Harrington Geotechnical Engineering, Inc.

July 29, 2020 (Revised)

Mr. Andrew Holstein
BROOKS STREET PARTNERS MANAGEMENT, LLC
1300 Quail Street, Suite 100
Newport Beach, CA 92660

RE: Geotechnical Feasibility Investigation for Development of Proposed Angels Stadium Master Plan, 2000 Gene Autry Way, Anaheim, CA
HGEI Project No. 20-01-3950

Dear Mr. Holstein:

This report presents the results of a geotechnical feasibility investigation performed at your request to establish information on the materials underlying the site and, based thereon, to summarize the geotechnical opportunities and constraints and provide preliminary recommendations for development of the proposed Angels Stadium Master Plan.

Preliminary design information provided by you was used in outlining the scope of the investigation and preparing this report in accordance with generally accepted geotechnical engineering practice in this area.

Based on analysis and evaluation of the data obtained it has been concluded that construction of the Angels Stadium Master Plan as proposed is feasible from a geotechnical engineering standpoint provided the recommendations presented herein are incorporated into design and construction of the project.

Thank you for this opportunity to be of service. If you have any questions concerning this report or if we can be of further assistance, please call at your convenience.

Very truly yours,

HARRINGTON GEOTECHNICAL ENGINEERING, INC.

Joseph L. Welch, P.E., G.E.
Senior Geotechnical Engineer

Allyson L. Steines, CEG
Senior Engineering Geologist

Distribution: file
Addressee via E-mail

1590 N. Brian Stre X (714) 637-3096 PHONE (714) 637-3093
Please visit our website at www.harringtongeotechnical.com

TABLE OF CONTENTS

Contents

INTRODUCTION 1
SCOPE OF WORK 1
SITE LOCATION AND DESCRIPTION 1
Vicinity Map - Figure 1 2
Air Photo-Figure 2 2
PROJECT DESCRIPTION 3
REGIONAL GEOLOGIC SETTING 3
Regional Geologic Map - Figure 3 3
SUBSURFACE CONDITIONS 4
Soil Types 4
Groundwater 4
Caving 4
Consolidation 4
Expansion 4
Water-Soluble Sulfate and Corrosivity Tests 5
GEOLOGIC HAZARDS 5
Faulting/Fault Rupture 5
Liquefaction/Seismically Induced Settlement 5
Seismic Hazard Zones Map - Figure 4 6
Earthquake Induced Landslide 7
Tsunami 7
Flood Hazard 7
CONCLUSIONS AND RECOMMENDATIONS 7
Seismic Design 8
Groundwater 8
Seismic Induced Settlement 8
Site Clearing and Grading 9
Slope Stability, Lateral Spreading, and Earthquake Induced Landsliding 9
Soil Expansion 10
Static Settlement 10
Temporary Excavations 10

TABLE OF CONTENTS

Foundation/Retaining Wall Design 11
Deep Foundations 11
Concrete Quality and Corrosivity Tests 12
Site Drainage 12
Infiltration 12
Additional Geotechnical Studies 12
Plan Review 13
Pre-Construction Meeting 13
Grading Observations and Testing 13
GENERAL COMMENTS 13
REFERENCES 15
APPENDIX A 16
FIELD INVESTIGATION 16
APPENDIX B 18
LABORATORY PROCEDURES & TEST RESULTS 18
Moisture and Density Determination (ASTM D2216-10 & D7263-09) 19
Expansion Index Test (ASTM D4829-11) 19
Corrosivity Tests (EPA 300.0/9045C/CT643) 19
Compaction Test (ASTM D1557-12$^{\varepsilon 1}$) 19
Consolidation Tests (ASTM D2435/D2435-11) 19
Direct Shear Tests (ASTM D3080/D3080M-11) 19
Sieve Analysis (ASTM D6913/D6913M-17) 20
SAMPLE STORAGE 21
APPENDIX C 22
SEISMIC DATA AND RESPONSE SPECTRUM 22
APPENDIX D 23
LIQUEFACTION ANALYSIS 23
APPENDIX E 24
GRADING SPECIFICATIONS 24
GRADING SPECIFICATIONS 25
1. General 25
2. Site Preparation 25

TABLE OF CONTENTS

3. Subdrains 26
4. Compacted Fills/Fill Slopes 26
5. Keying and Benching 27
6. Cut Slopes 28
7. Retaining Wall Backfill 29
8. Utility Trench Backfills 29
9. Grading Observations 29

FIGURE	NAME	LOCATION
Plate A	Geotechnical Map	Appendix A
Plates A-1 to A-19	Boring Logs	Appendix A
Plate A-20	Unified Soil Classification Symbols/Classification	Appendix A
Plates B-1 to B-31	Consolidation Test Results	Appendix B
Plates B-32 to B-66	Direct Shear Diagrams	Appendix B

INTRODUCTION

This report presents the results of a geotechnical feasibility investigation of the subject site. The purposes of the investigation were to: 1) determine the type and condition of the soil at the site; 2) establish static physical and limited chemical properties of the materials; 3) determine groundwater conditions; 4) summarize the geotechnical opportunities and constraints involved in site development and; 5) provide preliminary recommendations for design and construction of the proposed Angels Stadium Master Plan.

SCOPE OF WORK

The scope of work for this geotechnical investigation consisted of the following:

Review of published regional geologic maps and reports (See References).

A field exploration was conducted on February 20 through February 24, 2020 and consisted of drilling, logging, and sampling nineteen exploratory borings (B-1 to B-19) to depths ranging from 31.5 feet to 101.5 feet. The field exploration is described in detail in Appendix A.

Selected samples were tested in HGEI's AMRL Accredited Geotechnical Laboratory to develop data necessary for analysis of subsurface conditions and use in preparation of this report. A description of the geotechnical laboratory testing conducted on the samples collected from the site and presentation of the results are presented in the Laboratory Procedures & Test Results in Appendix B.

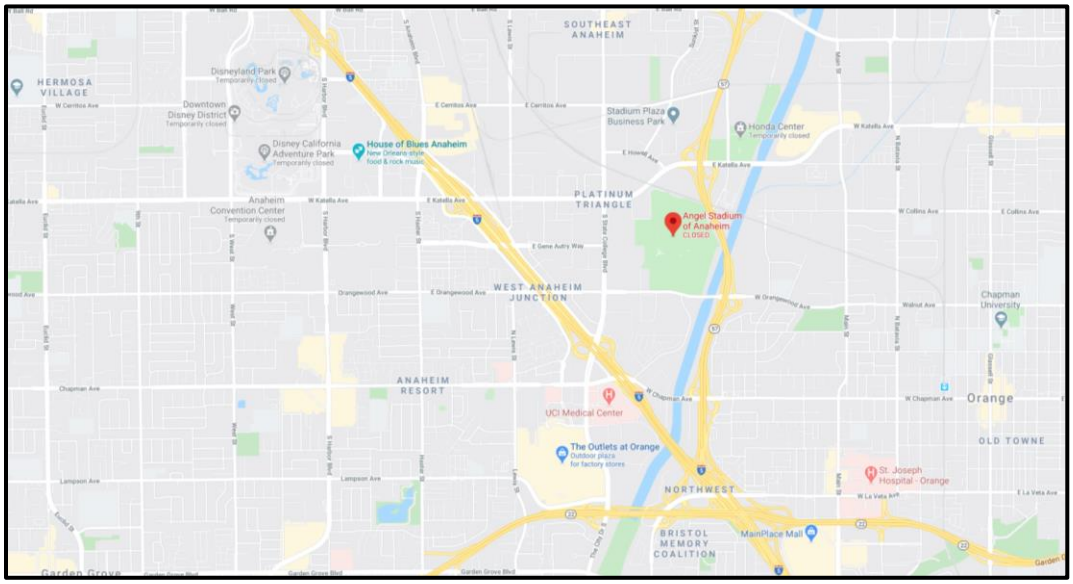
Our engineering and geology staff conducted engineering analysis, constructed figures, and prepared this report depicting the findings, results and conclusions of the investigation.

SITE LOCATION AND DESCRIPTION

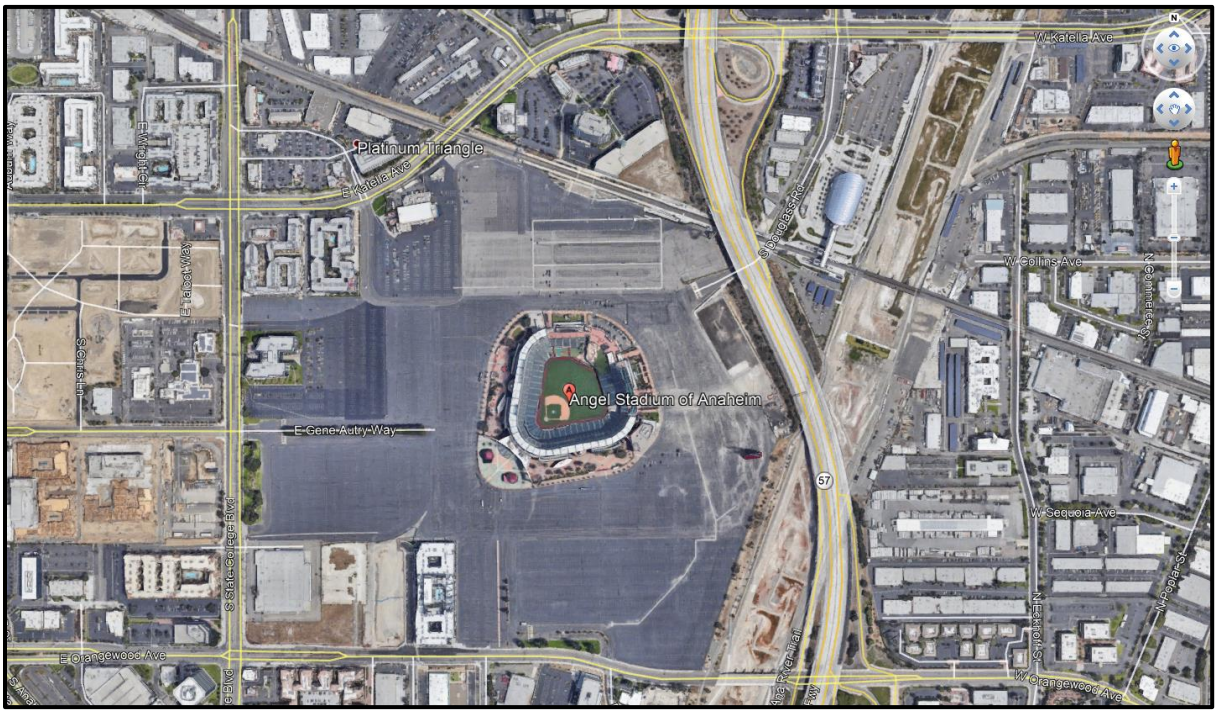
The site is located at 2000 Gene Autry Way in Anaheim CA as shown on the Vicinity Map, Figure 1, which follows.

As shown on the Air Photo, Figure 2, the relatively flat property is bordered on the south by Orangewood Avenue, the west by State College Boulevard, the north by railroad tracks and Katella Avenue and to the east by the 57 Freeway and Santa Ana River Channel. The 152 acre site is currently occupied by Angel Stadium of Anaheim with appurtenant utilities and surrounding parking areas.

Vicinity Map - Figure 1



Air Photo-Figure 2



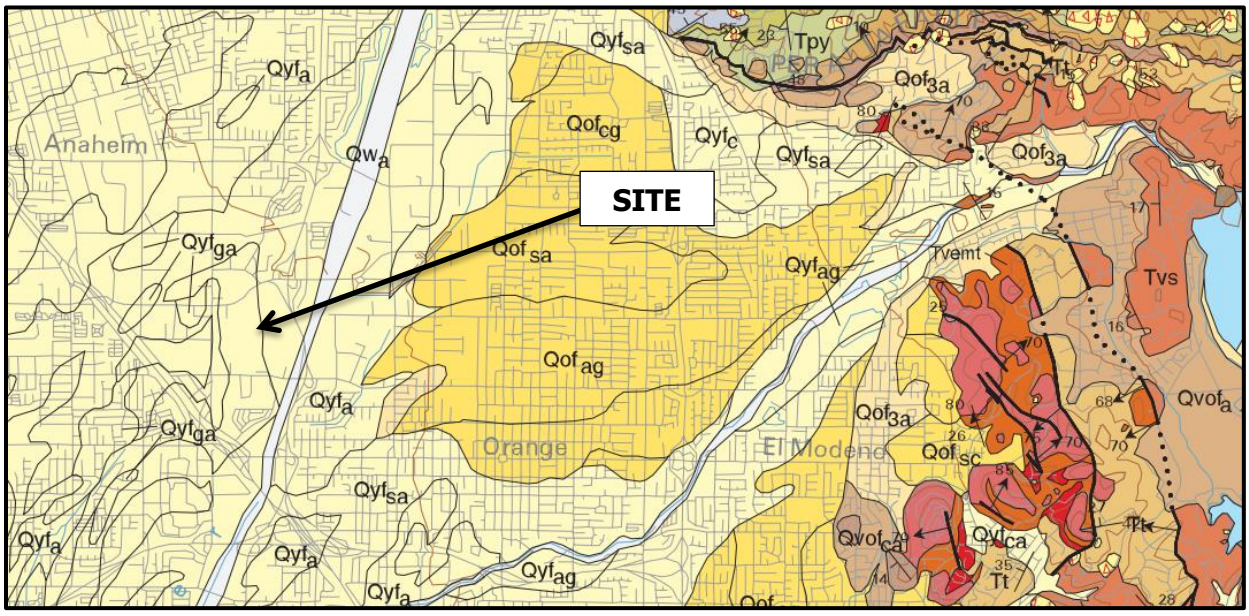
PROJECT DESCRIPTION

The proposed project comprises an approximate 10-year phased development plan which will ultimately result in a mixed-use site including a new Angel Stadium, residential, commercial, hotel, retail, entertainment and parking structures. Existing structures are to be demolished and the property regraded. Based on the vision plan renderings and brief conversation with you we anticipate that some subterranean parking garages will be constructed and that the proposed structures may be a maximum of 10 stories in height. The exact type of construction and foundation loads are unavailable at this time.

REGIONAL GEOLOGIC SETTING

The subject site is situated along the northwesterly portion of the Peninsular Ranges Geomorphic Province of Southern California in the southeasterly section of the Los Angeles sedimentary basin. The Peninsular Ranges Geomorphic Province is characterized by elongated northwest to southeast trending ridges and valleys subparallel to faults branching from the San Andreas Fault. Published maps (Reference 4) have been used to identify the geologic unit underlying the property. As shown on Figure 3, these maps indicate that the property is underlain at depth by young alluvial fan deposits of Holocene to late Pleistocene geologic age.

Regional Geologic Map - Figure 3



Qyf – Young Alluvial Fan Deposits (Holocene to late Pleistocene) — Gravel, sand, and silt, mixtures, some contain boulders; unconsolidated.

SUBSURFACE CONDITIONS

Soil Types

Subsurface conditions encountered during this investigation are described in detail in Appendix A. Logs of the borings are presented on Plates A-1 and A-19 and show the site to be immediately underlain by alluvial material comprised of sand and silty sand that is generally moist and moderately dense with little to no cohesion in the upper 40 to 50 feet. Beneath 40 to 50 feet interlayered sandy clays, sandy to clayey silts, silty to clayey sands, sands, and silty to sandy gravels that are generally moist to very moist/wet and moderately dense to dense are present.

Groundwater

Groundwater was encountered at a depth of 73 feet in Boring 1 and 78 feet in Boring 12 at the time of drilling. Historic high groundwater depth in the area is reported to range from 30 to 50 feet (Reference 1). If groundwater levels remain static, groundwater is not expected to adversely affect the proposed construction and development in the future.

Caving

Caving of the exploratory borings did not occur due to the type of drilling auger used. Due to the presence of granular materials with little to no cohesion underlying the site, caving is expected to be a major concern during construction. The regulations of Cal/OSHA should be complied with during performance of all underground construction. Shoring will likely be necessary for deep underground parking garage excavations.

Consolidation

Samples of alluvium were loaded in increments of 400 to 6400 pounds per square foot and were saturated to determine hydro-collapse potential. One sample (B-3 at 50') exhibited significant hydro-collapse potential. None of the other samples exhibited significant hydro-collapse potentials and the sample at B-3 appears to be an anomaly.

Expansion

Based on the results of laboratory testing (Table 1, Appendix B) the expansion index for the typical near-surface material is zero. The 2019 California Building Code (Section 1803.5.3) categorizes this material as being non-expansive and special design is not required per Section 1808.6.

Water-Soluble Sulfate and Corrosivity Tests

Samples were delivered to a state approved analytical laboratory for testing to evaluate water-soluble sulfate contents and corrosivity potential.

Based on the results (Table 2, Appendix B) a not applicable (S0) sulfate exposure category (ACI 318, Table 4.2.1) and negligible corrosion potential for ferrous metals are indicated.

These results are only an indicator of soil corrosivity for the samples tested. Other soil on the site may be more, less, or of a similar corrosive nature. Any imported materials should be tested to determine their corrosion potential before being delivered to the site.

Harrington Geotechnical Engineering does not practice corrosion engineering and we recommend that a competent corrosion engineer be retained to review the results and recommend any mitigation methods necessary and/or recommend further testing.

GEOLOGIC HAZARDS

Faulting/Fault Rupture

The site is in a portion of California that is seismically active and anticipated to be subjected to strong ground motions by earthquakes generated by active faults in the area. This is not unique to this site but common to all properties in the vicinity. The site is not within a presently designated earthquake fault zone as established by the Alquist-Priolo Fault Zoning Act (Reference 2).

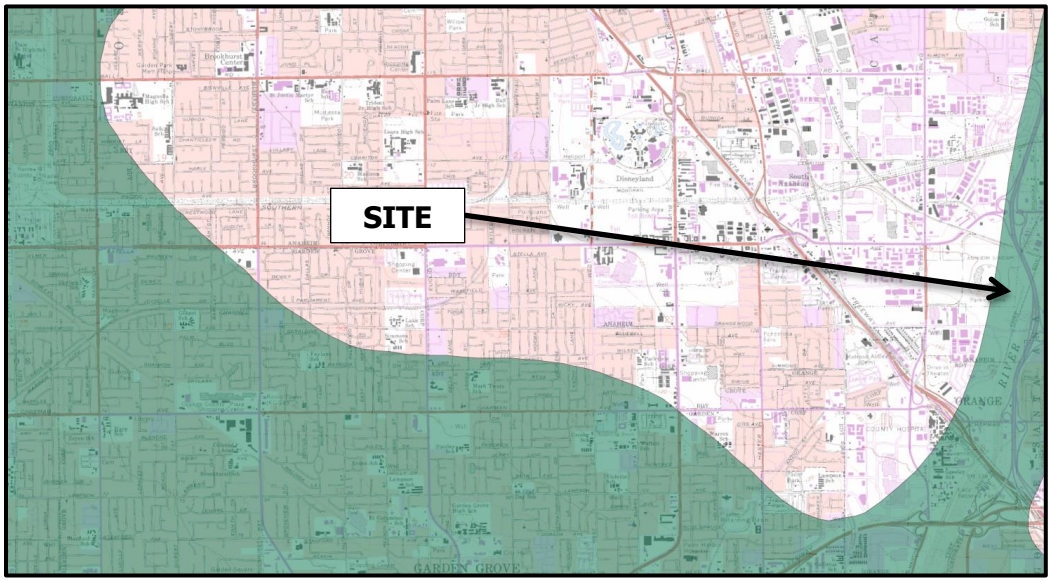
The property is situated approximately 7.5 km from the nearest fault (Elysian Park Thrust) and 9.9 km from the next nearest fault (Compton Thrust Fault). The likelihood of surface rupture occurring at the site is therefore considered low.

Liquefaction/Seismically Induced Settlement

The easterly portion of the site is located in a potential liquefaction hazard zone as shown on the State of California Earthquake Zones of Required Investigation, Anaheim Quadrangle Sheet (Reference 2), and as defined by the shaded green portions of Figure 4 and Plate A.

Therefore, a liquefaction/dry sand settlement assessment was conducted using the EQ Liquefy2 program. The calculations are presented in Appendix D and summarized in the table below.

Seismic Hazard Zones Map - Figure 4



The results presented in Table 1 indicate a maximum settlement of 3.8 to 7.5 inches at B-1 to B-5 of seismically-induced dry sand settlement using the historically high groundwater condition. The majority of the settlement occurs in strata between 20 and 40 feet. The analyses are labeled as B-1 through B-5 (Figures 5 through 9) in Appendix D.

The analyses were re-run assuming the soil has been densified by either removal, replacement and compaction or another ground modification procedure such as compaction grouting. The ground modified analyses are labeled as B-140, B-240, B-340, B430 and B-540 (Figures 10 through 14) in Appendix D. With ground improvement the settlement varies from 0.8 to 2.9 inches. This is significantly less than the four inches generally accepted as allowable for seismic plus static settlement.

Table 1 - Dry Sand Settlement

Boring No.	Existing Condition Settlement (inches)	Ground Improvement Depth (feet)	Improved Settlement (inches)
B-1	7.52	40	2.57
B-2	3.84	40	2.44
B-3	6.37	40	1.37
B-4	5.94	30	0.80
B-5	4.84	40	2.86

Earthquake Induced Landslide

As shown on the State of California Earthquake Zones of Required Investigation, Anaheim Quadrangle Sheet (Reference 2) and Figure 4, the relatively level property is not located within a potential earthquake induced landslide zone.

Tsunami

The likelihood of the site being affected by a tsunami is very low according to California Emergency Management Agency, Tsunami Inundation Map for Orange County. The Newport Beach Quadrangle indicates that the site is beyond the mapped area of Tsunami Inundation (Reference 7). This is due to the distance from the coastline and elevation of the site.

Flood Hazard

The site is not located within a Special Flood Hazard Area as determined by FEMA Flood Insurance Rate Map (Reference 9). The site is located in Zone X in an area of reduced flood risk due to the presence of a levee.

CONCLUSIONS AND RECOMMENDATIONS

Based on conditions encountered/established during this investigation, it is our conclusion that construction of the currently planned phased Angels Stadium Master Plan is feasible from a geotechnical engineering standpoint provided the recommendations which follow are implemented during design and construction of the project.

Following our evaluation of conditions encountered in the field exploration and the analyses of laboratory test data, the primary major geotechnical constraints to site development include the following: 1) seismic ground shaking; 2) static and seismically induced settlement or liquefaction; and 3) temporary excavation support for subterranean parking structures.

The following preliminary design recommendations are intended for use during conceptual planning of the project. A design-level geotechnical report should be prepared to provide site-specific geotechnical recommendations for grading the site and construction of foundations, subterranean parking structure walls, and pavement sections once more definitive plans have been established.

Anticipated conditions and recommendations of the final site-specific geotechnical report are subject to confirmation during construction.

Seismic Design

The provisions of Chapter 16, Section 1613, of the 2019 California Building Code and the Structural Engineer Associates of California guidelines are considered appropriate for design of the project. These applications should be adequate to mitigate the potential adverse effects from strong ground motion. The potential for surface rupture at the site is sufficiently low that it does not require any mitigation.

Earthquake factors determined using the SEAOC/OSHPD data base website and Chapter 16 requirements are presented in Appendix C.

Groundwater

Groundwater was encountered at a depth of 73 feet in Boring 1 and 78 feet in Boring 12 at the time of drilling. Historic high groundwater depth in the area is reported to range from 30 to 50 feet (Reference 1). Given the continued need for water resources in Southern California, we anticipate that during the life of the project, groundwater is unlikely to rise above a depth of 30 feet.

Groundwater is not anticipated to effect adversely the site development as currently proposed. However, groundwater could affect construction of deep foundations if constructed during periods of shallow groundwater. Under such conditions, drilled piers would likely require the use of casing, drilling fluids, or auger cast piles.

Seismic Induced Settlement

Our analyses indicate that significant portions of the site are susceptible to liquefaction and related adverse effects. We estimate the total seismic settlement could range up to approximately 7.5 inches. This magnitude of seismic settlement is not considered tolerable for the proposed development.

Adverse effects from seismic settlement could be mitigated through ground improvement methods of the upper 40 feet. Such methods include removal and re-compaction, compaction grouting, and vibro-compaction. Provided such improvements are implemented during site development, we estimate the seismic settlement could be reduced to about 2.5 inches or less. This magnitude of total settlement could be tolerable by structures supported by well-reinforced foundation systems such as post-tension slabs or conventionally reinforced mats. In lieu of such ground improvements, deep foundations could be employed to support structures.

Site Clearing and Grading

It is recommended that grading be carried out in accordance with applicable sections of the Grading Specifications in Appendix E and the following general site recommendations.

Prior to grading, any existing vegetation and debris resulting from removal of the existing improvements should be stripped and disposed of offsite according to the requirements of the City of Anaheim. Removal of these structures will result in large-scale demolition and disruption to the surficial soils.

In planned roads, in order to develop adequate, uniform support and alleviate the potential for differential settlement, shallow removal (generally less than 5 feet below grade) and replacement with engineered fill to provide uniform, competent soil is present will be necessary.

In planned building areas, the preliminary depth of over-excavation and re-compaction or ground modification is anticipated to be 40 feet. In areas of underground parking structures, where significant cuts may be made, the depths would be reduced by the amount of cut. More precise remedial correction depths will be determined during the design-level geotechnical report phase.

We anticipate that conventional grading equipment will be suitable for excavation of the on-site materials.

Replacement fill material should be spread in thin, loose lifts, moisture conditioned to near optimum and compacted to a minimum relative compaction of 90% based on the results of compaction tests performed in accordance with ASTM Test Method D1557-12$^{\varepsilon 1}$.

Any imported soil shall be approved by the geotechnical engineer for expansion, corrosivity, and strength qualities prior to being transported to the site. Final acceptance of any imported soil will be based on observation and/or testing of soil actually delivered to the site.

It is recommended that grading operations be monitored by a representative of the geotechnical engineer in order to confirm compliance with grading recommendations in the final, site-specific geotechnical report.

Slope Stability, Lateral Spreading, and Earthquake Induced Landsliding

There are no slopes onsite so that slope stability and earthquake induced landsliding are not a site related concern. However, the nearby Santa Ana River channel which is approximately 18 feet in height, inclined at an approximate 1H to 1V, lined with grouted boulders, and above the liquefaction zone is adjacent to the site and lateral spreading of the channel is a possibility.

Potential project impacts related to lateral spreading on the eastern portion of the site would be mitigated through specific design recommendations included in the geotechnical reports that would be required during the City's site plan review process for each site specific development project. These site specific geotechnical studies and soil engineering reports would evaluate potential risk associated with lateral spreading for individual future projects and incorporate project-specific design requirements and conditions of approval of all future projects. The geotechnical reports for each site specific development project would be subject to review and approval by the City of Anaheim.

Recommendations in the geotechnical reports related to lateral spreading would be consistent with the latest CBC requirements and may include, but are not limited to, seismic shear keys, or implementation of isolated stone columns, soil mix columns, or jet grout columns in the deeper soil layers of the project site adjacent to the Santa Ana River.

Soil Expansion

Soils at the site are generally classified as non-expansive in accordance with the 2019 CBC. As such no special mitigation for expansive spoil is anticipated.

Static Settlement

Results of our investigation indicate the site is susceptible to hydrocollapse. Site soils in their current condition could undergo sudden consolidation when wetted and cause ground settlement that is considered intolerable for proposed site development.

This condition could be mitigated by improving the upper 40 feet of soils. Potential mitigation methods include removal and re-compaction, compaction grouting, and vibro-compaction. Provided such methods are implemented, total and differential settlement is estimated to be less than 1 inch and ½ inch over 20 feet. Such settlement is considered tolerable for proposed site development.

Temporary Excavations

Site soils are relatively cohesion less and will not be stable in temporary vertical cuts. This condition can be mitigated through the use of slope laybacks or shoring for excavations. Laybacks would generally require a maximum slope of 1.5H to 1V. Shoring will require lagging installed as the cut proceeds. Shafts for drilled piers will be prone to caving. This condition can be mitigated through the use of casing, drilling muds, or the use of auger cast piles. The temporary below grade parking structure excavations could be supported by various methods

depending on the final design but could include tiebacks and shotcrete or soldier beams and wood lagging walls.

Temporary cuts should be monitored during grading/construction by a representative of the geotechnical engineer in order to confirm compliance with temporary cut recommendations in the final, site-specific geotechnical report.

Foundation/Retaining Wall Design

It is anticipated that the majority of at-grade structures will be supported on either conventional spread footings or reinforced mat foundations bearing on ground modified soils or deep foundations if there is no ground modification.

Assuming that ground modification to a depth of 40 feet is selected, this would result in an allowable bearing capacity of 4,000 pounds per square foot. While specific loadings have not been determined, an assumed column load of 400 kips would require a 100-square-foot footing. The zone of influence normally extends to twice the depth of the footing width (10 feet) which in this case would be 20 feet. Similarly, a column load of 800 kips would require a 200 square foot footing and the zone of influence would be 28 feet. In both examples settlement would not be a concern since the zone of influence is in the modified ground envelope.

In the event there is no ground modification deep foundations would be required to protect structures from seismically induced settlements. Friction piles or piers extending 60 to 70 feet below grade would be necessary in some places.

Foundation excavations should be monitored during construction by a representative of the geotechnical engineer in order to confirm compliance with foundation recommendations in the final, site-specific geotechnical report.

Deep Foundations

Deep foundations could be employed. Steel or precast concrete piles could be driven to 60 to 70 feet to provide the necessary bearing capacity. The issue with piles could be the noise generated by the driving process.

Piers or caissons are also alternatives. The issue with piers or caissons is the need to drill a large diameter hole which has the potential to collapse before the steel and concrete are placed. In addition the potential for groundwater becoming a factor is increased significantly. Casing the holes and the use of tremie pipe for placing the concrete are methods to deal with these conditions. Auger cast piles are also a means to minimize the potential for collapse.

Concrete Quality and Corrosivity Tests

A negligible amount of water-soluble sulfate is indicated for the prevalent surface material and special sulfate-resistant concrete may not be required on this project. The exposure class (ACI 318-11, Table 4.2.1) is S0. Based on this test result concrete could contain Type II cement (Section 1904.2 of the 2019 CBC and ACI 318, Section 4.3, Table 4.3.1).

