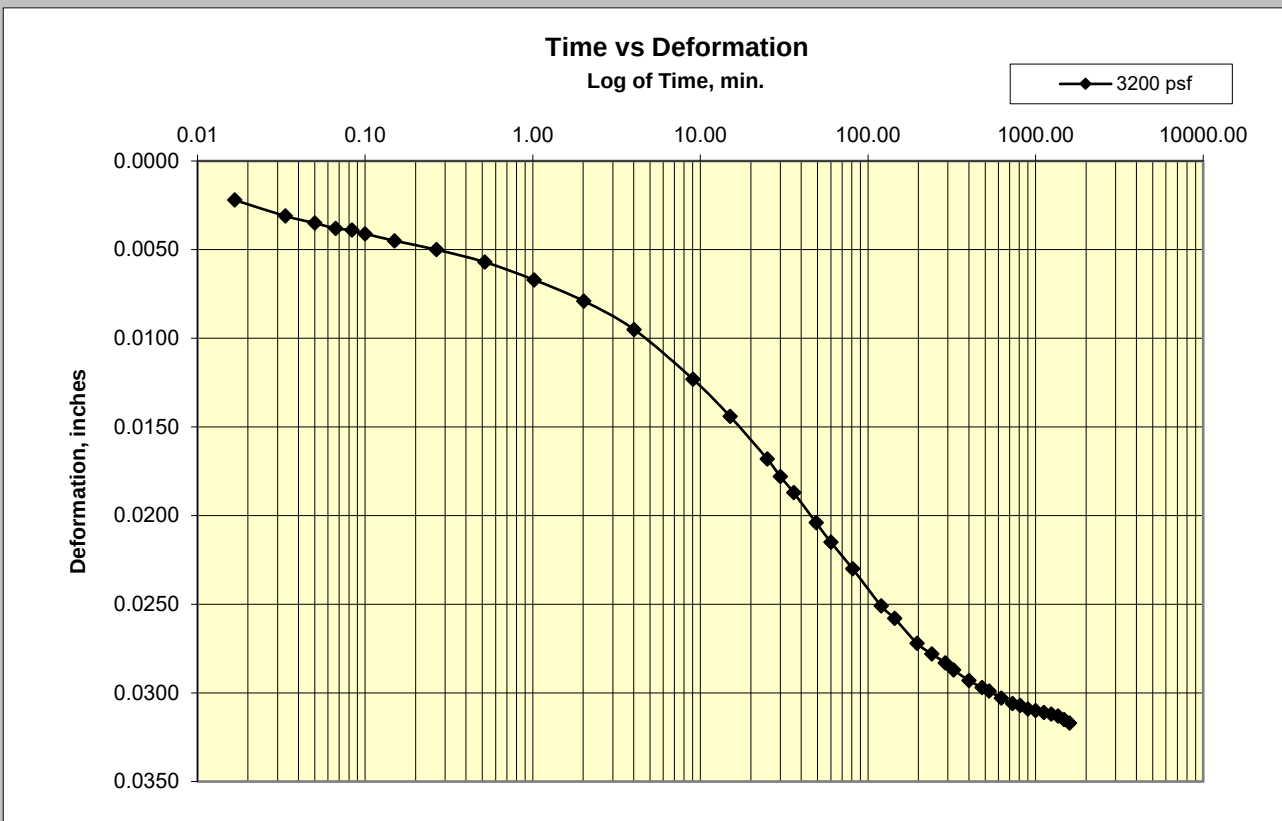
800 psf



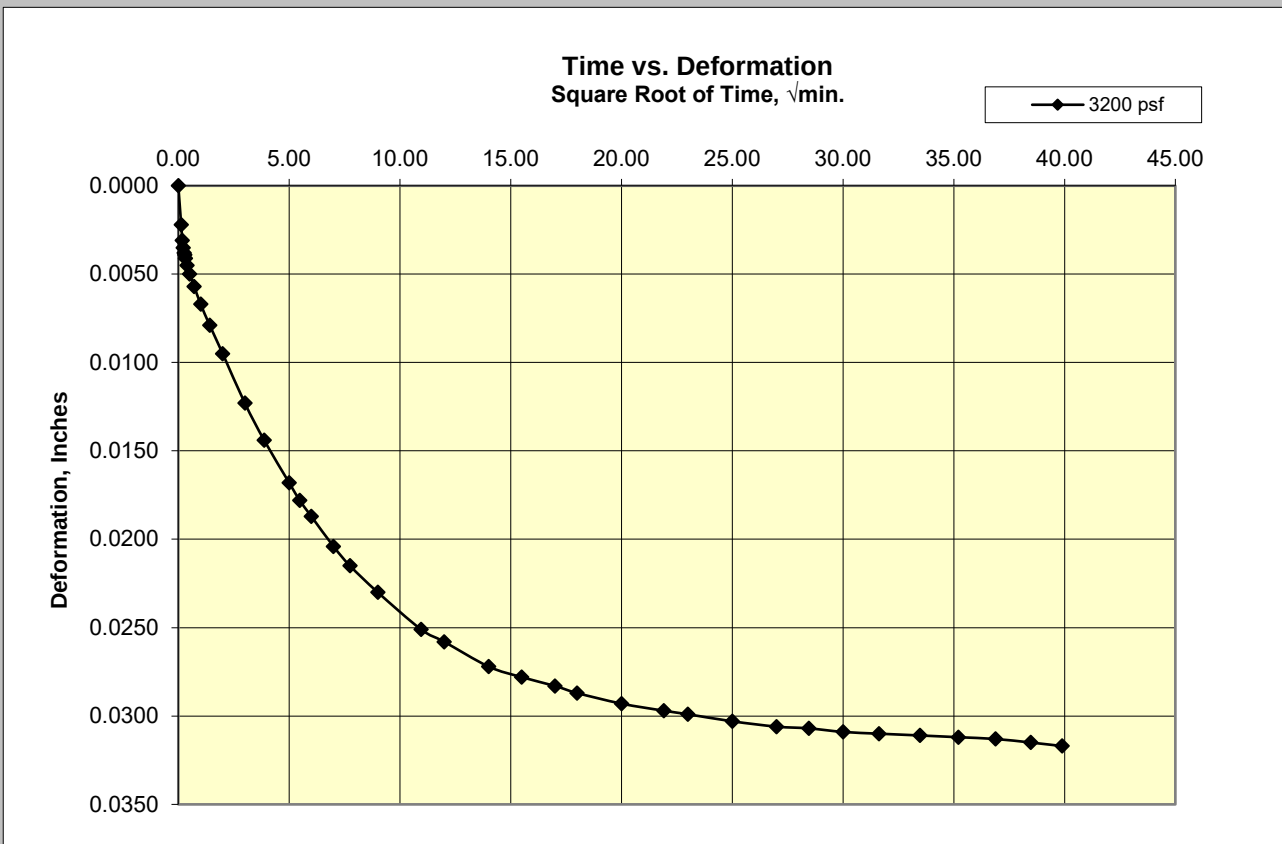
Cooper Testing Labs, Inc.

Load 7

3200 psf



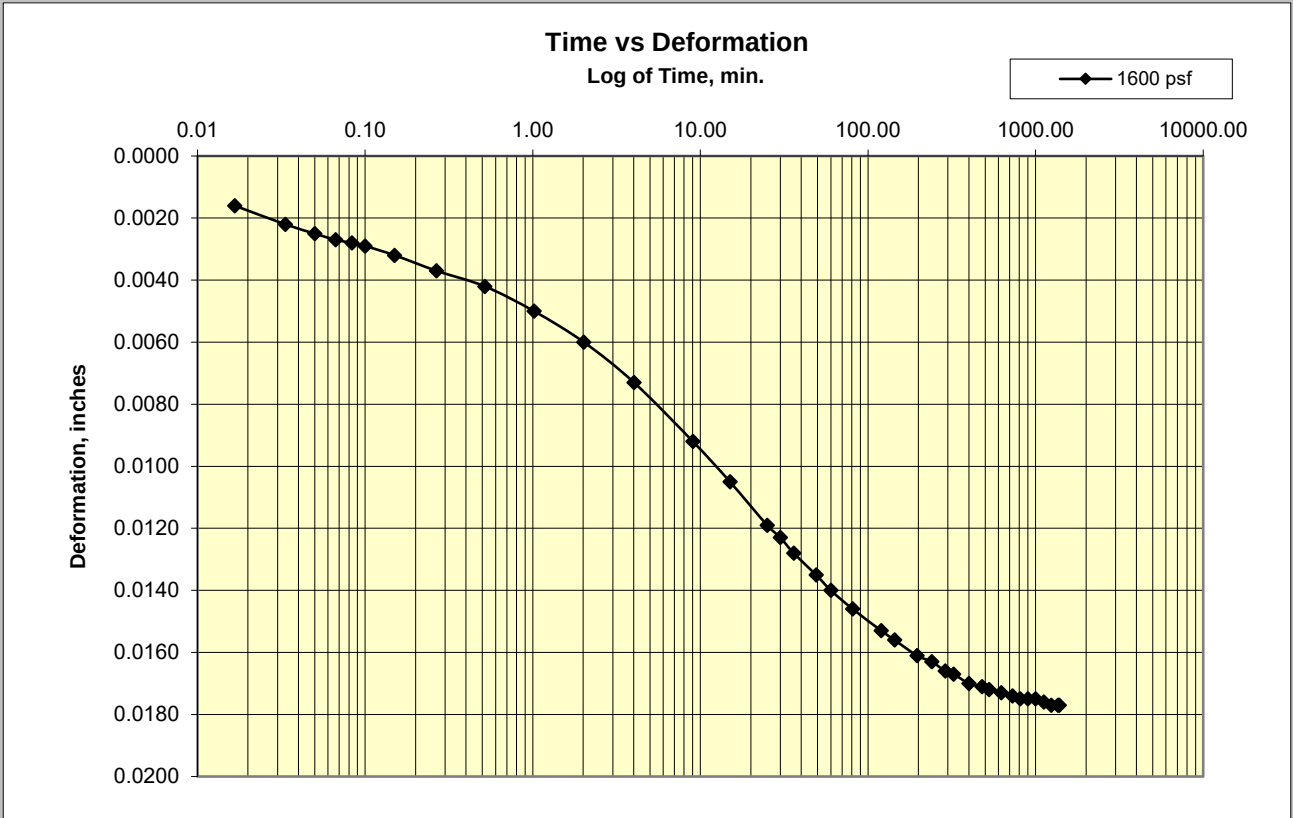
3200 psf



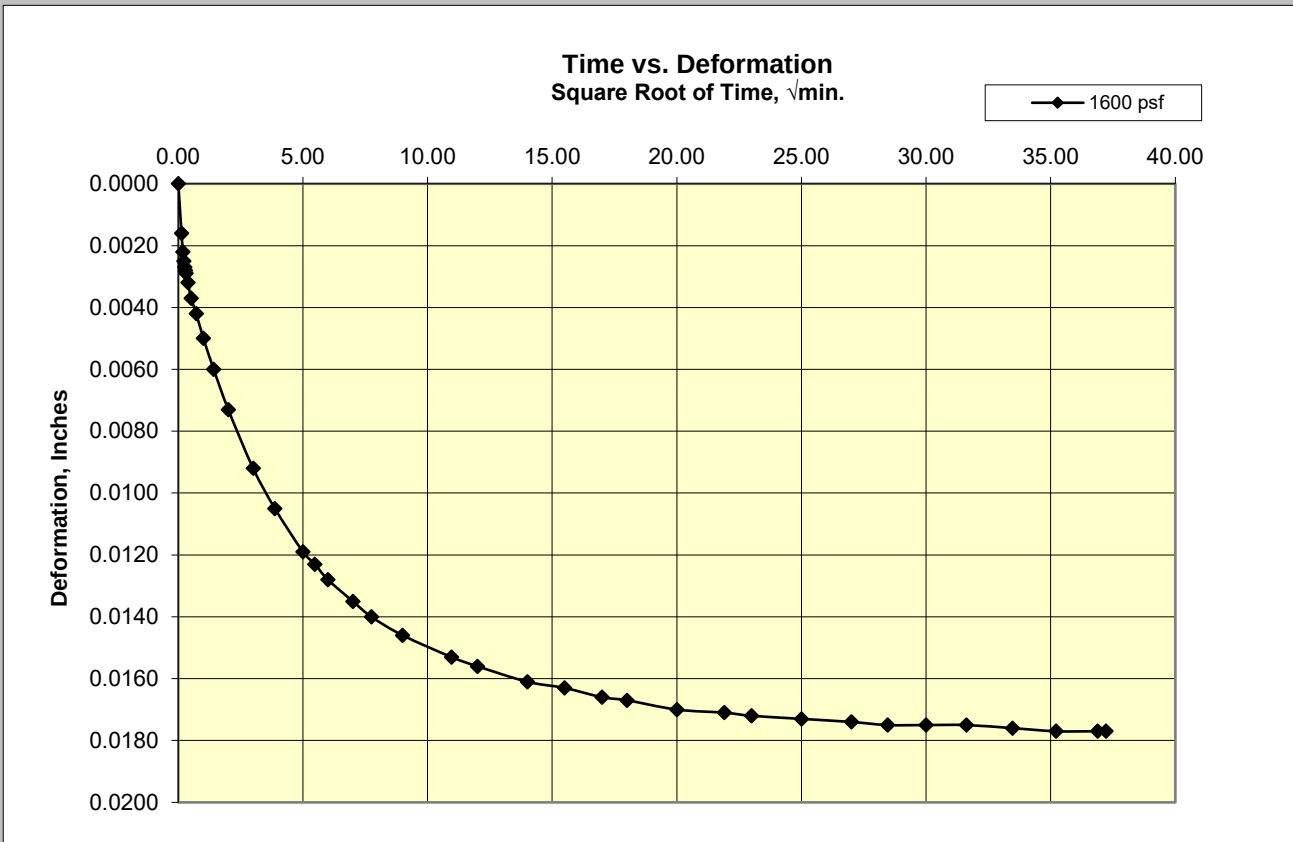
Cooper Testing Labs, Inc.

Load 6

1600 psf



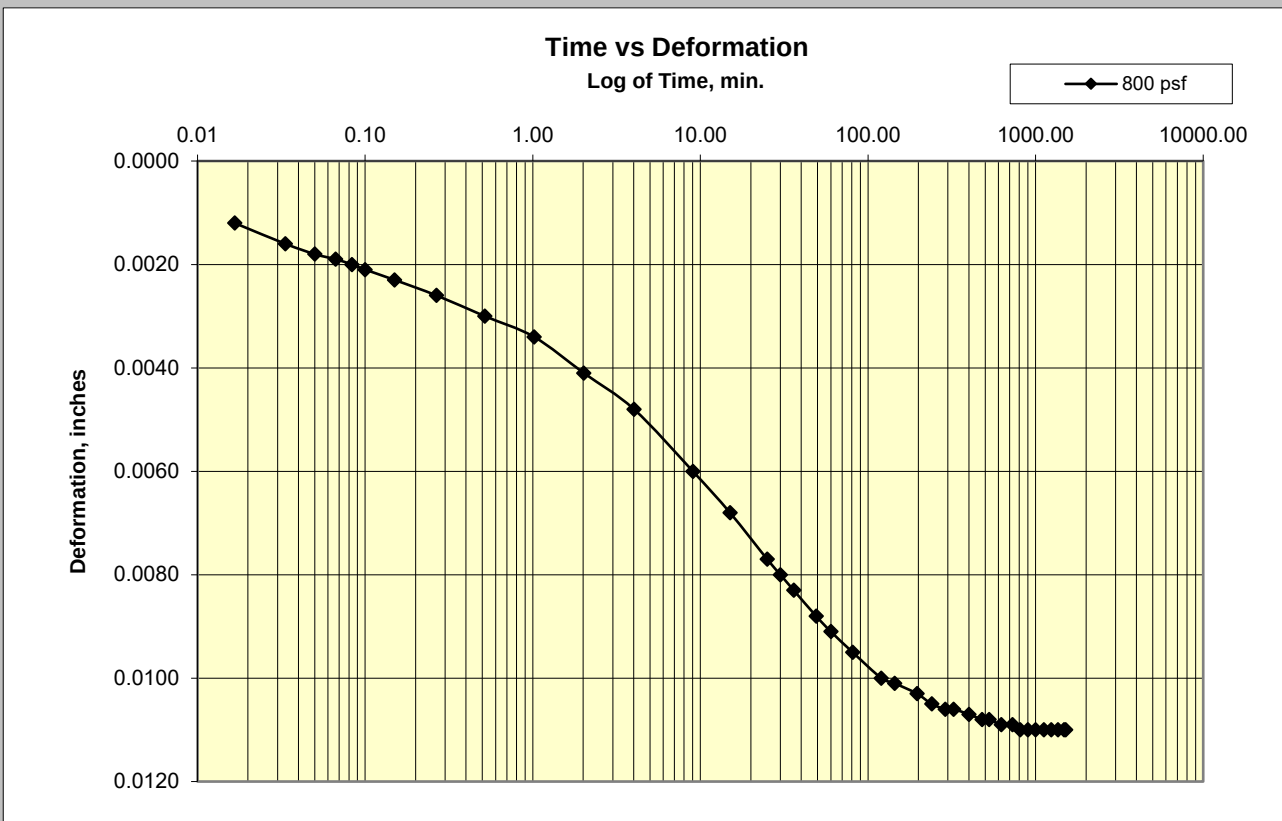
1600 psf



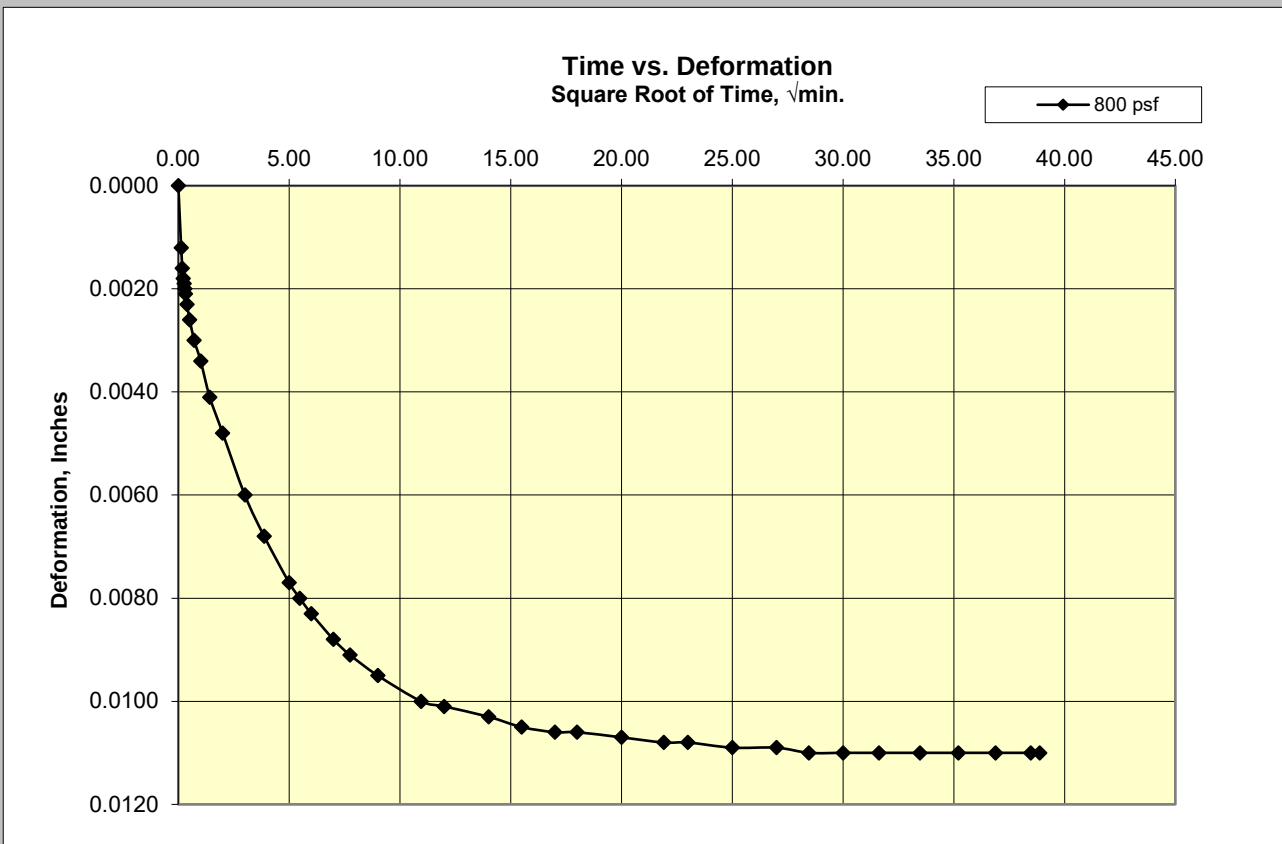
Cooper Testing Labs, Inc.

Load 5

800 psf



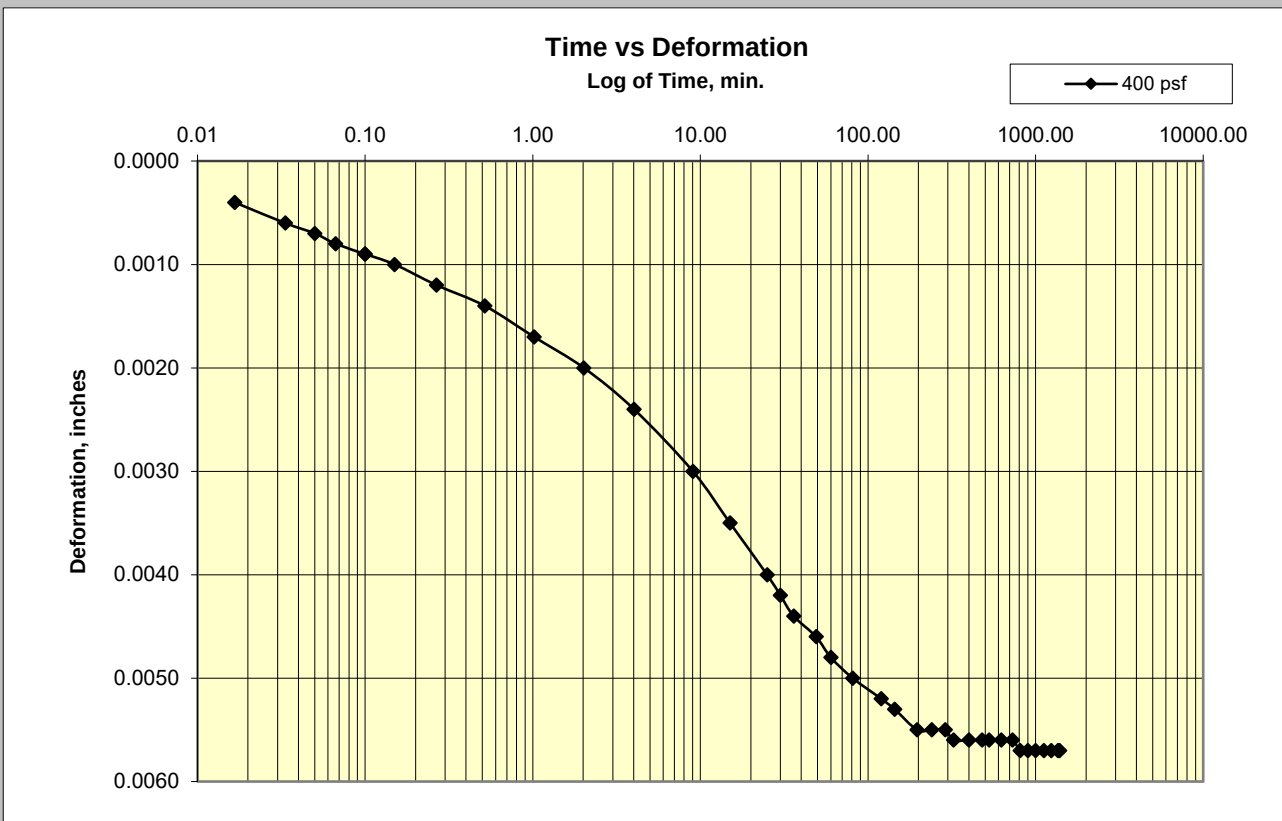
800 psf



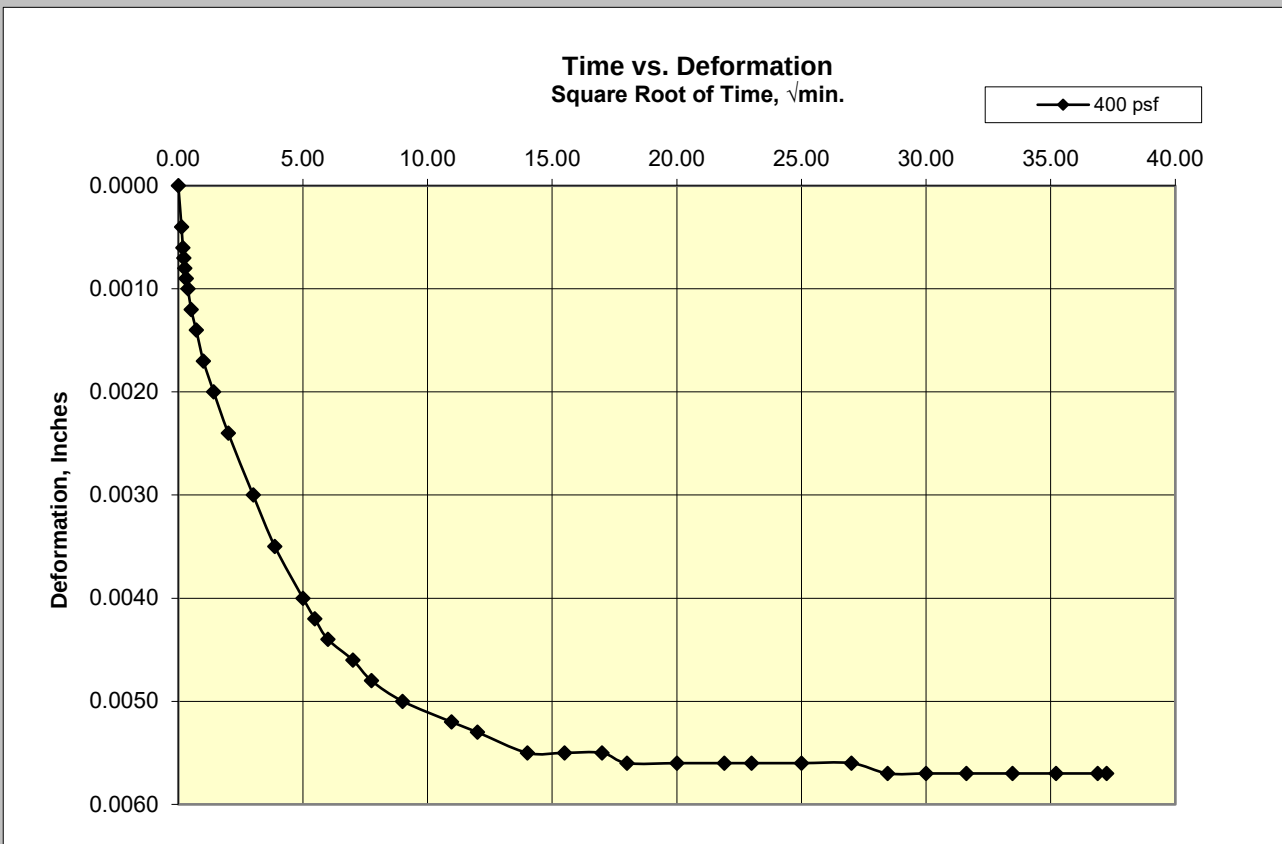
Cooper Testing Labs, Inc.

Load 4

400 psf



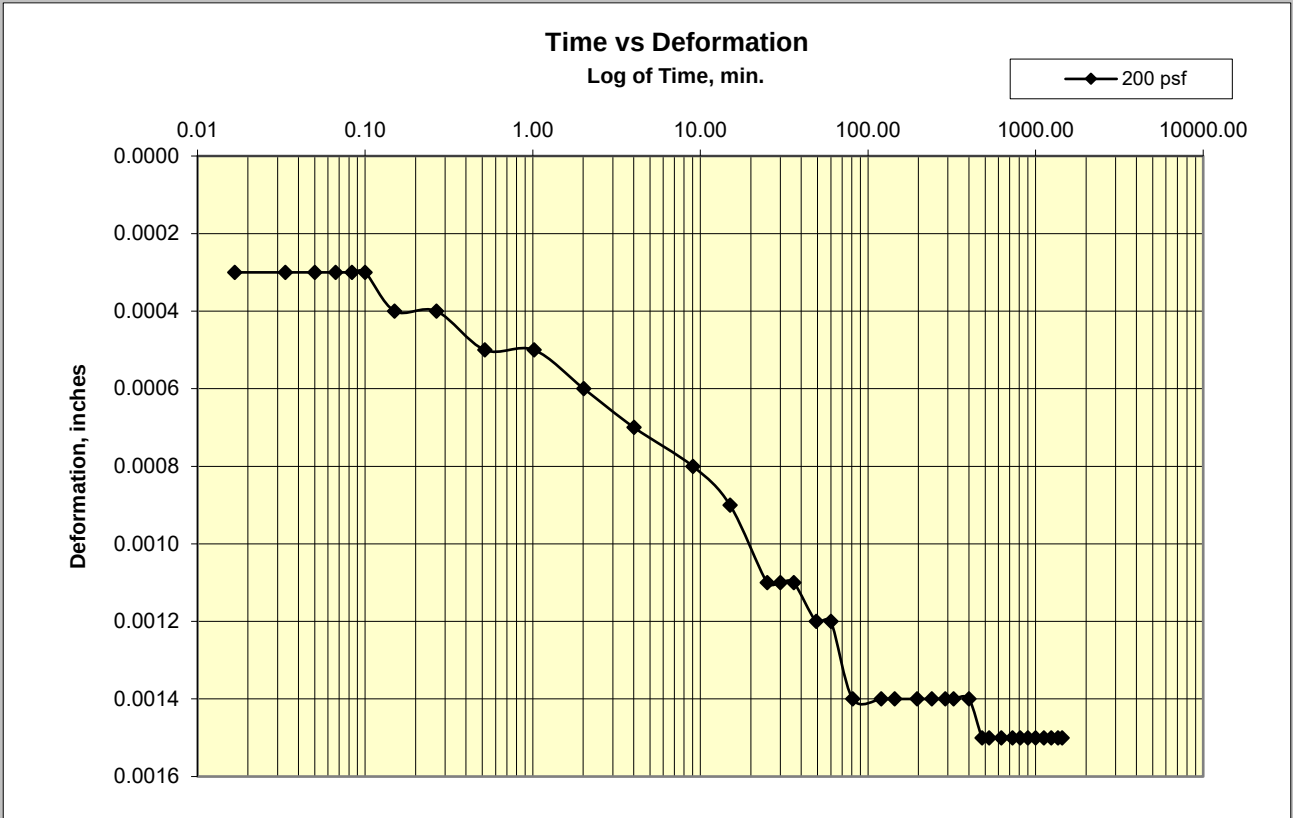
400 psf



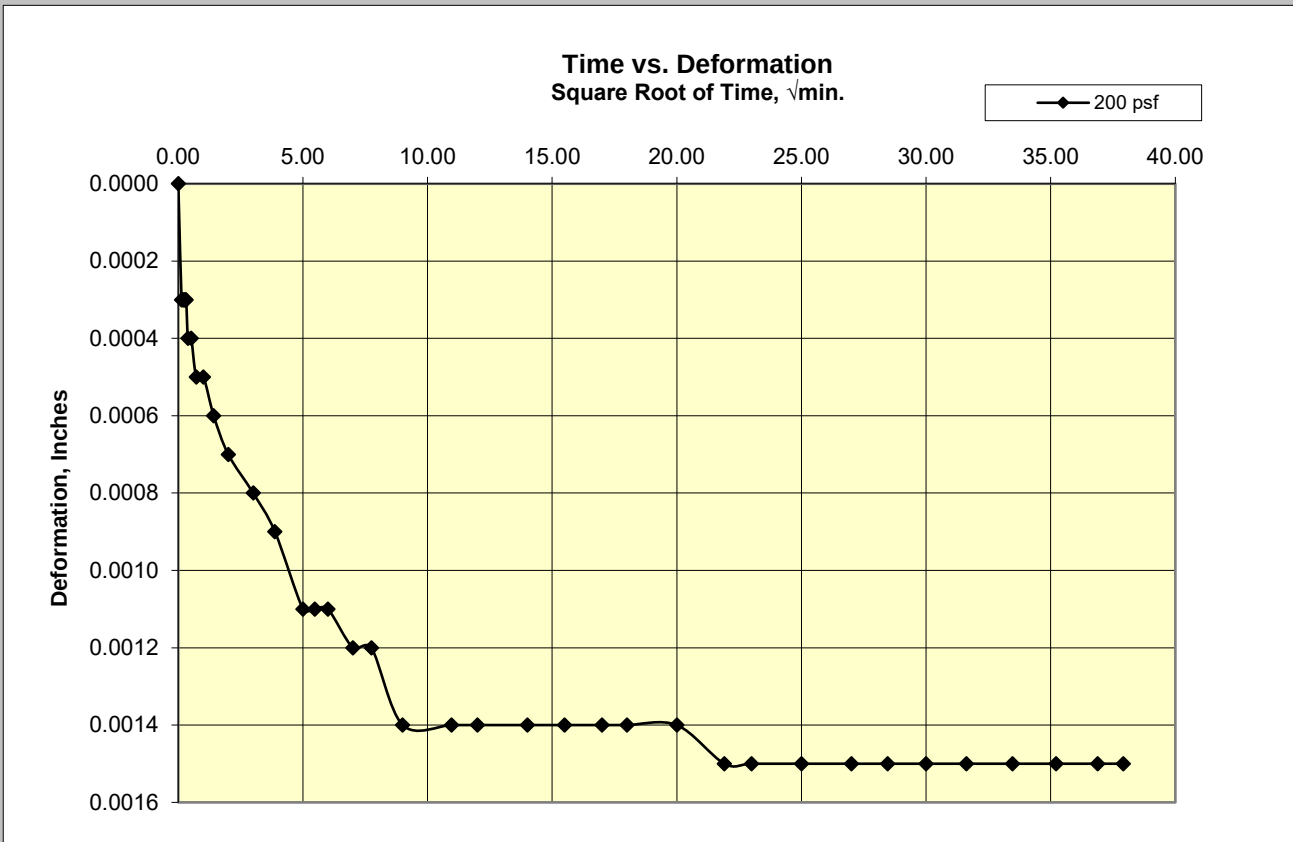
Cooper Testing Labs, Inc.

Load 3

200 psf



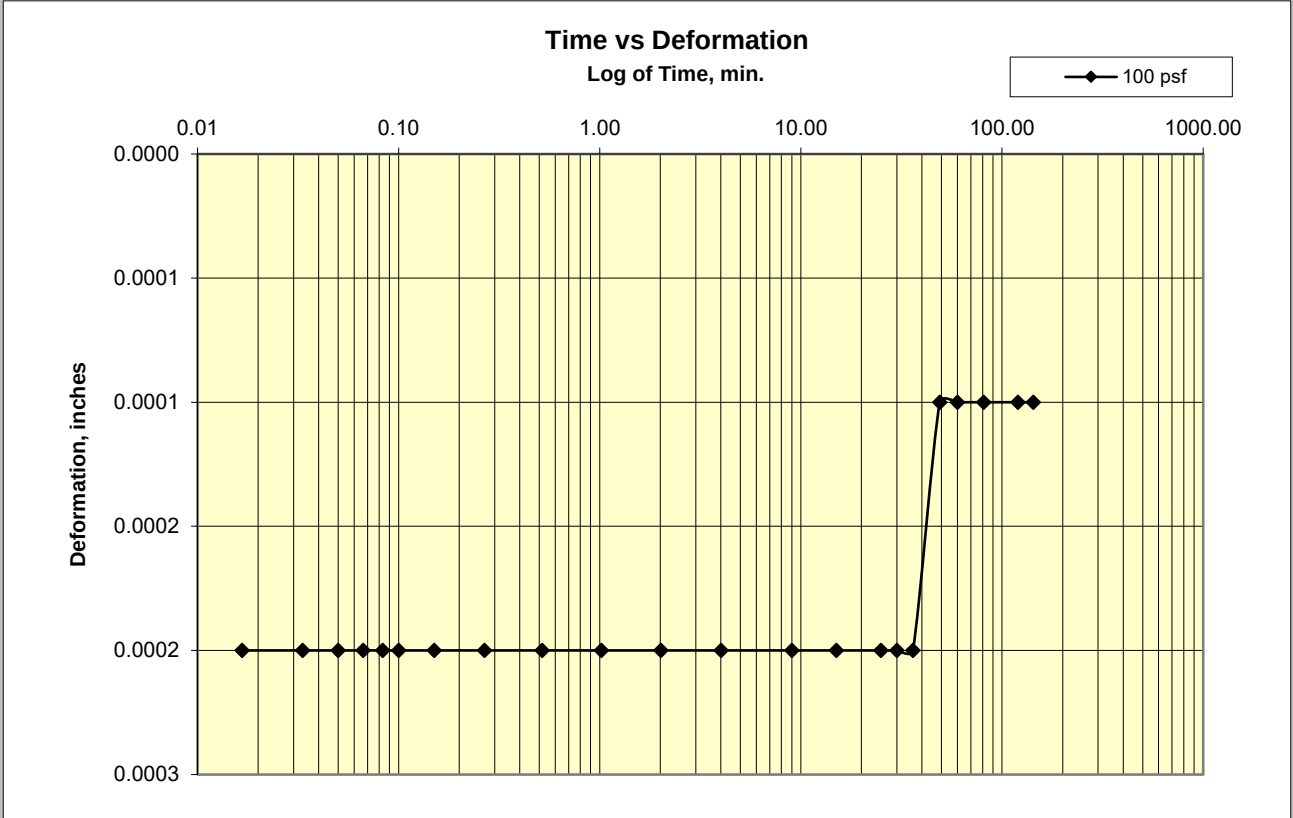
200 psf



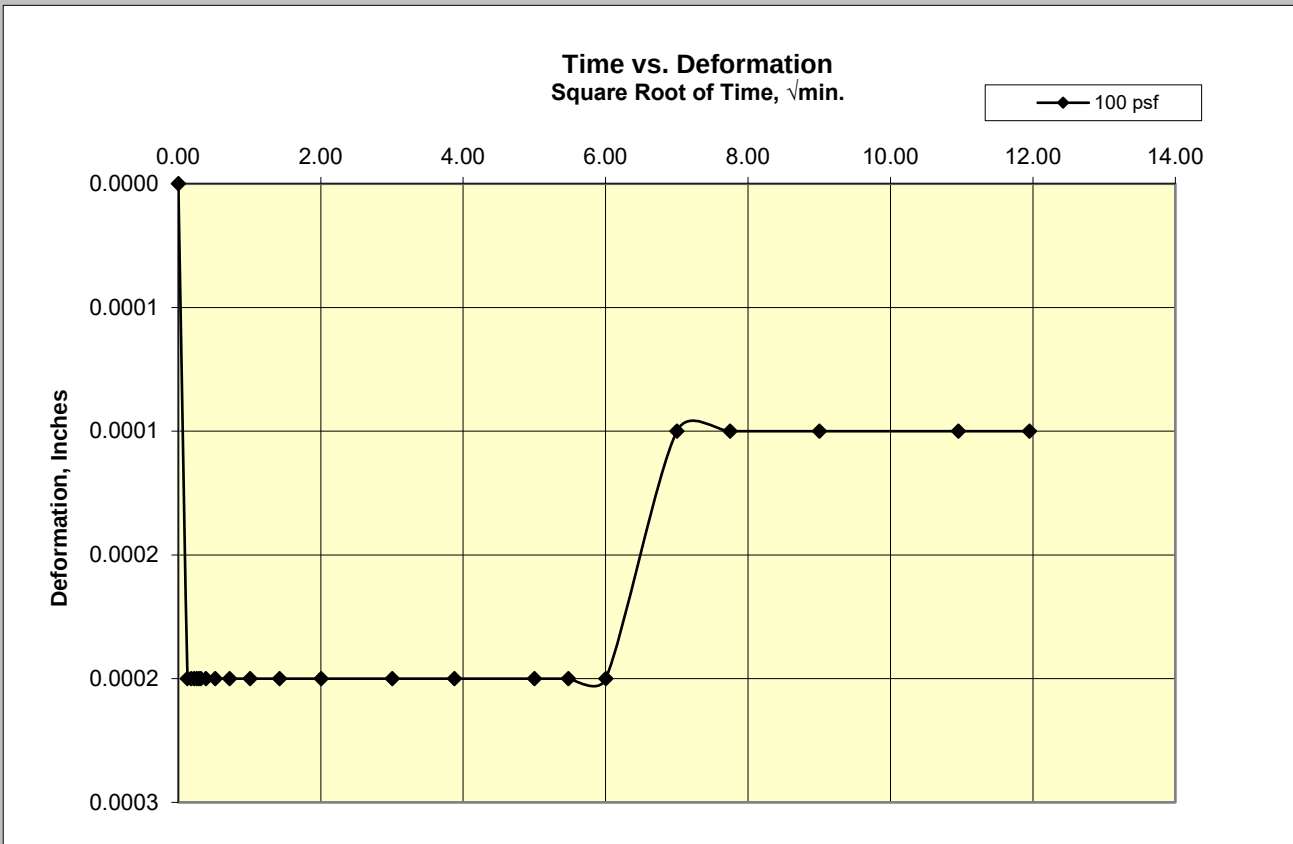
Cooper Testing Labs, Inc.

Load 2

100 psf



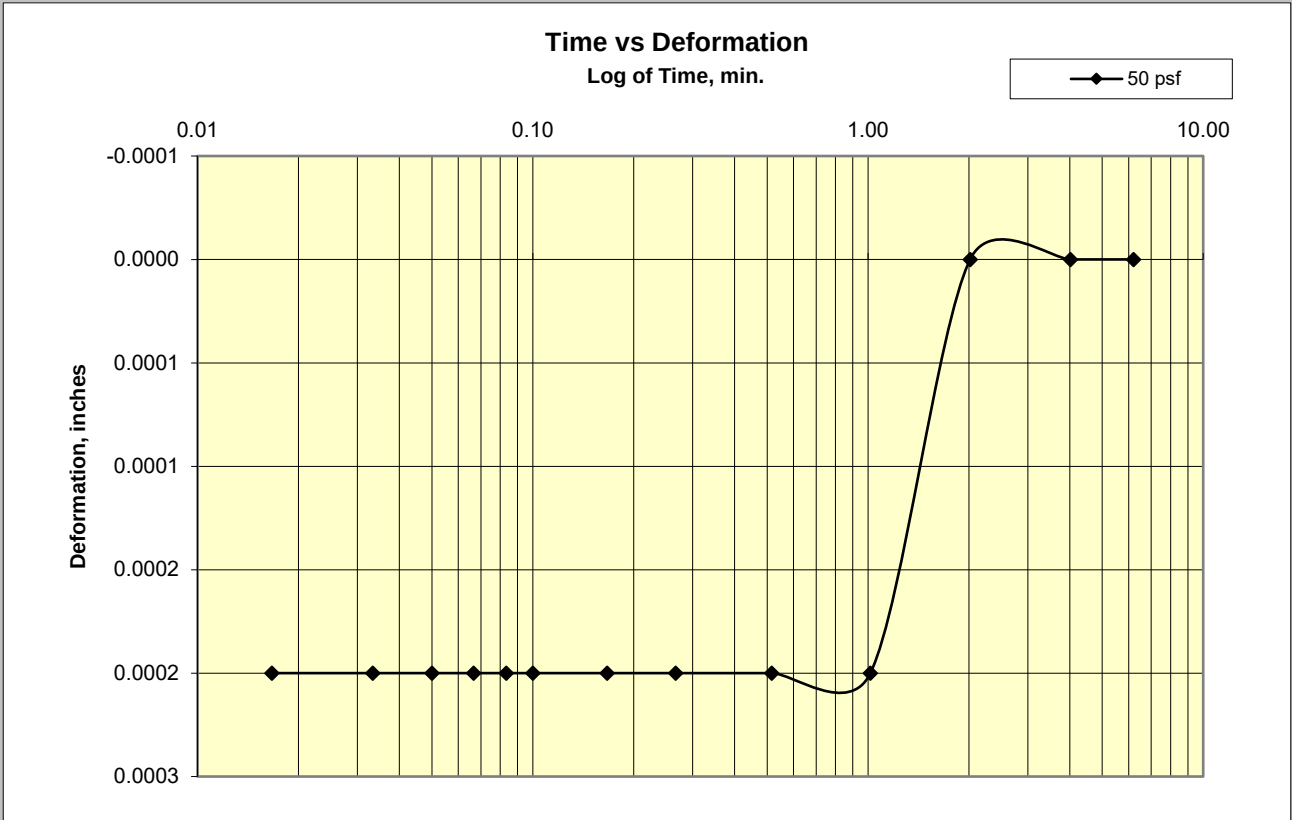
100 psf



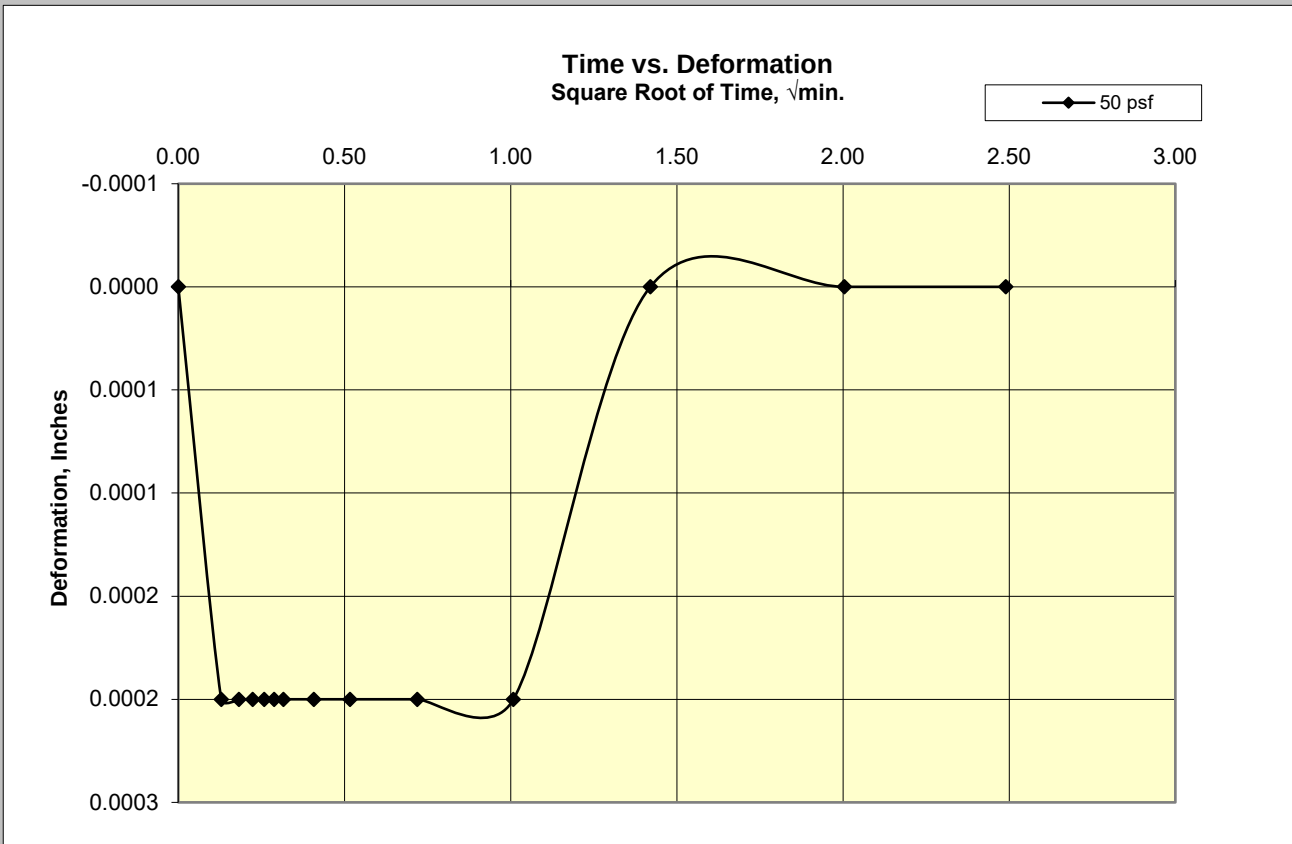
Cooper Testing Labs, Inc.

Load 1

50 psf



50 psf



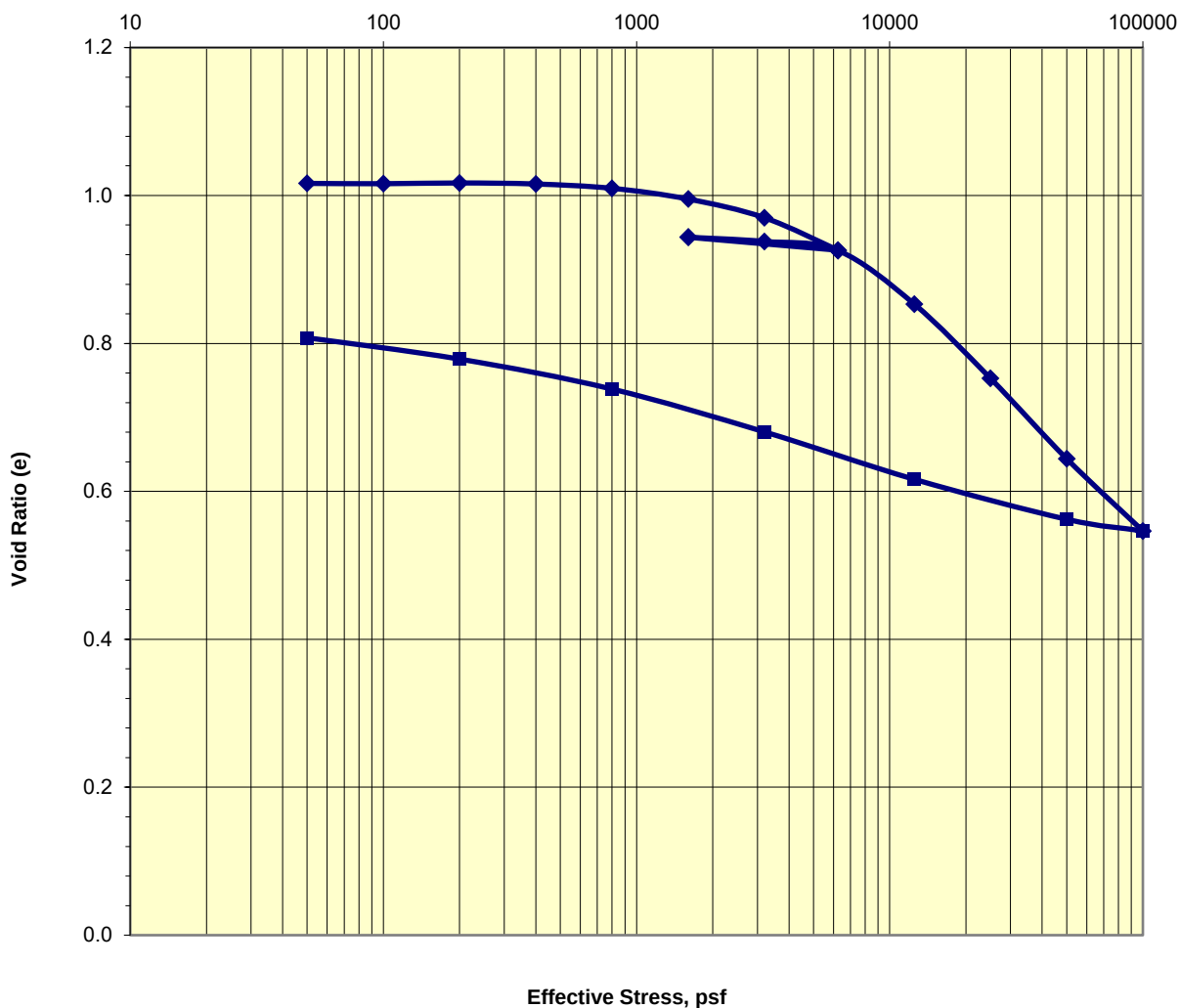


Consolidation Test

ASTM D2435

Job No.:	461-392	Boring:	B3	Run By:	HM
Client:	Geosyntec Consultants	Sample:	B3-12	Reduced:	RU
Project:	WG3607	Depth, ft.:	55-57.5(Tip-2")	Checked:	PJ
Soil Type:	Olive Gray Fat CLAY			Date:	3/25/2026

e-Log-P Curve



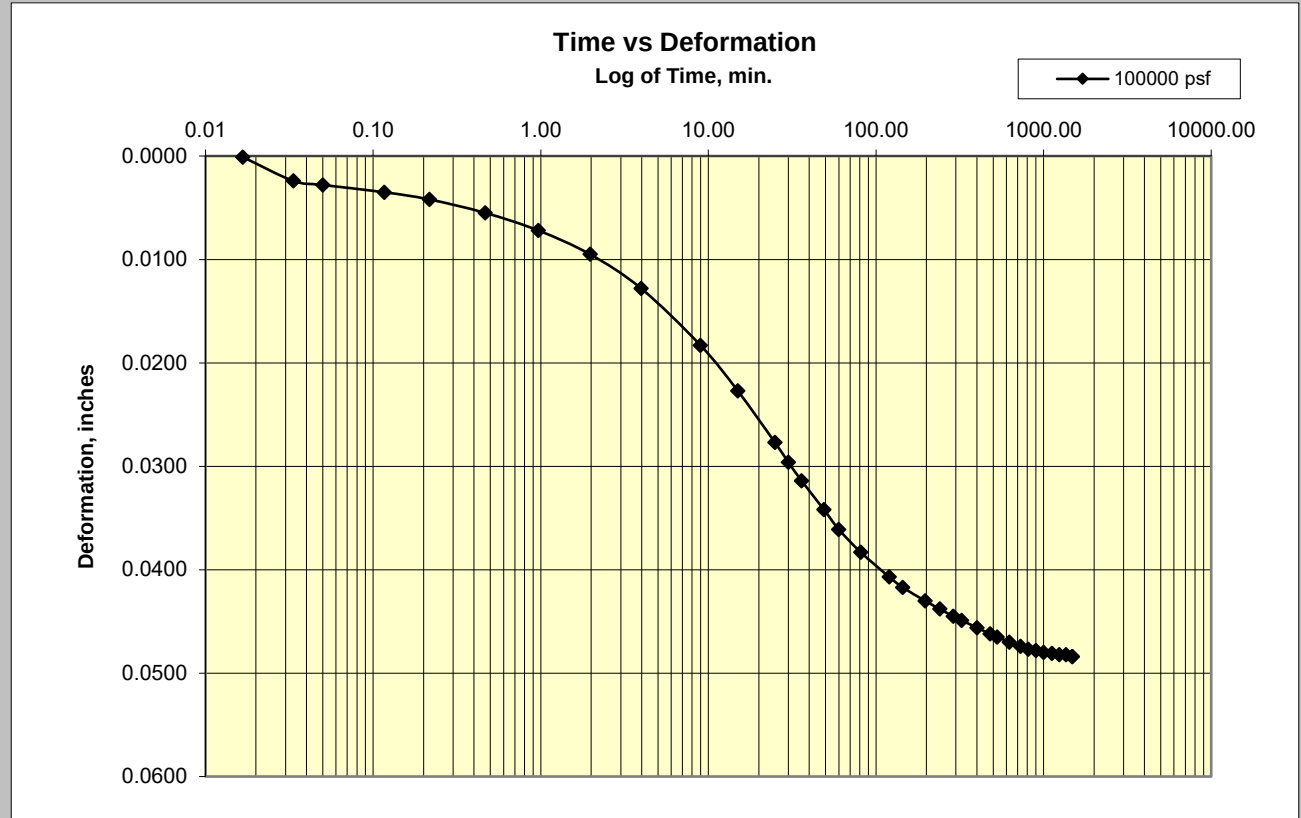
Assumed Gs	2.75	Initial	Final
Moisture %:		35.5	29.5
Dry Density, pcf:		85.1	94.8
Void Ratio:		1.016	0.811
% Saturation:		96.0	100.0

Remarks:

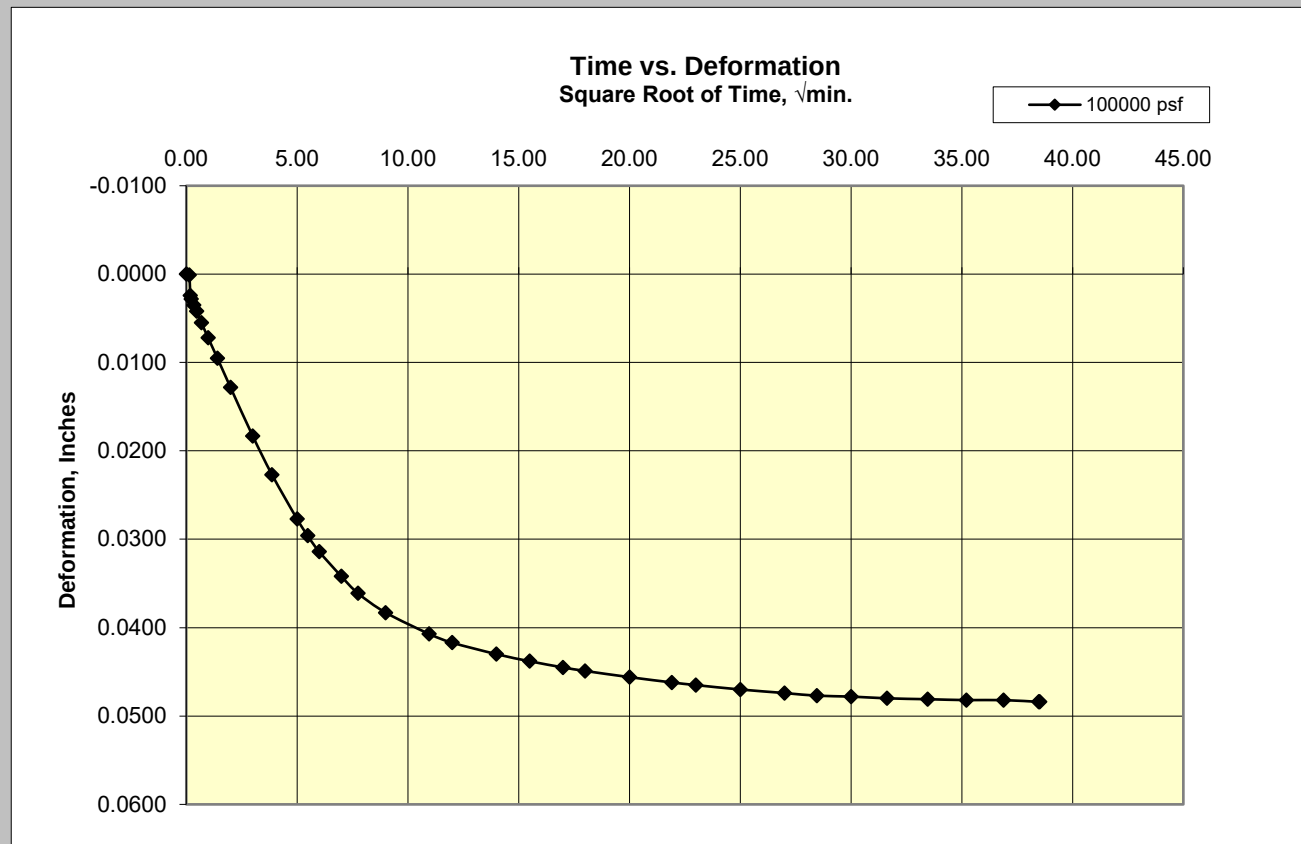
Cooper Testing Labs, Inc.

Load 15

100000 psf



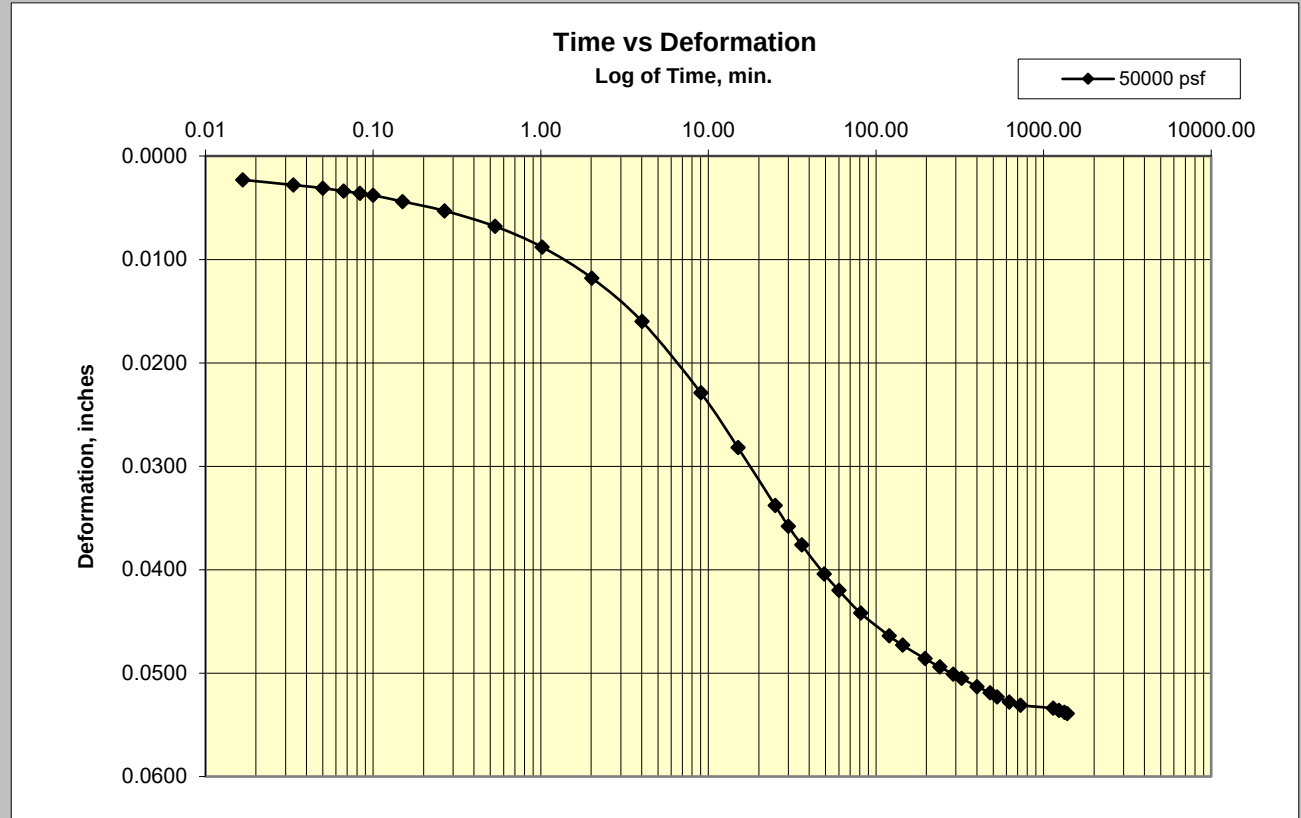
100000 psf



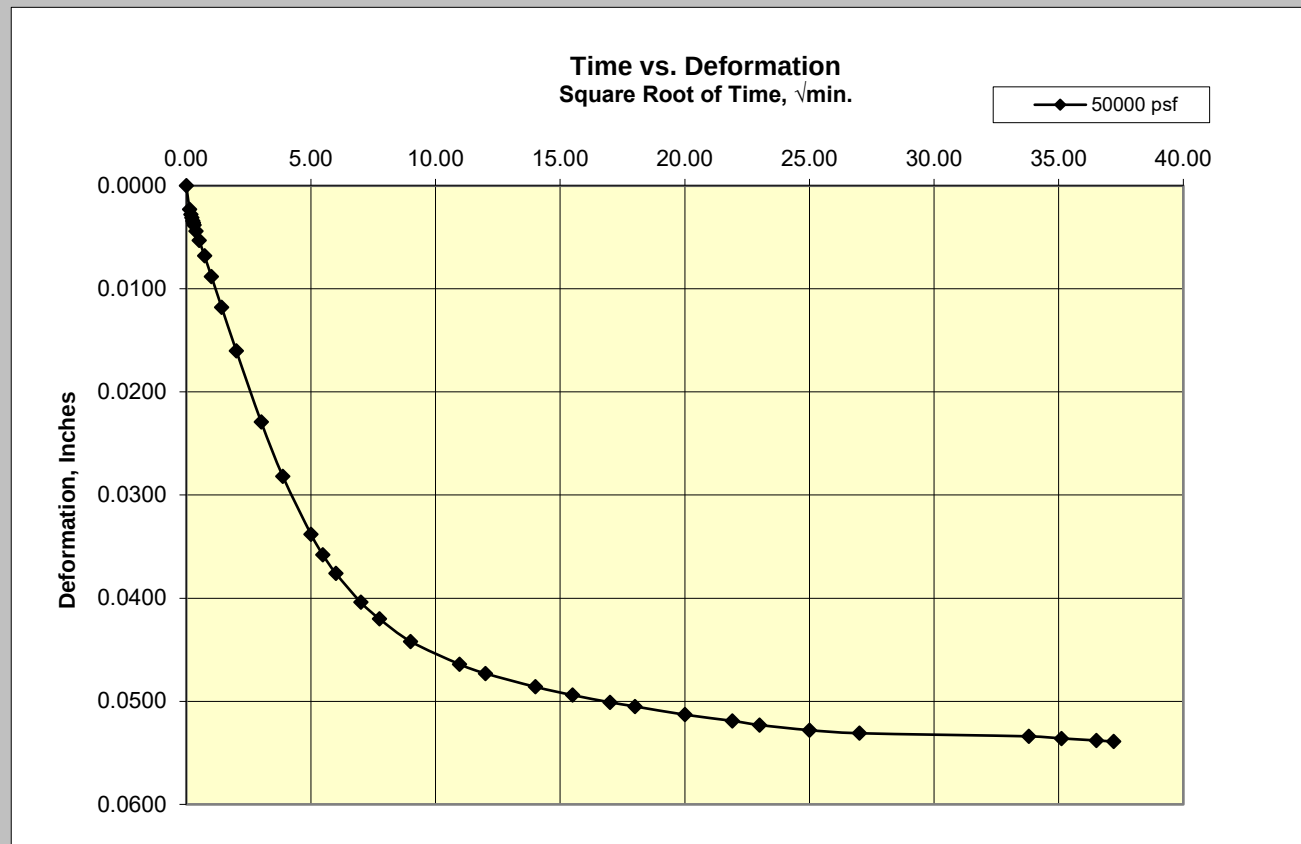
Cooper Testing Labs, Inc.

Load 14

50000 psf



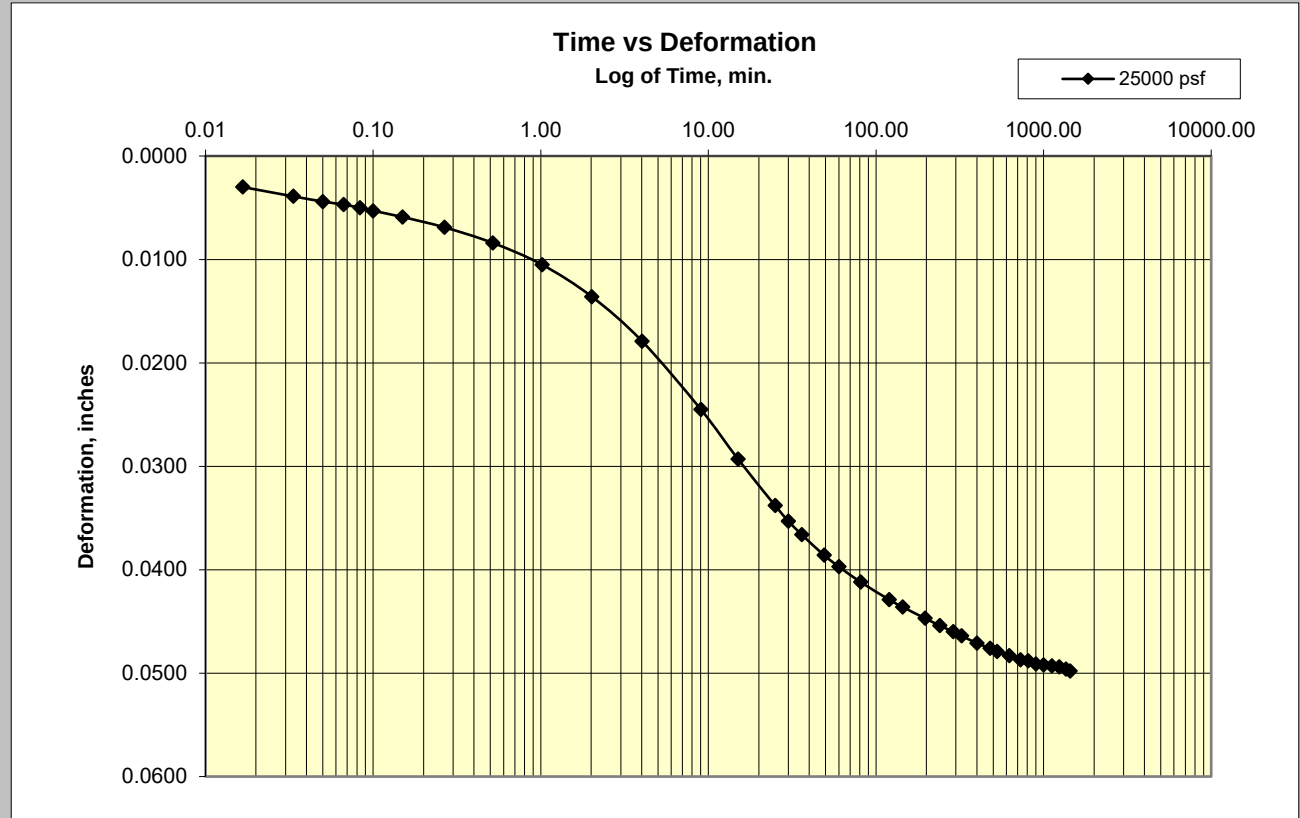
50000 psf



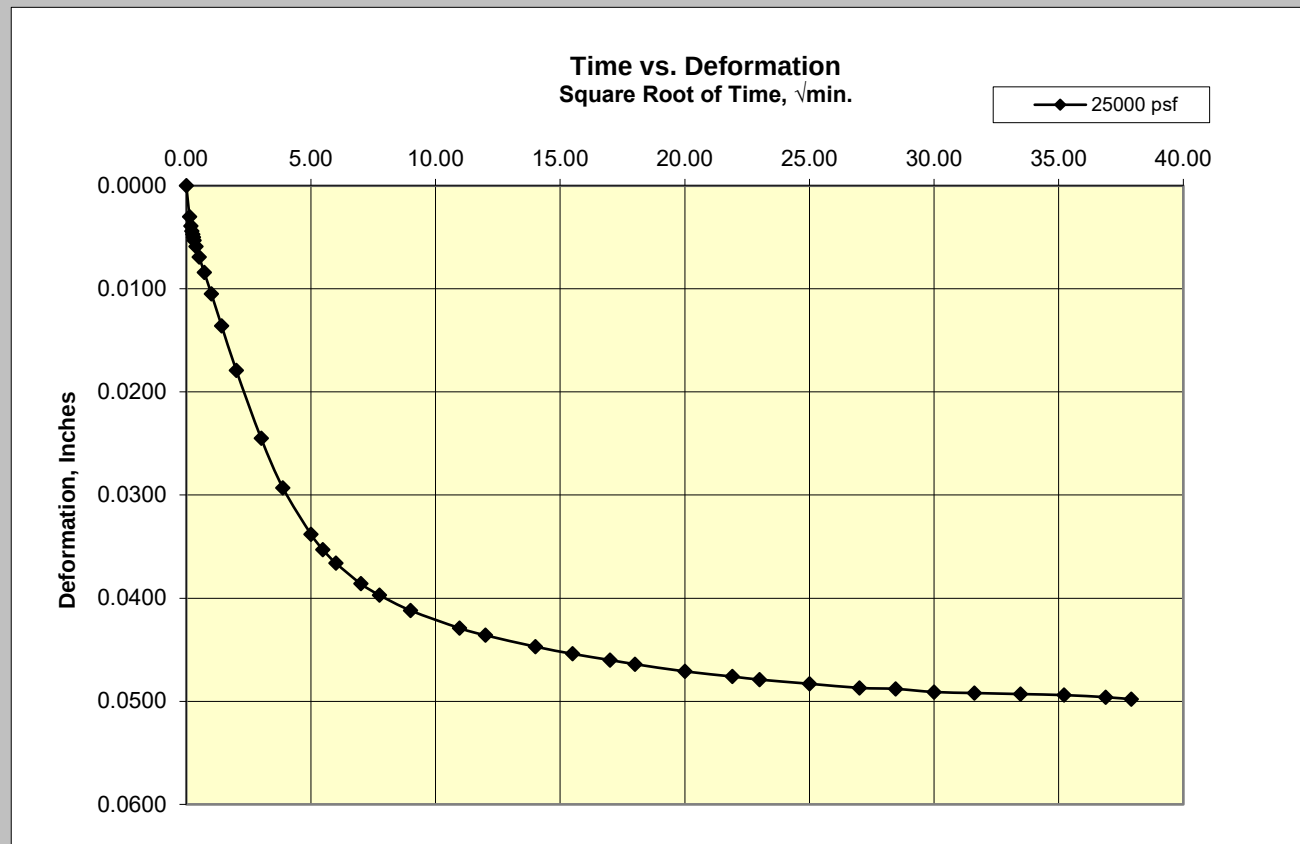
Cooper Testing Labs, Inc.

Load 13

25000 psf



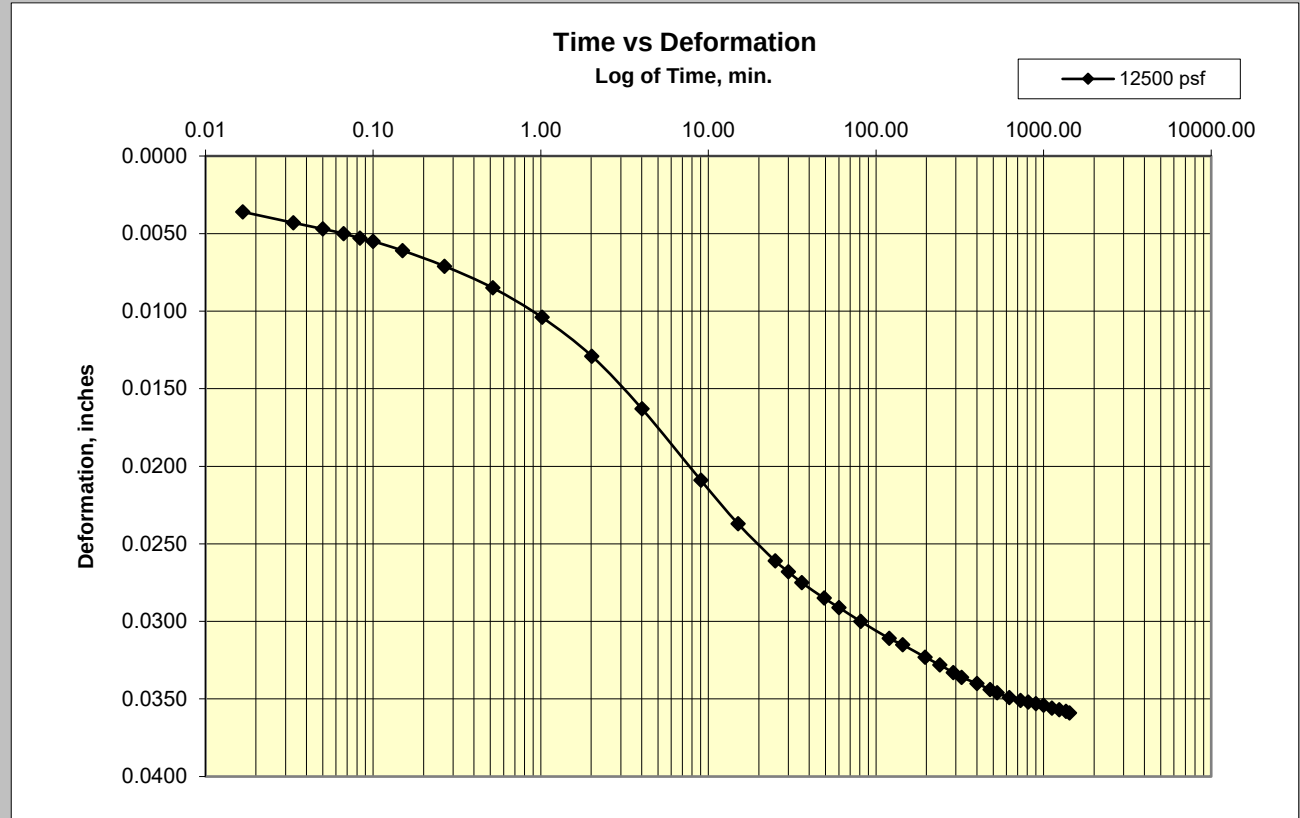
25000 psf



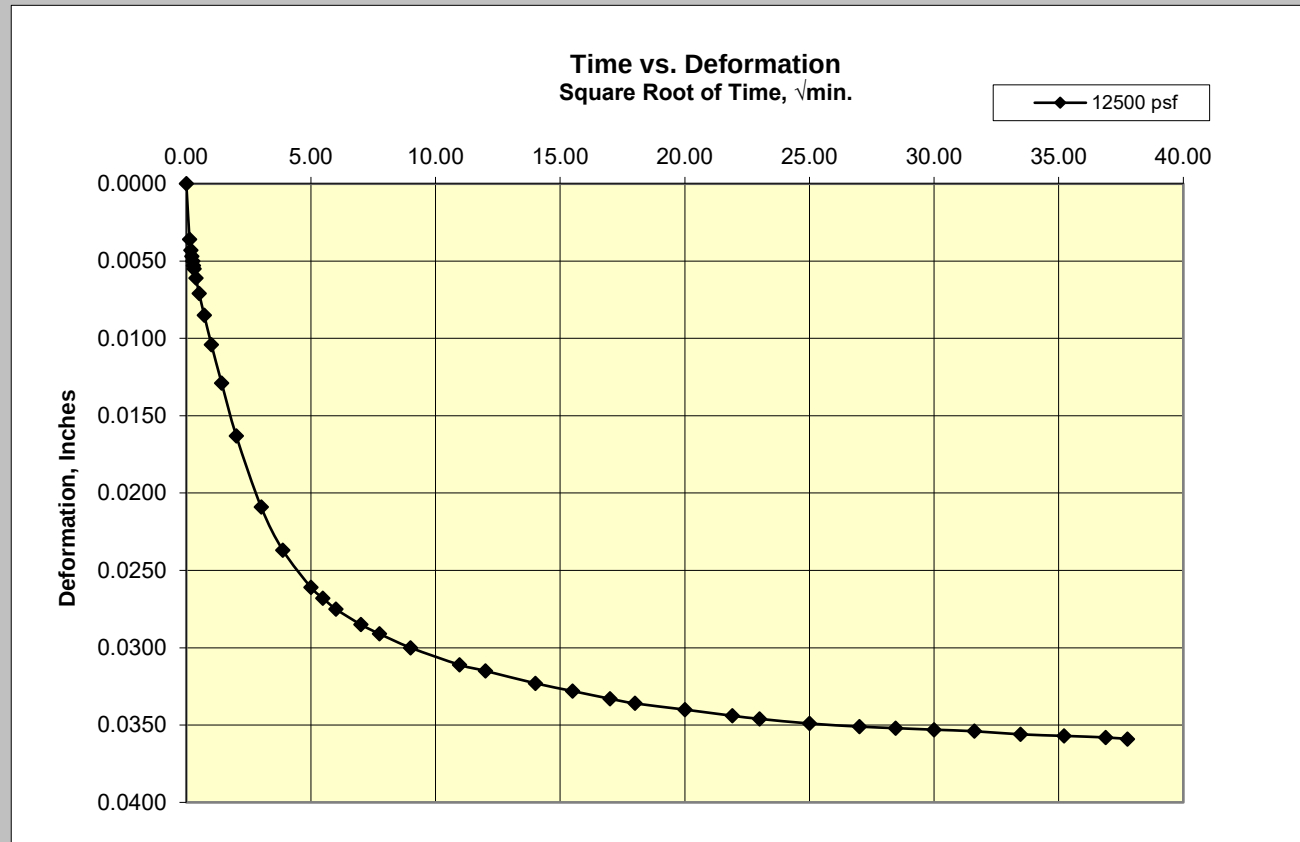
Cooper Testing Labs, Inc.

Load 12

12500 psf



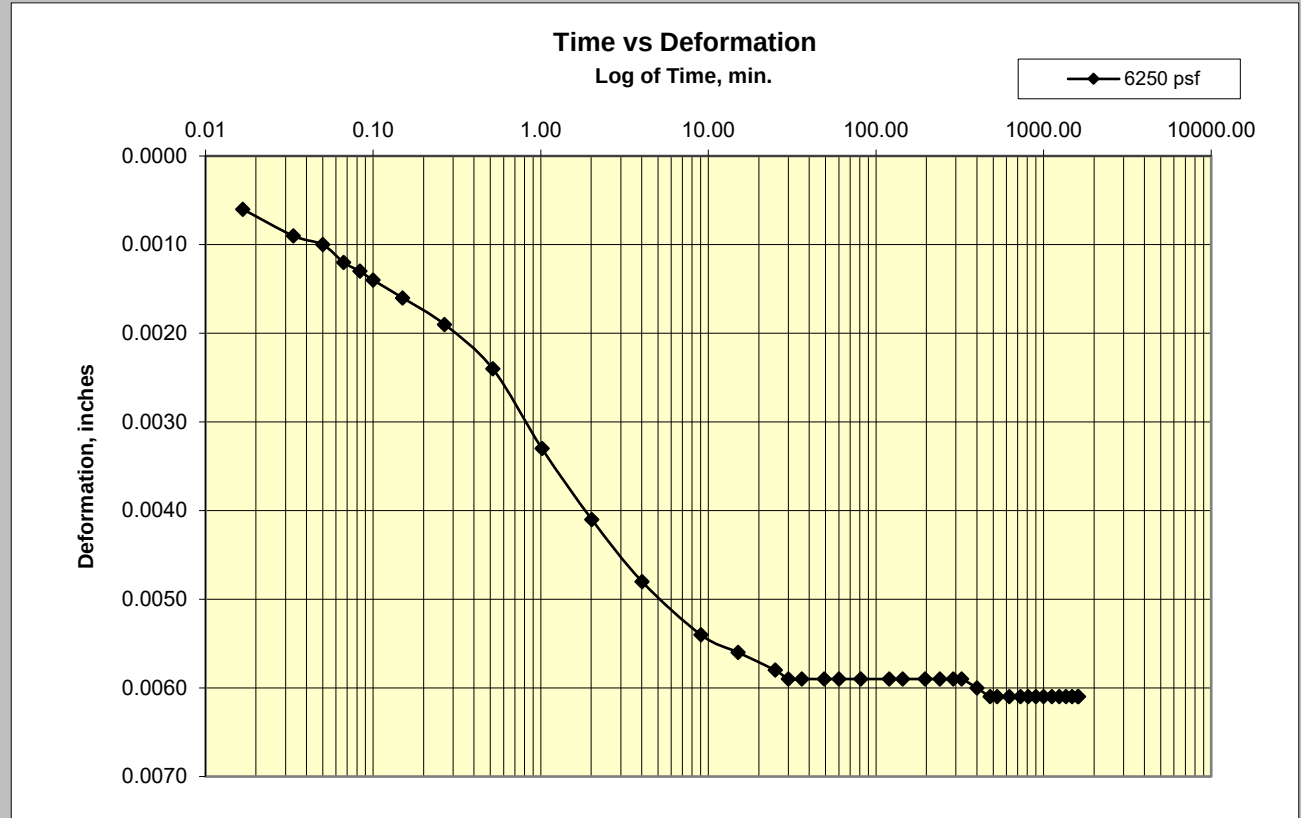
12500 psf



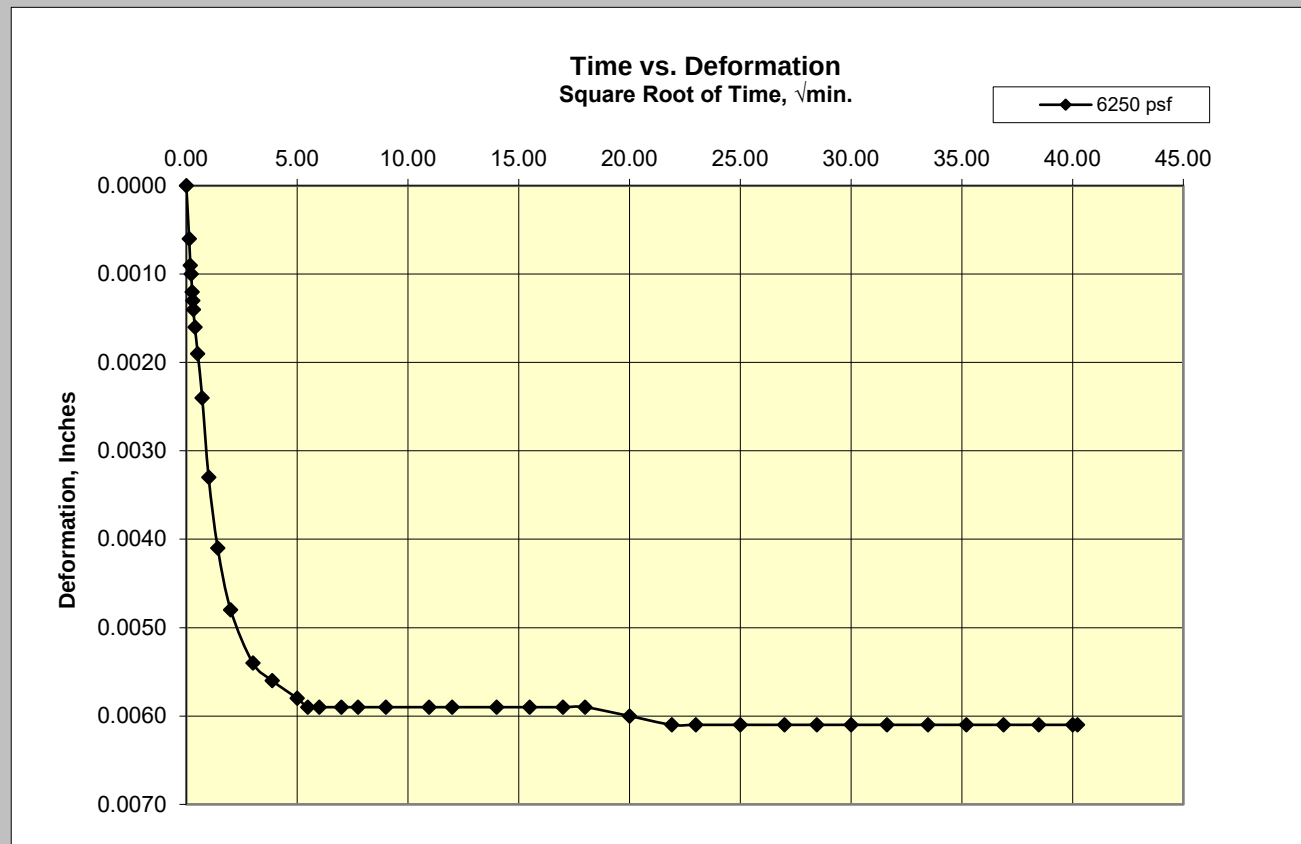
Cooper Testing Labs, Inc.

Load 11

6250 psf



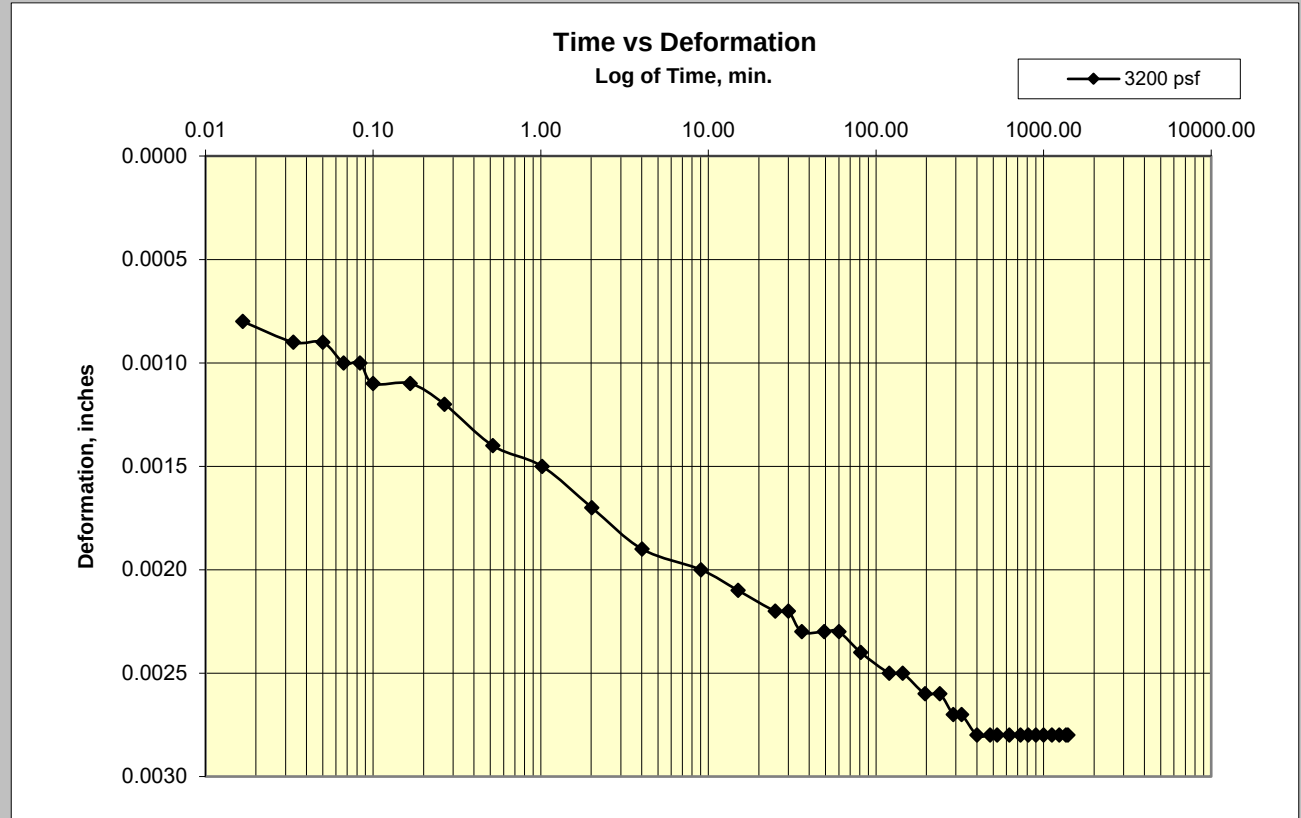
6250 psf



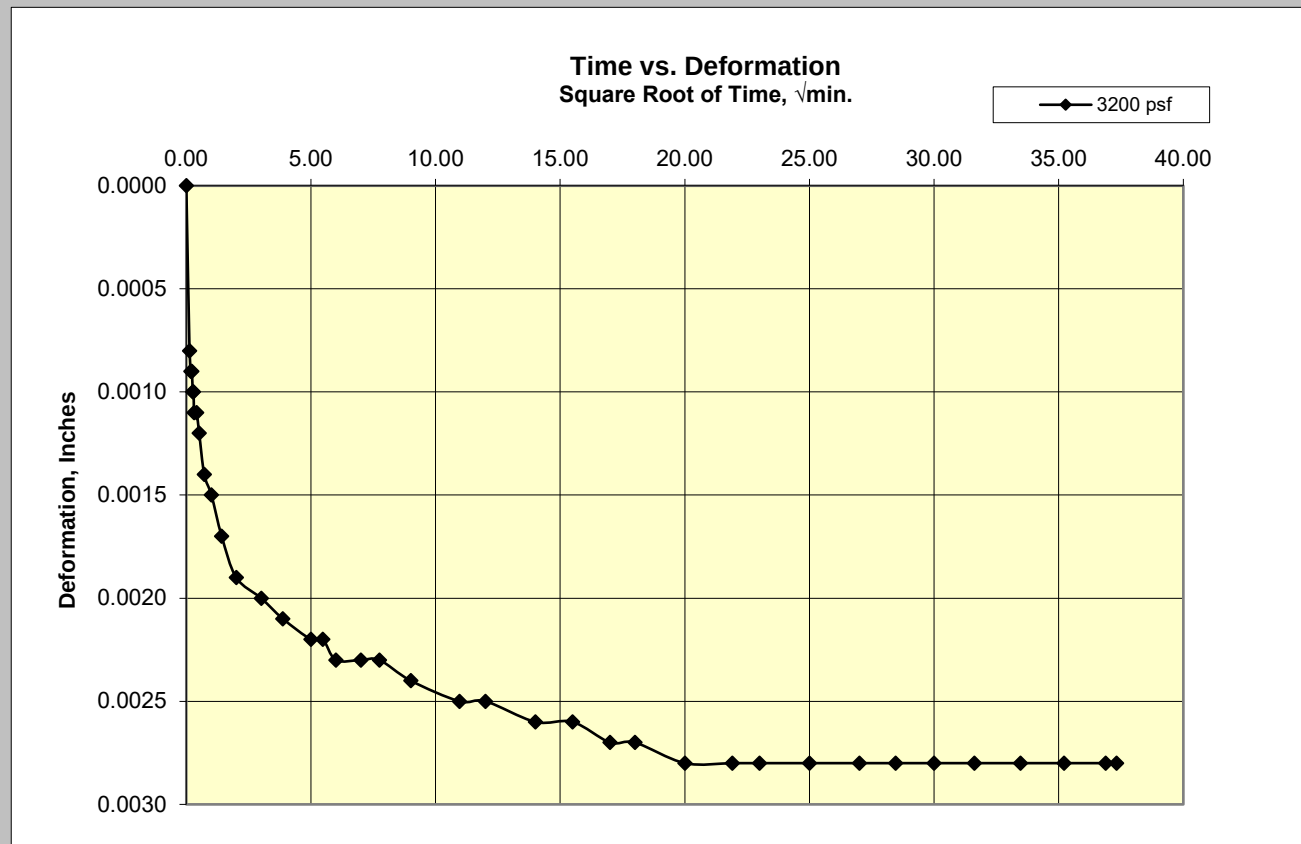
Cooper Testing Labs, Inc.

Load 10

3200 psf



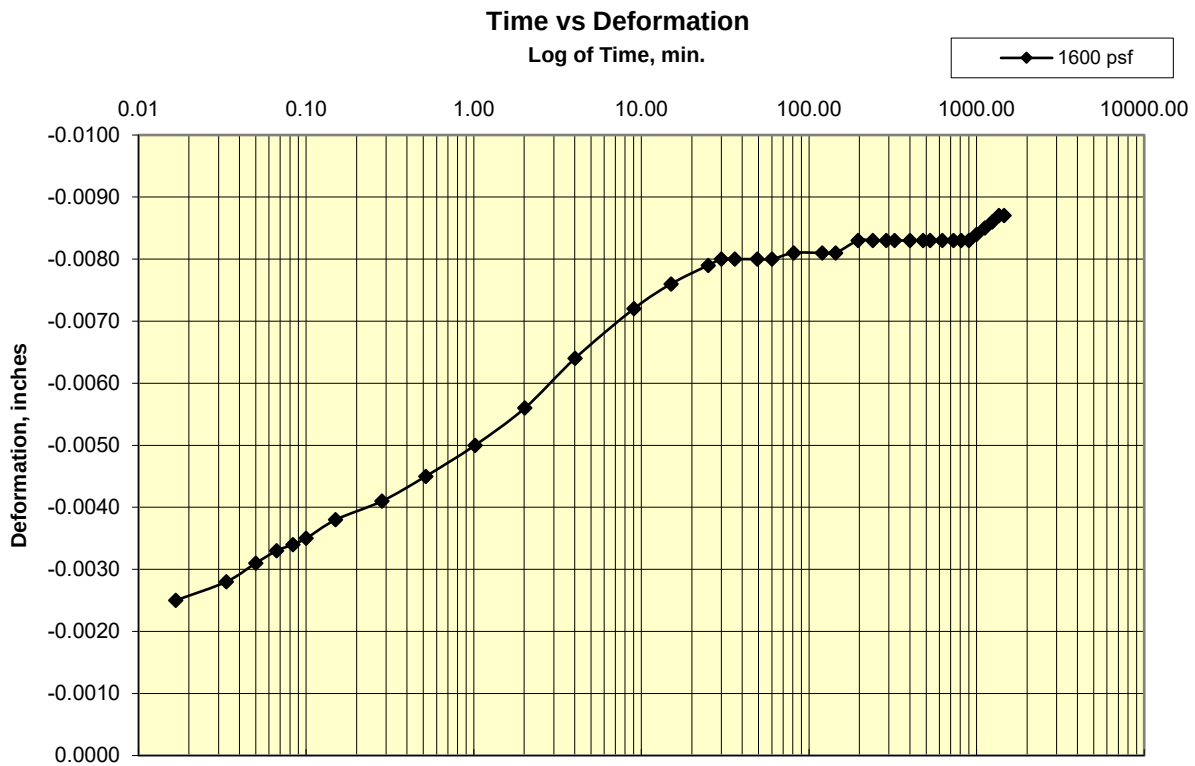
3200 psf



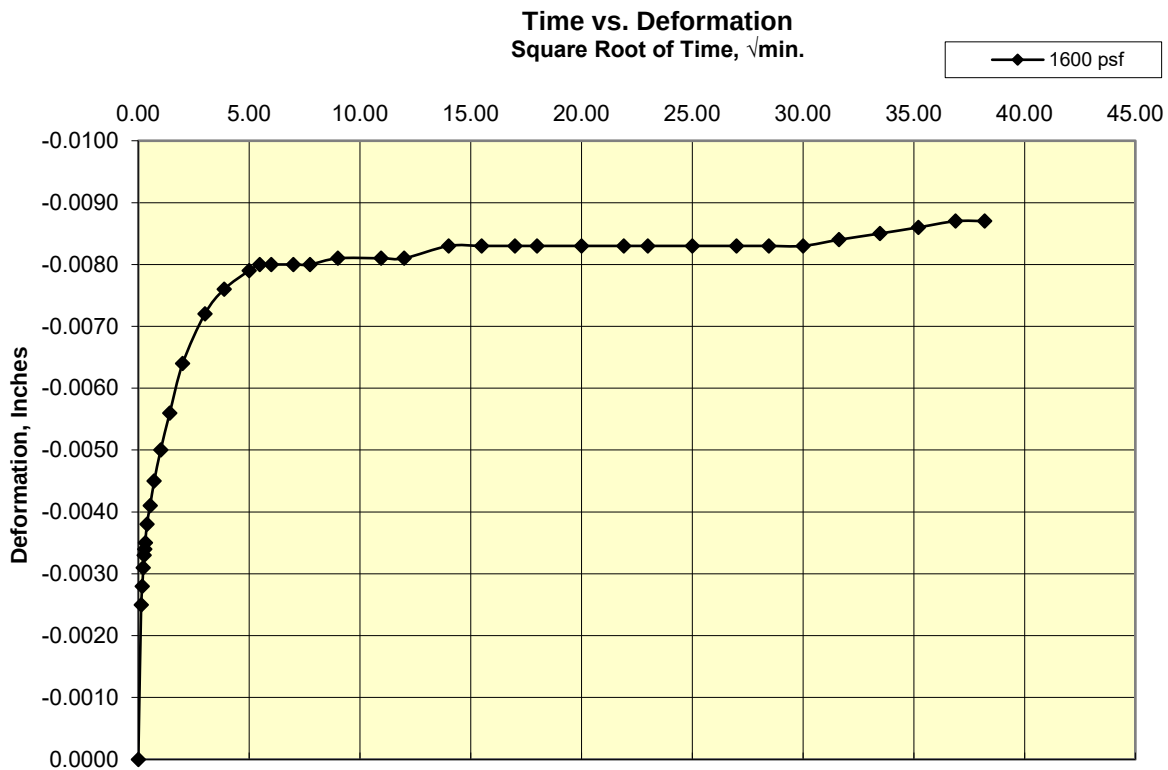
Cooper Testing Labs, Inc.

Load 9

1600 psf



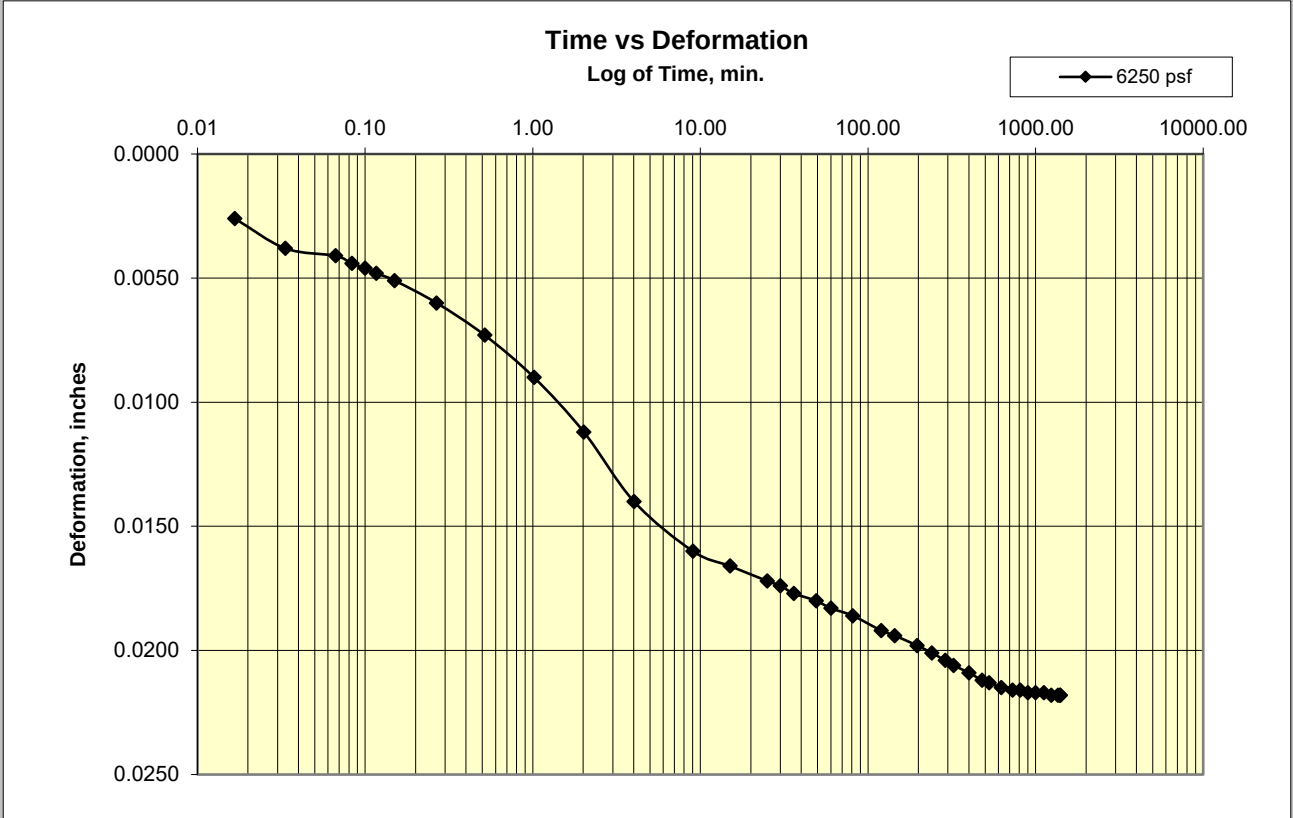
1600 psf



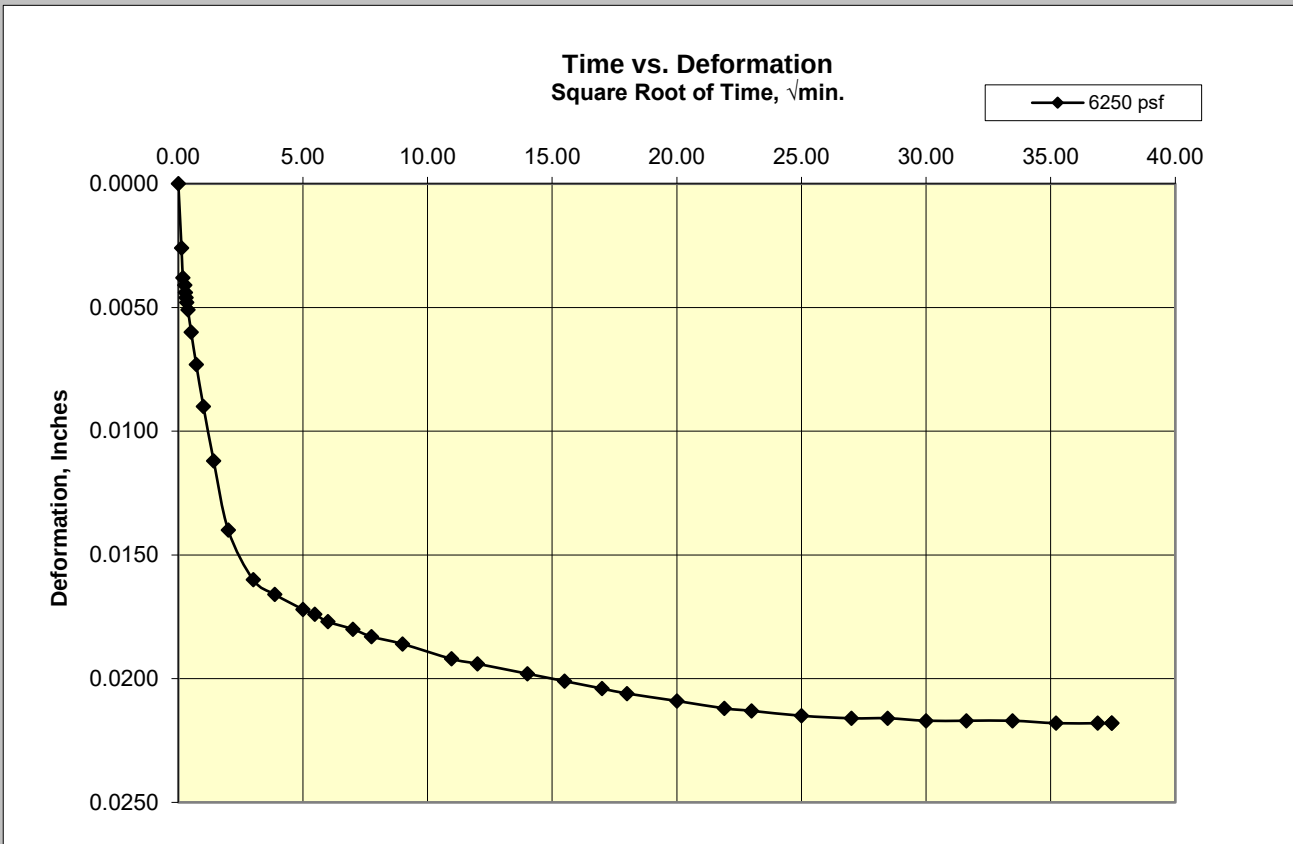
Cooper Testing Labs, Inc.

Load 8

6250 psf



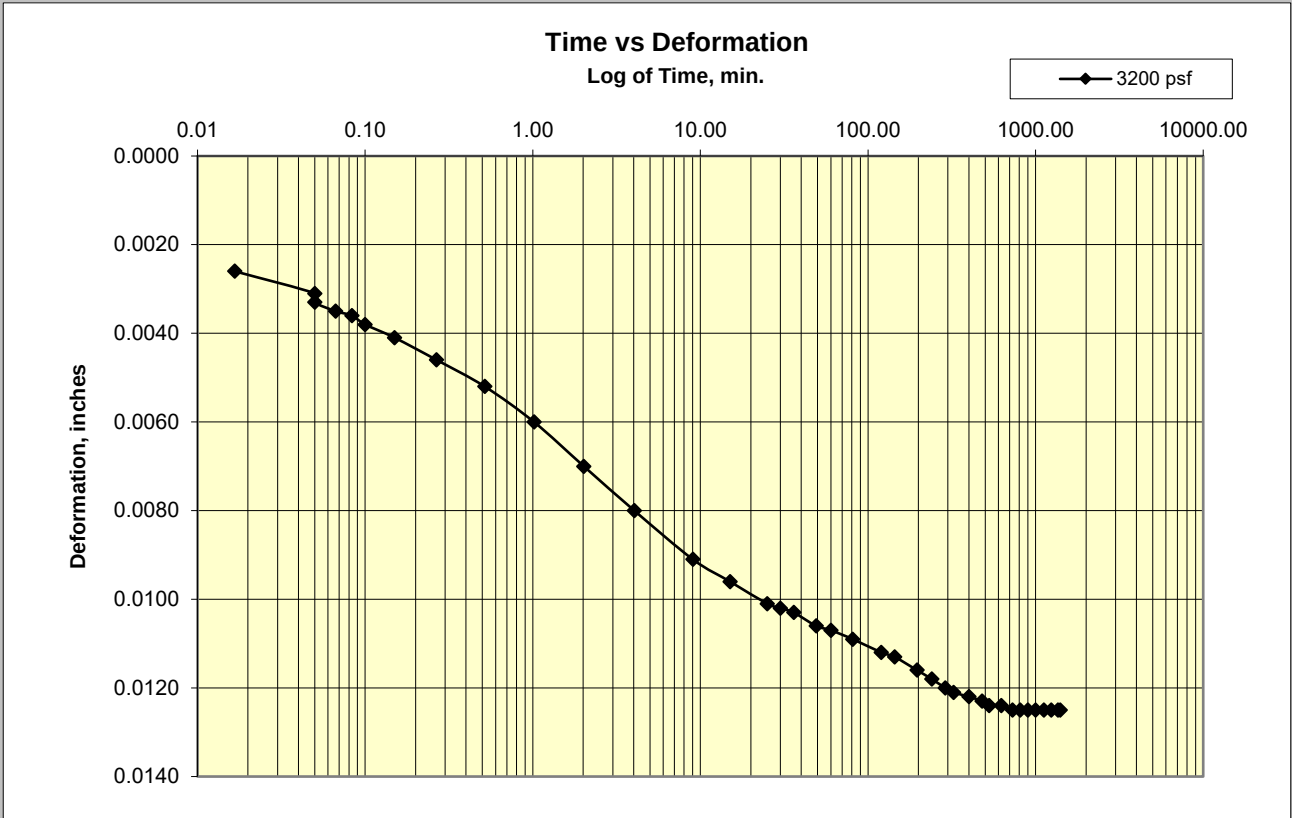
6250 psf



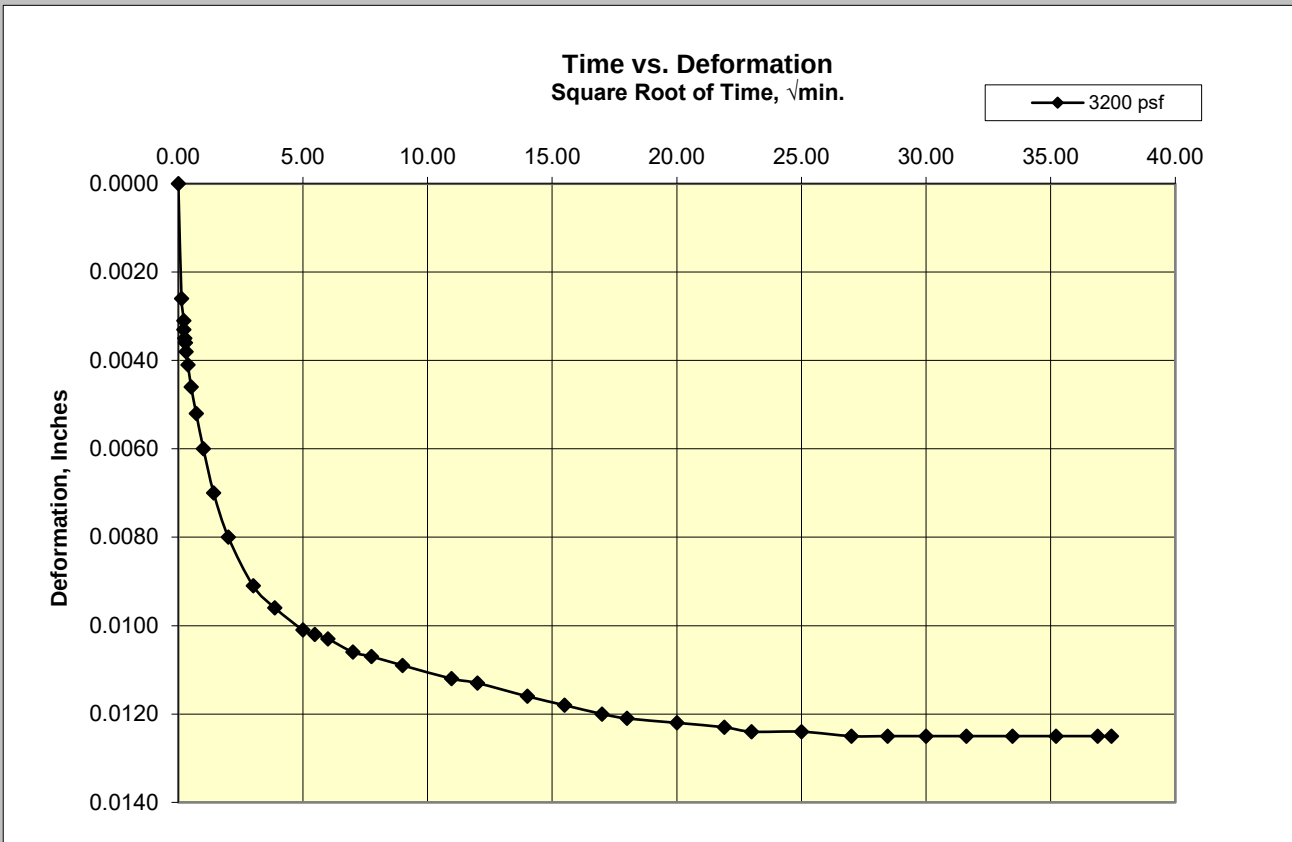
Cooper Testing Labs, Inc.

Load 7

3200 psf



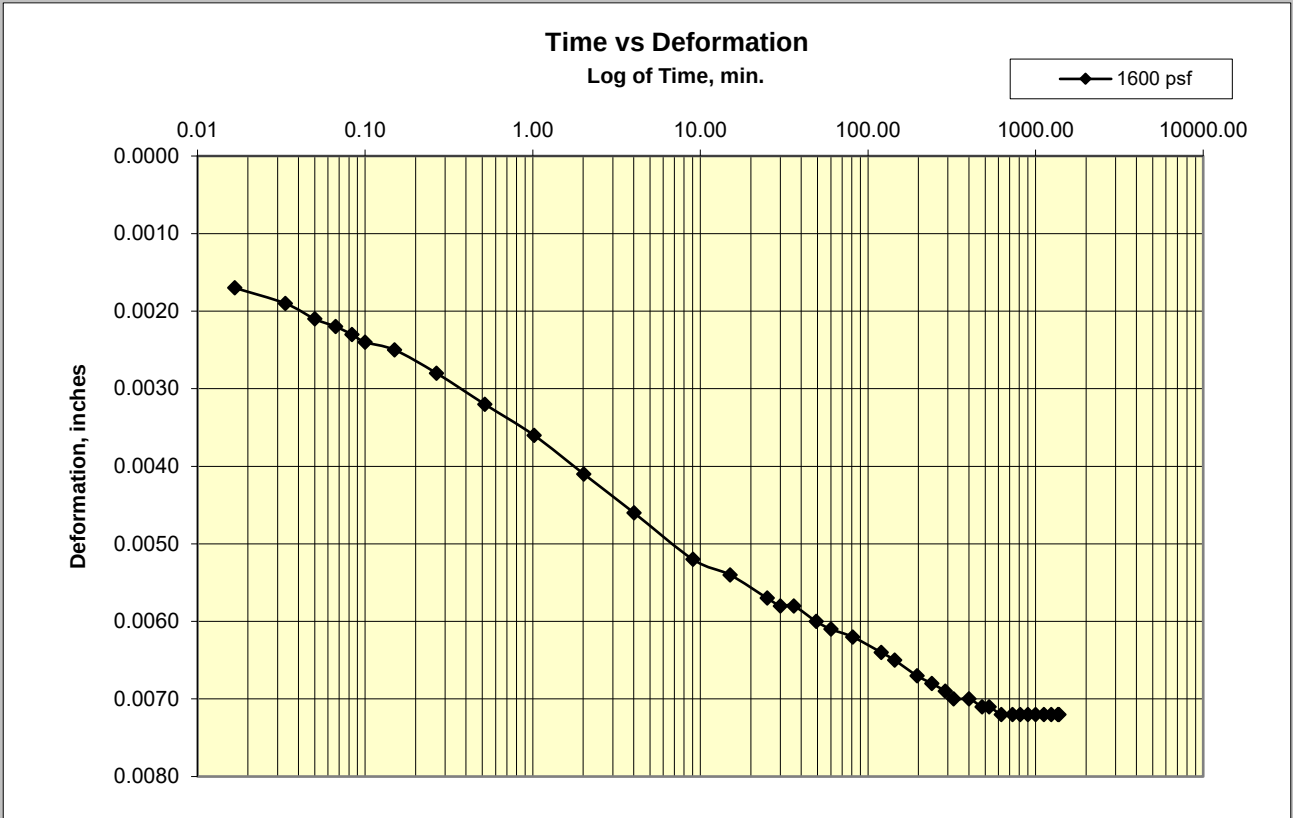
3200 psf



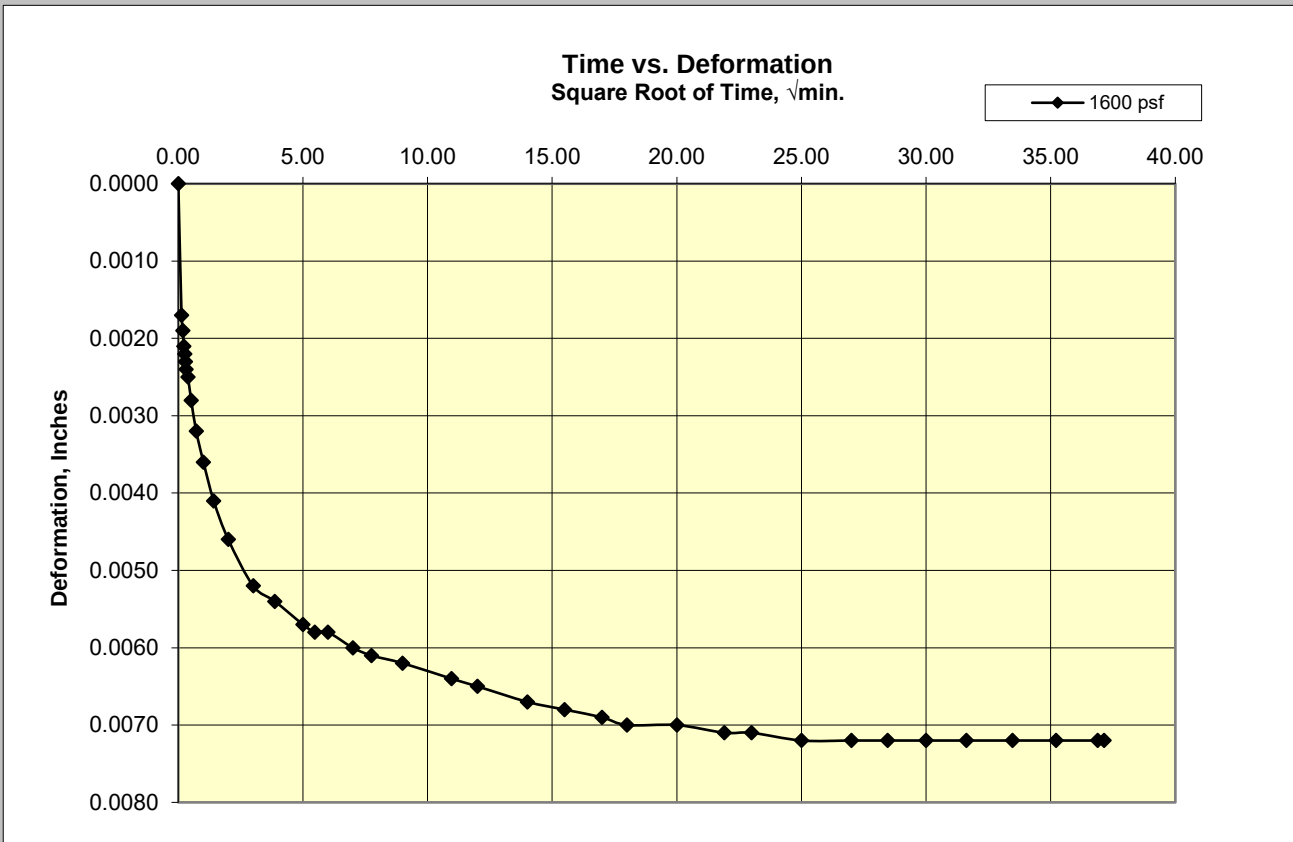
Cooper Testing Labs, Inc.

Load 6

1600 psf



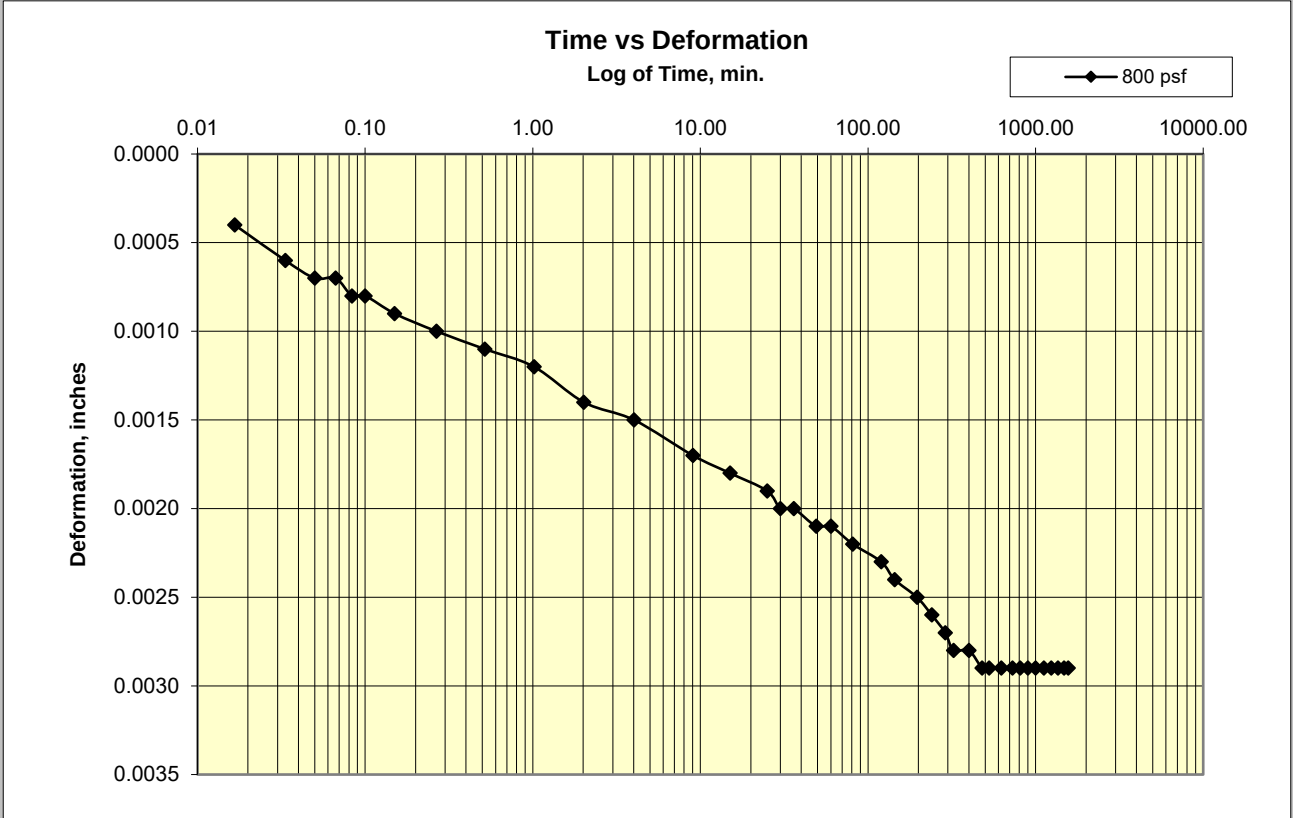
1600 psf



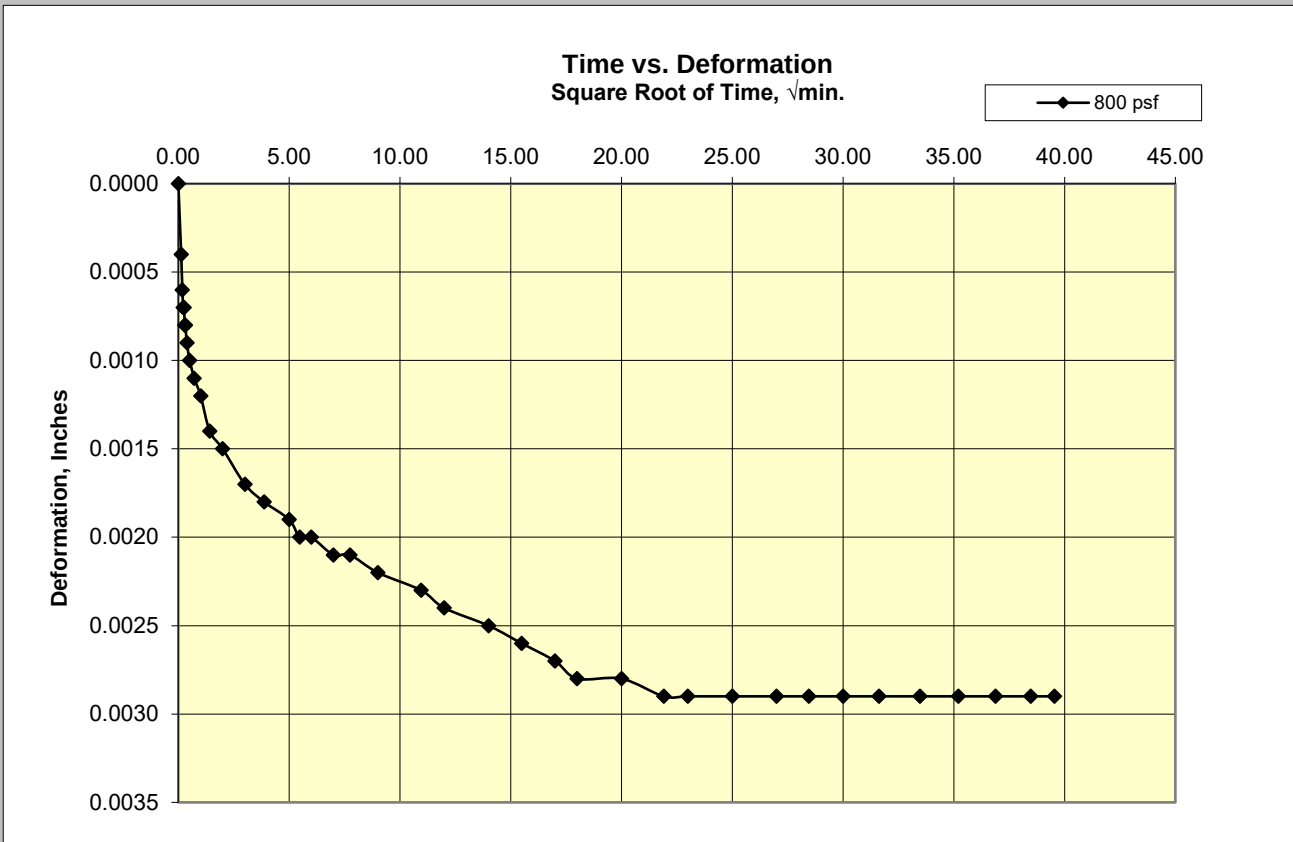
Cooper Testing Labs, Inc.

Load 5

800 psf



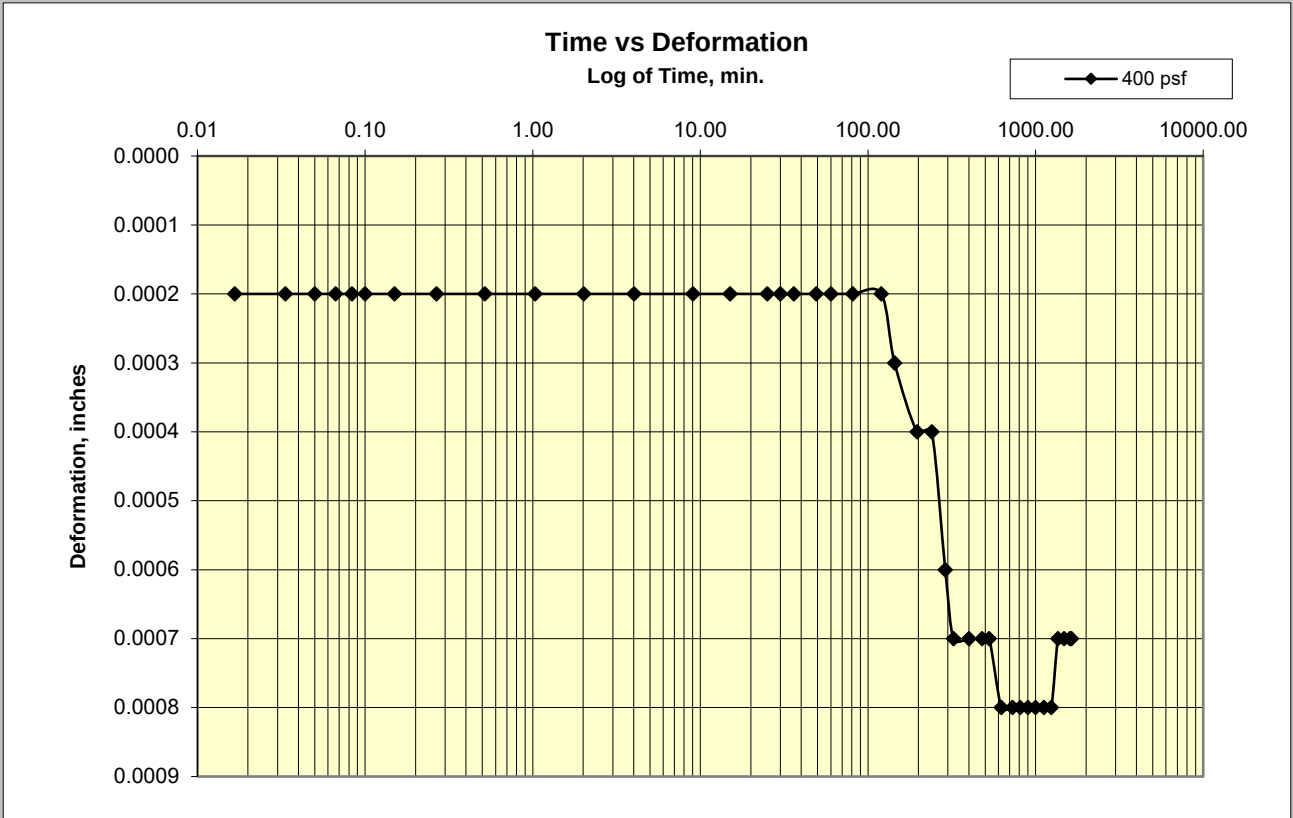
800 psf



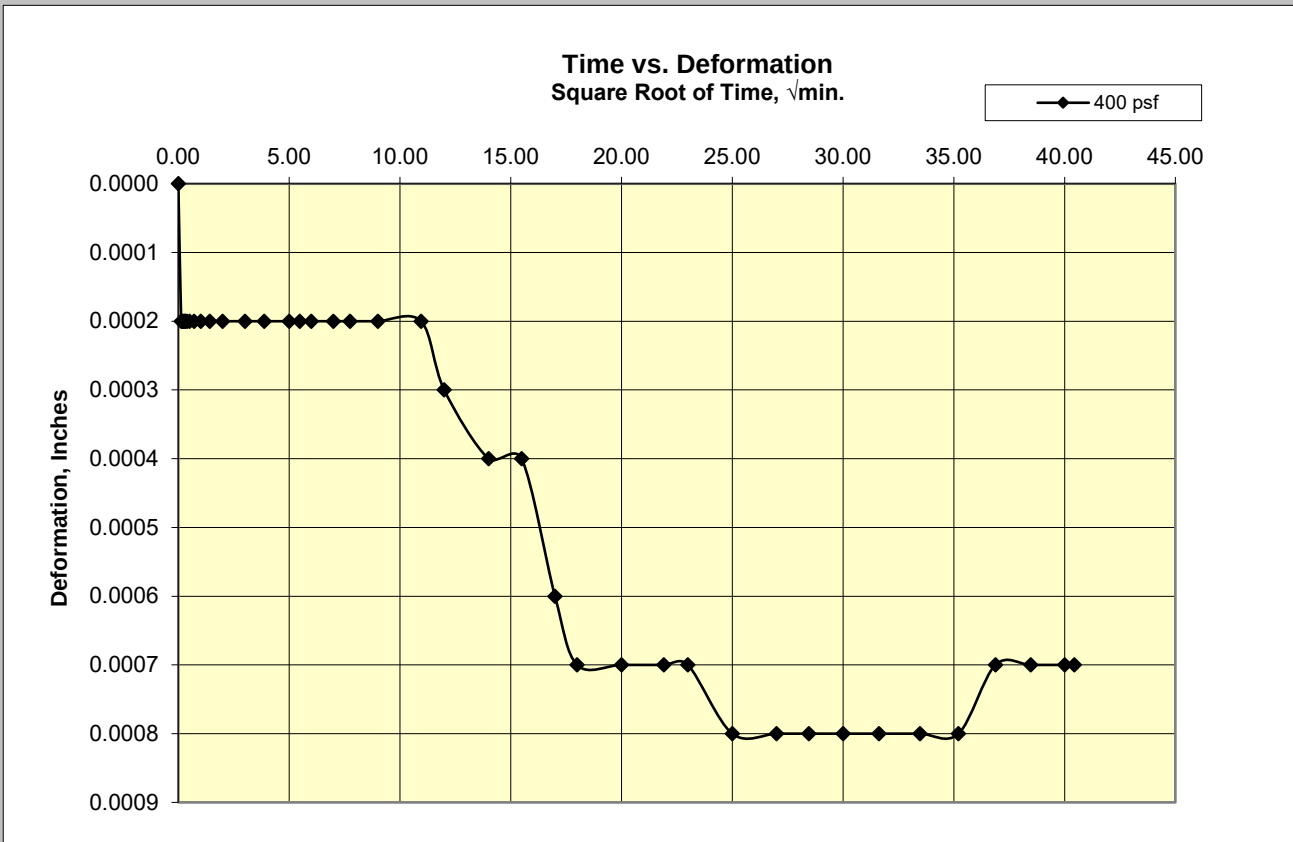
Cooper Testing Labs, Inc.

Load 4

400 psf



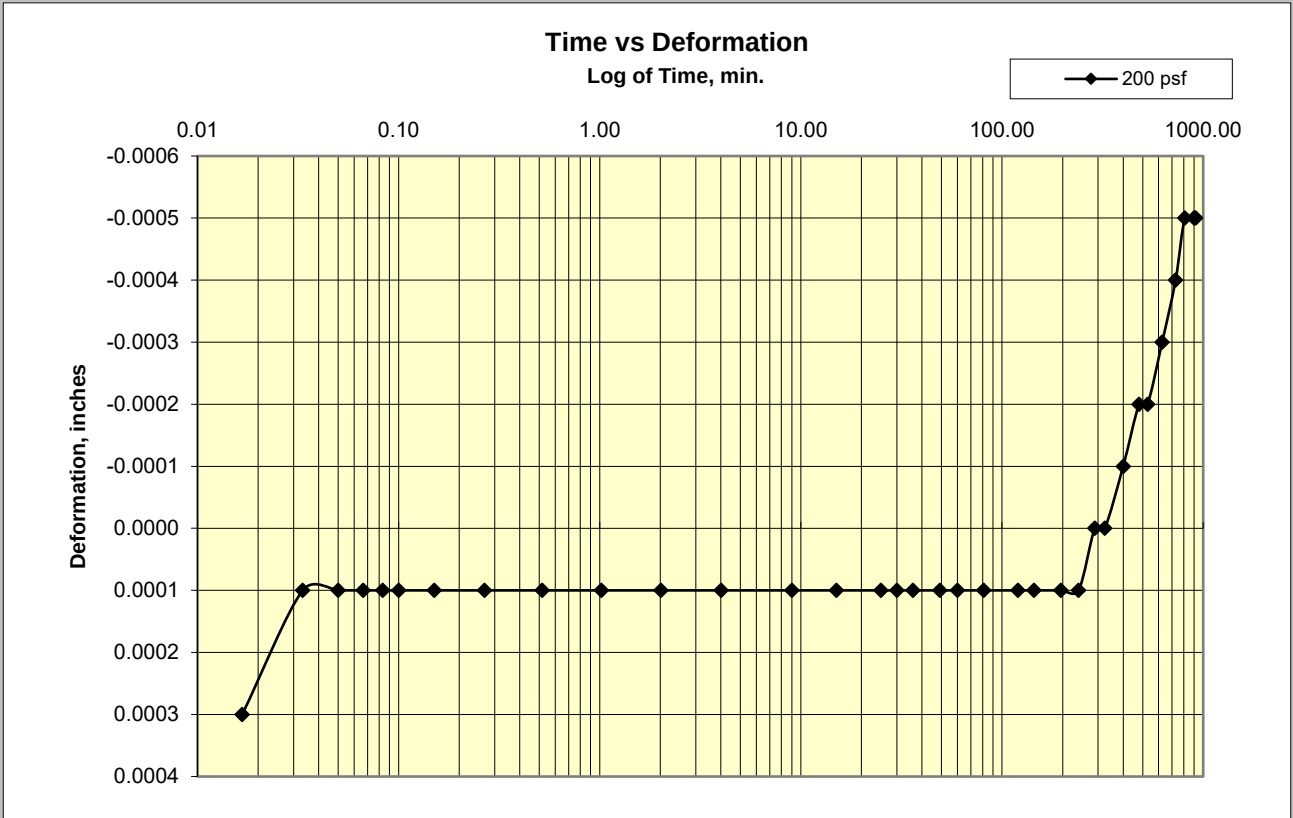
400 psf



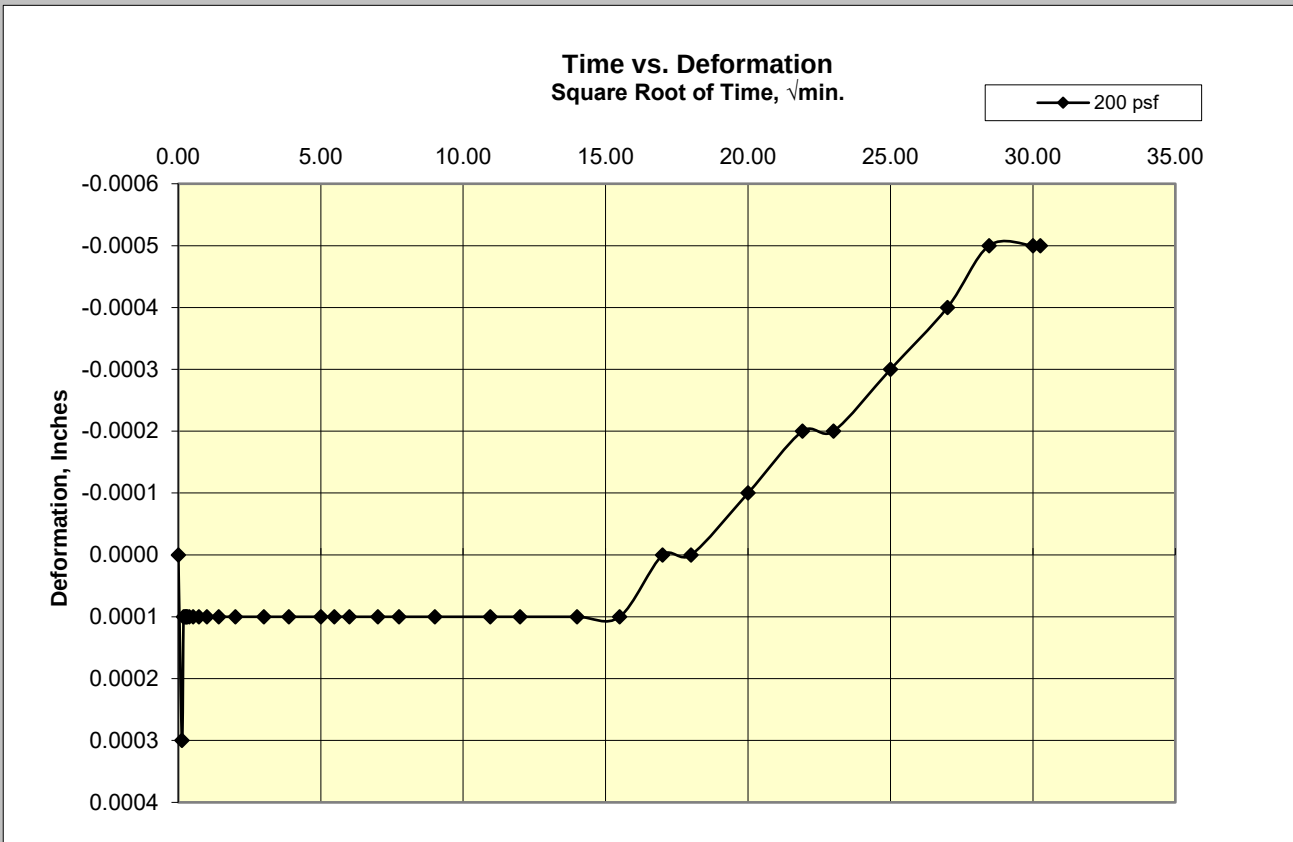
Cooper Testing Labs, Inc.

Load 3

200 psf



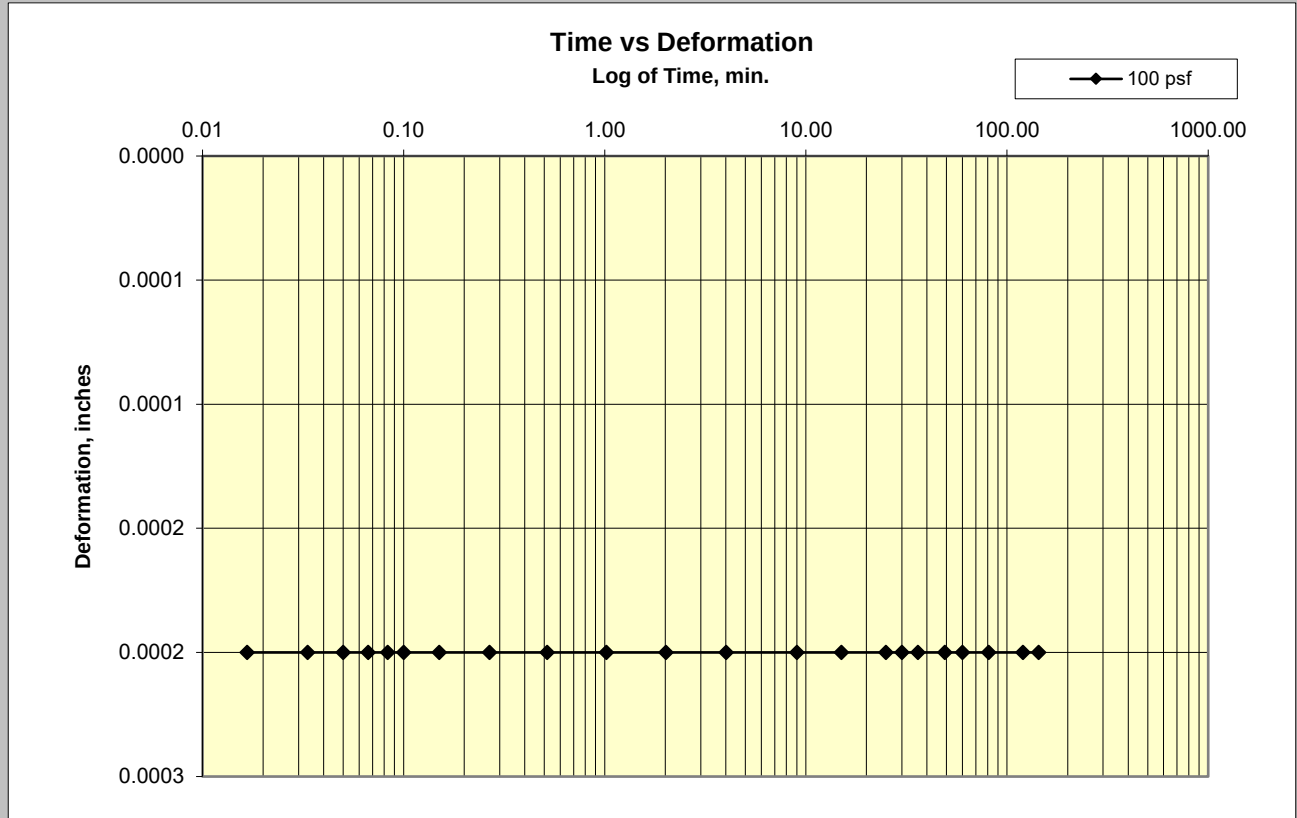
200 psf



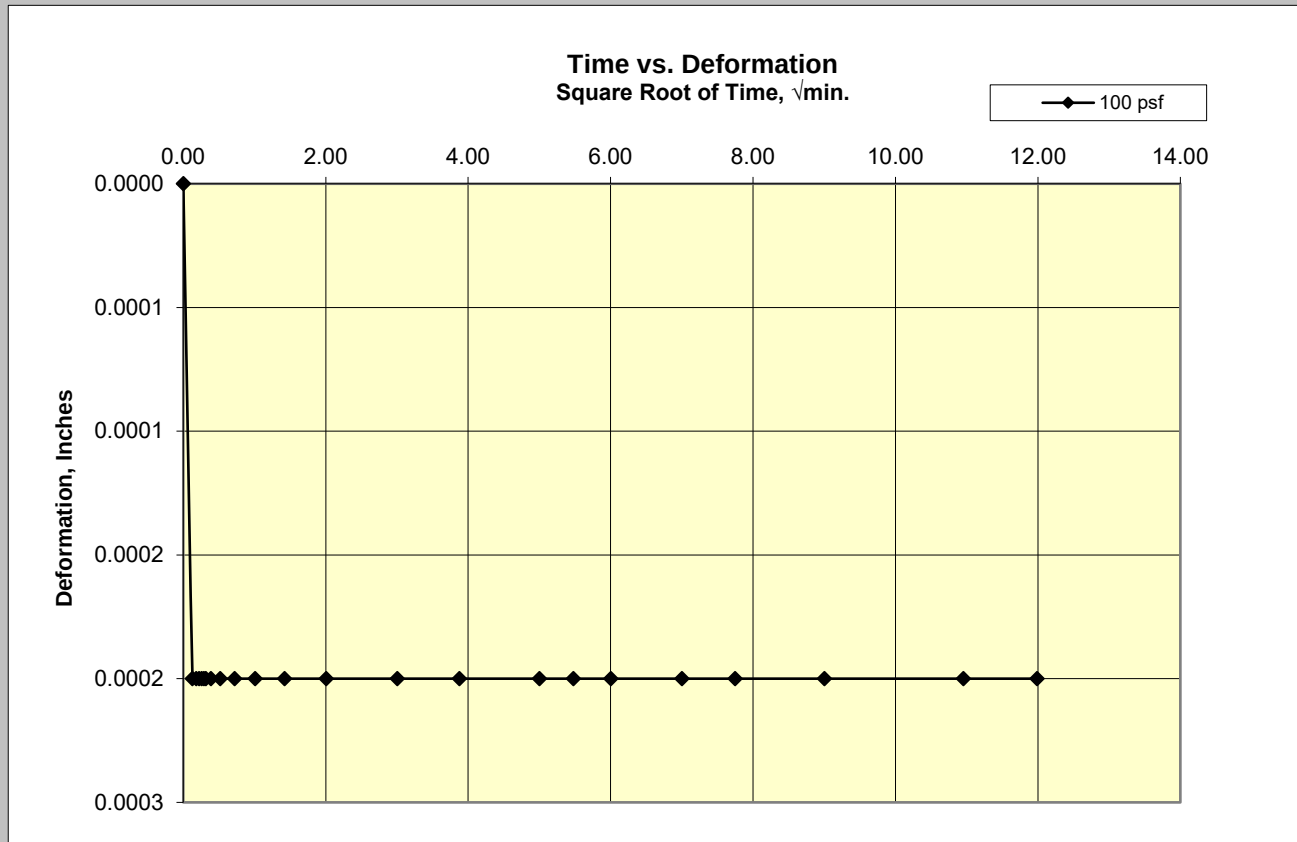
Cooper Testing Labs, Inc.

Load 2

100 psf



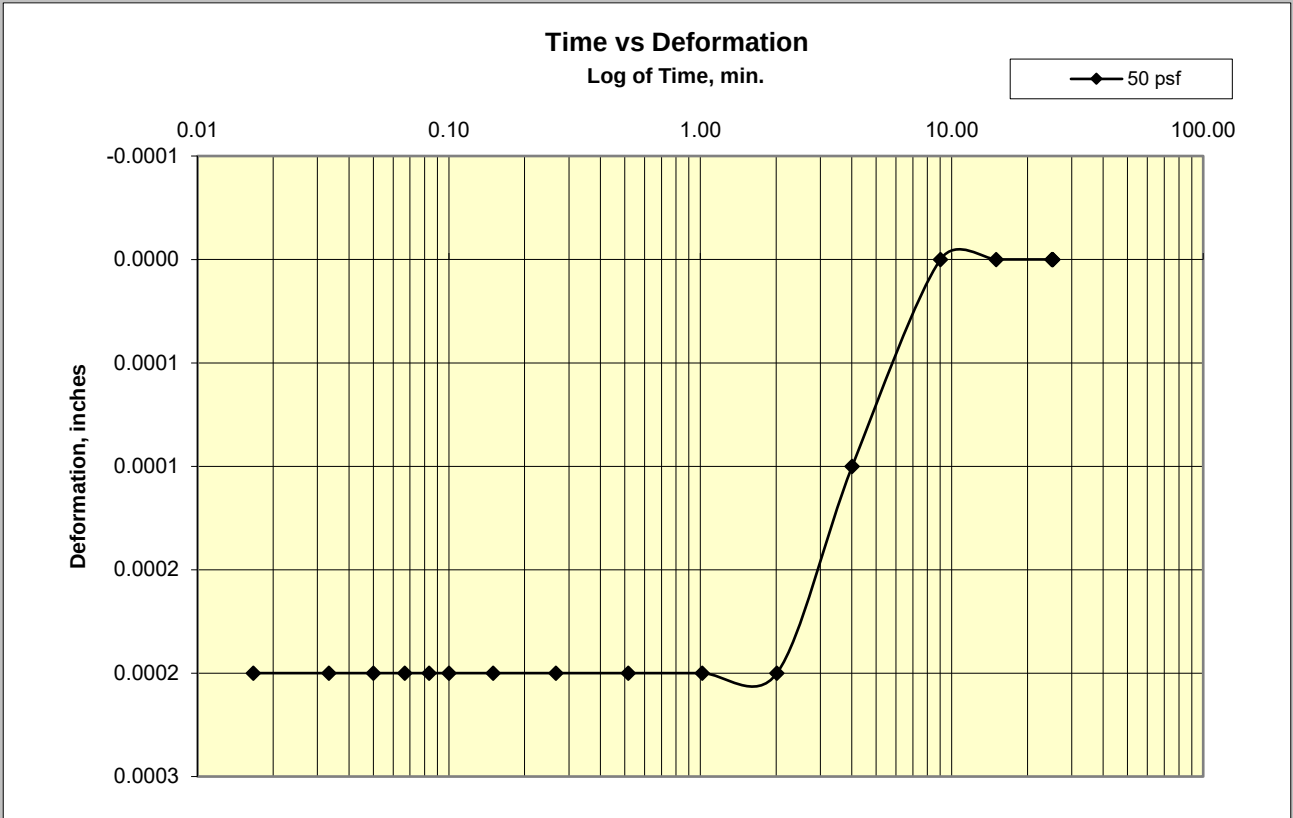
100 psf



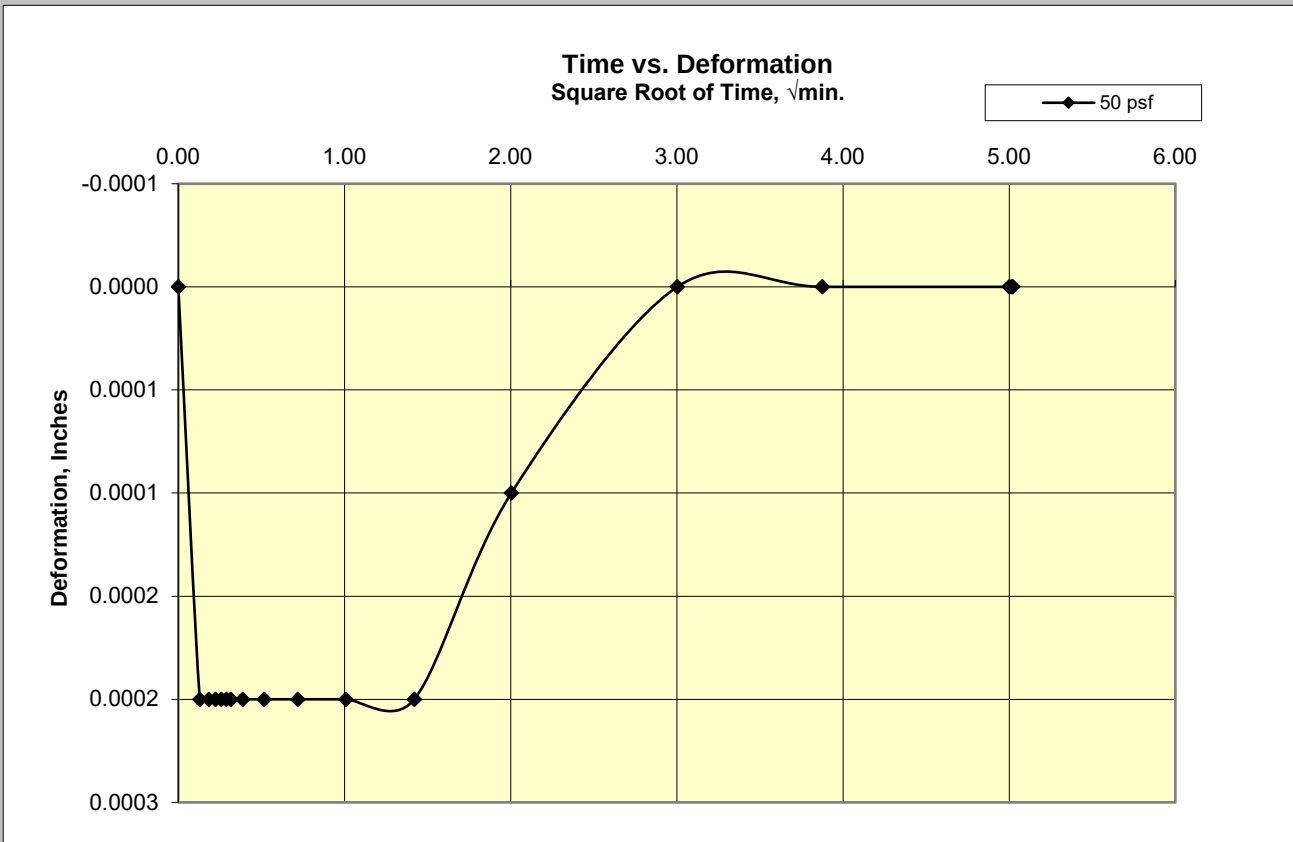
Cooper Testing Labs, Inc.

Load 1

50 psf



50 psf



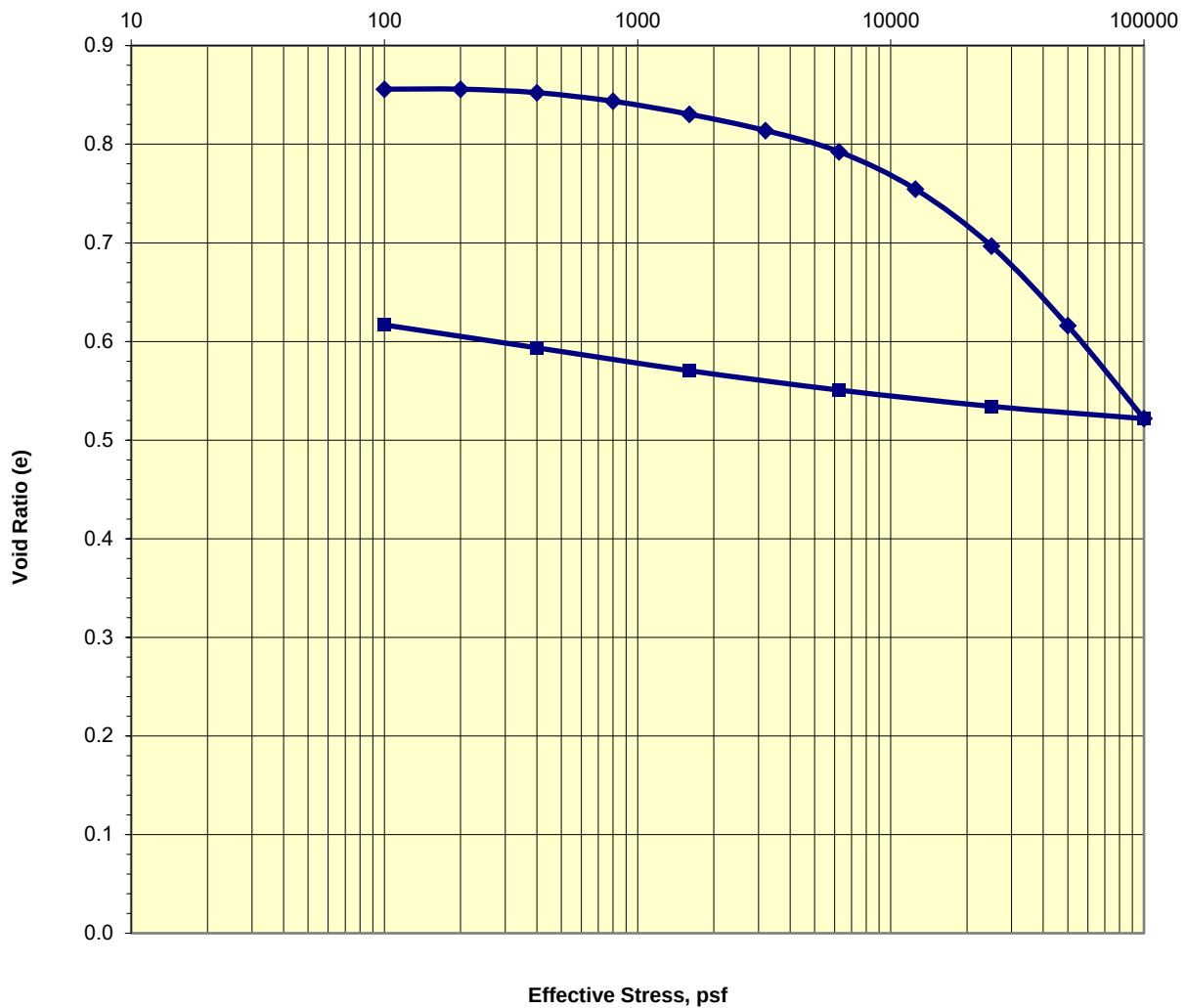


Consolidation Test

ASTM D2435

Job No.: 461-392 Boring: B3 Run By: HM
Client: Geosyntec Consultants Sample: B3-13 Reduced: RU
Project: WG3607 Depth, ft.: 60-62.5 Checked: PJ
Soil Type: Olive Gray SILT w/ Sand Date: 3/26/2026

e-Log-P Curve



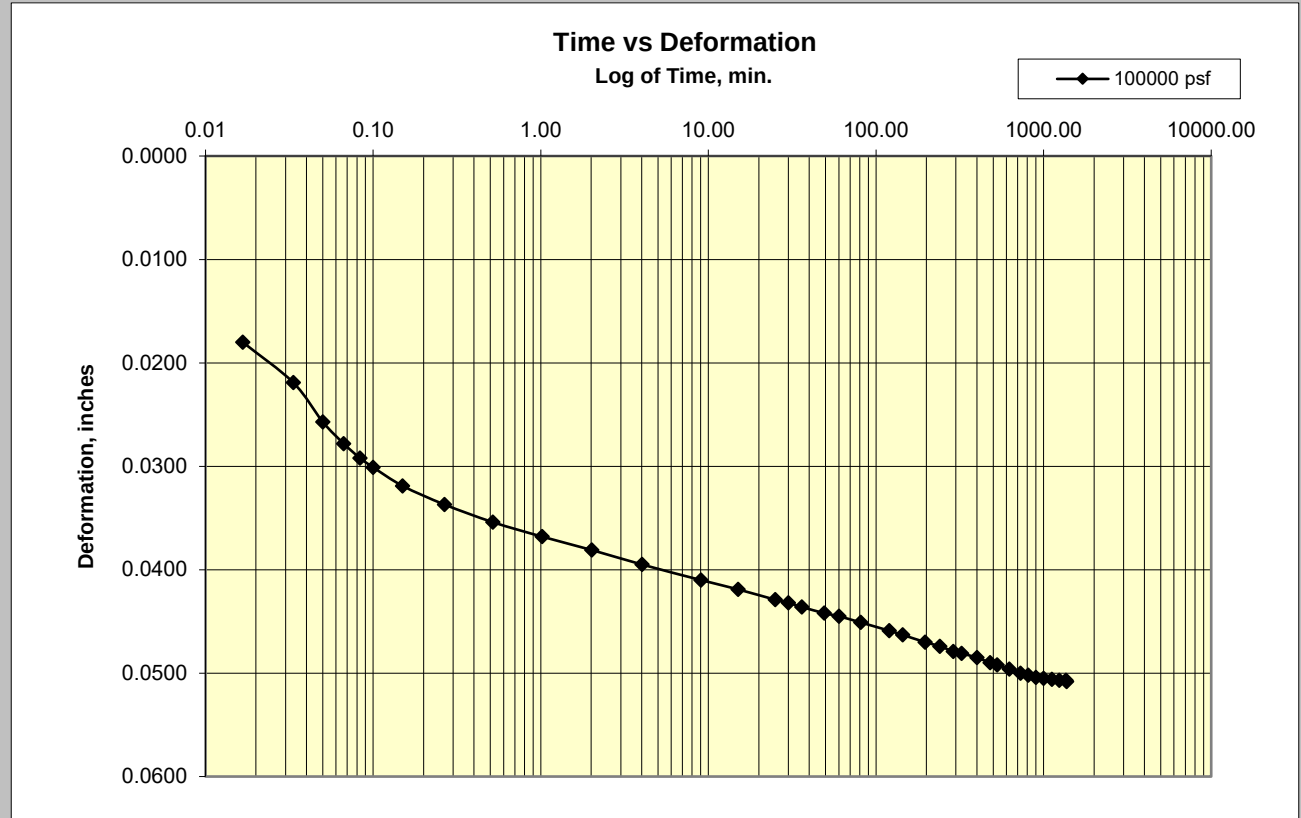
Assumed Gs	2.8	Initial	Final
Moisture %:		30.3	22.3
Dry Density, pcf:		94.2	107.6
Void Ratio:		0.856	0.624
% Saturation:		99.2	100.0

Remarks:

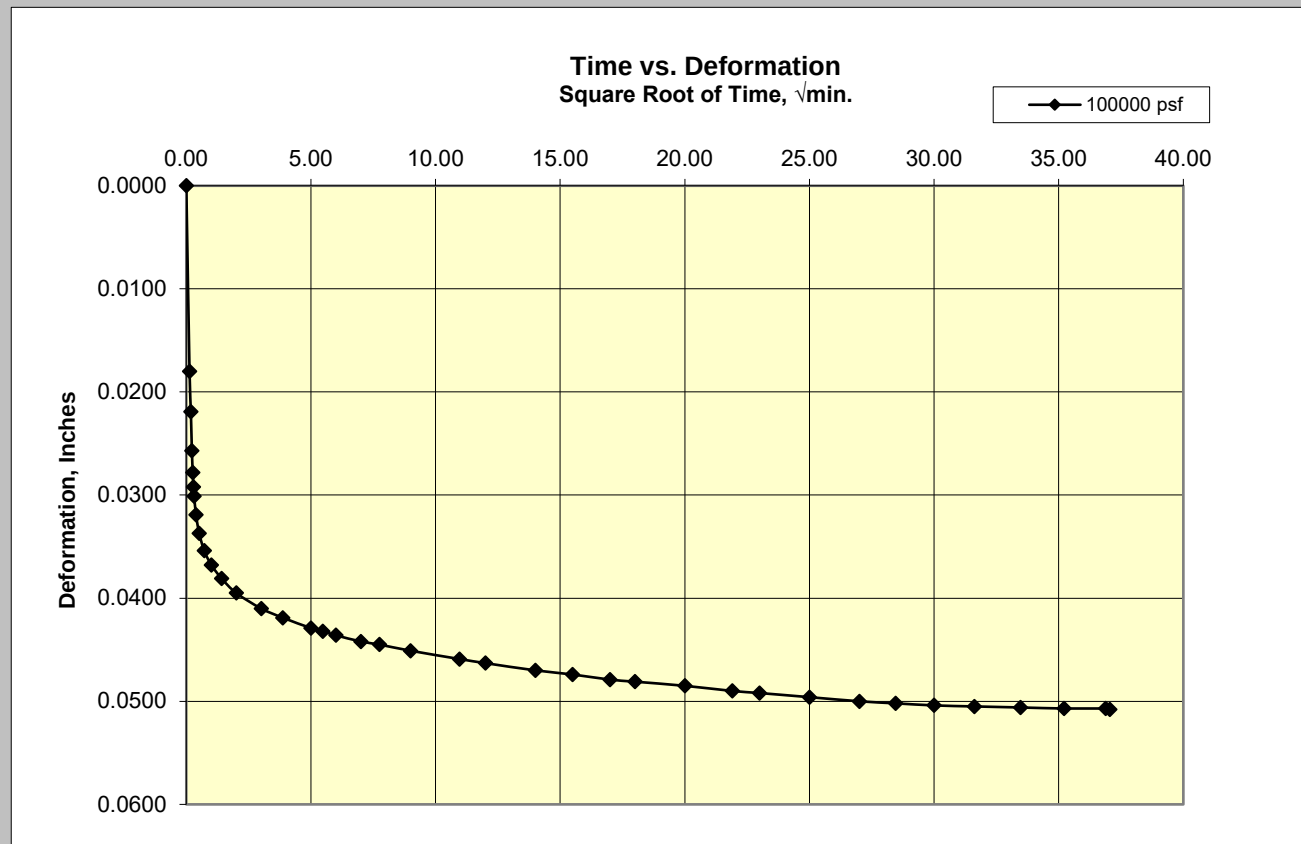
Cooper Testing Labs, Inc.

Load 11

100000 psf



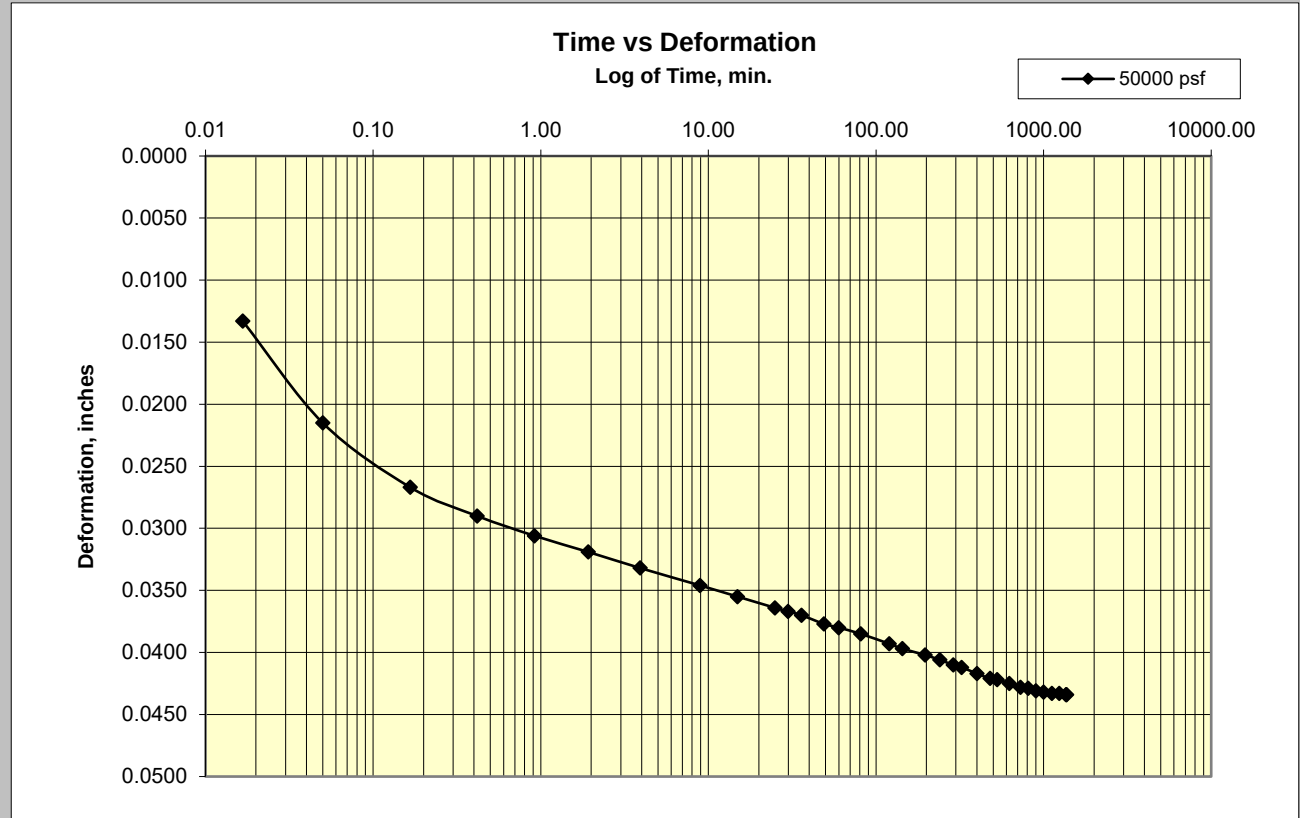
100000 psf



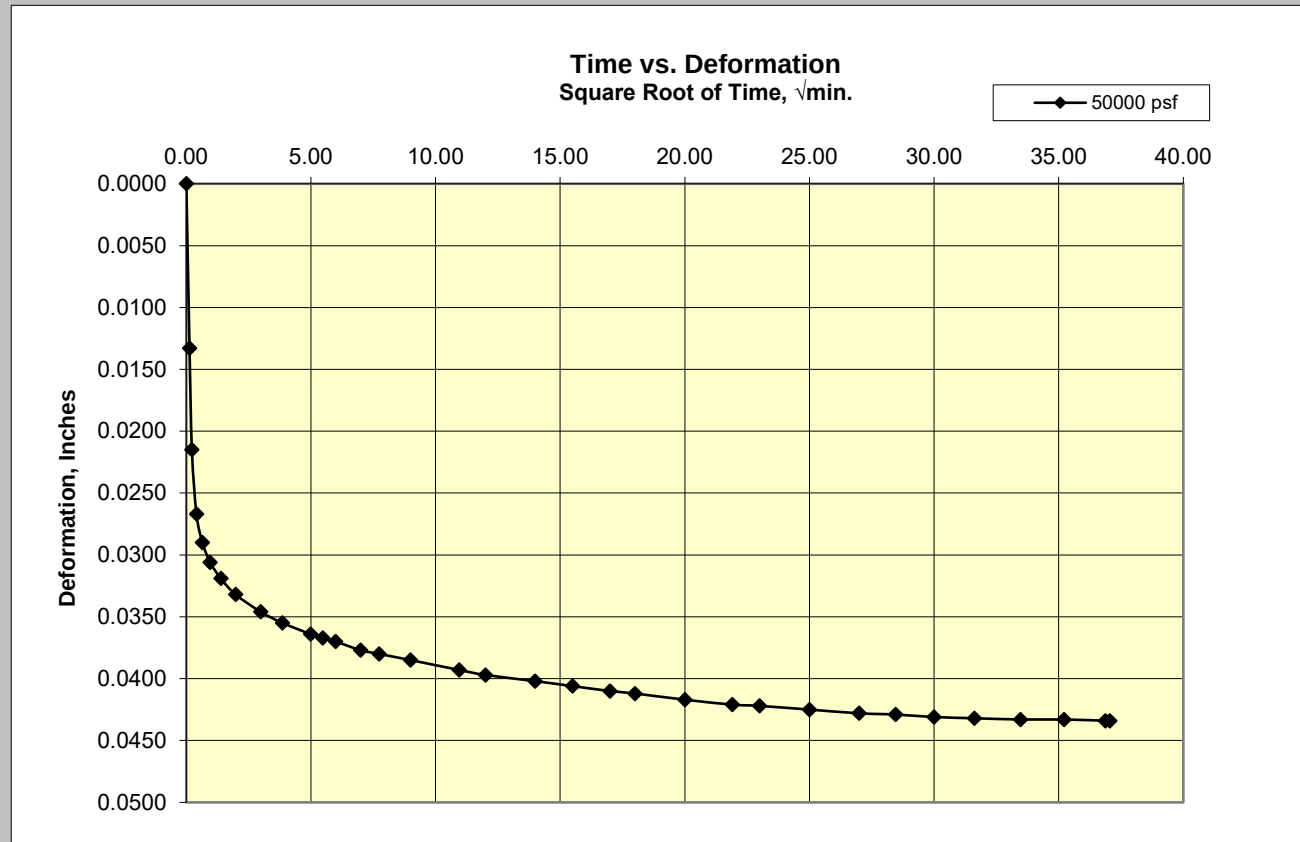
Cooper Testing Labs, Inc.

Load 10

50000 psf



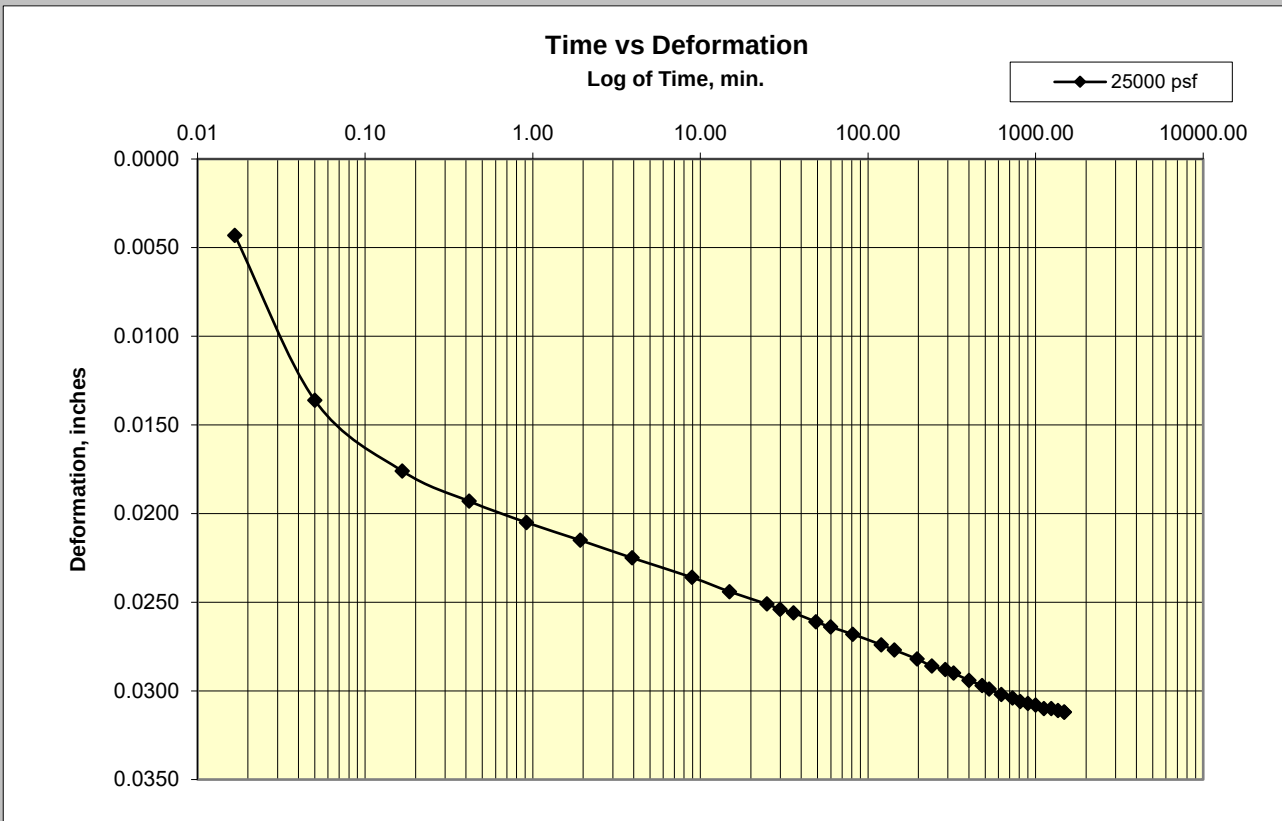
50000 psf



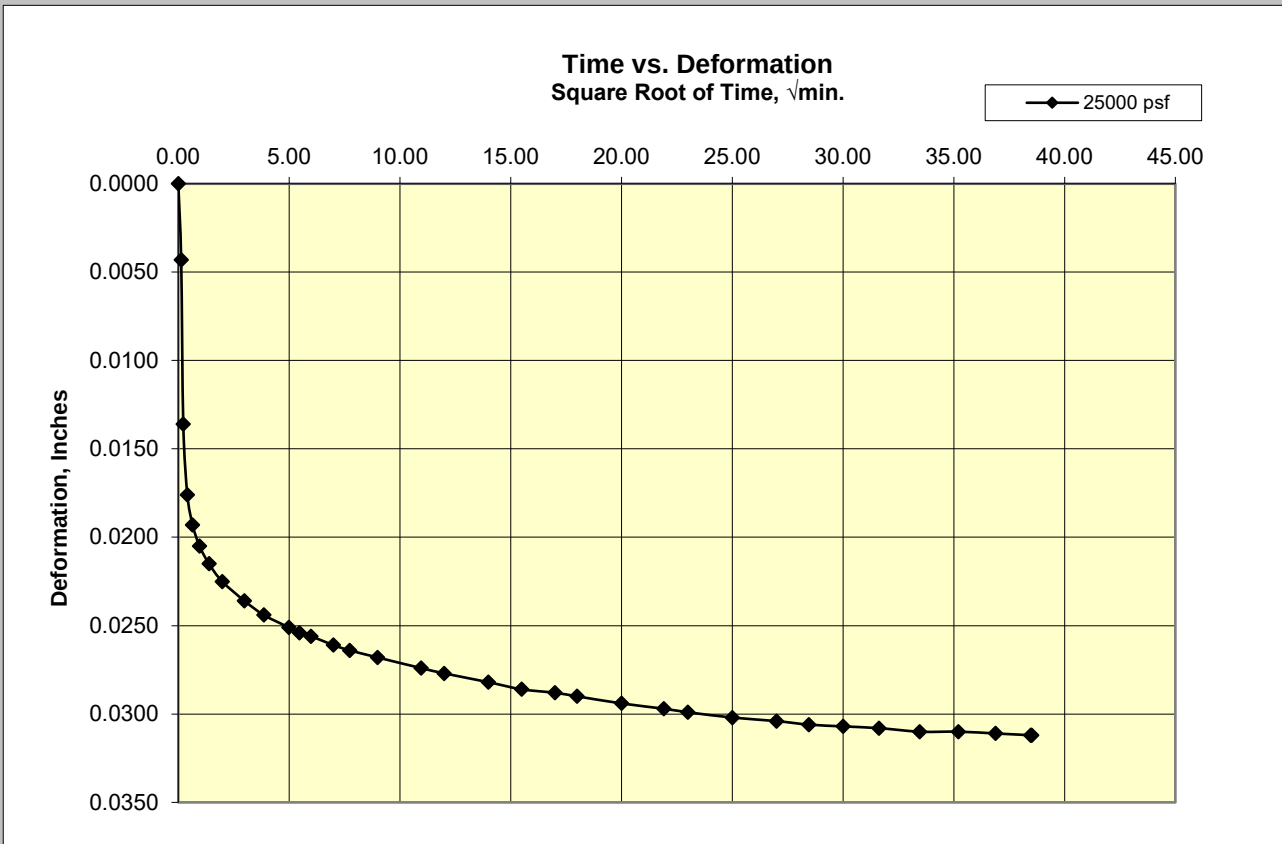
Cooper Testing Labs, Inc.

Load 9

25000 psf



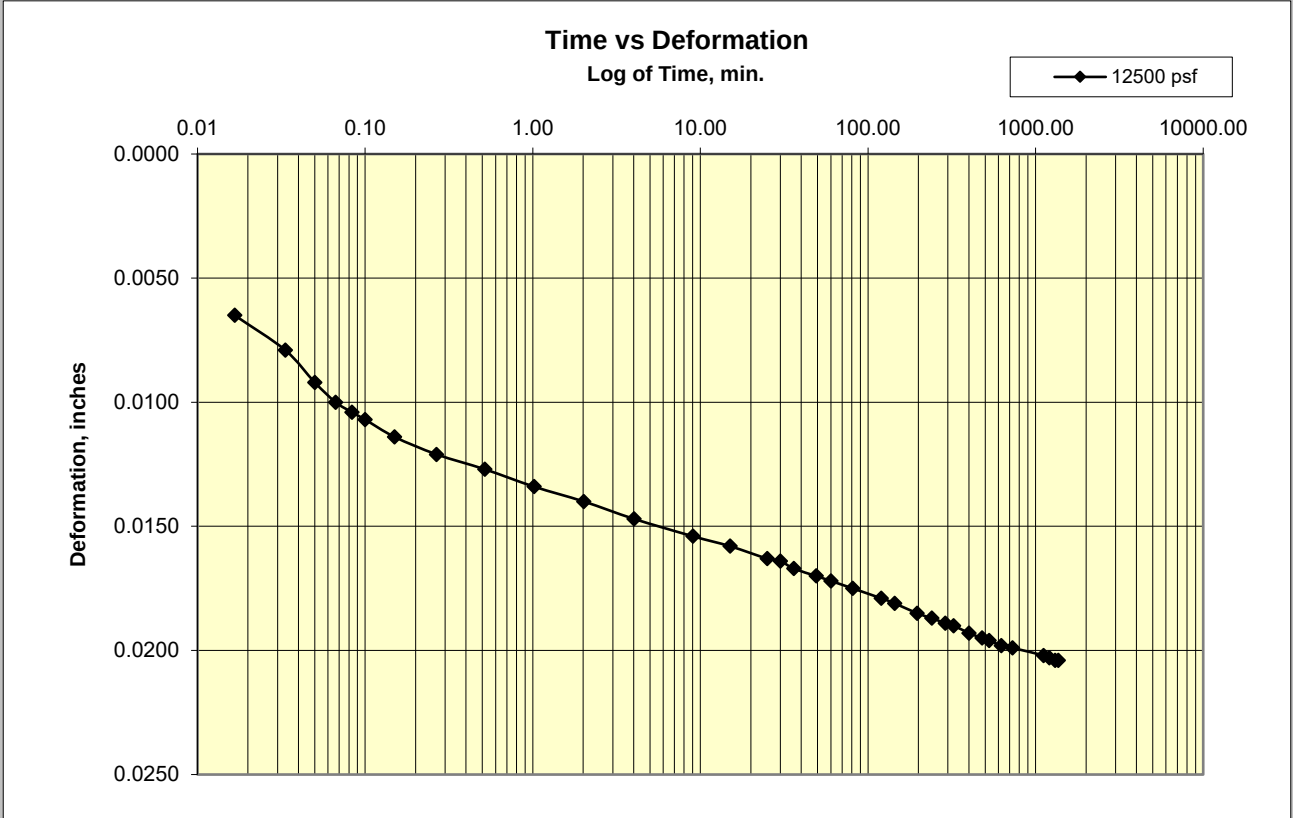
25000 psf



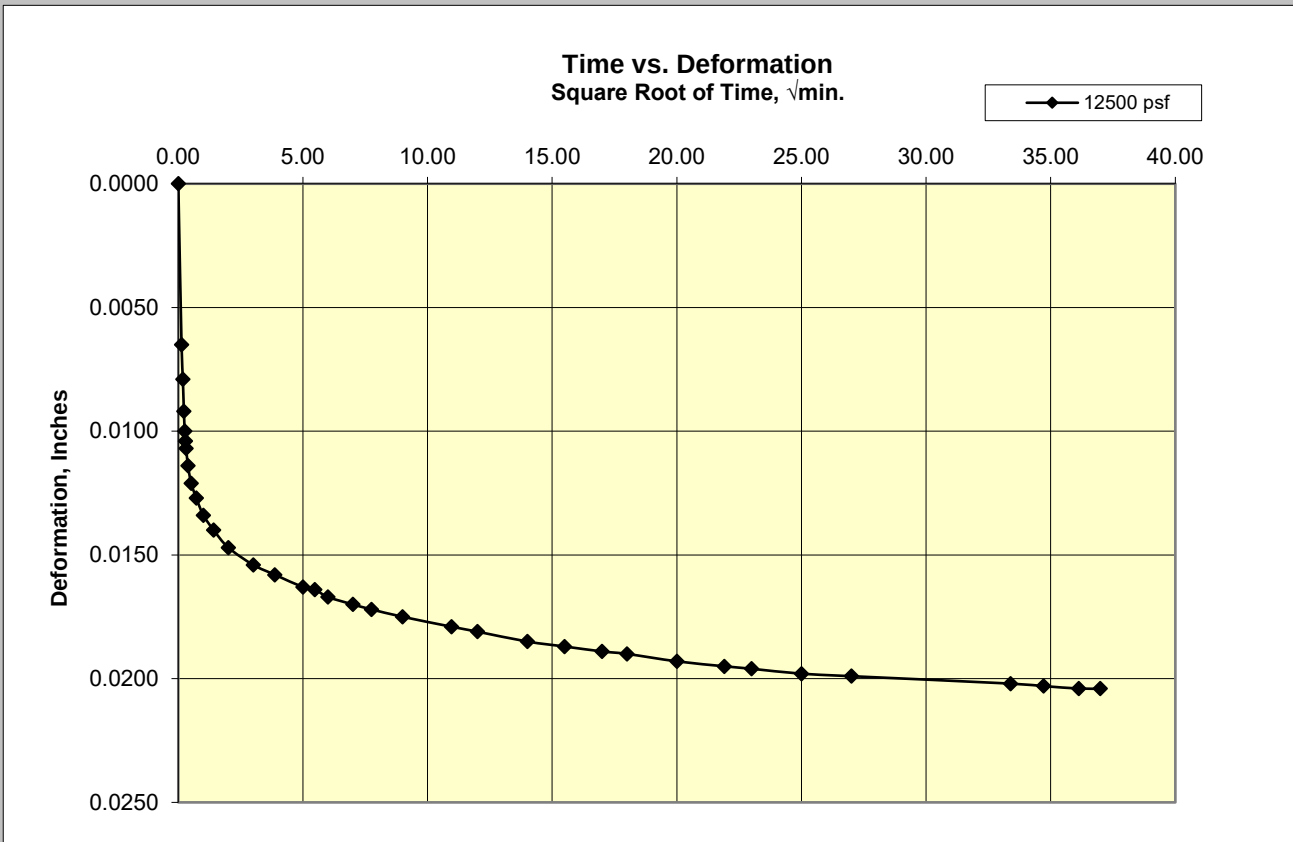
Cooper Testing Labs, Inc.

Load 8

12500 psf



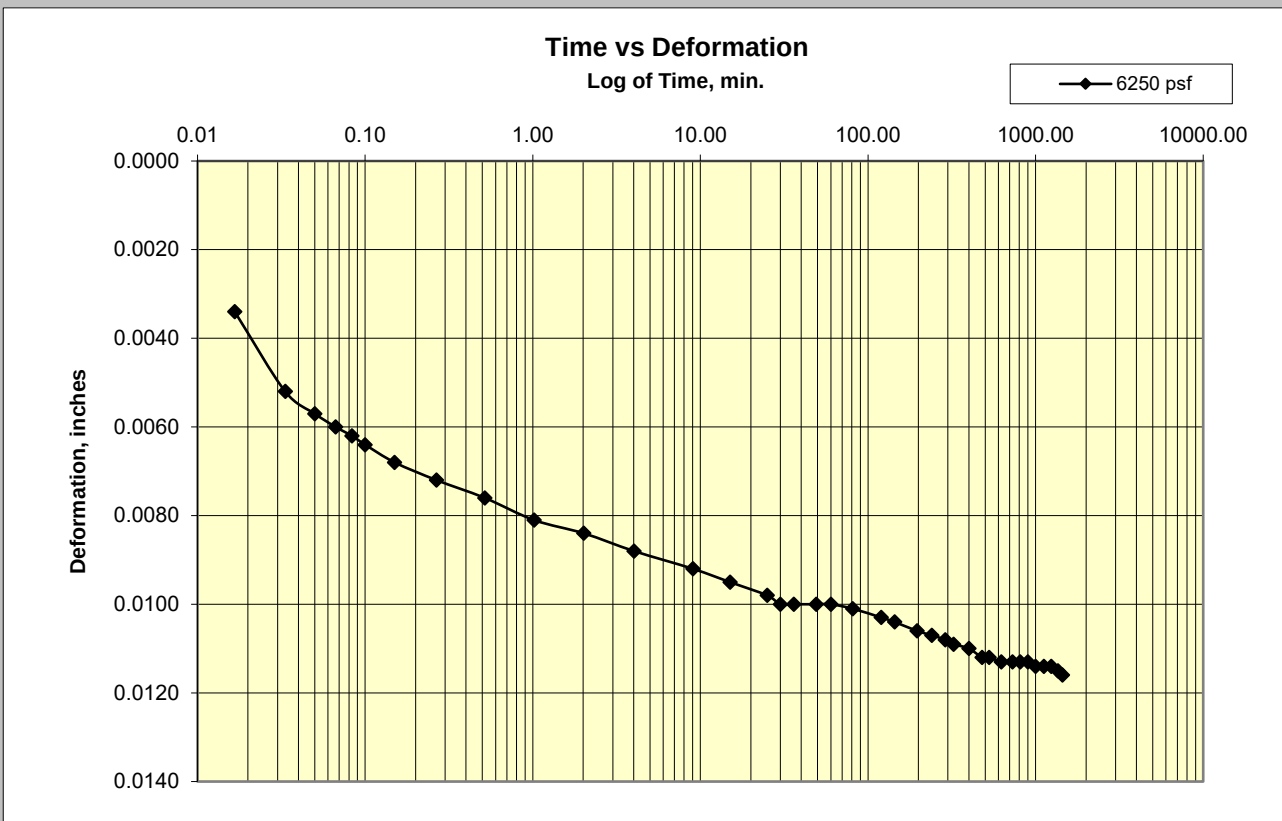
12500 psf



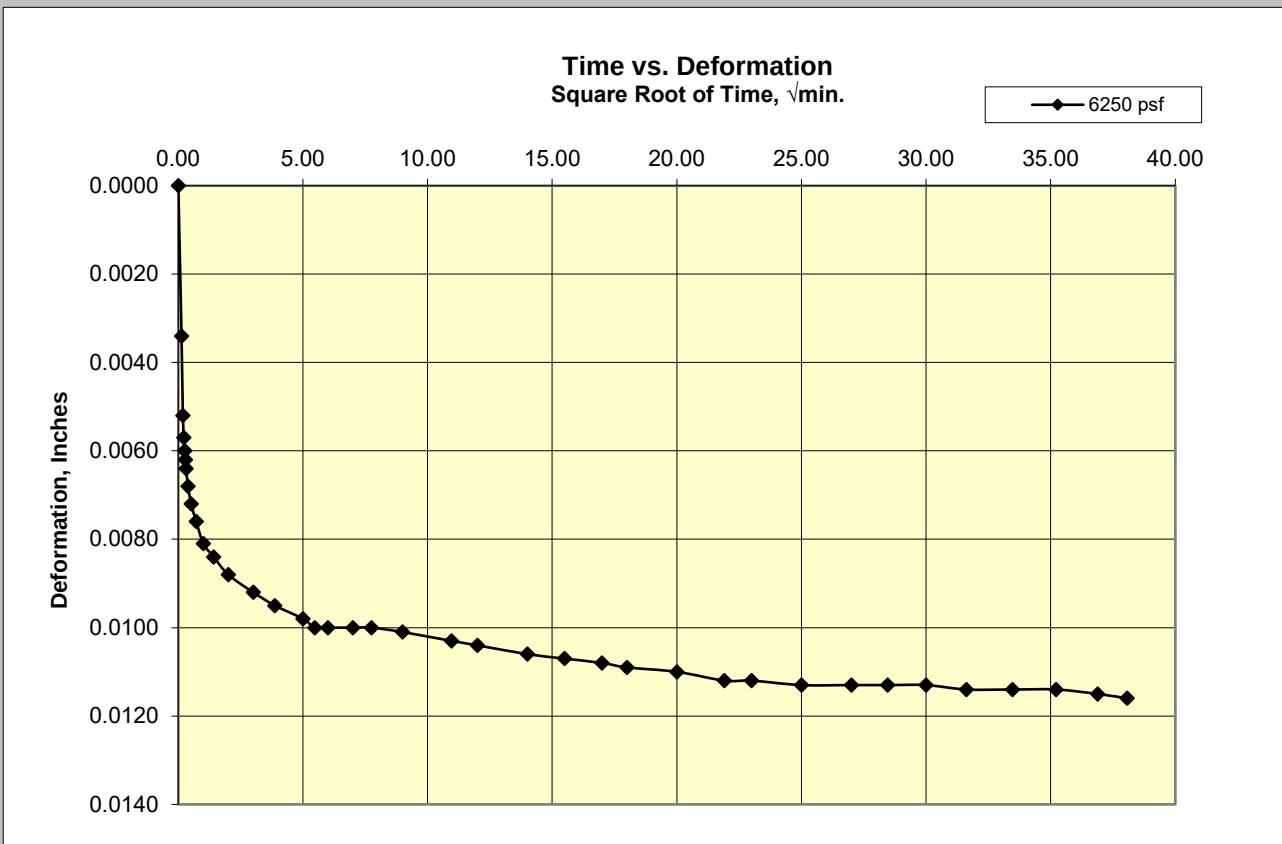
Cooper Testing Labs, Inc.

Load 7

6250 psf



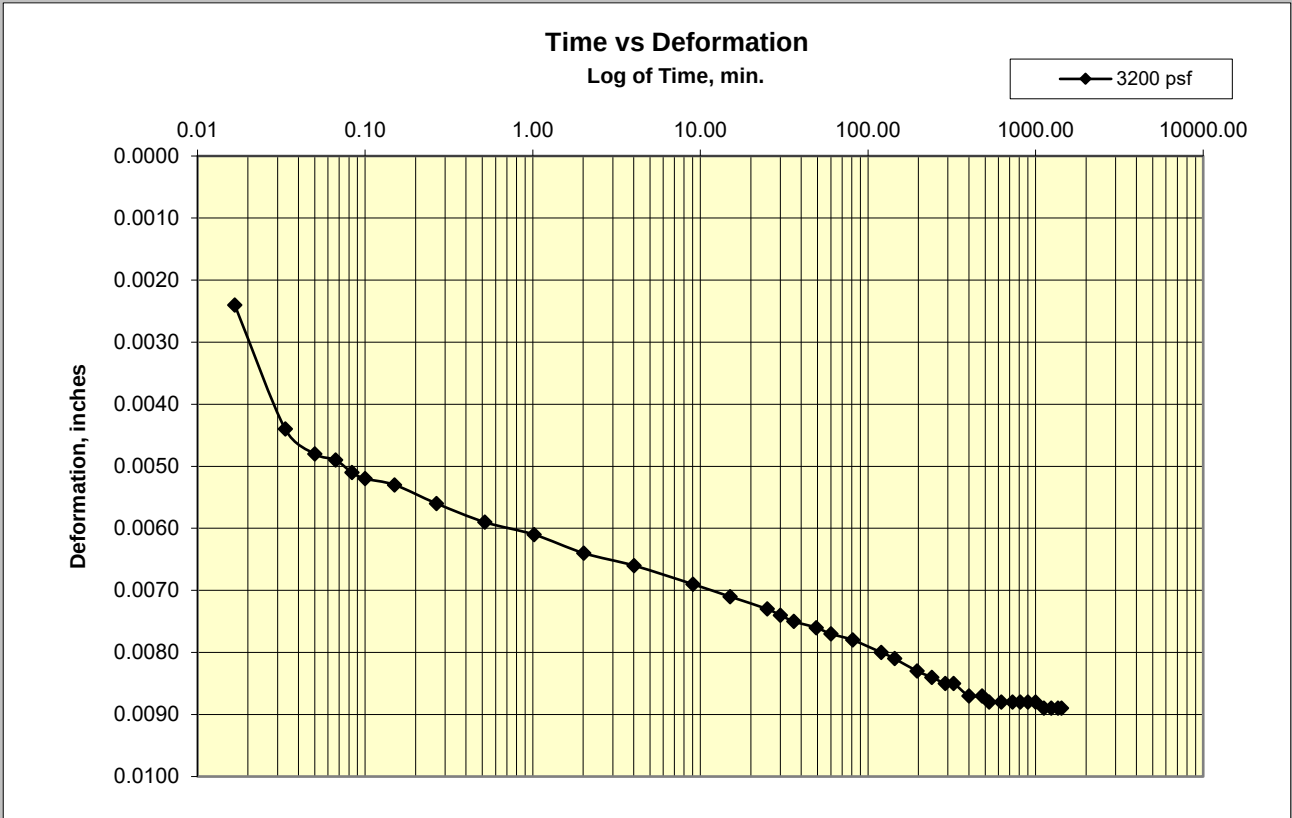
6250 psf



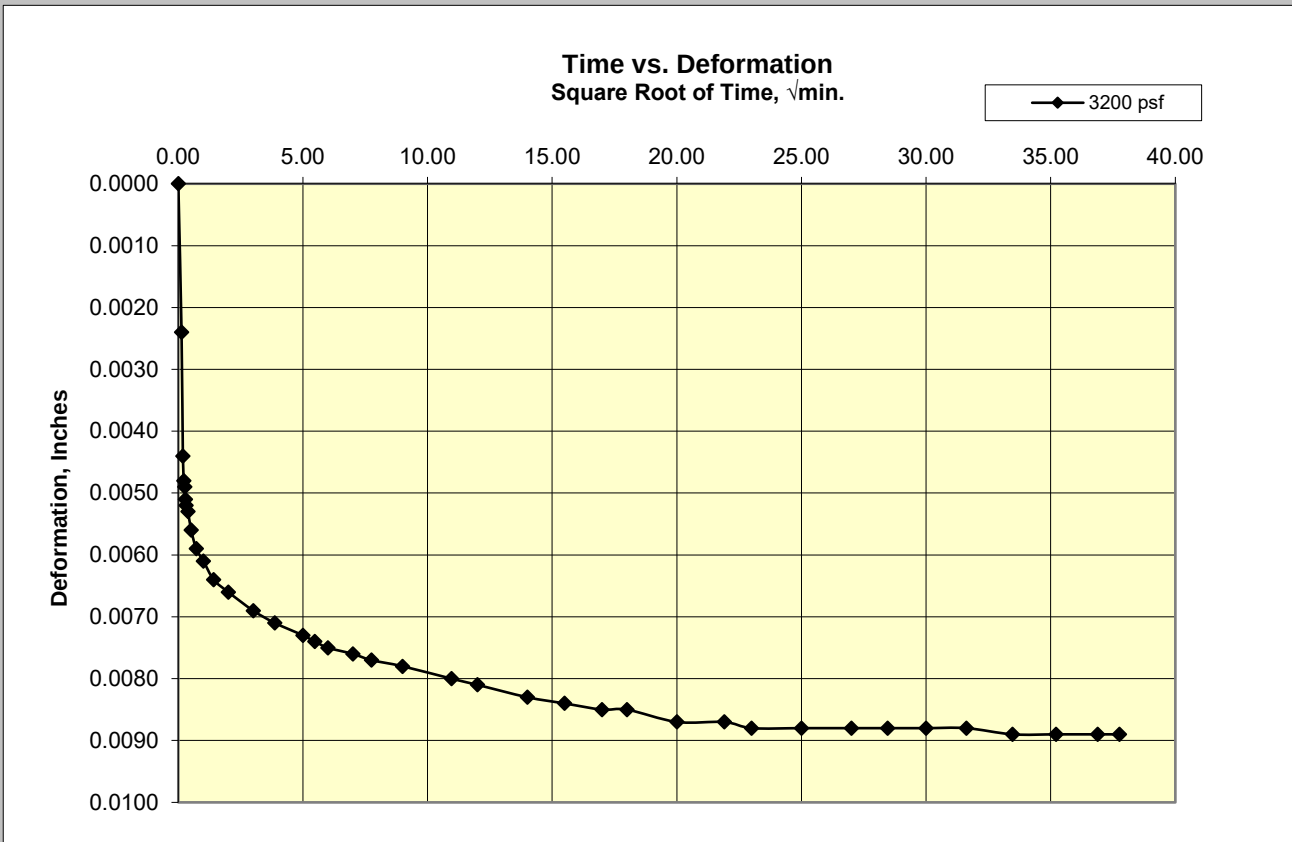
Cooper Testing Labs, Inc.

Load 6

3200 psf



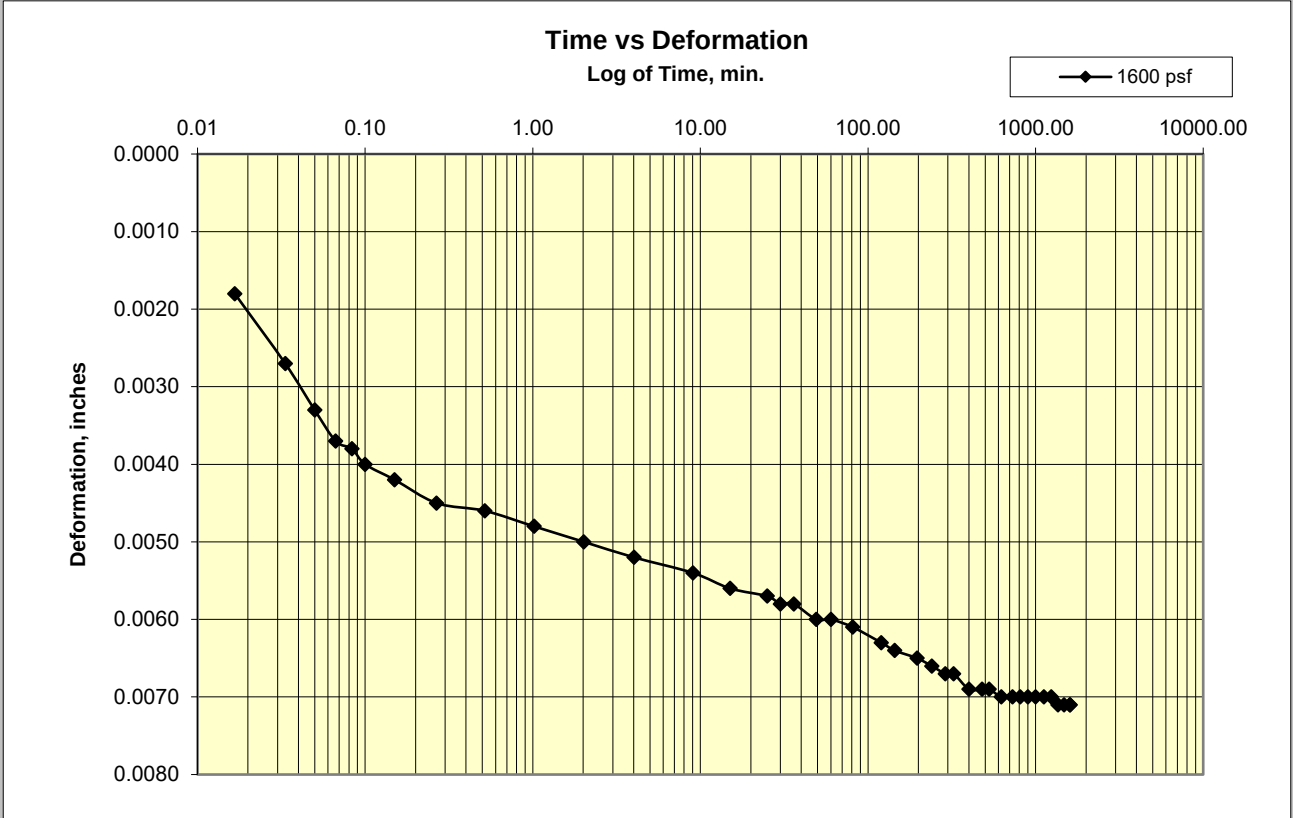
3200 psf



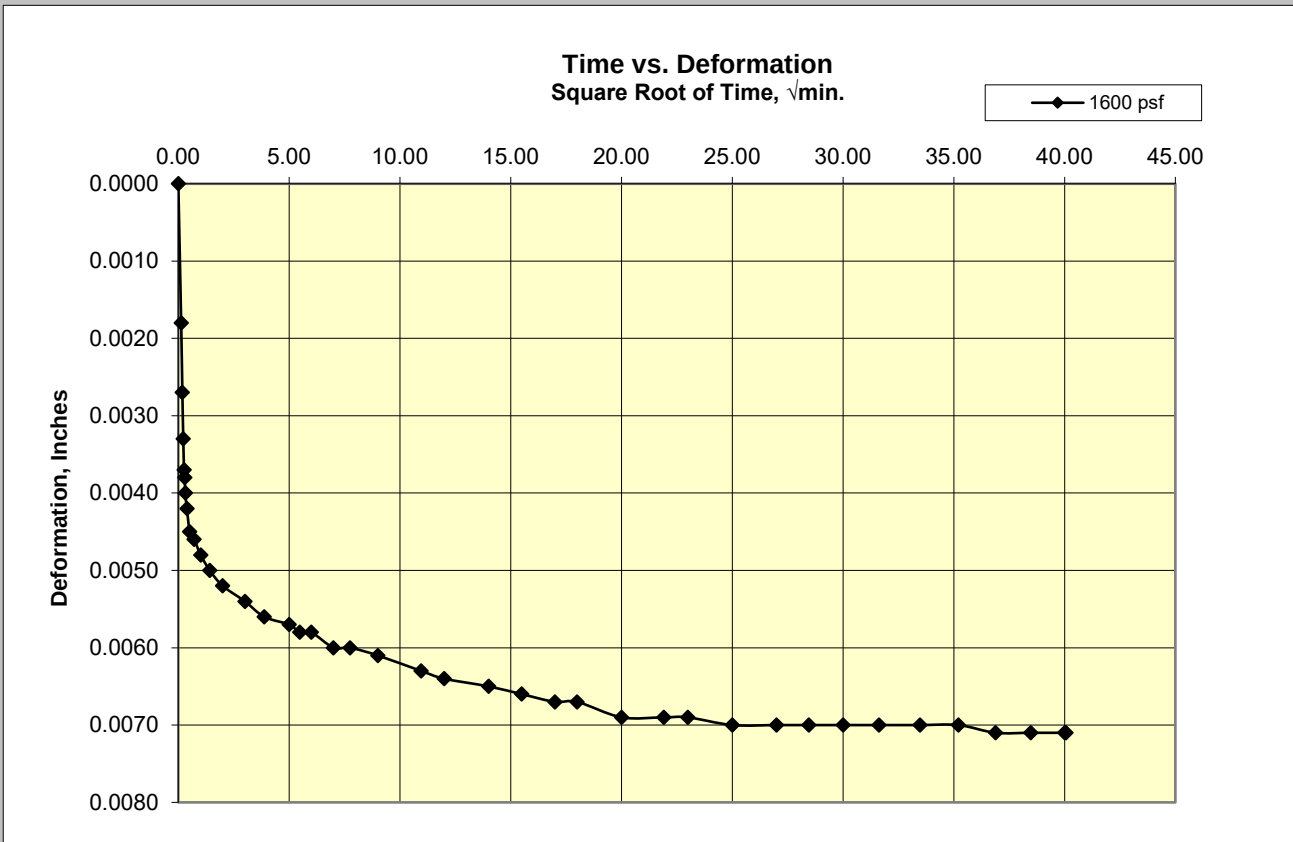
Cooper Testing Labs, Inc.

Load 5

1600 psf



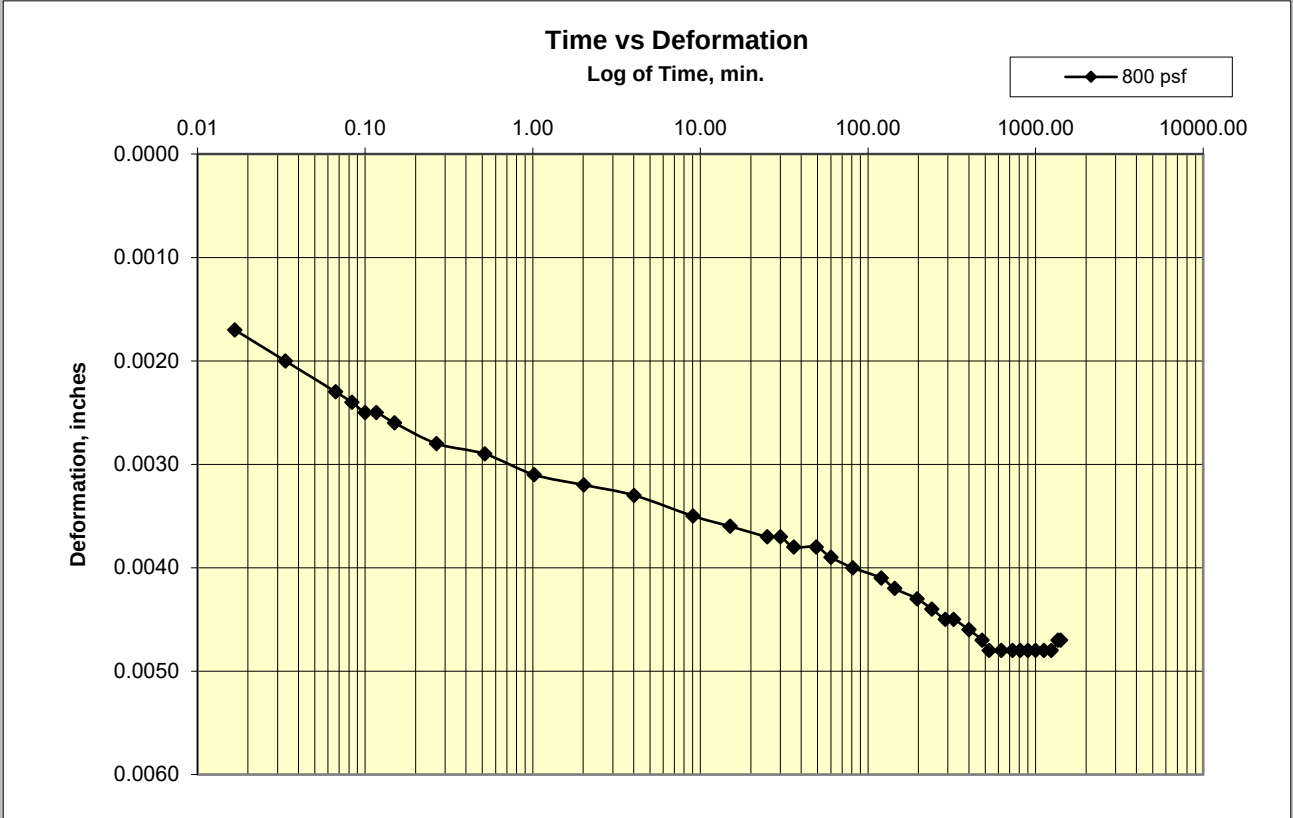
1600 psf



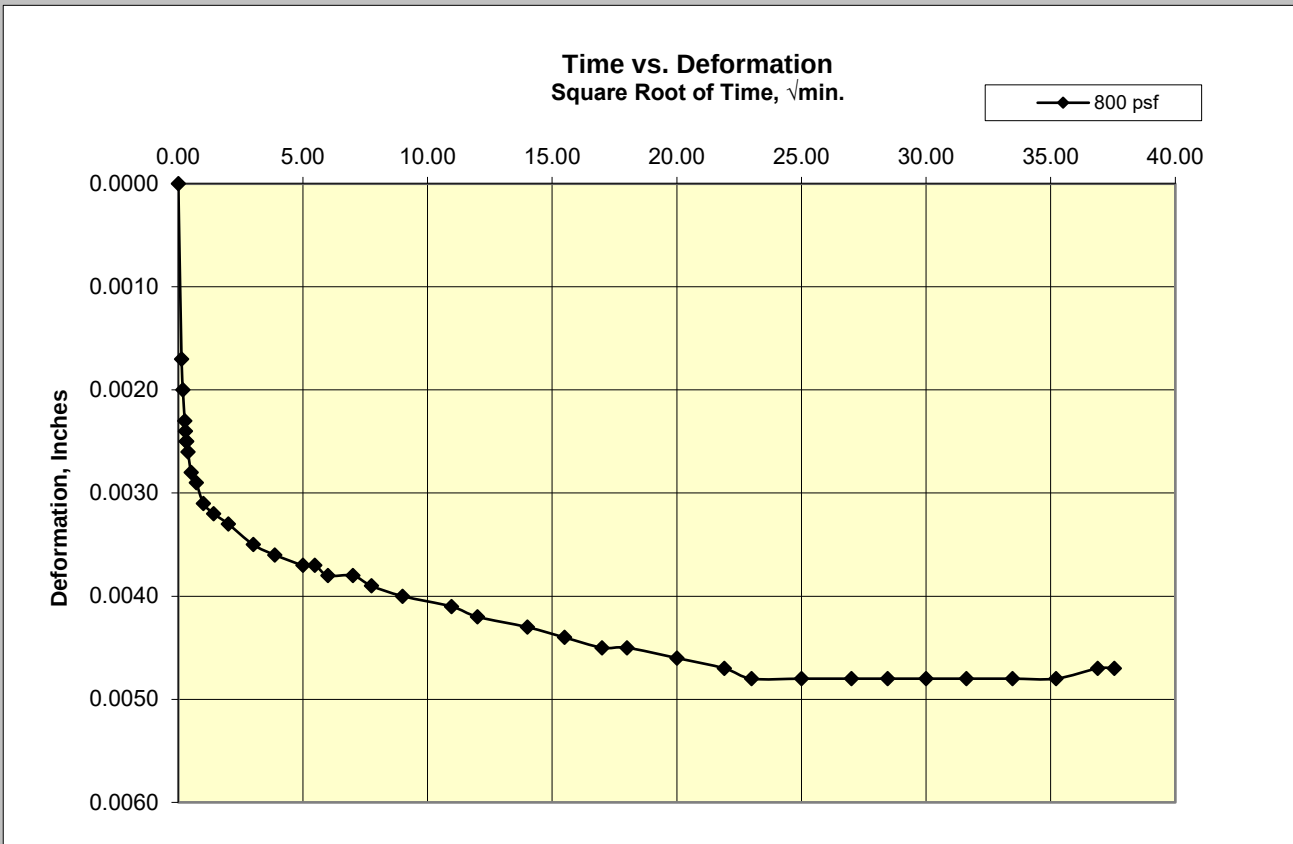
Cooper Testing Labs, Inc.

Load 4

800 psf



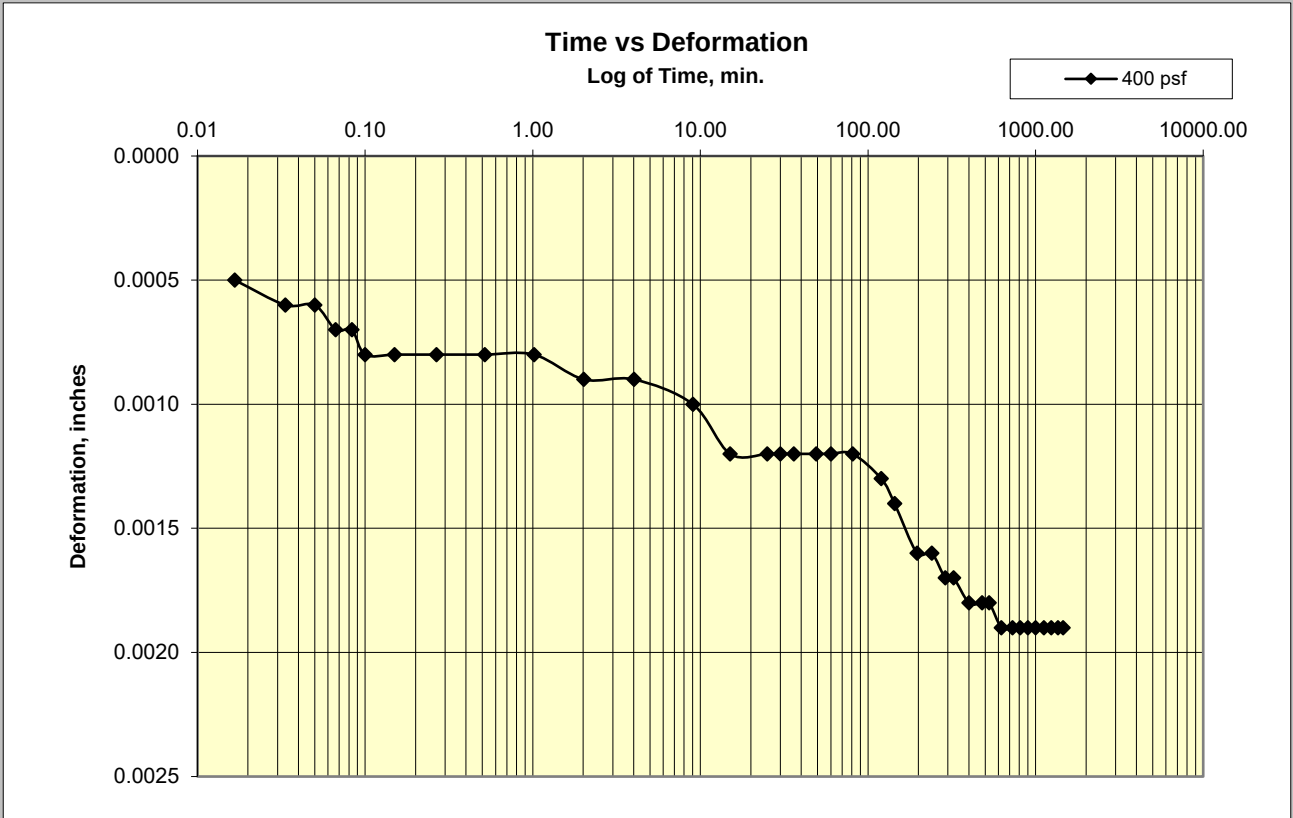
800 psf



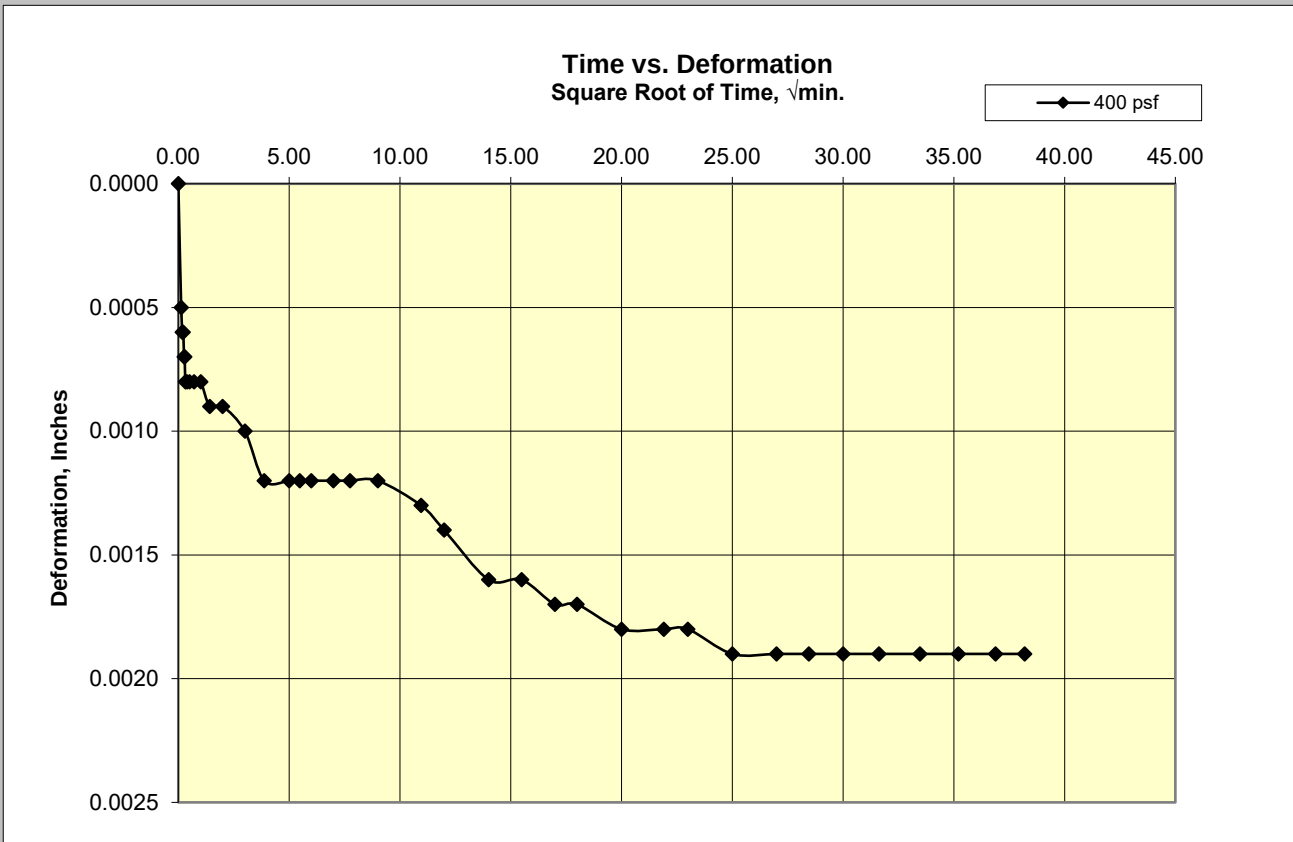
Cooper Testing Labs, Inc.

Load 3

400 psf



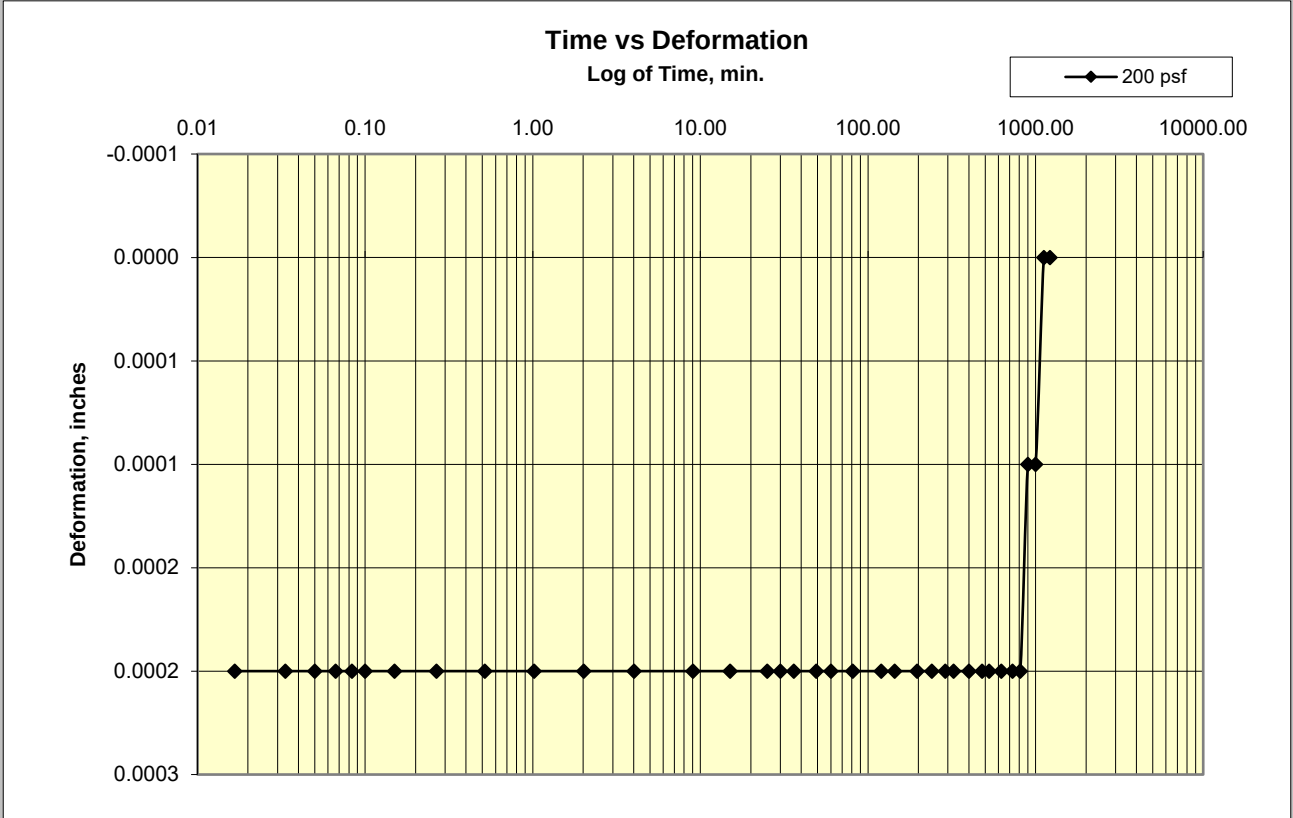
400 psf



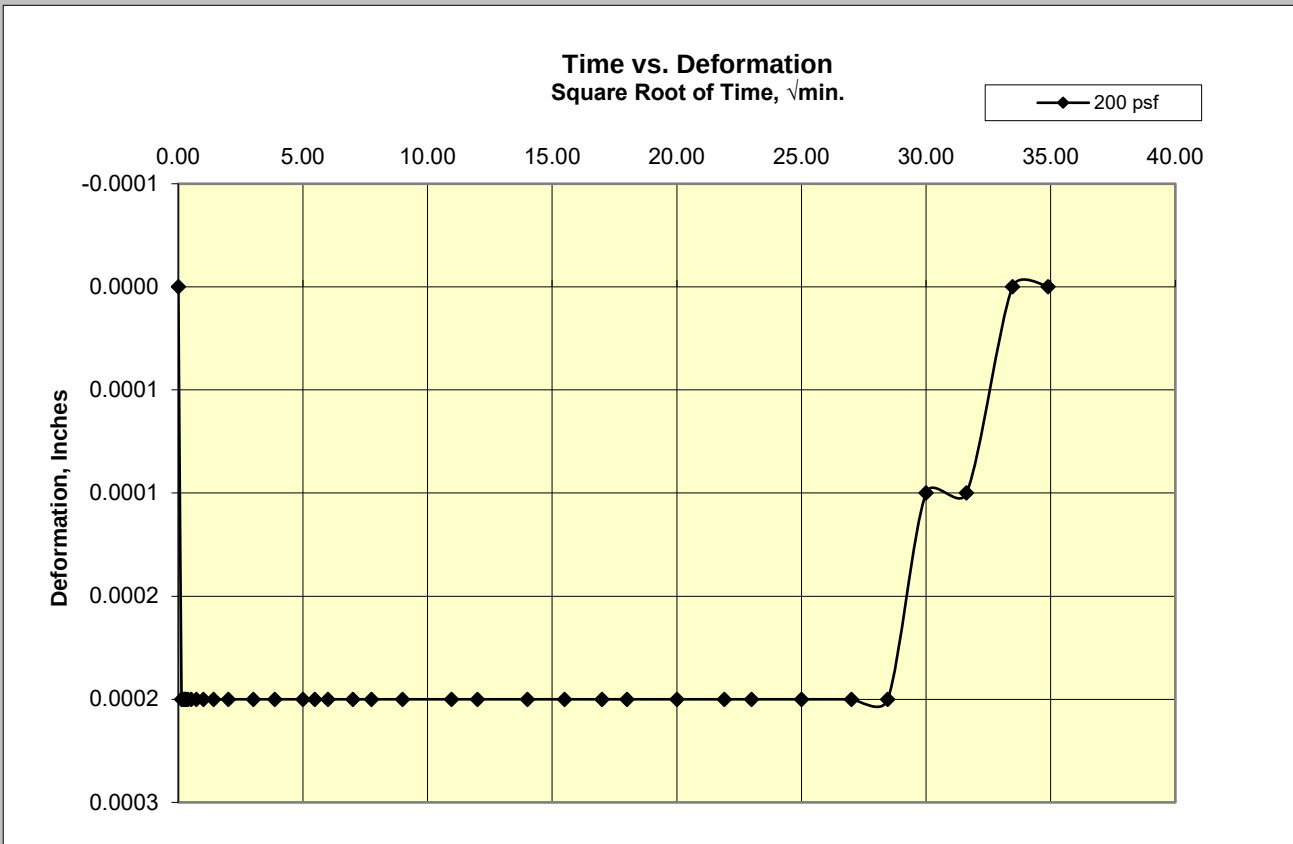
Cooper Testing Labs, Inc.

Load 2

200 psf



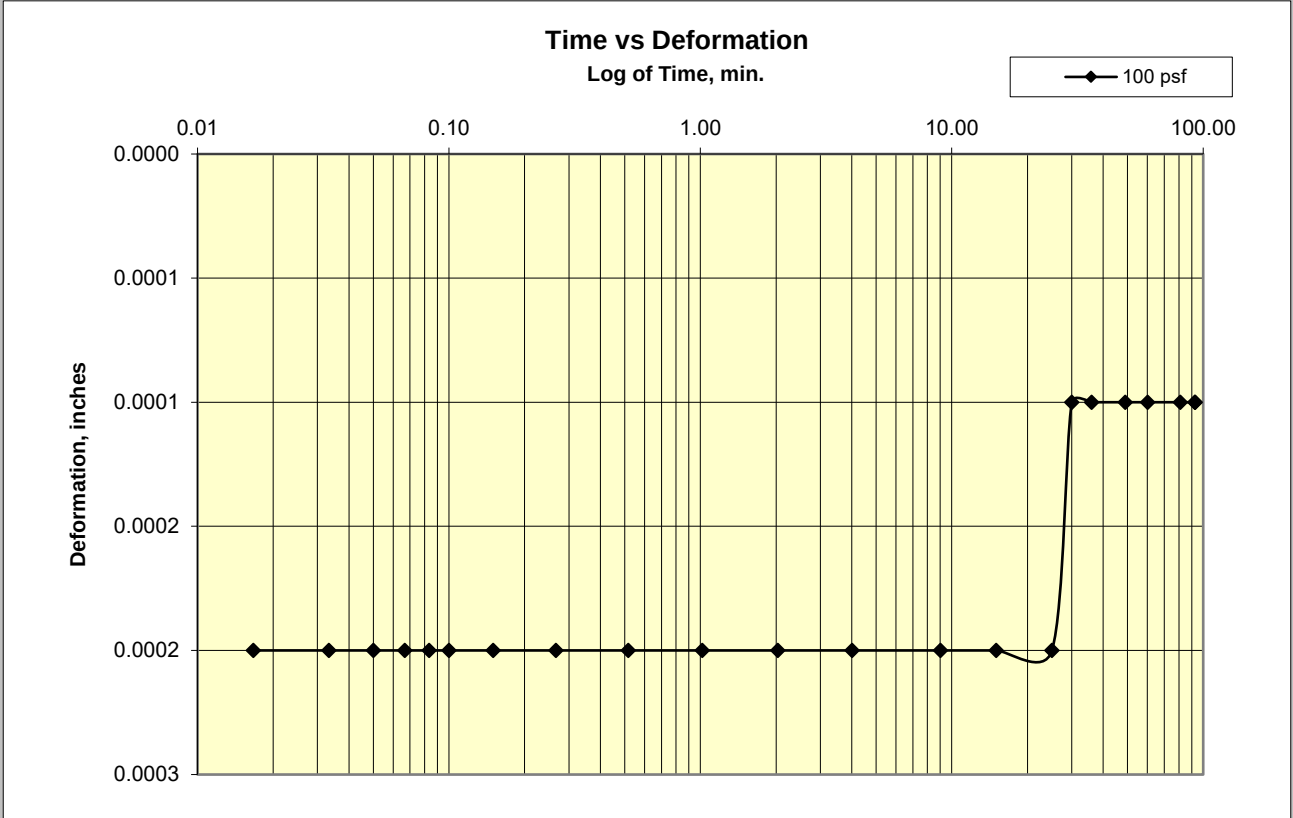
200 psf



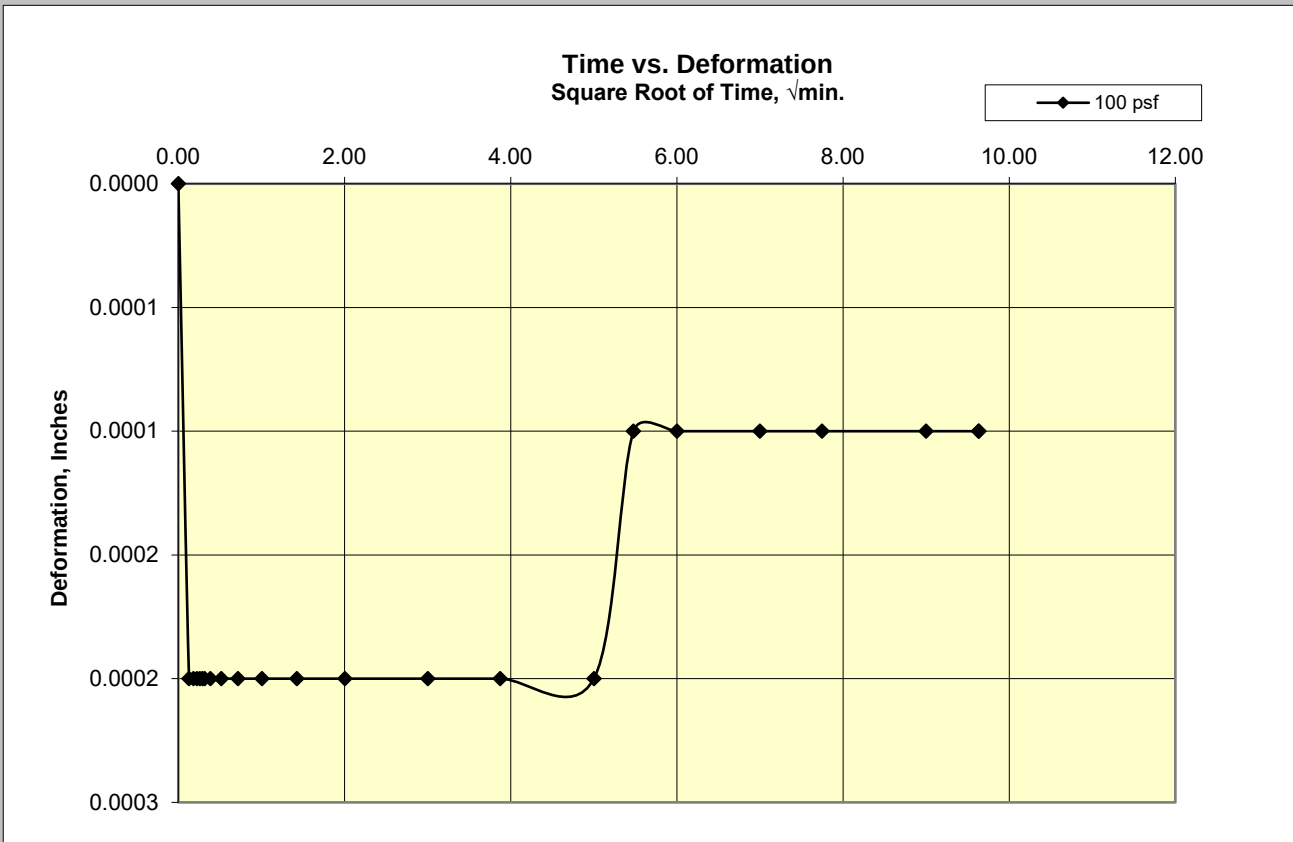
Cooper Testing Labs, Inc.

Load 1

100 psf



100 psf



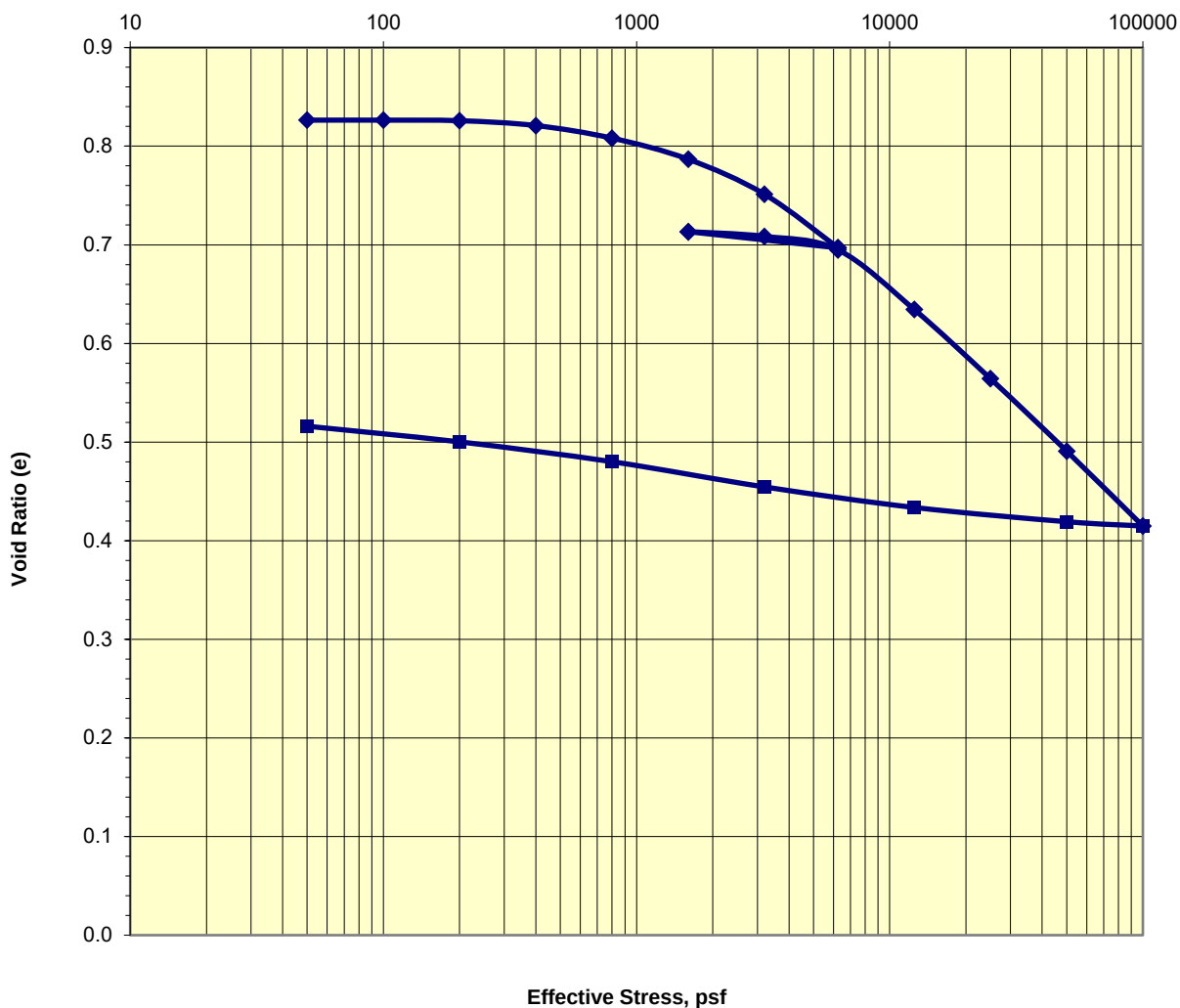


Consolidation Test

ASTM D2435

Job No.:	461-392	Boring:	B4	Run By:	HM
Client:	Geosyntec Consultants	Sample:	B4-1	Reduced:	RU
Project:	WG3607	Depth, ft.:	5-7.5(Tip-12")	Checked:	PJ
Soil Type:	Olive Gray Sandy SILT			Date:	4/3/2026

e-Log-P Curve



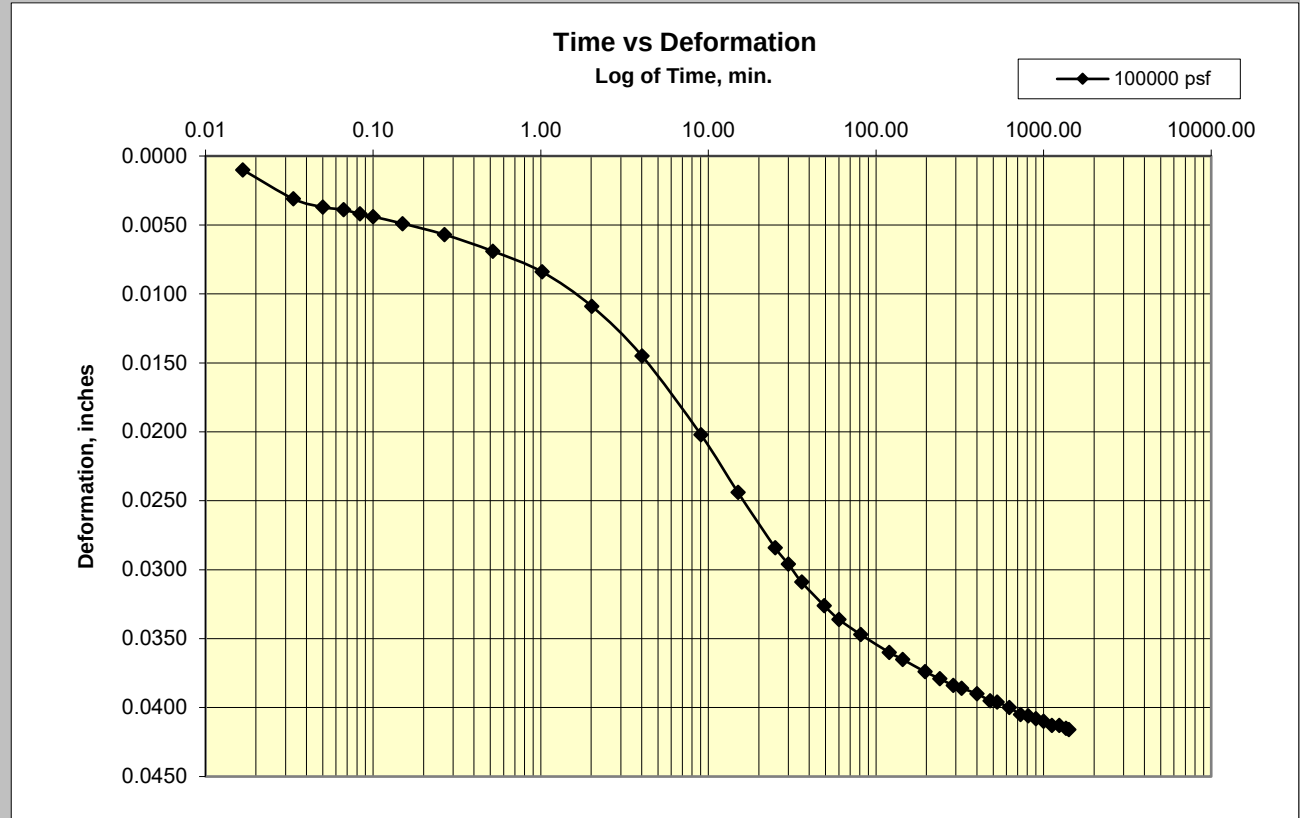
Assumed Gs	2.75	Initial	Final
Moisture %:		28.7	18.9
Dry Density, pcf:		94.0	112.9
Void Ratio:		0.827	0.520
% Saturation:		95.4	100.0

Remarks:

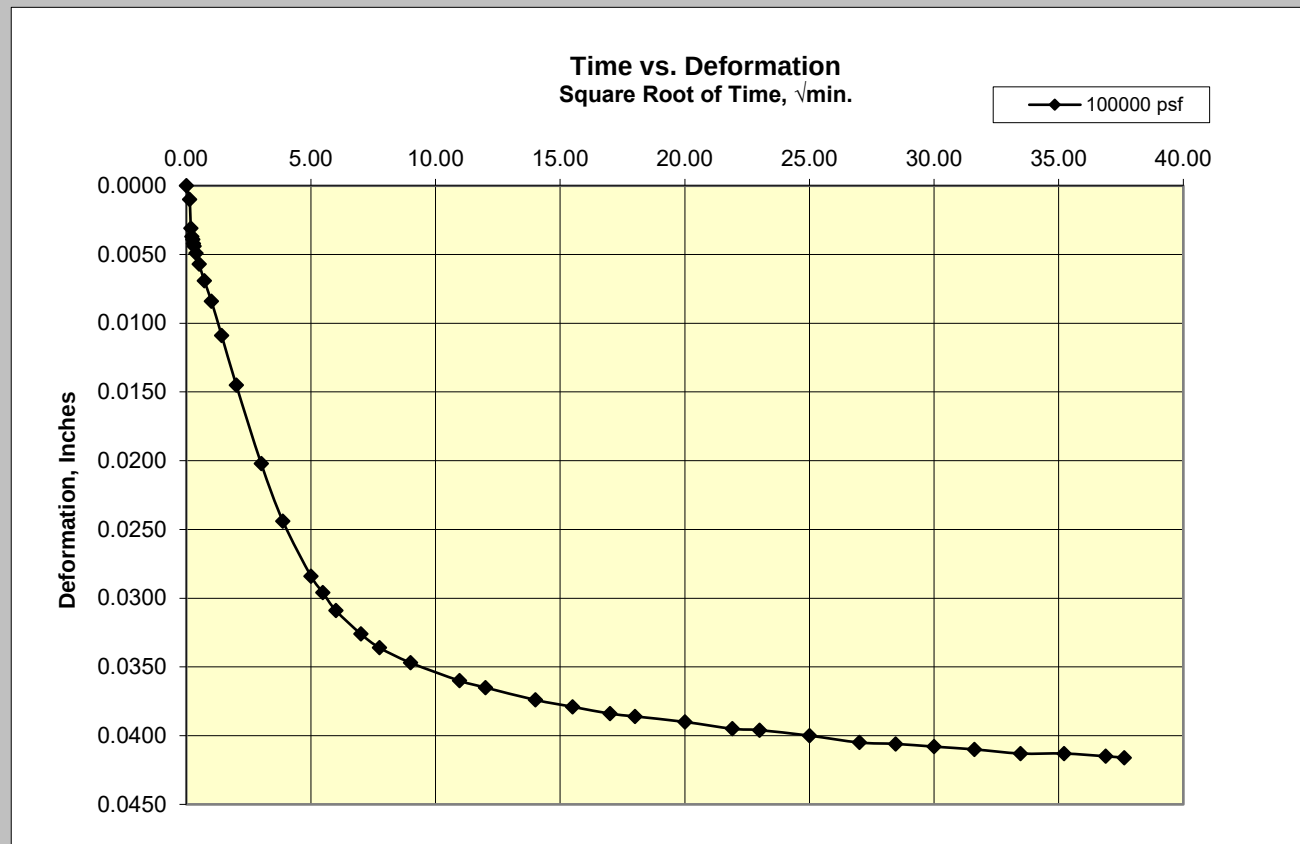
Cooper Testing Labs, Inc.

Load 15

100000 psf



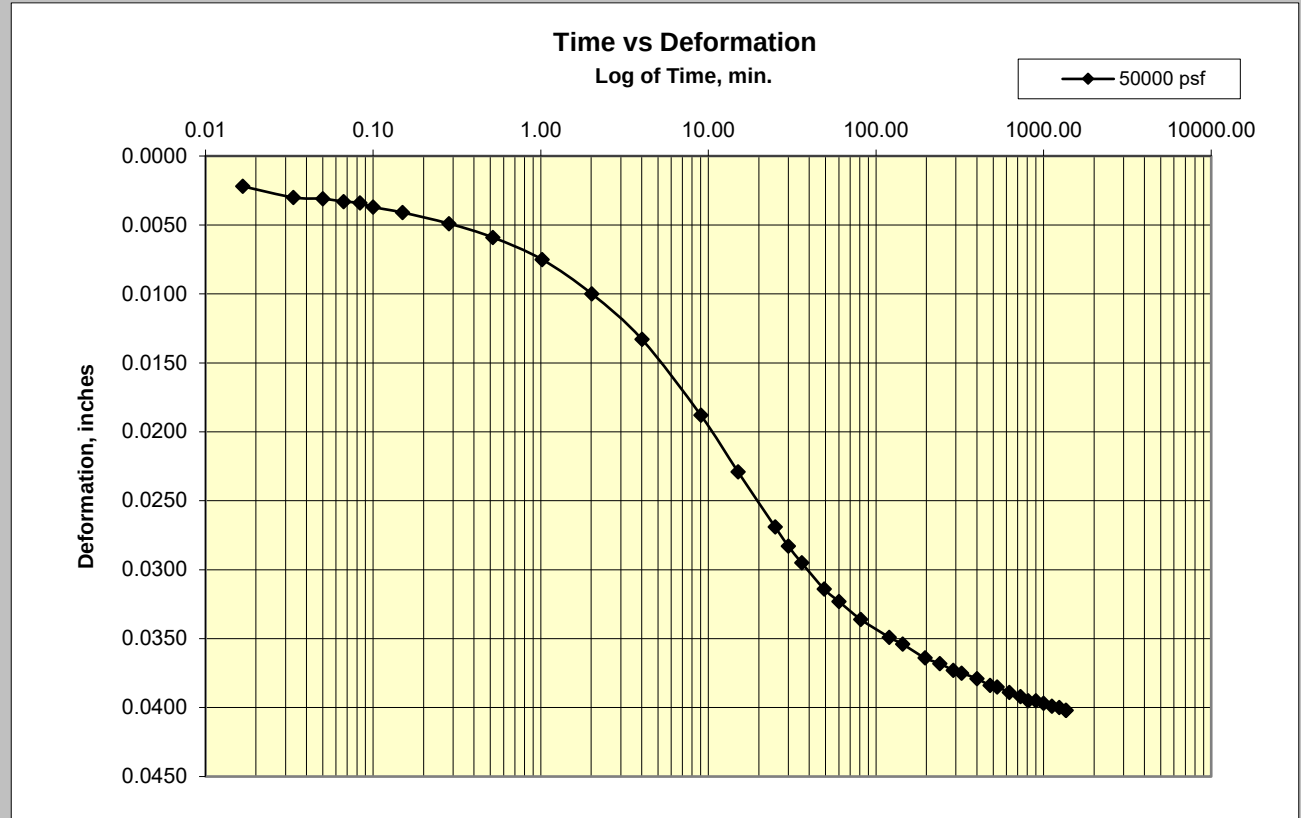
100000 psf



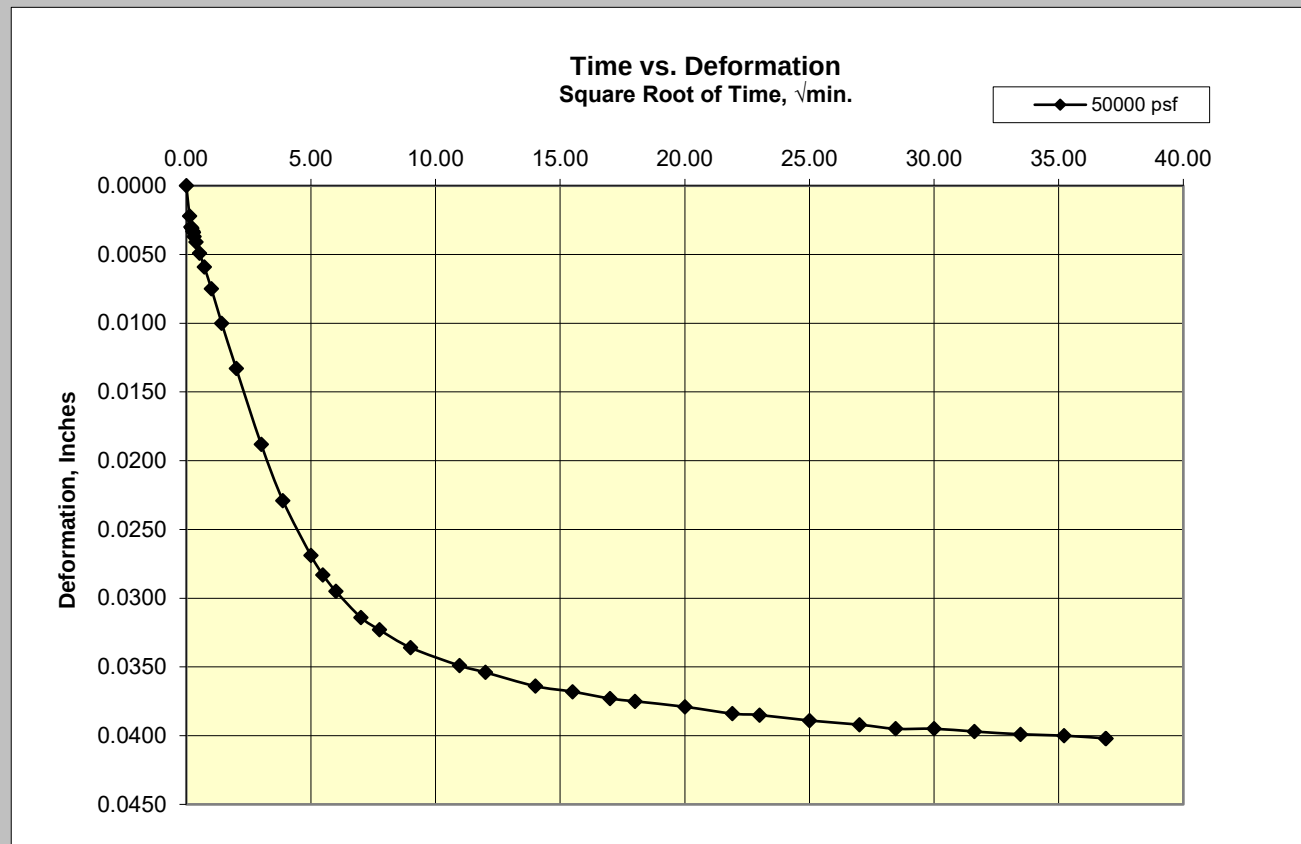
Cooper Testing Labs, Inc.

Load 14

50000 psf



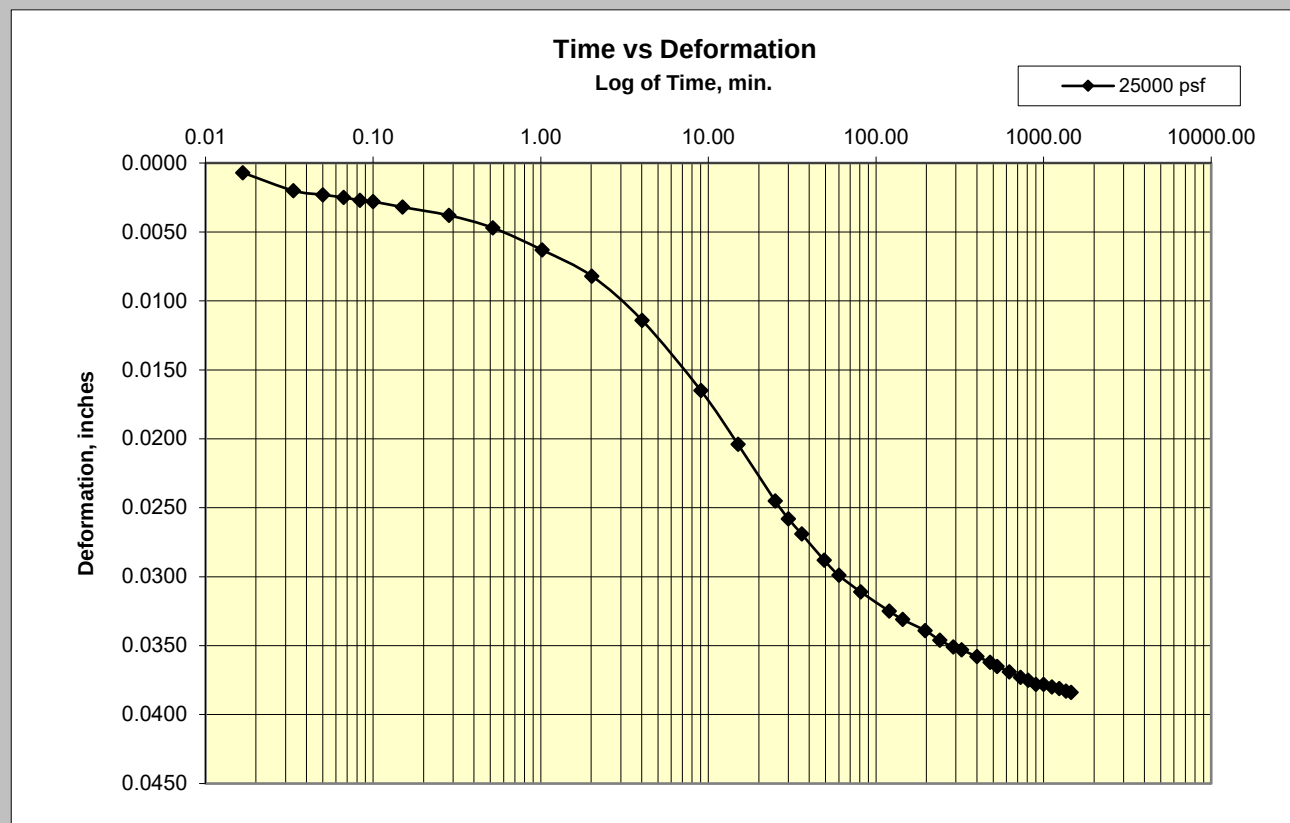
50000 psf



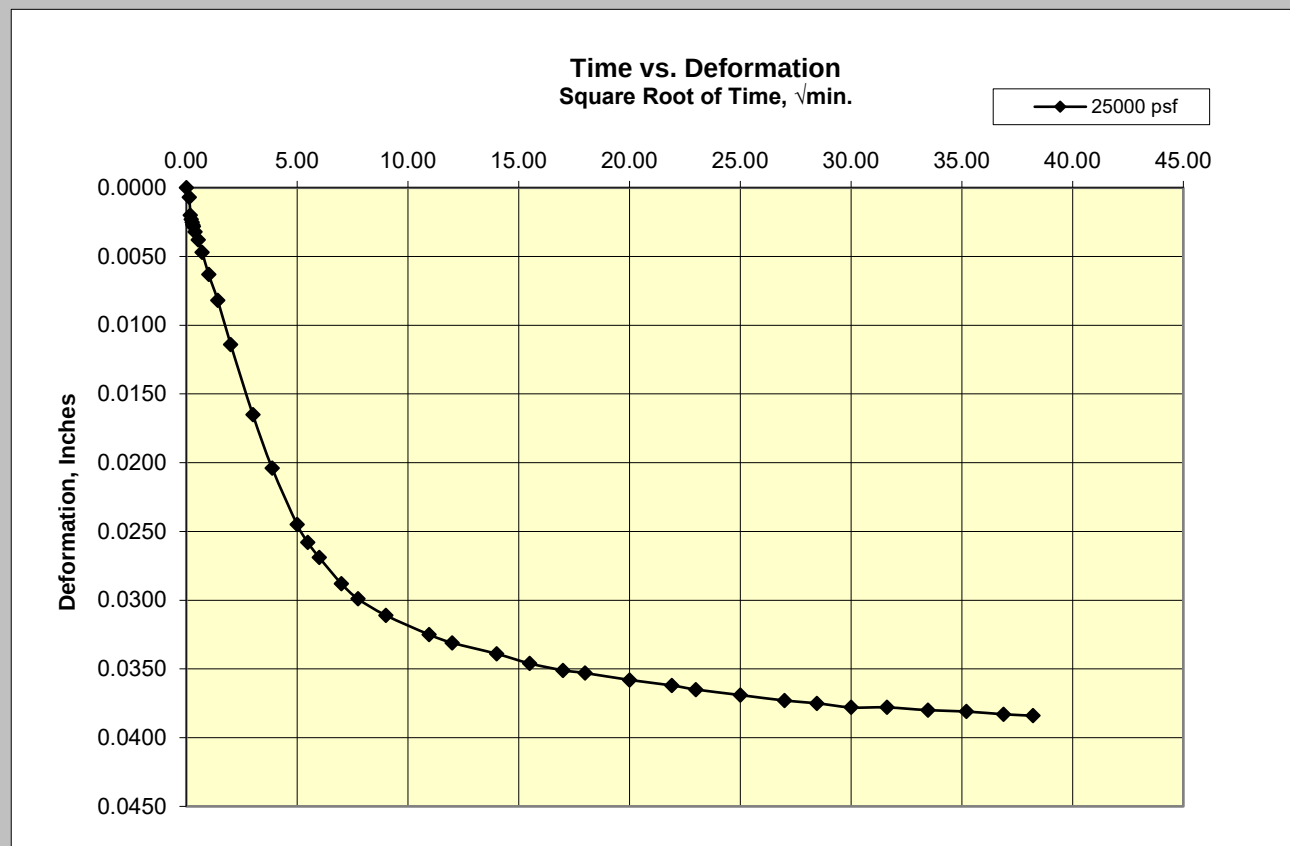
Cooper Testing Labs, Inc.

Load 13

25000 psf



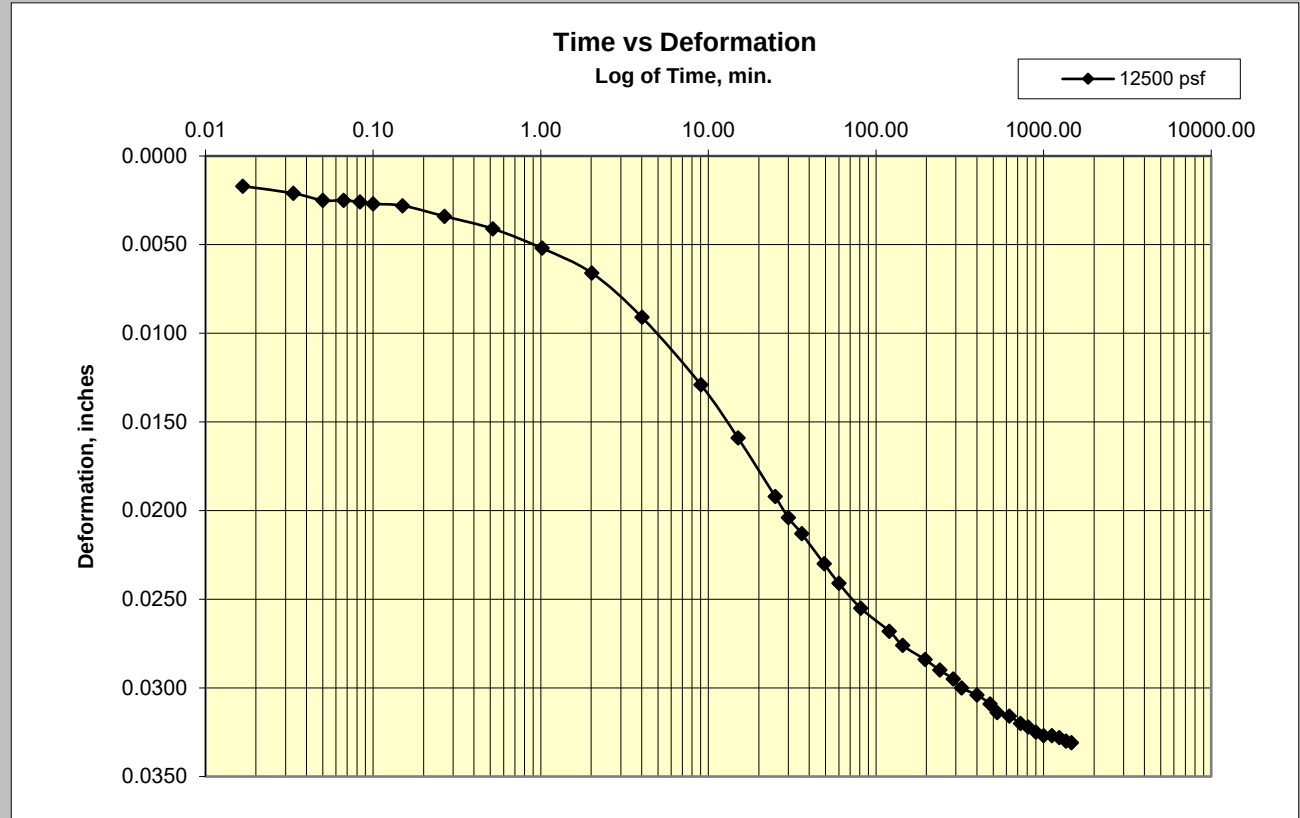
25000 psf



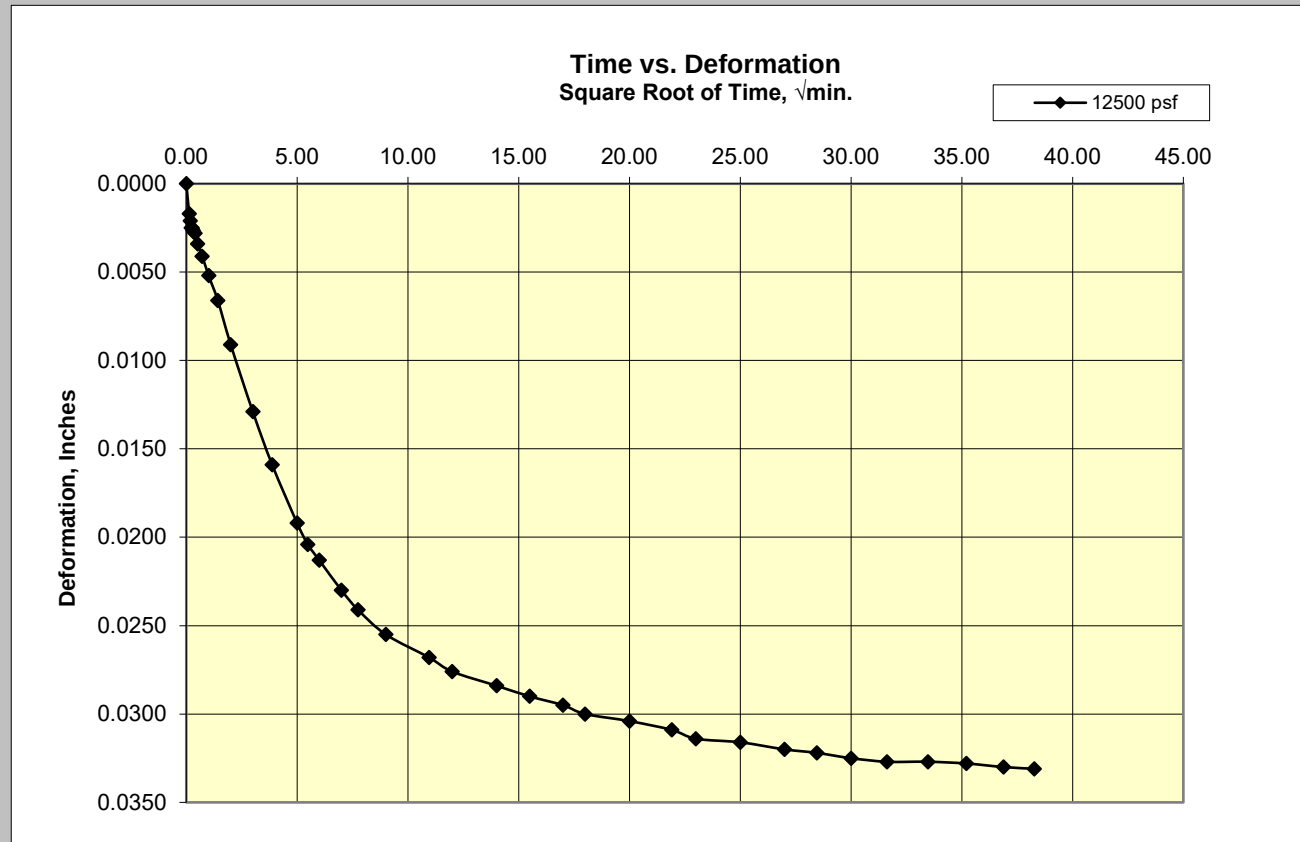
Cooper Testing Labs, Inc.

Load 12

12500 psf



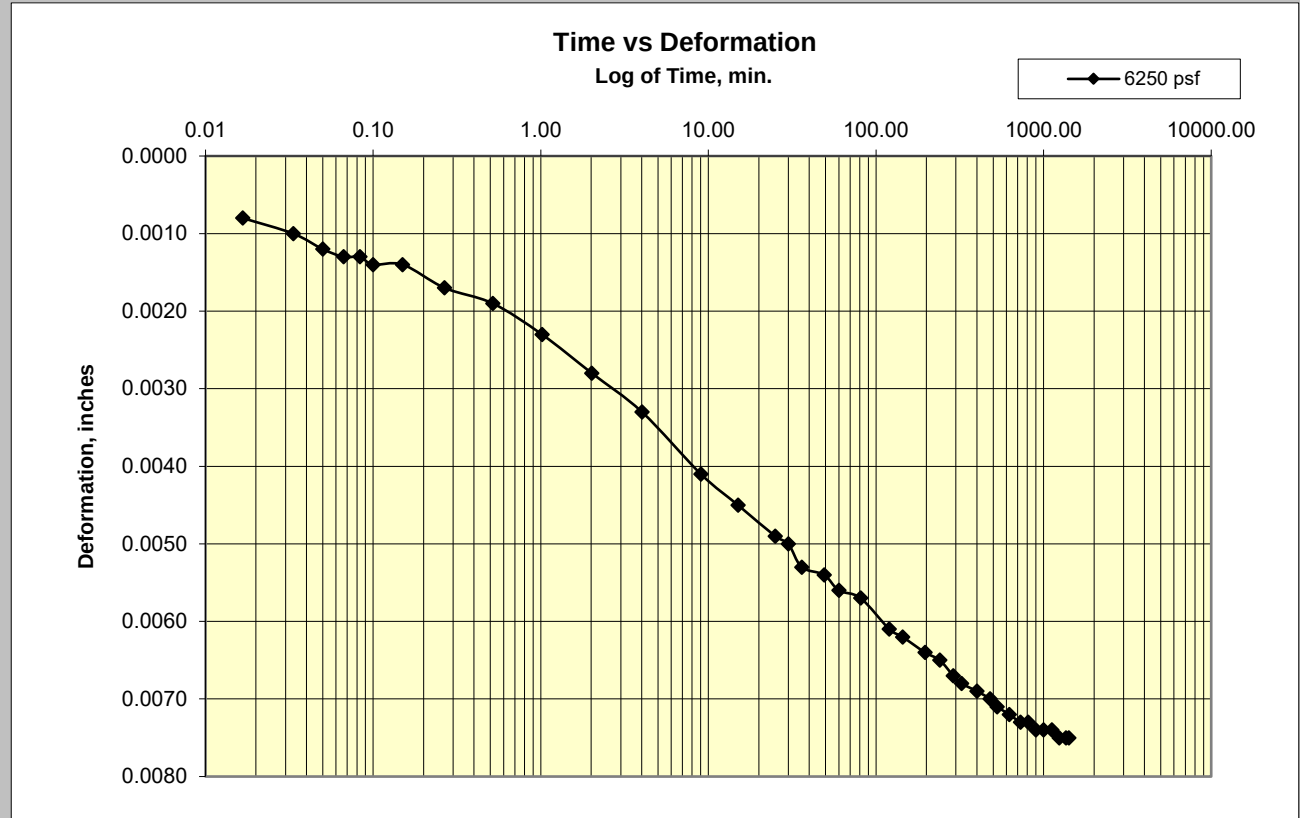
12500 psf



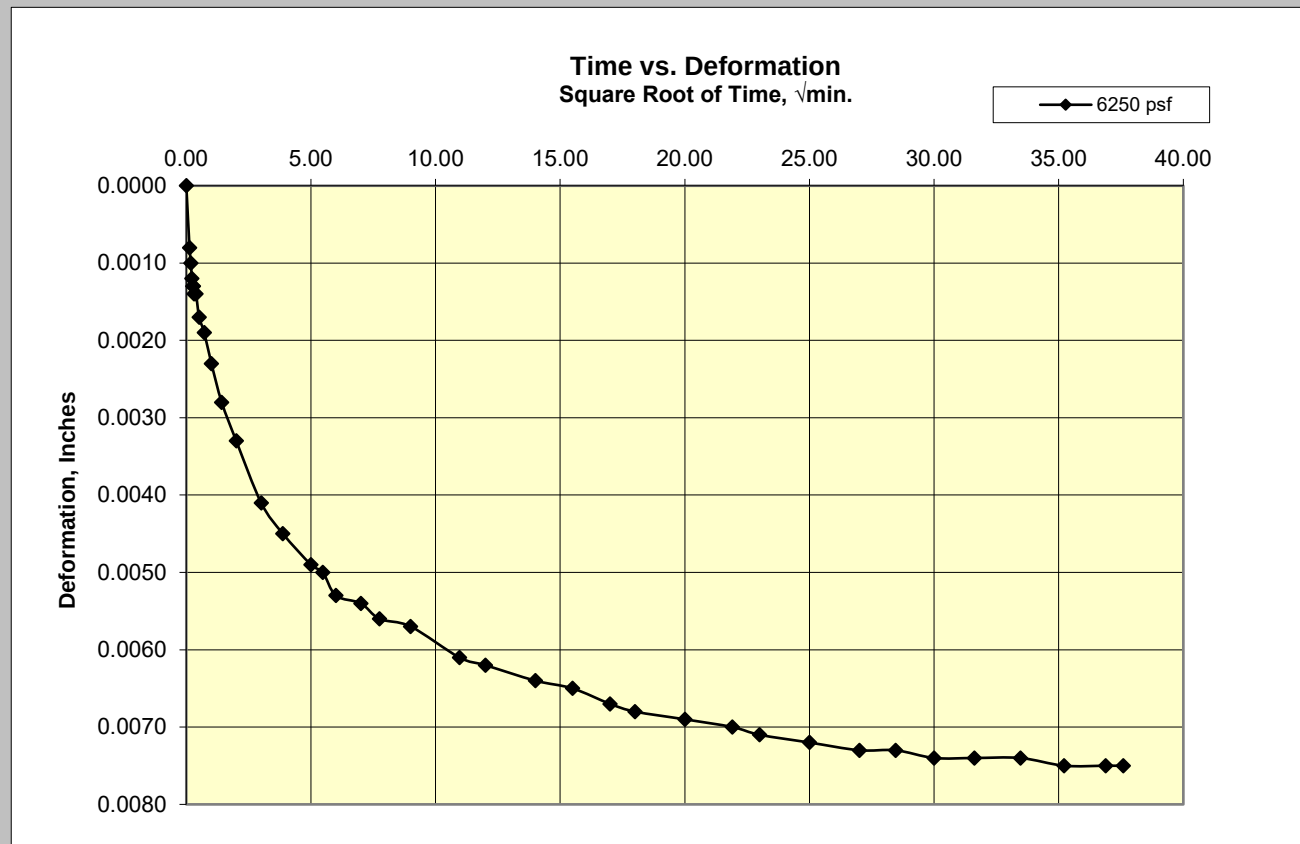
Cooper Testing Labs, Inc.

Load 11

6250 psf



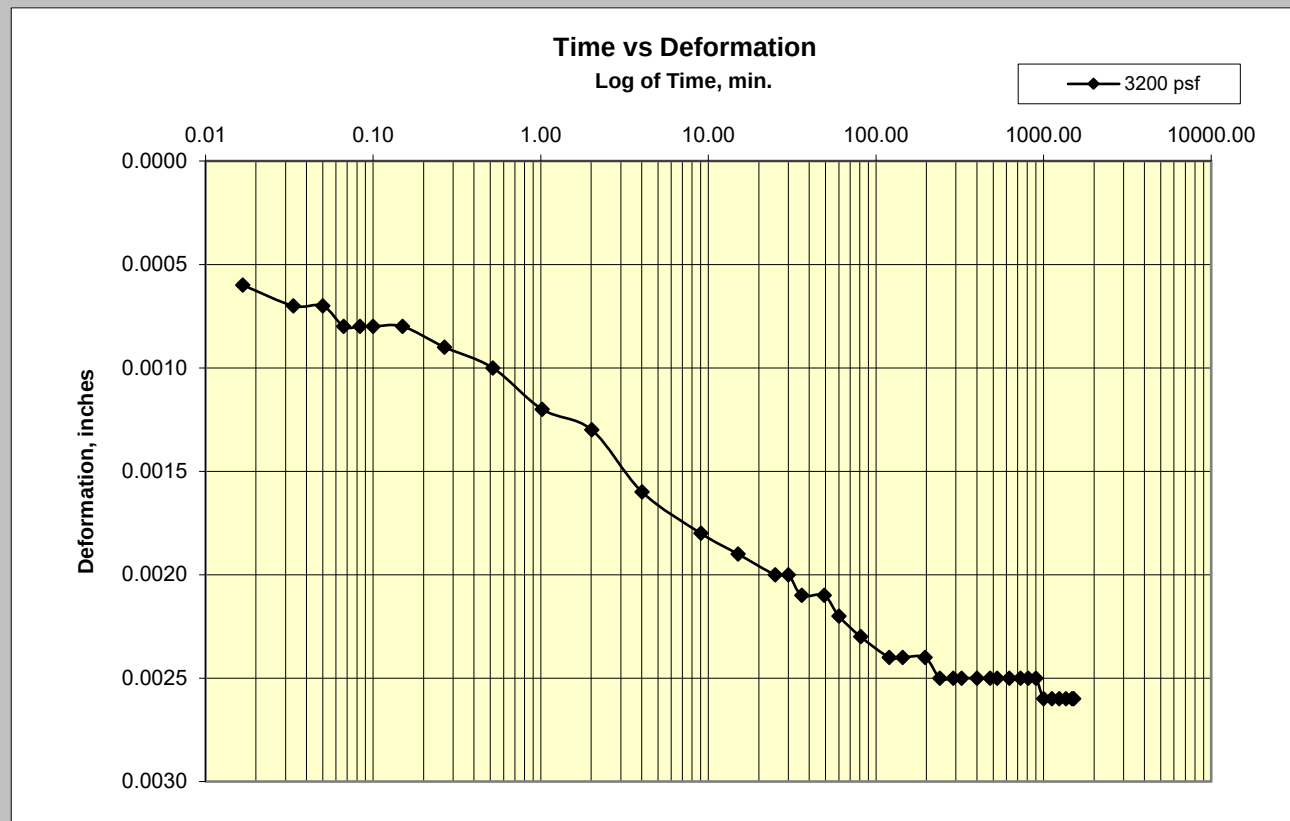
6250 psf



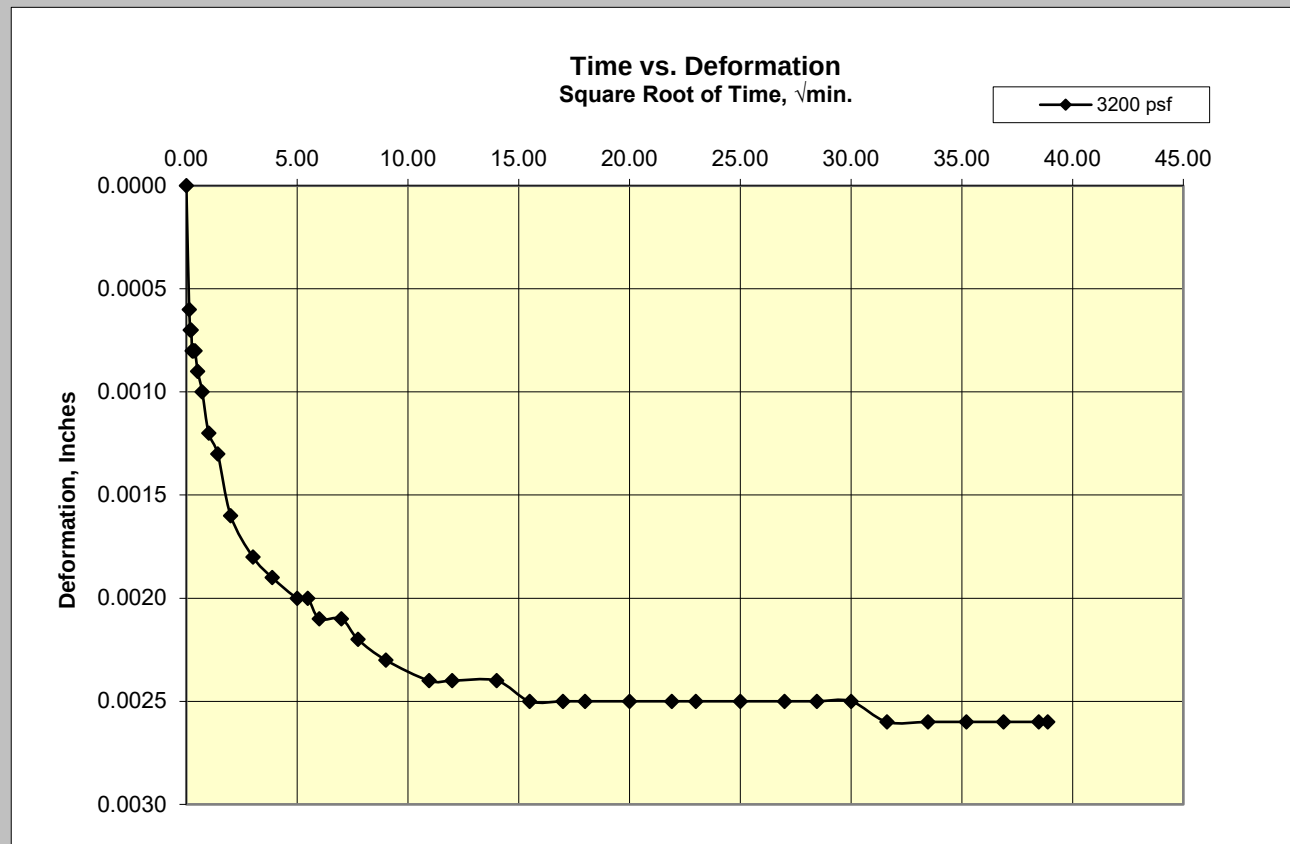
Cooper Testing Labs, Inc.

Load 10

3200 psf



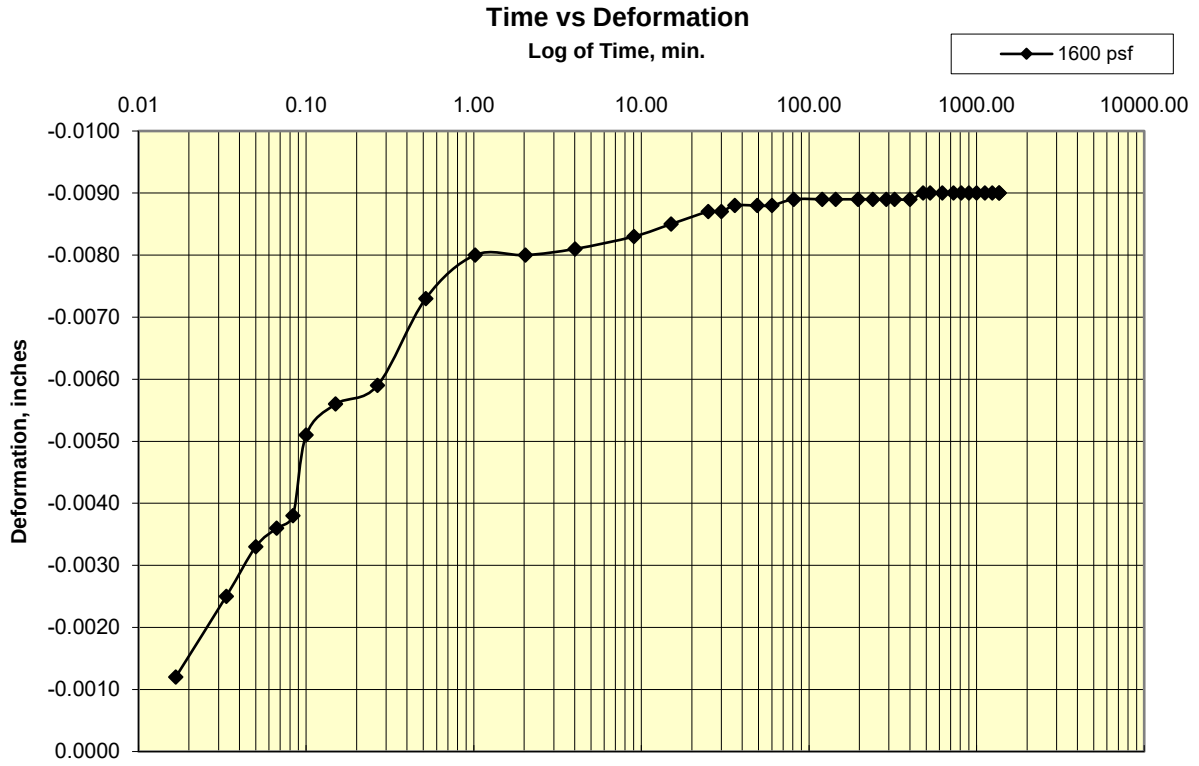
3200 psf



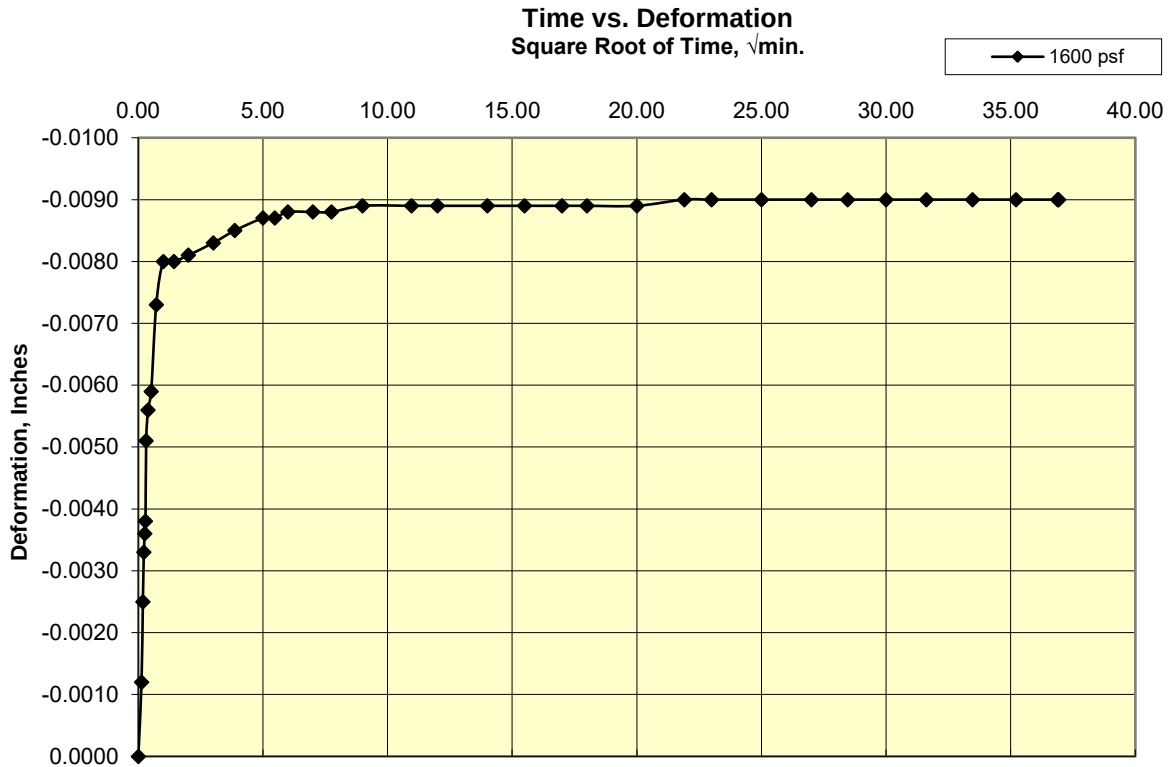
Cooper Testing Labs, Inc.

Load 9

1600 psf



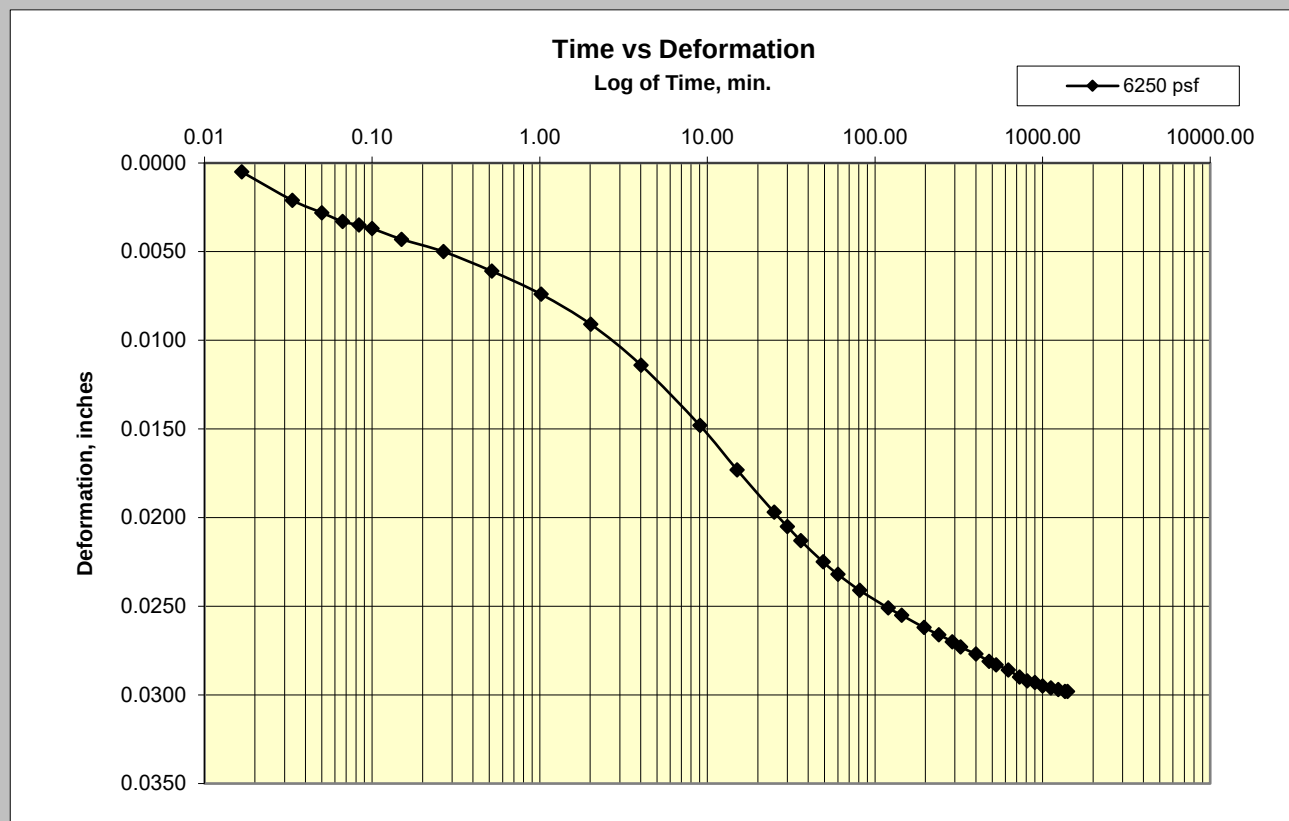
1600 psf



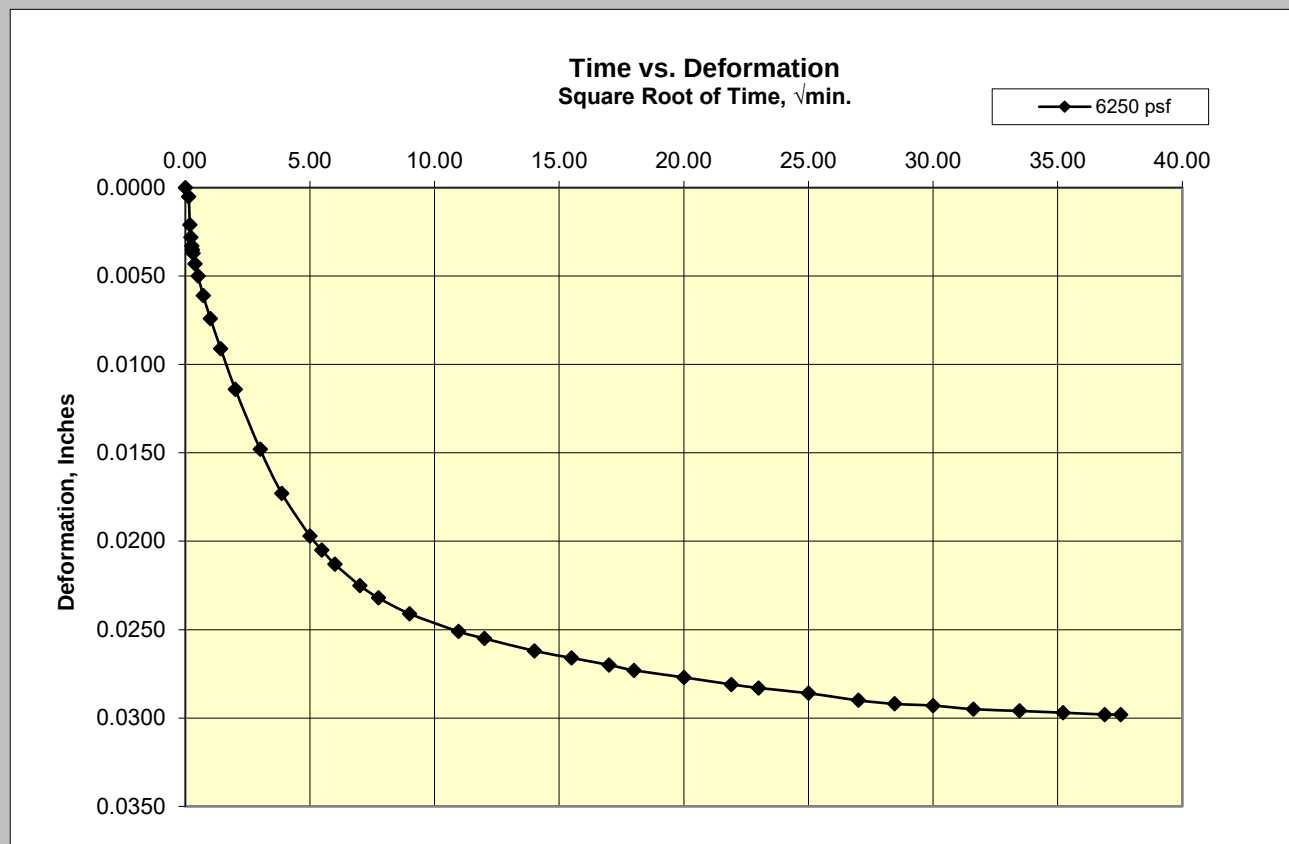
Cooper Testing Labs, Inc.

Load 8

6250 psf



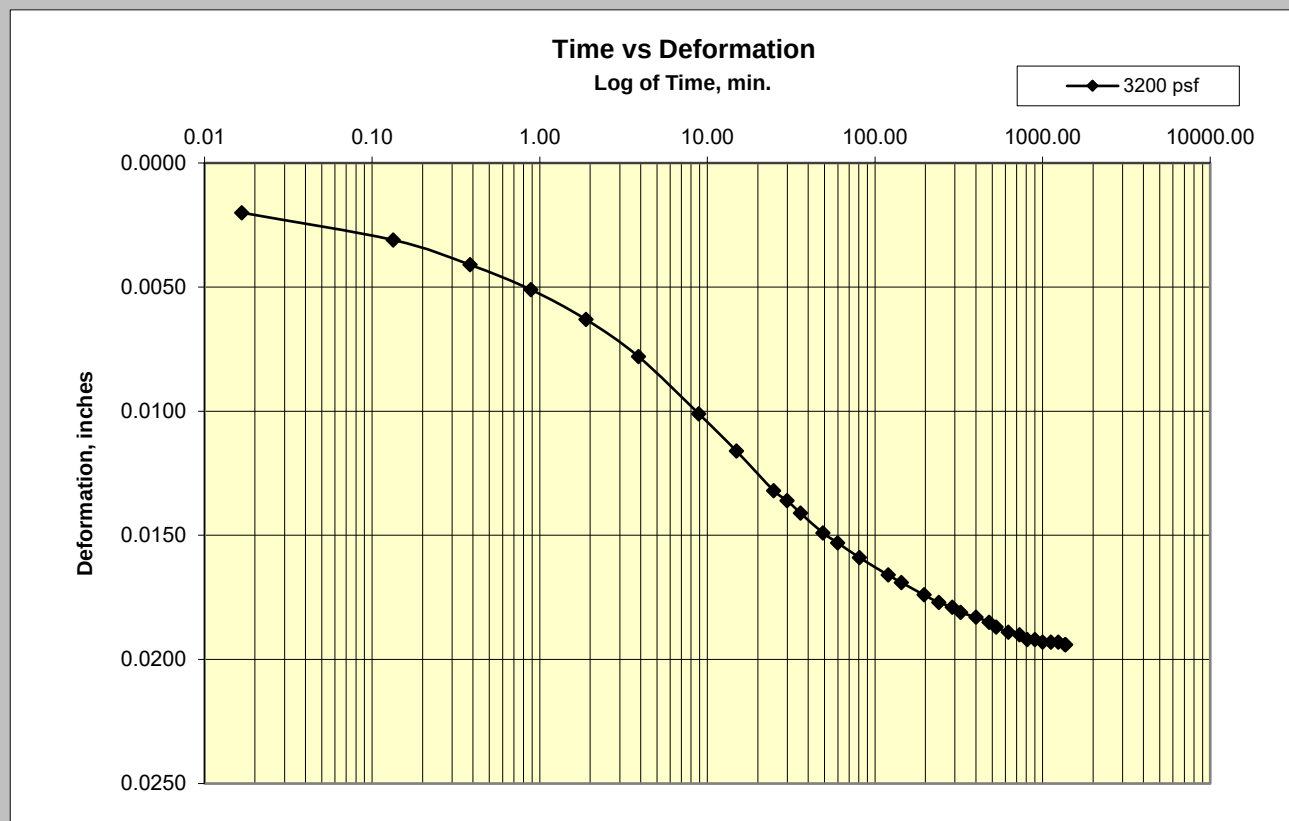
6250 psf



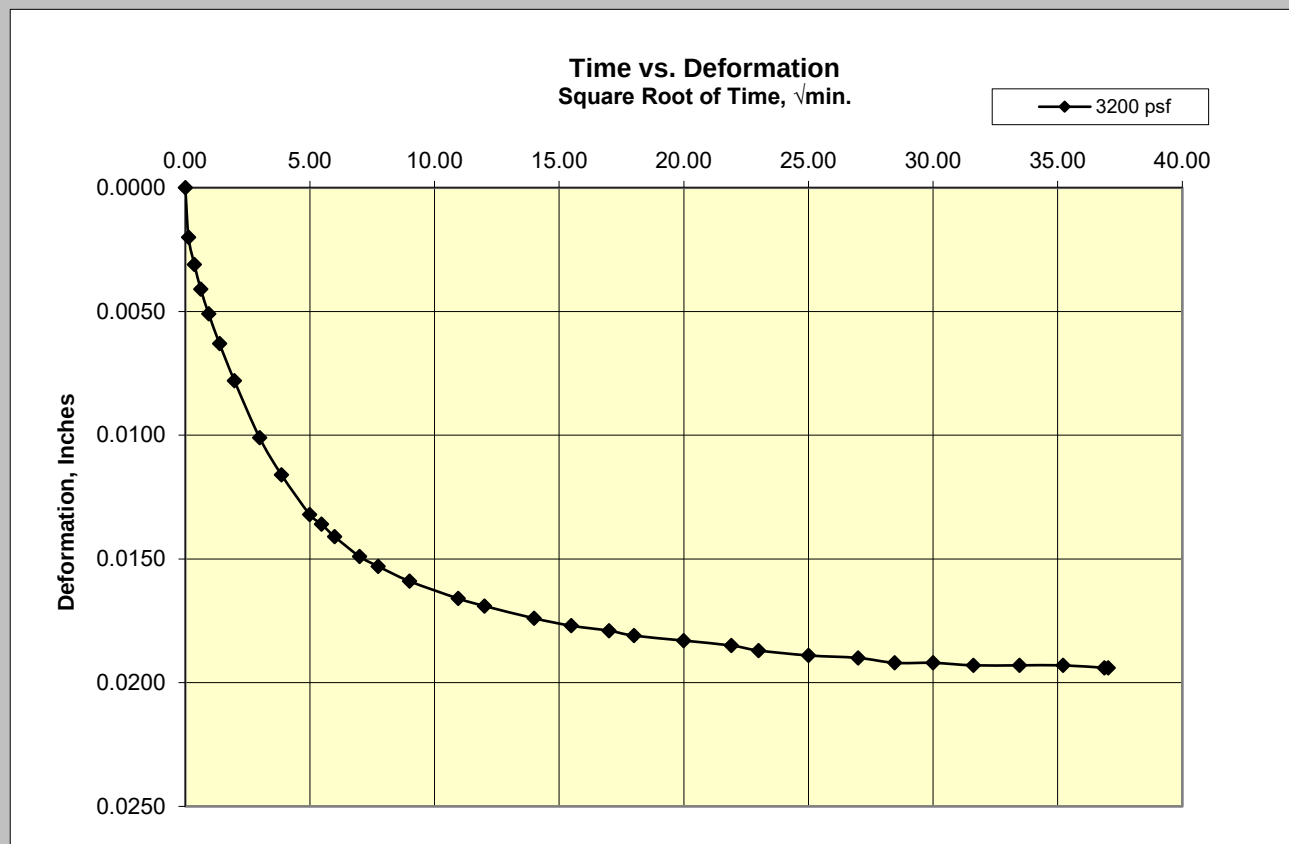
Cooper Testing Labs, Inc.

Load 7

3200 psf



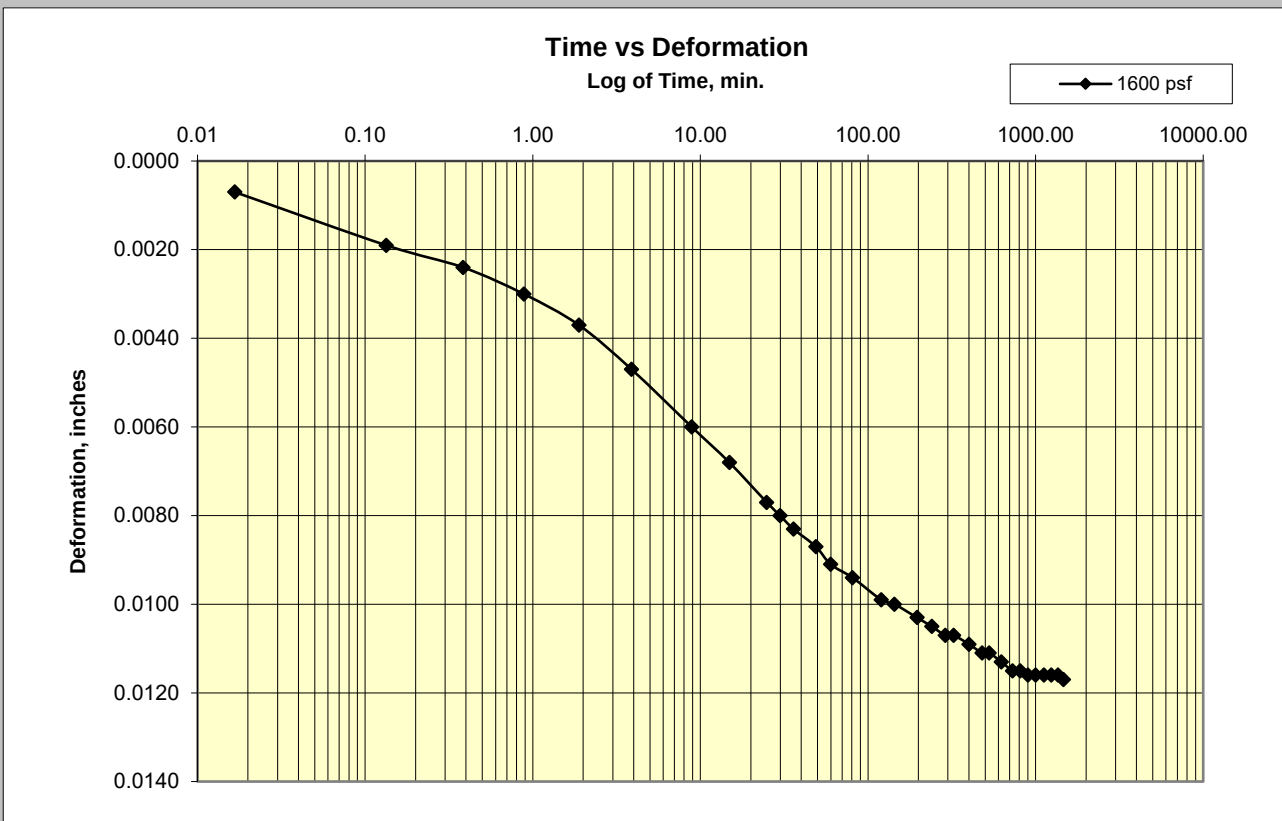
3200 psf



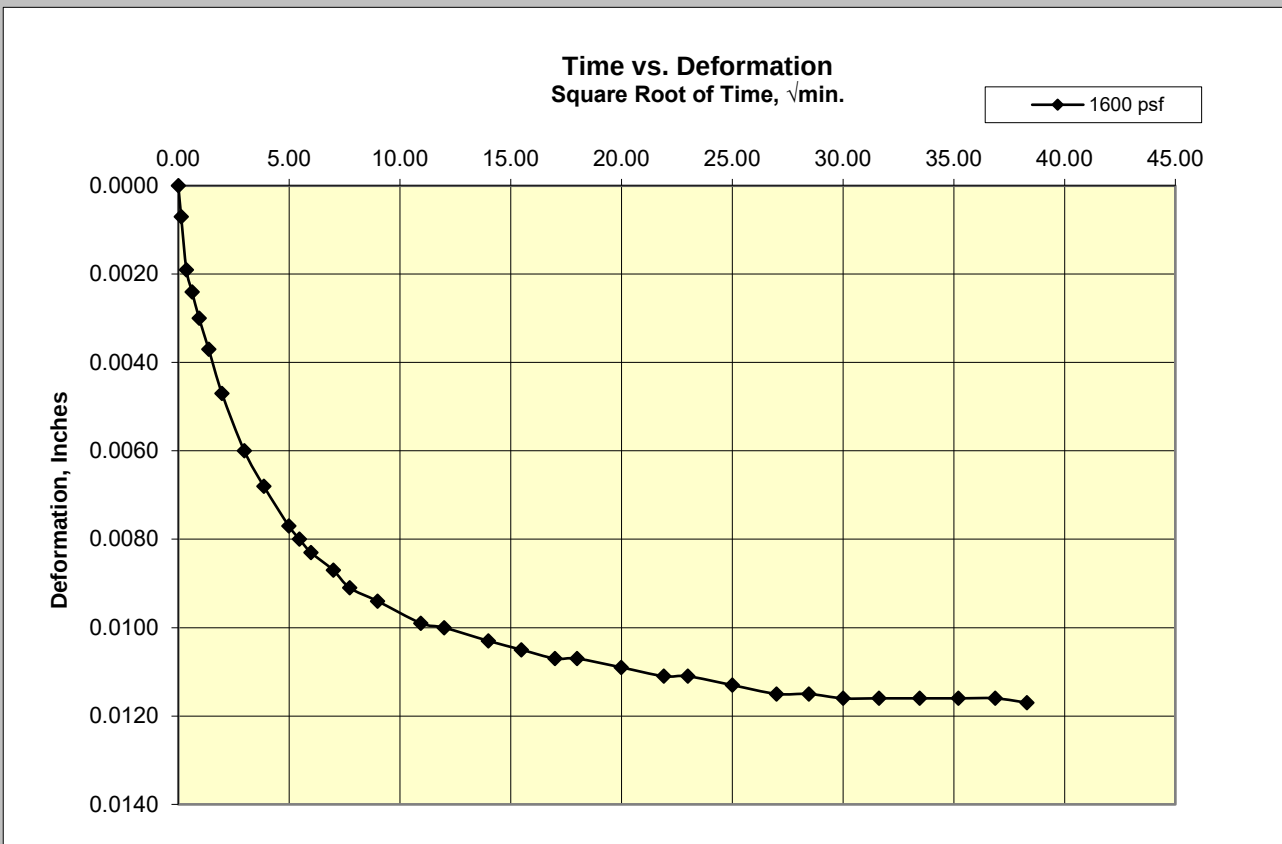
Cooper Testing Labs, Inc.

Load 6

1600 psf



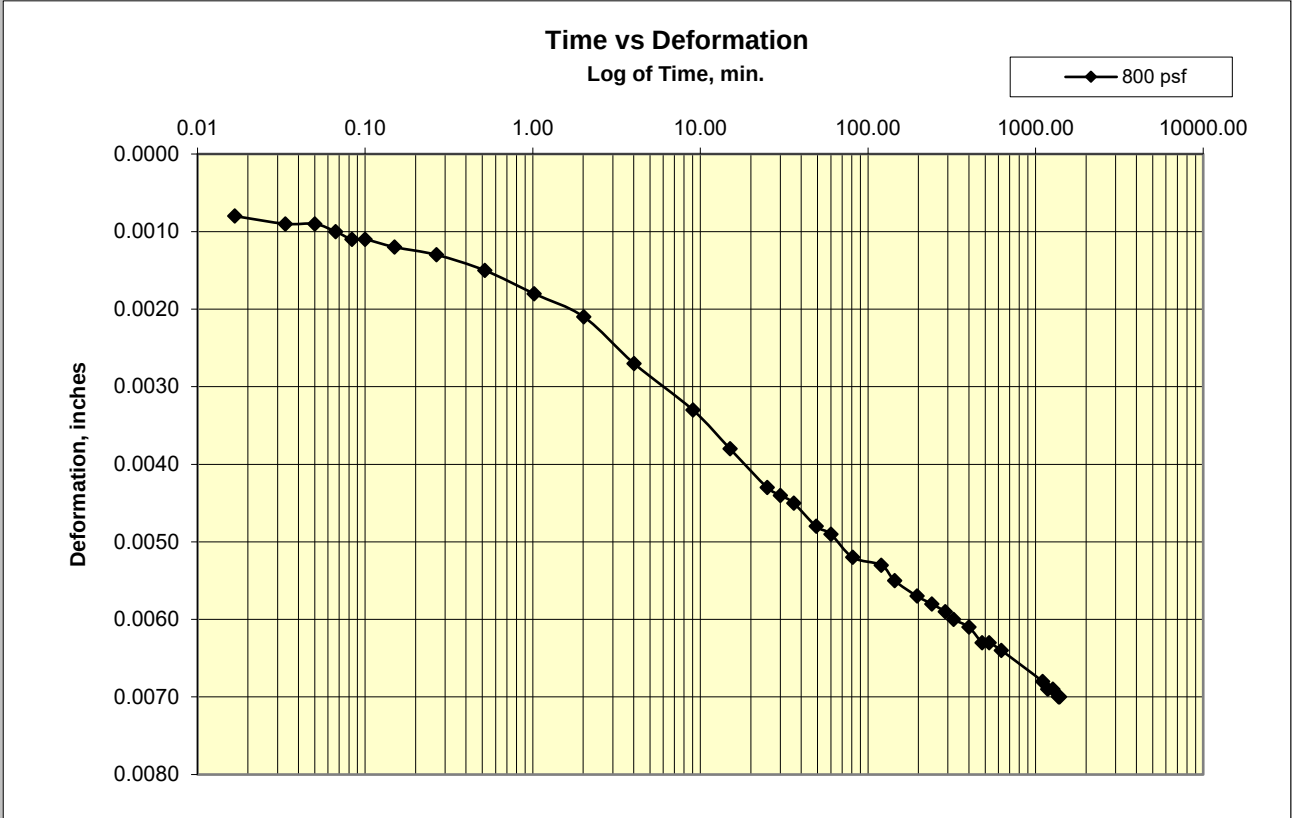
1600 psf



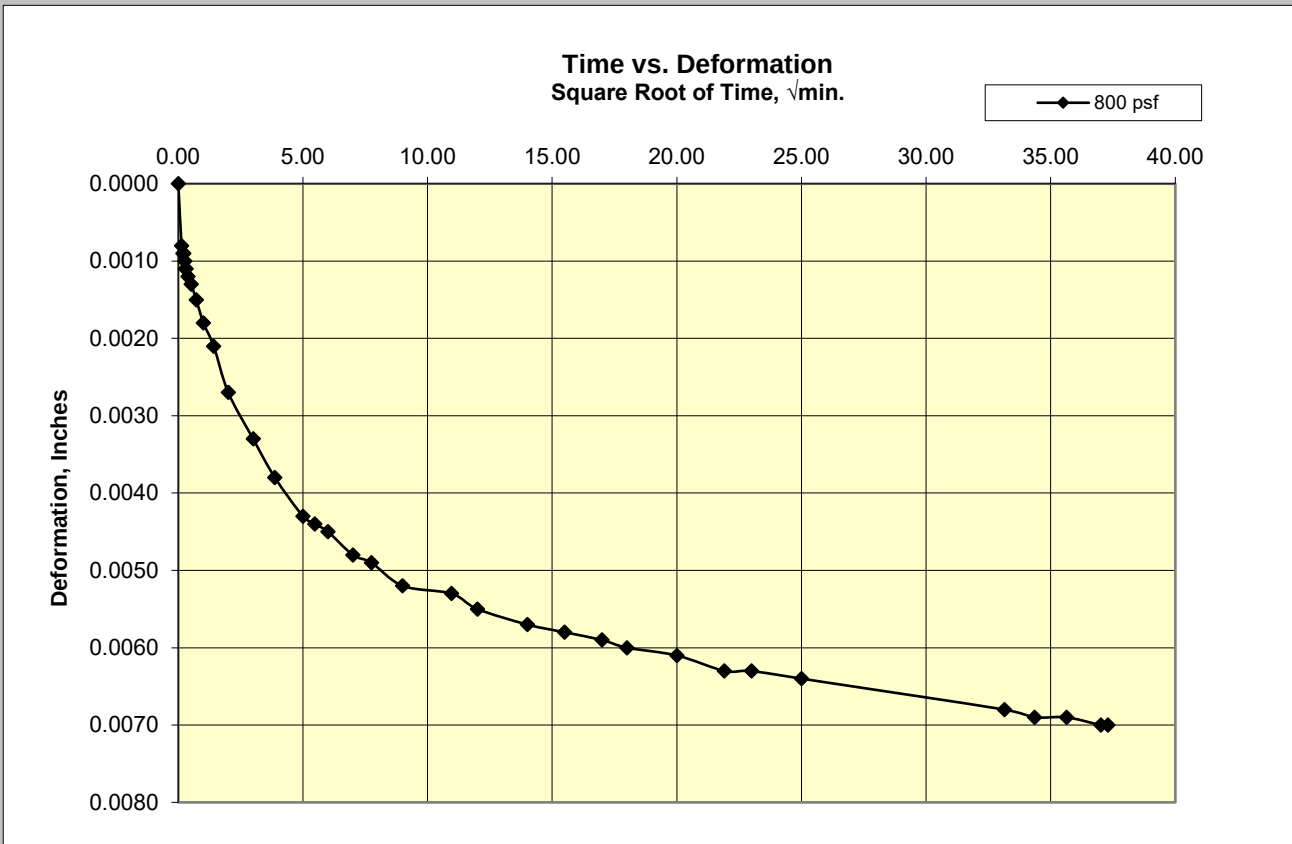
Cooper Testing Labs, Inc.

Load 5

800 psf



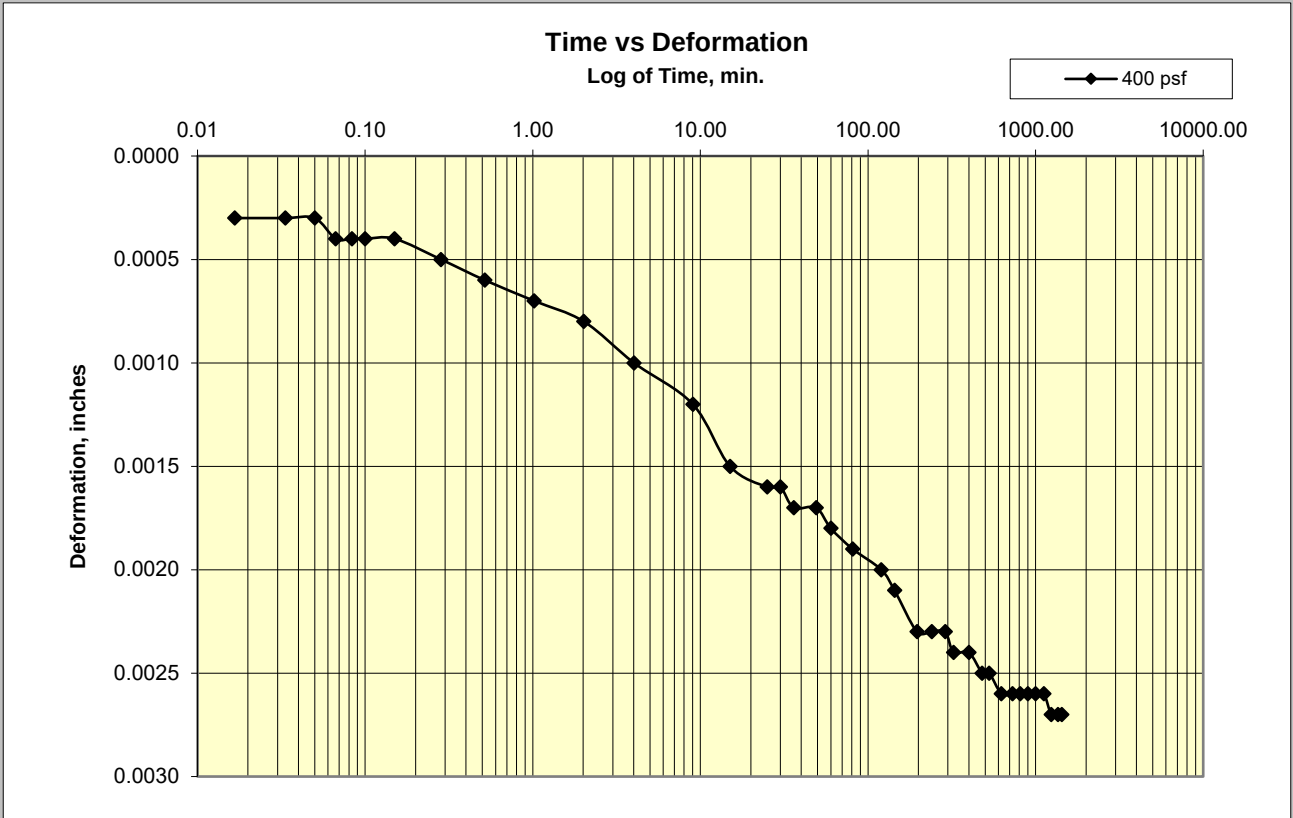
800 psf



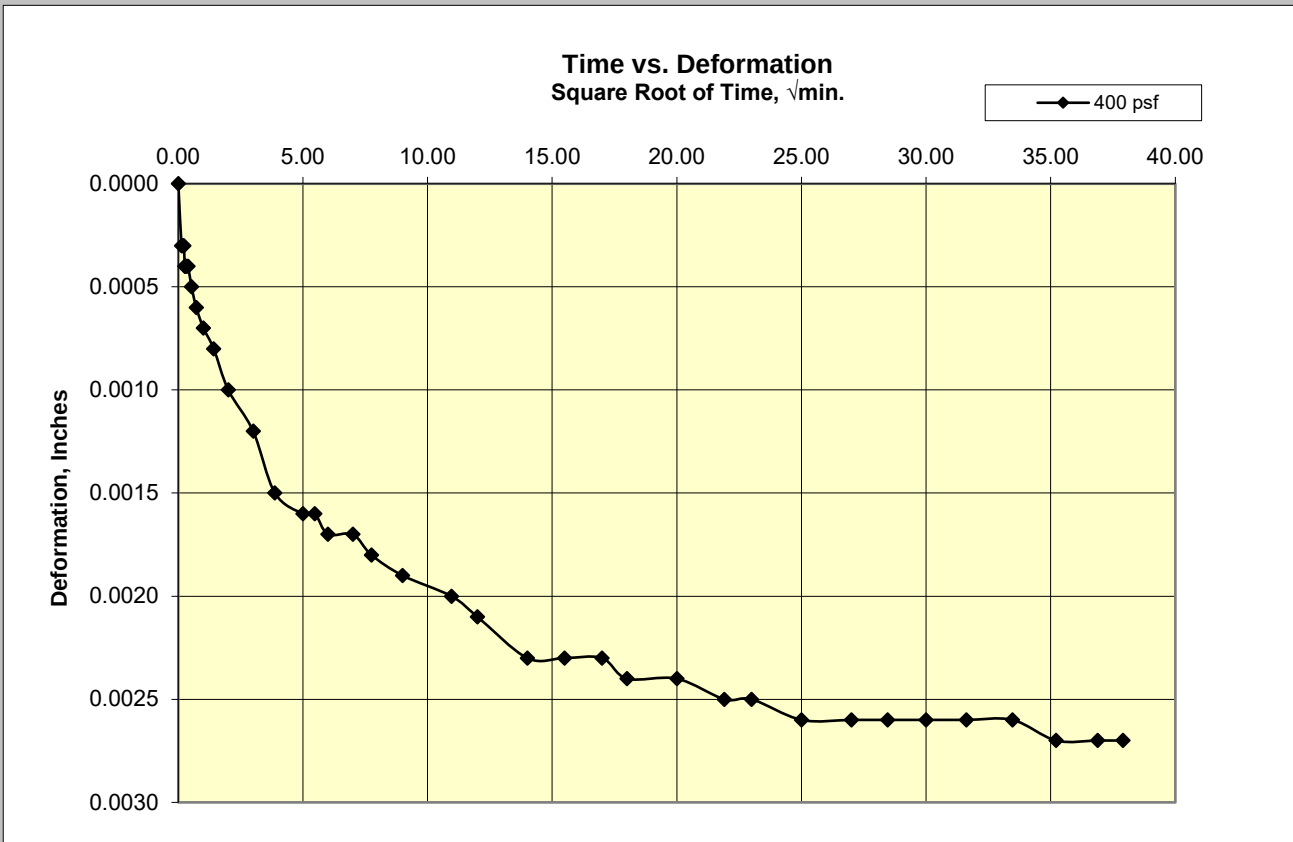
Cooper Testing Labs, Inc.

Load 4

400 psf



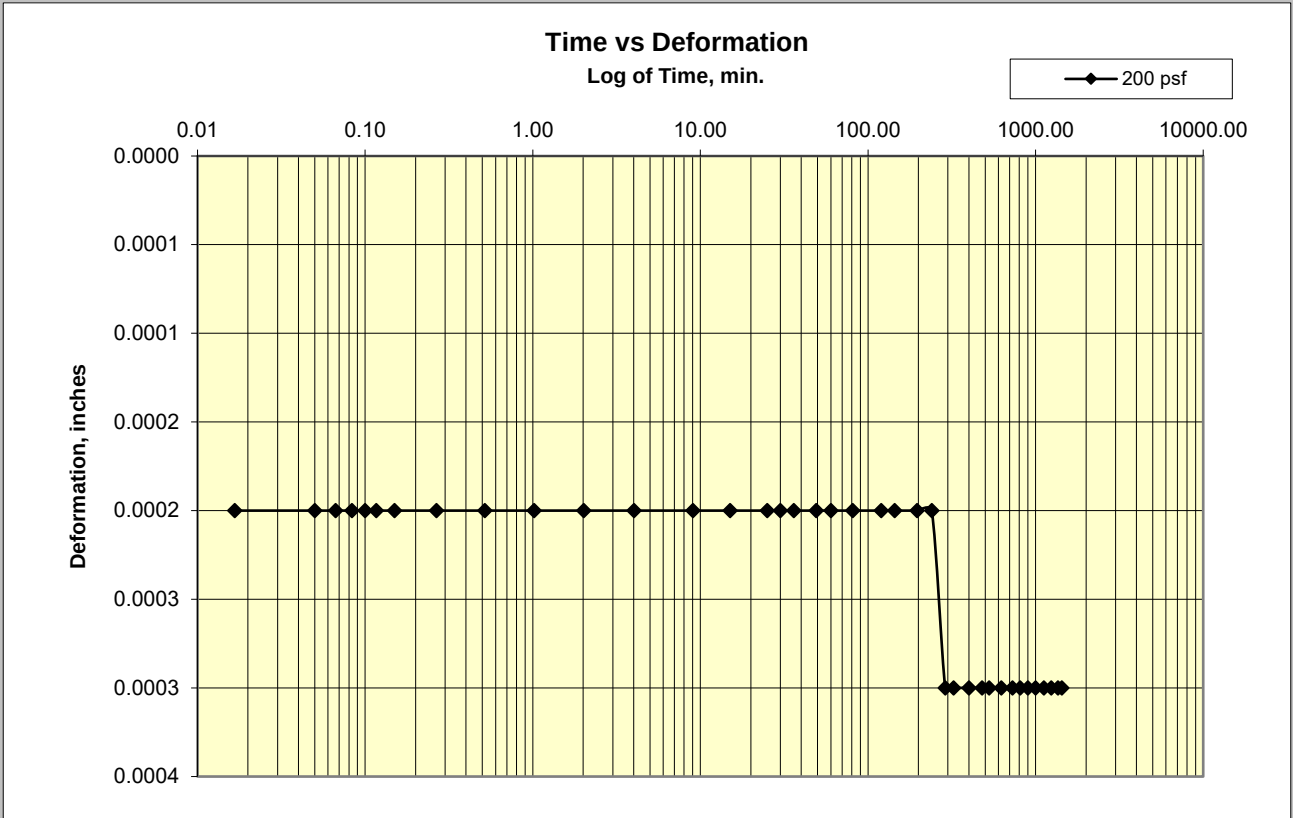
400 psf



Cooper Testing Labs, Inc.

Load 3

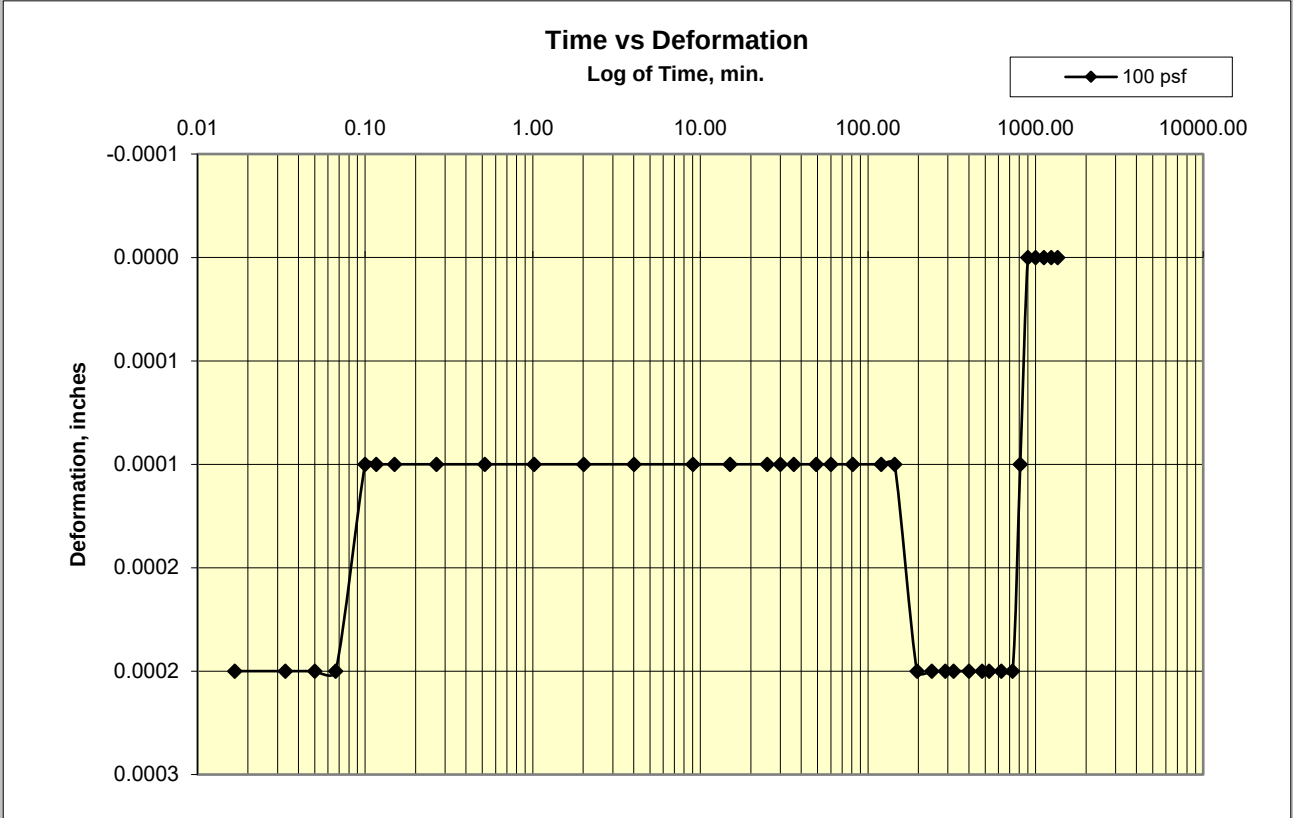
200 psf



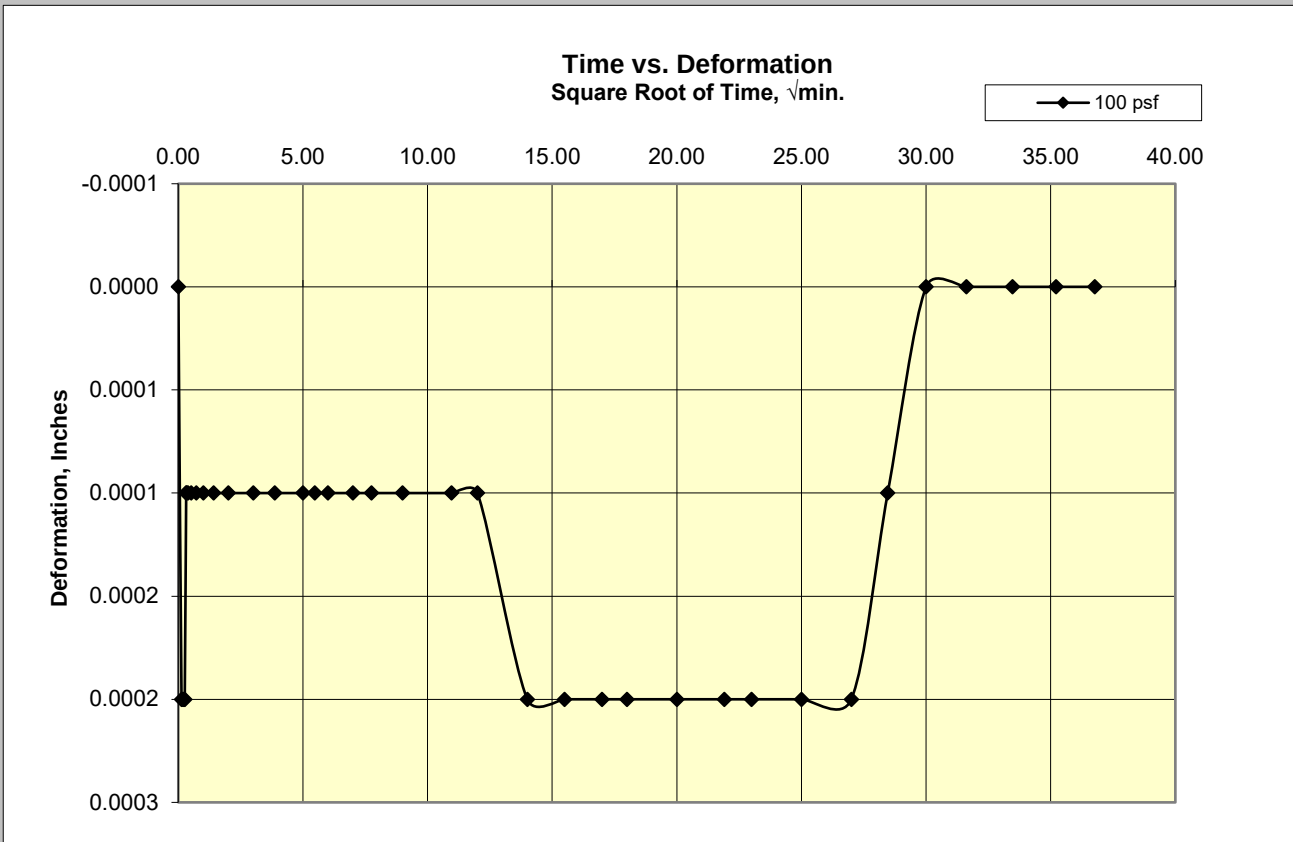
Cooper Testing Labs, Inc.

Load 2

100 psf



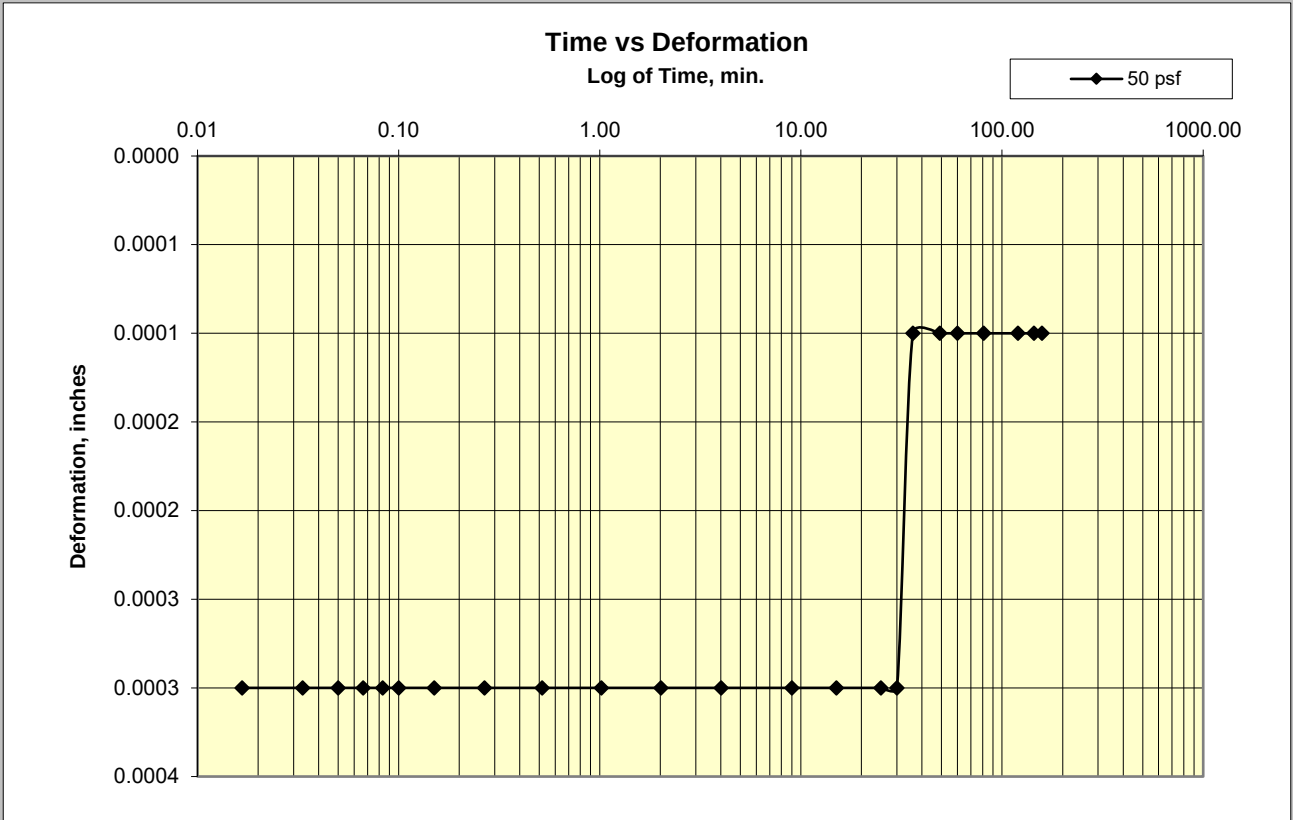
100 psf



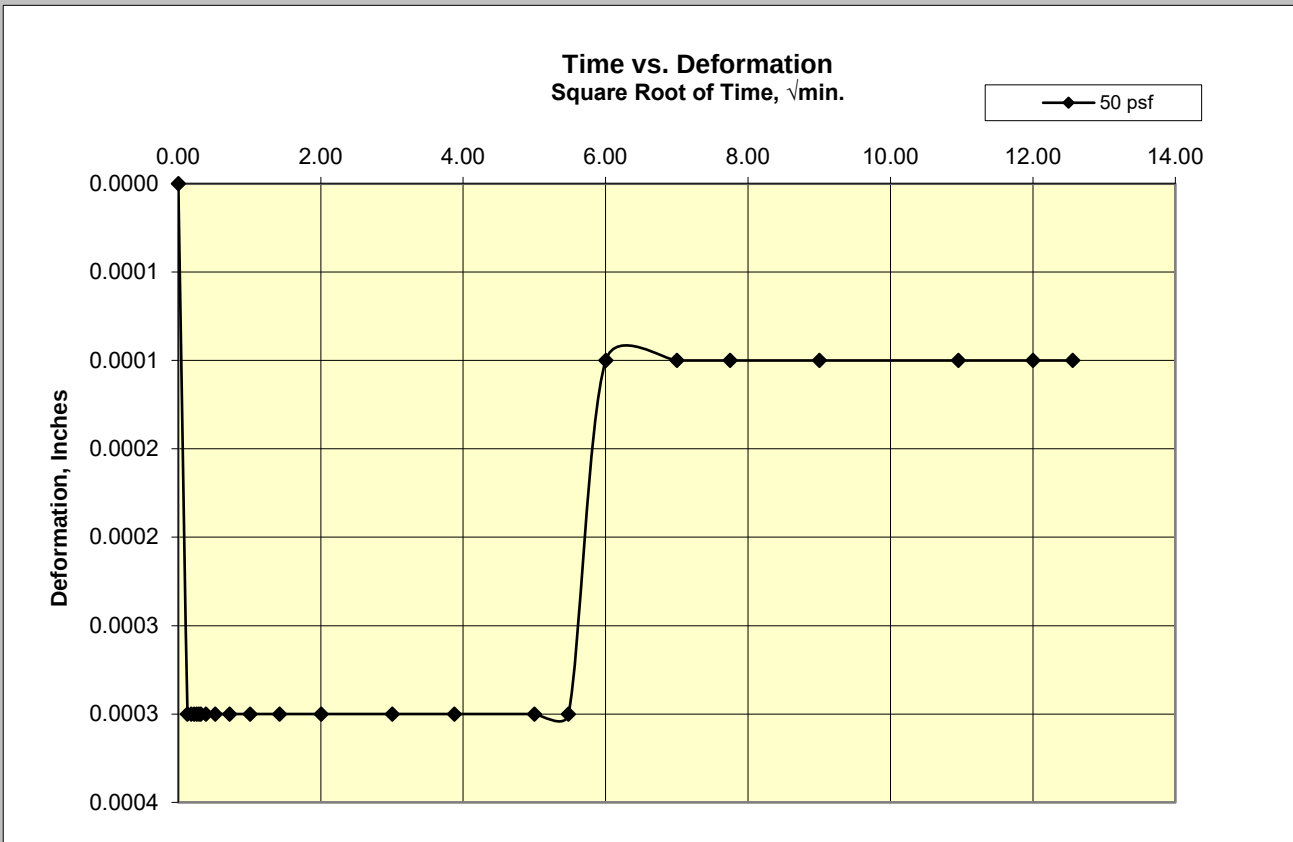
Cooper Testing Labs, Inc.

Load 1

50 psf



50 psf



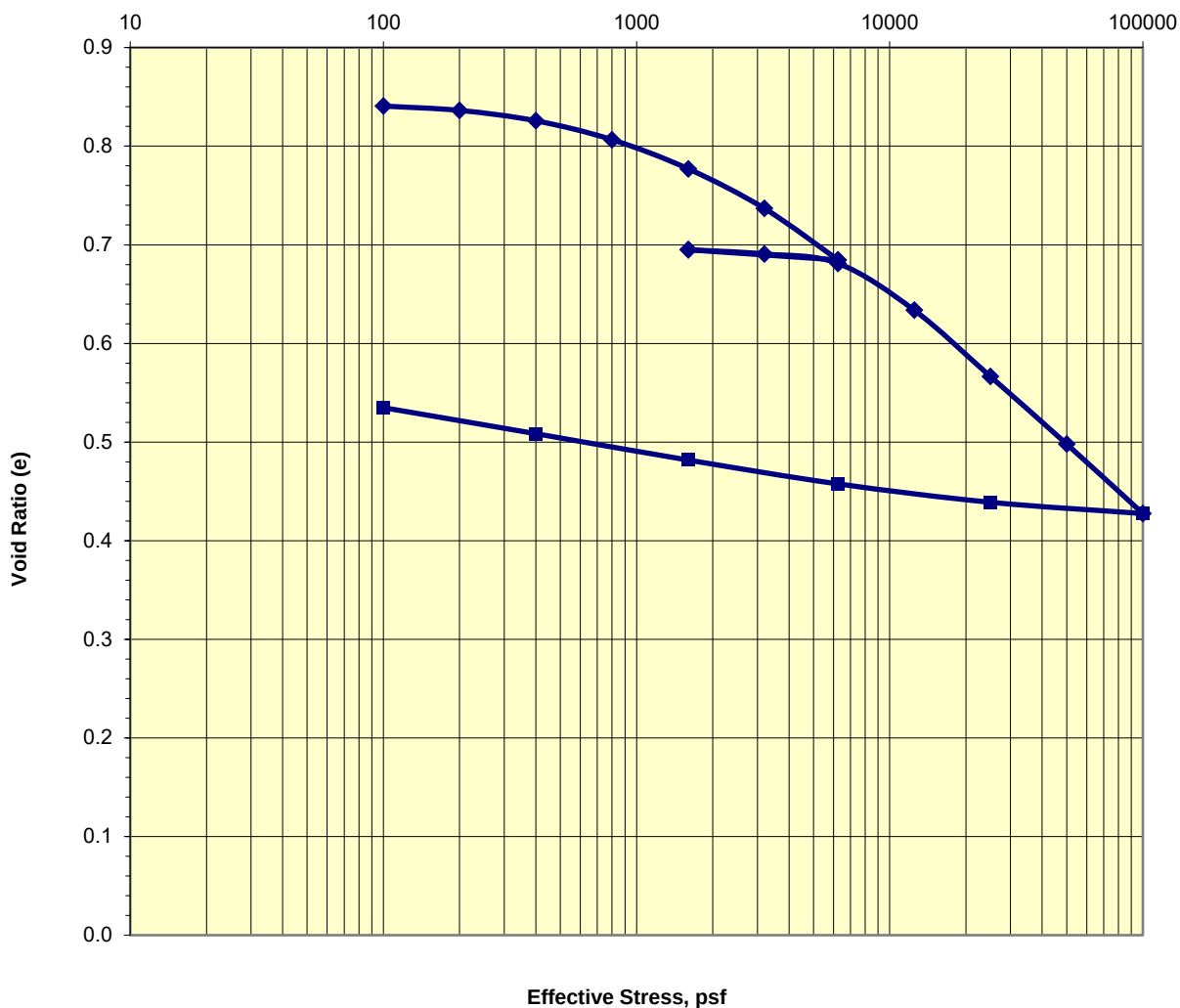


Consolidation Test

ASTM D2435

Job No.:	461-392	Boring:	B4	Run By:	HM
Client:	Geosyntec Consultants	Sample:	B4-1	Reduced:	RU
Project:	WG3607	Depth, ft.:	5-7.5	Checked:	PJ
Soil Type:	Olive Gray Sandy SILT			Date:	3/31/2026

e-Log-P Curve



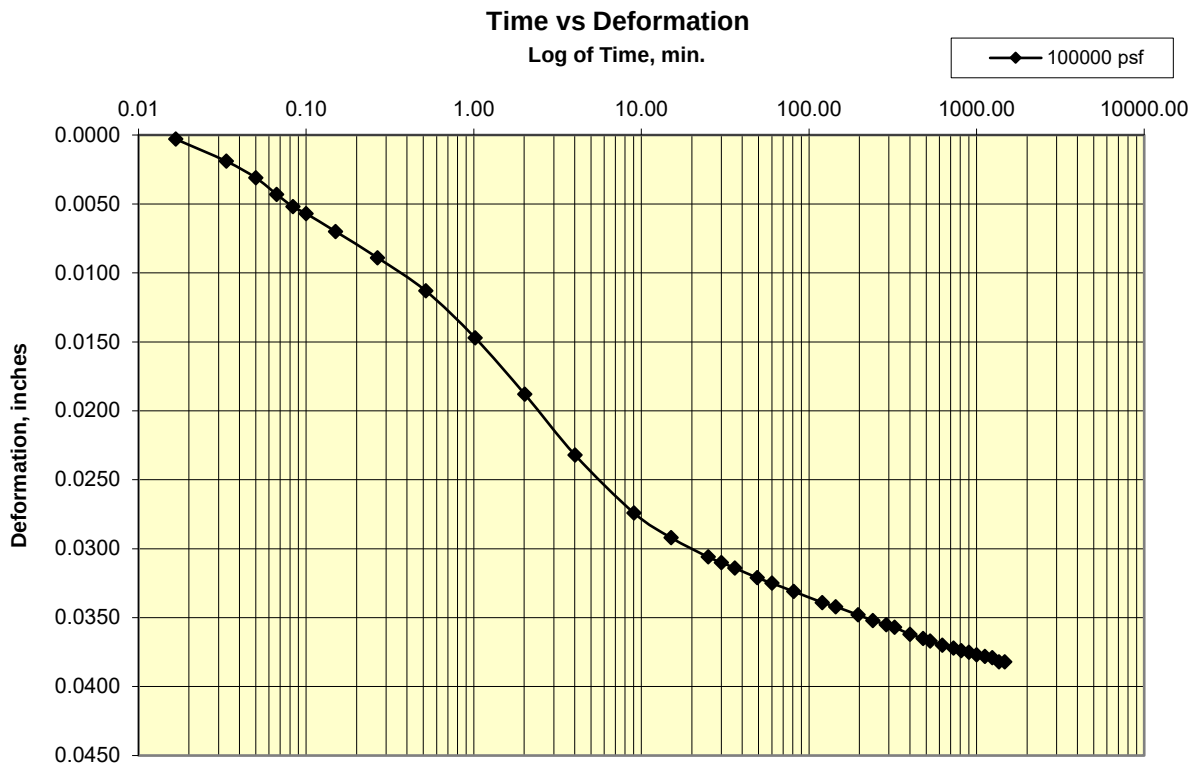
Assumed Gs	2.7	Initial	Final
Moisture %:		30.6	20.0
Dry Density, pcf:		91.4	109.4
Void Ratio:		0.845	0.540
% Saturation:		97.8	100.0

Remarks:

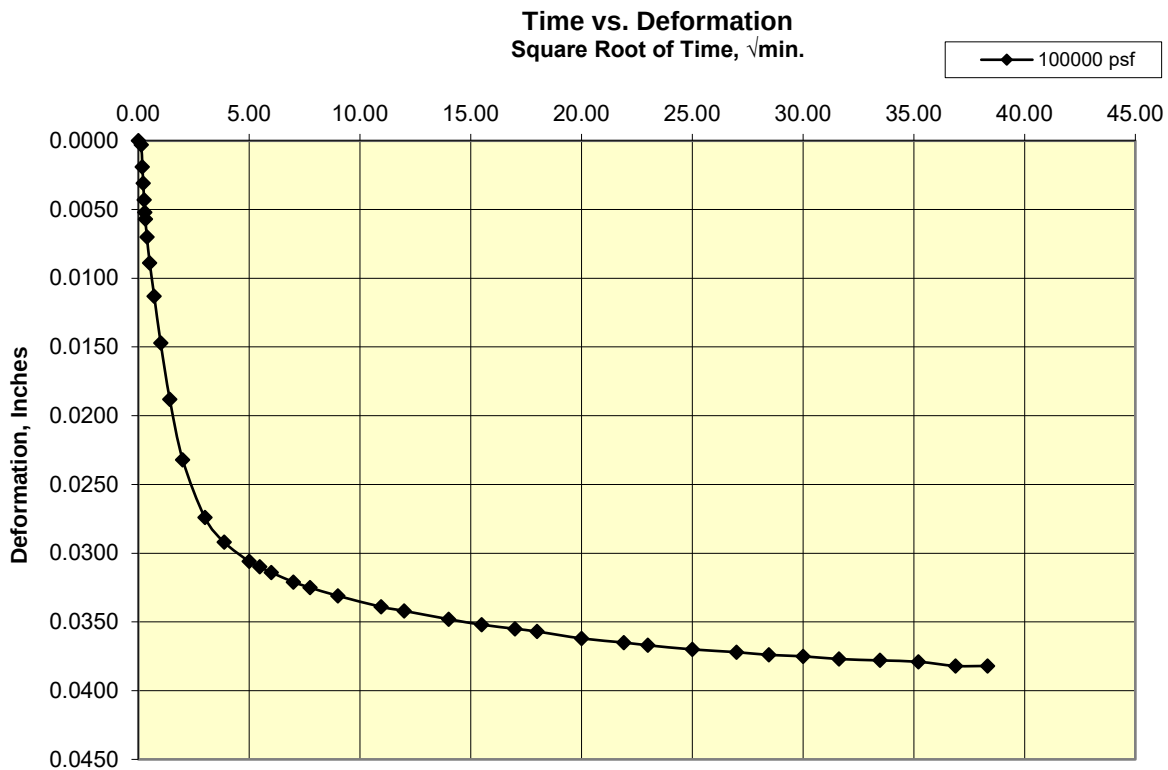
Cooper Testing Labs, Inc.

Load 14

100000 psf



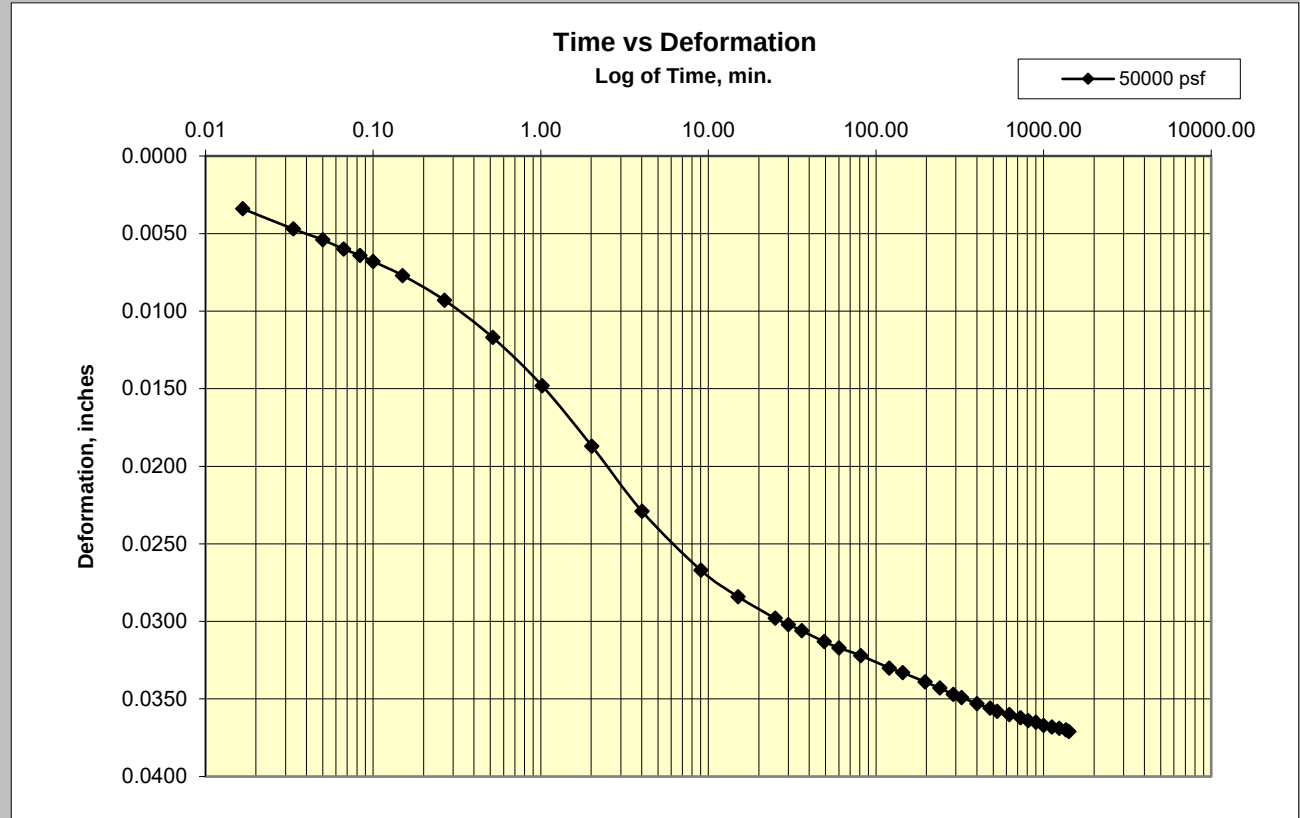
100000 psf



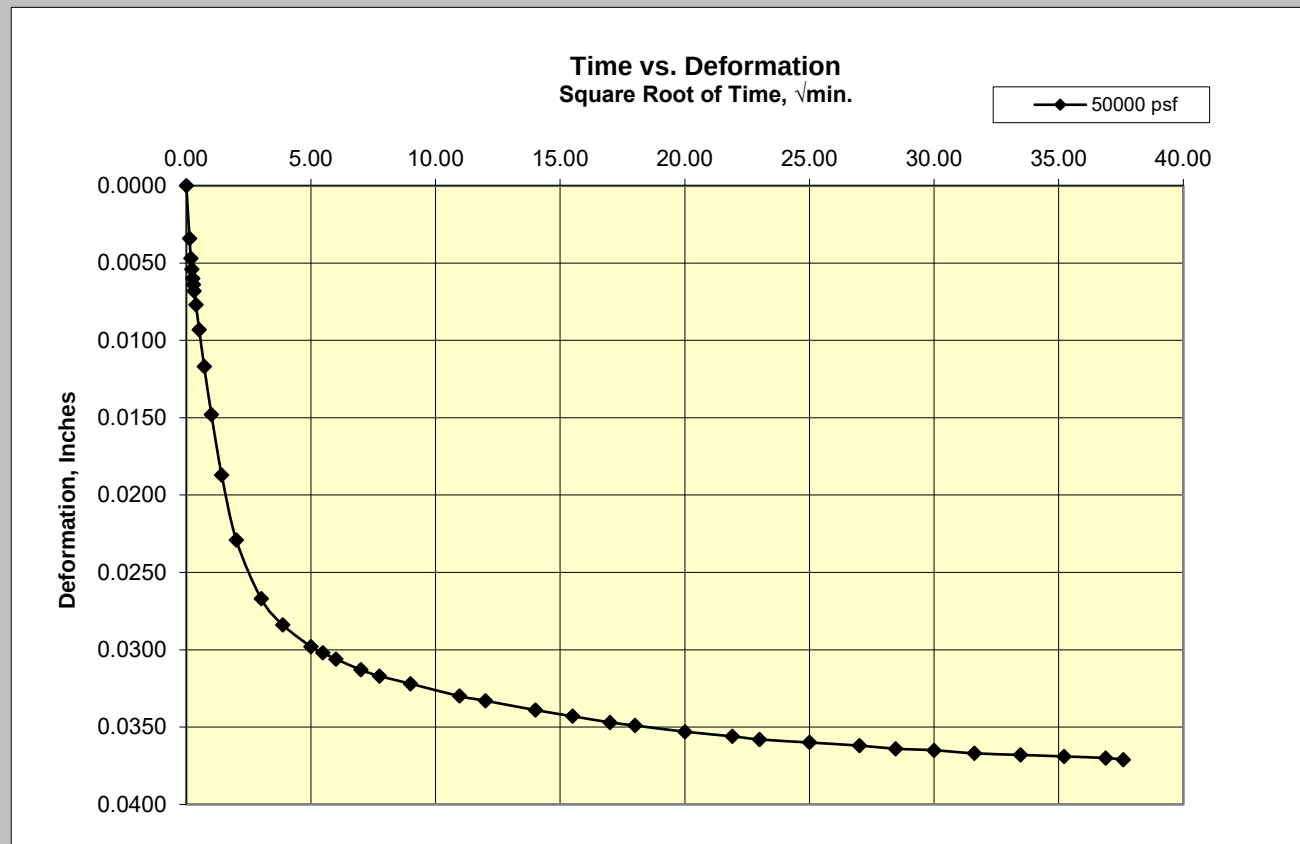
Cooper Testing Labs, Inc.