Additional testing of soils samples obtained during grading will be necessary to determine the actual cement type required.

The resistivity testing indicates that the corrosion potential for ferrous metals are mildly to moderately corrosive. This condition can be mitigated using protective coatings or cathodic protection, if metallic elements will be in contact with site soils. Specific recommendations can be obtained from a corrosion specialist.

Chlorides were non-detectable and the pH was slightly above 8. Chlorides and pH will have no adverse impact on the development.

Site Drainage

The 2019 CBC Section 1804.4 requires that the minimum drainage for the ground around the perimeter of a building should be 5% away from the foundation for a distance of 10 feet. Impervious surfaces within 10 feet of the building foundation shall be sloped a minimum of 2%. In no case should the surface waters be allowed to flow over the slope surfaces in an uncontrolled manner.

Infiltration

The soils at the site are sands which should infiltrate fairly easily. However, if ground modification is chosen as the remedial option for limiting liquefaction settlement, the results would be changed significantly from the current conditions in the modified areas. Once a final design layout is decided upon, areas for infiltration testing can be designated which will not impact the foundation system chosen. The site is considered to be feasible for infiltration.

Additional Geotechnical Studies

A design-level geotechnical report should be prepared to provide site-specific geotechnical recommendations for grading the site and construction of foundations, subterranean parking structure walls, and pavement sections once more definitive plans have been established. Additional borings and laboratory testing may be necessary once a confirmed construction plan is developed.

Plan Review

It is recommended that preliminary project plans, details and specifications be submitted to this office for geotechnical review for compliance with the findings and recommendations of the final site-specific geotechnical report. Additional recommendations can then be provided if necessary.

Pre-Construction Meeting

A pre-grade/construction meeting attended by the owner's representative, members of the design team, grading contractor, city inspector, and a representative of the geotechnical engineer should be held at the site to review the findings and recommendations of the final site-specific geotechnical report and project plans and specifications prior to starting work on the project.

Grading Observations and Testing

Grading and foundation construction should be observed and tested by members of our staff so that anticipated soil conditions can be confirmed and the recommendations in the final site-specific geotechnical report validated. If deemed necessary, as a result of changed conditions, supplemental recommendations may then be provided. Results of those observations and tests should be provided in the final report which should include a statement by the geotechnical engineer concerning the adequacy of the completed work.

GENERAL COMMENTS

The services provided under the purview of this report have been performed in accordance with generally accepted geotechnical engineering principals and standards of practice in this area. The comments and recommendations presented are professional opinions based on observations and our best estimation of project conditions and requirements as indicated by presently available information and data. No further warranty, express or implied, is intended by issuance of this report.

The investigation did not include: 1) detailed study of geologic and seismic conditions or 2) sampling, field measurements or laboratory tests for the presence of any toxic/hazardous substances in the earth materials at the site. However, this does not imply that the site is subject to any unusual geologic, seismic or environmental hazard.

Any unanticipated condition encountered in the course of grading and/or construction should be brought to the attention of the geotechnical engineer for evaluation prior to proceeding with the work.

This report has been developed for the sole use of the client and/or clients authorized representative. These conclusions and recommendations should be verified by a qualified geotechnical engineer based upon additional subsurface information obtained by subsequent investigation(s) and/or during grading and/or foundation construction. No part of the report should be taken out of context, nor utilized without full knowledge and awareness of its intent.

This report is issued on condition that HGEI will be retained to conduct additional soil investigation(s) and observe the grading and foundation construction operations. If another firm provides this service then that firm must review and accept this report, or provide alternate recommendations, and assume responsibility for the project. This report will be valid for a period of one year form date of issue and will then require updating.

0-0-0

REFERENCES

1. California Department of Conservation, Division of Mines and Geology, 1997 (Revised 2005), Seismic Hazard Zone Report for the Anaheim and Newport Beach 7.5-Minute Quadrangle, Orange County, California, Seismic Hazard Zone Report 03.

2. California Department of Conservation, California Geological Survey, April 15, 1998, State of California, Earthquake Zones of Required Investigation, Anaheim 7.5-Minute Quadrangle, Scale 1:24,000.

3. Shoellhamer, J.C., et.al., 1981, Geology of the Northern Santa Ana Mountains, California, U.S. Geological Survey Professional Paper 420-D.

4. USGS, 2004, Morton, D.M., Bovard, Kelly R., and Alvarez, Rachel M., 2004, Preliminary Digital Geologic Map of the Santa Ana 30'x 60' Quadrangle, Southern California, version 2.0: U.S. Geological Survey Open-File Report 99-0172.

5. OSHPD Seismic Design Maps, https://seismicmaps.org, April 7, 2020.

6. California Department of Conservation, California Geological Survey, Earthquake Zone App, https://maps.conservation.ca.gov/cgs/EQZApp/

7. California Emergency Management Agency, California Geological Survey, University of Southern California, Tsunami Inundation Map for Emergency Planning, Newport Beach Quadrangle, State of California, County of Orange, dated March 15, 2009.

8. Blake, Thomas F., 2000, FRISKSP (Version 4.00), EQFAULT and EQSEARCH (Version 3.00), Computer Programs for calculating the site to fault distances, Deterministic peak horizontal ground accelerations for a Maximum Magnitude Earthquake, and historic seismicity for an area from selected known faults in the southern California region (Rev. 2000).

9. Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map 06059C0142J, December 3, 2009.

10. International Code Council (ICC), 2019, California Building Code, California Code of Regulations, Title 24, Part 2, Volume 2 of 2.

APPENDIX A

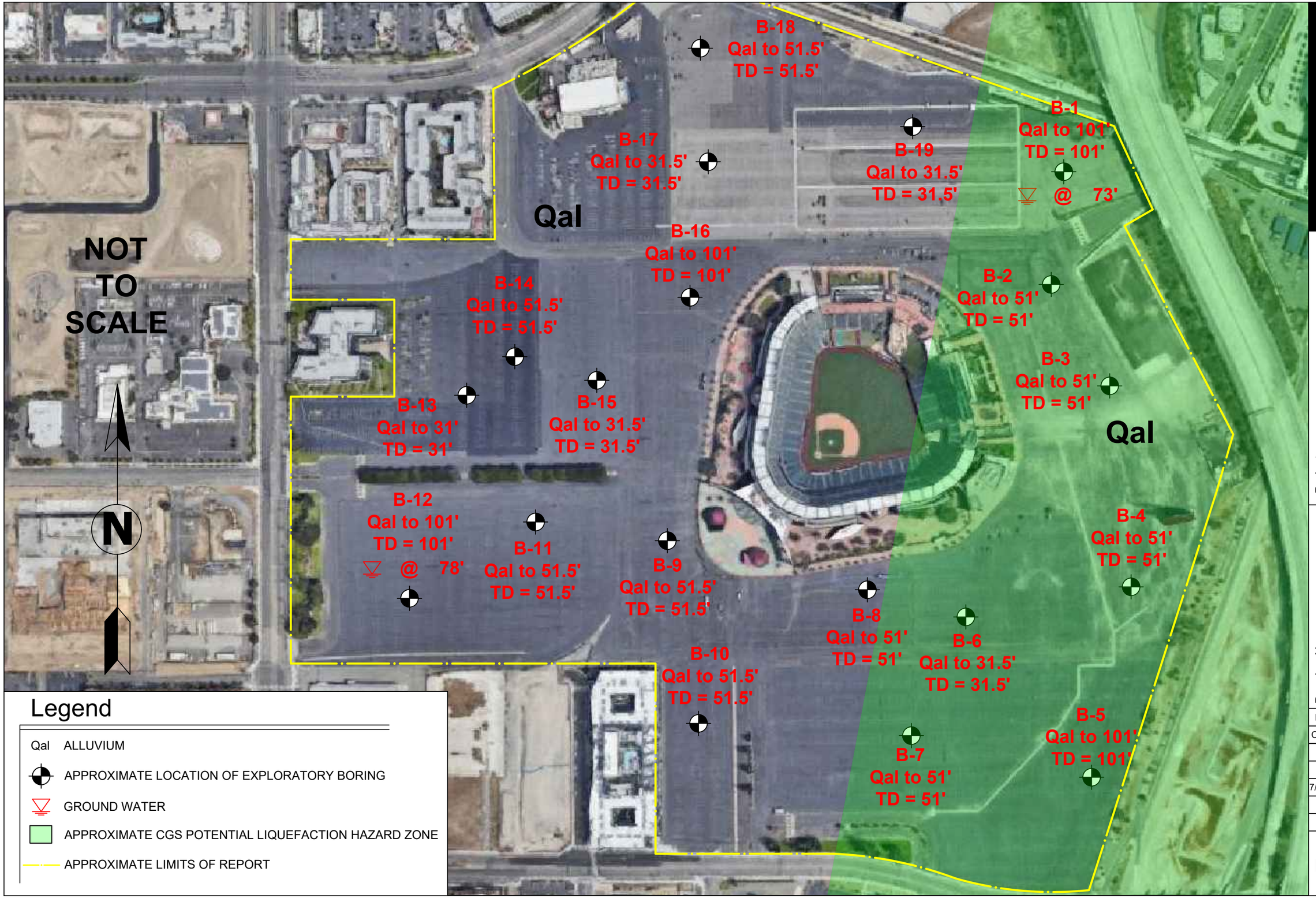
FIELD INVESTIGATION

The field investigation was conducted on February 20 through February 24, 2020 and consisted of logging and sampling nineteen exploratory borings drilled with a truck-mounted, 8-inch-diameter, hollow-stem auger to depths of up to 101.5 feet. The boring locations are indicated on Plate A and the logs of the borings are presented on Plates A-1 to A-19. The descriptions represent the prevalent soil types and slightly different material types may be present within the major groupings. Also, the transition from one soil type or condition to another may be gradual rather than abrupt as implied, and differing conditions may exist in unexplored areas.

Unified Soil Classification System Classification Criteria/Symbols are presented on Plate A-20.

A representative of the geotechnical engineer observed the field work, collected samples for transportation to our geotechnical laboratory, and prepared field logs by visual/tactile examination of the materials. Core samples were obtained at discreet intervals using a modified California split-spoon sampler loaded with 2.42" I.D. x 1" long, thin-wall, brass rings. Bulk samples of the materials were also collected. Samples were placed in plastic bags immediately upon removal from the sampler to conserve moisture and labeled for identification.

The borings were backfilled with excavated soils immediately upon completion of sampling and capped with cold-mix asphalt concrete. Groundwater was encountered at a depth of 73 feet in Boring 1 and 78 feet in Boring 12 at the time of drilling the borings.



Legend

- Qal ALLUVIUM
- APPROXIMATE LOCATION OF EXPLORATORY BORING
- GROUND WATER
- APPROXIMATE CGS POTENTIAL LIQUEFACTION HAZARD ZONE
- APPROXIMATE LIMITS OF REPORT

HARRINGTON
GEOTECHNICAL · ENGINEERING · INC.
ORANGE, CA

Project: ANGEL'S STADIUM MASTER PLAN

Address: 2000 Gene Autry Way, Anaheim, CA, 92806

HGE| Project No.: 20-01-3950

Drawing Name: GEOTECHNICAL MAP

DRAWN BY: SBM

CHECKED BY: ALS

DATE: 04/17/20

REVISIONS:

7/14	Boundary Line

PLATE A

\\HGEI-PC\ENGINEERING\ACTIVE PROJECT FILES\3900\3950 ANGEL BALL PARK\AUTOCAD\GEOTECHNICAL MAP.DWG

LOG OF BORING B-1

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	0					3" ASPHALT CONCRETE PAVEMENT			
						ALLUVIUM (Qal):			
						SAND (SP), tan, moist, medium dense, fine to medium grained	44	118	11
135.0	5						42	97	4
						SAND (SP), tan, damp to moist, medium dense, medium to coarse grained	38	97	3
130.0	10						34	97	3
							21	101	4
125.0	15						24	96	2
						SILTY SAND (SM), brown, moist, medium dense, fine grained	19	96	19
120.0	20						14	106	12
							14	98	14
115.0	25					SAND (SP), tan, moist, medium dense, medium to coarse grained	20	104	6
110.0	30						20		3
105.0	35						33	101	3
	40								

Completion Depth:	101.5
Date Boring Started:	2/20/20
Date Boring Completed:	2/20/20
Logged By:	BC/MS
Drilling Contractor:	OWD

Remarks:
Groundater was encountered at 73'. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

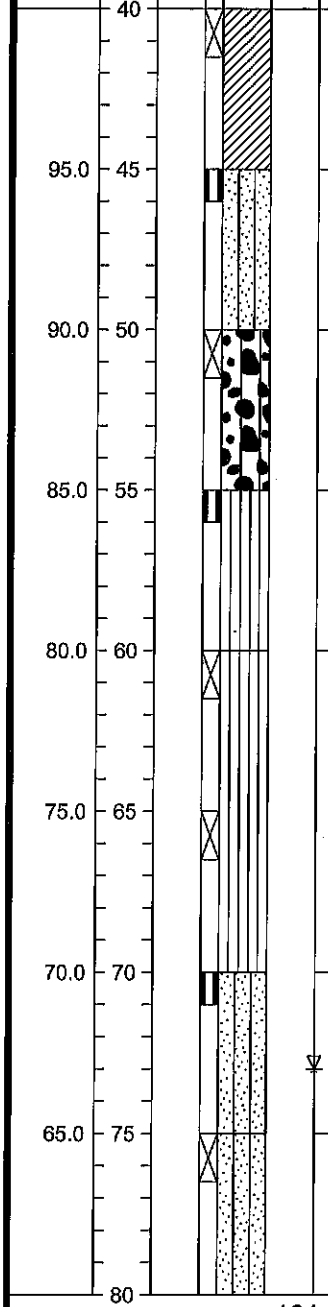
The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-1a

LOG OF BORING B-1

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT



Elevation, feet	Depth, feet	Sample No.	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	40			SANDY CLAY (CL), light brown, very moist to wet, medium stiff	6		20
95.0	45			SILTY SAND with gravel (SM), medium brown, moist, dense	52	120	5
90.0	50			SILTY GRAVEL (GM), light-medium gray/brown, moist, very dense	50/6"		4
85.0	55			SANDY SILT (ML) with rock fragments, light-medium brown, moist, stiff	36	121	7
80.0	60			SANDY SILT (ML), medium brown, moist, stiff, trace gravel	14		22
75.0	65				20		16
70.0	70			SILTY SAND (SM), medium brown, moist, medium dense	28	115	14
				@73' groundwater			
65.0	75			SILTY SAND TO SANDY SILT (SM/ML), medium brown, very moist, dense	50/6"		21
	80						

Completion Depth:	101.5
Date Boring Started:	2/20/20
Date Boring Completed:	2/20/20
Logged By:	BC/MS
Drilling Contractor:	OWD

Remarks:
Groundater was encountered at 73'. Type of auger used prevented caving. Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-1b

LOG OF BORING B-1

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	80					SILTY SAND TO SANDY SILT (SM/ML), medium brown, very moist, dense	14		11
55.0	85					GRAVELLY SAND (SP), light medium brown, very moist, very dense			
50.0	90					SAND (SP) with gravel, light-medium brown, very moist, dense, trace silt	58		22
45.0	95						36		16
40.0	100						48		16

Completion Depth: 101.5
Date Boring Started: 2/20/20
Date Boring Completed: 2/20/20
Logged By: BC/MS
Drilling Contractor: OWD

Remarks:
Groundater was encountered at 73'. Type of auger used prevented caving. Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

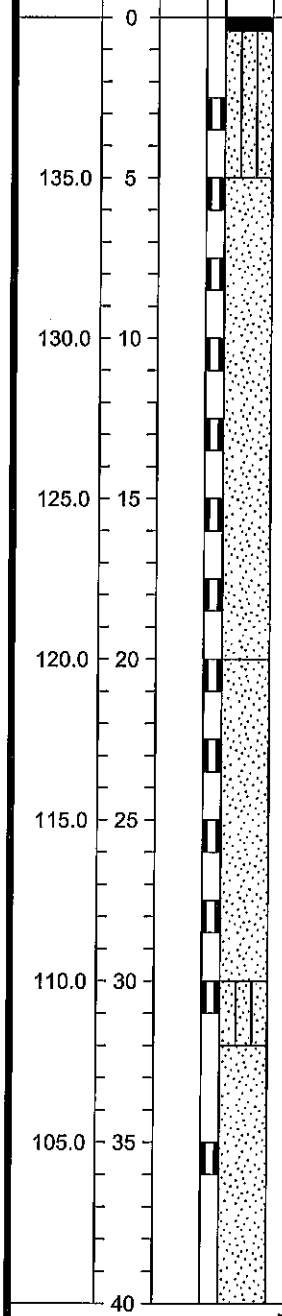
The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-1c

LOG OF BORING B-2

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT



MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
5" ASPHALT CONCRETE PAVEMENT			
ALLUVIUM (Qal): SILTY SAND (SM), medium black/brown, moist, medium dense	20	99	8
SAND (SP), light brown, moist, medium dense	17	97	4
	19	96	7
	27	101	4
	27	104	3
	28	101	3
	23	104	3
SAND (SP), light-medium brown, moist, medium dense	29	96	3
	35	103	4
	49	96	4
	45	108	3
SILTY SAND (SM), light-medium brown, very moist, medium dense	43	87	22
SAND (SP), light-brown, very moist, medium dense	40	104	4

Completion Depth:	51.0
Date Boring Started:	2/24/20
Date Boring Completed:	2/24/20
Logged By:	BC
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-2a

LOG OF BORING B-2

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	40					SANDY SILT to SILTY SAND (SM/ML), medium brown, very moist, stiff to very stiff	21	99	24
95.0	45						21		16
90.0	50						27	111	16

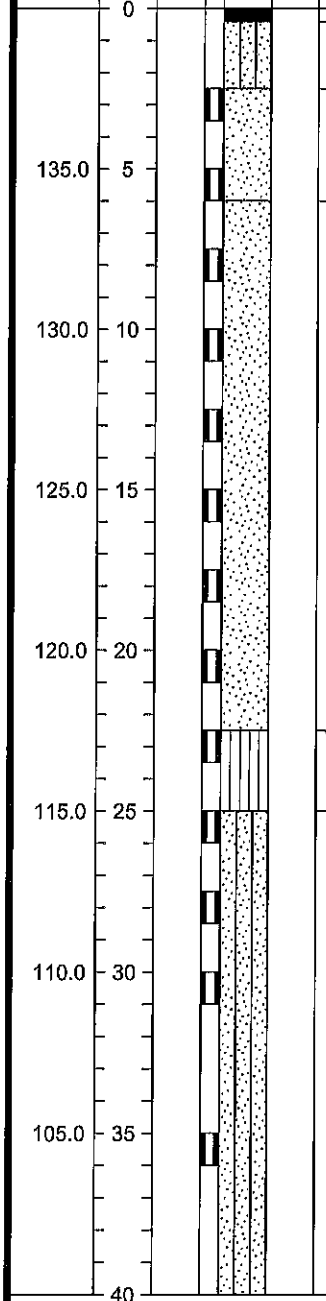
Completion Depth:	51.0
Date Boring Started:	2/24/20
Date Boring Completed:	2/24/20
Logged By:	BC
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

LOG OF BORING B-3

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT



MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
5" ASPHALT CONCRETE PAVEMENT			
ALLUVIUM (Qal): SILTY SAND (SM), medium black brown, moist, medium dense			
SAND (SP), light brown, moist, medium dense, medium to coarse grained	18	99	3
	24	99	5
SAND (SP), light-medium brown, moist, medium dense, trace silt	16	97	4
	29	105	5
	21	97	3
	22	130	3
	32	100	4
	34	100	5
@22' perched water			
SANDY SILT (ML), medium brown, moist, wet, very stiff	31	99	12
SILTY SAND (SM), medium brown, very moist, medium dense	27	92	6
	21	109	16
	18	97	18
	24	110	15

Completion Depth:	51.0
Date Boring Started:	2/24/20
Date Boring Completed:	2/24/20
Logged By:	BC
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington GeoTechnical Engineering, Inc.

PLATE A-3a

LOG OF BORING B-3

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	40					SILTY SAND (SM), medium brown, very moist, medium dense	23	112	17
95.0	45					@ 45' dense	44		9
90.0	50						65	96	8

Completion Depth:	51.0
Date Boring Started:	2/24/20
Date Boring Completed:	2/24/20
Logged By:	BC
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

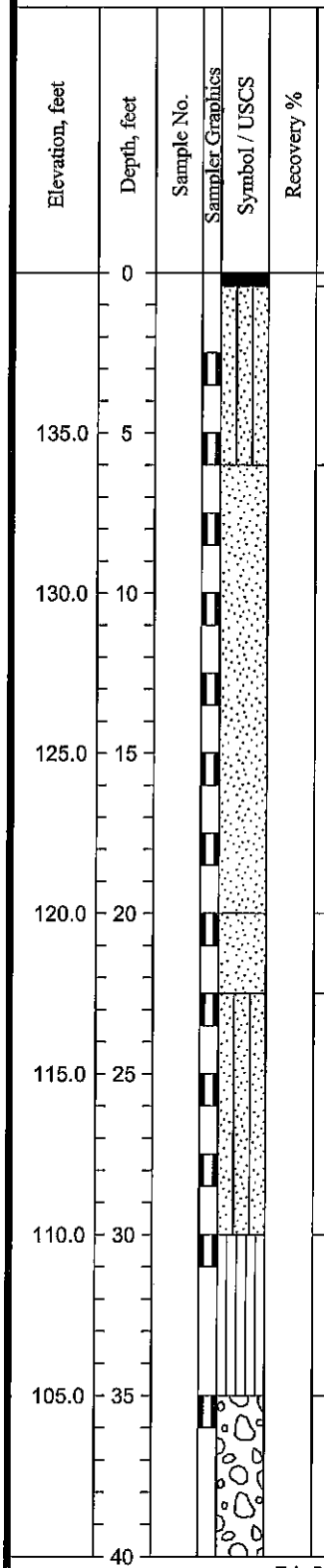
The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington GeoTechnical Engineering, Inc.

PLATE A-3b

LOG OF BORING B-4

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT



Elevation, feet	Depth, feet	Sample No.	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft	Water Content %
	0		5" ASPHALT CONCRETE PAVEMENT			
			ALLUVIUM (Qal): SILTY SAND (SM), medium black brown, moist, medium dense	19	94	8
135.0	5			15	96	6
			SAND (SP), light-medium brown, moist, medium dense, trace silt			
			@7.5' medium to coarse grained, loose	14	98	3
130.0	10		@10' medium dense	20	97	3
				20	91	3
125.0	15			28	99	3
			@17.5' dense	53	98	3
120.0	20		SAND (SP), light-medium brown, moist, medium dense	46	99	4
			SILTY SAND (SM), medium brown, moist, medium dense	22	106	13
115.0	25			23	101	12
			@27.5' loose	11	97	25
			@29' wet, perched water			
110.0	30		SANDY SILT (ML), medium brown, moist to very moist, medium dense	17	105	20
105.0	35		SANDY GRAVEL (GW), gray brown gravel, little to no fines, fracturing, moist, very dense	38 50/5"	125	6
	40					

Completion Depth:	51.0
Date Boring Started:	2/24/20
Date Boring Completed:	2/24/20
Logged By:	BC
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-4a

LOG OF BORING B-4

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	40					SANDY GRAVEL (GW), gray brown gravel, little to no fines, fracturing, moist, very dense	50/5"		4
95.0	45					SILTY GRAVEL (GM), medium brown, moist, very dense	50/6"		4
90.0	50							101	4

Completion Depth:	51.0
Date Boring Started:	2/24/20
Date Boring Completed:	2/24/20
Logged By:	BC
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-4b

LOG OF BORING B-5

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	0					5" ASPHALT CONCRETE PAVEMENT			
						ALLUVIUM (Qal):			
						SILTY SAND (SM), light-medium brown, moist, medium dense, trace gravel	46	116	11
135.0	5						41	102	5
						SAND (SP) with silt, light-medium brown, moist, medium dense	14	94	5
130.0	10						14	97	3
							16	93	3
125.0	15					SAND (SW), light-medium brown, moist, medium dense, trace silt	26	101	3
120.0	20						34	96	3
							42	97	3
115.0	25					SAND (SP), light brown, moist, medium dense	40		8
						CLAYEY SILT (ML), 6-inch lens, moist, very stiff	43		26
						SAND (SP), light brown, moist, medium dense			
110.0	30						36	102	17
105.0	35					SAND (SW), light-medium brown, moist, dense, trace silt	50/4"		11
	40								

Completion Depth:	101.0
Date Boring Started:	2/20/20
Date Boring Completed:	2/20/20
Logged By:	BC
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

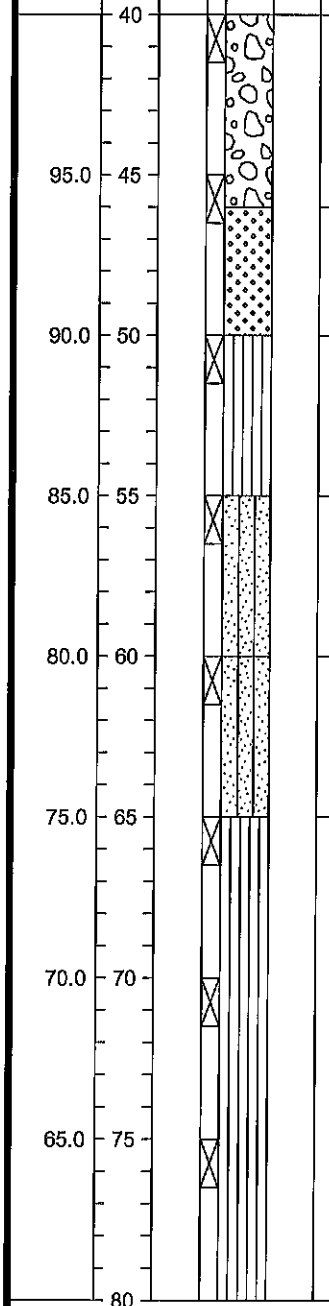
The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-5a

LOG OF BORING B-5

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT



Elevation, feet	Depth, feet	Material Description	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	40	SANDY GRAVEL (GW), gray brown gravel, moist, very dense, little to no fines	86		6
95.0	45	SAND (SW) with gravel, medium brown/gray, wet, very dense	86		18
90.0	50	CLAYEY SILT (ML), medium brown, wet, very stiff	18		23
85.0	55	SILTY SAND (SM) with gravel, medium brown, wet, very dense	50/6"		14
80.0	60	SILTY SAND (SM) with gravel, medium brown, wet, medium dense	12		17
75.0	65	CLAYEY SILT (ML), medium brown, wet, medium stiff	6		19
70.0	70		6		23
65.0	75	@75' stiff	11		27
	80				

Completion Depth:	101.0
Date Boring Started:	2/20/20
Date Boring Completed:	2/20/20
Logged By:	BC
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

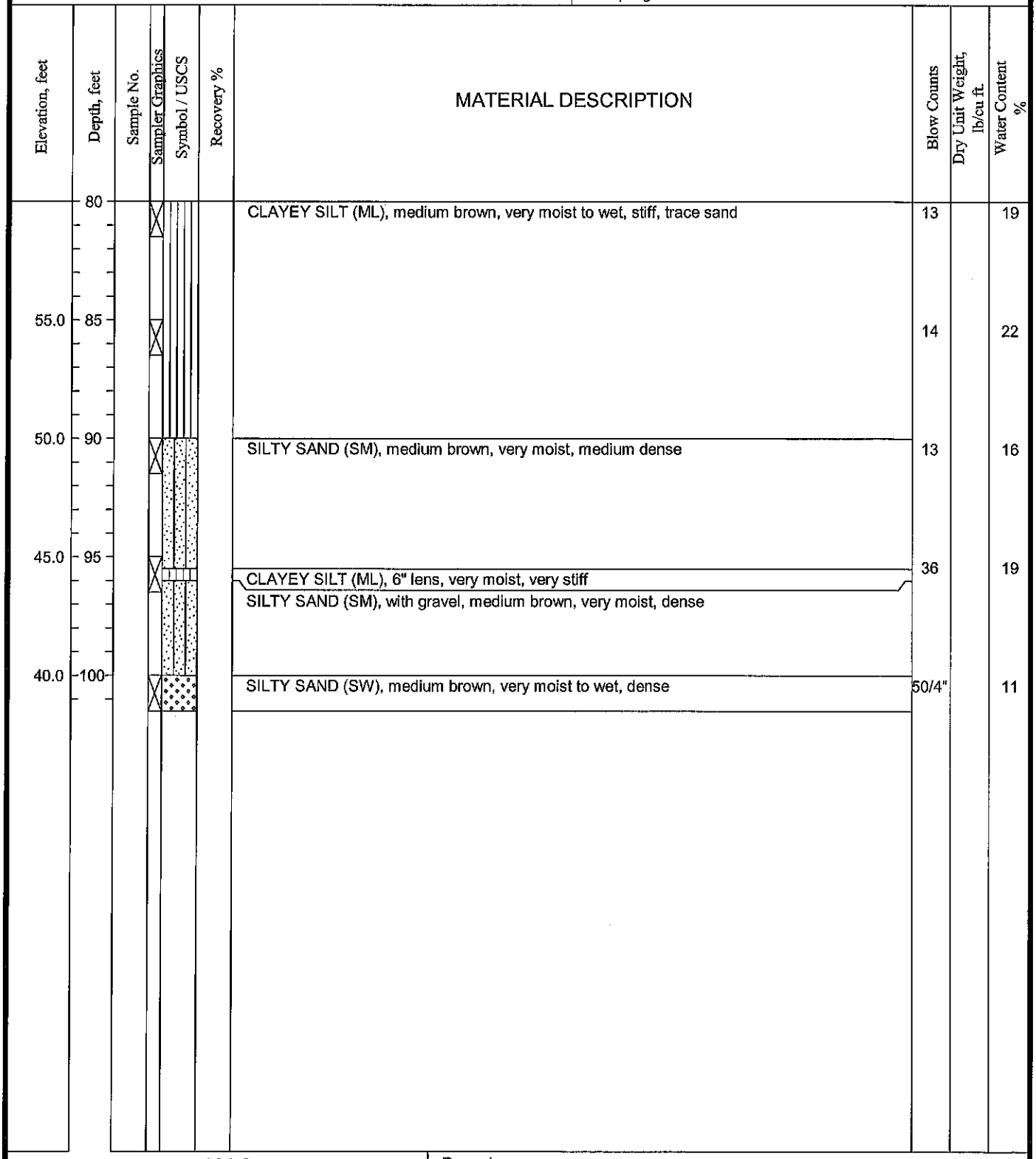
The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-5b