Load 13

50000 psf



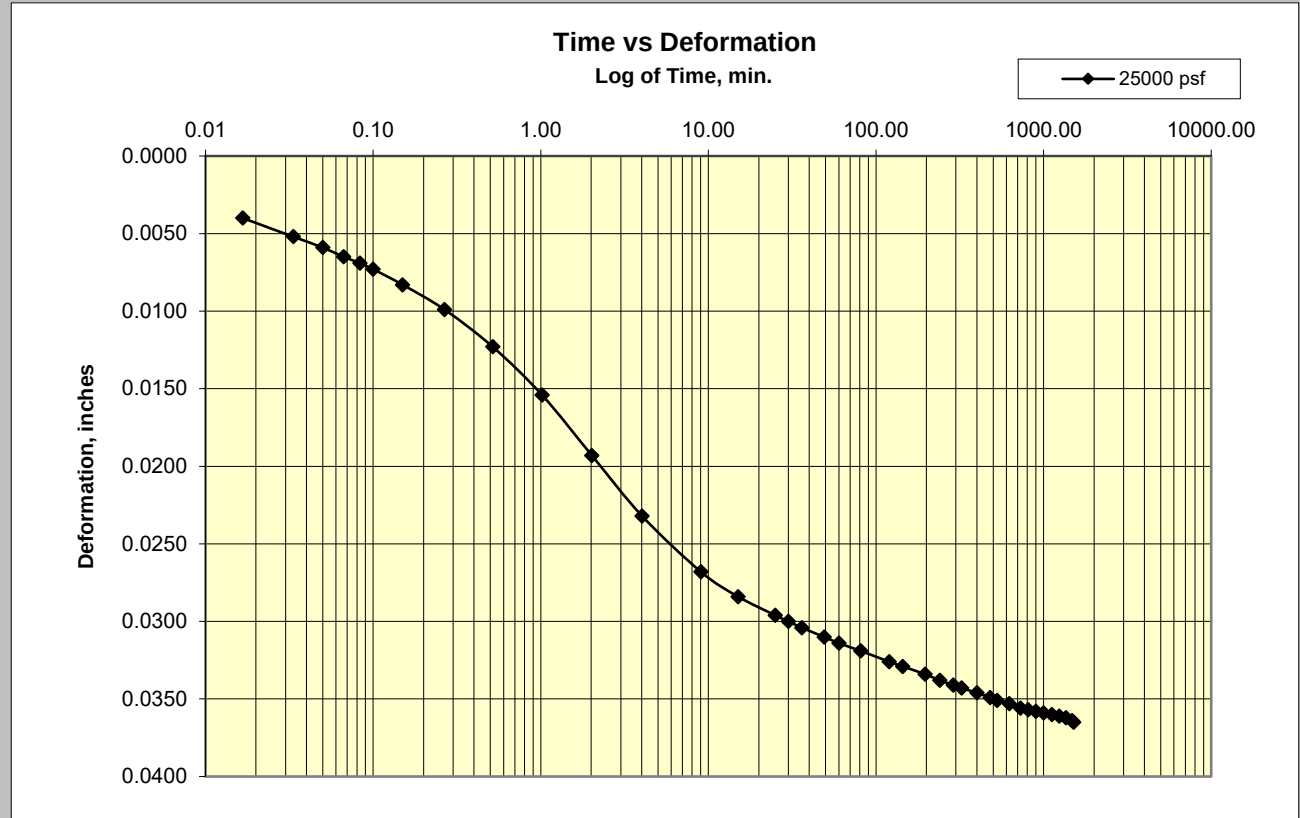
50000 psf



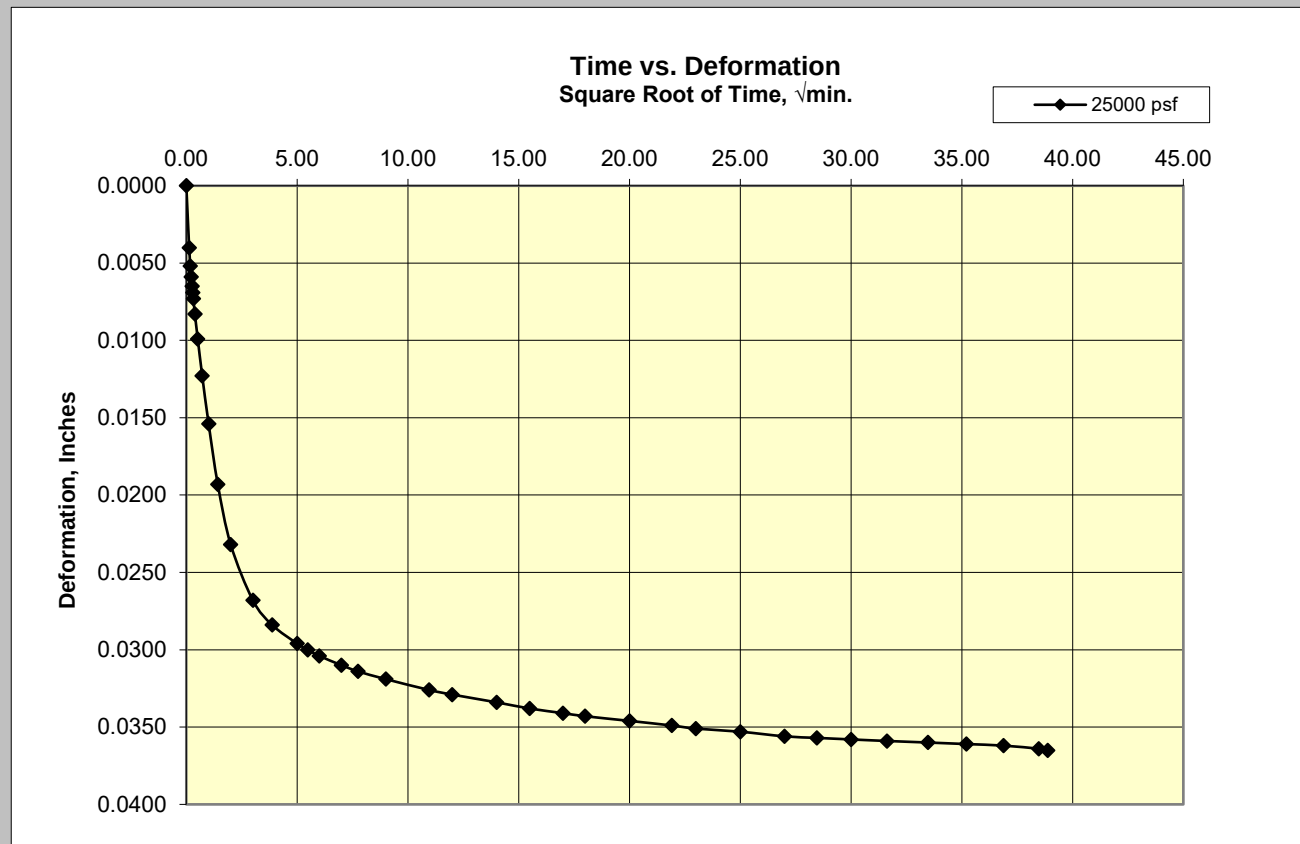
Cooper Testing Labs, Inc.

Load 12

25000 psf



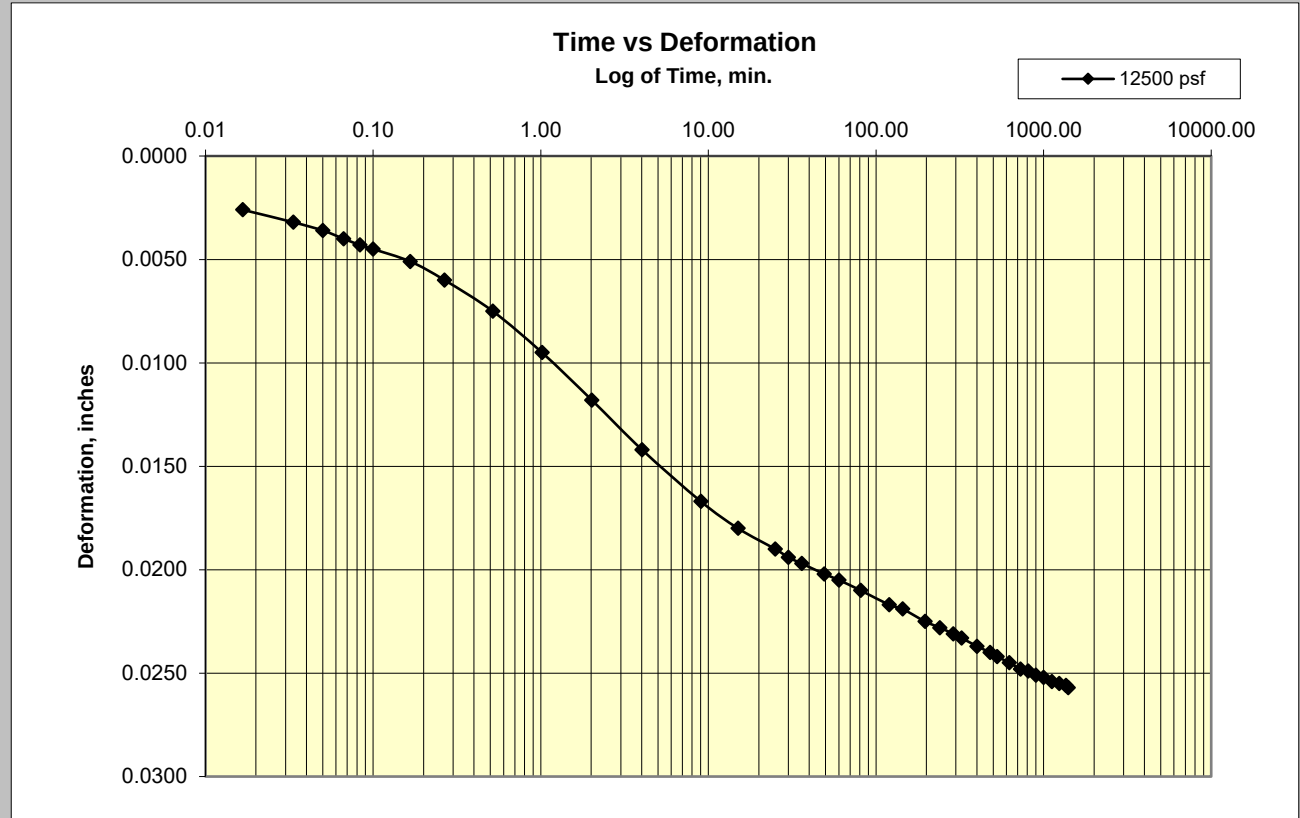
25000 psf



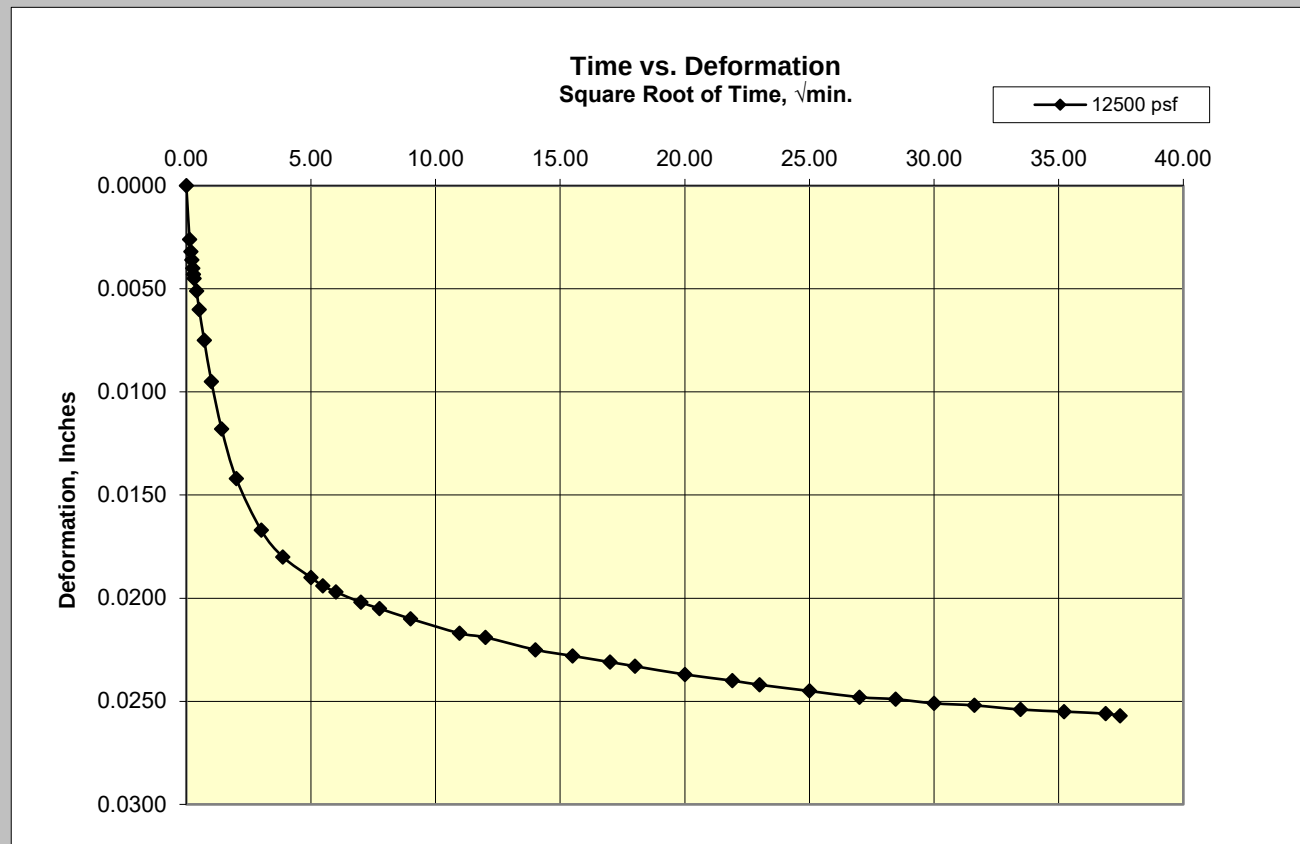
Cooper Testing Labs, Inc.

Load 11

12500 psf



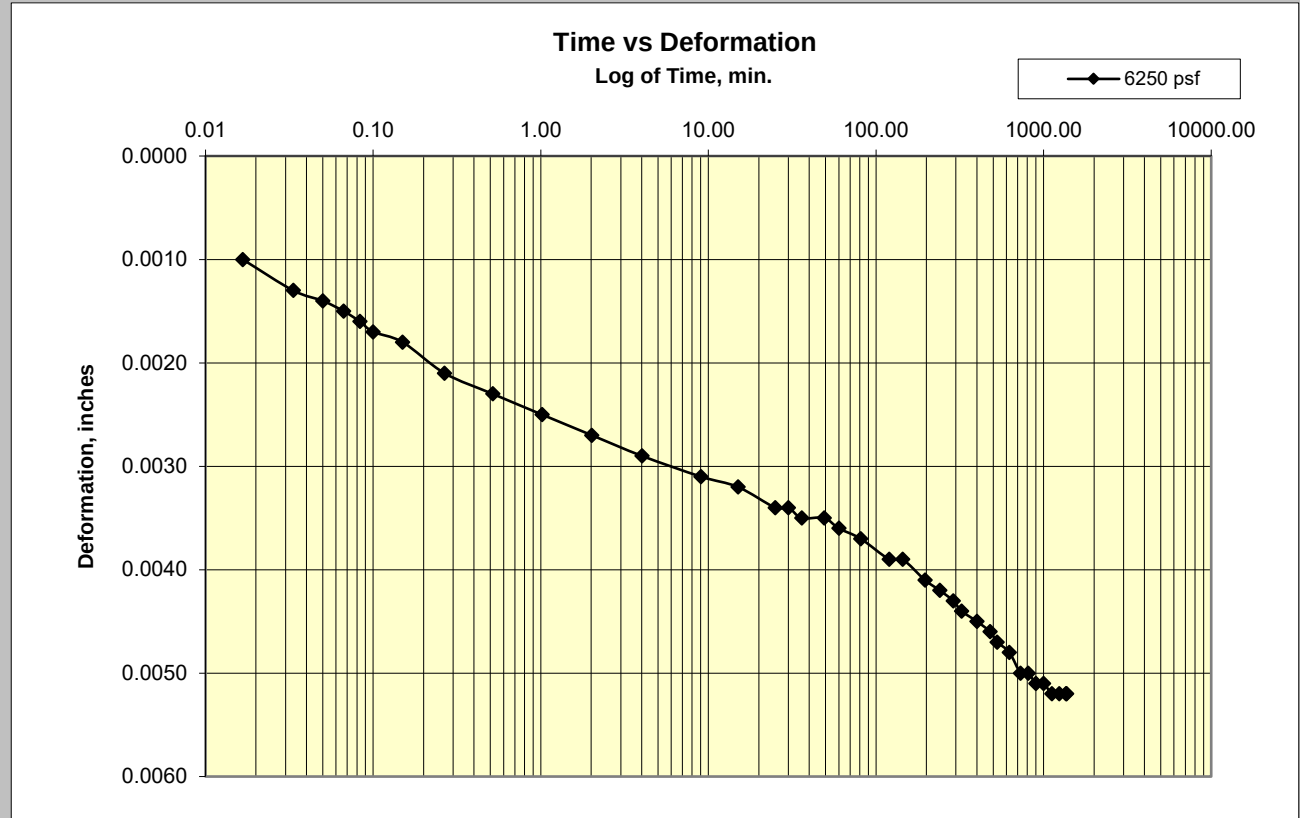
12500 psf



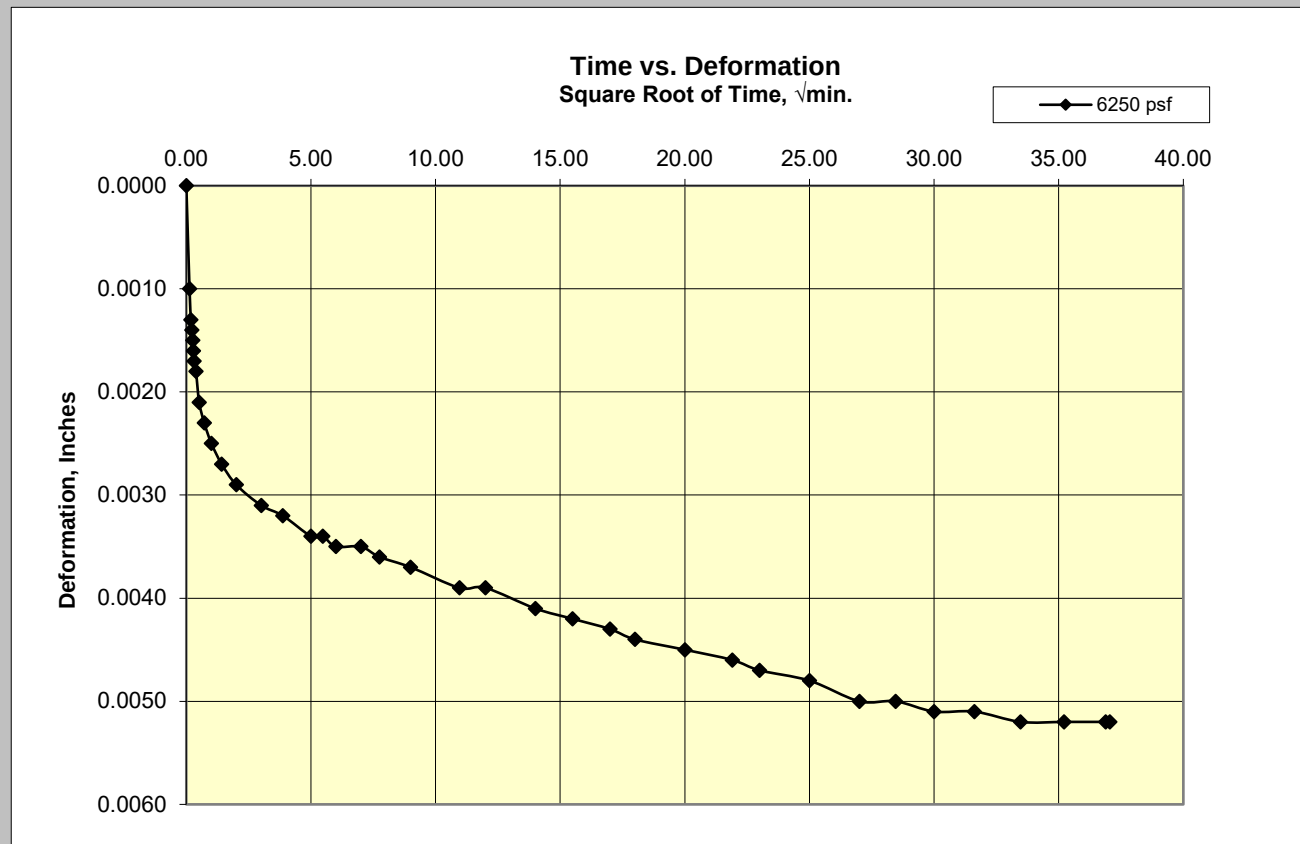
Cooper Testing Labs, Inc.

Load 10

6250 psf



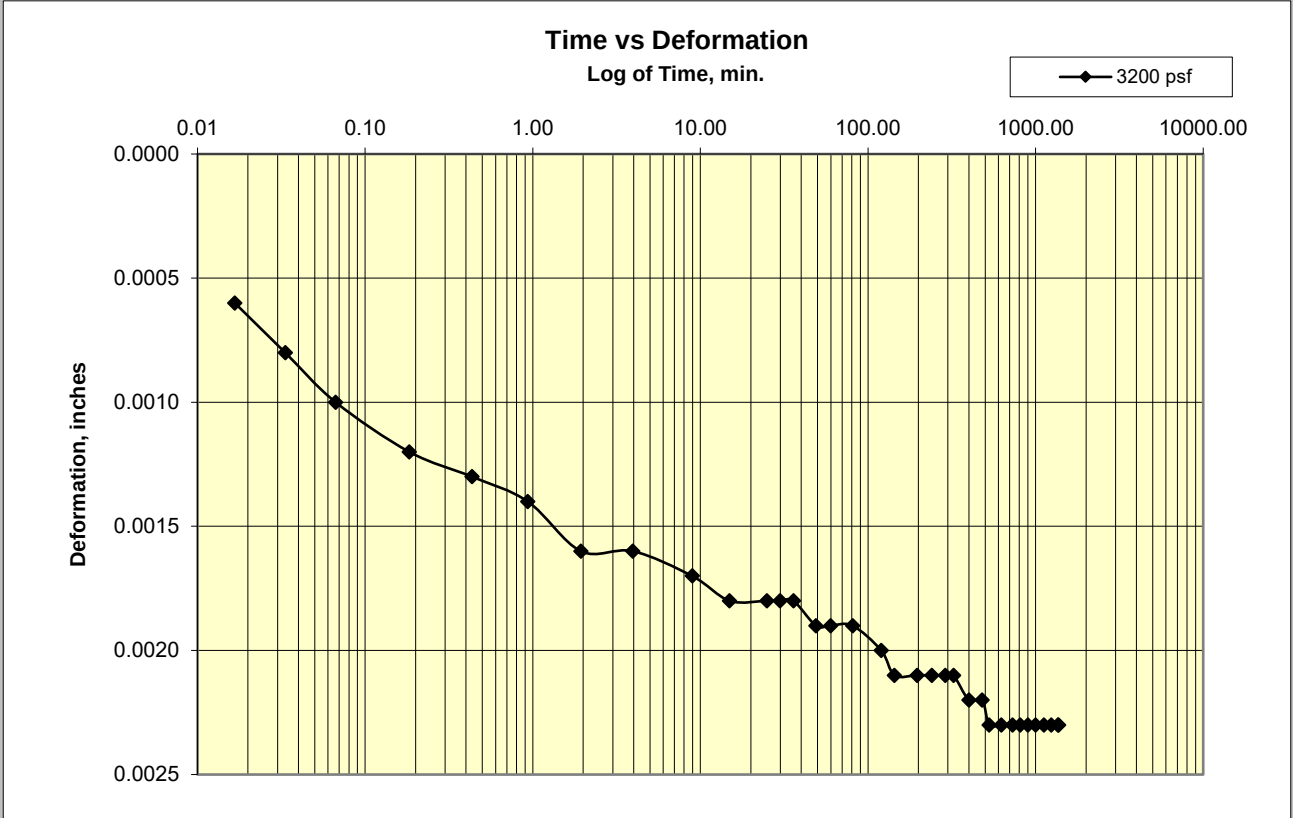
6250 psf



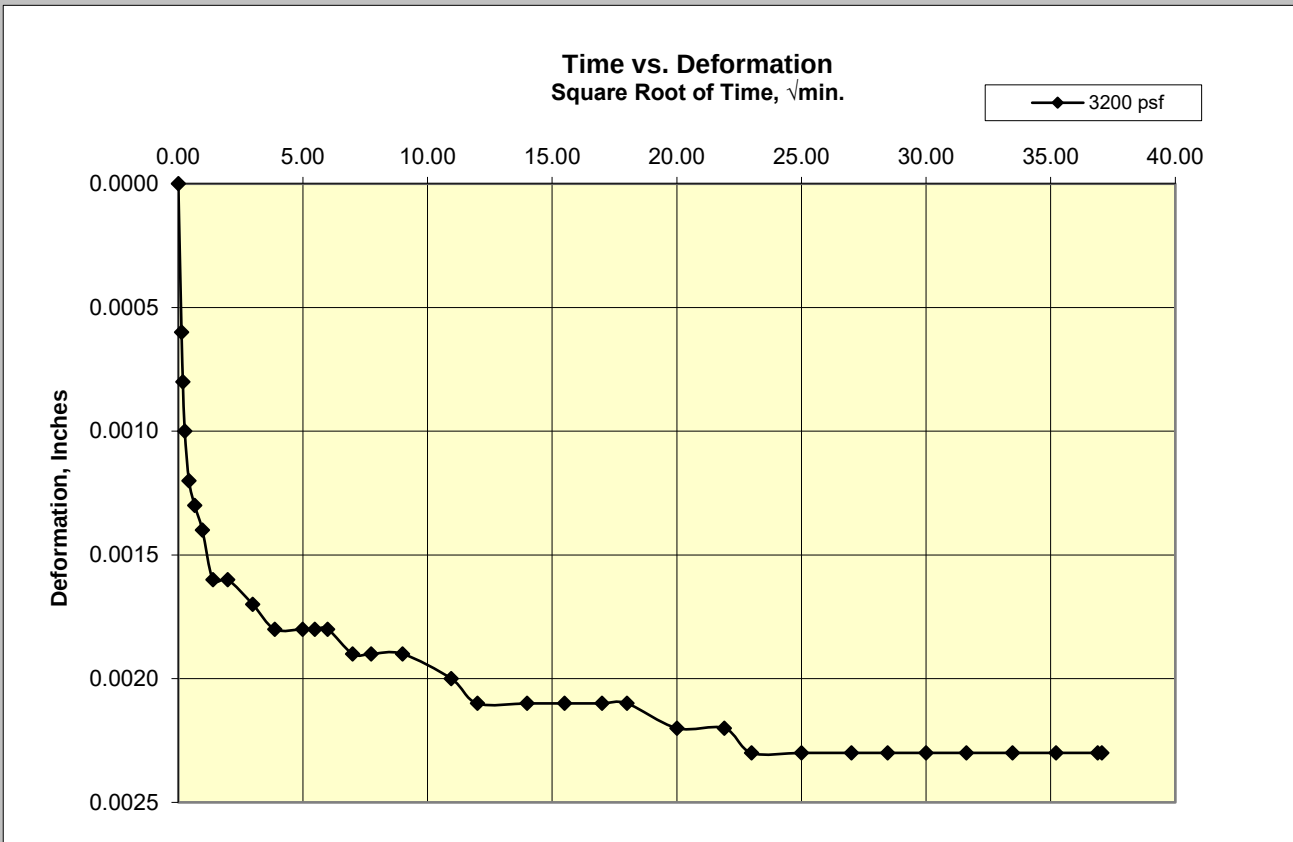
Cooper Testing Labs, Inc.

Load 9

3200 psf



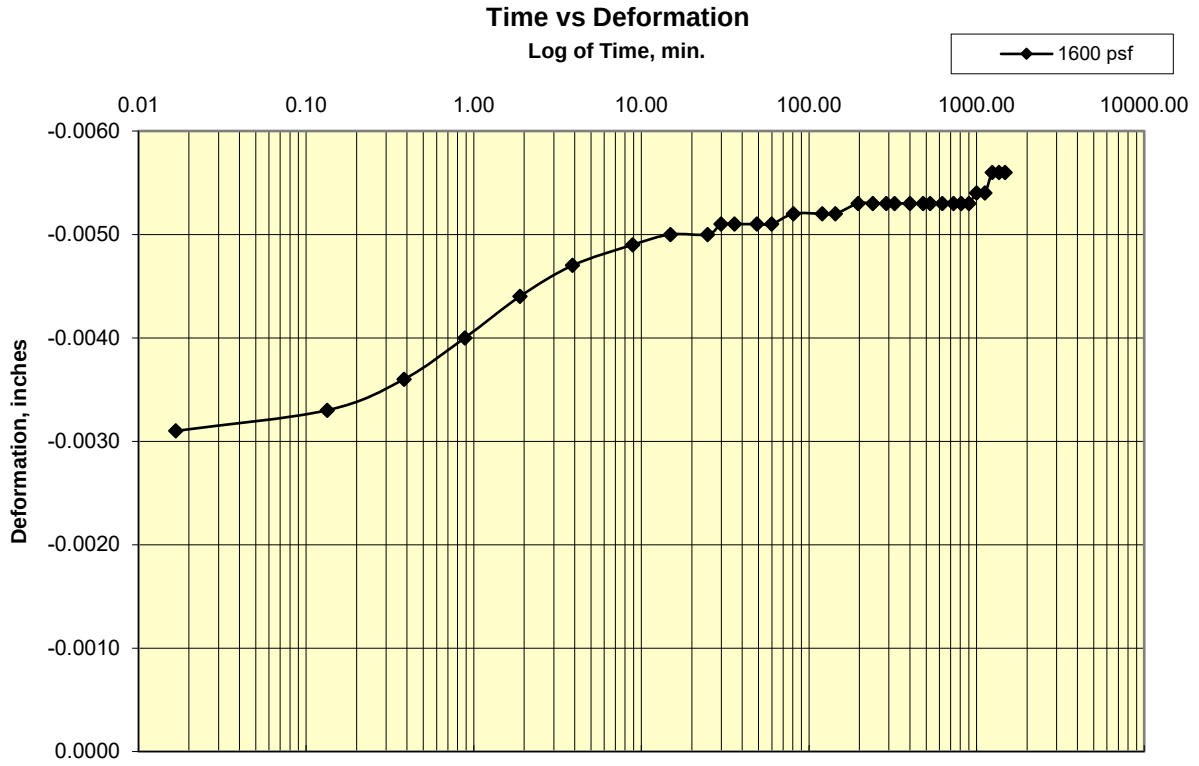
3200 psf



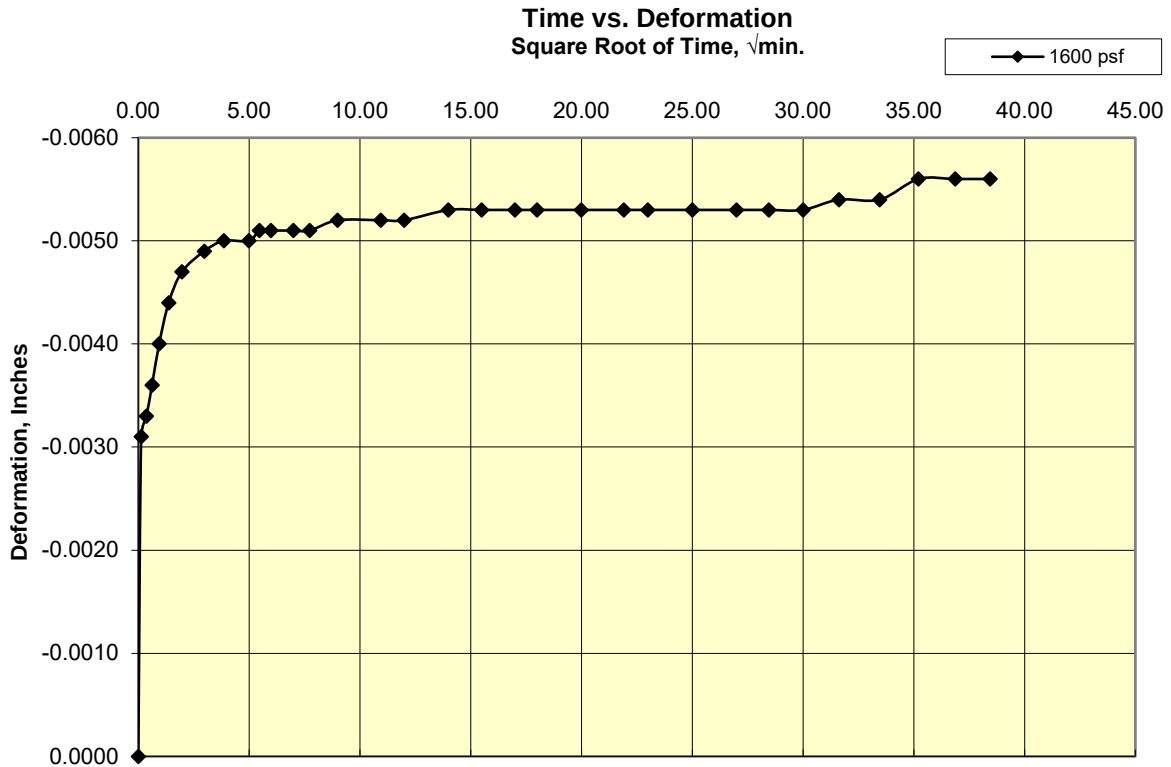
Cooper Testing Labs, Inc.

Load 8

1600 psf



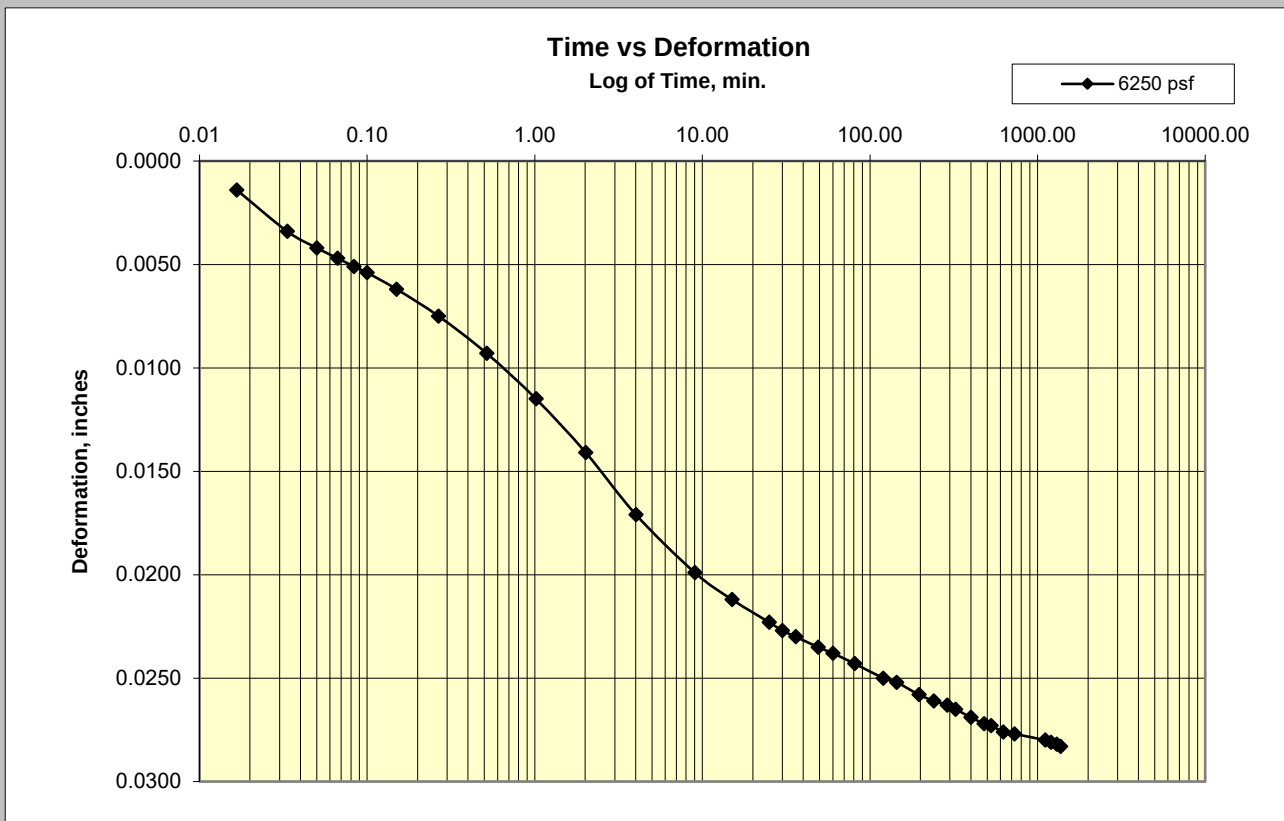
1600 psf



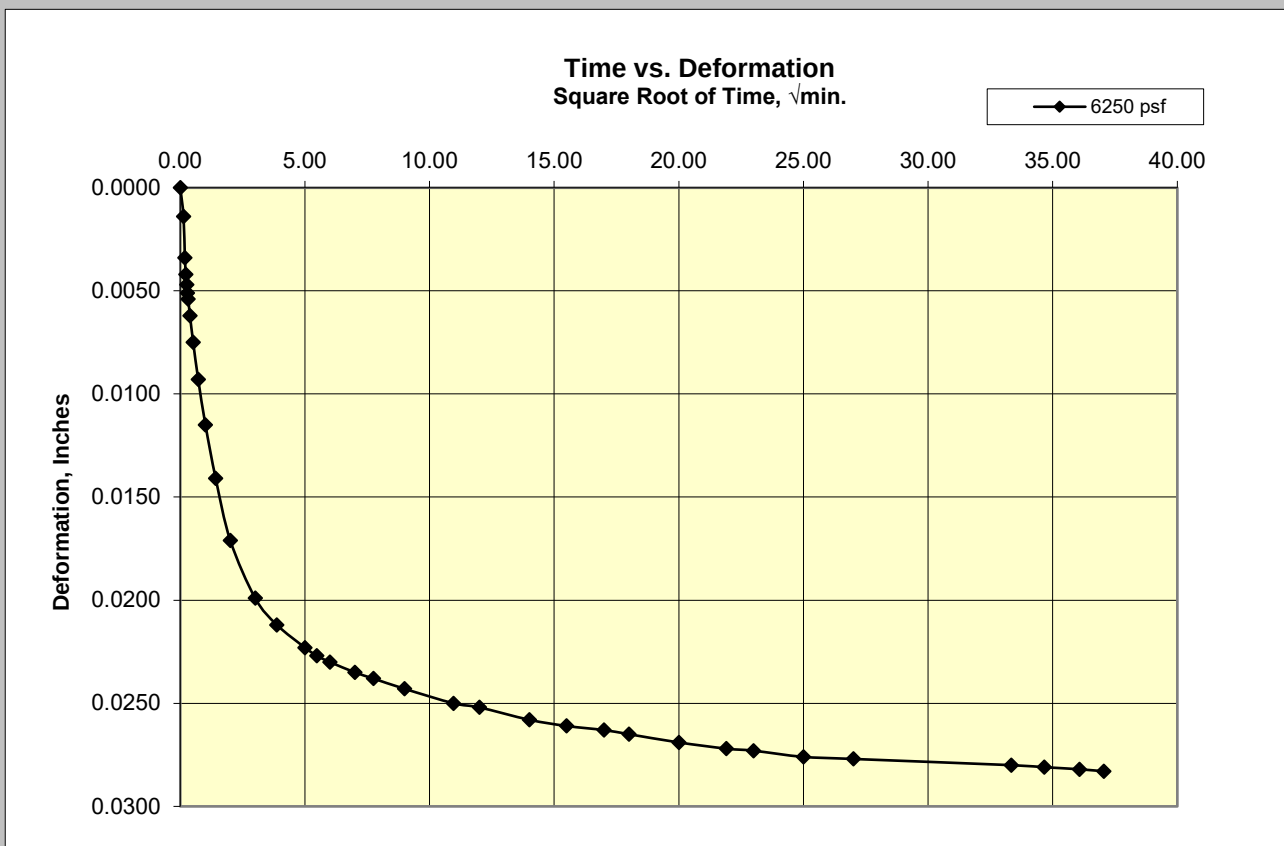
Cooper Testing Labs, Inc.

Load 7

6250 psf



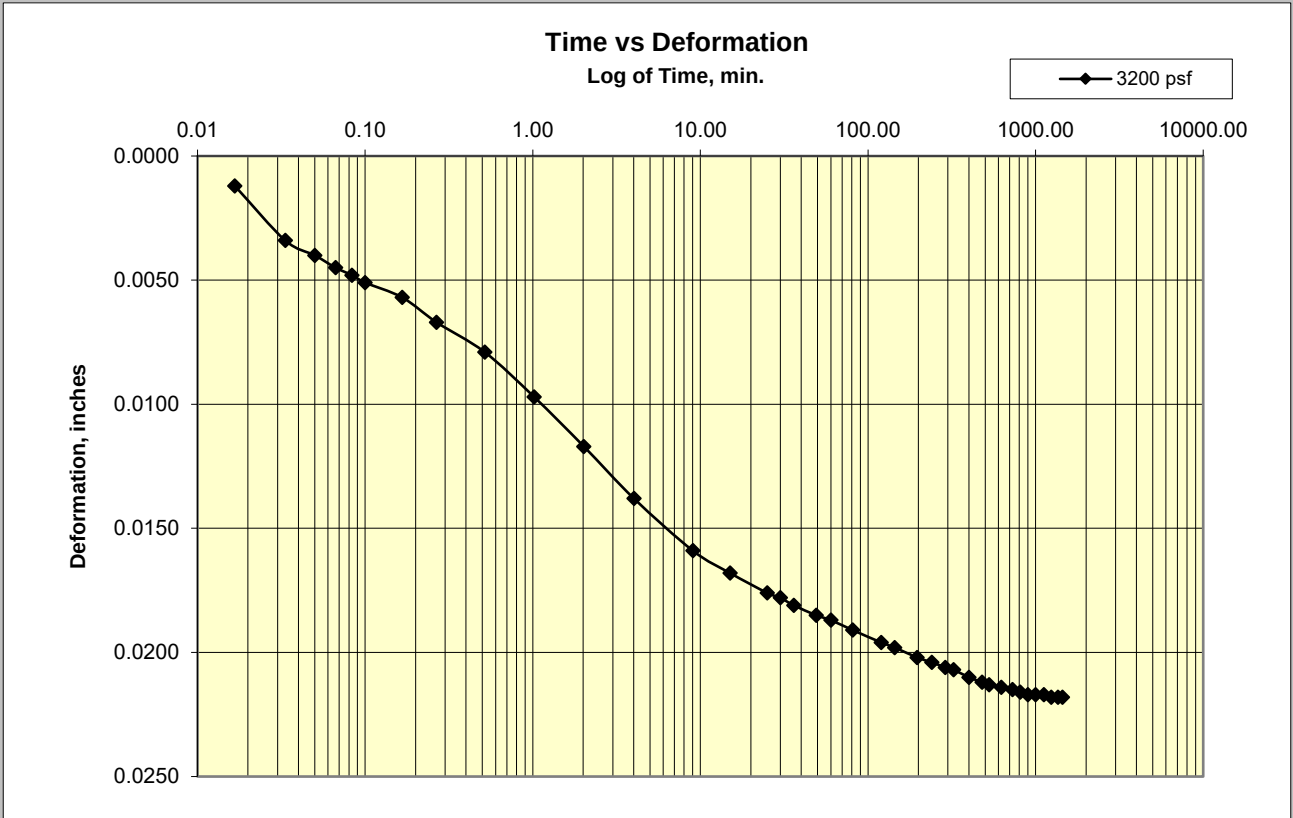
6250 psf



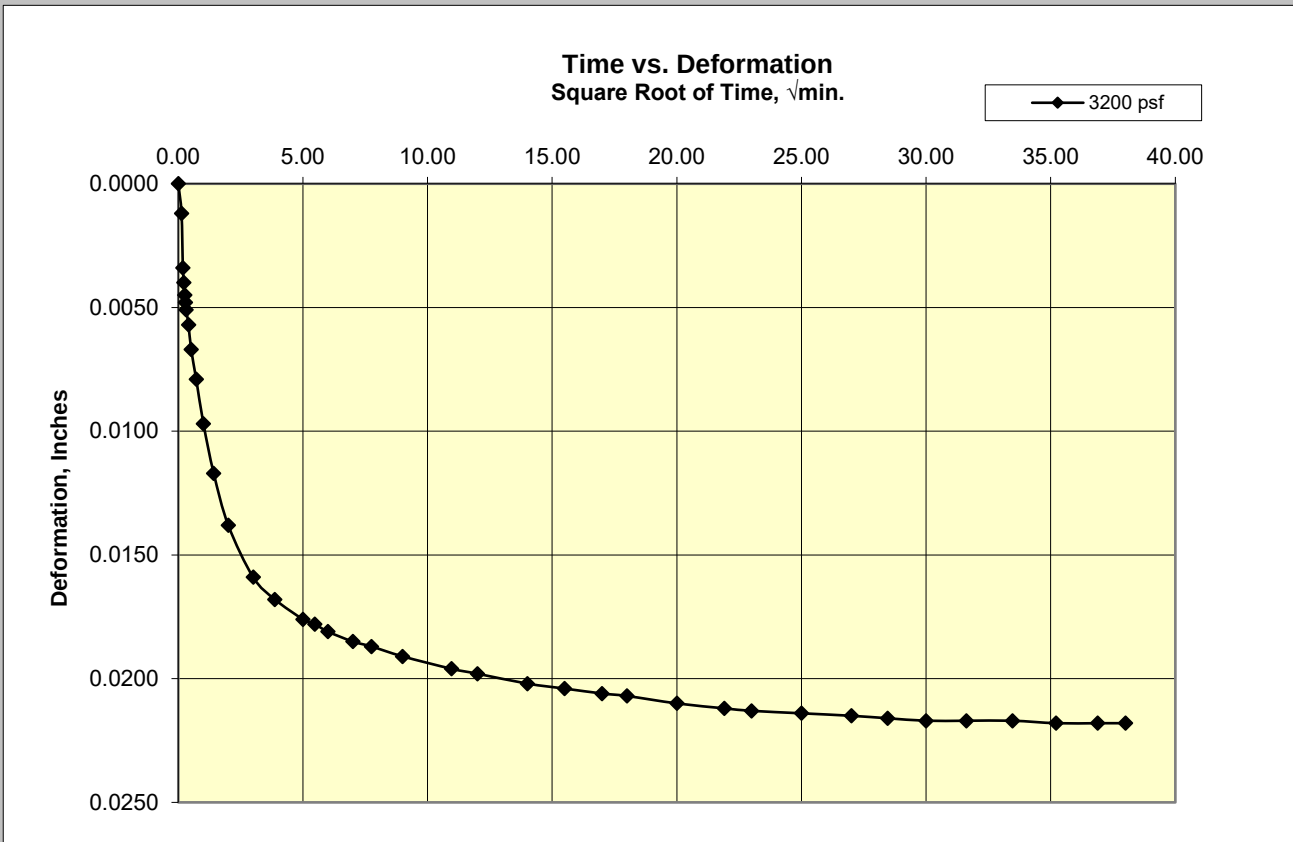
Cooper Testing Labs, Inc.

Load 6

3200 psf



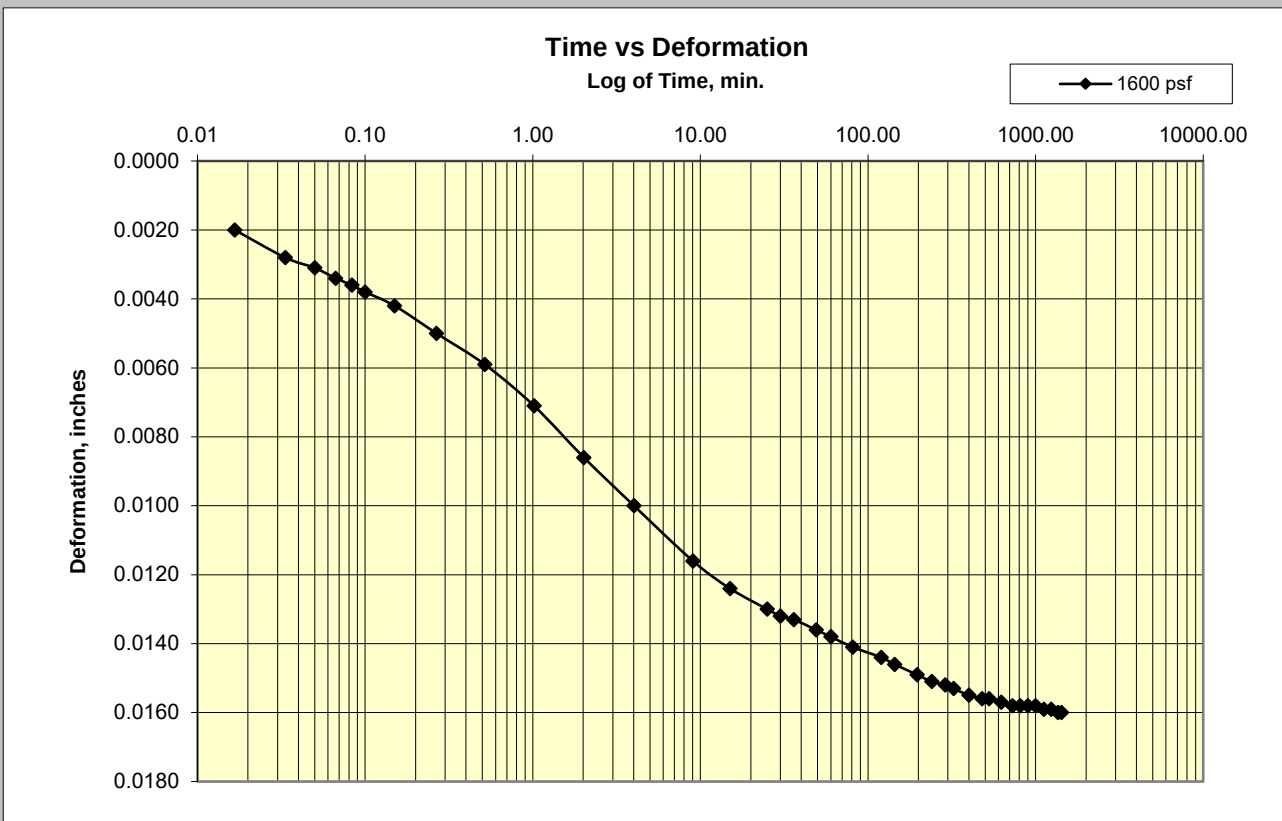
3200 psf



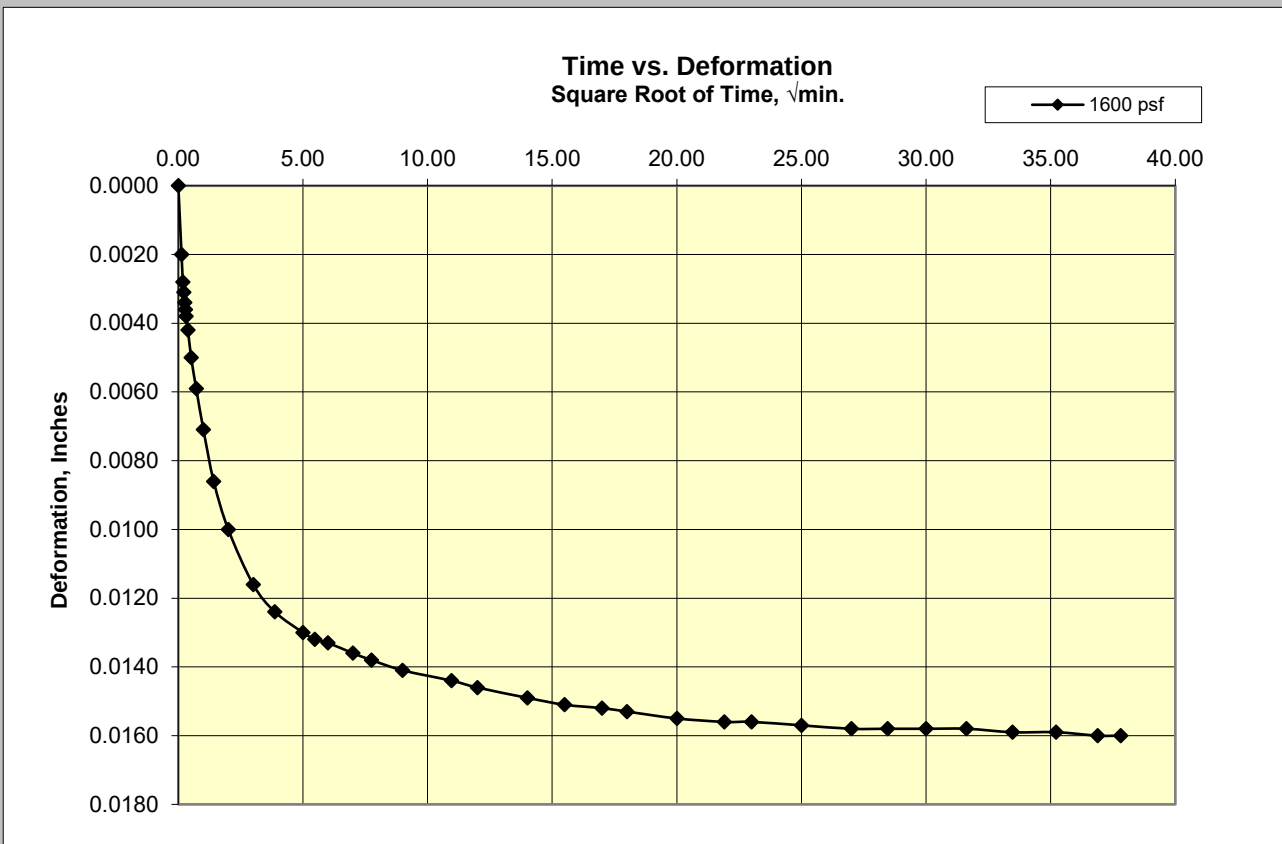
Cooper Testing Labs, Inc.

Load 5

1600 psf



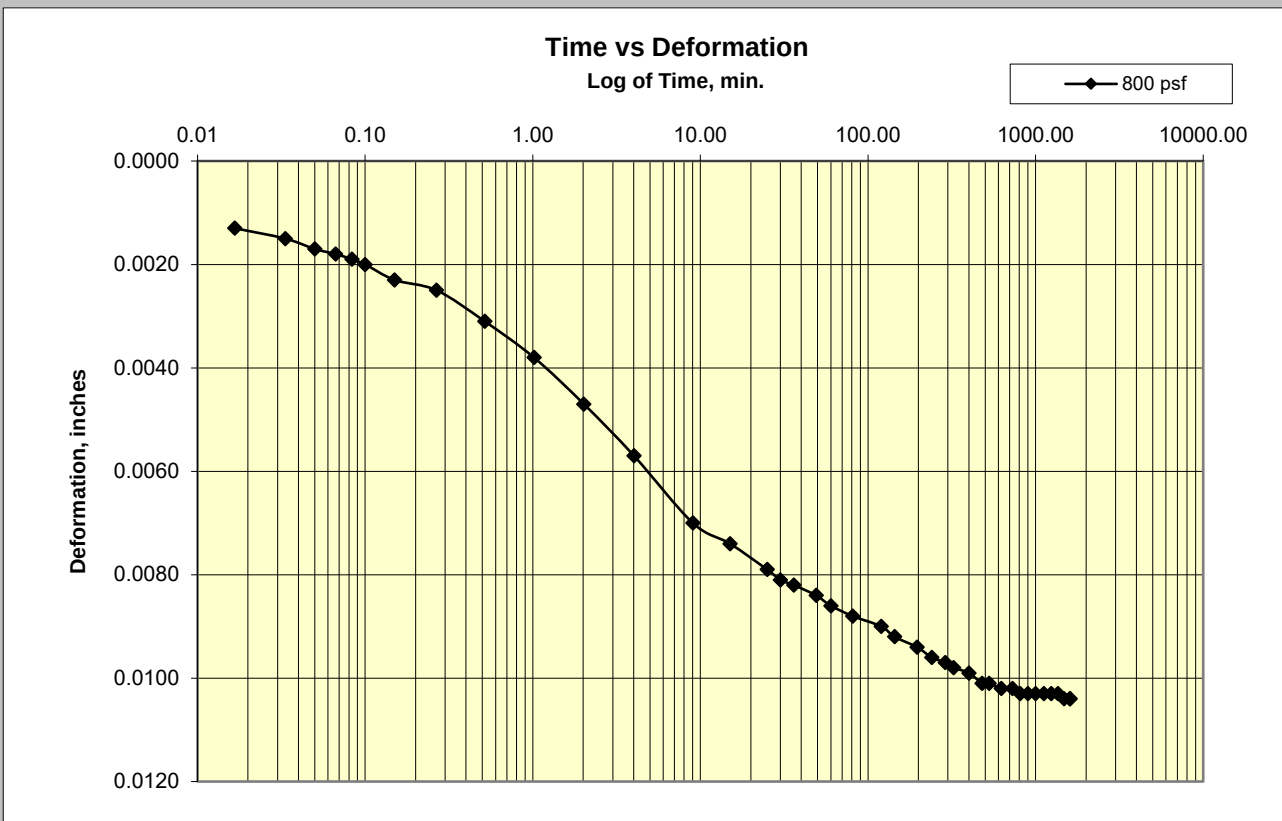
1600 psf



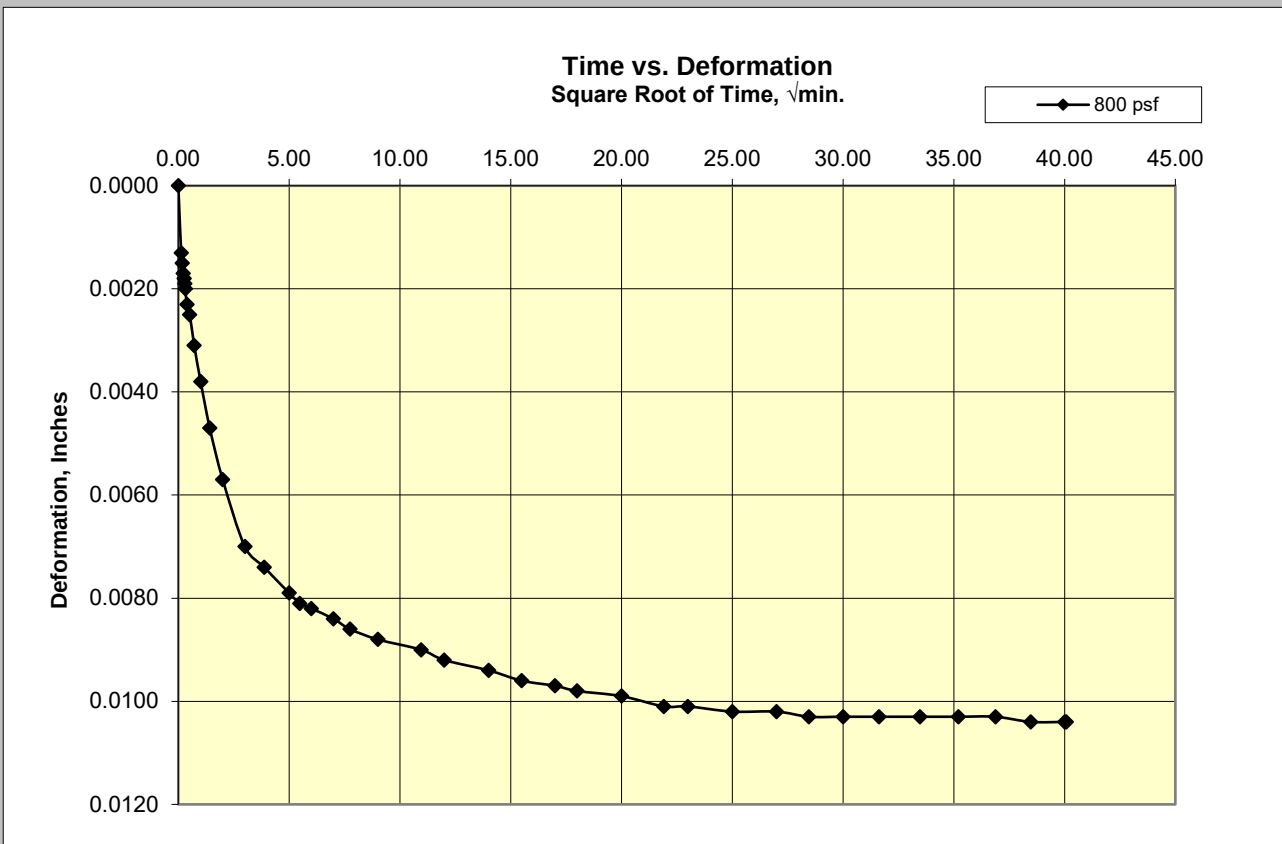
Cooper Testing Labs, Inc.

Load 4

800 psf



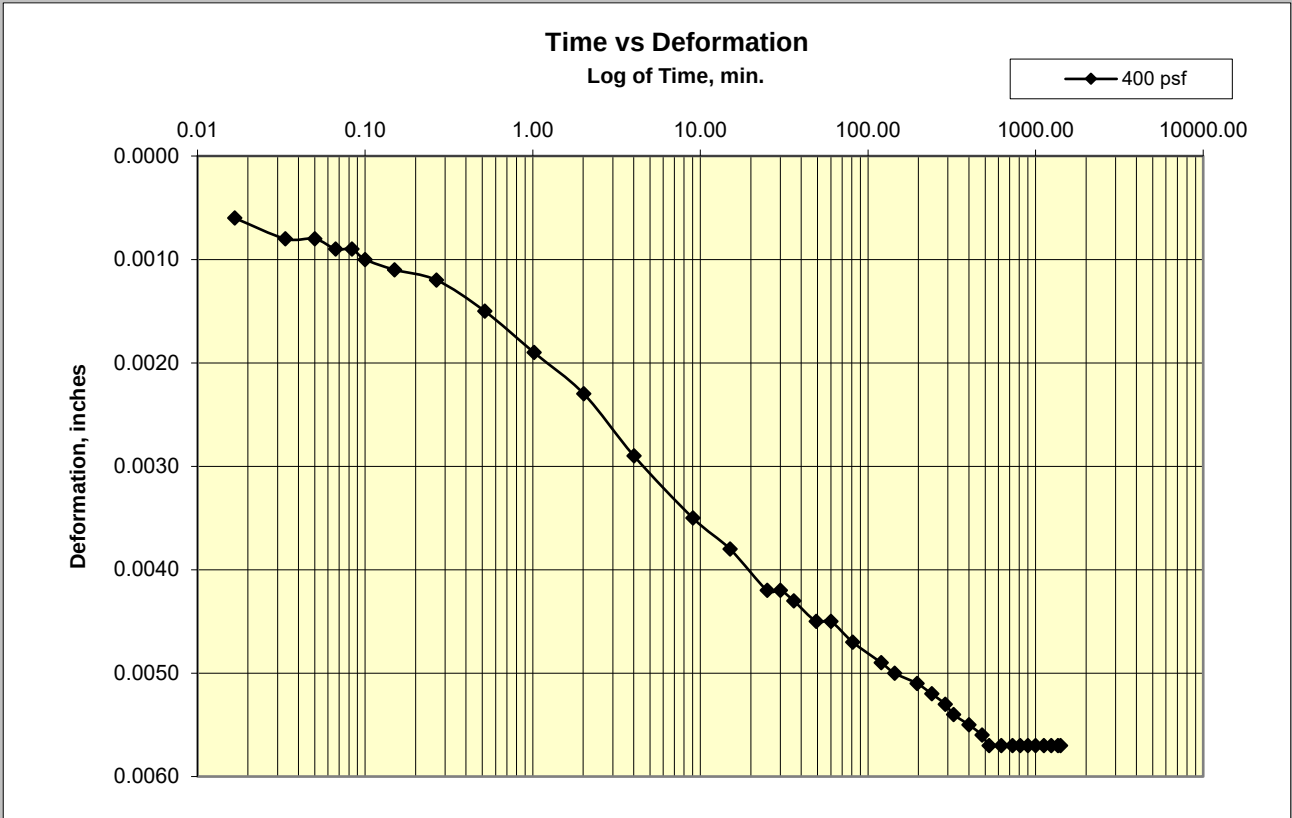
800 psf



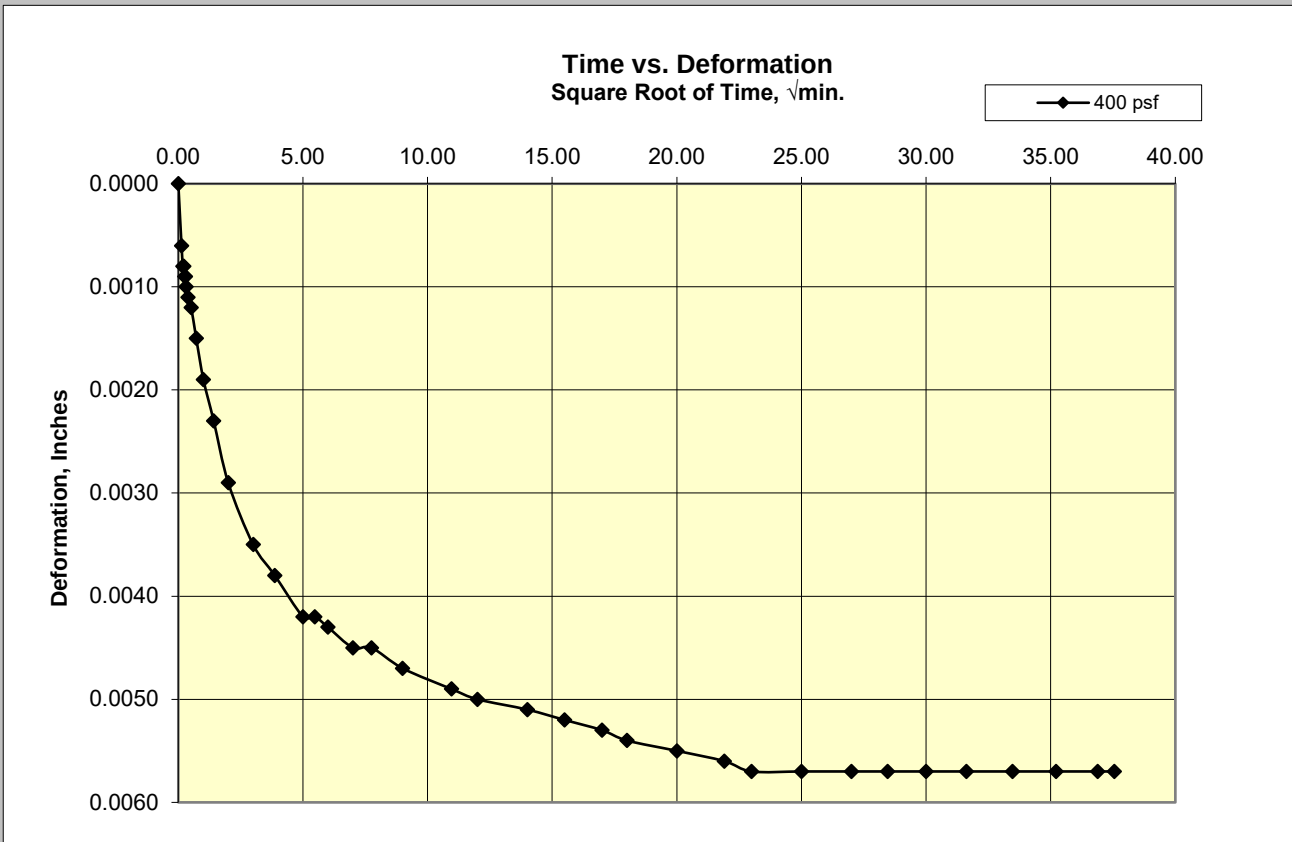
Cooper Testing Labs, Inc.

Load 3

400 psf



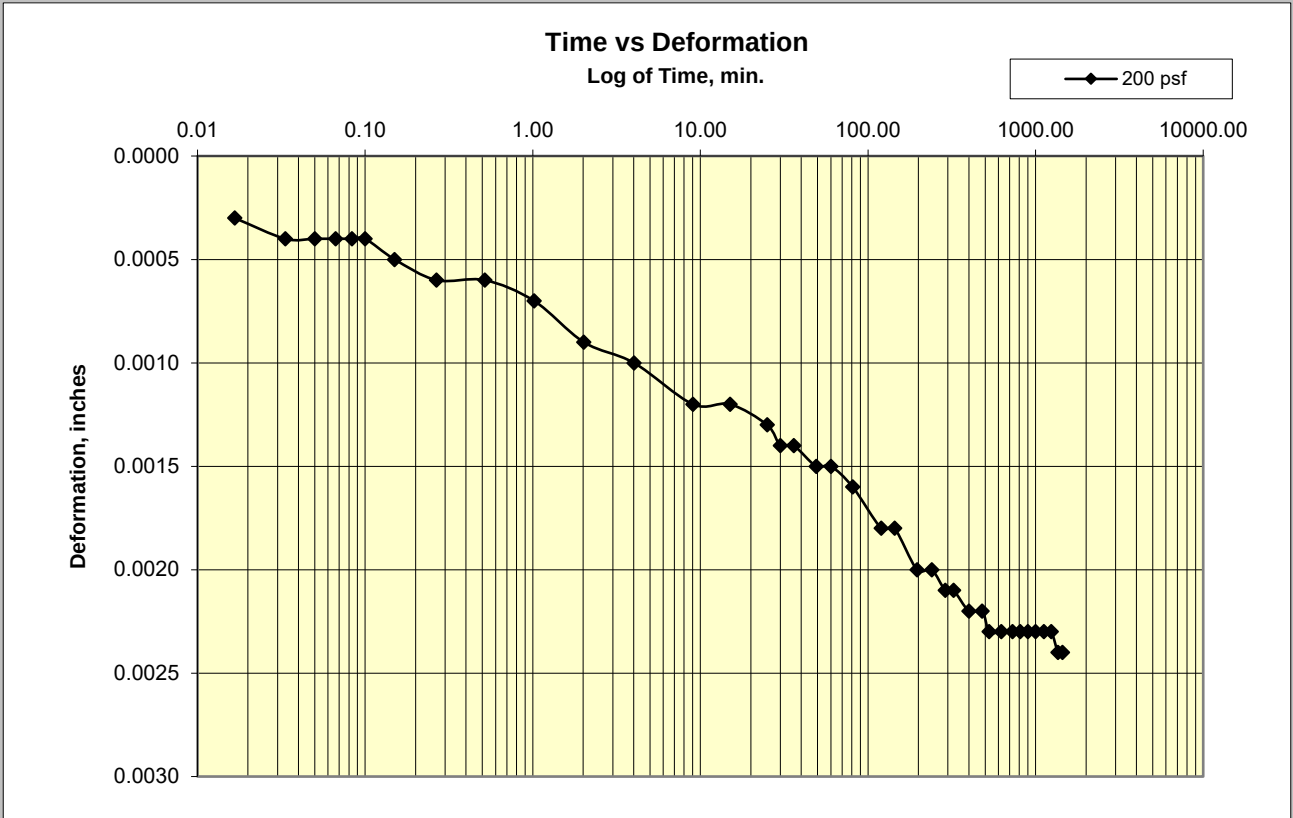
400 psf



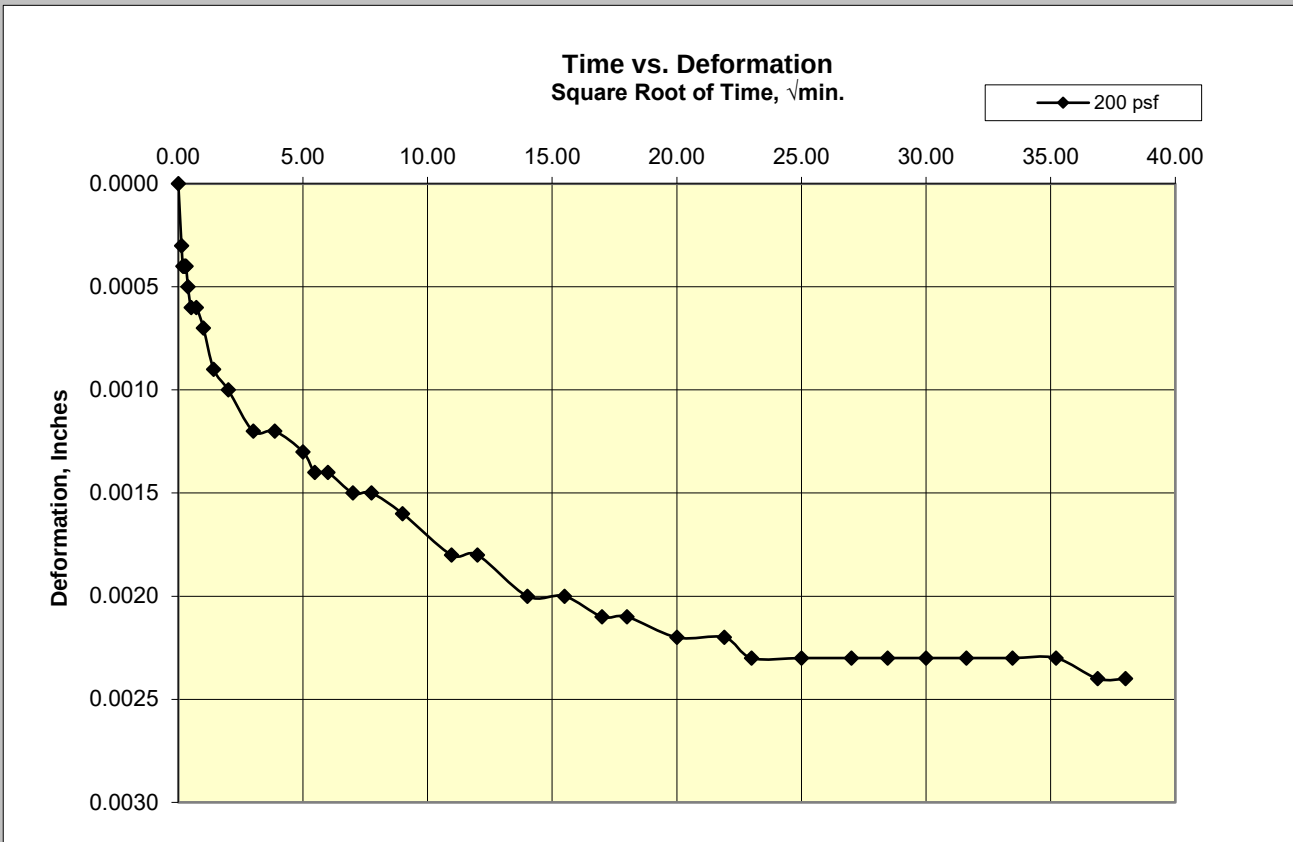
Cooper Testing Labs, Inc.

Load 2

200 psf



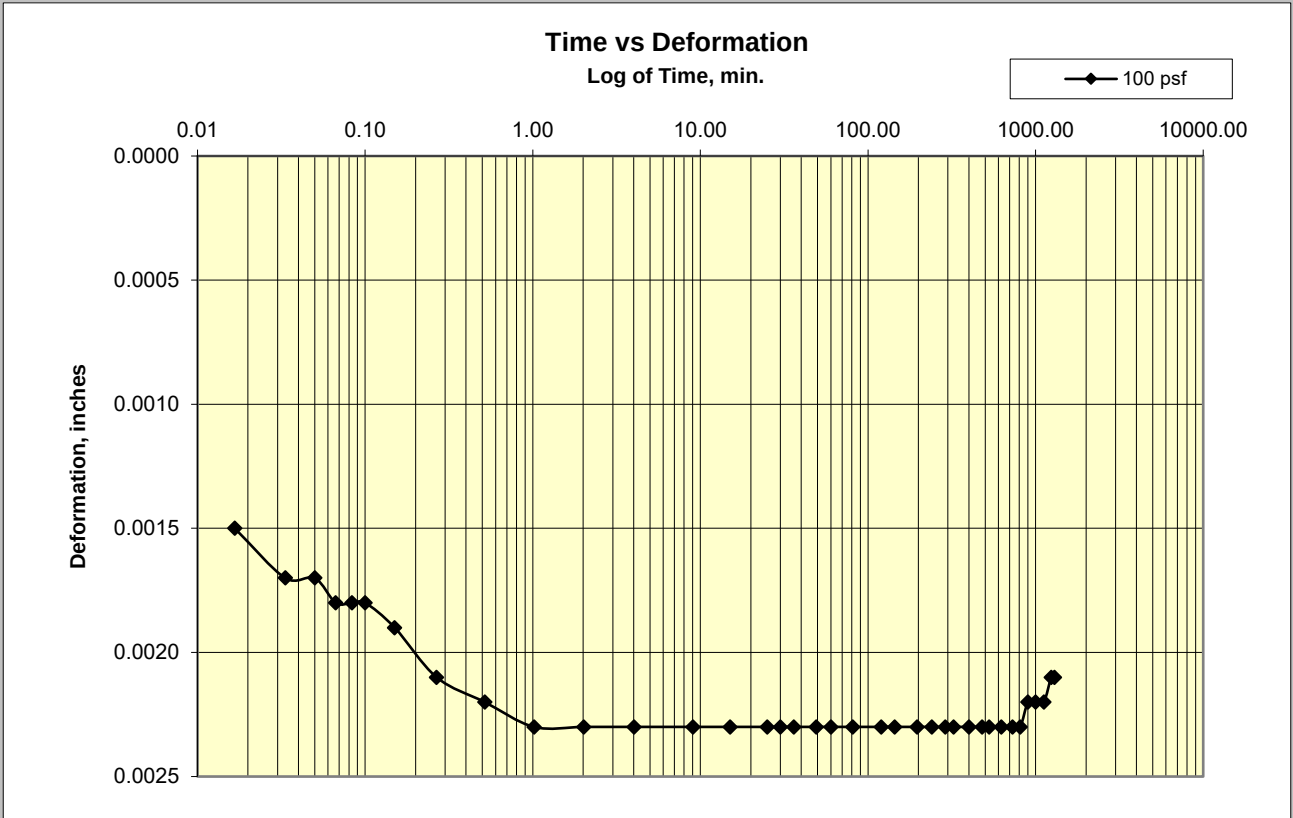
200 psf



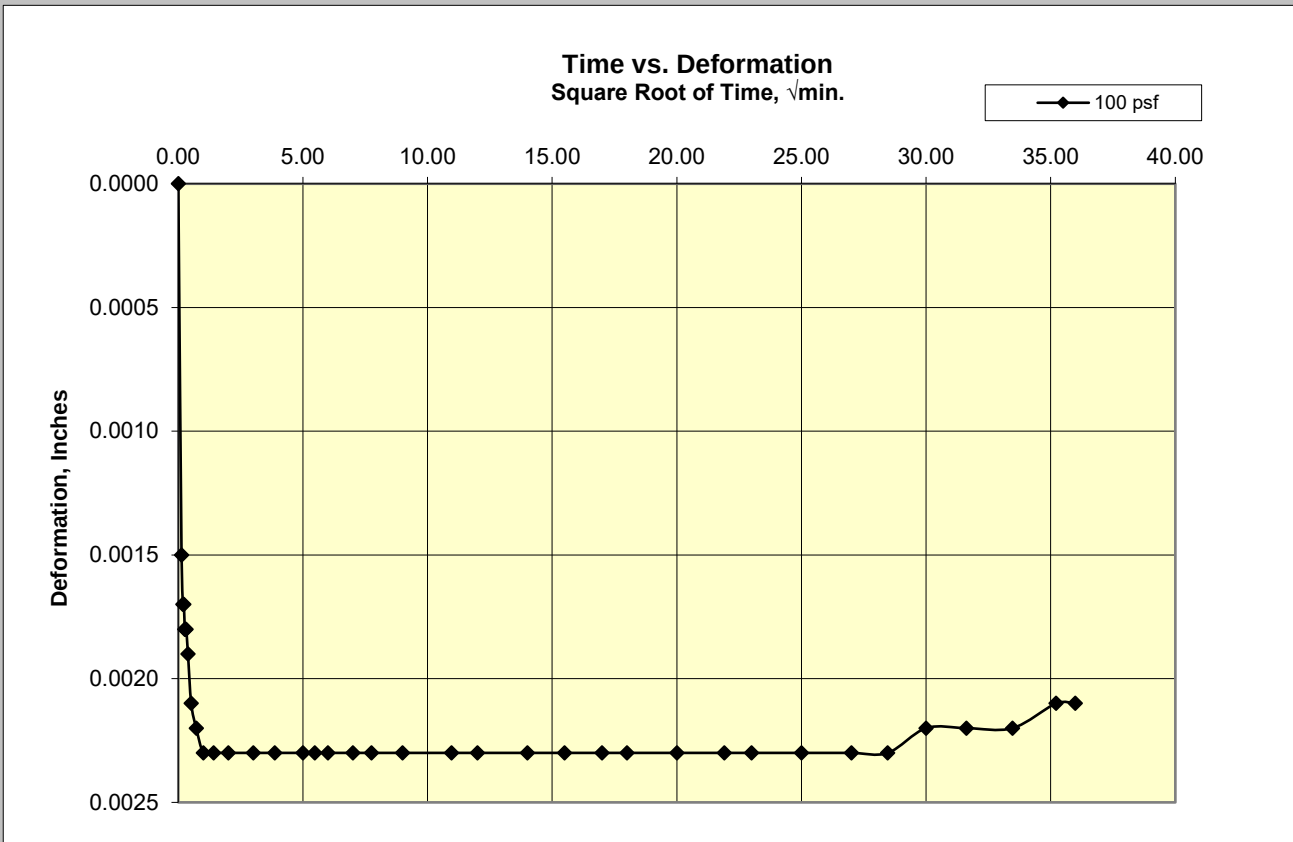
Cooper Testing Labs, Inc.

Load 1

100 psf



100 psf



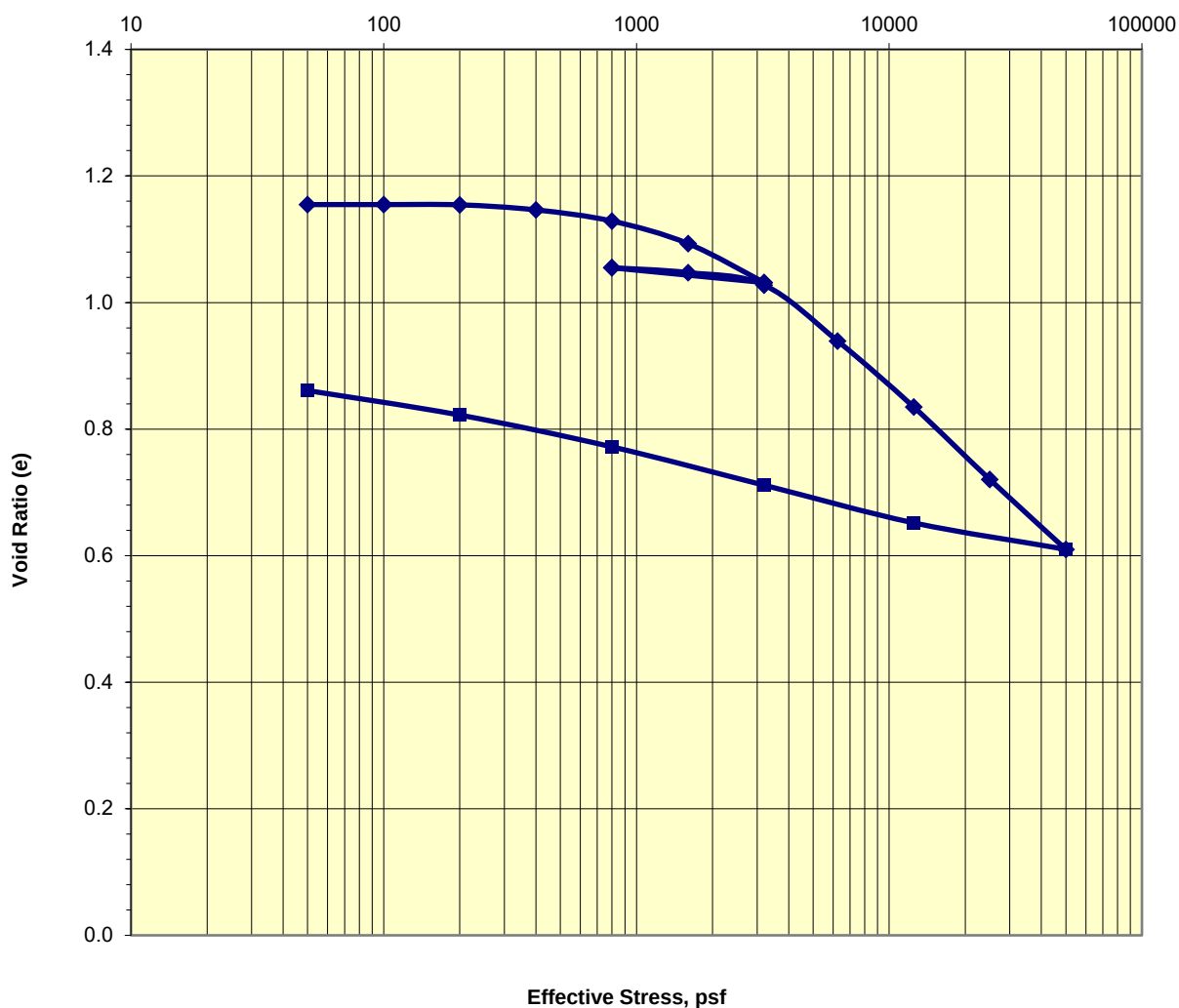


Consolidation Test

ASTM D2435

Job No.:	461-392	Boring:	B4	Run By:	HM
Client:	Geosyntec Consultants	Sample:	B4-4	Reduced:	RU
Project:	WG3607	Depth, ft.:	15.5-16	Checked:	PJ
Soil Type:	Dark Gray Fat CLAY w/ Sand			Date:	3/9/2026

e-Log-P Curve

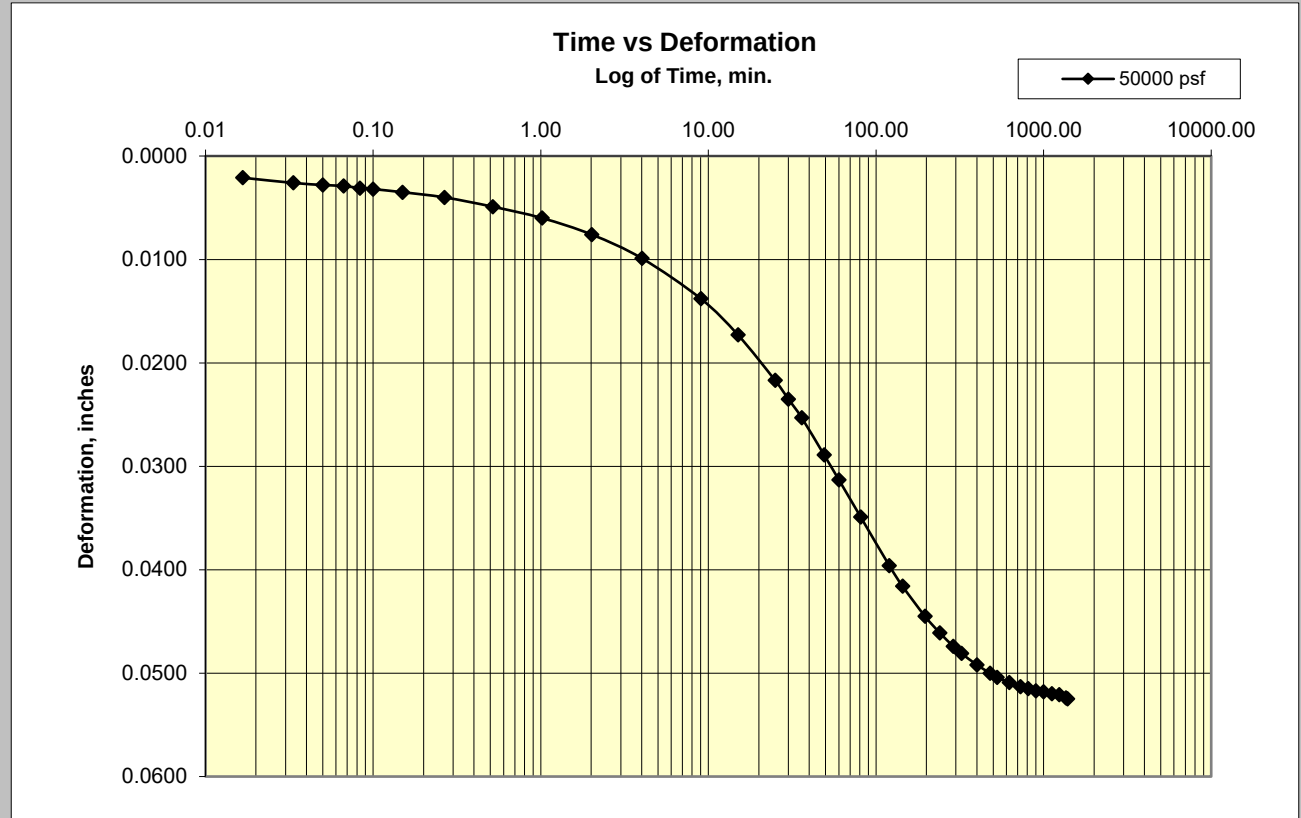


Assumed Gs	2.7	Initial	Final	Remarks:
Moisture %:		41.9	31.5	
Dry Density, pcf:		78.2	91.1	
Void Ratio:		1.155	0.849	
% Saturation:		98.0	100.0	

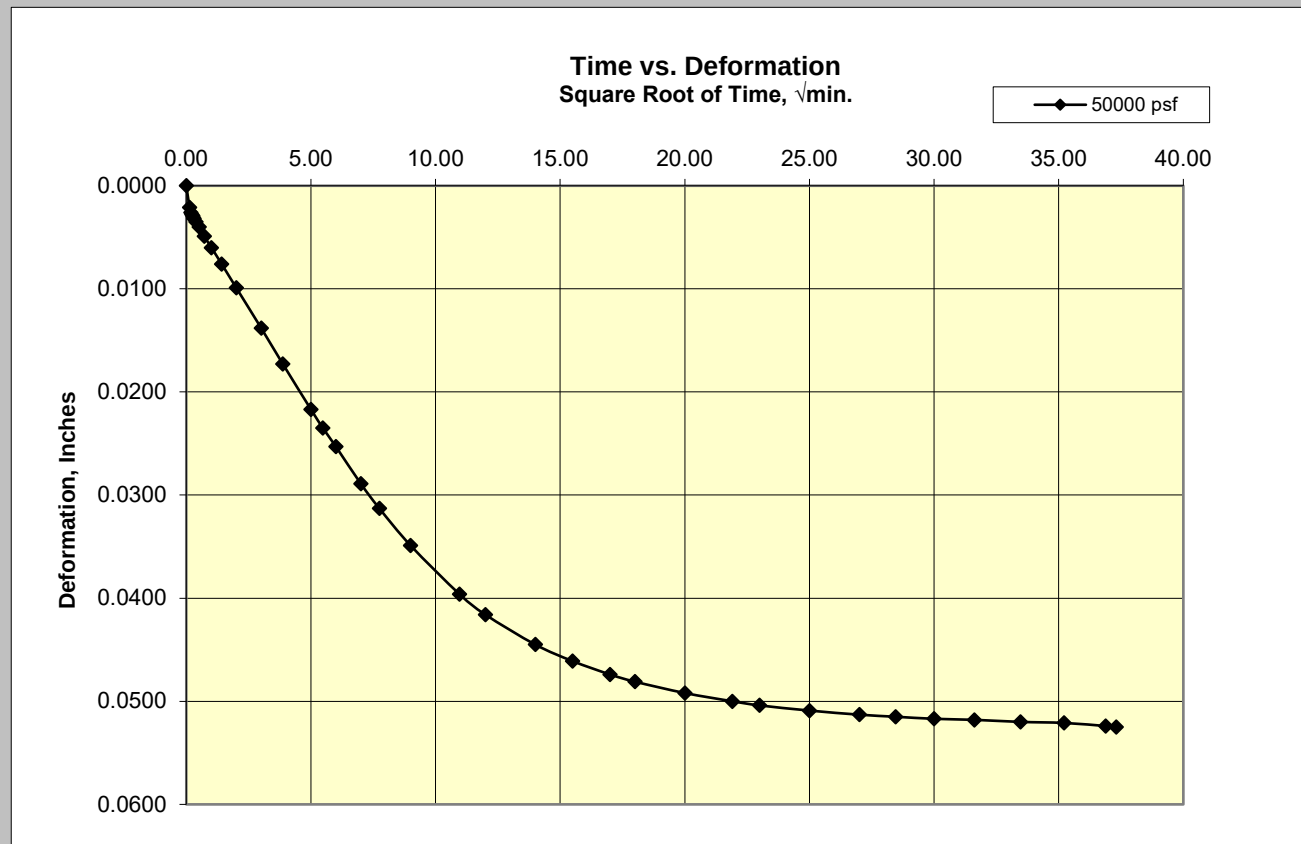
Cooper Testing Labs, Inc.

Load 14

50000 psf



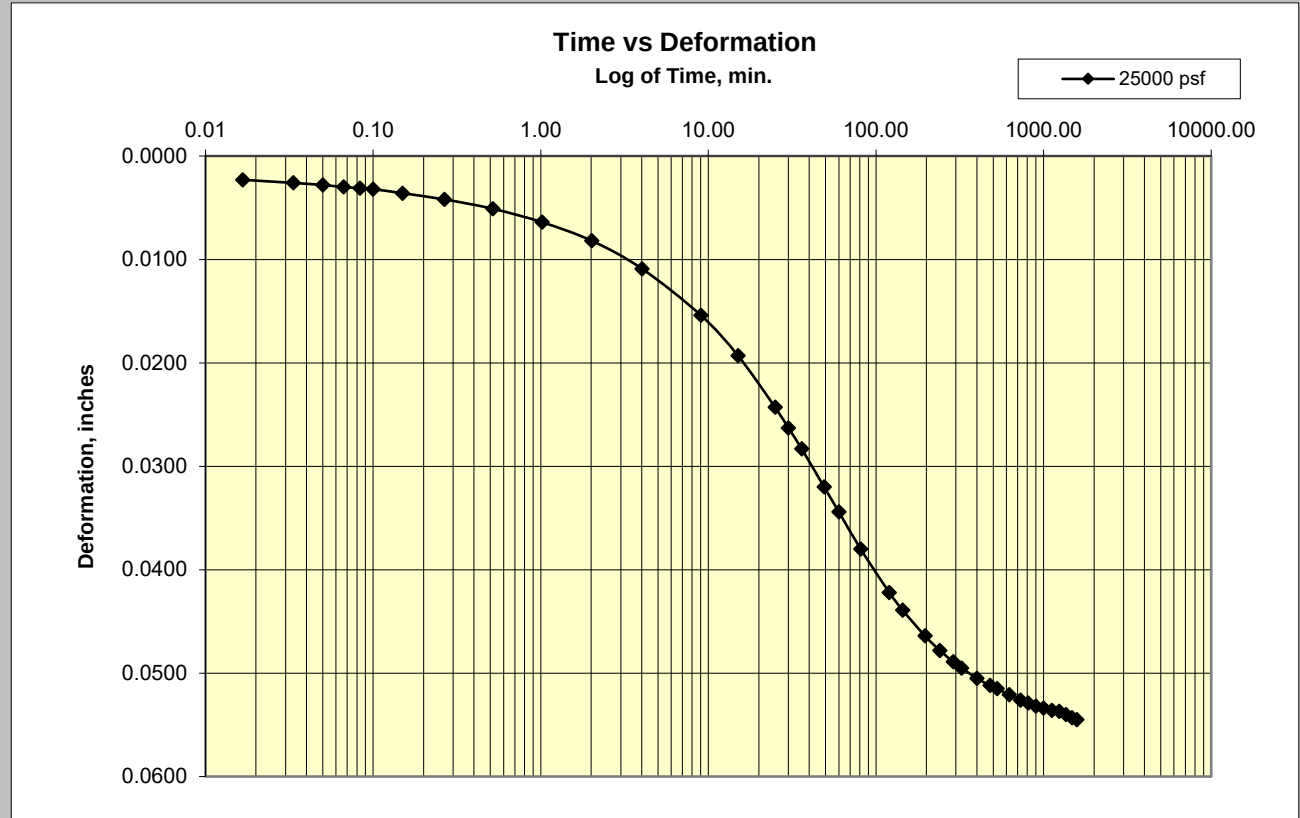
50000 psf



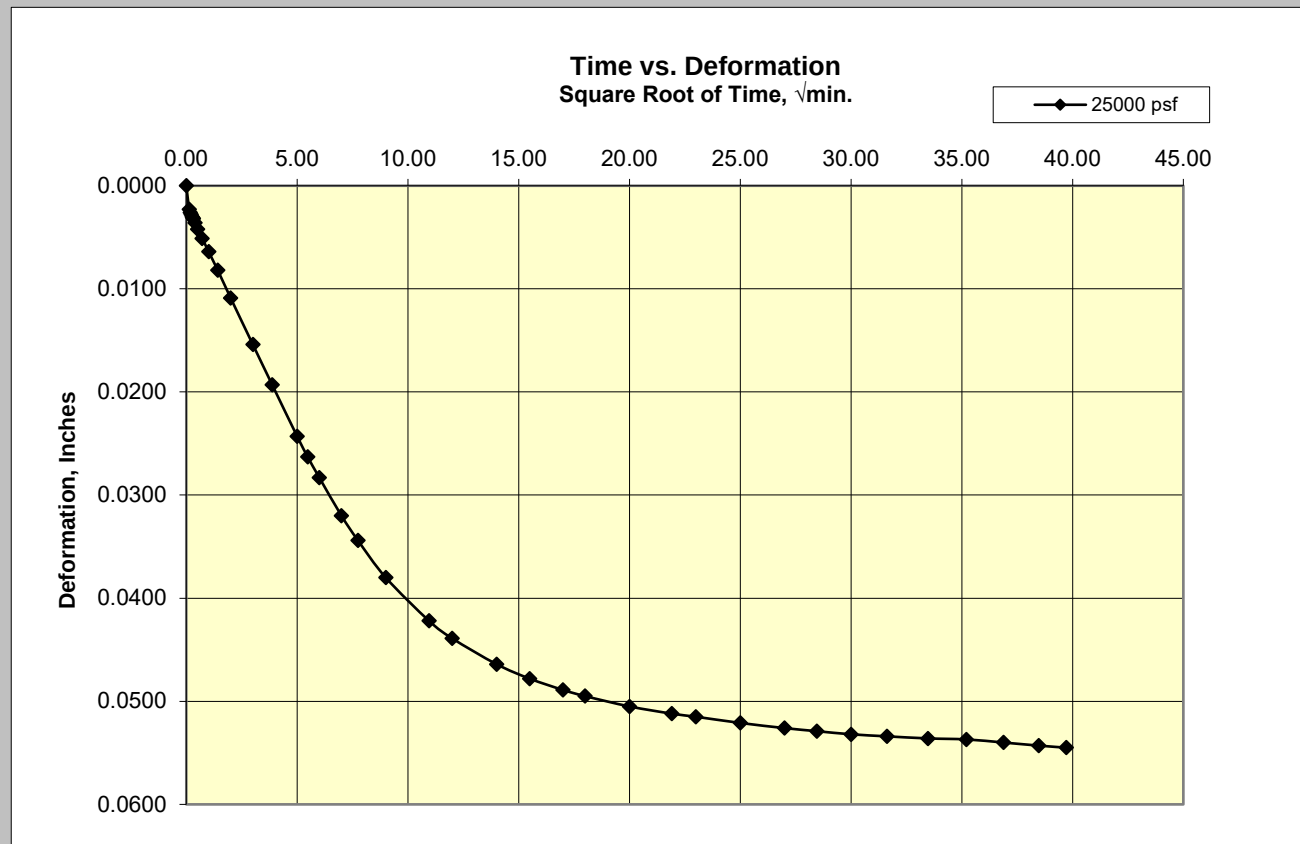
Cooper Testing Labs, Inc.

Load 13

25000 psf



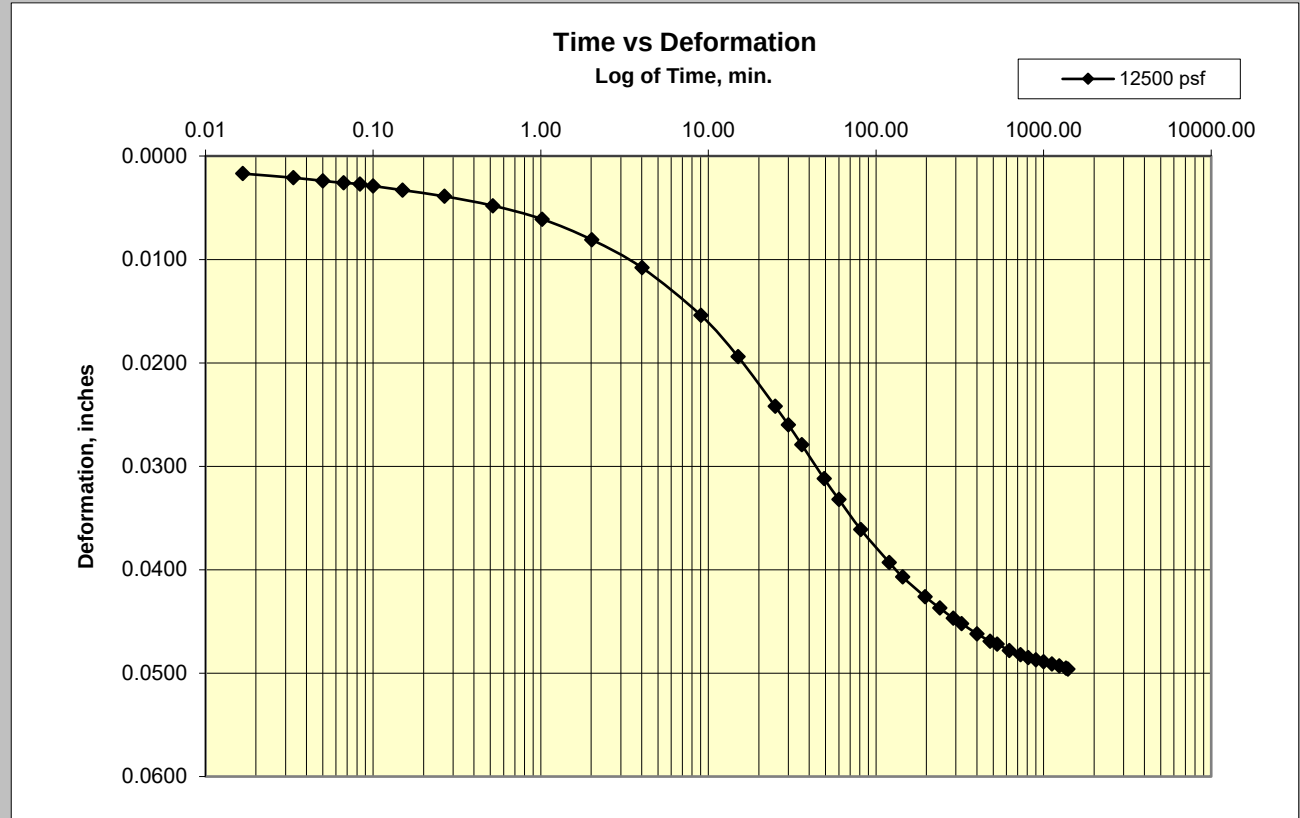
25000 psf



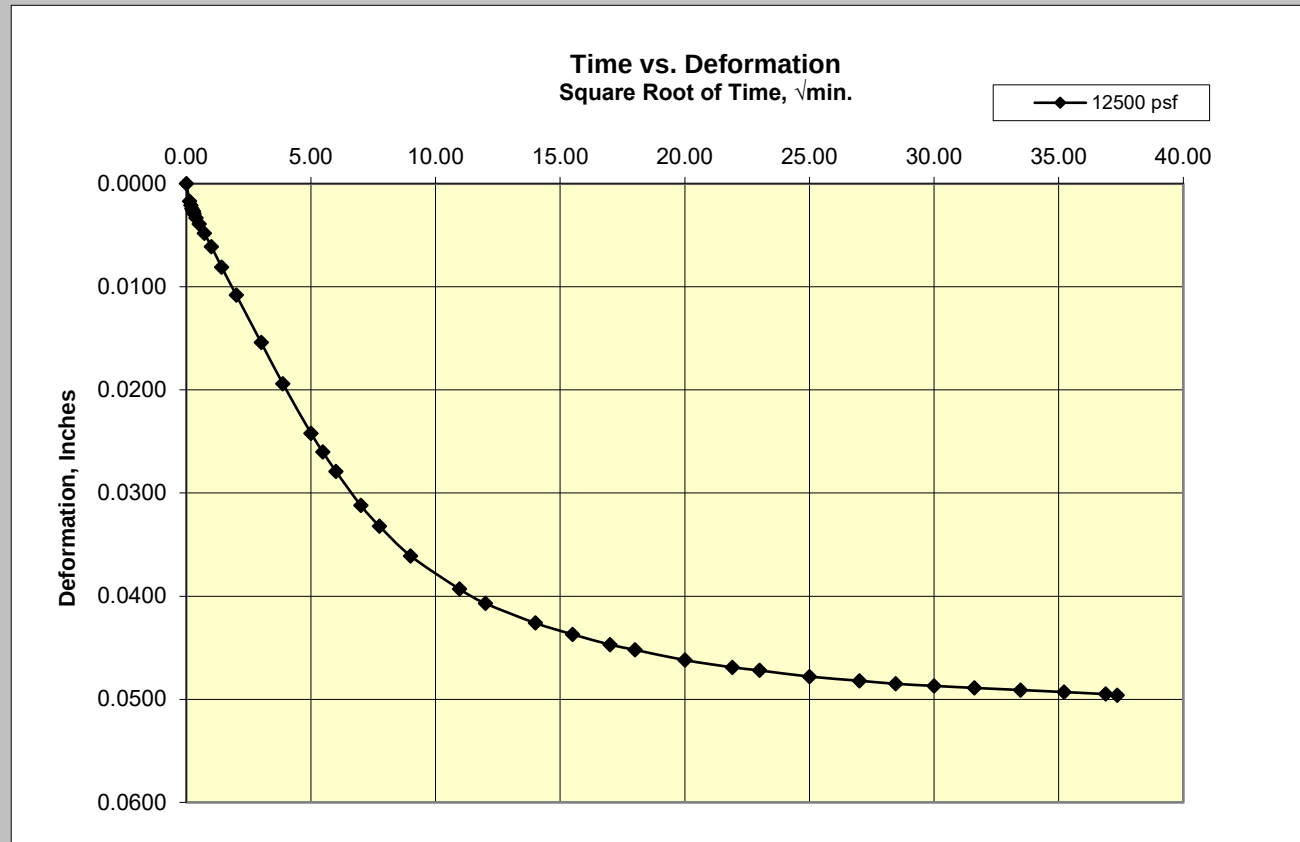
Cooper Testing Labs, Inc.

Load 12

12500 psf



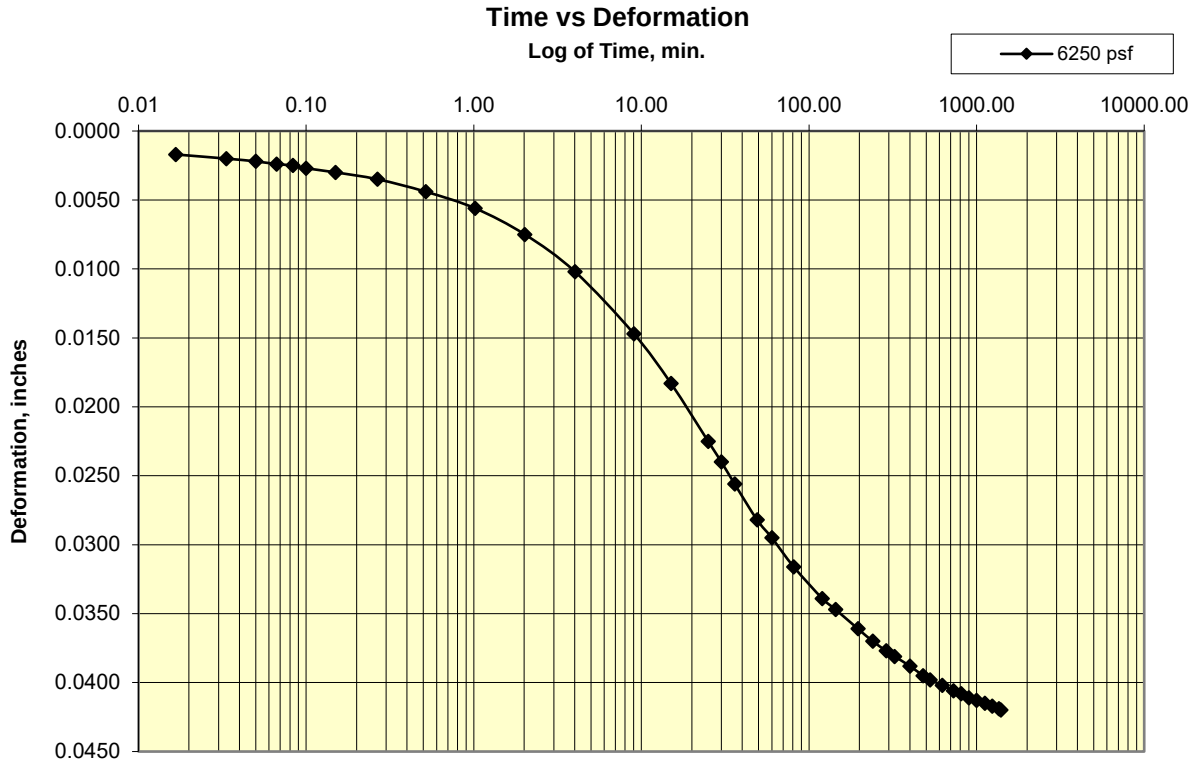
12500 psf



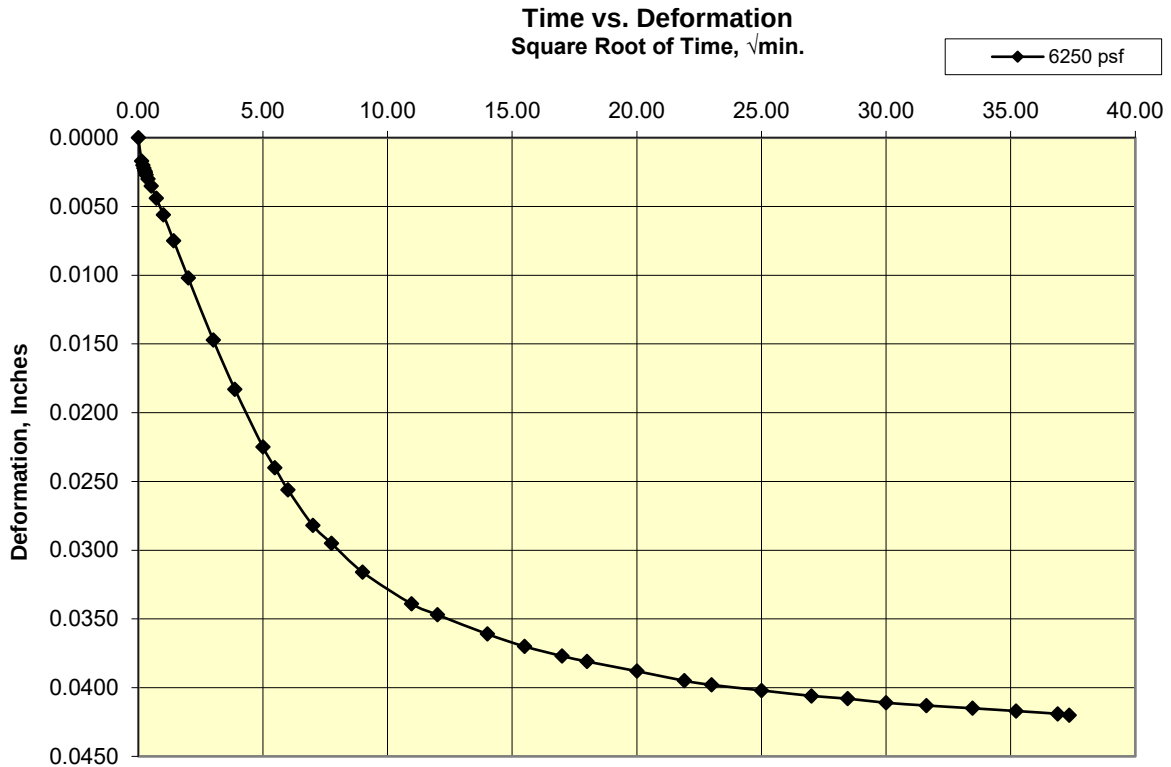
Cooper Testing Labs, Inc.

Load 11

6250 psf



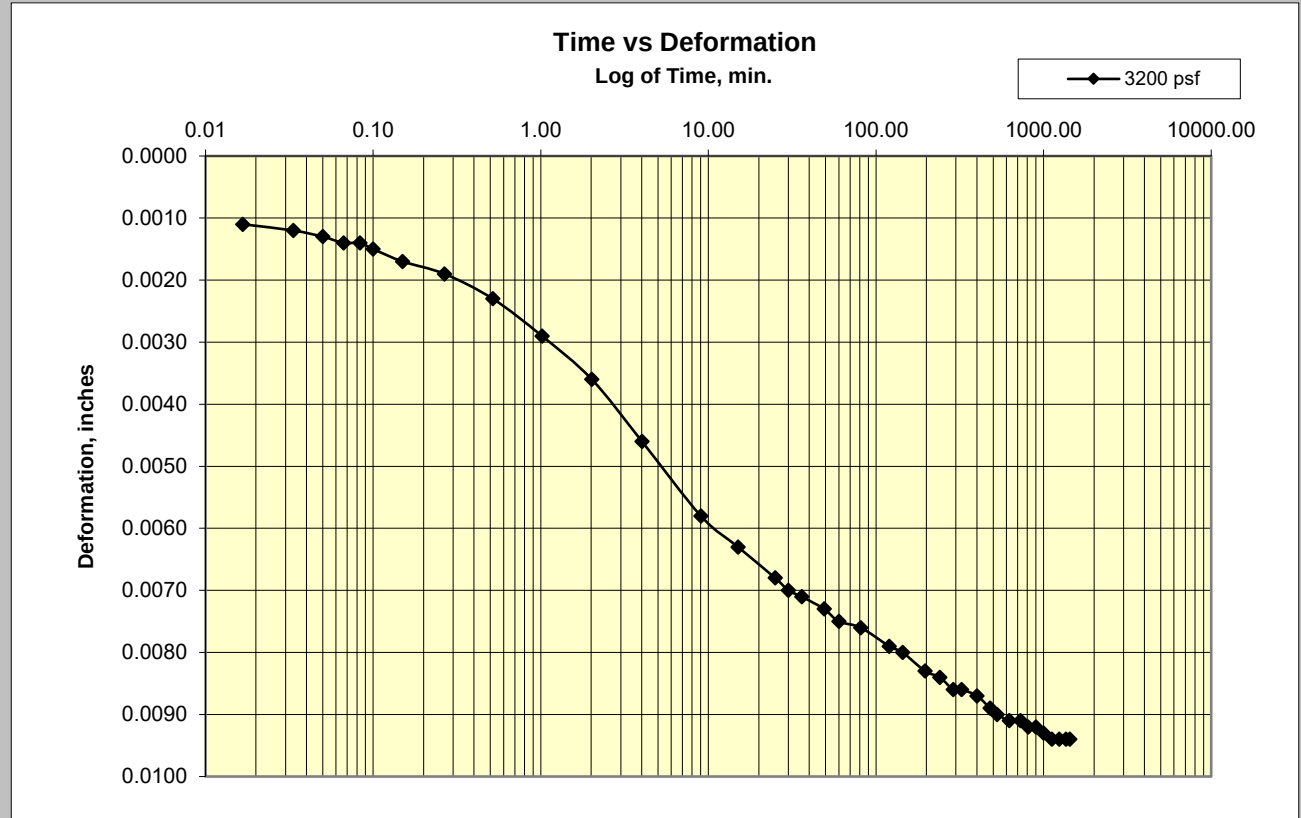
6250 psf



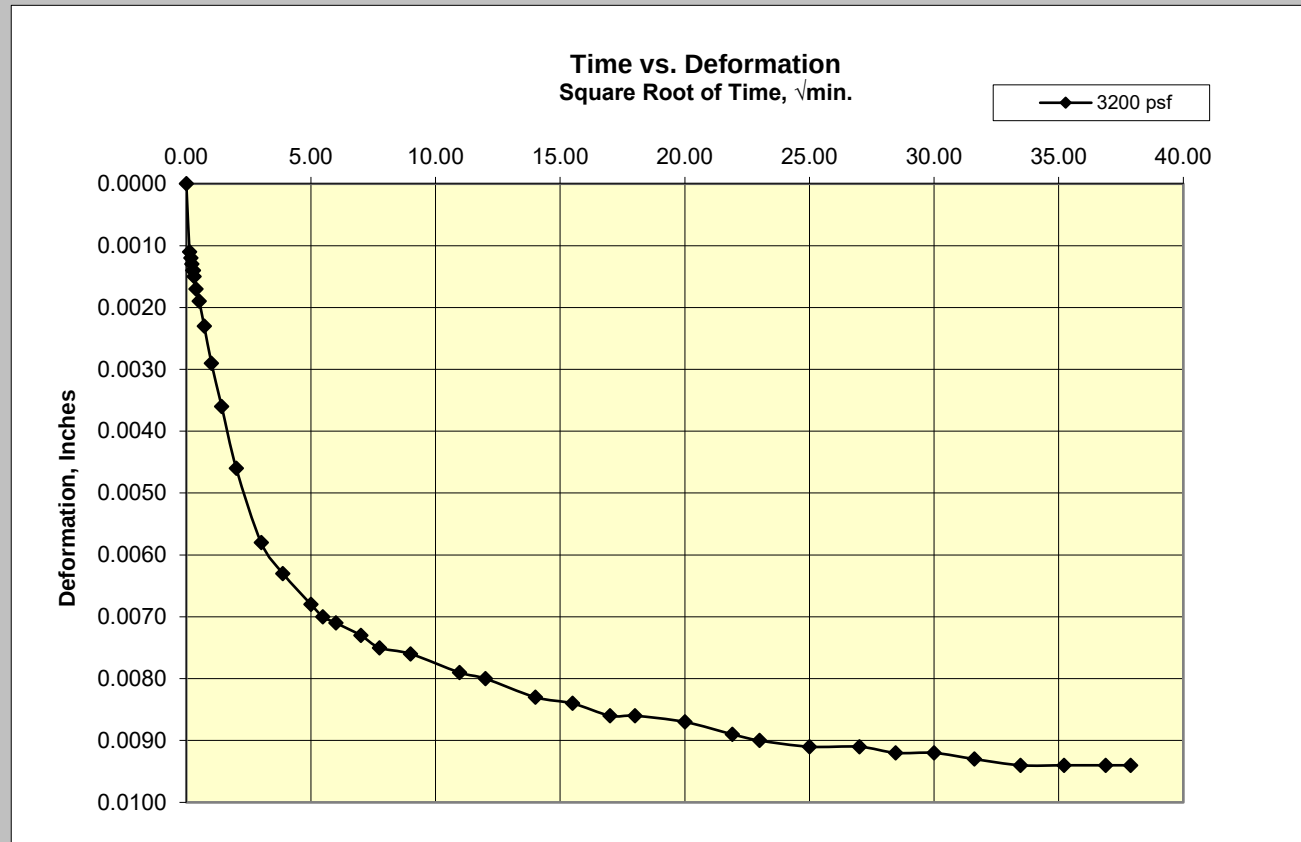
Cooper Testing Labs, Inc.

Load 10

3200 psf



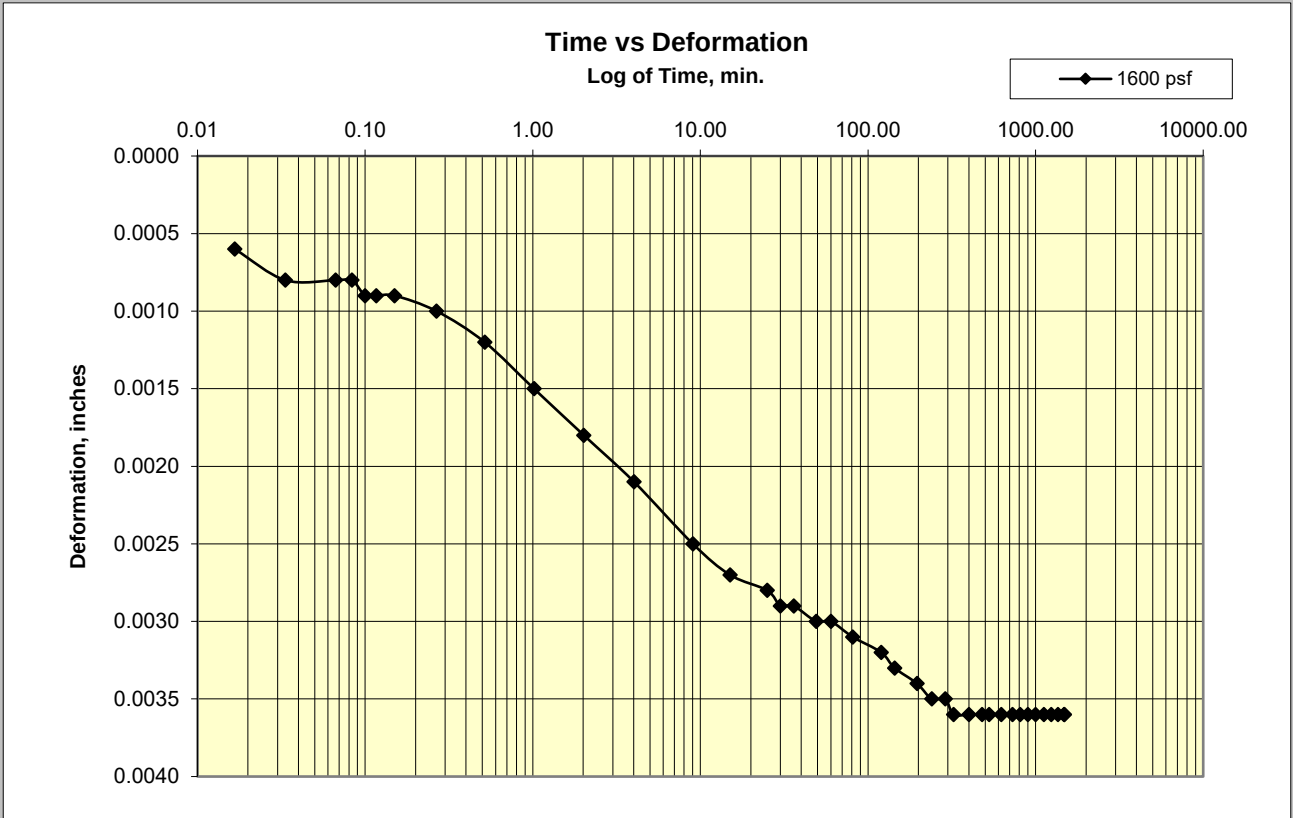
3200 psf



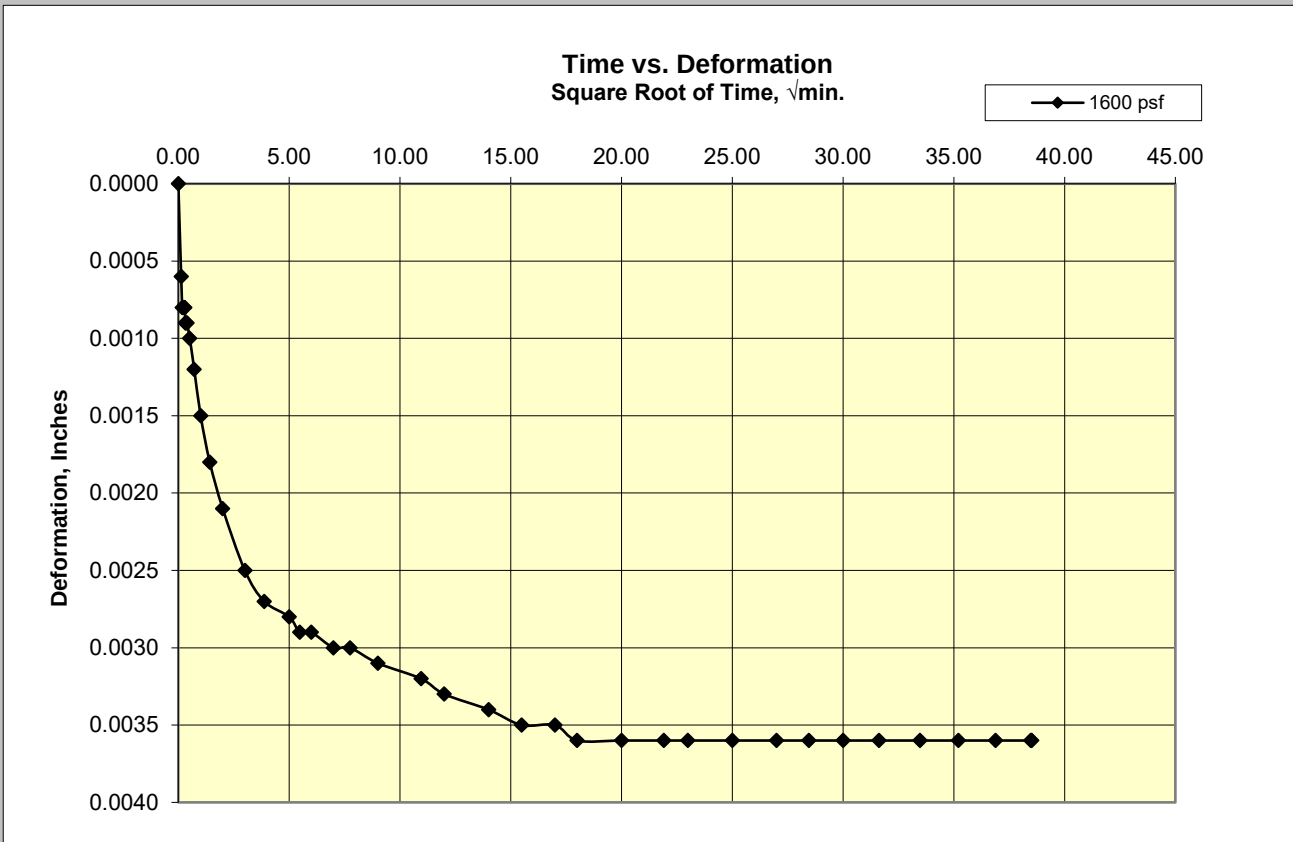
Cooper Testing Labs, Inc.

Load 9

1600 psf



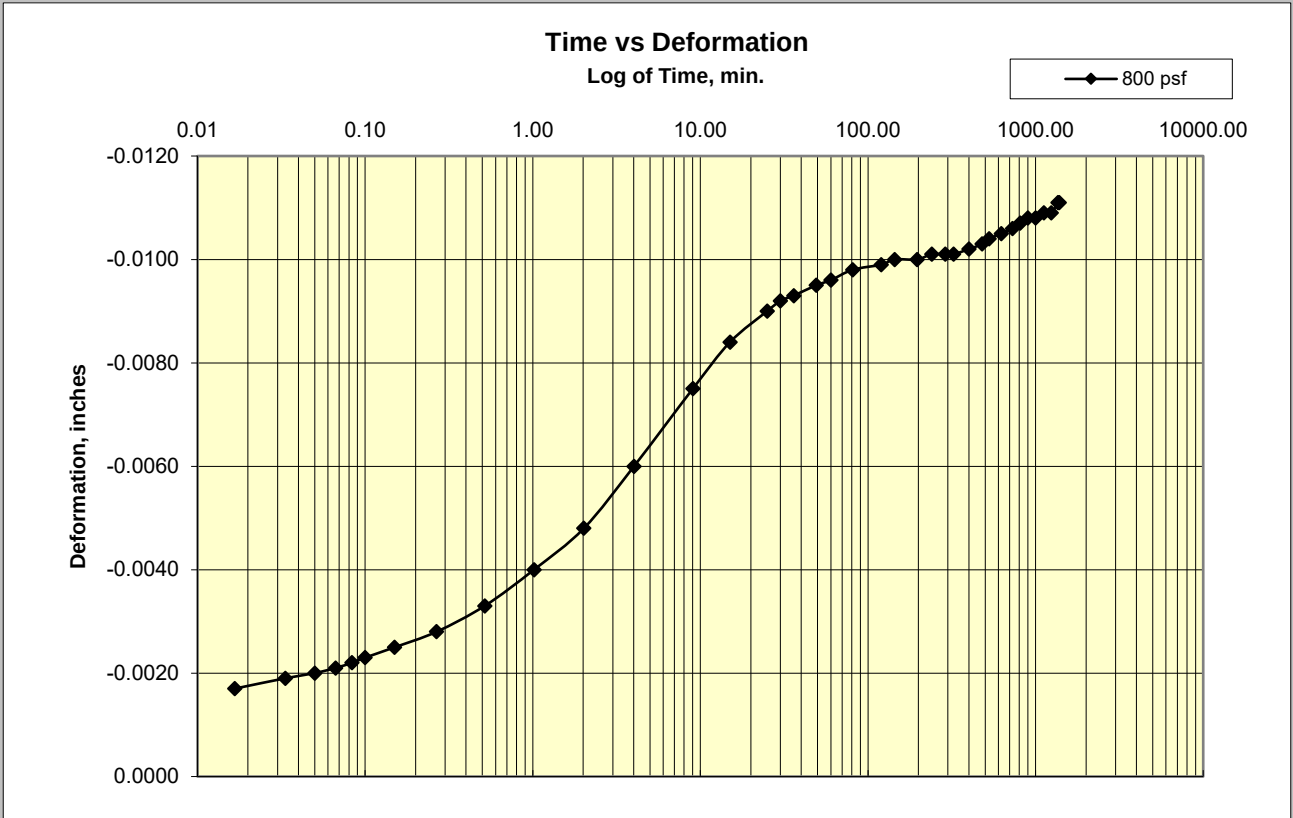
1600 psf



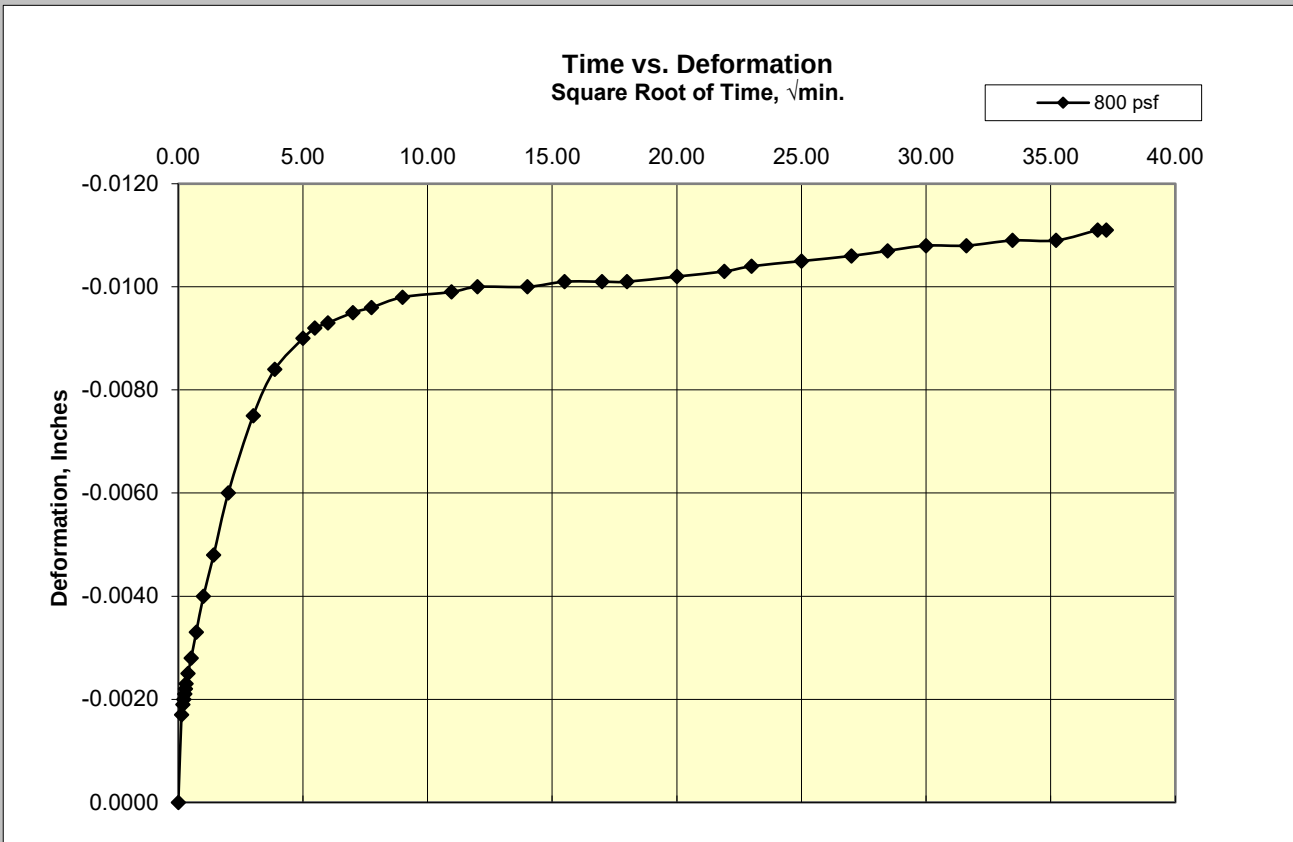
Cooper Testing Labs, Inc.

Load 8

800 psf



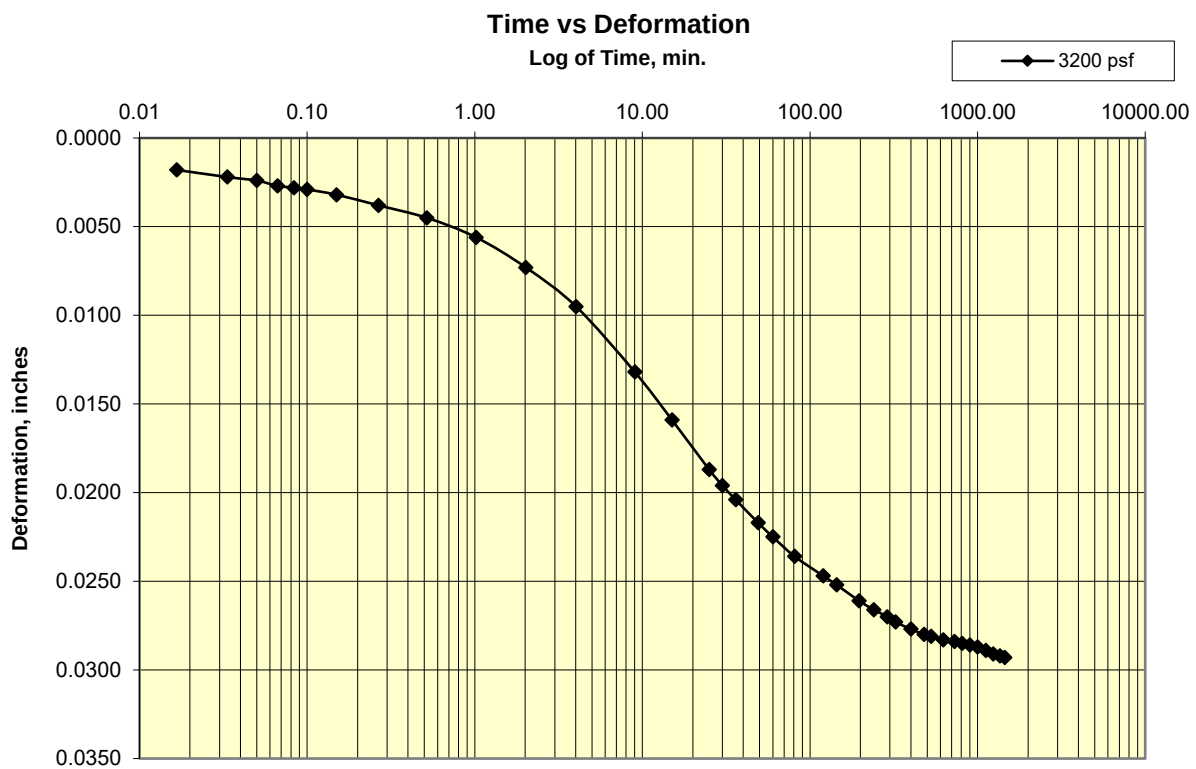
800 psf



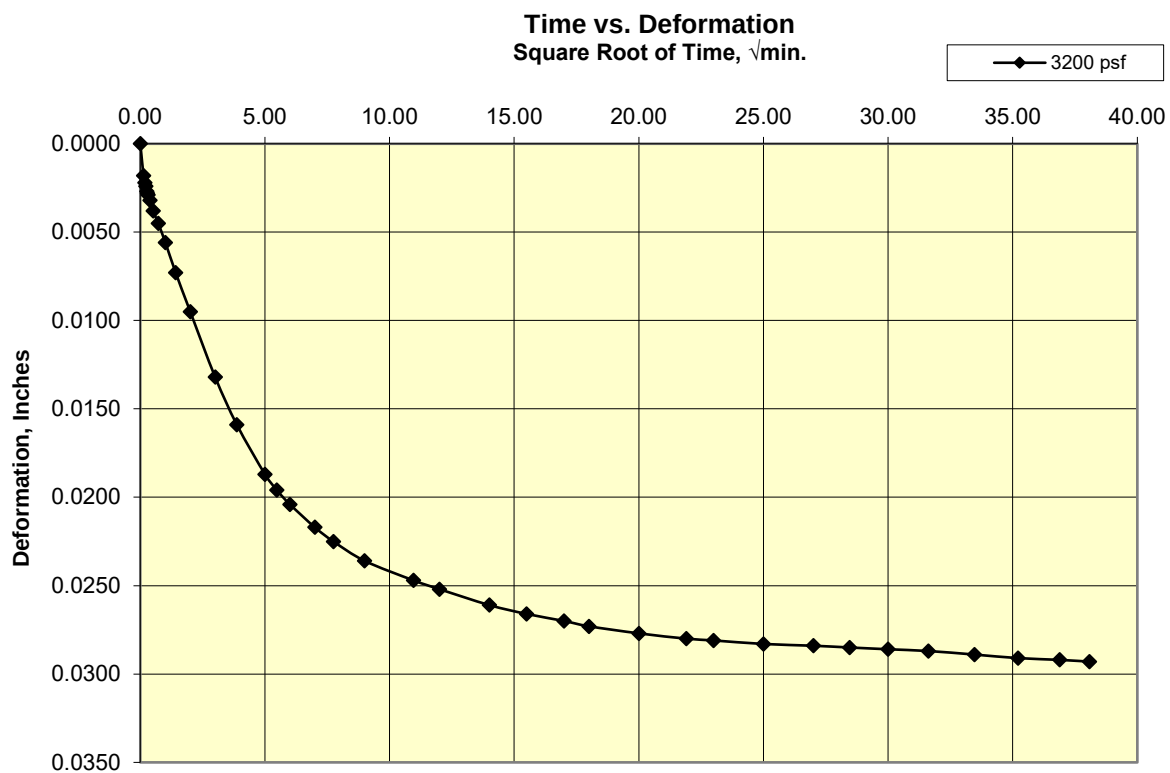
Cooper Testing Labs, Inc.

Load 7

3200 psf



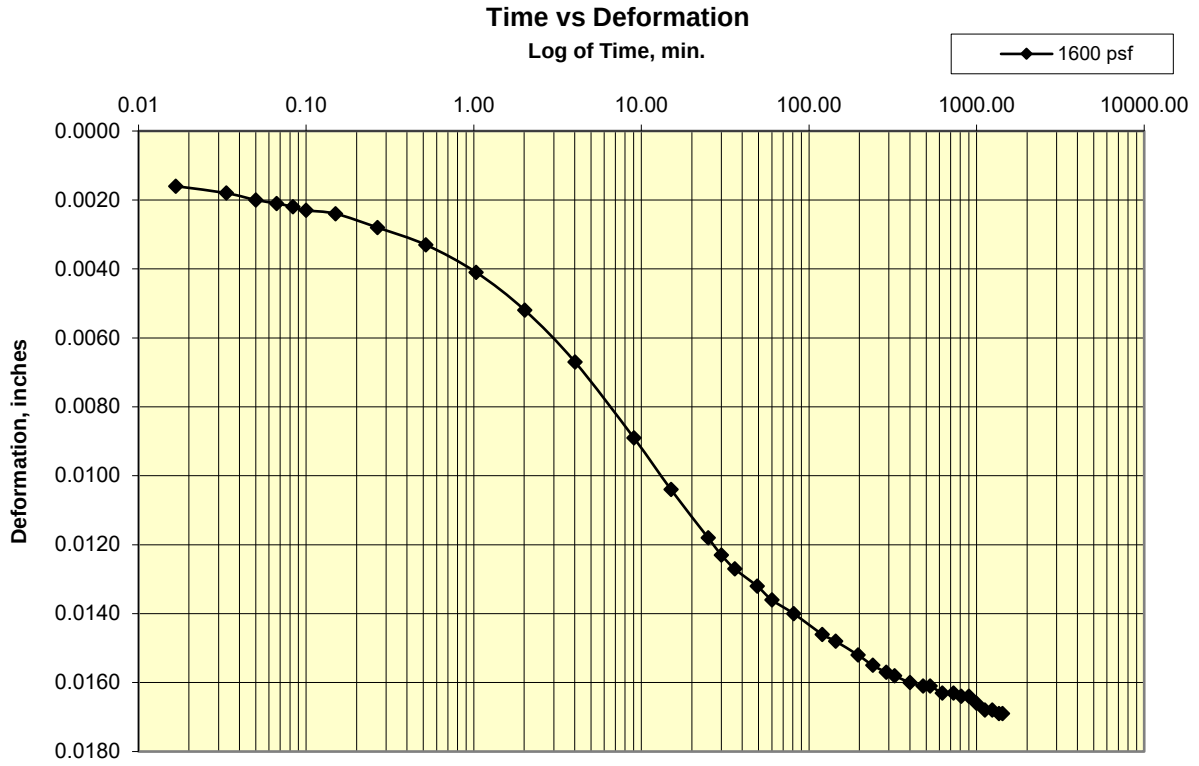
3200 psf



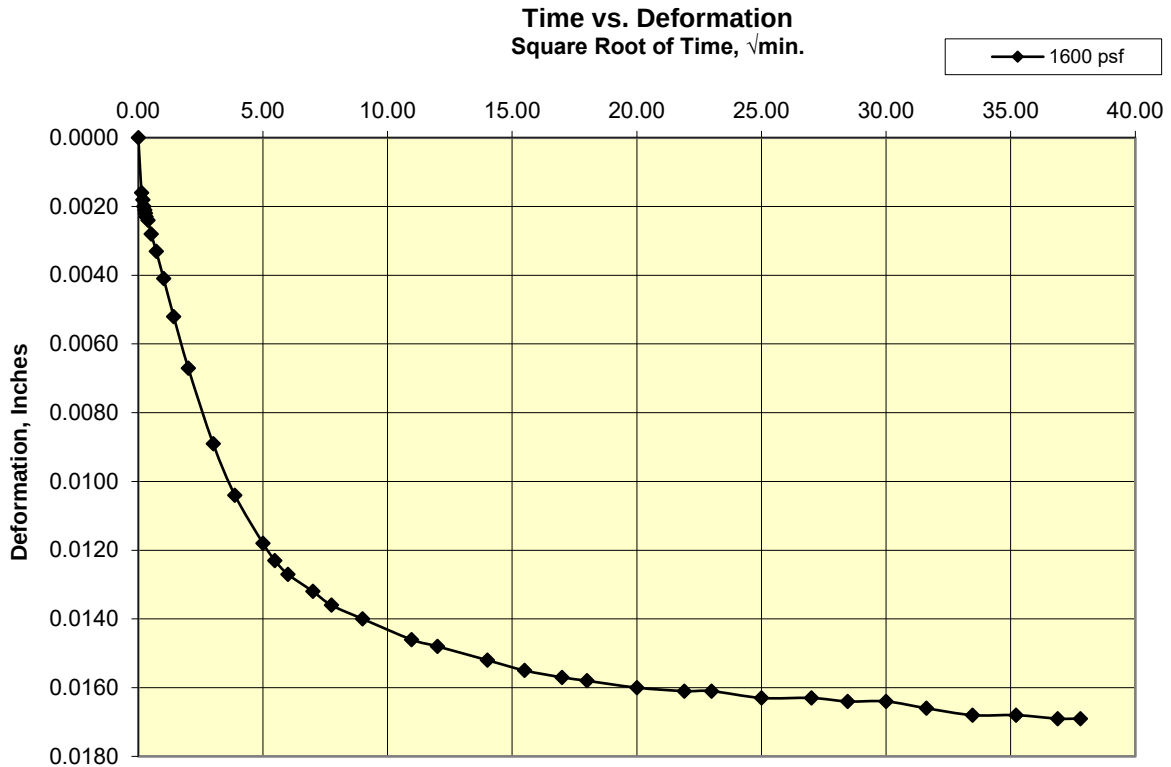
Cooper Testing Labs, Inc.

Load 6

1600 psf



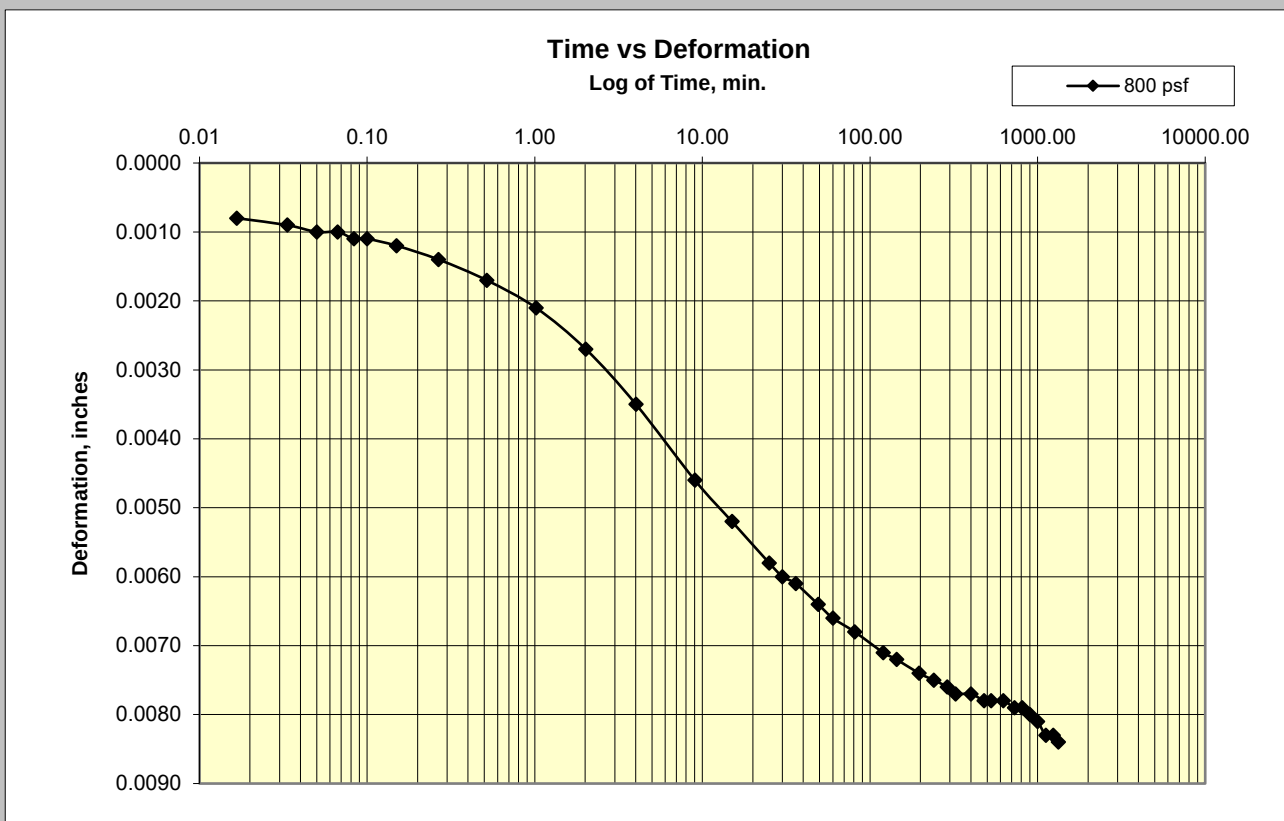
1600 psf



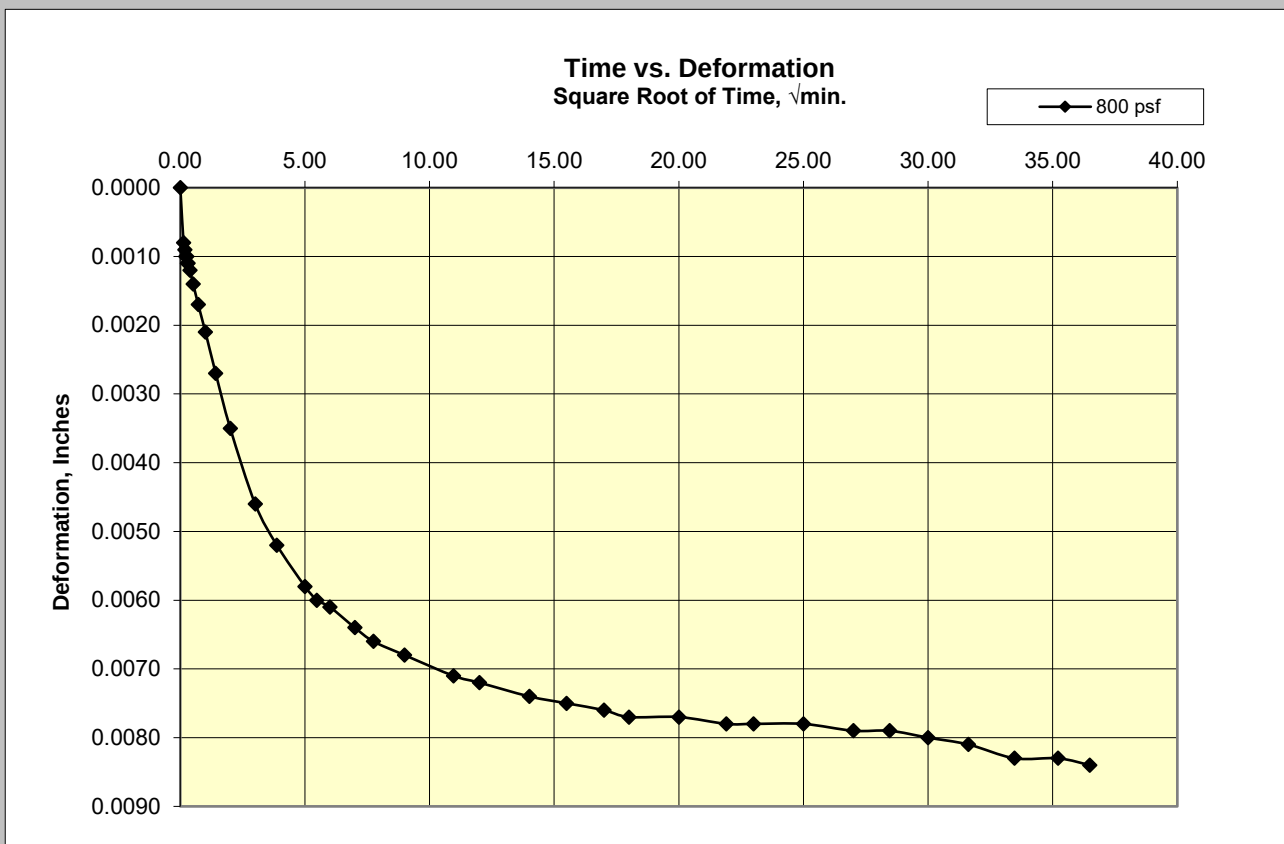
Cooper Testing Labs, Inc.

Load 5

800 psf



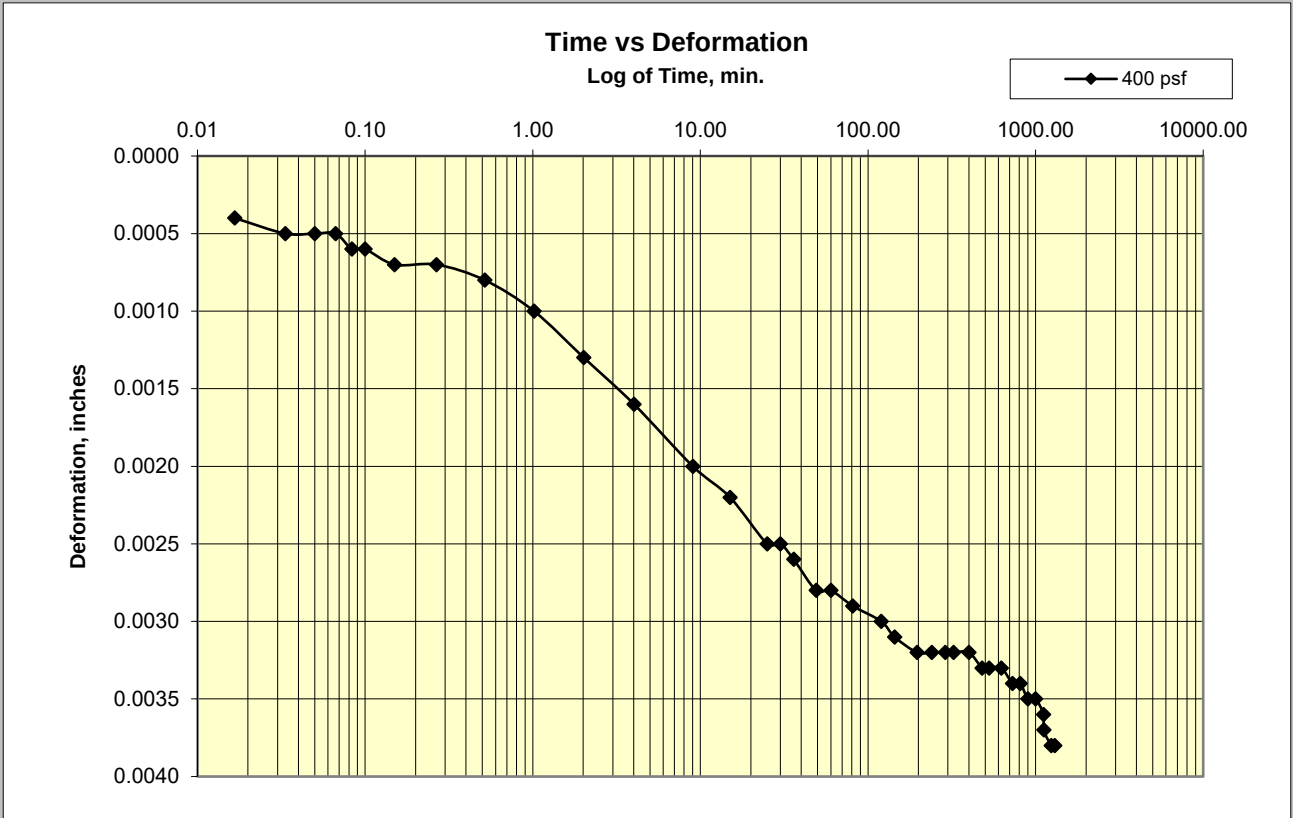
800 psf



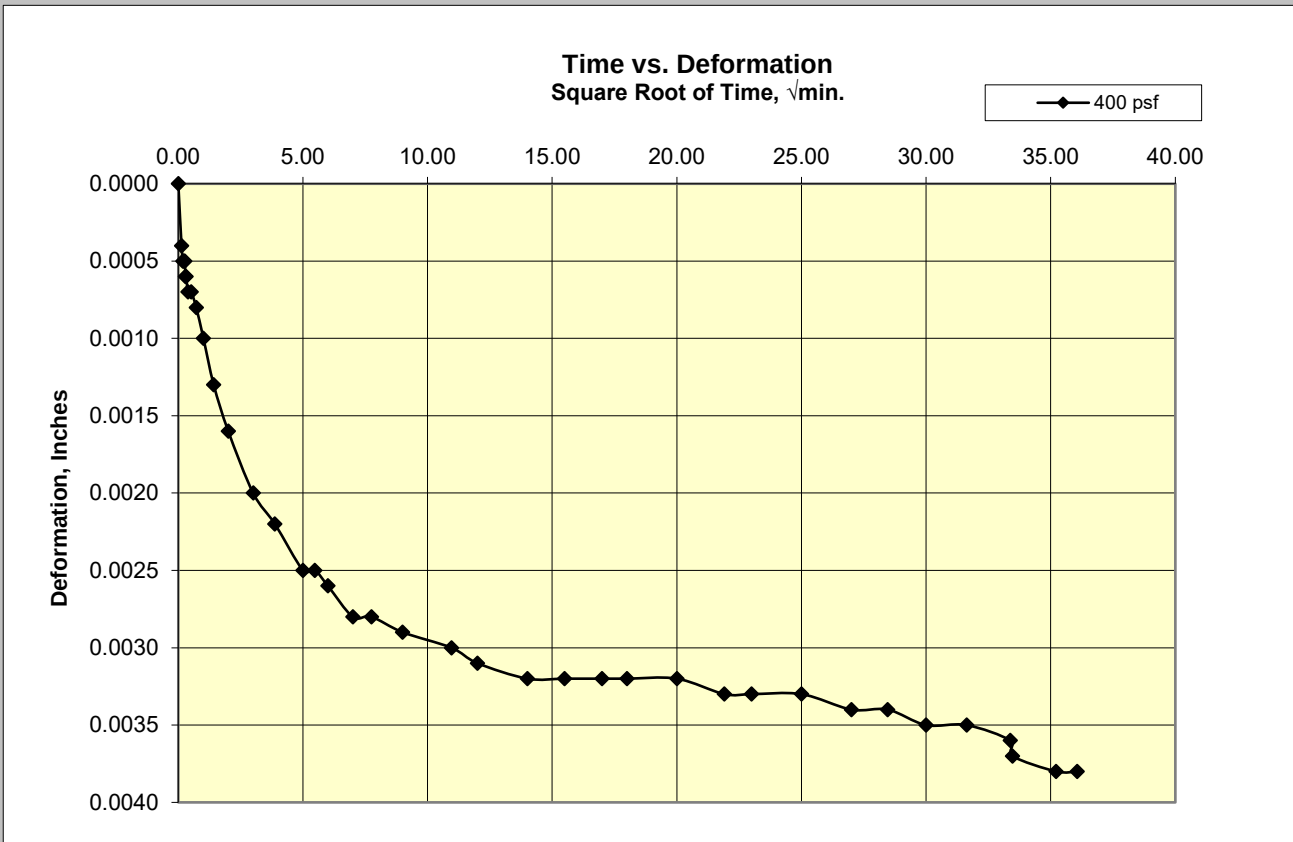
Cooper Testing Labs, Inc.

Load 4

400 psf



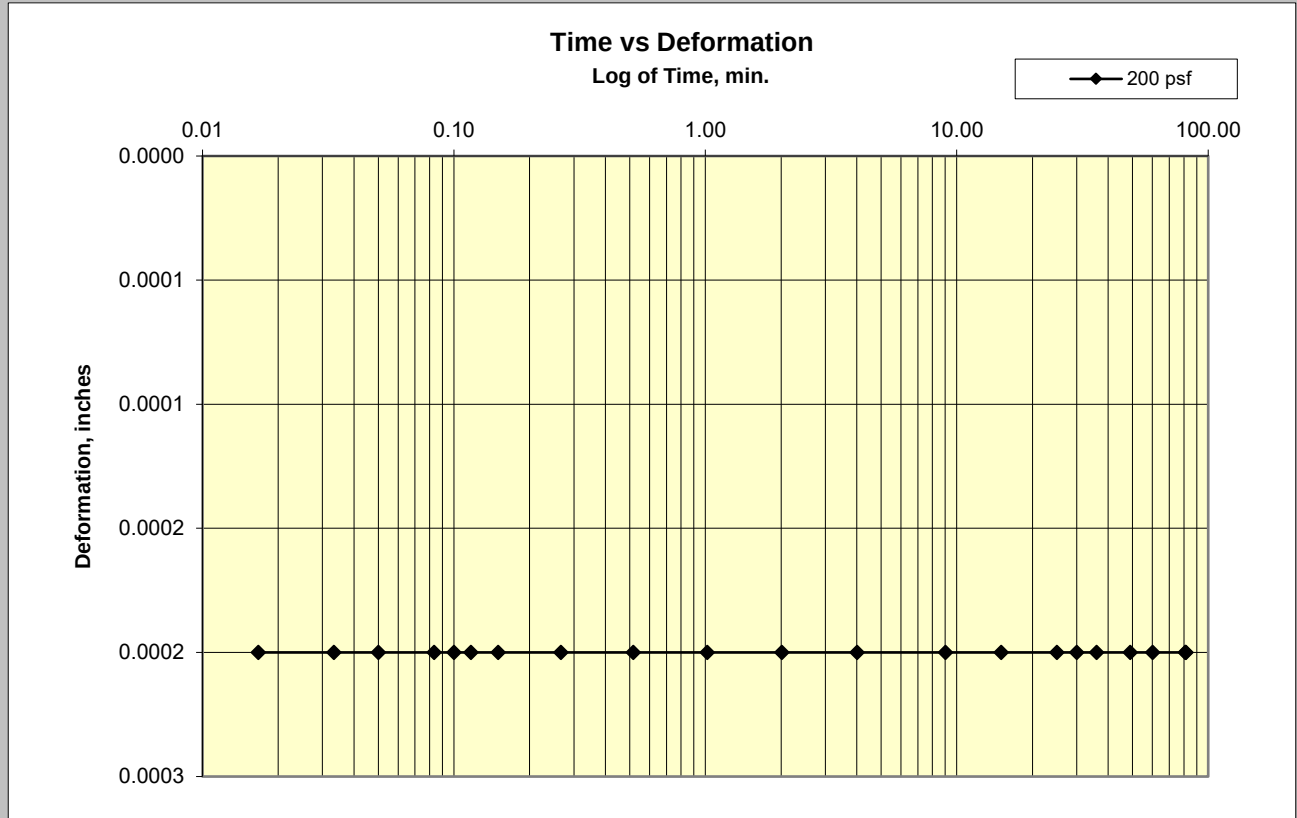
400 psf



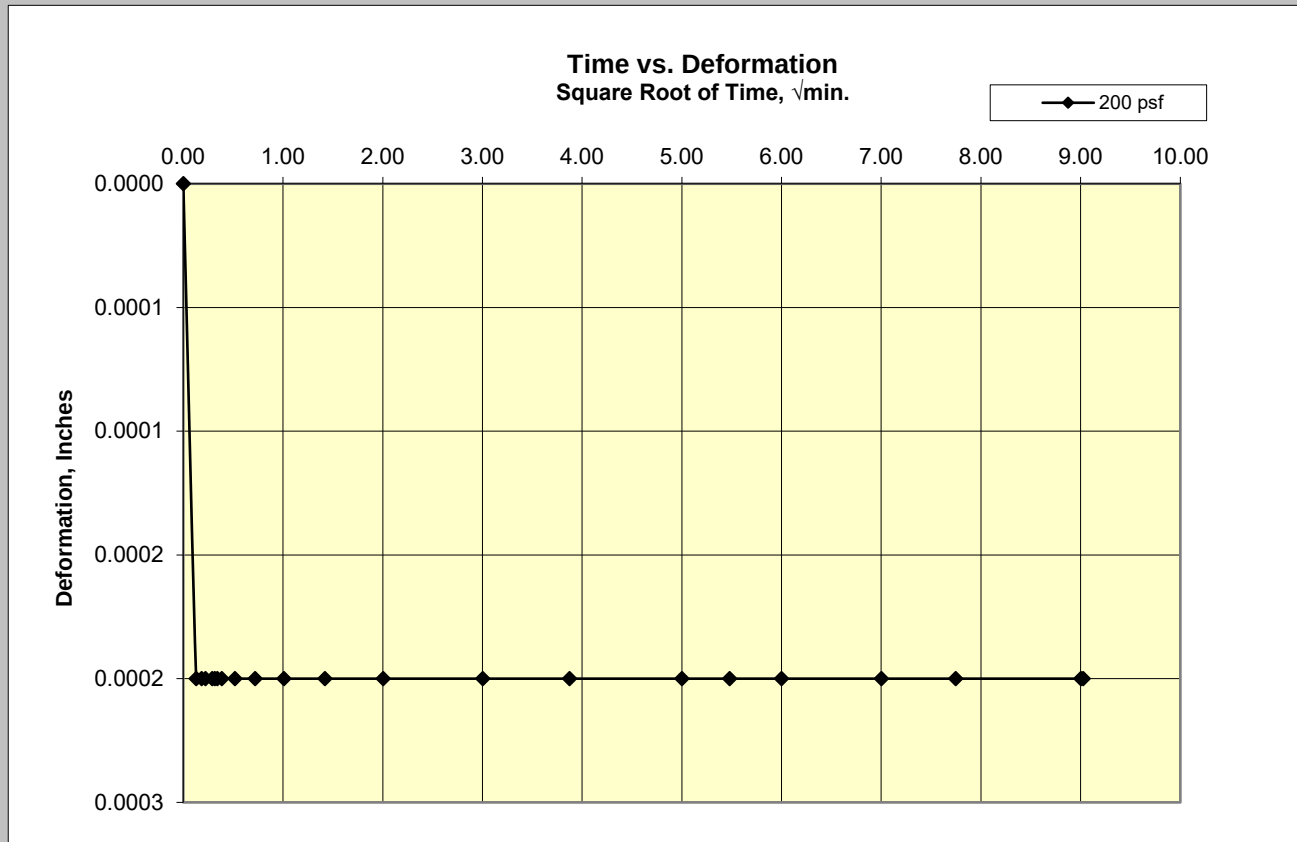
Cooper Testing Labs, Inc.

Load 3

200 psf



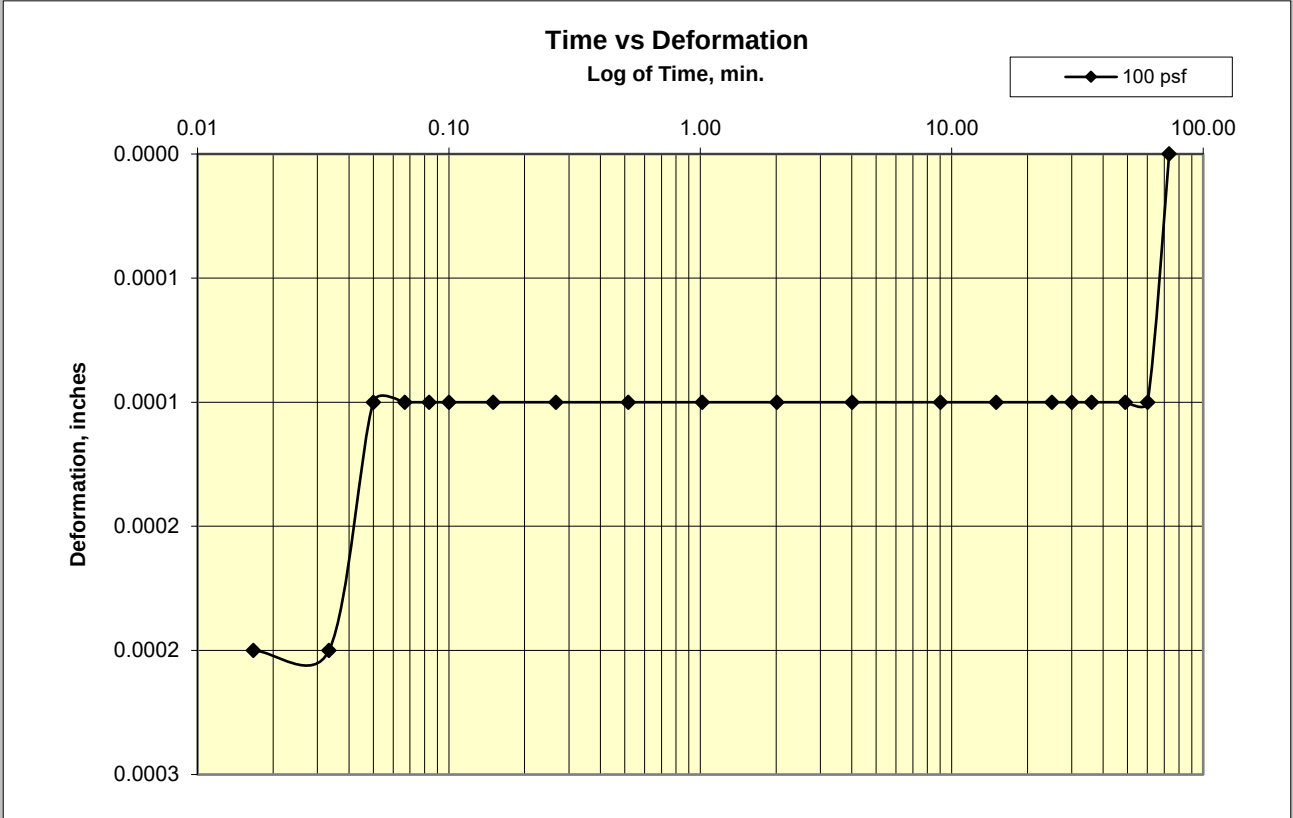
200 psf



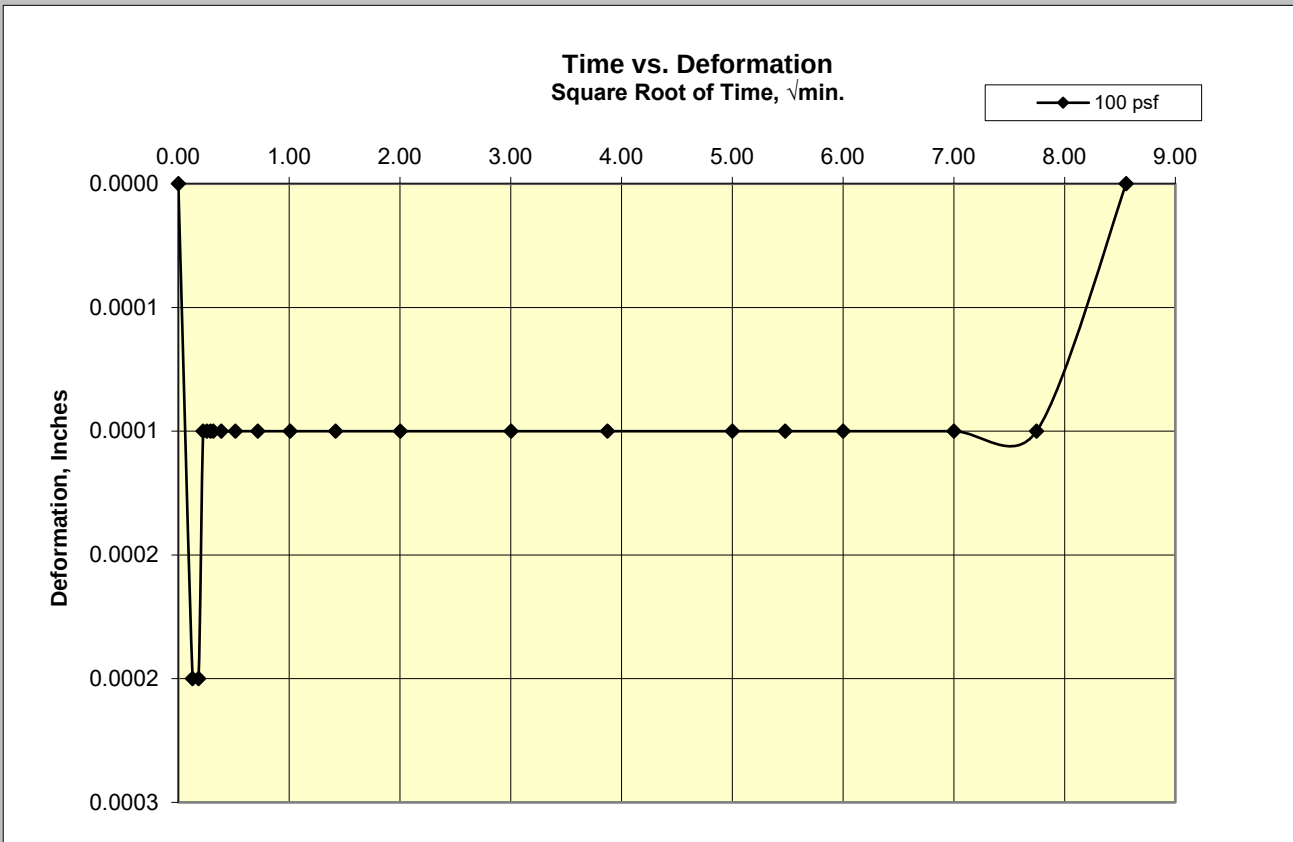
Cooper Testing Labs, Inc.

Load 2

100 psf



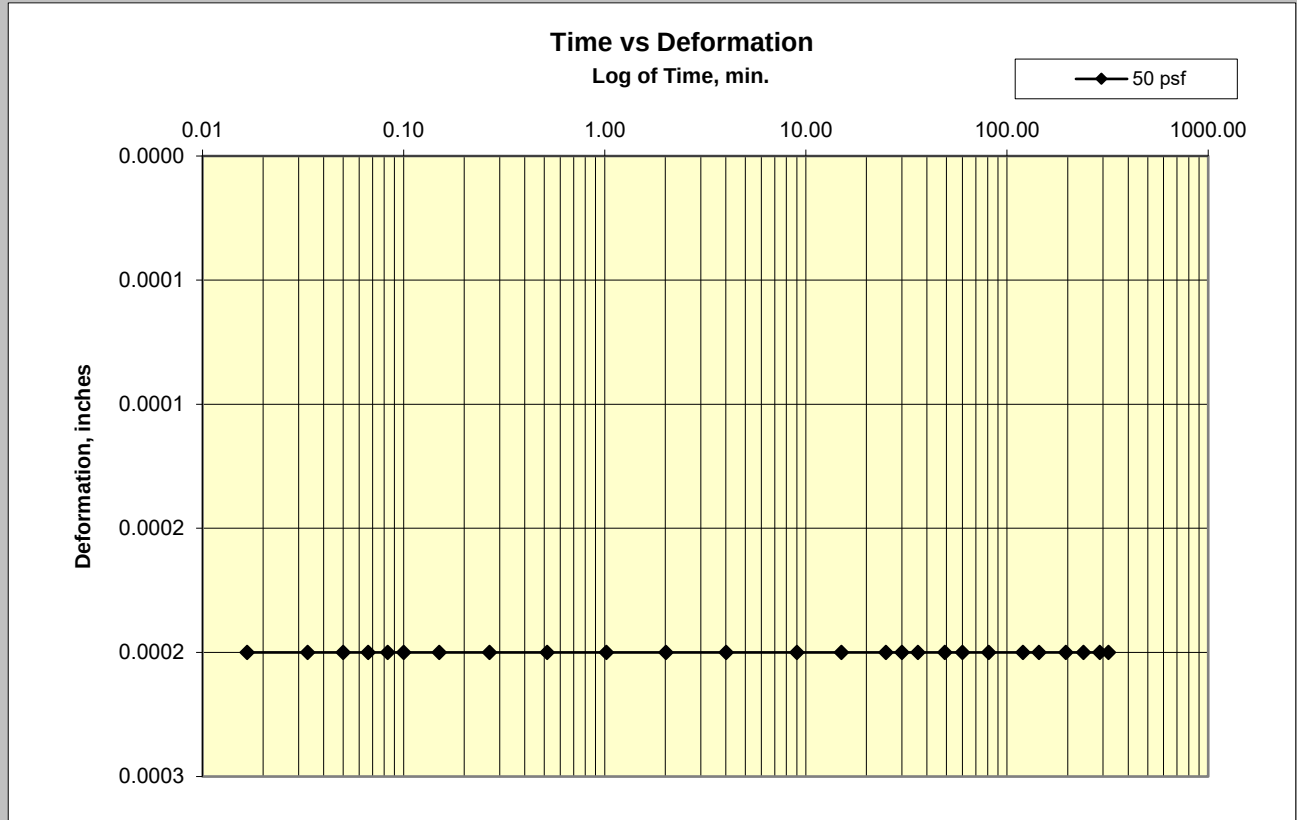
100 psf



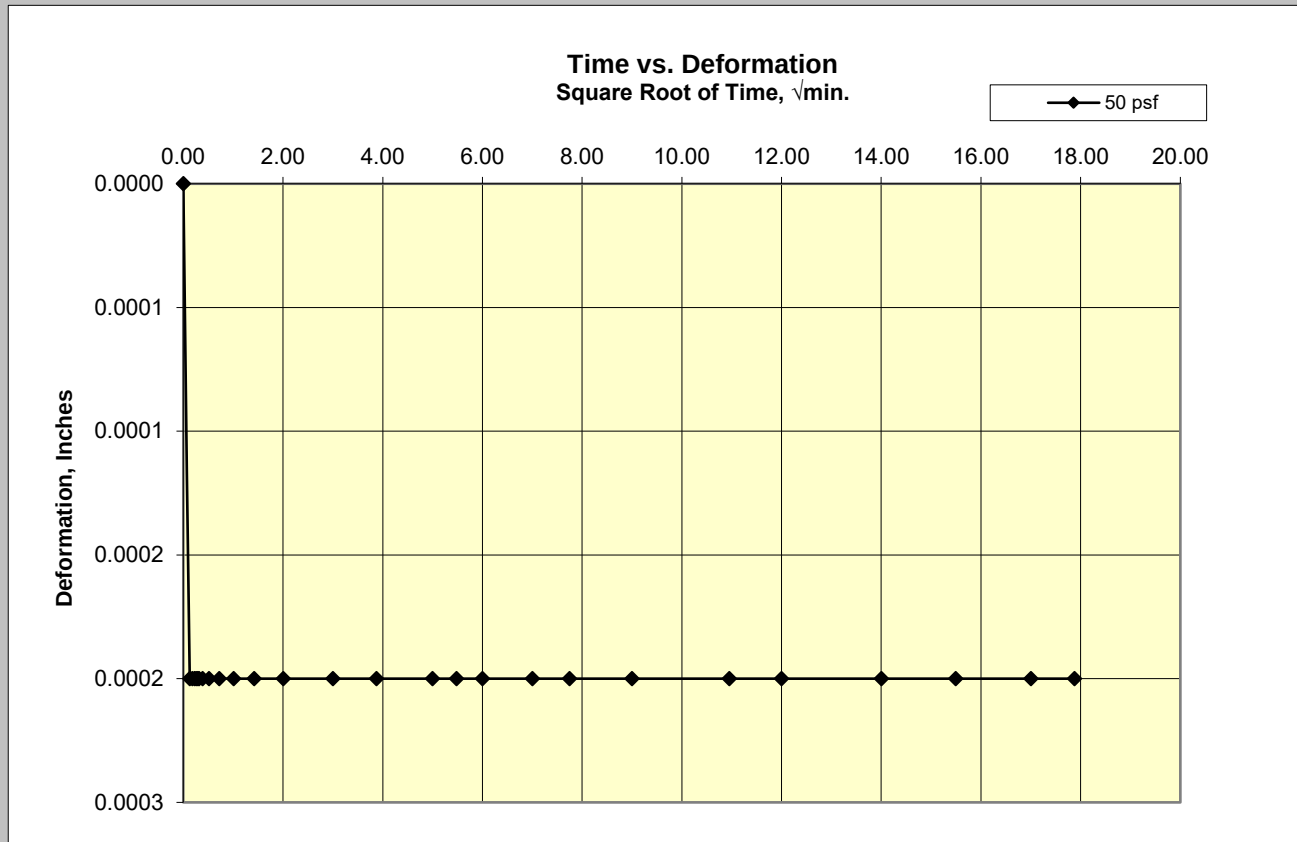
Cooper Testing Labs, Inc.

Load 1

50 psf



50 psf



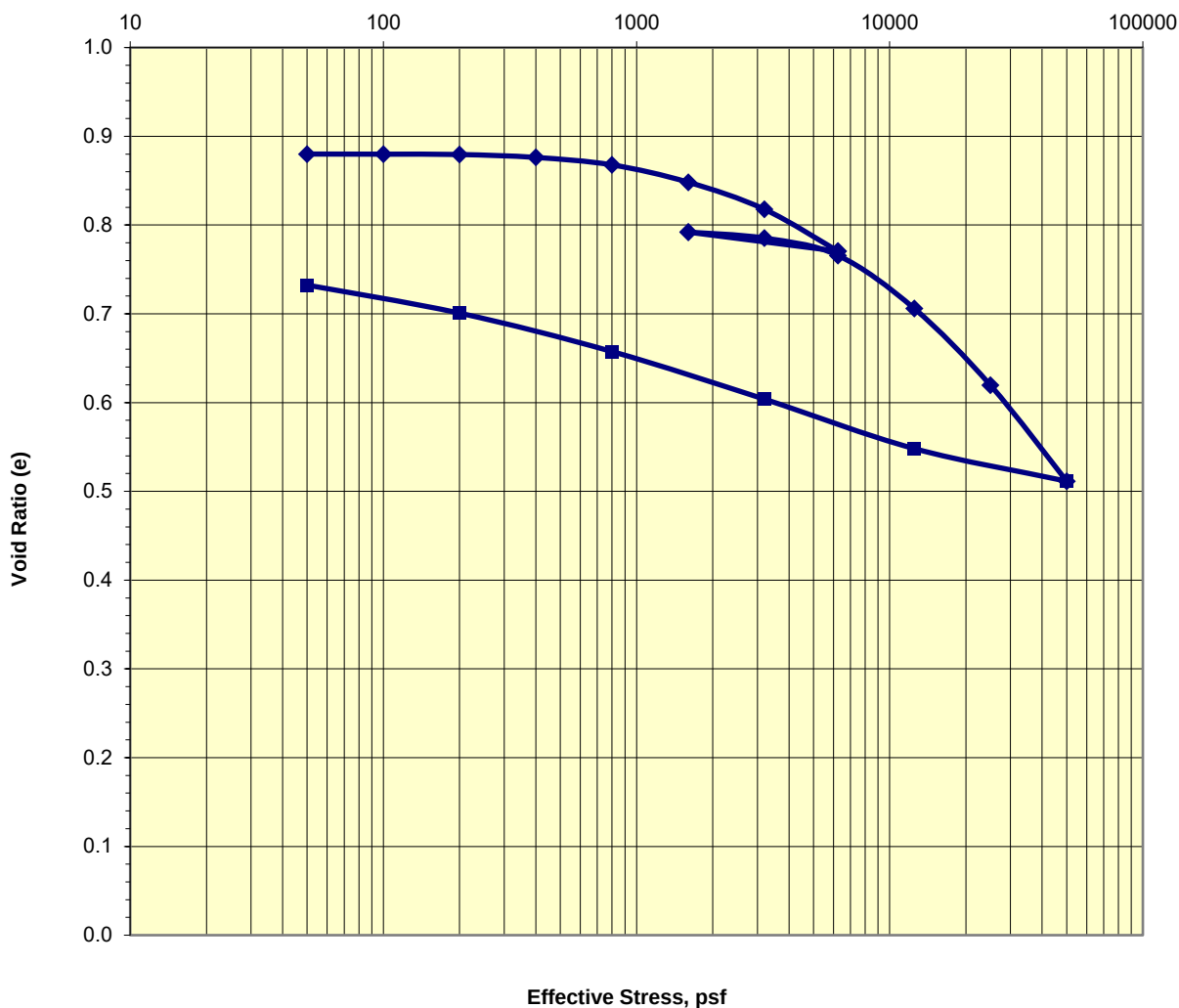


Consolidation Test

ASTM D2435

Job No.: 461-392	Boring: B4	Run By: HM
Client: Geosyntec Consultants	Sample: B4-9B	Reduced: RU
Project: WG3607	Depth, ft.: 36-36.5	Checked: PJ
Soil Type: Greenish Gray Fat CLAY w/ Sand		Date: 3/9/2026

e-Log-P Curve

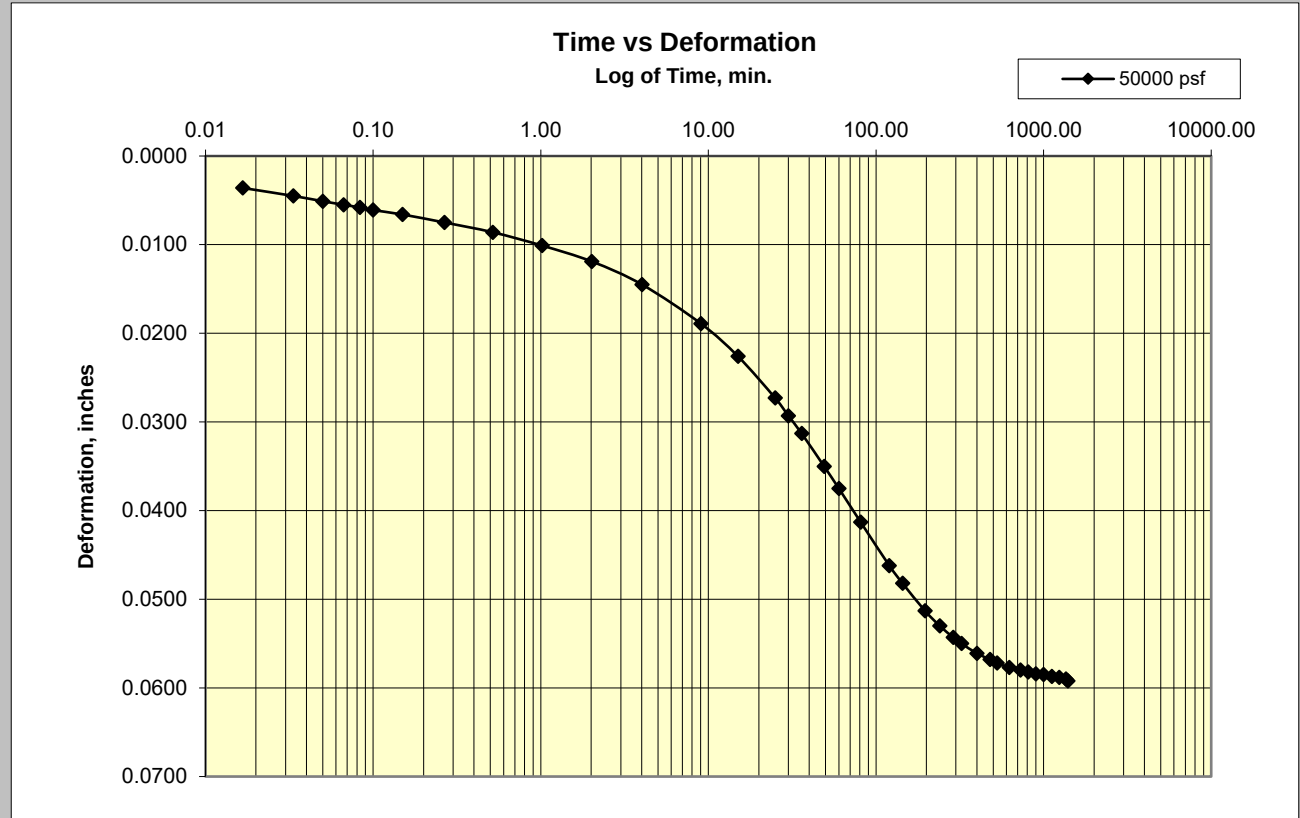


Assumed Gs	2.8	Initial	Final	Remarks:
Moisture %:		30.3	27.2	
Dry Density, pcf:		93.0	99.2	
Void Ratio:		0.880	0.762	
% Saturation:		96.4	100.0	

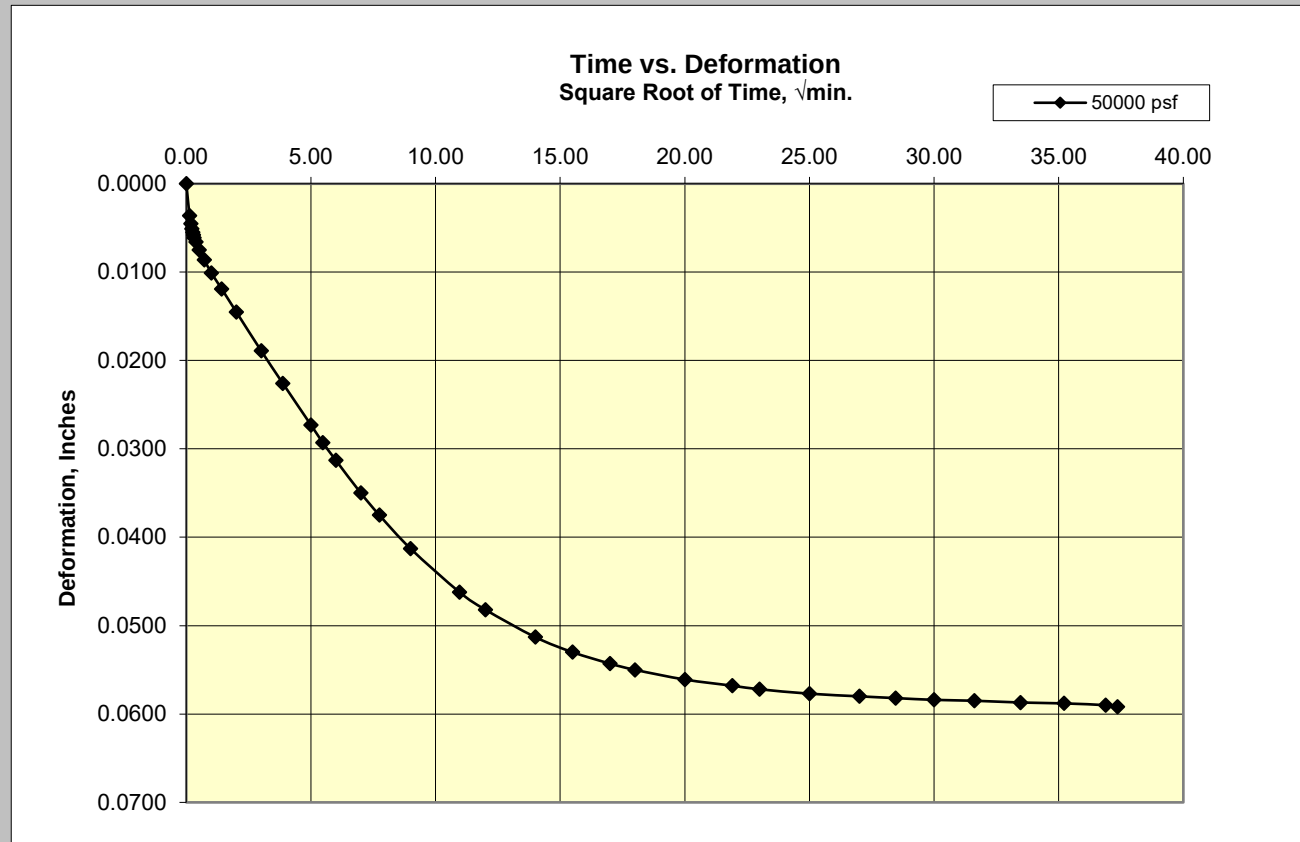
Cooper Testing Labs, Inc.

Load 14

50000 psf



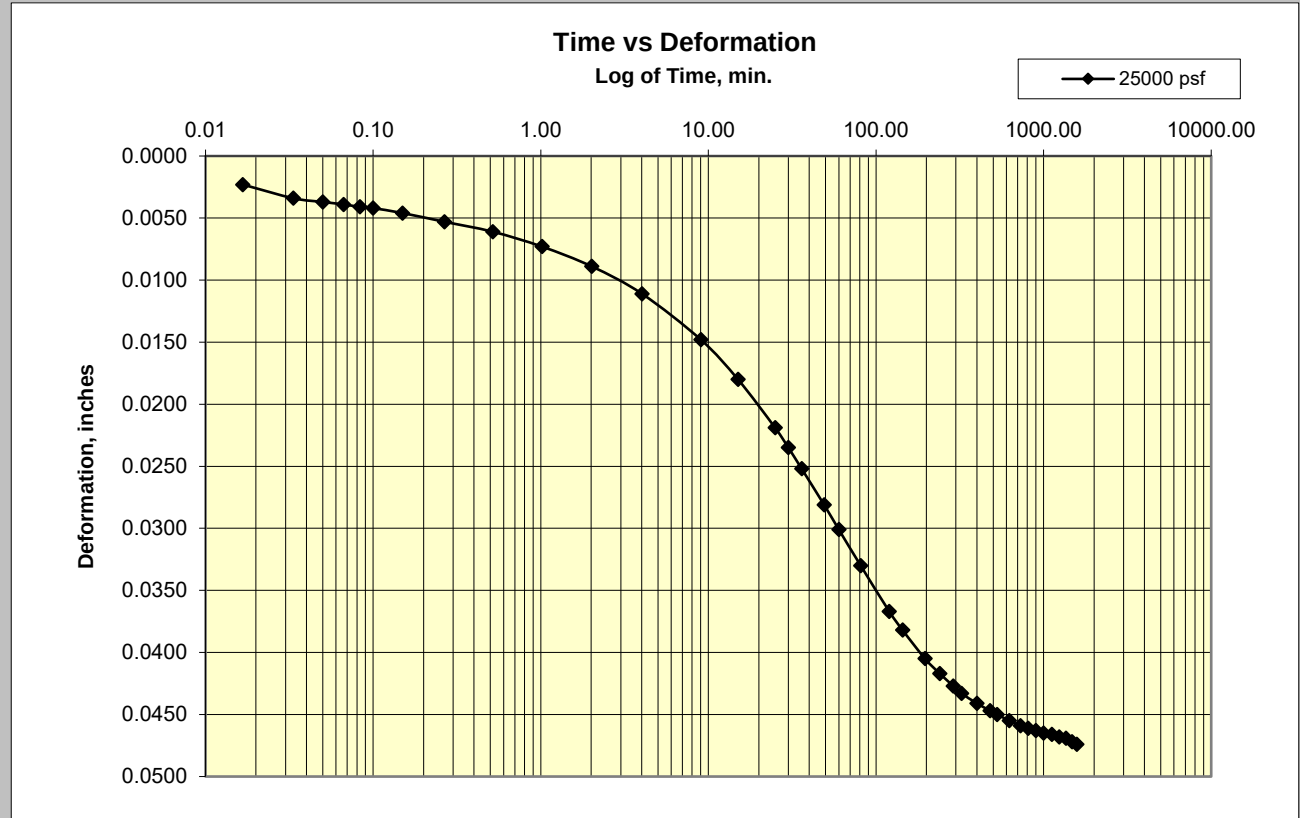
50000 psf



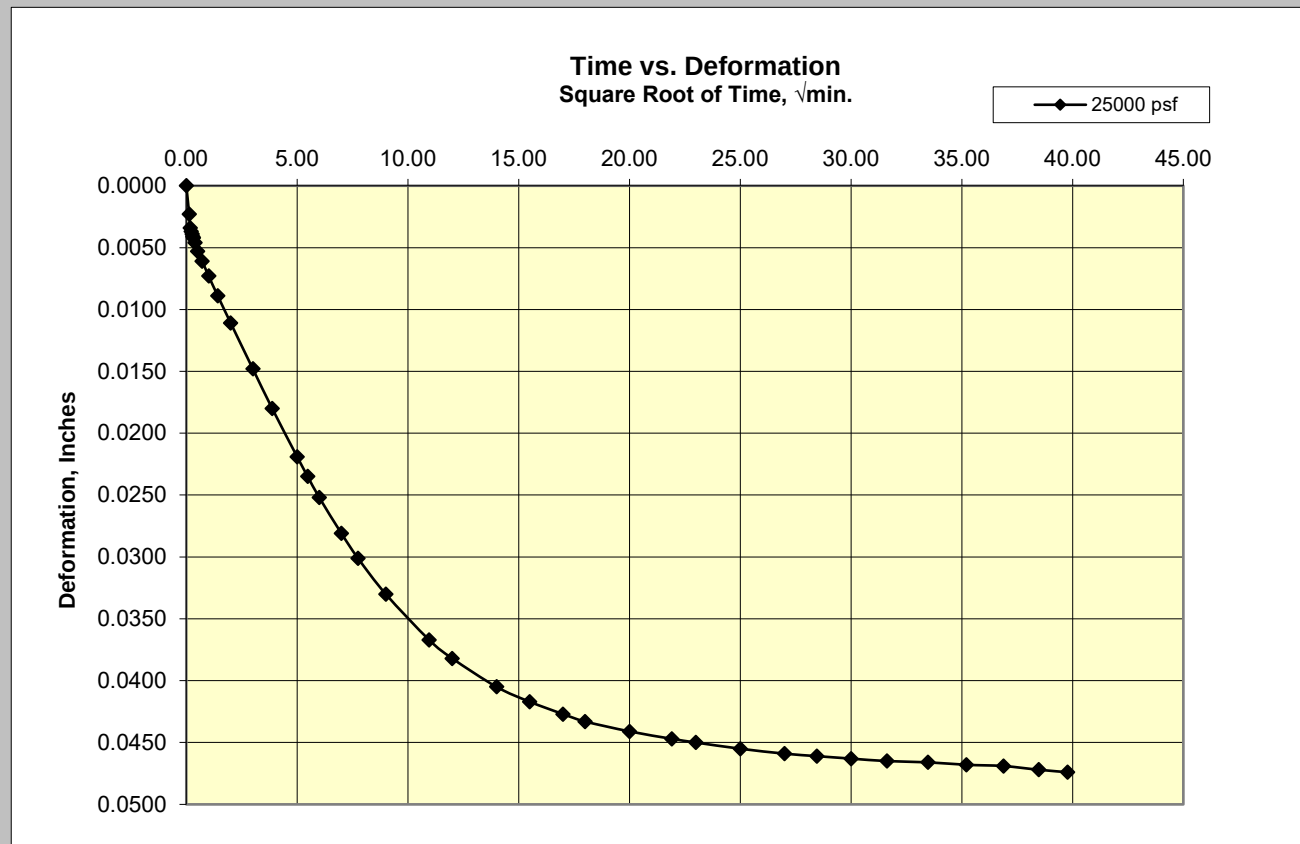
Cooper Testing Labs, Inc.

Load 13

25000 psf



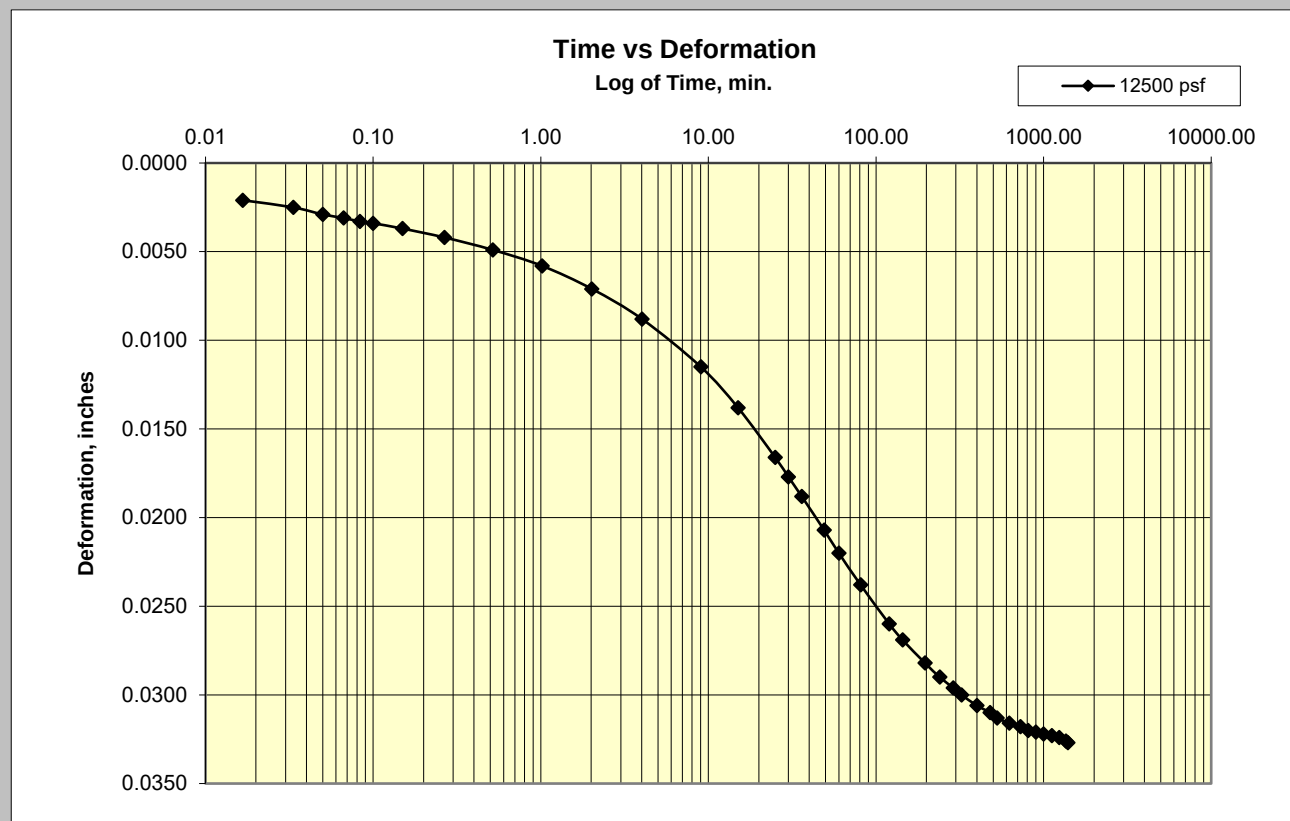
25000 psf



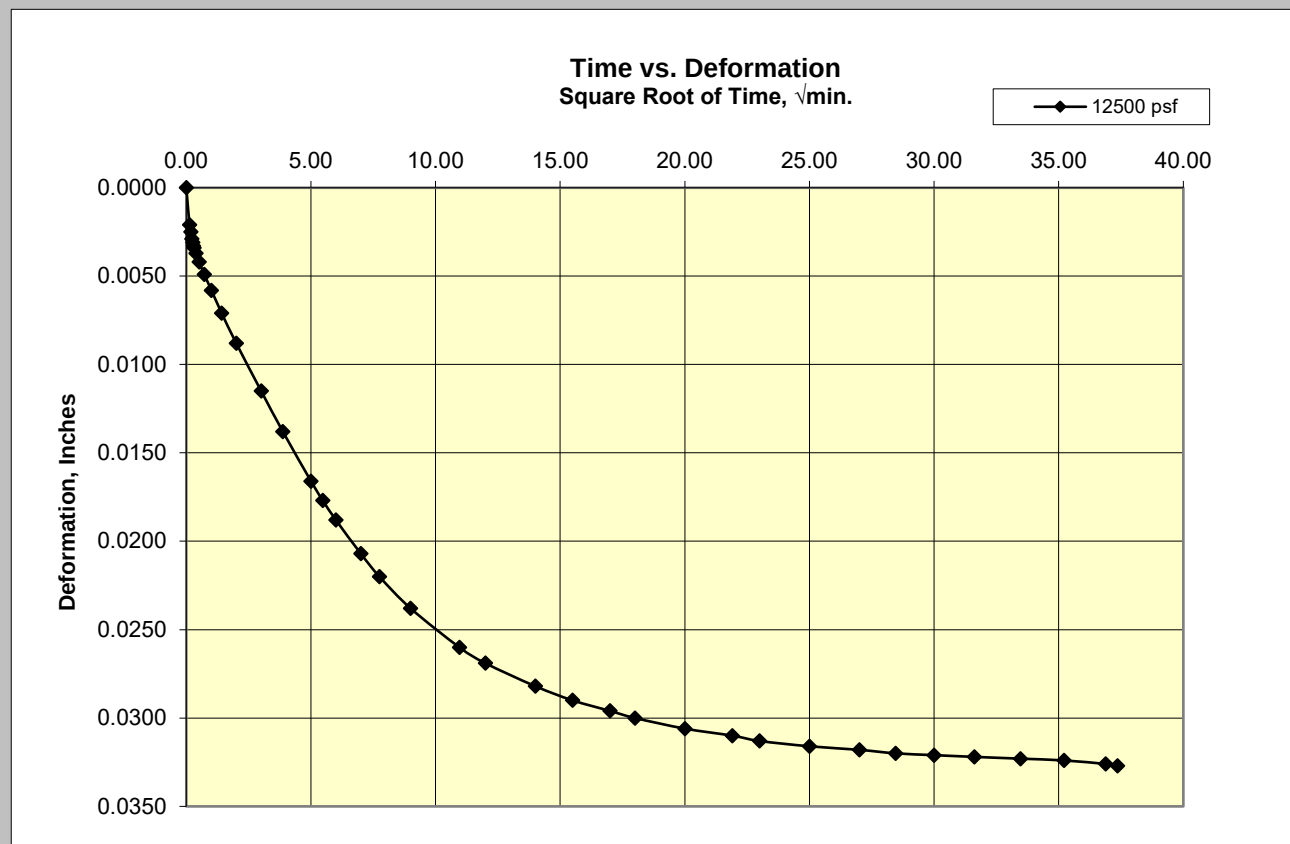
Cooper Testing Labs, Inc.

Load 12

12500 psf



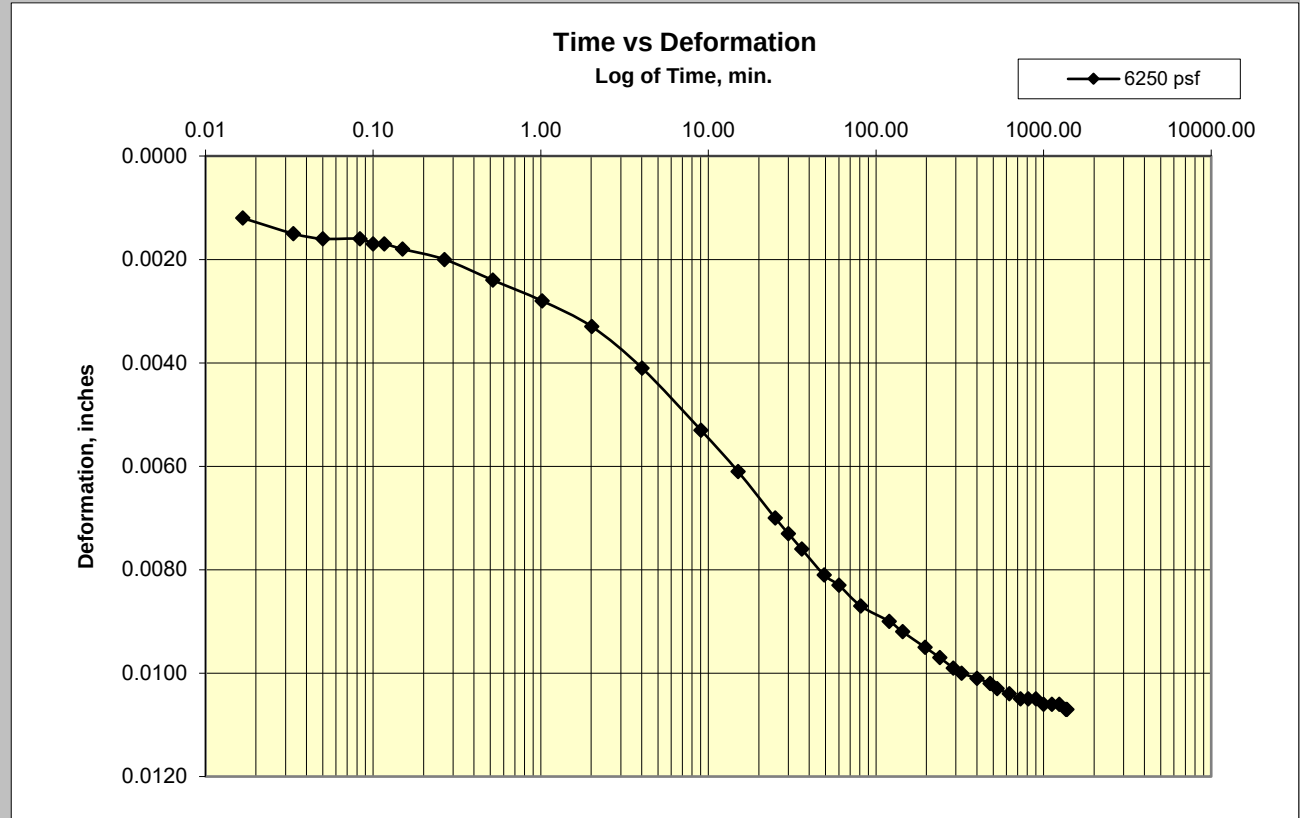
12500 psf



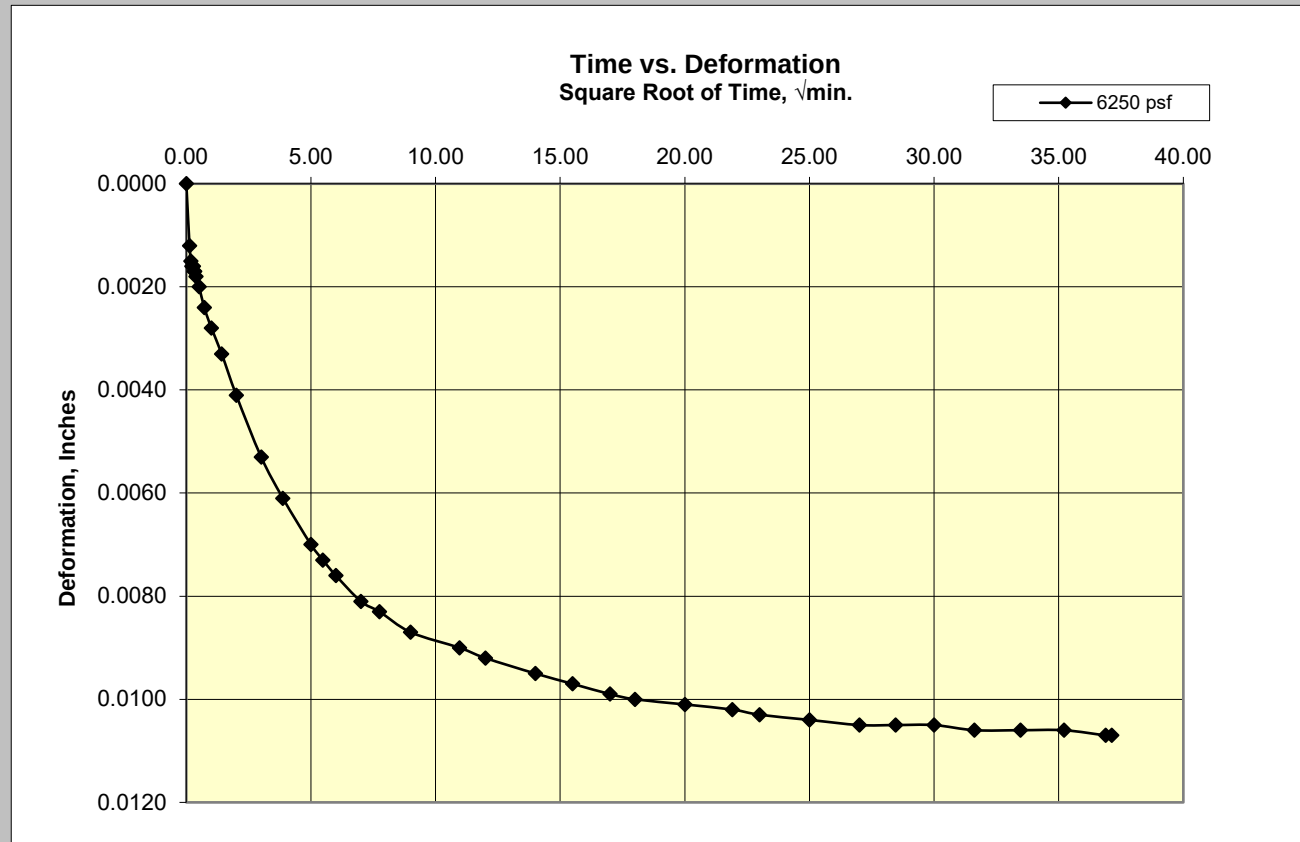
Cooper Testing Labs, Inc.

Load 11

6250 psf



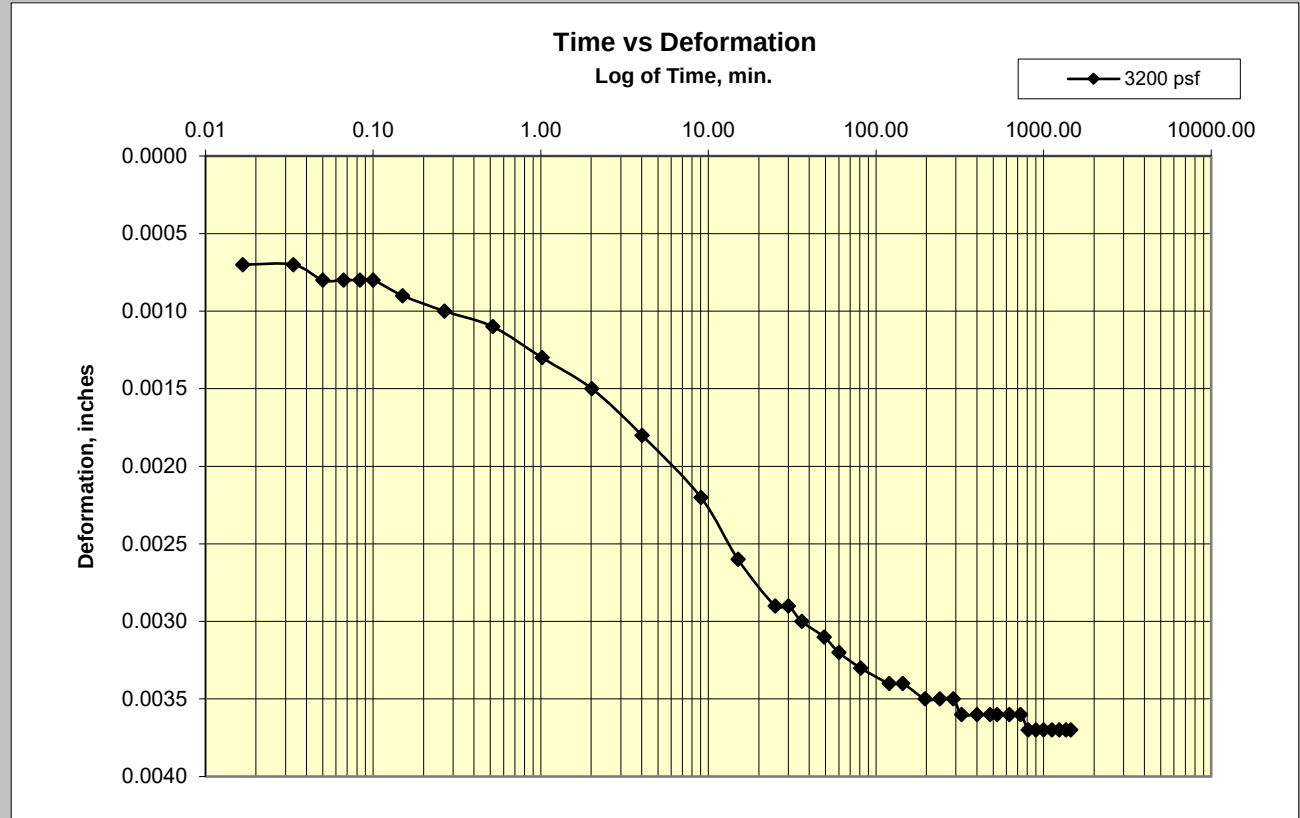
6250 psf



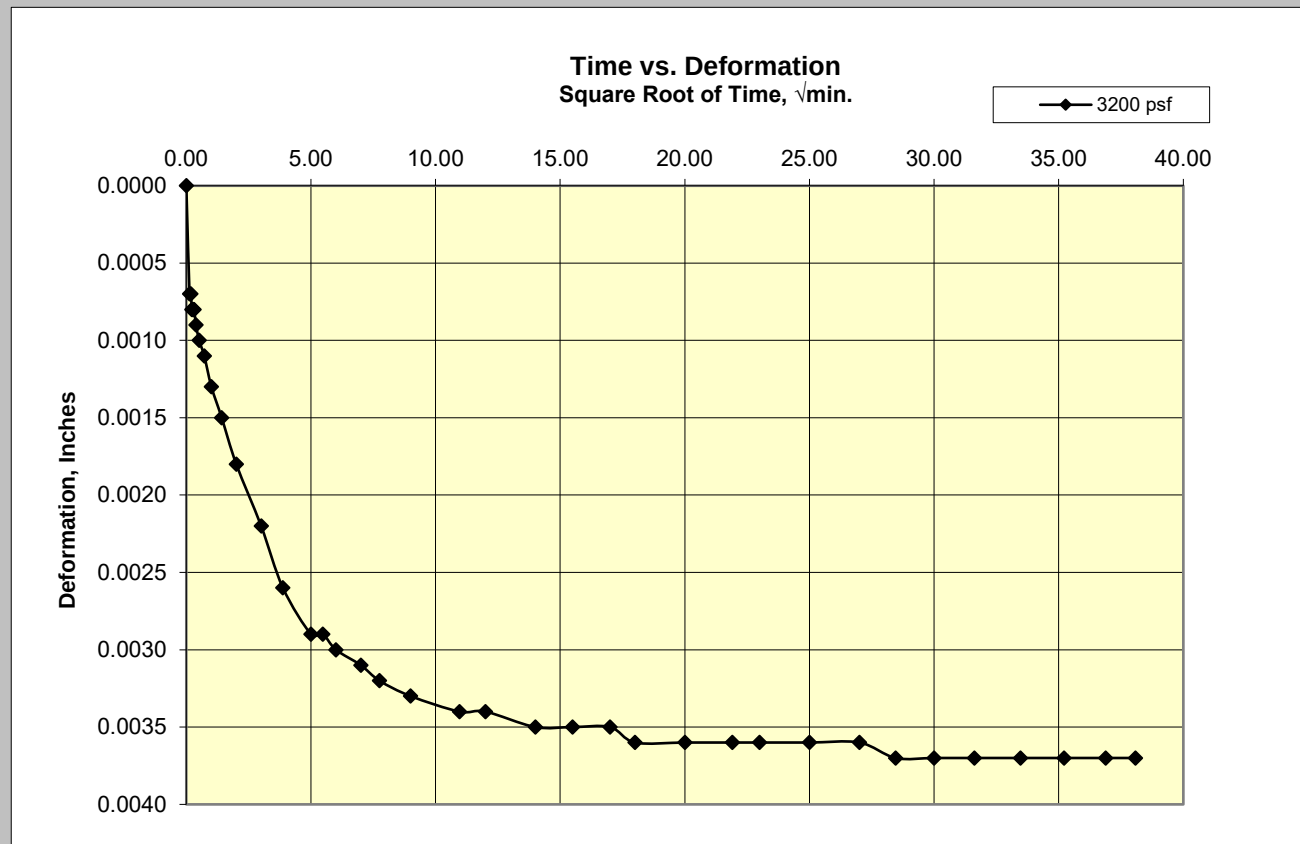
Cooper Testing Labs, Inc.

Load 10

3200 psf



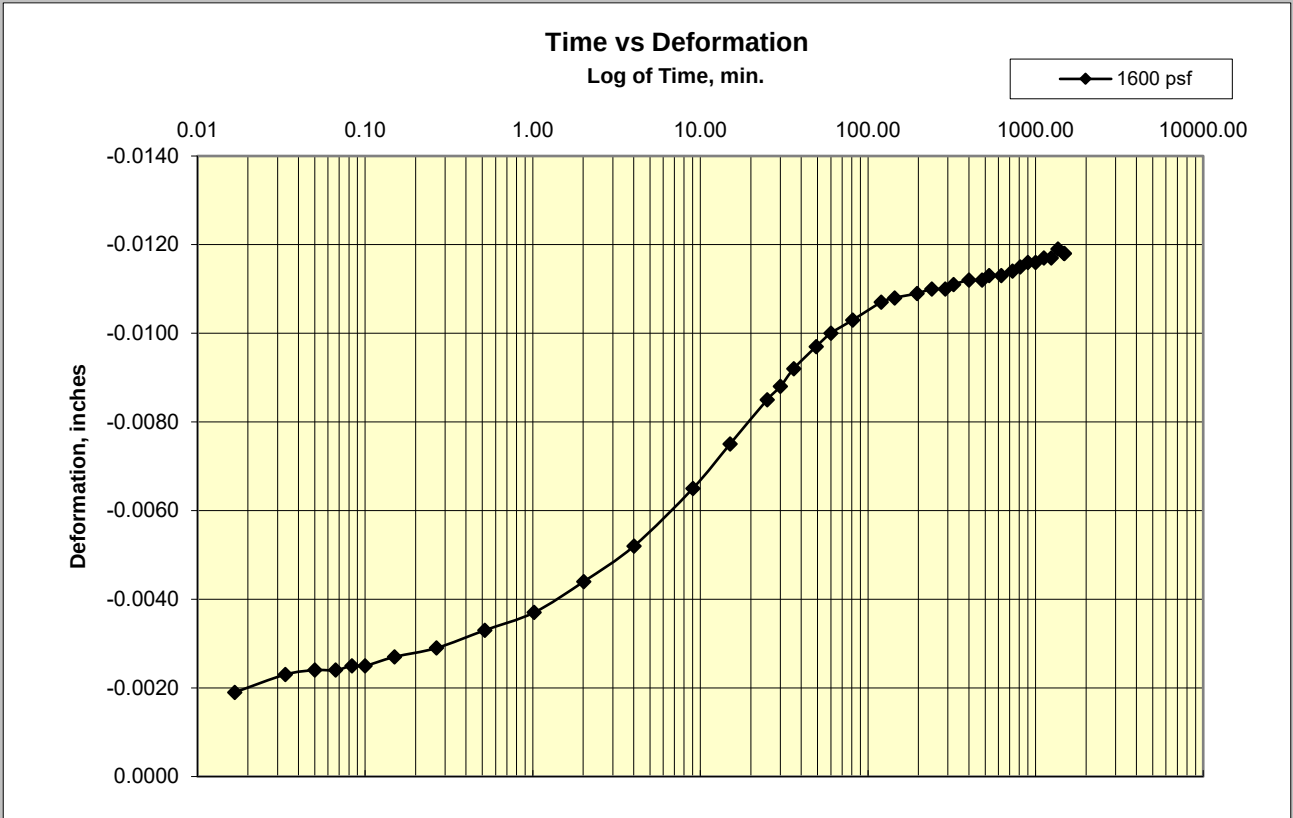
3200 psf



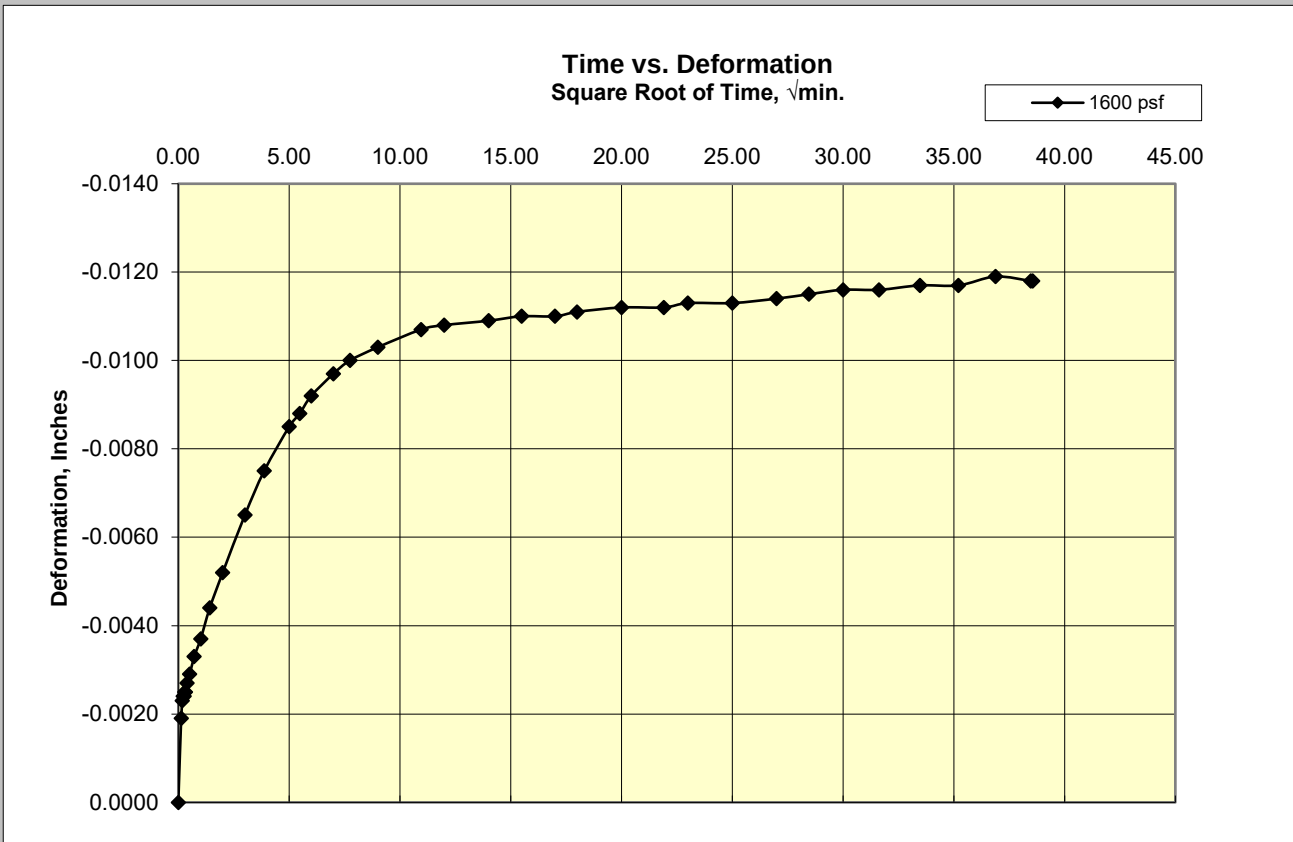
Cooper Testing Labs, Inc.

Load 9

1600 psf



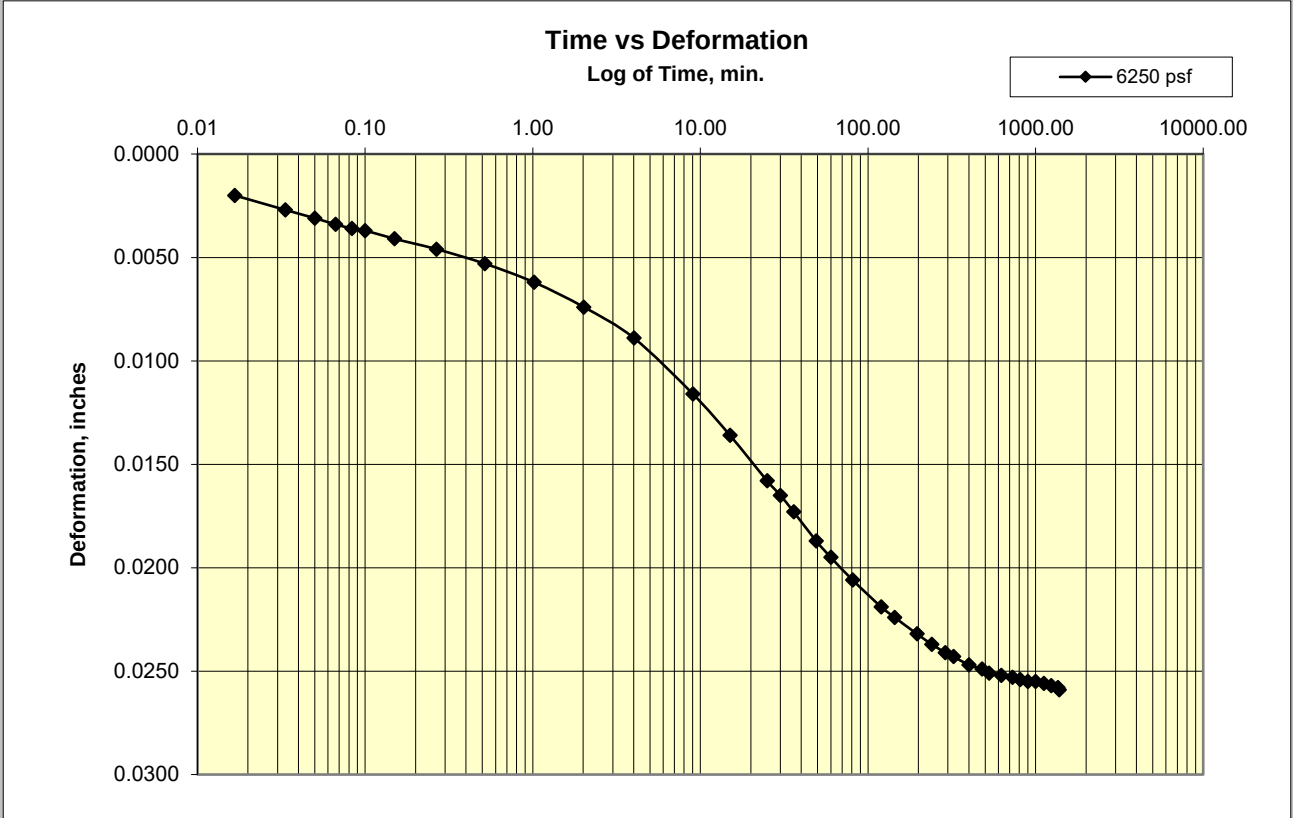
1600 psf



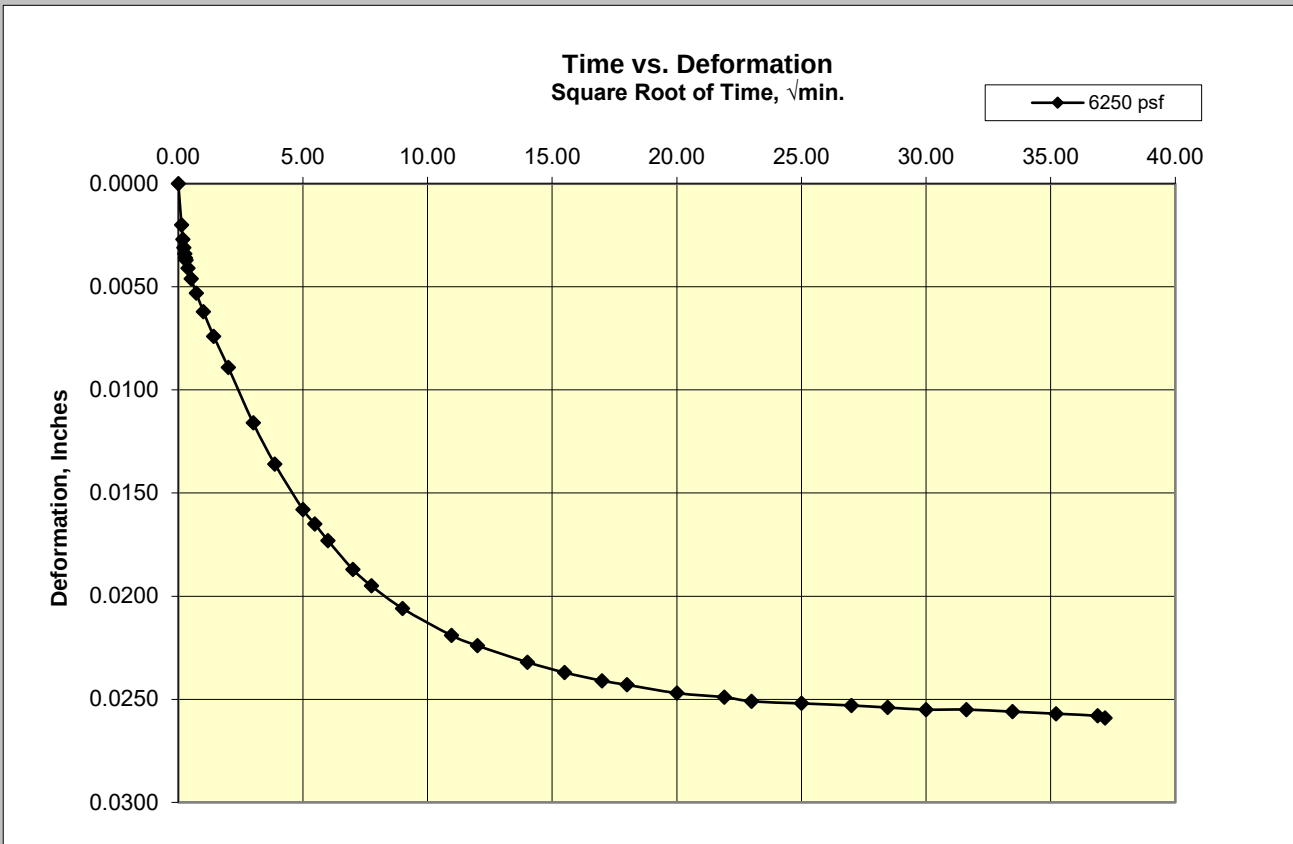
Cooper Testing Labs, Inc.

Load 8

6250 psf



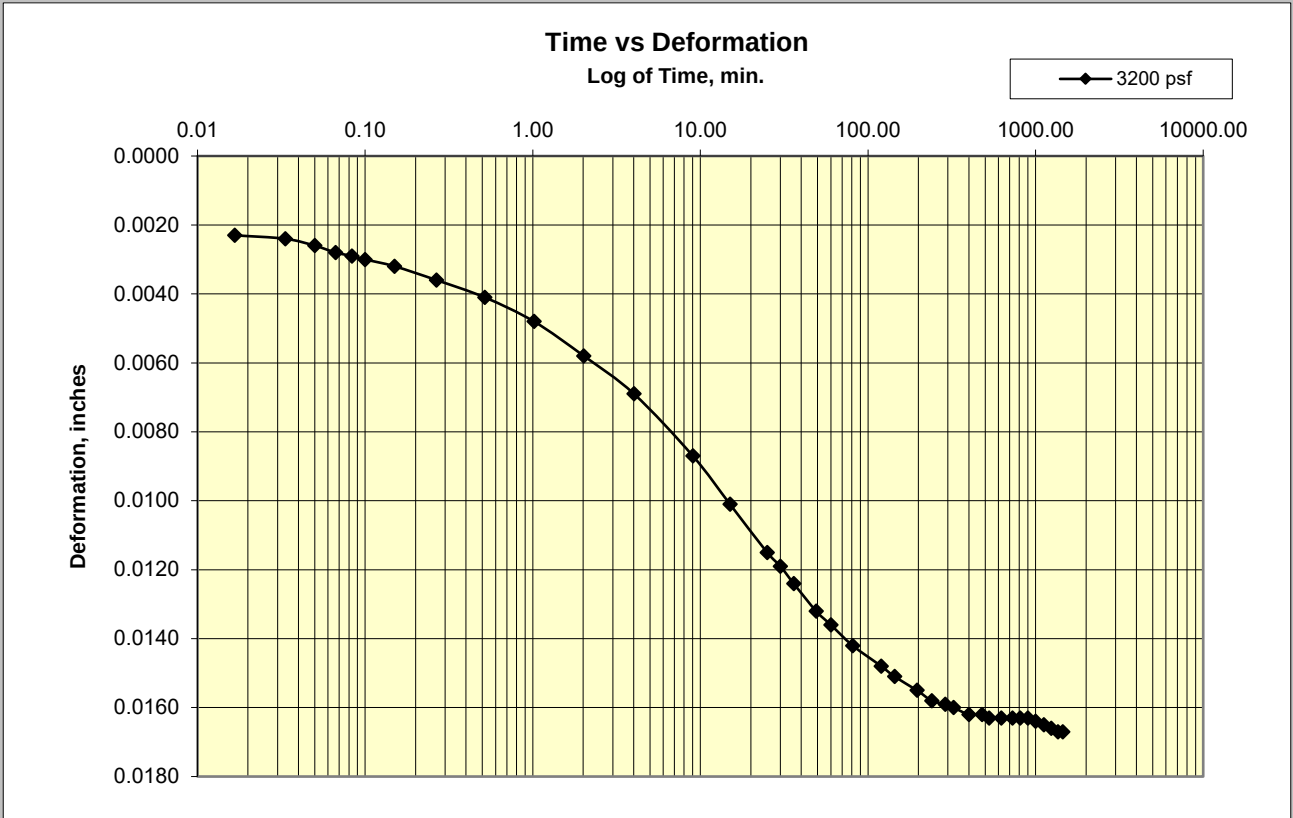
6250 psf



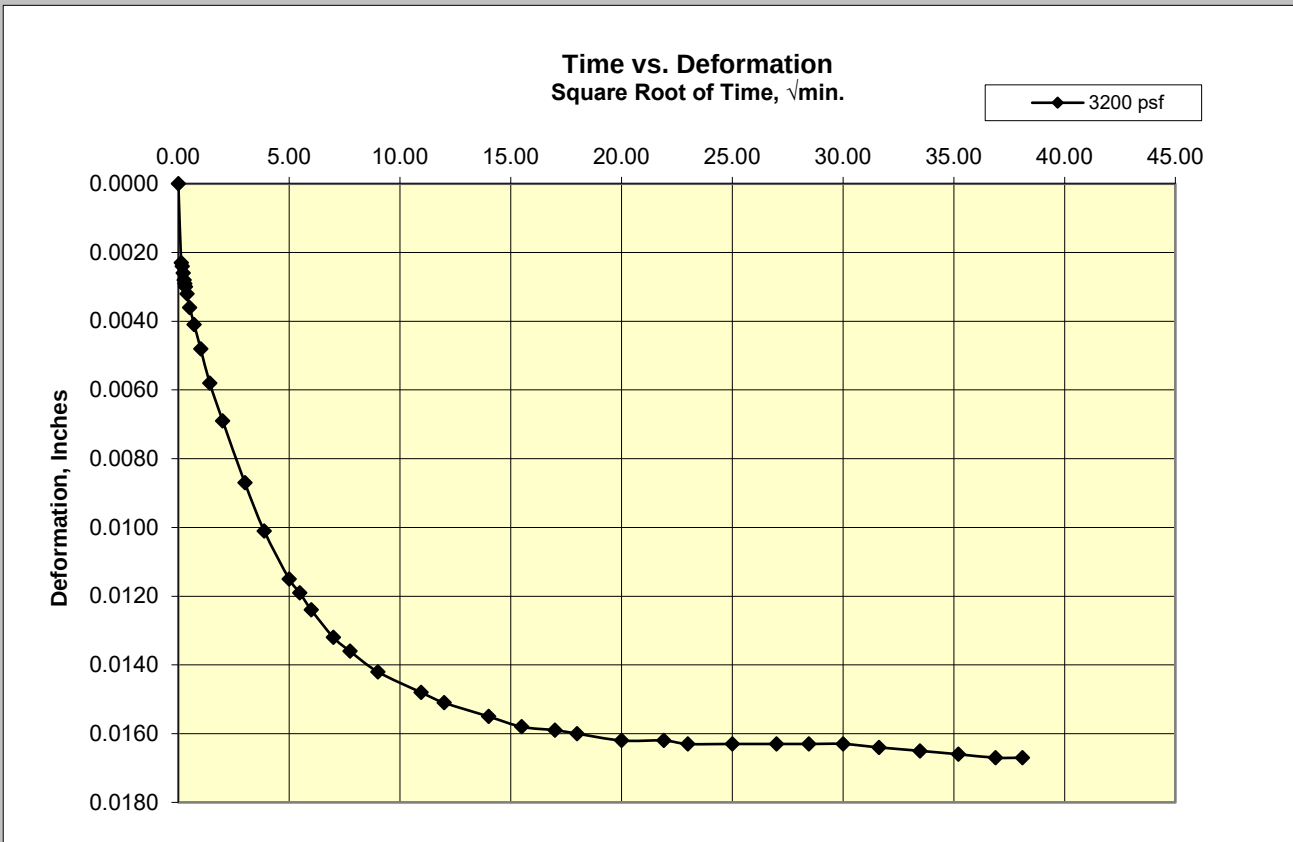
Cooper Testing Labs, Inc.

Load 7

3200 psf



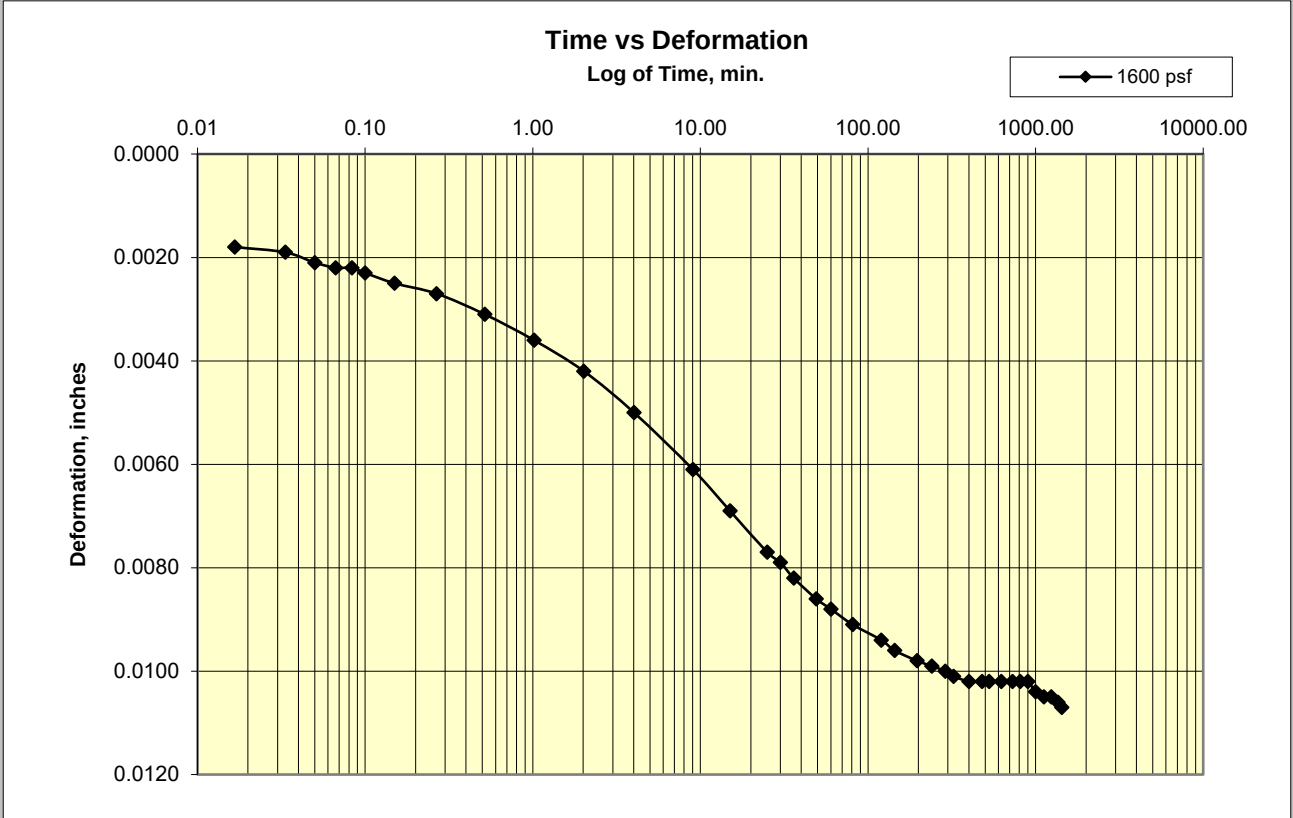
3200 psf



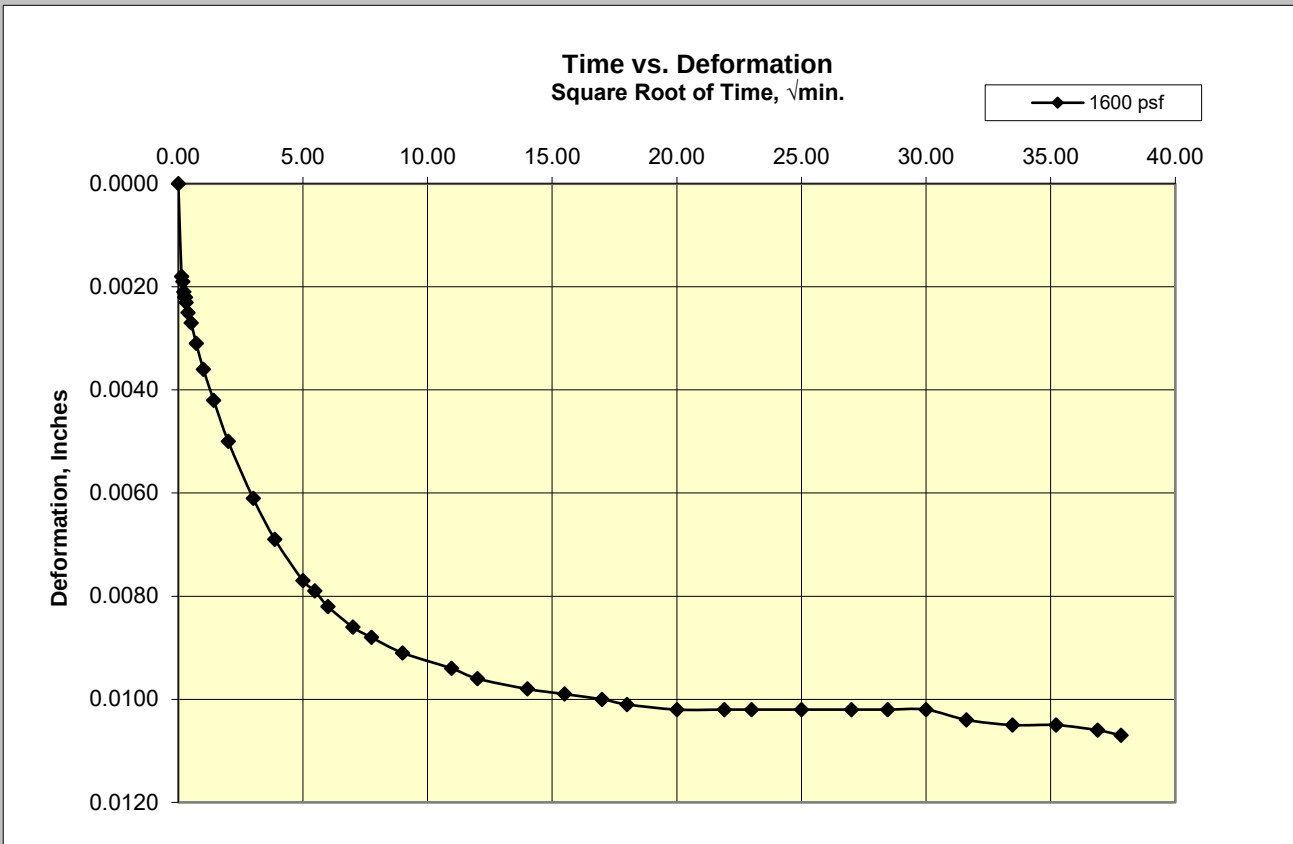
Cooper Testing Labs, Inc.

Load 6

1600 psf



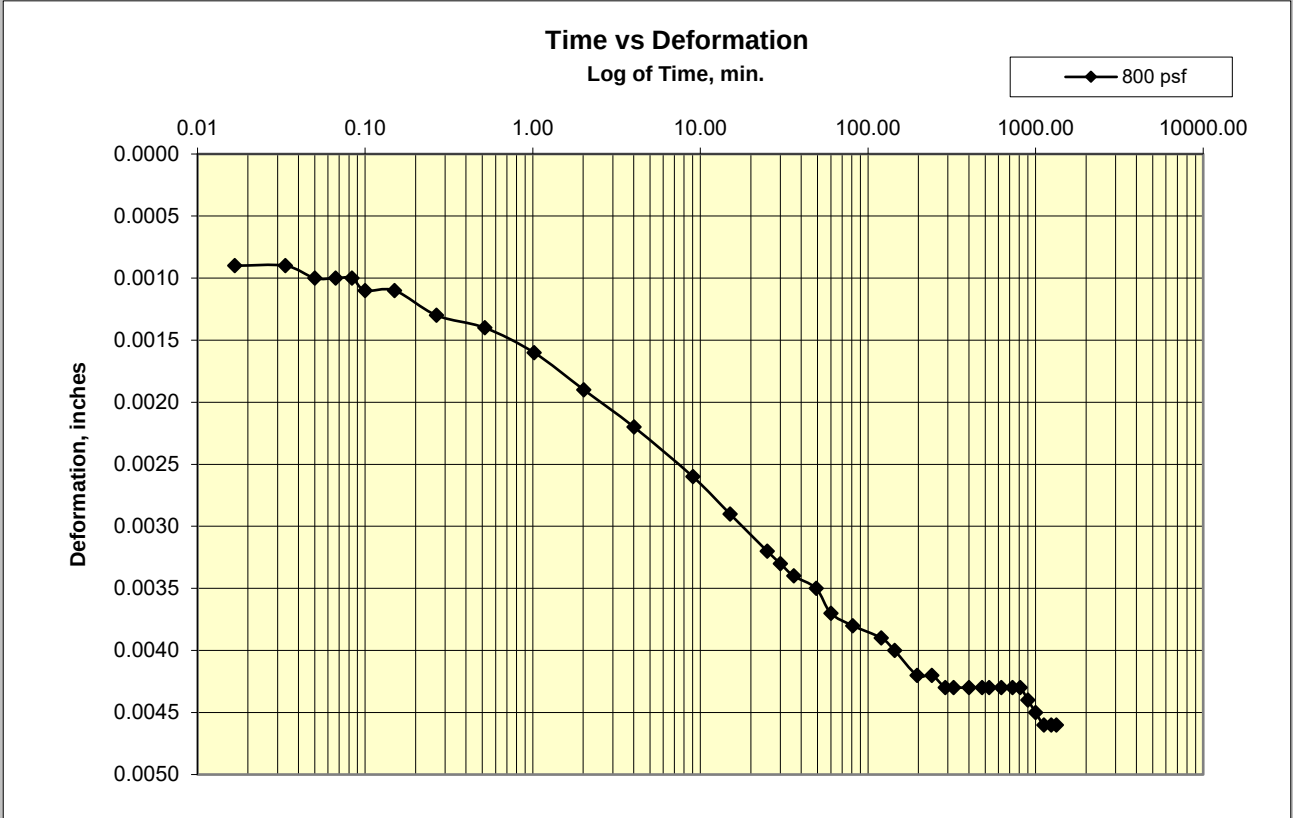
1600 psf



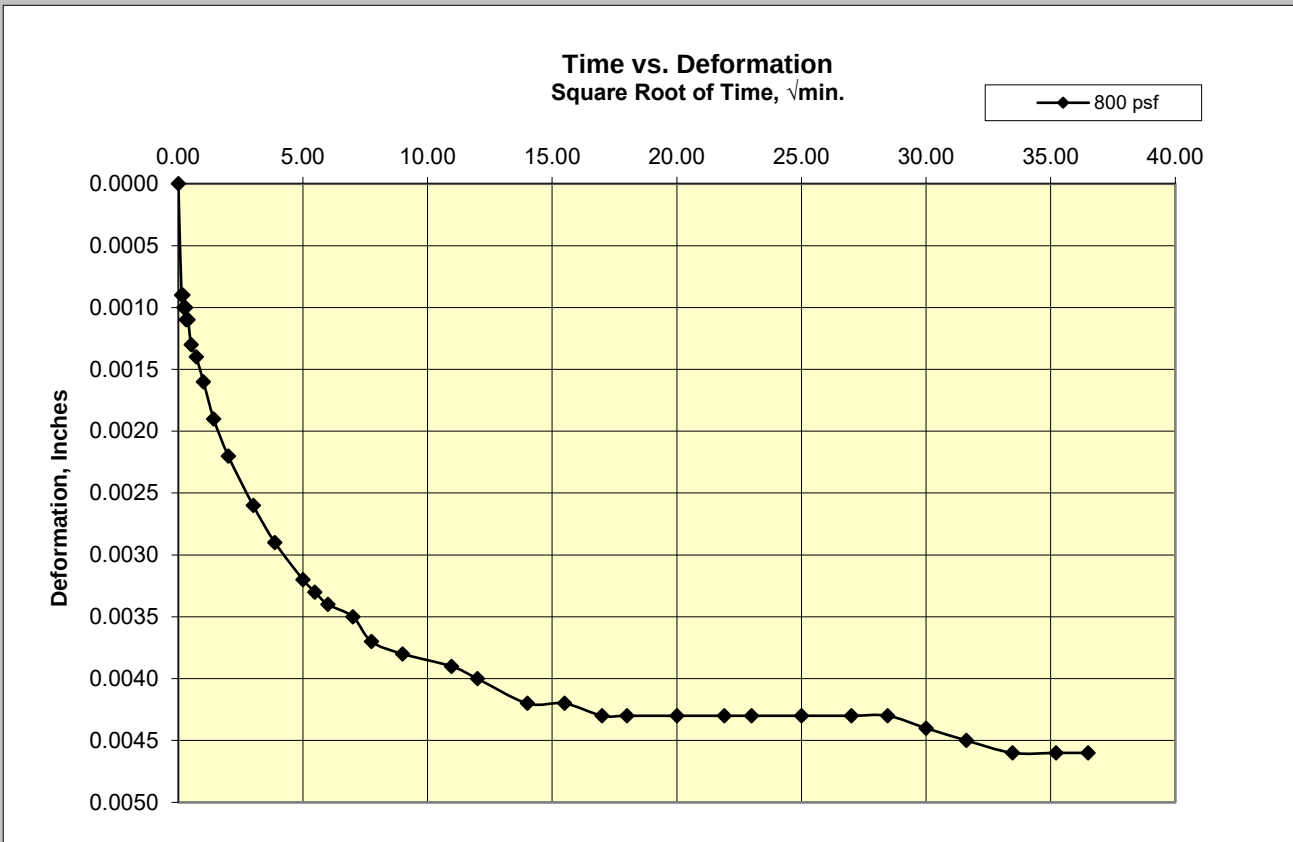
Cooper Testing Labs, Inc.

Load 5

800 psf



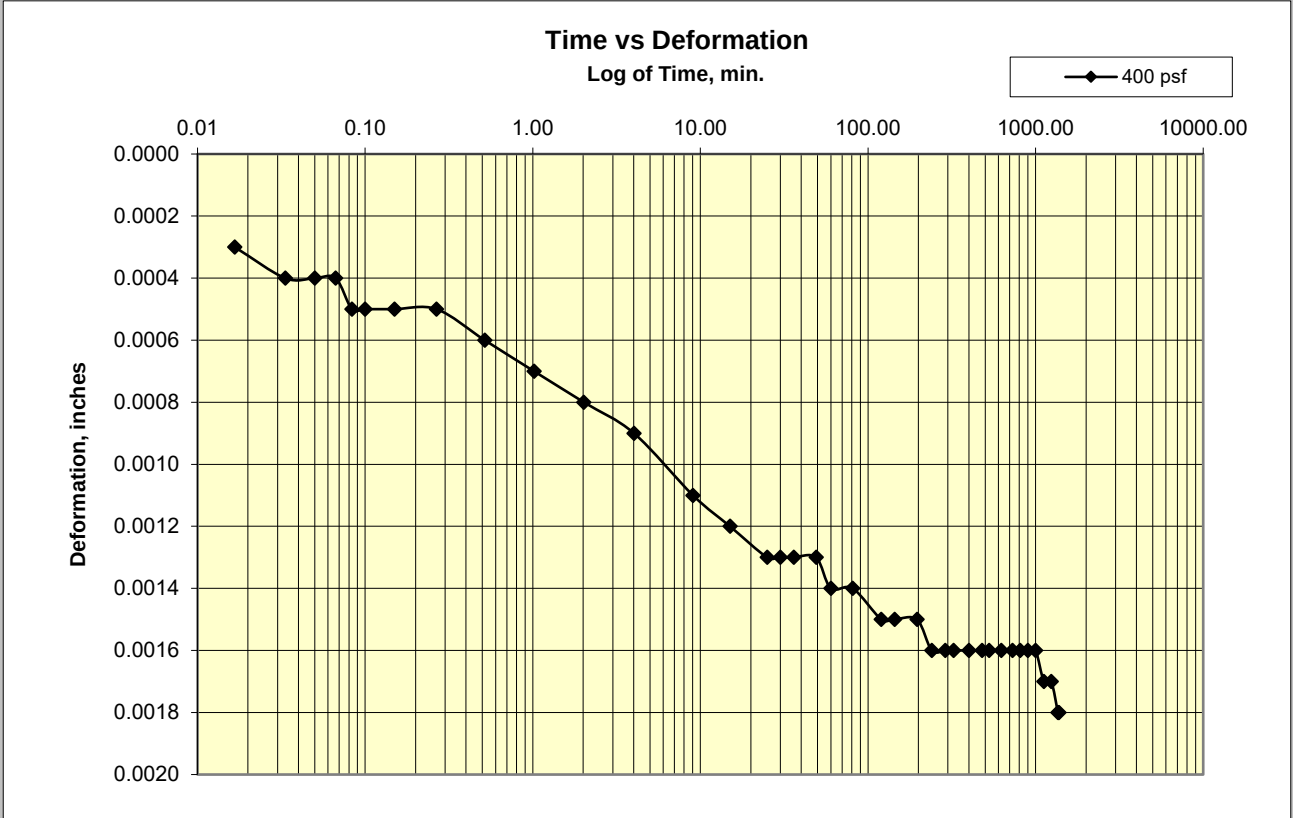
800 psf



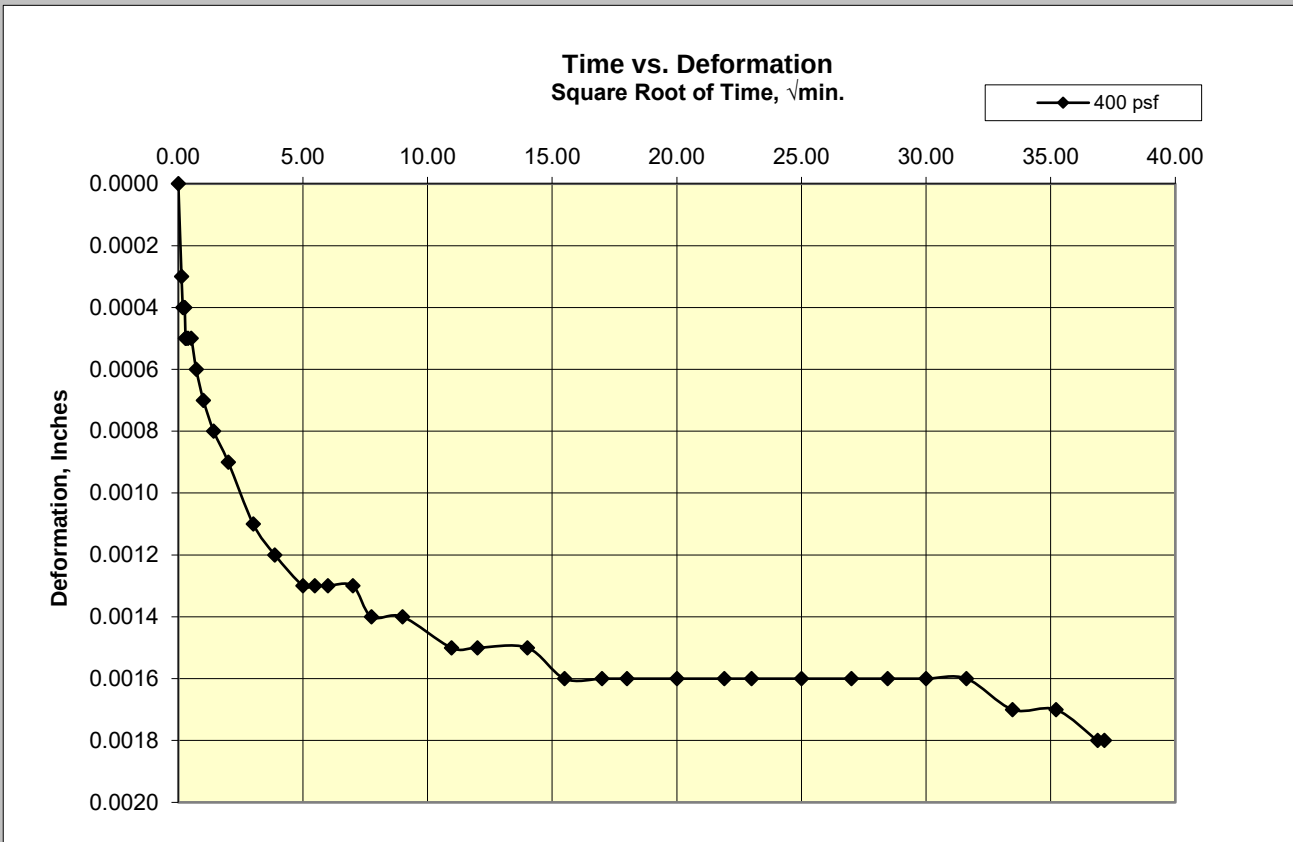
Cooper Testing Labs, Inc.

Load 4

400 psf



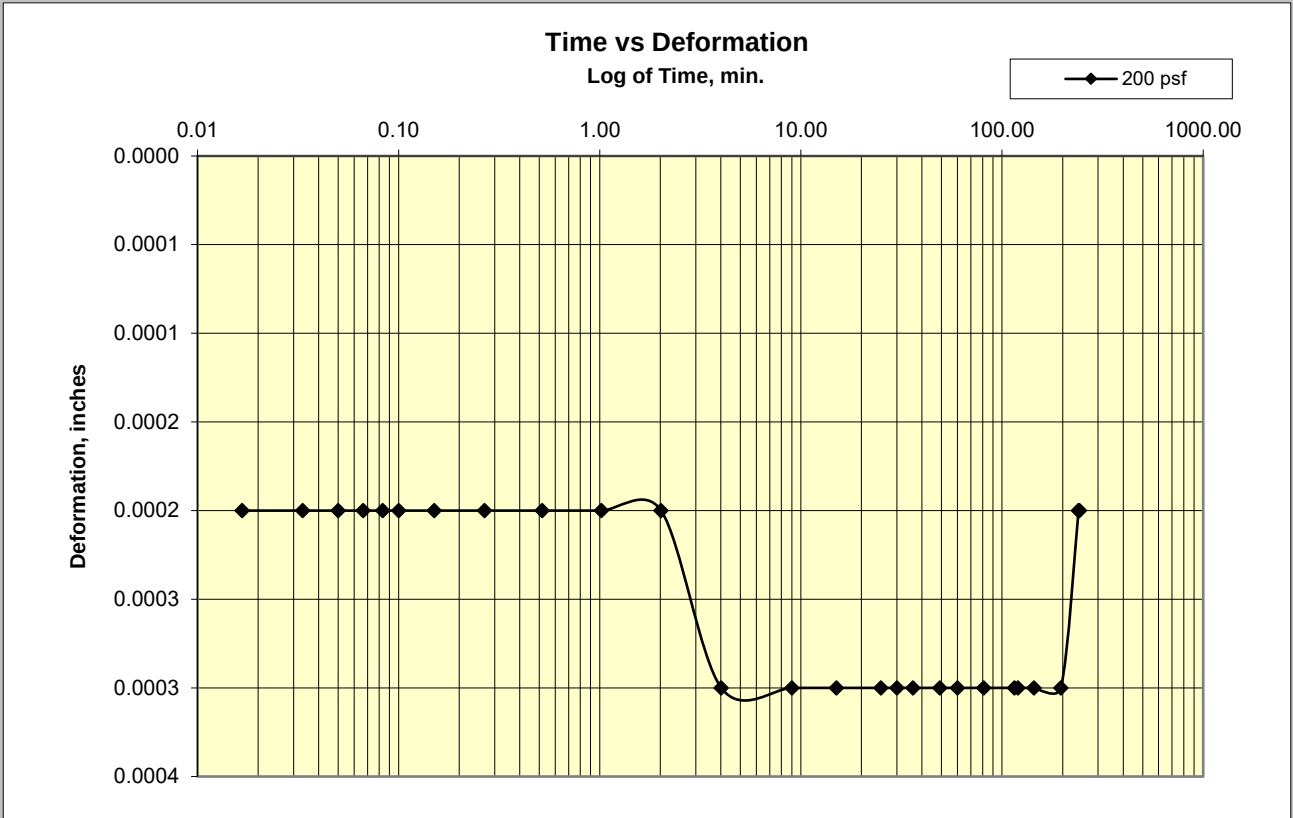
400 psf



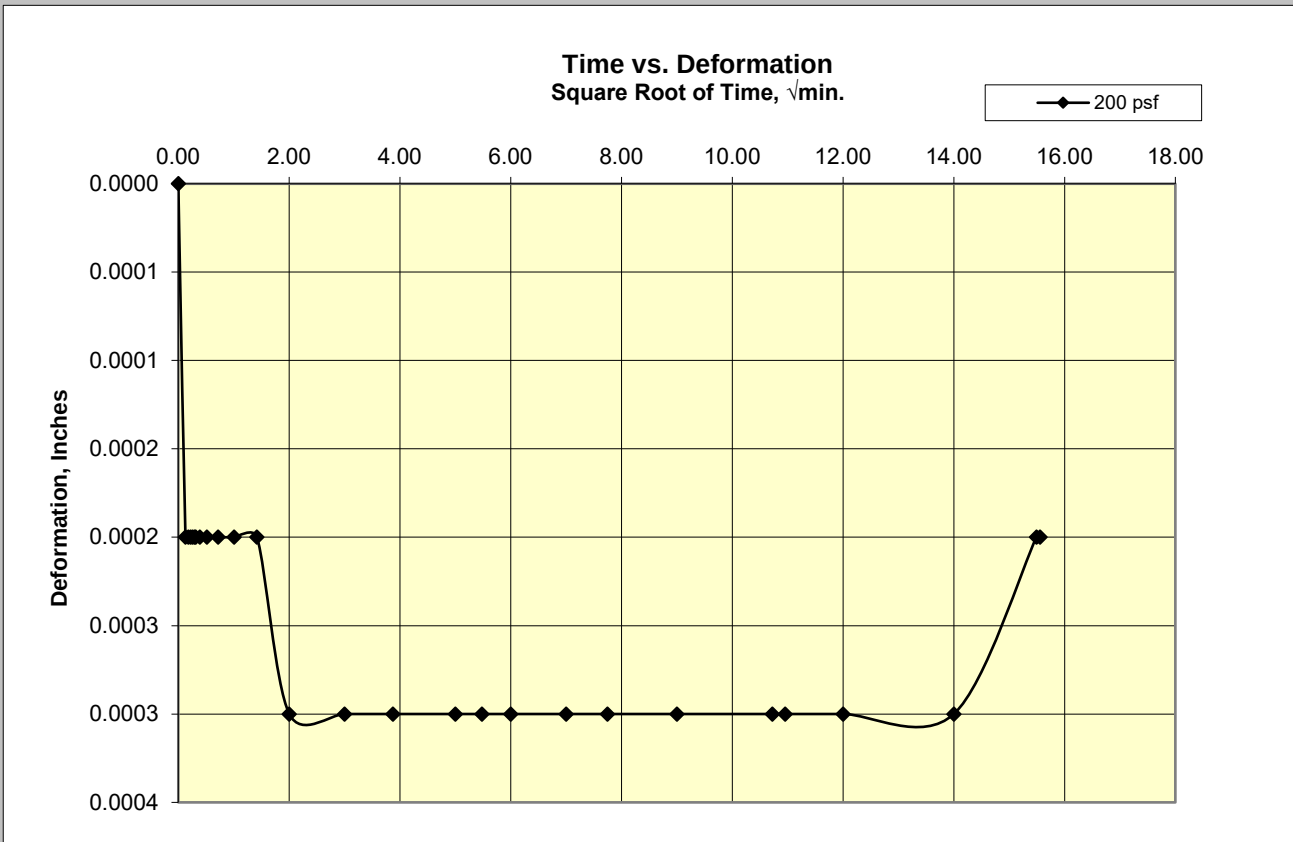
Cooper Testing Labs, Inc.

Load 3

200 psf



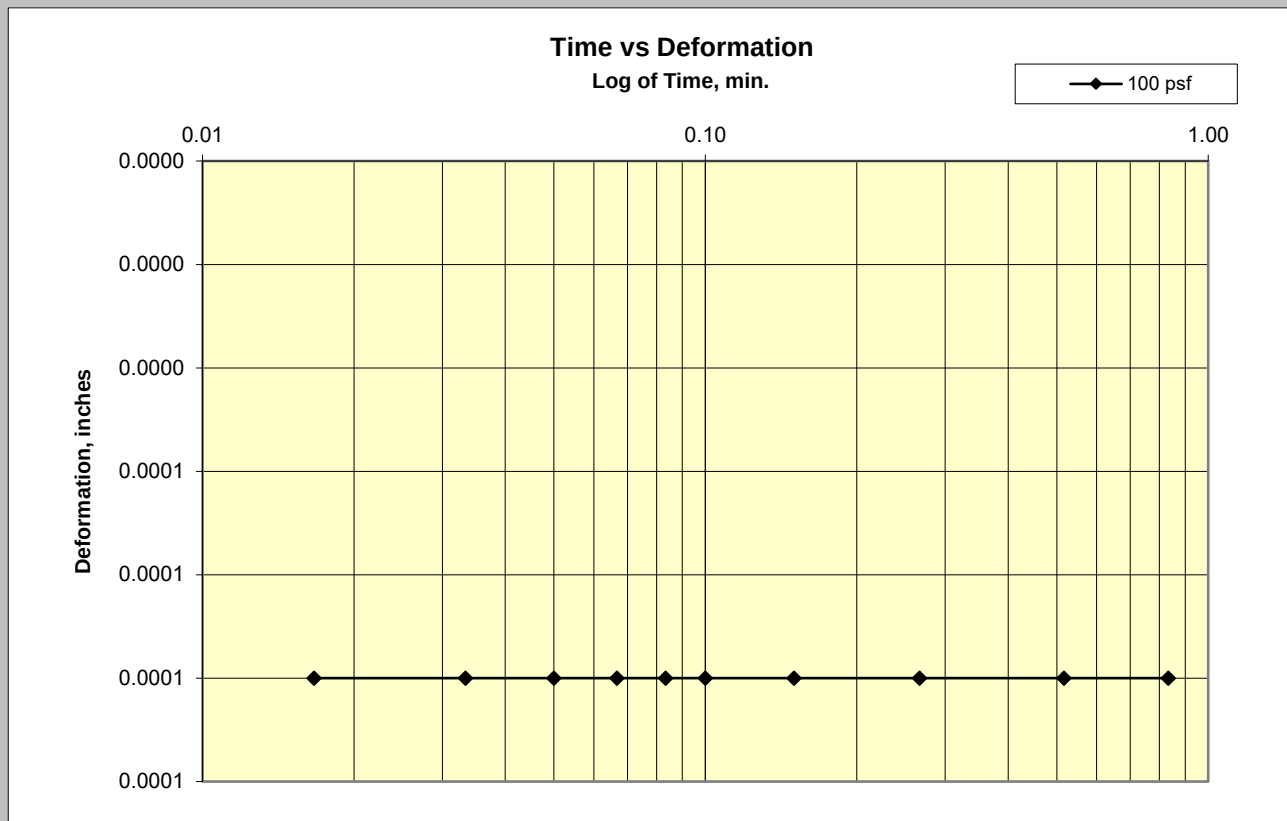
200 psf



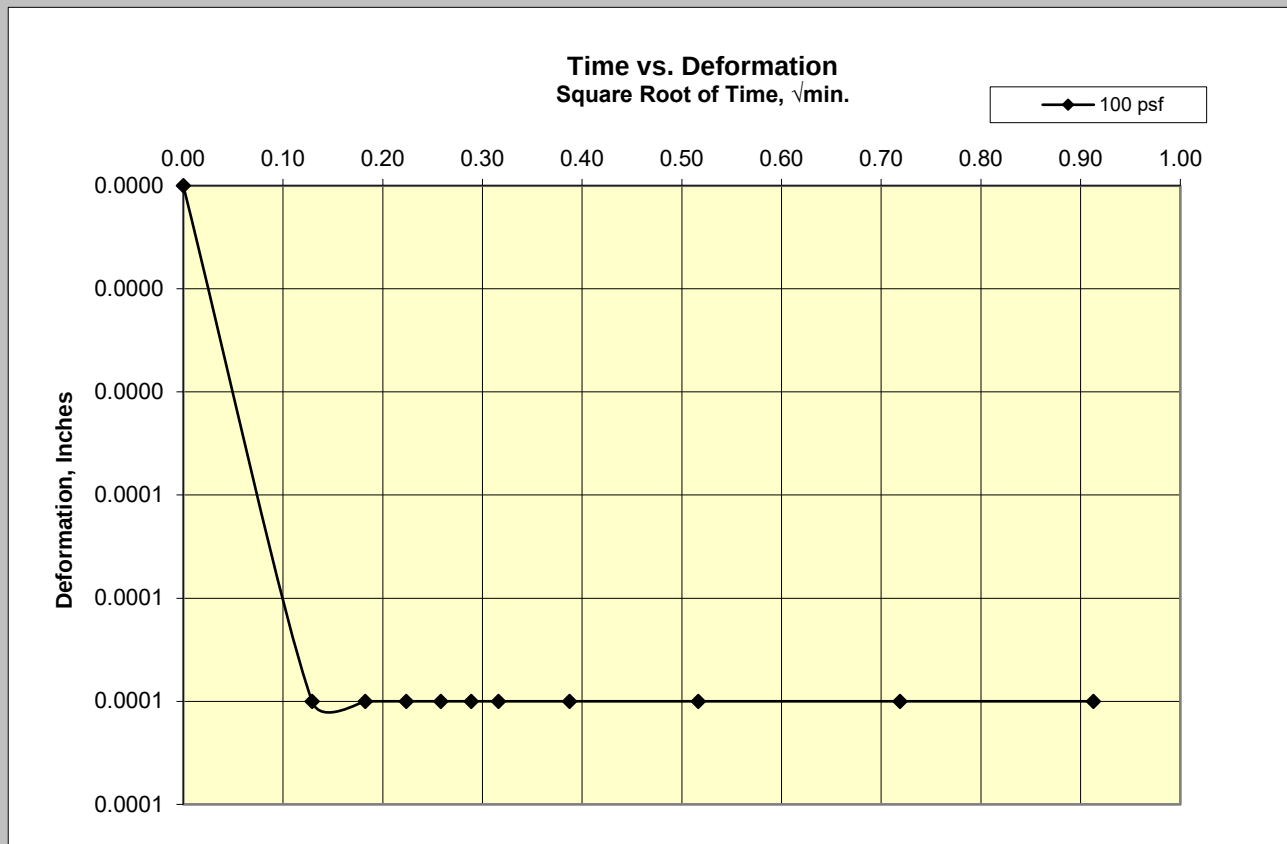
Cooper Testing Labs, Inc.

Load 2

100 psf



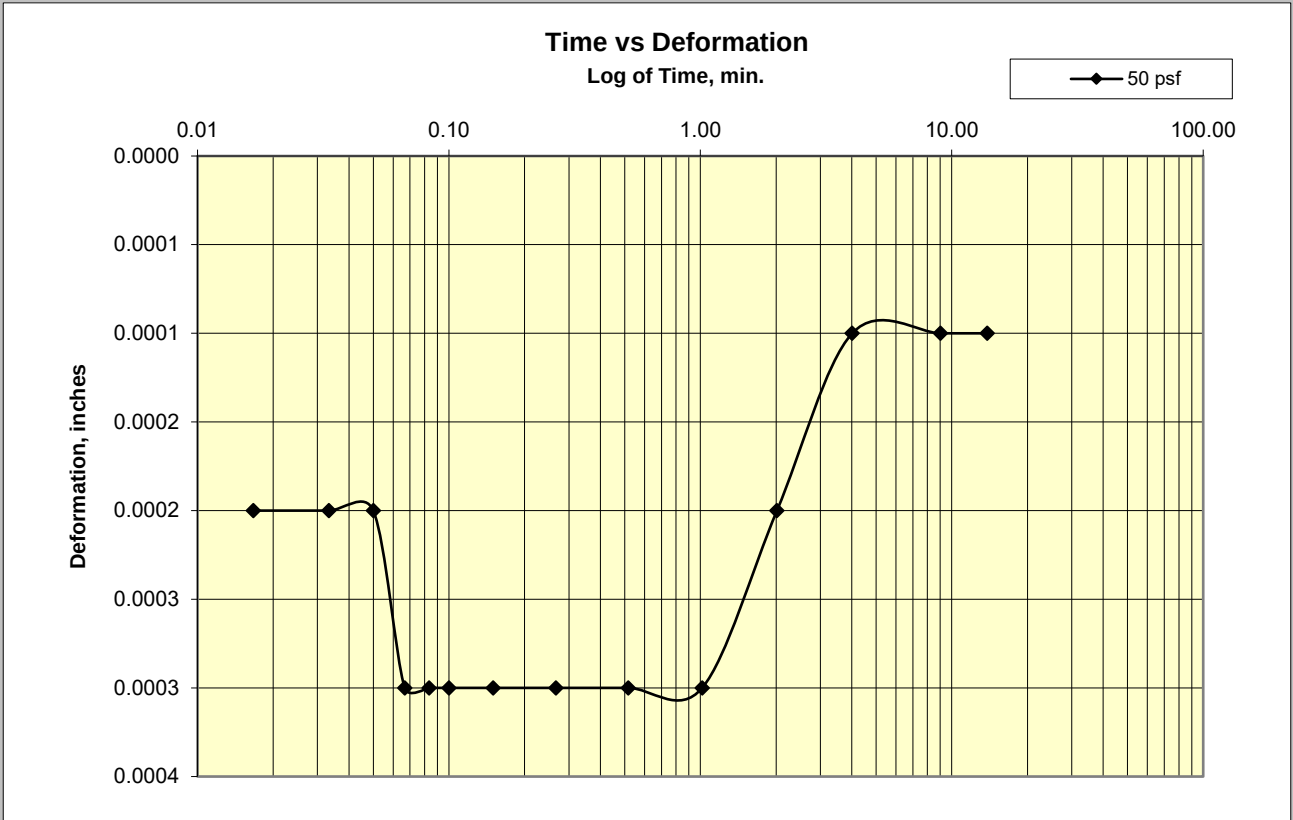
100 psf



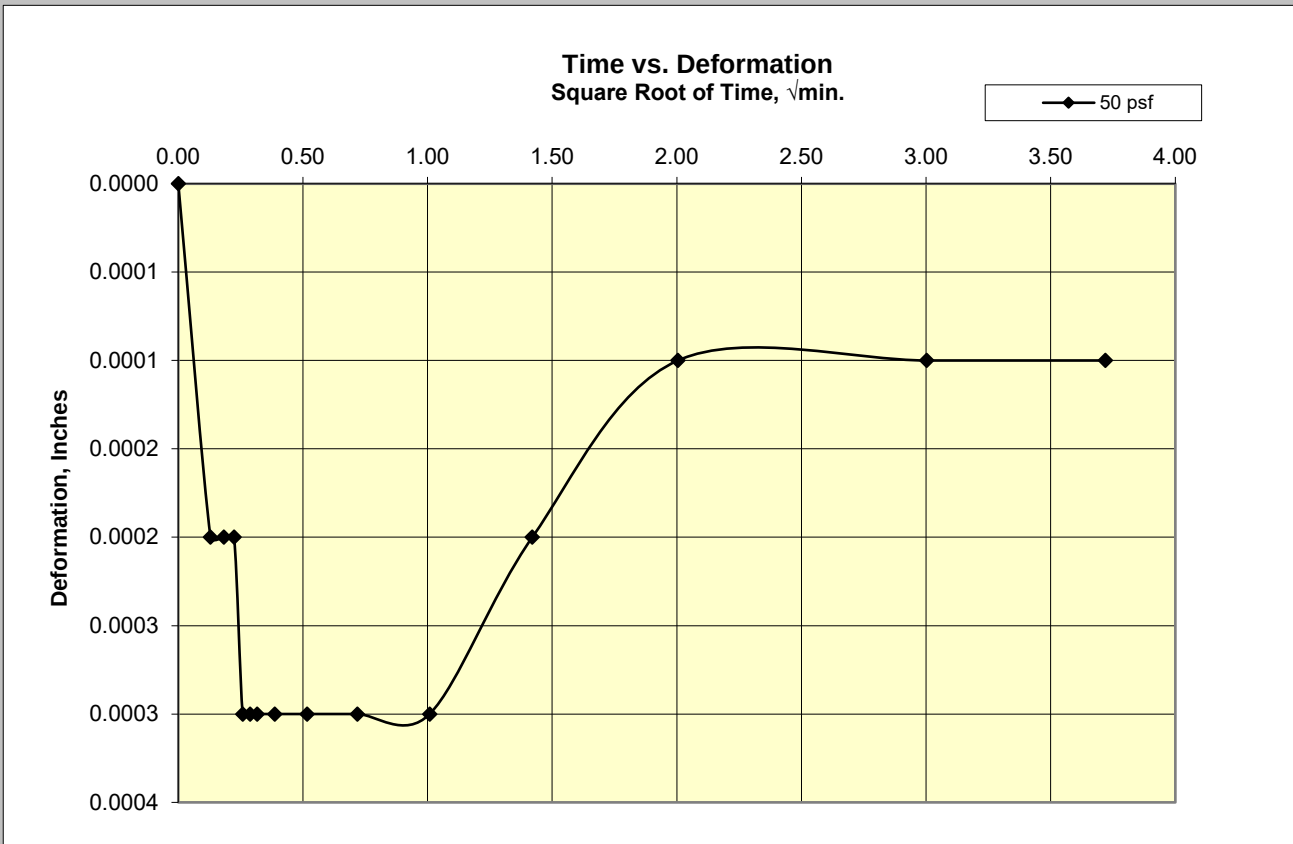
Cooper Testing Labs, Inc.

Load 1

50 psf



50 psf



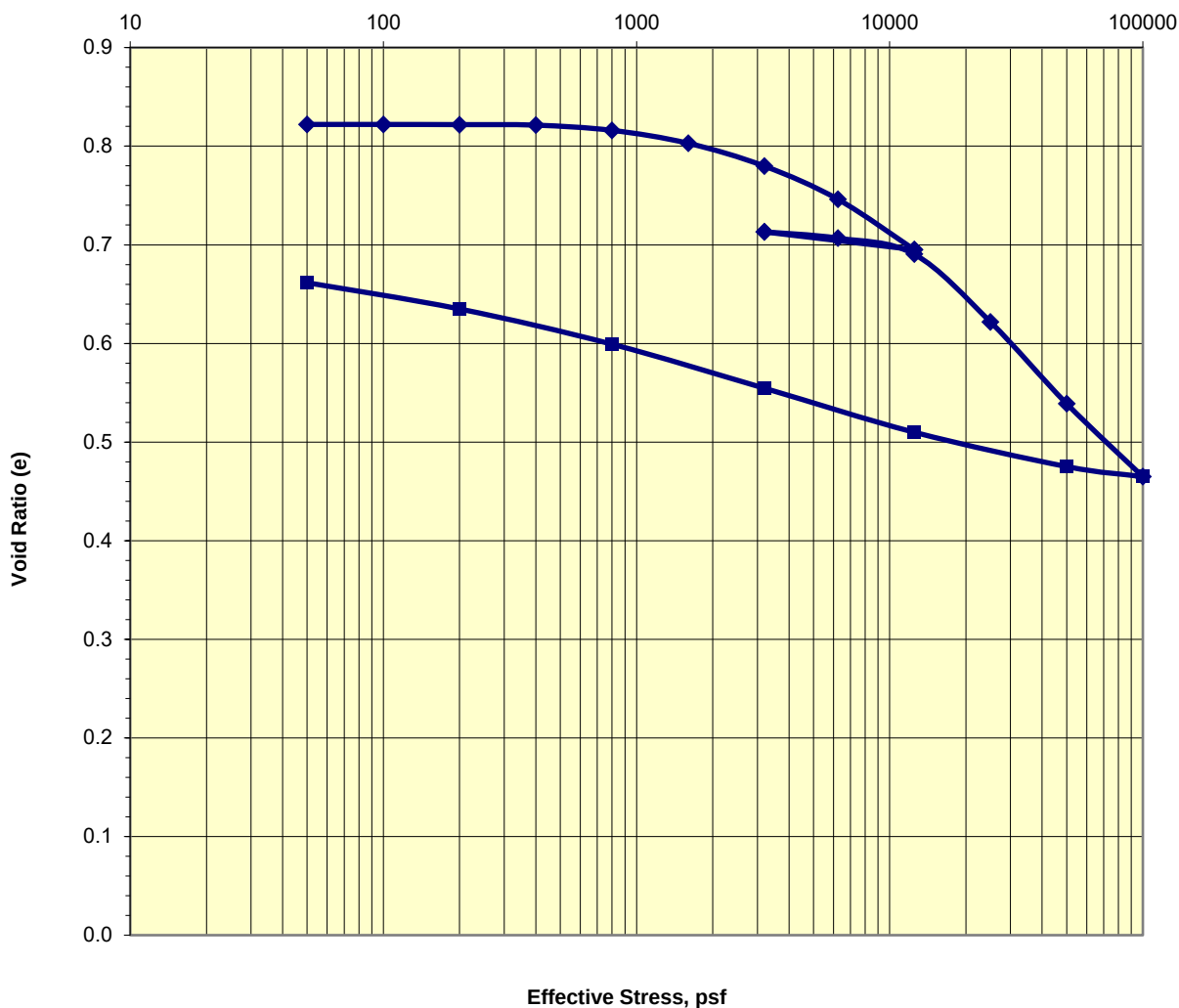


Consolidation Test

ASTM D2435

Job No.:	461-392	Boring:	B4	Run By:	HM
Client:	Geosyntec Consultants	Sample:	B4-13	Reduced:	RU
Project:	WG3607	Depth, ft.:	55-57.5(Tip-2")	Checked:	PJ
Soil Type:	Olive Gray Lean CLAY			Date:	3/25/2026

e-Log-P Curve



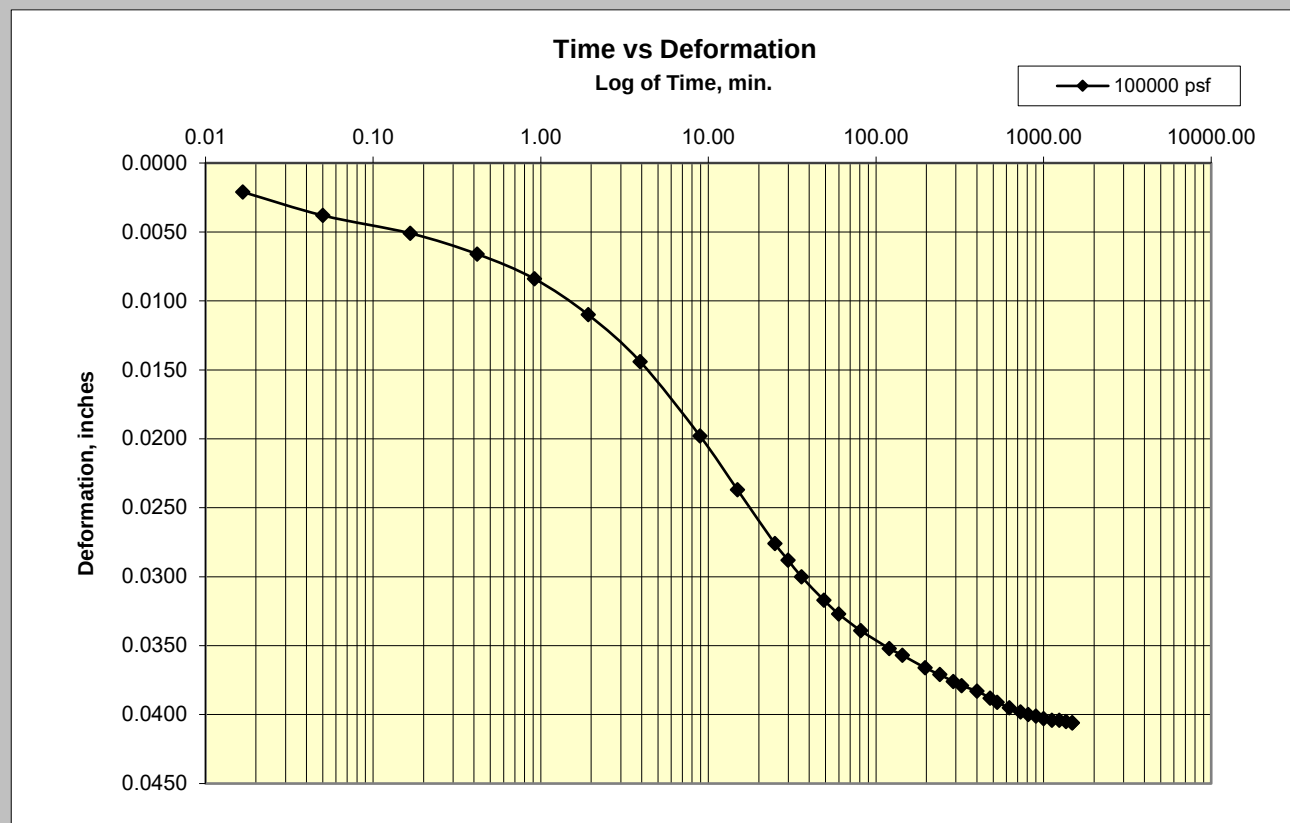
Assumed Gs	2.8	Initial	Final
Moisture %:		27.8	24.0
Dry Density, pcf:		95.9	104.6
Void Ratio:		0.822	0.672
% Saturation:		94.7	100.0

Remarks:

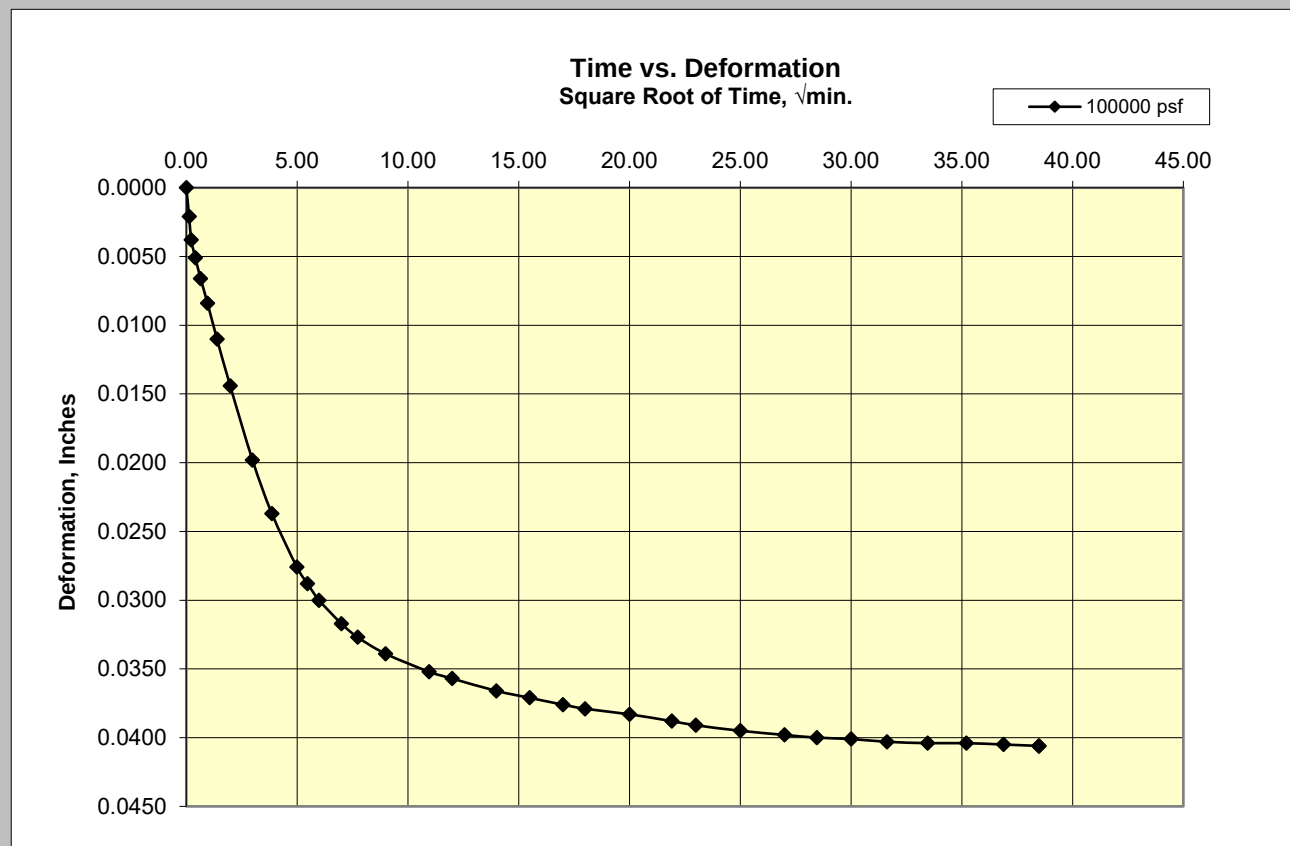
Cooper Testing Labs, Inc.

Load 15

100000 psf



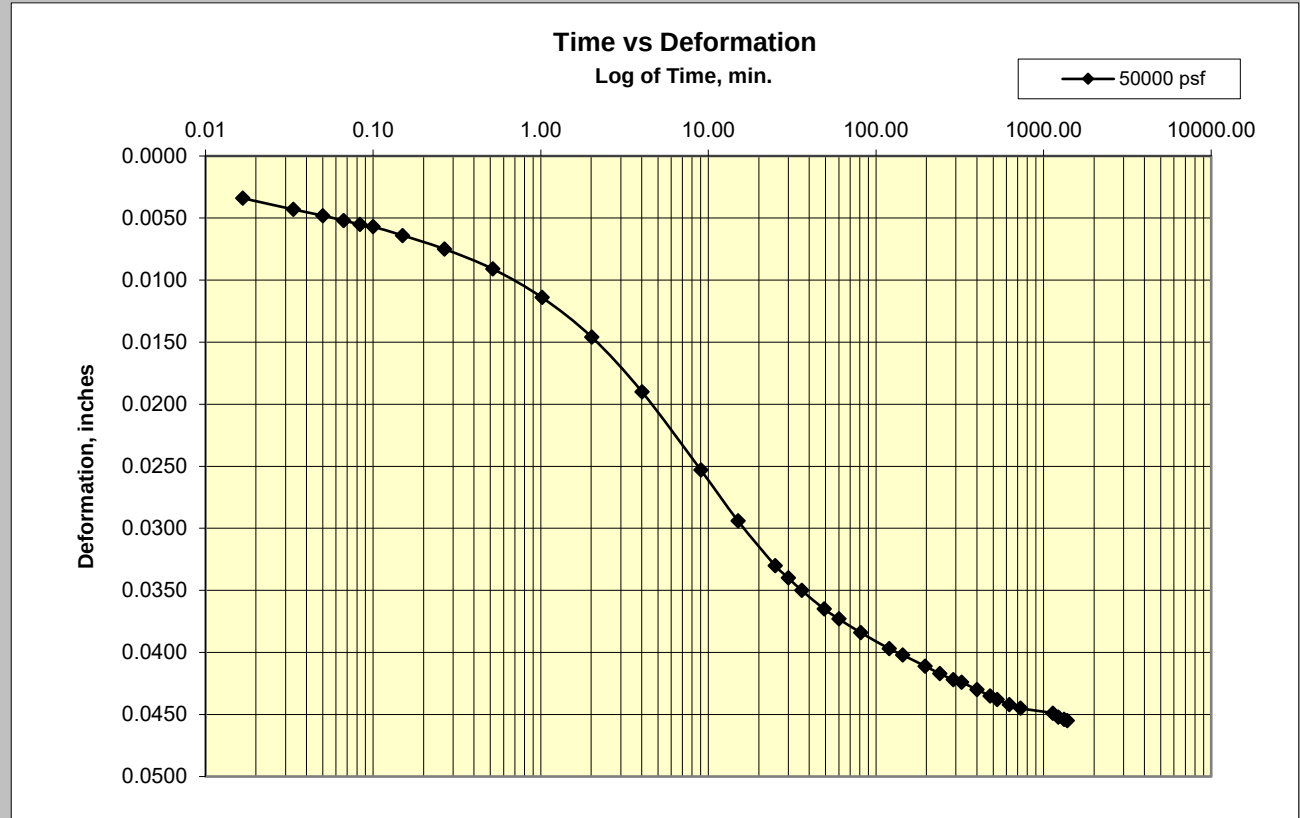
100000 psf



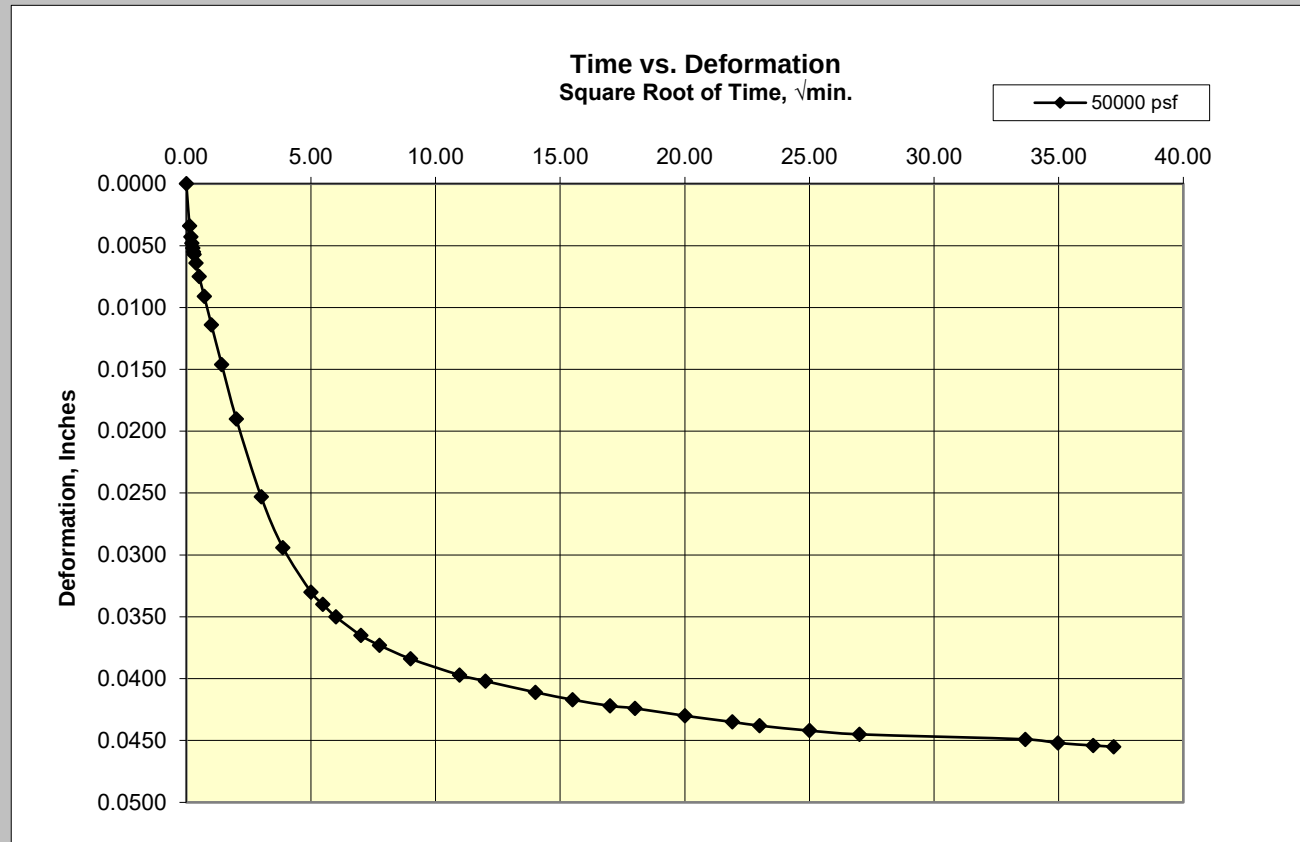
Cooper Testing Labs, Inc.

Load 14

50000 psf



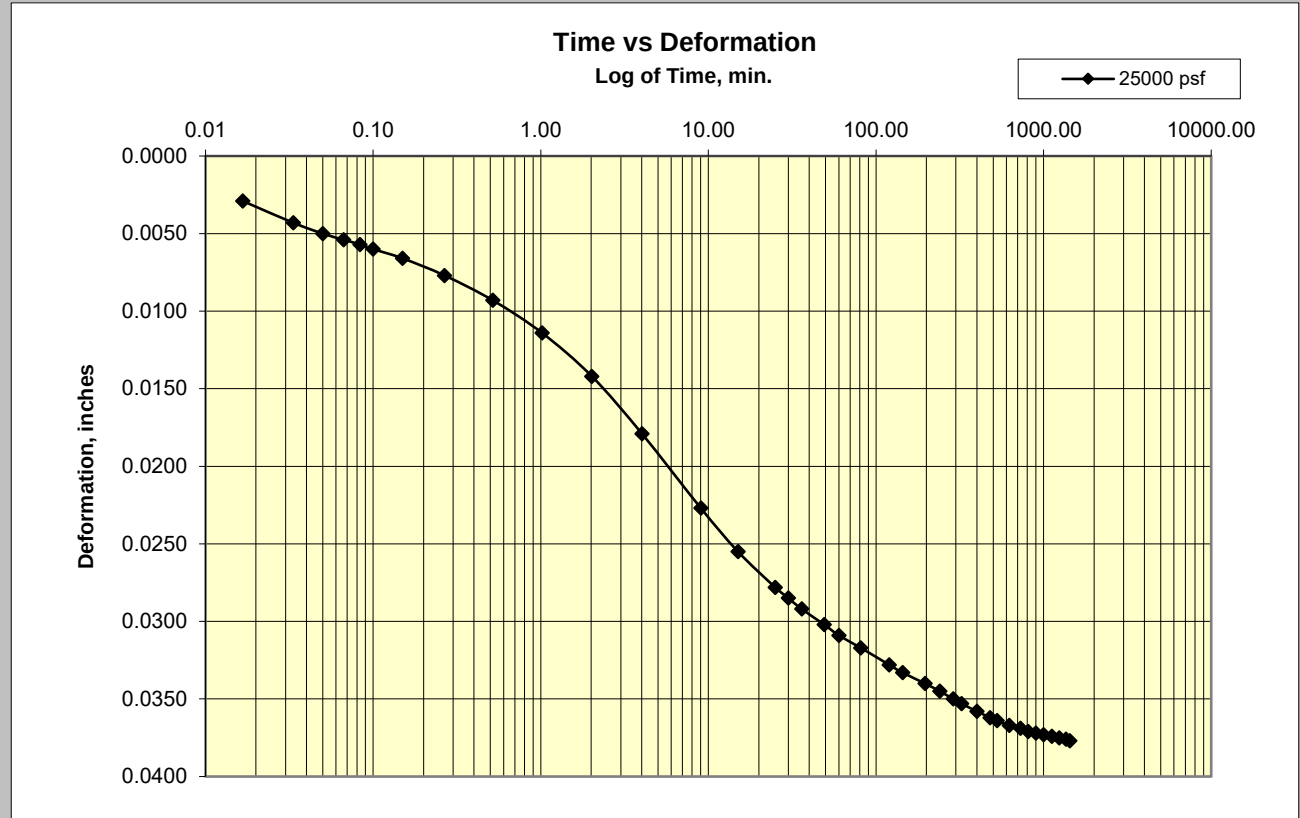
50000 psf



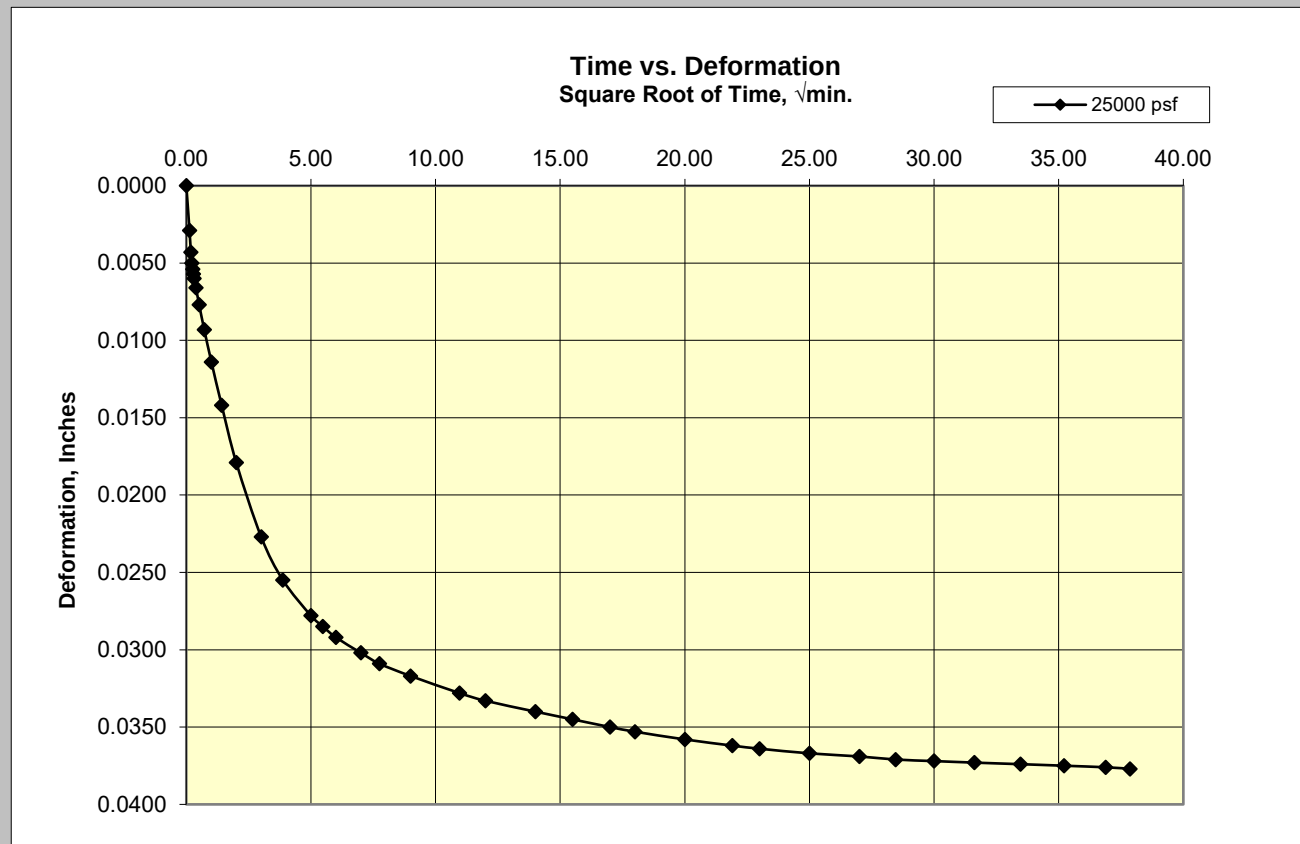
Cooper Testing Labs, Inc.

Load 13

25000 psf



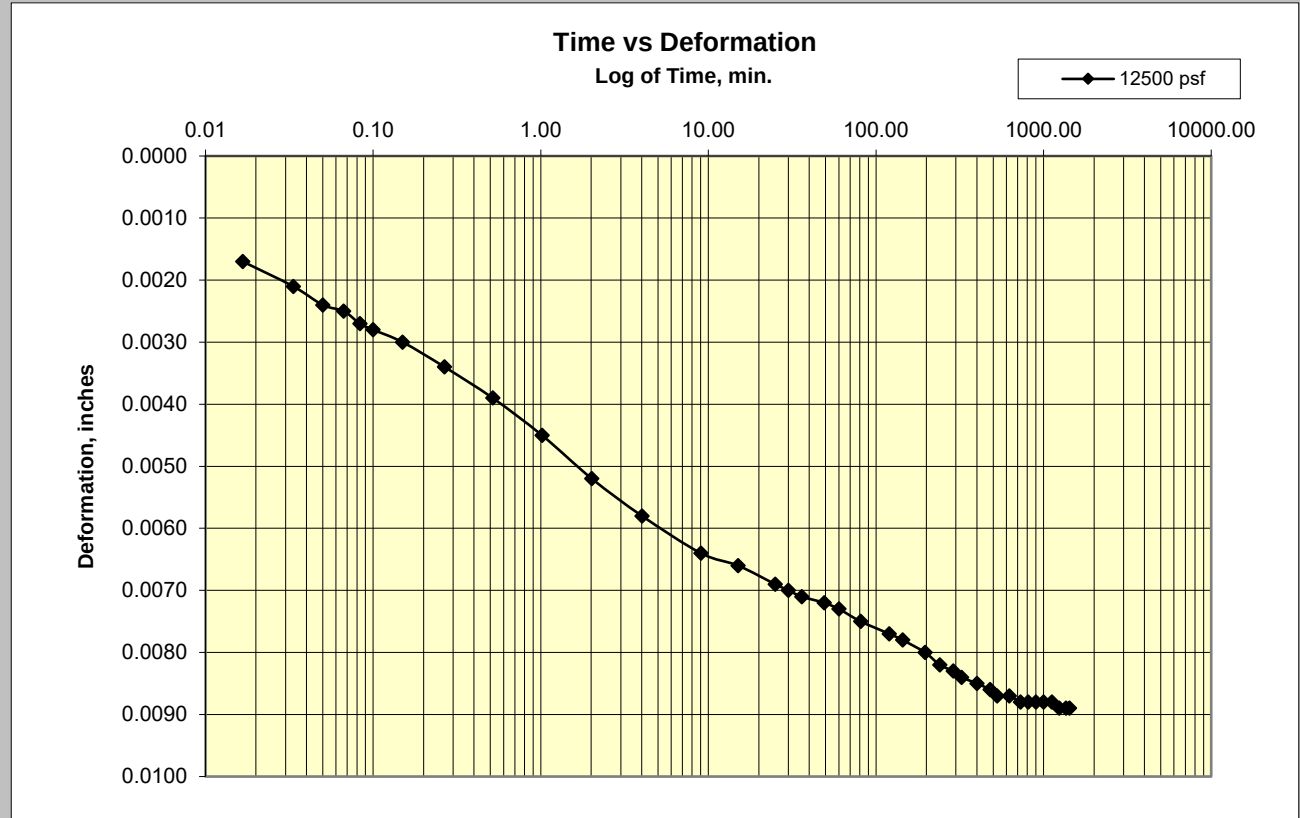
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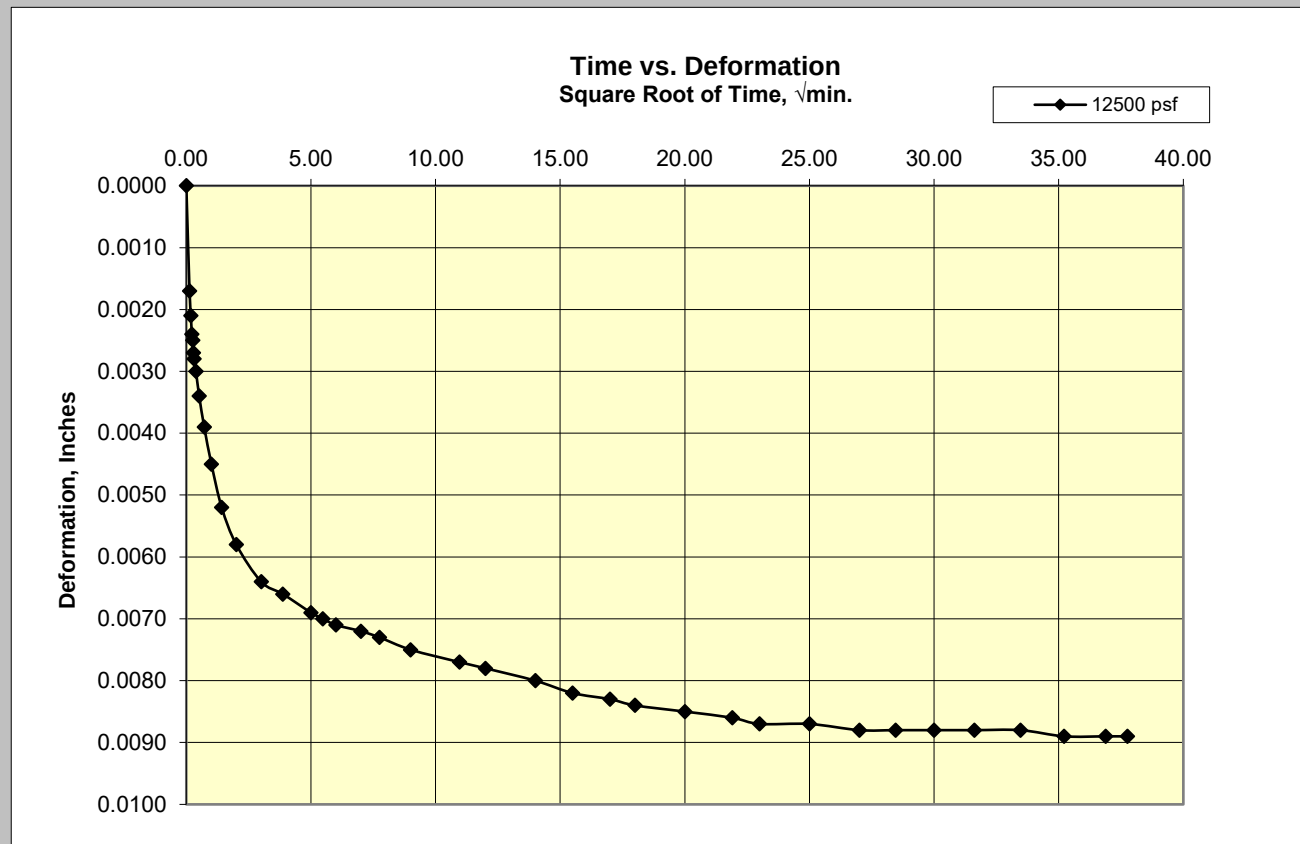
Cooper Testing Labs, Inc.

Load 12

12500 psf



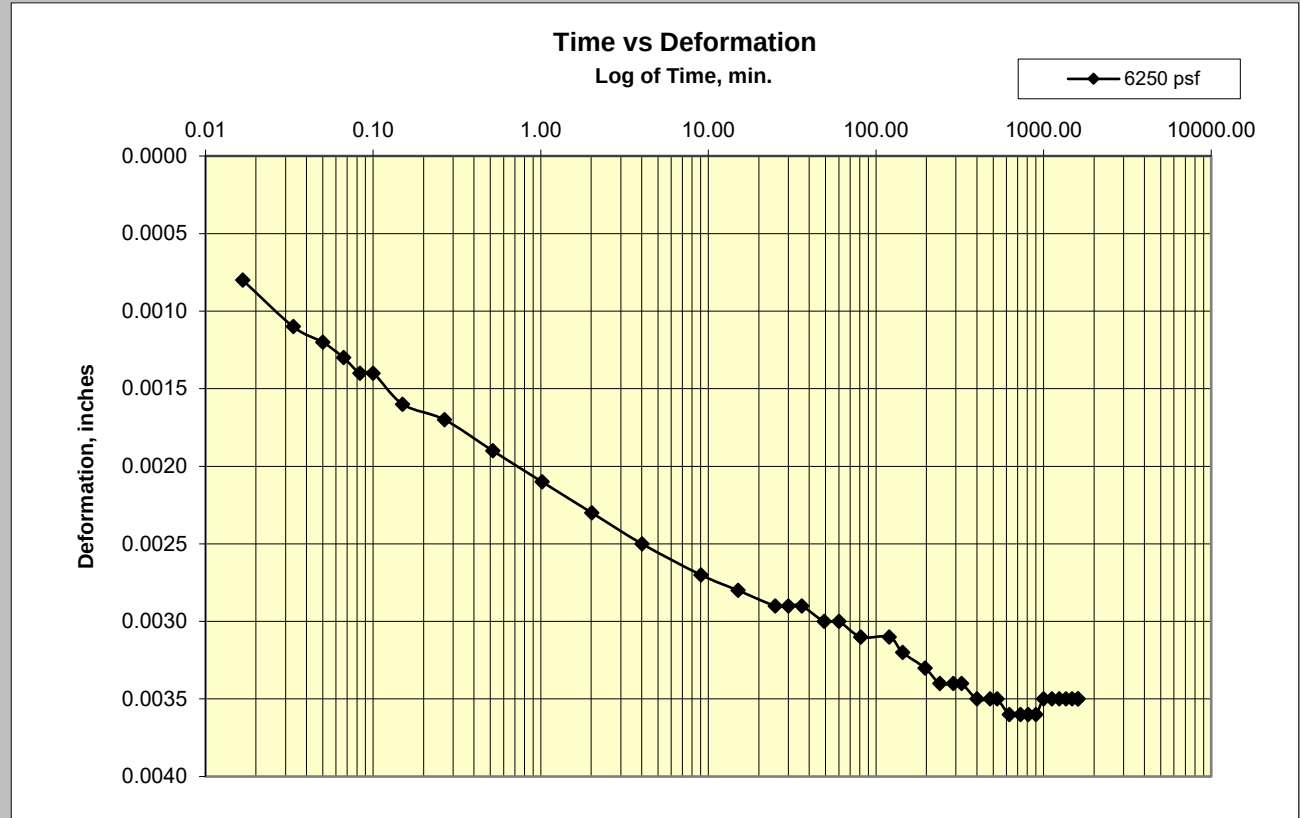
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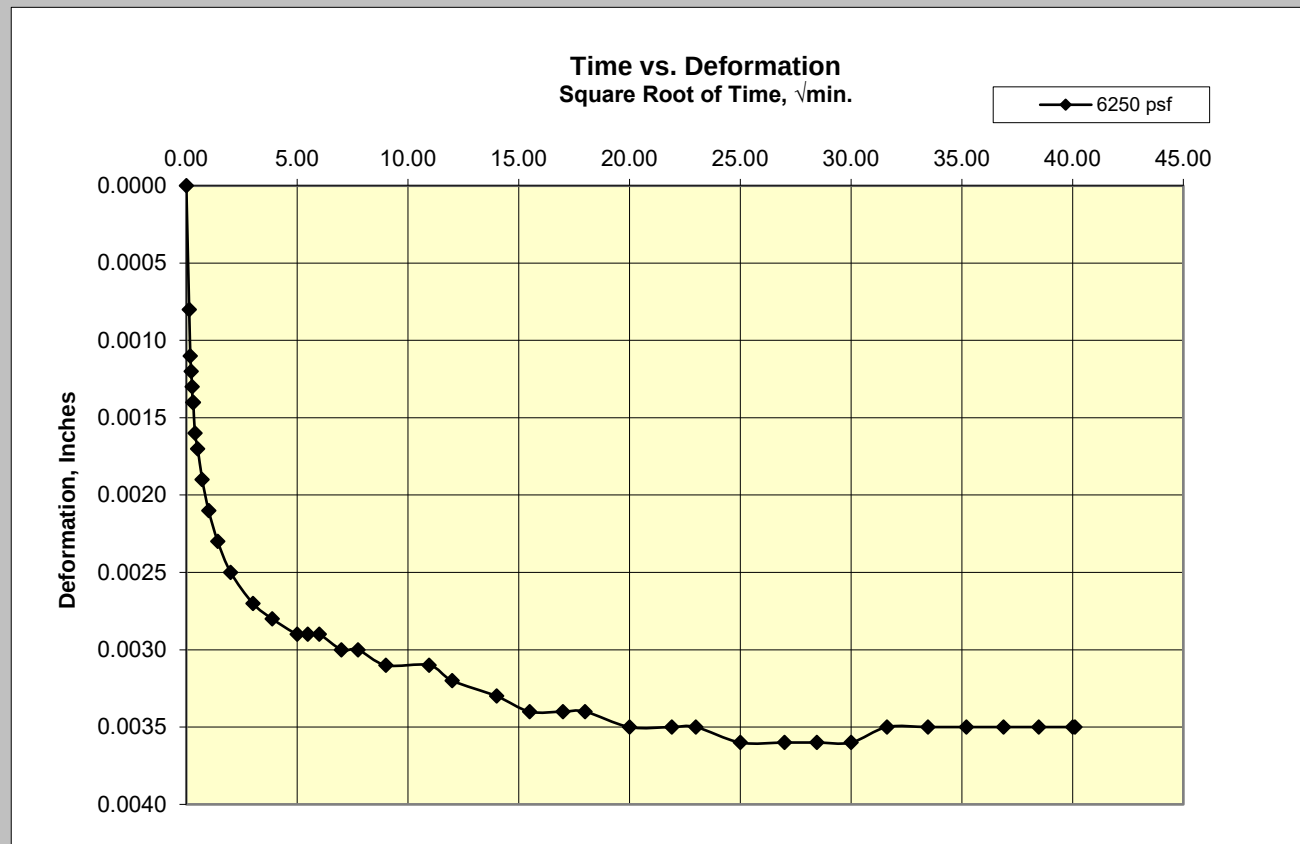
Cooper Testing Labs, Inc.

Load 11

6250 psf



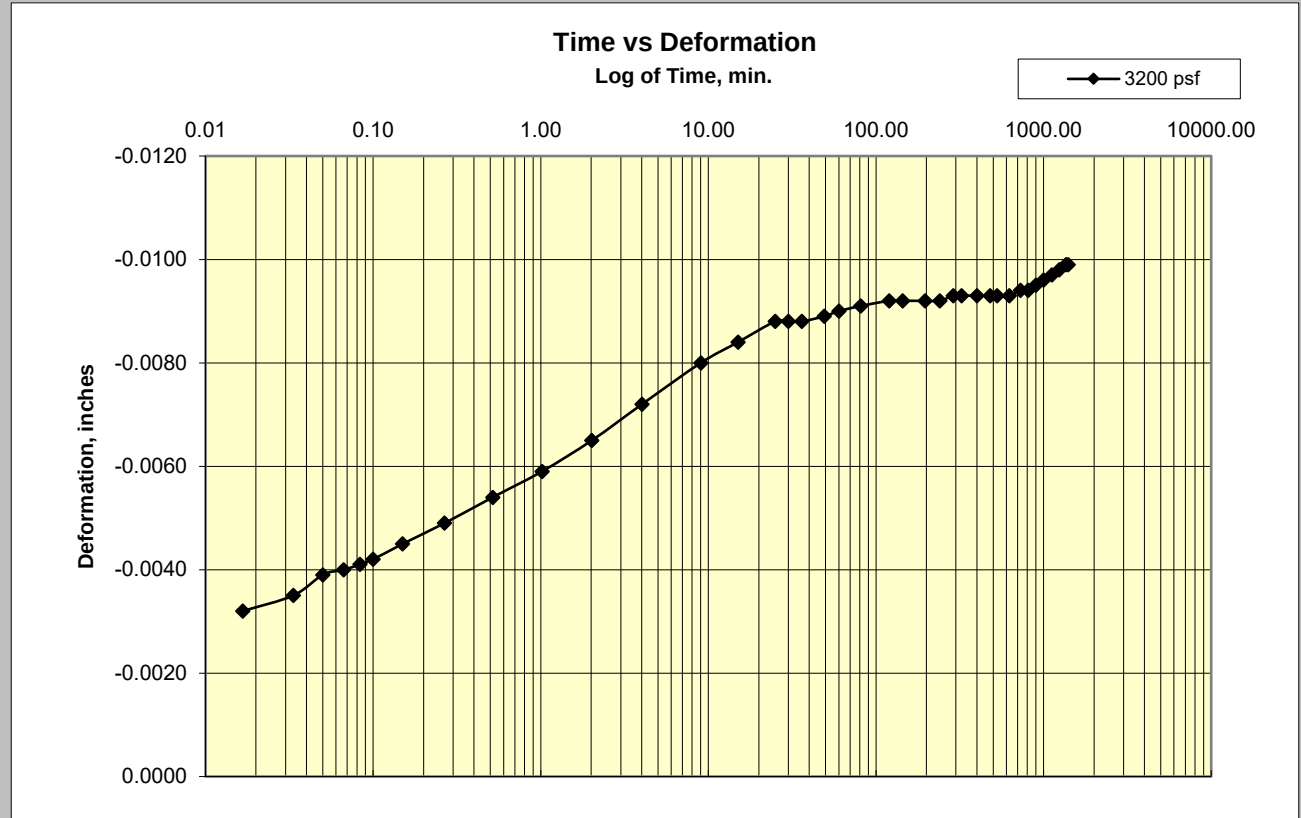
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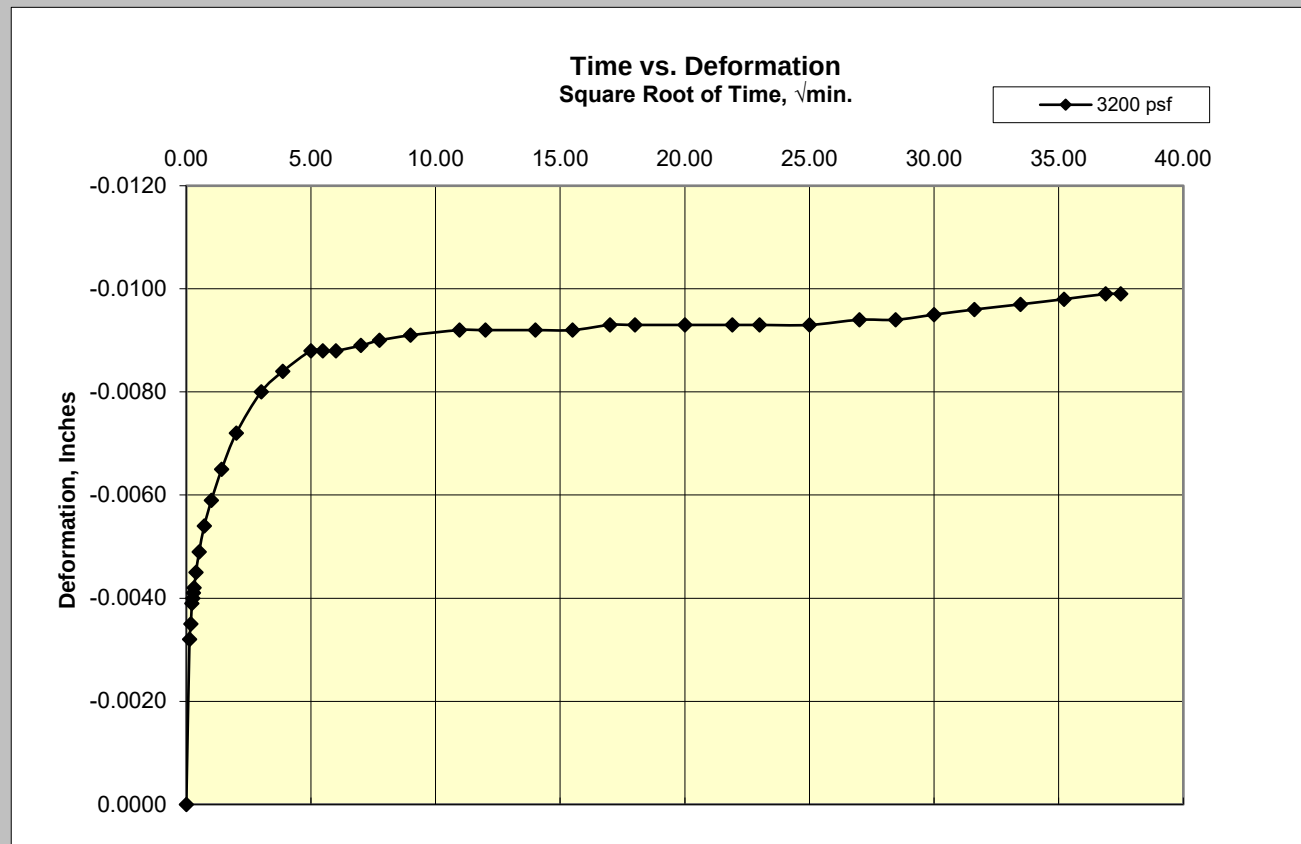
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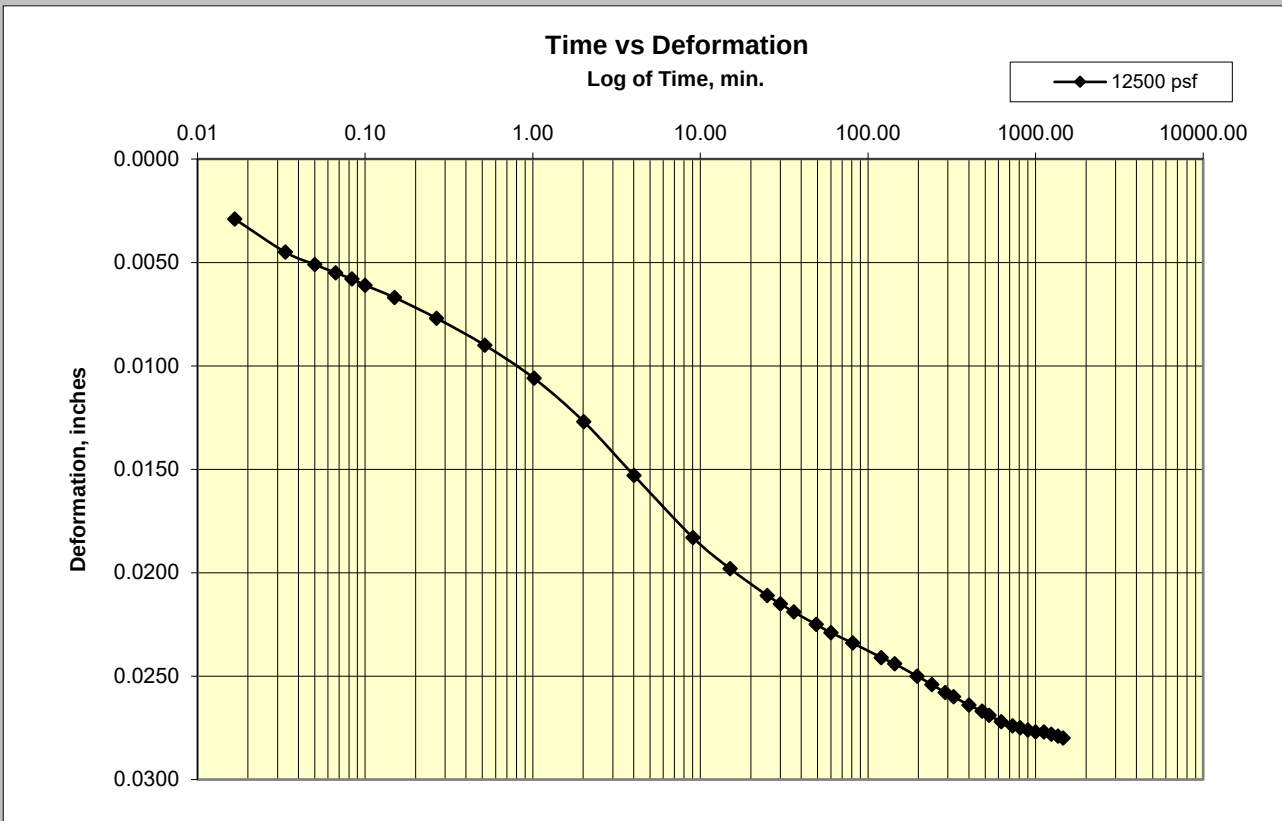
3200 psf



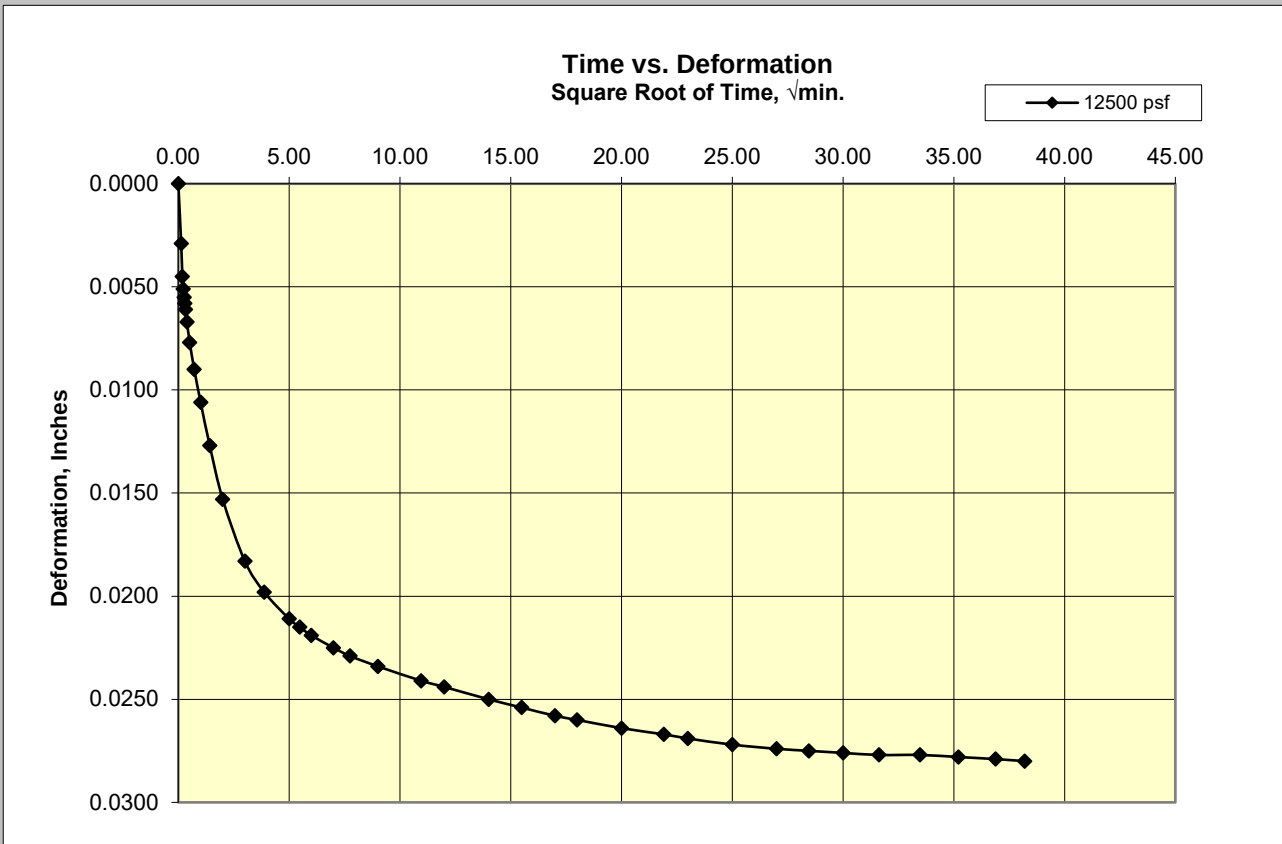
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12500 psf



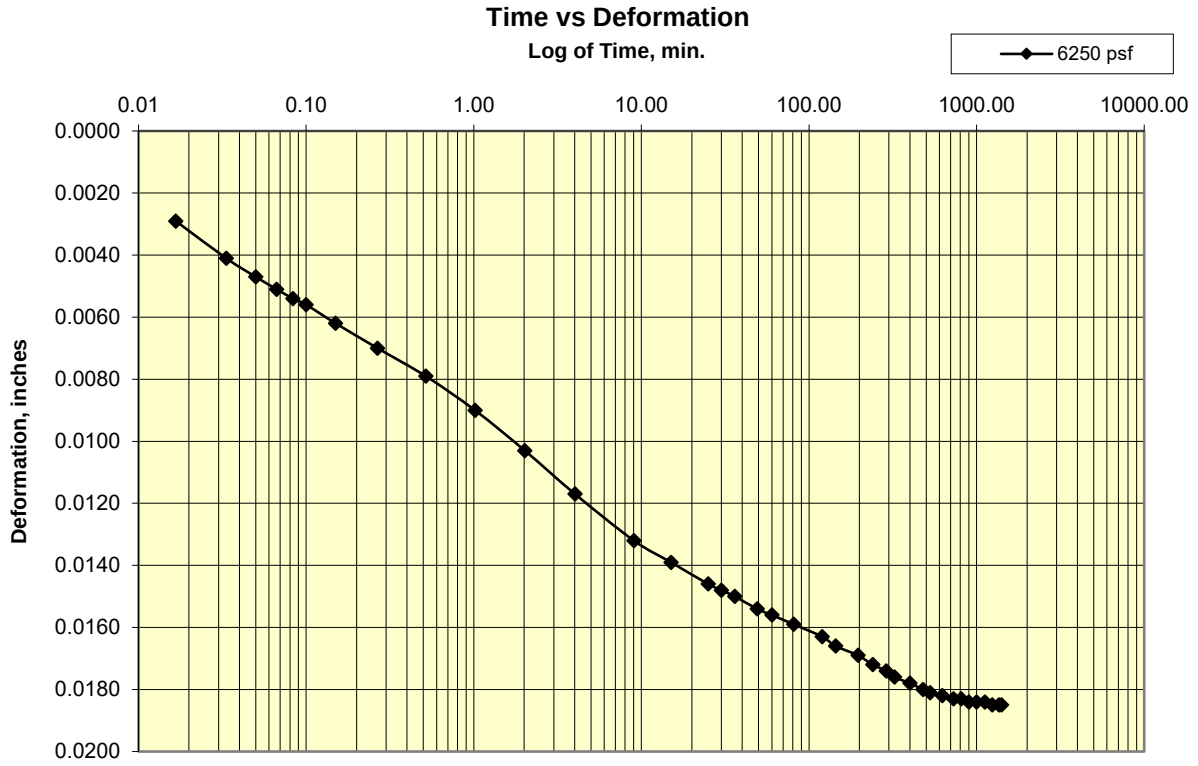
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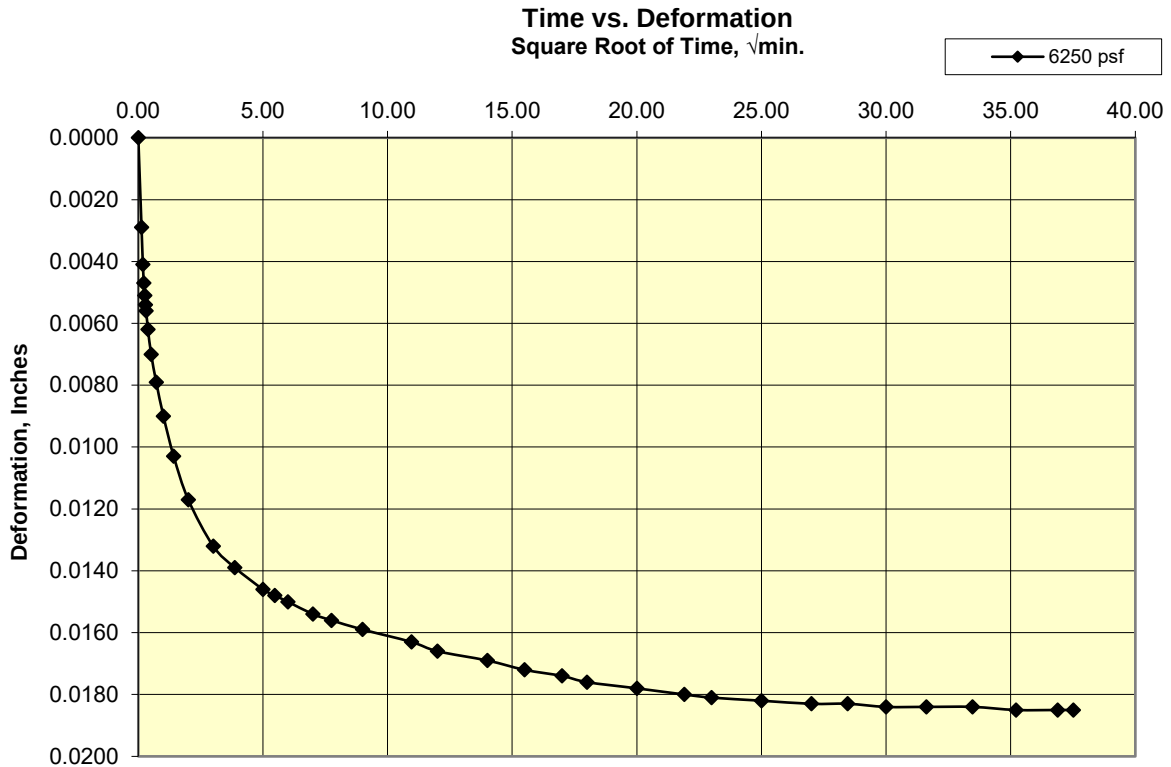
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Load 8

6250 psf



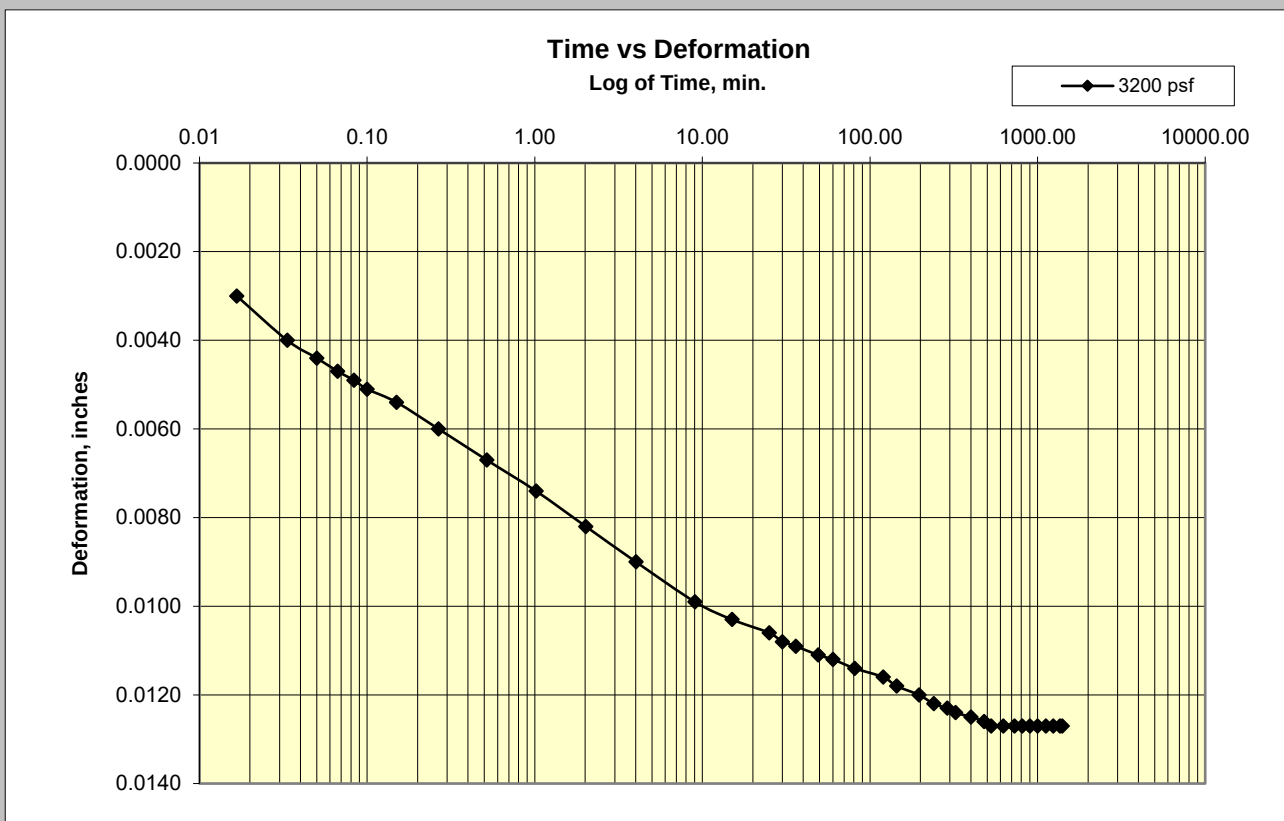
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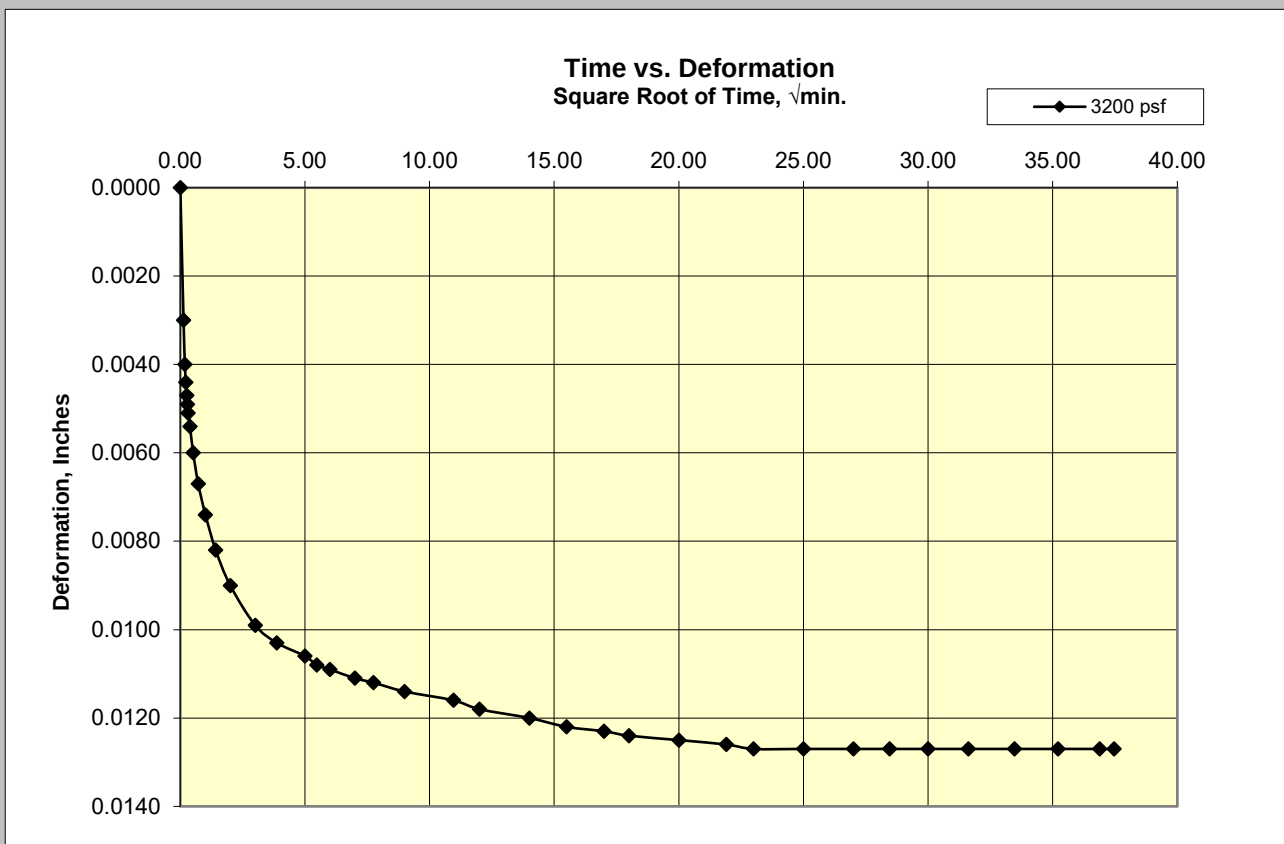
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Load 7

3200 psf



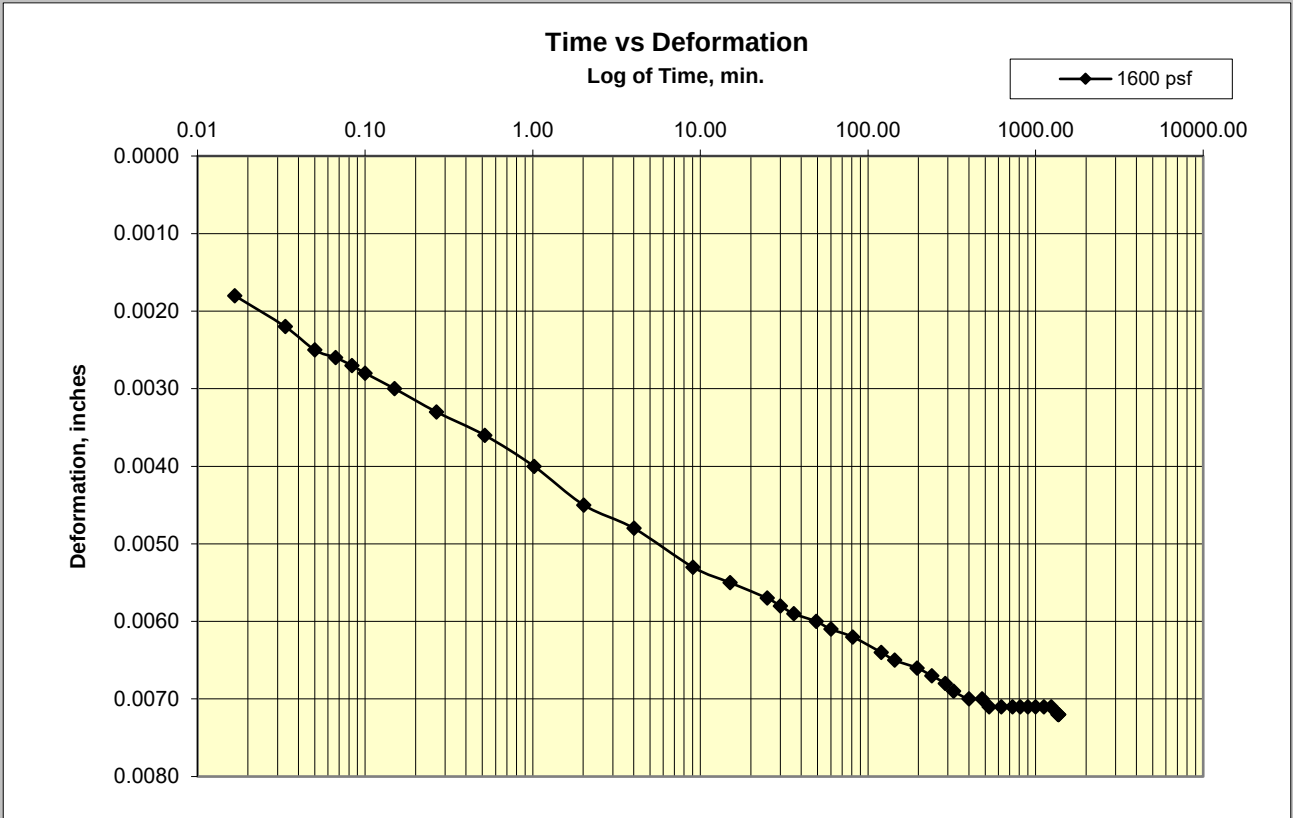
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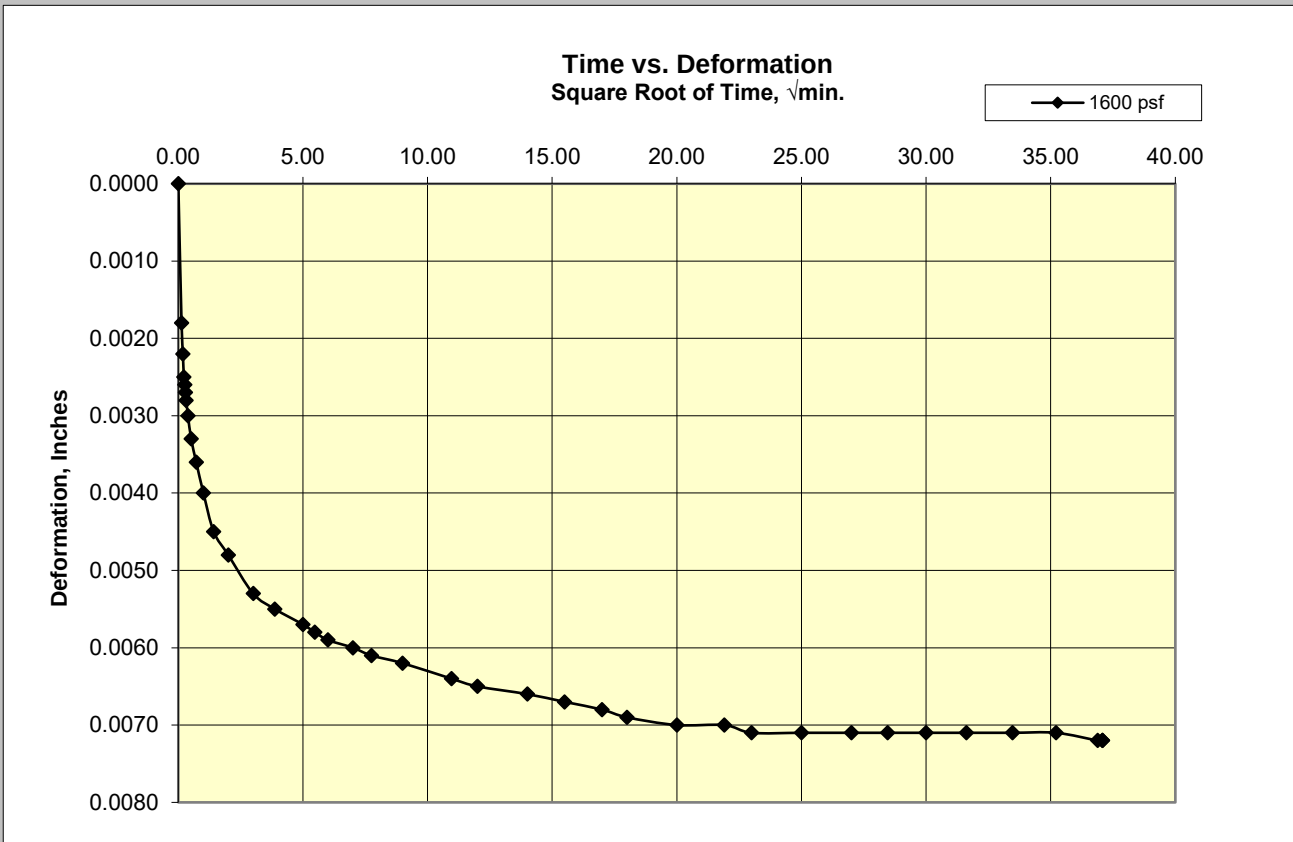
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Load 6

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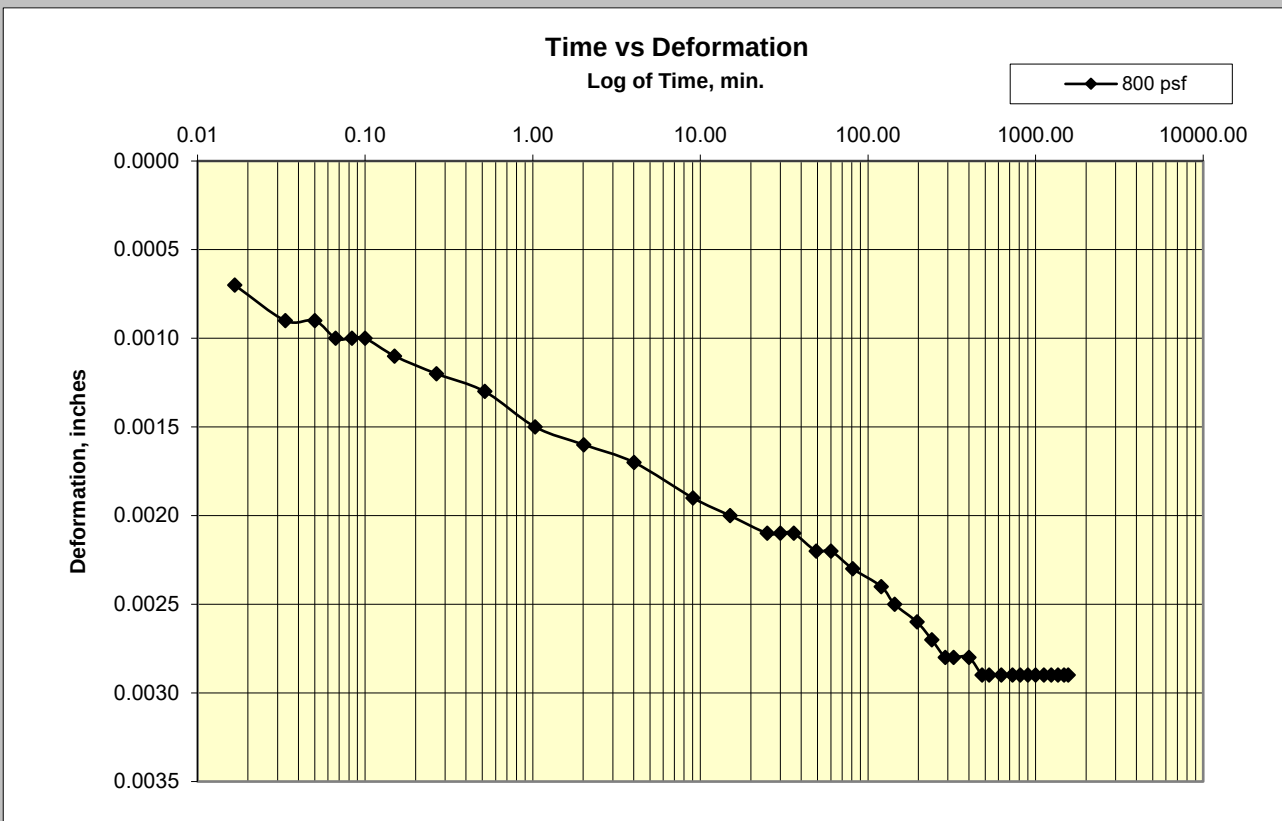
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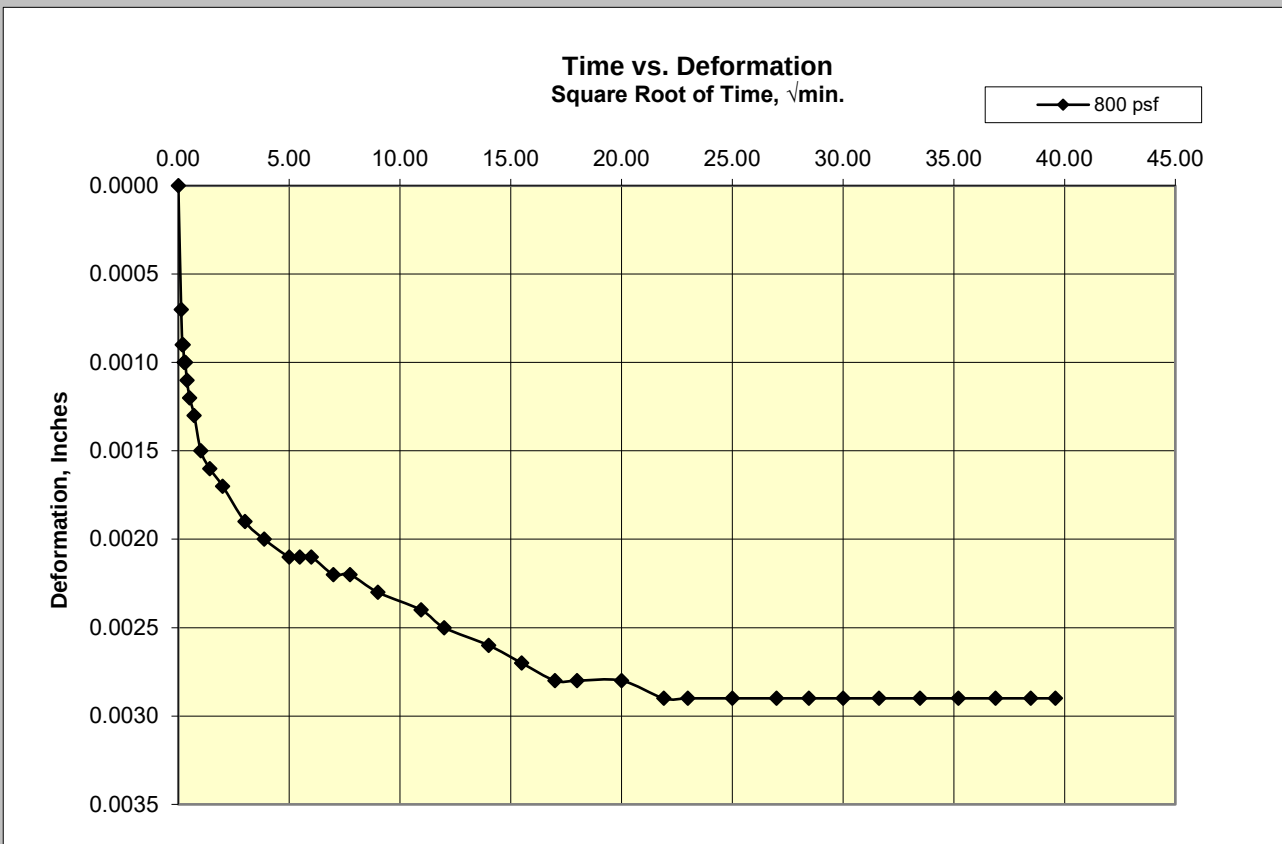
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Load 5

800 psf



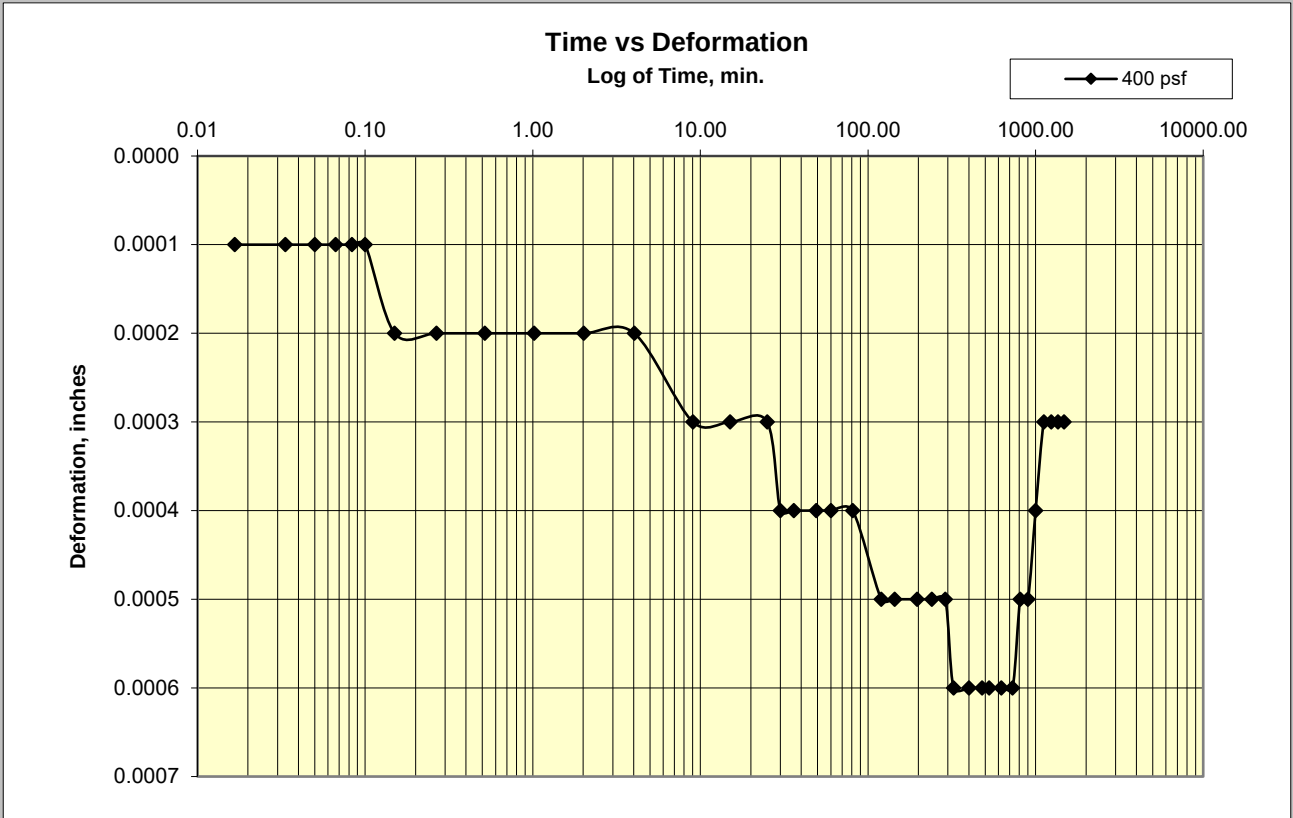
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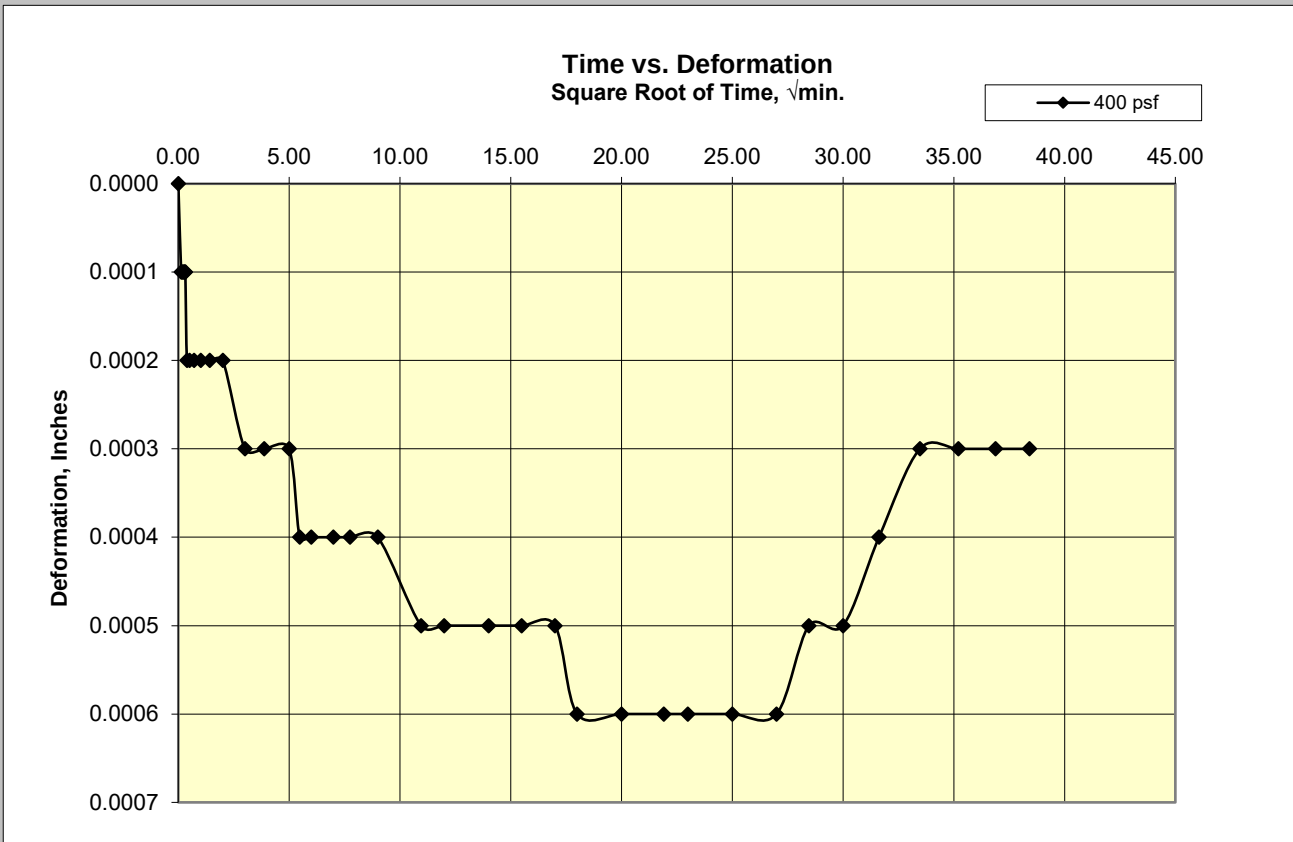
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Load 4

400 psf



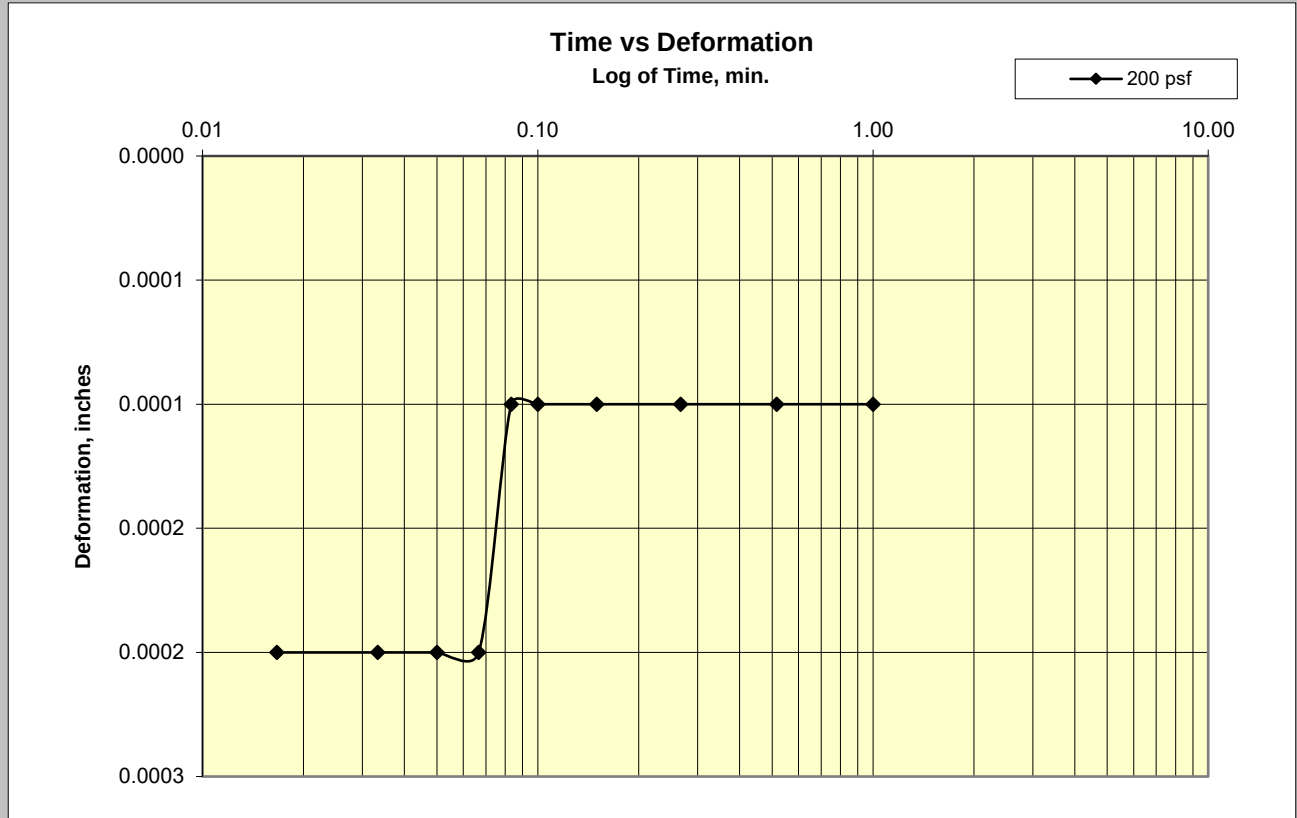
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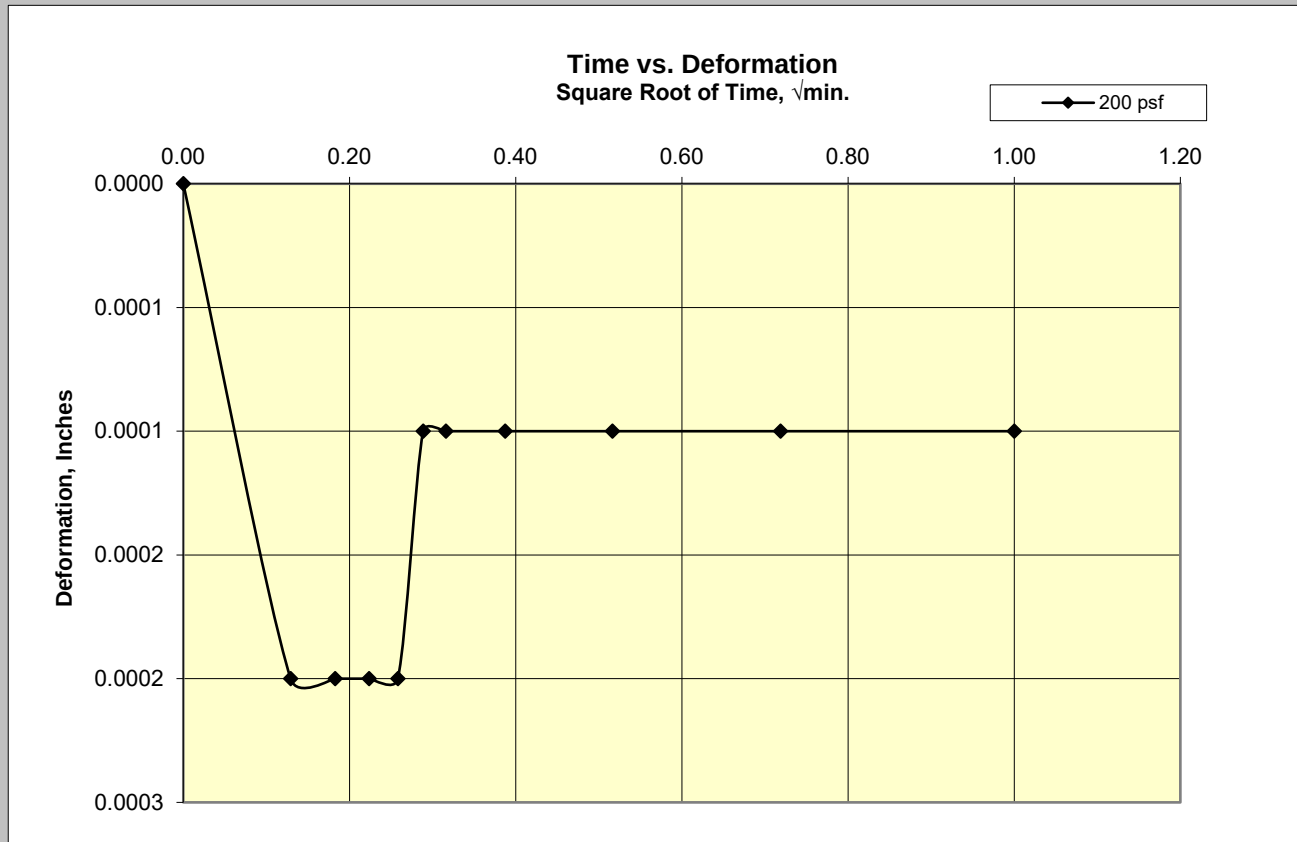
Cooper Testing Labs, Inc.