LOG OF BORING B-5

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT



Completion Depth:	101.0
Date Boring Started:	2/20/20
Date Boring Completed:	2/20/20
Logged By:	BC
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

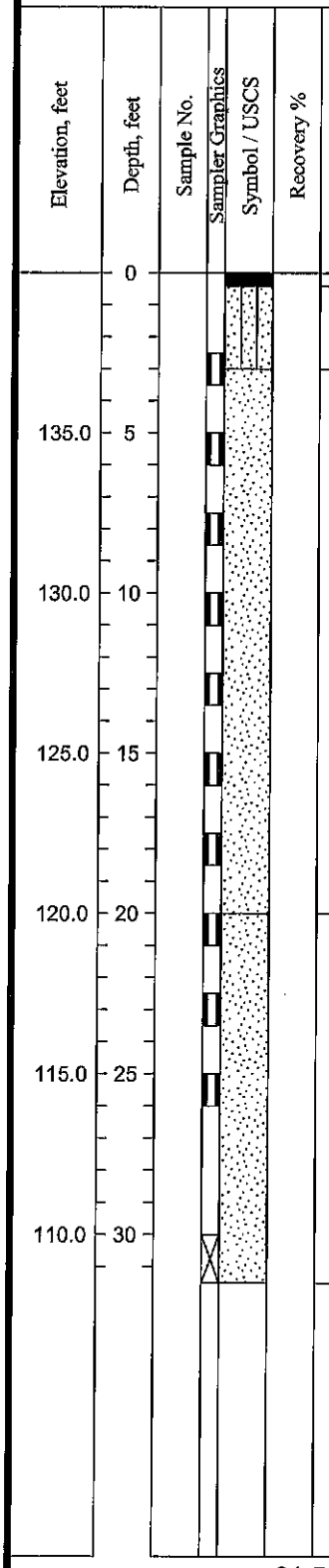
The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-5c

LOG OF BORING B-6

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT



MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
5" ASPHALT CONCRETE PAVEMENT			
ALLUVIUM (Qal): SILTY SAND (SM), light brown, moist, medium dense, fine to medium grained	19	101	8
SAND (SP), tan, damp to moist, medium dense, medium to coarse grained	14	87	4
	21	104	5
	22	102	3
below 12.5' trace gravel (up to 1/2" diameter)	23	100	4
	25	99	3
	40	102	3
SAND (SP), tan, damp to moist, medium dense, medium to coarse grained with occasional lenses of SILTY SAND (SM), light brown, moist, medium dense, fine to medium grained	44	105	4
	46	100	6
	38	100	4
	24		6

Completion Depth:	31.5
Date Boring Started:	2/20/20
Date Boring Completed:	2/20/20
Logged By:	ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-6

LOG OF BORING B-7

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	0					5.5" ASPHALT CONCRETE PAVEMENT			
						ALLUVIUM (Qal):			
						SAND (SP), tan, damp to moist, medium dense, medium to coarse grained	23	102	5
135.0	5						26	105	6
							18	109	4
130.0	10					below 10' trace gravel (up to 1/2" diameter)	20	101	4
							21	102	3
125.0	15						24	102	2
							51	99	4
120.0	20						27	111	5
						SILTY SAND (SM), light brown, moist, medium dense, fine to medium grained interlayered with SAND (SP), tan, damp to moist, medium dense, medium to coarse grained	48	143	3
115.0	25						39	109	9
110.0	30						50	108	3
105.0	35						25		10
	40								

Completion Depth:	51.0
Date Boring Started:	2/20/20
Date Boring Completed:	2/20/20
Logged By:	ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-7a

LOG OF BORING B-7

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	40					SILTY SAND (SM), with gravel, light brown, moist, dense, fine to medium grained, moderate gravel (up to 3" diameter)	50/6"	118	6
95.0	45						70		4
90.0	50						50/3"	99	6

Completion Depth:	51.0
Date Boring Started:	2/20/20
Date Boring Completed:	2/20/20
Logged By:	ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

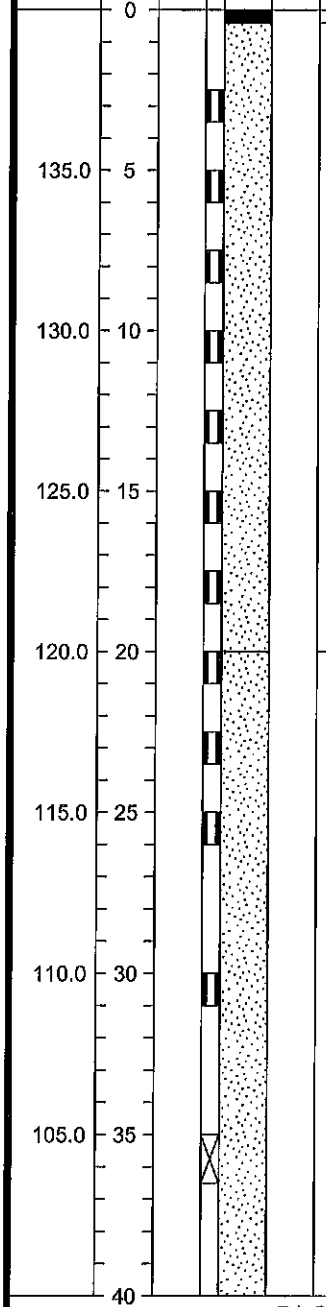
The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-7b

LOG OF BORING B-8

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT



MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
5" ASPHALT CONCRETE PAVEMENT			
ALLUVIUM (Qal): SAND (SP), tan, damp to moist, medium dense, medium to coarse grained	28	99	5
	21	98	5
	16	105	4
	24	97	5
below 12.5' trace gravel (up to 1/2" diameter)	18	105	4
	23	98	4
	40	103	3
SAND (SP), tan, damp to moist, dense, medium to coarse grained, occasional lenses of SILTY SAND (SM), light brown, moist, dense, fine to medium grained	46	103	3
	44	106	3
	46	103	4
	33/50/5"	106	4
	32		5

Completion Depth:	51.0
Date Boring Started:	2/20/20
Date Boring Completed:	2/20/20
Logged By:	ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-8a

LOG OF BORING B-8

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	40					SAND (SP), tan, damp to moist, dense, medium to coarse grained, trace gravel (up to 2" diameter)	24 50/5"	111	5
95.0	45					SILTY SAND (SM) with gravel, brown, moist, dense, fine to medium grained, moderate gravel (up to 3" diameter)	82		5
90.0	50						50/3"	109	6

Completion Depth:	51.0
Date Boring Started:	2/20/20
Date Boring Completed:	2/20/20
Logged By:	ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-8b

LOG OF BORING B-9

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	0					4" ASPHALT CONCRETE PAVEMENT			
						ALLUVIUM (Qal): SAND (SP), tan, moist, medium dense, fine to medium grained	48	99	5
135.0	5					SILTY SAND (SM), light brown, moist, medium dense, fine to medium grained	33	95	9
						SAND (SP), tan, moist, medium dense, medium to coarse grained	30	101	5
130.0	10						44	108	4
						below 12.5' trace gravel (up to 1/2" diameter)	19	101	3
125.0	15						18	102	2
						SILTY SAND (SM), interlayered with SANDY SILT (ML), light brown, moist to very moist, loose, fine grained	15	92	22
120.0	20					SILTY SAND (SM), interlayered with SILTY CLAY (CL), light brown, very moist, medium dense, fine grained	25	90	15
						CLAYEY SAND (SC), light brown, very moist, medium dense, fine to medium grained	19	107	16
115.0	25						24	114	15
110.0	30					SAND (SP), tan, moist, dense, fine to medium grained	63	106	7
105.0	35						35		4
	40								

Completion Depth:	51.5
Date Boring Started:	2/20/20
Date Boring Completed:	2/20/20
Logged By:	ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-9a

LOG OF BORING B-9

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	40					SAND (SP), tan, moist, medium dense, medium to coarse grained interlayered with SILTY SAND, light brown, very moist, medium dense, fine grained	23	105	16
95.0	45					SANDY CLAY (CL), red brown, very moist to wet, stiff, fine to medium grained, trace gravel (up to 1/2" diameter)	22		12
90.0	50						19	110	19

Completion Depth:	51.5
Date Boring Started:	2/20/20
Date Boring Completed:	2/20/20
Logged By:	ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-9b

LOG OF BORING B-10

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	0					3.5" ASPHALT CONCRETE PAVEMENT			
						ALLUVIUM (Qal): SAND (SM), tan, damp to moist, medium dense, fine to medium grained	36	105	5
135.0	5					SILTY TO CLAYEY SAND (SM/SC), light brown, moist, loose, fine grained	14	101	13
							13	101	19
130.0	10						20	106	11
					0	SAND (SP), tan, damp to moist, loose, medium to coarse grained, interlayered with SILTY SAND (SM), light brown, very moist, loose	15		
125.0	15						16	101	15
						SILTY SAND (SM) interlayered with SANDY SILT (ML), light brown, moist to very moist, medium dense, fine grained, trace gravel (up to 1/2" diameter)	18	107	18
120.0	20					SILTY SAND (SM), interlayered with SILTY CLAY (CL), light brown, very moist, medium dense, fine grained	24	108	12
							22	111	17
115.0	25						27	112	15
110.0	30					SILTY SAND (SM), light brown, moist, dense, fine grained	58	99	8
105.0	35					SAND (SP), tan, moist, dense, medium grained	44		7
	40								

Completion Depth:	51.5
Date Boring Started:	2/21/20
Date Boring Completed:	2/21/20
Logged By:	ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-10a

LOG OF BORING B-10

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	40					SILTY SAND (SM), interlayered with SANDY SILT (ML), light brown, very moist, medium dense, trace rounded gravel (up to 1/2" diameter)	38	93	30
95.0	45					SILTY SAND (SM) interlayered with SANDY CLAY (CL), red brown, moist, dense, medium to coarse grained, moderate gravel (up to 2" diameter)	86		6
90.0	50						50/5"	116	12

Completion Depth:	51.5
Date Boring Started:	2/21/20
Date Boring Completed:	2/21/20
Logged By:	ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-10b

LOG OF BORING B-11

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	0					5" ASPHALT CONCRETE PAVEMENT			
						ALLUVIUM (Qal): SAND (SP), tan, damp to moist, medium dense, medium to coarse grained, trace gravel (up to 1/2" diameter)	28	101	4
135.0	5						22	103	2
							24	103	2
130.0	10					below 10' dry to damp	33	103	2
							27 50/5"	115	2
125.0	15					SILTY SAND (SM), tan, dry to damp, dense, fine to medium grained	60	111	1
						SILTY SAND (SM), light brown, damp to moist, medium dense, fine grained	43	109	5
120.0	20					SILTY SAND (SM), interlayered with CLAYEY SILT (ML), light brown, dry to damp, medium dense, fine grained	36	106	4
							42	110	8
115.0	25					SILTY SAND (SM), light brown, dry to damp, dense, fine grained	48	94	3
110.0	30					SAND (SP), tan, dry to damp, medium dense to dense, medium to coarse grained	47	104	1
105.0	35						30		2
	40								

Completion Depth:	51.5
Date Boring Started:	2/21/20
Date Boring Completed:	2/21/20
Logged By:	ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-11a

LOG OF BORING B-11

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	40						64	97	2
95.0	45					SILTY SAND (SM), light brown, very moist to wet, medium dense, fine grained	20		17
						SANDY CLAY (CL), red brown, very moist to wet, stiff, fine to medium grained, trace gravel (up to 1/2" diameter)			
90.0	50						27	127	10
						@51' moderate gravel (up to 1" diameter)	50/4"		

Completion Depth:	51.5
Date Boring Started:	2/21/20
Date Boring Completed:	2/21/20
Logged By:	ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-11b

LOG OF BORING B-12

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	0					5" ASPHALT CONCRETE PAVEMENT			
						ALLUVIUM (Qal): SILTY SAND (SM), medium black brown, very moist, medium dense			
						SAND (SP), light-medium brown, moist, medium dense	25	105	4
135.0	5						16	95	13
							22	86	2
130.0	10						23	103	3
							17	103	3
125.0	15					SILTY SAND (SM), medium-dark brown, very moist, medium dense	13	100	24
							16	103	18
120.0	20					SILTY SAND (SM), medium black brown, very moist, medium dense	25	99	7
							28	95	6
115.0	25						32	96	5
						SILTY SAND (SM) with gravel, medium brown, moist, medium dense	21	112	6
110.0	30					SILTY SAND (SW) with gravel, medium brown, moist, medium dense	39	103	14
105.0	35					SAND (SP), light-medium tan/brown, moist, medium dense	38	99	4
	40								

Completion Depth: 101.0
Date Boring Started: 2/21/20
Date Boring Completed: 2/21/20
Logged By: BC
Drilling Contractor: OWD

Remarks:
Groundwater was encountered at 78'. The type of auger used prevented caving. Backilled with auger cuttings. Pavement patched with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-12a

LOG OF BORING B-12

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	40					SANDY SILT (ML), medium brown with gray streaks, very moist, very stiff	62	97	22
						GRAVELLY-SAND (GW), gray brown gravel, moist, dense, little to no fines, fracturing			
						SANDY SILT (ML), medium brown with gray streaks, very moist, very stiff			
95.0	45					@45' stiff	10		25
						SAND (SP), light brown, moist, medium dense			
90.0	50						24	103	18
85.0	55						16		16
80.0	60						24	114	13
						SAND (SP), light brown, very moist, medium dense			
75.0	65					SANDY SILT (ML), medium brown with gray streaks, very moist, medium stiff	8		30
70.0	70						34	107	22
						GRAVELLY SAND (GW), gray brown gravel, moist, medium dense, little to no fines, fracturing			
						SAND (SP), light-medium brown, very moist, medium dense			
65.0	75					SANDY SILT (ML), medium brown, very moist, stiff	14		21
						@ 78' groundwater			
	80								

Completion Depth:	101.0
Date Boring Started:	2/21/20
Date Boring Completed:	2/21/20
Logged By:	BC
Drilling Contractor:	OWD

Remarks:
Groundwater was encountered at 78'. The type of auger used prevented caving. Backilled with auger cuttings. Pavement patched with cold-mix asphalt concrete.

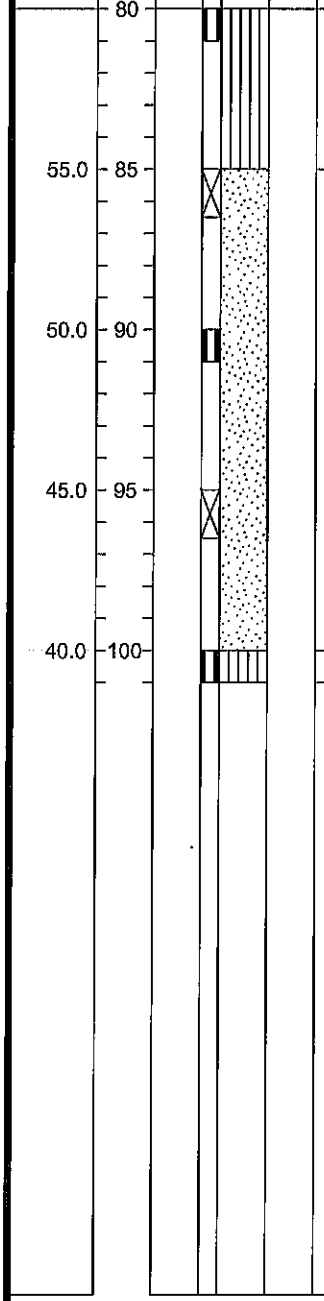
The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-12b

LOG OF BORING B-12

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT



Elevation, feet	Depth, feet	Sample No.	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	80			SANDY SILT (ML), medium brown, wet, very stiff	26	102	22
55.0	85			GRAVELLY SAND (SP), light-medium brown, very moist, medium dense	24		18
50.0	90				20	111	18
45.0	95				11		20
40.0	100			CLAYEY SILT (ML), medium brown/olive, wet, stiff	25	105	25

Completion Depth:	101.0
Date Boring Started:	2/21/20
Date Boring Completed:	2/21/20
Logged By:	BC
Drilling Contractor:	OWD

Remarks:
Groundwater was encountered at 78'. The type of auger used prevented caving. Backilled with auger cuttings. Pavement patched with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-12c

LOG OF BORING B-13

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	0					3" ASPHALT CONCRETE PAVEMENT			
						ALLUVIUM (Qal): SAND (SP), tan, moist, medium dense, fine to medium grained	24	111	4
135.0	5					SAND (SP), tan, moist, medium dense, medium to coarse grained	25	98	3
							20	90	1
130.0	10						24	96	5
							25	103	2
125.0	15						27	96	3
							17	104	3
120.0	20						32	82	29
							34	105	2
115.0	25						36	105	2
110.0	30						46	105	3

Completion Depth:	31.0
Date Boring Started:	2/21/20
Date Boring Completed:	2/21/20
Logged By:	MS/ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-13

LOG OF BORING B-14

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	0					3" ASPHALT CONCRETE PAVEMENT			
						ALLUVIUM (Qal):			
						SANDY SILT (ML), gray brown, moist to very moist, medium dense, fine grained			
						SAND (SP), tan, damp to moist, medium dense, medium to coarse grained	23	101	3
135.0	5						29	100	2
							34	96	2
130.0	10						24	98	3
							28	101	2
125.0	15						22	104	13
						SILTY SAND (SM), brown, moist, medium dense	20	115	10
120.0	20					SILTY SAND (SM) and SANDY CLAY (CL), brown, moist, medium dense	18	113	10
							22	117	13
115.0	25					SAND (SP), tan, moist, medium dense, fine to medium grained	34	108	6
110.0	30						78	105	3
105.0	35						22		4
	40								

Completion Depth:	51.0
Date Boring Started:	2/21/20
Date Boring Completed:	2/21/20
Logged By:	MS/ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-14a

LOG OF BORING B-14

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	40					@40' dense	23 50/2"	104	3
95.0	45					SANDY CLAY (CL), light brown, moist, very stiff	24		19
90.0	50					SAND (SP), light brown, moist, dense, fine grained	21 50/2"	108	4

Completion Depth:	51.0
Date Boring Started:	2/21/20
Date Boring Completed:	2/21/20
Logged By:	MS/ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-14b

LOG OF BORING B-15

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	0					4" ASPHALT CONCRETE PAVEMENT/3" ROCK			
						ALLUVIUM (Qal): SAND (SP), tan, moist, medium dense, medium to coarse grained	30	103	5
135.0	5						26	107	4
							30	96	4
130.0	10						30	102	4
							18	101	8
125.0	15					SILTY SAND (SM) interlayered with SANDY SILT (ML), light brown, moist, medium dense, fine to medium grained	10	109	13
							34	108	7
120.0	20						20	113	9
							32	108	7
115.0	25					SAND (SP), tan, moist, medium dense, medium to coarse grained	46	105	7
110.0	30						45	97	5

Completion Depth:	31.5
Date Boring Started:	2/24/20
Date Boring Completed:	2/24/20
Logged By:	ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-15

LOG OF BORING B-16

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	0					5" ASPHALT CONCRETE PAVEMENT			
						ALLUVIUM (Qal):			
						SILTY SAND (SM), medium black/brown, moist, medium dense	40	112	13
135.0	5					SAND (SW), light brown, moist, medium dense	22	102	3
							10	94	3
130.0	10						22	96	3
							26	100	2
125.0	15					SILTY SAND (SM), medium brown, very moist, medium dense	16	99	11
							33	111	11
120.0	20					SILTY SAND (SM), medium brown, very moist, medium dense	26	109	11
							16	118	11
115.0	25						17	110	9
						SILTY SAND (SM-SP), light brown, moist, medium dense	44	107	5
110.0	30						49	99	3
105.0	35						35	101	3
	40					@ 39' perched water			

Completion Depth:	101.0
Date Boring Started:	2/21/20
Date Boring Completed:	2/21/20
Logged By:	BC
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

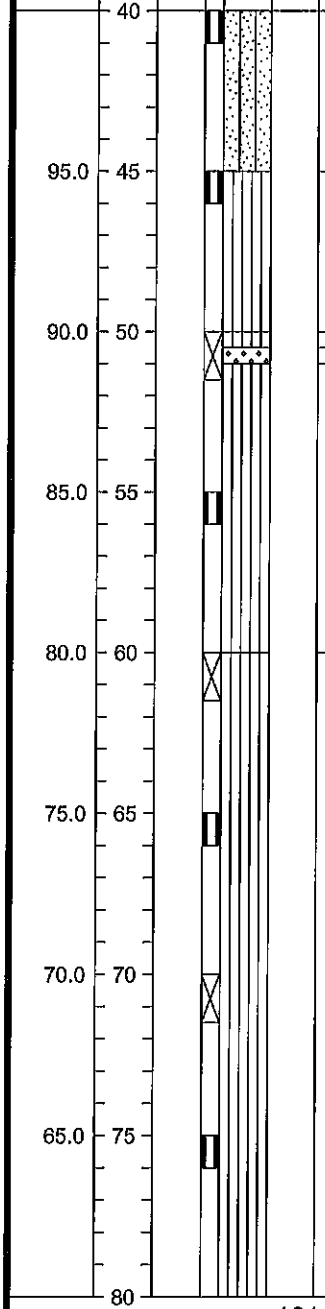
The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-16a

LOG OF BORING B-16

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT



Elevation, feet	Depth, feet	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	40	SILTY SAND (SM), light-medium brown, very moist, dense	50/6"	105	10
95.0	45	@44.5' perched water			
		CLAYEY SILT (ML), medium brown with gray streaks, very moist to wet, medium stiff	6	85	37
90.0	50	SANDY SILT (ML), medium brown, moist, medium stiff	12		9
		GRAVELLY-SAND (SW), 4" layer, medium to dark brown, moist, loose			
		SANDY SILT (ML), medium brown, moist, medium stiff to stiff			
85.0	55		18	113	12
80.0	60	CLAYEY SILT (ML), medium to dark brown, very moist, stiff	16		22
75.0	65	@ 65' wet, very stiff	16	99	26
70.0	70	@70' very moist	20		15
65.0	75		24	108	20
	80				

Completion Depth:	101.0
Date Boring Started:	2/21/20
Date Boring Completed:	2/21/20
Logged By:	BC
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

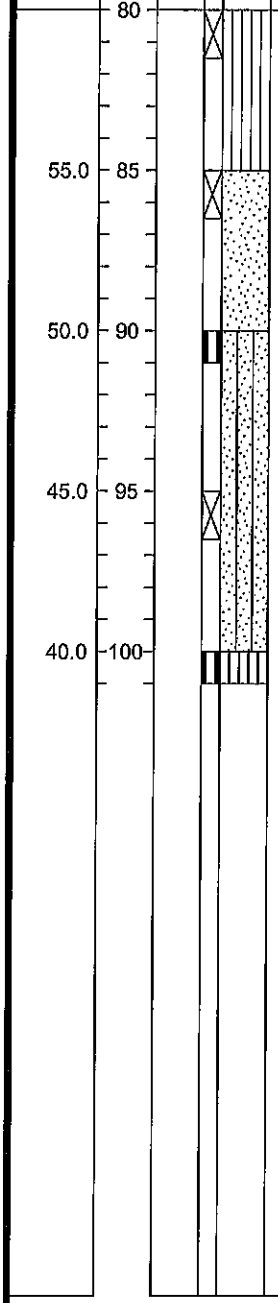
The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-16b

LOG OF BORING B-16

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT



Elevation, feet	Depth, feet	Sample No.	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	80			SANDY SILT (ML), medium brown, very moist, stiff	13		23
55.0	85			SAND (SP), light-medium brown, moist, dense, trace silt	34		14
50.0	90			SILTY SAND (SM), medium brown, very moist, medium dense	21	108	17
45.0	95			@95' dense	46		18
40.0	100			CLAYEY SILT (ML), medium brown, wet, very stiff	52	115	15

Completion Depth:	101.0
Date Boring Started:	2/21/20
Date Boring Completed:	2/21/20
Logged By:	BC
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-16c

LOG OF BORING B-17

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	0					3.5" ASPHALT CONCRETE PAVEMENT			
						ALLUVIUM (Qal): SILTY SAND (SM), light brown, moist, medium dense, fine to medium grained	24	103	7
						SAND (SP), tan, damp to moist, medium dense, medium to coarse grained			
135.0	5						16	103	4
						@7.5' trace gravel (up to 1/2" diameter)	26	105	3
130.0	10						22	102	2
							24	99	2
125.0	15						36	108	2
						@17.5' fine to medium grained	32	98	4
120.0	20						43	95	4
						@22.5' medium to coarse grained	46	103	3
115.0	25						40	105	3
110.0	30					SAND (SP) with trace SILTY SAND (SM) lenses, tan, damp to moist, dense, fine to medium grained	54	102	4

Completion Depth:	31.5
Date Boring Started:	2/24/20
Date Boring Completed:	2/24/20
Logged By:	ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington GeoTechnical Engineering, Inc.

PLATE A-17

LOG OF BORING B-18

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	0					4" ASPHALT CONCRETE PAVEMENT			
						ALLUVIUM (Qal): SILTY SAND (SM), brown, very moist, medium dense, fine to medium grained	32	109	9
						SAND (SP), tan, moist, medium dense, medium to coarse grained			
135.0	5						32	96	6
							26	104	2
130.0	10						44	103	4
						@12.5' trace gravel (up to 1/4" diameter)	30	106	2
125.0	15					SILTY SAND (SM), light brown, moist, medium dense, fine to medium grained	20	111	9
						SAND (SP), tan, moist, medium dense, fine to coarse grained	30	102	5
120.0	20						42	101	3
						SILTY SAND (SM), brown, moist, medium dense, fine to medium grained interlayered with SAND (SP), tan, moist, medium dense, medium to coarse grained	44	106	3
115.0	25						83	107	7
110.0	30						40	98	4
105.0	35					SAND (SP), light brown, moist, medium dense, medium grained	25		3
	40								

Completion Depth:	51.5
Date Boring Started:	2/24/20
Date Boring Completed:	2/24/20
Logged By:	ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-18a

LOG OF BORING B-18

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	40					SAND (SP), tan, moist, dense, medium to coarse grained	60	108	3
95.0	45					SILTY TO CLAYEY SAND (SM/SC), light brown, moist, dense, fine to medium grained	44		11
90.0	50					SAND (SP), tan, moist, dense, fine to medium grained	33 50/4"	103	2

Completion Depth:	51.5
Date Boring Started:	2/24/20
Date Boring Completed:	2/24/20
Logged By:	ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-18b

LOG OF BORING B-19

Project:	Angels Stadium Master Plan	Surface Elev.:	140.0
Job No.:	20-01-3950	Top of Casing Elev.:	N.A.
Location:	Anaheim, CA	Drilling Method:	Hollow Stem Auger
Coordinates:		Sampling Method:	Cal-Mod and SPT

Elevation, feet	Depth, feet	Sample No.	Sampler Graphics	Symbol / USCS	Recovery %	MATERIAL DESCRIPTION	Blow Counts	Dry Unit Weight, lb/cu ft.	Water Content %
	0					4" ASPHALT CONCRETE PAVEMENT/3" BASE			
						ALLUVIUM (Qal): SAND (SP), tan, moist, medium dense, fine to coarse grained	22	98	6
135.0	5						20	100	6
							15	107	3
130.0	10					@ 10' trace gravel (up to 1/2" diameter), loose	13	102	4
						SAND (SP), tan, moist, medium dense, fine to medium grained	22	100	5
125.0	15					@ 15' occasional lenses of CLAYEY SILT, light brown	16	100	9
						CLAYEY SAND (SC) interlayered with SILTY SAND (SM), light brown, very moist, medium dense, fine to medium grained	12	105	16
120.0	20						21	109	17
							21	112	13
115.0	25						54	118	12
110.0	30					SAND (SP), tan, moist, dense, fine to medium grained	68	106	3

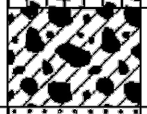
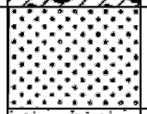
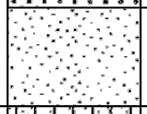
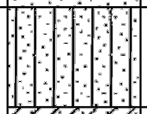
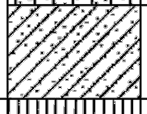
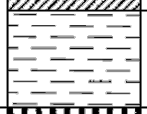
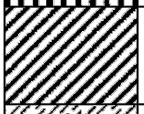
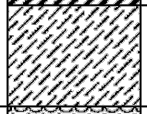
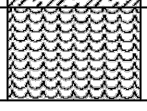
Completion Depth:	31.5
Date Boring Started:	2/24/20
Date Boring Completed:	2/24/20
Logged By:	ALS
Drilling Contractor:	OWD

Remarks:
Groundater was not encountered. Type of auger used prevented caving.
Backfilled with auger cuttings. Pavement patch with cold-mix asphalt concrete.

The stratification lines represent approximate boundaries. The transition may be gradual.

Harrington Geotechnical Engineering, Inc.

PLATE A-19

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SAND, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT 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 GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

HARRINGTON
GEOTECHNICAL • ENGINEERING • INC.
1590 NORTH BRIAN STREET, ORANGE, CA. 92867 T: (714) 637-3093 F: (714) 637-3096

DRAWN BY: BBC | USCS | CHECKED BY: MVD

SOIL CLASSIFICATION CHART

HGEI Project No. 20-01-3950 | PLATE A-20

APPENDIX B

LABORATORY PROCEDURES & TEST RESULTS

The samples collected during the field investigation were examined and classified by the geotechnical engineer/geologist in the laboratory using the visual/tactile method (ASTM D2487-11 & D2488-17) and selected samples were assigned laboratory testing. Tests were performed in general accordance with latest ASTM standards. The following is a description of the laboratory testing and presents the results which are incorporated in the previous sections of the report.