Load 3

200 psf



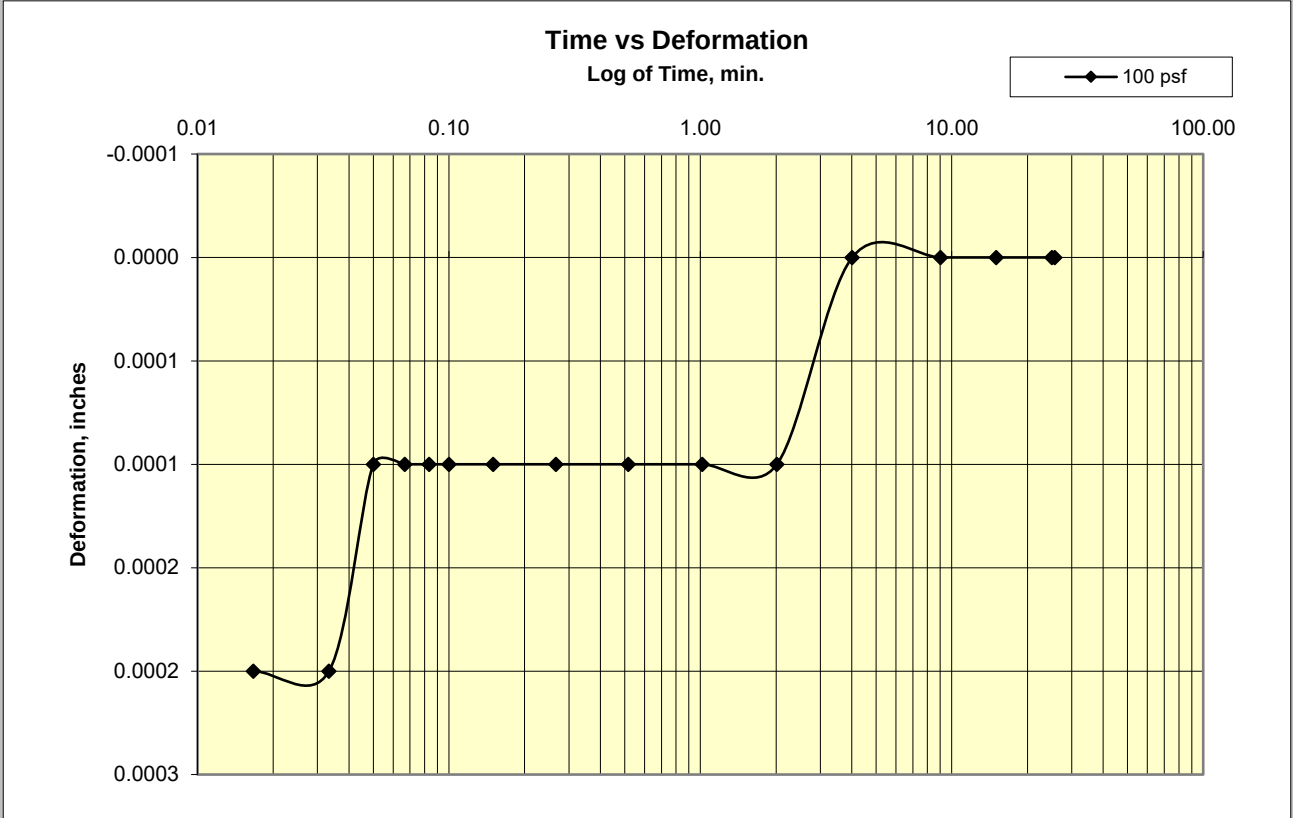
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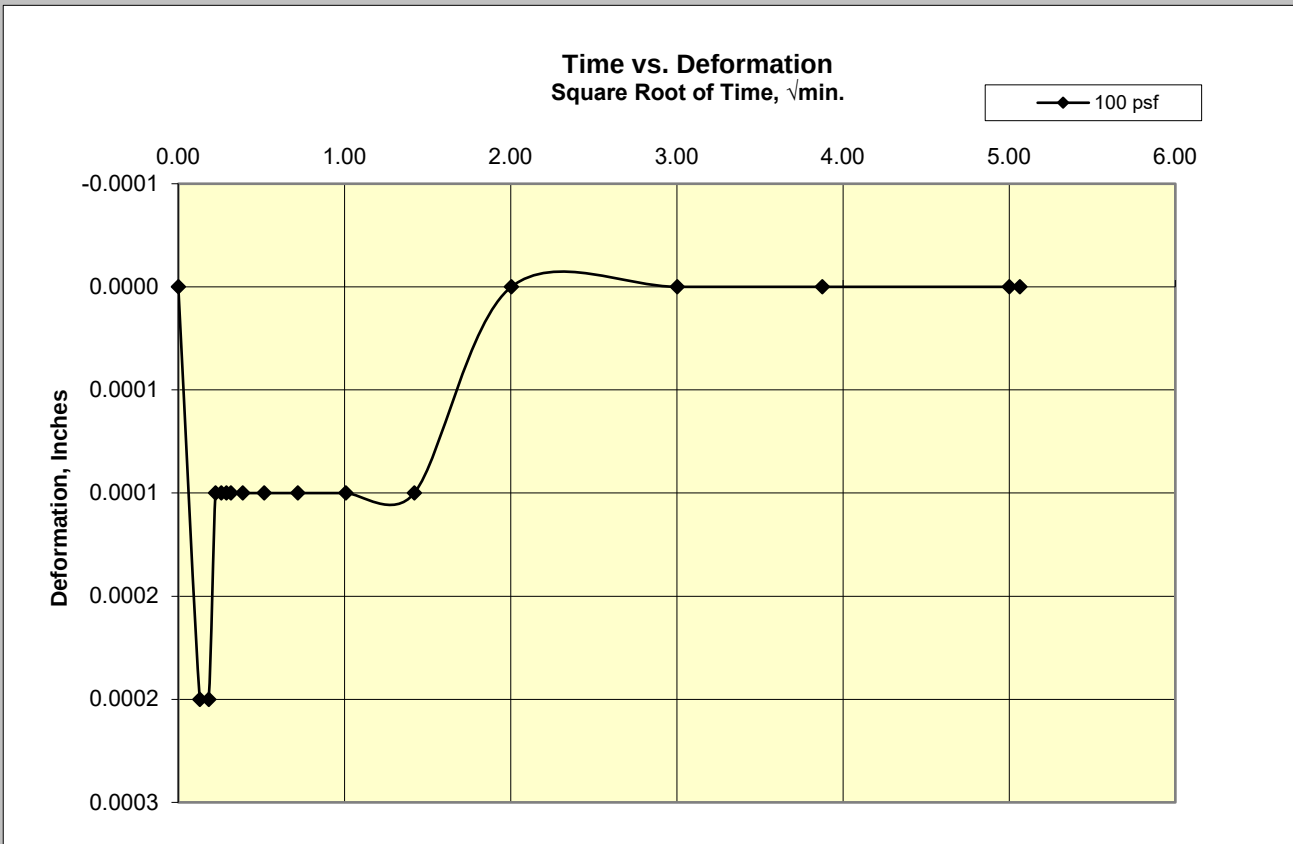
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Load 2

100 psf



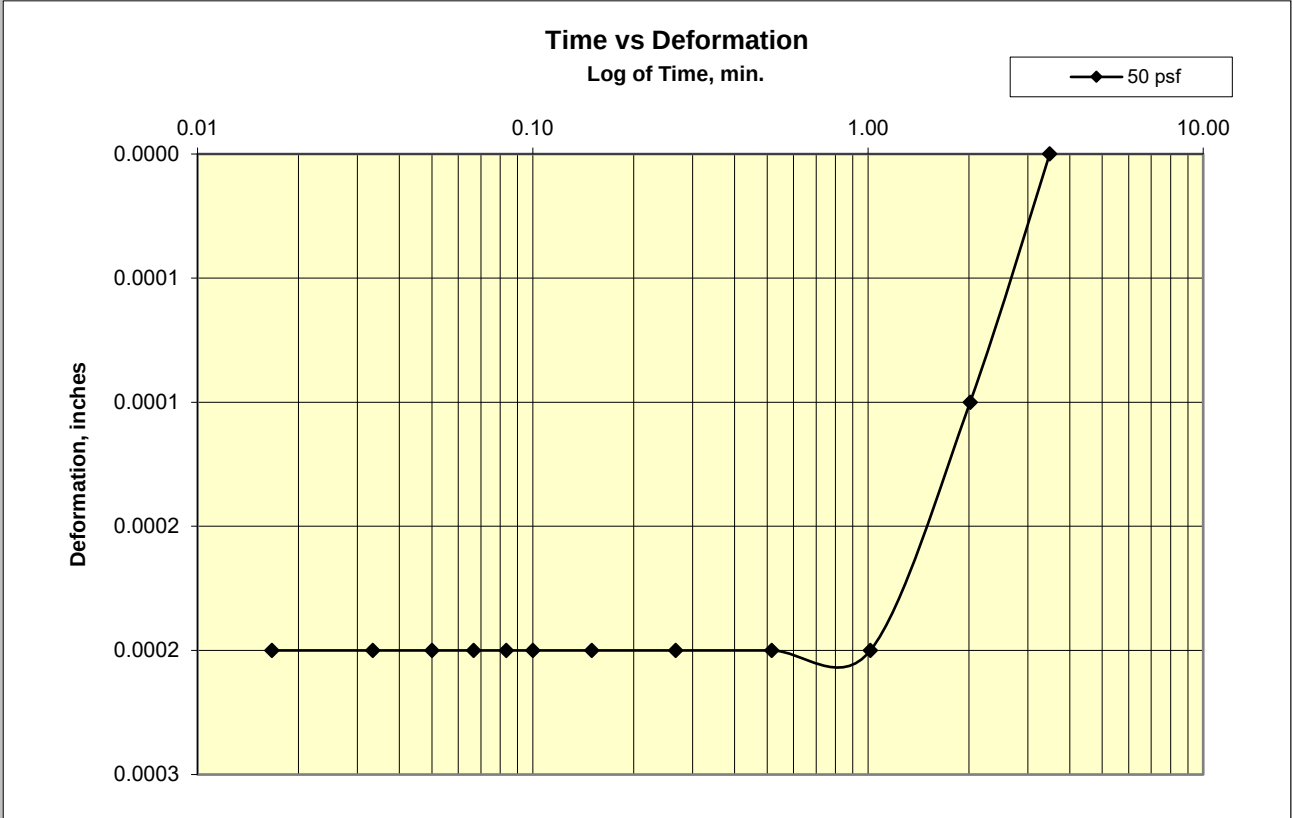
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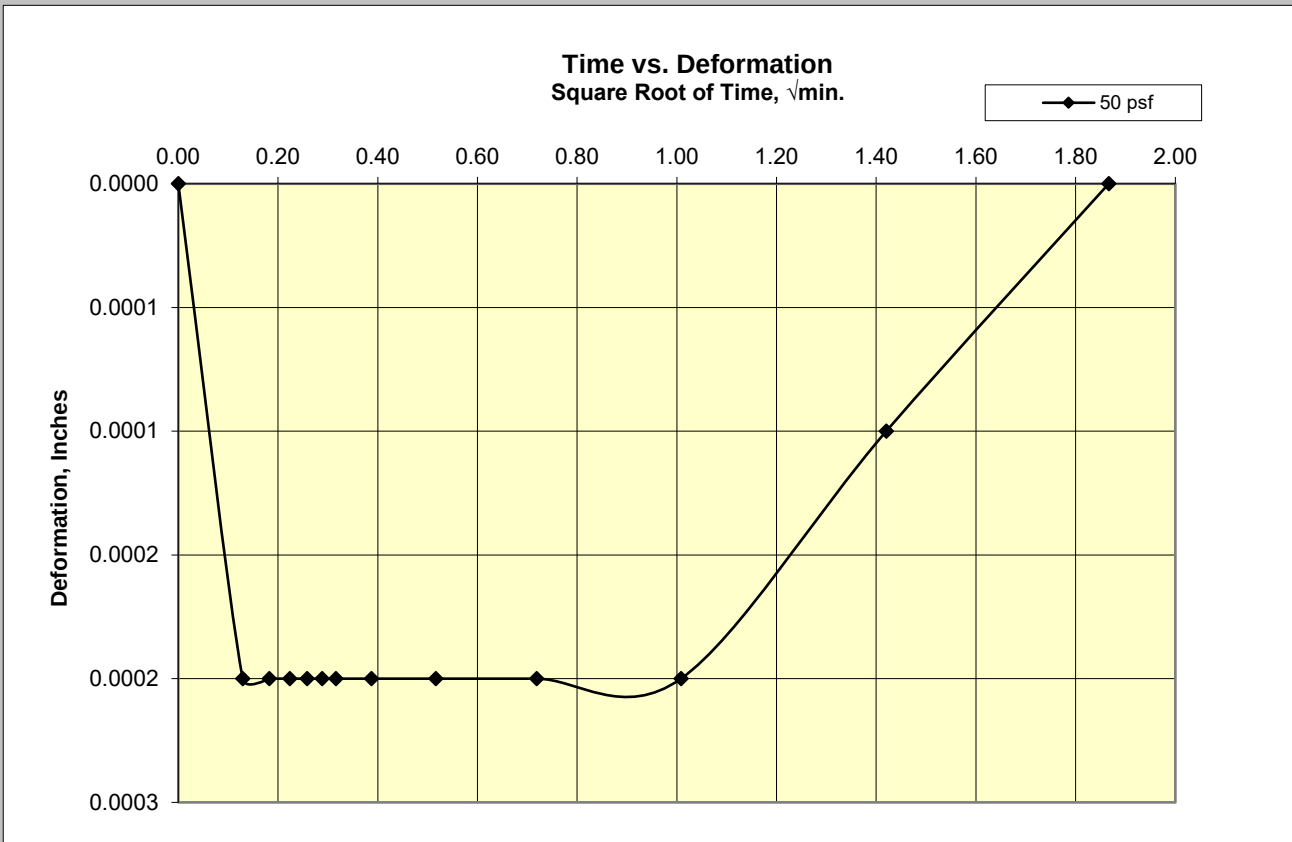
Cooper Testing Labs, Inc.

Load 1

50 psf



50 psf





Corrosivity Test Summary

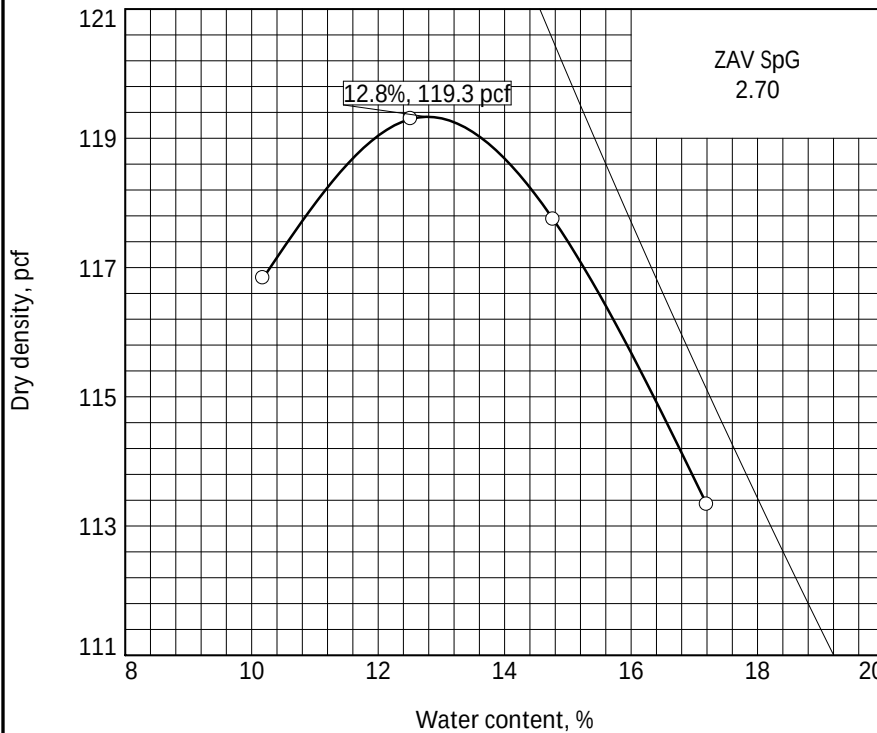
Proj. No: WG3607

Remarks:

[illegible]

COMPACTION TEST REPORT

Curve No.



Test Specification:
ASTM D 1557-07 Method B Modified

Hammer Wt.: 10 lb.
Hammer Drop: 18 in.
Number of Layers: five
Blows per Layer: 25
Mold Size: 0.03333 cu. ft.

Test Performed on Material
Passing 3/8 in. Sieve

Soil Data
NM _____ Sp.G. 2.7
LL _____ PI _____
%>3/8 in. _____ %<#200 _____
USCS _____ AASHTO _____

TESTING DATA

	1	2	3	4	5	6
WM + WS	8.967	8.937	8.890	8.754		
WM	4.463	4.463	4.463	4.463		
WW + T #1	838.3	798.6	880.6	802.7		
WD + T #1	779.5	753.2	808.2	764.6		
TARE #1	381.4	390.7	387.5	390.0		
WW + T #2						
WD + T #2						
TARE #2						
MOISTURE	14.8	12.5	17.2	10.2		
DRY DENSITY	117.7	119.3	113.3	116.8		

TEST RESULTS

Maximum dry density = 119.3 pcf

Optimum moisture = 12.8 %

Material Description

Brown Clayey SAND

Project No. 461-392 Client: Geosyntec Consultants
Project: WG3607

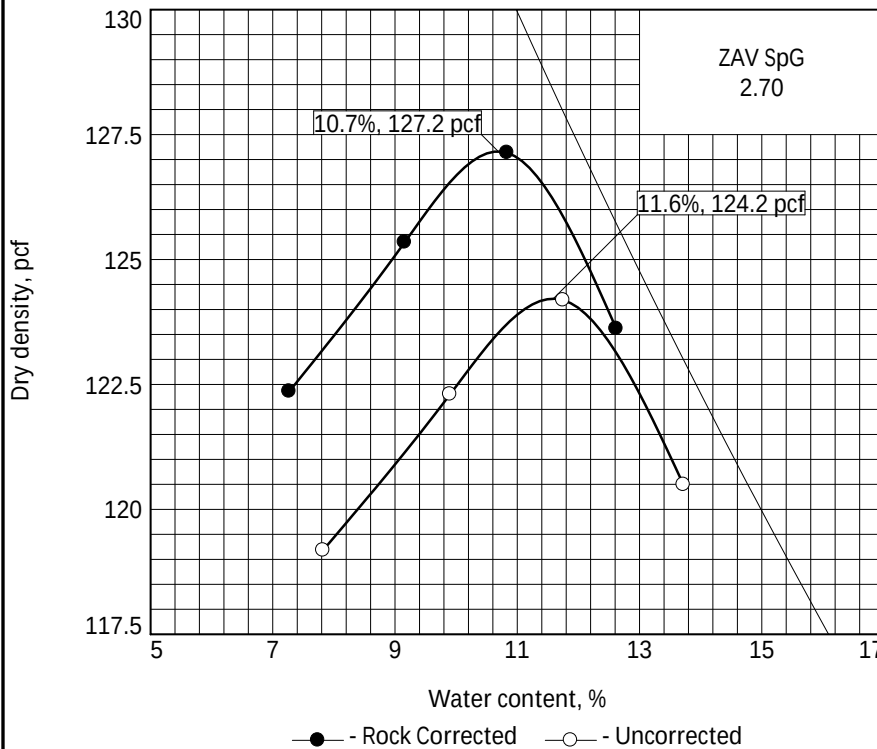
Remarks:

○ Source of Sample: B1 Depth: 0-5' Sample Number: Bulk

COOPER TESTING LABORATORY

Figure

COMPACTION TEST REPORT



Curve No.

Test Specification:

ASTM D 1557-07 Method B Modified

ASTM D4718-15 Oversize Corr. Applied to

Hammer Wt.: 10 lb.

Hammer Drop: 18 in.

Number of Layers: five

Blows per Layer: 25

Mold Size: 0.03333 cu. ft.

Test Performed on Material

Passing 3/8 in. Sieve

Soil Data

NM Sp.G. 2.7

LL PI

%>3/8 in. 9.3 %<#200

USCS AASHTO

TESTING DATA

	1	2	3	4	5	6
WM + WS	8.941	8.745	9.087	9.028		
WM	4.462	4.462	4.462	4.462		
WW + T #1	743.7	760.2	921.3	935.1		
WD + T #1	706.0	728.6	858.3	860.4		
TARE #1	325.8	324.6	321.9	315.5		
WW + T #2						
WD + T #2						
TARE #2						
MOISTURE	9.2	7.3	10.8	12.6		
DRY DENSITY	125.3	122.4	127.1	123.6		

ROCK CORRECTED TEST RESULTS

Maximum dry density = 127.2 pcf

Optimum moisture = 10.7 %

UNCORRECTED

124.2 pcf

11.6 %

Material Description

Brown Clayey SAND w/ Gravel

Project No. 461-392 Client: Geosyntec Consultants

Project: WG3607

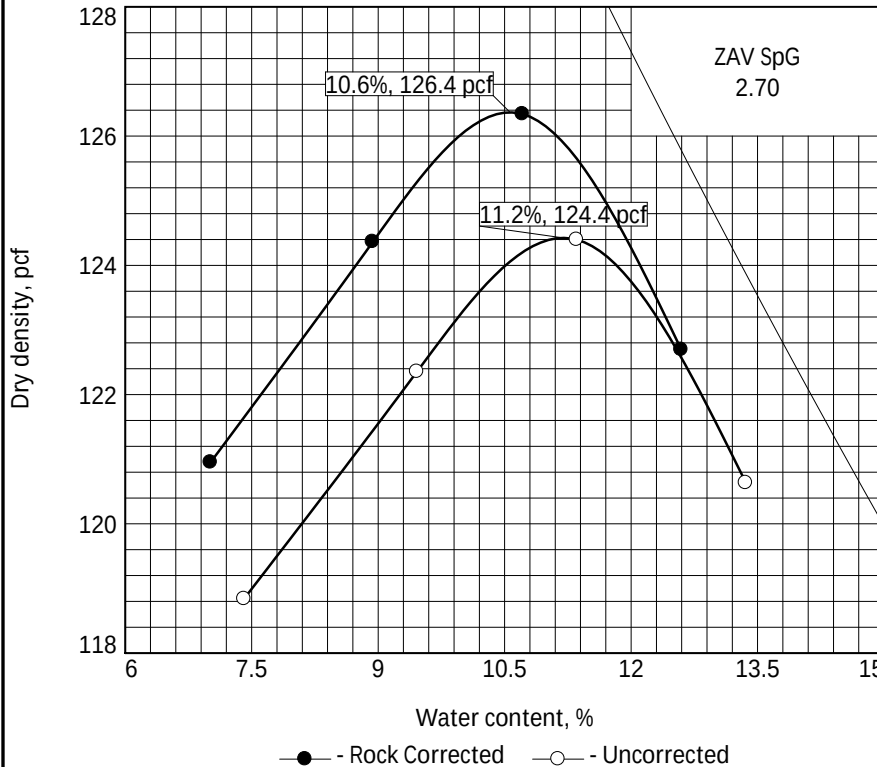
○ Source of Sample: B3 Depth: 0-5' Sample Number: Bulk

Remarks:

COOPER TESTING LABORATORY

Figure

COMPACTION TEST REPORT



Curve No.

Test Specification:

ASTM D 1557-07 Method B Modified
ASTM D4718-15 Oversize Corr. Applied to

Hammer Wt.: 10 lb.
Hammer Drop: 18 in.
Number of Layers: five
Blows per Layer: 25
Mold Size: 0.03333 cu. ft.

Test Performed on Material

Passing 3/8 in. Sieve

Soil Data

NM _____ Sp.G. 2.7
LL _____ PI _____
%>3/8 in. 6.2 %<#200 _____
USCS _____ AASHTO _____

TESTING DATA

	1	2	3	4	5	6
WM + WS	8.717	8.927	9.079	9.021		
WM	4.463	4.463	4.463	4.463		
WW + T #1	863.8	951.9	891.5	932.1		
WD + T #1	831.2	903.1	833.7	857.3		
TARE #1	390.7	387.1	324.7	297.3		
WW + T #2						
WD + T #2						
TARE #2						
MOISTURE	7.0	8.9	10.7	12.6		
DRY DENSITY	121.0	124.4	126.3	122.7		

ROCK CORRECTED TEST RESULTS

Maximum dry density = 126.4 pcf

Optimum moisture = 10.6 %

UNCORRECTED

124.4 pcf

11.2 %

Material Description

Grayish Brown Clayey SAND

Project No. 461-392 Client: Geosyntec Consultants
Project: WG3607

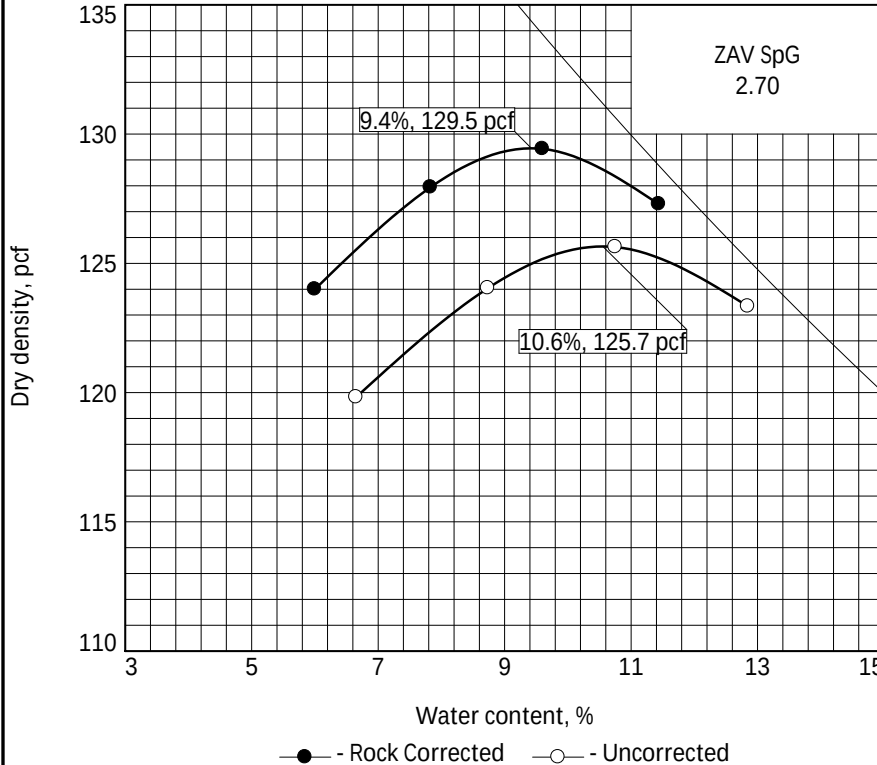
○ Source of Sample: B5 Depth: 0-5' Sample Number: Bulk

Remarks:

COOPER TESTING LABORATORY

Figure

COMPACTION TEST REPORT



Curve No.

Test Specification:

ASTM D 1557-07 Method B Modified
ASTM D4718-15 Oversize Corr. Applied to

Hammer Wt.: 10 lb.
Hammer Drop: 18 in.
Number of Layers: five
Blows per Layer: 25
Mold Size: 0.03333 cu. ft.

Test Performed on Material

Passing 3/8 in. Sieve

Soil Data

NM _____ Sp.G. 2.7
LL _____ PI _____
%>3/8 in. 12.2 %<#200 _____
USCS _____ AASHTO _____

TESTING DATA

	1	2	3	4	5	6
WM + WS	9.100	8.958	9.101	8.722		
WM	4.463	4.463	4.463	4.463		
WW + T #1	989.8	940.2	1070.7	820.6		
WD + T #1	933.2	895.3	993.3	793.5		
TARE #1	406.4	381.4	390.8	385.3		
WW + T #2						
WD + T #2						
TARE #2						
MOISTURE	9.6	7.8	11.4	6.0		
DRY DENSITY	129.4	127.9	127.3	124.0		

ROCK CORRECTED TEST RESULTS

Maximum dry density = 129.5 pcf

Optimum moisture = 9.4 %

UNCORRECTED

125.7 pcf

10.6 %

Material Description

Brown Clayey SAND w/ Gravel

Project No. 461-392 Client: Geosyntec Consultants
Project: WG3607

○ Source of Sample: B6 Depth: 0-5' Sample Number: Bulk

Remarks:

COOPER TESTING LABORATORY

Figure



Expansion Index

ASTM D-4829-07 X

CTL Job No.: 461-392 Boring: B6 Date: 3/25/2026
Client: Geosyntec Sample: Bulk By: PJ
Project Name: Depth: 0-5'
Project No: WG3607
Visual Description: Brown Clayey SAND w/ Gravel

Processing:		Moisture Calcs	
Percent Passing #4 Sieve			
Total Air Dry Weight:	N/A	Tare #	
Wt. Retained on #4 Sieve:	N/A	Wet Wt. + Tare, (gm)	878.0
% Retained	N/A	Dry Wt. + Tare, (gm)	839.5
% Passing #4 Sieve:	N/A	Tare Wt., (gm)	116.6
Sample Dimensions		Wt. Of Water, (gm)	38.6
Height (in.)= 1.003	Diameter (in.) = 4.001	% Water	21.0

Remolding:

Tamp two lifts, 15 blows/lift @ slightly below optimum moisture content

	Initial	Final	
Ring & Sample:	761.5	797.7	grams
Ring:	366.8	366.8	grams
Remolded Wet Wt.:	394.7	430.9	grams
Wet Density	119.2	124.8	pcf
Dry Density	107.6	103.2	pcf
% Sat. = $\frac{(2.7)(\text{dry dens.})(m/c)}{168.48 - (\text{dry dens.})}$		51.7	89.6
		UBC Saturation range 49-51%	
		ASTM Saturation range 48-52%	

Expansion Test:

Date	Time	Dial	Delta h, %	Tested with 1 psi Surcharge Remarks:
3/23/2026	12:10	0.0000	0.000	
3/23/2026	12:20	-0.0055	0.548	
3/24/2026	8:25	-0.0427	4.257	
3/24/2026	9:37	-0.0428	4.267	
		Total Dial	4.3	

Expansion Index

initial dial - final dial

x 1000

initial sample height

Results

El = 43

This test is a simplified index test and may not show the full potential for expansion and/or shrinkage. Use result with caution! See ASTM D 3877 or D4546

APPENDIX E

Daily Field Reports

Project Name: SAFER Bay Project (Phase 1, South of Bay Road)	Date: December 15, 2025
Project Number: WG3607/02/1617	Client: Sherwood Design Engineers
Recorded By: Elizabeth Eckes	Weather: 32-52 degrees with clouds in the morning and sun in the afternoon
Location: Bay Trail between Bay Rd and O'Conner Street, East Palo Alto, CA	Primary Activities: Marking and staking geotechnical investigation locations with the assistance of a third-party utility locator
Contractor: C. Cruz Sub-Surface Locators, Inc.	

On Site Personnel	Company	Time In	Time Out	Time On Site
Elizabeth Eckes	Geosyntec	6:45	15:30	9 hours
Salvador Cardenas	C. Cruz Sub-Surface Locators, Inc.	7:15	11:45	4.5 hours

Time	Description of Activities
7:15-7:30	Introductions and hosted the health and safety briefing.
7:30-8:30	For select locations north of Runnymede St (CPT-11 and alternate, CPT-12, CPT-14, CPT-15, CPT-17), Elizabeth used spray paint to identify the locations of the drilling investigations. Salvador identified utilities in the area surrounding the investigation locations.
8:30-10:00	For locations south of Runnymede St (CPT-8, CPT-7, CPT-6, B-2/CPT-5 and alternate, CPT-3 and alternate, CPT-2 and alternate, B1/CPT-1, B-3/CPT-10, CPT-9), Elizabeth used spray paint to identify the locations of the drilling investigations. Salvador identified utilities in the area surrounding the investigation locations.
10:00-11:45	For remaining locations north of Runnymede St (CPT-13, B4/CPT-16, and CPT-18), Elizabeth used spray paint to identify the locations of CPT-18. Salvador identified utilities in the area surrounding CPT-18. Elizabeth and Salvador were unable to access the locations of CPT-13 and B4/CPT-16. These and the locations north of Bay Road will be investigated at a later date, if they remain in scope.
11:45	After verifying that the investigation locations are not anticipated to strike utilities identified, Salvador departs site.
12-15:30	Elizabeth stakes, labels, and photographs each drilling investigation location.
15:30	Elizabeth departs site.

Signature: 	Date: 12/16/2025
Name: Elizabeth Eckes	Title: Staff Professional

Project Name: SAFER Bay Project (Phase 1, South of Bay Road)	Date: December 17, 2025
Project Number: WG3607/02/1617	Client: Sherwood Design Engineers
Recorded By: Elizabeth Eckes	Weather: 43-63 degrees with light rain
Location: Bay Trail between Bay Rd and O'Conner Street, East Palo Alto, CA	Primary Activities: Identifying GPS Coordinates for geotechnical investigation locations
Contractor: N/A	

On Site Personnel	Company	Time In	Time Out	Time On Site
Elizabeth Eckes	Geosyntec	8:15	10:30	2.25 hours
David Umberg	Geosyntec	8:00	10:30	2.5 hours

Time	Description of Activities
8-8:15	David and Elizabeth arrive on site.
8-8:30	Introductions, Health and safety briefing, and collection of supplies.
8:30-10	Walked along Bay Trail with GPS Positioning system and recorded latitude and longitude of geotechnical investigation locations.
10-10:30	Walk part of the North of Bay Trail.
10:30	David and Elizabeth depart site.

Signature: 	Date: 12/17/2025
Name: Elizabeth Eckes	Title: Staff Professional

Project Name: SAFER Bay Project (Phase 1, South of Bay Road)	Date: January 9, 2025
Project Number: WG3607/02/1617	Client: Sherwood Design Engineers
Recorded By: Elizabeth Eckes	Weather: 46-57 degrees and sunny
Location: Bay Trail between Bay Rd and 2400' north of Bay Road	Primary Activities: Marking and staking geotechnical investigation locations with the assistance of a third-party utility locator
Contractor: C. Cruz Sub-Surface Locators, Inc.	

On Site Personnel	Company	Time In	Time Out	Time On Site
Elizabeth Eckes	Geosyntec	7:00	13:30	6.5 hours
Salvador Cardenas	C. Cruz Sub-Surface Locators, Inc.	7:00	10:15	3.25 hrs

Time	Description of Activities
7:00	All personnel arrived onsite.
7:15-10:15	For locations CPT-16/B-4, CPT-19, CPT-20, CPT-21, CPT-22, CPT-23, CPT-24, CPT-25, CPT-26, CPT-27, and CPT-13, Elizabeth used spray paint to identify the locations of the drilling investigations. Salvador identified utilities in the area surrounding the investigation locations. CPT-12 and CPT-7 were also re-marked at alternate locations and Salvador identified utilities in the area surrounding those locations.
10:15	After verifying that the investigation locations are not anticipated to strike utilities identified, Salvador departs site.
10:30-13:30	Elizabeth stakes, labels, and photographs each drilling investigation location. She also uses a GPS positioning system to record latitude and longitude of the investigation locations.
13:30	Elizabeth departs site.

Signature: 	Date: 1/9/2026
Name: Elizabeth Eckes	Title: Staff Professional

Project Name: SAFER Bay Project (Phase 1, South of Bay Road)	Date: January 12, 2025
Project Number: WG3607/02/1617	Client: Sherwood Design Engineers
Recorded By: Elizabeth Eckes	Weather: 40-63 degrees and mostly sunny
Location: Bay Trail between Bay Rd and O'Conner Street, East Palo Alto, CA	Primary Activities: Completing CPT explorations for CPT locations 2, 3, and 5. Hand augering at CPT 1.
Contractor: Pitcher Drilling	

On Site Personnel	Company	Time In	Time Out	Time On Site
Mehak Suji	WRA	7AM	5:00PM	10 hrs
Bryce Cisneros	Pitcher	7AM	5:00PM	10 hrs
Jeremy Warrow	Pitcher	7AM	5:00PM	10 hrs
Esha Kurwa	Geosyntec	6:45AM	5:00PM	10.25 hrs
Elizabeth Eckes	Geosyntec	6:45AM	5:30PM	10.75 hrs
David Umberg	Geosyntec	6:45AM	5:00PM	10.25 hrs

Time	Description of Activities
6:45	Elizabeth arrived on-site to set up signage.
7:00	Elizabeth arrived to the meeting point at the end of O'Connor St. All other on-site personnel were arriving, or already present on-site.
7:00-7:30	David completed the safety tailgate and Mehak completed environmental awareness training.
8:40-9:57	CPT 2: setup included hand augering to 5 ft, then started and completed CPT to 70 ft below ground surface (bgs). A pore pressure dissipation test was taken 16.5 ft bgs. The CPT cone sleeve was found scratched and broken upon removal.
11:10-12:16	CPT 3: setup included hand augering to 5 ft, then started and completed CPT to 70 ft bgs. A pore pressure dissipation test was taken 13.3 ft bgs.
13:52-14:35	CPT 5: setup included hand augered to 5 ft, then started and completed CPT to 70 ft bgs. A pore pressure dissipation test was taken 34.3 ft bgs. Seismic CPT measurements taken every 5 feet.
14:45-16:45	Hand augered CPT 1 location at landside toe of levee close to O'Conner St to prepare for next day's investigation. Driller noted unusual smell, organic material, and flowing liquid sounds coming from the bottom of the hand auger bore at approximately 5 ft bgs. Field staff covered the open hole with a bucket. David Umberg called Sherwood (David Sand) and the City of East Palo Alto (Alec Nicholas and Jay Farr) to discuss subsurface conditions. The City will meet Pitcher and Geosyntec on-site tomorrow morning to observe conditions and discuss next steps.
16:45	Signage was removed to open the trail to the general public.
17:00	All personnel left the site

Signature: 	Date: 01/12/2026

DAILY FIELD REPORT

Page 2 of 2

Name: Elizabeth Eckes

Title: Staff Professional

Project Name: SAFER Bay Project (Phase 1, South of Bay Road)	Date: January 13, 2025
Project Number: WG3607/02/1617	Client: Sherwood Design Engineers
Recorded By: Elizabeth Eckes	Weather: 40-64 degrees and mostly sunny
Location: Bay Trail between Bay Rd and O'Conner Street, East Palo Alto, CA	Primary Activities: Completing CPT explorations for CPT locations 4 and 10, and Borehole 2
Contractor: Pitcher Drilling	

On Site Personnel	Company	Time In	Time Out	Time On Site
Cole Ayton	WRA	7:00	16:30	10 hrs
Chris McAleer	Pitcher	6:45	Unknown	Unknown
Joe Tameifuina	Pitcher	7:00	16:30	9.5 hrs
Fine Taufatofra	Pitcher	7:00	16:30	9.5 hrs
Bryce Cisneros	Pitcher	7:15	16:30	10 hrs
Eden Espinosa	Pitcher	7:15	16:30	10 hrs
Esha Kurwa	Geosyntec	6:45	16:30	9.75 hrs
Elizabeth Eckes	Geosyntec	6:45	17:00	10.25 hrs
Jay Merani	Geosyntec	6:45	14:00	7.25 hrs
David Umberg	Geosyntec	6:45	10:00	3.25 hrs

Time	Description of Activities
6:45	Elizabeth arrived on-site to set up trail closure signage, for closure of the Bay Trail between O'Connor and Garden St.
7:00	Elizabeth arrived to the meeting point at the end of O'Connor St. Esha, David, Jay, and Chris were already present on-site. The pitcher crew today includes a mud rotary rig and the limited-access "scorpion" CPT rig. The CPT requires two additional excavations to allow for augers drilled to 7 ft below ground surface (bgs) on either side of the CPT to generate the driving force.
7:15	All other personnel arrived onsite.
7:45	David completed the safety tailgate and Cole Ayton completed biological and environmental awareness training for personnel who had not been onsite before.
9:00	B-2 started. Esha Kurwa and Jay Merani on site to log boring and collect soil samples.
9:30	City of Palo Alto Maintenance staff Jay Farr and Kevin Lewis arrived onsite to discuss the subsurface conditions at CPT-1/B-1 location. They confirmed that the CPT operators encountered an out-of-service wooden sewer line that was not marked in their USA procedures. Jay Farr and Kevin agreed to the solution to backfill the ~5 ft deep hand auger hole with a soil bridge at the base and then place grout to the ground surface to seal the hole.
9:55-11:03	CPT 4: location and adjacent auger locations hand augered to 5 ft bgs and 7.5 ft bgs respectively, then started and completed CPT to 70 ft bgs. A pore pressure dissipation test was taken at 14.0 ft bgs.

DAILY FIELD REPORT

Page 2 of 2

13:45-14:30	CPT 10: location and adjacent auger locations hand augered to 5 ft bgs and 7.5 ft bgs respectively, then started and encountered refusal at ~42 ft bgs (i.e., driving CPT was observed to lift the CPT rig). Water table encountered during hand augering at ~3 ft-bgs. Soil was not suitable for pore pressure dissipation test. Seismic CPT measurements taken every 5 feet.
14:30	B-2 completed. Jay Merani left the site. The mud rotary team placed neat cement grout from the bottom of the hole to the ground surface at the location of the CPT-1 and B-1. A total of 6 Shelby tube samples, 7 Standard Penetration Tests (SPTs), and 2 Modified California Samplers were collected during the day. 1 drum of bentonite grout (approximately 55 gal) was used to backfill. Four drums of soil cuttings were generated and stored on site. Then the mud rotary team left the site.
16:23	Signage was removed to open the trail to the general public.
17:00	All remaining personnel left the site.

Signature: 	Date: 01/13/2026
Name: Elizabeth Eckes	Title: Staff Professional

Project Name: SAFER Bay Project (Phase 1, South of Bay Road)	Date: January 14, 2025
Project Number: WG3607/02/1617	Client: Sherwood Design Engineers
Recorded By: Elizabeth Eckes	Weather: 41-66 degrees and mostly sunny
Location: Bay Trail between Bay Rd and O'Conner Street, East Palo Alto, CA	Primary Activities: Completing CPT explorations for CPT locations 16 and 12, and Borehole 3
Contractor: Pitcher Drilling	

On Site Personnel	Company	Time In	Time Out	Time On Site
Cole Ayton	WRA	7:15	17:00	9.75 hrs
Chris McAleer	Pitcher	7:00	Unknown	Unknown
Joe Tameifuina	Pitcher	6:45	17:00	10.25 hrs
Fine Taufatofra	Pitcher	6:45	17:00	10.25 hrs
Bryce Cisneros	Pitcher	7:00	17:00	10 hrs
Eden Espinosa	Pitcher	7:00	17:00	10 hrs
Salvador Cardenas	C. Cruz Sub-Surface Locators, Inc.	12:30	12:45	0.25 hrs
Esha Kurwa	Geosyntec	6:45	17:00	10.25 hrs
Elizabeth Eckes	Geosyntec	6:45	17:00	10.25 hrs

Time	Description of Activities
6:45	Elizabeth arrived to the meeting point at the end of Weeks St. Esha, Joe, and Fine were present on site.
7:20-8:00	All other personnel arrived, and Elizabeth completed the safety tailgate.
8:30	The Faber-Laumeister trail in the Don Edwards preserve was closed to allow for completion of B-3. Signage for trail closure. was posted at the end of Don Edwards Trail. Boring B-3 started.
10:26-11:40	CPT 16: location and adjacent auger locations hand augered to 5 ft bgs and 7.5 ft bgs respectively, then started and completed CPT to 70 ft-bgs. A pore pressure dissipation test was taken at 13.5 ft-bgs. Seismic CPT measurements were taken every 5 feet.
12:30	Salvador Cardenas arrives onsite and identifies utilities in the area surrounding an alternate location for CPT-1 and B-1 on the crest of the levee.
15:00-15:40	CPT 12: location and adjacent auger locations hand augered to 5 ft bgs and 7.5 ft bgs respectively, then started and completed CPT to 70 ft-bgs. A pore pressure dissipation test was taken at 24.2 ft-bgs.
15:00	B-3 completed and grouted to the ground surface. A total of six Shelby tube samples, seven Standard Penetration Tests (SPTs), two Modified California samplers, and one Vane Shear test were collected during the day. One drum of bentonite grout (approximately 55 gal) was used to backfill. Four drums of soil cuttings were generated and stored on site. Trail closure signage was removed.
17:00	All personnel left the site

DAILY FIELD REPORT

Page 2 of 2

Signature: 	Date: 01/14/2026
Name: Elizabeth Eckes	Title: Staff Professional

Project Name: SAFER Bay Project (Phase 1, South of Bay Road)	Date: January 15, 2025
Project Number: WG3607/02/1617	Client: Sherwood Design Engineers
Recorded By: Elizabeth Eckes	Weather: 39-68 degrees and mostly sunny
Location: Bay Trail between Bay Rd and O'Conner Street, East Palo Alto, CA	Primary Activities: Completing CPT explorations for CPT locations 1, 6, 7, and 8 and Borehole 4
Contractor: Pitcher Drilling	

On Site Personnel	Company	Time In	Time Out	Time On Site
Rhona	WRA	6:45	16:45	10 hrs
Joe Tameifuina	Pitcher	6:45	16:45	10 hrs
Fine Taufatofra	Pitcher	6:45	16:45	10 hrs
Bryce Cisneros	Pitcher	7:00	16:30	9.5 hrs
Eden Espinosa	Pitcher	7:00	16:30	9.5 hrs
Esha Kurwa	Geosyntec	6:45	17:00	10.25 hrs
Elizabeth Eckes	Geosyntec	6:45	17:30	10.75 hrs

Time	Description of Activities
6:45	Elizabeth arrived at the meeting point at the Bay Road where Esha, Joe, and Fine were present on site.
7:00-7:30	All other personnel arrived, and Elizabeth completed the safety tailgate.
8:15	B-4 was started. The upper 5 feet was hand augered to clear for utilities. During hand augering, a Geosynthetic Clay Liner (GCL) was encountered at approximately 8 inches below ground surface (bgs).
8:25-9:15	CPT 1: hand augered to 5 ft, then started and completed CPT to 70 ft bgs.
9:20-11:20	The mud rotary rig experienced an equipment issue and was out of service
10:57-11:36	CPT 7: hand augered to 5 ft, then started and completed CPT to 70 ft bgs. Soil was not suitable for pore pressure dissipation test.
12:54-13:27	CPT 8: hand augered to 5 ft, then started and completed CPT to 70 ft bgs. Soil was not suitable for pore pressure dissipation test.
2:30	B-4 completed and grouted to within 8 inches of the ground surface. A total of six Shelby tube samples, six Standard Penetration Tests (SPTs), and four Modified California samples were collected during the day. One drum of bentonite grout (approximately 52 gal) was used to backfill. Four drums of soil cuttings were generated and stored on site. GCL repair was then performed by exposing the existing GCL in a 2-foot x 5-foot area around the borehole and sprinkled with bentonite powder. A 2-foot by 5-foot piece of GCL was then placed. 8 inches of existing soil was placed to the surface, compacted, and smoothed.
14:51-15:34	CPT 6: hand augered to 5 ft, then started and completed CPT to 70 ft bgs. A pore pressure dissipation test was taken at 38.3 ft bgs.
17:00	All personnel left the site

DAILY FIELD REPORT

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Signature: 	Date: 01/15/2026
Name: Elizabeth Eckes	Title: Staff Professional

Project Name: SAFER Bay Project (Phase 1, South of Bay Road)	Date: January 16, 2025
Project Number: WG3607/02/1617	Client: Sherwood Design Engineers
Recorded By: Elizabeth Eckes	Weather: 42-73 degrees and sunny
Location: Bay Trail between Bay Rd and O'Conner Street, East Palo Alto, CA	Primary Activities: Completing CPT explorations for CPT locations 14, 15, and 17 and Borehole 1
Contractor: Pitcher Drilling	

On Site Personnel	Company	Time In	Time Out	Time On Site
Mehak Suji	WRA	7:00	17:30	10.5 hrs
Joe Tameifuina	Pitcher	6:30	16:30	10 hrs
Fine Taufatofra	Pitcher	6:30	16:30	10 hrs
Bryce Cisneros	Pitcher	7:00	17:00	10 hrs
Eden Espinosa	Pitcher	7:00	17:00	10 hrs
Esha Kurwa	Geosyntec	6:45	17:00	10.25 hrs
Elizabeth Eckes	Geosyntec	6:15	17:45	11.5 hrs

Time	Description of Activities
6:15	Elizabeth arrives on site to start rearranging signage. Fine and Joe pick up barrels from the prior day's activities.
6:45-7:30	All other personnel arrived, and Elizabeth completed the safety tailgate.
7:42-8:15	Access issues were encountered with the truck-mounted CPT rig. Pitcher temporarily left site to get the Scorpion 4 limited-access CPT.
8:15	B-1 started. The upper 5 feet was completed by hand augering.
9:55-10:39	CPT 14: location and adjacent auger locations hand augered to 5 ft bgs and 7.5 ft bgs respectively, then started and completed CPT to 42.3 ft bgs due to refusal. A pore pressure dissipation test was taken at 37.5 ft bgs.
12:21-13:08	CPT 15: location and adjacent auger locations hand augered to 5 ft bgs and 7.5 ft bgs respectively, then started and completed CPT to 70 ft bgs. A pore pressure dissipation test was started at 20.4 ft bgs and terminated at 15 minutes due to low hydraulic conductivity material – no results were recorded.
15:00	B-1 completed and grouted to the ground surface. A total of six Shelby tube samples, six Standard Penetration Tests (SPTs), and three Modified California samples were collected during the day. One drum of bentonite grout was used to backfill (about 55 gallons). Four drums of soil cuttings were generated and stored on site.
15:00-15:26	CPT 17: location and adjacent auger locations hand augered to 5 ft bgs and 7.5 ft bgs respectively, then started and completed CPT to 60 ft-bgs due to refusal.
17:00-17:45	All personnel left the site. Signage was removed to open the trail to the general public.

Signature: 	Date: 01/16/2026
Name: Elizabeth Eckes	Title: Staff Professional

Project Name: SAFER Bay Project (Phase 1, South of Bay Road)	Date: January 19, 2025
Project Number: WG3607/02/1617	Client: Sherwood Design Engineers
Recorded By: Elizabeth Eckes	Weather: 43-68 degrees and sunny
Location: Bay Trail North of Bay Rd	Primary Activities: Completing CPT explorations for CPT locations 27, 26, and 25
Contractor: Pitcher Drilling	

On Site Personnel	Company	Time In	Time Out	Time On Site
Mehak Suji	WRA	7:00	16:00	9 hrs
Bryce Cisneros	Pitcher	7:00	16:00	9 hrs
Eden Espinosa	Pitcher	7:15	16:00	9 hrs
Tevita Poesse	Pitcher	7:00	13:15	6.25 hrs
Elizabeth Eckes	Geosyntec	6:30	16:30	10 hrs

Time	Description of Activities
6:30	Elizabeth arrives on site to set up signage
7:00-7:30	All other personnel arrived, and Elizabeth completed the safety tailgate. Mehak completed environmental awareness training. The pitcher crew today includes a mud rotary rig and the limited-access "scorpion" CPT rig. The CPT requires two additional excavations to allow for augers drilled to 7 ft below ground surface (bgs) on either side of the CPT to generate the driving force. Hand augers were conducted for the primary location and the two other locations to clear for utilities.
9:00-9:57	CPT 27: location and adjacent auger locations hand augered to 5 ft bgs and 7.5 ft bgs respectively, then started and completed CPT to 68.2 ft bgs due to refusal. A pore pressure dissipation test was taken at 17.25 ft bgs.
11:08-11:55	CPT 26: location and adjacent auger locations hand augered to 5 ft bgs and 7.5 ft bgs respectively, then started and completed CPT to 60.7 ft bgs due to refusal. A pore pressure dissipation test was taken at 18.52 ft bgs.
13:18-14:33	CPT 25: location and adjacent auger locations hand augered to 5 ft bgs and 7.5 ft bgs respectively, then started and completed CPT to 70 ft bg. A pore pressure dissipation test was attempted at 23.5 ft-bgs but discontinued due to low hydraulic conductivity material. A second pore pressure dissipation test was taken at 37.6 ft bgs. Seismic CPT measurements taken every 5 feet.
16:00-16:30	All personnel left the site. Signage was removed to open the trail to the general public.

Signature: 	Date: 01/19/2026
Name: Elizabeth Eckes	Title: Staff Professional

Project Name: SAFER Bay Project (Phase 1, South of Bay Road)	Date: January 20, 2025
Project Number: WG3607/02/1617	Client: Sherwood Design Engineers
Recorded By: Elizabeth Eckes	Weather: 45-57 degrees and partly cloudy
Location: Bay Trail North of Bay Rd	Primary Activities: Completing CPT explorations for CPT locations 21, 20, and 19 and Borehole 6
Contractor: Pitcher Drilling	

On Site Personnel	Company	Time In	Time Out	Time On Site
Ben Tinsley	WRA	7:00	16:30	9.5 hrs
Joe Tameifuina	Pitcher	6:30	16:30	10 hrs
Fine Taufatofra	Pitcher	6:30	16:30	10 hrs
Tywan Livingston	Pitcher	6:30	16:30	10 hrs
Esha Kurwa	Geosyntec	6:45	16:30	9.75 hrs
Bryce Cisneros	Pitcher	6:30	16:00	9.5 hrs
Eden Espinosa	Pitcher	6:30	16:00	9.5 hrs
Tevita Poesse	Pitcher	6:30	16:00	9.5 hrs
Elizabeth Eckes	Geosyntec	6:45	17:15	10.5 hrs

Time	Description of Activities
6:45	Elizabeth arrives to set up signage. Esha is already onsite with Pitcher crews who are setting up equipment.
7:00-7:30	All personnel gather, and Elizabeth completed the safety tailgate. Ben completed environmental awareness training.
9:30	Boring B-6 was started using the Geoprobe Drill Rig 7822DT.
9:39-11:03	CPT-21: location and adjacent auger locations hand augered to 5 ft below ground surface (bgs) and 7.5 ft bgs respectively, then started and completed CPT to 70 ft bgs. A pore pressure dissipation test was taken at 8.7 ft bgs. Seismic CPT measurements taken every 5 feet.
12:08-13:16	CPT-19: location and adjacent auger locations hand augered to 5 ft bgs and 7.5 ft bgs respectively, then started and completed CPT to 70 ft bgs. A pore pressure dissipation test was taken at 15.02 ft bgs
14:19-15:03	CPT-20: location and adjacent auger locations hand augered to 5 ft bgs and 7.5 ft bgs respectively, then started and completed CPT to 70 ft bgs. A pore pressure dissipation test was taken at 16.27 ft bgs.
15:30	Boring B-6 was completed. The borehole was advanced to a depth of 44.5 feet bgs, with the upper 5 feet completed by hand augering. Following drilling, B-6 was backfilled with grout to 3 inches bgs and an asphalt cold patch was added to the surface. A total of four Shelby tube samples, four Standard Penetration Tests (SPTs), and two Vane Shear tests were collected during the day. One half drum of bentonite grout (approximately 30 gal) was used to backfill. Three drums of soil cuttings were generated and stored on site.
16:00-16:30	All personnel, except for Elizabeth, left the site.
17:15	Elizabeth departed site after removing signage from the trail.

DAILY FIELD REPORT

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Signature: 	Date: 01/20/2026
Name: Elizabeth Eckes	Title: Staff Professional

Project Name: SAFER Bay Project (Phase 1, South of Bay Road)	Date: January 21, 2025
Project Number: WG3607/02/1617	Client: Sherwood Design Engineers
Recorded By: Elizabeth Eckes	Weather: 44-62 degrees and partly cloudy
Location: Bay Trail North of Bay Rd	Primary Activities: Completing CPT explorations for CPT locations 22, 23, and 24 and Borehole 5
Contractor: Pitcher Drilling	

On Site Personnel	Company	Time In	Time Out	Time On Site
Ben Tinsley	WRA	6:45	17:00	10.25 hrs
Giovanni Garcia	Pitcher	6:30	17:00	10.5 hrs
Fine Taufatofra	Pitcher	6:30	17:00	10.5 hrs
Tywaana Livingston	Pitcher	6:30	17:00	10.5 hrs
Esha Kurwa	Geosyntec	6:30	17:00	10.5 hrs
Bryce Cisneros	Pitcher	6:30	15:30	9 hrs
Eden Espinosa	Pitcher	6:30	15:30	9 hrs
Tevita Poesse	Pitcher	6:30	13:30	7 hrs
Elizabeth Eckes	Geosyntec	6:30	17:00	10.5 hrs

Time	Description of Activities
6:45	Elizabeth arrives to set up signage. Pitcher crews are already onsite setting up equipment. All other personnel arrive shortly after.
7:10-7:30	All personnel gather, and Elizabeth completed the safety tailgate. Ben completed environmental awareness training.
8:30	Boring B-5 was started using the Geoprobe Drill Rig 7822DT.
9:39-11:03	CPT-24: location and adjacent auger locations hand augered to 5 ft below ground surface (bgs) and 7.5 ft bgs respectively, then started and completed CPT to 67 ft bgs due to refusal. A pore pressure dissipation test was taken at 33.1 ft bgs.
12:08-13:16	CPT-23: location and adjacent auger locations hand augered to 5 ft bgs and 7.5 ft bgs respectively, then started and completed CPT to 70 ft bgs. A pore pressure dissipation test was taken at 32.9 ft bgs
14:19-15:03	CPT-22: location and adjacent auger locations hand augered to 5 ft bgs and 7.5 ft bgs respectively, then started and completed CPT to 70 ft bgs. A pore pressure dissipation test was taken at 14.6 ft bgs.
16:30	Boring B-5 was completed. The borehole was advanced to a depth of 62.5 feet bgs, with the upper 5 feet completed by hand augering. Following drilling, B5 was backfilled with grout to 3 inches bgs and an asphalt cold patch was added to the surface. A total of nine Shelby tube samples, eight Standard Penetration Tests (SPTs), and one Modified California samples were collected during the day. One drum of bentonite grout (approximately 50 gal) was used to backfill. Three drums of soil cuttings were generated and stored on site. This concludes the mud rotary portion of the investigation.
15:30	CPT personnel depart site
17:00	All other personnel departed site after Elizabeth removed signage from the trail.

DAILY FIELD REPORT

Page 2 of 2

Signature: 	Date: 01/21/2026
Name: Elizabeth Eckes	Title: Staff Professional

Project Name: SAFER Bay Project (Phase 1, South of Bay Road)	Date: January 22, 2026
Project Number: WG3607/02/1617	Client: Sherwood Design Engineers
Recorded By: Elizabeth Eckes	Weather: 43-68 degrees and sunny
Location: Bay Trail North of Bay Rd	Primary Activities: Completing CPT explorations for CPT locations 9 and 11.
Contractor: Pitcher Drilling	

On Site Personnel	Company	Time In	Time Out	Time On Site
Mehak Suji	WRA	6:45	15:30	8.75 hrs
Bryce Cisneros	Pitcher	8:15	15:45	7.5 hrs
Giovanni Garcia	Pitcher	8:15	15:45	7.5 hrs
Elizabeth Eckes	Geosyntec	6:30	15:45	9.25 hrs

Time	Description of Activities
6:30	Elizabeth arrives on site to organize signage. Mehak arrives shortly after.
6:45	Mehak arrives onsite. Elizabeth receives a call from Bryce that the CPT crew is running late due to unforeseen circumstances.
8:15-8:30	CPT crew arrives onsite. Elizabeth gives a safety briefing.
9:27-10:45	CPT 9: location and adjacent auger locations hand augered to 5 ft below ground surface (bgs) and 7.5 ft bgs respectively, then started and completed CPT to 67.7 ft bgs due to refusal. A pore pressure dissipation test was taken at 44.4 ft bgs. A second pore pressure dissipation test was taken at refusal (at 67.7 ft bgs).
13:50-14:30	CPT 11: location and adjacent auger locations hand augered to 5 ft bgs and 7.5 ft bgs respectively, then started and completed CPT 11 to 70 ft bgs. A pore pressure dissipation test was taken at 29.7 ft-bgs.
15:30-15:45	All personnel left the site. Elizabeth removed signage from the trail.

Signature: 	Date: 01/22/2026
Name: Elizabeth Eckes	Title: Staff Professional

Project Name: SAFER Bay Project (Phase 1, South of Bay Road)	Date: January 23, 2026
Project Number: WG3607/02/1617	Client: Sherwood Design Engineers
Recorded By: Elizabeth Eckes	Weather: 48-55 degrees and cloudy
Location: Bay Trail North of Bay Rd	Primary Activities: Completing CPT explorations for CPT locations 18 and 13.
Contractor: Pitcher Drilling	

On Site Personnel	Company	Time In	Time Out	Time On Site
Natalie McNear	WRA	6:45	16:00	9.25 hrs
Bryce Cisneros	Pitcher	7:00	16:30	9.5 hrs
Giovanni Garcia	Pitcher	7:00	16:30	9.5 hrs
Elizabeth Eckes	Geosyntec	6:30	16:30	10 hrs

Time	Description of Activities
6:30	Elizabeth arrives on site to organize signage. Natalie arrives shortly after.
7-7:30	Pitcher personnel arrive onsite and Elizabeth gives a safety briefing. Elizabeth puts up signage while Bryce sets up CPT equipment.
9:02-10:09	CPT 18: location and adjacent auger locations hand augered to 5 ft below ground surface (bgs) and 7.5 ft bgs respectively, then started and completed to 64.2 ft bgs due to refusal. A pore pressure dissipation test was taken at 44.2 ft bgs. A second pore pressure dissipation test was taken at 63.4 ft bgs.
13:35-14:27	Elizabeth removed signage from trail. CPT 13: location and adjacent auger locations hand augered to 5 ft bgs and 7.5 ft bgs respectively, then started and completed CPT to 70 ft bgs. A pore pressure dissipation test was taken at 21.6 ft bgs.
16:00	Natalie departed site.
16:30	All other personnel departed the site.

Signature: 	Date: 01/23/2026
Name: Elizabeth Eckes	Title: Staff Professional

APPENDIX F

Photographic Log



Photo No.:	1	Date:	January 12, 2026
Photographer:	Elizabeth Eckes		
Subject:	View of pedestrian traffic control signs placed along the Bay Trail near GS26-CPT-1 (looking north).		
Project:	SAFER Bay Project (STA 00+00 to STA 69+00)	City/State:	East Palo Alto, CA



Photo No.:	2	Date:	January 15, 2026
Photographer:	Elizabeth Eckes		
Subject:	Pitcher drilling at GS26-CPT-1 using a 30-ton truck-mounted rig (looking northwest).		
Project:	SAFER Bay Project (STA 00+00 to STA 69+00)	City/State:	East Palo Alto, CA



Photo No.:	3	Date:	January 15, 2026
Photographer:	Elizabeth Eckes		
Subject:	Pitcher hand augering the top 5 feet of GS26-CPT-6 (looking northeast)		
Project:	SAFER Bay Project (STA 00+00 to STA 69+00)	City/State:	East Palo Alto, CA



Photo No.:	4	Date:	January 15, 2026
Photographer:	Elizabeth Eckes		
Subject:	Pitcher coring asphalt on the Bay Trail prior to drilling GS26-CPT-7 (looking northwest)		
Project:	SAFER Bay Project (STA 00+00 to STA 69+00)	City/State:	East Palo Alto, CA



Photo No.:	5	Date:	January 15, 2026
Photographer:	Esha Kurwa		
Subject:	Pitcher placing bentonite and new GCL to repair penetrated GCL during backfilling of GS26-B-4.		
Project:	SAFER Bay Project (STA 00+00 to STA 69+00)	City/State:	East Palo Alto, CA



Photo No.:	6	Date:	January 16, 2026
Photographer:	Esha Kurwa		
Subject:	Pitcher performing mud-rotary drilling at location GS26-B-1 using a CME 850 rig (looking northeast).		
Project:	SAFER Bay Project (STA 00+00 to STA 69+00)	City/State:	East Palo Alto, CA



Photo No.:	7	Date:	January 19, 2026
Photographer:	Elizabeth Eckes		
Subject:	Pitcher Services, LLC (Pitcher) drilling at GS26-CPT-26 using a 5900-pound limited access rig (looking north).		
Project:	SAFER Bay Project (STA 00+00 to STA 69+00)	City/State:	East Palo Alto, CA



Photo No.:	8	Date:	January 20, 2026
Photographer:	Elizabeth Eckes		
Subject:	View of backfilled boring and cold patch asphalt completion at GS26-B-6.		
Project:	SAFER Bay Project (STA 00+00 to STA 69+00)	City/State:	East Palo Alto, CA



Photo No.:	9	Date:	January 21, 2026
Photographer:	Esha Kurwa		
Subject:	Pitcher performing mud rotary drilling at GS26-B-5 using a limited-access Geoprobe 7822DT rig (looking northwest).		
Project:	SAFER Bay Project (STA 00+00 to STA 69+00)	City/State:	East Palo Alto, CA

APPENDIX G

Historical Explorations

APPENDIX G.1

South of Bay Road Historical Explorations

HDR (2024)

CPT-104

CPT-105

CPT-106

CPT-107

CPT-108

B-107

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

MATERIAL TYPES	CRITERIA FOR ASSIGNING SOIL GROUP NAMES			GROUP SYMBOL	SOIL GROUP NAMES & LEGEND	
COARSE-GRAINED SOILS >50% RETAINED ON NO. 200 SIEVE	GRAVELS >50% OF COARSE FRACTION RETAINED ON NO 4. SIEVE	CLEAN GRAVELS <5% FINES	$C_u \geq 4$ AND $1 \leq C_c \leq 3$	GW	WELL-GRADED GRAVEL	
			$C_u < 4$ AND/OR $1 > C_c > 3$	GP	POORLY-GRADED GRAVEL	
		GRAVELS WITH FINES >12% FINES	FINES CLASSIFY AS ML OR MH	GM	SILTY GRAVEL	
			FINES CLASSIFY AS CL OR CH	GC	CLAYEY GRAVEL	
	SANDS >50% OF COARSE FRACTION PASSES NO 4. SIEVE	CLEAN SANDS <5% FINES	$C_u \geq 6$ AND $1 \leq C_c \leq 3$	SW	WELL-GRADED SAND	
			$C_u < 6$ AND/OR $1 > C_c > 3$	SP	POORLY-GRADED SAND	
		SANDS AND FINES >12% FINES	FINES CLASSIFY AS ML OR MH	SM	SILTY SAND	
			FINES CLASSIFY AS CL OR CH	SC	CLAYEY SAND	
FINE-GRAINED SOILS >50% PASSES NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT <50	INORGANIC	PI>7 AND PLOTS>"A" LINE	CL	LEAN CLAY	
			PI<4 OR PLOTS<"A" LINE	ML	SILT	
		ORGANIC	LL (oven dried)/LL (not dried)<0.75	OL	ORGANIC CLAY OR SILT	
	SILTS AND CLAYS LIQUID LIMIT >50	INORGANIC	PI PLOTS >"A" LINE	CH	FAT CLAY	
			PI PLOTS <"A" LINE	MH	ELASTIC SILT	
		ORGANIC	LL (oven dried)/LL (not dried)<0.75	OH	ORGANIC CLAY OR SILT	
HIGHLY ORGANIC SOILS		PRIMARILY ORGANIC MATTER, DARK IN COLOR, AND ORGANIC ODOR		PT	PEAT	

OTHER SYMBOLS

MATERIALS	SAMPLERS
Asphalt	SPT (2" OD)
Aggregate Base	Modified California (3" OD)
Topsoil	California (2.5" OD)
Bedrock	Shelby Tube
PIEZOMETER	Pitcher Barrel
	HQ Core
Grout Seal or Fill	Grab/Bulk
Bentonite Seal or Fill	
Sand Pack + Solid Pipe	INITIAL WATER LEVEL MEASUREMENT (WITH DATE)
Sand Pack + Slotted Pipe	STABILIZED WATER LEVEL MEASUREMENT (WITH DATE)

GRAIN SIZES							
U.S. STANDARD SIEVE	200	40	10	4	3/4"	3"	12"
SILTS AND CLAYS	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

PENETRATION RESISTANCE				
SAND & GRAVEL		SILT & CLAY		
RELATIVE DENSITY	BLOWS/FOOT*	CONSISTENCY	BLOWS/FOOT*	UNC. COMP. STRENGTH (KSF)
VERY LOOSE	0 - 4	VERY SOFT	0 - 1	0 - 1/2
LOOSE	5 - 10	SOFT	2 - 4	1/2 - 1
MEDIUM DENSE	11 - 30	MEDIUM STIFF	5 - 8	1 - 2
DENSE	31 - 50	STIFF	9 - 15	2 - 4
VERY DENSE	OVER 50	VERY STIFF	16 - 30	4 - 8
		HARD	OVER 30	OVER 8

* NUMBER OF BLOWS OF 140 LB HAMMER FALLING 30 INCHES TO DRIVE A 2 INCH O.D. (1-3/8 INCH I.D.) SPLIT-BARREL SAMPLER THE LAST 12 INCHES OF AN 18-INCH DRIVE (ASTM-1586 STANDARD PENETRATION TEST).

LABORATORY TESTS

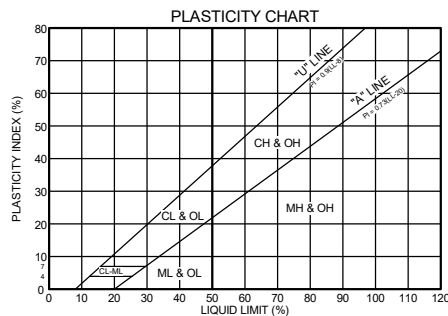
AT ATTERBERG LIMITS
 CD CONSOLIDATED DRAINED TRIAXIAL
 CN CONSOLIDATION
 CR CORROSION
 CU CONSOLIDATED UNDRAINED TRIAXIAL
 DS DIRECT SHEAR
 HY HYDROMETER
 PR PERMEABILITY
 RV R-VALUE
 SA SIEVE ANALYSIS
 TC CYCLIC TRIAXIAL
 UC UNCONFINED COMPRESSION
 UU UNCONSOLIDATED UNDRAINED TRIAXIAL
 -200 % PASSING NO. 200 SIEVE

PROPERTIES

c COHESION
 DD DRY DENSITY
 EI EXPANSION INDEX
 LL LIQUID LIMIT
 MC MOISTURE CONTENT
 N_e FIELD BLOW COUNT
 PI PLASTICITY INDEX
 S_u UNDRAINED STRENGTH

UNDRAINED SHEAR STRENGTH

V FIELD VANE
 P POCKET PENETROMETER
 T TORVANE
 Q UNCONFINED COMPRESSION
 U UNCONSOLIDATED UNDRAINED TRIAXIAL



INCREASING VISUAL
MOISTURE CONTENT

↑
 WET
 MOIST
 DRY

Boring Legend

SAFER Bay Project
 East Palo Alto, California

Date

Figure

A-1



HDR SOIL BORING LOG 2017 MARCH R1: 10151664 SAFER-T03 B-107 2024-05-27 GP-J: HDR_FOLSOM_OAKLAND_SEP 2021_WIP.GLB: 5/27/24

		Project: SAFER Bay Project		Boring ID: B-107		Sheet 1 of 2 Sheets	
		Project Location: East Palo Alto, California					
		Project Number: 10151664					
Start Date: 11/14/2022		End Date: 11/14/2022		Logged By: J. Wong		Checked By: V. Crosariol	
Date Checked: 1/13/2023							
Drilling Company (Rig Type): Pitcher Drilling (Track Mounted)				Inspector: K. Atkinson		Weather Conditions: Sunny/Clear	
Drill Method: Mud Rotary				Drilled By: Will Halai		Elevation Top of Boring: 10.5 ft. Vertical Datum: NAVD88	
Drill Bit (Type/Size): Rock Bit / 3-3/4"				Total Depth Drilled: 61.5 ft.		Latitude: 37.475070° Longitude: -122.126070° Horizontal Datum: NAD83	
Hammer Type: Automatic				Hole Backfill: Cement Grout		Northing: 1,999,548 ft. Easting: 6,089,825 ft. Coordinate System: California State Plane Zone 3	
Hammer Efficiency:		Rod Type:		Total Number of Samples: 23 Disturbed: 21 Undisturbed: 2		Initial Groundwater Depth: Not established Static Groundwater Depth: Not established	

ELEV	DEPTH	SAMPLE	Blows/6" or Press.	N ₆₀	LEGEND	DESCRIPTION OF MATERIALS	% REC	Samp No	Laboratory						Su (ksf)	REMARKS
									Fines	LL	PL	DD	MC			
10						2" Asphalt Concrete.										Begin with 6" core barrel
			6			Fill		G1								Took grab sample at 2'
			5	9		SANDY LEAN CLAY (CL): medium stiff, grayish brown, dry, medium toughness, medium plasticity, fine sand, trace organics (rootlets) and fine gravel. Color change to darker shade at 2'.	56	L2	40	12	92	26	1.25 P			Pushed casing to 4' and switched to mud rotary; start with 3-7/8" rock bit
			4			SANDY SILT with Gravel (ML): medium stiff, dark gray, dry, high toughness, low plasticity, fine sand, trace fine gravel and organics (rootlets).										
5			2	8		FAT CLAY (CH): soft, dark gray to black, moist, high plasticity, faint organic odor.	39	L3					0.26 T			CR performed on Liner L3
			3													
			5													
			0			Young Bay Mud (Qybm)										
			0	1		SANDY LEAN to FAT CLAY (CL/CH): soft, dark gray, moist, high plasticity, trace subrounded gravel.	56	L4					0.10 T			
			1													
-10			0			Color change to brownish gray.		T5					0.80 T			CN and UU performed on T5
			0				73		49	26						
			0									96	27			
			1	3			33					89	31			
			2					L6				91	32	0.10 T		
-5			0													
			1	4			50	L7								Noted material change in Liner L7 between 16' and 16.5'
			3			SILTY SAND (SM): very loose, dark gray, wet.										
			1			FAT CLAY (CH): soft, brownish gray mottled reddish gray, moist, high plasticity.	67	S8				48				Material transitions back to CH at 17'
			1	2												
			1													
-20			1	9		Dark gray.	33	L9				83	39	0.90 T		
			4													
			5			Trace fine sand.		T10						0.60 T		CN and UU performed on T10
							100		50	28		87	33			
			0									84	35			Shelby tube push pressure increased to 25 psi at 24.5'
-25			1	4												
			2													
			2	4			83	L11								
			7	27		Alluvium (Qal)		L12								
			12			SANDY LEAN CLAY with Gravel (CL): soft, light grayish brown, moist, medium plasticity, fine gravel up to 0.5".										
			15			Very stiff, medium plasticity, subangular coarse gravel up to 3/4".	100	L13				95	34	3.00 P		
						SANDY LEAN CLAY (CL): stiff, light grayish brown mottled reddish brown, moist, medium plasticity.		L14								



Project: SAFER Bay Project
Project Location: East Palo Alto, California
Project Number: 10151664

Boring ID:
B-107

Sheet
2 of 2
Sheets

ELEV	DEPTH	SAMPLE	Blows/6" or Press.	N _r	LEGEND	DESCRIPTION OF MATERIALS	% REC	Samp No.	Laboratory					Su (ksf)	REMARKS
									Fines	LL	PI	DD	MC		
-20		X	5 4 7	11		trace coarse gravel.	67	L15 L16		38	18	95	29	1.00 P	1.5" rock fragment observed at bottom of L16
-25		X	6 7 8	15		Light gray mottled reddish brown, moist, trace fine sand.	78	L17		33	15	100	26	1.10 T	
-30		X	7 10 14	24		Very stiff, no apparent sand.	44	L18						3.25 P	Driller noted material change at 43'
-35		X	5 7 15	22		SILTY SAND (SM): medium dense, light brown mottled reddish brown, moist, fine sand, few plastic fines.	83	L19 L20		27	1				
-40		X	5 8 10	18		Grayish brown, nonplastic fines.	78	L21	42						Color change in liner L19
-45		X	10 19 23	42		Poorly Graded SAND (SP): medium dense, dark brown, wet, subrounded fine to medium sand, few coarse sand up to 0.3", fine gravel up to 0.5".	67	S22							
-50			11 15 15	30		Dense, trace subrounded gravel up to 1".	67	S23							Sandy gravel observed in drilling fluid

HDR SOIL BORING LOG 2017 MARCH R1: 10151664 SAFER-T03 B-107 2024-05-27 GP-J HDR FOLSOM OAKLAND SEP 2021 WIP GLB: 5/27/24

Gregg Drilling CPT Report

November 16, 2022

HDR

Attn: Olen Gover

Subject: CPT Site Investigation
Safer Bay Project
East Palo Alto, CA
GREGG Project Number: P7222034

Dear Olen:

The following report presents the results of Gregg Drilling's Cone Penetration Test investigation for the above referenced site. The following testing services were performed:

1	Cone Penetration Tests	(CPTU)	☒
2	Pore Pressure Dissipation Tests	(PPD)	☒
3	Seismic Cone Penetration Tests	(SCPTU)	☐
4	Groundwater Samples	(GWS)	☐
5	Soil Samples	(SS)	☐
6	Vapor Samples	(VS)	☐

A list of reference papers providing additional background on the specific tests conducted is provided in the bibliography following the text of the report. If you would like a copy of any of these publications or should you have any questions or comments regarding the contents of this report, please do not hesitate to contact me at 562-427-6899.

Sincerely,

CPT Reports Team
Gregg Drilling, LLC.



Cone Penetration Testing (CPT) Procedure

Gregg Drilling carries out all Cone Penetration Tests (CPT) using an integrated electronic cone system, Figure CPT.

The cone takes measurements of tip resistance (q_c), sleeve resistance (f_s), and penetration pore water pressure (u_2). Measurements are taken at either 2.5 or 5cm intervals during penetration to provide a nearly continuous profile. CPT data reduction and basic interpretation is performed in real time facilitating on-site decision making. The above mentioned parameters are stored electronically for further analysis and reference. All CPT soundings are performed in accordance with revised ASTM standards (D 5778-12).

The 5mm thick porous plastic filter element is located directly behind the cone tip in the u_2 location. A new saturated filter element is used on each sounding to measure both penetration pore pressures as well as measurements during a dissipation test (PPDT). Prior to each test, the filter element is fully saturated with oil under vacuum pressure to improve accuracy.

When the sounding is completed, the test hole is backfilled according to client specifications. If grouting is used, the procedure generally consists of pushing a hollow tremie pipe with a "knock out" plug to the termination depth of the CPT hole. Grout is then pumped under pressure as the tremie pipe is pulled from the hole. Disruption or further contamination to the site is therefore minimized.

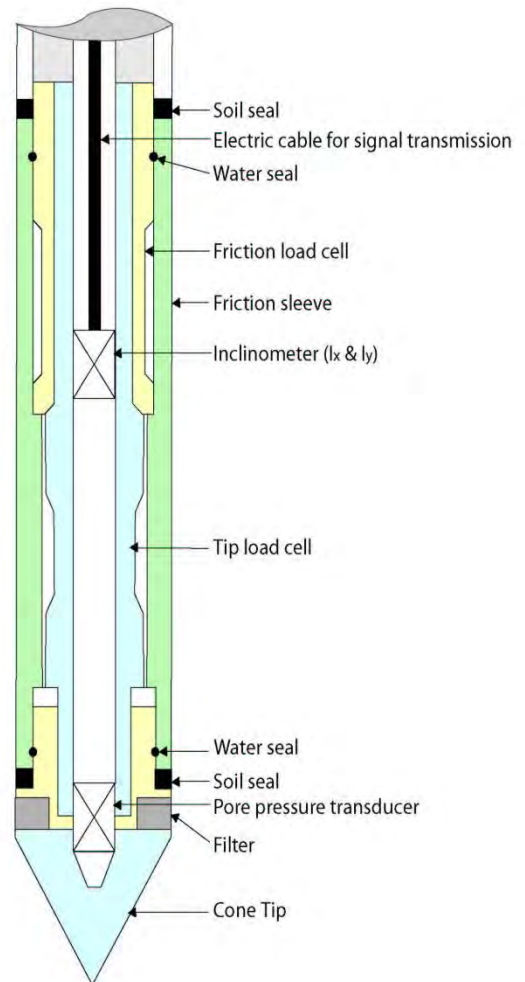


Figure CPT

15cm² Standard Cone Specifications

Dimensions	
Cone base area	15 cm ²
Sleeve surface area	225 cm ²
Cone net area ratio	0.80
Specifications	
Cone load cell	
Full scale range	180 kN (20 tons)
Overload capacity	150%
Full scale tip stress	120 MPa (1,200 tsf)
Repeatability	120 kPa (1.2 tsf)
Sleeve load cell	
Full scale range	31 kN (3.5 tons)
Overload capacity	150%
Full scale sleeve stress	1,400 kPa (15 tsf)
Repeatability	1.4 kPa (0.015 tsf)
Pore pressure transducer	
Full scale range	7,000 kPa (1,000 psi)
Overload capacity	150%
Repeatability	7 kPa (1 psi)

Note: The repeatability during field use will depend somewhat on ground conditions, abrasion, maintenance and zero load stability.

Table 1: Cone Penetration Testing Summary

CPT Sounding Identification	Date	Termination Depth (ft)	Depth of Soil Samples (ft)	Depth of Groundwater Samples (ft)	Depth of Pore Pressure Dissipation Tests (ft)
CPT-104	11/15/2022	70.37	-	-	47.57
CPT-105	11/14/2022	70.37	-	-	27.72
CPT-106	11/14/2022	70.37	-	-	28.54
CPT-107	11/15/2022	70.37	-	-	26.57
CPT-108	11/14/2022	70.37	-	-	25.43

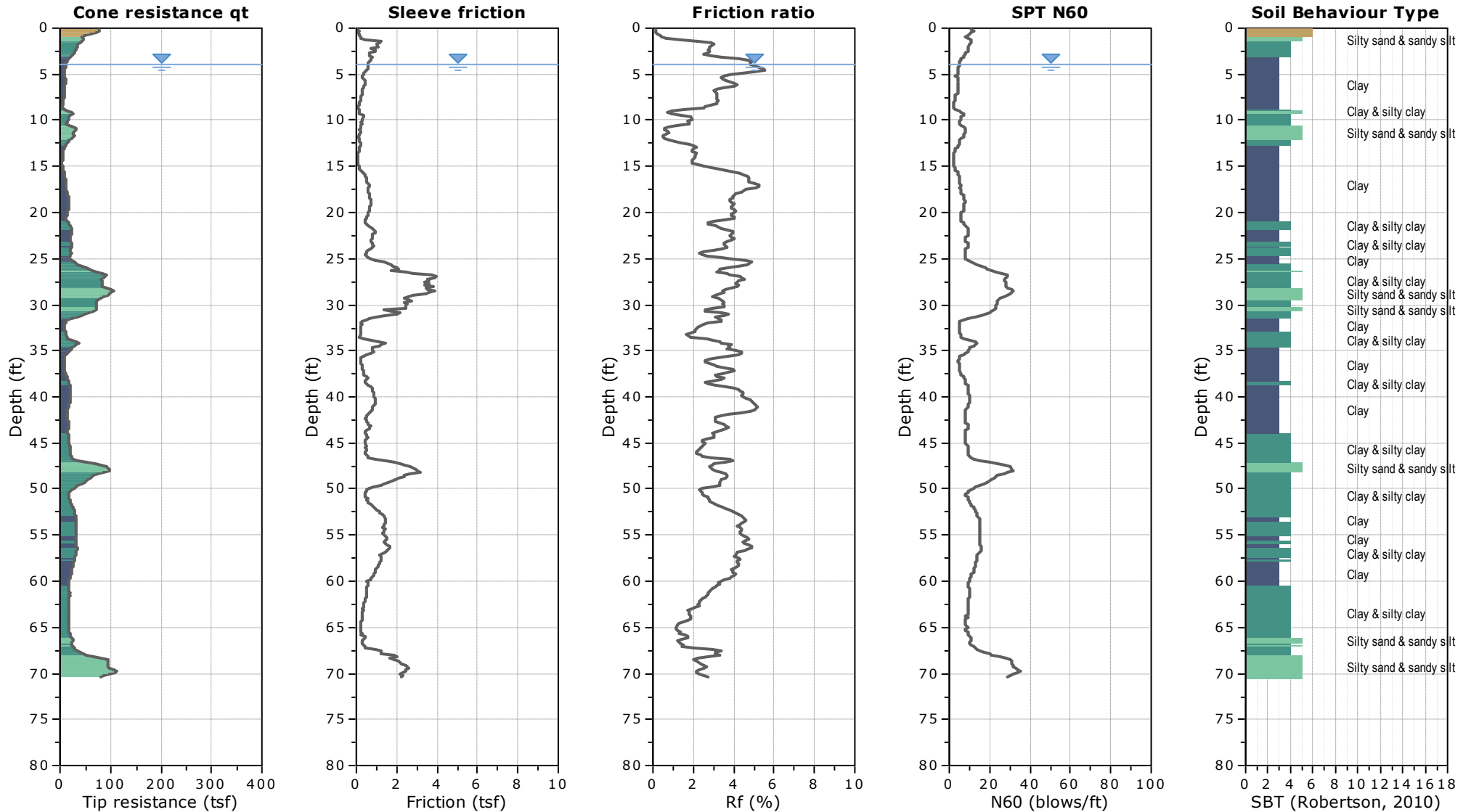


CLIENT: HDR

FIELD REP: OLEN
Cone ID: GDC-82

SITE: SAFER BAY PROJECT, EAST PALO ALTO, CA

Total depth: 70.37 ft, Date: 11/15/2022



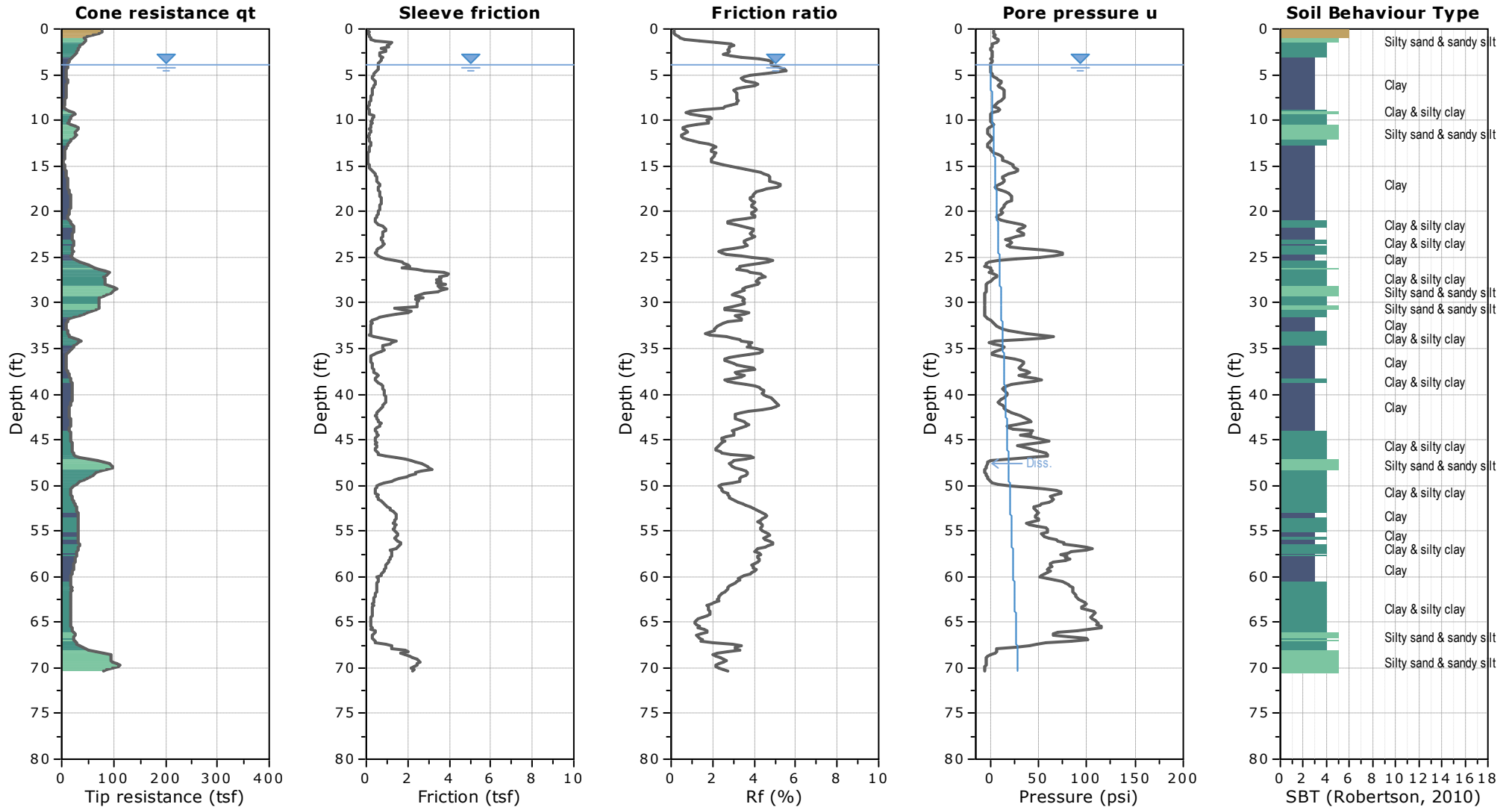


CLIENT: HDR

FIELD REP: OLEN
Cone ID: GDC-82

SITE: SAFER BAY PROJECT, EAST PALO ALTO, CA

Total depth: 70.37 ft, Date: 11/15/2022



WATER TABLE FOR ESTIMATING PURPOSES ONLY

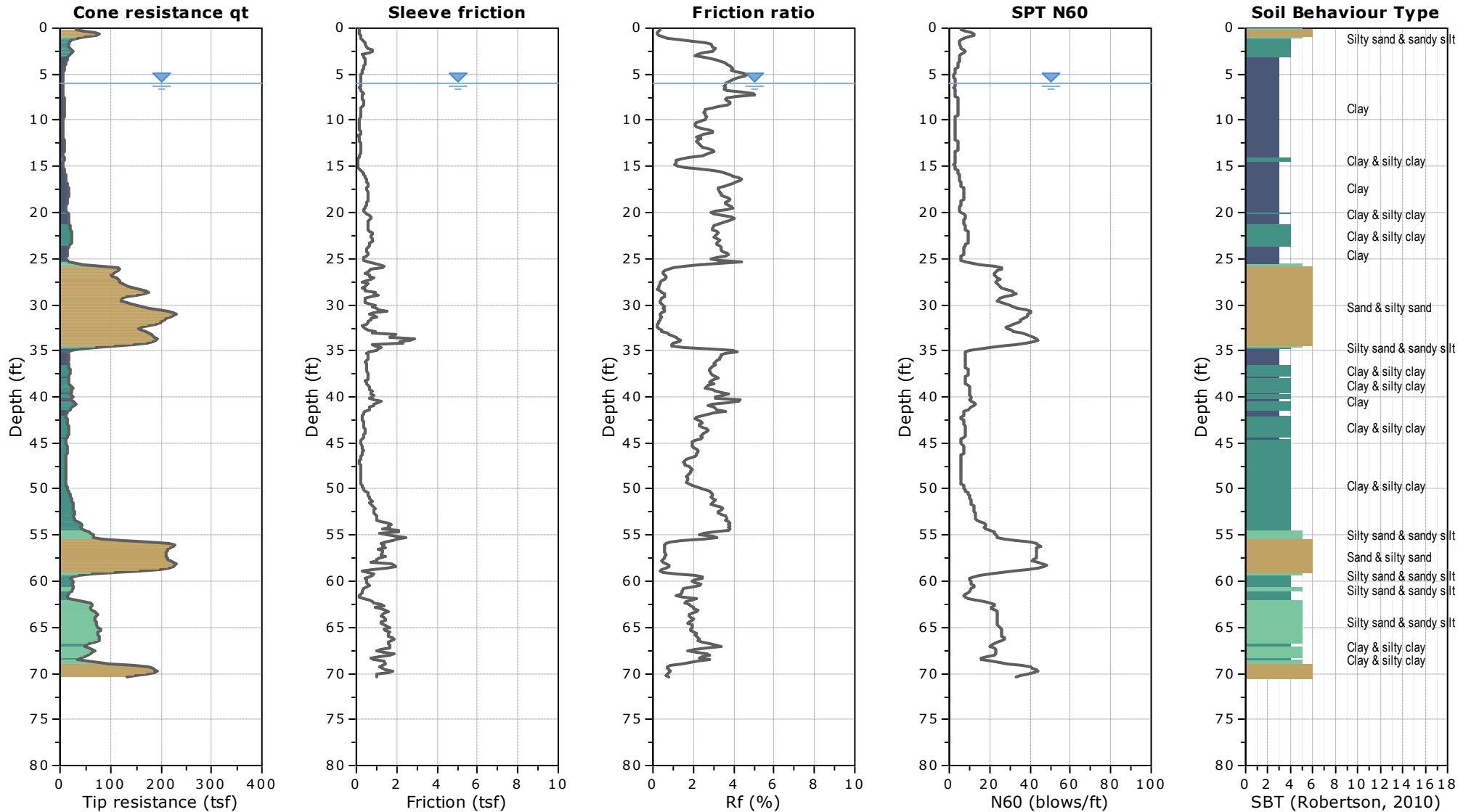


CLIENT: HDR

FIELD REP: OLEN
Cone ID: GDC-82

SITE: SAFER BAY PROJECT, EAST PALO ALTO, CA

Total depth: 70.37 ft, Date: 11/14/2022



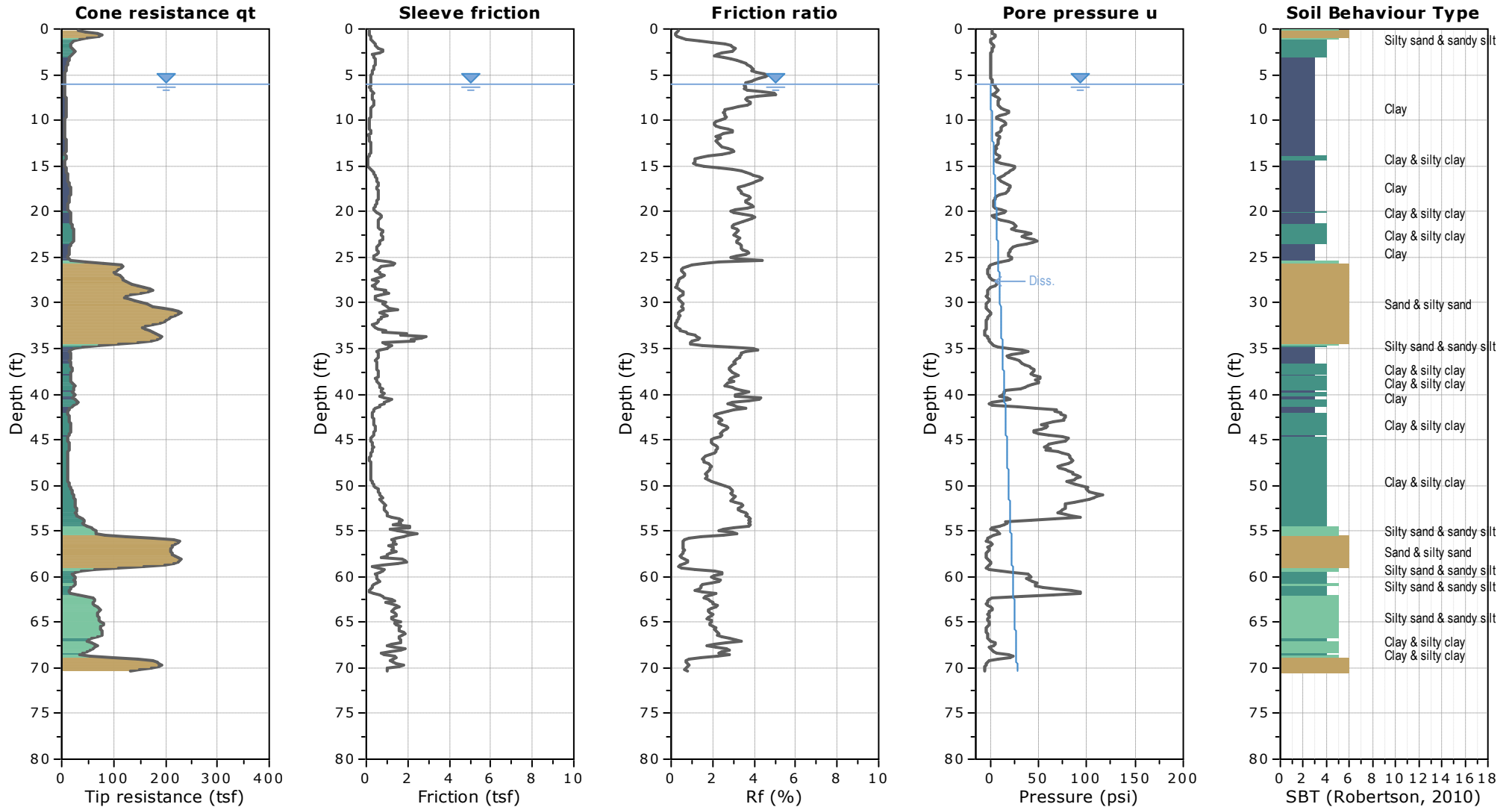


CLIENT: HDR

FIELD REP: OLEN
Cone ID: GDC-82

SITE: SAFER BAY PROJECT, EAST PALO ALTO, CA

Total depth: 70.37 ft, Date: 11/14/2022



WATER TABLE FOR ESTIMATING PURPOSES ONLY

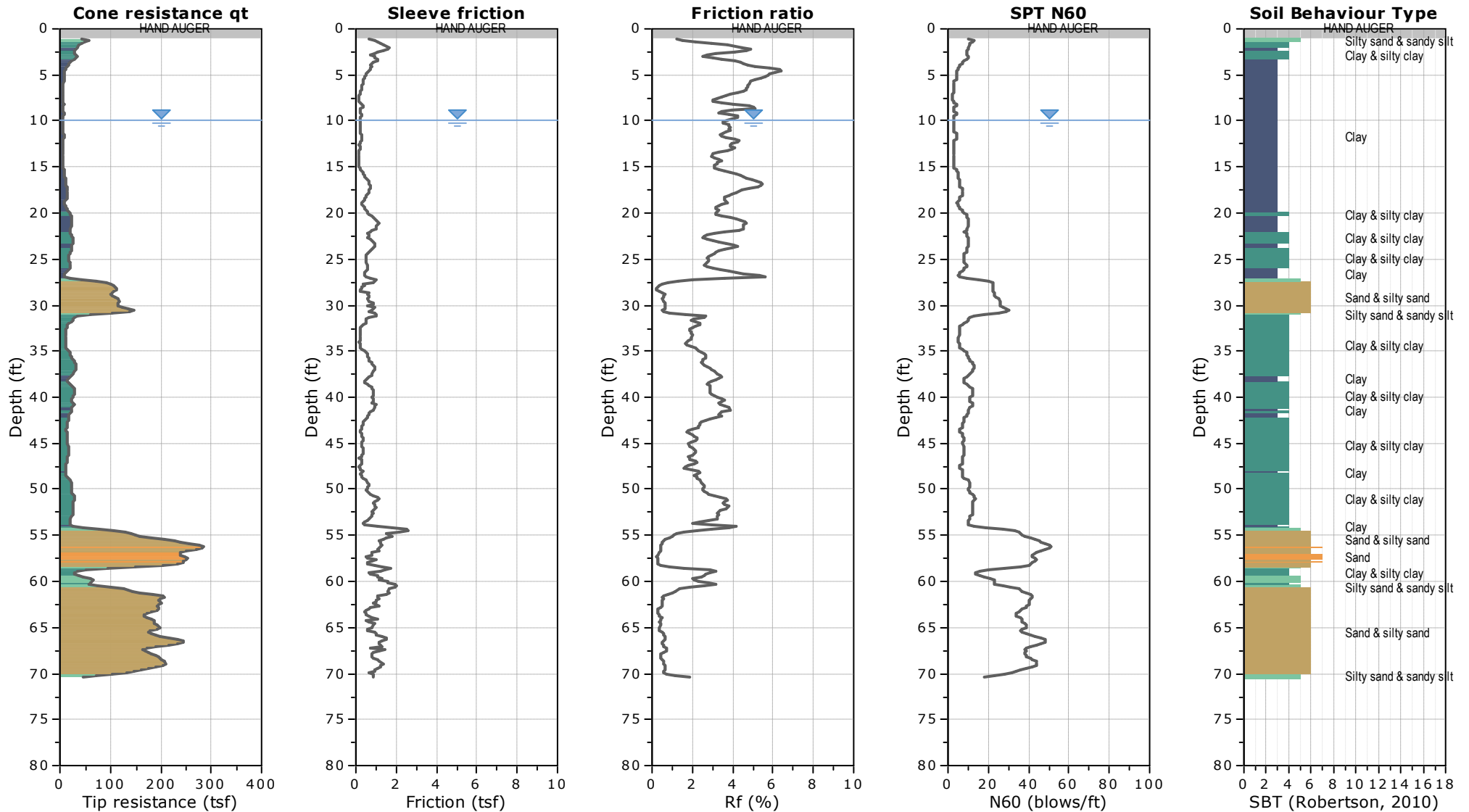


CLIENT: HDR

FIELD REP: OLEN
Cone ID: GDC-82

SITE: SAFER BAY PROJECT, EAST PALO ALTO, CA

Total depth: 70.37 ft, Date: 11/14/2022



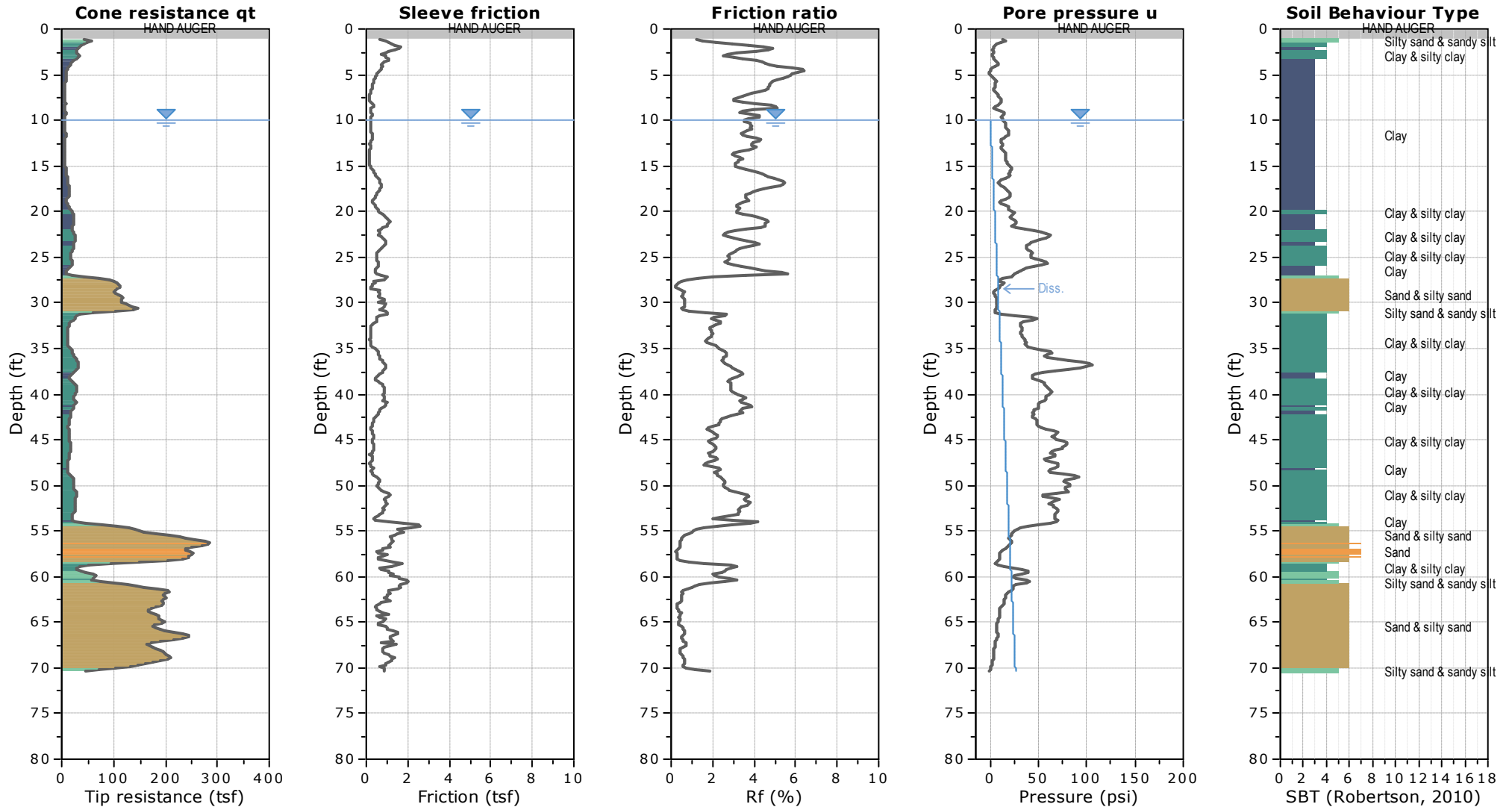


CLIENT: HDR

FIELD REP: OLEN
Cone ID: GDC-82

SITE: SAFER BAY PROJECT, EAST PALO ALTO, CA

Total depth: 70.37 ft, Date: 11/14/2022



WATER TABLE FOR ESTIMATING PURPOSES ONLY

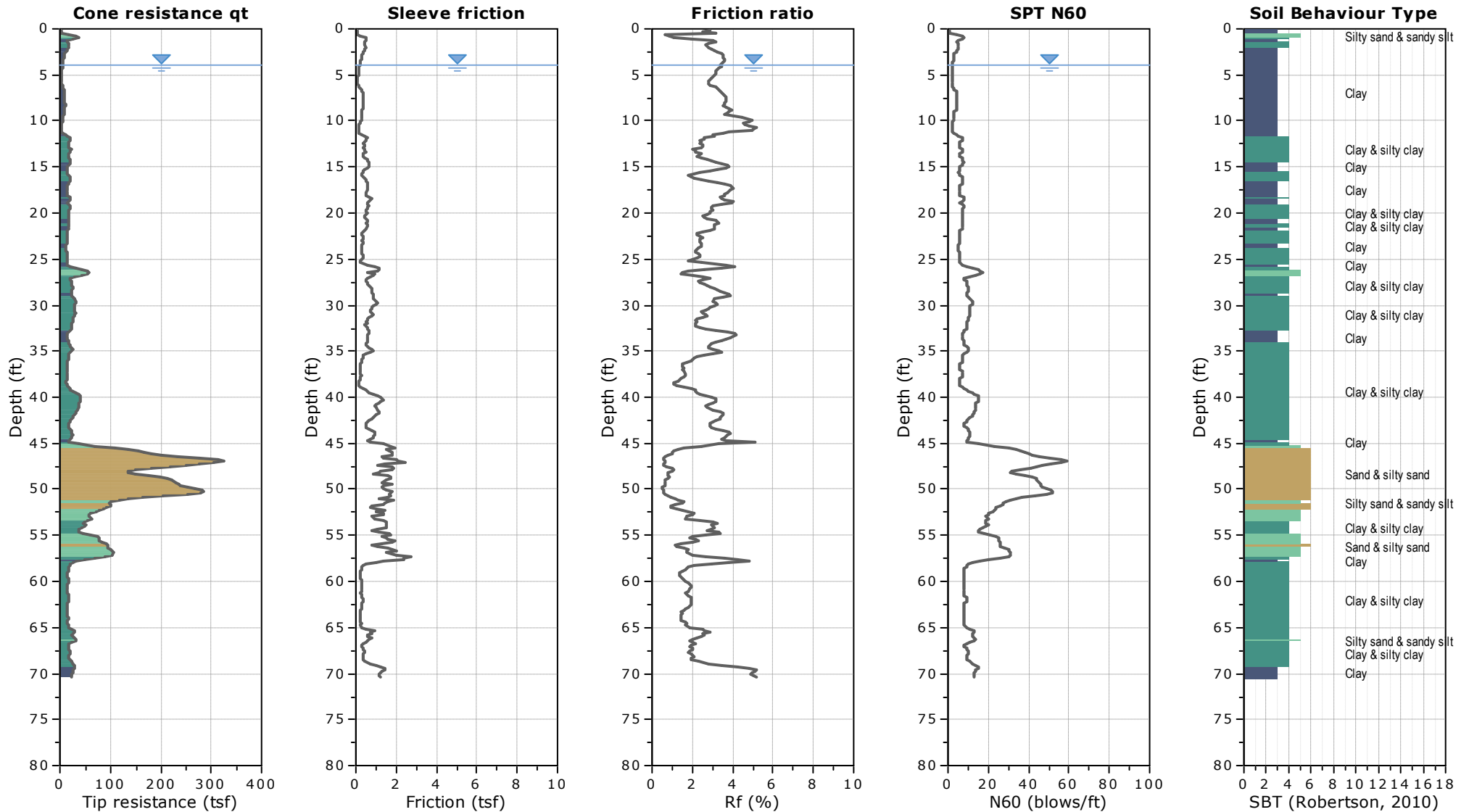


CLIENT: HDR

FIELD REP: OLEN
Cone ID: GDC-82

SITE: SAFER BAY PROJECT, EAST PALO ALTO, CA

Total depth: 70.37 ft, Date: 11/15/2022



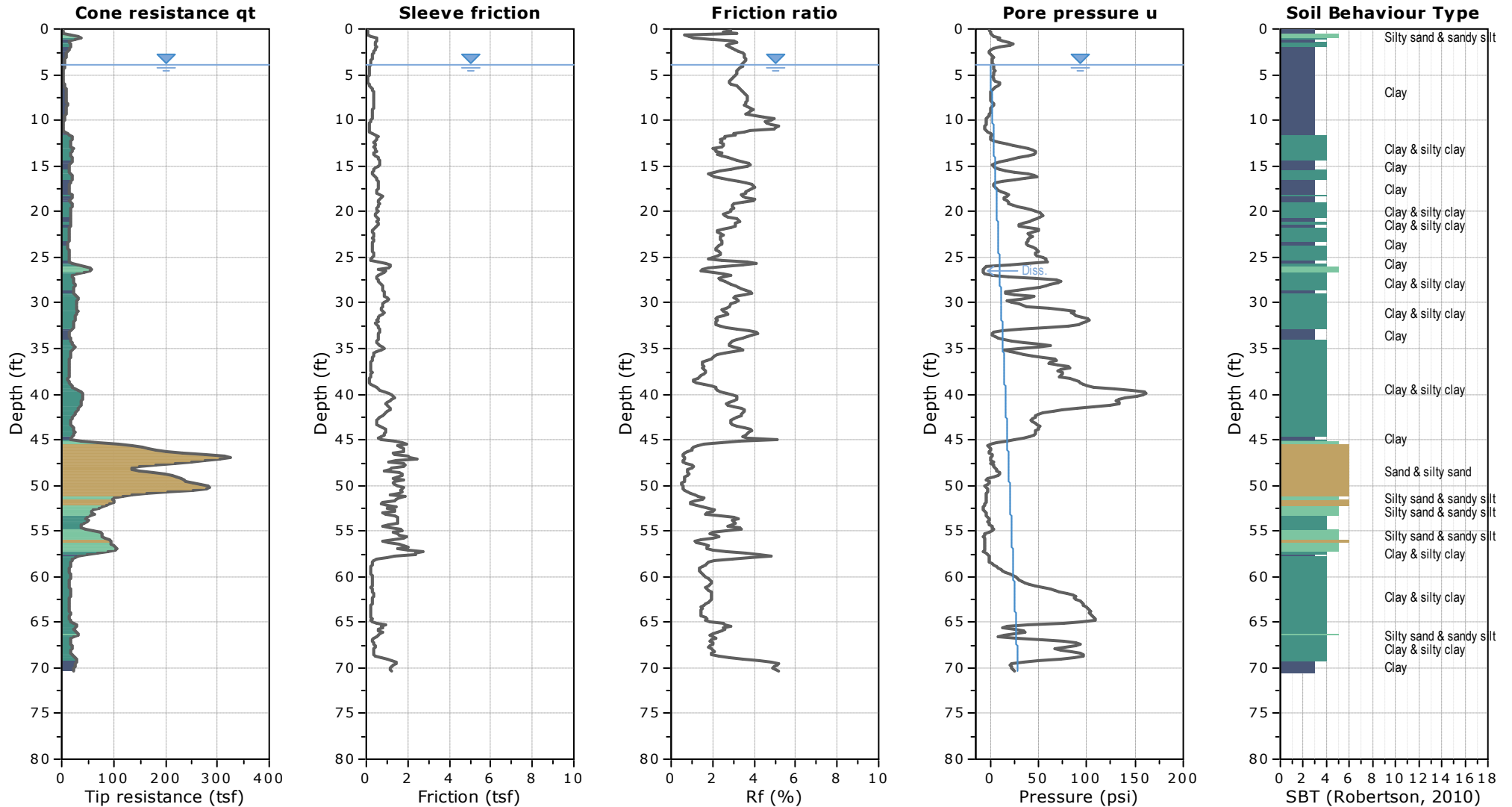


CLIENT: HDR

FIELD REP: OLEN
Cone ID: GDC-82

SITE: SAFER BAY PROJECT, EAST PALO ALTO, CA

Total depth: 70.37 ft, Date: 11/15/2022



WATER TABLE FOR ESTIMATING PURPOSES ONLY

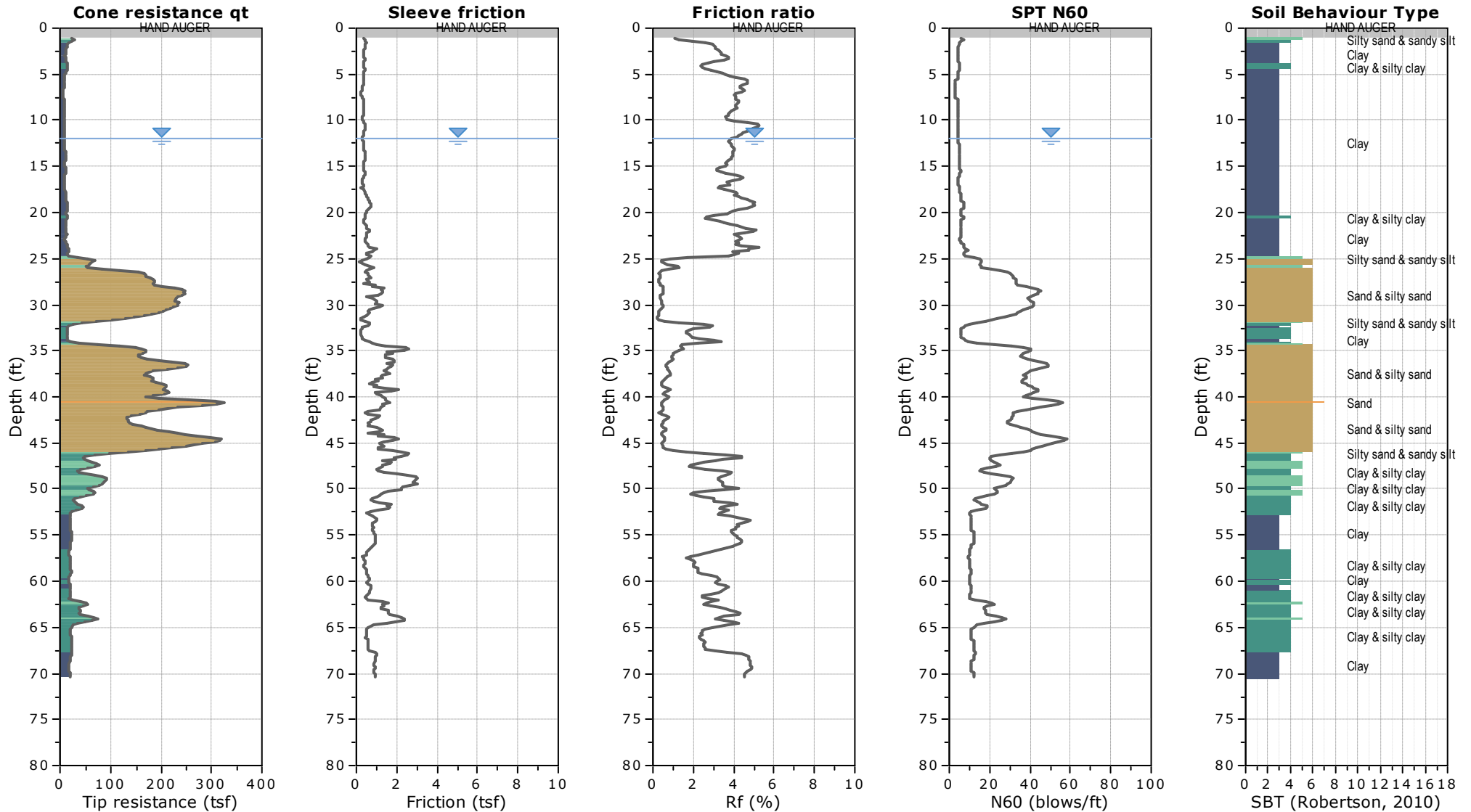


CLIENT: HDR

FIELD REP: OLEN
Cone ID: GDC-82

SITE: SAFER BAY PROJECT, EAST PALO ALTO, CA

Total depth: 70.37 ft, Date: 11/14/2022



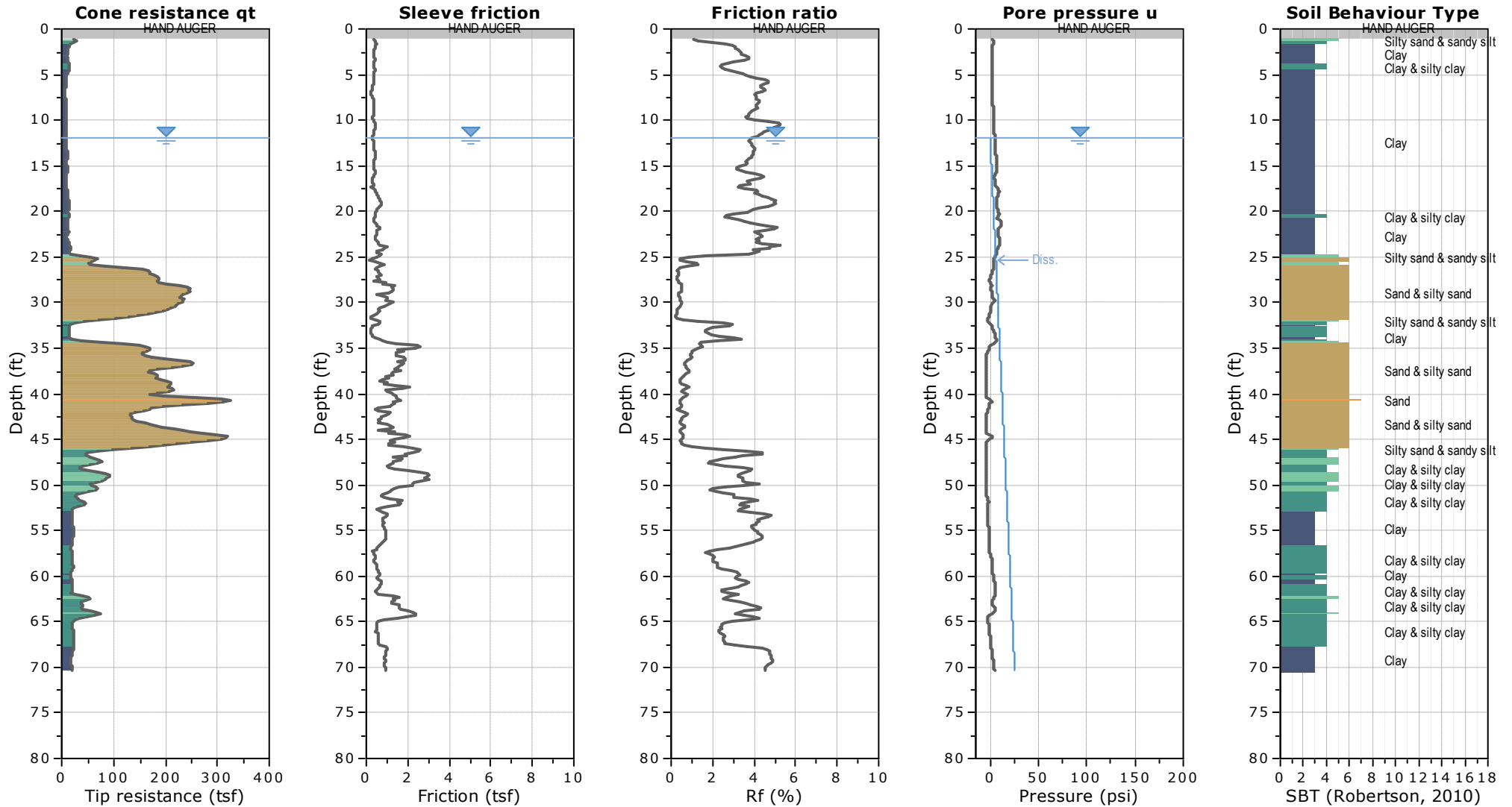


CLIENT: HDR

FIELD REP: OLEN
Cone ID: GDC-82

SITE: SAFER BAY PROJECT, EAST PALO ALTO, CA

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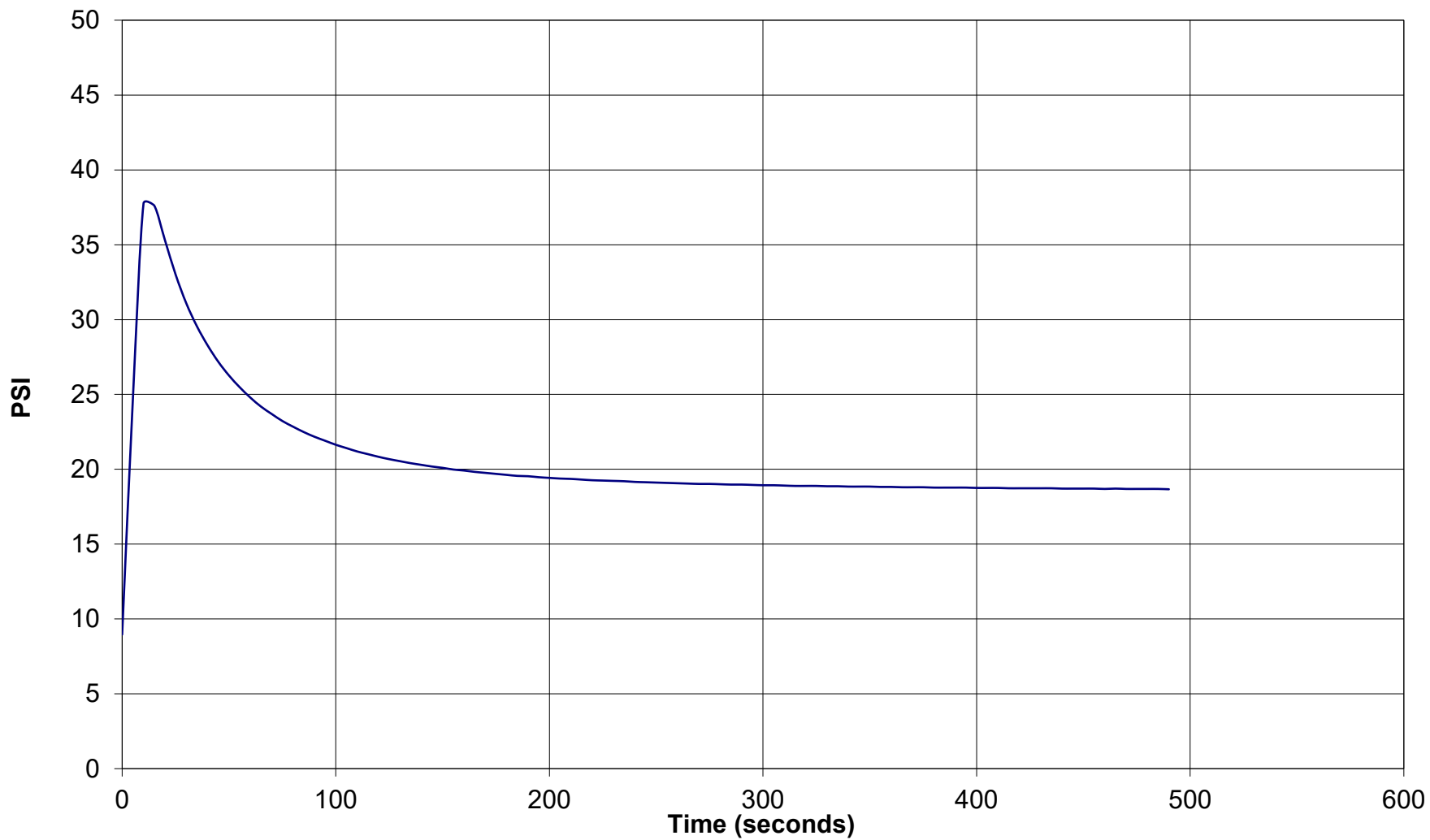
WATER TABLE FOR ESTIMATING PURPOSES ONLY



GREGG DRILLING & TESTING

Pore Pressure Dissipation Test

Sounding: CPT-104
Depth (ft): 47.57
Site: San Frasquito
Engineer: Olen

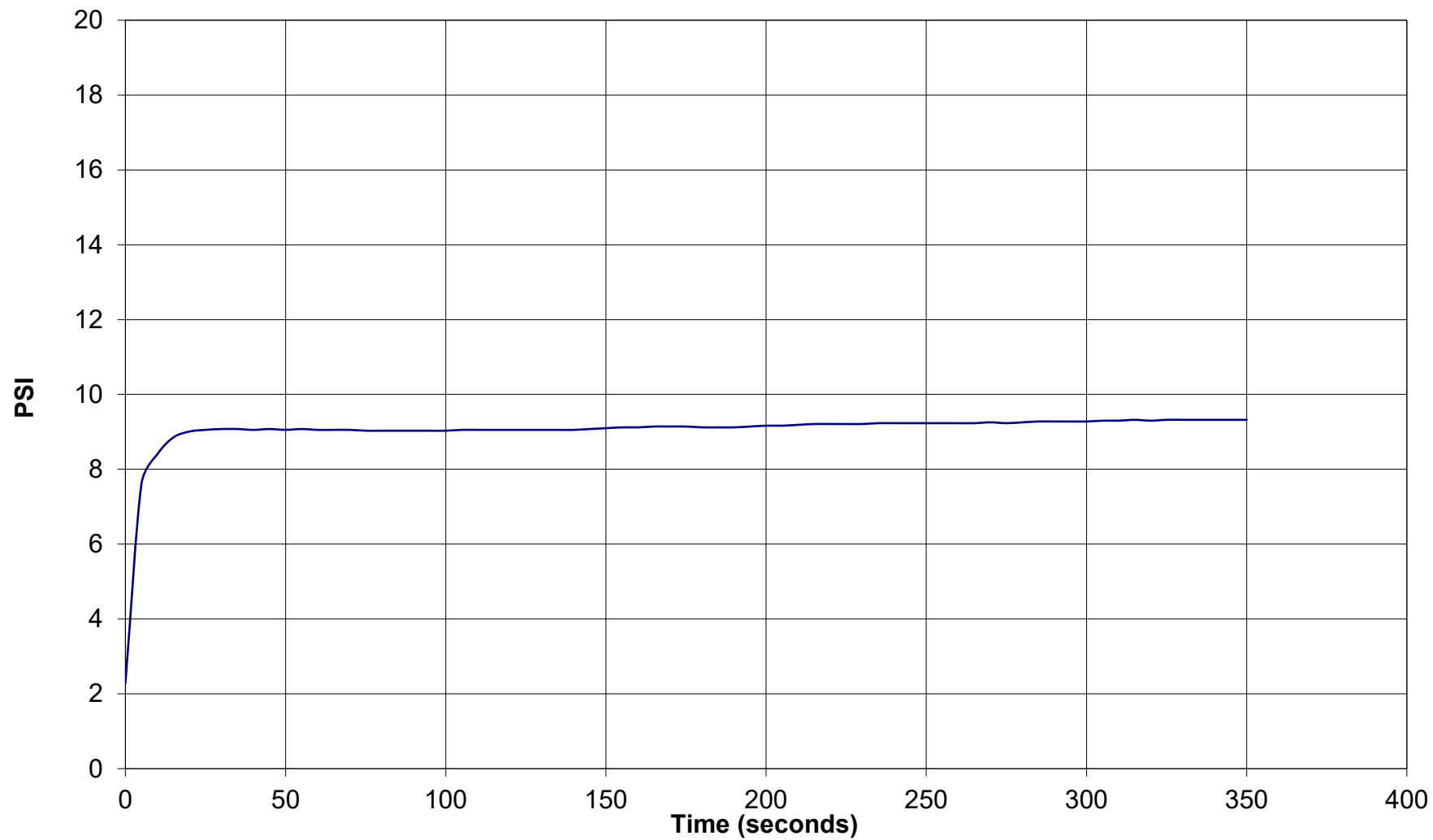




GREGG DRILLING & TESTING

Pore Pressure Dissipation Test

Sounding: CPT-105
Depth (ft): 27.72
Site: San Frasquito
Engineer: Olen

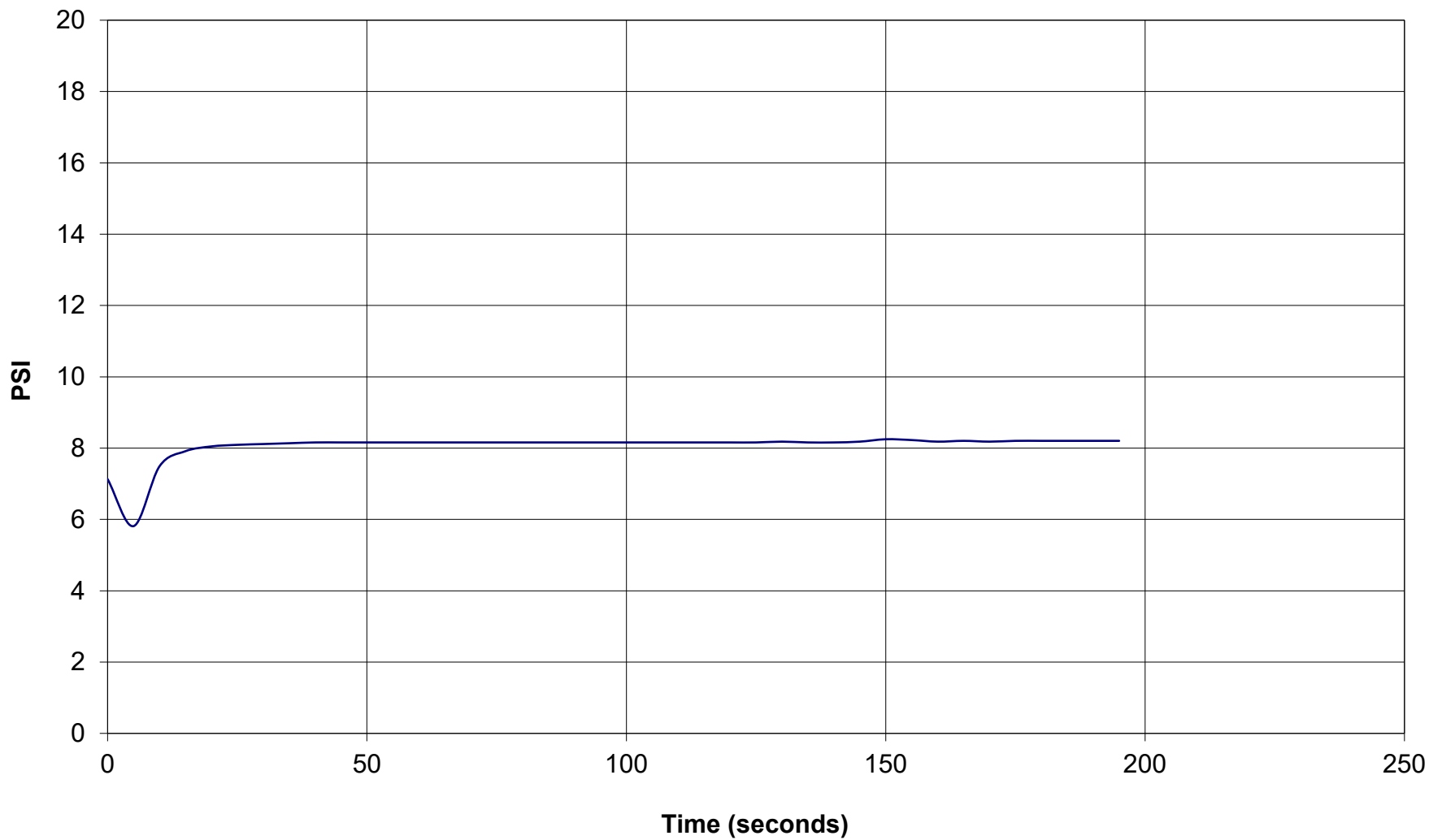




GREGG DRILLING & TESTING

Pore Pressure Dissipation Test

Sounding: CPT-106
Depth (ft): 28.54
Site: San Frasquito
Engineer: Olen

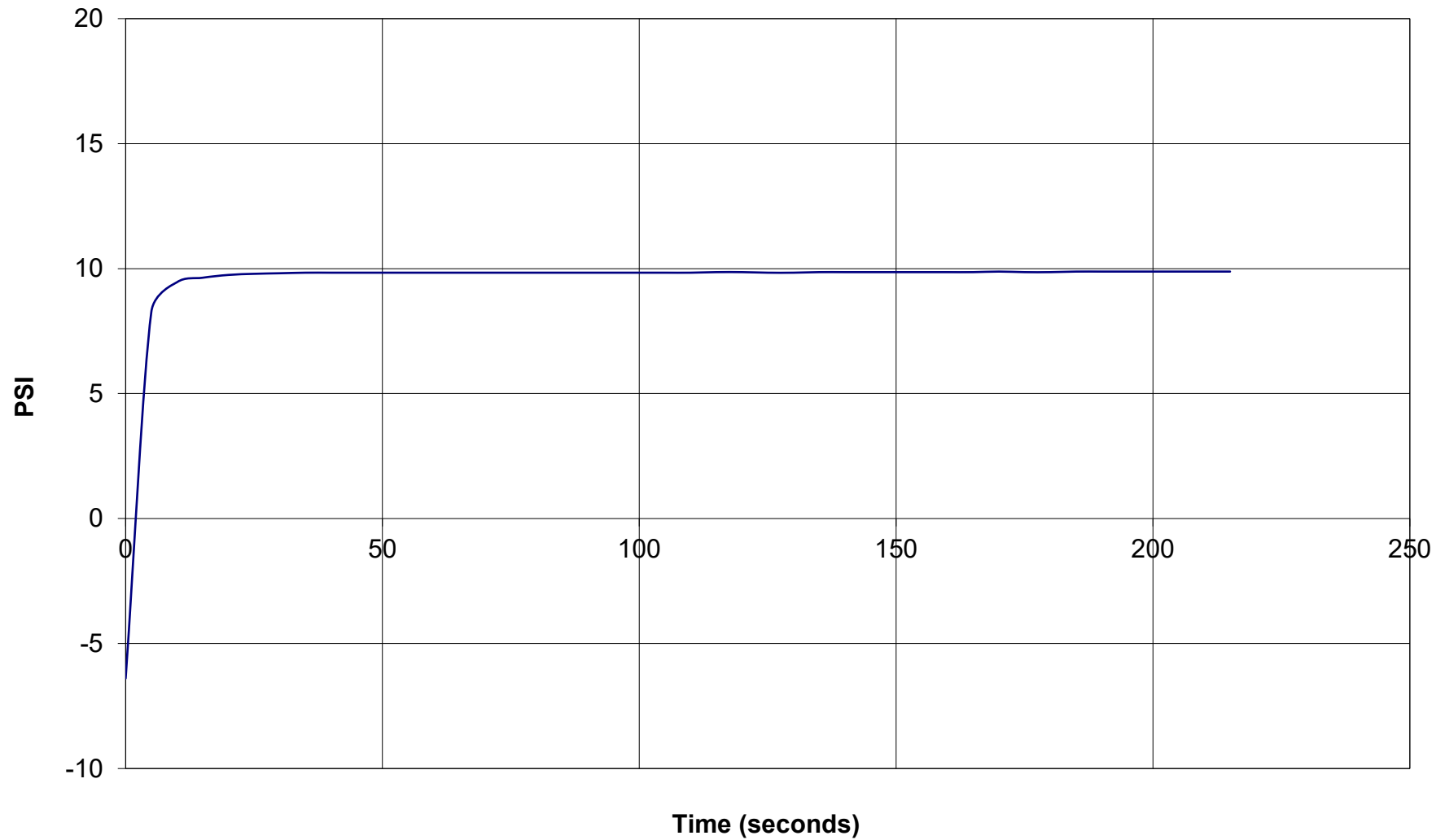




GREGG DRILLING & TESTING

Pore Pressure Dissipation Test

Sounding: CPT-107
Depth (ft): 26.57
Site: San Frasquito
Engineer: Olen

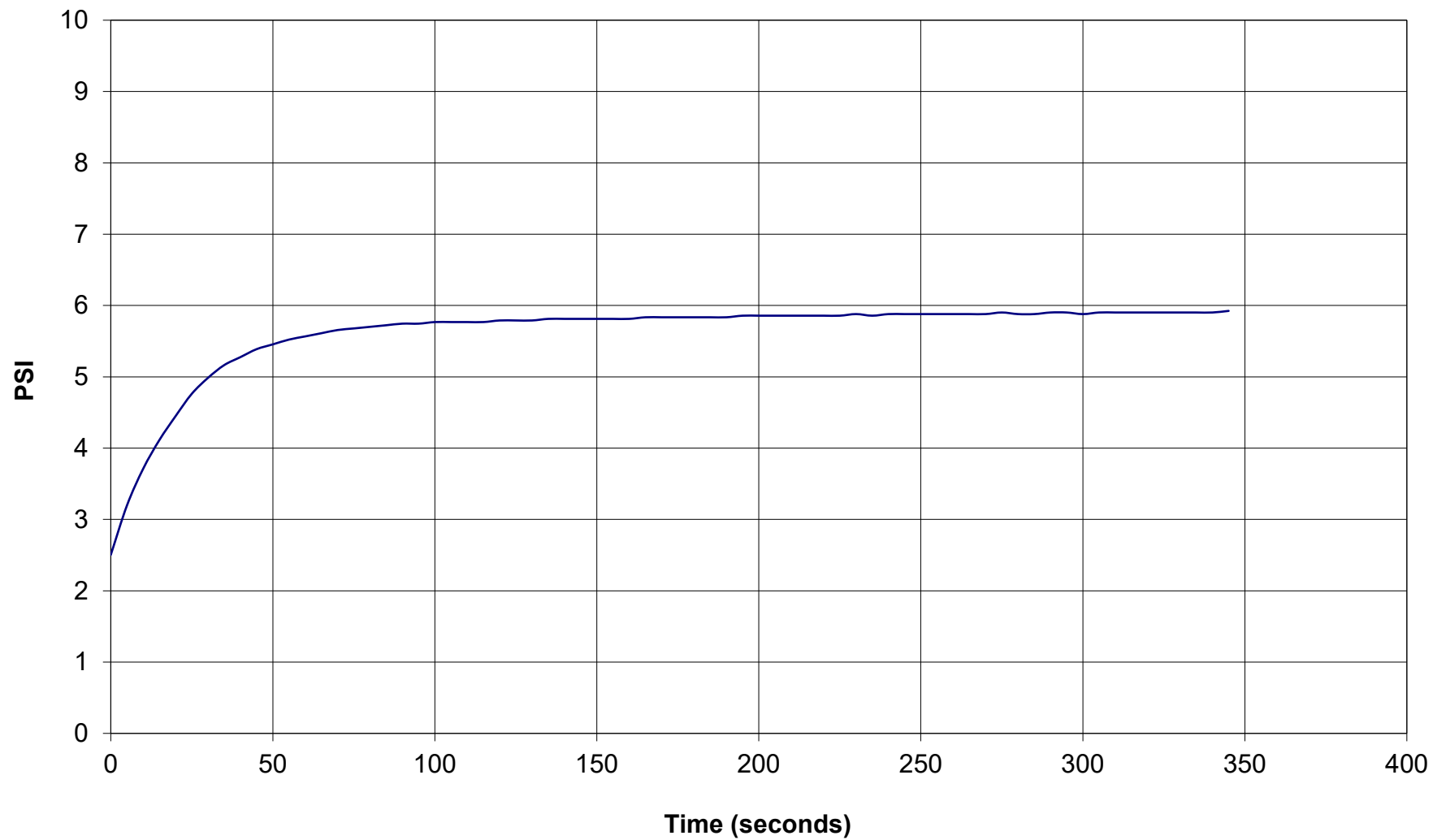




GREGG DRILLING & TESTING

Pore Pressure Dissipation Test

Sounding: CPT-108
Depth (ft): 25.43
Site: San Frasquito
Engineer: Olen



HDR (2016)

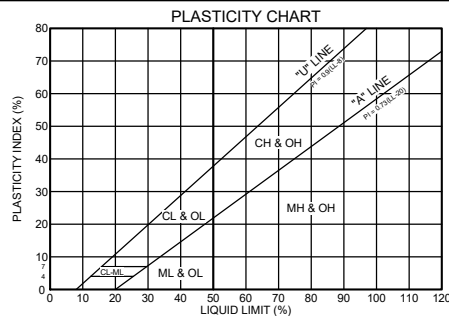
B-06

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

MATERIAL TYPES	CRITERIA FOR ASSIGNING SOIL GROUP NAMES			GROUP SYMBOL	SOIL GROUP NAMES & LEGEND	
COARSE-GRAINED SOILS >50% RETAINED ON NO. 200 SIEVE	GRAVELS >50% OF COARSE FRACTION RETAINED ON NO 4. SIEVE	CLEAN GRAVELS <5% FINES	$C_u \geq 4$ AND $1 \leq C_c \leq 3$	GW	WELL-GRADED GRAVEL	
			$C_u < 4$ AND/OR $1 > C_c > 3$	GP	POORLY-GRADED GRAVEL	
		GRAVELS WITH FINES >12% FINES	FINES CLASSIFY AS ML OR MH	GM	SILTY GRAVEL	
			FINES CLASSIFY AS CL OR CH	GC	CLAYEY GRAVEL	
	SANDS >50% OF COARSE FRACTION PASSES NO 4. SIEVE	CLEAN SANDS <5% FINES	$C_u \geq 6$ AND $1 \leq C_c \leq 3$	SW	WELL-GRADED SAND	
			$C_u < 6$ AND/OR $1 > C_c > 3$	SP	POORLY-GRADED SAND	
		SANDS AND FINES >12% FINES	FINES CLASSIFY AS ML OR MH	SM	SILTY SAND	
			FINES CLASSIFY AS CL OR CH	SC	CLAYEY SAND	
FINE-GRAINED SOILS >50% PASSES NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT<50	INORGANIC	PI>7 AND PLOTS>"A" LINE	CL	LEAN CLAY	
			PI<4 OR PLOTS<"A" LINE	ML	SILT	
		ORGANIC	LL (oven dried)/LL (not dried)<0.75	OL	ORGANIC CLAY OR SILT	
	SILTS AND CLAYS LIQUID LIMIT>50	INORGANIC	PI PLOTS >"A" LINE	CH	FAT CLAY	
			PI PLOTS <"A" LINE	MH	ELASTIC SILT	
		ORGANIC	LL (oven dried)/LL (not dried)<0.75	OH	ORGANIC CLAY OR SILT	
HIGHLY ORGANIC SOILS		PRIMARILY ORGANIC MATTER, DARK IN COLOR, AND ORGANIC ODOR		PT	PEAT	

OTHER SYMBOLS

MATERIALS	SAMPLERS
Asphalt	SPT (2" OD)
Aggregate Base	Modified California (3" OD)
Boulders & Cobbles	California (2.5" OD)
Fill	Shelby Tube
Topsoil	Pitcher Barrel
	HQ Core
	Grab/Bulk
PIEZOMETER	
Concrete Grout/Fill	INITIAL WATER LEVEL MEASUREMENT (WITH DATE)
Bentonite/Grout Seal	STABILIZED WATER LEVEL MEASUREMENT (WITH DATE)
Sand Pack + Solid Pipe	
Sand Pack + Slotted Pipe	



U.S. STANDARD SIEVE		GRAIN SIZES					
	200	40	10	4	3/4"	3"	12"
SILTS AND CLAYS	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

PENETRATION RESISTANCE				
SAND & GRAVEL		SILT & CLAY		
RELATIVE DENSITY	BLOWS/FOOT*	CONSISTENCY	BLOWS/FOOT*	UNC. COMP. STRENGTH (KSF)
VERY LOOSE	0 - 4	VERY SOFT	0 - 1	0 - 1/2
LOOSE	5 - 10	SOFT	2 - 4	1/2 - 1
MEDIUM DENSE	11 - 30	MEDIUM STIFF	5 - 8	1 - 2
DENSE	31 - 50	STIFF	9 - 15	2 - 4
VERY DENSE	OVER 50	VERY STIFF	16 - 30	4 - 8
		HARD	OVER 30	OVER 8

* NUMBER OF BLOWS OF 140 LB HAMMER FALLING 30 INCHES TO DRIVE A 2 INCH O.D. (1-3/8 INCH I.D.) SPLIT-BARREL SAMPLER THE LAST 12 INCHES OF AN 18-INCH DRIVE (ASTM-1586 STANDARD PENETRATION TEST).

LABORATORY TESTS

AT ATTERBERG LIMITS
 CD CONSOLIDATED DRAINED TRIAXIAL
 CN CONSOLIDATION
 CR CORROSION
 CU CONSOLIDATED UNDRAINED TRIAXIAL
 DS DIRECT SHEAR
 HY HYDROMETER
 PR PERMEABILITY
 RV R-VALUE
 SA SIEVE ANALYSIS
 TC CYCLIC TRIAXIAL
 UC UNCONFINED COMPRESSION
 UU UNCONSOLIDATED UNDRAINED TRIAXIAL
 -200 % PASSING NO. 200 SIEVE

PROPERTIES

c COHESION
 DD DRY DENSITY
 EI EXPANSION INDEX
 LL LIQUID LIMIT
 MC MOISTURE CONTENT
 N₆₀ FIELD BLOW COUNT
 PI PLASTICITY INDEX
 S_u UNDRAINED STRENGTH

UNDRAINED SHEAR STRENGTH

V FIELD VANE
 P POCKET PENETROMETER
 T TORVANE
 Q UNCONFINED COMPRESSION
 U UNCONSOLIDATED UNDRAINED TRIAXIAL

INCREASING VISUAL MOISTURE CONTENT

↑
 WET
 MOIST
 DRY

Boring Legend

SAFER Bay, Task Order 1
 Menlo Park and East Palo Alto, CA

Date

Figure

A-1



Project: SAFER Bay, Task Order 1		Boring ID: B-06	Sheet 1	
Project Location: Menlo Park and East Palo Alto, CA			of 2	
Project Number: 028-222952			Sheets	
End Date: 1/19/2016	Logged By: V. Crosariol	Checked By: E. Woo	Date Checked: 3/14/2016	
Inspector: San Mateo County		Weather Conditions: Cloudy, rain, wind		
Drilled By: Will Halai		Elevation Top of Boring: 11.0 ft. Vertical Datum: NAVD88		
Total Depth Drilled: 50 ft.		Latitude: 37.465580° Longitude: -122.125688° Horizontal Datum: NAD83		
Hole Backfill: Cement grout		Northing: 1,996,091 ft. Easting: 6,089,875 ft. Coordinate System: California State Plane Zone 3		
Rod Type: NWJ	Total Number of Samples: 20 Disturbed: 16 Undisturbed: 4	Initial Groundwater Depth: Not Established Static Groundwater Depth: Not Established		

ELEV	DEPTH	SAMPLE	Blows/6" or Press.	N _f	LEGEND	DESCRIPTION OF MATERIALS	% REC	No. Sample	Laboratory					Su (ksf)	REMARKS
									Fines	L	P	D	M		
10						1" Asphalt Concrete over 2" Aggregate Base.		S1 S2	44						Begin drilling with 6" Core Barrel.
			1 2 2	4	[Pattern]	FILL (af) CLAYEY SAND with Gravel (SC): medium stiff, dark brown mottled light brown, moist, fine to coarse sand, fine to coarse angular gravel (up to 1.5"), high plasticity clay fines, red brick fragments.	78								
			1 3 4	7	[Pattern]	FAT CLAY (CH): medium stiff, dark brown slightly mottled light brown, moist, high plasticity, trace sand.	28	L1				86	35	0.7 T	Install casing to 3'; change to mud rotary with 5" tri-cone bit.
5			0 2 3	5	[Pattern]	- stiff, dark brown mottled grayish brown. - trace fine gravel.	50	L2 L3 L4						0.9 T 1.3 T	
			<50 psi		[Pattern]	YOUNG BAY MUD (Qbm) FAT CLAY (CH): medium stiff, greenish gray, moist, high plasticity, trace fine to coarse sand, trace fine angular gravel, trace organics, slight organic odor.	80			73	44	77	41	0.7 U	UU test at 8'.
0			0 3 4	7	[Pattern]	- greenish gray mottled very dark brown at 11'. - very dark brown to black at 11.5'.	39	L5						0.6 T 1.0 T	Change to 3" drag bit at 10'.
			<50 psi		[Pattern]	- greenish gray.	97	L6		54	28	80	41		
-5					[Pattern]							79	41	0.5 U 0.8 T	UU test at 14.5'. CN test at 15'. Finish advancing casing at 15'.
			3 6 6	12	[Pattern]	- stiff, dark gray. - dark greenish gray.	44	L7				97	27	2.2 T 1.8 P 2.0 T	
-10					[Pattern]	ALLUVIUM (Qal) LEAN CLAY with Sand (CL): stiff, olive, moist, medium plasticity, fine to coarse sand, trace fine angular gravel (up to 1/4").	100	L8	84	34	17	102	23	0.9 U	UU test at 21'.
			300 psi		[Pattern]									1.4 T	
-15			6 11 11	22	[Pattern]	LEAN CLAY (CL): stiff to very stiff, olive mottled brown, moist, medium plasticity, trace fine to coarse sand.	67	L9 L10						3.0 T 2.0 T	



Project: SAFER Bay, Task Order 1
 Project Location: Menlo Park and East Palo Alto, CA
 Project Number: 028-222952

Boring ID: B-06

Sheet 2 of 2
 Sheets

ELEV	DEPTH	SAMPLE	Blows/ft or Press.	N _t	LEGEND	DESCRIPTION OF MATERIALS	% REC	Samp No.	Laboratory					Su (ksf)	REMARKS
									Fines	LL	PI	DD	MC		
-20		X	3 6 7	13		- medium stiff to stiff, light brown mottled olive.	56	L11 L12				103	25	1.4 T 0.9 T	
-35								L13							
-25			200 psi			SANDY LEAN CLAY (CL): stiff, olive gray mottled strong brown, moist, medium plasticity, fine to coarse sand, trace fine angular gravel.	97							1.3 P	
-40		X	11 17 14	31		CLAYEY SAND with Gravel (SC): medium dense, grayish brown, wet, fine to coarse sand, fine angular gravel, medium plasticity fines.	67	L14 L15	9						
-30						Well-Graded SAND with Clay and Gravel (SW-SC): medium dense, very dark brown to black, wet, fine to coarse sand, fine subangular to rounded gravel, trace fines.									
-45			0 0 0	0		SILT with Sand to LEAN CLAY with Sand (CL/ML): very soft, grayish brown mottled strong brown, moist, low plasticity, fast dilatancy, trace fine sand.	83	S3		37	13		37		Zero blows (weight of hammer) indicates potential soil disturbance during drilling.
-35															
-50		X	4 5 7	12		LEAN CLAY (CL): stiff, greenish gray, moist, medium plasticity, trace fine sand.	61	L16 L17						1.6 T	

Bottom of boring at 50.0 feet depth.