Moisture and Density Determination (ASTM D2216-10 & D7263-09)

Field moisture contents were determined for all samples. The core samples were trimmed and weighed and the dry densities of the material calculated. Moisture and dry density data are presented on the boring logs in Appendix A.

Expansion Index Test (ASTM D4829-11)

Expansion index tests were conducted on samples considered representative of the site material to establish data on which to base recommendations for foundation design. The test results are presented in Table 1.

Corrosivity Tests (EPA 300.0/9045C/CT643)

Samples were submitted to a state certified analytical laboratory (Eurofins/Calscience) for testing for water-soluble sulfate content, chloride, pH and minimum resistivity. Test results are indicated in Table 2.

Compaction Test (ASTM D1557-12$^{\varepsilon 1}$)

Compaction tests were performed on samples of surface soils to develop values for initial use during grading and backfilling work. The results are presented in Table 3.

Consolidation Tests (ASTM D2435/D2435-11)

Consolidation tests were performed on undisturbed samples to determine the magnitude and rate of consolidation of the soil when subjected to incrementally applied controlled-stress loading. Water was added to the sample during the test to determine the effect of increased moisture. Graphs of the test results are presented on Plates B-1 to B-31.

Direct Shear Tests (ASTM D3080/D3080M-11)

Direct Shear tests were performed on undisturbed and remolded specimens to determine the static strength of the soils. The tests were performed at increased moisture contents and at various confining pressures using a displacement rate of 0.0012 in./min. to establish peak and ultimate strength parameters under adverse conditions of moisture. Results are presented on Plates B-32 to B-66.

Sieve Analysis (ASTM D6913/D6913M-17)

Sieve analyses were conducted on samples to confirm the visual-manual classification of the soils. Graphs of the results are presented on Plate B-67.

TABLE 1
Expansion Index Test Results (ASTM D4829)

Sample Id.	Moisture Content (%)		Dry Unit Weight (pcf)		Calculated Expansion Index	Expansion Potential
	Initial	Final	Initial	Final		
B-3 @ 0'-3'	8.7	14.6	113.2	113.3	0	Very Low
B-13 @ 0'-3'	8.4	12.8	115.7	115.9	0	Very Low
B-17 @ 3'-6'	9.1	12.8	114.8	115.1	0	Very Low

TABLE 2
Corrosivity Test Results (EPA 300.0, 9045C/CT643)

Sample ID	Water-Soluble Sulfate (%)	Chloride (%)	pH	Resistivity (ohm/cm)
B-3 @ 0'-3'	0.0011	ND	8.1	8873
B-7 @ 2'-4'	ND	ND	8.3	17,025
B-13 @ 0'-3'	ND	ND	8.4	13,530
B-17 @ 3'-6'	ND	ND	8.4	15,855

ND - non-detectable

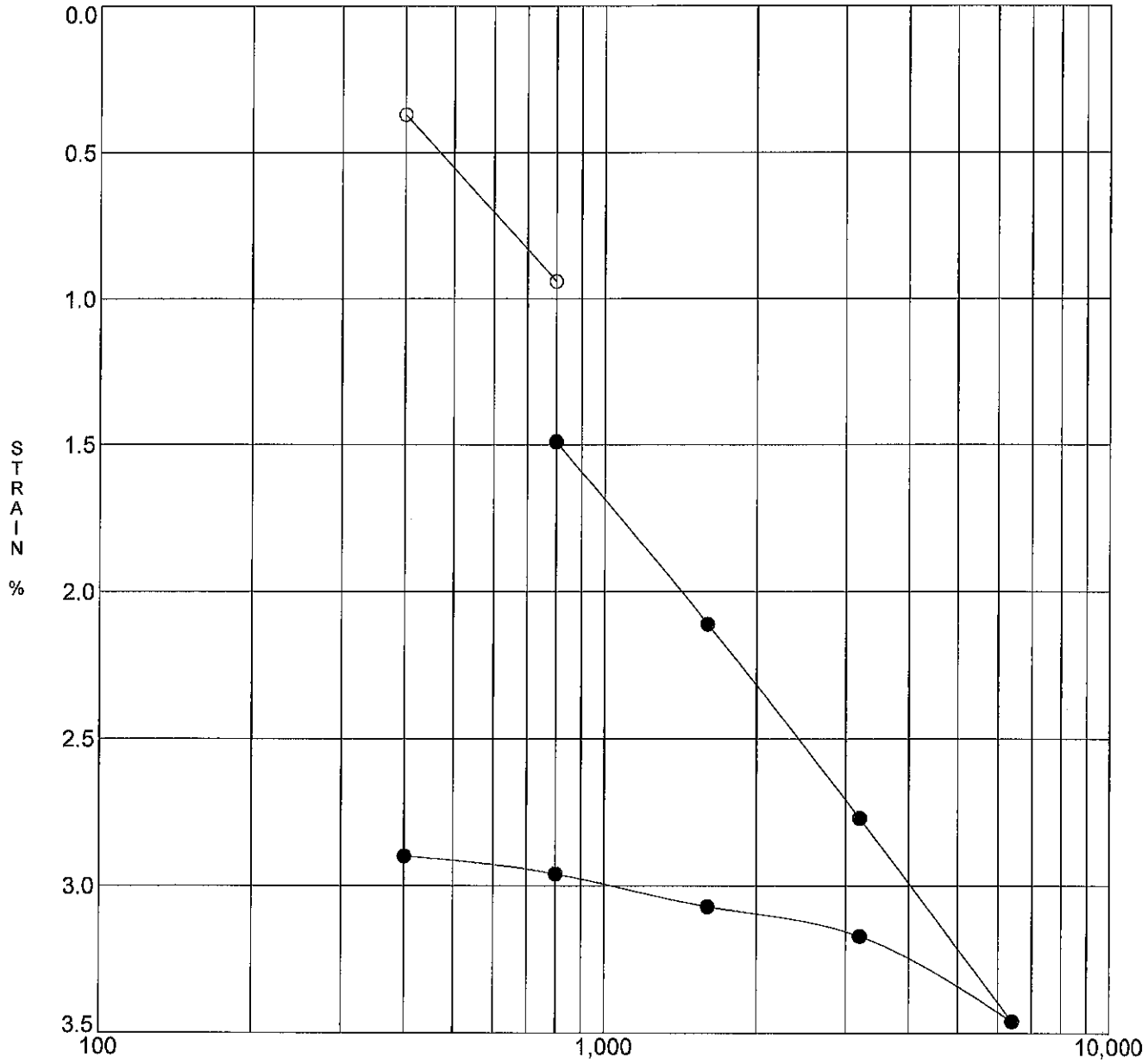
TABLE 3
Compaction Test Results (ASTM D1557-12ε1)

Sample ID	Maximum Dry Density, pcf	Optimum Moisture Content, %
B-4 @ 0'-3'	118.0	12.0
B-9 @ 2'-5'	124.0	8.5
B-17@3'-6'	125.5	8.5

SAMPLE STORAGE

Soil samples presently stored in our laboratory will be discarded 30 days after the date of this report unless this office receives a written request to retain the samples for a longer period. Note that prolonged storage will result in sample degradation and may render them unsuitable for testing.

0-0-0



Legend

○ Before water

● After water

Specimen Identification		Classification	DD	MC%
● B-1 5.0		**SAND (SP)**	**94**	**21**
⊠				
▲				
★				
⊙				
✿				

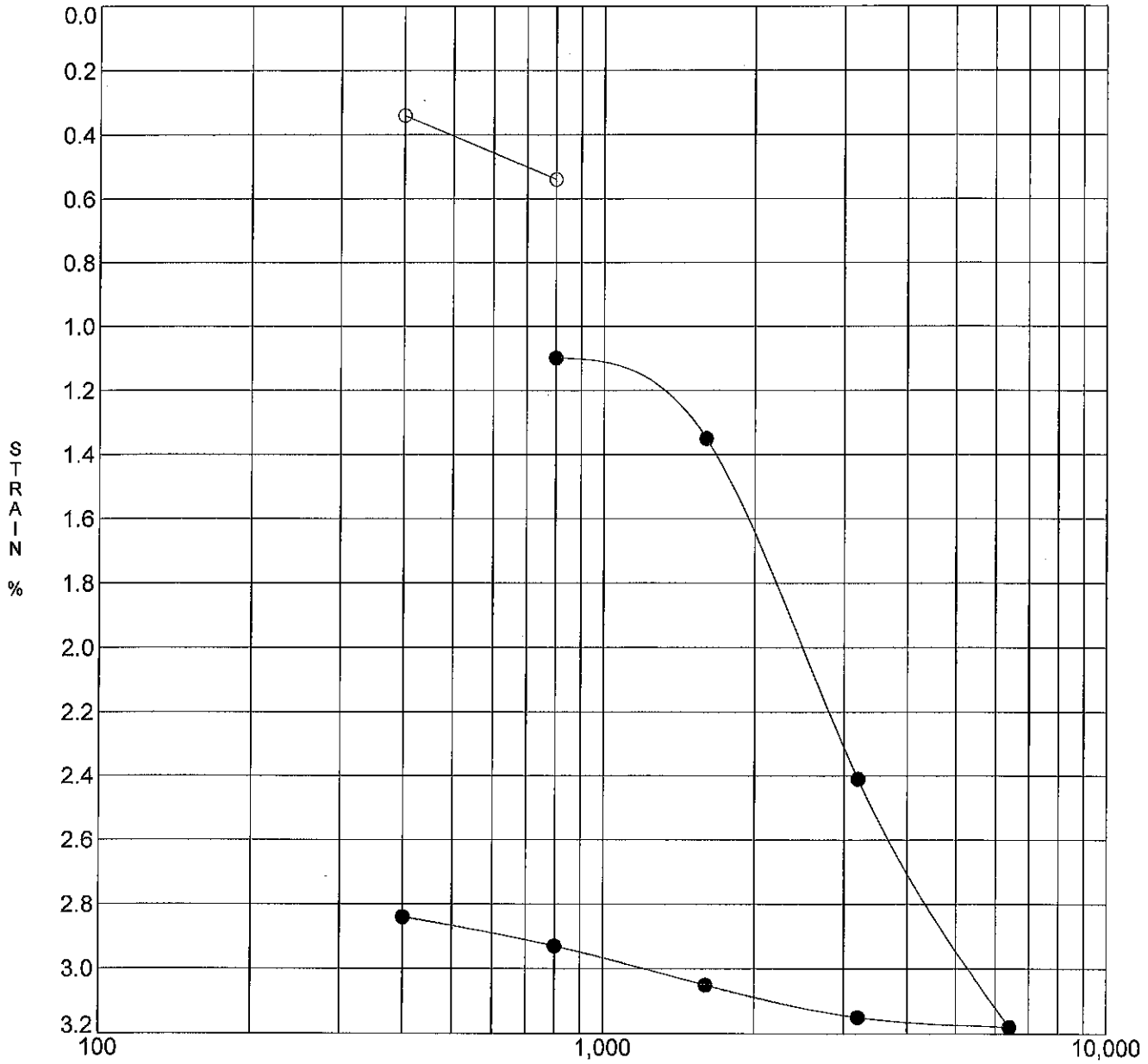
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-1



Legend

○ Before water

● After water

	Specimen Identification		Classification	DD	MC%
●	**B-1**	**7.5**	**SAND (SP)**	**95**	**21**
⊠					
▲					
★					
⊙					
✿					

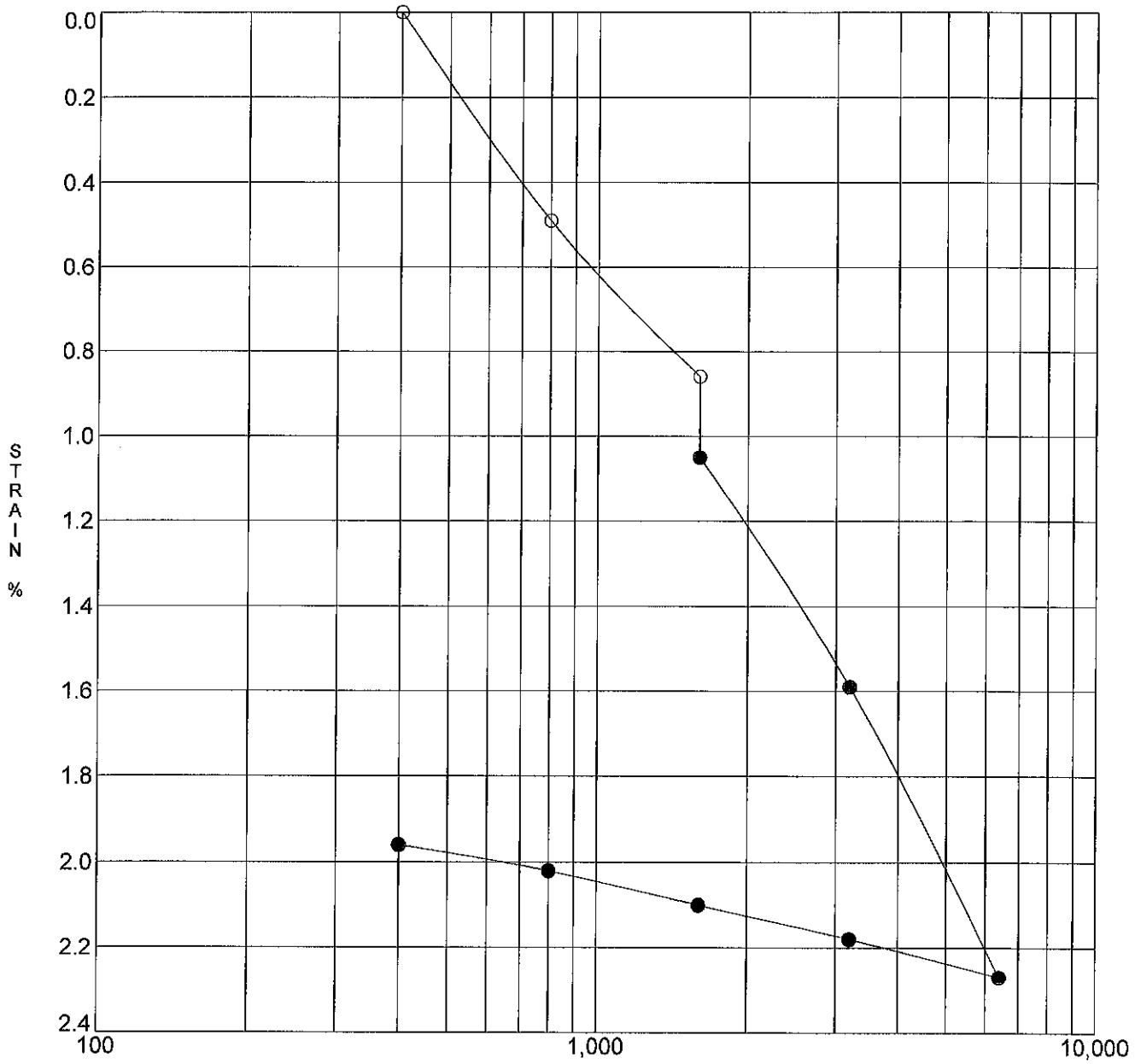
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-2



Legend

○ Before water

● After water

Specimen Identification		Classification	DD	MC%
● B-1	12.5	**SAND (SP)**	**107**	**57**
⊠				
▲				
★				
⊙				
✿				

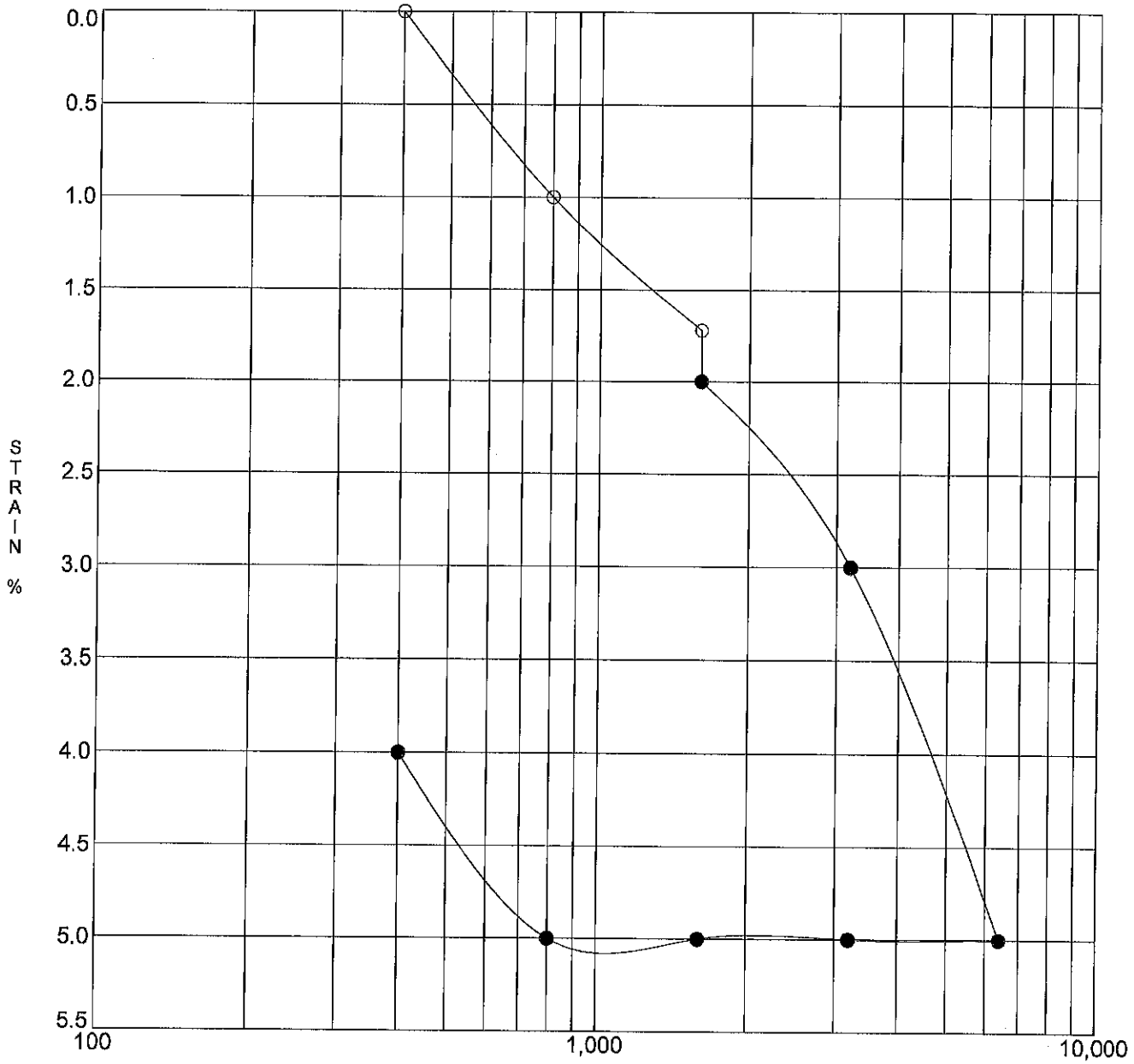
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-3



Legend

○ Before water

● After water

Specimen Identification			Classification	DD	MC%
●	B-1	20.0	SILTY SAND (SM)	98	22
⊠					
▲					
★					
⊙					
✿					

PROJECT **Angel's Stadium Master Plan - Anaheim, CA**

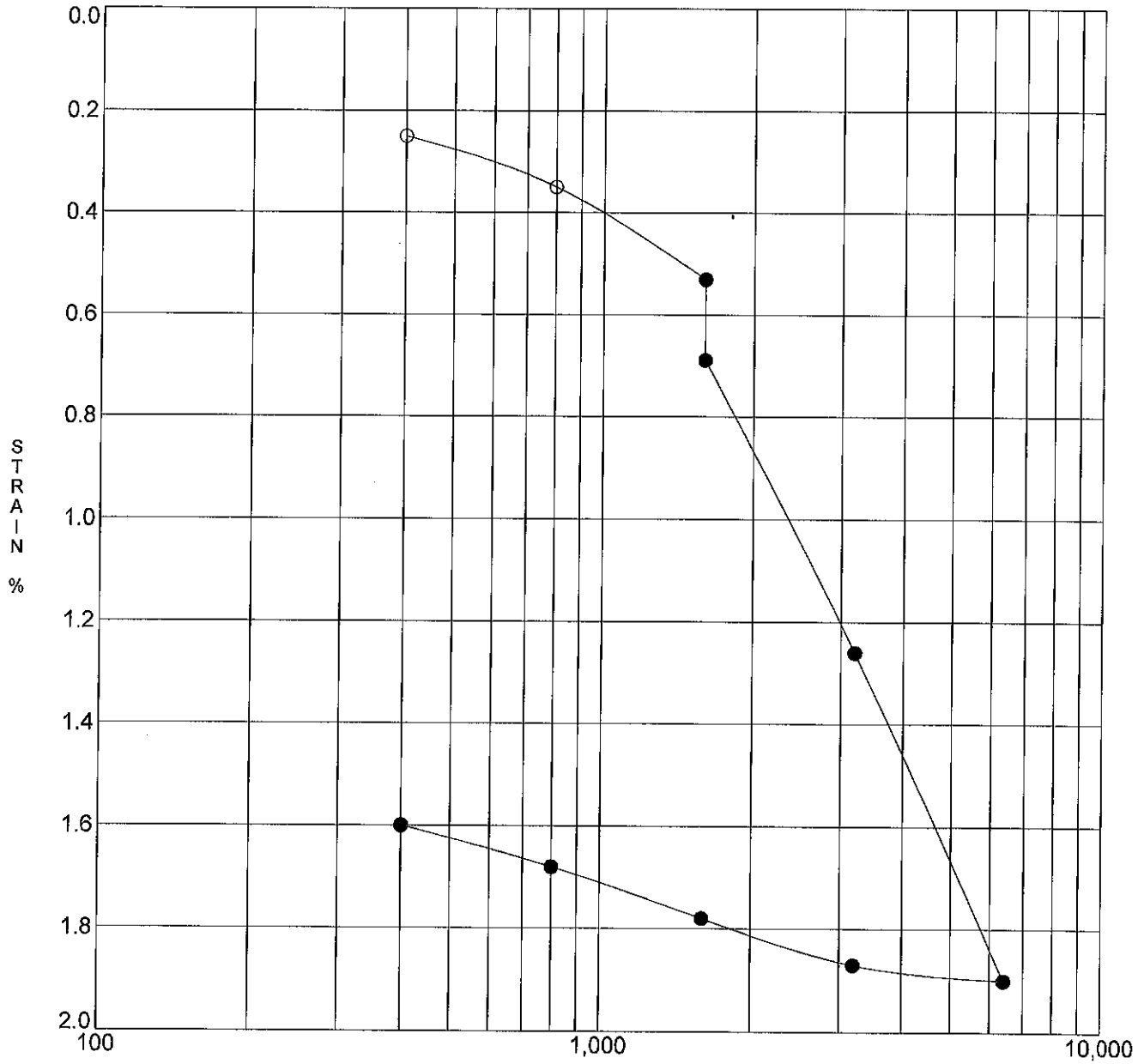
JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-4



Legend

○ Before water

● After water

Specimen Identification		Classification	DD	MC%
● B-2	10.0	**SAND (SP)**	**102**	**19**
⊠				
▲				
★				
⊙				
✿				

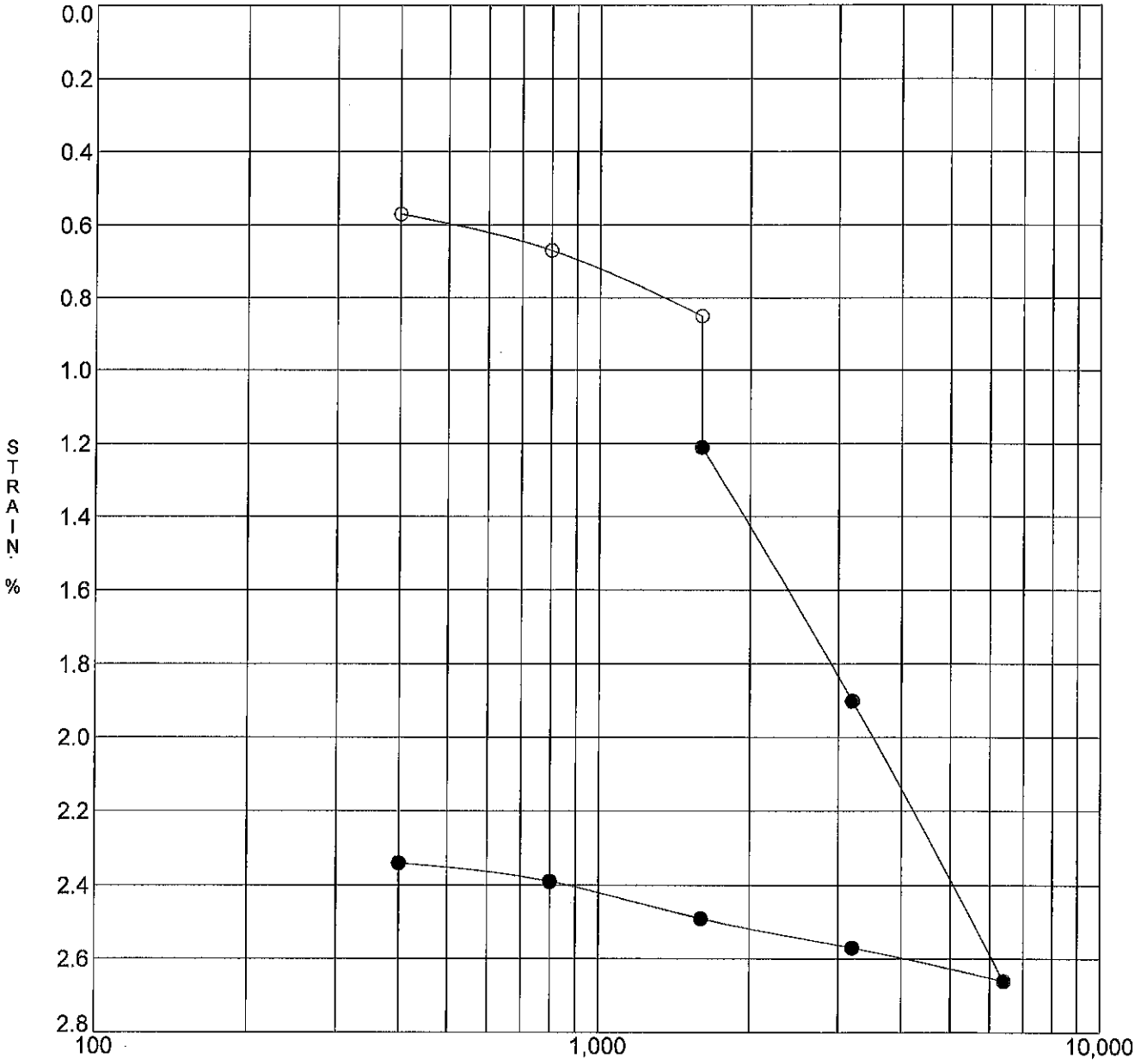
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-5



Legend

○ Before water

● After water

Specimen Identification		Classification	DD	MC%
● B-2	20.0	**SAND (SP)**	**98**	**20**
⊠				
▲				
★				
⊙				
✿				

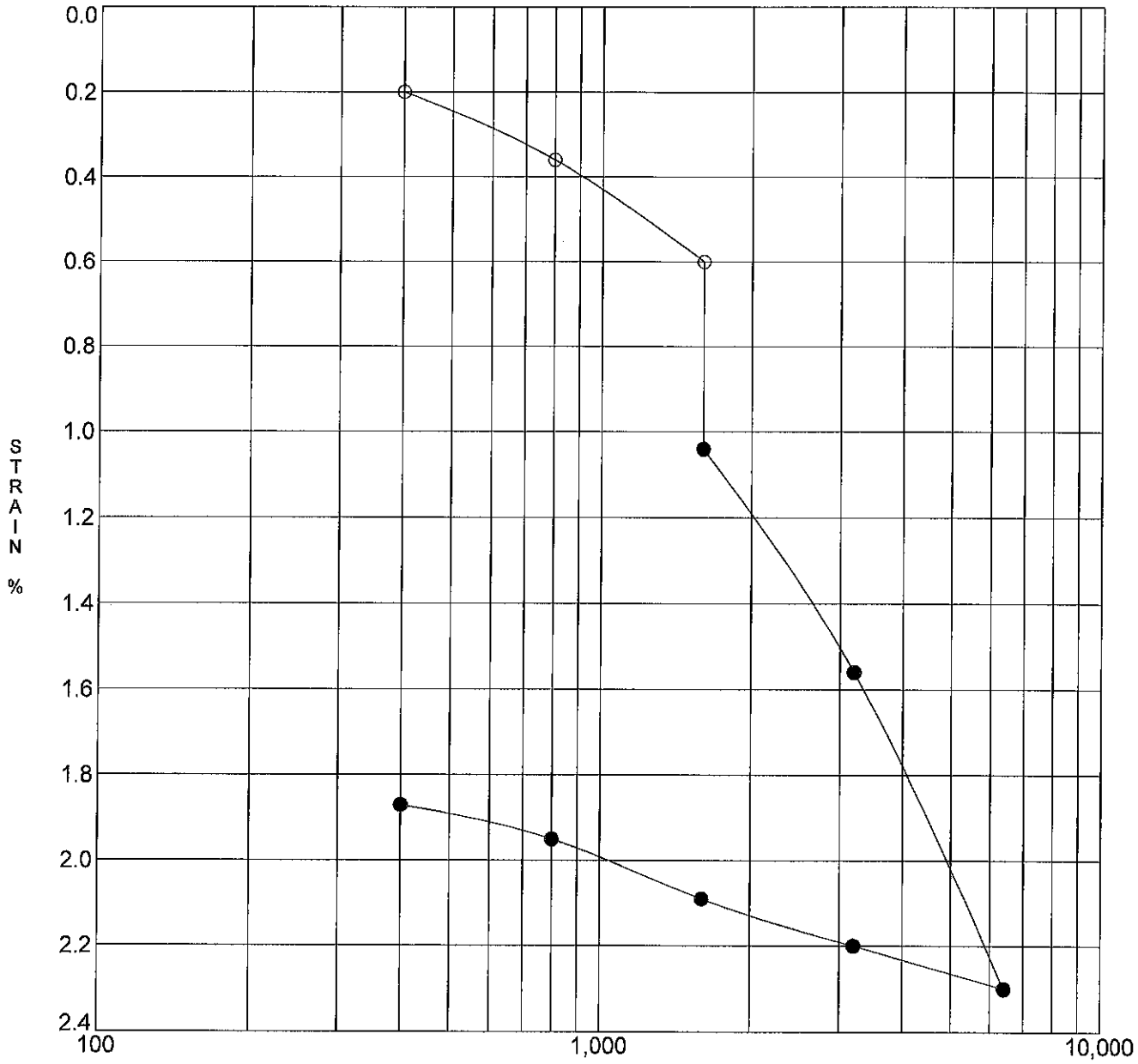
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-6



Legend

○ Before water

● After water

Specimen Identification		Classification	DD	MC%
● B-2	35.0	**SAND (SP)**	**99**	**21**
⊠				
▲				
★				
⊙				
✿				

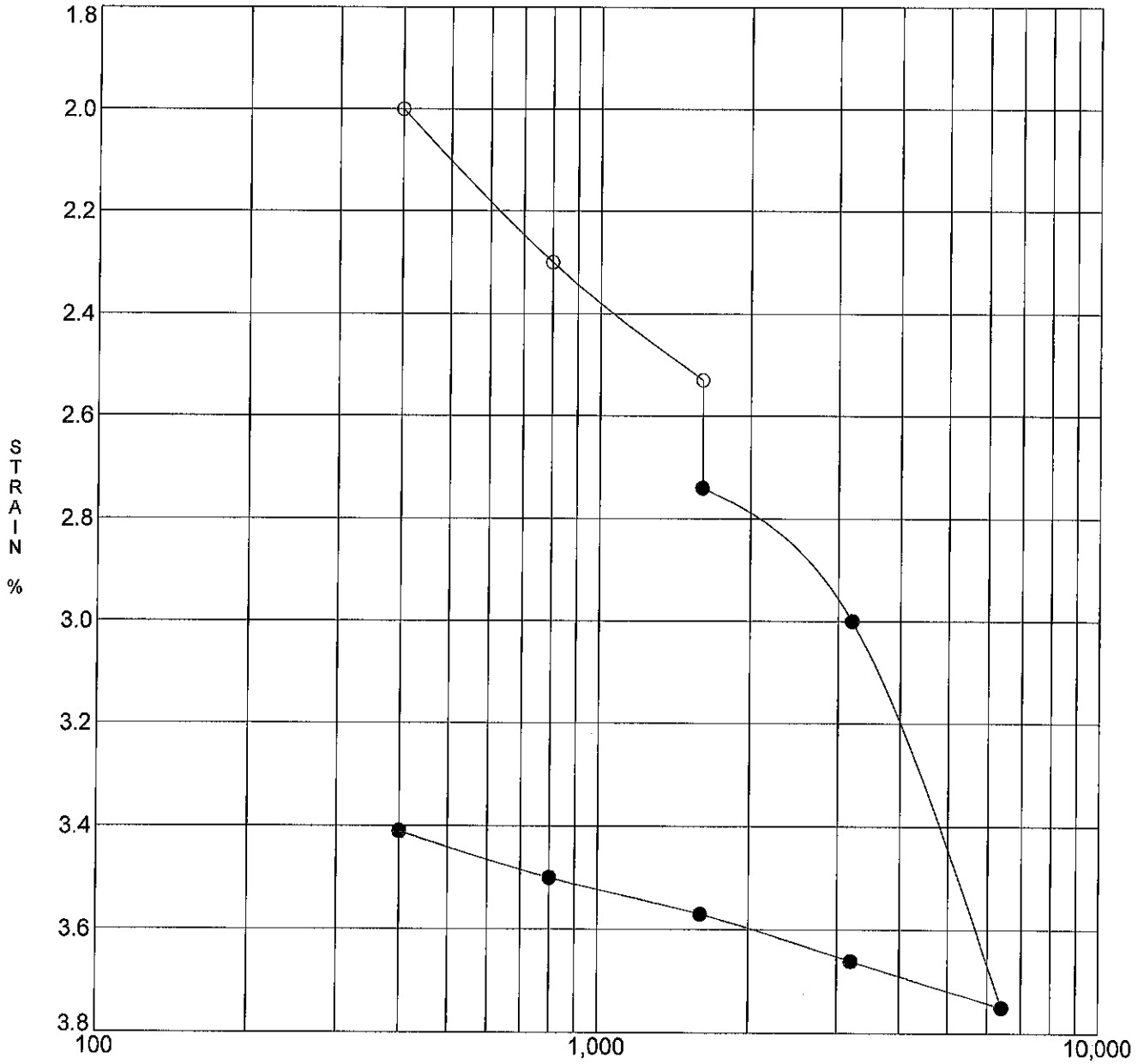
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-7



Specimen Identification			Classification	DD	MC%
●	B-3	22.5	SANDY SILT (ML)	97	22
⊠					
▲					
★					
⊙					
✿					

PROJECT **Angel's Stadium Master Plan - Anaheim, CA**

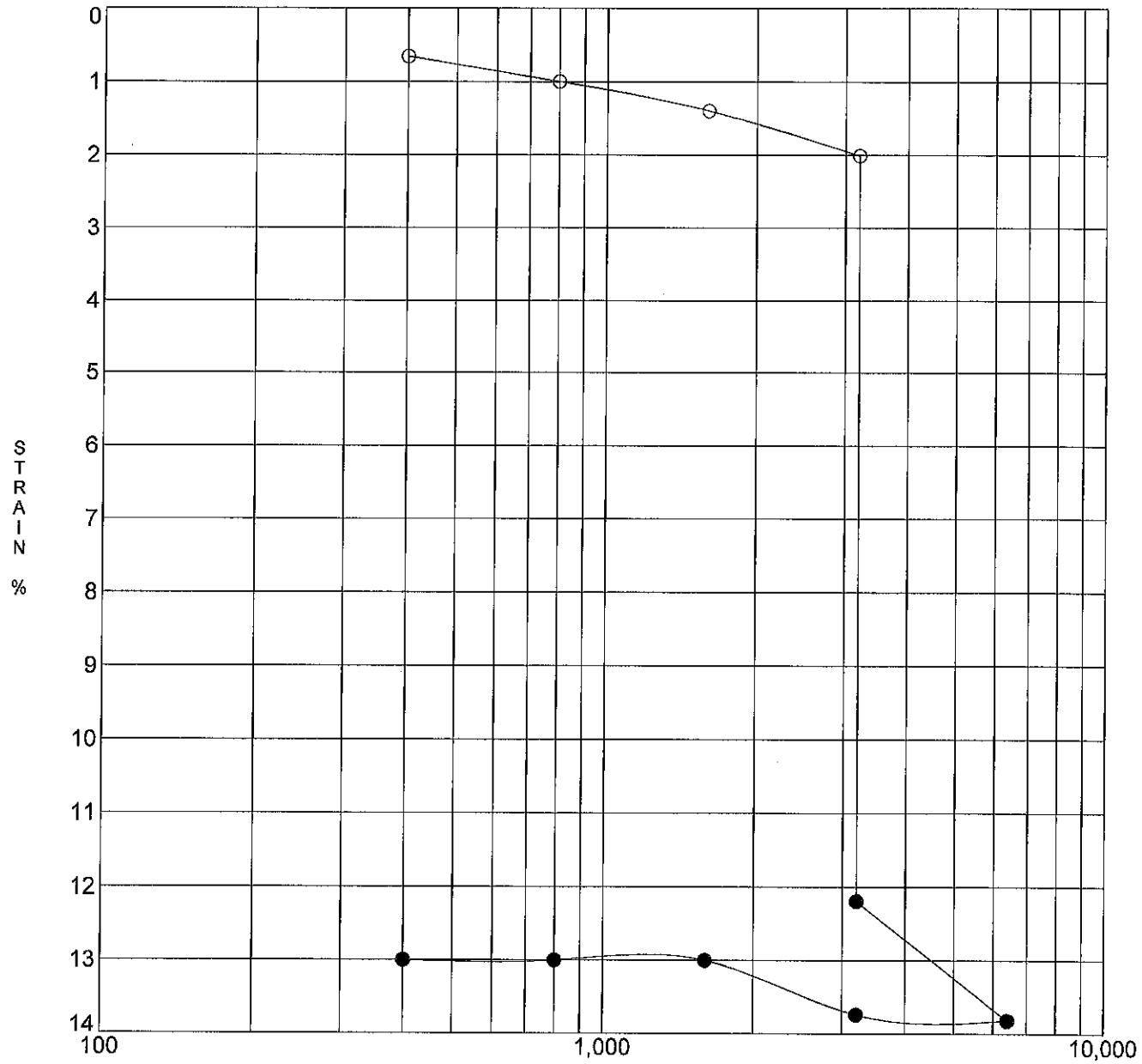
JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-8



Legend

○ Before water

● After water

Specimen Identification		Classification	DD	MC%
● B-3	50.0	**SILTY SAND (SM)**	**102**	**13**
⊠				
▲				
★				
⊙				
✿				

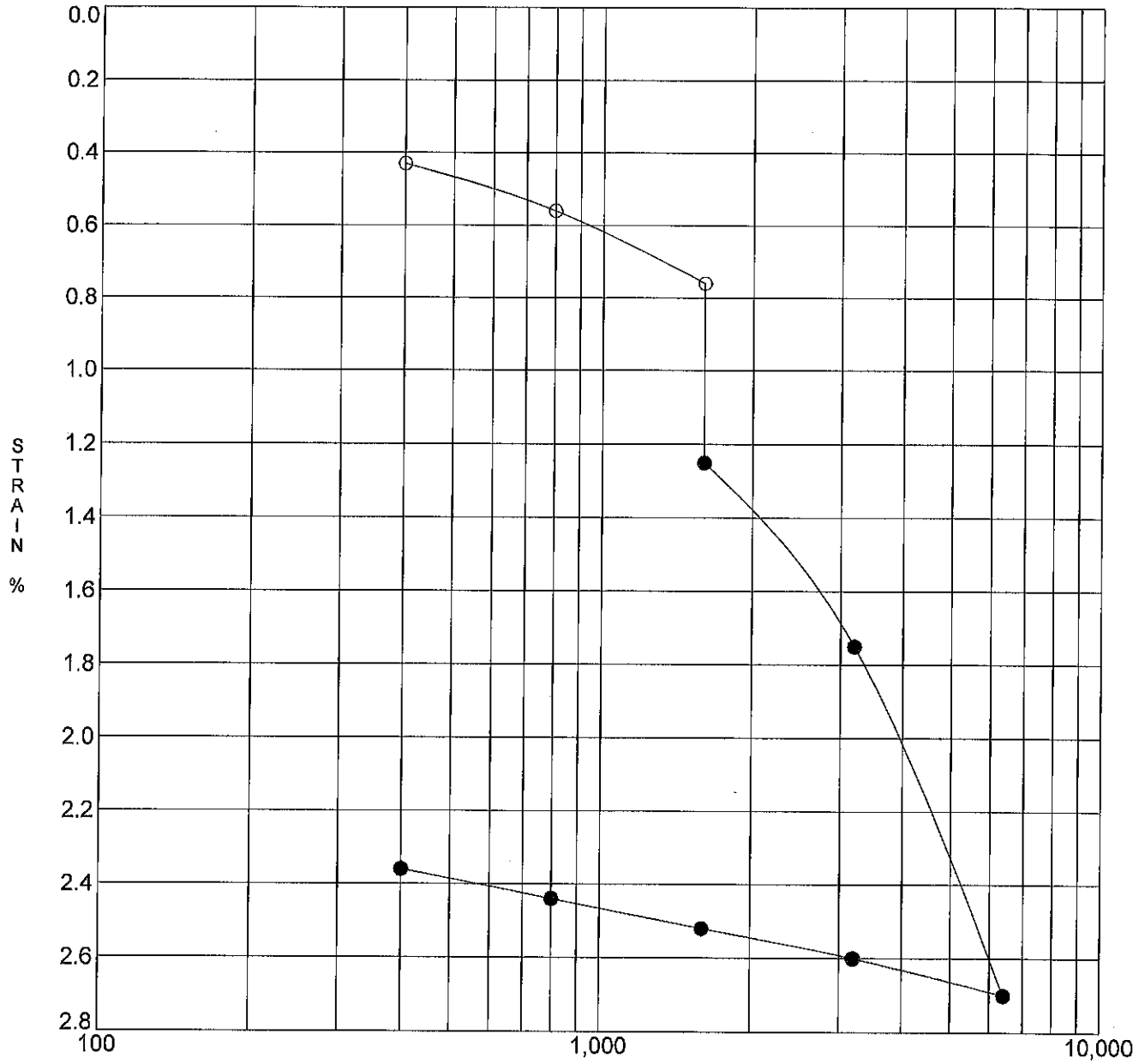
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-9



Legend

○ Before water

● After water

	Specimen Identification		Classification	DD	MC%
●	**B-5**	**22.5**	**SAND (SW)**	**100**	**18**
⊠					
▲					
★					
⊙					
✿					

PROJECT **Angel's Stadium Master Plan - Anaheim, CA**

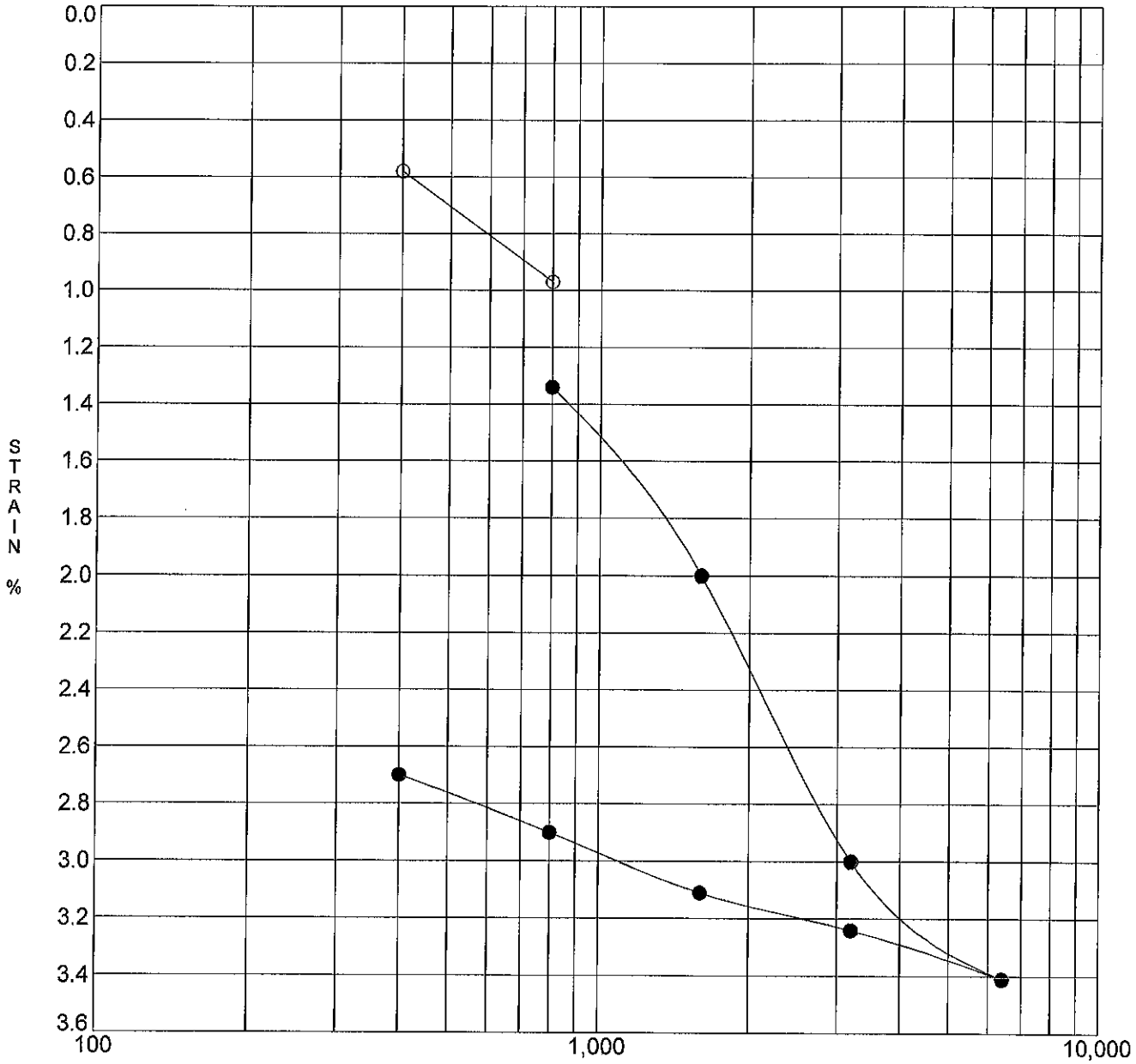
JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-10



Legend

○ Before water

● After water

	Specimen Identification		Classification	DD	MC%
●	B-7	7.5	SAND (SP)	96	22
⊠					
▲					
★					
⊙					
✿					

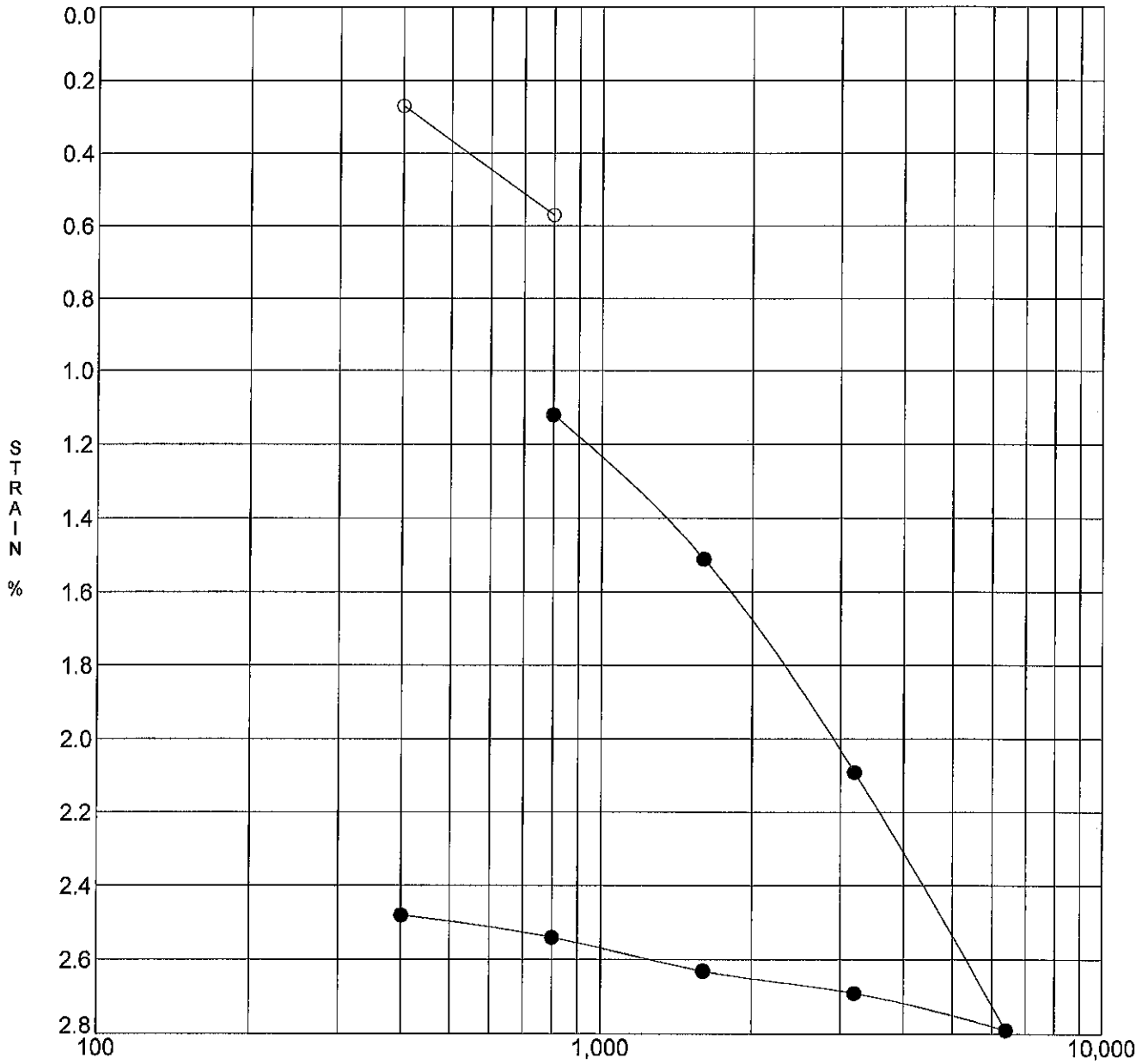
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-11



Legend

○ Before water

● After water

	Specimen Identification		Classification	DD	MC%
●	B-7	12.5	**SAND (SP)**	**94**	**21**
⊠					
▲					
★					
⊙					
✿					

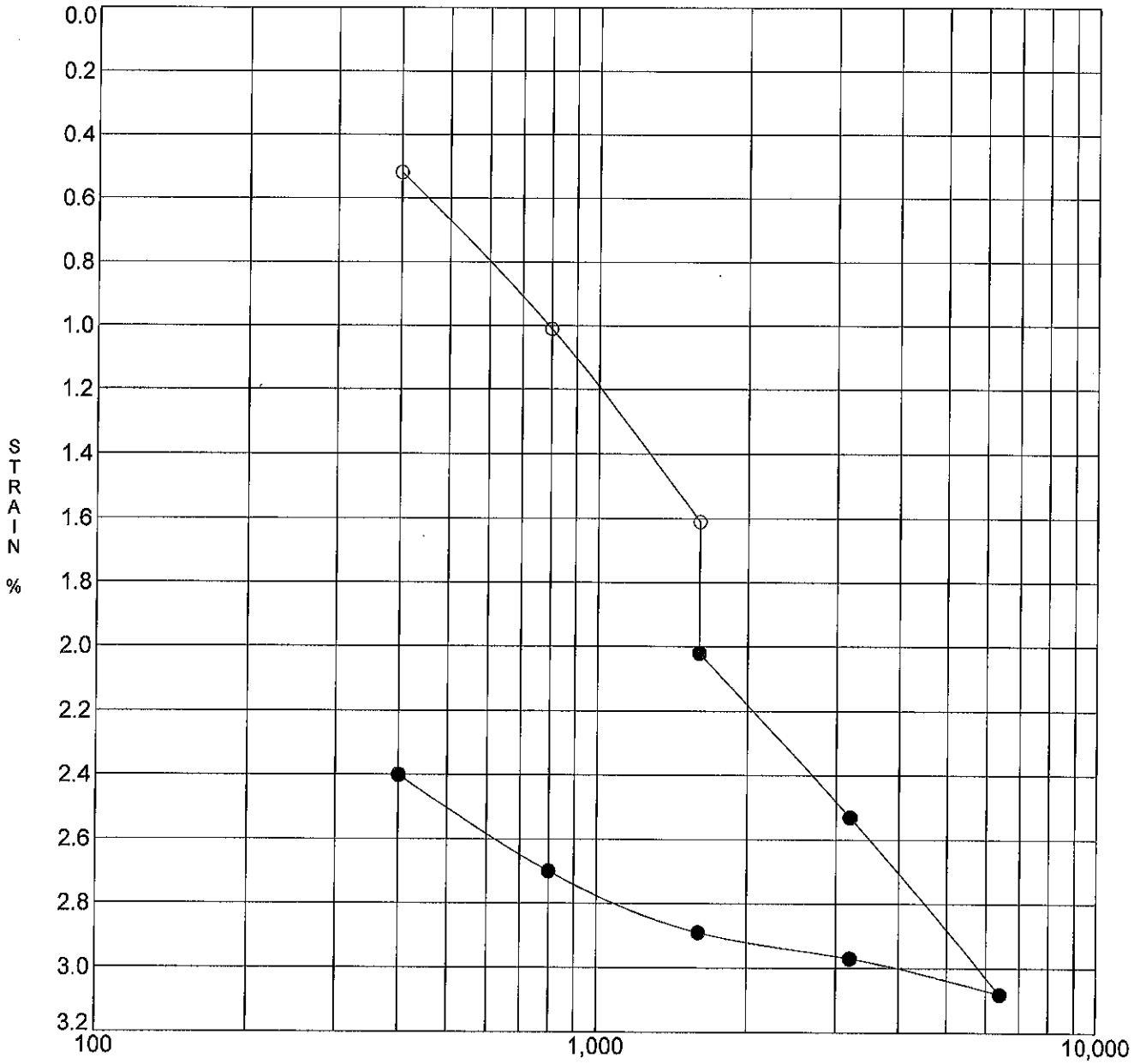
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-12



Legend

○ Before water

● After water

Specimen Identification			Classification	DD	MC%
●	B-8	17.5	SAND (SP)	97	21
⊠					
▲					
★					
⊙					
✿					

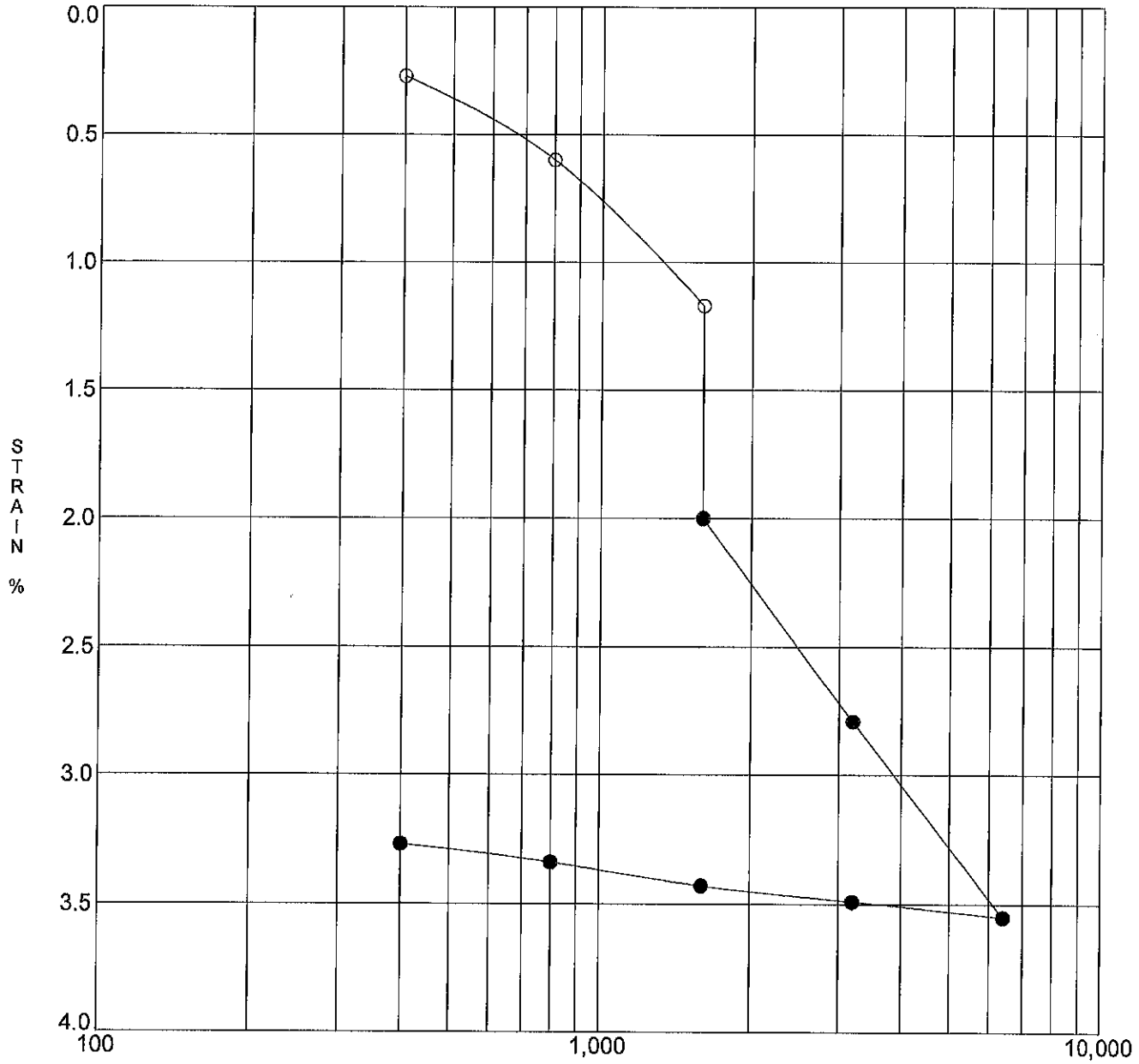
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-13



Legend

○ Before water

● After water

Specimen Identification		Classification	DD	MC%
● B-8 30.0		**SAND (SP)**	**99**	**19**
⊠				
▲				
★				
⊙				
✿				