HDR SOIL BORING LOG 2016_R2: 222952 AND 243911 SAFER BAY WITH LAB 20160404.GPJ; HDR_FOLSOM_OAKLAND_APRIL 2016_WIP.GLB; 4/13/16

Arup (2021)

A-B2

A-B3

A-CPT2

A-CPT3

A-SCPT4

1.02A-REV BOREHOLE LOG (SOIL) - US 280873 GINT 1775 WEEKS.GPJ ARUPSGINTLIBRARY MASTER.GLB 4/9/21

PROJECT NAME 1990 Bay Road, 1175 Weeks Street, and 1250 Weeks Street				PROJECT NUMBER 280873	
LOGGED BY P. Kumar	BEGIN DATE Feb-25-21	COMPLETION DATE Feb-25-21	BOREHOLE LOCATION (Lat/Long or North/East and Datum) N1998750.799 / E6089311.045 (NAD83)		HOLE ID A-B2
DRILLING CONTRACTOR/DRILLER Pitcher Services LLC/Marcos/Jake			IN-SITU TESTING		SURFACE ELEVATION Not Surveyed
DRILLING METHOD HAND AUGER(0'-2.25'), MUD ROTARY(2.25'-50')			DRILL RIG Failing 1500		BOREHOLE DIAMETER 3-7/8 in
SAMPLER TYPE(S) AND SIZE(S) (ID) MC(2-1/2"), P(2-1/2"), SPT(1-3/8")			SPT HAMMER TYPE/HAMMER ID Automatic, 140 lbs, 30-inch drop		HAMMER EFFICIENCY, ERI 76%
BOREHOLE BACKFILL AND COMPLETION Neat cement grout (up to 27"); topped with excavated soil			GROUNDWATER READINGS Depth (Date/Time)		TOTAL DEPTH OF BORING 50 ft

Elevation (ft)	Depth (ft)	Material Graphics	Description	Sample Location	Sampler Type	Sample Number	N-Value (bl/ft)	Penetration (in)	Recovery (in)	200 Wash (%)	Moisture Content (%)	Total Unit Wt. (pcf)	Liquid Limit (%)	Plasticity Index (%)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks/ Other Tests
	0		SILTY SAND (SM); dark yellowish brown; moist; medium to coarse SAND; trace GRAVEL; [FILL].															Low-lying native grass at ground surface Casing diameter = 5.0"
			SANDY SILT with CLAY (ML); hard; dark gray; moist; medium to coarse SAND; occasional GRAVEL (up to 1/2"); [FILL].															2.25', clay-max liner cut and exposed with hand tool
	5				MC	S1	16	18	16									PP: >4.5 tsf
			CLAYEY SAND (SC); loose; grayish brown; moist.															
					P	S2	50 psi	18	15	47.8			30	9				CORR
	10		SANDY CLAY (CL); soft; yellowish brown; moist; loose, fine to medium SAND.															
					SPT	S3	4	18	9	52			30	10				
			SILTY CLAY (CL); medium stiff; gray; moist.															
	15				P	S4	150 psi	18	17		41	110			UU 0.319			CONSOL
	20																	

(continued)

ARUP

BOREHOLE NO. A-B2
SHEET 1 OF 3

1.0.2A-REV BOREHOLE LOG (SOIL) - US 280873 GINT_1775 WEEKS.GPJ ARUPSGINTLIBRARY_MASTER.GLB 4/9/21

PROJECT NAME 1990 Bay Road, 1175 Weeks Street, and 1250 Weeks Street				PROJECT NUMBER 280873	
LOGGED BY P. Kumar	BEGIN DATE Feb-25-21	COMPLETION DATE Feb-25-21	BOREHOLE LOCATION (Lat/Long or North/East and Datum) N1998750.799 / E6089311.045 (NAD83)		HOLE ID A-B2
DRILLING CONTRACTOR/DRILLER Pitcher Services LLC/Marcos/Jake			IN-SITU TESTING		SURFACE ELEVATION Not Surveyed
DRILLING METHOD HAND AUGER(0'-2.25'), MUD ROTARY(2.25'-50')			DRILL RIG Failing 1500		BOREHOLE DIAMETER 3-7/8 in
SAMPLER TYPE(S) AND SIZE(S) (ID) MC(2-1/2"), P(2-1/2"), SPT(1-3/8")			SPT HAMMER TYPE/HAMMER ID Automatic, 140 lbs, 30-inch drop		HAMMER EFFICIENCY, ERI 76%
BOREHOLE BACKFILL AND COMPLETION Neat cement grout (up to 27"); topped with excavated soil			GROUNDWATER READINGS Depth (Date/Time)		TOTAL DEPTH OF BORING 50 ft

Elevation (ft)	Depth (ft)	Material Graphics	Description	Sample Location	Sampler Type	Sample Number	N-Value (bl/ft)	Penetration (in)	Recovery (in)	200 Wash (%)	Moisture Content (%)	Total Unit Wt. (pcf)	Liquid Limit (%)	Plasticity Index (%)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks/ Other Tests
	20																	
			SANDY CLAY (CL-CH); stiff; yellowish brown; moist.															
				X	SPT	S5	10	18	12	61.7			50	33				
			CLAYEY SAND with GRAVEL (SC); yellowish brown; occasional GRAVEL (up to 2").															
	25																	
				X	SPT	S6	26	18	16	17.5								
	30																	
			SANDY CLAY (CL); medium stiff; yellowish brown; moist.															
				X	MC	S7	2	18	18									TV: .375 tsf
					P	S8	100 psi	18	18	65.6			32	11				TV: .35 tsf
	35																	
			- grades stiff.		P	S9	300 psi	18	17		23	126			UU 0.522			CONSOL
	40																	

(continued)

ARUP

BOREHOLE NO. A-B2
SHEET 2 OF 3

1.0.2A-REV BOREHOLE LOG (SOIL) - US 280873 GINT 1775 WEEKS.GPJ ARUPSGINTLIBRARY MASTER.GLB 4/9/21

PROJECT NAME 1990 Bay Road, 1175 Weeks Street, and 1250 Weeks Street				PROJECT NUMBER 280873			
LOGGED BY P. Kumar	BEGIN DATE Feb-25-21	COMPLETION DATE Feb-25-21	BOREHOLE LOCATION (Lat/Long or North/East and Datum) N1998750.799 / E6089311.045 (NAD83)		HOLE ID A-B2		
DRILLING CONTRACTOR/DRILLER Pitcher Services LLC/Marcos/Jake			IN-SITU TESTING		SURFACE ELEVATION Not Surveyed		
DRILLING METHOD HAND AUGER(0'-2.25'), MUD ROTARY(2.25'-50')			DRILL RIG Failing 1500		BOREHOLE DIAMETER 3-7/8 in		
SAMPLER TYPE(S) AND SIZE(S) (ID) MC(2-1/2"), P(2-1/2"), SPT(1-3/8")			SPT HAMMER TYPE/HAMMER ID Automatic, 140 lbs, 30-inch drop		HAMMER EFFICIENCY, ERI 76%		
BOREHOLE BACKFILL AND COMPLETION Neat cement grout (up to 27"); topped with excavated soil			GROUNDWATER READINGS Depth (Date/Time)		TOTAL DEPTH OF BORING 50 ft		

Elevation (ft)	Depth (ft)	Material Graphics	Description	Sample Location	Sampler Type	Sample Number	N-Value (bl/ft)	Penetration (in)	Recovery (in)	200 Wash (%)	Moisture Content (%)	Total Unit Wt. (pcf)	Liquid Limit (%)	Plasticity Index (%)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks/ Other Tests
40																		
	45		Lean CLAY with GRAVEL (CL); medium stiff; yellowish brown; moist; medium to coarse GRAVEL.		MC	S10	17	18	12									
			SILTY CLAY (CL); stiff; greenish gray; trace SAND.		MC	S11	22	18	13									
	50		Fat CLAY (CH); stiff; greenish gray; moist; trace medium SAND.		SPT	S12	14	18	18									
			Borehole terminated at a depth of 50.0 feet.															
			See Borehole Log Legend for soil classification chart and key to test data and sampler type.															
	55																	
	60																	

ARUP

BOREHOLE NO. A-B2
SHEET 3 OF 3

1.0.2A-REV BOREHOLE LOG (SOIL) - US 280873 GINT 1775 WEEKS.GPJ ARUPSGINTLIBRARY MASTER.GLB 4/9/21

PROJECT NAME 1990 Bay Road, 1175 Weeks Street, and 1250 Weeks Street				PROJECT NUMBER 280873	
LOGGED BY P. Kumar	BEGIN DATE Feb-24-21	COMPLETION DATE Feb-24-21	BOREHOLE LOCATION (Lat/Long or North/East and Datum) N1998098.579 / E6089269.513 (NAD83)		HOLE ID A-B3
DRILLING CONTRACTOR/DRILLER Pitcher Services LLC/Marcos/Mike			IN-SITU TESTING		SURFACE ELEVATION Not Surveyed
DRILLING METHOD SOLID STEM AUGER(0'-3.5'), MUD ROTARY(3.5'-51.5')			DRILL RIG Failing 1500		BOREHOLE DIAMETER 3-7/8 in
SAMPLER TYPE(S) AND SIZE(S) (ID) MC(2-1/2"), P(2-1/2"), SPT(1-3/8")			SPT HAMMER TYPE/HAMMER ID Automatic, 140 lbs, 30-inch drop		HAMMER EFFICIENCY, ERI 76%
BOREHOLE BACKFILL AND COMPLETION Neat cement grout (up to 35"); topped with concrete (3,000 psi)			GROUNDWATER READINGS Depth (Date/Time)		TOTAL DEPTH OF BORING 51.5 ft

Elevation (ft)	Depth (ft)	Material Graphics	Description	Sample Location	Sampler Type	Sample Number	N-Value (bl/ft)	Penetration (in)	Recovery (in)	200 Wash (%)	Moisture Content (%)	Total Unit Wt. (pcf)	Liquid Limit (%)	Plasticity Index (%)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks/ Other Tests
	20				SPT	S5	6	18	18	62.1			42	23				
	25		Lean CLAY (CL); stiff; variegated yellowish brown, reddish brown, and gray; moist; interbeds of SANDY CLAY.		SPT	S6	15	18	7									
	30		SILTY SAND (SM); reddish brown; moist; medium SAND.		SPT	S7	11	18	18									
	35		SILTY CLAY (CL); stiff; reddish brown with gray mottling; moist; trace SAND.		MC	S8	18	18	15	93.5			48	30				
	40		GRAVELLY SAND (SP); reddish brown (dark gray GRAVEL); moist; occasional coarse GRAVEL (>1"); trace fines.		SPT	S9	37	18	12									

(continued)

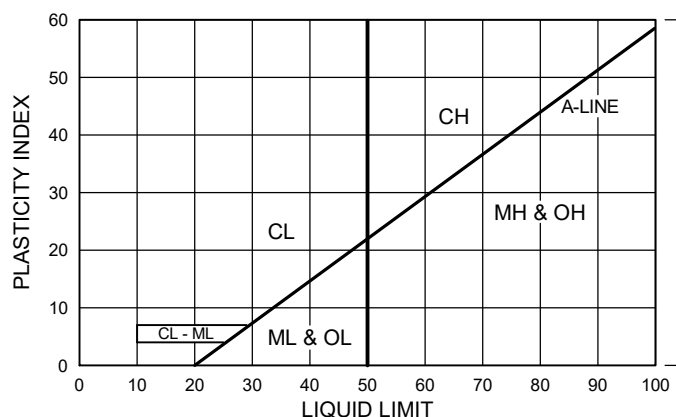
ARUP

BOREHOLE NO. A-B3
SHEET 2 OF 3

INDEXED SOIL CLASSIFICATIONS

GRAPHIC	SYMBOL	DESCRIPTION	MAJOR DIVISIONS					
	GW	WELL-GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	CLEAN GRAVELS (LITTLE OR NO FINES)	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO.4 SIEVE SIZE	FOR VISUAL CLASSIFICATION, THE 1/4" SIZE MAY BE USED AS EQUIVALENT TO THE NO.4 SIEVE SIZE	COARSE-GRAINED SOILS MORE THAN HALF OF MATERIAL IS LARGER THAN NO.200 SIEVE SIZE	THE NO.200 U.S. STANDARD SIEVE IS ABOUT THE SMALLEST PARTICLE VISIBLE TO THE NAKED EYE	
	GP	POORLY-GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES						
	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES						
	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES						
	SW	WELL-GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES	CLEAN SANDS (LITTLE OR NO FINES)	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO.4 SIEVE SIZE				
	SP	POORLY-GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES						
	SM	SILTY SANDS, SAND-SILT MIXTURES						
	SC	CLAYEY SANDS, SAND-CLAY MIXTURES						
	ML	INORGANIC SILTS, VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY	SILTS & CLAYS LIQUID LIMIT LESS THAN 50			FINE-GRAINED SOILS MORE THAN HALF OF MATERIAL IS SMALLER THAN NO.200 SIEVE SIZE		
	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS						
	OL	ORGANIC SILTS AND ORGANIC SILT-CLAYS OF LOW PLASTICITY						
	MH	ORGANIC SILTS AND ORGANIC SILT-CLAYS OF HIGH PLASTICITY	SILTS & CLAYS LIQUID LIMIT GREATER THAN 50					
	CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS						
	OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS						
	PT	PEAT AND OTHER HIGHLY ORGANIC SOILS	HIGHLY ORGANIC SOILS					
	OS	OILY SEDIMENTS						

PLASTICITY CHART



Descriptors for Percent or Proportion of Soils

Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

Based on ASTM D24188 and used by Caltrans Soil and Rock Logging, Classification, and Presentation Manual, 2010 Edition

KEY TO TEST DATA

CONSOL = CONSOLIDATION
 CORR = CORROSIVITY
 DS = DIRECT SHEAR
 ORG = ORGANIC CONTENT
 PERM = PERMEABILITY
 PP = POCKET PENETROMETER
 RV = R-VALUE
 TV = FIELD TORVANE
 TXCD = CONSOLIDATED DRAINED TRIAXIAL
 TXCU = CONSOLIDATED UNDRAINED TRIAXIAL
 UCS = UNCONFINED COMPRESSIVE STRENGTH
 UU = UNCONSOLIDATED UNDRAINED TRIAXIAL

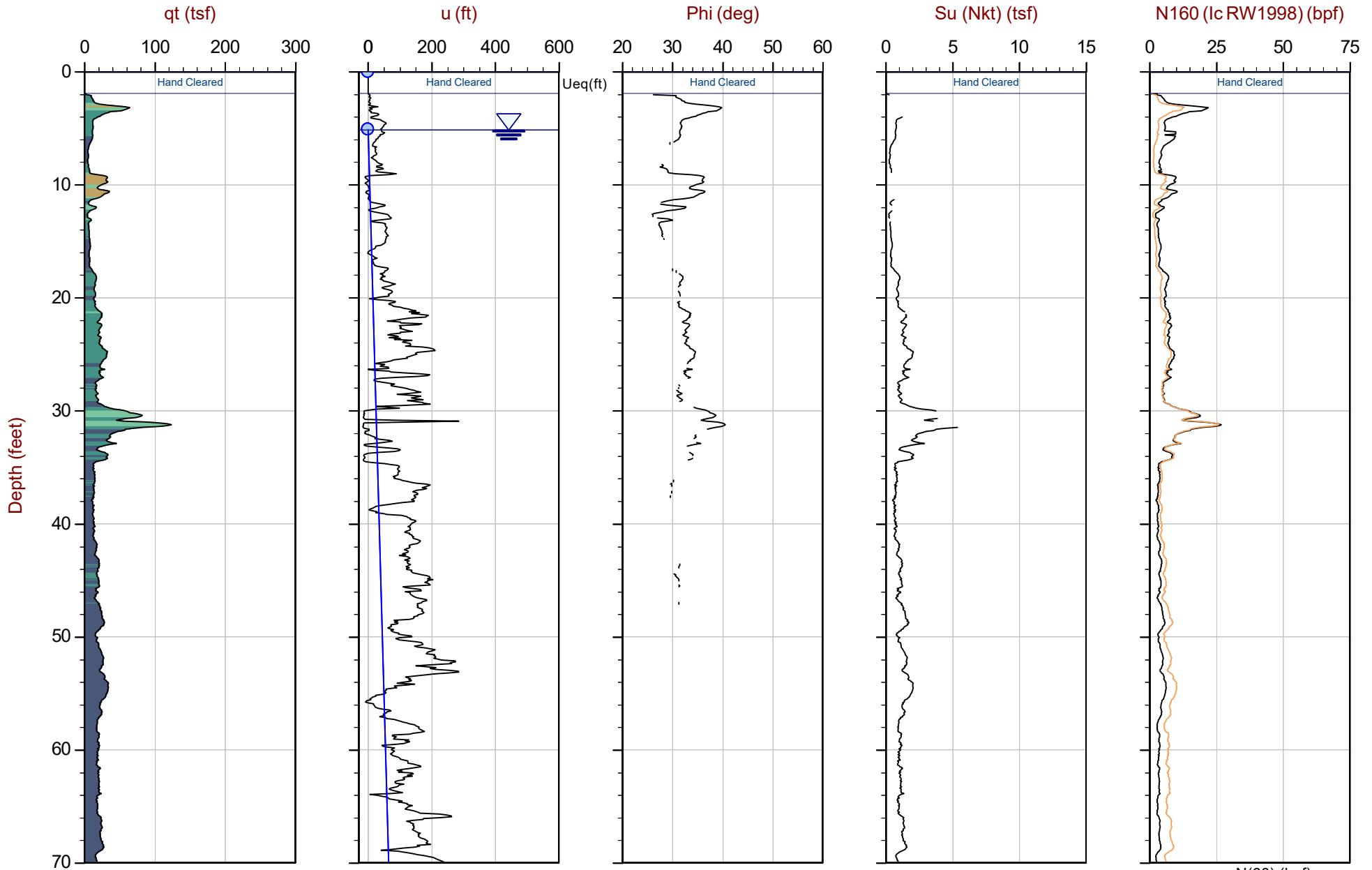
KEY TO SAMPLER TYPE

- HQ = HQ CORE BARREL SAMPLER
- MC = MODIFIED CALIFORNIA SAMPLER
- P = DAMES & MOORE PISTON SAMPLER
- PS = PITCHER SAMPLER
- SPT = STANDARD PENETRATION TEST SAMPLER
- ST = SHELBY TUBE SAMPLER
- NO RECOVERY



Site: 1175 Weeks St and 1990 Bay Rd

Cone: 672:T1500F15U500



Max Depth: 39.000 m / 127.95 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 21-56-21977_CP02.COR
Unit Wt: SBTQtn(PKR2009)
Su Nkt: 15.0

SBT: Robertson, 2009 and 2010
Coords: UTM 10S N: 4147707m E: 577083m

 Equilibrium Pore Pressure (Ueq)
  Assumed Ueq
  Dissipation, Ueq achieved
  Dissipation, Ueq not achieved
  Hydrostatic Line

The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.



Arup

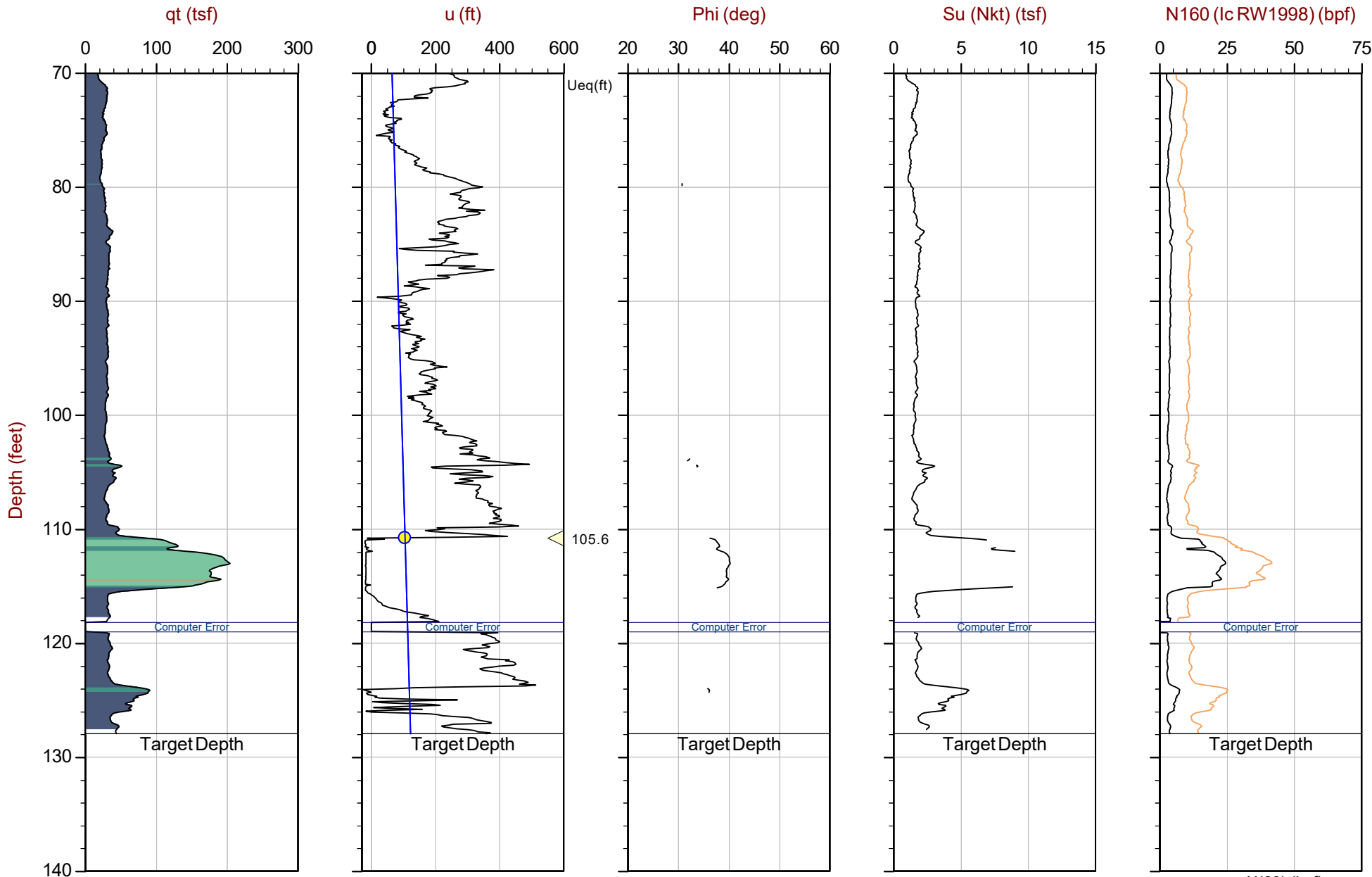
Job No: 21-56-21977

Date: 2021-02-18 12:34

Site: 1175 Weeks St and 1990 Bay Rd

Sounding: A-CPT02

Cone: 672:T1500F15U500



Max Depth: 39.000 m / 127.95 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 21-56-21977_CP02.COR
Unit Wt: SBTQtn(PKR2009)
Su Nkt: 15.0

SBT: Robertson, 2009 and 2010
Coords: UTM 10S N: 4147707m E: 577083m

● Equilibrium Pore Pressure (Ueq) ● Assumed Ueq ▲ Dissipation, Ueq achieved ▼ Dissipation, Ueq not achieved — Hydrostatic Line

The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.



Arup

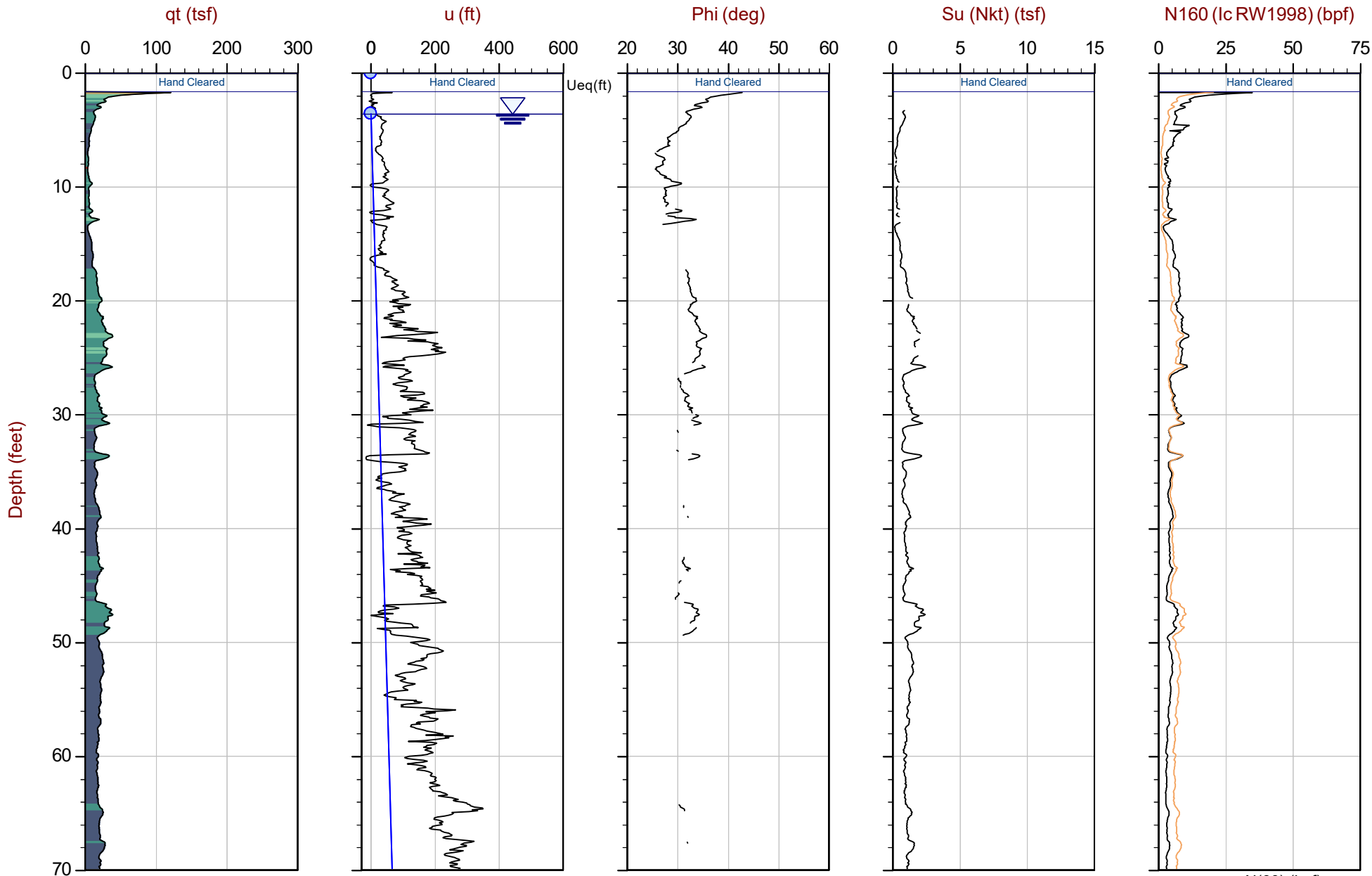
Job No: 21-56-21977

Date: 2021-02-18 10:01

Site: 1175 Weeks St and 1990 Bay Rd

Sounding: A-CPT03

Cone: 672:T1500F15U500



Max Depth: 30.800 m / 101.05 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 21-56-21977_CP03.COR
Unit Wt: SBTQtn(PKR2009)
Su Nkt: 15.0

SBT: Robertson, 2009 and 2010
Coords: UTM 10S N: 4147730m E: 577139m

● Equilibrium Pore Pressure (Ueq) ● Assumed Ueq ▲ Dissipation, Ueq achieved ▼ Dissipation, Ueq not achieved — Hydrostatic Line

The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.



Arup

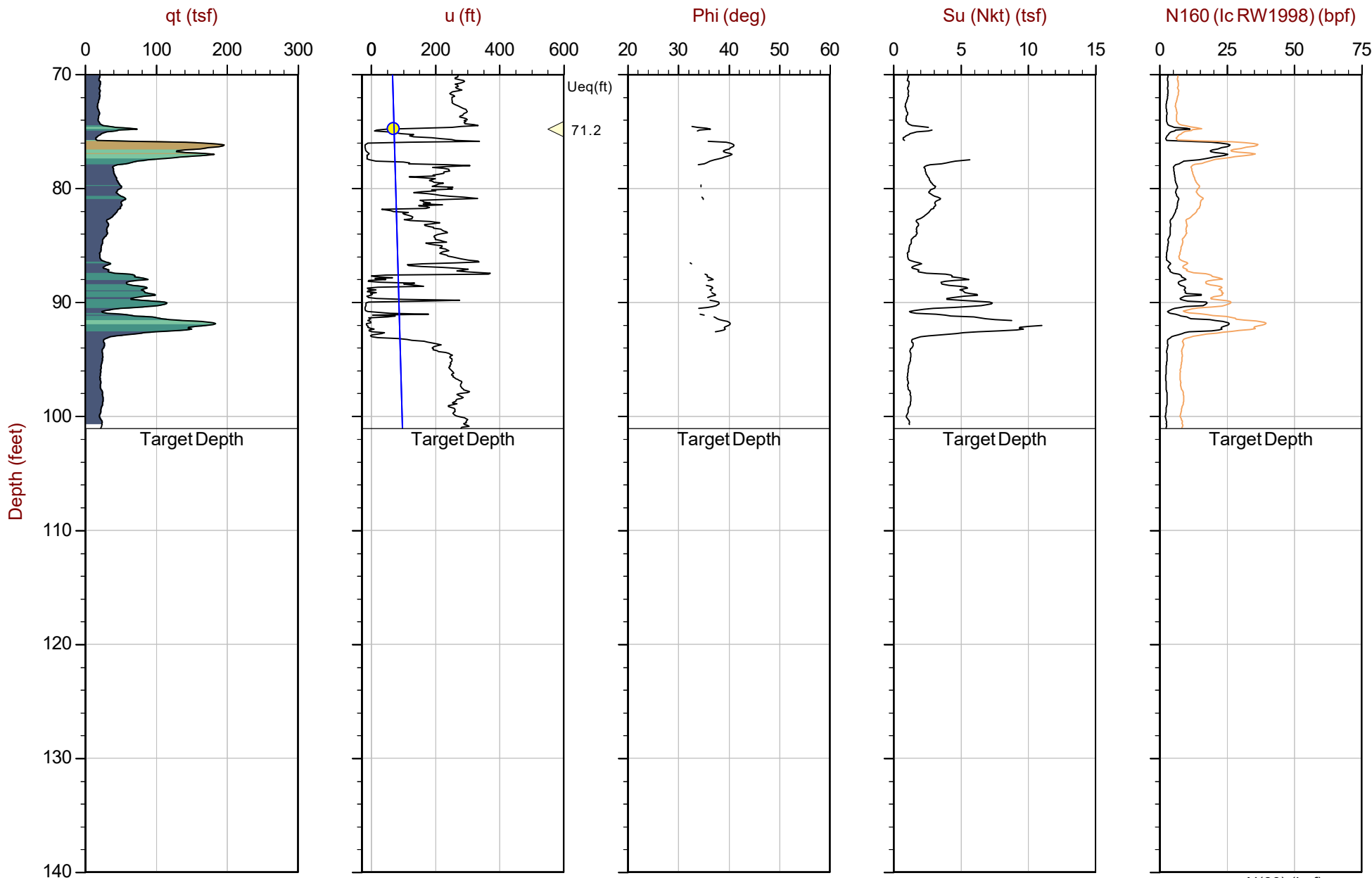
Job No: 21-56-21977

Date: 2021-02-18 10:01

Site: 1175 Weeks St and 1990 Bay Rd

Sounding: A-CPT03

Cone: 672:T1500F15U500



Max Depth: 30.800 m / 101.05 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 21-56-21977_CP03.COR
Unit Wt: SBTQtn(PKR2009)
Su Nkt: 15.0

SBT: Robertson, 2009 and 2010
Coords: UTM 10S N: 4147730m E: 577139m

● Equilibrium Pore Pressure (Ueq) ● Assumed Ueq ▲ Dissipation, Ueq achieved ▼ Dissipation, Ueq not achieved — Hydrostatic Line

The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.



Arup

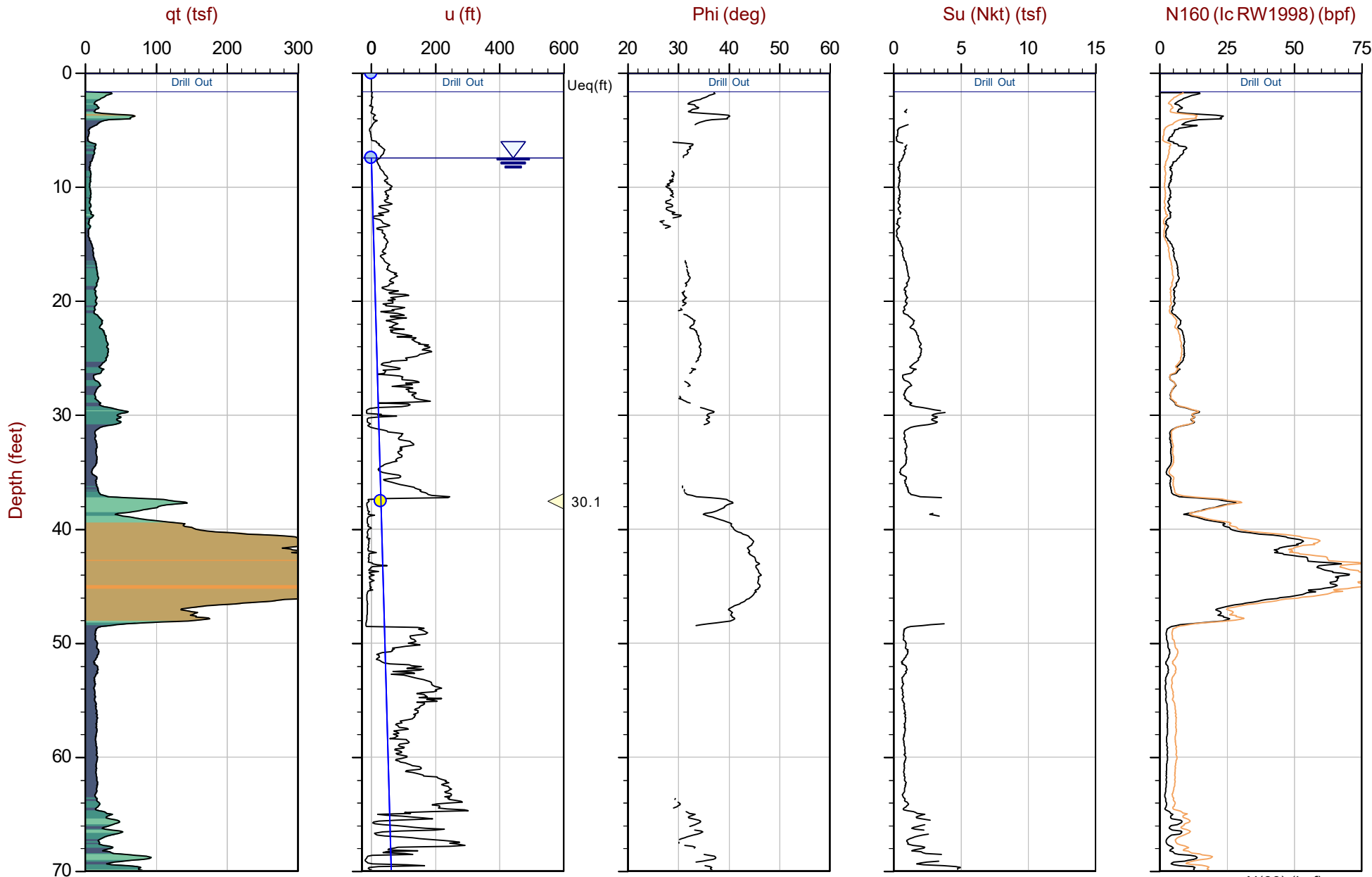
Job No: 21-56-21977

Date: 2021-02-17 12:43

Site: 1175 Weeks St and 1990 Bay Rd

Sounding: A-SCPT04

Cone: 672:T1500F15U500



Max Depth: 36.800 m / 120.73 ft

Depth Inc: 0.025 m / 0.082 ft

Avg Int: Every Point

File: 21-56-21977_SP04.COR

Unit Wt: SBTQtn(PKR2009)

Su Nkt: 15.0

SBT: Robertson, 2009 and 2010

Coords: UTM 10S N: 4147483m E: 577113m

● Equilibrium Pore Pressure (Ueq)

● Assumed Ueq

◀ Dissipation, Ueq achieved

◀ Dissipation, Ueq not achieved

— Hydrostatic Line

The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.



Arup

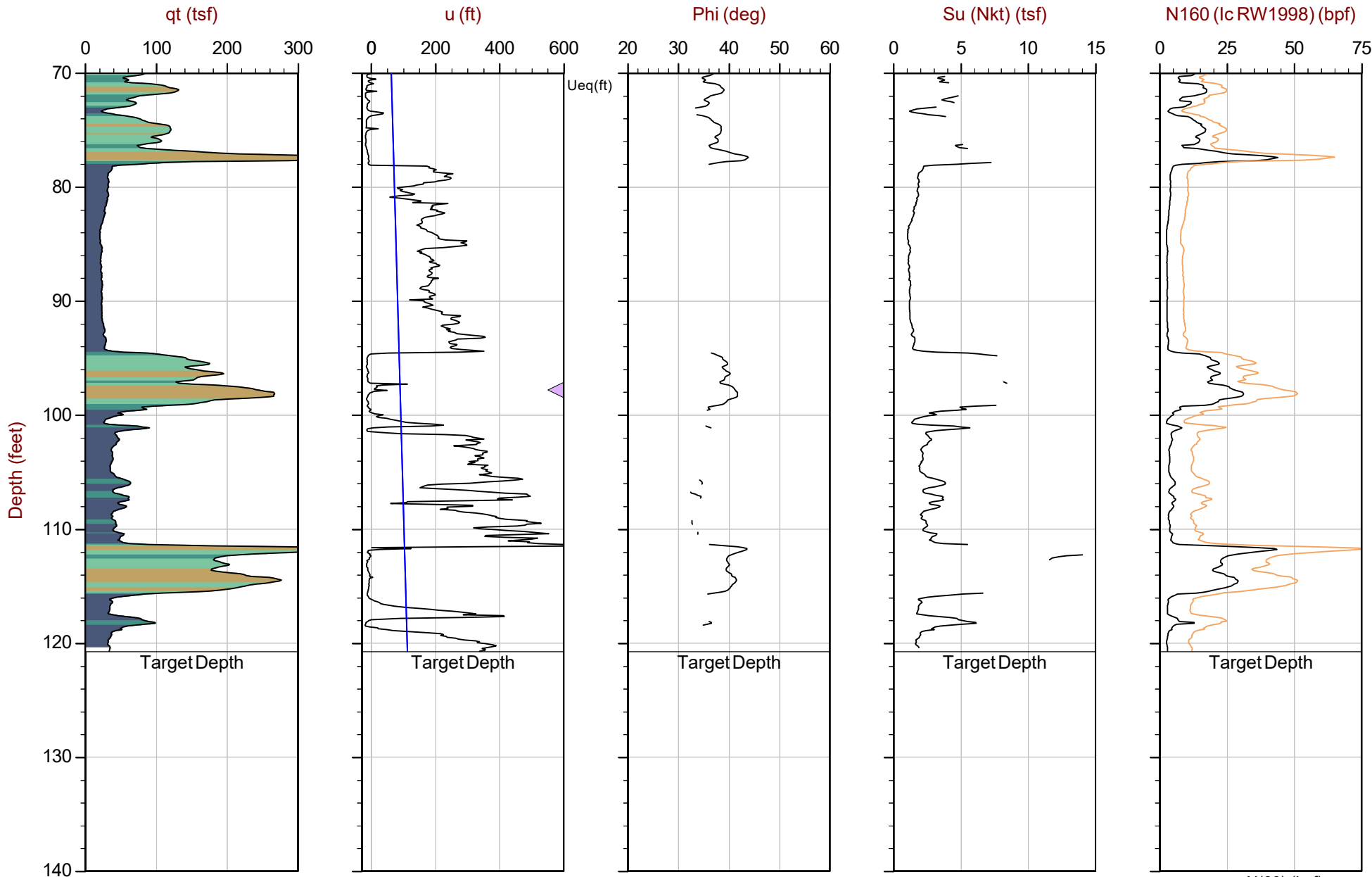
Job No: 21-56-21977

Date: 2021-02-17 12:43

Site: 1175 Weeks St and 1990 Bay Rd

Sounding: A-SCPT04

Cone: 672:T1500F15U500



Max Depth: 36.800 m / 120.73 ft

Depth Inc: 0.025 m / 0.082 ft

Avg Int: Every Point

File: 21-56-21977_SP04.COR

Unit Wt: SBTQn(PKR2009)

Su Nkt: 15.0

SBT: Robertson, 2009 and 2010

Coords: UTM 10S N: 4147483m E: 577113m

● Equilibrium Pore Pressure (Ueq)

● Assumed Ueq

◀ Dissipation, Ueq achieved

◀ Dissipation, Ueq not achieved

— Hydrostatic Line

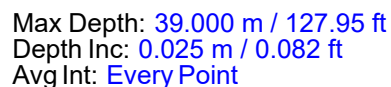
The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

Normalized Cone Penetration Test Plots



Site: 1175 Weeks St and 1990 Bay Rd

Cone: 672:T1500F15U500



File: 21-56-21977_CP02.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
 Coords: UTM 10S N: 4147707m E: 577083m

● Equilibrium Pore Pressure (Ueq)
 ● Assumed Ueq
 ◀ Dissipation, Ueq achieved
 ◀ Dissipation, Ueq not achieved
 — Hydrostatic Line

The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.



Arup

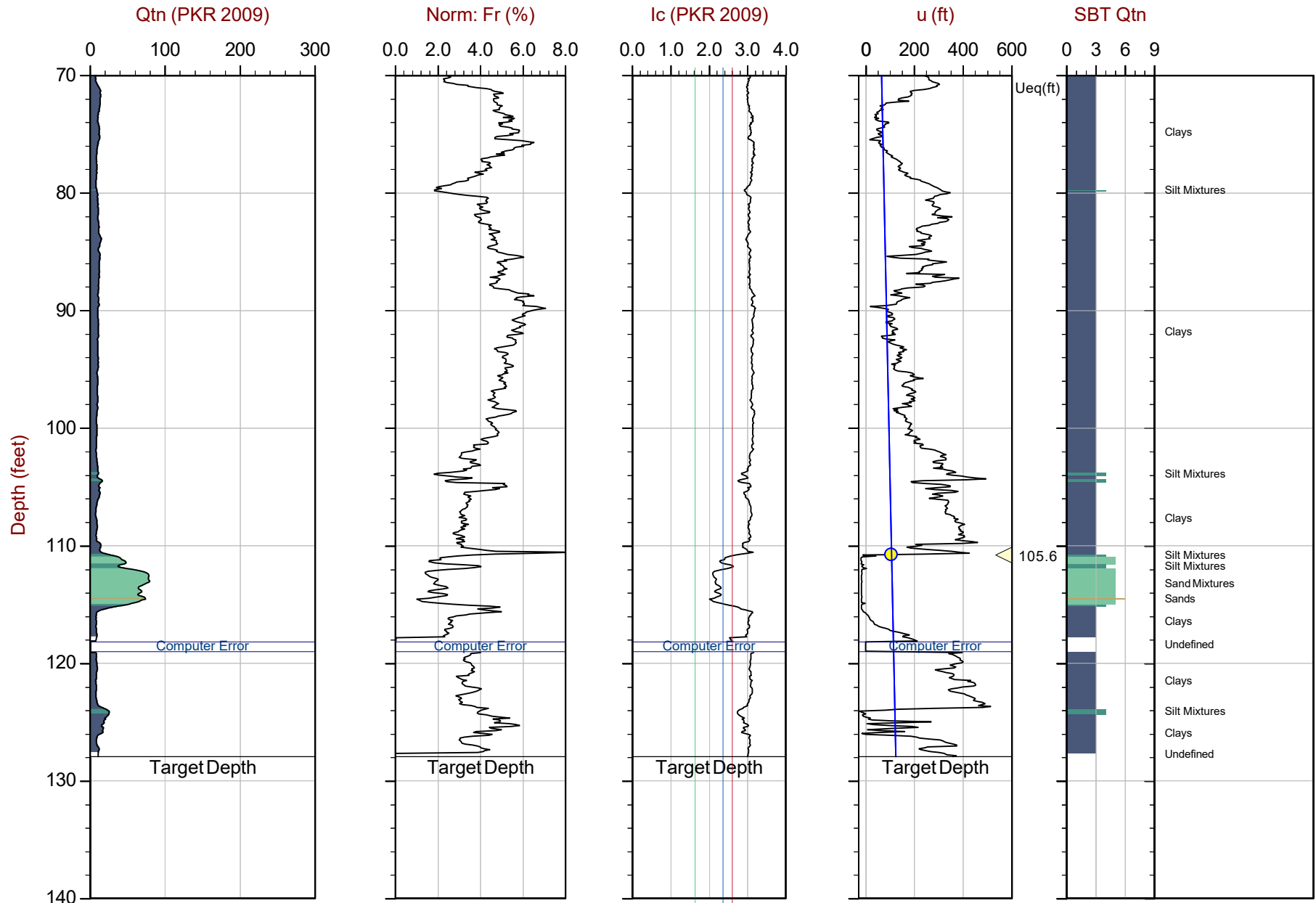
Job No: 21-56-21977

Date: 2021-02-18 12:34

Site: 1175 Weeks St and 1990 Bay Rd

Sounding: A-CPT02

Cone: 672:T1500F15U500

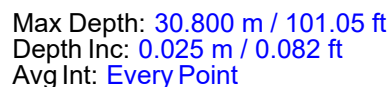


Max Depth: 39.000 m / 127.95 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 21-56-21977_CP02.COR
Unit Wt: SBTQtn(PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM 10S N: 4147707m E: 577083m

● Equilibrium Pore Pressure (Ueq) ● Assumed Ueq ▲ Dissipation, Ueq achieved ▼ Dissipation, Ueq not achieved — Hydrostatic Line
The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.



File: 21-56-21977_CP03.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
 Coords: UTM 10S N: 4147730m E: 577139m

● Equilibrium Pore Pressure (Ueq)
 ● Assumed Ueq
 ◀ Dissipation, Ueq achieved
 ◀ Dissipation, Ueq not achieved
 — Hydrostatic Line

The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.



Arup

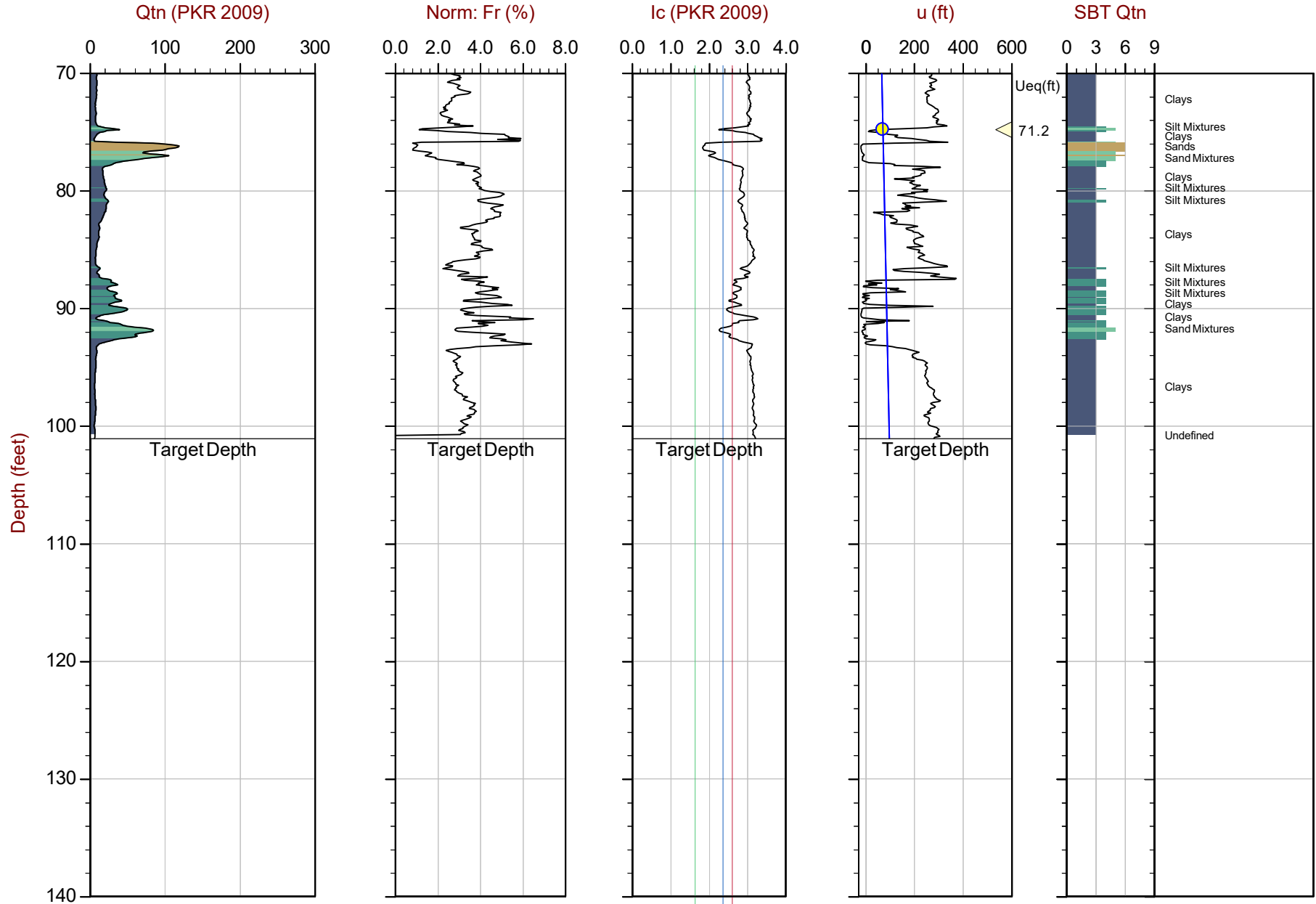
Job No: 21-56-21977

Date: 2021-02-18 10:01

Site: 1175 Weeks St and 1990 Bay Rd

Sounding: A-CPT03

Cone: 672:T1500F15U500



Max Depth: 30.800 m / 101.05 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 21-56-21977_CP03.COR
Unit Wt: SBTQtn(PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM 10S N: 4147730m E: 577139m

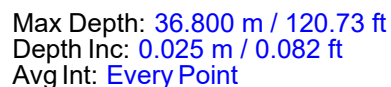
● Equilibrium Pore Pressure (Ueq) ● Assumed Ueq ▲ Dissipation, Ueq achieved ▼ Dissipation, Ueq not achieved — Hydrostatic Line

The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.



Site: 1175 Weeks St and 1990 Bay Rd

Cone: 672:T1500F15U500



File: 21-56-21977_SP04.COR
Unit Wt: SBTQtn (PKR2009)

SBT: Robertson, 2009 and 2010
 Coords: UTM 10S N: 4147483m E: 577113m

● Equilibrium Pore Pressure (Ueq) ● Assumed Ueq ◀ Dissipation, Ueq achieved ◀ Dissipation, Ueq not achieved — Hydrostatic Line

The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.



Arup

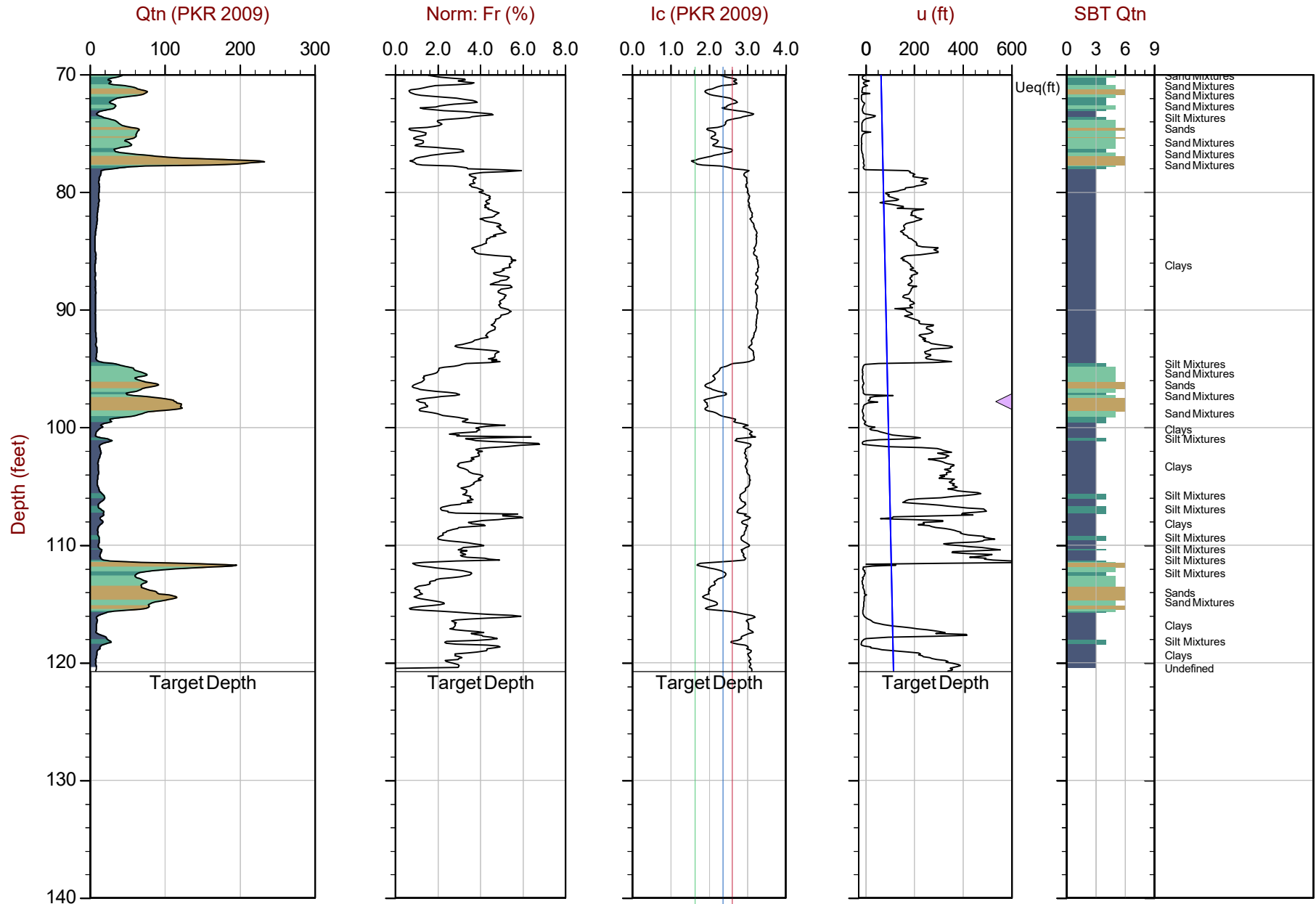
Job No: 21-56-21977

Date: 2021-02-17 12:43

Site: 1175 Weeks St and 1990 Bay Rd

Sounding: A-SCPT04

Cone: 672:T1500F15U500



Max Depth: 36.800 m / 120.73 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 21-56-21977_SP04.COR
Unit Wt: SBTQtn(PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM 10S N: 4147483m E: 577113m

● Equilibrium Pore Pressure (Ueq) ● Assumed Ueq ▲ Dissipation, Ueq achieved ▲ Dissipation, Ueq not achieved — Hydrostatic Line
The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

Soil Behavior Type (SBT) Scatter Plots



Arup

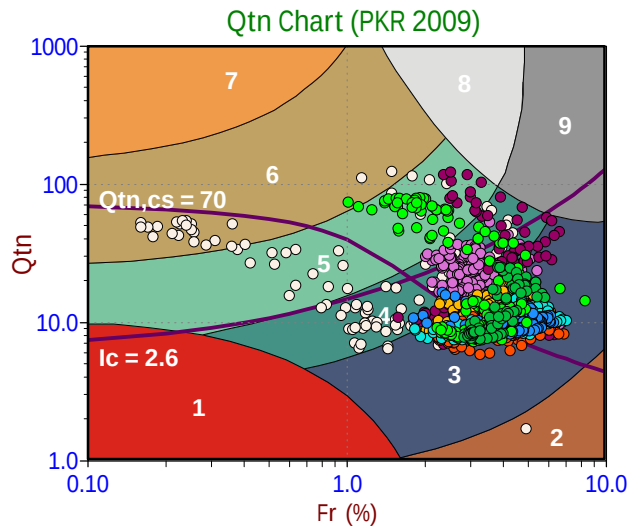
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Date: 2021-02-18 12:34

Site: 1175 Weeks St and 1990 Bay Rd

Sounding: A-CPT02

Cone: 672:T1500F15U500

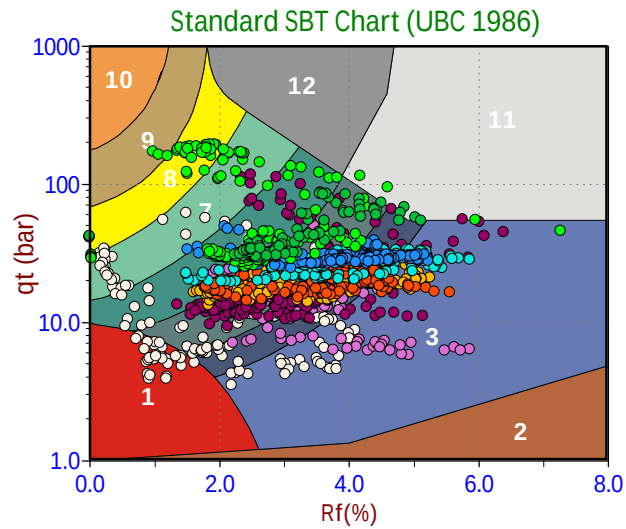


Depth Ranges

- >0.0 to 15.0 ft
- >15.0 to 30.0 ft
- >30.0 to 45.0 ft
- >45.0 to 60.0 ft
- >60.0 to 75.0 ft
- >75.0 to 90.0 ft
- >90.0 to 105.0 ft
- >105.0 to 120.0 ft
- >120.0 to 135.0 ft
- >135.0 to 150.0 ft
- >150.0 ft

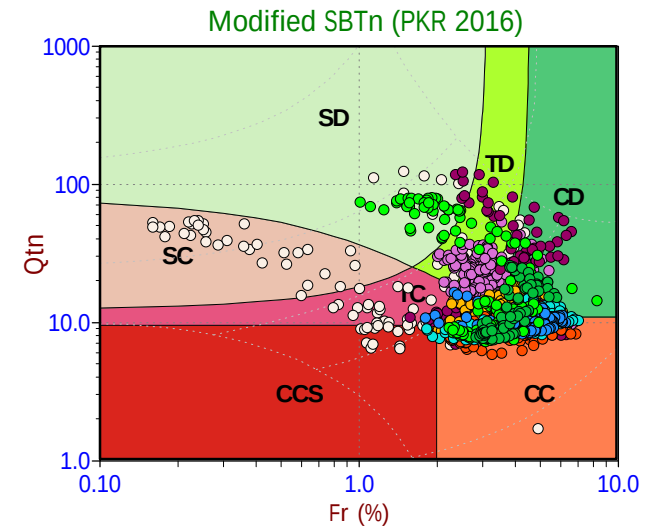
Legend

- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained



Legend

- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand



Legend

- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)



Arup

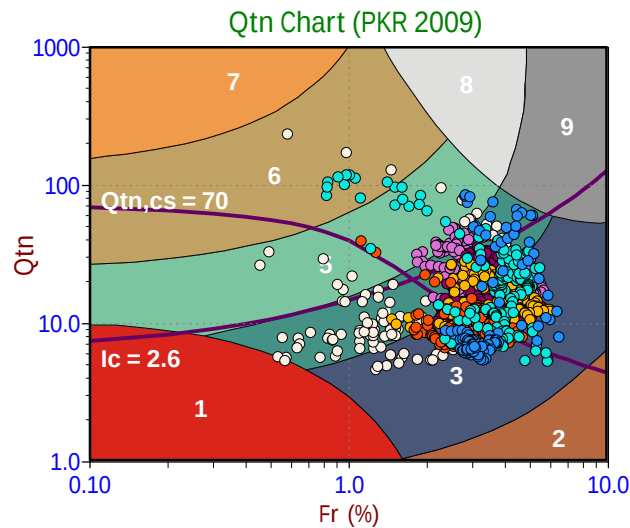
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Date: 2021-02-18 10:01

Site: 1175 Weeks St and 1990 Bay Rd

Sounding: A-CPT03

Cone: 672:T1500F15U500

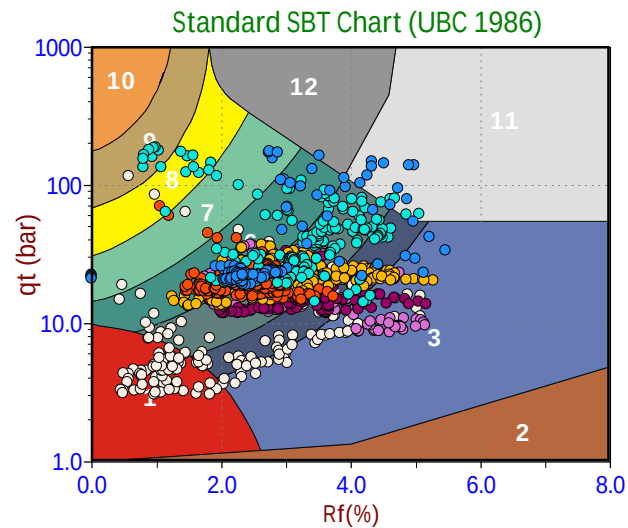


Depth Ranges

- >0.0 to 15.0 ft
- >15.0 to 30.0 ft
- >30.0 to 45.0 ft
- >45.0 to 60.0 ft
- >60.0 to 75.0 ft
- >75.0 to 90.0 ft
- >90.0 to 105.0 ft
- >105.0 to 120.0 ft
- >120.0 to 135.0 ft
- >135.0 to 150.0 ft
- >150.0 ft

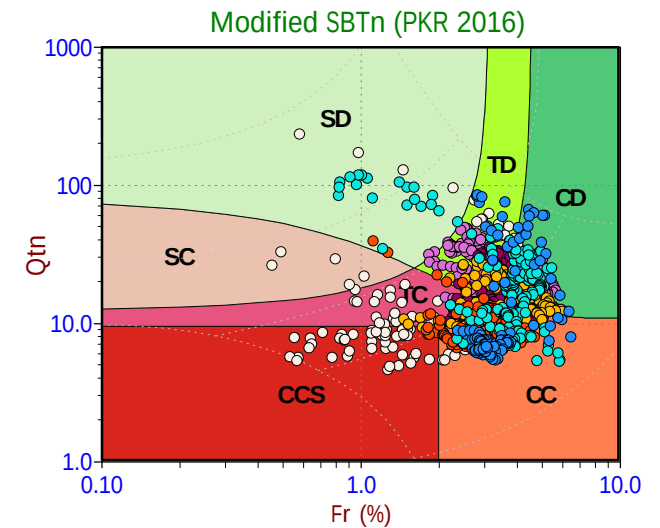
Legend

- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained



Legend

- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand



Legend

- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)



Arup

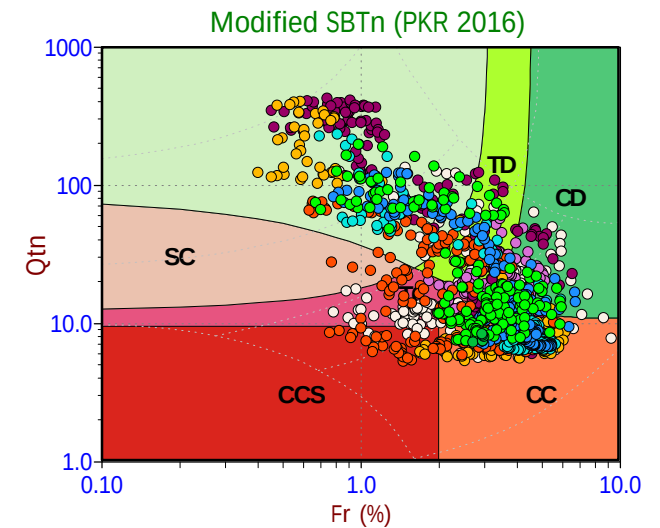
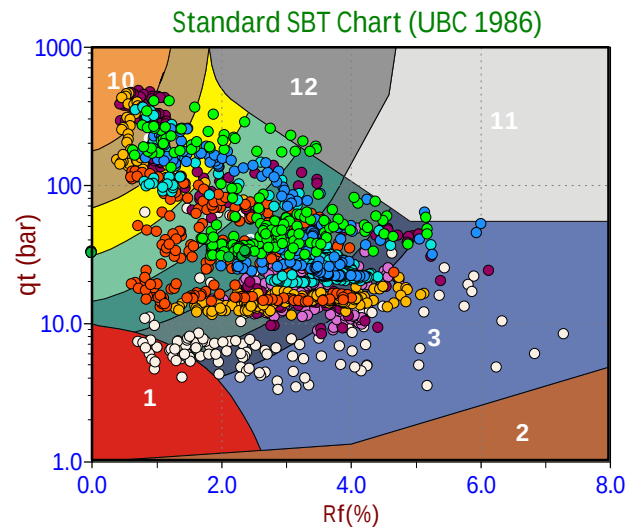
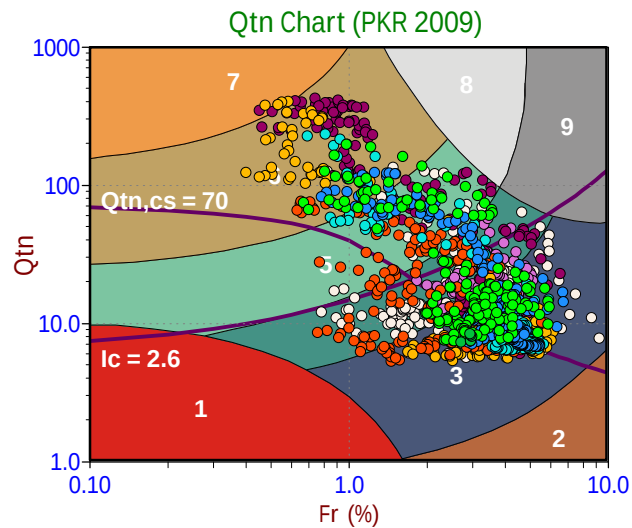
Job No: 21-56-21977

Date: 2021-02-17 12:43

Site: 1175 Weeks St and 1990 Bay Rd

Sounding: A-SCPT04

Cone: 672:T1500F15U500



Depth Ranges

- >0.0 to 15.0 ft
- >15.0 to 30.0 ft
- >30.0 to 45.0 ft
- >45.0 to 60.0 ft
- >60.0 to 75.0 ft
- >75.0 to 90.0 ft
- >90.0 to 105.0 ft
- >105.0 to 120.0 ft
- >120.0 to 135.0 ft
- >135.0 to 150.0 ft
- >150.0 ft

Legend

- Sensitive, Fine Grained
- Organic Soils
- Clays
- Silt Mixtures
- Sand Mixtures
- Sands
- Gravelly Sand to Sand
- Stiff Sand to Clayey Sand
- Very Stiff Fine Grained

Legend

- Sensitive Fines
- Organic Soil
- Clay
- Silty Clay
- Clayey Silt
- Silt
- Sandy Silt
- Silty Sand/Sand
- Sand
- Gravelly Sand
- Stiff Fine Grained
- Cemented Sand

Legend

- CCS (Cont. sensitive clay like)
- CC (Cont. clay like)
- TC (Cont. transitional)
- SC (Cont. sand like)
- CD (Dil. clay like)
- TD (Dil. transitional)
- SD (Dil. sand like)

Seismic Cone Penetration Test Plots



Arup

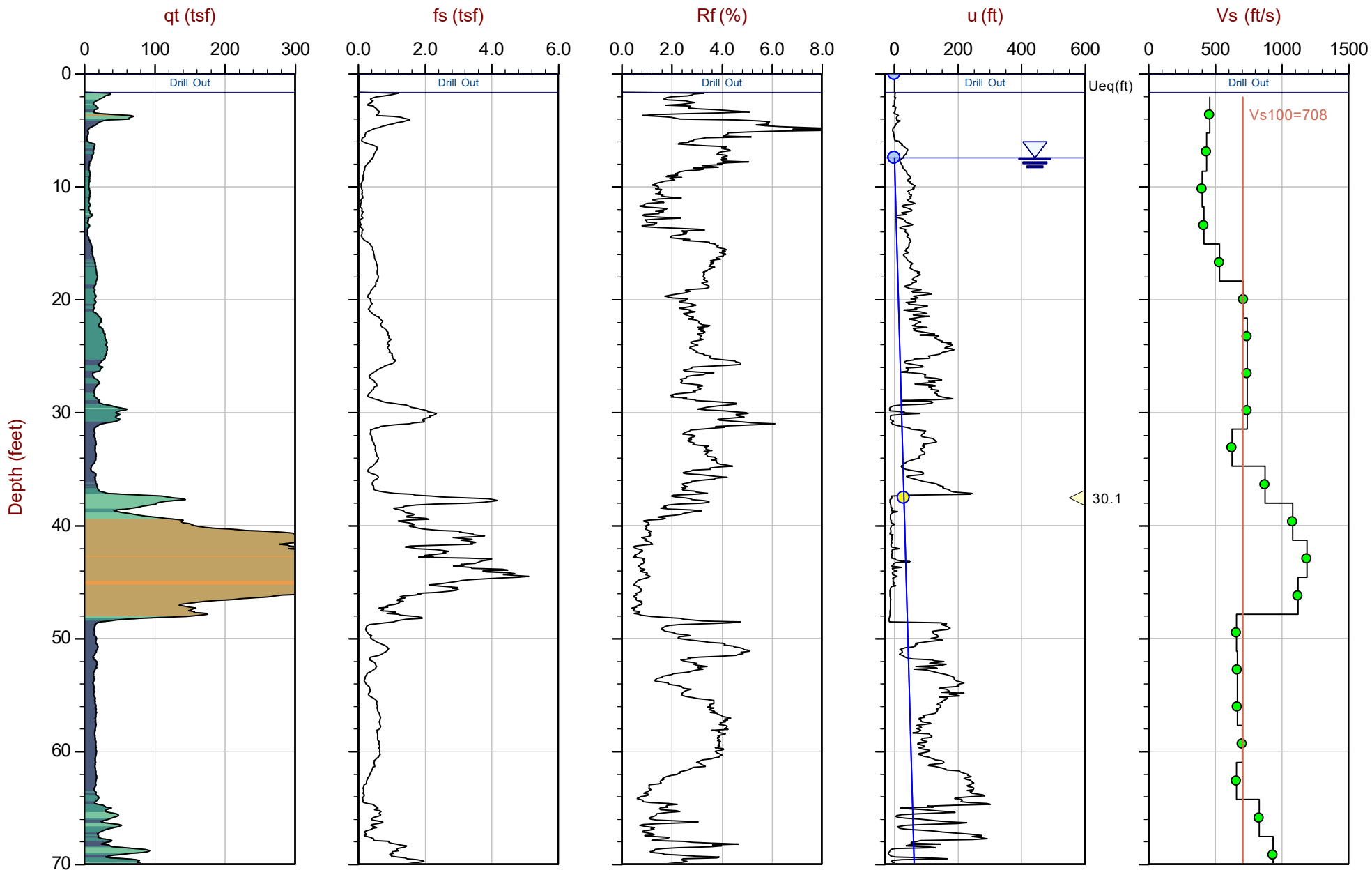
Job No: 21-56-21977

Date: 2021-02-17 12:43

Site: 1175 Weeks St and 1990 Bay Rd

Sounding: A-SCPT04

Cone: 672:T1500F15U500



Max Depth: 36.800 m / 120.73 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 21-56-21977_SP04.COR
Unit Wt: SBTQtn(PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM 10S N: 4147483m E: 577113m

● Equilibrium Pore Pressure (Ueq) ● Assumed Ueq ▲ Dissipation, Ueq achieved ▼ Dissipation, Ueq not achieved — Hydrostatic Line

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Arup

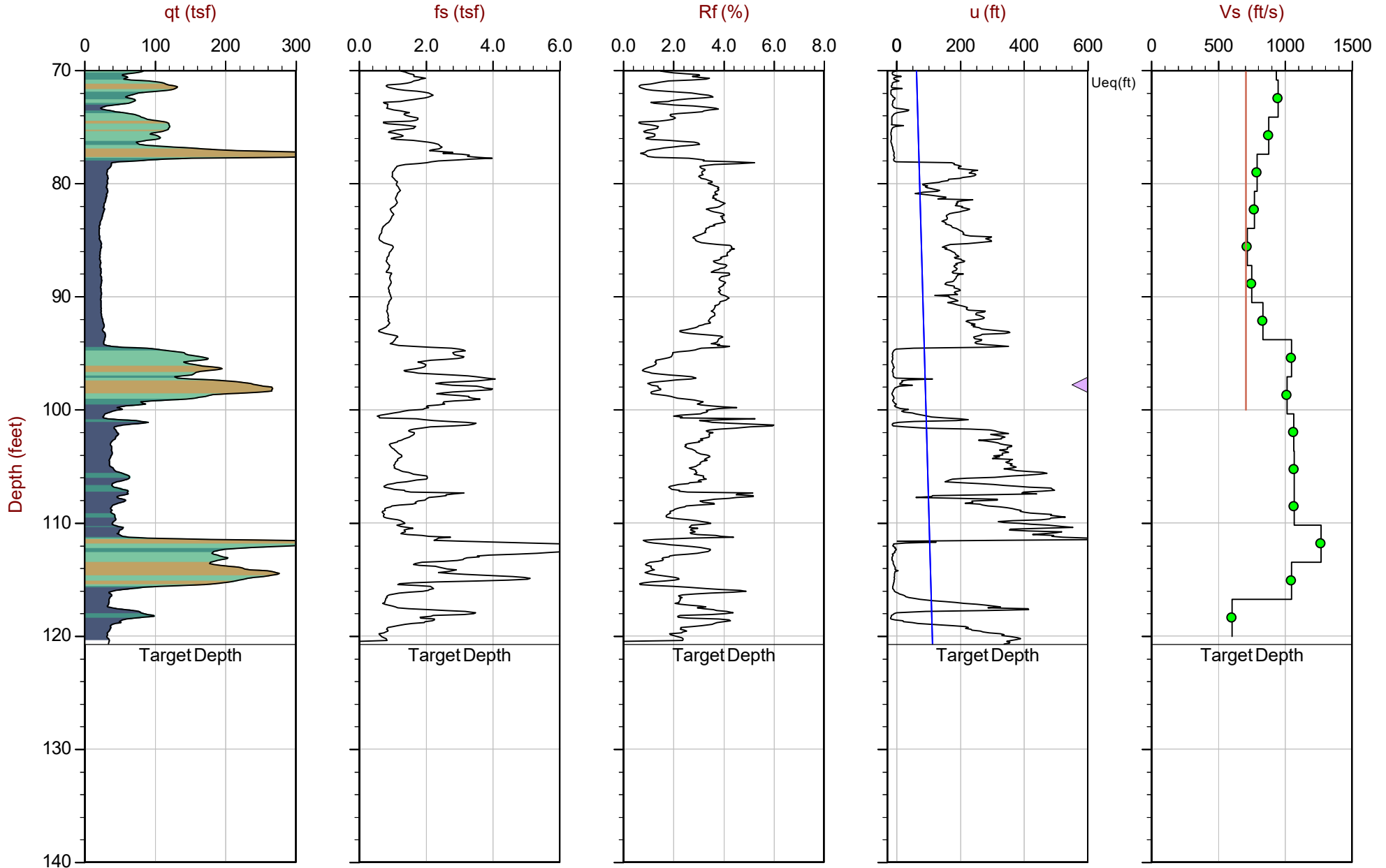
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Date: 2021-02-17 12:43

Site: 1175 Weeks St and 1990 Bay Rd

Sounding: A-SCPT04

Cone: 672:T1500F15U500



Max Depth: 36.800 m / 120.73 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 21-56-21977_SP04.COR
Unit Wt: SBTQn(PKR2009)

SBT: Robertson, 2009 and 2010
Coords: UTM 10S N: 4147483m E: 577113m

● Equilibrium Pore Pressure (Ueq) ● Assumed Ueq ▲ Dissipation, Ueq achieved ▼ Dissipation, Ueq not achieved — Hydrostatic Line

The reported coordinates were acquired from consumer grade GPS equipment and are only approximate locations. The coordinates should not be used for design purposes.

Seismic Cone Penetration Test Tabular Results



Job No: 21-56-21977
Client: Arup
Project: 1175 Weeks St and 1990 Bay Rd
Sounding ID: A-SCPT04
Date: 02:17:21 12:43

Seismic Source: Beam
Seismic Offset (ft): 2.10
Source Depth (ft): 0.00
Geophone Offset (ft): 0.66

SCPTu SHEAR WAVE VELOCITY TEST RESULTS - Vs

Tip Depth (ft)	Geophone Depth (ft)	Ray Path (ft)	Ray Path Difference (ft)	Travel Time Interval (ms)	Interval Velocity (ft/s)
2.72	2.07	2.95			
5.91	5.25	5.65	2.71	5.86	462
9.28	8.63	8.88	3.23	7.38	437
12.47	11.81	12.00	3.12	7.70	405
15.75	15.09	15.24	3.24	7.80	415
19.03	18.37	18.49	3.26	6.08	535
22.31	21.65	21.76	3.26	4.58	713
25.59	24.93	25.02	3.27	4.41	740
28.87	28.22	28.29	3.27	4.41	741
32.15	31.50	31.57	3.27	4.41	742
35.43	34.78	34.84	3.27	5.22	627
38.71	38.06	38.12	3.28	3.74	875
42.00	41.34	41.39	3.28	3.02	1084
45.28	44.62	44.67	3.28	2.75	1190
48.56	47.90	47.95	3.28	2.92	1124
51.84	51.18	51.22	3.28	4.97	660
55.12	54.46	54.50	3.28	4.91	667
58.40	57.74	57.78	3.28	4.92	667
61.68	61.02	61.06	3.28	4.64	706
64.96	64.30	64.34	3.28	4.96	661
68.24	67.59	67.62	3.28	3.94	832
71.52	70.87	70.90	3.28	3.51	935
74.80	74.15	74.18	3.28	3.46	949
78.08	77.43	77.46	3.28	3.74	878
81.36	80.71	80.74	3.28	4.14	792
84.65	83.99	84.02	3.28	4.25	771
87.93	87.27	87.30	3.28	4.58	717
91.21	90.55	90.58	3.28	4.36	752
94.49	93.83	93.86	3.28	3.93	835
97.77	97.11	97.14	3.28	3.13	1049
101.05	100.39	100.42	3.28	3.23	1016



Job No: 21-56-21977
Client: Arup
Project: 1175 Weeks St and 1990 Bay Rd
Sounding ID: A-SCPT04
Date: 02:17:21 12:43

Seismic Source: Beam
Seismic Offset (ft): 2.10
Source Depth (ft): 0.00
Geophone Offset (ft): 0.66

SCPT_u SHEAR WAVE VELOCITY TEST RESULTS - V_s

Tip Depth (ft)	Geophone Depth (ft)	Ray Path (ft)	Ray Path Difference (ft)	Travel Time Interval (ms)	Interval Velocity (ft/s)
104.33	103.67	103.70	3.28	3.07	1068
107.61	106.96	106.98	3.28	3.07	1070
110.89	110.24	110.26	3.28	3.07	1069
114.17	113.52	113.54	3.28	2.58	1269
117.45	116.80	116.82	3.28	3.12	1051
120.73	120.08	120.10	3.28	5.44	603

Seismic Cone Penetration Test Shear Wave (V_s) Traces



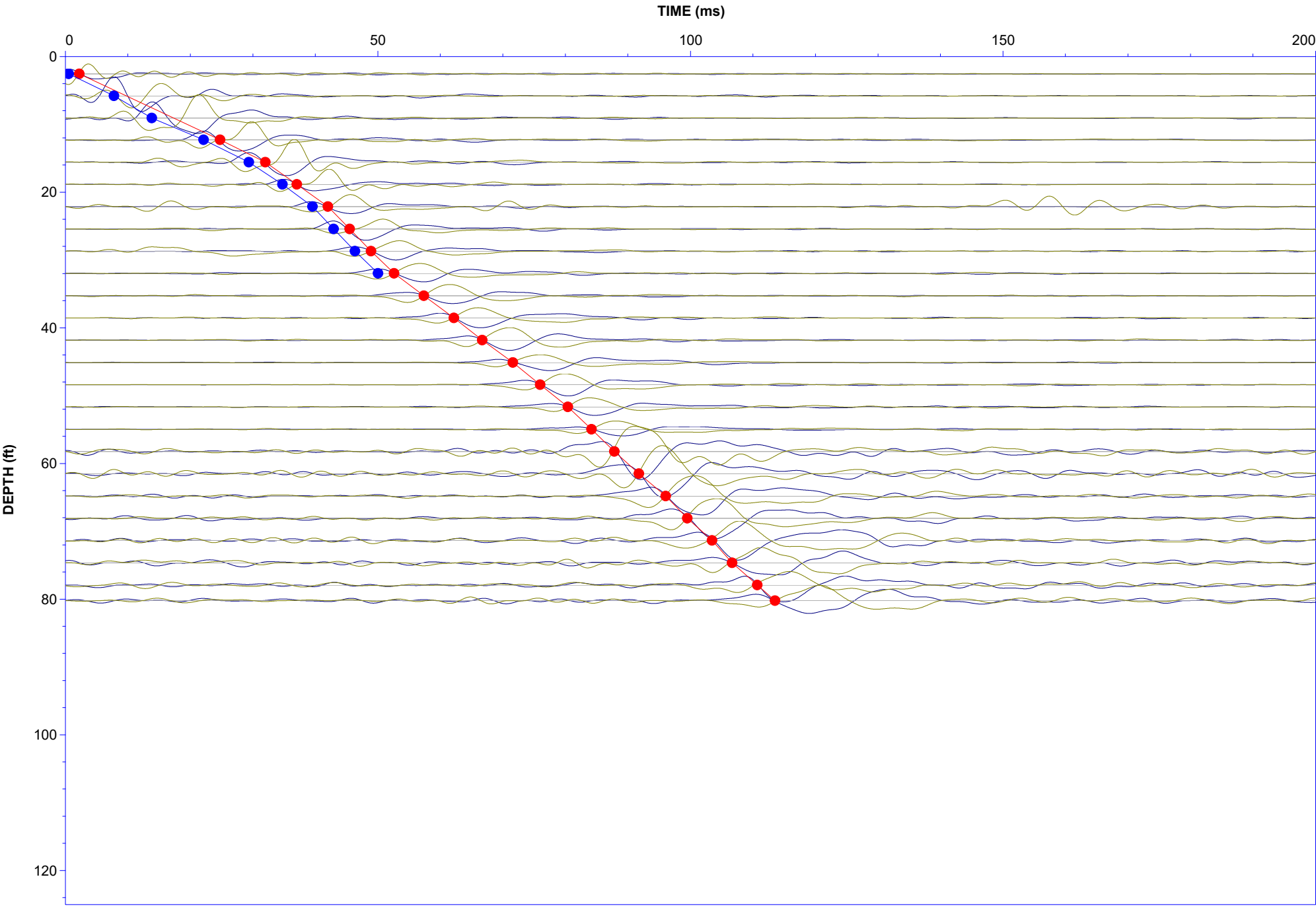
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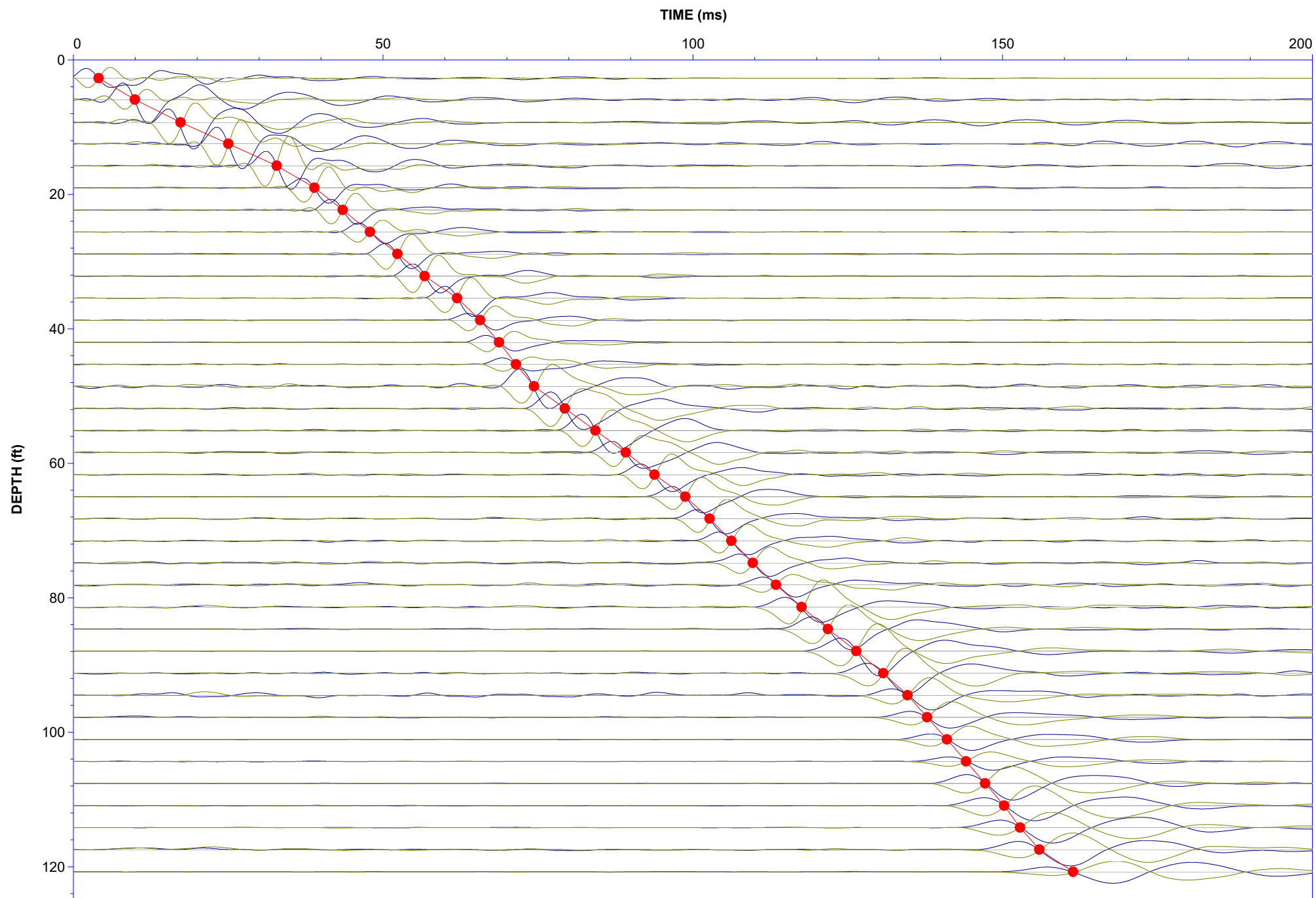
Client: Arup
Cone: 672:T1500F15U500

Project: 1175 Weeks St and 1990 Bay Rd

Filter: BP 0-200 Hz

Sounding: A-SCPT01







Job No: 21-56-21977
Client: Arup
Project: 1175 Weeks St and 1990 Bay Rd
Start Date: 17-Feb-2021
End Date: 18-Feb-2021

CPT_u PORE PRESSURE DISSIPATION SUMMARY

Sounding ID	File Name	Cone Area (cm ²)	Duration (s)	Test Depth (ft)	Estimated Equilibrium Pore Pressure U _{eq} (ft)	Calculated Phreatic Surface (ft)
A-SCPT01	21-56-21977_SP01	15	380	23.54	17.2	6.3
A-CPT02	21-56-21977_CP02	15	470	110.81	105.7	5.1
A-CPT03	21-56-21977_CP03	15	420	74.80	71.2	3.6
A-SCPT04	21-56-21977_SP04	15	620	37.57	30.1	7.4
A-SCPT04	21-56-21977_SP04	15	525	97.77	Not Achieved	

TRC (2018)

TRC-EB-5
TRC-CPT-5
TRC-CPT-6

EXPLORATORY BORING: EB-5

Sheet 1 of 2

DRILL RIG: TRUCK MOBILE B-53

BORING TYPE: 8-INCH HOLLOW-STEM AUGER

LOGGED BY: JA

START DATE: 9-23-18

FINISH DATE: 9-23-18

PROJECT NO: 315276

PROJECT: 1990 Bay Road/1175 Weeks Street Development

LOCATION: EAST PALO ALTO, CA

COMPLETION DEPTH: 51.5 FT.

This log is a part of a report by TRC, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)
	0		3" of AC	AC/AB						
			GRAVELLY LEAN CLAY (CL) [FILL] hard, moist, dark gray, medium plasticity, fine to coarse gravel (sub-angular/rounded), trace coarse sand	CL	29		12	113		
			CLAYEY GRAVEL (GC) [FILL] medium dense, moist, brown, medium plasticity, fine to coarse sand, fine to coarse gravel (sub-angular/rounded)	GC	21		14	105		
	5		FAT CLAY (CH) stiff, moist, dark gray, high plasticity	CH	23		34	86		
			SANDY LEAN CLAY (CL) medium stiff, moist, brown, medium plasticity, fine sand	CL	11		33	85	68	
			SANDY FAT CLAY (CH) medium stiff, moist, dark gray, high plasticity	CH	25		26	88		
			stiff Liquid Limit = 62, Plasticity Index = 44							
			LEAN CLAY WITH SAND (CL) soft, moist, gray to light gray, medium plasticity, fine to medium sand	CL	19		37	83		
			LEAN CLAY (CL) very stiff, moist, olive brown, medium plasticity, trace fine to medium sand	CL	35					
			stiff		29		26	93		

Continued Next Page

GROUND WATER OBSERVATIONS:

▽ : FREE GROUND WATER MEASURED DURING DRILLING AT 11.0 FEET

LA CORP GDT 10/29/18 MV, CA*



EB-5
315276

EXPLORATORY BORING: EB-5 Cont'd

Sheet 2 of 2

DRILL RIG: TRUCK MOBILE B-53

BORING TYPE: 8-INCH HOLLOW-STEM AUGER

LOGGED BY: JA

START DATE: 9-23-18 FINISH DATE: 9-23-18

PROJECT NO: 315276

PROJECT: 1990 Bay Road/1175 Weeks Street Development

LOCATION: EAST PALO ALTO, CA

COMPLETION DEPTH: 51.5 FT.

This log is a part of a report by TRC, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

MATERIAL DESCRIPTION AND REMARKS

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)			
									○ Pocket Penetrometer	△ Torvane	● Unconfined Compression	▲ U-U Triaxial Compression
									1.0	2.0	3.0	4.0
	30	LEAN CLAY (CL) medium stiff, moist, olive brown, medium plasticity, trace fine to medium sand										
	35			28	×	33	86		○			
	40	stiff Liquid Limit = 44, Plasticity Index = 25	CL	30	×					○		
	45	brown, no trace		30	×	31	88		○			
		SANDY LEAN CLAY (CL) stiff, very moist, brown, medium plasticity, fine to medium sand	CL		×							
	50	POORLY GRADED SAND WITH CLAY (SP-SC) medium dense to dense, moist, brown, medium plasticity, fine to coarse sand	SP-SC	31	×							
		Bottom of boring at 51.5 feet		31	×							
	55											
	60											

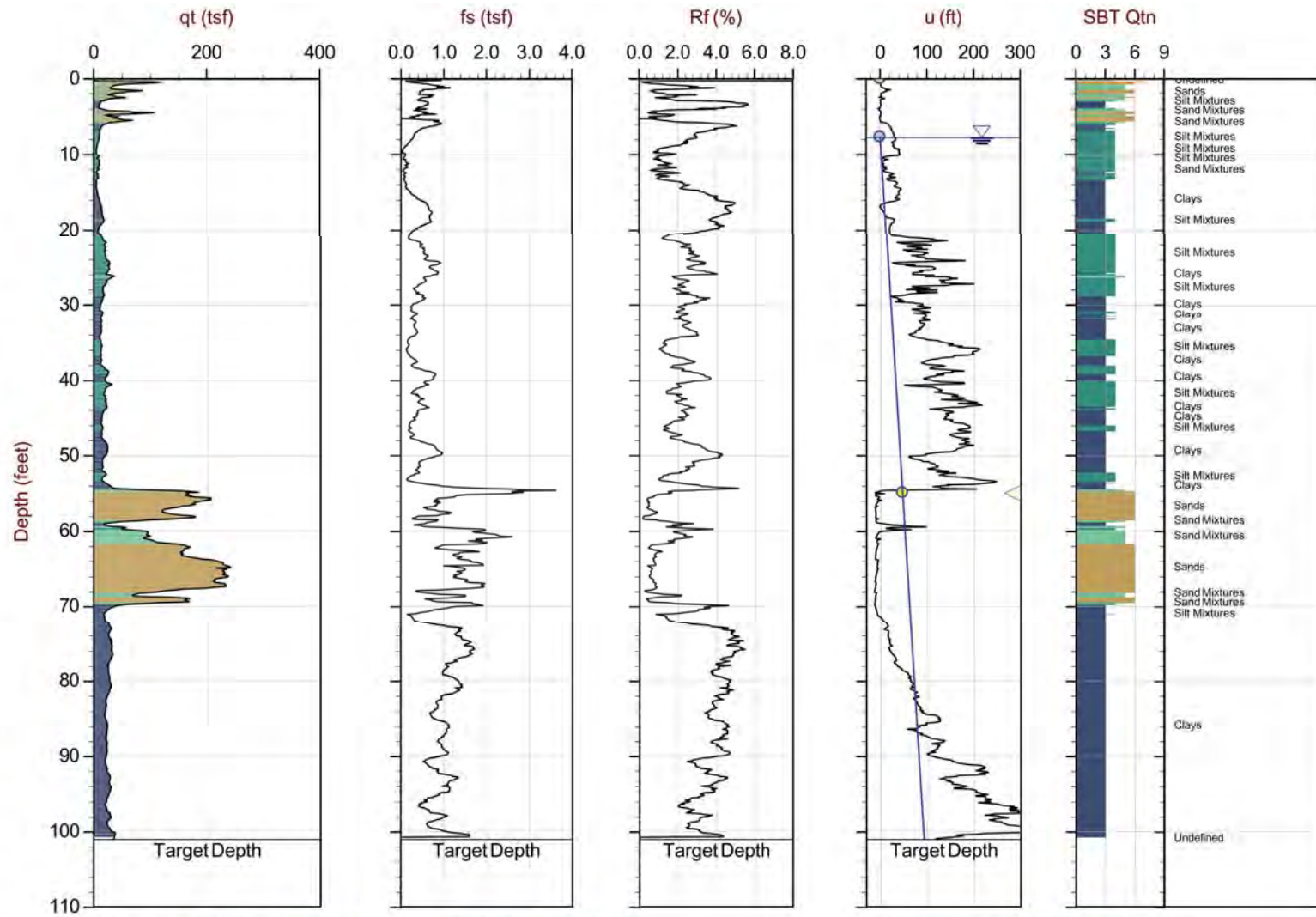
GROUND WATER OBSERVATIONS:

▽ : FREE GROUND WATER MEASURED DURING DRILLING AT 11.0 FEET

LA CORP.GDT 10/29/18 MV, CA*



EB-5
315276



— Hydrostatic Line

Ninyo & Moore (2014)

NM-B-5

NM-B-4

BORING LOG EXPLANATION SHEET

DEPTH (feet)	Bulk Driven	SAMPLES	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	
0								Bulk sample.
								Modified split-barrel drive sampler.
								No recovery with modified split-barrel drive sampler.
								Sample retained by others.
								Standard Penetration Test (SPT).
5								No recovery with a SPT.
			XX/XX					Shelby tube sample. Distance pushed in inches/length of sample recovered in inches.
								No recovery with Shelby tube sampler.
								Continuous Push Sample.
								Seepage.
10								Groundwater encountered during drilling.
								Groundwater measured after drilling.
							SM	ALLUVIUM:
								Solid line denotes unit change.
								Dashed line denotes material change.
15								Attitudes: Strike/Dip
								b: Bedding
								c: Contact
								j: Joint
								f: Fracture
								F: Fault
								cs: Clay Seam
								s: Shear
								bss: Basal Slide Surface
								sf: Shear Fracture
								sz: Shear Zone
								sbs: Sheared Bedding Surface
20								The total depth line is a solid line that is drawn at the bottom of the boring.

Ninyo & Moore

BORING LOG

EXPLANATION OF BORING LOG SYMBOLS

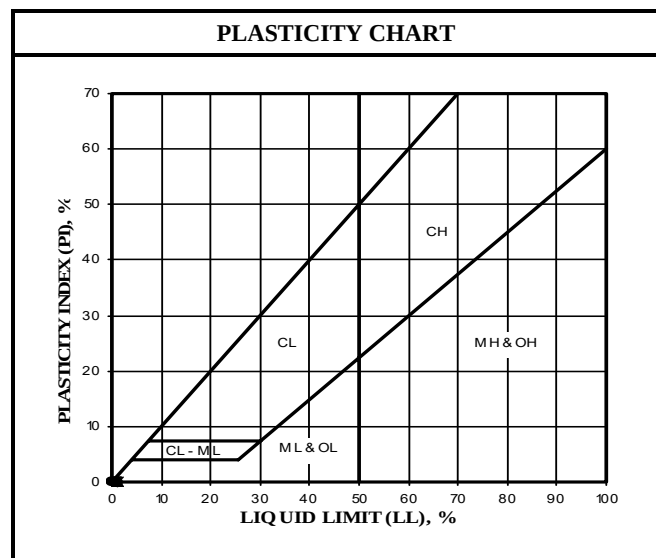
PROJECT NO.

DATE
Rev. 01/03

FIGURE

U.S.C.S. METHOD OF SOIL CLASSIFICATION				
MAJOR DIVISIONS		SYMBOL		TYPICAL NAMES
COARSE-GRAINED SOILS (More than 1/2 of soil >No. 200 sieve size)	GRAVELS (More than 1/2 of coarse fraction > No. 4 sieve size)		GW	Well graded gravels or gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels or gravel-sand mixtures, little or no fines
			GM	Silty gravels, gravel-sand-silt mixtures
			GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS (More than 1/2 of coarse fraction <No. 4 sieve size)		SW	Well graded sands or gravelly sands, little or no fines
			SP	Poorly graded sands or gravelly sands, little or no fines
			SM	Silty sands, sand-silt mixtures
			SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (More than 1/2 of soil <No. 200 sieve size)	SILTS & CLAYS Liquid Limit <50		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean
			OL	Organic silts and organic silty clays of low plasticity
	SILTS & CLAYS Liquid Limit >50		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
			CH	Inorganic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity, organic silty clays, organic silts
HIGHLY ORGANIC SOILS		Pt	Peat and other highly organic soils	

GRAIN SIZE CHART		
CLASSIFICATION	RANGE OF GRAIN SIZE	
	U.S. Standard Sieve Size	Grain Size in Millimeters
BOULDERS	Above 12"	Above 305
COBBLES	12" to 3"	305 to 76.2
GRAVEL Coarse Fine	3" to No. 4	76.2 to 4.76
	3" to 3/4"	76.2 to 19.1
	3/4" to No. 4	19.1 to 4.76
SAND Coarse Medium Fine	No. 4 to No. 200	4.76 to 0.075
	No. 4 to No. 10	4.76 to 2.00
	No. 10 to No. 40	2.00 to 0.420
	No. 40 to No. 200	0.420 to 0.075
SILT & CLAY	Below No. 200	Below 0.075



Ninyo & Moore	U.S.C.S. METHOD OF SOIL CLASSIFICATION

DEPTH (feet)	SAMPLES Bulk Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S	DATE DRILLED <u>7/23/14</u> BORING NO. <u>B-4</u>	
							GROUND ELEVATION <u>7± (MSL)</u> SHEET <u>1</u> OF <u>2</u>	
METHOD OF DRILLING <u>8" Hollow Stem Auger (Exploration Geoservices) Mobile B-53 Drill</u>							DRIVE WEIGHT <u>140 LBS Wireline Hammer</u> DROP <u>30"</u>	
SAMPLED BY <u>DWM</u> LOGGED BY <u>DWM</u> REVIEWED BY <u>KG/SG</u>							DESCRIPTION/INTERPRETATION	
0							<u>ASPHALT CONCRETE:</u> Approximately 4 inches thick.	
							<u>AGGREGATE BASE:</u> Approximately 4 inches thick.	
						CL	<u>ALLUVIUM:</u> Gray to black, moist, stiff, sandy CLAY; few gravel.	
18			19.8	105.5			Black, wet, firm.	
7							Gray to black, stiff.	
5							Soft.	
13			24.8	97.4			Brown, wet, loose, silty SAND.	
3						SM	White, wet, stiff, CLAY.	
15						CL	15 PSI.	
23"/30"							Olive brown; very stiff.	
19								

Ninyo & Moore

BORING LOG

BAY ROAD IMPROVEMENT PHASE 2 & 3
EAST PALO ALTO, CALIFORNIA

PROJECT NO.
402371001

DATE
9/14

FIGURE
A-7

DEPTH (feet)	SAMPLES Bulk Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S	DATE DRILLED <u>7/23/14</u> BORING NO. <u>B-5</u> GROUND ELEVATION <u>9± (MSL)</u> SHEET <u>1</u> OF <u>2</u> METHOD OF DRILLING <u>8" Hollow Stem Auger (Exploration Geoservices) Mobile B-53 Drill</u> DRIVE WEIGHT <u>140 LBS Wireline Hammer</u> DROP <u>30"</u> SAMPLED BY <u>DWM</u> LOGGED BY <u>DWM</u> REVIEWED BY <u>KG/SG</u>	
							DESCRIPTION/INTERPRETATION	
0							ASPHALT CONCRETE: Approximately 6 inches thick.	
						SC	FILL: Dark brown, moist, dense, clayey SAND; little gravel. Light brown.	
		12				CL	ALLUVIUM: Black, moist, stiff, CLAY.	
5		5					No recovery; wet, firm.	
		8					Gray.	
		6					Olive gray.	
						SP-SM	Olive, wet, loose, poorly graded SAND with silt.	
10		4					Very loose.	
						CL-ML	Brown to dark brown, wet, soft, sandy silty CLAY; few gravel.	
15		5						
20		10					Dark gray, stiff; few sand.	

Ninyo & Moore

BORING LOG

BAY ROAD IMPROVEMENT PHASE 2 & 3
EAST PALO ALTO, CALIFORNIA

PROJECT NO.
402371001

DATE
9/14

FIGURE
A-9

Iris Environmental
(2013)

I-CPT-2

I-CPT-3



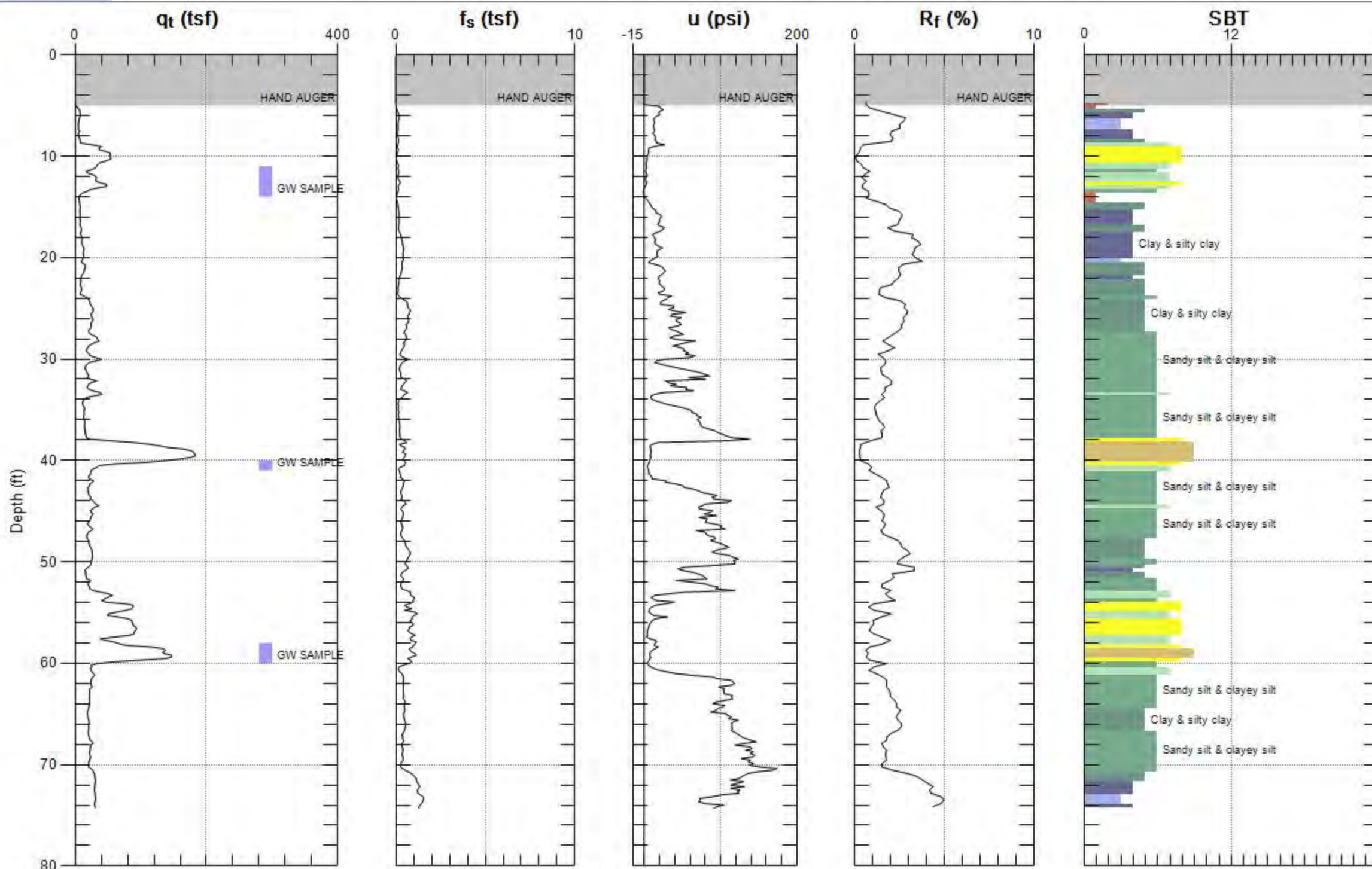
IRIS ENVIRONMENTAL

Site: FMR. ROMIC SITE

Sounding: CPT-2

Engineer: C.ALGER

Date: 1/24/2012 08:56



Max. Depth: 74.311 (ft)

Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



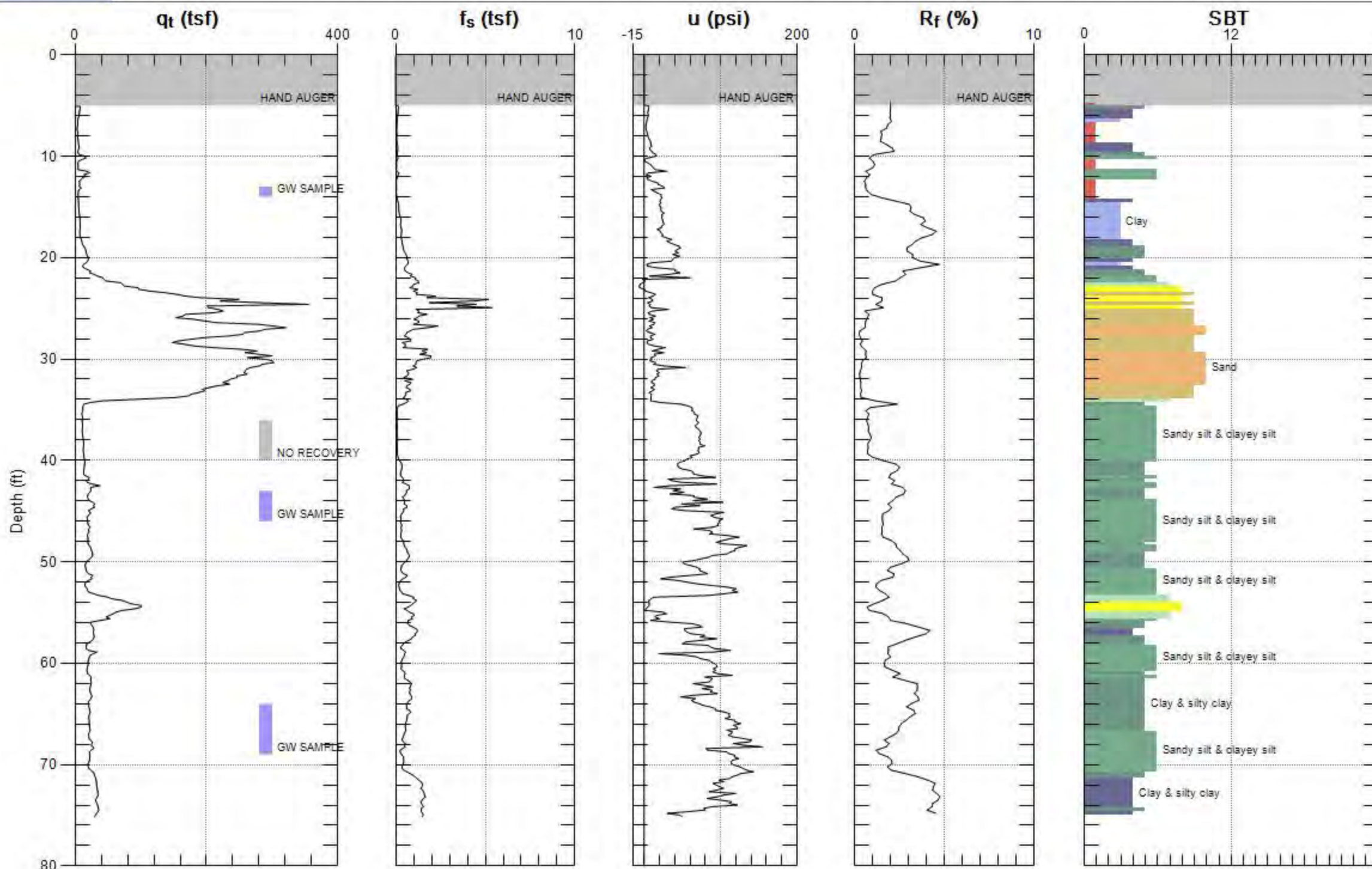
IRIS ENVIRONMENTAL

Site: FMR. ROMIC SITE

Sounding: CPT-3

Engineer: C.ALGER

Date: 1/24/2012 05:38



Max. Depth: 75.131 (ft)

Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

GEI Consultants, Inc.
(2012)

GEI-B-5
GEI-CPT-4

SOIL CLASSIFICATION CHART

UNIFIED SOIL CLASSIFICATION SYSTEM

GRAPHIC SYMBOL	LETTER	DESCRIPTION OF SYMBOLS USED IN BORING LOGS	MAJOR DIVISIONS		
	GW	WIDELY GRADED GRAVELS	CLEAN GRAVELS (LITTLE OR NO FINES)	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	COARSE GRAIN SOILS MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE
	GP	NARROWLY GRADED GRAVELS			
	GM	SILTY GRAVELS	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		
	GC	CLAYEY GRAVELS			
	SW	WIDELY GRADED SANDS	CLEAN SANDS (LITTLE OR NO FINES)	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	
	SP	NARROWLY GRADED SANDS			
	SM	SILTY SANDS	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		
	SC	CLAYEY SANDS			
	ML	SILTS	SILTS & CLAYS LIQUID LIMIT LESS THAN 50		FINE GRAIN SOILS MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE
	CL	LEAN CLAYS			
	OL	ORGANIC SILTS/ORGANIC CLAYS			
	MH	ELASTIC SILTS	SILTS & CLAYS LIQUID LIMIT GREATER THAN 50		
	CH	FAT CLAYS			
	OH	ORGANIC CLAYS/ORGANIC SILTS			
	PT	PEATS	HIGHLY ORGANIC SOILS		

SOIL SAMPLER SYMBOLS



MODIFIED CALIFORNIA SAMPLER



SHELBY TUBE



STANDARD PENETRATION SAMPLER

FIELD TEST

250 PSI = GAUGE PRESSURE TO ADVANCE THE SHELBY TUBE SAMPLER

NOTES

1. For driven sampler, sampling resistance is the number of hammer blows required to advance the sampler 12-inches, after an initial 6-inches seating penetration. Liners were not used in the SPT sampler.
2. Description of the hammer used to drive the samplers are presented in the text.
3. Description of the drilling method and bit used are presented in the logs.

SAN FRANCISQUITO CREEK
FLOOD CONTROL PROJECT



KEY TO BORING
LOGS

Project 092850

July 2010

Boring Location NORTHING: _____ EASTING: _____ STATION: _____ OFFSET: _____ HORIZONTAL DATUM: NAD 83 STATION CENTERLINE: _____ VERTICAL DATUM: NAVD 88 GROUND SURFACE ELEVATION (FT): 14 LOCATION: On Levee Crown, ~300' E of Frienship Bridge, Palo Alto				BORING B-5 PAGE 1 of 2	

Drilling Information DATE START / END: 2/8/10 TOTAL DEPTH (FT): 51.5 CONTRACTOR: Pitcher Drilling Co. DRILLER: Will LOGGED BY: T. Haynes EQUIPMENT: Fraste Multidrill XL Rubber Track BORING METHOD: Solid Stem Auger/Mud Rotary AUGER ID/OD: N/A / 5 in, 2.625 in CASING ID/OD: N/A / N/A HAMMER TYPE: Automatic Hammer HAMMER WEIGHT (lbs): 140 HAMMER DROP (inch): 30 WATER LEVEL DEPTHS (ft): Water level not observed during rotary wash exploration GENERAL NOTES: Fraste Multidrill XL Rubber Track Rig					

ABBREVIATIONS:	ID = Inside Diameter OD = Outside Diameter Pen. = Penetration Length Rec. = Recovery Length	bpf = Blows per Foot mpf = Minute per Foot S = Split Spoon DP = Direct Push Sample	U = Undisturbed Tube Sample C = Rock Core V = Field Vane Shear SC = Sonic Core	WOR = Weight of Rods WOH = Weight of Hammer RQD = Rock Quality Designation OVM = Organic Vapor Meter	Q _p = Pocket Penetrometer Strength S _v = Pocket Torvane Shear Strength F _v = Field Vane Shear Strength NA, NM = Not Applicable, Not Measured

Elev. (ft)	Depth (ft)	SAMPLE INFORMATION					GRAPHIC LOG	Sample Description & Classification	Moisture Content (%)	Dry Density (pcf)	Fines % <#200	LL	PI	Other Tests	Remarks
		Type	Sample No.	Pen./ Rec. (in)	Blow Count or RQD	Field Test Data (ksf)									
								Lean CLAY (CL); very stiff; very dark gray (10YR 3/1); moist; medium plasticity fines; fine to coarse gravel at ground surface [FILL].							
	10		S1	18/12	4 4 7	Q _p =5.0 S _u =2.5		~2-inch sandy silt seam at 3.3'. trace fine sand from 3.5 to 7.0'.	35	76					Q _u =2.60 ksf
	5		S2	18/8	3 5 5										
	5		S3	18/14	3 3 4	Q _p =1.5 S _u =1.0		Sandy Lean CLAY (CL); dark grayish brown (10YR 4.2); moist; 70% low to medium plasticity fines; 30% fine sand [FILL]. Driller's Note: sand mixed with clay in cuttings at 7.0'.	45	71					
	10		S4	18/11	1 2 2				Lean CLAY (CL); medium stiff; dark gray (2.5Y 4/1) mottled with brown (7.5YR 4/3); moist; medium plasticity fines; trace organics (plant fibers) [FILL].						
	0		S5	30/29	0 psi	S _u =0.5		Elastic Silt (MH); soft; very dark greenish gray (5G 3/1); moist to wet; medium to high plasticity fines.	86	51		96	52	S _v =0.58 ksf Consol	
	15														
	-5		S6	30/30	240 psi	Q _p =3.5 S _u =2.25		Lean CLAY (CL); stiff to very stiff; dark greenish gray (10Y 4/1); moist; medium to high plasticity fines.	30	93					
	20														
	-10		S7	18/14	5 6 8	Q _p =3.0 S _u =2.25		olive gray (5Y 5/2); medium plasticity fines.	25						
	25														
	-15		S8	30/24	200 psi	Q _p =2.5 S _u =1.0		Color change to gray (5Y 5/1) mottled with strong brown (7.5YR 4/6); medium stiff to stiff from 28.0 to 31.0'.							

Strata lines represent the approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at times stated. Water levels may be different at other times.	CLIENT: HDR Engineering, Inc. PROJECT NAME: San Francisquito Flood Control Project CITY/STATE: Palo Alto/East Palo Alto, California GEI PROJECT NUMBER: 092850	GEI Consultants 180 Grand Ave Oakland Ca 94611 510-350-2900

GEOTECHNICAL BORING LOG 02_SF_CREEK_FLOOD_CONTROL.GPJ GEI DATA TEMPLATE.GDT 7/21/10

Boring Location
NORTHING: _____ **EASTING:** _____ **STATION:** _____ **OFFSET:** _____
HORIZONTAL DATUM: NAD 83 **STATION CENTERLINE:** _____
VERTICAL DATUM: NAVD 88 **GROUND SURFACE ELEVATION (FT):** 14
LOCATION: On Levee Crown, ~300' E of Frienship Bridge, Palo Alto

BORING
B-5
PAGE 2 of 2

Elev. (ft)	Depth (ft)	SAMPLE INFORMATION					GRAPHIC LOG	Sample Description & Classification	Moisture Content (%)	Dry Density (pcf)	Fines % <#200	LL	PI	Other Tests	Remarks
		Type	Sample No.	Pen./ Rec. (in)	Blow Count or RQD	Field Test Data (ksf)									
									33	88					
								Poorly Graded SAND with Gravel (SP); medium dense to dense; dark brown (10YR 3/3); moist to wet; 80% fine to coarse sand; 20% fine gravel. Driller's Note: loss of water in mud tub at 31.0'.							
	-20	X	S9	18/14	22 23 24										
	35	X	S10	18/6	2 4 13										
	-25														
	40	X	S11	18/8	10 15 18			65% fine to coarse sand; 35% fine gravel from 40.0 to 45.0'.							
	-30														
	45	X	S12	18/18	3 5 5			Lean CLAY (CL); stiff; yellowish brown (10YR 5/4); medium plasticity fines; trace fine sand.							
	-35														
	50	X	S13	18/15	5 10 11	Q _u =2.0 S _u =1.2		Color change to dark greenish gray (10YR 4/1) from 50.0 to 51.5'.							
	-40							End of Boring at 51.5 feet							
	55														
	-45														
	60														
	-50														
	65														

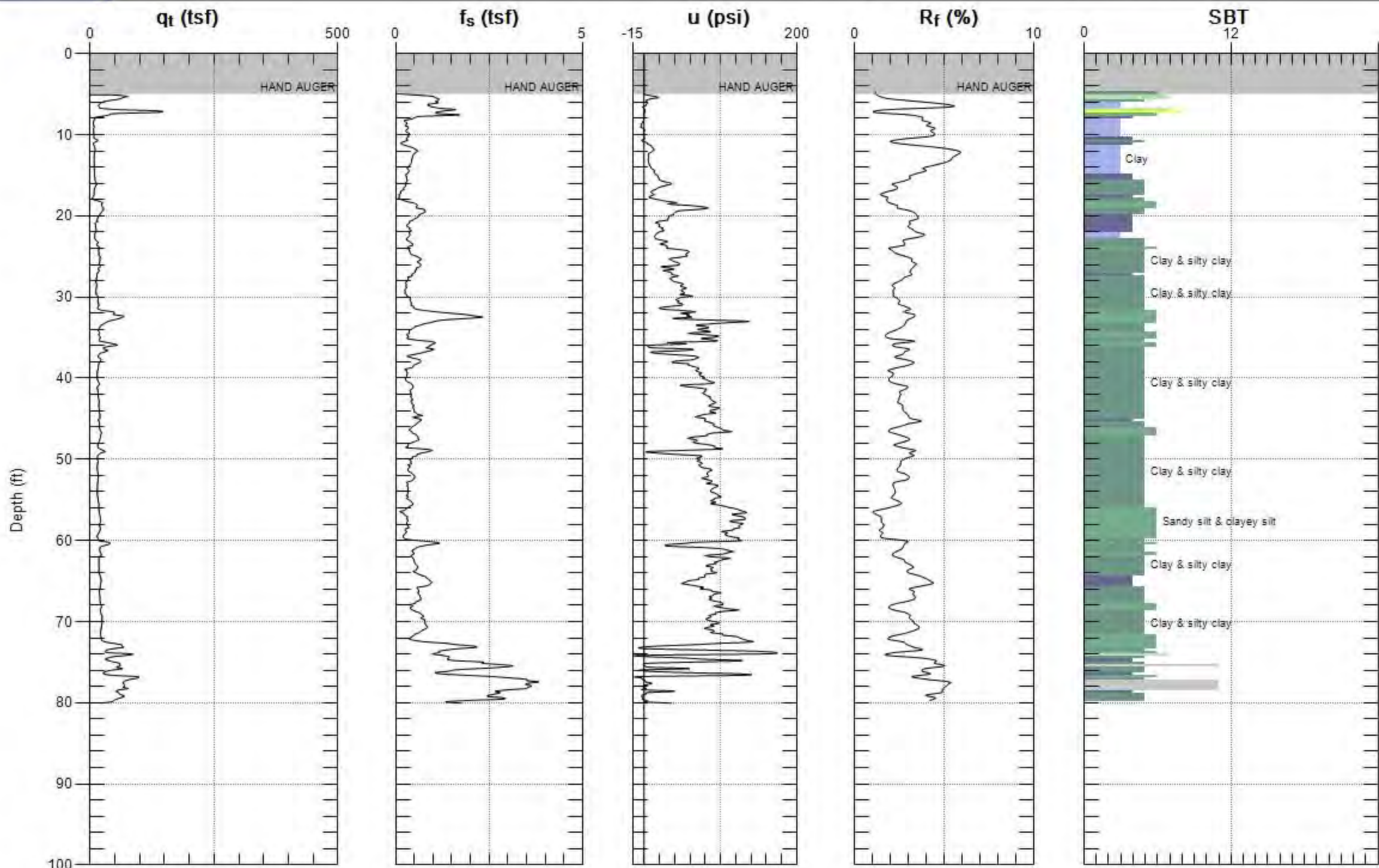
Strata lines represent the approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at times stated. Water levels may be different at other times.

CLIENT: HDR Engineering, Inc.
PROJECT NAME: San Francisquito Flood Control Project
CITY/STATE: Palo Alto/East Palo Alto, California
GEI PROJECT NUMBER: 092850



GEI Consultants
180 Grand Ave
Oakland Ca 94611
510-350-2900

GEOTECHNICAL BORING LOG 02_SF_CREEK_FLOOD_CONTROL.GPJ GEI DATA TEMPLATE.GDT 7/21/10



Max. Depth: 80.052 (ft)

Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

Lowney Associates (2002)

LNY-EB-5

EXPLORATORY BORING: EB-5

Sheet 1 of 2

DRILL RIG: FAILING 1500

BORING TYPE: ROTARY WASH

LOGGED BY: BAH

START DATE: 2-20-02

FINISH DATE: 2-20-02

PROJECT NO: 109-17

PROJECT: SAN FRANCISQUITO CREEK LEVEE

LOCATION: PALO ALTO, CA

COMPLETION DEPTH: 40.0 FT.

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)			
										○ Pocket Penetrometer	△ Torvane	● Unconfined Compression	▲ U-U Triaxial Compression
			SURFACE ELEVATION:										
	0		SANDY LEAN CLAY (CL) [FILL] hard, moist, brown, fine to medium sand, some fine to coarse gravel, low plasticity	CL, FILL	50/4"		12	114					
	5		very stiff										
	10		FAT CLAY (CH) [BAY MUD] medium stiff, moist, dark gray, trace organics, high plasticity	CH	18		34	86					
	15				15		50	75					
	20		LEAN CLAY (CL) medium stiff to stiff, moist to wet, bluish gray, some fine gravel, low to moderate plasticity	CL	10		23	104					
	25		color changes to brown with orange mottles		17		31	93					
	30				17		38	84					

Continued Next Page

GROUND WATER OBSERVATIONS:

NOT APPLICABLE DUE TO ROTARY WASH DRILLING METHOD

LA CORP GDT 7/2/02 MV-FLL

EXPLORATORY BORING: EB-5 Cont'd

Sheet 2 of 2

DRILL RIG: FAILING 1500

BORING TYPE: ROTARY WASH

LOGGED BY: BAH

START DATE: 2-20-02 FINISH DATE: 2-20-02

PROJECT NO: 109-17

PROJECT: SAN FRANCISQUITO CREEK LEVEE

LOCATION: PALO ALTO, CA

COMPLETION DEPTH: 40.0 FT.

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)			
										○ Pocket Penetrometer	△ Torvane	● Unconfined Compression	▲ U-U Triaxial Compression
			This log is a part of a report by Lowney Associates, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.										
	30		LEAN CLAY (CL) medium stiff to stiff, moist to wet, bluish gray, some fine gravel, low to moderate plasticity	CL									
	35		CLAYEY SAND WITH GRAVEL (SC) dense, moist, brown, fine to coarse sand, fine gravel	SC	42	×	15		23				
					46	×							
	40				54	×							
			Bottom of Boring at 40 feet										
	45												
	50												
	55												
	60												

GROUND WATER OBSERVATIONS:

NOT APPLICABLE DUE TO ROTARY WASH DRILLING METHOD

LA CORP GDT 7/2/02 MV-FLL

Lowney Associates (2000)

LNy-EB-103

LNy-EB-104

LNy-EB-107

LNy-EB-109

EXPLORATORY BORING: EB-103

Sheet 1 of 1

DRILL RIG: FAILING 1500

BORING TYPE: 4-7/8 INCH ROTARY WASH

LOGGED BY: JGH

START DATE: 8-24-00

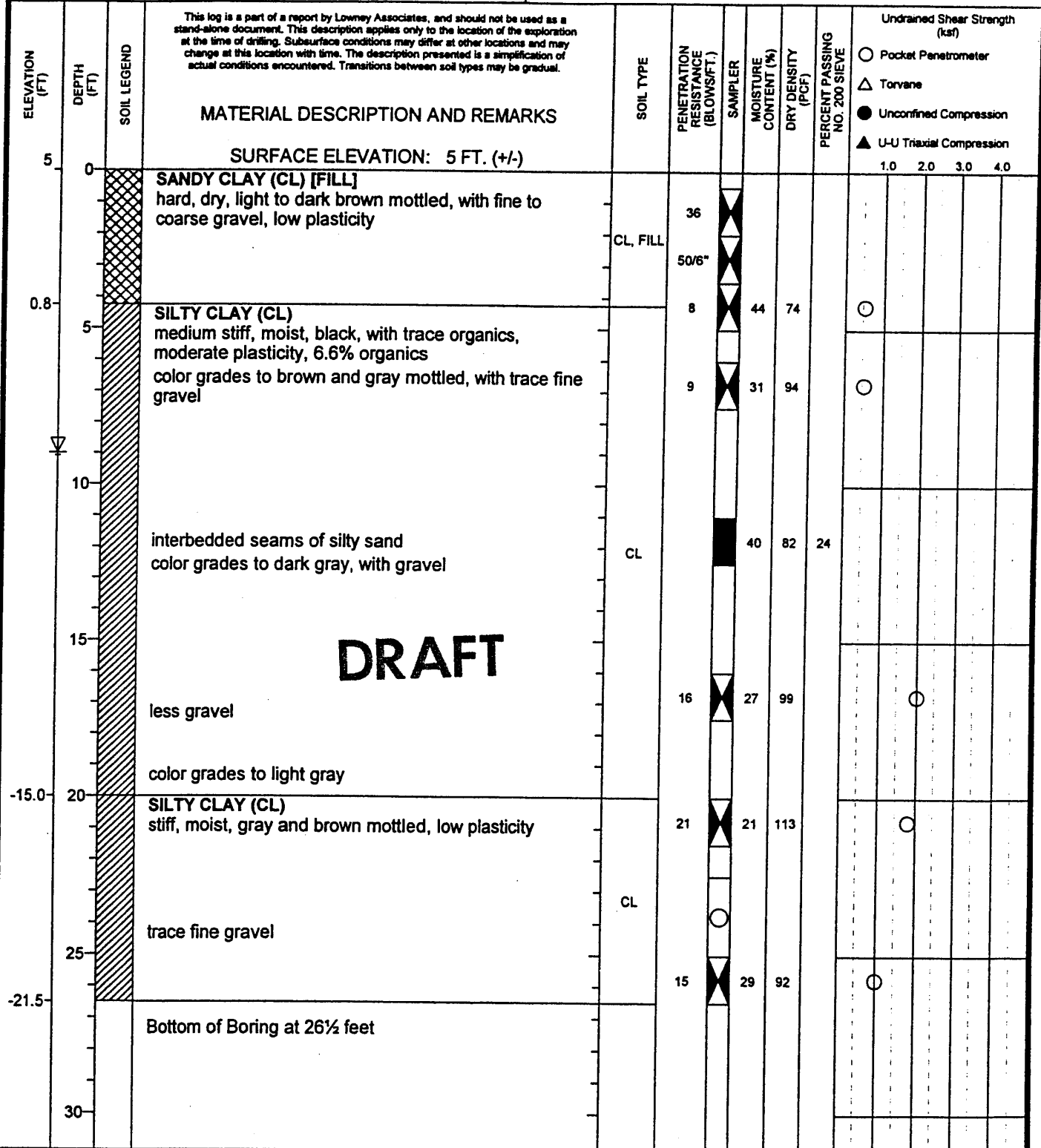
FINISH DATE: 8-24-00

PROJECT NO: 1636-1

PROJECT: TORRES PROPERTY, 1175 WEEKS STREET

LOCATION: EAST PALO ALTO, CA

COMPLETION DEPTH: 26.5 FT.



GROUND WATER OBSERVATIONS:

▽: FREE GROUND WATER MEASURED DURING DRILLING AT 9.0 FEET

Northing: 1,997,966

Easting: 6,089,270

LA CORP. GDT 1/15/01 MV-FLL

EXPLORATORY BORING: EB-104

Sheet 1 of 1

DRILL RIG: FAILING 1500

BORING TYPE: 4-7/8 INCH ROTARY WASH

LOGGED BY: JGH

START DATE: 8-24-00

FINISH DATE: 8-24-00

PROJECT NO: 1636-1

PROJECT: TORRES PROPERTY, 1175 WEEKS STREET

LOCATION: EAST PALO ALTO, CA

COMPLETION DEPTH: 6.5 FT.

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MATERIAL DESCRIPTION AND REMARKS

SURFACE ELEVATION:

SANDY CLAY (CL) [FILL]

very stiff, dry, light brown to dark brown, fine to coarse gravel

very stiff, moist

hard, asphalt

Bottom of Boring at 6½ feet

DRAFT

SOIL TYPE

PENETRATION
RESISTANCE
(BLOWS/FT.)

SAMPLER

MOISTURE
CONTENT (%)

DRY DENSITY
(PCF)

PERCENT PASSING
NO. 200 SIEVE

Undrained Shear Strength
(ksf)

○ Pocket Penetrometer

△ Torvane

● Unconfined Compression

▲ U-U Triaxial Compression

1.0 2.0 3.0 4.0

ELEVATION
(FT)

DEPTH
(FT)

SOIL LEGEND

0

5

10

15

20

25

30

CL, FILL

28

13

16

61

10

119

GROUND WATER OBSERVATIONS:

NO FREE GROUNDWATER ENCOUNTERED

Northing: 1,998,278

Easting: 6,089,166

EXPLORATORY BORING: EB-107

Sheet 1 of 1

DRILL RIG: MOBILE B-40

BORING TYPE: 8-INCH HOLLOW STEM AUGER

LOGGED BY: JK

START DATE: 10-27-00

FINISH DATE: 10-27-00

PROJECT NO: 1636-1

PROJECT: TORRES PROPERTY, 1175 WEEKS STREET

LOCATION: EAST PALO ALTO, CA

COMPLETION DEPTH: 20.0 FT.

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)			
										○ Pocket Penetrometer	△ Torvane	● Unconfined Compression	▲ U-U Triaxial Compression
9	0		SURFACE ELEVATION: 9 FT. (+/-)										
8.5	0		6-inches asphalt concrete	AC									
			SILTY CLAY (CL) [CEMENT TREATED] very stiff, moist, dark brown, visible seams of cement mixing, low plasticity		50/5"	×	37	72					
					50/5"	×	38	77					
	5				49	×	43	73					
				CL	54	×	23	102					
	10				50/6"	×	38	82					
			5.8 ksf Unconfined Compression		50/3"	×	39	70					
	15												
-9.3			SILTY CLAY (CL) stiff, moist, dark and light brown mottled, low plasticity	CL	20	×	57						
-11.0	20		Bottom of Boring at 20 feet		27	×							
	25												
	30												

DRAFT

GROUND WATER OBSERVATIONS:

NO FREE GROUNDWATER ENCOUNTERED

Northing: 1,998,571

Easting: 6,089,040

LA CORP.GDT 2/22/01 MW-FLL

Sheet 1 of 1

PROJECT NO: 1636-1

PROJECT: TORRES PROPERTY, 1175 WEEKS STREET

LOCATION: EAST PALO ALTO, CA

COMPLETION DEPTH: 16.5 FT.



Easting: 6,089,150

PRIMARY DIVISIONS			SOIL TYPE		SECONDARY DIVISIONS
COARSE GRAINED SOILS MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS (Less than 5% Fines)	GW		Well graded gravels, gravel-sand mixtures, little or no fines
			GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
		GRAVEL WITH FINES	GM		Silty gravels, gravel-sand-silt mixtures, plastic fines
			GC		Clayey gravels, gravel-sand-clay mixtures, plastic fines
	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS (Less than 5% Fines)	SW		Well graded sands, gravelly sands, little or no fines
			SP		Poorly graded sands or gravelly sands, little or no fines
		SANDS WITH FINES	SM		Silty sands, sand-silt-mixtures, non-plastic fines
			SC		Clayey sands, sand-clay mixtures, plastic fines
FINE GRAINED SOILS MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT IS LESS THAN 50 %		ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
			CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL		Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS LIQUID LIMIT IS GREATER THAN 50 %		MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
			CH		Inorganic clays of high plasticity, fat clays
			OH		Organic clays of medium to high plasticity, organic silts
			HIGHLY ORGANIC SOILS		PT

DEFINITION OF TERMS

U.S. STANDARD SIEVE SIZE				CLEAR SQUARE SIEVE OPENINGS			
200	40	10	4	3/4"	3"	12"	
SILTS AND CLAY	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		
0.08	0.4	2	5	19	76mm		

GRAIN SIZES

	TERZAGHI SPLIT SPOON STANDARD PENETRATION		MODIFIED CALIFORNIA		D&M UNDERWATER SAMPLER		SHELBY TUBE		NO RECOVERY

SAMPLERS

SAND AND GRAVEL	BLOWS/FOOT*
VERY LOOSE	0-4
LOOSE	4-10
MEDIUM DENSE	10-30
DENSE	30-50
VERY DENSE	OVER 50

RELATIVE DENSITY

SILTS AND CLAYS	STRENGTH+	BLOWS/FOOT*
VERY SOFT	0-1/4	0-2
SOFT	1/4-1/2	2-4
MEDIUM STIFF	1/2-1	4-8
STIFF	1-2	8-16
VERY STIFF	2-4	16-32
HARD	OVER 4	OVER 32

CONSISTENCY

*Number of blows of 140 pound hammer falling 30 inches to drive a 2-inch O.D. (1-3/8 inch I.D.) split spoon (ASTM D-1586).
+Unconfined compressive strength in tons/sq.ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D-1586), pocket penetrometer, torvane, or visual observation.

KEY TO EXPLORATORY BORING LOGS

Unified Soil Classification System (ASTM D-2487)

EXPLORATORY BORING: EB-103

Sheet 1 of 1

DRILL RIG: FAILING 1500

BORING TYPE: 4-7/8 INCH ROTARY WASH

LOGGED BY: JGH

START DATE: 8-24-00

FINISH DATE: 8-24-00

PROJECT NO: 1636-1

PROJECT: TORRES PROPERTY, 1175 WEEKS STREET

LOCATION: EAST PALO ALTO, CA

COMPLETION DEPTH: 26.5 FT.

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MATERIAL DESCRIPTION AND REMARKS										
SURFACE ELEVATION: 5 FT. (+/-)										
SANDY CLAY (CL) [FILL] hard, dry, light to dark brown mottled, with fine to coarse gravel, low plasticity										
CL, FILL										
SILTY CLAY (CL) medium stiff, moist, black, with trace organics, moderate plasticity, 6.6% organics color grades to brown and gray mottled, with trace fine gravel										
CL										
interbedded seams of silty sand color grades to dark gray, with gravel										
less gravel										
color grades to light gray										
SILTY CLAY (CL) stiff, moist, gray and brown mottled, low plasticity										
CL										
trace fine gravel										
Bottom of Boring at 26½ feet										

Undrained Shear Strength (ksf)										
○ Pocket Penetrometer △ Torvane ● Unconfined Compression ▲ U-U Triaxial Compression										
1.0 2.0 3.0 4.0										
36	50/6"	8	9	40	16	21	15			
		44	31	82	27	21	29			
		74	94	24	99	113	92			
										</

DRAFT

GROUND WATER OBSERVATIONS:

▽: FREE GROUND WATER MEASURED DURING DRILLING AT 9.0 FEET

Northing: 1,997,966

Easting: 6,089,270

LA CORP. GDT 1/15/01 MV-FLL

PRIMARY DIVISIONS			SOIL TYPE		SECONDARY DIVISIONS
COARSE GRAINED SOILS MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS (Less than 5% Fines)	GW		Well graded gravels, gravel-sand mixtures, little or no fines
			GP		Poorly graded gravels or gravel-sand mixtures, little or no fines
		GRAVEL WITH FINES	GM		Silty gravels, gravel-sand-silt mixtures, plastic fines
			GC		Clayey gravels, gravel-sand-clay mixtures, plastic fines
	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS (Less than 5% Fines)	SW		Well graded sands, gravelly sands, little or no fines
			SP		Poorly graded sands or gravelly sands, little or no fines
		SANDS WITH FINES	SM		Silty sands, sand-silt-mixtures, non-plastic fines
			SC		Clayey sands, sand-clay mixtures, plastic fines
FINE GRAINED SOILS MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT IS LESS THAN 50 %		ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
			CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL		Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS LIQUID LIMIT IS GREATER THAN 50 %		MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
			CH		Inorganic clays of high plasticity, fat clays
			OH		Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS			PT		Peat and other highly organic soils

DEFINITION OF TERMS

U.S. STANDARD SIEVE SIZE			CLEAR SQUARE SIEVE OPENINGS			
200	40	10	4	3/4"	3"	12"
SILTS AND CLAY	SAND			GRAVEL		COBBLES
	FINE	MEDIUM	COARSE	FINE	COARSE	
						BOULDERS

GRAIN SIZES



TERZAGHI
SPLIT SPOON
STANDARD PENETRATION



MODIFIED CALIFORNIA



D&M
UNDERWATER
SAMPLER



SHELBY TUBE



NO RECOVERY

SAMPLERS

SAND AND GRAVEL	BLOWS/FOOT*
VERY LOOSE	0-4
LOOSE	4-10
MEDIUM DENSE	10-30
DENSE	30-50
VERY DENSE	OVER 50

RELATIVE DENSITY

SILTS AND CLAYS	STRENGTH+	BLOWS/FOOT*
VERY SOFT	0-1/4	0-2
SOFT	1/4-1/2	2-4
MEDIUM STIFF	1/2-1	4-8
STIFF	1-2	8-16
VERY STIFF	2-4	16-32
HARD	OVER 4	OVER 32

CONSISTENCY

*Number of blows of 140 pound hammer falling 30 inches to drive a 2-inch O.D. (1-3/8 inch I.D.) split spoon (ASTM D-1586).
+Unconfined compressive strength in tons/sq.ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D-1586), pocket penetrometer, torvane, or visual observation.

KEY TO EXPLORATORY BORING LOGS

Unified Soil Classification System (ASTM D-2487)

Earth Systems (1983)

ES-B-1

ES-B-4

ES-B-5

ES-B-6

ES-B-7

ES-B-8

DEPTH IN FEET	SAMPLE NO	LOG & LOCATION OF SAMPLE	Penetration Resistance Blows/ft	DESCRIPTION	IN-PLACE		
					DRY DENSITY pcf.	MOISTURE CONTENT % dry wt	
0				Boring 1 - Elevation 110±			
				FILL: Light brown silty CLAY with occasional gravel, slightly damp, hard (CL)			
	1-1-1		45	-brown sandy silt (ML)	4.5+	98	10.5
5	1-1-2				○ 108		15.0
				-medium stiff			
	1-2-1		4	-medium orange-brown clayey SILT, saturated, soft (ML)	▽ 87		33.0
	1-2-2				○ 91		31.2
	1-2-3				○ 84		36.5
10				NATURAL GROUND: Dark to medium grey organic silty CLAY with peat, medium stiff (OH) (BAY MUD)	0.25		
					○ 0.85		
	1-3		9		0.75	74	45.4
15					○		
	1-4-1		27	Greenish-grey sandy CLAY with caliche, stiff (CL)	1.75		
20	1-4-2			-very stiff	○ 108		20.3
				Greenish-brown (mottled) sandy CLAY, very stiff (CL)	3.0	126	16.2
					○		
25				-very stiff to hard			
	1-5-1		19	Orange-brown clayey SAND to silty SAND, medium dense (SC-SM)	107		21.5
30	1-5-2				103		23.6
	1-6			Orange-brown sandy CLAY, stiff (CL)			
				Medium dark orange-brown sandy CLAY with fine gravel, very stiff (CL)			
	1-7-1				121		11.7
	1-7-2		51	Orange-brown sandy GRAVEL, dense (GP)	121		12.8

continued...

DEPTH IN FEET	SAMPLE NO.	LOG & LOCATION OF SAMPLE	Penetration Resistance Blows/ft	DESCRIPTION	IN - PLACE	
					DRY DENSITY p.c.f.	MOISTURE CONTENT % dry wt.
35				Boring 1 - continued		
40				Orange-brown sandy GRAVEL ($\frac{1}{4}$ - 1") with varying clay binder, saturated, dense (GP-GC)		
45	1-8		60	-with trace clay binder	115	12.1
50				Boring terminated at 44½ feet. Drilled on September 19, 1983.		

DEPTH IN FEET	SAMPLE NO.	LOG & LOCATION OF SAMPLE	Penetration Resistance Blows/ft	DESCRIPTION	IN-PLACE	
					DRY DENSITY p.c.f.	MOISTURE CONTENT % dry wt.
0				Boring 2 - Elevation 110±		
2-A				FILL: Light brown silty CLAY with occasional gravel, slightly damp, very stiff-hard (CL)		
2-1			28	-grey and medium brown mottled silty CLAY with minor organics, moist, very stiff (CL) 3.0	105	20.4
2-2			22	-dark grey clayey SILT moist, very stiff (ML) 3.75	108	18.8
2-3			10	NATURAL GROUND: Dark grey silty CLAY with sandy SILT seams, medium stiff (OH) (BAY MUD) 0.6	77	42.0
2-4			27	Greenish-grey sandy CLAY with caliche, stiff-very stiff (CL) 3.5	103	22.6
				Boring terminated at 20 feet. Drilled on September 19, 1983.		

DEPTH IN FEET	SAMPLE NO.	LOG & LOCATION OF SAMPLE	Penetration Resistance Blows/ft	DESCRIPTION	IN-PLACE	
					DRY DENSITY p.c.f.	MOISTURE CONTENT % dry wt.
0.				Boring 3 - Elevation 111±		
3-1			27	FILL: Medium brown silty CLAY with gravel, damp, very stiff-hard (CL) ○ 4.0	120	14.0
3-2			42	Dark brown silty CLAY with minor silty sand pockets, minor gravel, moist, hard (CL) ○ 4.5+ ▽	115	13.8
3-3-1 3-3-2			8	Dark grey to black silty CLAY with organics, medium stiff (OH) (BAY MUD) ○ 0.75	56 47	73.1 89.3
3-4			25	Greenish-grey sandy CLAY with minor fine gravel, caliche, very stiff (CL) 3.0 ○	109	20.2
20.				Boring terminated at 20 feet. Drilled on September 19, 1983.		
25.						

DEPTH IN FEET	SAMPLE NO.	LOG & LOCATION OF SAMPLE	Penetration Resistance Blows/ft	DESCRIPTION	IN-PLACE	
					DRY DENSITY p.c.f.	MOISTURE CONTENT % dry wt.
0.				Boring 4 - Elevation 108±		
4-1			19	FILL: Brown silty CLAY with minor gravel, and varying amounts of grey silty CLAY, slightly damp, very stiff (CL) 4.5 ○	110	8.6
4-2			14	FILL/TRANSITION ZONE: Black silty CLAY with minor brown sandy clay, medium stiff-stiff (OH) NATURAL GROUND: Dark grey organic silty CLAY with abundant organics, wet, medium stiff-stiff (OH) (BAY MUD) 1.1 ○	74	43.5
4-3-1			8	Greenish-grey organic silty CLAY, medium stiff (CL) 0.75 ○	77	41.7
4-3-2			12	Dark grey silty CLAY with organics, stiff (OH) (BAY MUD) 1.5 ○	85	36.5
4-4			40	Greenish-grey sandy CLAY with caliche, very stiff (CL) -brownish-grey silty CLAY with sand minor gravel, caliche, very stiff 3.5 ○	112	18.3
				Boring terminated at 24 feet. Drilled on September 19, 1983.		

DEPTH IN FEET	SAMPLE NO	LOG & LOCATION OF SAMPLE	Penetration Resistance Blows/ft	DESCRIPTION	IN-PLACE	
					DRY DENSITY p.c.f.	MOISTURE CONTENT % dry wt
0				Boring 5 - Elevation 112±		
5	5-1		13	FILL: Brown sandy SILT to silty SAND and black silty CLAY, moist, stiff (ML) 1.5 ○	97	21.8
10	5-2		8	-dark brown sandy SILT with minor black silty clay, moist, medium stiff (ML) -saturated ▽	100	24.6
15	5-3-1 5-3-2		9	NATURAL GROUND: medium to dark grey silty CLAY with minor organics, medium stiff (OH) (BAY MUD) 0.75 ○	61 66	61.2 53.0
20	5-4		12	Greenish-grey silty CLAY with fine sand, moist to medium stiff to stiff (CL) 1.5 ○ 0.75 ○	91	31.3
25	5-5-1 5-5-2		17	Orange-brown silty CLAY with caliche, very stiff (CL) Mottled brown alternating sandy SILT and sandy CLAY, stiff (ML-CL) 1.0 ○	100 99	25.0 25.7
30	5-6		27	Mottled grey-brown sandy CLAY with caliche, very stiff (CL) 2.0 ○	99	25.6
				Brown clayey GRAVEL, dense (GC)		
				Mottled brown sandy CLAY (CL)		

continued...

DEPTH IN FEET	SAMPLE NO.	LOG & LOCATION OF SAMPLE	Penetration Resistance Blows/ft	DESCRIPTION	IN - PLACE	
					DRY DENSITY p.c.f.	MOISTURE CONTENT % dry wt.
35				Boring 5 - continued		
36				Mottled brown sandy CLAY, very stiff (CL)		
37						
38						
39						
40	5-7		38	Brown sandy GRAVEL (fine, minor coarse) with varying clay binder, dense (GP)	121	14.1
41						
42						
43						
44						
45				Greenish-grey silty CLAY, very stiff (CL)		
46						
47						
48						
49						
50	5-8		27	2.25 ○	97	27.6
51				Boring terminated at 50 feet. Drilled on September 19, 1983.		
52						
53						
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						

DEPTH IN FEET	SAMPLE NO.	LOG & LOCATION OF SAMPLE	Penetration Resistance Blows/ft	DESCRIPTION	IN- PLACE	
					DRY DENSITY p.c.f.	MOISTURE CONTENT % dry wt.
0.				Boring 6 - Elevation 110±		
1.5				FILL: Orange-brown sandy SILT, slightly damp, stiff (ML)		
6-1			12	-dark grey silty CLAY with occasional orange-brown sandy SILT, moist, stiff (CH)	75	41.8
6-2			13	-dark grey silty CLAY with minor tan sandy SILT to silty SAND, occasional fine gravel, moist stiff	92	28.0
				NATURAL GROUND: Dark grey organic silty CLAY, medium stiff (OH) (BAY MUD)		
6-3			25	Greenish-grey CLAY sandy, very stiff, with abundant fine gravel (CL)	116	16.3
6-4			22	Orange-brown sandy fine gravel-gravelly coarse SAND, dense (GP)		
25.				Boring terminated at 25 feet. Drilled on September 19, 1983.		

DEPTH IN FEET	SAMPLE NO.	LOG & LOCATION OF SAMPLE	Penetration Resistance Blows/ft	DESCRIPTION	IN-PLACE	
					DRY DENSITY p.c.f.	MOISTURE CONTENT % dry wt.
0				Boring 7 - Elevation 109±		
7-B				FILL: Grey silty CLAY with minor brown sandy SILT, occasional gravel, damp, stiff (CH)		
7-1			14	-dark grey silty CLAY with organics, occasional orange-brown sandy silt, moist, stiff (OH) 1.35 ○	80	38.3
7-2			12	NATURAL GROUND: dark to medium grey silty CLAY with organics, saturated, stiff (OH) (BAY MUD) 1.15 ○	76	43.9
				Greenish-grey sandy CLAY with caliche, moist, stiff-very stiff (CL)		
7-3			24	Grey-brown silty CLAY, moist, very stiff (CL) 2.25 ○	110	19.1
				Boring terminated at 20 feet. Drilled on September 19, 1983.		

DEPTH IN FEET	SAMPLE NO.	LOG & LOCATION OF SAMPLE	Penetration Resistance Blows/ft	DESCRIPTION	IN-PLACE	
					DRY DENSITY p.c.f.	MOISTURE CONTENT % dry wt.
0.				Boring 8 - Elevation 109±		
1.	8-1		10	FILL: Medium grey silty CLAY with ½" shrinkage cracks (CH) -dark grey and orange-brown mottled silty CLAY with sand, gravel, slightly damp, very stiff (CH)	4.5+ ○	106 10.9
2.						
3.						
4.						
5.						
6.						
7.	8-2		13	-moist -dark grey silty CLAY with minor tan sandy SILT, moist, stiff (OH)	0.85 ○ 1.25	94 27.1
8.						
9.						
10.						
11.	8-3-1		11	NATURAL GROUND: Greenish-brown silty CLAY with organics, medium stiff (OH) (BAY MUD)	▽ 0.05	90 33.4
12.	8-3-2				○ 0.75	
13.						
14.						
15.						
16.						
17.						
18.	8-4		19	Grey-brown silty CLAY with caliche, very stiff (CL)	2.25 ○	101 24.1
19.						
20.				Boring terminated at 20 feet. Drilled on September 19, 1983.		
21.						
22.						
23.						
24.						
25.						
26.						
27.						
28.						
29.						
30.						

AMEC/Geomatrix (2009)

RSD-1

RSD-2

RSD-3

PROJECT: 1990 BAY ROAD SITE East Palo Alto, California					Boring Log Explanation			
BORING LOCATION:					ELEVATION AND DATUM:			
DRILLING CONTRACTOR:					DATE STARTED:		DATE FINISHED:	
DRILLING METHOD:					TOTAL DEPTH (ft.):		MEASURING POINT:	
DRILLING EQUIPMENT:					DEPTH TO WATER (ft.):		FIRST	COMPL.
SAMPLING METHOD:					LOGGED BY:			
HAMMER WEIGHT:			DROP:		RESPONSIBLE PROFESSIONAL:		REG. NO.	
DEPTH (feet)	SAMPLES			OVM READING (ppm)	DESCRIPTION		REMARKS	
	Sample No.	Sample Blows/ Foot			NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.			
					Surface Elevation:			
1					Notes: 1. Soil described using visual-manual procedures of American Society of Testing and Materials (ASTM) Standard D 2488 for guidance; a Standard based on the Unified Soil Classification System. 2. Soil color described according to Munsell Color Chart.			
2								
3					3. Dashed lines separating soil strata represent inferred boundaries between sampled intervals that may be abrupt or gradual transitions.			
4								
5					4. Solid lines represent approximate boundaries observed within sample intervals. 5. OVM = organic vapor meter, reading in volumetric parts per million (ppm). 6. Odor, if noted is subjective and not necessarily indicative of specific compounds or concentrations. 7. NA = not applicable. 8. ND = no data.			
6								
7								
8								
9					Interval of recovered soil collected with a continuous core sampler.			
10								
11					Interval of no recovery.			
12								
13								
14								
15								
					KEYFORM (REV. 6/2008)			
AMEC Geomatrix					Project No. 1220.000/505		Page 1 of 1	

PROJECT: 1990 BAY ROAD SITE East Palo Alto, California					Log of Boring No. RSD-1			
BORING LOCATION: On levee, end of Runnymede Street					ELEVATION AND DATUM: Not surveyed; datum is ground surface			
DRILLING CONTRACTOR: PeneCore Drilling					DATE STARTED: 11/16/09		DATE FINISHED: 11/16/09	
DRILLING METHOD: Direct push					TOTAL DEPTH (ft.): 20.0		MEASURING POINT: Ground surface	
DRILLING EQUIPMENT: Geoprobe 6600					DEPTH TO WATER (ft.)		FIRST 10.5	COMPL. NA
SAMPLING METHOD: Geoprobe DT-22 dual-tube sampling system [5' x 2.25"]					LOGGED BY: M. Gilmore			
HAMMER WEIGHT: NA			DROP: NA		RESPONSIBLE PROFESSIONAL: M. Gilmore		REG. NO. PG 8492	

DEPTH (feet)	SAMPLES			OVM READING (ppm)	DESCRIPTION	REMARKS
	Sample No.	Sample	Blows/ Foot		NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	
					Surface Elevation: Not surveyed	
					ASPHALTIC CONCRETE : (2 inches thick)	
1					CLAYEY SAND with GRAVEL (SC): very dark grayish brown (10YR 3/2), moist, 40% fine to coarse sand, 35% fine gravel, 25% low plasticity fines	Composite soil sample RSD-1-2.5 collected by compositing soil from 0 to 2.5 feet bgs.
2					LEAN CLAY with SAND (CL): dark grayish brown (10YR 4/2) with trace mottles of black (10YR 2/1) and light gray (10YR 7/2), moist, 80% fines, 20% fine to coarse sand, low plasticity, firm	Composite soil sample RSD-1-7.5 collected by compositing soil from 5 to 7.5 feet bgs.
3						Composite soil sample RSD-1-11.5 collected by compositing soil from 10 to 11.5 feet bgs.
4						
5					85% fines, 15% fine to coarse sand	
6						Grab groundwater sample RSD-1U and RSD-1F collected through 10 feet of 1-inch OD Sch. 40 PVC screen (0.010-inch slot size) placed in borehole from 10 to 20 feet bgs. Drive casing retracted from bottom of boring to 10 feet bgs to maintain surface seal.
7					soft dark gray (10YR 4/1), 80% fines, 20% fine to coarse sand, slight hydrocarbon odor	
8						
9						
10					dark gray (N 4/), hydrocarbon odor	
11					CLAYEY SAND (SC): wet, no odor black (10YR 2/1) mottled with dark gray (10YR 4/1), 85% fines, 15% fine to coarse sand, no odor	
12						
13						
14						
15						

PROJECT: 1990 BAY ROAD SITE
East Palo Alto, California

Log of Boring No. RSD-1 (cont'd)

DEPTH (feet)	SAMPLES			OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
	Sample No.	Sample	Blows/ Foot			
16					↓ grayish brown (10YR 5/2) with trace mottles of dark yellowish brown (10YR 4/6), moist, soft LEAN CLAY with SAND (CL): cont'd	Composite soil sample RSD-1-17.5 collected by compositing soil from 15 to 17.5 feet bgs.
17					LEAN CLAY (CL): very dark gray (10YR 3/1), moist, 95% fines, 5% fine sand, low to medium plasticity, firm	
18						
19						
20					Bottom of boring at 20.0 feet	Borehole destroyed using Type I-II neat cement grout placed from total depth to ground surface with a tremie pipe.
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						

OAKBORE (REV. 6/2008)

PROJECT: 1990 BAY ROAD SITE East Palo Alto, California					Log of Boring No. RSD-2				
BORING LOCATION: On levee, end of Runnymede Street					ELEVATION AND DATUM: Not surveyed; datum is ground surface				
DRILLING CONTRACTOR: PeneCore Drilling					DATE STARTED: 11/16/09		DATE FINISHED: 11/16/09		
DRILLING METHOD: Direct push					TOTAL DEPTH (ft.): 15.0		MEASURING POINT: Ground surface		
DRILLING EQUIPMENT: Geoprobe 6600					DEPTH TO WATER (ft.)		FIRST NA		COMPL. NA
SAMPLING METHOD: Geoprobe DT-22 dual-tube sampling system [5' x 2.25"]					LOGGED BY: M. Gilmore				
HAMMER WEIGHT: NA			DROP: NA		RESPONSIBLE PROFESSIONAL: M. Gilmore			REG. NO. PG 8492	

DEPTH (feet)	SAMPLES			OVM READING (ppm)	DESCRIPTION	REMARKS
	Sample No.	Sample	Blows/ Foot		NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	
					Surface Elevation: Not surveyed	
1					ASPHALTIC CONCRETE : (2 inches thick)	Composite soil sample RSD-2-3.0 collected by compositing soil from 0 to 3.0 feet bgs.
					CLAYEY SAND with GRAVEL (SC): very dark grayish brown (10YR 3/2), moist, 50% fine to coarse sand, 35% fine gravel, 15% low plasticity fines	
2					CLAYEY GRAVEL (GC): black (10YR 2/1), moist, 50% fine to coarse gravel, 40% low plasticity fines, 10% fine to coarse sand	
3					POORLY-GRADED SAND with CLAY (SP-SC): dark yellowish brown (10YR 4/6), moist, 90% fine to coarse sand, 10% low plasticity fines	Composite soil sample RSD-2-7.5 collected by compositing soil from 5 to 7.5 feet bgs.
4					LEAN CLAY (CL): black (10YR 2/1) with trace mottles of brown (10YR 4/3), moist, 90% fines, 10% fine to coarse sand, low plasticity, firm	Composite soil sample RSD-2-13 collected by compositing soil from 10 to 13 feet bgs.
5						
6						
7					↓ black (10YR 2/1) mottled with dark gray (N 4/), soft	Grab groundwater sample RSD-2U and RSD-2F collected through 5 feet of 1-inch OD Sch. 40 PVC screen (0.010-inch slot size) placed in borehole from 10 to 15 feet bgs.
8						
9					LEAN CLAY with SAND (CL): gray (N 5/), moist, 85% fines, 15% fine to coarse sand, low plasticity, firm	
10						
11					↓ mottled with brown (10YR 4/3), 80% fines, 20% fine to coarse sand, soft	
12					↓ 85% fines, 15% fine to coarse sand, firm	
13					↓ soft	
14						Borehole destroyed using Type I-II neat cement grout placed from total depth to ground surface with a tremie pipe.
15					Bottom of boring at 15.0 feet	

AMEC Geomatrix

OAKBORE (REV. 6/2008)
 Project No. 1220.000/505 Page 1 of 1

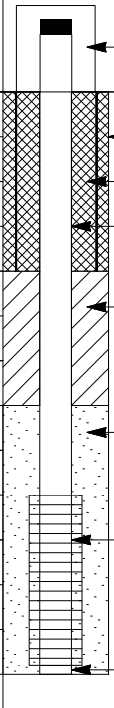
PROJECT: 1990 BAY ROAD SITE East Palo Alto, California					Log of Boring No. RSD-3				
BORING LOCATION: On levee, end of Runnymede Street					ELEVATION AND DATUM: Not surveyed; datum is ground surface				
DRILLING CONTRACTOR: PeneCore Drilling					DATE STARTED: 11/16/09		DATE FINISHED: 11/16/09		
DRILLING METHOD: Direct push					TOTAL DEPTH (ft.): 15.0		MEASURING POINT: Ground surface		
DRILLING EQUIPMENT: Geoprobe 6600					DEPTH TO WATER (ft.)		FIRST NA	COMPL. NA	
SAMPLING METHOD: Geoprobe DT-22 dual-tube sampling system [5' x 2.25"]					LOGGED BY: M. Gilmore				
HAMMER WEIGHT: NA			DROP: NA		RESPONSIBLE PROFESSIONAL: M. Gilmore			REG. NO. PG 8492	

DEPTH (feet)	SAMPLES			OVM READING (ppm)	DESCRIPTION	REMARKS
	Sample No.	Sample	Blows/ Foot		NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	
					Surface Elevation: Not surveyed	
1					CLAYEY SAND with GRAVEL (SC): dark grayish brown (10YR 4/2), moist, 60% fine to coarse sand, 25% fine to coarse gravel, 15% low plasticity fines	Composite soil sample RSD-3-1.5 collected by compositing soil from 0 to 1.5 feet bgs.
2					CLAYEY GRAVEL (GC)	
3						
4					LEAN CLAY (CL): black (10YR 2/1), moist, 90% fines, 10% fine to coarse sand, medium plasticity, soft	Composite soil sample RSD-3-8.5 collected by compositing soil from 5 to 8.5 feet bgs.
5						Composite soil sample RSD-3-13 collected by compositing soil from 10 to 13 feet bgs.
6					firm	
7					soft	
8					LEAN CLAY with SAND (CL): gray (10YR 5/1) mottled with brown (10YR 4/3), moist, 80% fines, 20% fine to coarse sand, low plasticity, firm	Grab groundwater sample RSD-3U and RSD-3F collected through 5 feet of 1-inch OD Sch. 40 PVC screen (0.010-inch slot size) placed in borehole from 10 to 15 feet bgs.
9						
10						
11					75% fines, 25% fine to coarse sand, soft	Borehole destroyed using Type I-II neat cement grout placed from total depth to ground surface with a tremie pipe.
12					85% fines, 15% fine to medium sand, contains rootlets	
13						
14						
15					Bottom of boring at 15.0 feet	

Amec (2011)

W-135A

PROJECT: 1990 BAY ROAD SITE East Palo Alto, California						Log of Well No. W-135A			
BORING LOCATION: Lat: 37.4688487; Long: -122.1270436						GROUND SURFACE ELEVATION AND DATUM: 4.58' (NAVD 88)			
DRILLING CONTRACTOR: PeneCore Drilling						DATE STARTED: 10/7/11		DATE FINISHED: 10/7/11	
DRILLING METHOD: Hand auger						TOTAL DEPTH (ft.): 6.5		SCREEN INTERVAL (ft.): 4.5-6.4	
DRILLING EQUIPMENT: Hand auger						DEPTH TO WATER: 4.7	FIRST NA	COMPL. NA	CASING: 2" Sch. 40 PVC
SAMPLING METHOD: Hand auger						LOGGED BY: M. Calhoun			
HAMMER WEIGHT: NA			DROP: NA			RESPONSIBLE PROFESSIONAL: M. Calhoun			REG. NO. PG 8525

DEPTH (feet)	SAMPLES				OVM Reading	DESCRIPTION	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Sample No.	Sample	Blows/ Foot	Foot		NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	
						Surface Elevation: 4.58' (NAVD 88)	
0						GRAVELLY LEAN CLAY (CL): dark grayish brown (10YR 4/2), moist, 70% fines, 20% fine to coarse gravel, 10% fine to coarse sand, low plasticity, soft	 Locking steel monument 6" diameter borehole Neat cement grout 2" diameter Schedule 40 PVC casing Bentonite chip seal #2/12 filter pack sand Prepacked Schedule 40 PVC screen, 2-inch inside diameter, 3-inch outside diameter, 0.010-inch slot size Schedule 40 PVC endcap
1				0			
2				0		55% fines, 35% gravel, 10% sand	
3				0		LEAN CLAY with SAND (CL): dark greenish gray (10Y 4/1) mottled with black (N 2.5/), moist, 85% fines, 15% fine to medium sand, trace coarse sand, low plasticity, firm, hydrocarbon odor	
4				0			
5				0		SILTY SAND (SM): light olive brown (2.5Y 5/4), wet, 85% fine sand, 15% nonplastic fines	
6				0		POORLY-GRADED SAND (SP)	
6				0		LEAN CLAY (CL)	
7						Bottom of boring at 6.5 feet	
8							
9							
10							
11							
12							
13							
14							
15							

Notes:

- Boring location coordinates are based on North American Datum of 1983.
- OVM = MiniRAE 2000 PID calibrated with 100 ppm isobutylene standard.



I:\PROJECT\...1220\GINT LOGS\DRAWING FILES\W-135a_WELL.GDW OAKWELLY (REV. 8/2011)

Project No. 0012200000.00310 Page 1 of 1

Amec (2011)

W-142

PROJECT: 1990 BAY ROAD SITE AND VICINITY
East Palo Alto, California

Log of Well No. W-142

BORING LOCATION: SE portion of site along levee

GROUND SURFACE ELEVATION AND DATUM:
7.37' MSL (NGVD29)

DRILLING CONTRACTOR: HEW Drilling Company

DATE STARTED:
8/2/01

DATE FINISHED:
8/3/01

DRILLING METHOD: Hollow-stem auger

TOTAL DEPTH (ft.):
38.5

SCREEN INTERVAL (ft.):
28-36.9

DRILLING EQUIPMENT: CME-75/CME-95

DEPTH TO FIRST
WATER: 8.0

COMPL.
ND

CASING:
Sch. 40 PVC

SAMPLING METHOD: CME continuous core system [5' x 3"]

LOGGED BY:
T. Loar

HAMMER WEIGHT: NA

DROP: NA

RESPONSIBLE PROFESSIONAL:
J. Carolan

REG. NO.
CHG 589

DEPTH (feet)	SAMPLES			OVM Reading	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Sample No.	Sample Blows/ Foot	Foot			
					Surface Elevation: 7.37' MSL	
1				0	SILTY SAND with GRAVEL (SM): yellowish brown (10YR 5/4), dry, 65% fine to coarse sand, 20% low plasticity fines, 15% fine angular gravel [FILL]	Traffic Box
2					bluish gray (10B 5/1)	14" diameter borehole
3					SANDY LEAN CLAY (CL): black (10YR 2/1), moist, 70% fines, 30% fine sand, trace coarse sand, trace fine rounded gravel, medium plasticity, firm [FILL]	10-3/4" diameter steel conductor casing
4				0	LEAN CLAY with SAND (CL): black (10YR 2/1), moist, 80% fines, 20% fine sand, medium plasticity, firm	Neat cement grout
5					soft	2" diameter Schedule 40 PVC casing
6						
7						
8						
9					SANDY LEAN CLAY (CL): mottled dark bluish gray (10B 4/1), and dark yellowish brown (10YR 3/6), moist, 65% fines, 35% fine to medium sand, trace fine rounded gravel, low plasticity, soft	
10				0	CLAYEY SAND (SC): mottled dark bluish gray (10B 4/1) and dark yellowish brown (10YR 3/6), wet, 60% fine to coarse sand, 40% low plasticity fines	
11						
12					SILTY SAND (SM): dark yellowish brown (10YR 4/6), wet, 60% fine to medium sand, 40% low plasticity fines	
13					75% fine sand, 25% fines	
14					SANDY SILT (ML): dark yellowish brown (10YR 4/6), wet, 70% fines, 30% fine sand, low plasticity, soft	
15				0		

Note:
OVM = Thermo
Environmental
Instruments 580B PID
calibrated with 100 ppm
isobutylene standard.



Geomatrix Consultants

I:\PROJECT\1200S\1220\GINTW\142LOG.GDW OAKWELLV_COND CASE (REV 10/99)

Project No. 1220 000 R

Page 1 of 3

DEPTH (feet)	SAMPLES			OVM Reading	DESCRIPTION NAME (USCS): color, moist. % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
	Sample No.	Sample	Blows/ Foot			
16				0	LEAN CLAY with SAND (CL): mottled greenish black (5GY 2.5/1) and dark reddish brown (5YR 3/3), moist, 80% fines, 20% fine sand, medium plasticity, soft	14" diameter borehole
17					LEAN CLAY (CL): dark greenish gray (10GY 3/1), moist, 90% fines, 10% fine sand, medium plasticity, firm	10-3/4" diameter steel conductor casing
18						8" diameter borehole
19				0		Neat cement grout
20						
21					LEAN CLAY with SAND (CL): greenish gray (10Y 6/1), moist, 80% fines, 20% fine sand, trace angular coarse sand, medium plasticity, firm	
22				0	mottled greenish gray (10GY 5/1) and olive (5Y 5/4)	
23						Bentonite chip seal
24						
25				0	mottled greenish gray (10Y 5/1) and dark yellowish brown (10YR 4/4)	#2/12/ filter pack sand
26						
27						2" diameter Schedule 40 PVC (0.010-inch slot size) screen
28				0	SILTY SAND (SM): mottled dark yellowish brown (10YR 4/6) and greenish gray (5G 5/1), wet, 60% fine sand, 40% low plasticity fines	
29					POORLY GRADED SAND (SP)	
30					POORLY GRADED SAND (SP)	
31				0	LEAN CLAY (CL): dark yellowish brown (10YR 5/6), moist, 90% fines, 10% fine sand, medium plasticity, firm	
32						
33						

Geomatrix Consultants (1998)

W-127

PROJECT: 1990 BAY ROAD SITE AND VICINITY
East Palo Alto, California

Log of Well No. W-127

BORING LOCATION: Tidal marsh

ELEVATION AND DATUM:
Ground surface

DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.

DATE STARTED:
6/23/98

DATE FINISHED:
6/23/98

DRILLING METHOD: Hand auger

TOTAL DEPTH:
9.58 feet

SCREEN INTERVAL:
5.41-8.89 feet

DRILLING EQUIPMENT: Hand auger

DEPTH TO FIRST
WATER: 1.5 feet

COMPL. ---

CASING:
2-inch Sch. 40 PVC

SAMPLING METHOD: Hand auger

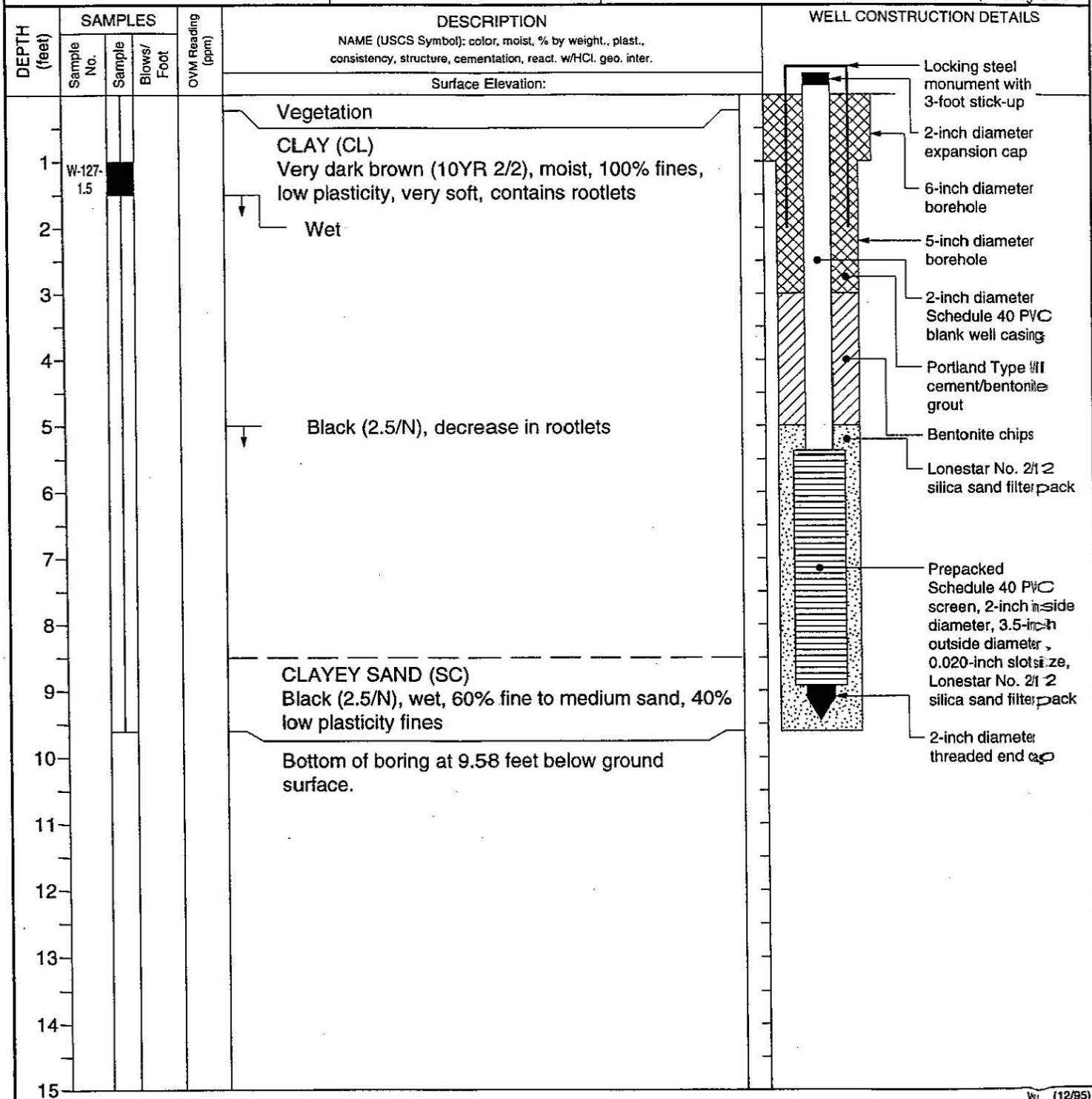
LOGGED BY:
Charles Rome

HAMMER WEIGHT: NA

DROP: NA

RESPONSIBLE PROFESSIONAL:
James Carolan

REG. NO.
CHG 589



Project No. 1220B

Geomatrix Consultants

Figure ---

Geomatrix Consultants (1988)

W-122

W-123

W-124

PROJECT: 1990 BAY ROAD SITE AND VICINITY
East Palo Alto, California

Log of Well No. W-122

BORING LOCATION: Base of levee near W-114

DRILLED BY: All Terrain Drilling Co.

DATE STARTED: 8/18/88

DATE FINISHED: 8/19/88

CASING: 2" diameter SCH 40 PVC, 0.02" slot

DRILLING METHOD: 8" OD hollowstem, floatation track rig

DEPTH TO WATER ATD: 5.5 feet

HAMMER WEIGHT: ---

DROP: ---

LOGGED BY:

C.D. Young

CHECKED BY:

J.D. Gallinatti
CEG 1335

SAMPLER: CME dry core, 5' x 2.5" ID

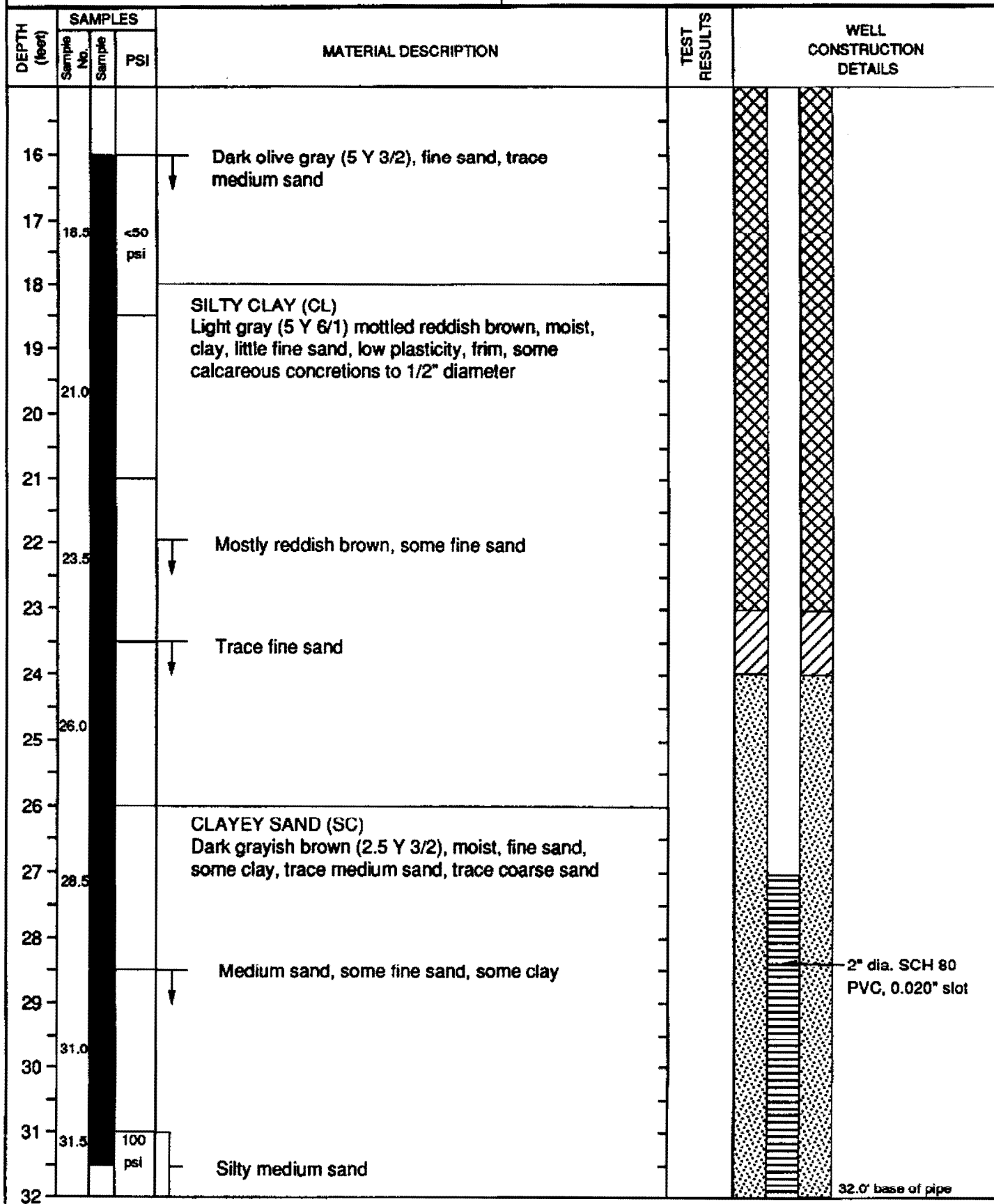
DEPTH (feet)	SAMPLES			MATERIAL DESCRIPTION	TEST RESULTS	WELL CONSTRUCTION DETAILS
	Sample No.	Sample	PSI			
				Surface Elevation:		
1	1.5		<50 psi	CLAY (OL) Black (5 Y 2.5/1), wet, clay, trace fine sand, low plasticity, soft, organic odor, top 6" brown		Riser pipe and locking steel monument above ground surface
2						
3						
4						
5				SANDY CLAY (CL) Very dark gray (5 Y 3/1), moist, clay, some fine sand, low plasticity, firm		
6	6.5		<50 psi	SAND (SP) Olive gray (5 Y 4/2), wet, medium sand, trace fine sand, mostly lithic fragments, subrounded to rounded		
7	8.0					
8				Coarser medium sand		
9						
10			<50 psi			
11						
12						
13						
14			<50 psi			
15						

W-1-88

Geomatrix Consultants

Project No. 1220A-1300

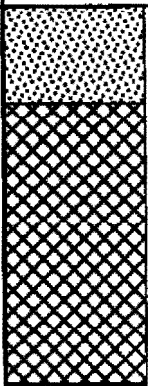
Figure L-58



W-2-88

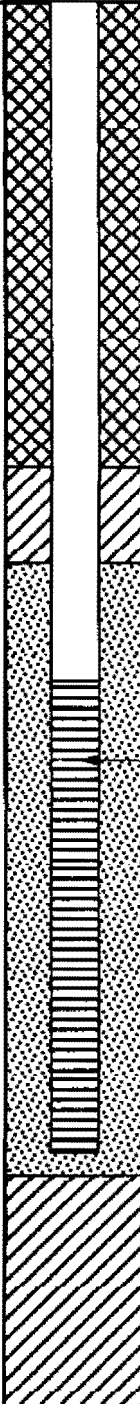
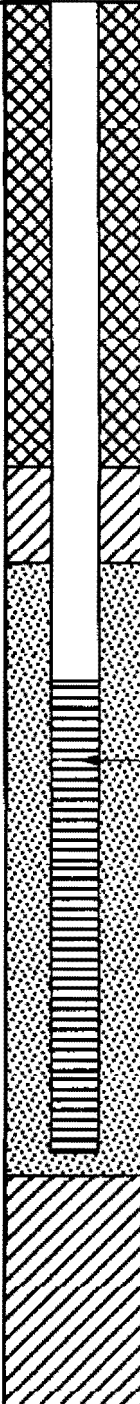
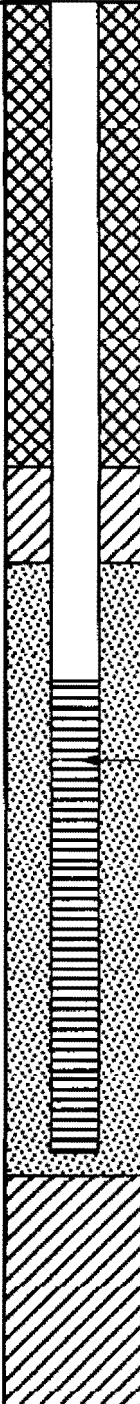
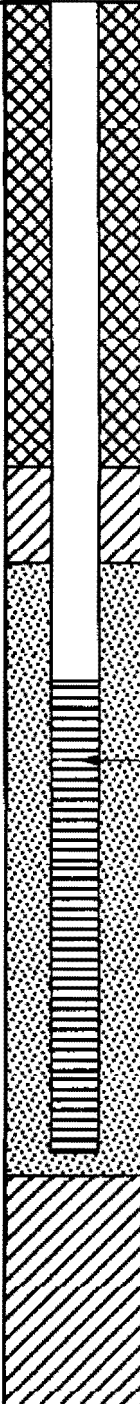
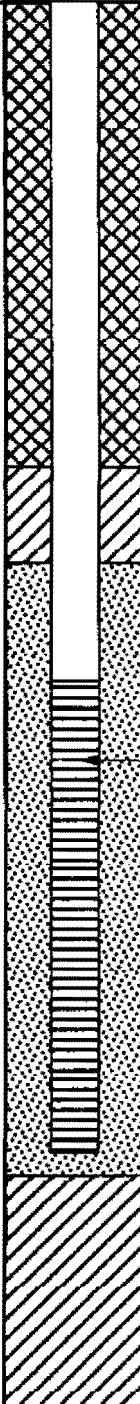
PROJECT: 1990 BAY ROAD SITE AND VICINITY
East Palo Alto, California

Log of Well No. W-122 cont.

DEPTH (feet)	SAMPLES			MATERIAL DESCRIPTION	TEST RESULTS	WELL CONSTRUCTION DETAILS
	Sample No.	Sample	PSI			
32.5				CLAY (CH) Dark grayish brown (2.5 Y 4/2), moist, clay, trace medium sand, high plasticity, firm		
33	33.5					
34						
35			100 psi			
36.0				Bottom of boring 36.0 feet		
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						

W-2-88

PROJECT: 1990 BAY ROAD SITE AND VICINITY East Palo Alto, California				Log of Well No. W-123			
BORING LOCATION: Marsh 55' SE of W-115						DRILLED BY: All Terrain Drilling	
DATE STARTED: 8/16/88			DATE FINISHED: 8/16/88			CASING: 2" diameter SCH 40 PVC, 0.02" slot	
DRILLING METHOD: 8" OD hollowstem, floatation track rig						DEPTH TO WATER ATD: 6.5 feet	
HAMMER WEIGHT: ---			DROP: ---			LOGGED BY: C.D. Young	
SAMPLER: 5' x 2.5" ID CME dry core						CHECKED BY: J.D. Gallinatti CEG 1335	

DEPTH (feet)	SAMPLES		PSI	MATERIAL DESCRIPTION	TEST RESULTS	WELL CONSTRUCTION DETAILS
	Sample No.	Sample		Surface Elevation:		
0.5				CLAY (OL) Very dark gray (7.5 YR N3/0), wet, clay, some silt, trace fine sand, medium plasticity, soft, organic odor, top 1' brown, no odor		 Riser pipe and locking steel monument above ground surface
1						
2	3.0		<50 psi			
3				SANDY CLAY (CL) Olive gray (5 Y 4/2), mottled blue gray, moist, clay, some sand, low plasticity, soft		 2" dia. SCH 80 PVC, 0.020" slot
4						
5						
6	6.5			SAND (SP) Very dark gray (5 Y 3/1), wet, medium to coarse sand		 2" dia. SCH 80 PVC, 0.020" slot
7						
8			<50 psi			
9				CLAY (CH) Very dark gray (7.5 YR N/3), moist, clay, high plasticity, very hard		 2" dia. SCH 80 PVC, 0.020" slot
10						
11			<50 psi			
12				CLAY (CH) Very dark gray (7.5 YR N/3), moist, clay, high plasticity, very hard		 2" dia. SCH 80 PVC, 0.020" slot
13	13.5		<100 psi			
14						
15				Bottom of boring 15.0 feet		

W-1-88

PROJECT: 1990 BAY ROAD SITE AND VICINITY East Palo Alto, California				Log of Well No. W-124			
BORING LOCATION: Marsh, 55' SE of W-115				DRILLED BY: All Terrain Drilling			
DATE STARTED: 8/17/88		DATE FINISHED: 8/17/88		CASING: 2" diameter SCH 40 PVC, 0.02" slot			
DRILLING METHOD: 8" OD hollowstem, floatation track rig				DEPTH TO WATER ATD: 7.0 feet			
HAMMER WEIGHT: ---		DROP: ---		LOGGED BY: C.D. Young		CHECKED BY: J.D. Gallinatti CEG 1335	
SAMPLER: CME dry core 5' X 2.5" ID							

DEPTH (feet)	SAMPLES			PSI	MATERIAL DESCRIPTION	TEST RESULTS	WELL CONSTRUCTION DETAILS
	Sample No.	Sample					
Surface Elevation:							
1	2.5			<50 psi	CLAY (OL) Very dark gray (2.5 YR N3/), wet, clay, trace fine sand, high plasticity, soft, organic odor, rootlets, top 1.5' olive brown (2.5 Y 4/4), no organic odor		Riser pipe and locking steel monument above ground surface
2							
3							
4							
5							
6	7.0			<50 psi	CLAY with SAND Dark gray (2.5 Y N4/) mottled olive brown (2.5 Y 4/4), moist, clay, little fine sand, trace medium sand, medium plasticity, soft, trace calcareous concretions		
7							
8					SAND (SW) Dark gray (5 Y 4/1), wet, medium sand, trace coarse sand		
9							
10							
11				<50 psi			
12							
13							
14	12.0			<100 psi	SILTY CLAY (CL) Very dark gray (2.5 Y N3/) mottled gray (2.5 Y N5/), moist, clay, little fine sand, low plasticity, firm		
15							

W-1-88

PROJECT: 1990 BAY ROAD SITE AND VICINITY
East Palo Alto, California

Log of Well No. W-124 cont.

DEPTH (feet)	SAMPLES		MATERIAL DESCRIPTION	TEST RESULTS	WELL CONSTRUCTION DETAILS
	Sample No.	PSI			
16					
17	18.0	75 psi	SANDY CLAY (CL) Gray (2.5 Y N5/) mottled olive gray (5 Y 4/2) and light gray (5 Y 6/1), moist, clay, some fine sand, some irregular calcareous concretions, low plasticity, hard		
18					
19					
20					
21	22.0	75 psi			
22					
23	23.5	150 psi	CLAYEY SAND (SW) Olive brown (2.5 Y 4/4) mottled yellowish brown (10 YR 5/8), moist, medium sand, some clay, little gravel to 1/2", trace coarse sand		
24					
25	26.5	300 psi	SAND (SP) Dark grayish brown (2.5 Y 4/2), wet, medium sand, little fine sand, mostly lithic fragments, subrounded		
26					
27					
28					
29		300 psi	SILTY SAND (SW) Light yellowish brown (2.5 Y 6/4) mottled red brown, moist, medium sand, trace fine sand, trace coarse sand		
30		200 psi	SILTY CLAY (CL) Olive brown (2.5 Y 4/4), moist, clay, low plasticity, hard		
31					
32					
Bottom of boring 32.0 feet					

2" dia. SCH 80
PVC, 0.020" slot

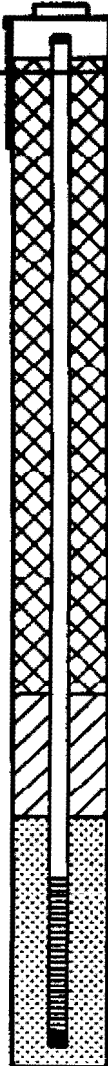
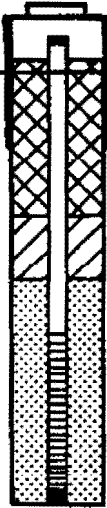
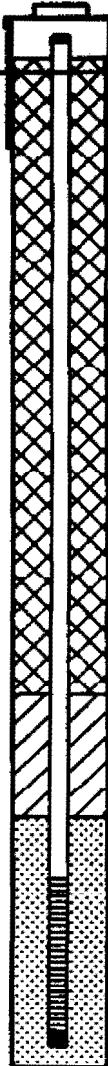
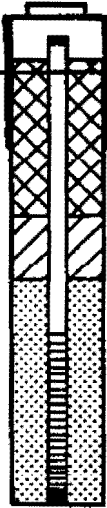
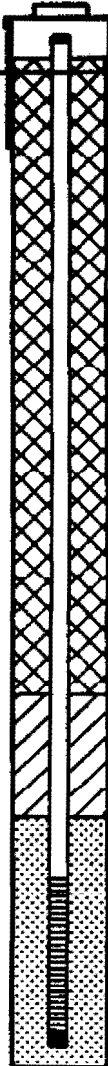
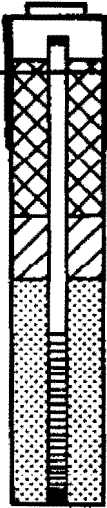
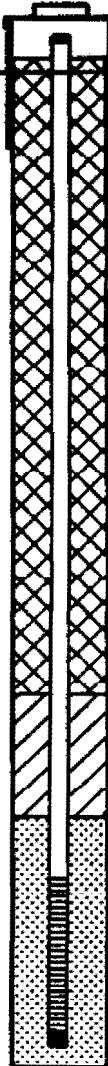
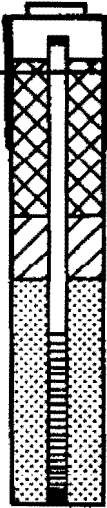
W-2-88

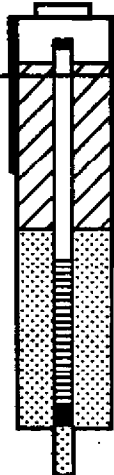
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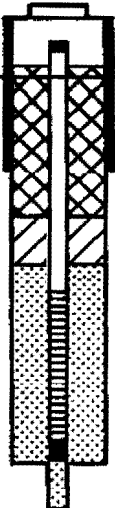
W-102

W-114

W-115

BAY ROAD PROJECT 1990 Bay Road Site and Vicinity East Palo Alto, California				LITHOLOGIC LOG AND CONSTRUCTION DETAILS OF WELLS W-102 AND W-103			
Depth, feet	LITHOLOGY	W-102		W-103		CONSTRUCTION DETAILS	
		Sample Interval	Blow count/12"	Sample Interval	Blow count/12"	W-102	W-103
	Ground surface-elevation approx. 7.2 feet						
2	SILTY SAND with GRAVEL, fill, some miscellaneous debris, medium brown, loose, dry						
4							
6			3				
8							
10	SILTY CLAY, dark brown mottled with orange-brown, wet, some decomposed vegetation		4	4			
12	SANDY SILT interbedded with silty sand, medium brown, mottled with gray, wet,			2			
14	SILTY CLAY, dark blue-gray		7				
16							
18							
20			8				
22	Grading to medium gray mottled with medium brown, occasional white nodules to 0.25 inch in diameter						
24							
26			8				
28			7				
30	SILTY SAND interbedded with clayey silt, medium brown mottled with gray, medium sand						
32	SILTY CLAY, medium brown		8				
	Bottom of boring at 32.0 feet						
34							
36							
38							
40							
42							
44							
46							
Project No. 1057A		Geomatrix Consultants				L-43	

BAY ROAD PROJECT 1990 Bay Road Site and Vicinity East Palo Alto, California				LITHOLOGIC LOG AND CONSTRUCTION DETAILS OF WELL W-114			
Depth, feet	LITHOLOGY	W-114		CONSTRUCTION DETAILS			
		Sample Interval	Blow count/12"	Sample Interval	Blow count/12"		
	Ground surface-elevation approx. 3.6 feet						
2	SILTY CLAY, dark gray, wet, soft, with decomposed vegetation						
4							
6	CLAYEY SILT interbedded with silty sand, medium gray, loose, wet, fine sand		4				
8							
10			3				
12	SILTY CLAY, dark gray		6				
14	Bottom of boring at 13.0 feet						
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							
42							
44							
46							
Project No. 1057A		Geomatrix Consultants				L-49	

BAY ROAD PROJECT 1990 Bay Road Site and Vicinity East Palo Alto, California				LITHOLOGIC LOG AND CONSTRUCTION DETAILS OF WELL W-115			
Depth, feet	LITHOLOGY	W-115		CONSTRUCTION DETAILS			
		Sample Interval	Blow count/12"	Sample Interval	Blow count/12"		
	Ground surface-elevation approx. 3.8 feet						
2	SILTY CLAY, medium gray, wet, soft, with decomposed vegetation						
4							
6			3				
8	SILTY SAND, gray-green, occasional gravel to 0.5 inch in diameter, wet, fine to coarse sand		3				
10			4				
12	SILTY CLAY, dark gray, occasional white nodules		10				
14							
16	Bottom of boring at 14.0 feet						
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							
42							
44							
46							
Project No. 1057A		Geomatrix Consultants				L-50	

Geomatrix Consultants (1987)

M-1

M-3

M-4

M-9

PROJECT: 1990 BAY ROAD AND VICINITY
East Palo Alto, California

Log of Boring No. M-1

BORING LOCATION: Tidal Marsh

DATE STARTED: 9/11/87

DATE FINISHED: 9/11/87

NOTES: Logged by Cheri Young

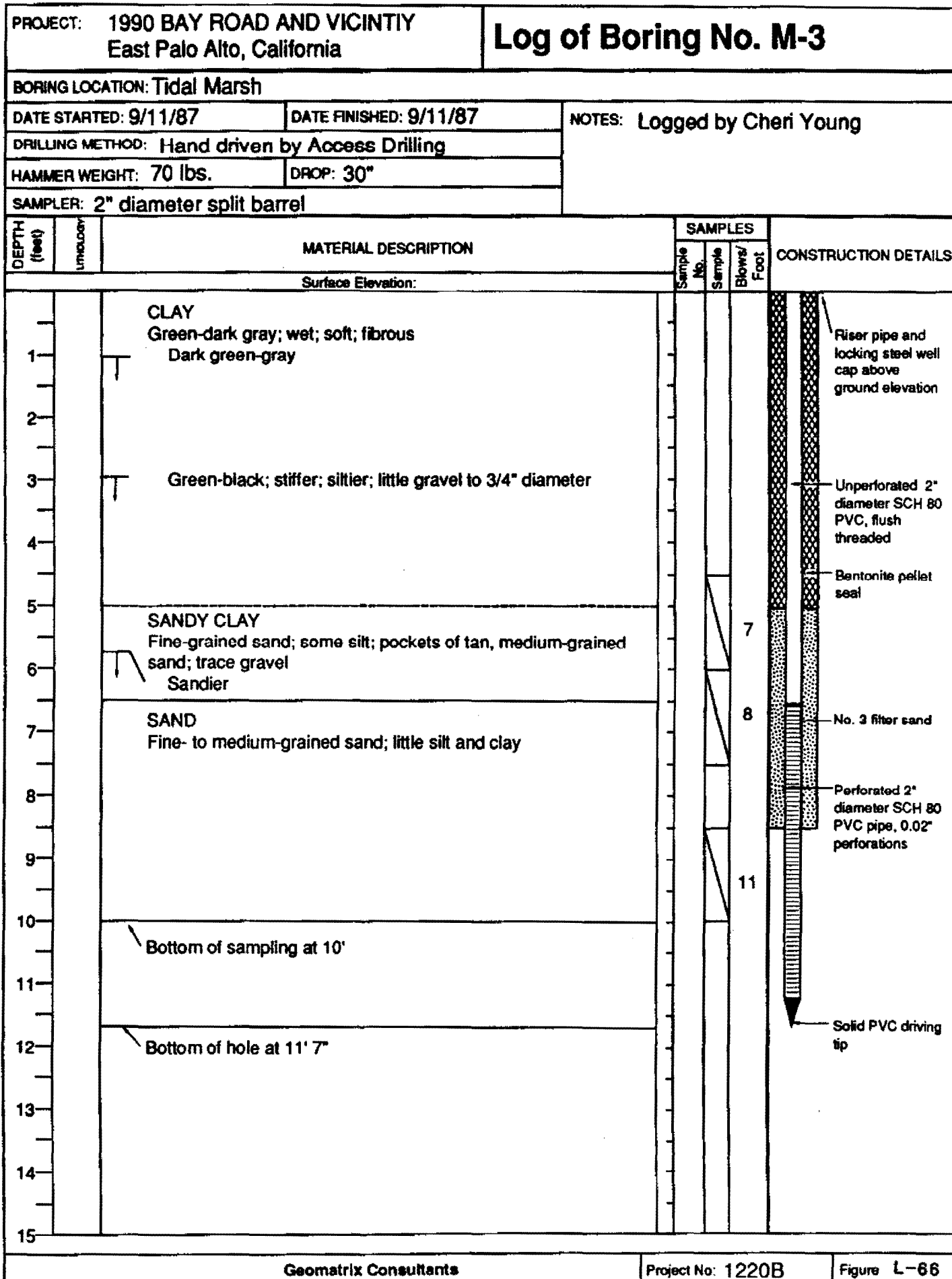
DRILLING METHOD: Hand driven by Access Drilling

HAMMER WEIGHT: 70 lbs.

DROP: 30"

SAMPLER: 2" diameter split barrel

DEPTH (feet)	LITHOLOGY	MATERIAL DESCRIPTION	SAMPLES			CONSTRUCTION DETAIL
			Sample No.	Sample	Blows/ Foot	
Surface Elevation:						
1		CLAY Black-gray; wet; soft; fibrous				Riser pipe and locking steel well cap above ground elevation Unperforated 2" diameter SCH 80 PVC, flush threaded Bentonite pellet seal No. 3 filter sand Perforated 2" diameter SCH 80 PVC pipe, 0.02" perforations Solid PVC driving tip
2						
3		Little stiffer, still fibrous				
4		Medium stiff, not fibrous				
5		Some very fine sand				
6		SANDY CLAY Mottled greenish-dark gray; stiff; fine-grained sand; pockets of gold-green, medium to fine-grained sand; trace subrounded gravel to 2" diameter; slightly fibrous			12	
7					9	
8		SAND Very coarse to coarse-grained; some gravel to 1/8" diameter				
9		CLAYEY SAND Medium grained			11	
10		SANDY CLAY Fine-grained; some silt				
11		Bottom of sampling at 9' 5"				
12						
13		Bottom of hole at 12' 6"				
14						
15						



PROJECT: 1990 BAY ROAD AND VICINTIY East Palo Alto, California		Log of Boring No. M-4		
BORING LOCATION: Tidal Marsh				
DATE STARTED: 9/11/87		DATE FINISHED: 9/11/87		NOTES: Logged by Cheri Young
DRILLING METHOD: Hand driven by Access Drilling				
HAMMER WEIGHT: 70 lbs.		DROP: 30"		
SAMPLER: 2" diameter split barrel				

DEPTH (feet)	LITHOLOGY	MATERIAL DESCRIPTION	SAMPLES			CONSTRUCTION DETAILS
			Sample No.	Sample	Blows/ Foot	
Surface Elevation:						
1		CLAY Brown-gray to greenish-dark gray; wet; soft; fibrous Gray-black clay; little gravel to 1/2" diameter				Riser pipe and locking steel well cap above ground elevation Unperforated 2" diameter SCH 80 PVC, flush threaded Bentonite pellet seal No. 3 filter sand
2		Stiffer More gravel				
3		SILTY CLAY Dark green-gray; some silt; some gravel to 1" in top 6"			8	
4						
5		SAND and GRAVEL Fine-to coarse-grained sand, gravel to 1" diameter			7	
6		Bottom of sampling at 6'				Perforated 2" diameter SCH 80 PVC pipe, 0.02" perforations Solid PVC driving tip
7						
8						
9						
10		Bottom of hole at 10'				
11						
12						
13						
14						
15						

Geomatrix Consultants
Project No: 1220B
Figure L-67

PROJECT: 1990 BAY ROAD SITE AND VICINITY
East Palo Alto, California

Log of Boring No. R8-1/Well M-9

BORING LOCATION: 99 feet from break in slope of dike, 53 feet east of W-114

DATE STARTED: 6/28/88

DATE FINISHED: 6/28/88

NOTES:

DRILLING METHOD: 3 1/2" hand auger, hand-held hammer

HAMMER WEIGHT: 70 lbs.

DROP: 30 inches

Drilled by: Access Drilling Co.

Logged by: C. D. Young

Checked by: J.D. Gallinatti, CEG 1335

SAMPLER: 2 1/2" ID modified California drive sampler

DEPTH (feet)	SAMPLES			ARSENIC (mg/kg)	MATERIAL DESCRIPTION	WELL CONSTRUCTION DETAILS
	Sample No.	Sample	Blows/ Foot			
1	1			3.3	CLAY (OL) Very dark gray (2.5 Y 3/0), wet, clay, medium to low plasticity, very soft, many rootlets, organic odor Color change to black Consistency change to firm Color change back to very dark gray, trace green fine sand (glauconite?)	 Riser pipe and locking steel monument above ground surface
1.5				5.1		
2	2					
3	3					
4	4		17			
5	5					
6	6			5.7	CLAYEY SAND (SC) Very dark grayish brown (2.5 YR 3/2), wet, sand, some clay, trace gravel, firm	 2" dia. SCH 80 PVC, 0.010" slot
7	7					
8	8		4			
9			10		Bottom of boring at 9.5 feet	
10						
11						
12						
13						
14						
15						

BL-1-88

APPENDIX G.2

North of Bay Road Historical Explorations

Ninyo & Moore (2016)

NM B-2

NM B-3

NM CPT-1

NM CPT-2

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED	BORING NO.	
	Bulk	Driven						GROUND ELEVATION	SHEET	OF
								METHOD OF DRILLING		
								DRIVE WEIGHT	DROP	
								SAMPLED BY	LOGGED BY	REVIEWED BY
								DESCRIPTION/INTERPRETATION		
0		Qc=10	25	15.9	98.4		SC	<u>FILL:</u> Brown, dry, very loose to loose, clayey SAND; some gravel. Medium dense.		
		Qc=30								
		Qc=55								
		Qc=60								
		Qc>70								

Ninyo & Moore

BORING LOG

2020 BAY ROAD
EAST PALO ALTO, CALIFORNIA

PROJECT NO.
402643002

DATE
12/16

FIGURE
A-3

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED	BORING NO.					
	Bulk	Driven						5/5/16	NM B-2					
								GROUND ELEVATION	12' ± (MSL)	SHEET	2	OF	2	
								METHOD OF DRILLING				CME-75, Solid Stem Auger, (Geo Ex)		
								DRIVE WEIGHT	140 lbs. (Auto)	DROP	30"			
								SAMPLED BY	JAC	LOGGED BY	JAC	REVIEWED BY	PCC	
								DESCRIPTION/INTERPRETATION						
40								Groundwater was measured at a depth of approximately 8.8 feet in borehole about 10 minutes after drilling. Groundwater may rise to a level higher than that measured in borehole due to relatively slow rate of seepage in clay and several other factors as discussed in the report.						
								The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.						
50														
60														
70														
80														
								BORING LOG						
								2020 BAY ROAD EAST PALO ALTO, CALIFORNIA						
								PROJECT NO.	DATE	FIGURE				
								402643002	12/16	A-4				

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED <u>5-5-16</u> BORING NO. <u>NM B-3</u> GROUND ELEVATION <u>11 ± (MSL)</u> SHEET <u>1</u> OF <u>2</u> METHOD OF DRILLING <u>CME-75, Solid Stem Auger + Mud Rotary, (Geo Ex)</u> DRIVE WEIGHT <u>140 lbs. (Auto)</u> DROP <u>30"</u> SAMPLED BY <u>JAC</u> LOGGED BY <u>JAC</u> REVIEWED BY <u>PCC</u>	
	Bulk	Driven						DESCRIPTION/INTERPRETATION	
0			Qc=25				SC	<u>FILL:</u> Brown, dry, loose to medium dense, clayey SAND.	
			Qc=55				CL	<u>ALLUVIUM:</u> Grayish brown, moist, hard, sandy CLAY.	
			Qc>70						
			Qc>70						
			12				SW-SC	Brown, moist, loose, well-graded SAND; few clay; few gravel. Wet.	
10			9	18.1				Medium dense. Switched to mud rotary.	
			3	11.9			GC	Brown, wet, very loose, poorly-graded GRAVEL; few sand; few clay.	
20			5				CH	<u>BAY DEPOSITS:</u> Gray, wet, firm, fat CLAY. PP = 0.5 tsf.	
			45	10.8			GW-GM	<u>OLDER ALLUVIUM:</u> Gray to light brown, wet, dense, well-graded GRAVEL; some sand; few silt.	
30			10	27.5	93.0		CL	Light brown, wet, stiff, lean CLAY. Some sand. PP = 2.0 tsf.	
40			7	8.9	115.5				



BORING LOG		
2020 BAY ROAD EAST PALO ALTO, CALIFORNIA		
PROJECT NO. 402643002	DATE 12/16	FIGURE A-5

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED	BORING NO.				
	Bulk	Driven						5-5-16	NM B-3				
								GROUND ELEVATION	11 ± (MSL)	SHEET	2	OF	2
								METHOD OF DRILLING			CME-75, Solid Stem Auger + Mud Rotary, (Geo Ex)		
								DRIVE WEIGHT	140 lbs. (Auto)	DROP	30"		
								SAMPLED BY	JAC	LOGGED BY	JAC	REVIEWED BY	PCC
								DESCRIPTION/INTERPRETATION					
40			20	24.7	97.2		CL	<u>OLDER ALLUVIUM:</u> (continued) Light brown, wet, very stiff, sandy CLAY. PP = 2.0 tsf.					
			16	26.3	94.5			Light brown to gray; trace sand. PP = 2.5 tsf.					
50			8					Light brown; stiff.					
								Total depth = 51.5 feet. Backfilled with grout using tremie method 5-5-16. Groundwater was encountered at a depth of approximately 6.4 feet in borehole during drilling. Groundwater may rise to a level higher than that measured in borehole due to relatively slow rate of seepage in clay and several other factors as discussed in the report. The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.					
60													
70													
80													

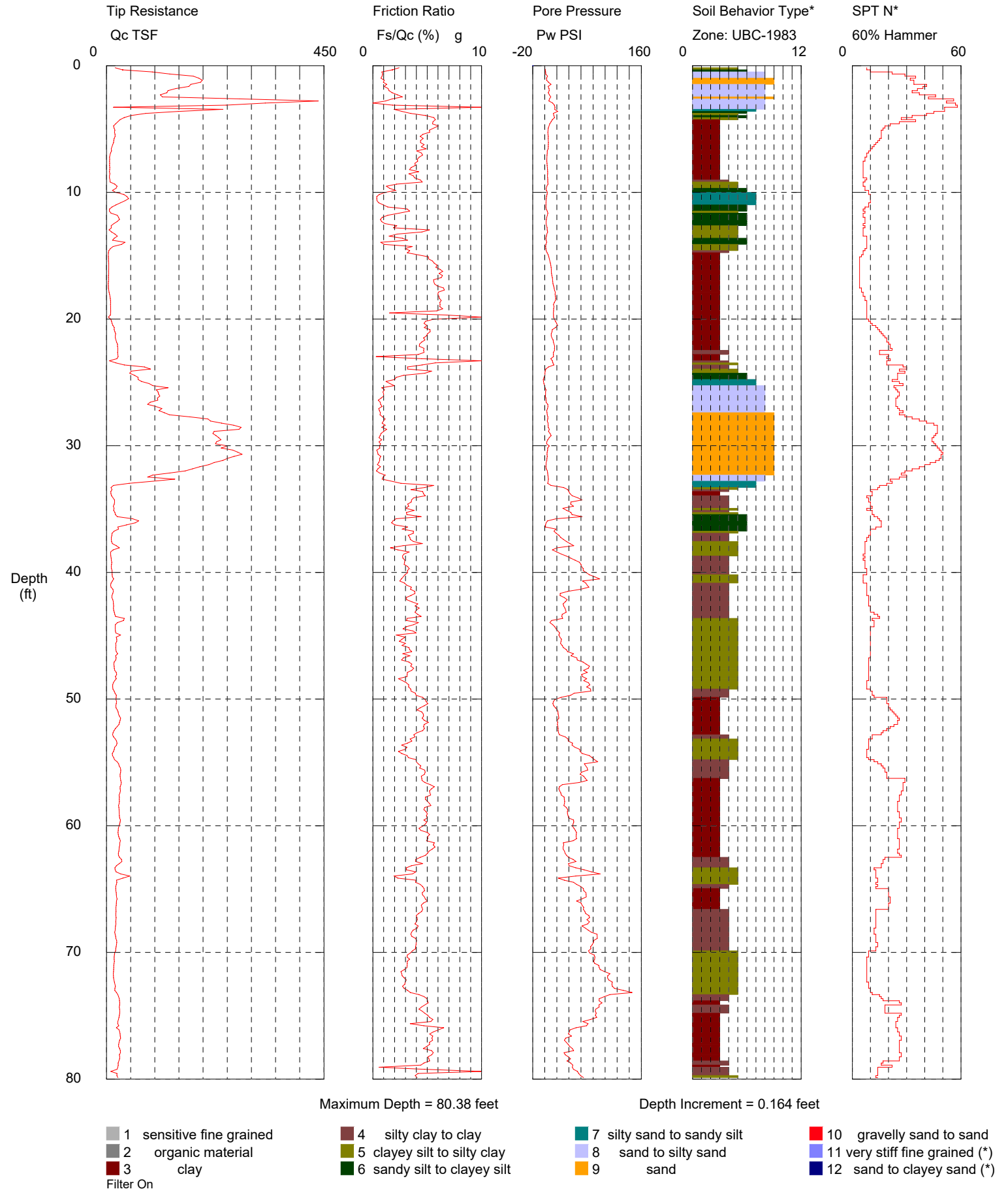


BORING LOG		
2020 BAY ROAD EAST PALO ALTO, CALIFORNIA		
PROJECT NO. 402643002	DATE 12/16	FIGURE A-6

Ninyo & Moore

Operator: Rocco
Sounding: CPT-1
Cone Used: DDG1316

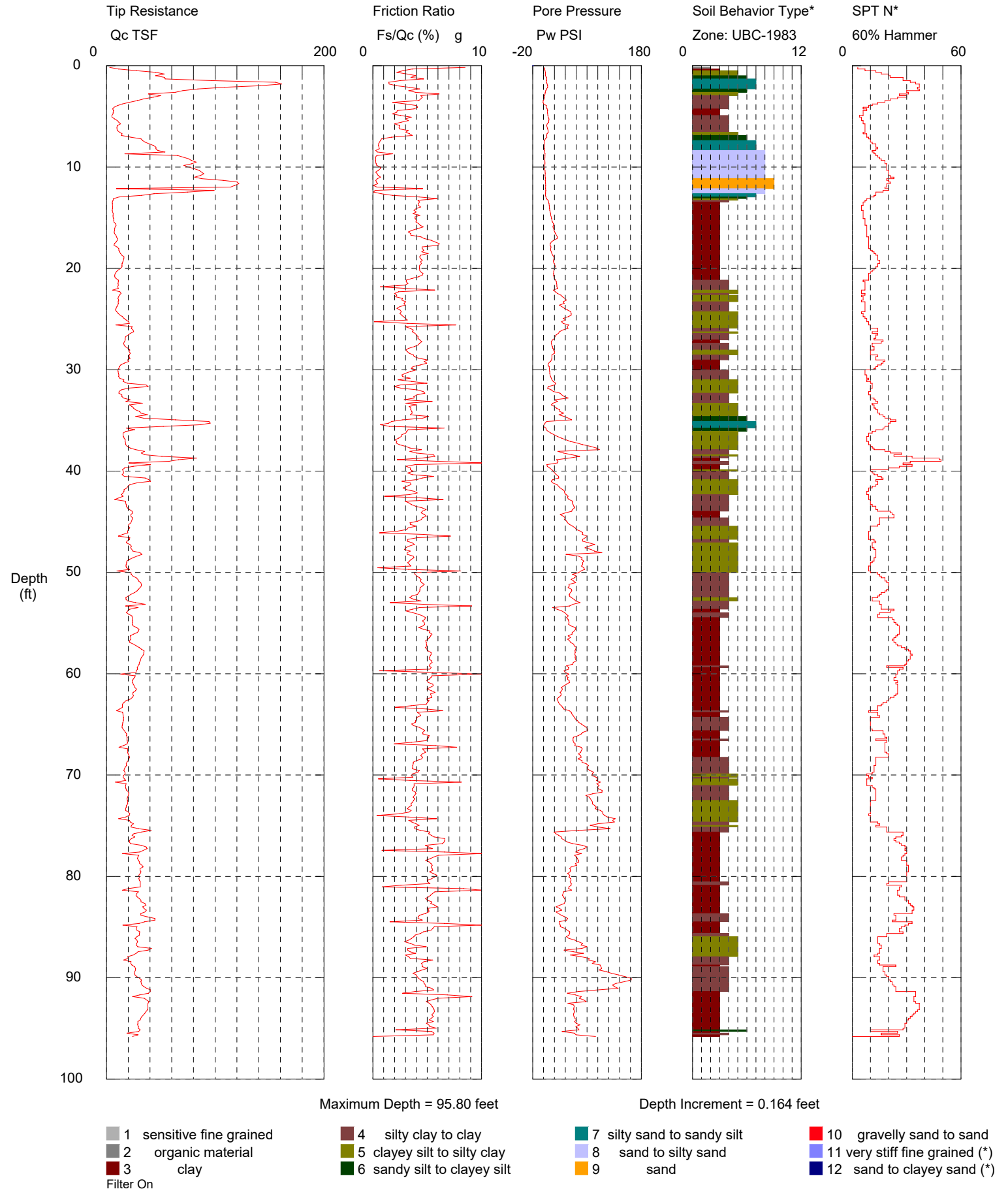
CPT Date/Time: 5/5/2016 9:31:29 AM
Location: East Palo Alto
Job Number: NMI-562



Ninyo & Moore

Operator: Rocco
Sounding: CPT-2
Cone Used: DDG1316

CPT Date/Time: 5/6/2016 3:30:25 PM
Location: East Palo Alto
Job Number: NMI-562



*Soil behavior type and SPT based on data from UBC-1983

Iris Environmental (2015)

RCPT-08

RCPT-12

RCPT-15

RCPT-17

RCPT-18

RCPT-19

RCPT-20

RCPT-24



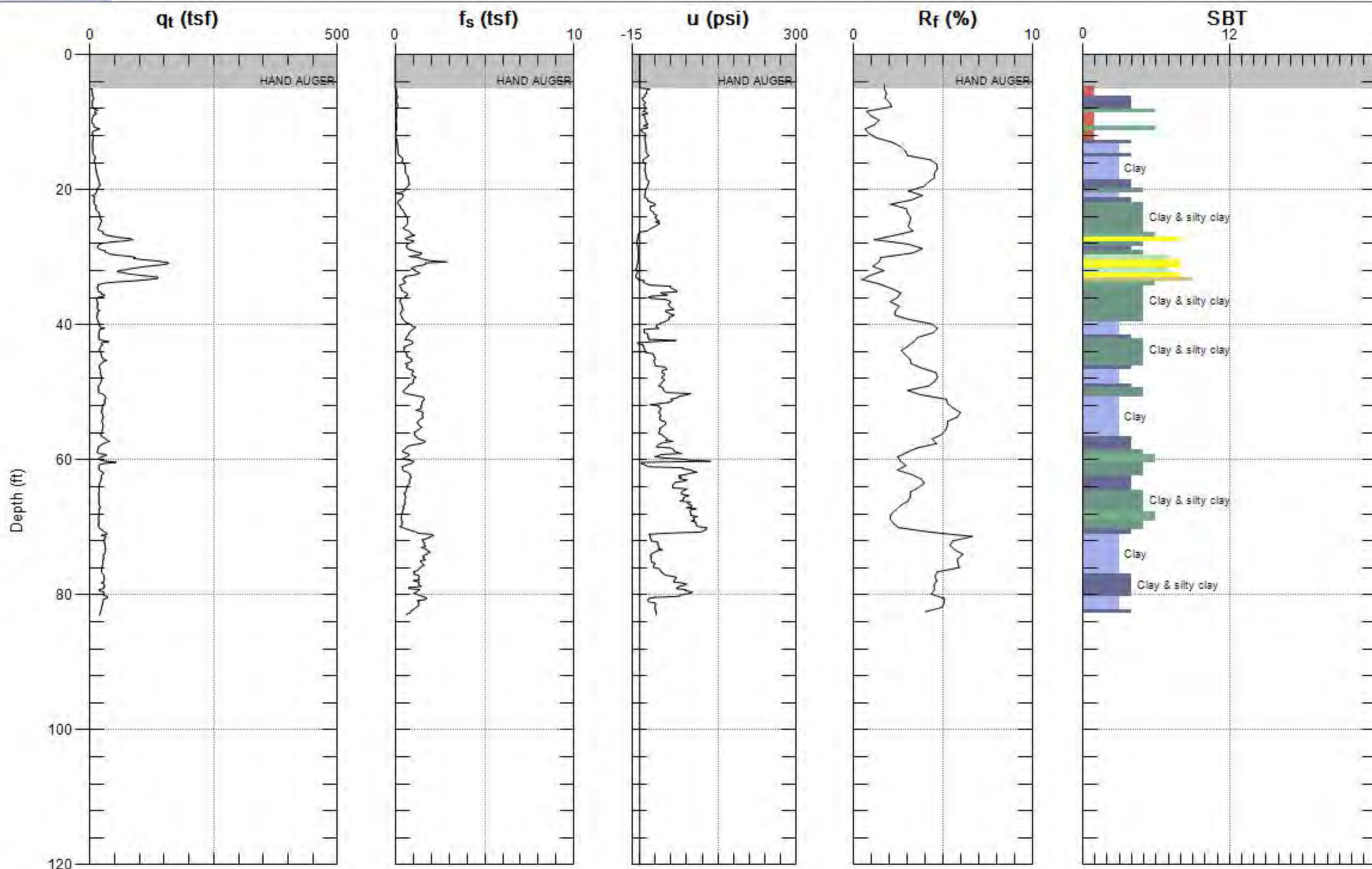
IRIS ENVIRONMENTAL

Site: FMR. ROMIC FAC.

Sounding: RCPT-08

Engineer: B.CHEN

Date: 5/27/2015 10:25



Max. Depth: 83.005 (ft)

Avg. Interval: 0.656 (ft)

SBT: Soil Behavior Type (Robertson 1990)



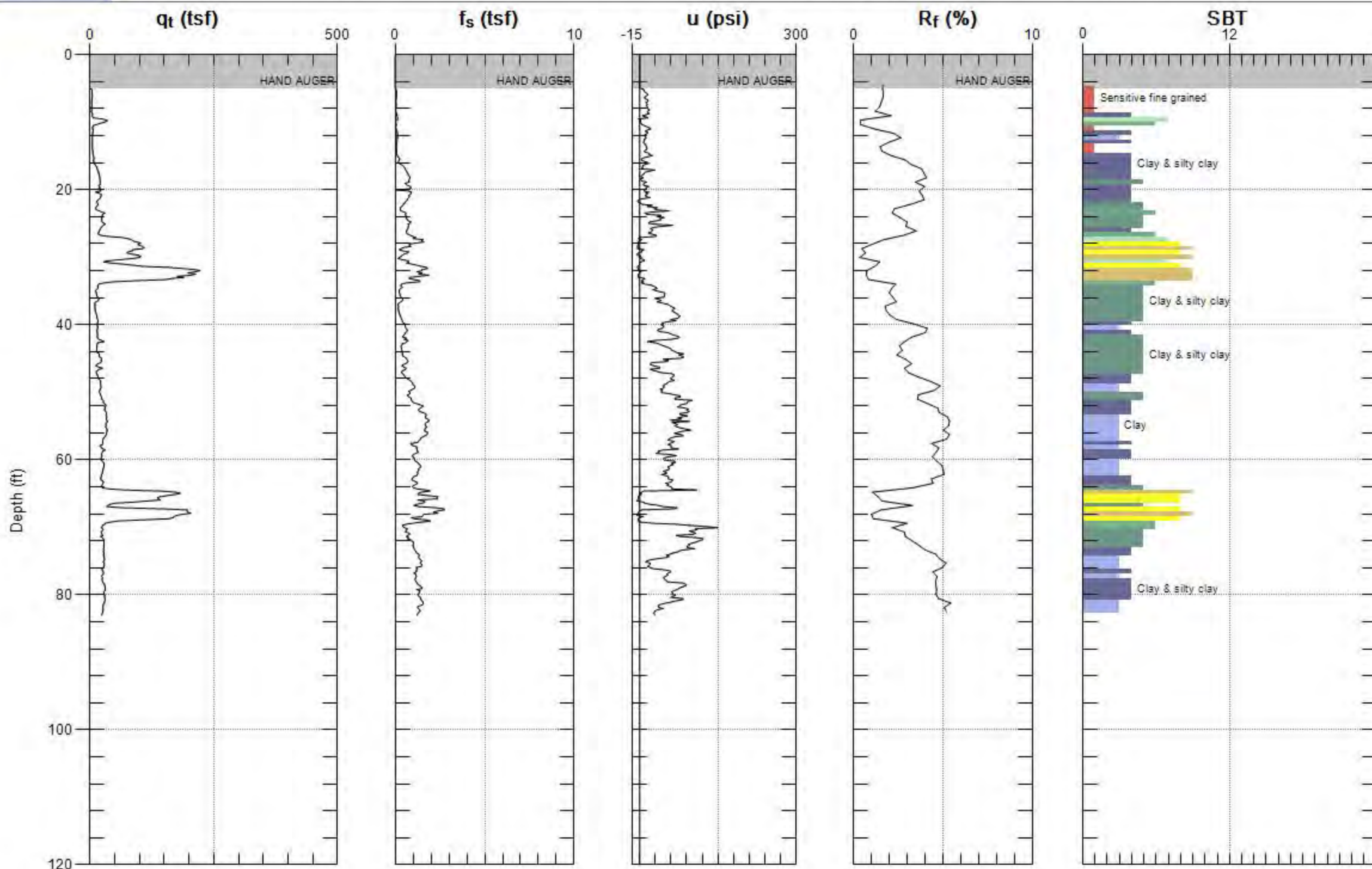
IRIS ENVIRONMENTAL

Site: FMR. ROMIC FAC.

Sounding: RCPT-12

Engineer: B.CHEN

Date: 5/27/2015 03:05



Max. Depth: 83.005 (ft)

Avg. Interval: 0.656 (ft)

SBT: Soil Behavior Type (Robertson 1990)



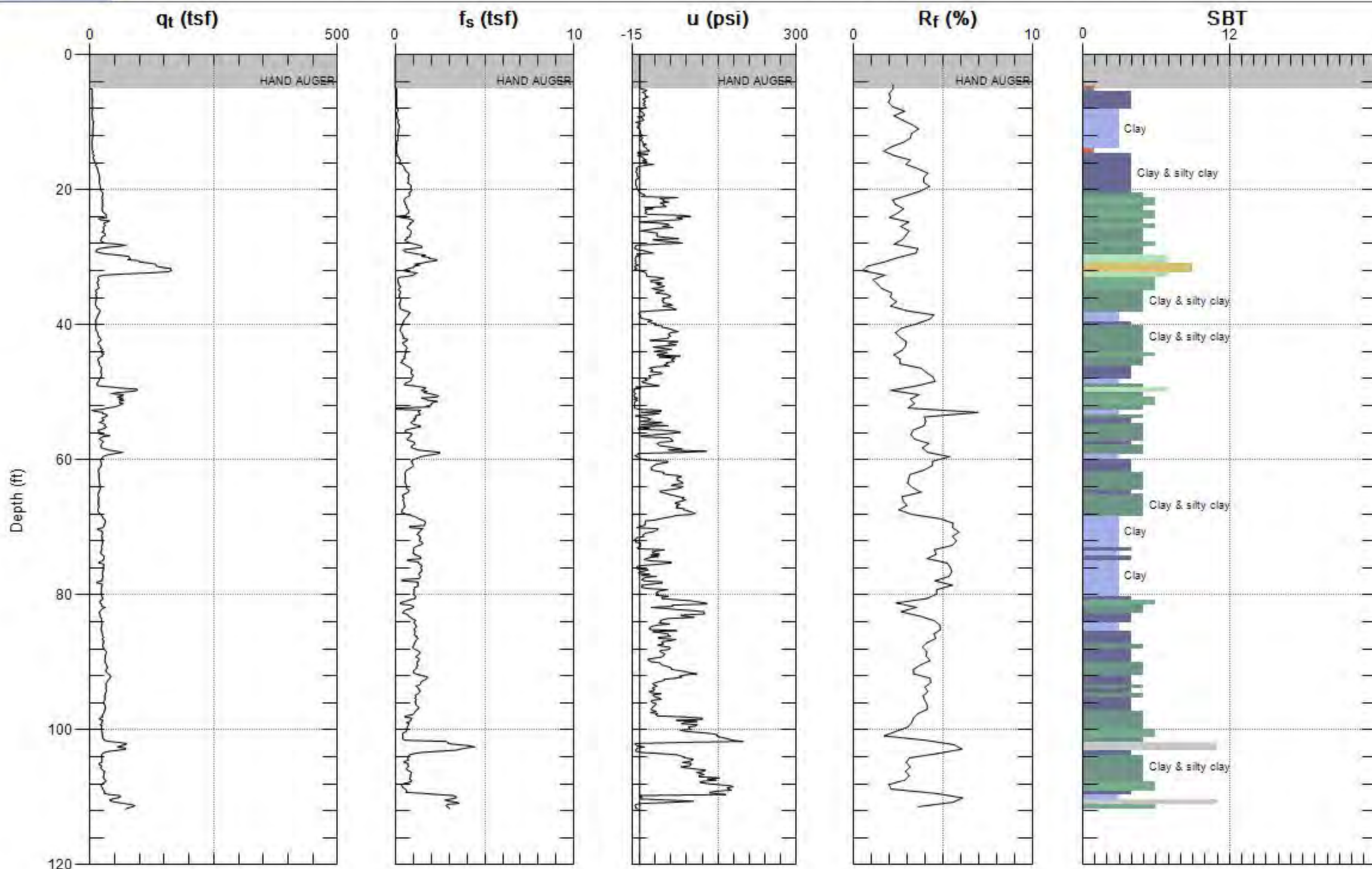
IRIS ENVIRONMENTAL

Site: FMR. ROMIC FAC.

Sounding: RCPT-15

Engineer: B.CHEN

Date: 6/12/2015 07:04



Max. Depth: 111.713 (ft)

Avg. Interval: 0.656 (ft)

SBT: Soil Behavior Type (Robertson 1990)



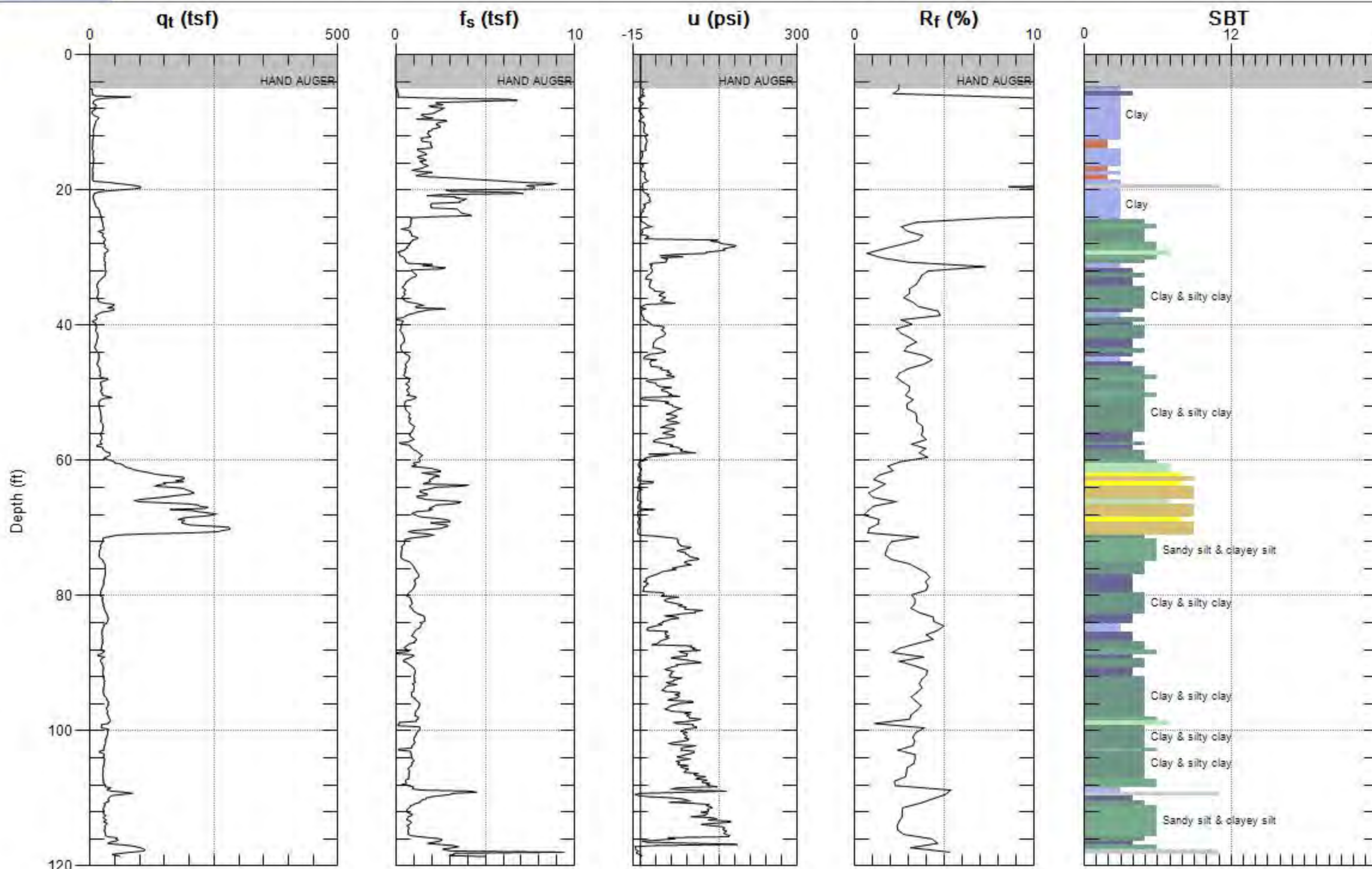
IRIS ENVIRONMENTAL

Site: FMR. ROMIC FAC.

Sounding: RCPT-17

Engineer: B.CHEN

Date: 6/9/2015 09:40



Max. Depth: 118.602 (ft)

Avg. Interval: 0.656 (ft)

SBT: Soil Behavior Type (Robertson 1990)



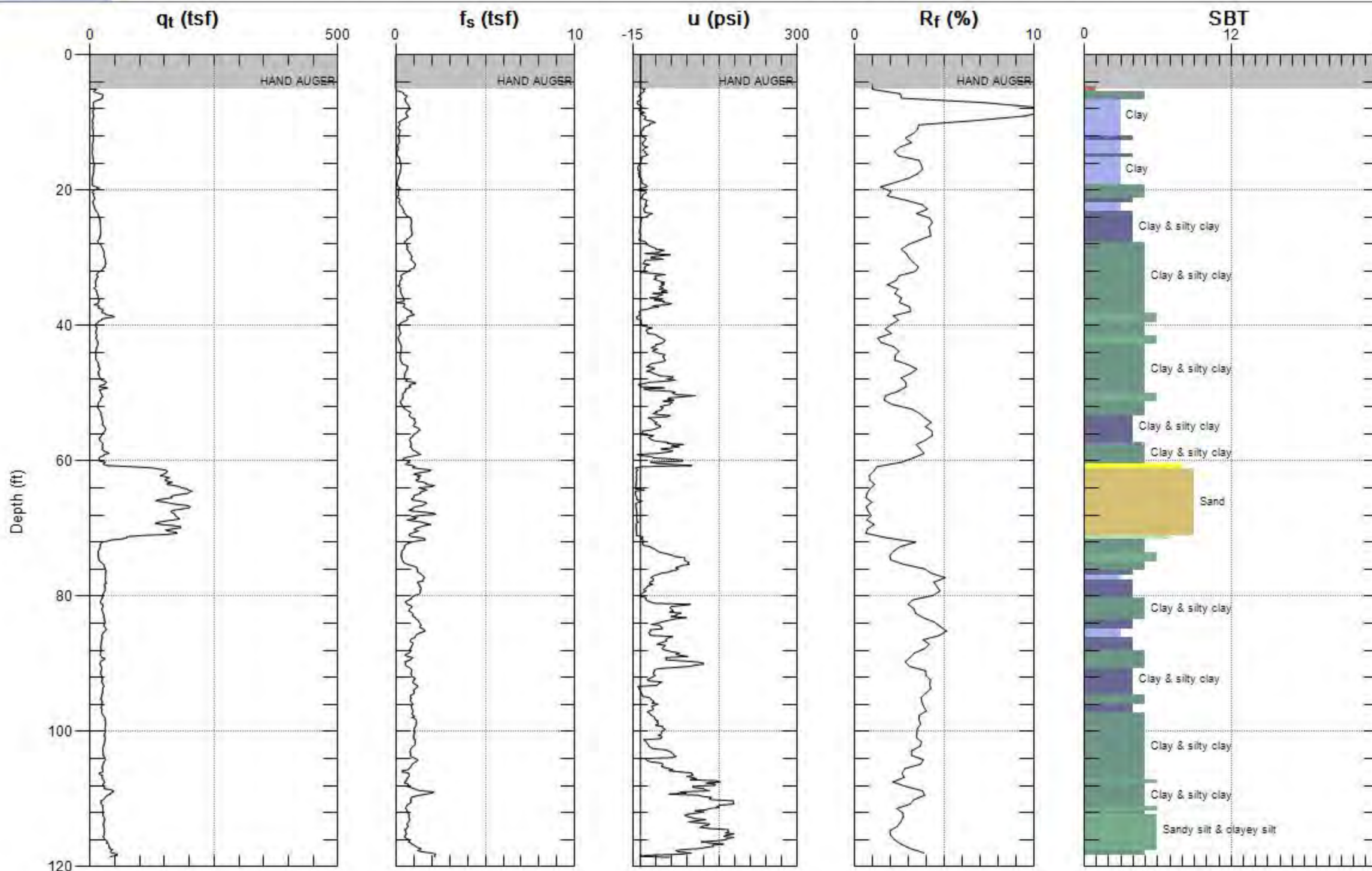
IRIS ENVIRONMENTAL

Site: FMR. ROMIC FAC.

Sounding: RCPT-18

Engineer: B.CHEN

Date: 6/8/2015 12:41



Max. Depth: 118.602 (ft)

Avg. Interval: 0.656 (ft)

SBT: Soil Behavior Type (Robertson 1990)



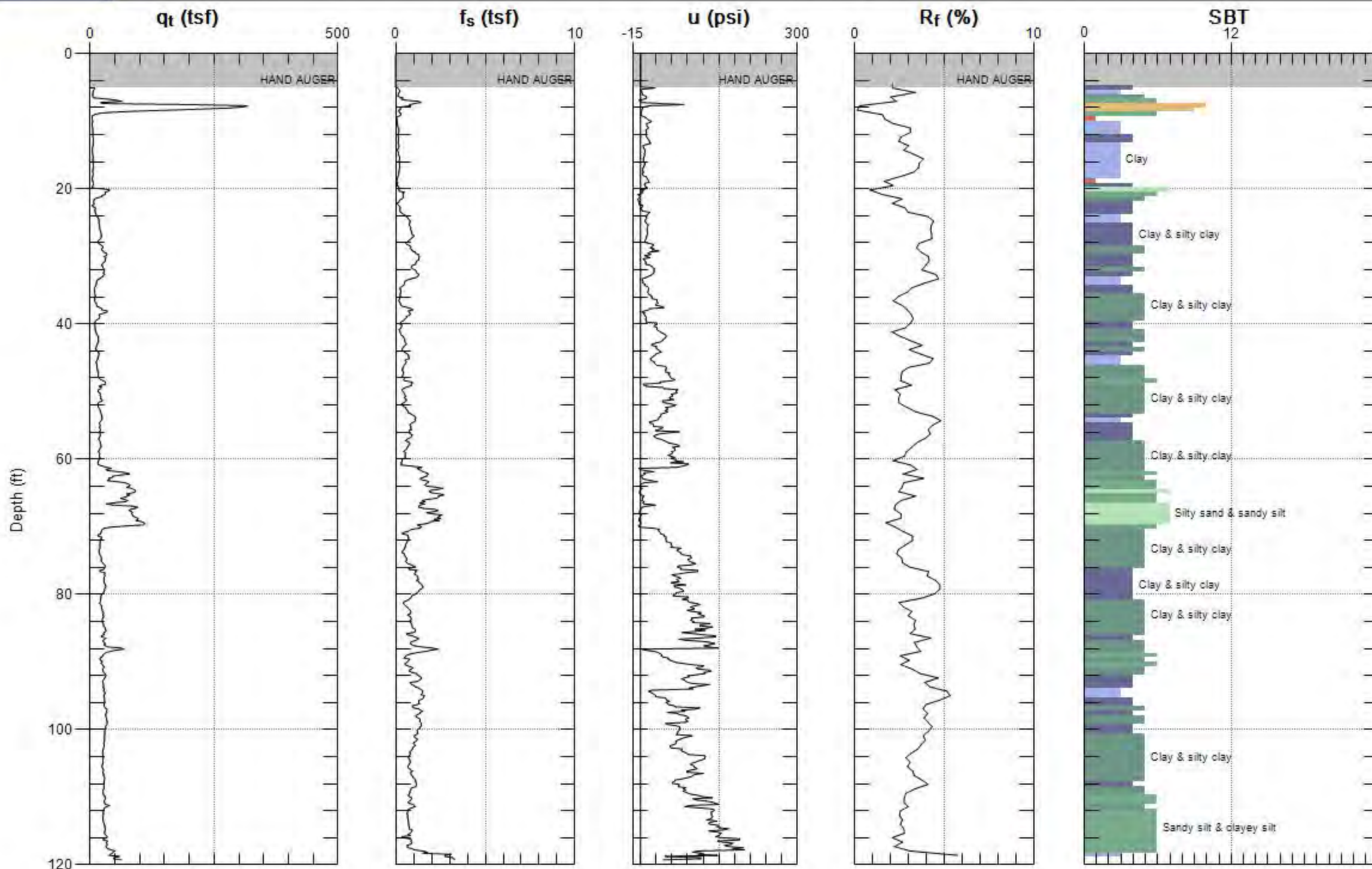
IRIS ENVIRONMENTAL

Site: FMR. ROMIC FAC.

Sounding: RCPT-19

Engineer: B.CHEN

Date: 6/5/2015 07:38



Max. Depth: 119.259 (ft)

Avg. Interval: 0.656 (ft)

SBT: Soil Behavior Type (Robertson 1990)



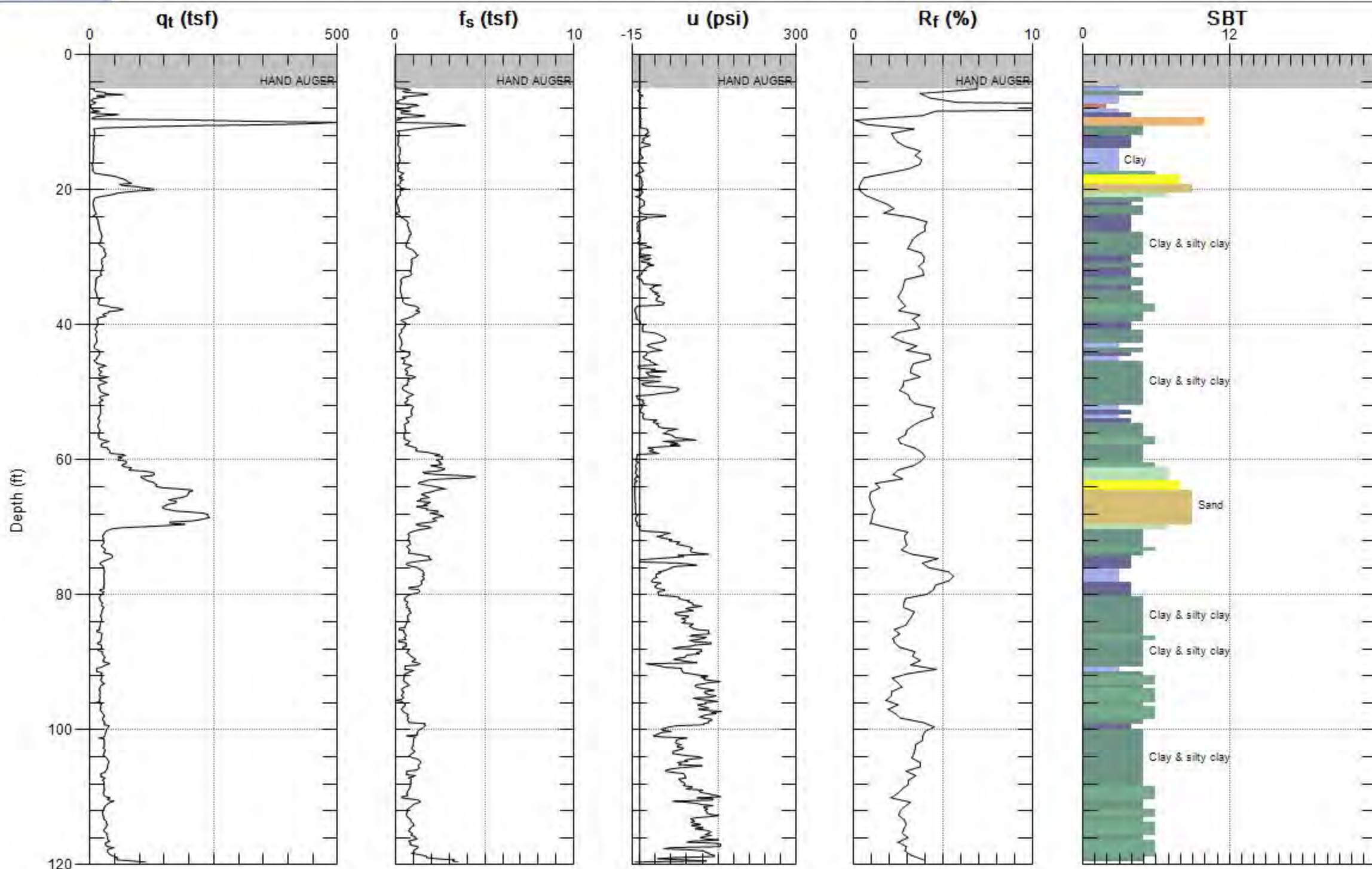
IRIS ENVIRONMENTAL

Site: FMR. ROMIC FAC.

Sounding: RCPT-20

Engineer: B.CHEN

Date: 6/8/2015 08:01



Max. Depth: 119.587 (ft)

Avg. Interval: 0.656 (ft)

SBT: Soil Behavior Type (Robertson 1990)



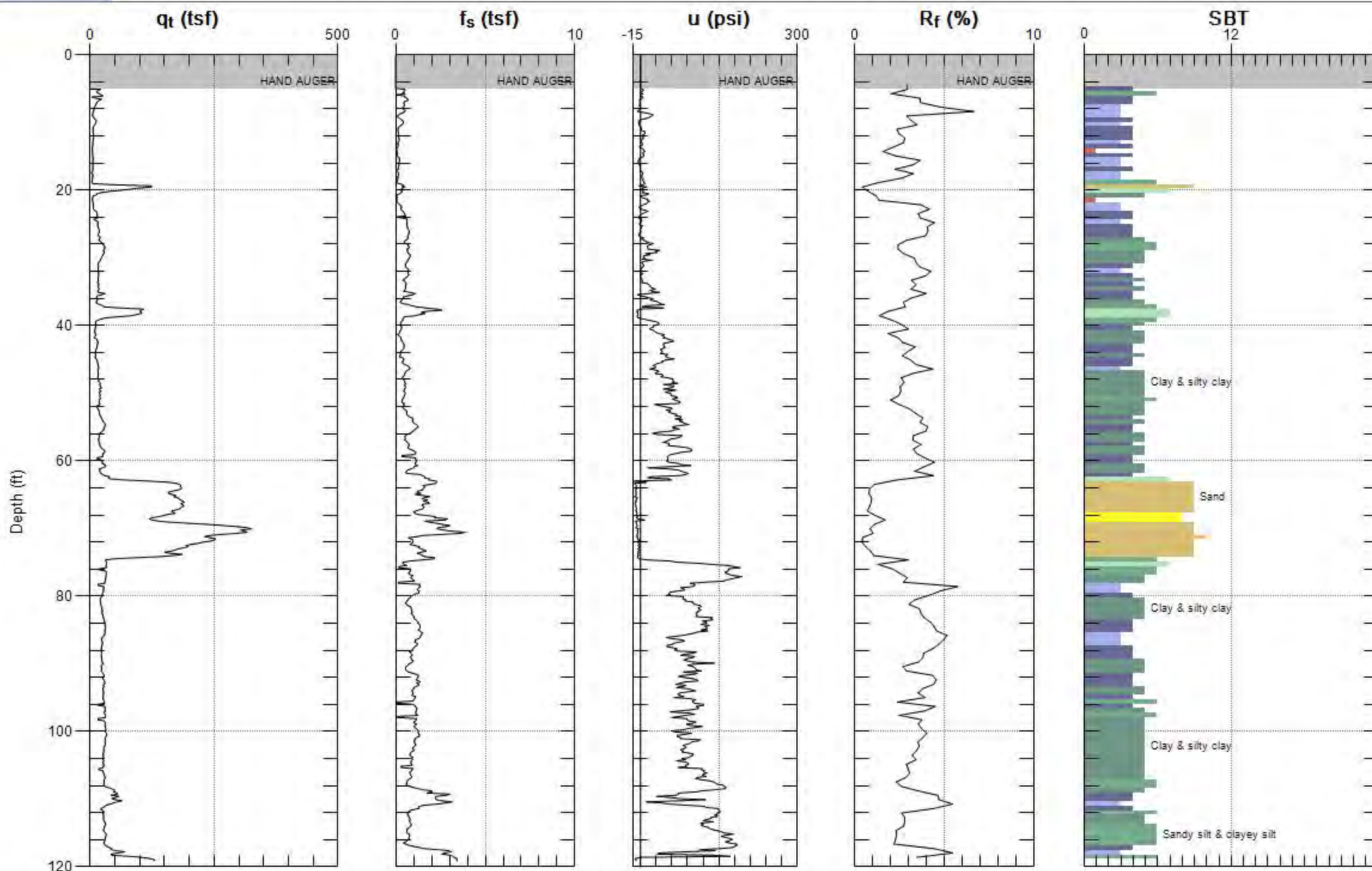
IRIS ENVIRONMENTAL

Site: FMR. ROMIC FAC.

Sounding: RCPT-24

Engineer: B.CHEN

Date: 6/9/2015 01:14



Max. Depth: 119.094 (ft)

Avg. Interval: 0.656 (ft)

SBT: Soil Behavior Type (Robertson 1990)

Arcadis (2004)

RW-5B

LOG OF BORING RW-5B

Romic Environmental
2081 Bay Road
East Palo Alto, California

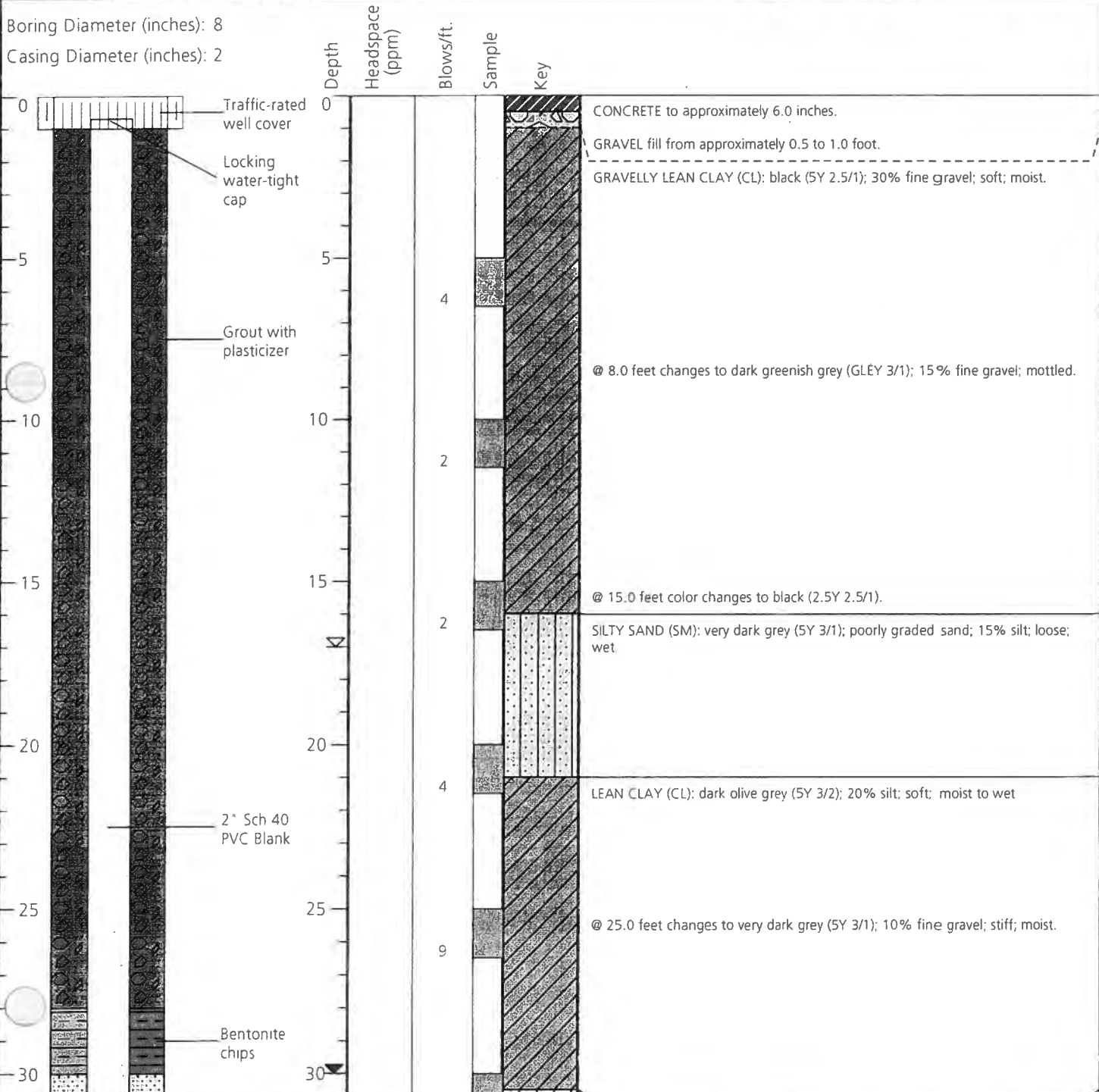
Project No.: RC000519.0004T5 Date Started: 18 July 2004
Logged by: H.Voscott Date Completed: 18 July 2004
Drilling Co.: Exploration Geo. Drilling Method: Hollow Stem Auger
Driller: D.Yeager Sample Method: 2" x18" Split Spoon
Well Permit #: Driller's License: C57-484288

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 8

Casing Diameter (inches): 2

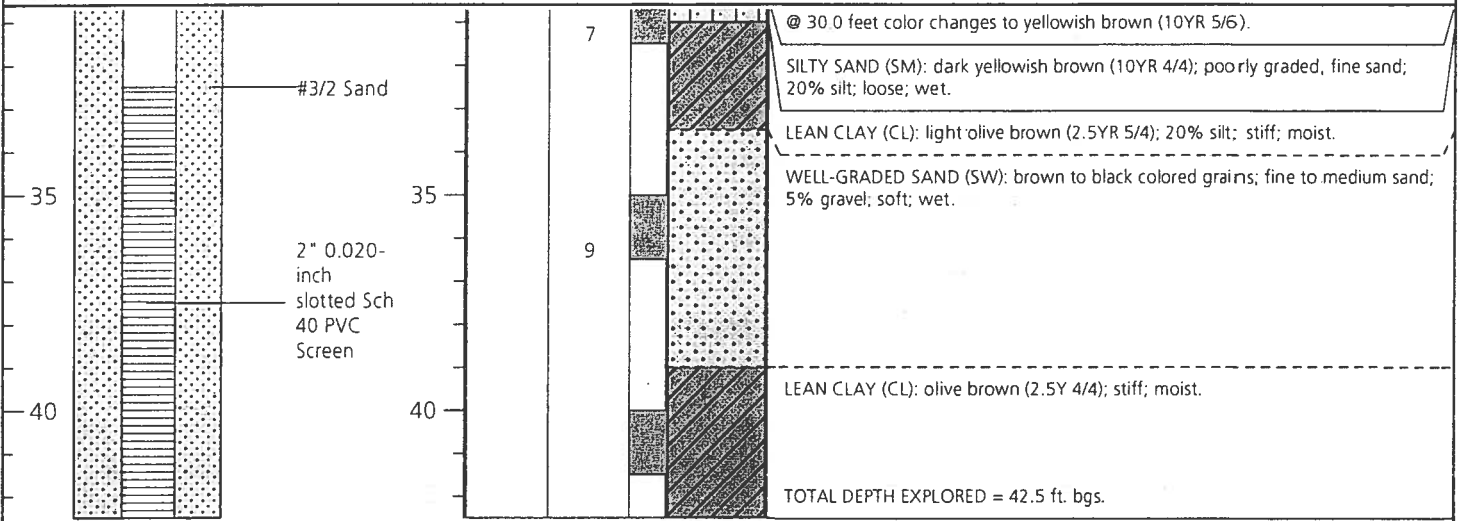


LOG OF BORING RW-5B (Continued)

LITHOLOGIC DESCRIPTION

WELL CONSTRUCTION

Depth
Headspace
(ppm)
Blows/ft.
Sample
Key



APPENDIX H

Historical Laboratory Data

B-107 Historic Laboratory Data HDR (2024)



Moisture-Density-Porosity Report

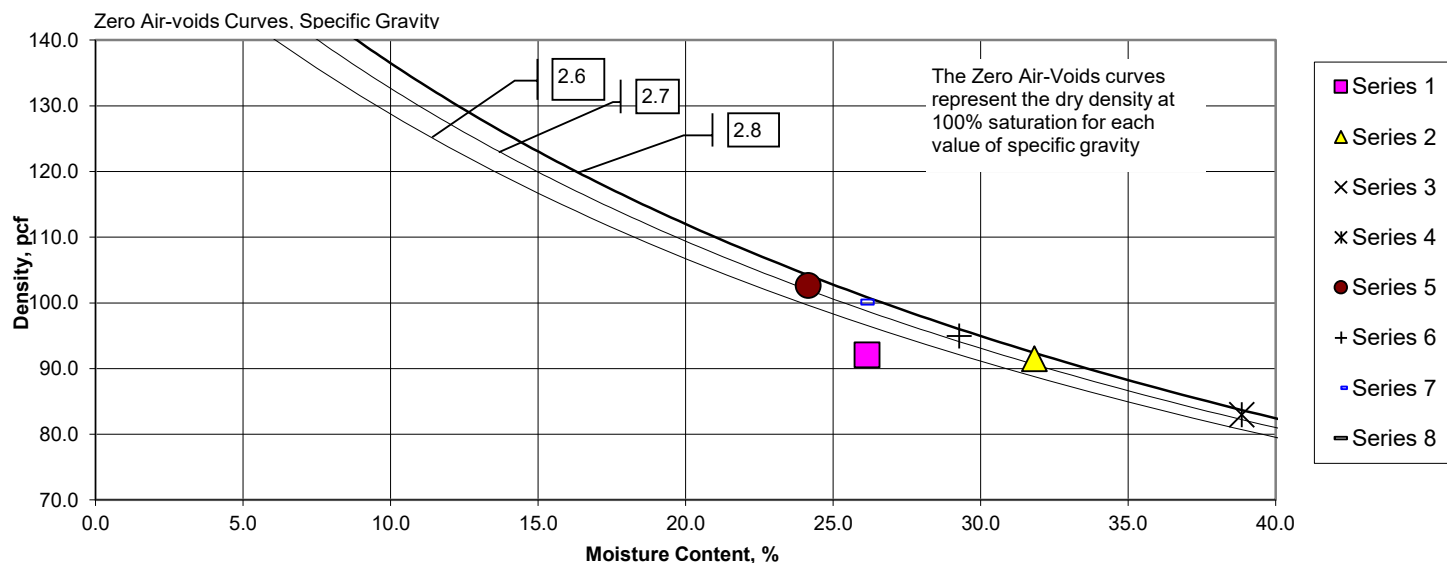
Cooper Testing Labs, Inc. (ASTM D7263b)

CTL Job No: 855-048 Project No. 10151664 By: RU
 Client: HDR Engineering Date: 12/05/22
 Project Name: SAFER Bay Remarks:

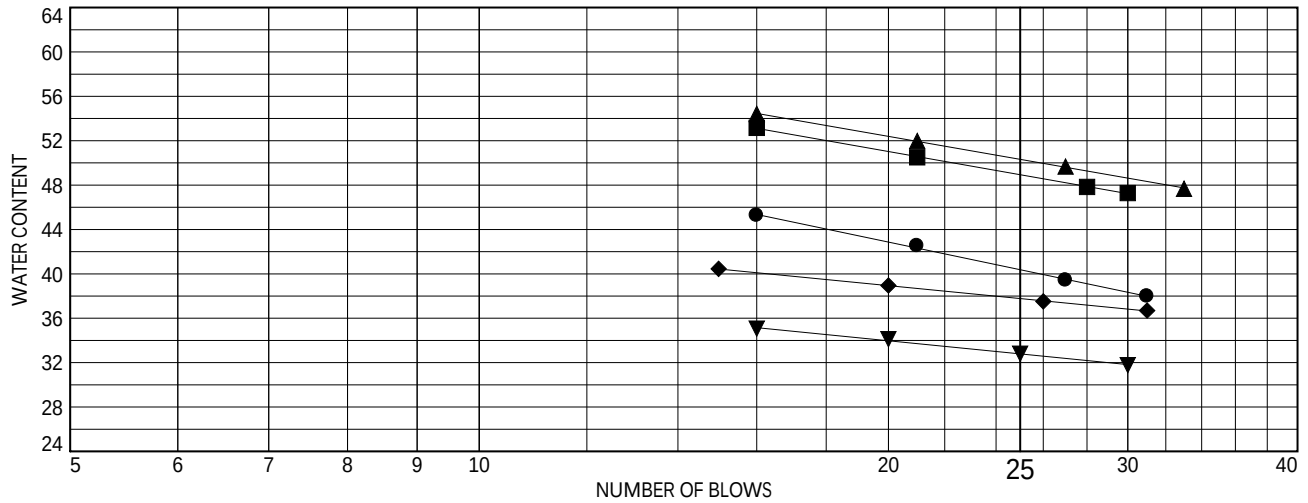
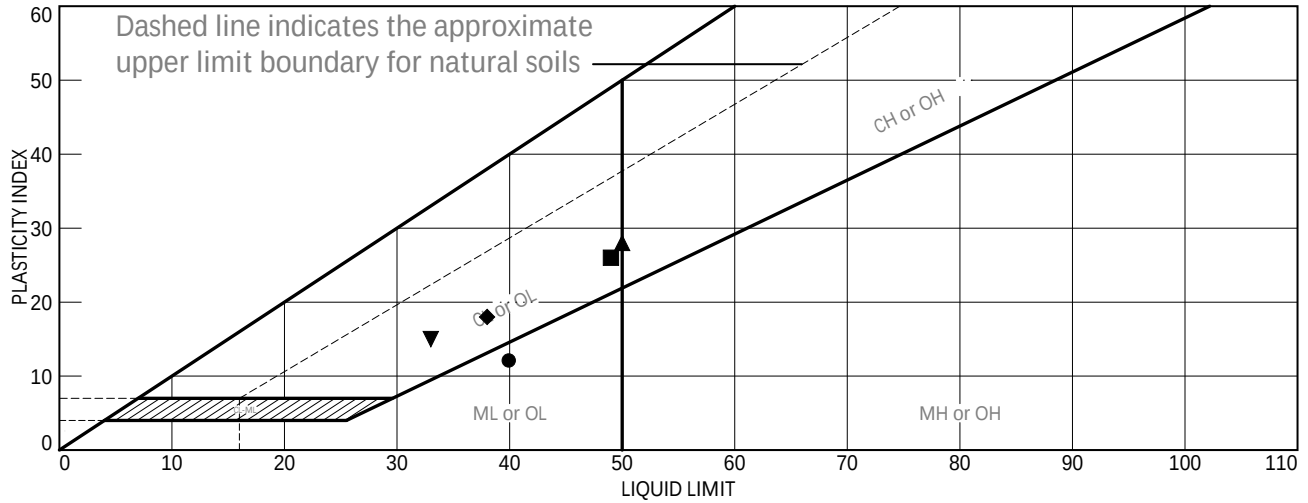
Boring:	B-107	B-107	B-107	B-107	B-107	B-107	B-107	
Sample:	L2	L6	S8	L9	L13	L16	L17	
Depth, ft:	3.5-4	13.5-14	17.5-19	21-21.5	28-28.5	31-31.5	36-36.5	
Visual Description:	Dark Brown Sandy SILT w/ Gravel	Gray CLAY w/ Sand	Gray CLAY w/ Sand	Very Dark Gray CLAY	Olive Gray Sandy CLAY	Olive Gray Sandy Lean CLAY	Olive Gray Sandy Lean CLAY	
Actual G_s								
Assumed G_s	2.70	2.75		2.75	2.75	2.75	2.75	
Moisture, %	26.1	31.8	48.5	38.9	24.2	29.3	26.0	
Wet Unit wt, pcf	116.2	120.6		115.2	127.4	122.7	126.1	
Dry Unit wt, pcf	92.1	91.5		83.0	102.6	94.9	100.1	
Dry Bulk Dens.pb, (g/cc)	1.47	1.47		1.33	1.64	1.52	1.60	
Saturation, %	85.0	99.9		99.9	98.8	99.6	99.8	
Total Porosity, %	45.4	46.7		51.7	40.2	44.7	41.7	
Volumetric Water Cont., θ_w , %	38.6	46.7		51.6	39.7	44.5	41.6	
Volumetric Air Cont., θ_a , %	6.8	0.1		0.0	0.5	0.2	0.1	
Void Ratio	0.83	0.88		1.07	0.67	0.81	0.72	
Series	1	2	3	4	5	6	7	8

Note: All reported parameters are from the as-received sample condition unless otherwise noted. If an assumed specific gravity (G_s) was used then the saturation, porosities, and void ratio should be considered approximate.

Moisture-Density



LIQUID AND PLASTIC LIMITS TEST REPORT (ASTM D4318)



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Dark Brown Sandy SILT w/ Gravel	40	28	12			
■	Greenish Gray Sandy Lean CLAY	49	23	26			
▲	Very Dark Gray Fat CLAY, trace Sand	50	22	28			
◆	Olive Gray Sandy Lean CLAY	38	20	18			
▼	Olive Gray Sandy Lean CLAY	33	18	15			

Project No. 855-048 Client: HDR Engineering

Project: SAFER Bay - 10161664

● Source of Sample: B-107 Depth: 3.5-4' Sample Number: L2
 ■ Source of Sample: B-107 Depth: 10-12.5' Sample Number: T5
 ▲ Source of Sample: B-107 Depth: 22.5-25' Sample Number: T10
 ◆ Source of Sample: B-107 Depth: 31-31.5' Sample Number: L16
 ▼ Source of Sample: B-107 Depth: 36-36.5' Sample Number: L17

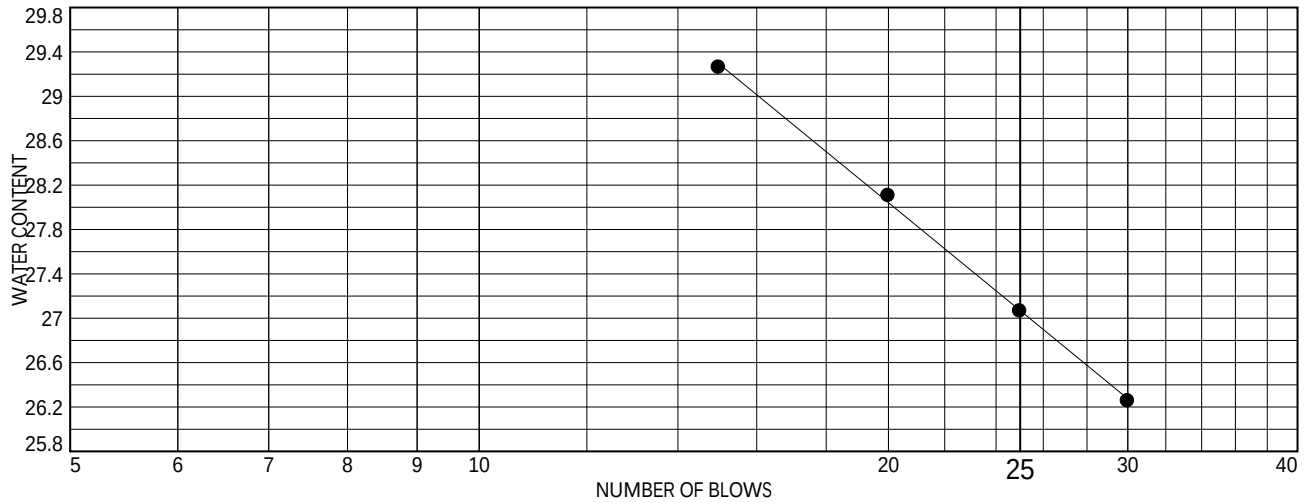
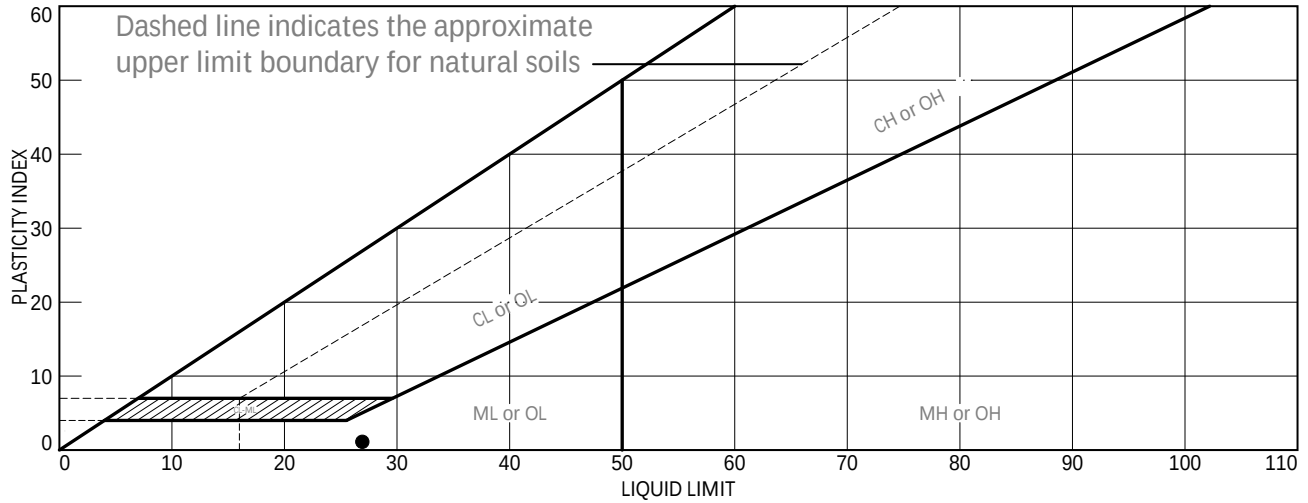
Remarks:

■ Sample was prepared using the wet prep method.
 ▲ Sample was prepared using the wet prep method.

COOPER TESTING LABORATORY

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT (ASTM D4318)



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Olive Brown Silty SAND	27	26	1			

Project No. 855-048 Client: HDR Engineering

Project: SAFER Bay - 10161664

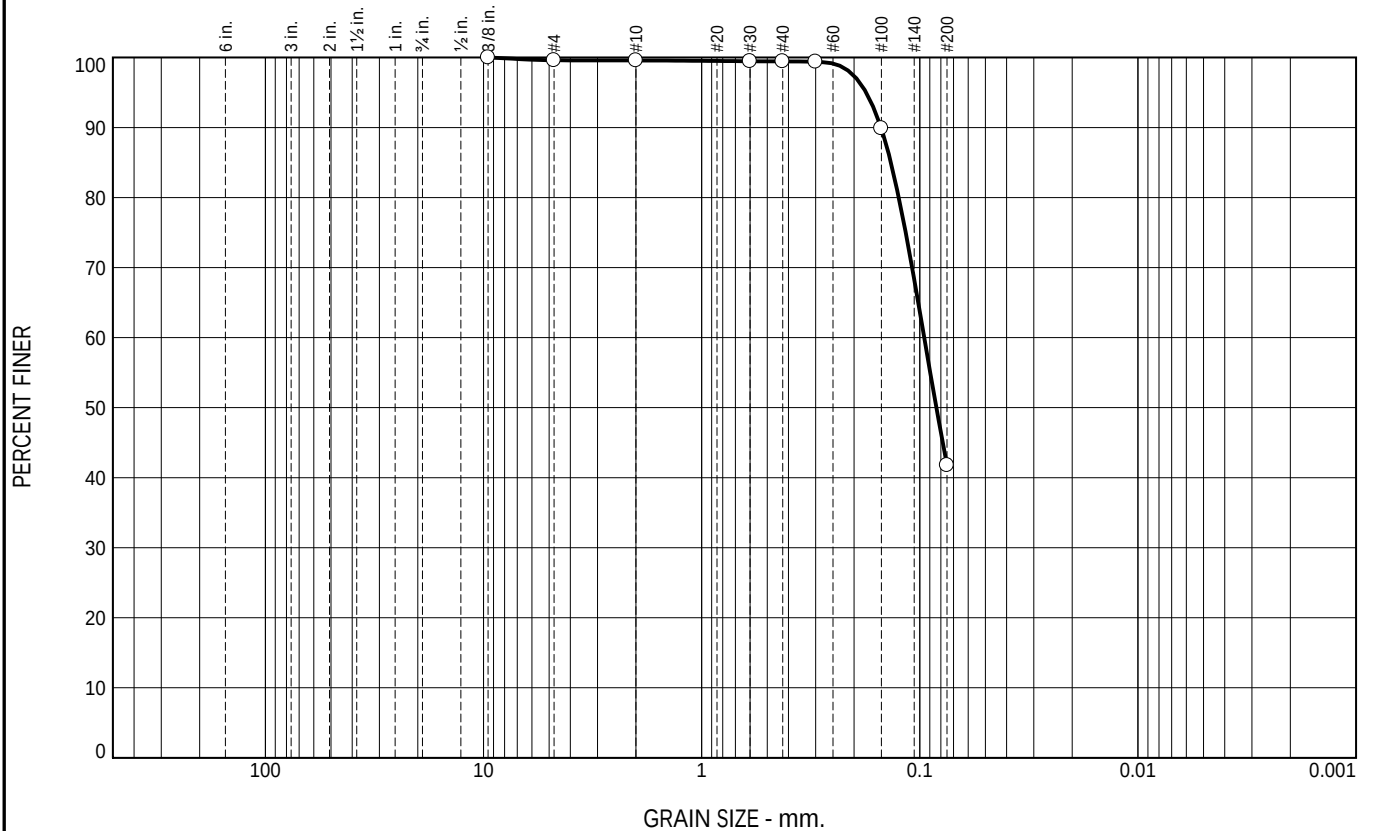
● Source of Sample: B-107 Depth: 45.5-46' Sample Number: L19

Remarks:

COOPER TESTING LABORATORY

Figure

Particle Size Distribution Report



+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PL	PI
0.0	0.4	57.8	41.8					

SIEVE inches size	PERCENT FINER		
3/8"	100.0		
GRAIN SIZE			
D ₆₀	0.0953		
D ₃₀			
D ₁₀			
COEFFICIENTS			
C _c			
C _u			

SIEVE number size	PERCENT FINER		
#4	99.6		
#10	99.6		
#30	99.5		
#40	99.4		
#50	99.4		
#100	89.9		
#200	41.8		

<u>Material Description</u>
○ Dark Brown Silty SAND

<u>REMARKS:</u>
○

○ Source of Sample: B-107 Depth: 51-51.5' Sample Number: L21

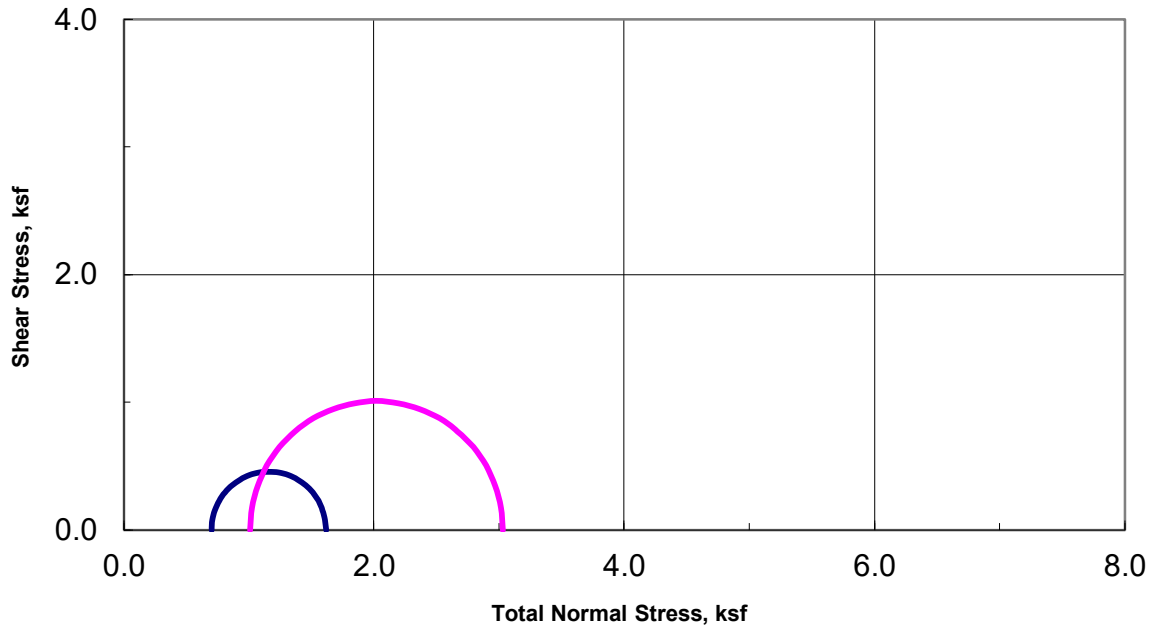
COOPER TESTING LABORATORY

Client: HDR Engineering
 Project: SAFER Bay - 10161664
 Project No.: 855-048

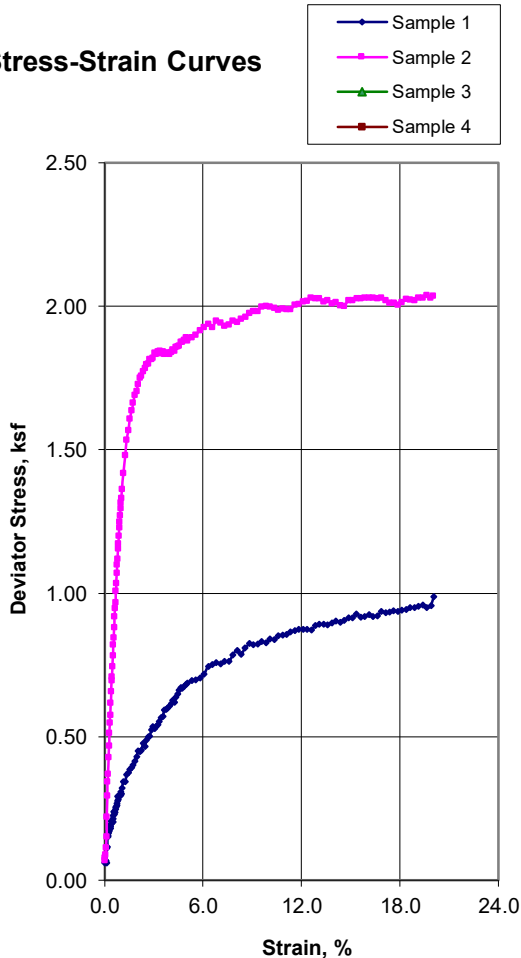
Figure



Unconsolidated-Undrained Triaxial Test ASTM D2850



Stress-Strain Curves



Sample Data

	1	2	3	4
Moisture %	27.1	32.9		
Dry Den,pcf	96.1	87.0		
Void Ratio	0.754	0.938		
Saturation %	97.1	94.8		
Height in	6.03	6.07		
Diameter in	2.86	2.87		
Cell psi	4.9	7.0		
Strain %	15.00	15.00		
Deviator, ksf	0.915	2.021		
Rate %/min	1.00	1.00		
in/min	0.060	0.061		
Job No.:	855-048			
Client:	HDR Engineering			
Project:	10151664			
Boring:	B-107	B-107		
Sample:	T5	T10		
Depth ft:	10-12.5(Tip-4")	22.5(Tip-10")		

Visual Soil Description

Sample #	
1	Greenish Gray Sandy Lean CLAY
2	Very Dark Gray Fat CLAY, trace Sand
3	
4	

Remarks:

Note: Strengths are picked at the peak deviator stress or 15% strain which ever occurs first per ASTM D2850.

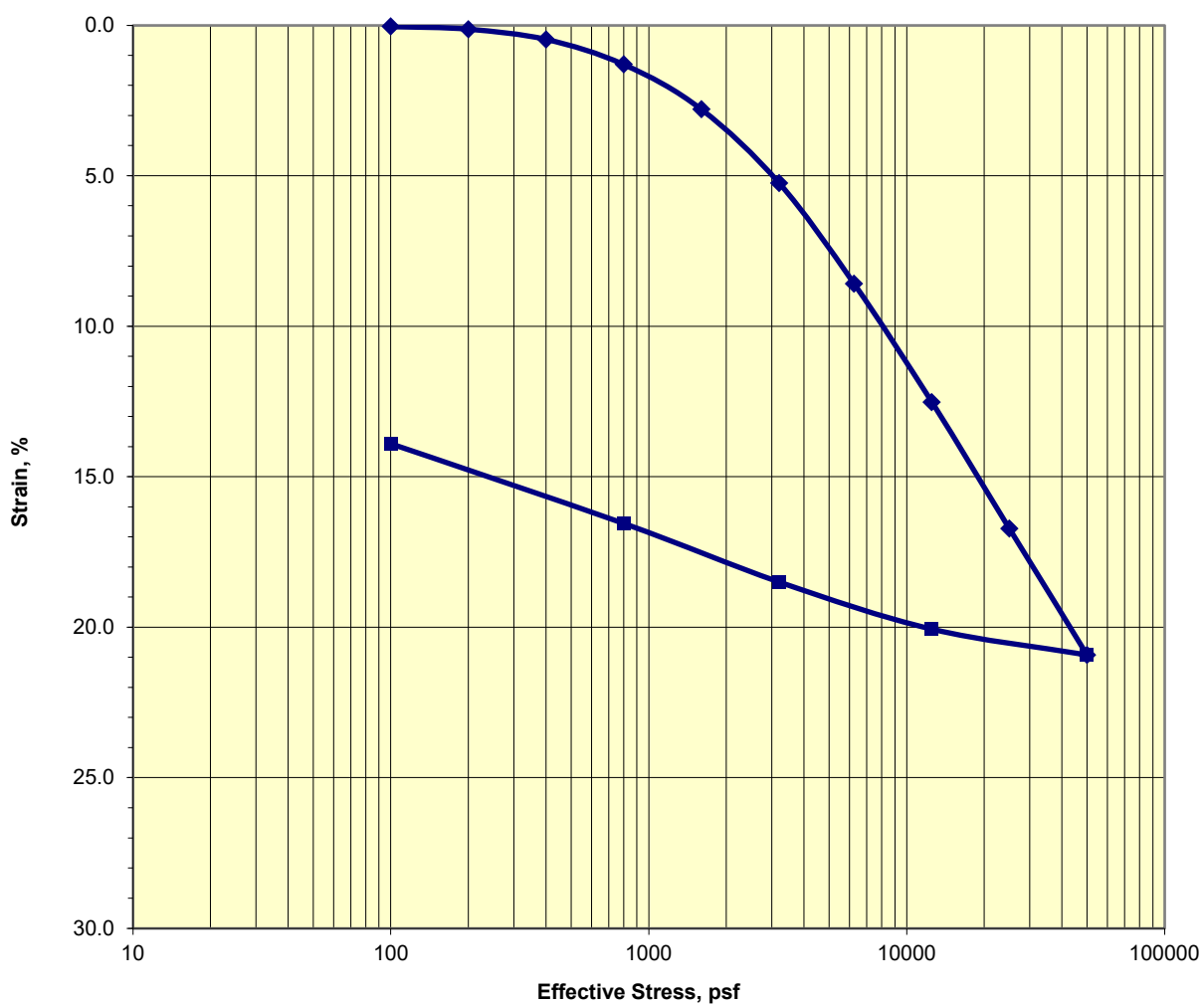


Consolidation Test

ASTM D2435

Job No.: 855-048 Boring: B-107 Run By: MD
Client: HDR Sample: T5 Reduced: PJ
Project: 10151664 Depth, ft.: 10-12.5(Tip-3") Checked: PJ/DC
Soil Type: Greenish Gray Sandy Lean CLAY Date: 12/13/2022

Strain-Log-P Curve

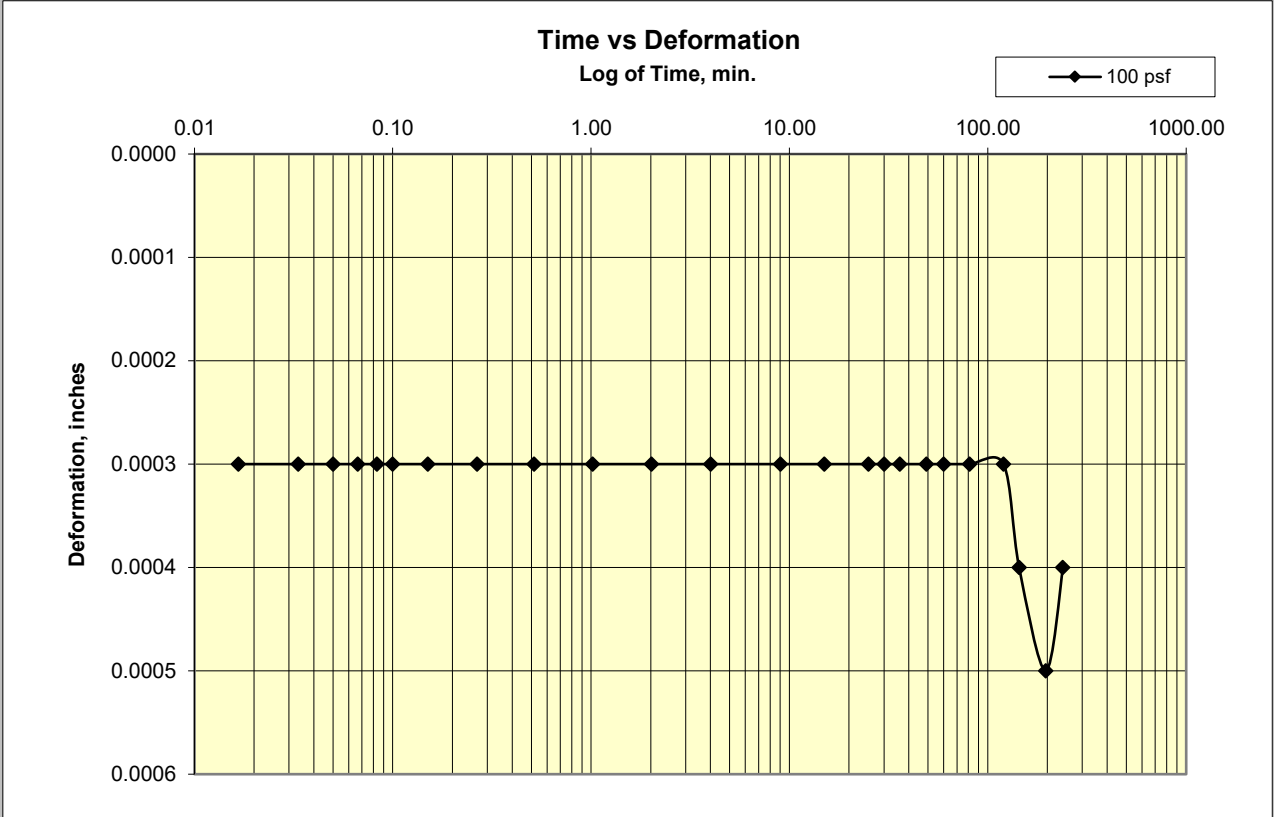


Assumed Gs	2.7	Initial	Final
Moisture %:		30.6	23.9
Dry Density, pcf:		88.6	102.4
Void Ratio:		0.902	0.646
% Saturation:		91.7	100.0

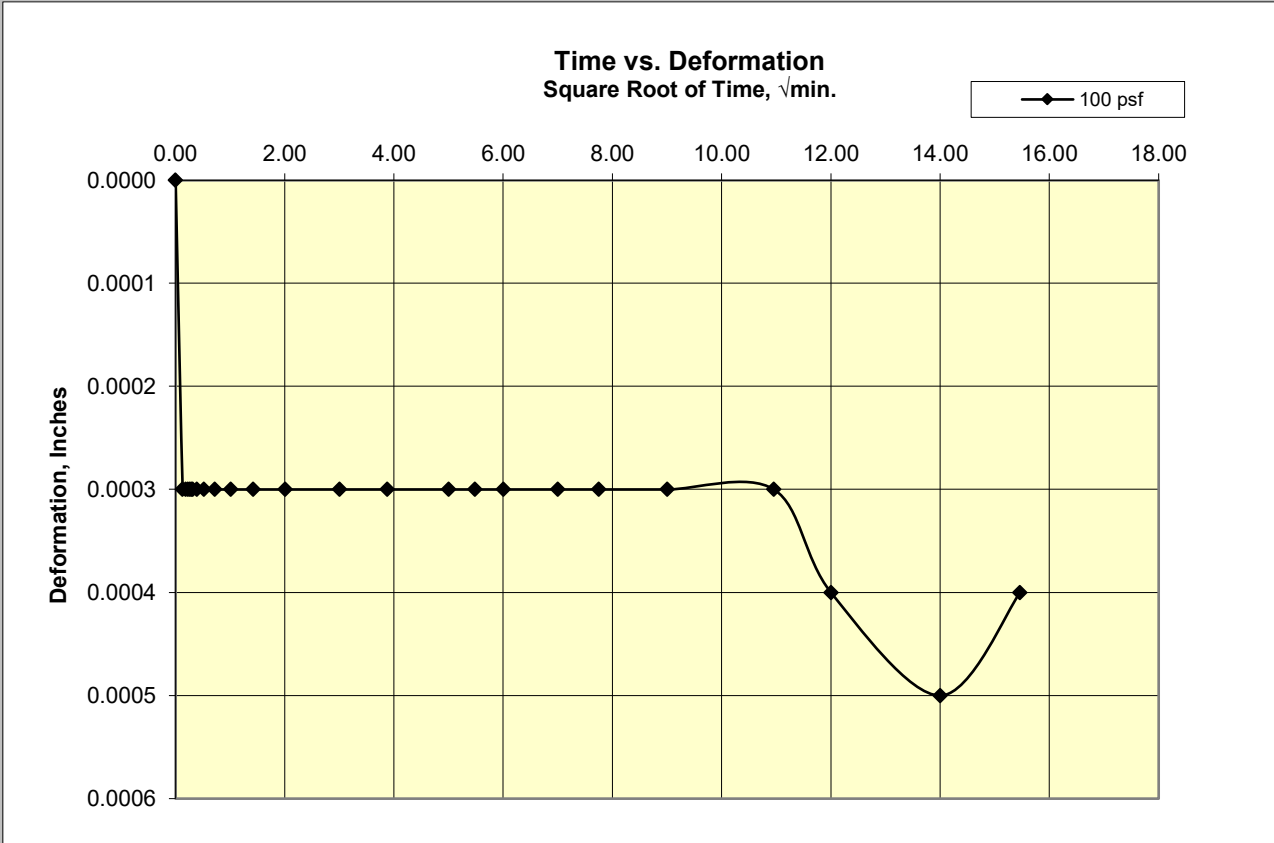
Remarks:

Load 1

100 psf



100 psf



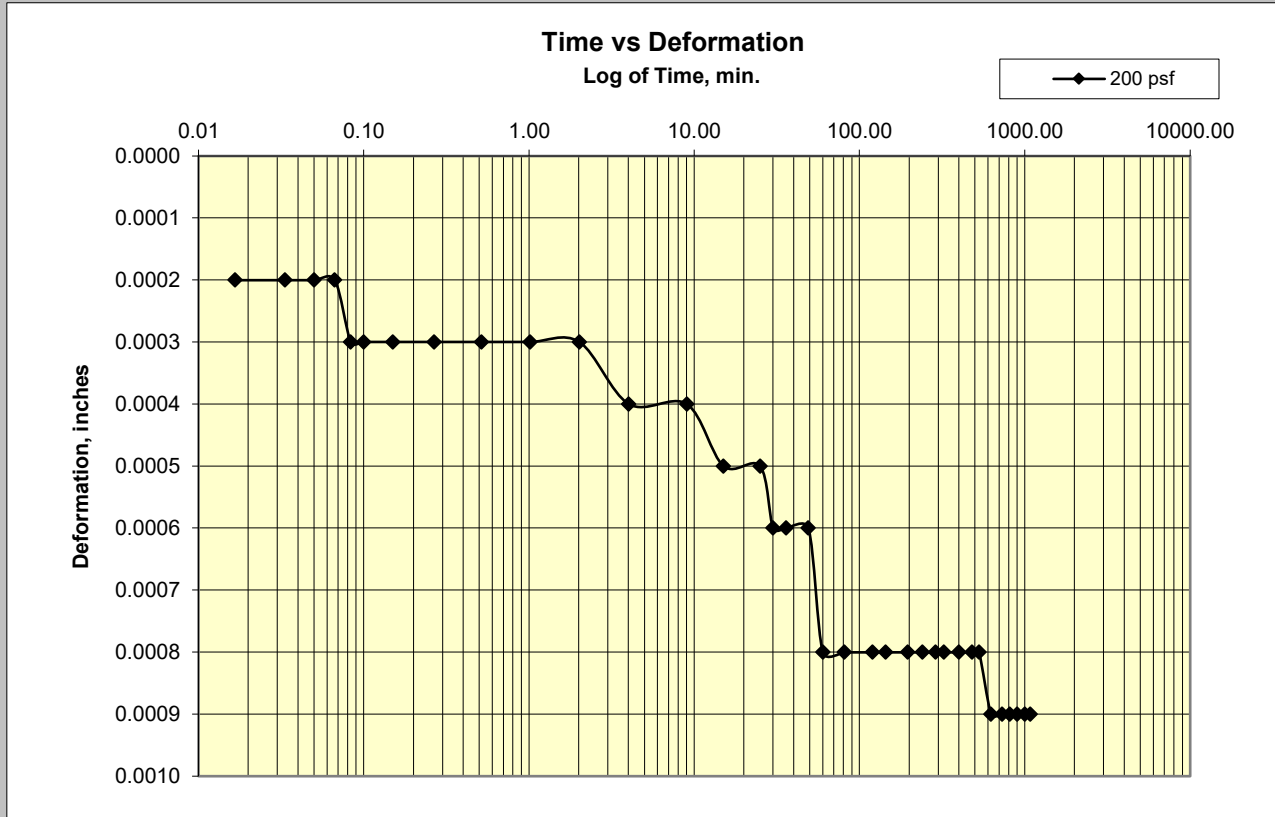
Cooper Testing Labs, Inc.

B-107, Sample T5, 10-12.5 feet

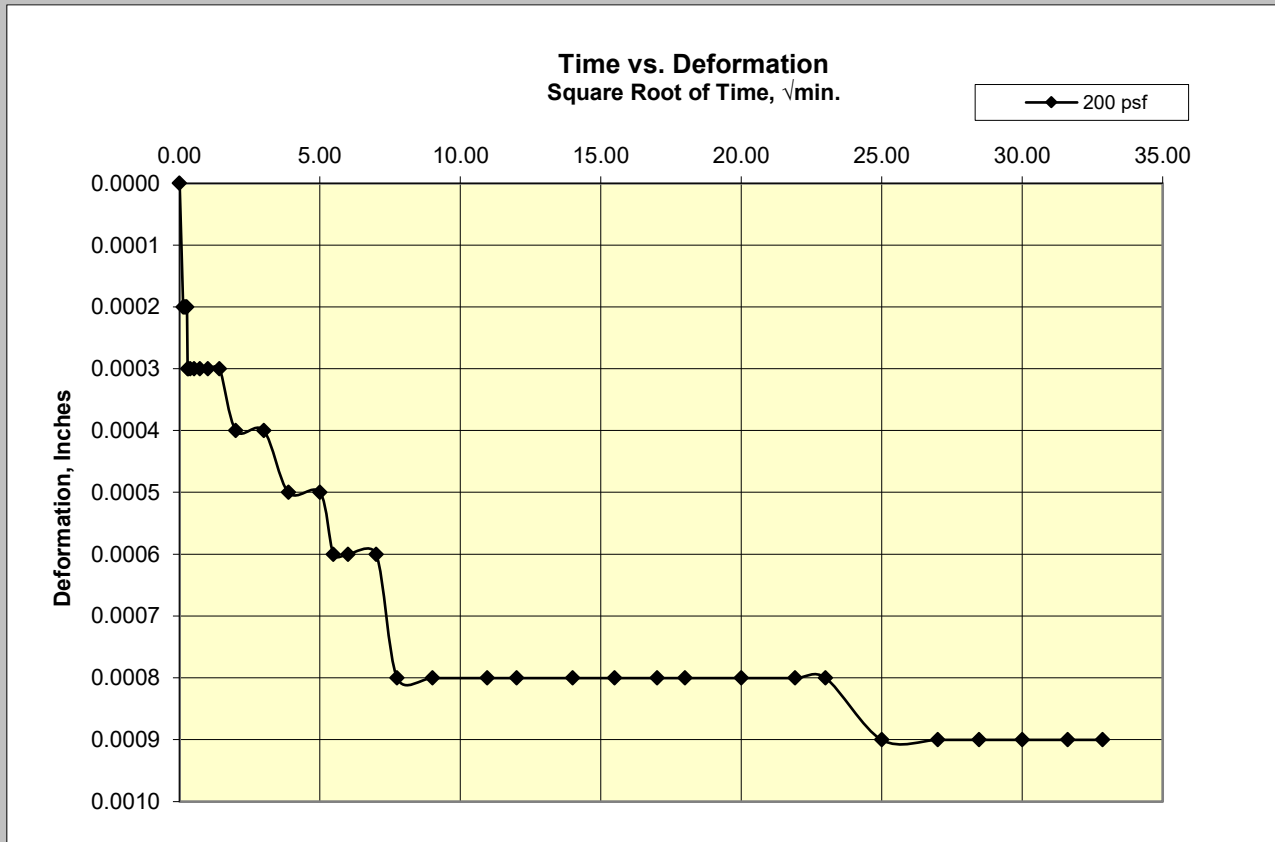
B-107, Sample T5, 10-12.5 feet

Load 2

200 psf

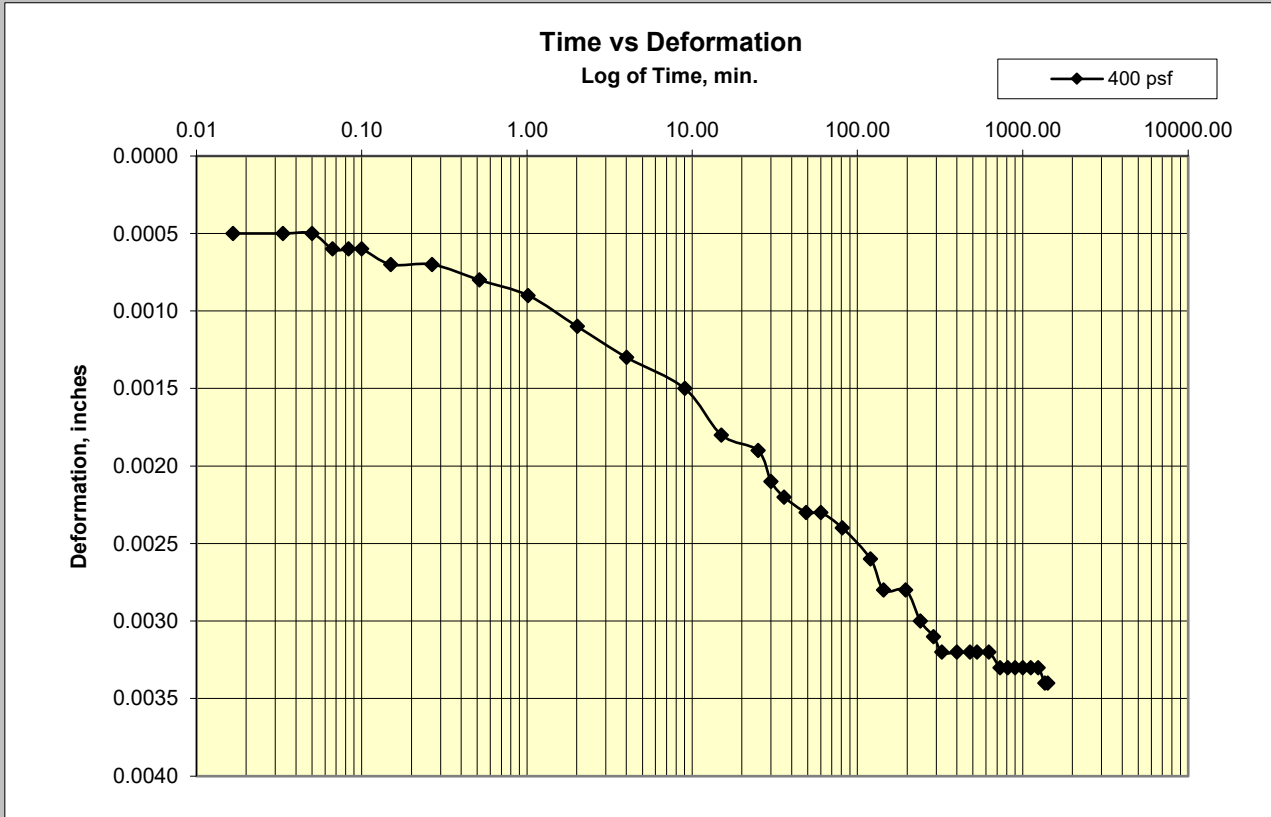


200 psf

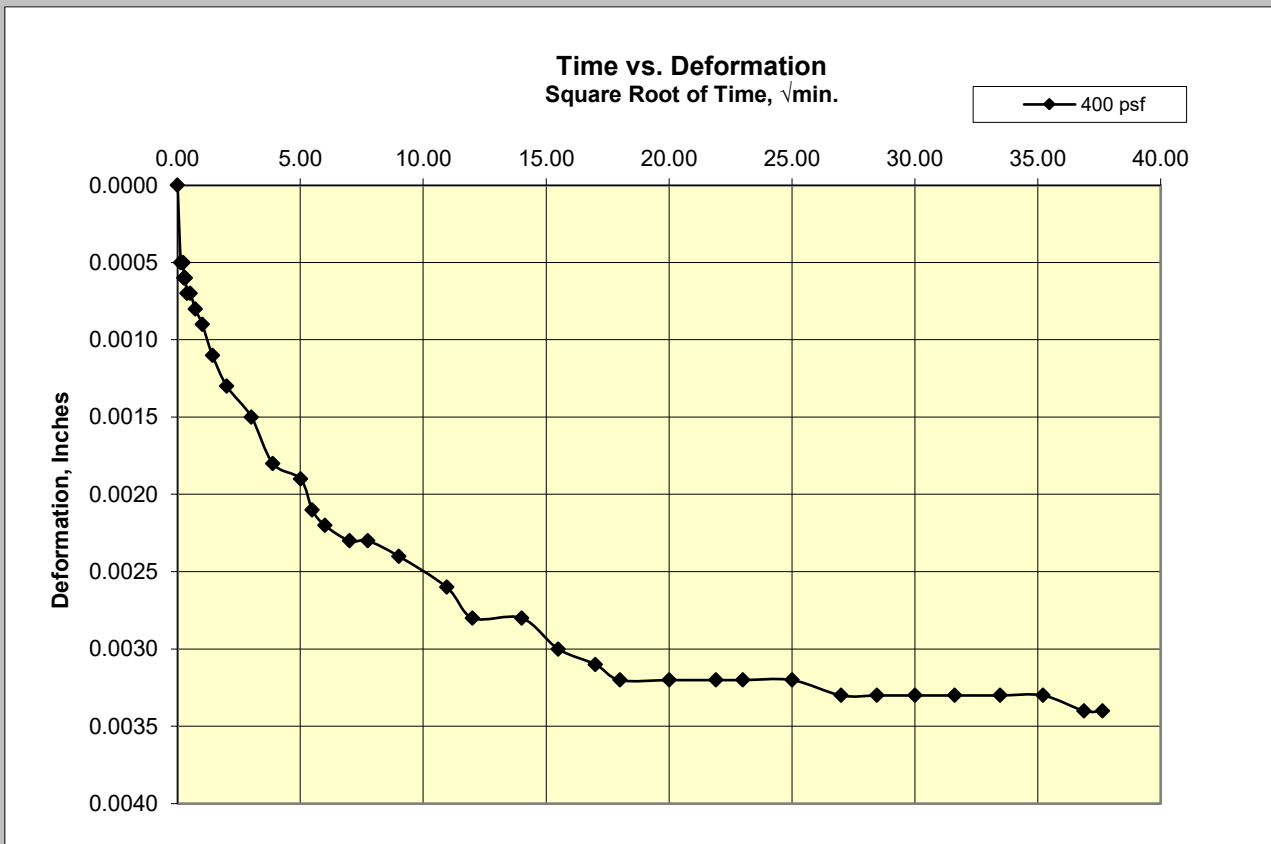


Load 3

400 psf

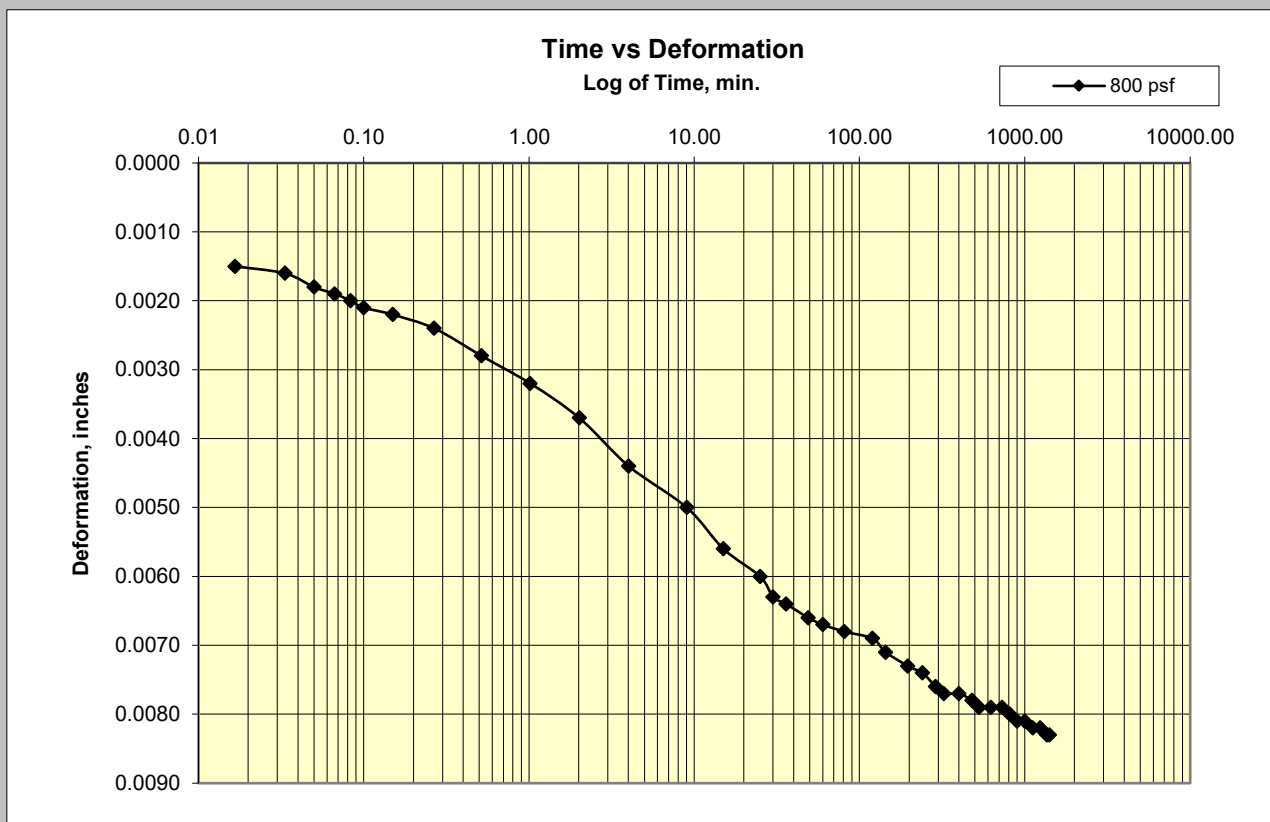


400 psf

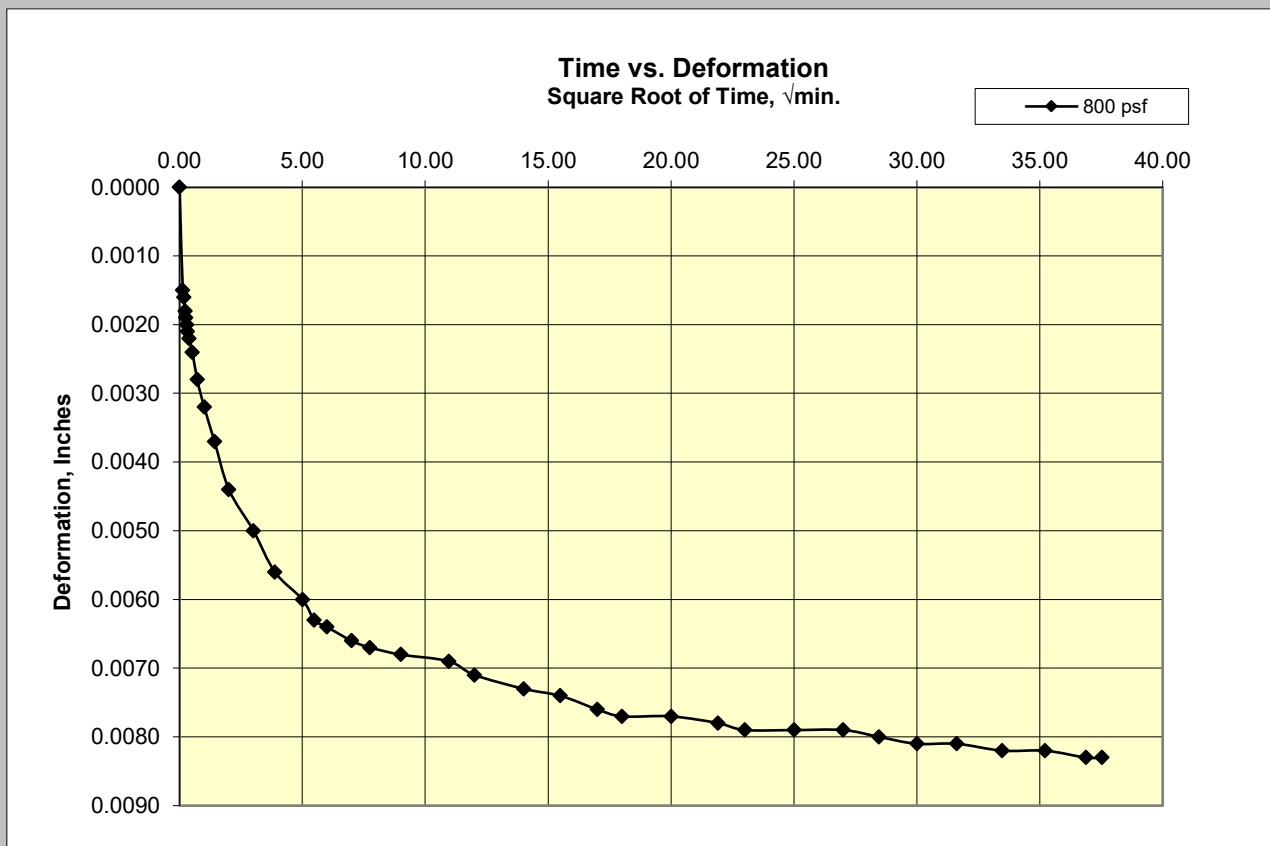


Load 4

800 psf

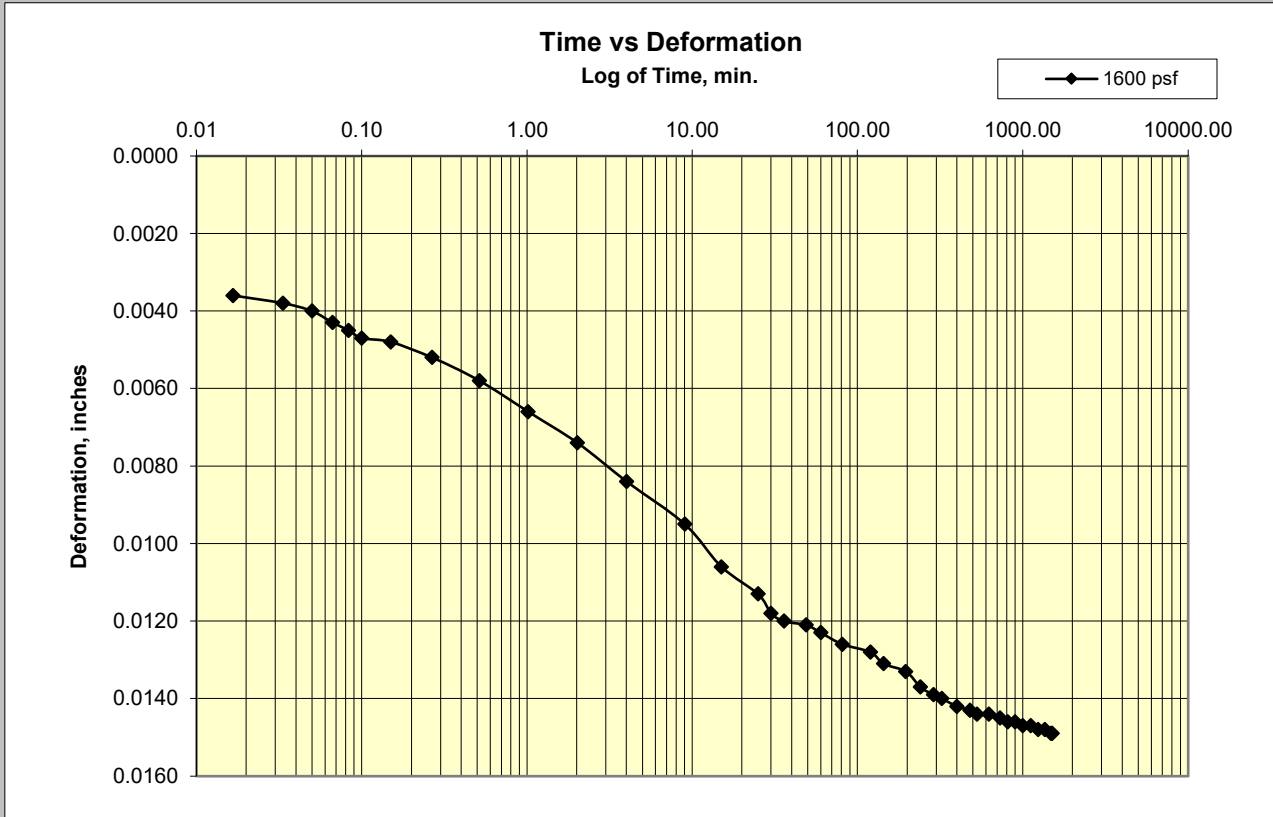


800 psf

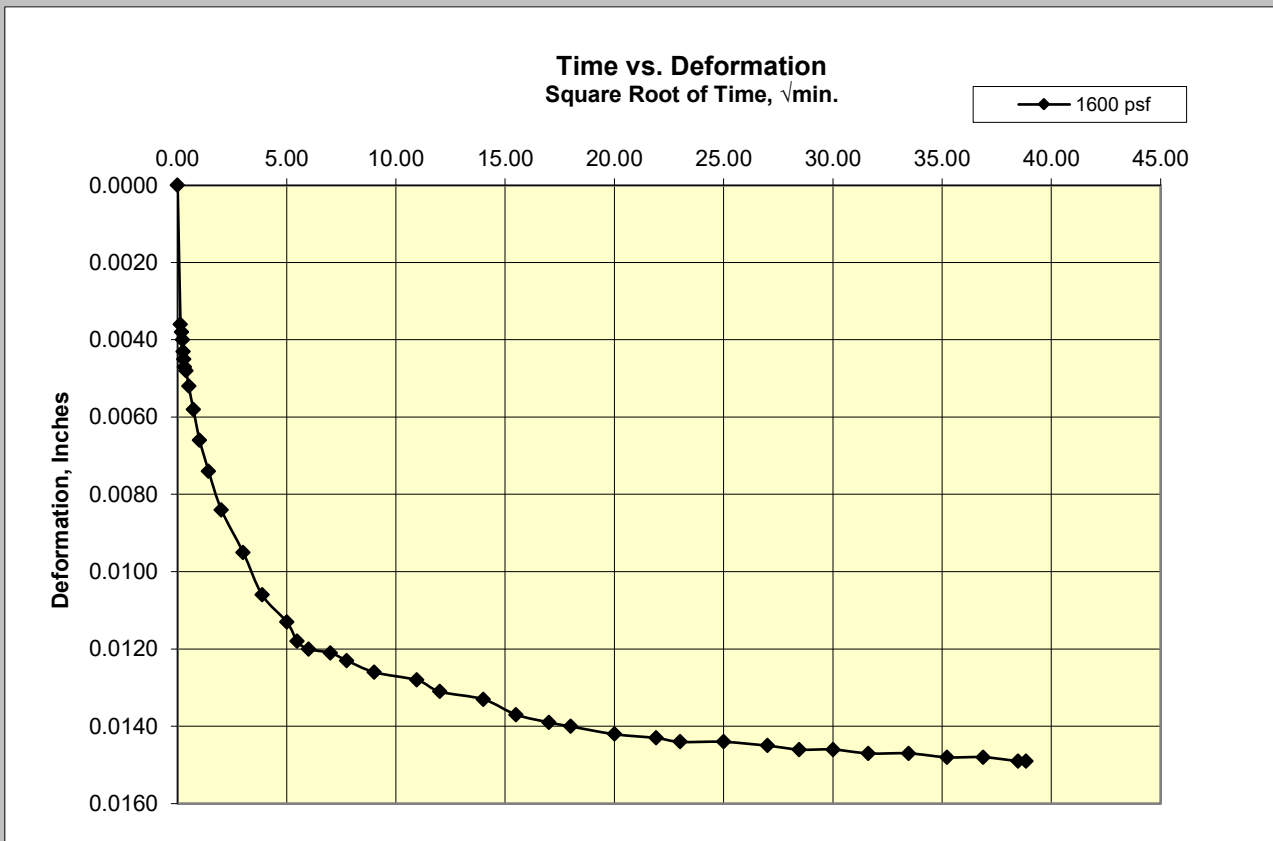


Load 5

1600 psf

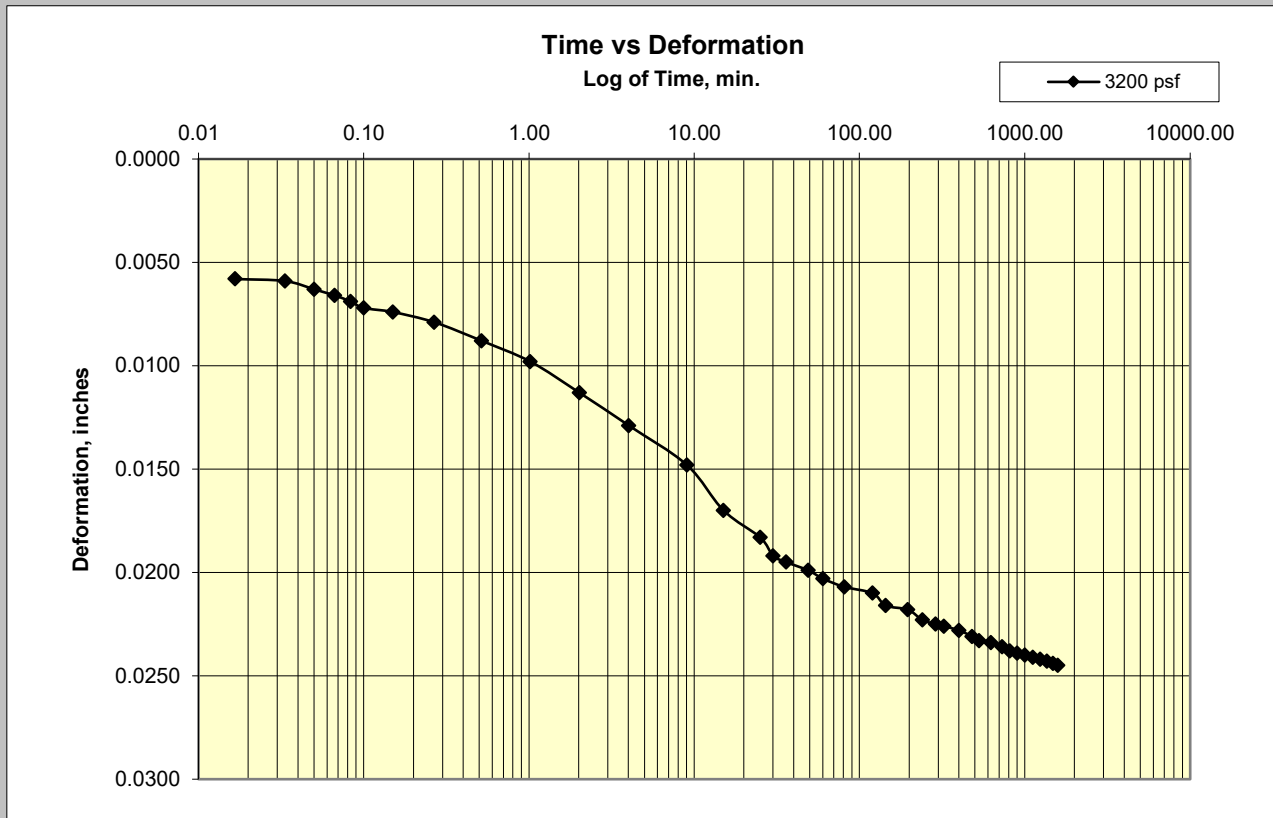


1600 psf

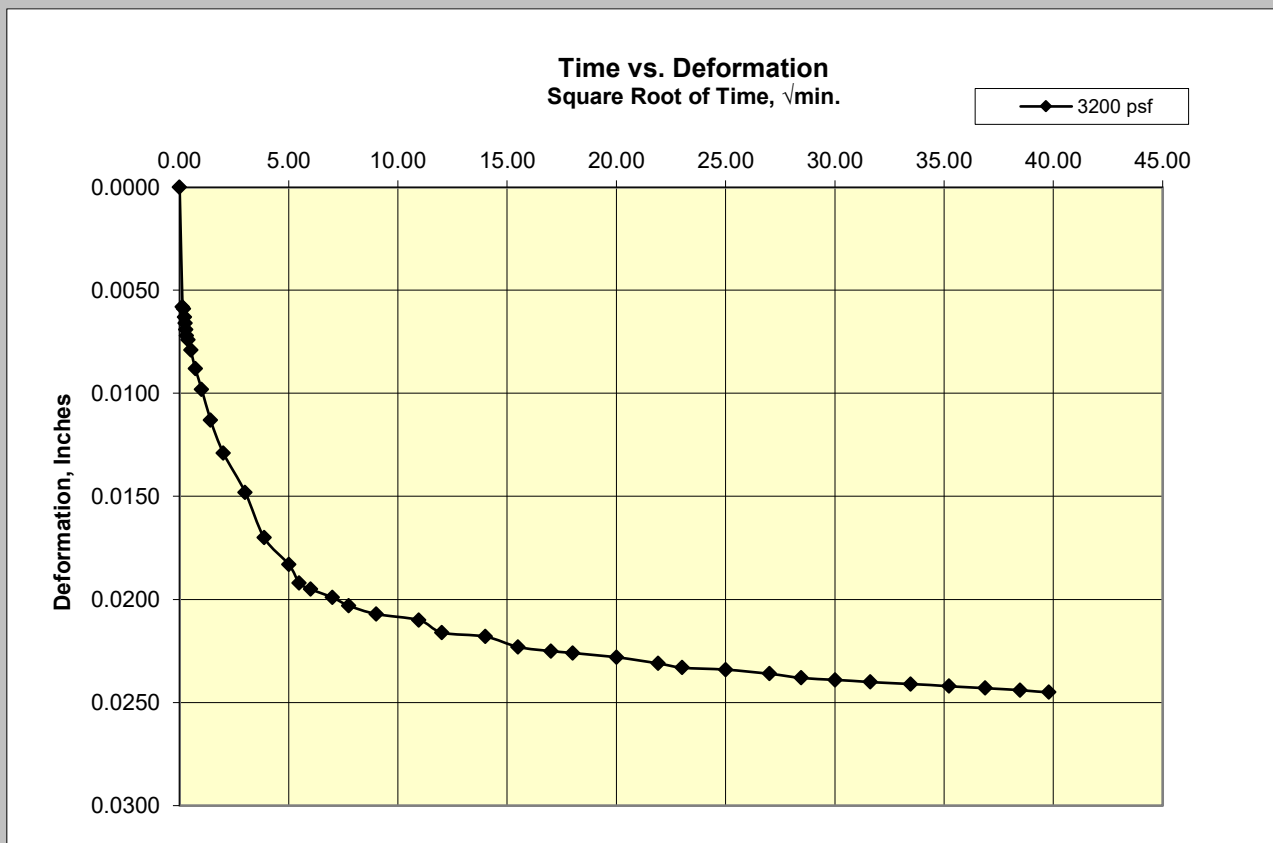


Load 6

3200 psf

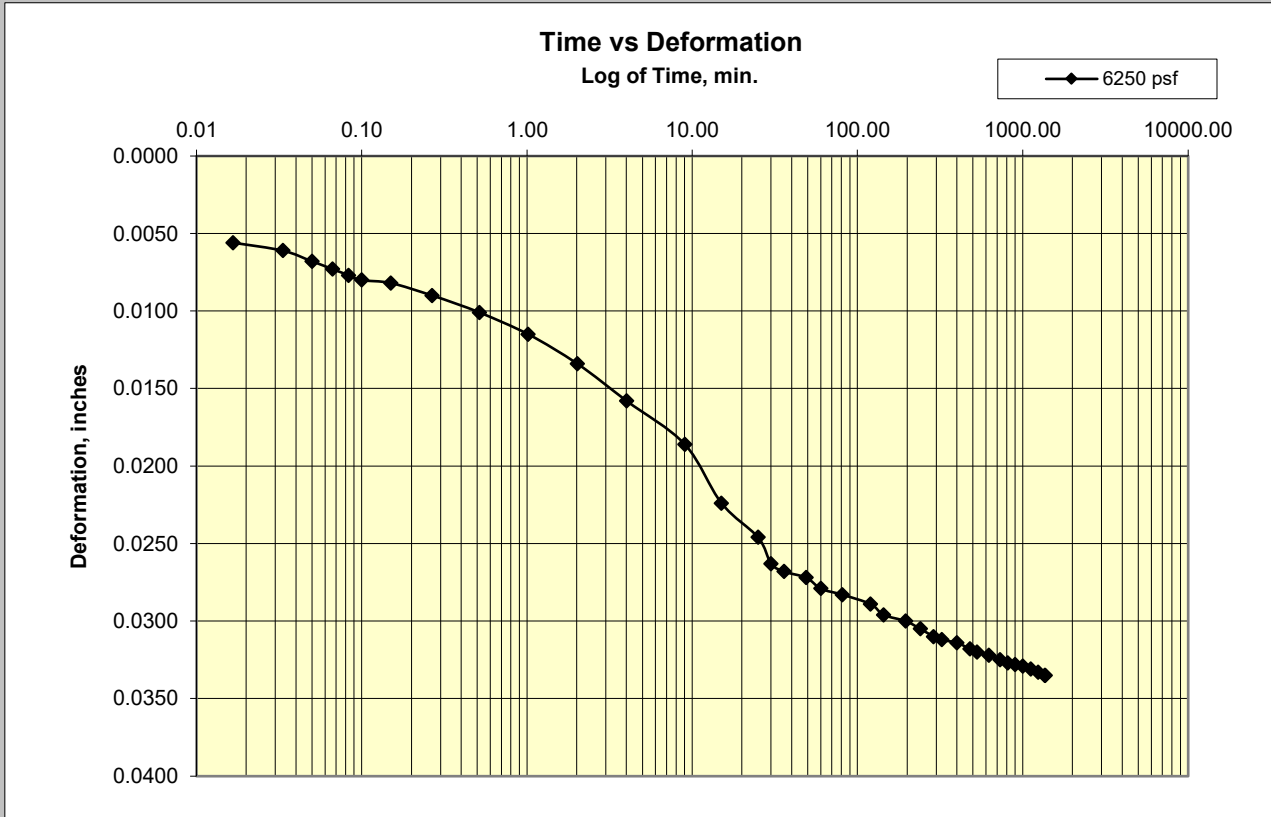


3200 psf

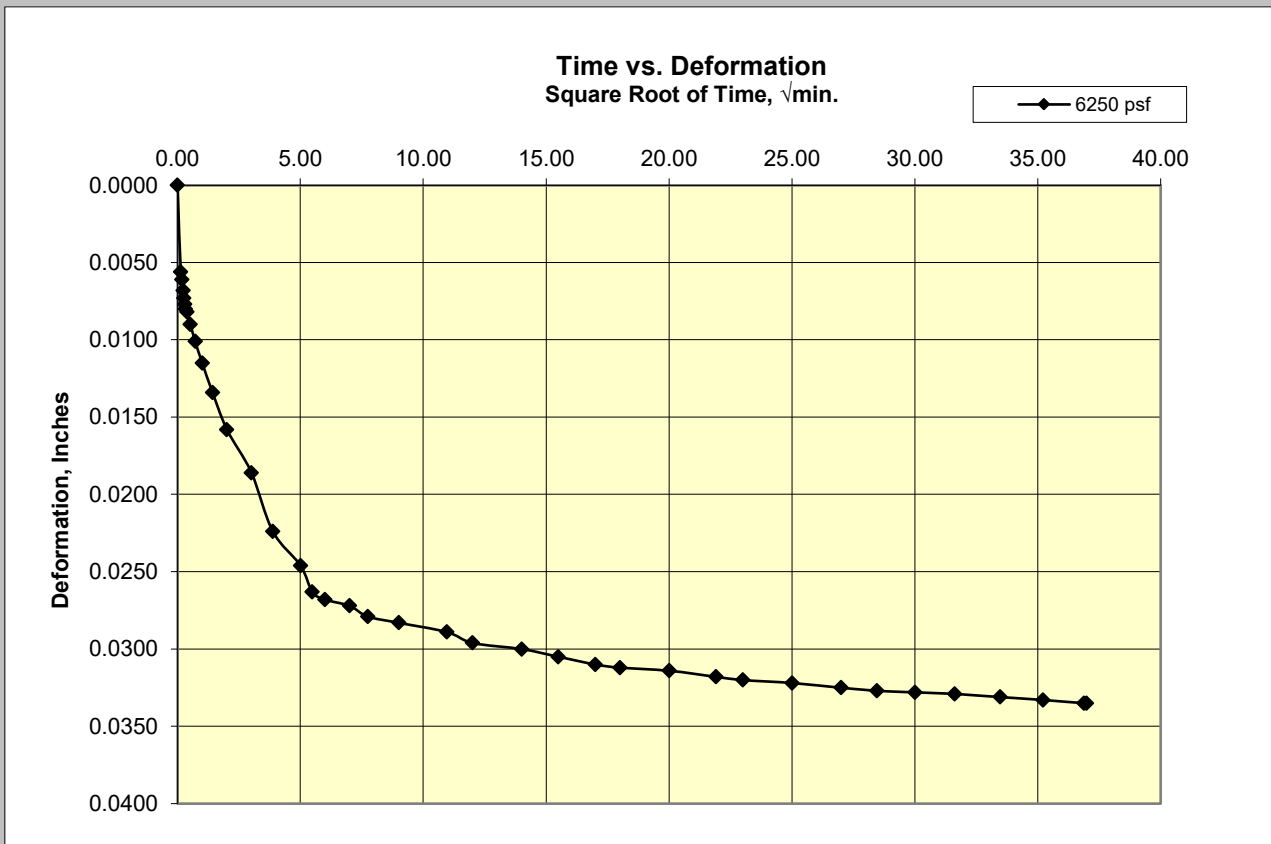


Load 7

6250 psf



6250 psf

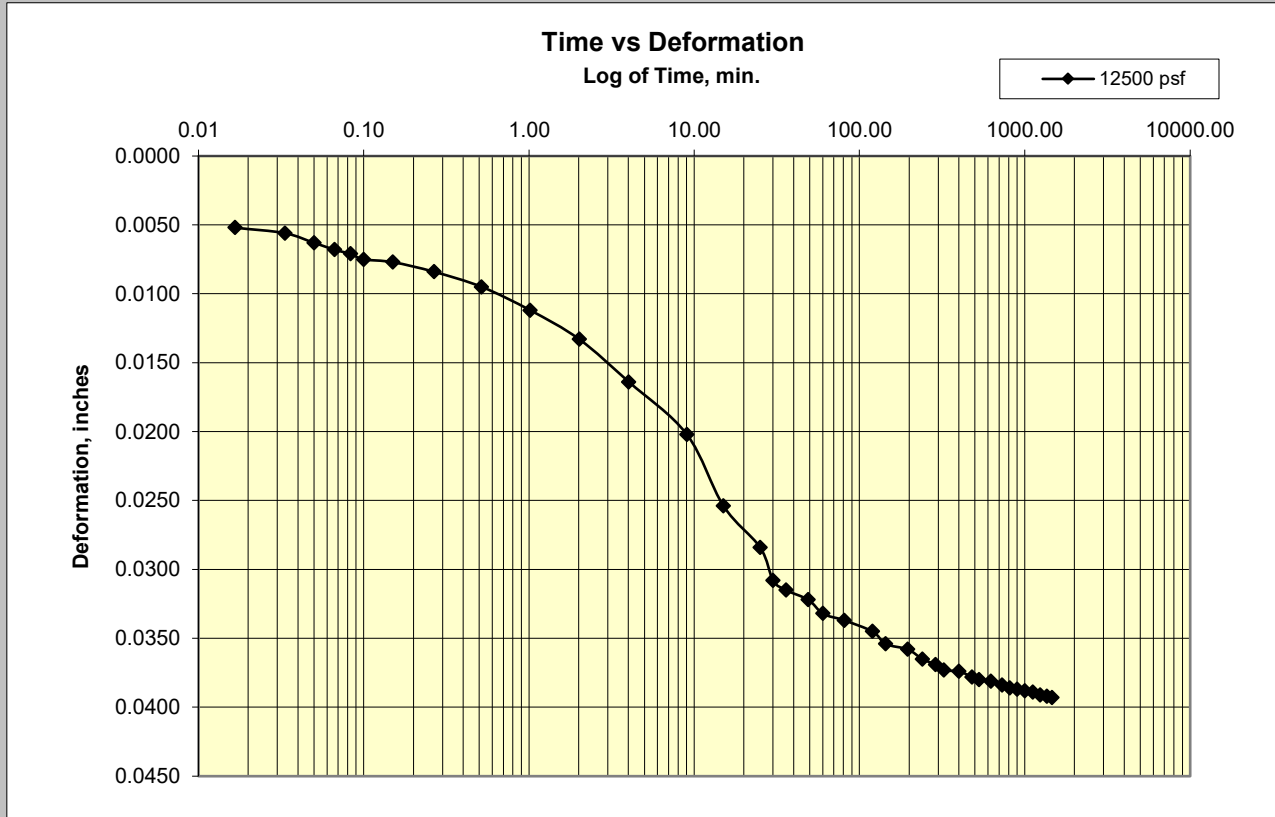


Cooper Testing Labs, Inc.

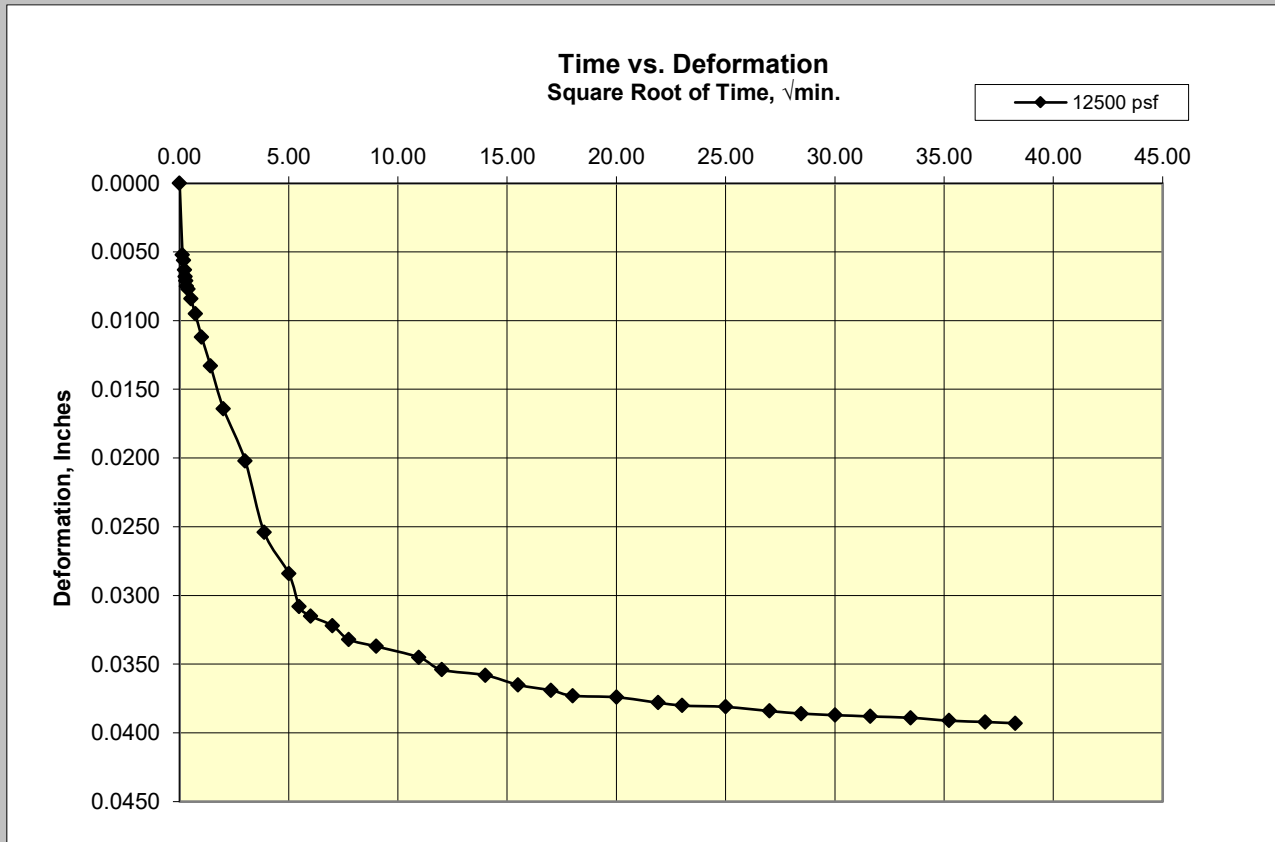
B-107, Sample T5, 10-12.5 feet

Load 8

12500 psf



12500 psf

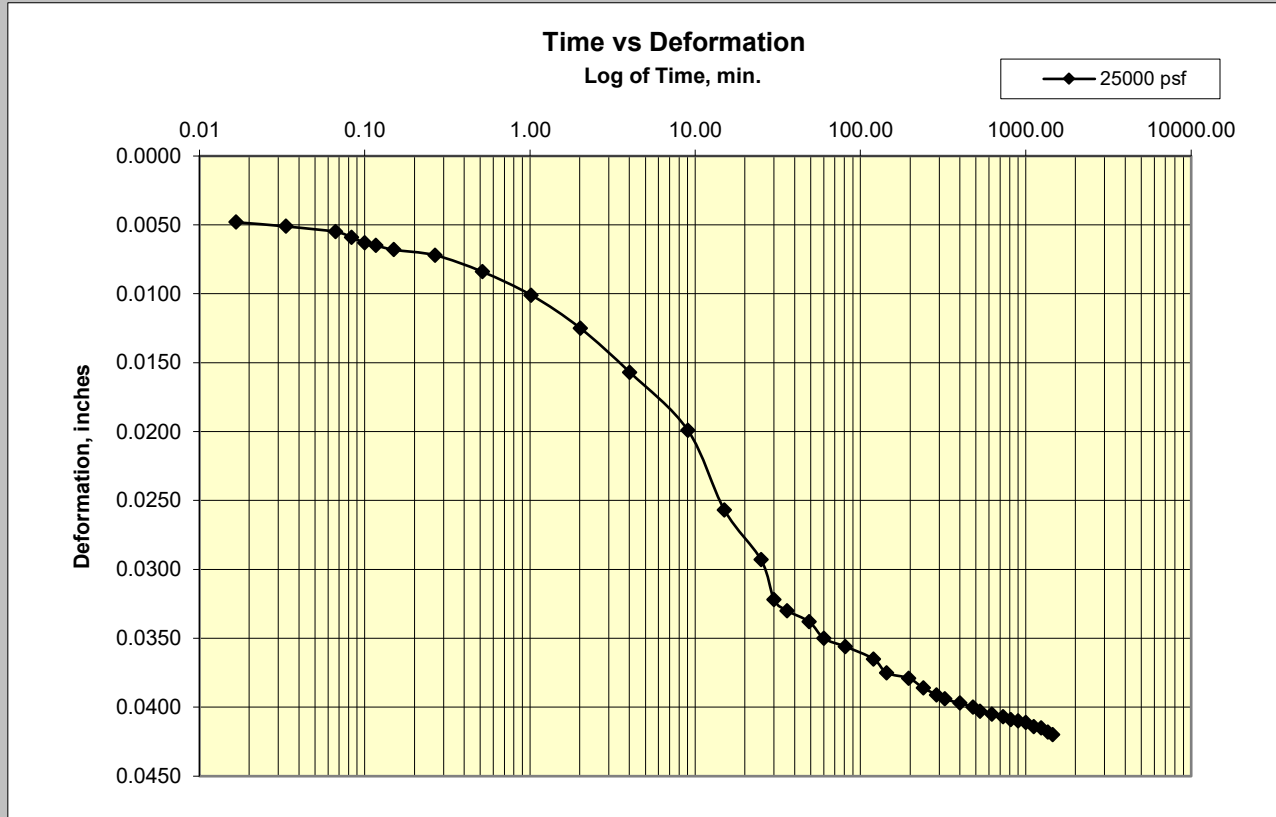


Cooper Testing Labs, Inc.

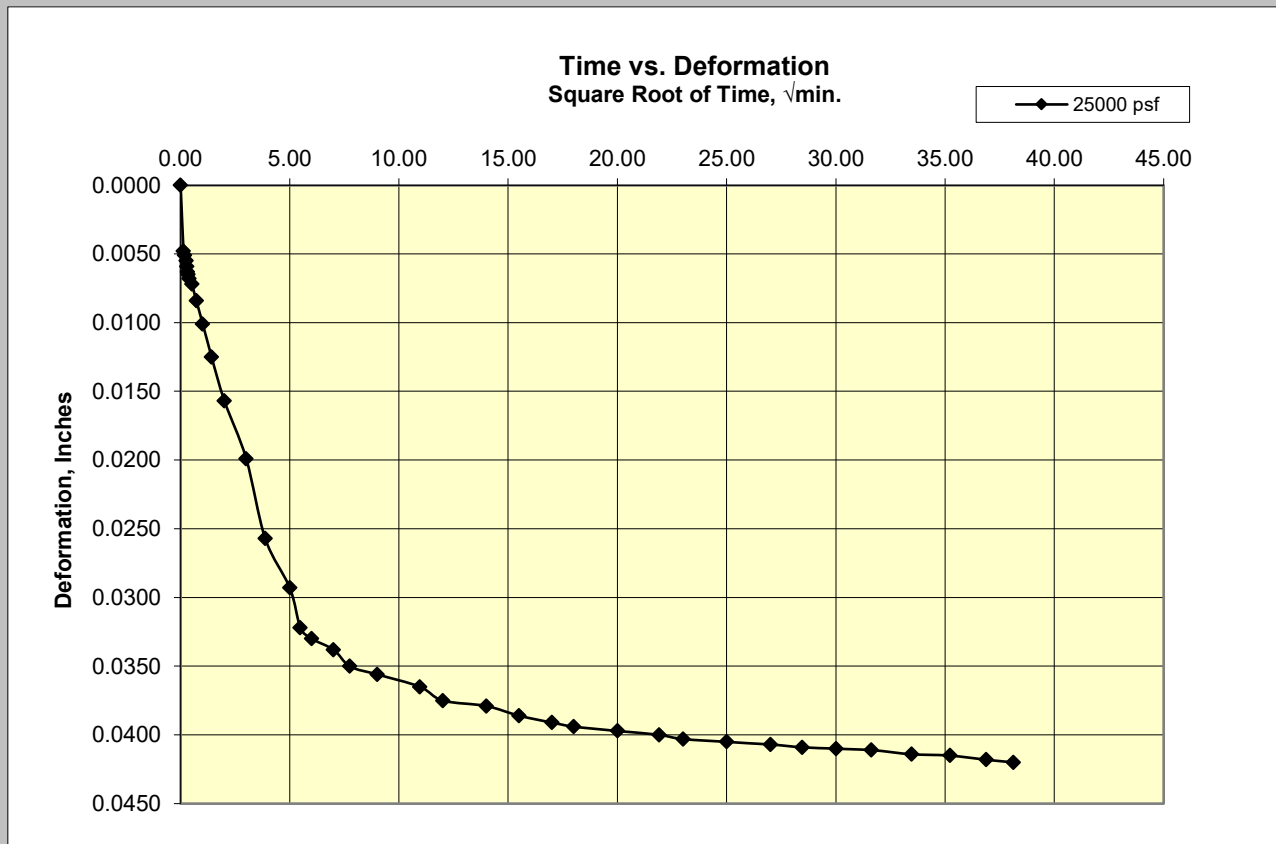
B-107, Sample T5, 10-12.5 feet

Load 9

25000 psf



25000 psf

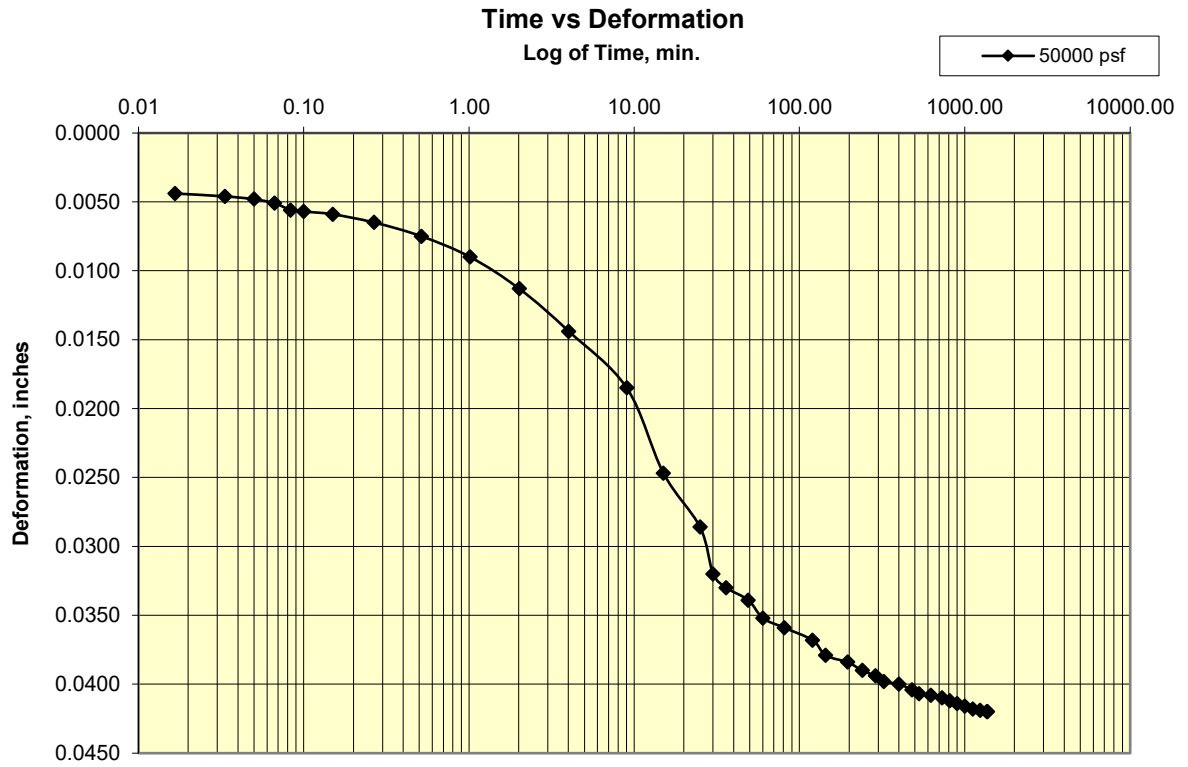


B-107, Sample T5, 10-12.5 feet

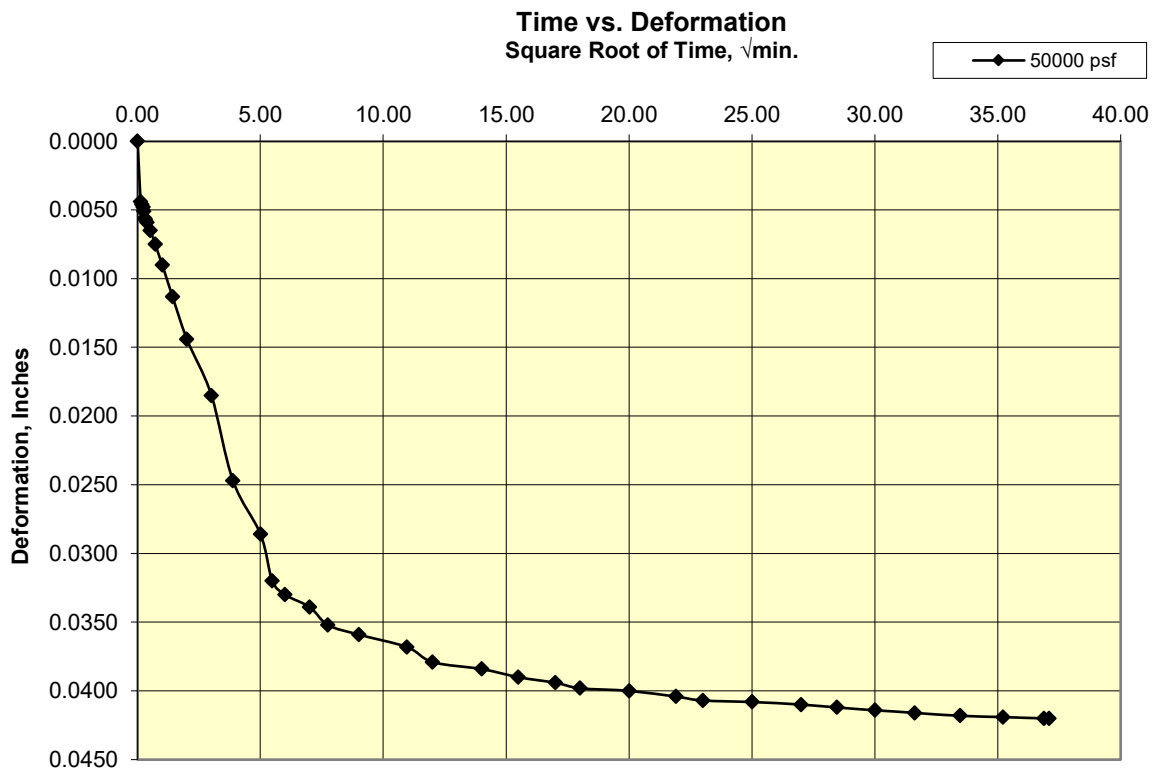
Cooper Testing Labs, Inc.

Load 10

50000 psf



50000 psf



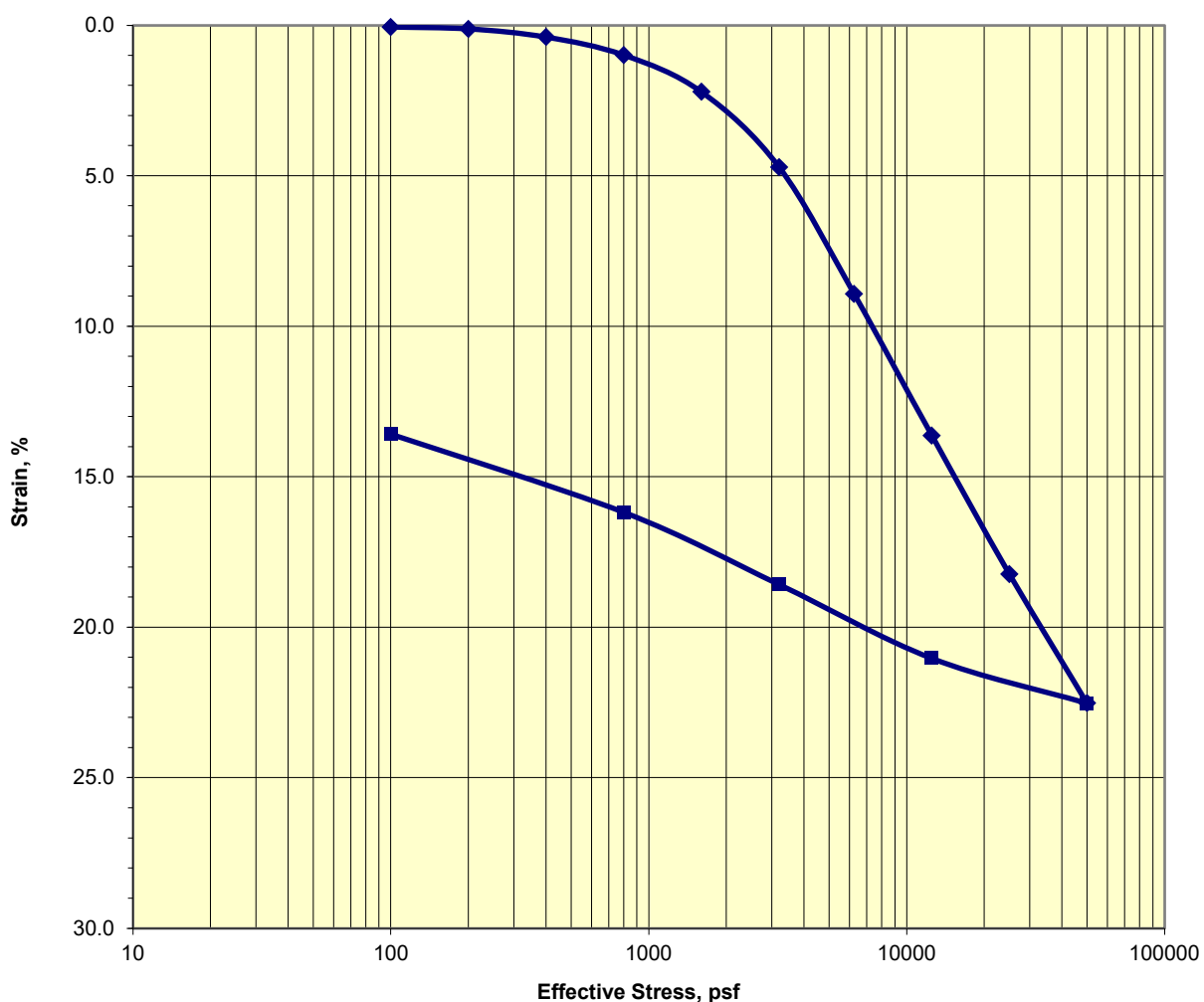


Consolidation Test

ASTM D2435

Job No.:	855-048	Boring:	B-107	Run By:	MD
Client:	HDR	Sample:	T10	Reduced:	PJ
Project:	10151664	Depth, ft.:	22.5-25(Tip-3")	Checked:	PJ/DC
Soil Type:	Very Dark Gray Fat CLAY, trace Sand			Date:	12/13/2022

Strain-Log-P Curve



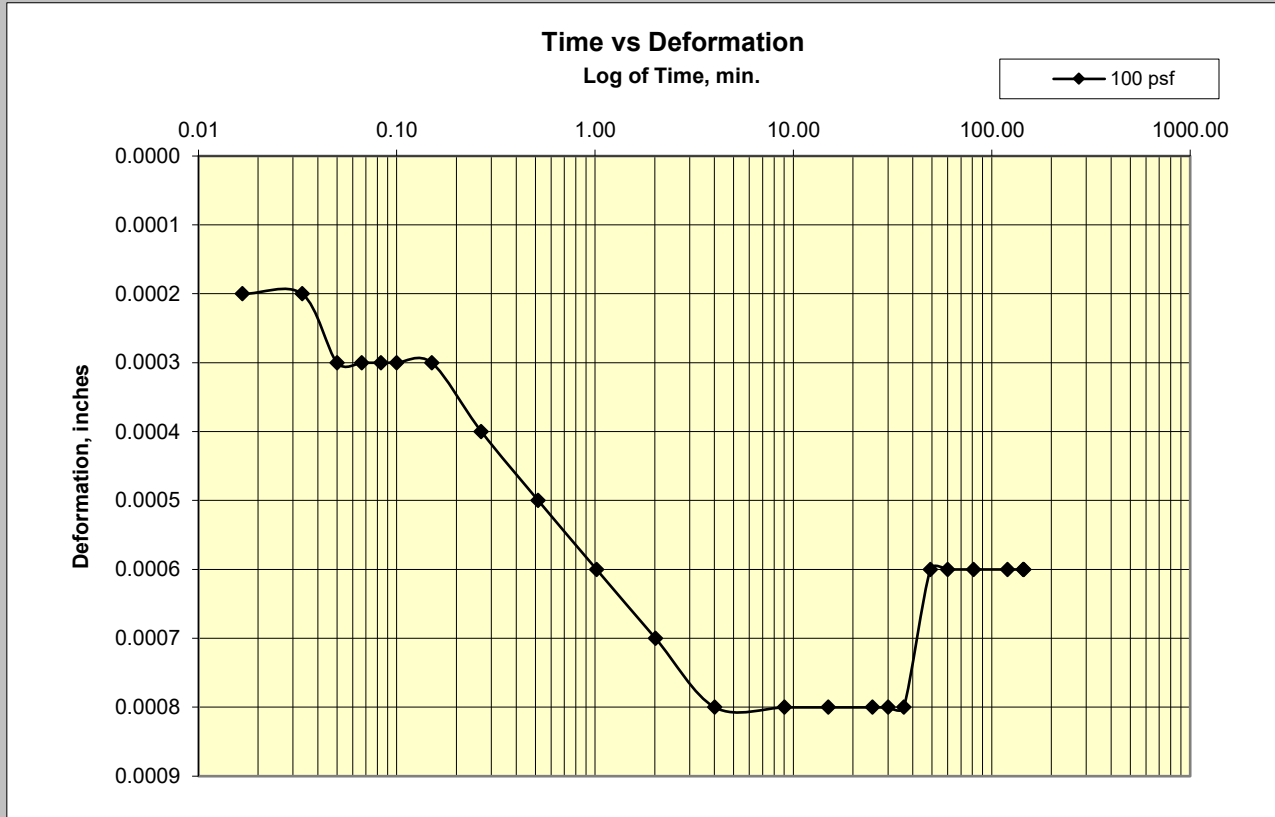
Assumed Gs	2.7	Initial	Final	Remarks:
Moisture %:		34.6	27.5	
Dry Density, pcf:		83.5	96.7	
Void Ratio:		1.019	0.743	
% Saturation:		91.5	100.0	

Cooper Testing Labs, Inc.

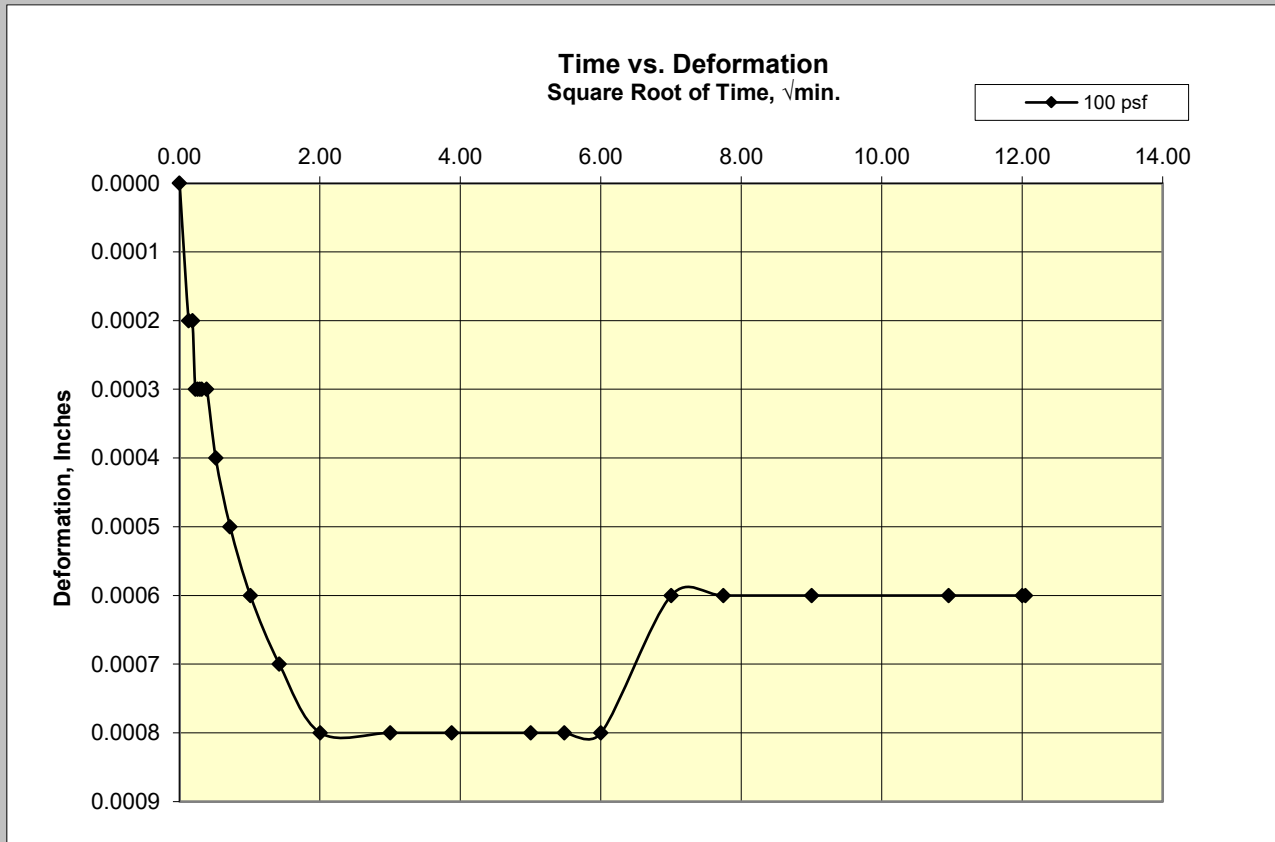
B-107, Sample T10, 22.5-25 feet

Load 1

100 psf



100 psf

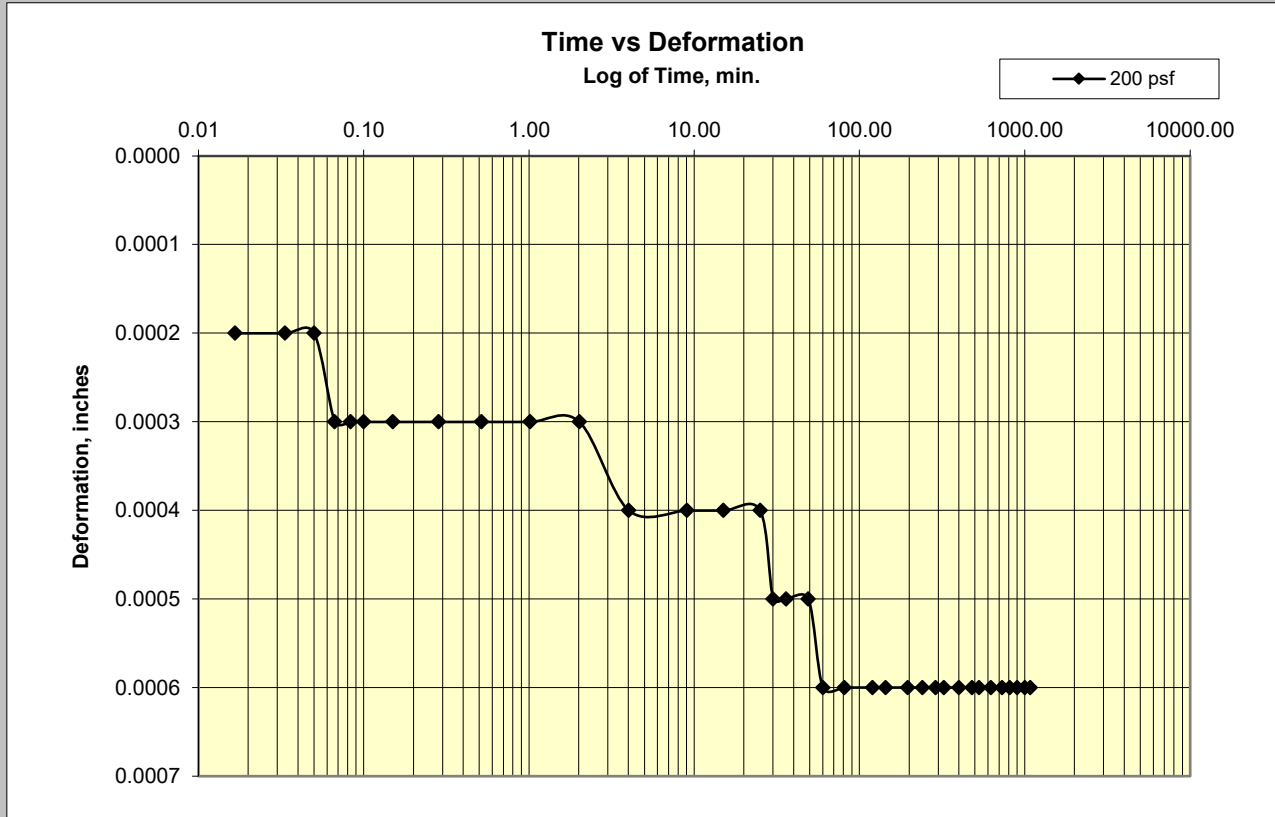


Cooper Testing Labs, Inc.