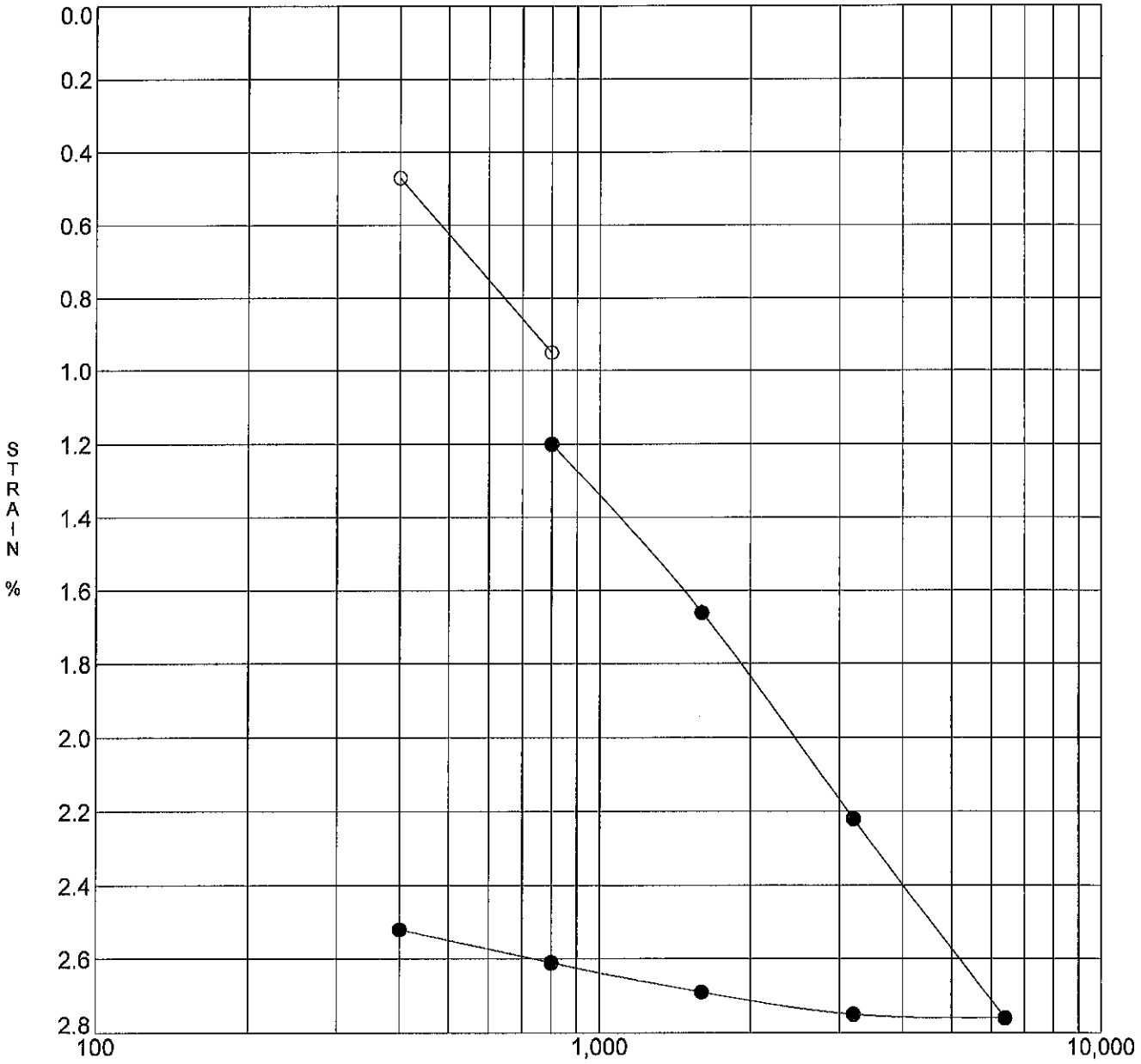
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-14



Legend

○ Before water

● After water

	Specimen Identification		Classification	DD	MC%
●	**B-9**	**7.5**	**SAND (SP)**	**96**	**20**
⊠					
▲					
★					
⊙					
✿					

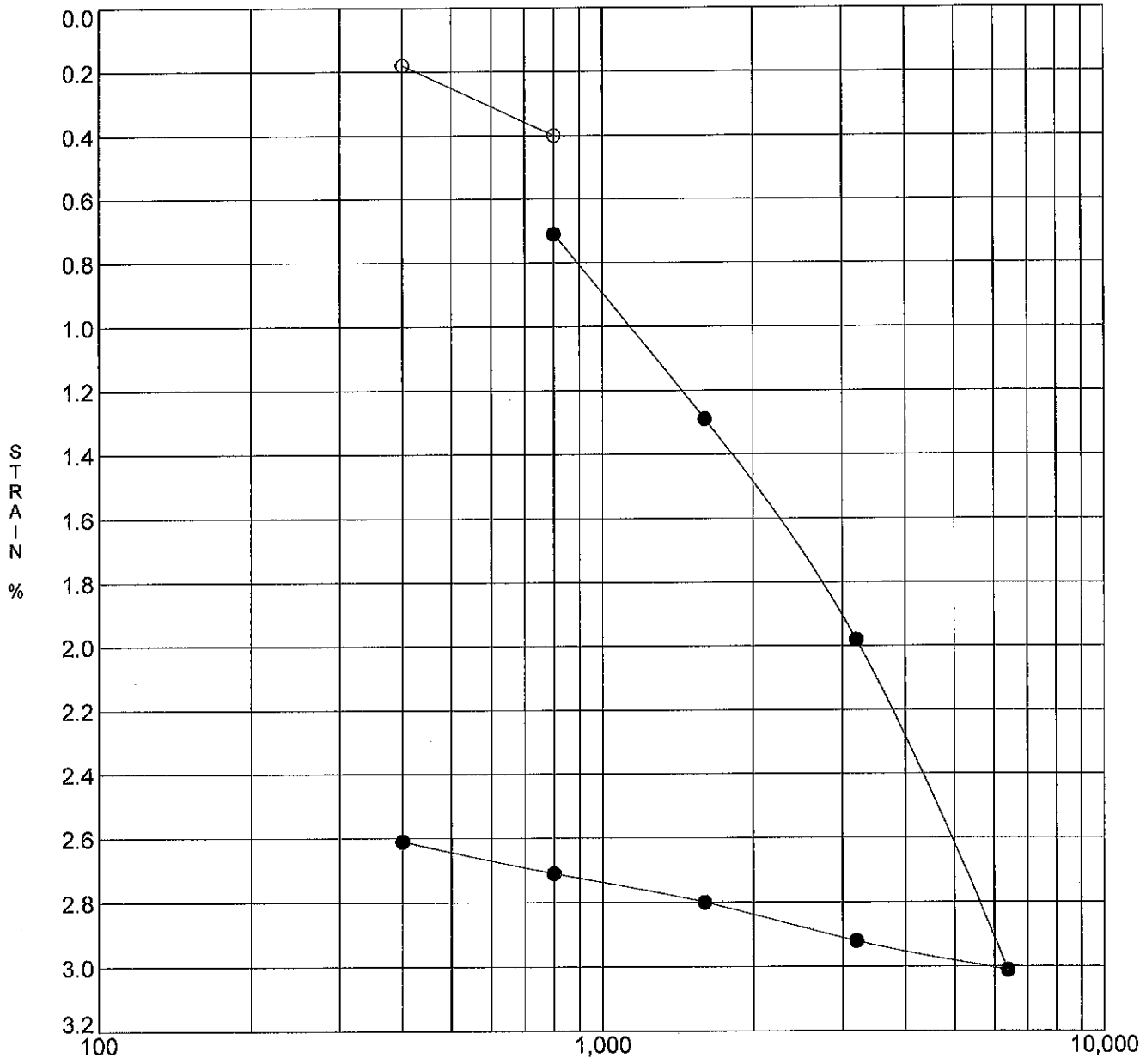
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-15



Legend

○ Before water

● After water

	Specimen Identification		Classification	DD	MC%
●	B-9	12.5	SAND (SP)	105	16
⊠					
▲					
★					
⊙					
✿					

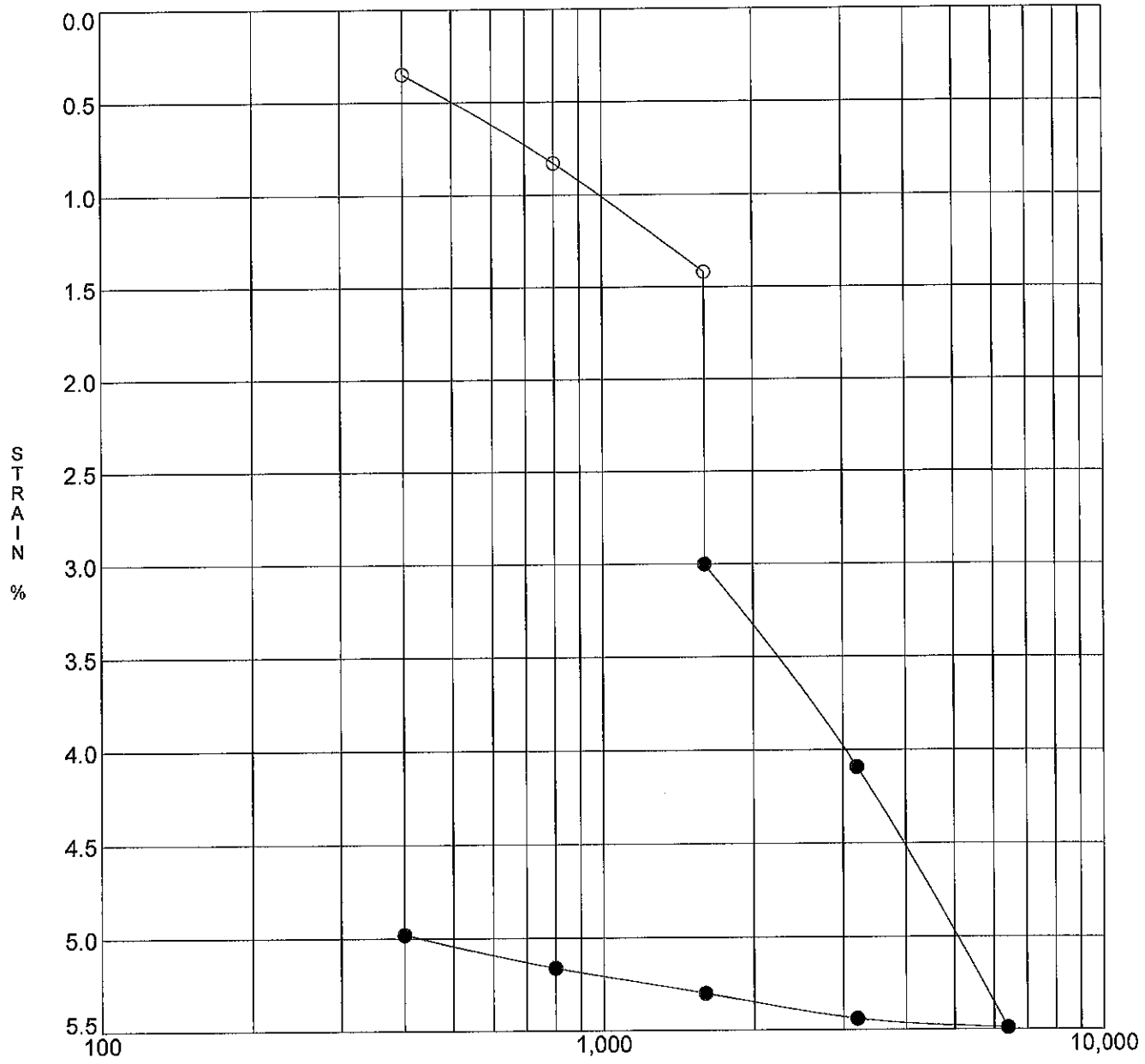
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-16



Legend

○ Before water

● After water

Specimen Identification			Classification	DD	MC%
●	B-11	17.5	SILTY SAND (SM)	111	12
⊠					
▲					
★					
⊙					
✿					

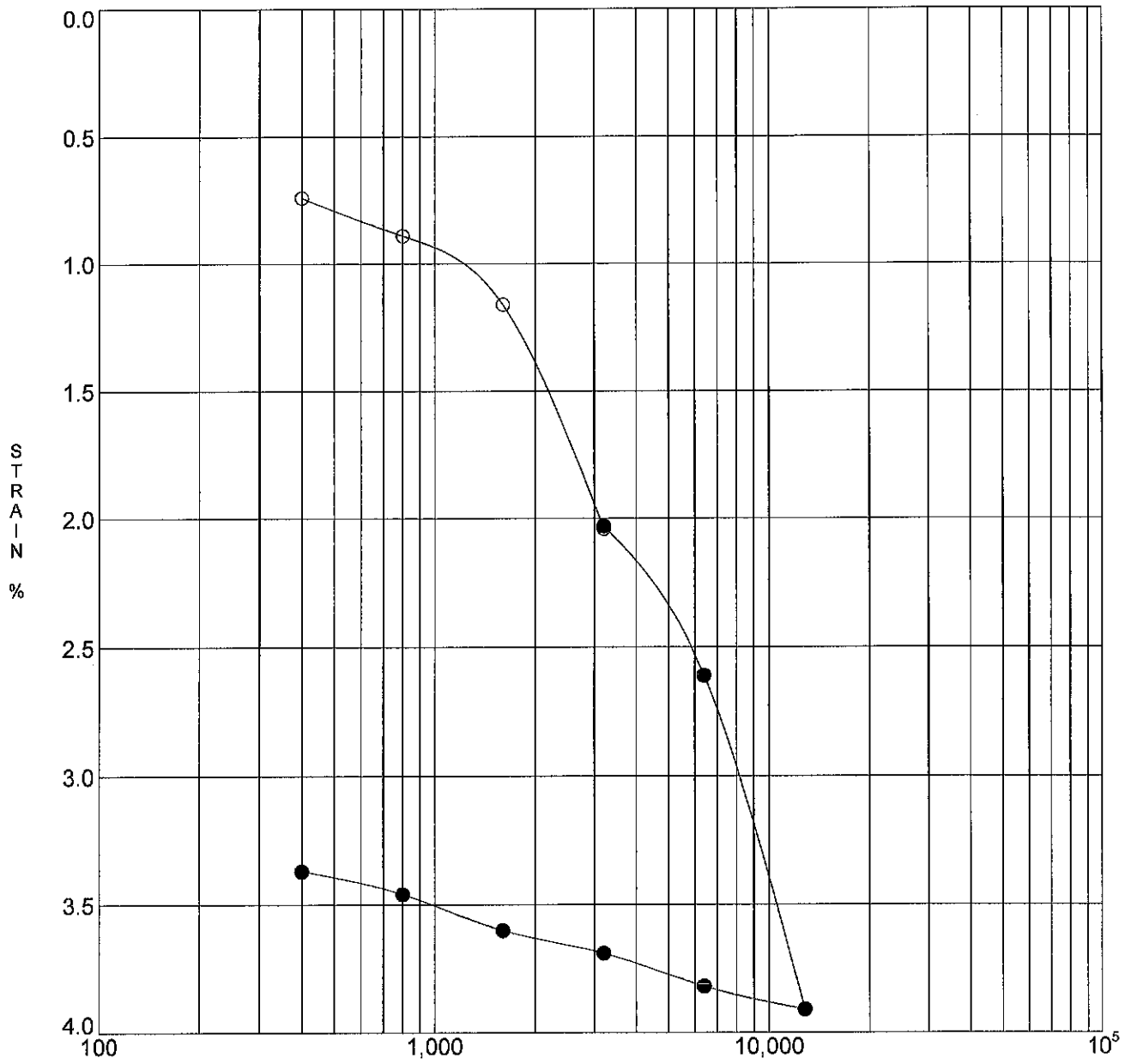
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-17



Legend

○ Before water

● After water

Specimen Identification			Classification	DD	MC%
●	**B-11**	**50.0**	**SANDY CLAY (CL)**	**124**	**12**
⊠					
▲					
★					
⊙					
✿					

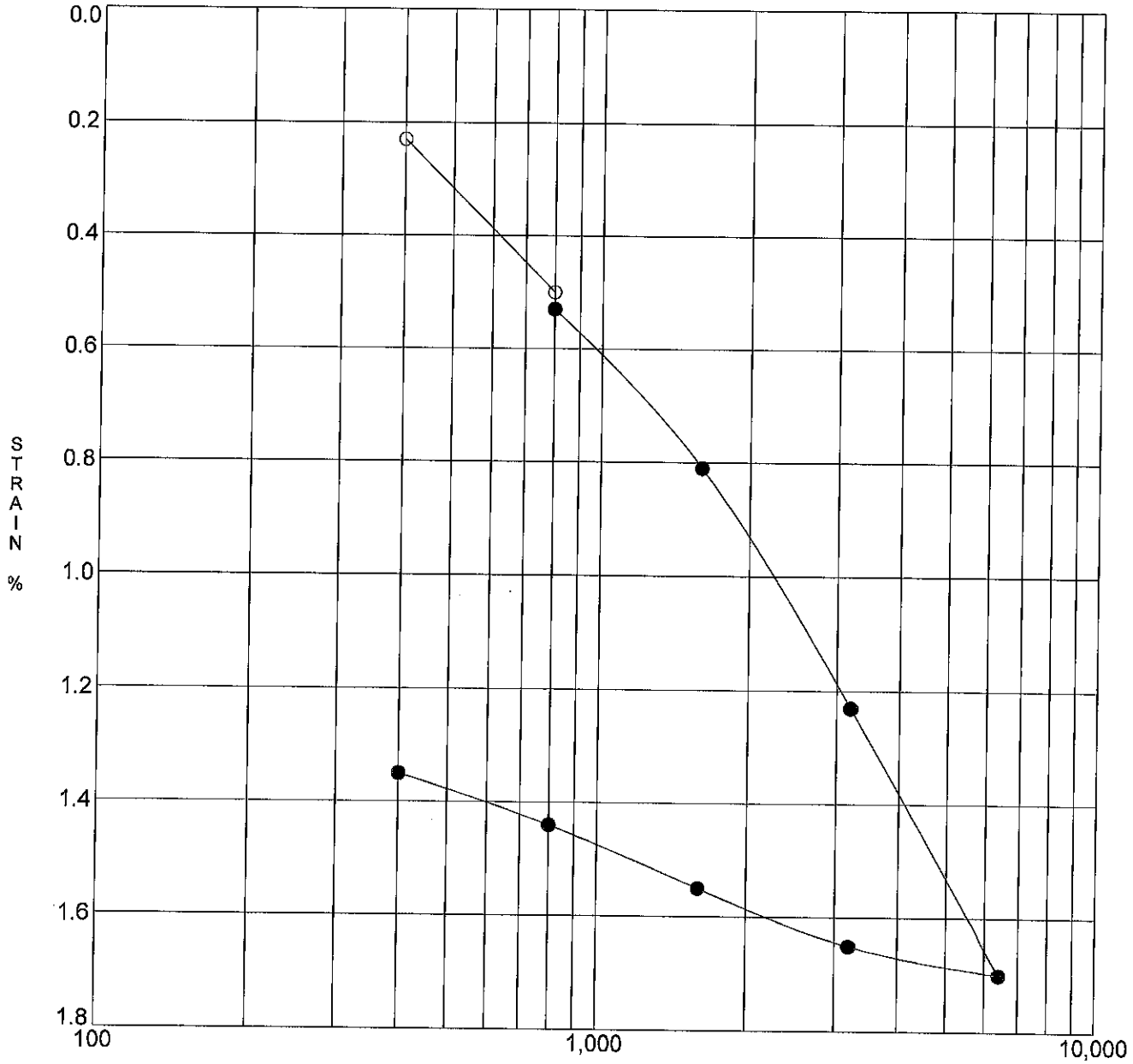
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-18



Specimen Identification		Classification	DD	MC%
● B-12	7.5	SAND (SP)	98	21
⊠				
▲				
★				
⊙				
✿				

PROJECT **Angel's Stadium Master Plan - Anaheim, CA**

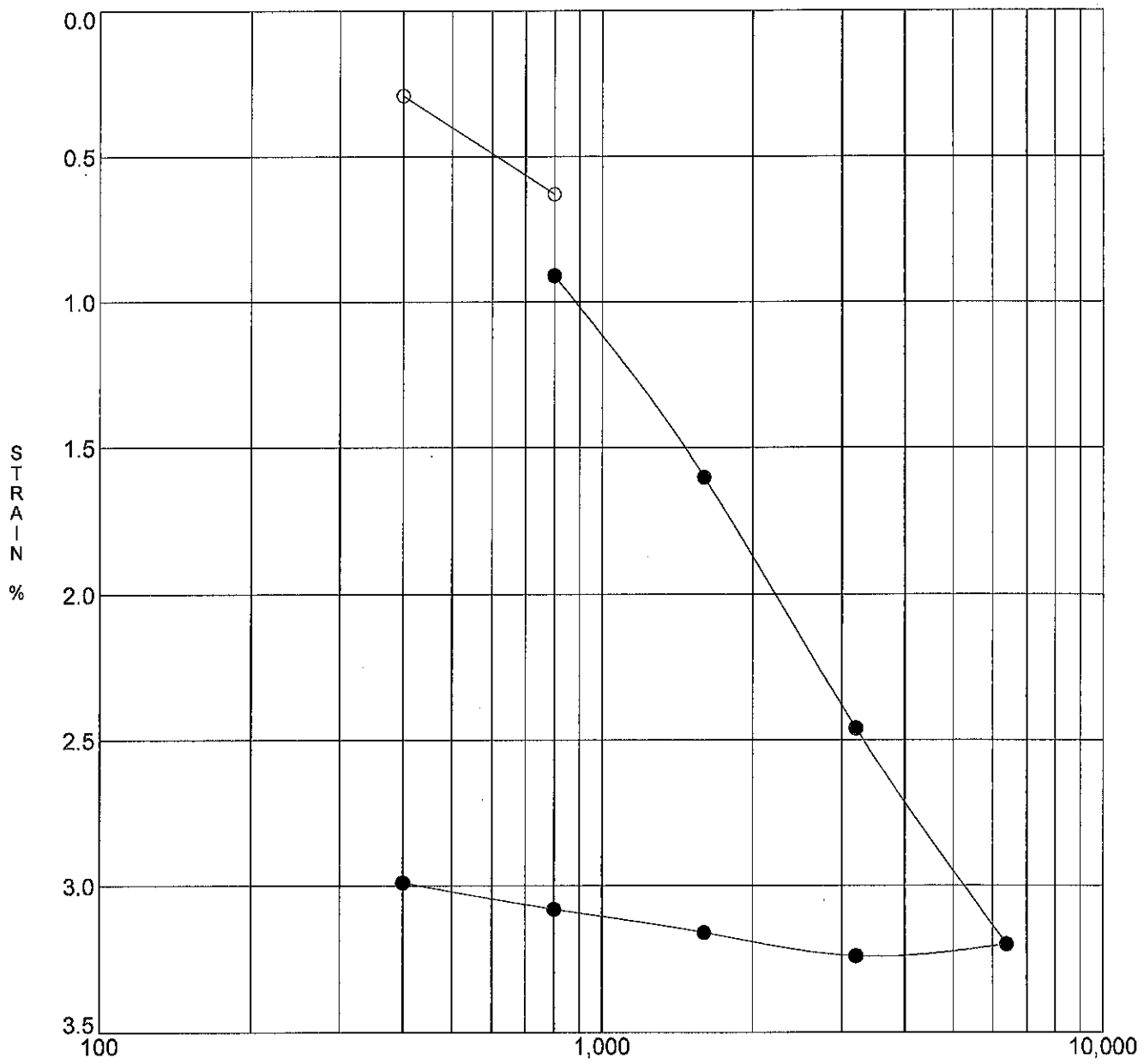
JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-19



Legend

○ Before water

● After water

Specimen Identification		Classification	DD	MC%
● B-12	22.5	**SILTY SAND (SM)**	**95**	**23**
⊠				
▲				
★				
⊙				
✿				

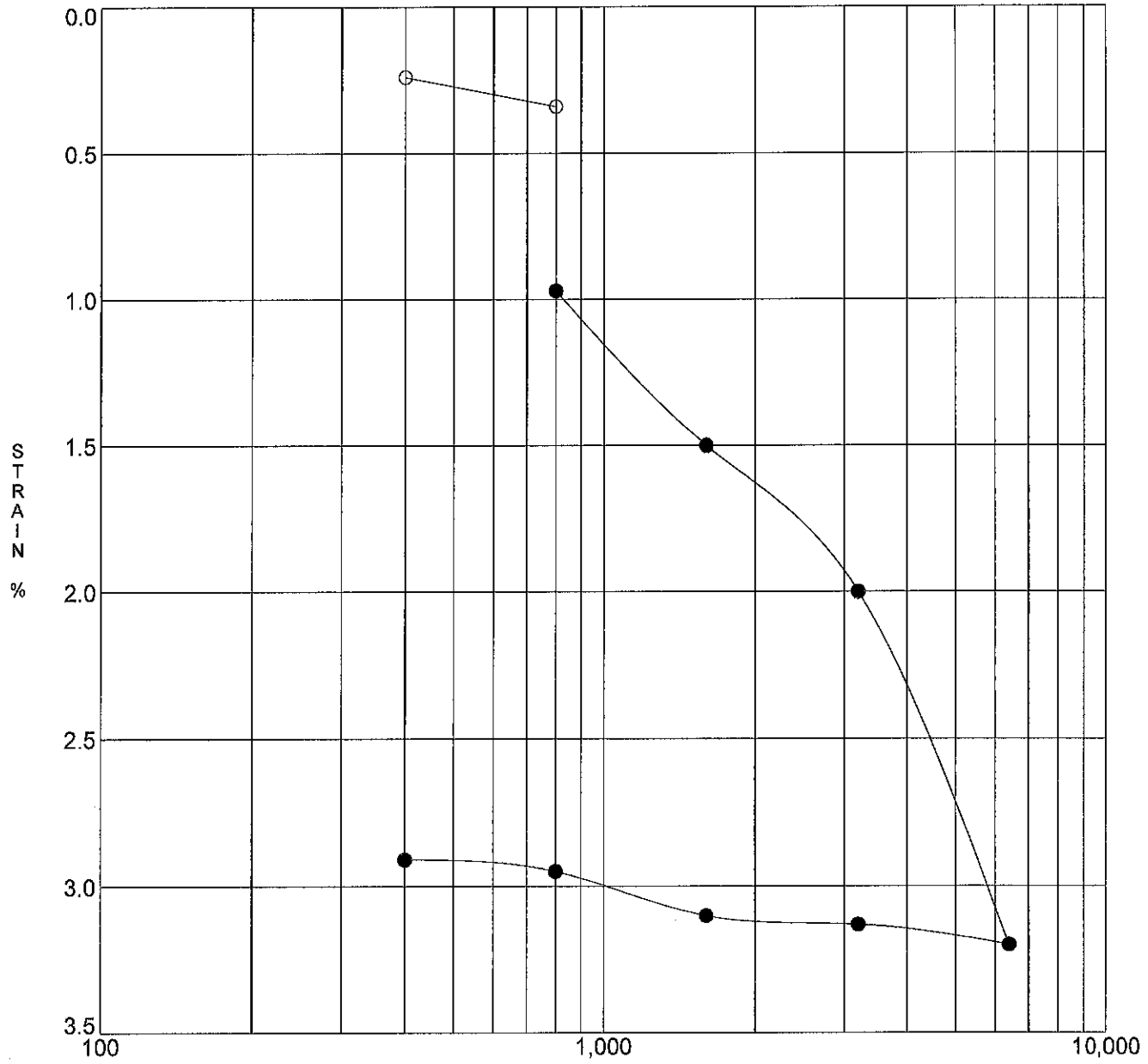
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-20



Legend

○ Before water

● After water

Specimen Identification		Classification	DD	MC%
● B-12	35.0	**SAND (SP)**	**100**	**20**
⊠				
▲				
★				
⊙				
✿				

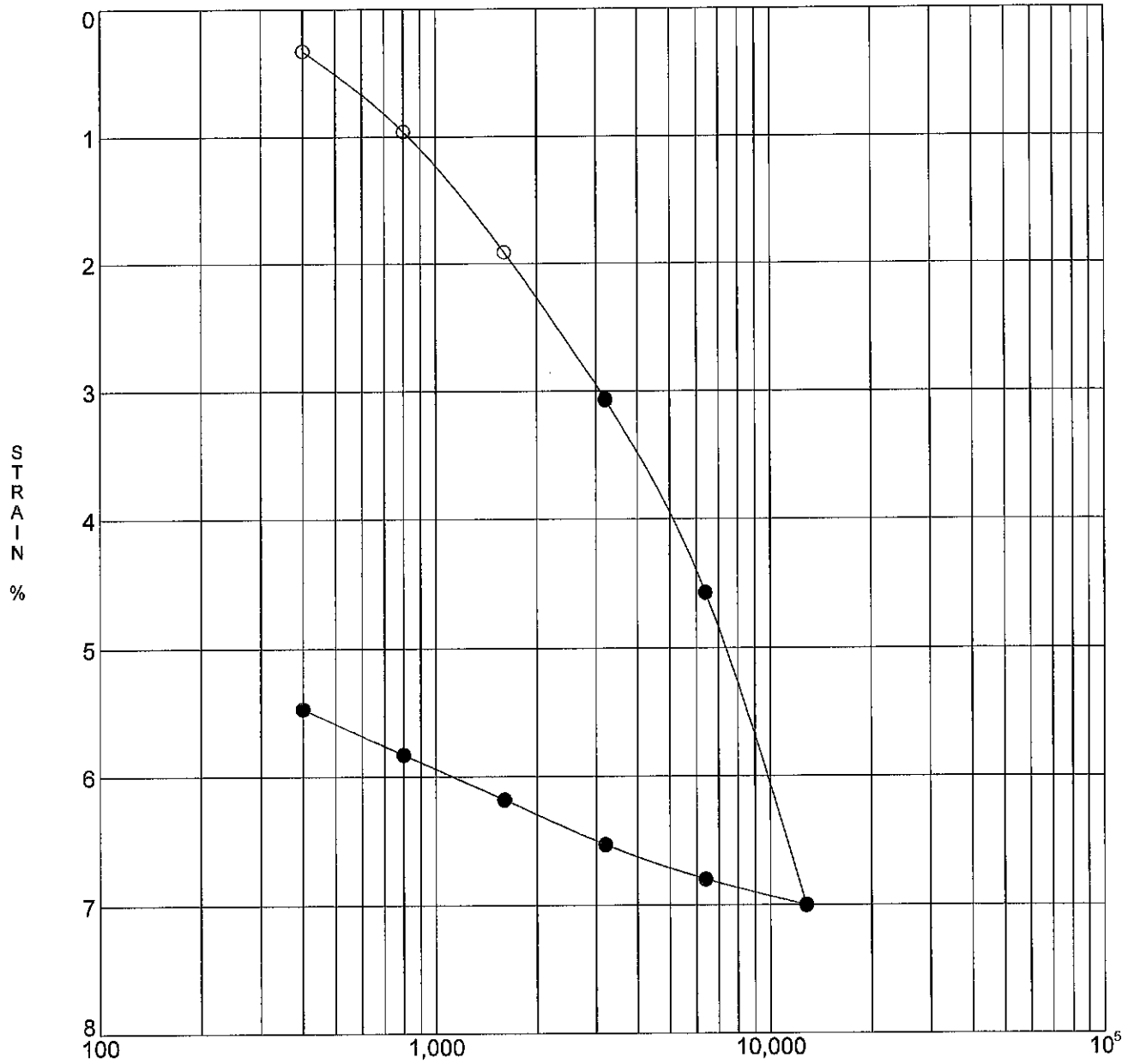
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-21



Legend

○ Before water

● After water

Specimen Identification			Classification	DD	MC%
●	B-12	70.0	**SANDY SILT (ML)**	**104**	**22**
⊠					
▲					
★					
⊙					
✿					

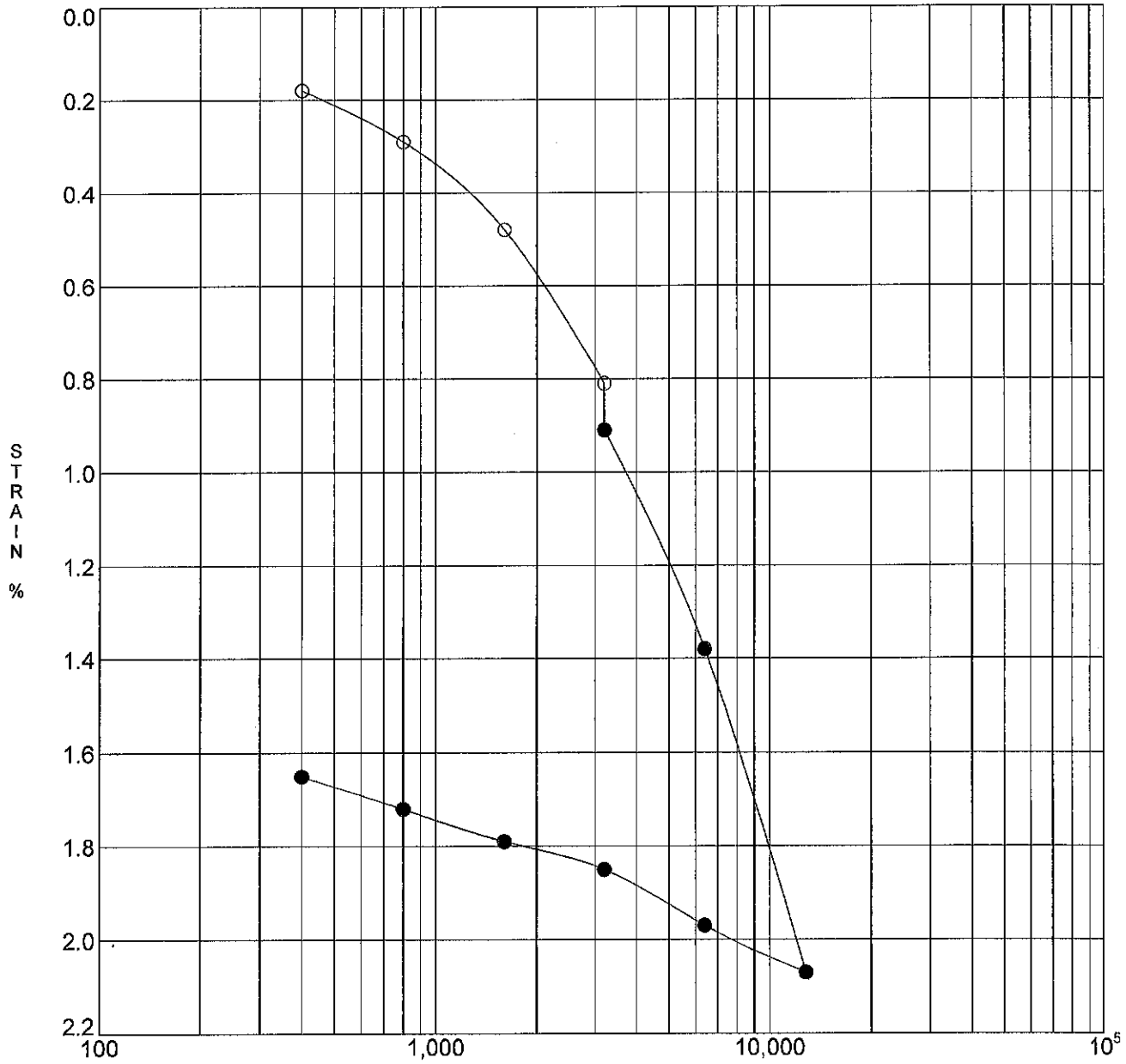
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-22



Legend

○ Before water

● After water

Specimen Identification		Classification	DD	MC%
● B-12	90.0	**GRAVELLY SAND (SP)**	**110**	**17**
⊠				
▲				
★				
⊙				
✪				

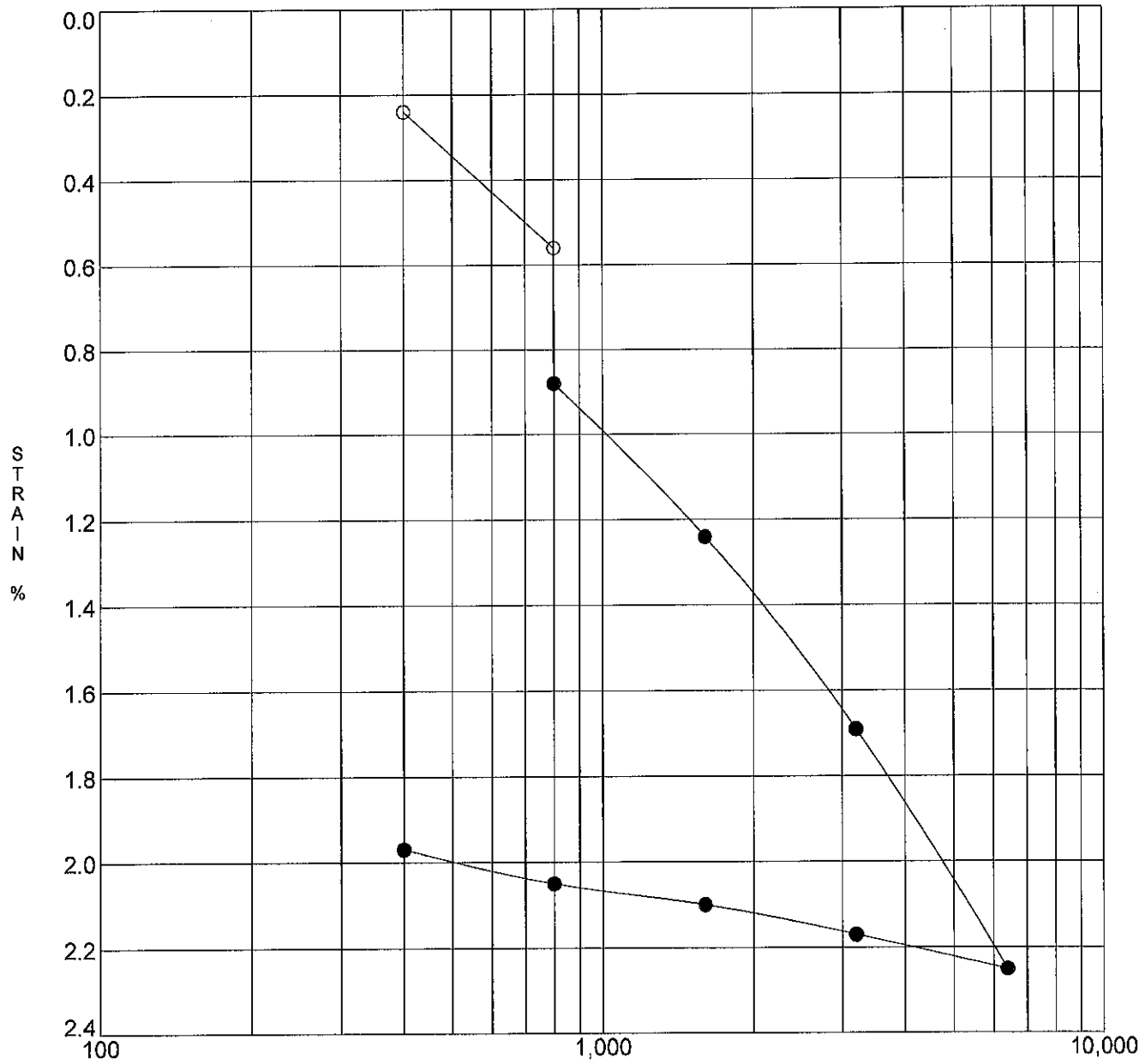
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-23



Legend

○ Before water

● After water

Specimen Identification		Classification	DD	MC%
●	B-14 7.5	**SAND (SP)**	**94**	**21**
⊠				
▲				
★				
⊙				
✿				

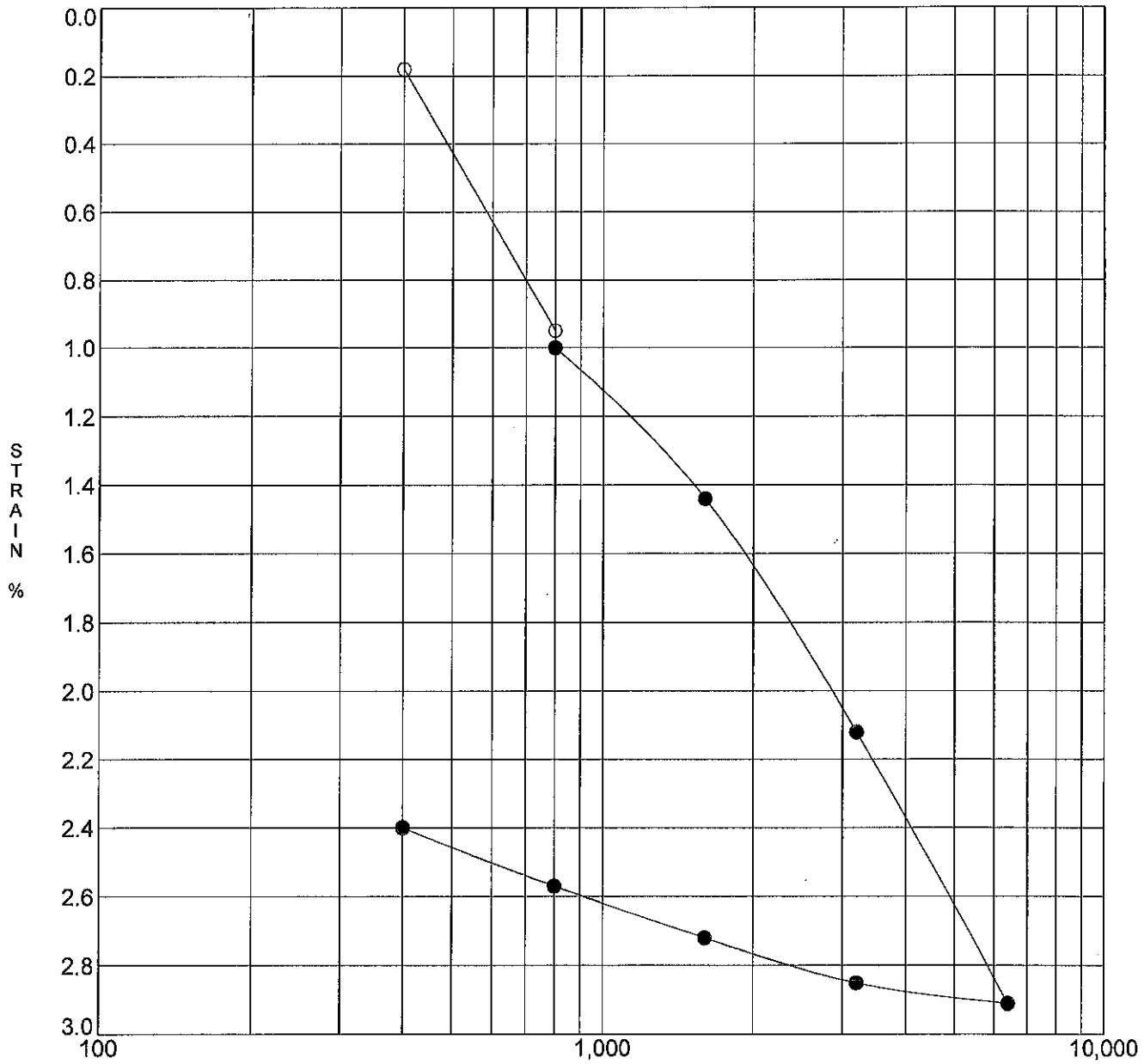
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-24



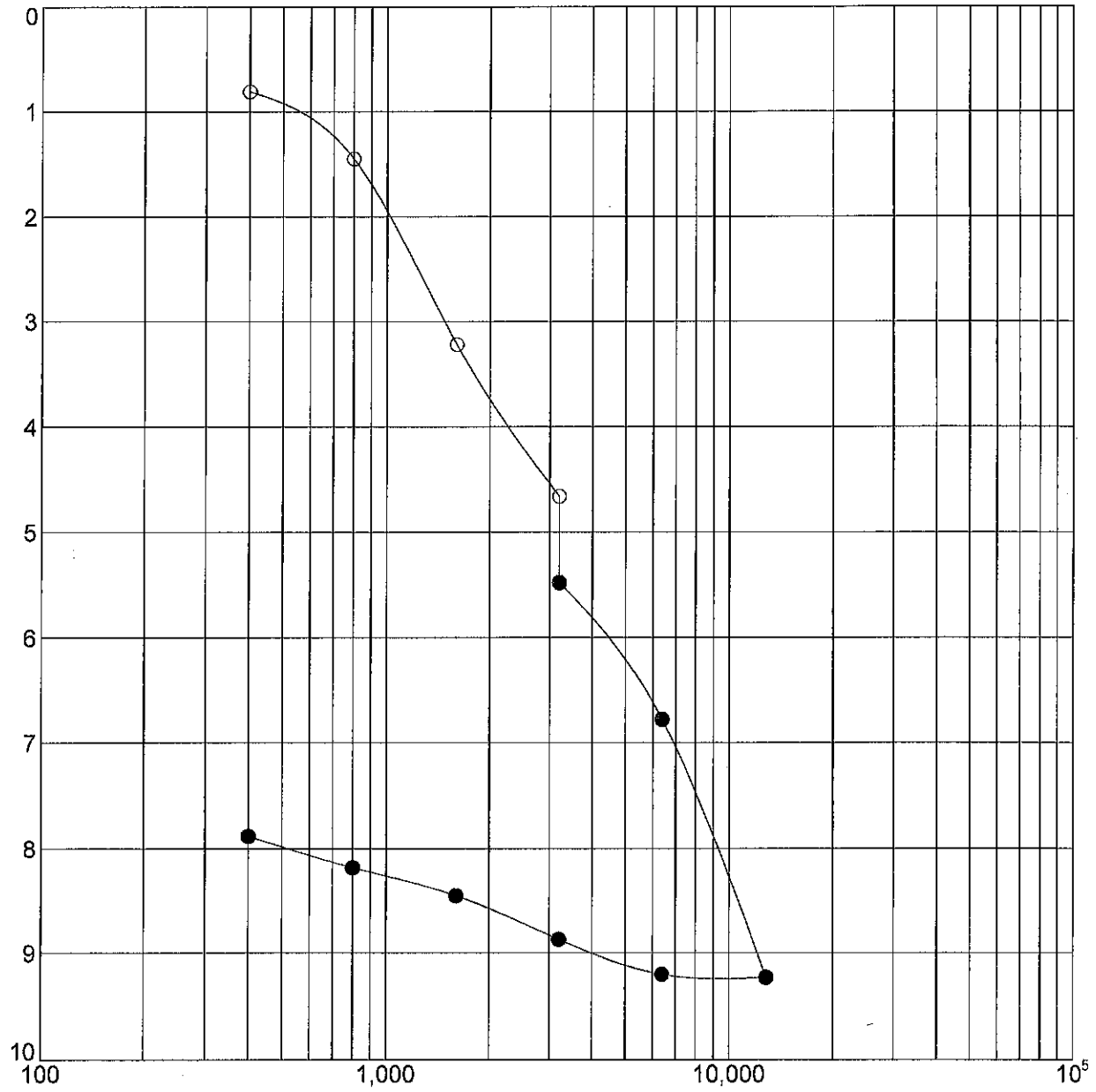
Specimen Identification		Classification	DD	MC%
● B-14 20.0		SILTY SAND (SM)	114	15
▣				
▲				
★				
⊙				
✿				

PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**
DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-25



Legend

○ Before water

● After water

Specimen Identification			Classification	DD	MC%
●	B-16	55.0	SANDY SILT (ML)	102	23
⊠					
▲					
★					
⊙					
✿					

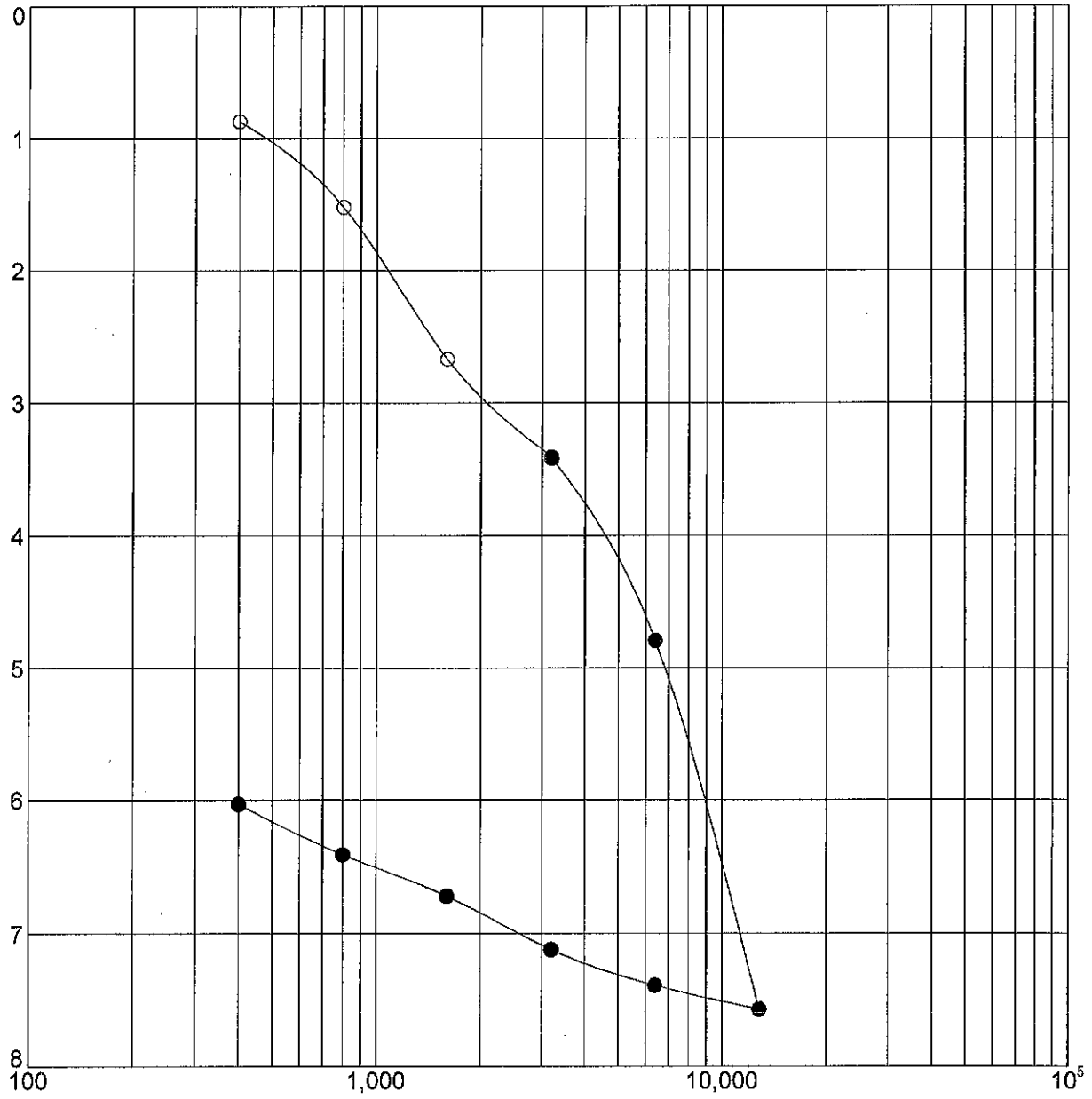
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-26



Legend

○ Before water

● After water

Specimen Identification			Classification	DD	MC%
●	B-16	75.0	CLAYEY SILT (ML)	105	22
⊠					
▲					
★					
⊙					
✿					

PROJECT **Angel's Stadium Master Plan - Anaheim, CA**

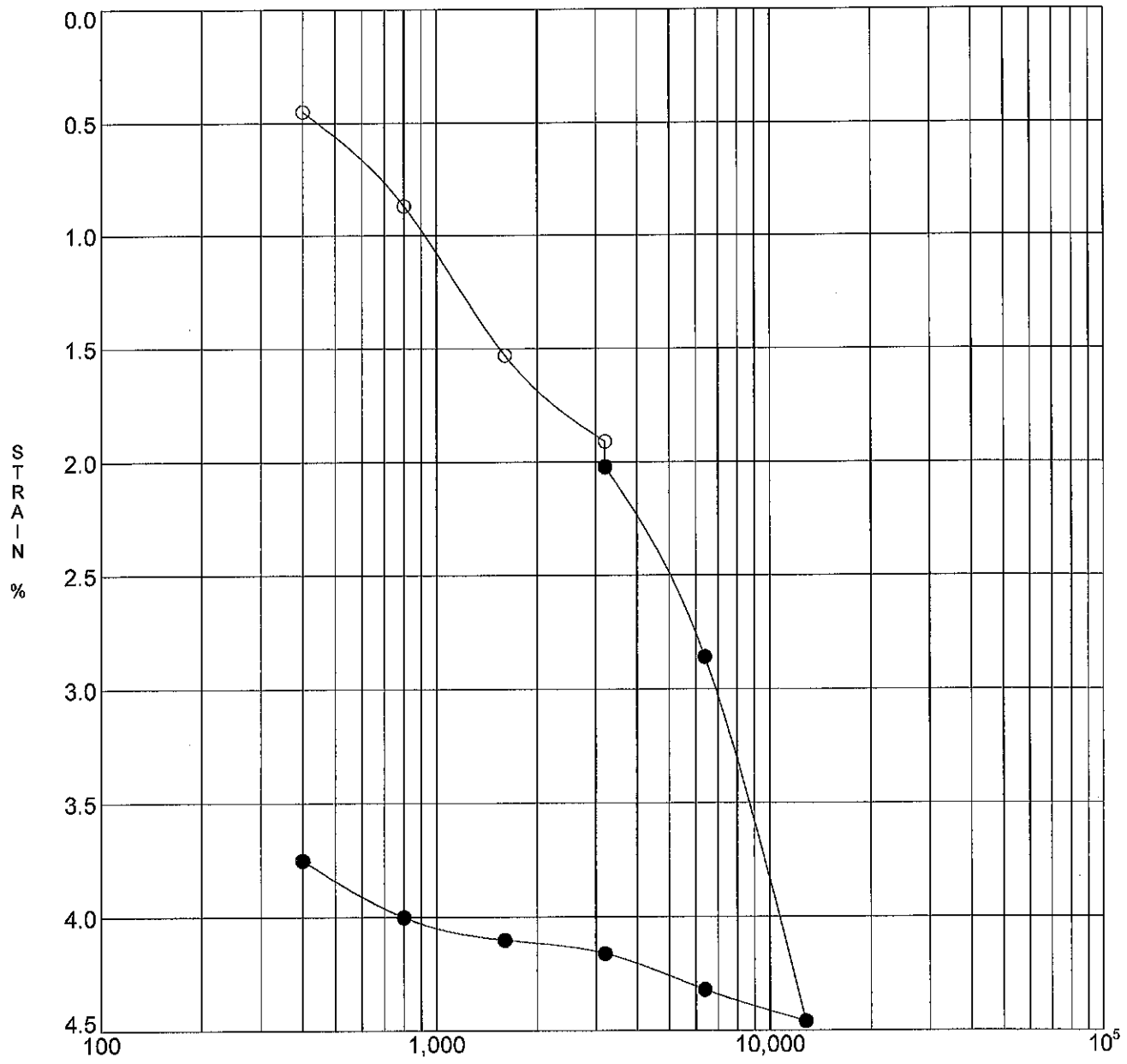
JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-27



Legend

○ Before water

● After water

Specimen Identification			Classification	DD	MC%
●	B-16	100.0	CLAYEY SILT (ML)	112	18
⊠					
▲					
★					
⊙					
✿					

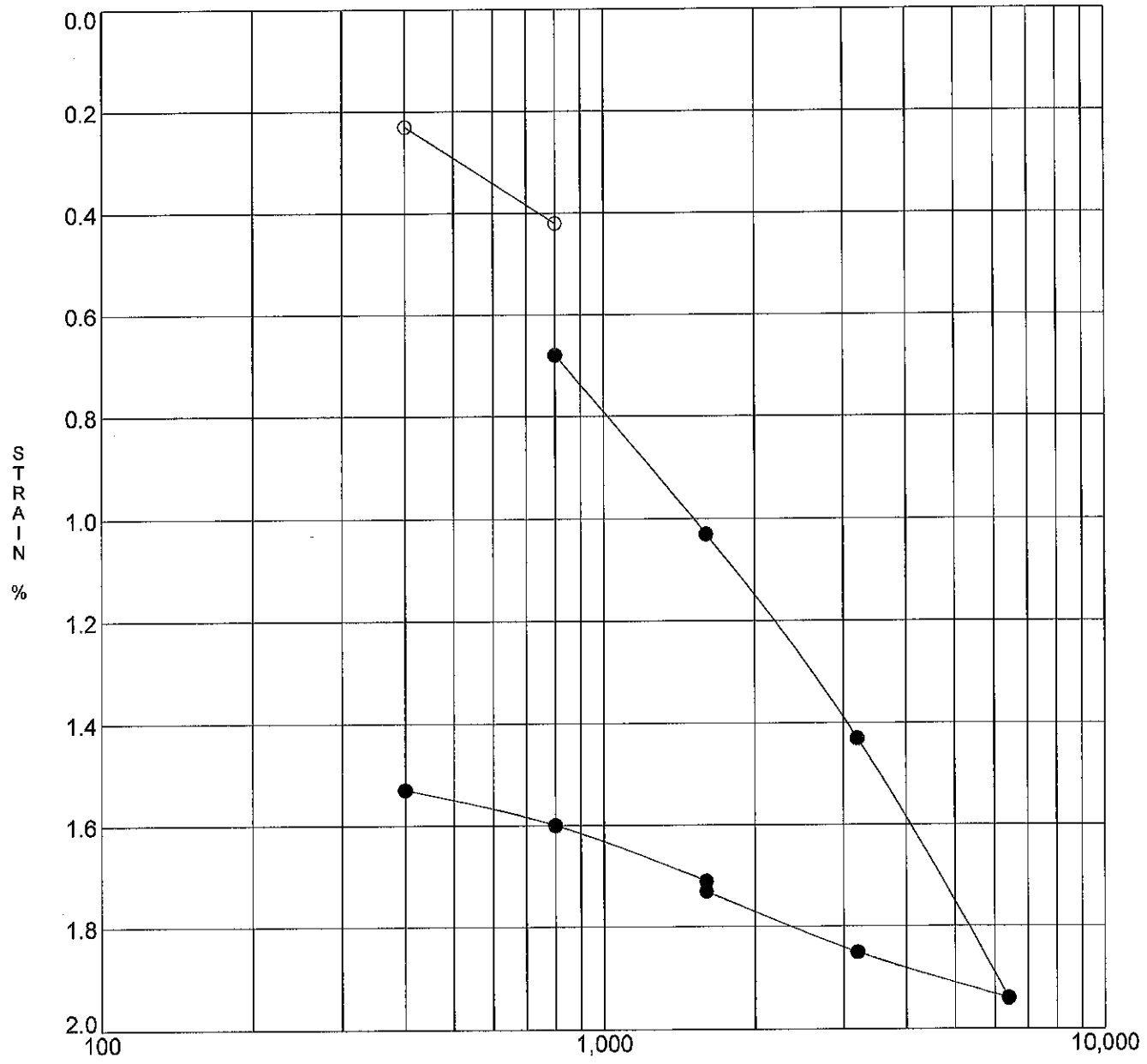
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-28



Legend

○ Before water

● After water

	Specimen Identification		Classification	DD	MC%
●	B-19	5.0	SAND (SP)	97	22
⊠					
▲					
★					
⊙					
✿					