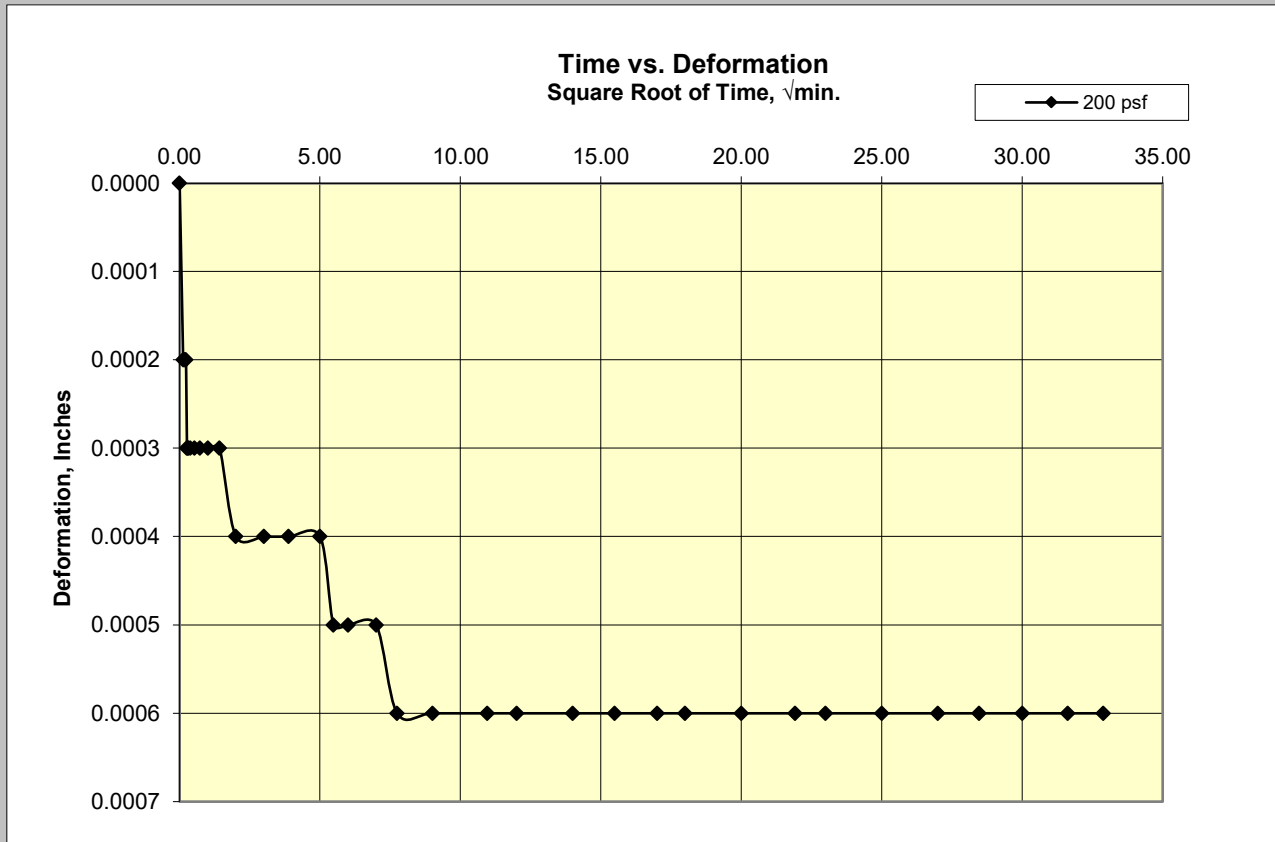
B-107, Sample T10, 22.5-25 feet

Load 2

200 psf



200 psf

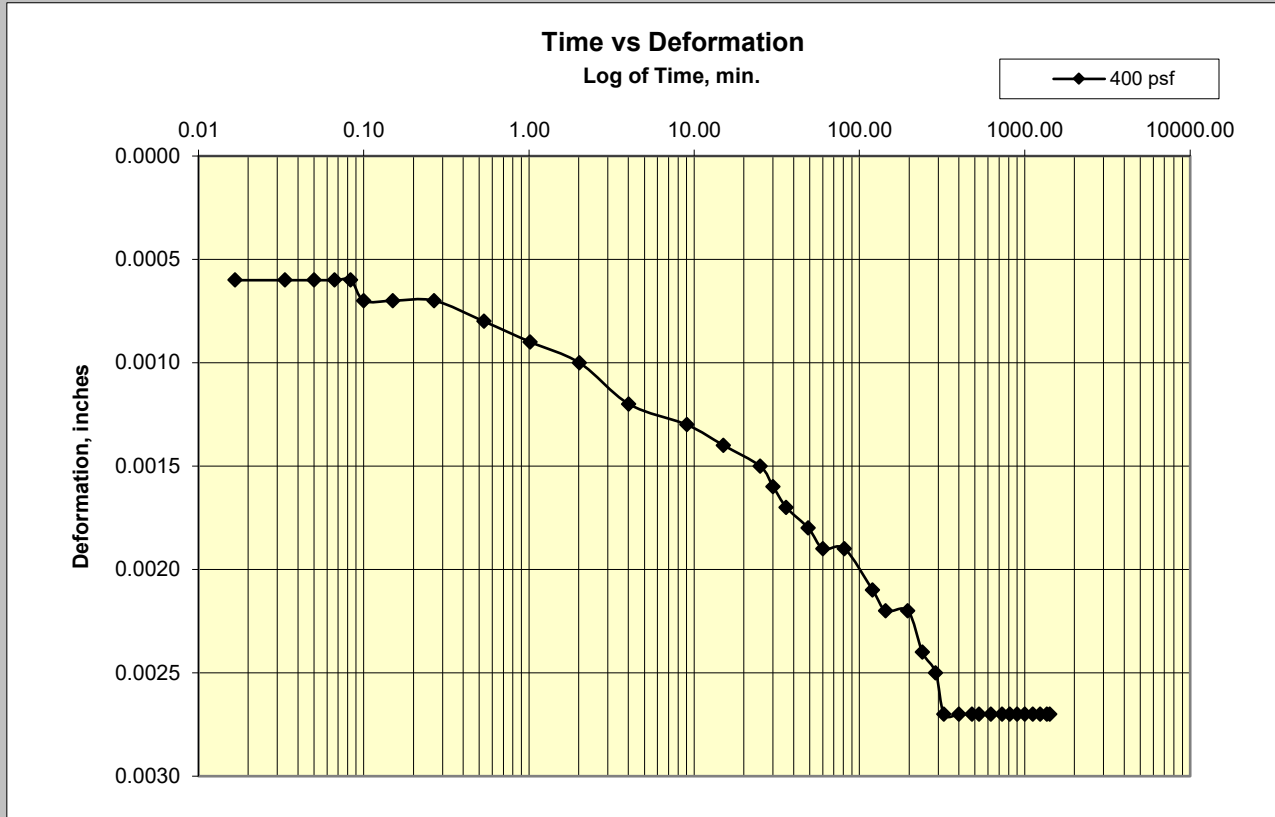


Cooper Testing Labs, Inc.

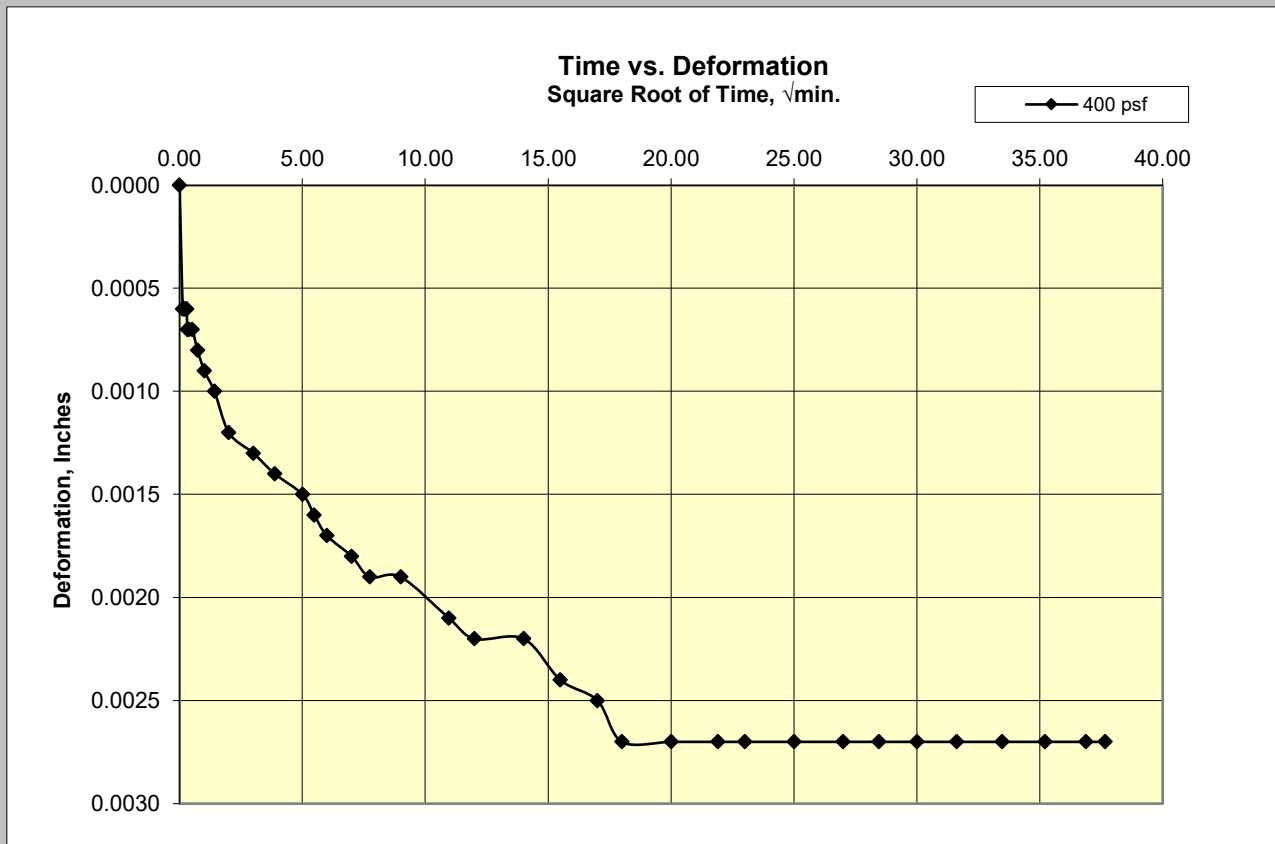
B-107, Sample T10, 22.5-25 feet

Load 3

400 psf



400 psf

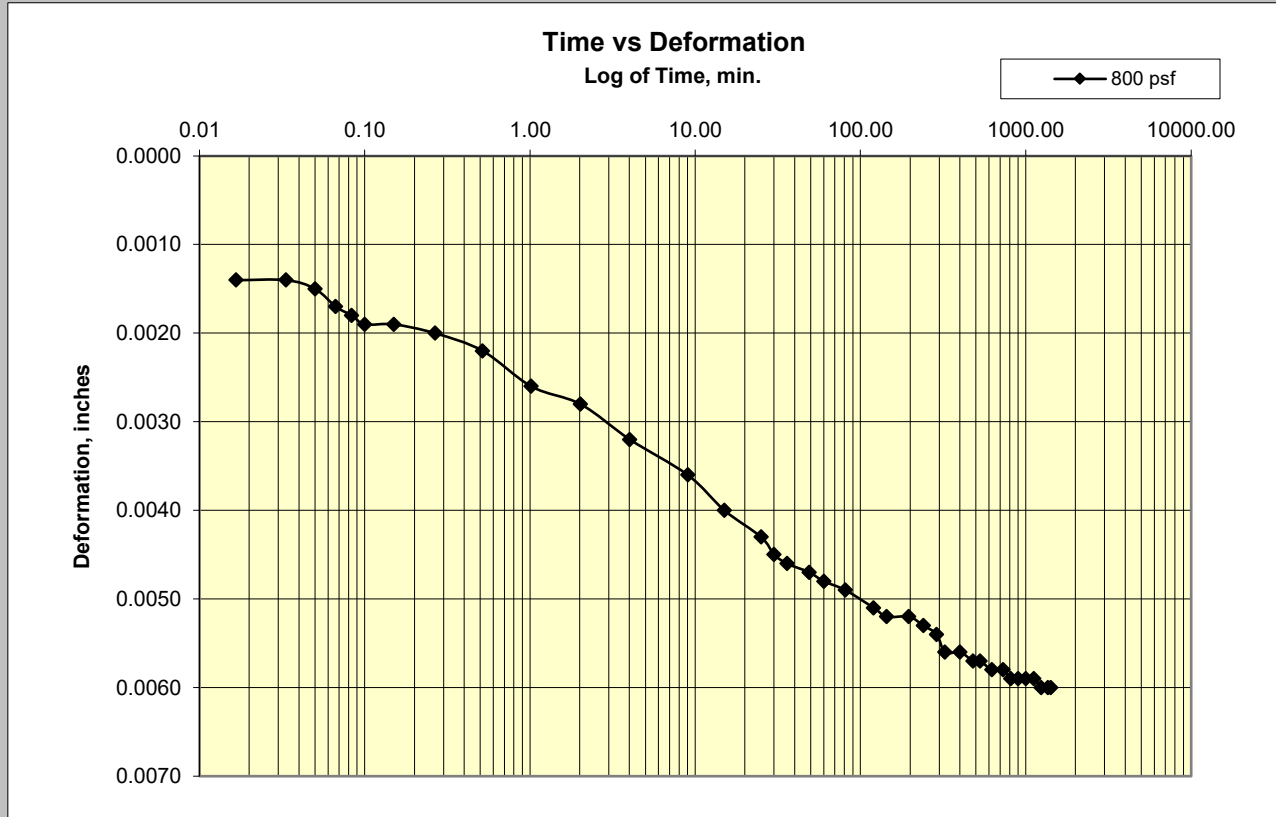


Cooper Testing Labs, Inc.

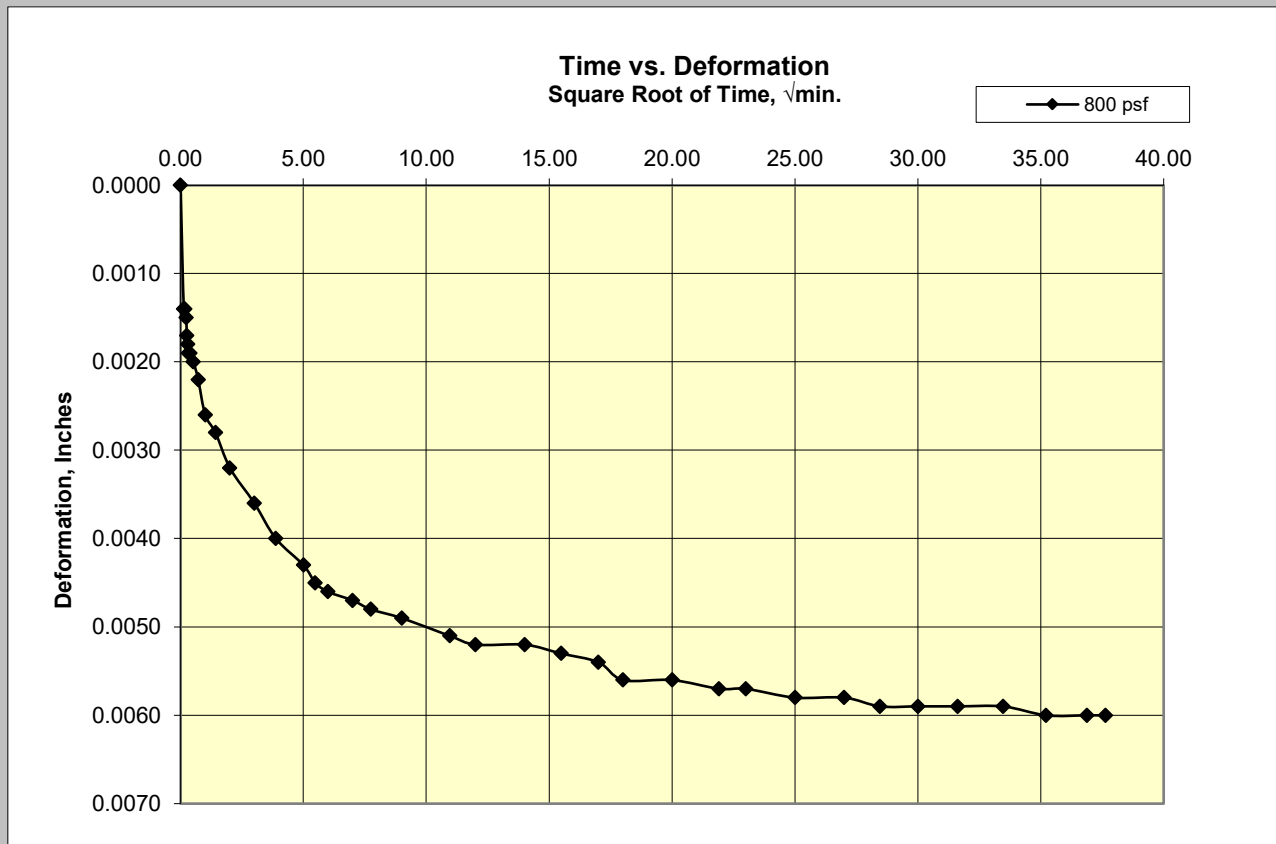
B-107, Sample T10, 22.5-25 feet

Load 4

800 psf

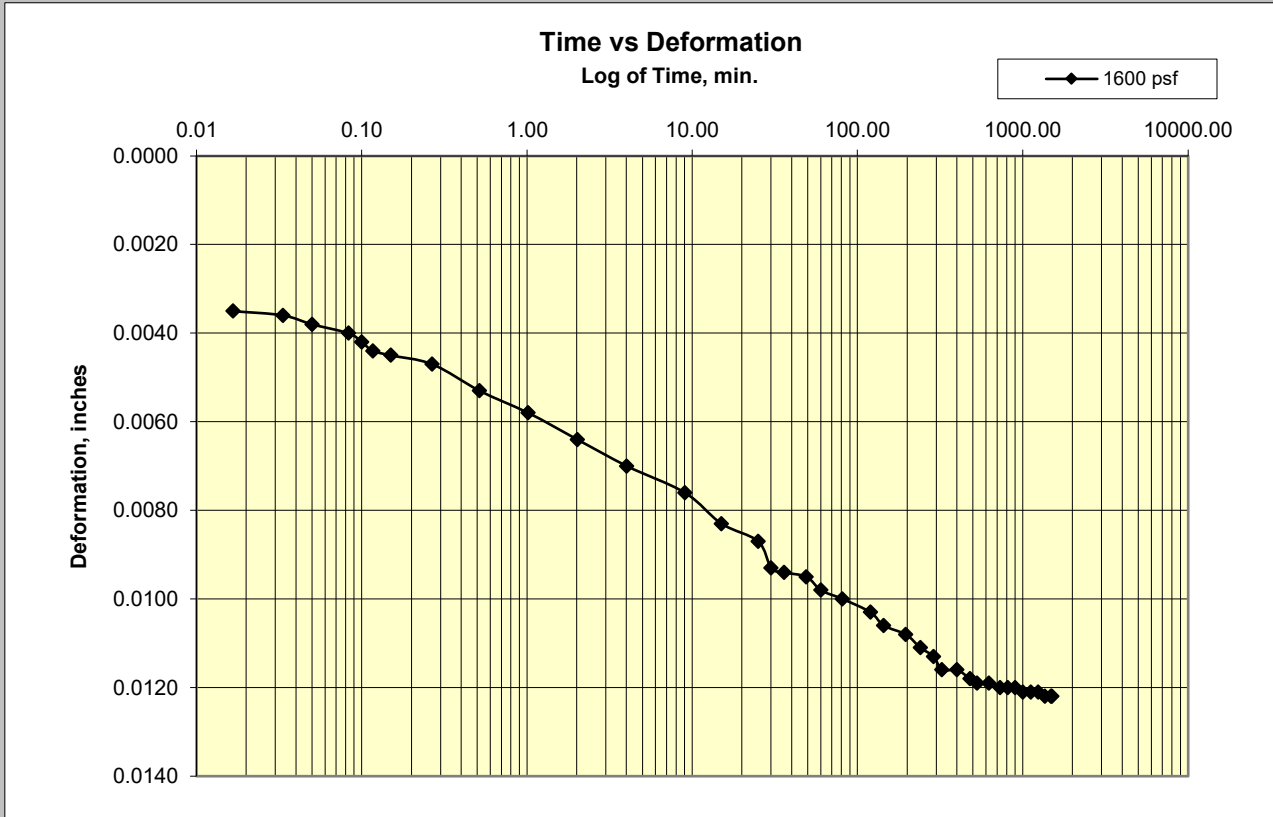


800 psf

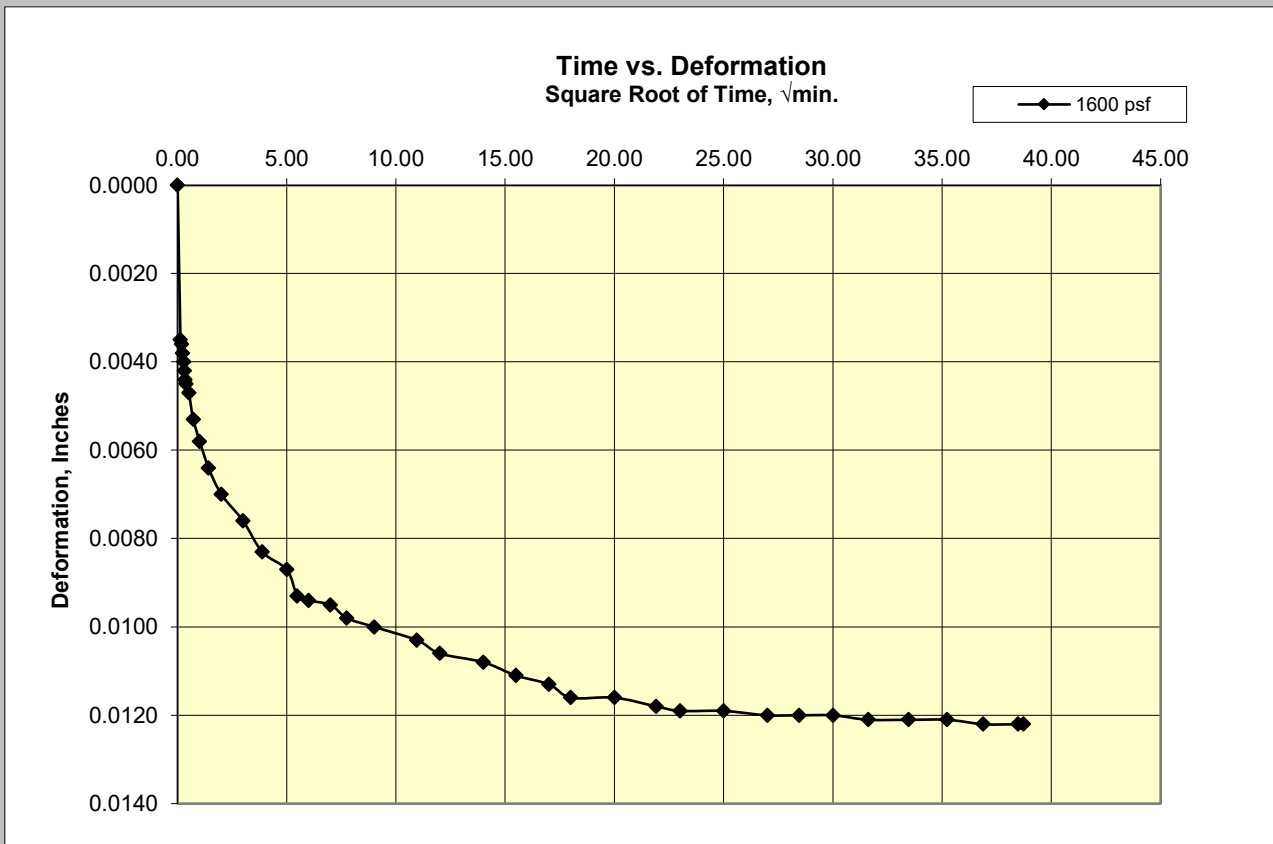


Load 5

1600 psf



1600 psf

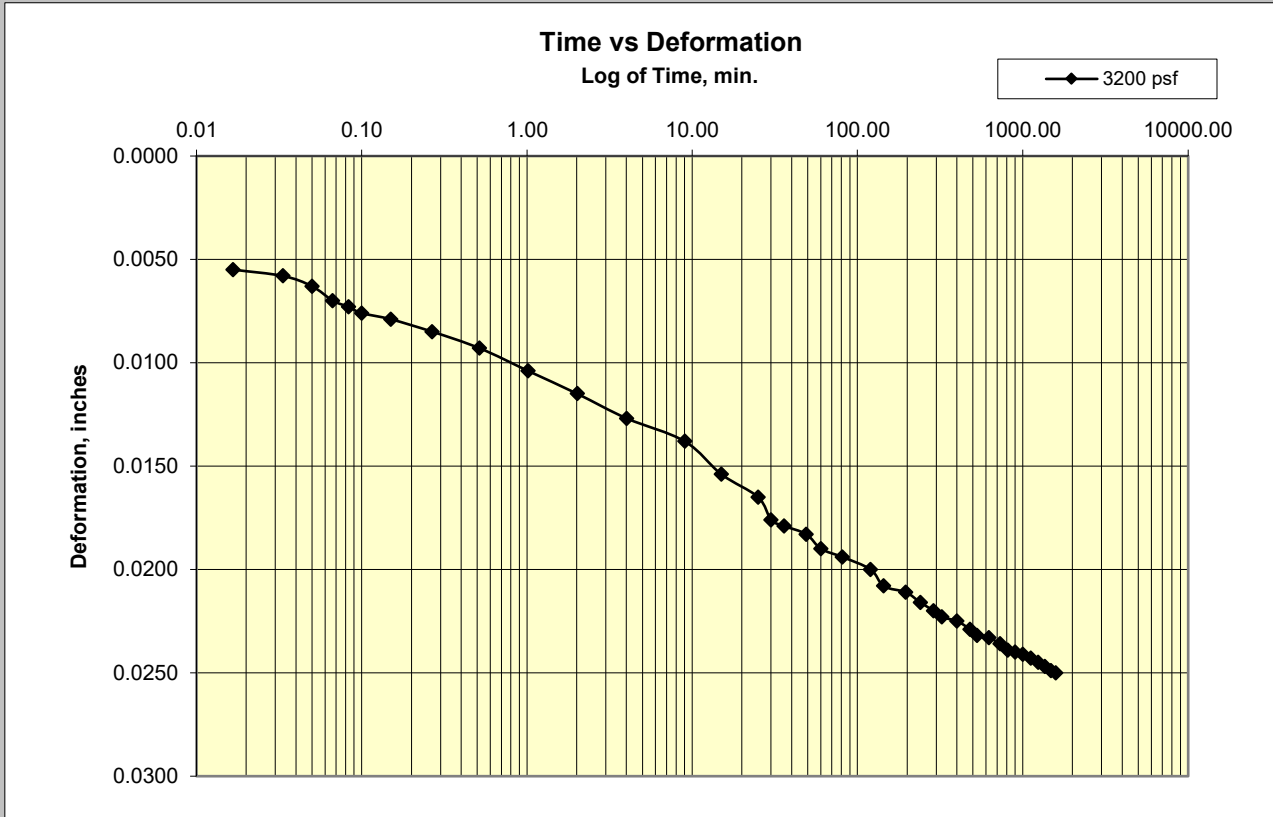


Cooper Testing Labs, Inc.

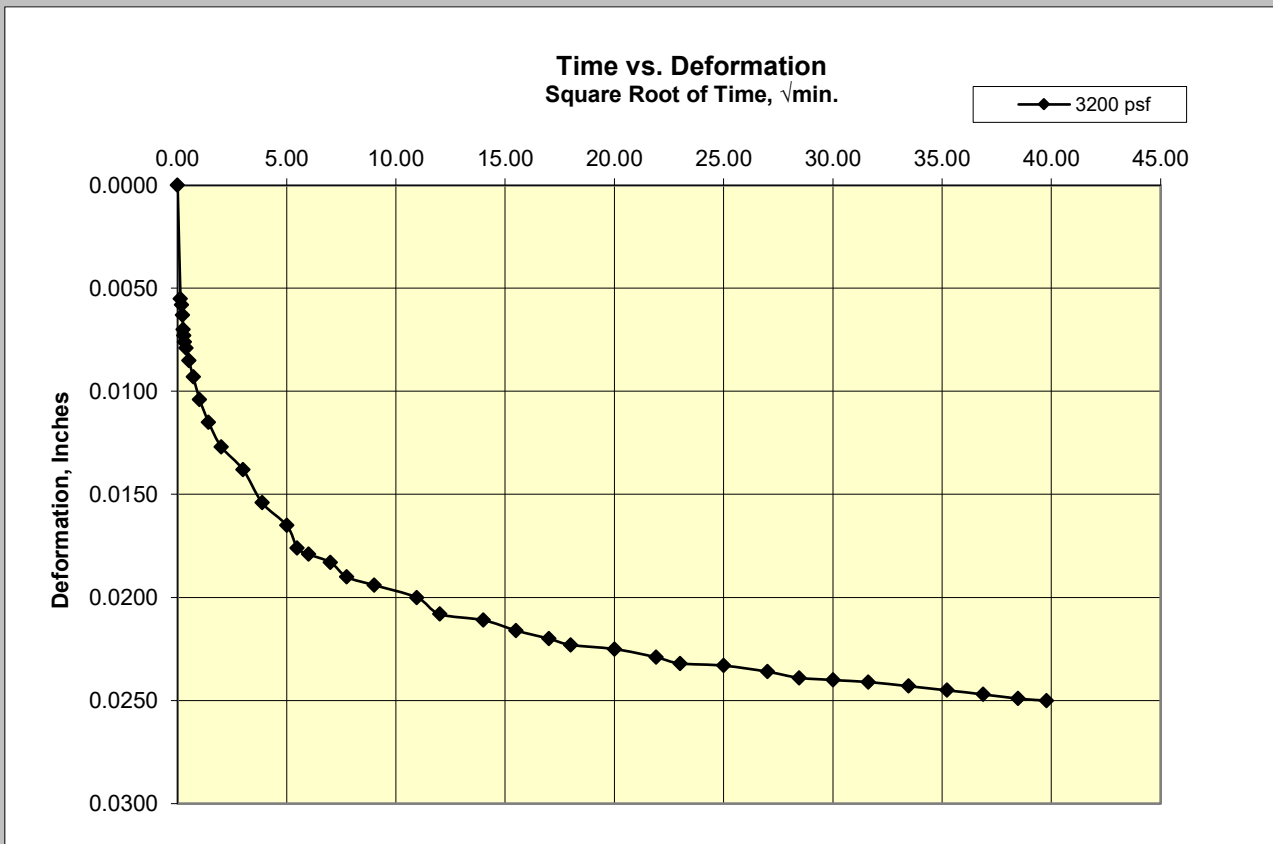
B-107, Sample T10, 22.5-25 feet

Load 6

3200 psf



3200 psf

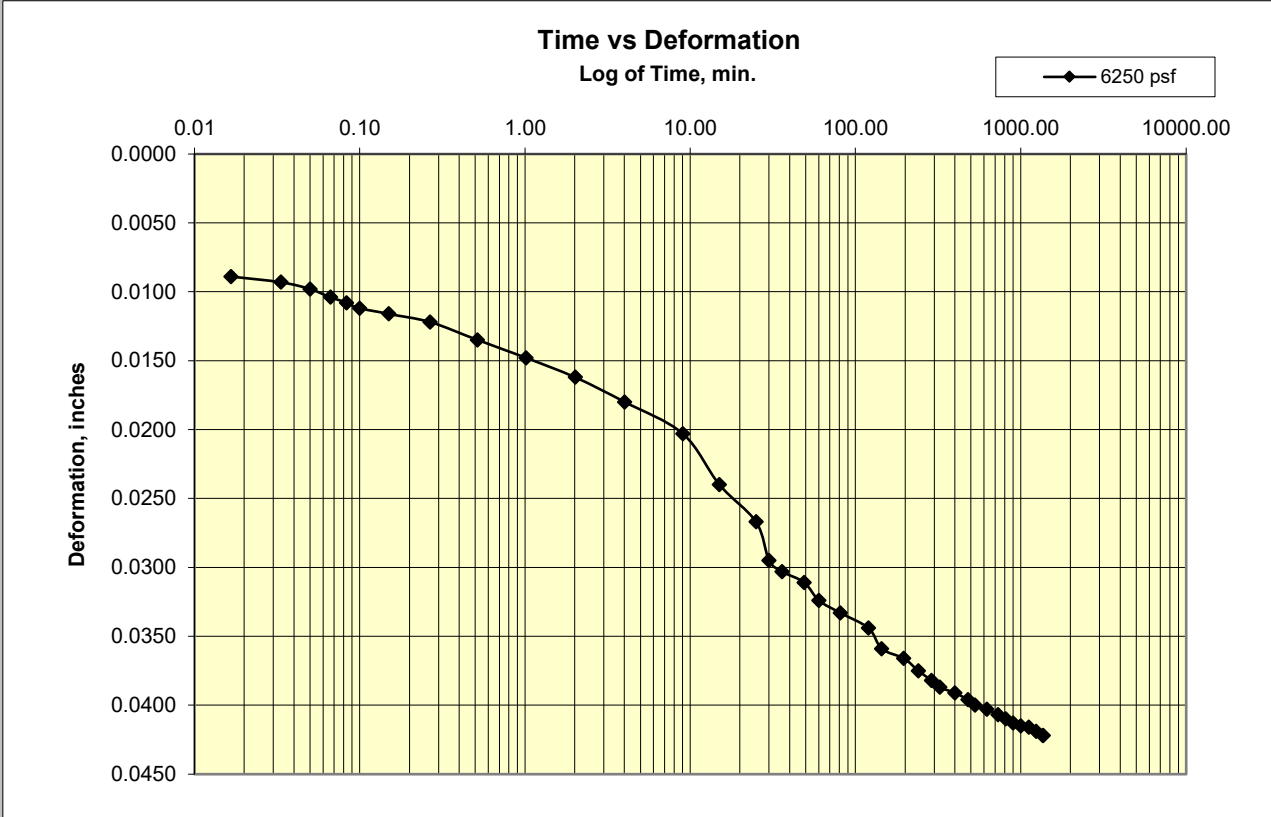


Cooper Testing Labs, Inc.

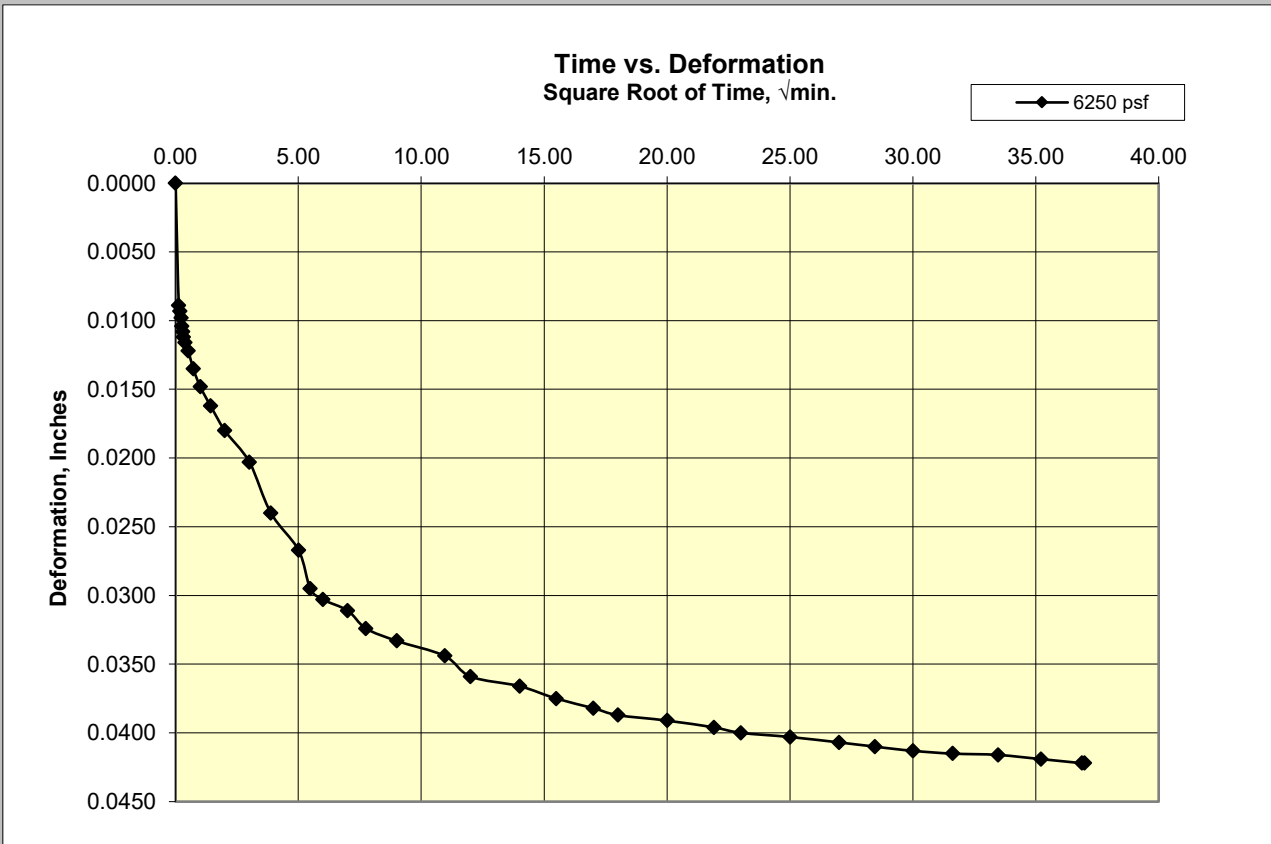
B-107, Sample T10, 22.5-25 feet

Load 7

6250 psf



6250 psf

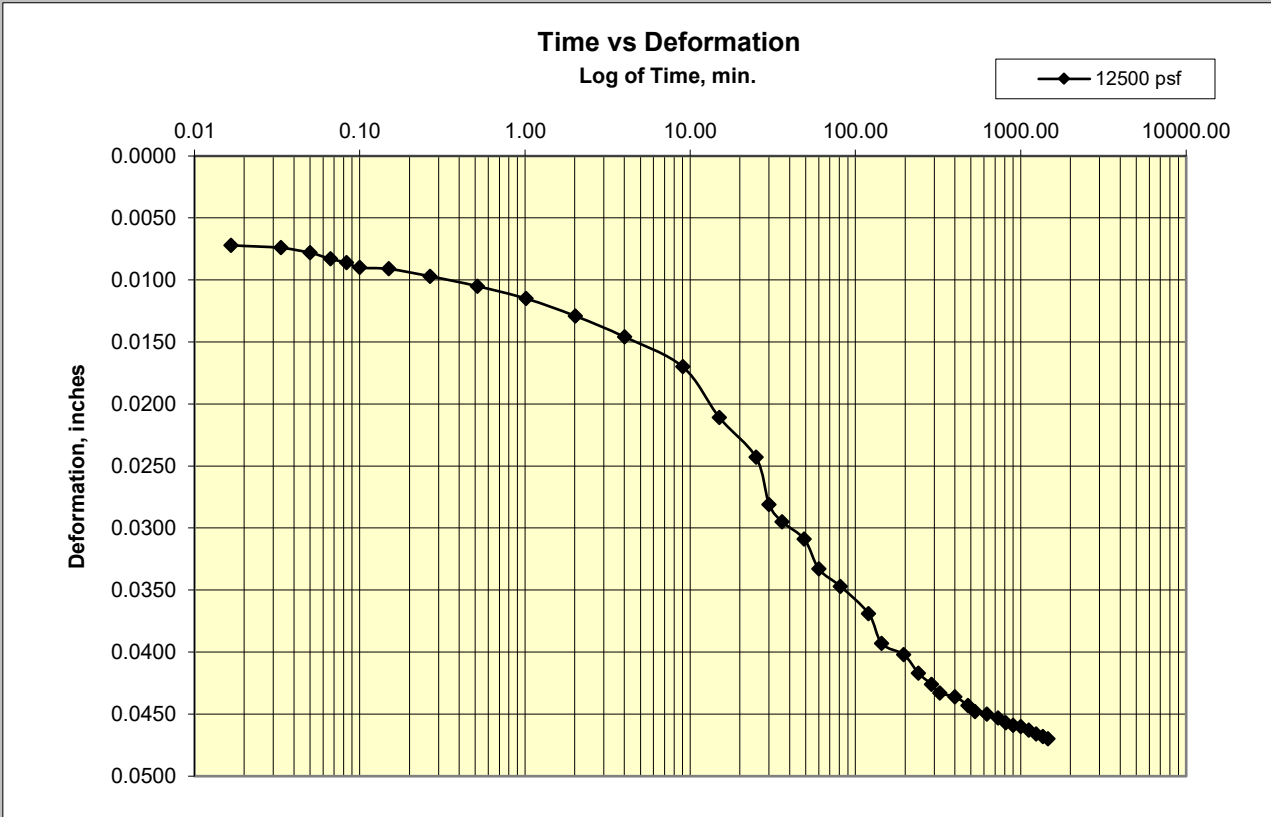


Cooper Testing Labs, Inc.

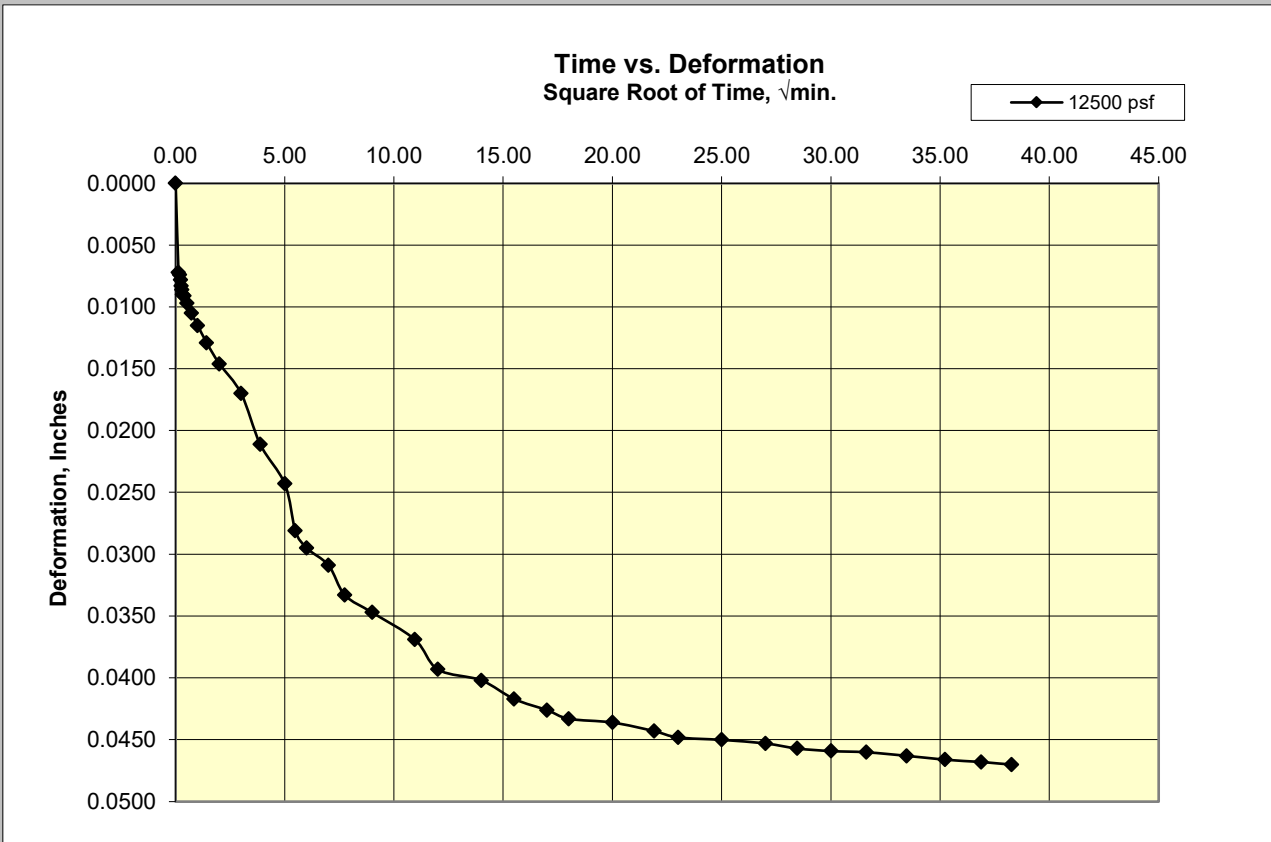
B-107, Sample T10, 22.5-25 feet

Load 8

12500 psf



12500 psf

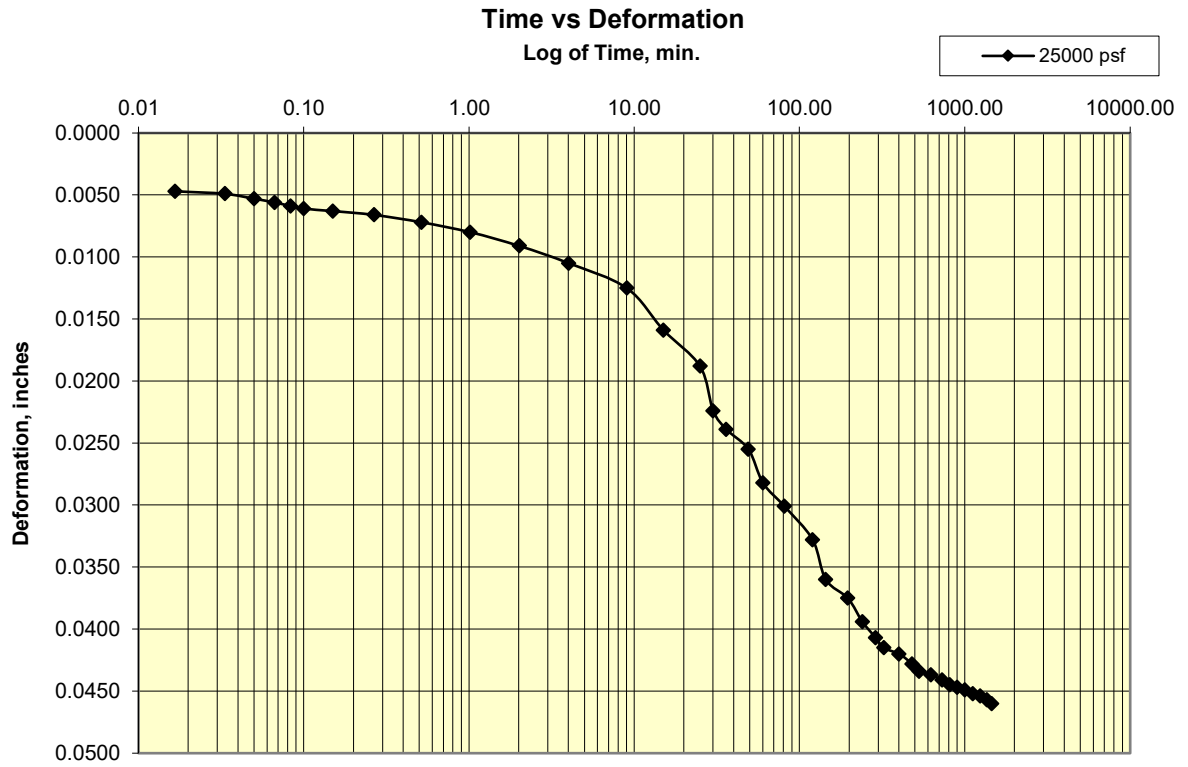


Cooper Testing Labs, Inc.

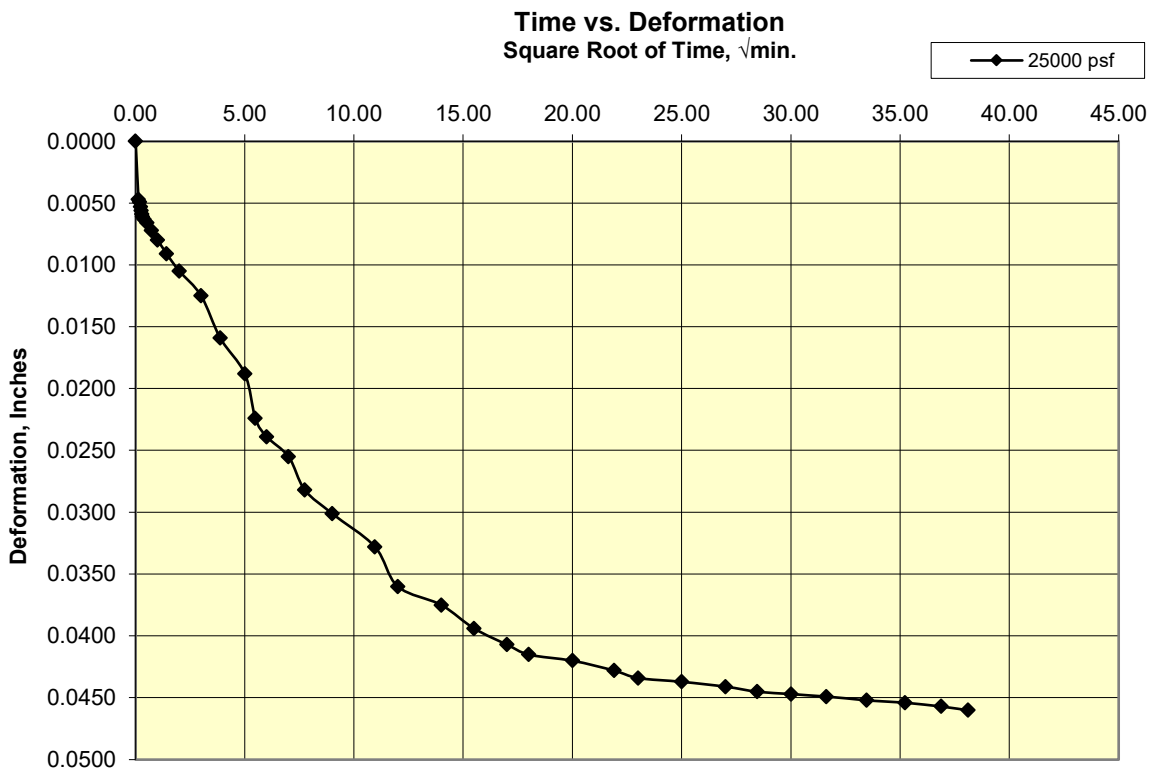
B-107, Sample T10, 22.5-25 feet

Load 9

25000 psf

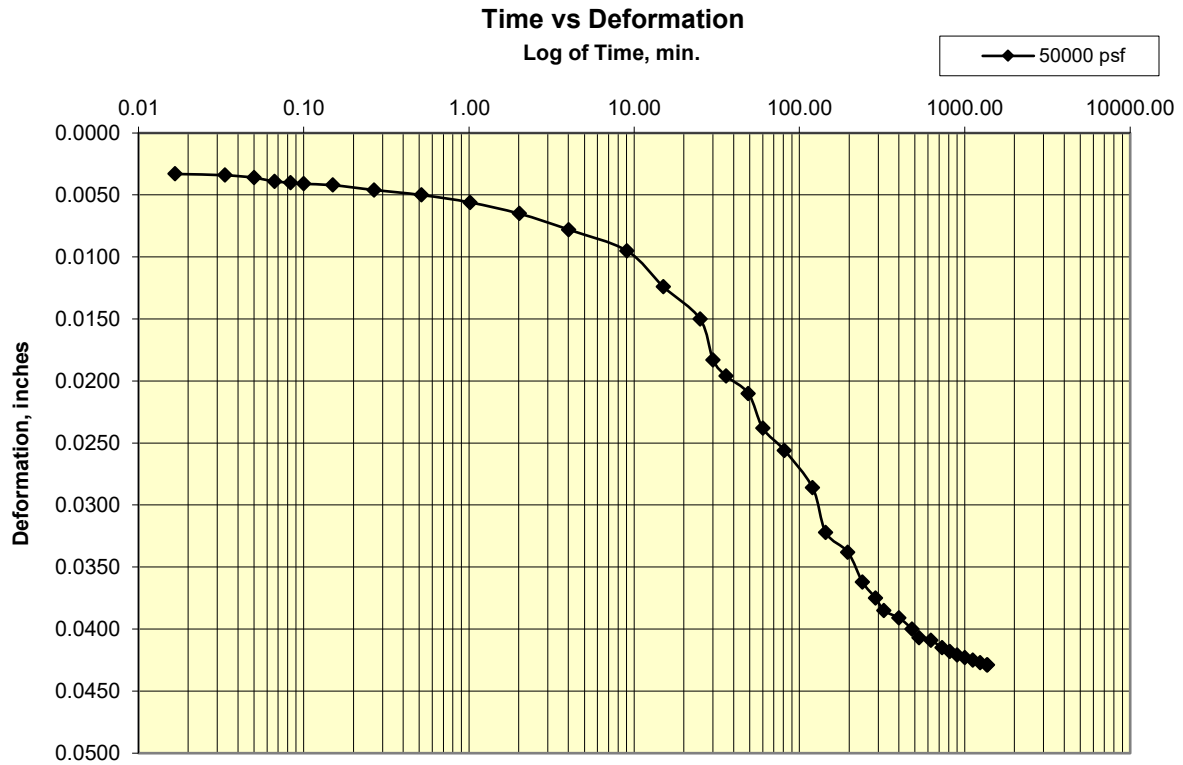


25000 psf

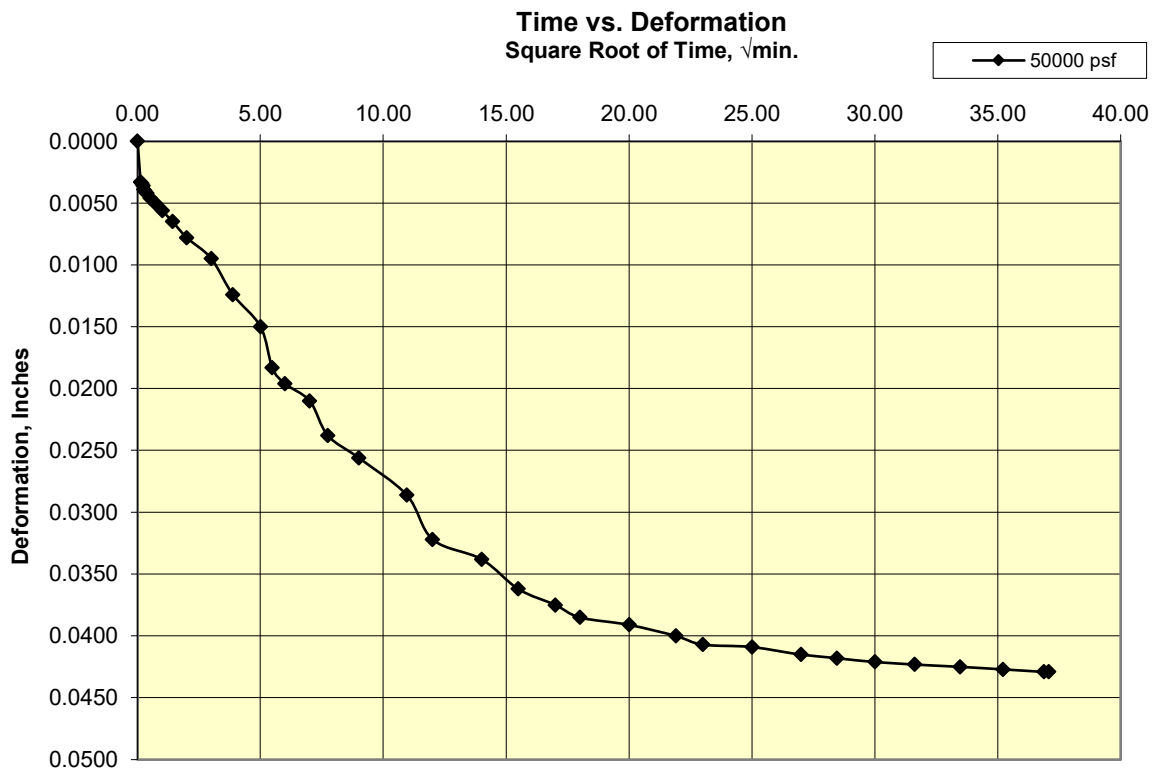


Load 10

50000 psf



50000 psf





Checked: PJ

Proj. No: 10151664

Remarks:

[illegible]

HDR (2016)

B-06 Historic Laboratory Data

Note: Lab data shown herein for borings other than B-06 do not apply for this portion of the project.



Moisture-Density-Porosity Report

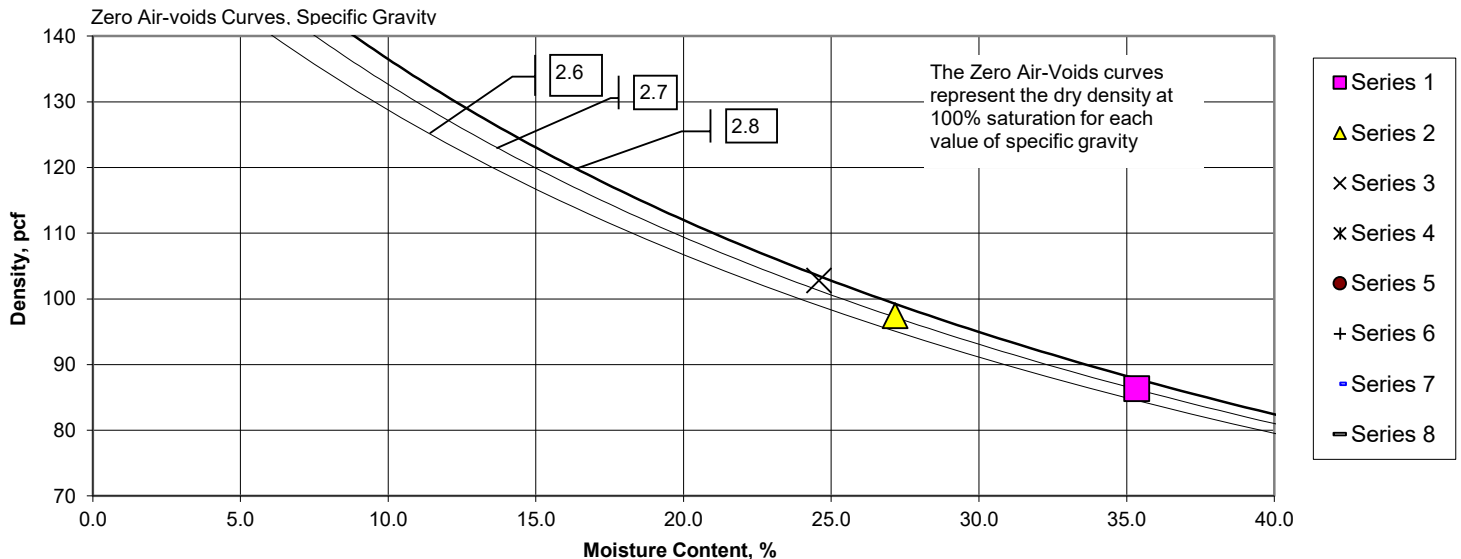
Cooper Testing Labs, Inc. (ASTM D7263b)

CTL Job No: 855-013c Project No. 028-222952 By: RU
 Client: HDR Engineering, Inc. Date: 02/22/16
 Project Name: SAFER Bay-Task Order 1 Remarks:

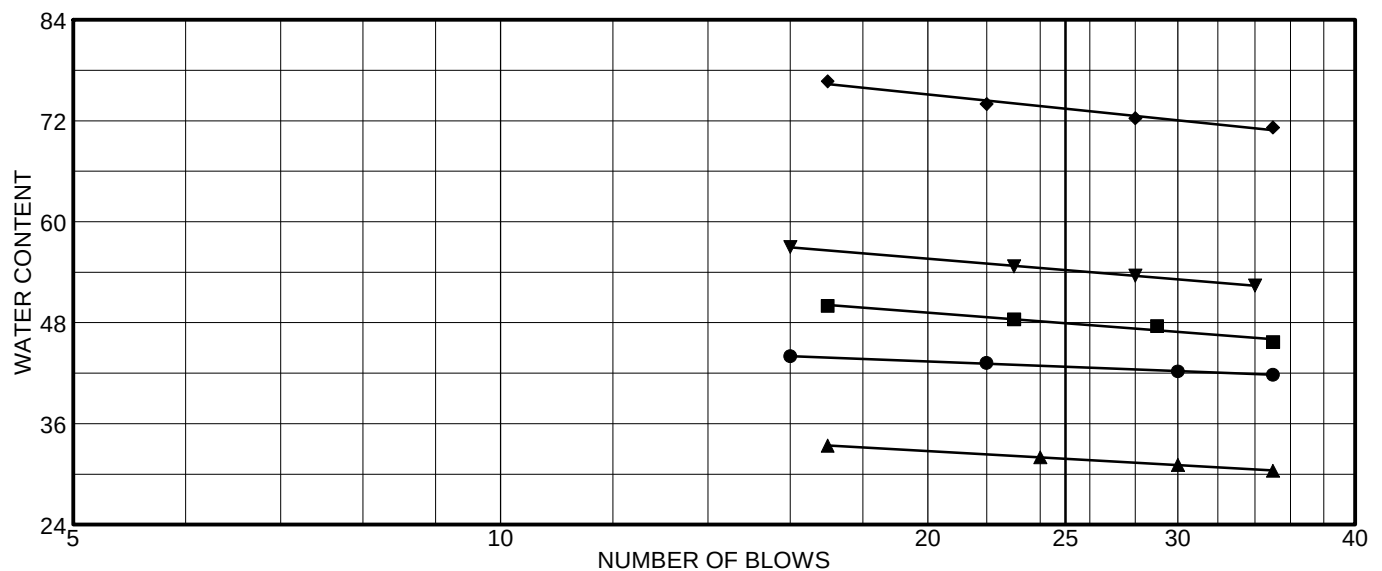
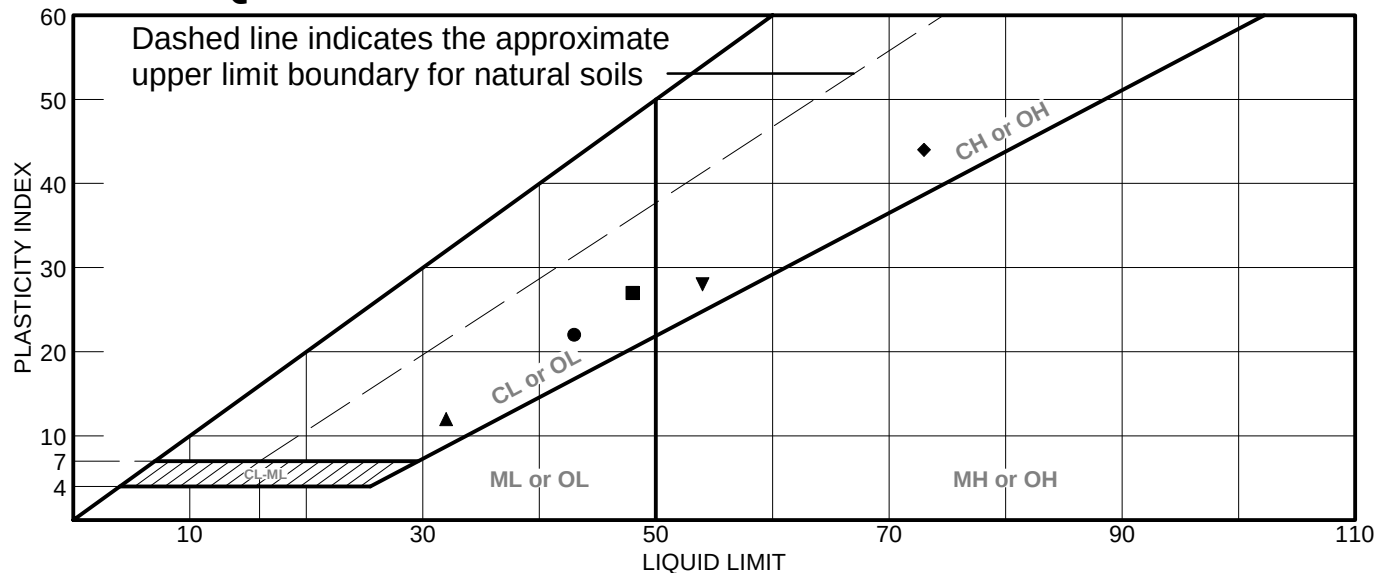
Boring:	B-06	B-06	B-06	B-06				
Sample:	L1	L7	L12	S3				
Depth, ft:	4-4.5	18-18.5	31-31.5	45-46.5				
Visual Description:	Dark Olive Brown Sandy CLAY w/ Gravel	Gray CLAY w/ Sand	Olive Brown Sandy CLAY	Olive Brown Lean CLAY w/ Sand				
Actual G_s								
Assumed G_s	2.80	2.80	2.80					
Moisture, %	35.3	27.2	24.6	37.1				
Wet Unit wt, pcf	116.8	123.9	128.1					
Dry Unit wt, pcf	86.3	97.4	102.8					
Dry Bulk Dens.pb, (g/cc)	1.38	1.56	1.65					
Saturation, %	96.4	95.6	98.1					
Total Porosity, %	50.6	44.3	41.2					
Volumetric Water Cont., θ_w , %	48.8	42.4	40.4					
Volumetric Air Cont., θ_a , %	1.8	1.9	0.8					
Void Ratio	1.03	0.80	0.70					
Series	1	2	3	4	5	6	7	8

Note: All reported parameters are from the as-received sample condition unless otherwise noted. If an assumed specific gravity (G_s) was used then the saturation, porosities, and void ratio should be considered approximate.

Moisture-Density



LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Dark Olive Brown Sandy Lean CLAY	43	21	22			
■	Dark Grayish Brown Lean CLAY	48	21	27			
▲	Olive Brown Lean CLAY w/ Sand	32	20	12			
◆	Dark Gray Fat CLAY	73	29	44			
▼	Dark Greenish Gray Fat CLAY (Bay Mud)	54	26	28			

Project No. 855-013 **Client:** HDR Engineering, Inc.

Project: SAFER Bay-Task Order 1 - 028-222952

● Source: B-05	■ Source: B-05	▲ Source: B-05	◆ Source: B-06	▼ Source: B-06
Sample No.: L2	Sample No.: L10	Sample No.: L14	Sample No.: L4	Sample No.: L6
Elev./Depth: 2.5-3'	Elev./Depth: 20-22.5'	Elev./Depth: 31-31.5'	Elev./Depth: 7-9.5(Tip-14")	Elev./Depth: 12.5-15'

Remarks:

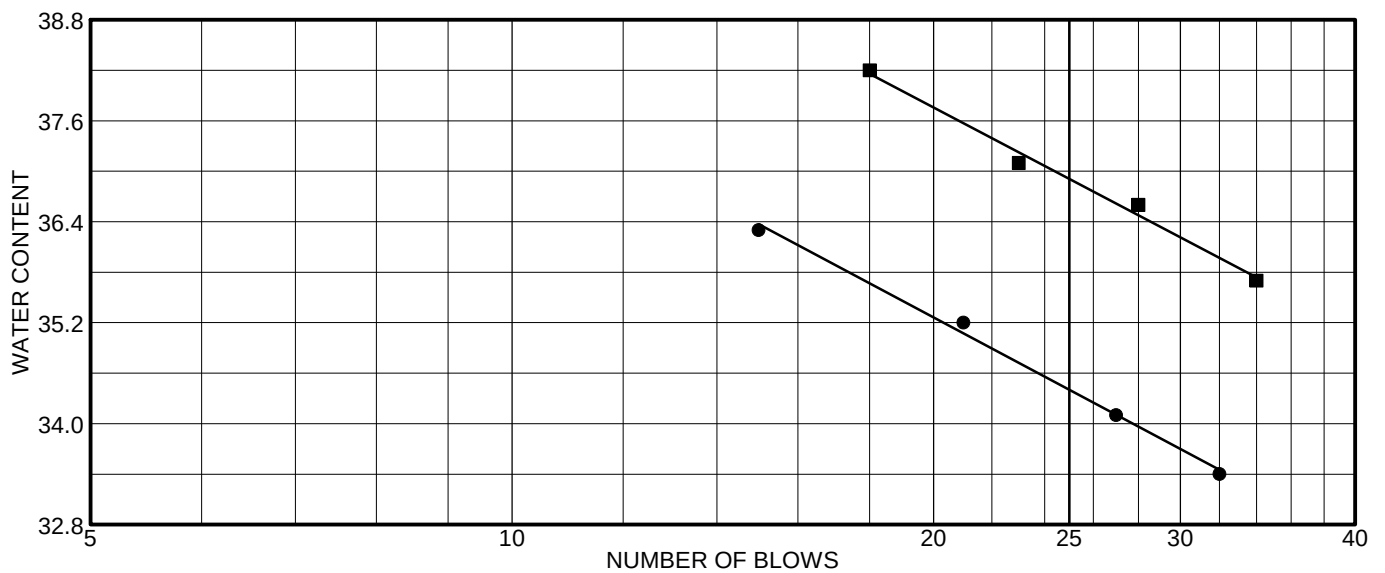
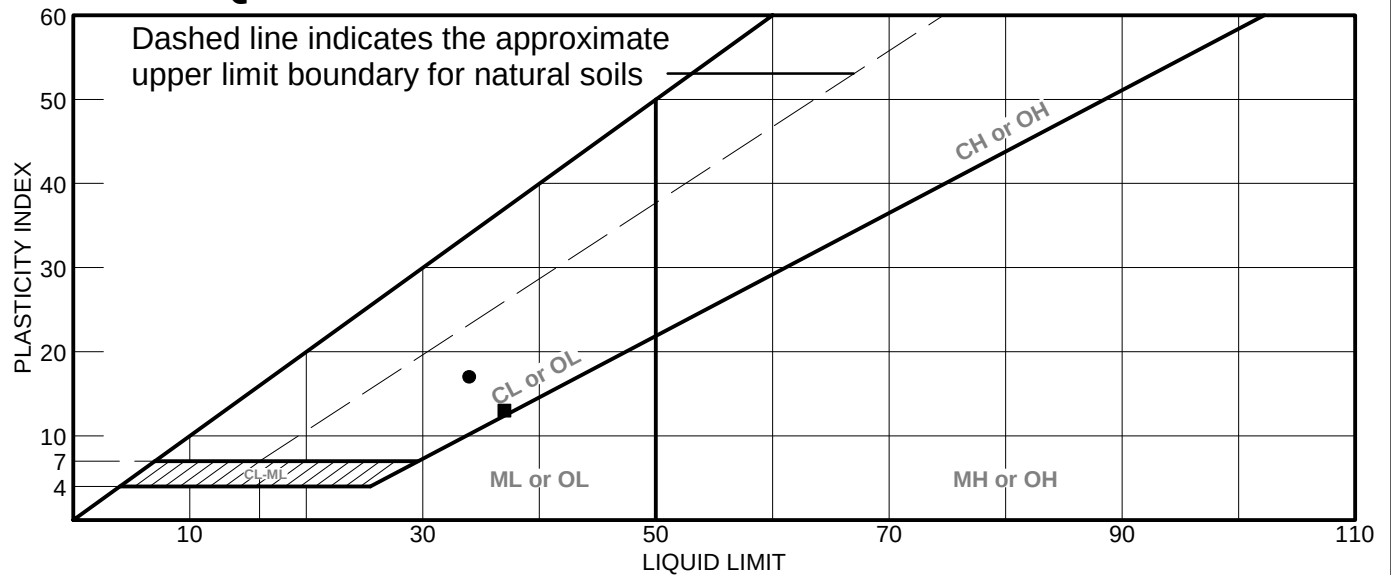
- Sample was prepared using the wet prep method.
- Sample was prepared using the wet prep method.
- ▲ Sample was prepared using the wet prep method.
- ◆ Sample was prepared using the wet prep method.
- ▼ Sample was prepared using the wet prep method.

LIQUID AND PLASTIC LIMITS TEST REPORT

COOPER TESTING LABORATORY

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Greenish Gray Lean CLAY w/ Sand	34	17	17			
■	Olive Brown Lean CLAY w/ Sand	37	24	13			

Project No. 855-013 **Client:** HDR Engineering, Inc.

Project: SAFER Bay-Task Order 1 - 028-222952

● **Source:** B-06

Sample No.: L8

Elev./Depth: 21-23.5'

■ **Source:** B-06

Sample No.: S3

Elev./Depth: 45-46.5'

Remarks:

- Sample was prepared using the wet prep method.

■

LIQUID AND PLASTIC LIMITS TEST REPORT

COOPER TESTING LABORATORY

Figure

The graph displays three aggregate gradation curves. The x-axis represents Grain Size in millimeters on a logarithmic scale, with major ticks at 200, 100, 10, 1, 0.1, and 0.01. The y-axis represents Percent Finer on a linear scale from 0 to 100. The three curves are defined by the following approximate data points:

Grain Size (mm)	Percent Finer (Circles)	Percent Finer (Triangles)	Percent Finer (Squares)
200	100	100	100
100	100	100	100
75	100	100	100
60	100	100	100
40	100	100	100
30	100	100	100
20	100	100	100
10	100	100	100
7.5	100	100	100
6.0	100	100	100
4.75	100	100	100
3.0	100	100	100
2.5	100	100	100
2.0	100	100	100
1.5	100	100	100
1.18	100	100	100
0.85	100	100	100
0.75	100	100	100
0.6	100	100	100
0.425	100	100	100
0.3	100	100	100
0.25	100	100	100
0.2	100	100	100
0.15	100	100	100
0.125	100	100	100
0.106	100	100	100
0.085	100	100	100
0.075	100	100	100
0.06	100	100	100
0.05	100	100	100
0.0425	100	100	100
0.03	100	100	100
0.025	100	100	100
0.02	100	100	100
0.015	100	100	100
0.0125	100	100	100
0.0106	100	100	100
0.0085	100	100	100
0.0075	100	100	100
0.006	100	100	100
0.005	100	100	100
0.00425	100	100	100
0.003	100	100	100
0.0025	100	100	100
0.002	100	100	100
0.0015	100	100	100
0.00125	100	100	100
0.00106	100	100	100
0.00085	100	100	100
0.00075	100	100	100
0.0006	100	100	100
0.0005	100	100	100
0.000425	100	100	100
0.0003	100	100	100
0.00025	100	100	100
0.0002	100	100	100
0.00015	100	100	100
0.000125	100	100	100
0.000106	100	100	100
0.000085	100	100	100
0.000075	100	100	100
0.00006	100	100	100
0.00005	100	100	100
0.0000425	100	100	100
0.00003	100	100	100
0.000025	100	100	100
0.00002	100	100	100
0.000015	100	100	100
0.0000125	100	100	100
0.0000106	100	100	100
0.0000085	100	100	100
0.0000075	100	100	100
0.000006	100	100	100
0.000005	100	100	100
0.00000425	100	100	100
0.000003	100	100	100
0.0000025	100	100	100
0.000002	100	100	100
0.0000015	100	100	100
0.00000125	100	100	100
0.00000106	100	100	100
0.00000085			

SIEVE inches size	PERCENT FINER		
	○	□	△
1.5"			100.0
1"			92.2
3/4"		100.0	92.2
3/8"		96.8	87.1
	GRAIN SIZE		
D ₆₀	0.183	0.820	0.320
D ₃₀	0.0753	0.276	
D ₁₀		0.123	
	COEFFICIENTS		
C _c		0.75	
C _u		6.66	

SIEVE number size	PERCENT FINER		
	○	□	△
#4	100.0	83.8	82.3
#10	99.8	70.4	75.2
#30	98.5	54.8	66.3
#40	93.7	46.3	62.9
#50	82.0	33.2	59.3
#100	51.7	12.6	51.4
#200	29.9	7.9	44.1

○ Olive Brown Clayey SAND

□ Olive Brown Poorly Graded SAND w/
Clay & Gravel

△ Dark Reddish Brown Clayey SAND w/
Gravel

REMARKS:

○

□

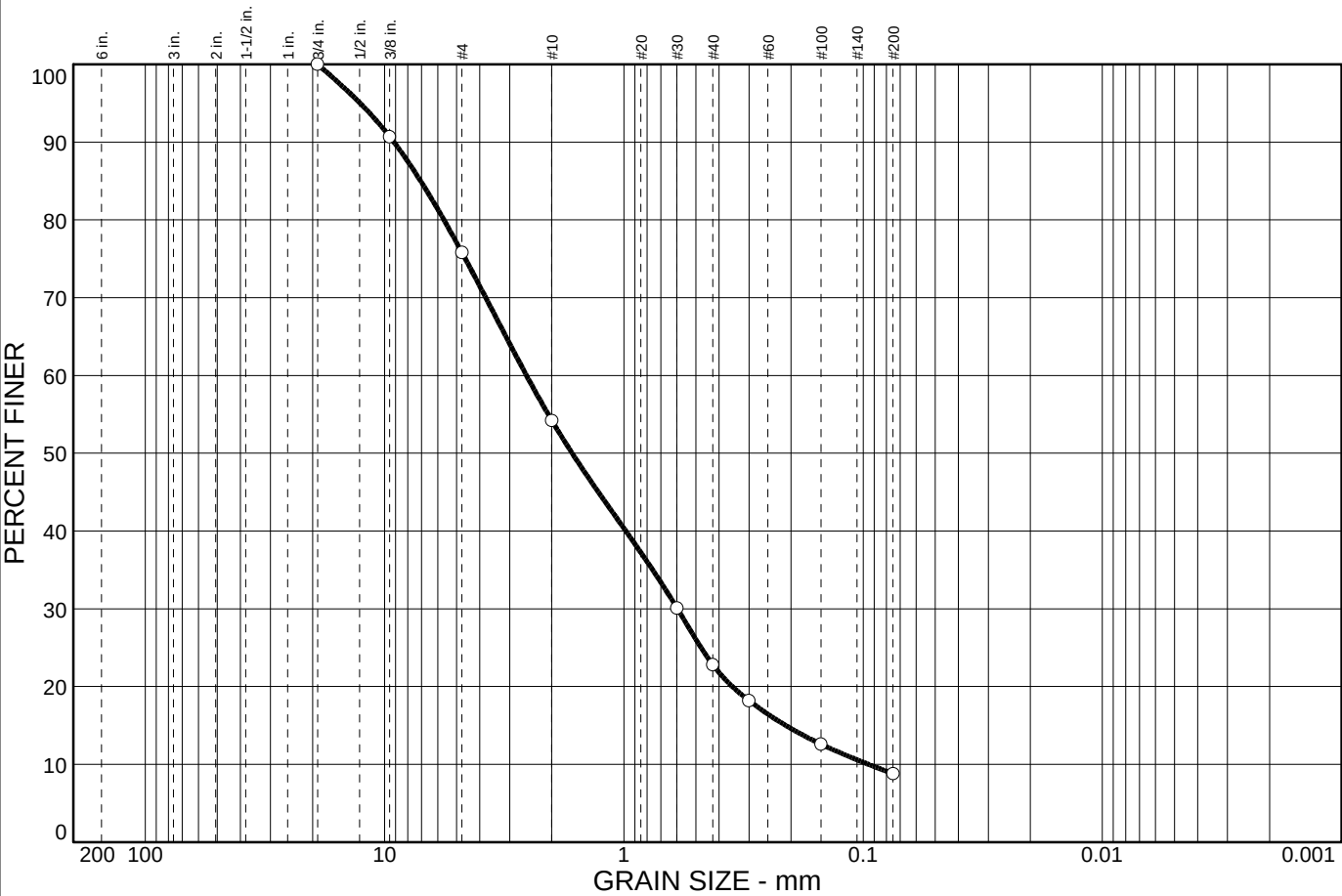
△ Due to the small sample size, relative to the largest particle size, this data should be considered to be approximate.

Elev./Depth: 0.5-1.0'

△ Due to the small sample size, relative to the largest particle size, this data should be considered to be approximate.

Figure

Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
	24.2	67.0	8.8					

SIEVE inches size	PERCENT FINER			SIEVE number size	PERCENT FINER			SOIL DESCRIPTION
	○				○			
3/4"	100.0			#4	75.8			○ Olive Brown Well-Graded SAND w/ Clay & Gravel
3/8"	90.7			#10	54.2			
				#30	30.1			
				#40	22.8			
				#50	18.2			
				#100	12.6			
				#200	8.8			
	GRAIN SIZE							REMARKS: ○
D ₆₀	2.55							
D ₃₀	0.597							
D ₁₀	0.0949							
	COEFFICIENTS							
C _c	1.47							
C _u	26.90							

○ Source: B-06 Sample No.: L15 Elev./Depth: 41-41.5'

COOPER TESTING LABORATORY

Client: HDR Engineering, Inc.
Project: SAFER Bay-Task Order 1 - 028-222952
Project No.: 855-013

Figure



#200 Sieve Wash Analysis

ASTM D 1140

Job No.: 855-013
Client: HDR Engineering, Inc.
Project: SAFER Bay-Task Order 1

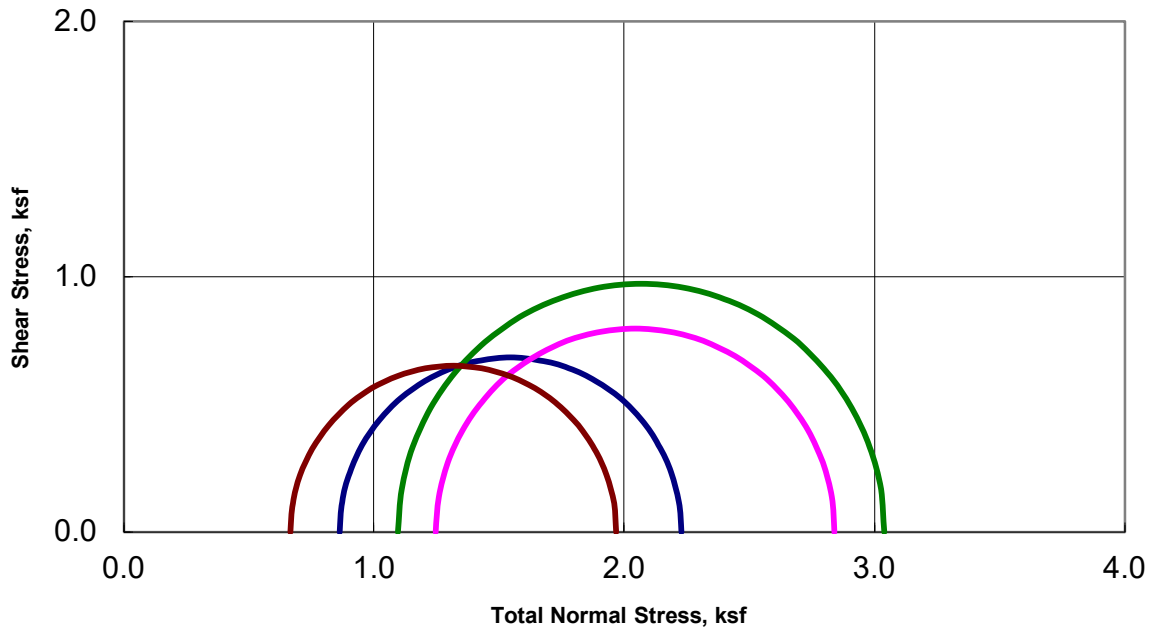
Project No.: 028-222952
Date: 3/3/2016
Run By: MD
Checked By: DC

Boring:	B-06							
Sample:	L8							
Depth, ft.:	21-23.5							
Soil Type:	Greenish Gray Lean CLAY w/ Sand							
Wt of Dish & Dry Soil, gm	634.3							
Weight of Dish, gm	304.4							
Weight of Dry Soil, gm	329.9							
Wt. Ret. on #4 Sieve, gm	0.5							
Wt. Ret. on #200 Sieve, gm	53.0							
% Gravel	0.2							
% Sand	15.9							
% Silt & Clay	83.9							

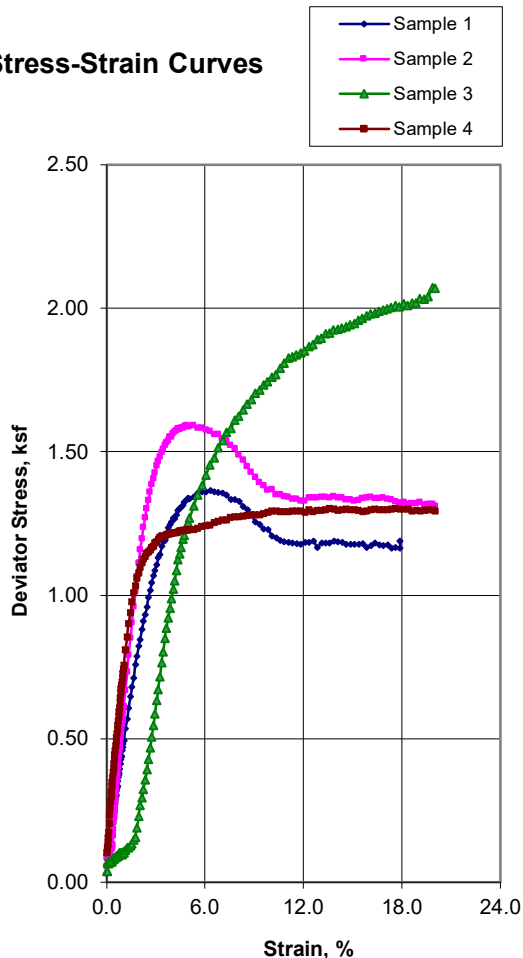
Remarks: As an added benefit to our clients, the gravel fraction may be included in this report. Whether or not it is included is dependent upon both the technician's time available and if there is a significant enough amount of gravel. The gravel is always included in the percent retained on the #200 sieve but may not be weighed separately to determine



Unconsolidated-Undrained Triaxial Test ASTM D2850



Stress-Strain Curves



Sample Data

	1	2	3	4
Moisture %	71.3	60.9	26.3	41.4
Dry Den,pcf	56.9	63.3	96.8	77.3
Void Ratio	1.960	1.664	0.742	1.181
Saturation %	98.3	98.8	95.7	94.5
Height in	6.14	6.10	6.10	6.09
Diameter in	2.86	2.87	2.86	2.89
Cell psi	6.0	8.7	7.6	4.6
Strain %	6.30	5.29	15.00	13.58
Deviator, ksf	1.367	1.594	1.944	1.302
Rate %/min	1.00	1.00	1.00	1.00
in/min	0.061	0.061	0.061	0.061
Job No.:	855-013b			
Client:	HDR Engineering, Inc.			
Project:	028-222952			
Boring:	B-03	B-03	B-05	B-06
Sample:	L6	L10	L10	L4
Depth ft:	19-21.5	30-32.5(Tip-1")	20-22.5	7-9.5(Tip14")

Visual Soil Description

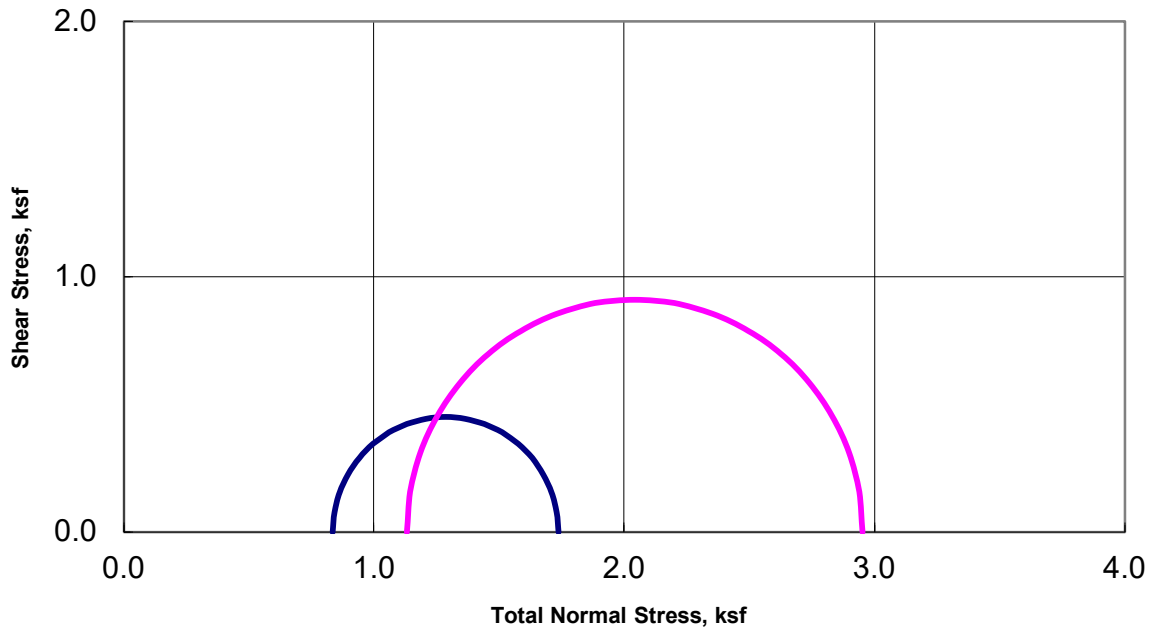
Sample #	Description
1	Greenish Gray Elastic SILT (Bay Mud)
2	Greenish Gray Elastic SILT (Bay Mud)
3	Dark Grayish Brown Lean CLAY
4	Dark Gray Fat CLAY

Remarks:

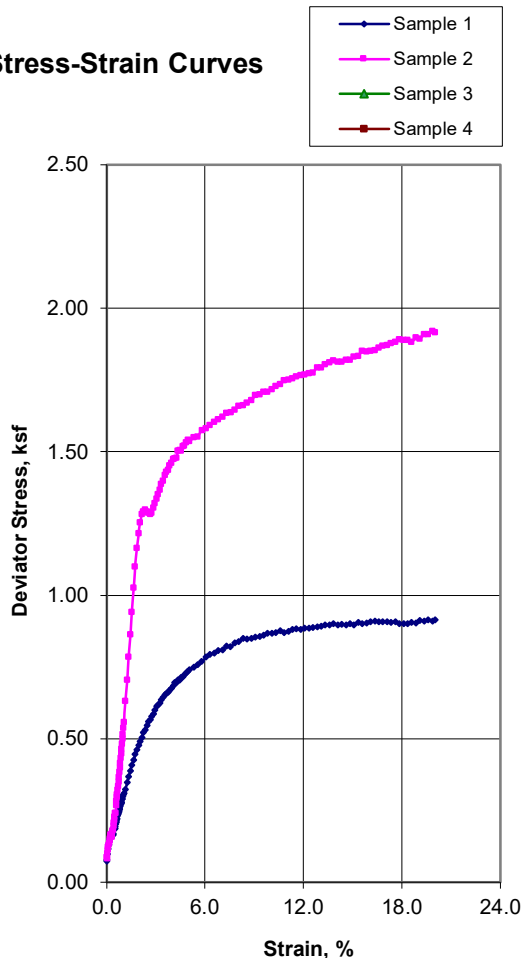
Note: Strengths are picked at the peak deviator stress or 15% strain which ever occurs first per ASTM D2850.



Unconsolidated-Undrained Triaxial Test ASTM D2850



Stress-Strain Curves



Sample Data

	1	2	3	4
Moisture %	40.7	22.9		
Dry Den,pcf	79.8	101.9		
Void Ratio	1.112	0.653		
Saturation %	98.8	94.6		
Height in	6.10	6.12		
Diameter in	2.86	2.87		
Cell psi	5.8	7.9		
Strain %	15.00	15.00		
Deviator, ksf	0.901	1.821		
Rate %/min	1.00	1.00		
in/min	0.061	0.061		
Job No.:	855-013c			
Client:	HDR Engineering, Inc.			
Project:	028-222952			
Boring:	B-06	B-06		
Sample:	L6	L8		
Depth ft:	12.5-15	21-23.5		

Visual Soil Description

Sample #	
1	Dark Greenish Gray Fat CLAY (Bay Mud)
2	Greenish Gray Lean CLAY w/ Sand
3	
4	

Remarks:

Note: Strengths are picked at the peak deviator stress or 15% strain which ever occurs first per ASTM D2850.

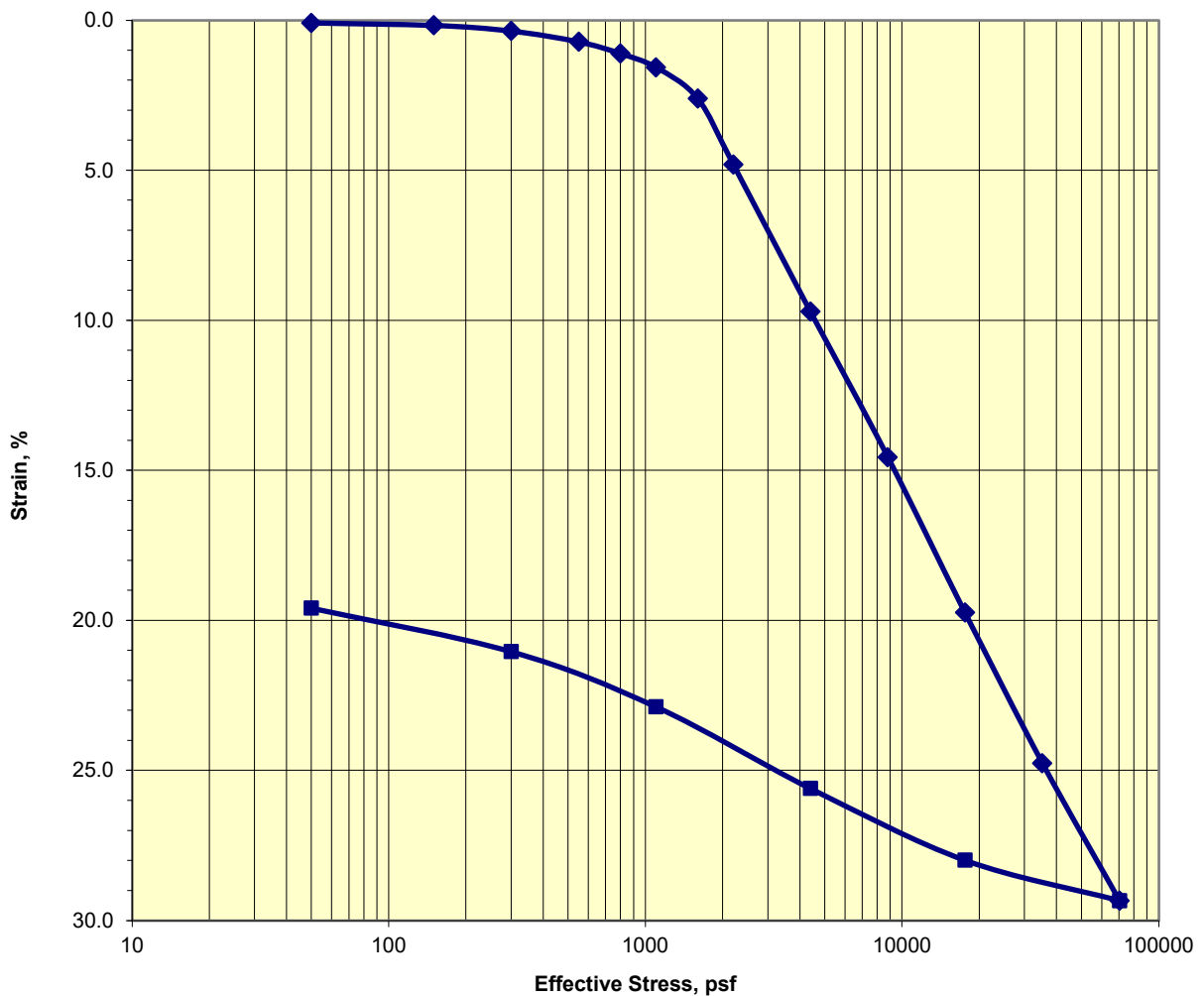


Consolidation Test

ASTM D2435

Job No.: 855-013	Boring: B-06	Run By: MD
Client: HDR Engineering, Inc.	Sample: L6	Reduced: PJ
Project: 028-222952	Depth, ft.: 12.5-15 (tip-3")	Checked: PJ/DC
Soil Type: Dark Greenish Gray Fat CLAY (Bay Mud)		Date: 3/7/2016

Strain-Log-P Curve



Assumed Gs	2.75	Initial	Final
Moisture %:		41.4	27.9
Dry Density, pcf:		78.7	97.1
Void Ratio:		1.182	0.767
% Saturation:		96.3	100.0

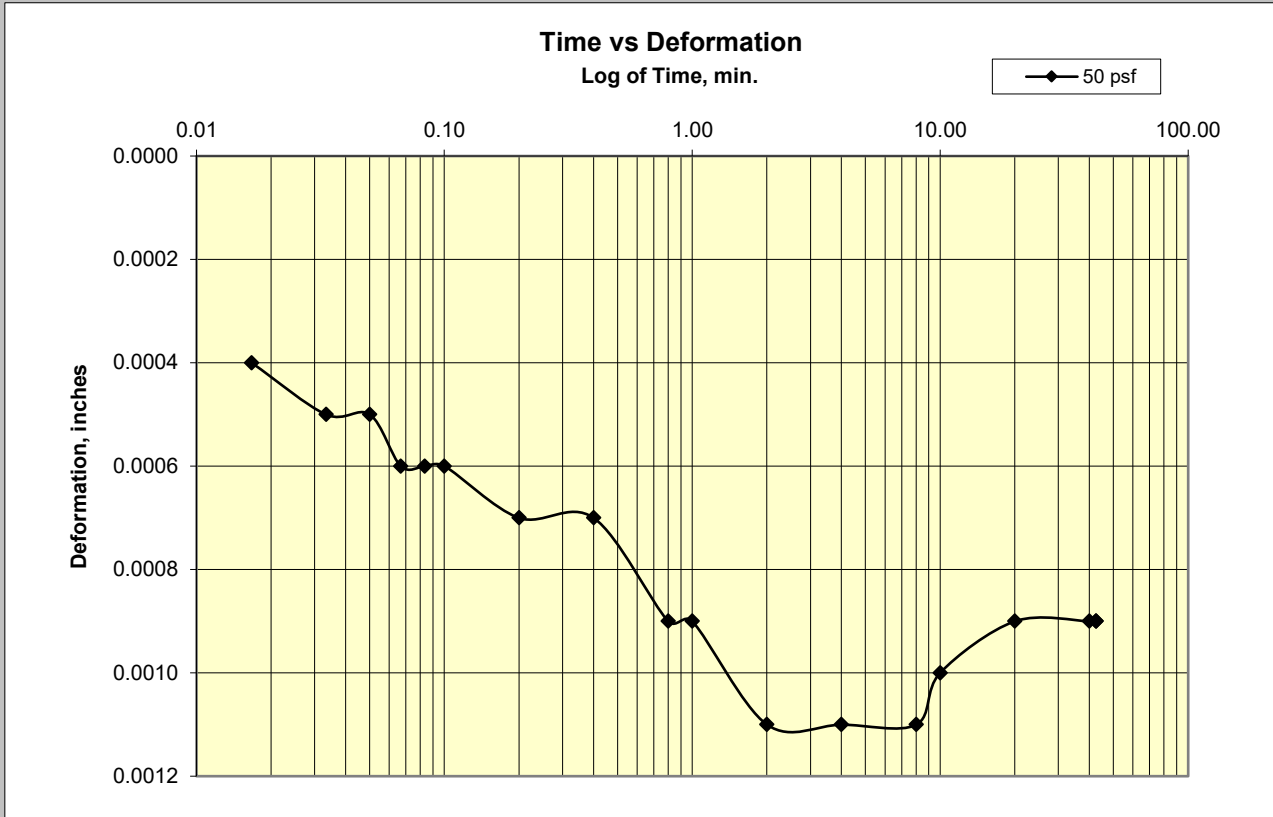
Remarks:

Cooper Testing Labs, Inc.

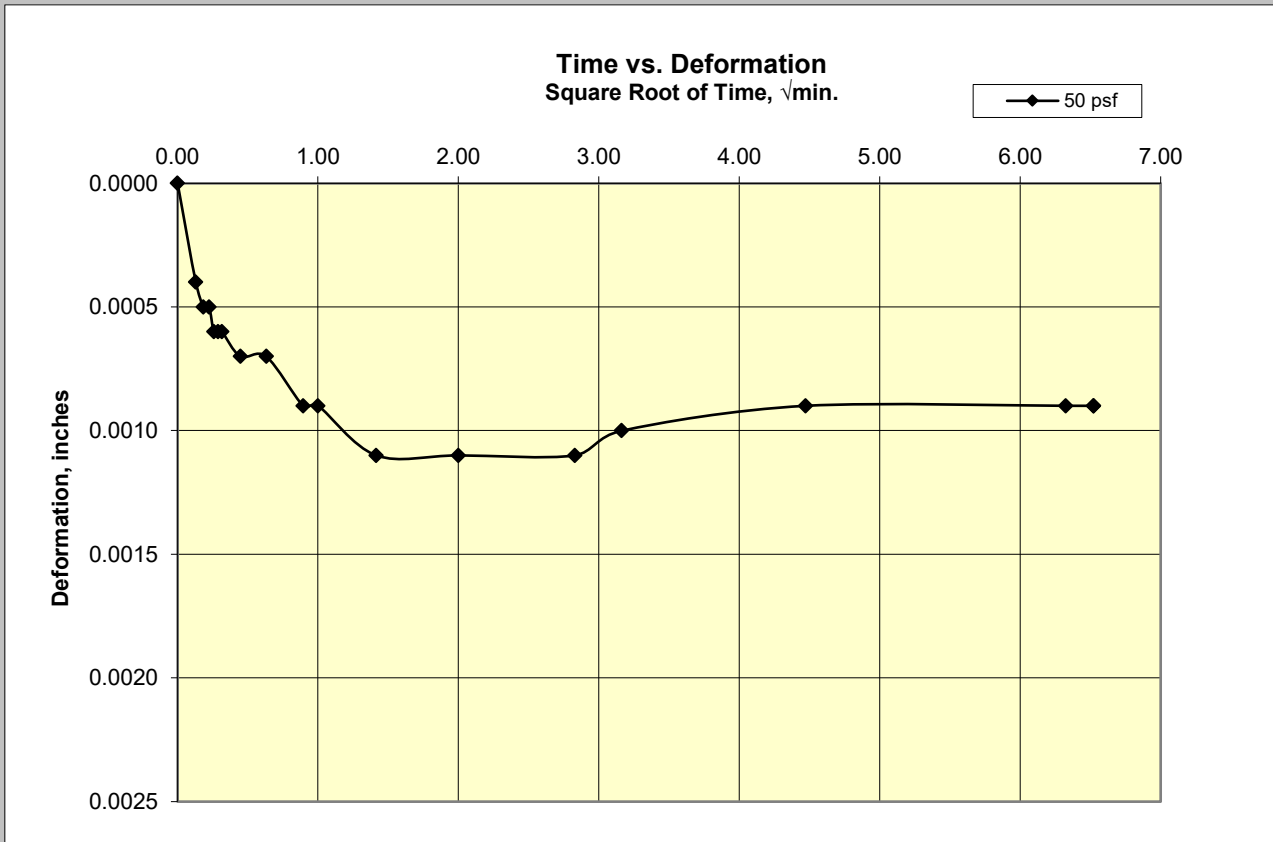
B-06, Sample L6, 12-15.0 feet

Load 1

50 psf



50 psf

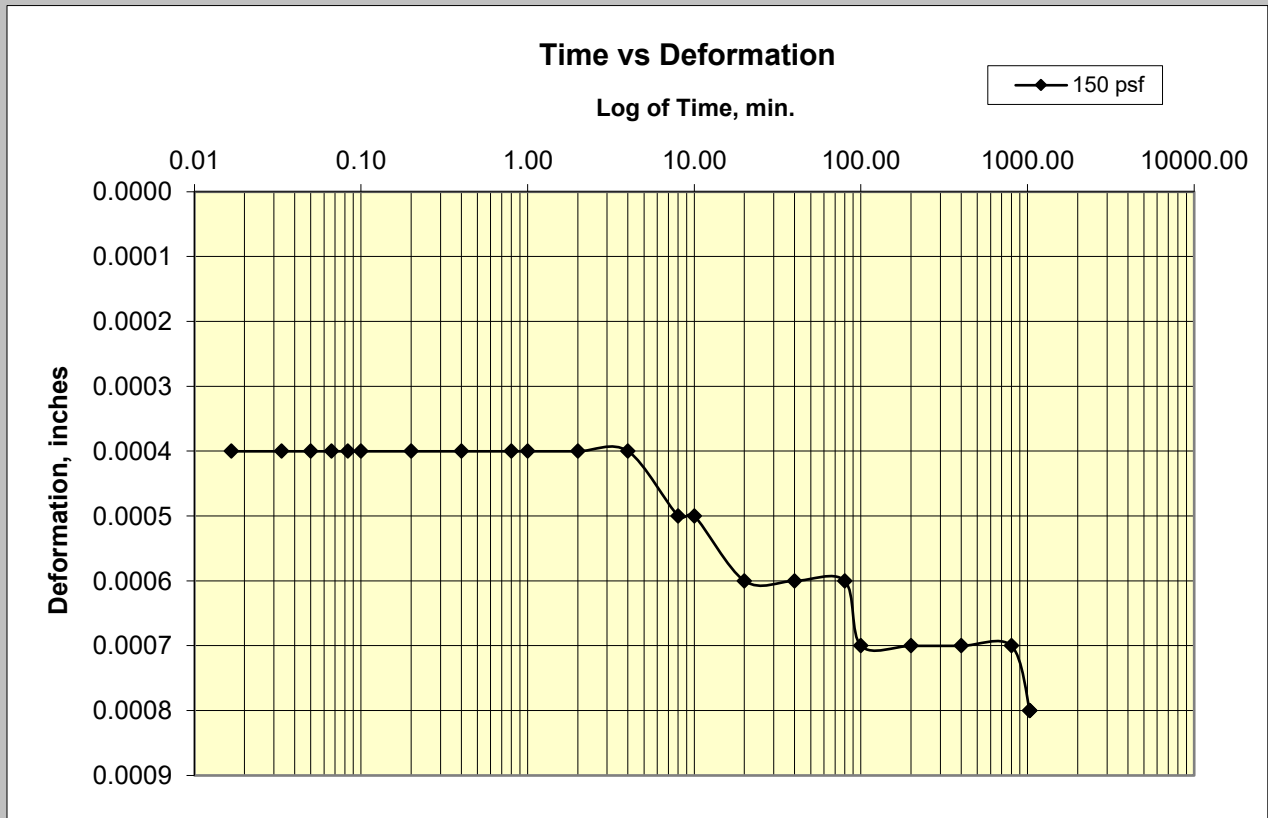


Cooper Testing Labs, Inc.

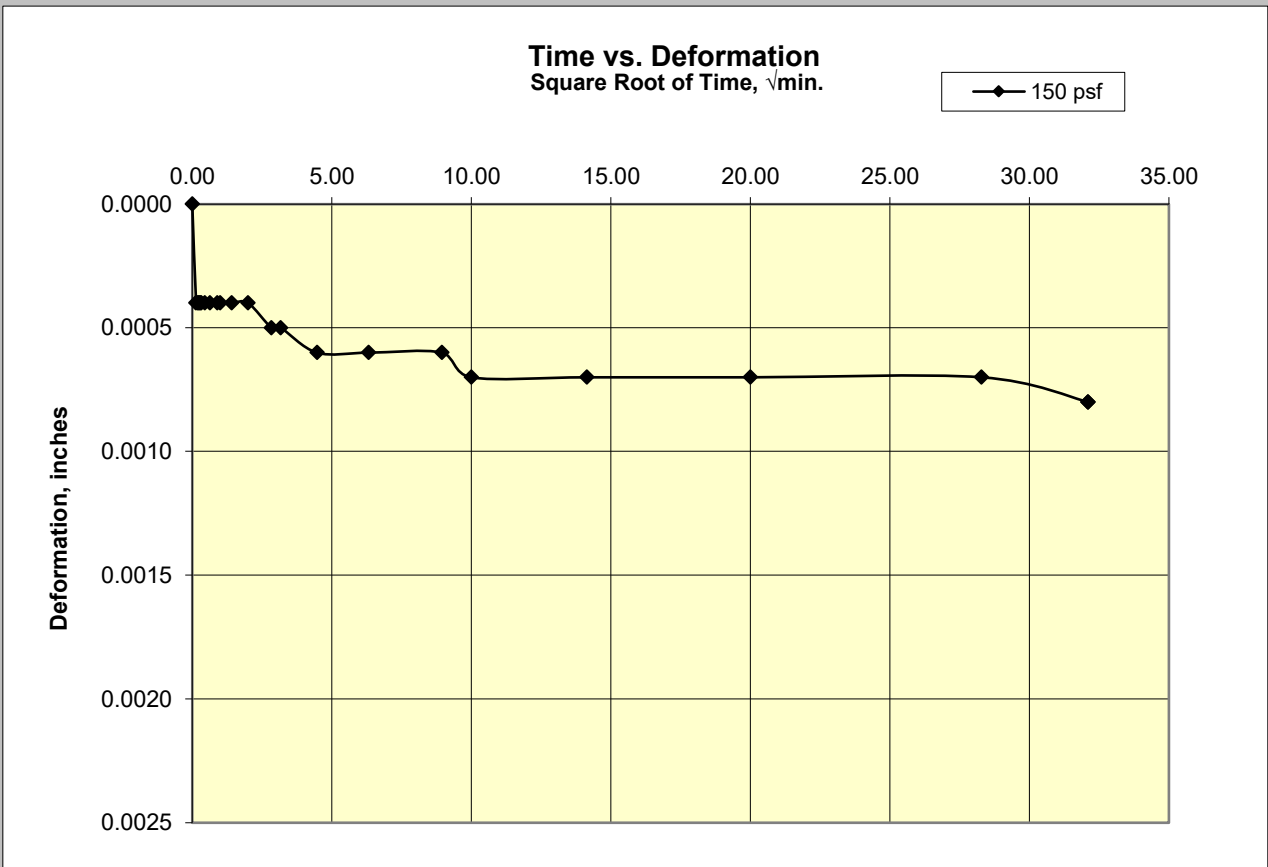
B-06, Sample L6, 12-15.0 feet

Load 2

150 psf



150 psf

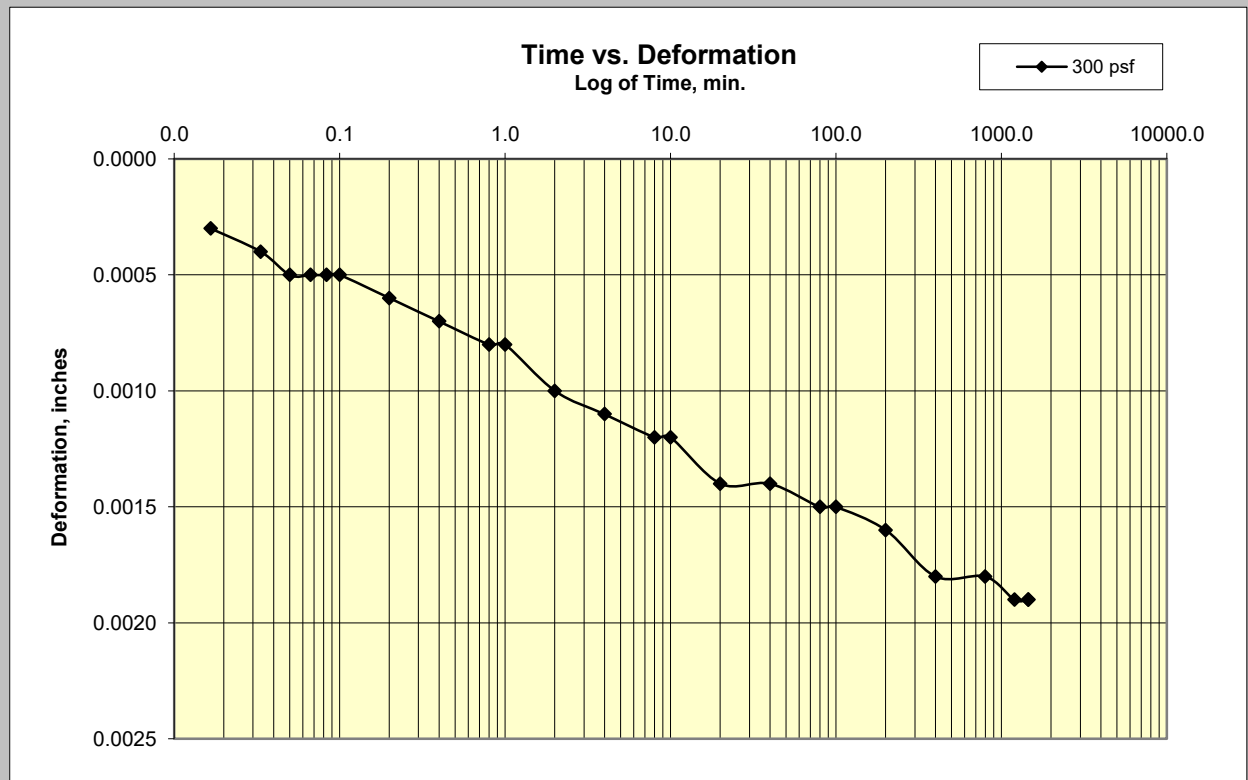


Cooper Testing Labs, Inc.

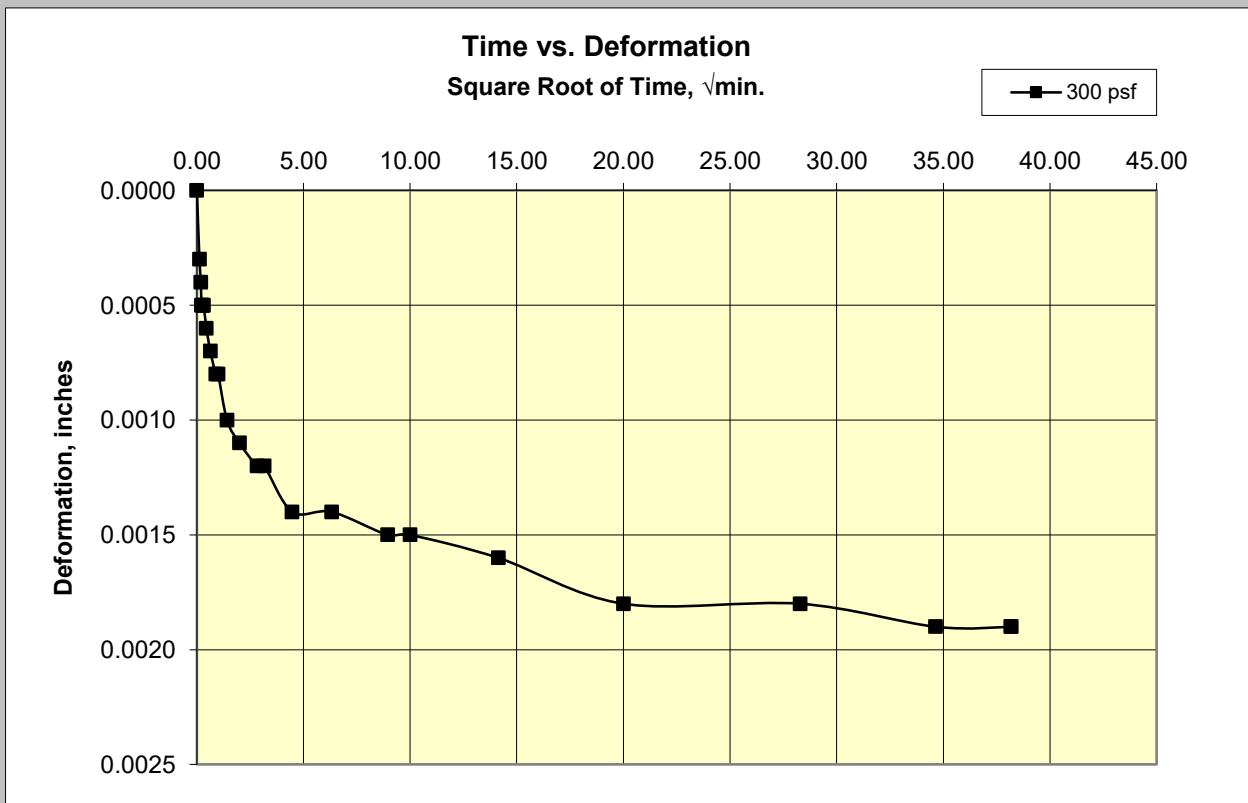
B-06, Sample L6, 12-15.0 feet

Load 3

300 psf



300 psf

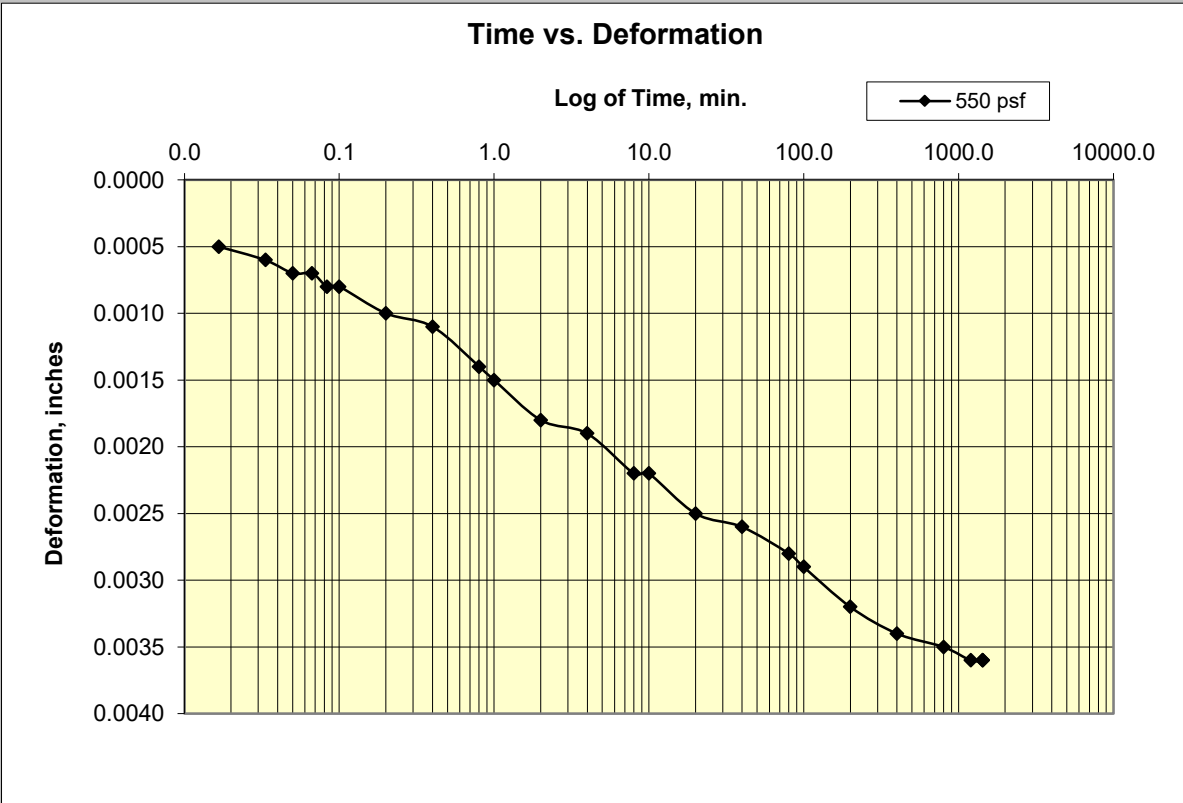


Cooper Testing Labs, Inc.

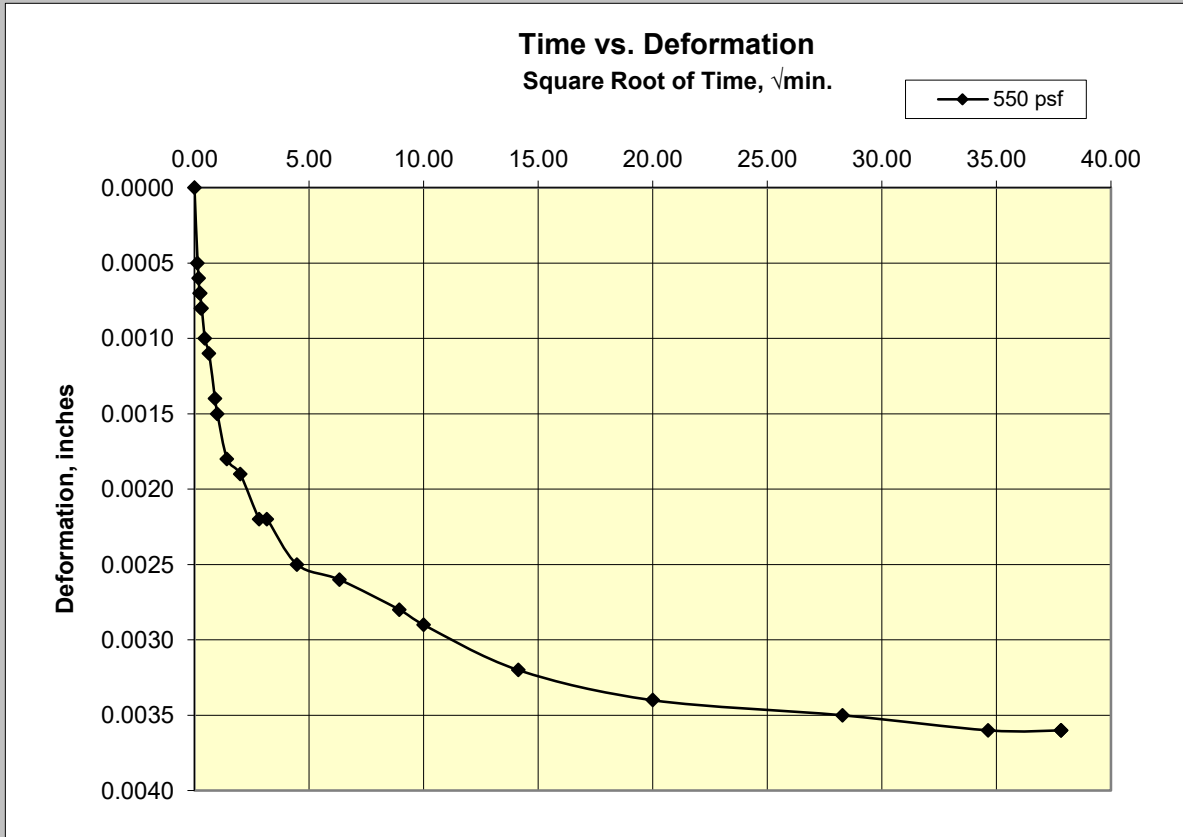
B-06, Sample L6, 12-15.0 feet

Load 4

550 psf



550 psf

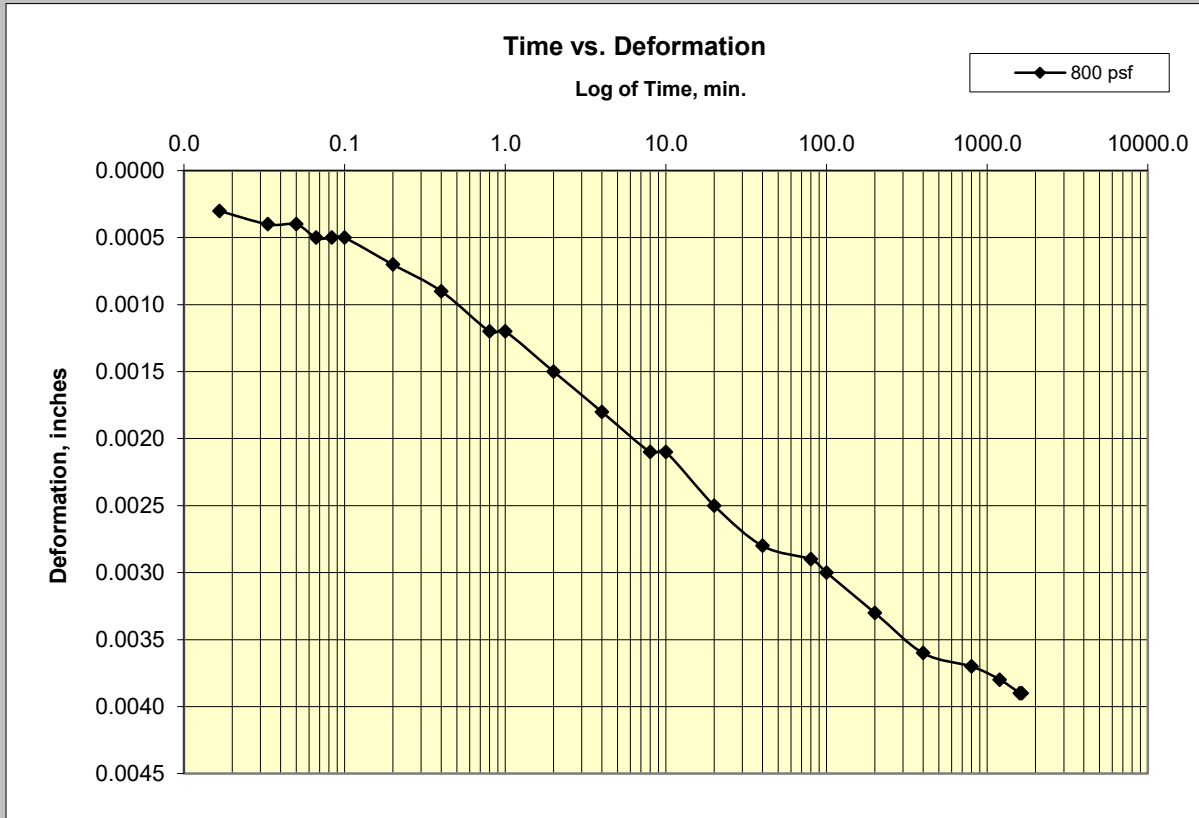


Cooper Testing Labs, Inc.

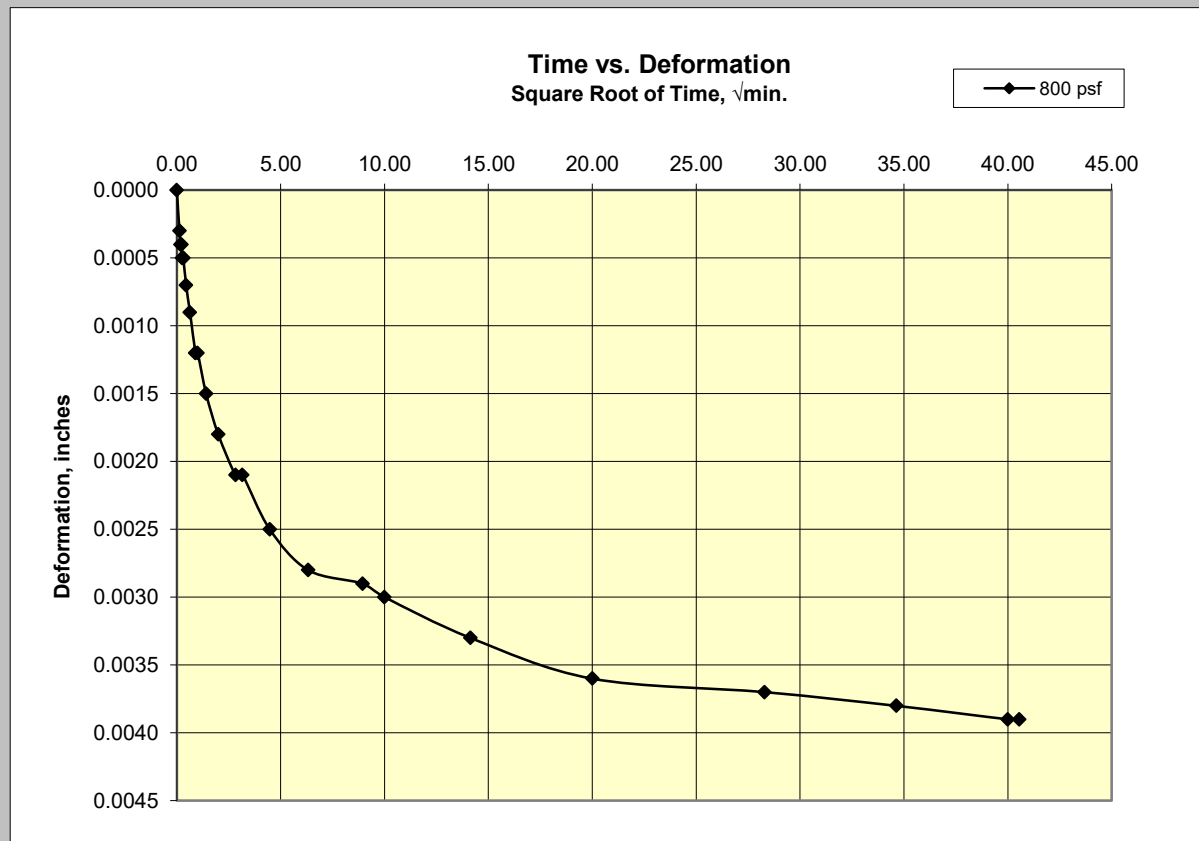
B-06, Sample L6, 12-15.0 feet

Load 5

800 psf



800 psf

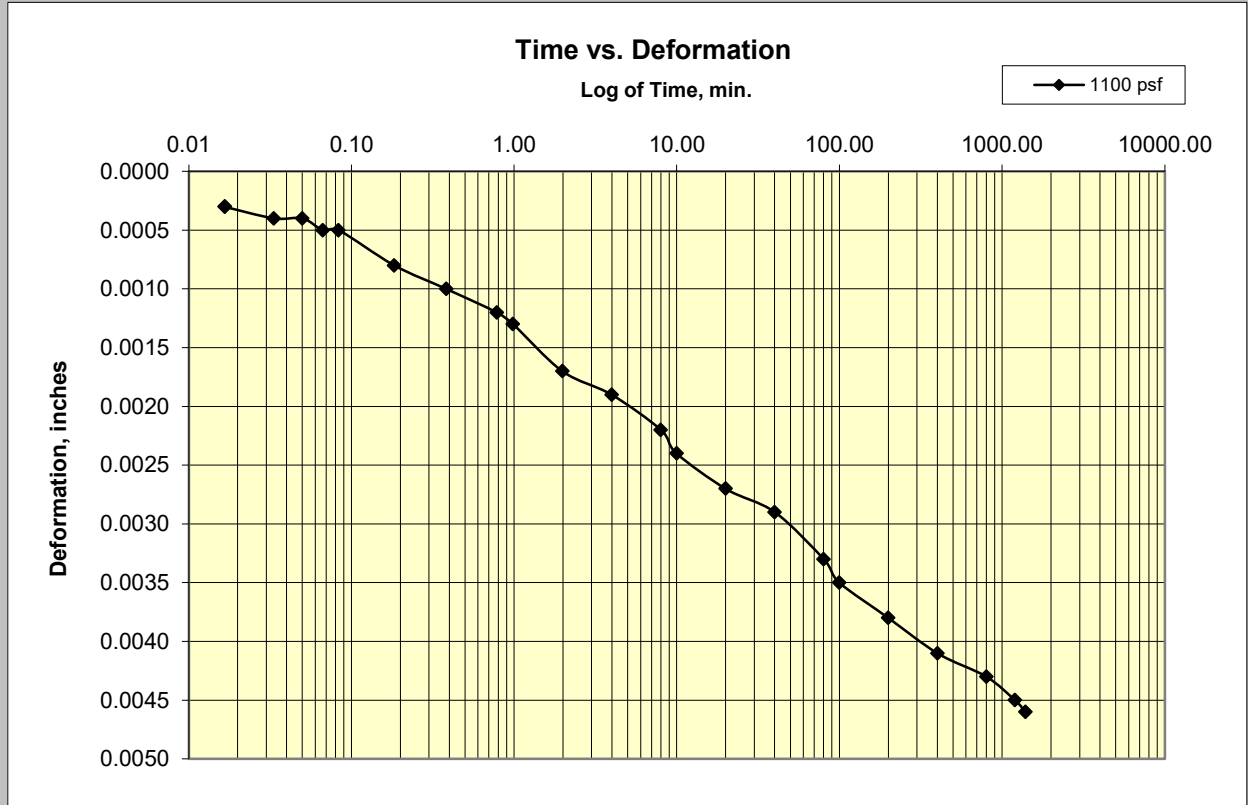


Cooper Testing Labs, Inc.

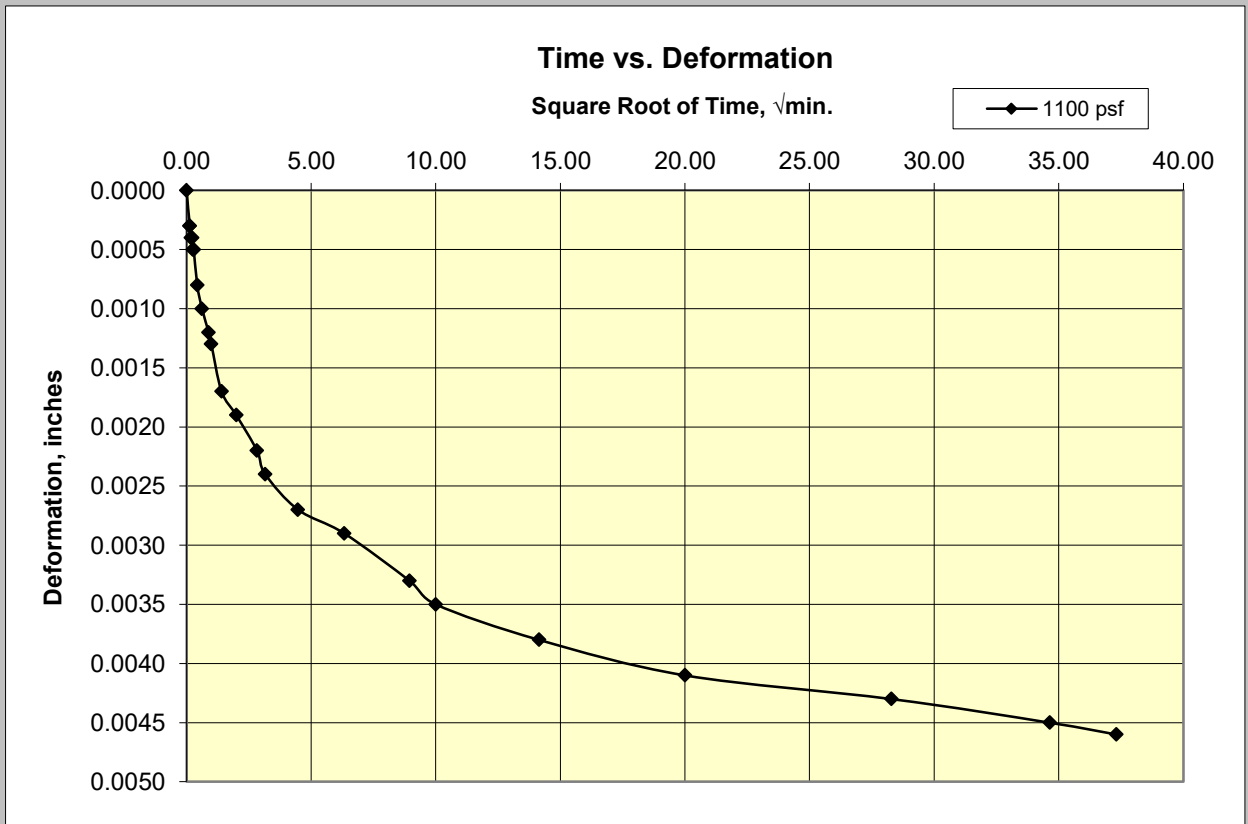
B-06, Sample L6, 12-15.0 feet

Load 6

1100 psf



1100 psf

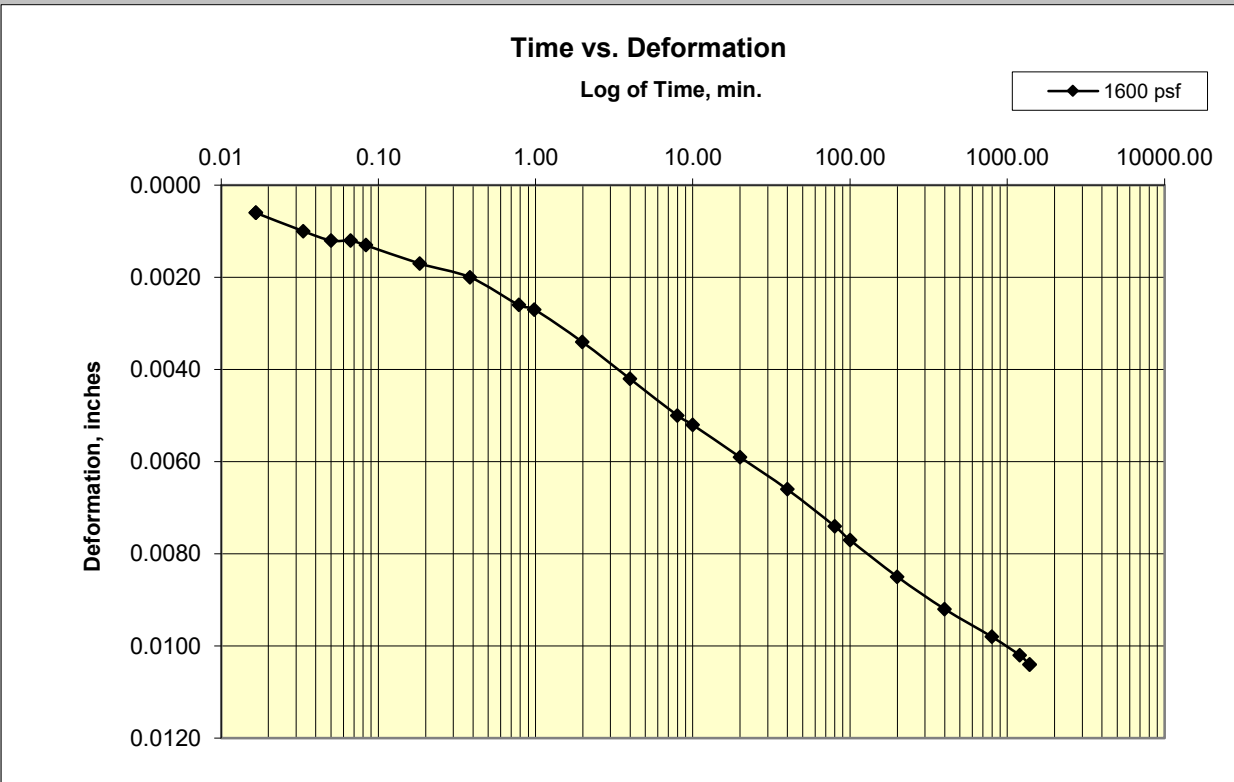


Cooper Testing Labs, Inc.

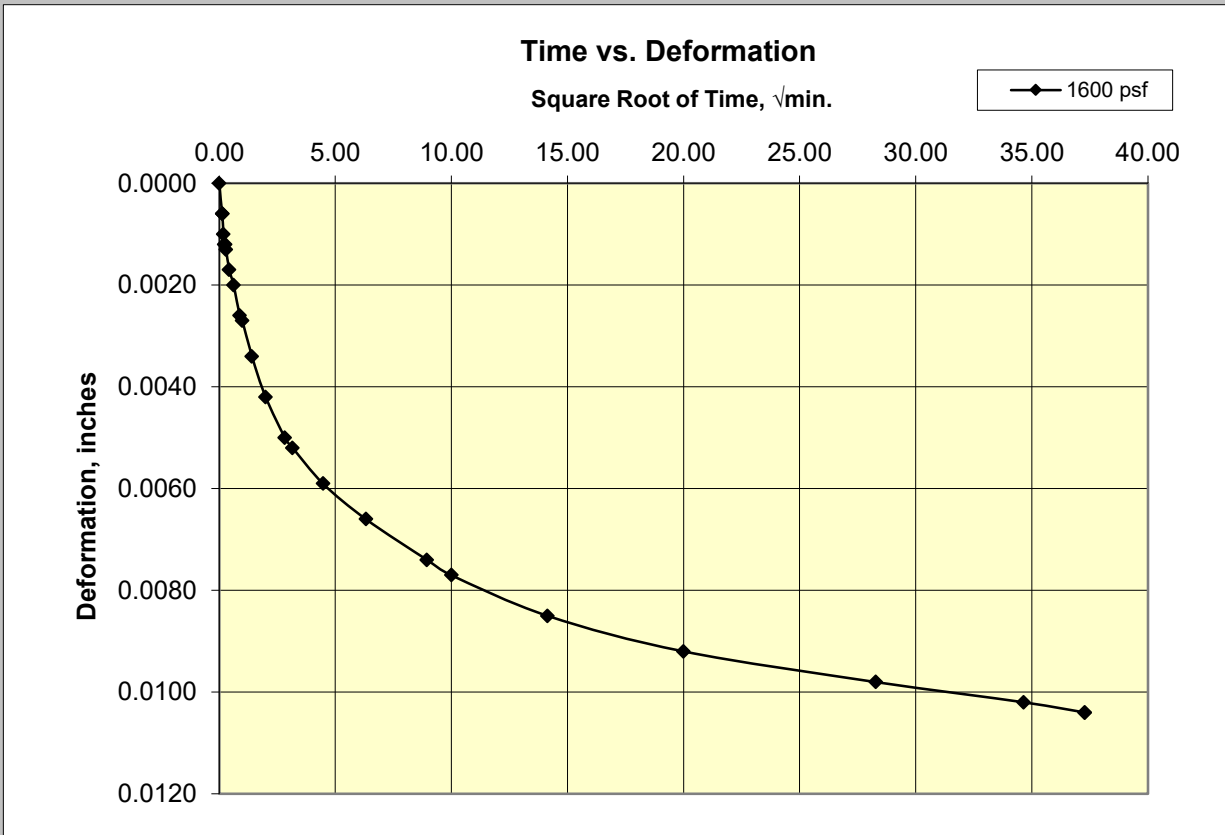
B-06, Sample L6, 12-15.0 feet

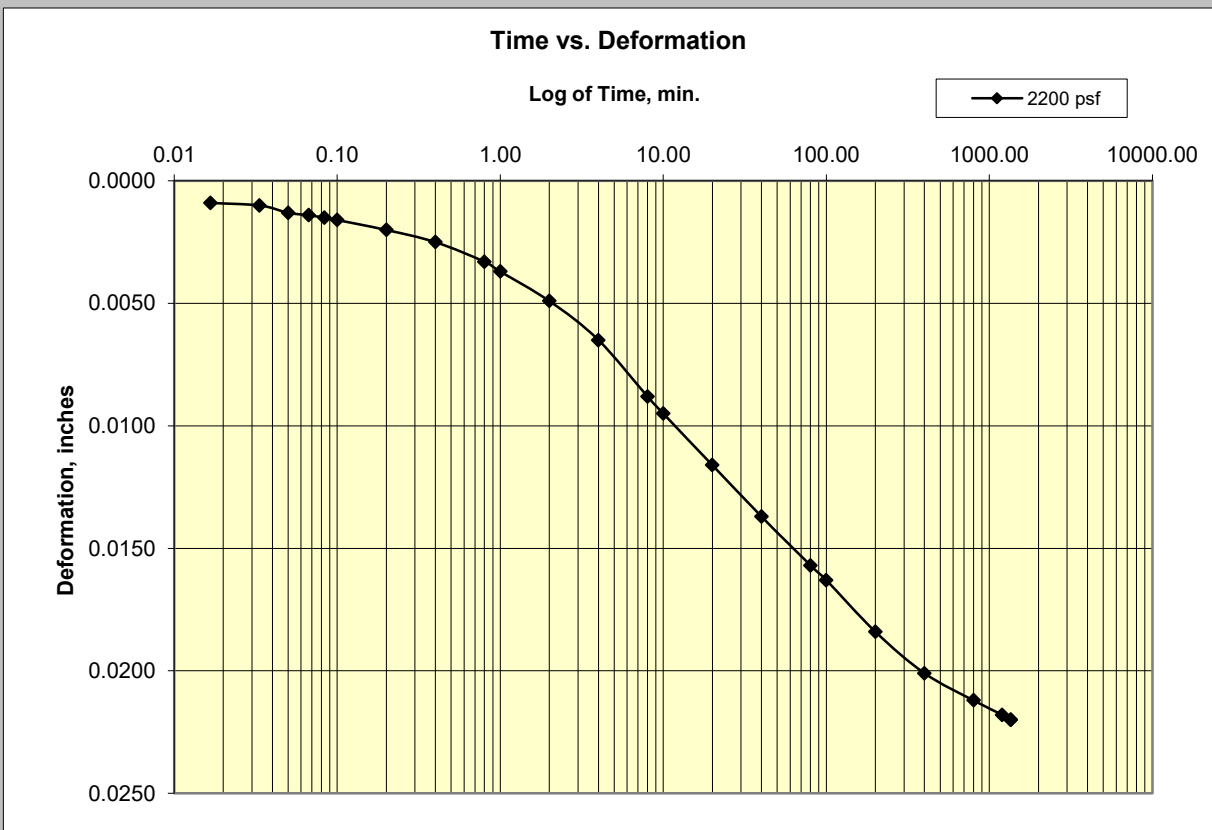
Load 7

1600 psf

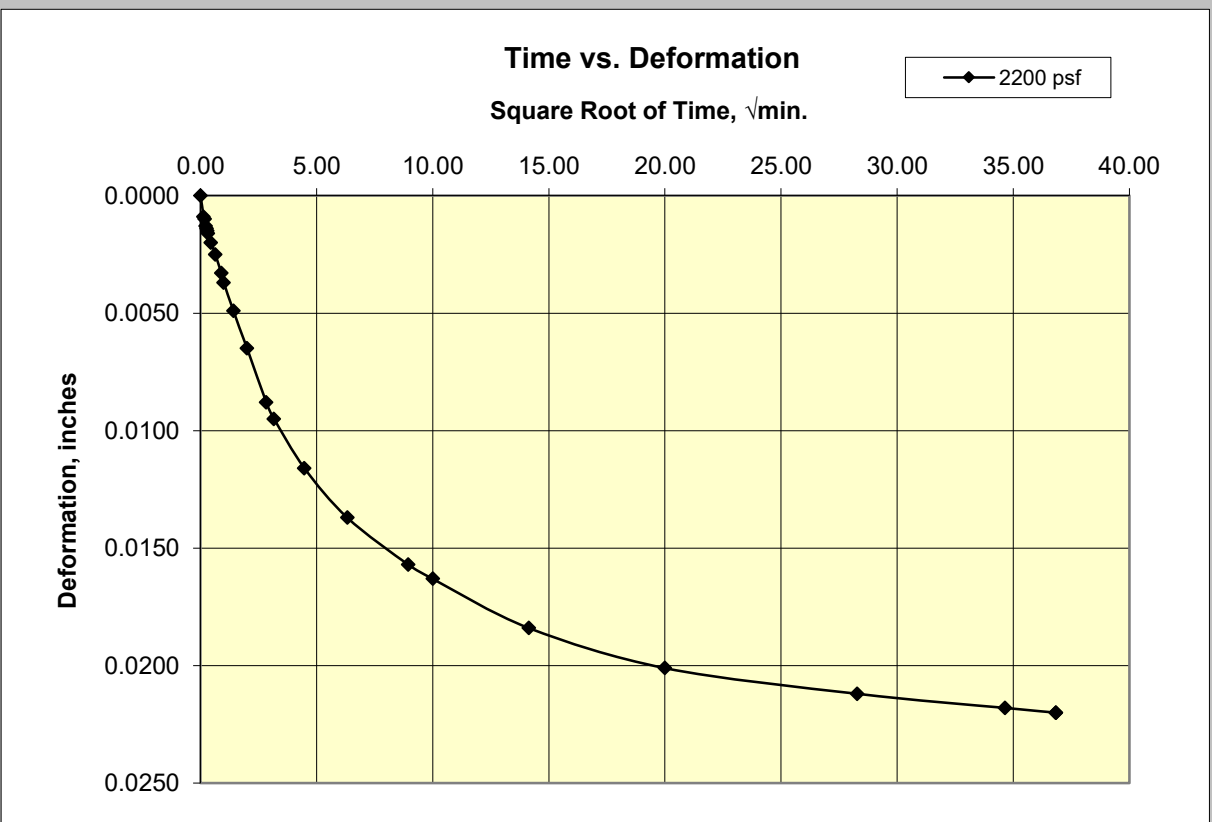


1600 psf



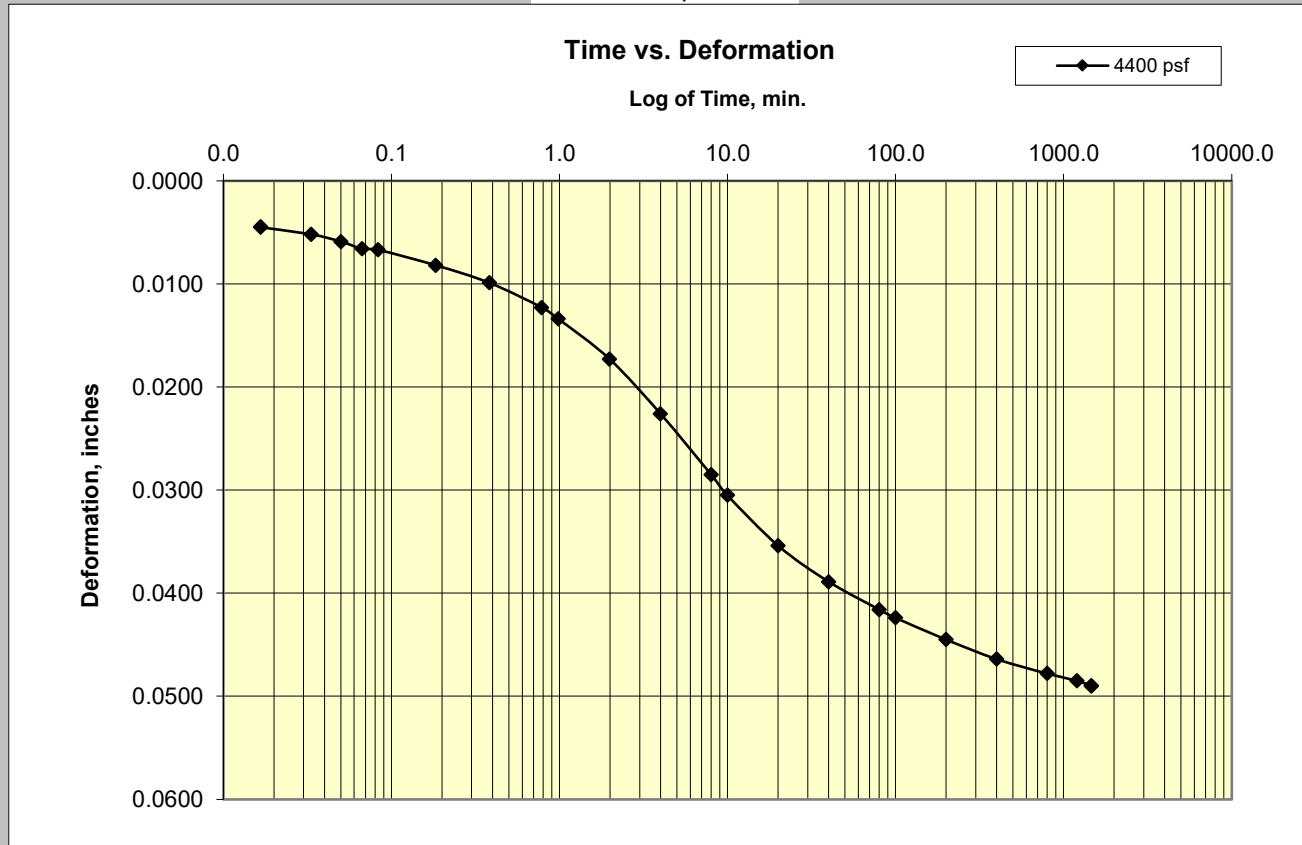


2200 psf

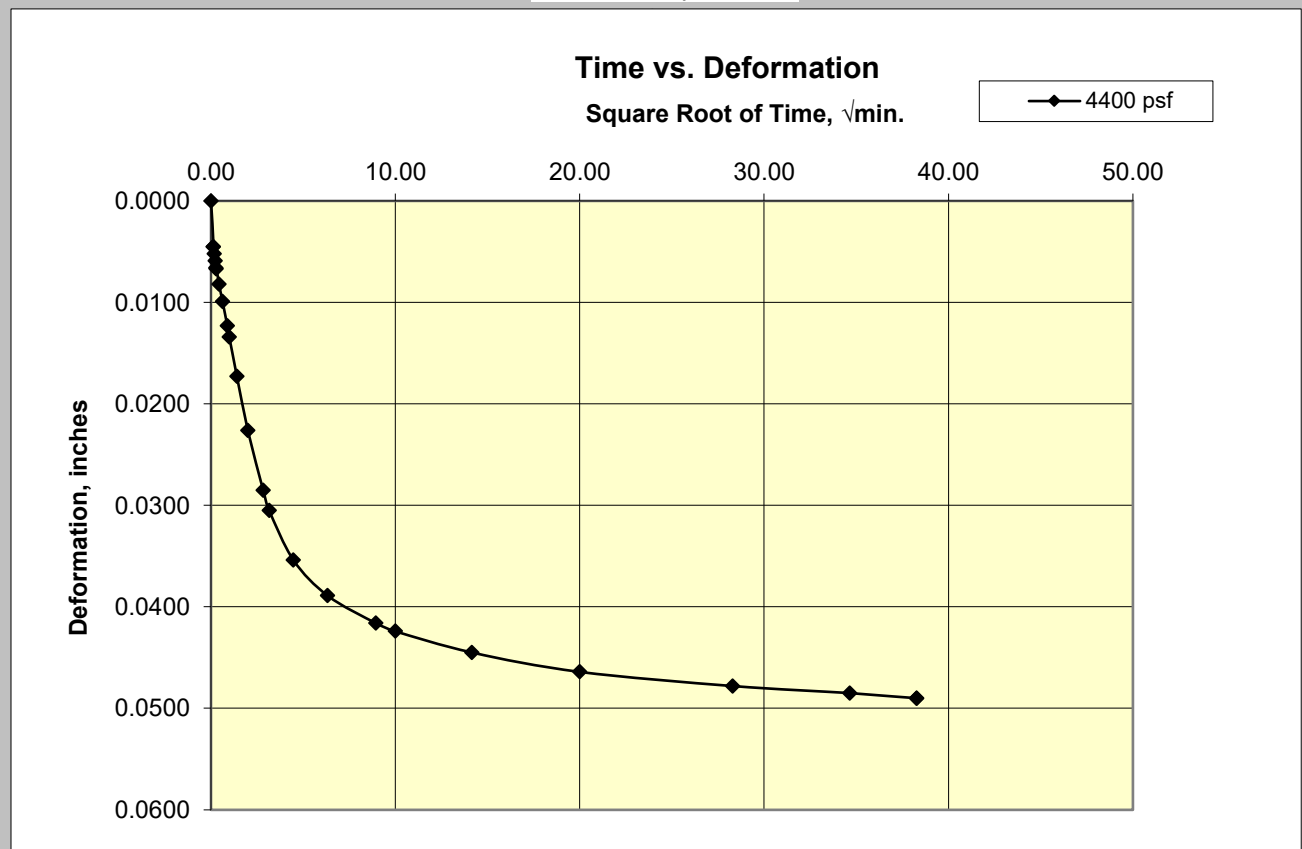


Load 9

4400 psf



4400 psf

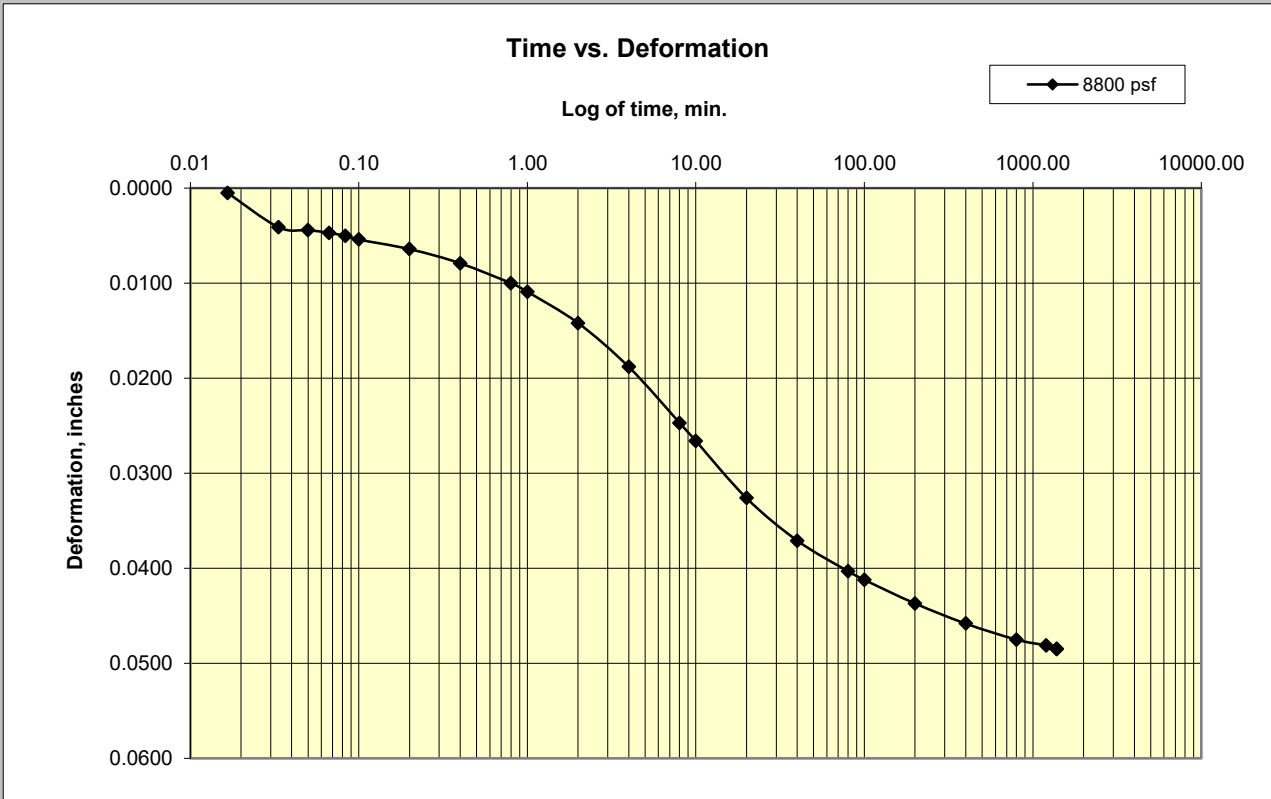


Cooper Testing Labs, Inc.

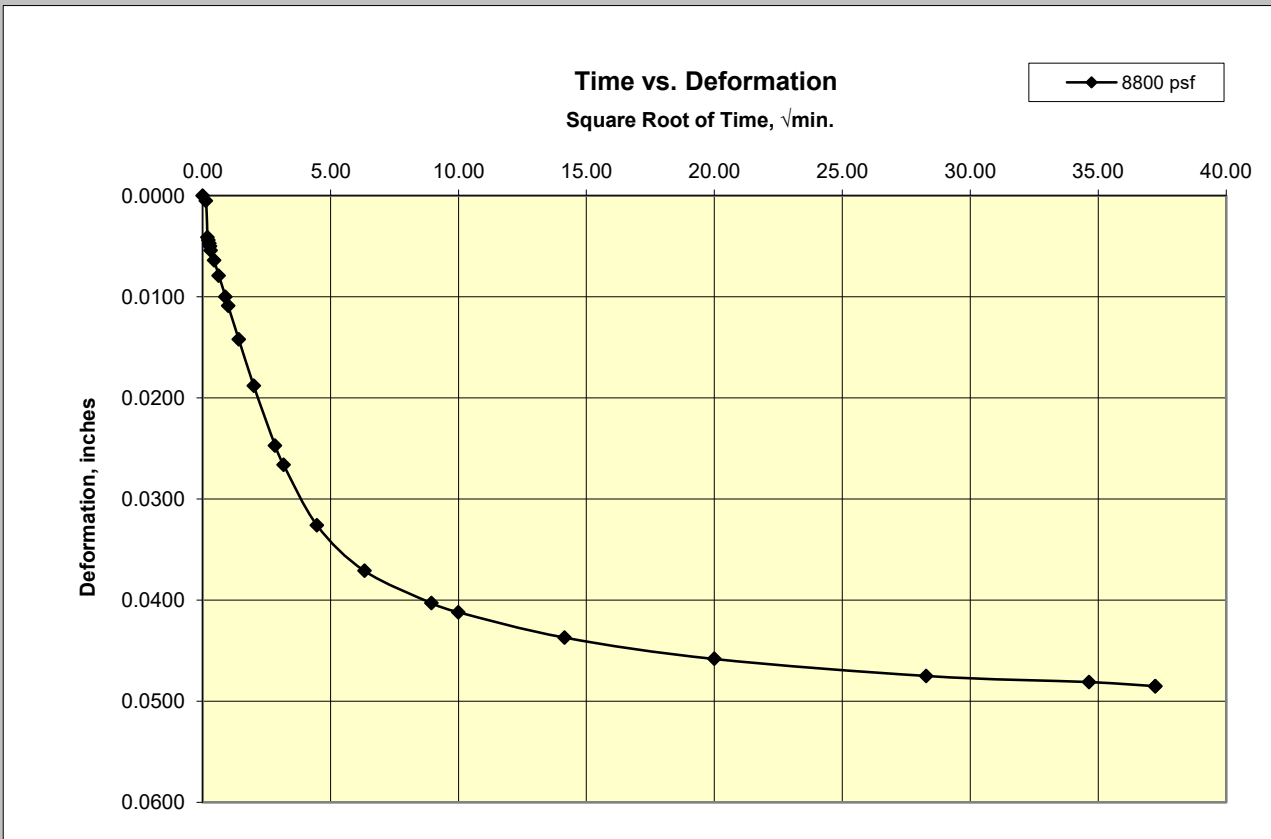
B-06, Sample L6, 12-15.0 feet

Load 10

8800 psf



8800 psf

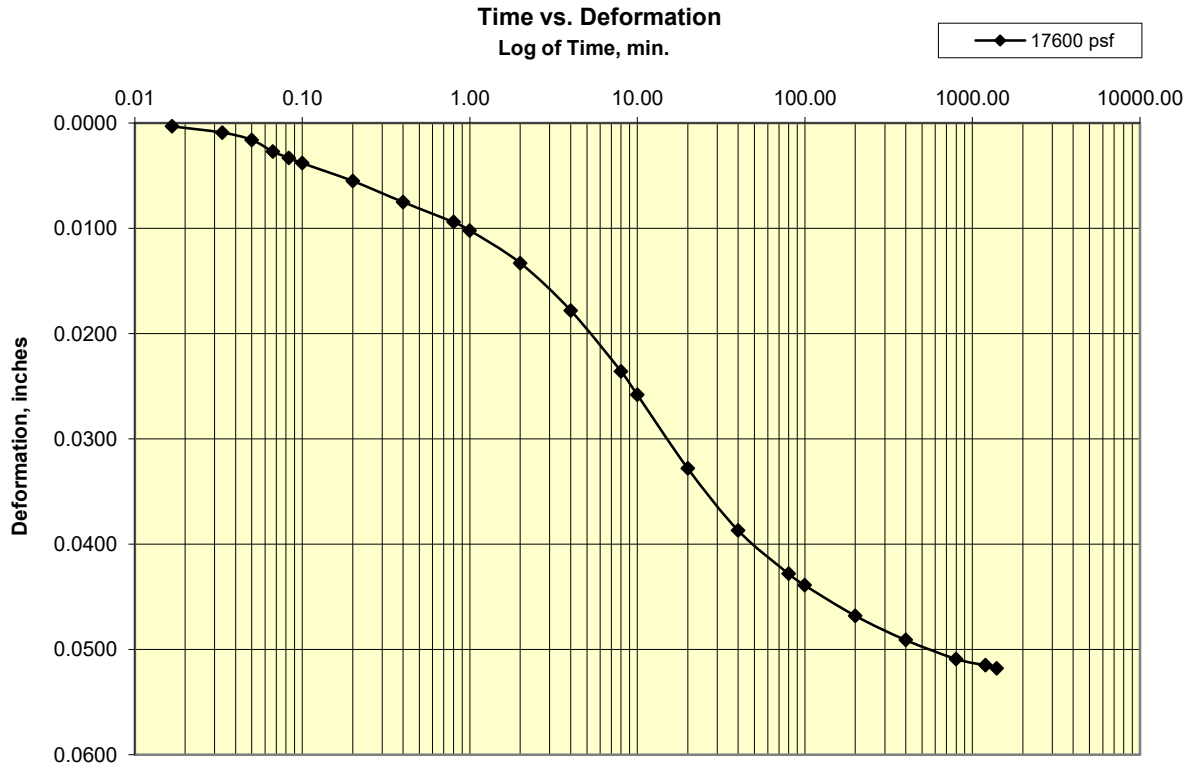


Cooper Testing Labs, Inc.

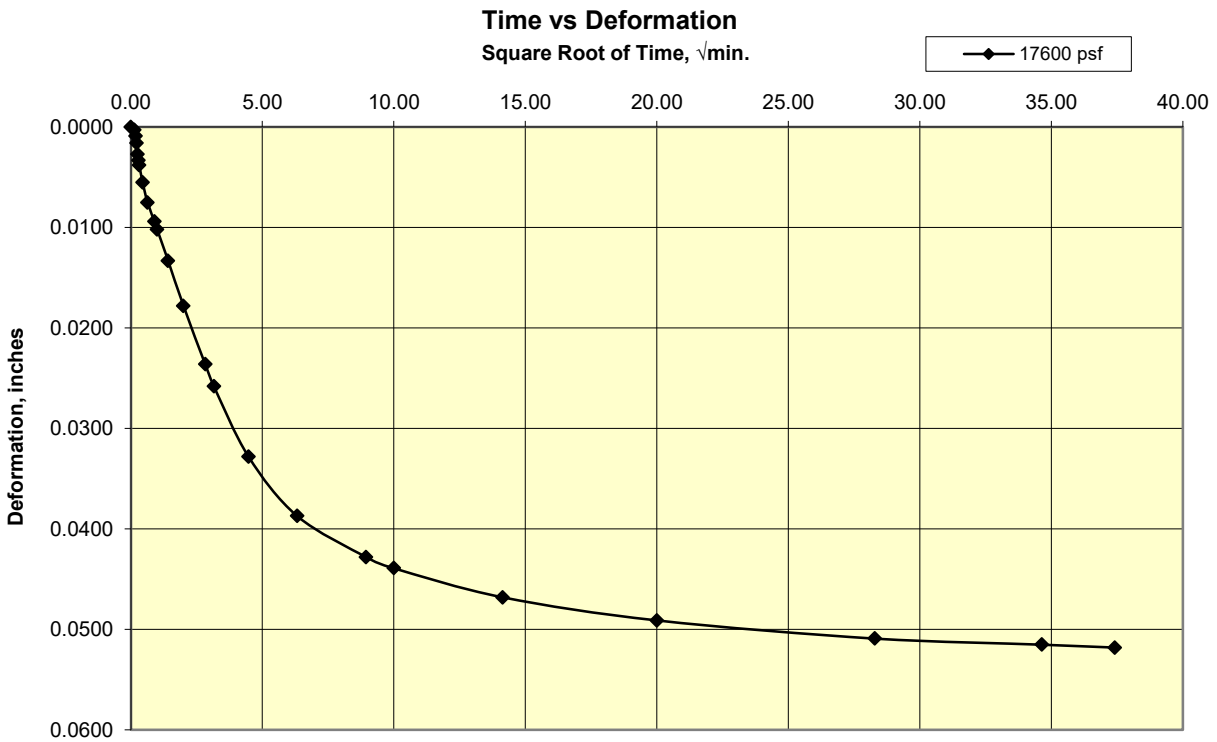
B-06, Sample L6, 12-15.0 feet

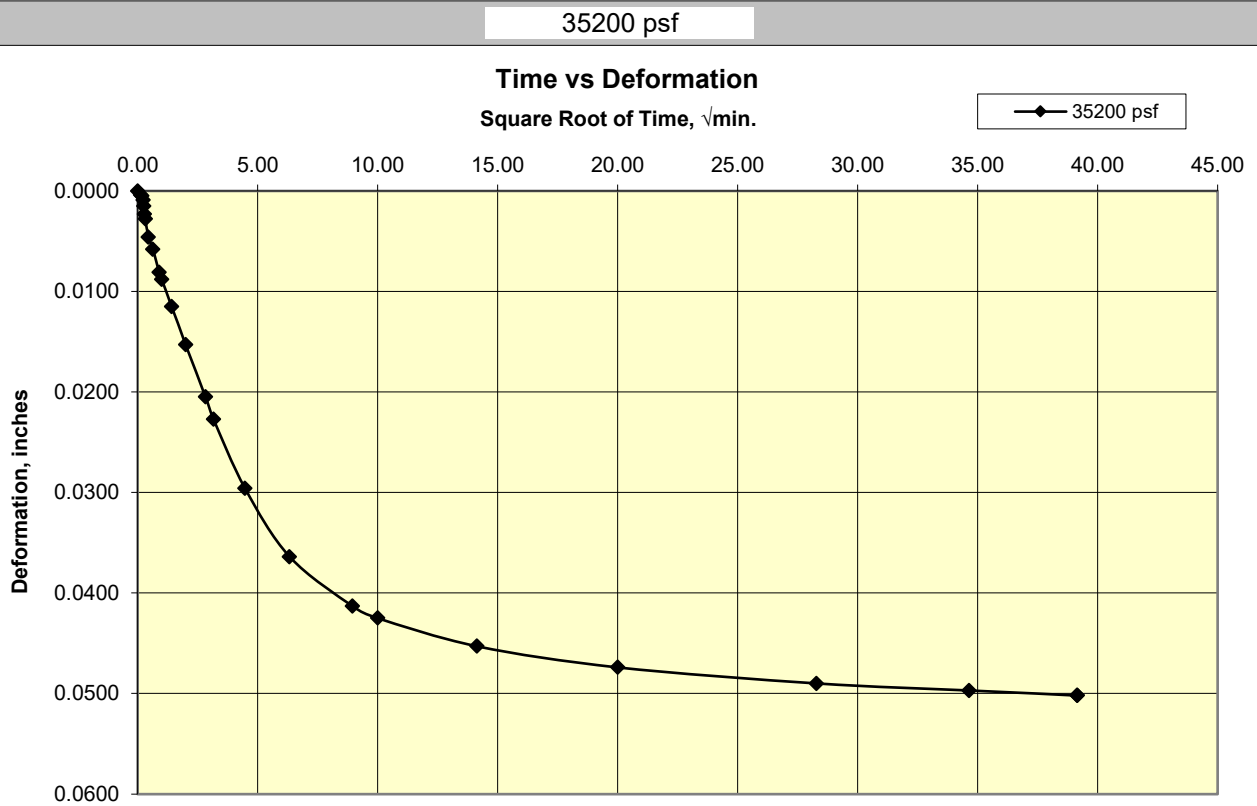
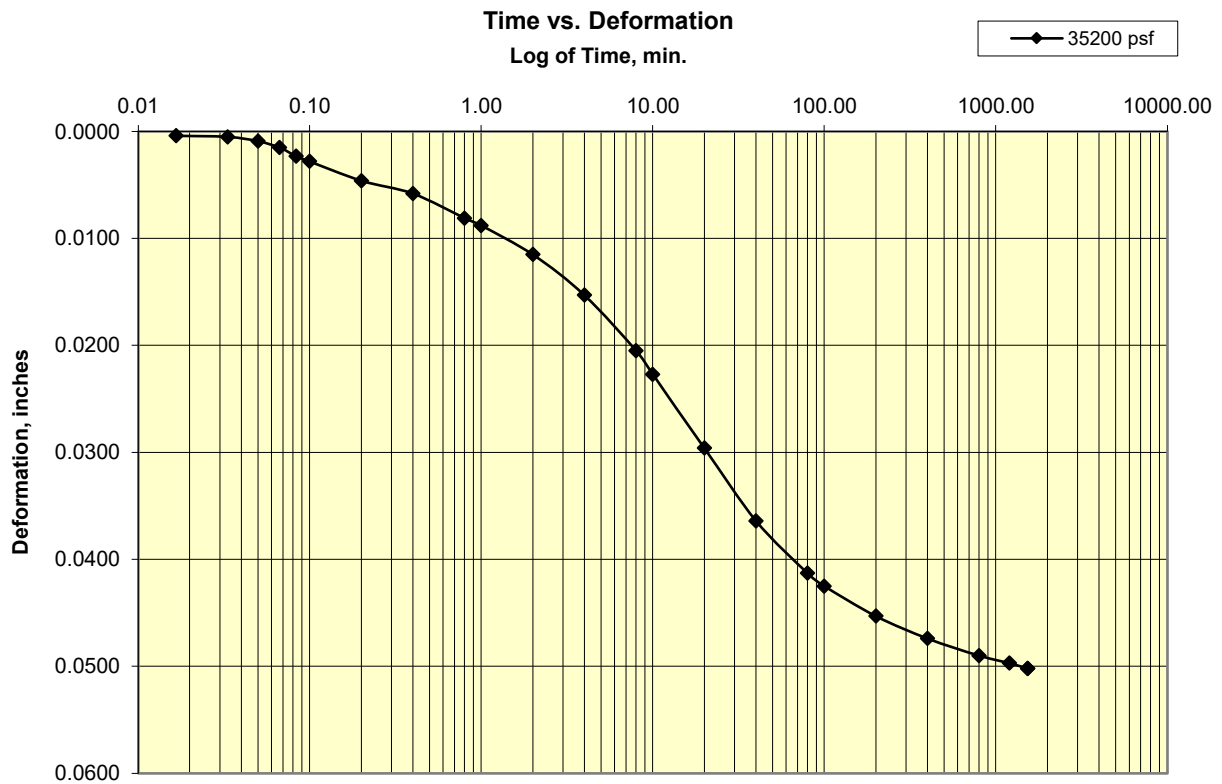
Load 11

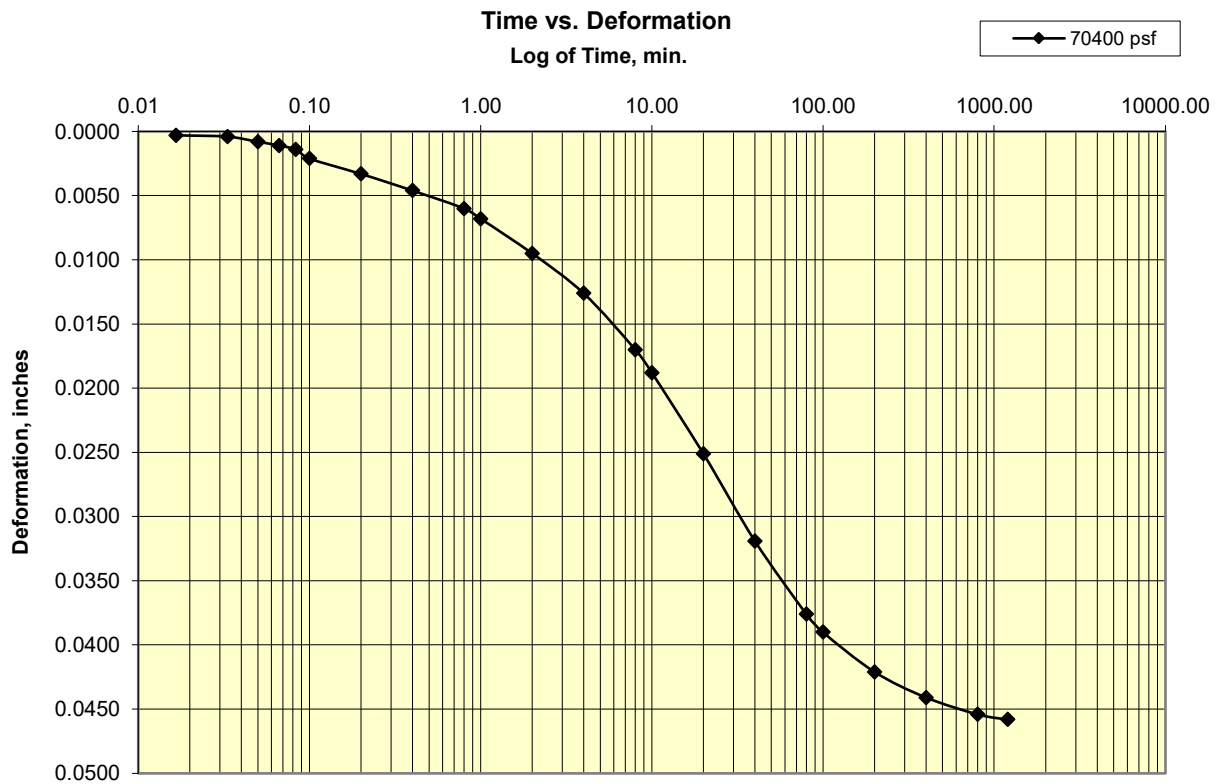
17600 psf



17600 psf







70400 psf