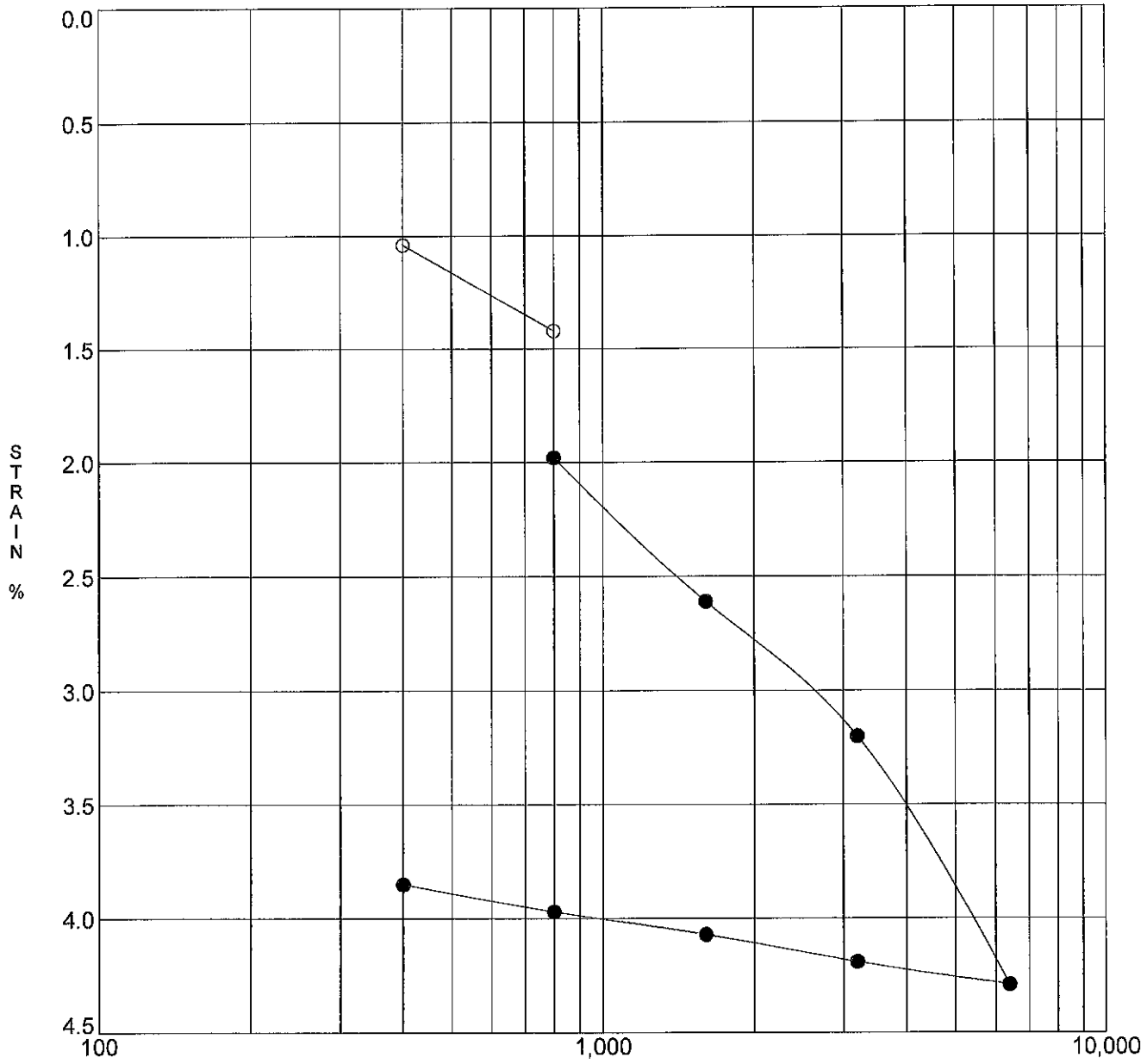
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/22/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-29



Legend

○ Before water

● After water

Specimen Identification		Classification	DD	MC%
● B-19	15.0	**SAND (SP)**	**112**	**19**
⊠				
▲				
★				
⊙				
✿				

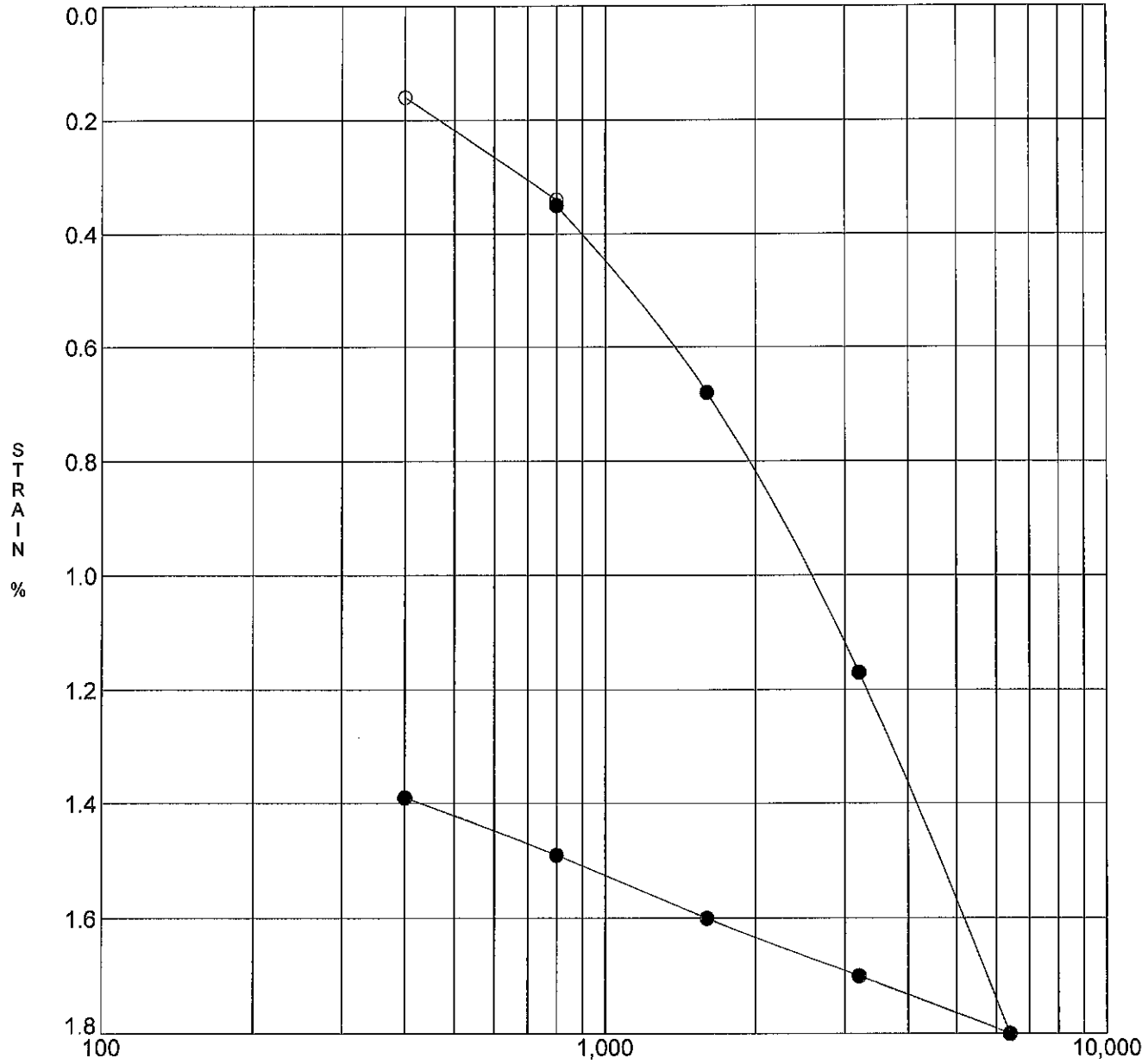
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/23/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-30



Legend

○ Before water

● After water

Specimen Identification			Classification	DD	MC%
●	B-19	25.0	CLAYEY SAND (SC)	120	13
⊠					
▲					
★					
⊙					
✿					

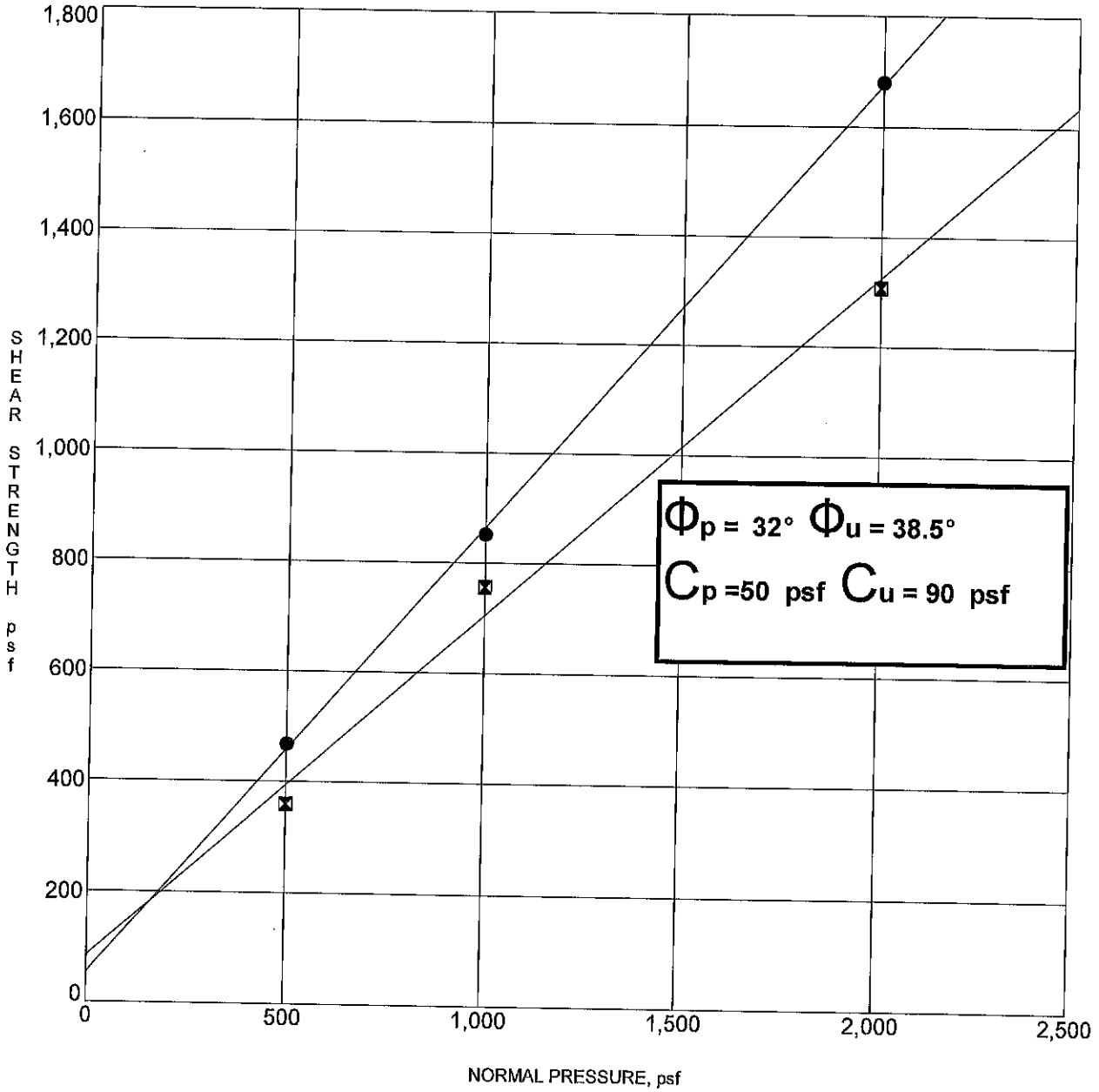
PROJECT **Angel's Stadium Master Plan - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/23/20**

CONSOLIDATION TEST

Harrington Geotechnical Engineering, Inc.

PLATE B-31



	Specimen Identification		Classification	DD	MC%
●	B-1	5.0	SAND (SP) (Peak)	102	24
⊠	B-1	5.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

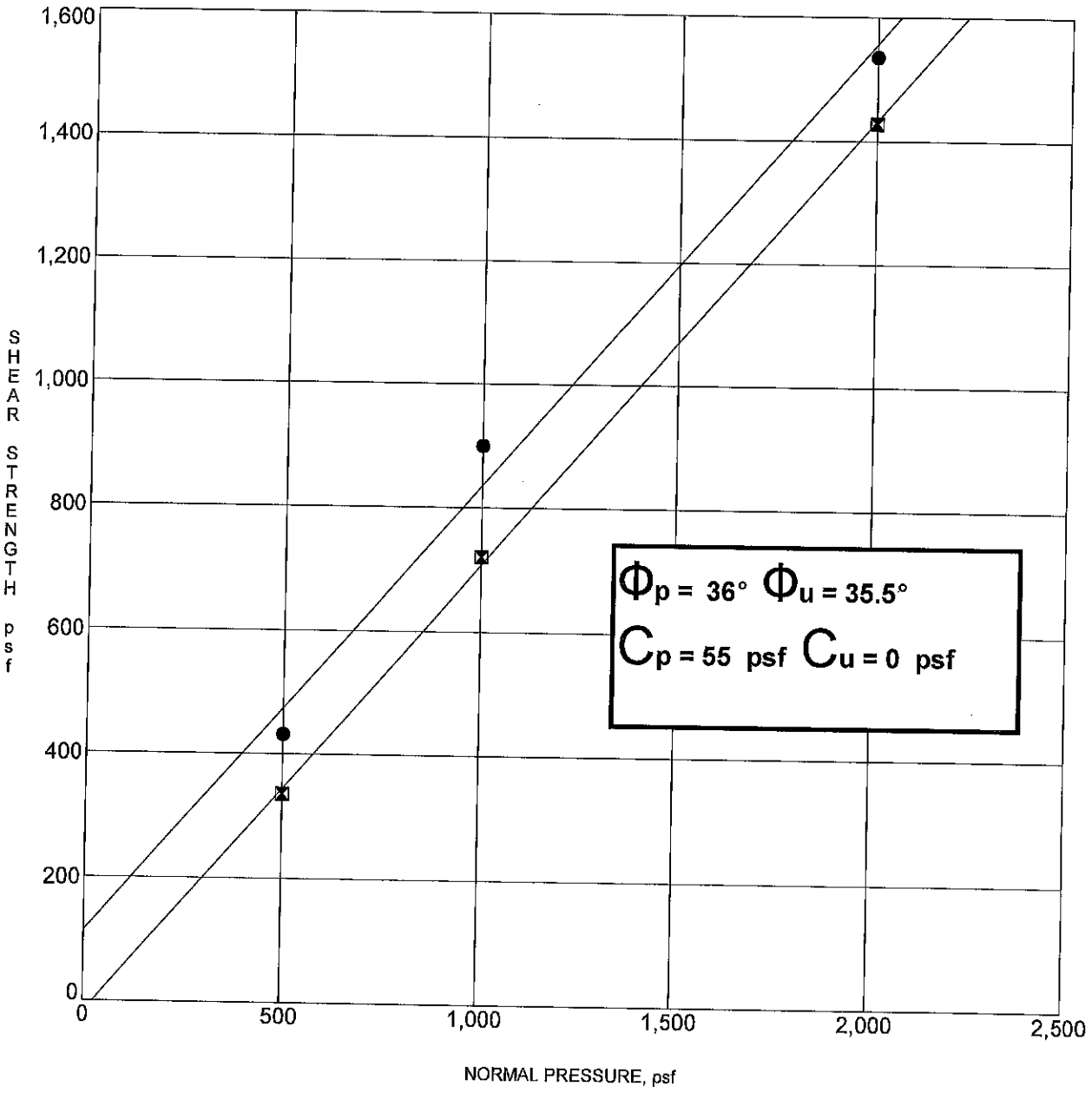
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-32



Specimen Identification			Classification	DD	MC%
●	B-1	10.0	SAND (SP) (Peak)	91	22
⊠	B-1	10.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

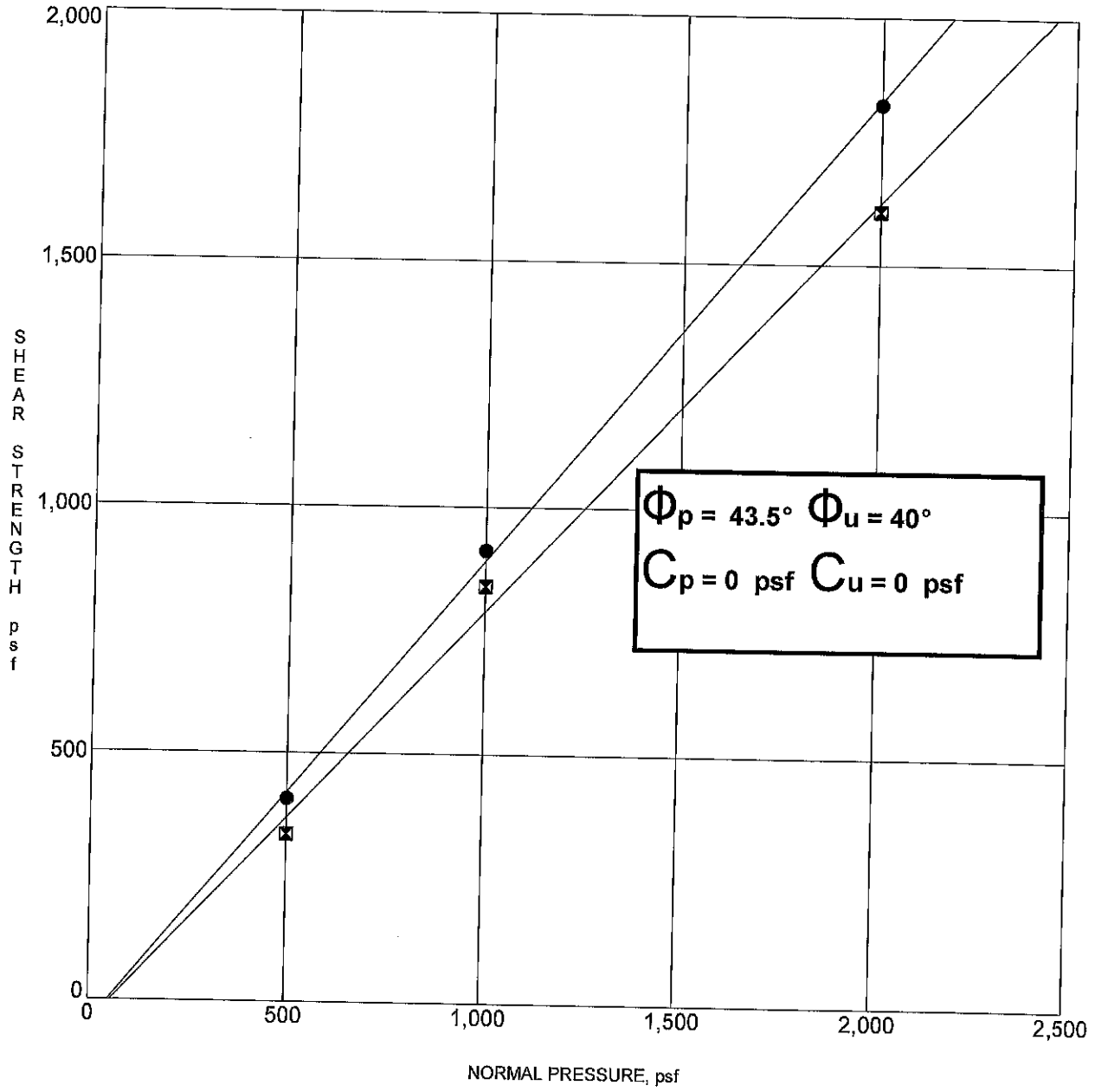
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-33



Specimen Identification			Classification	DD	MC%
●	B-1	15.0	SAND (SP) (Peak)	96	22
⊠	B-1	15.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

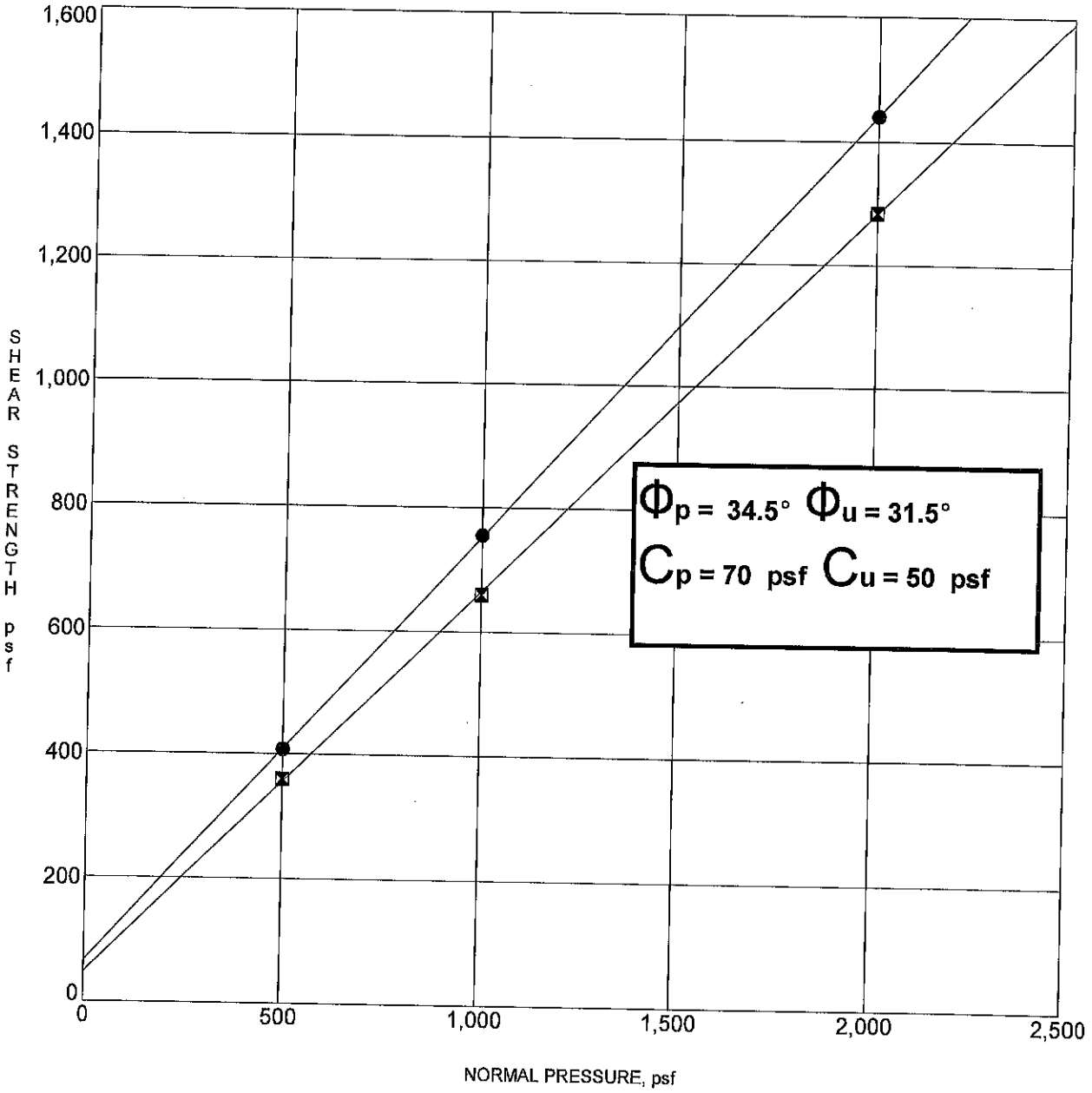
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-34



Specimen Identification			Classification	DD	MC%
●	B-1	22.5	SILTY SAND (SM) (Peak)	97	24
⊠	B-1	22.5	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

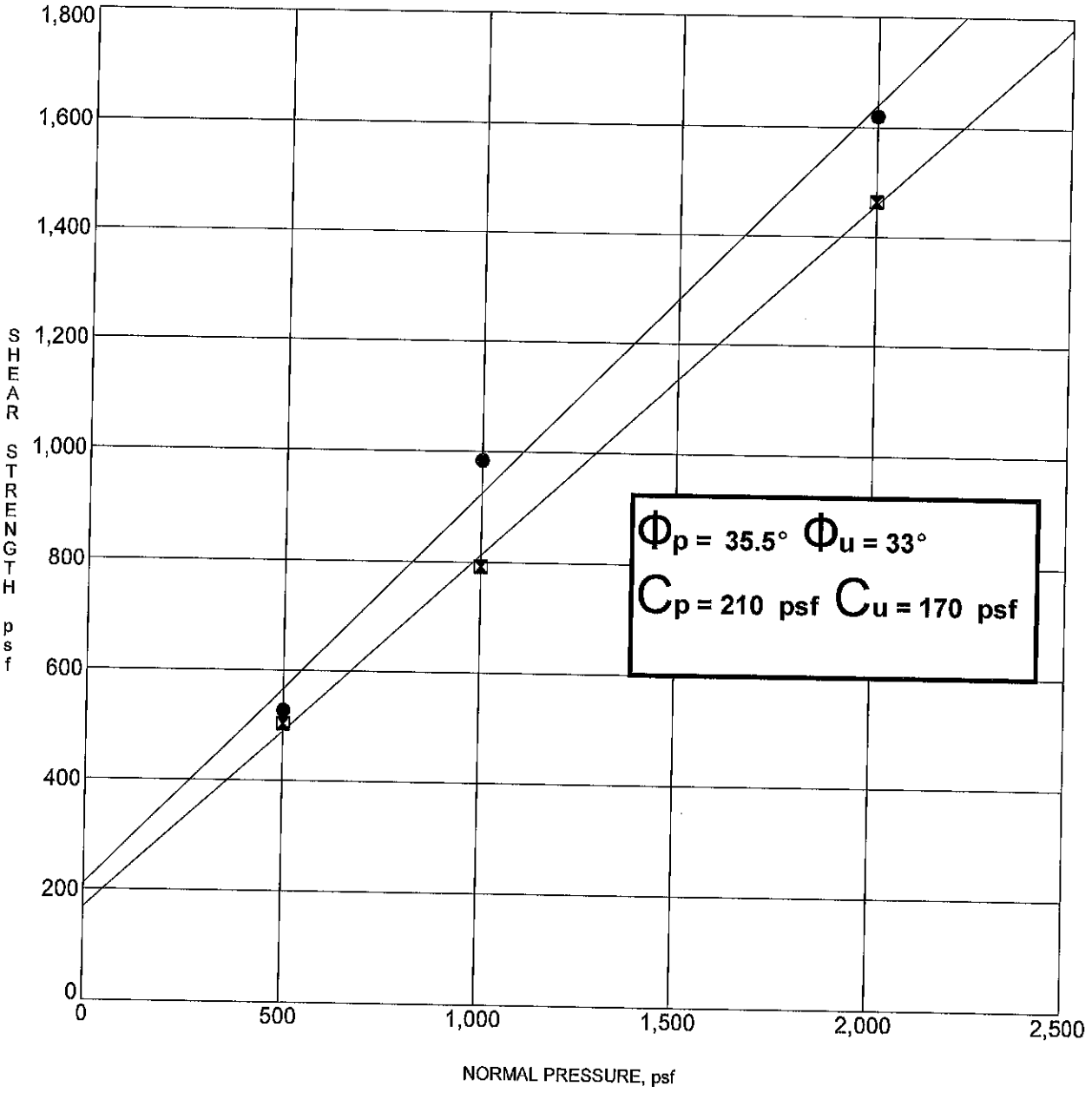
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-35



Specimen Identification			Classification	DD	MC%
●	B-2	7.5	SAND (SP) (Peak)	93	25
⊠	B-2	7.5	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

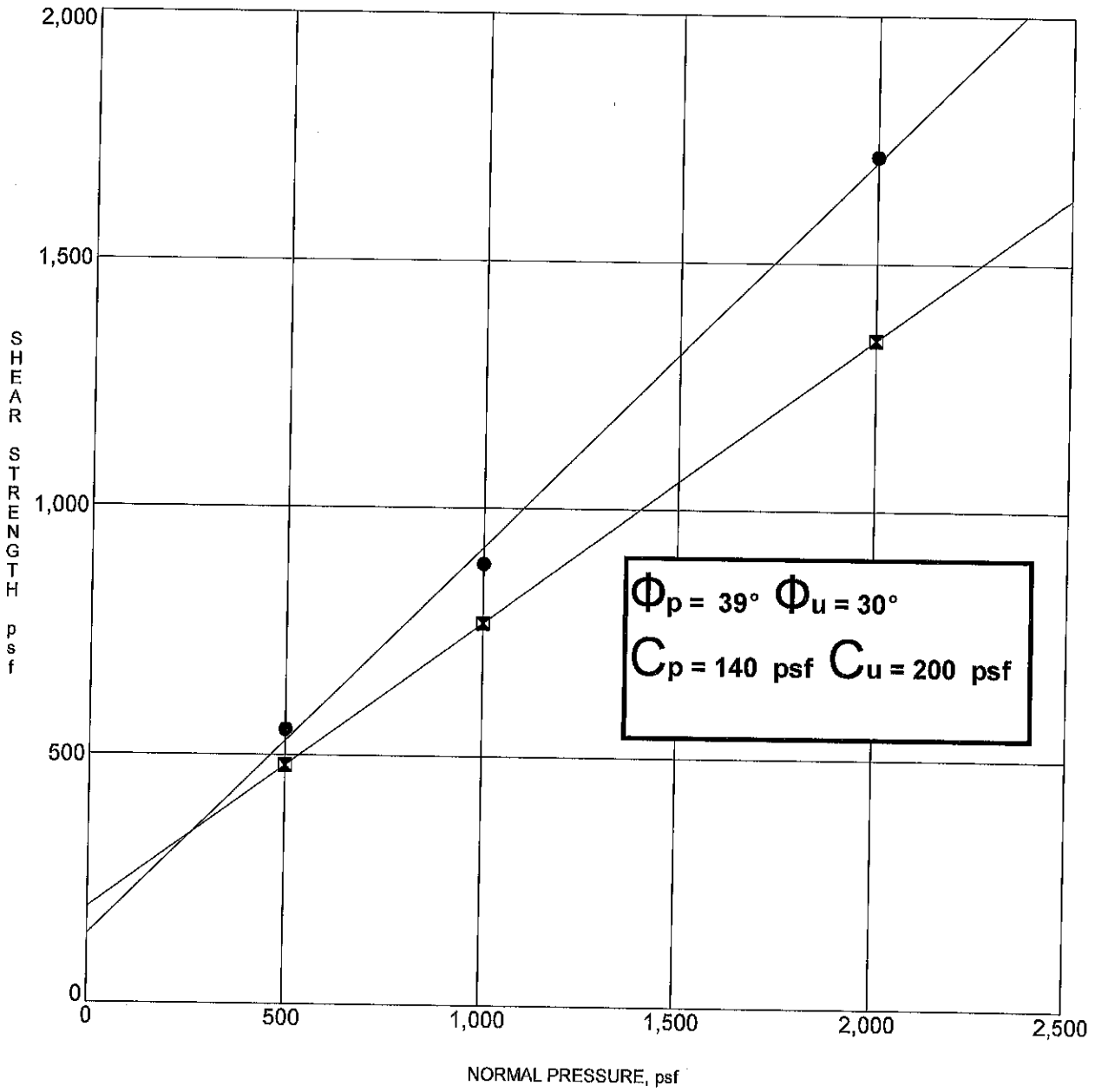
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-36



Specimen Identification			Classification	DD	MC%
●	B-2	17.5	SAND (SP) (Peak)	96	22
⊠	B-2	17.5	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

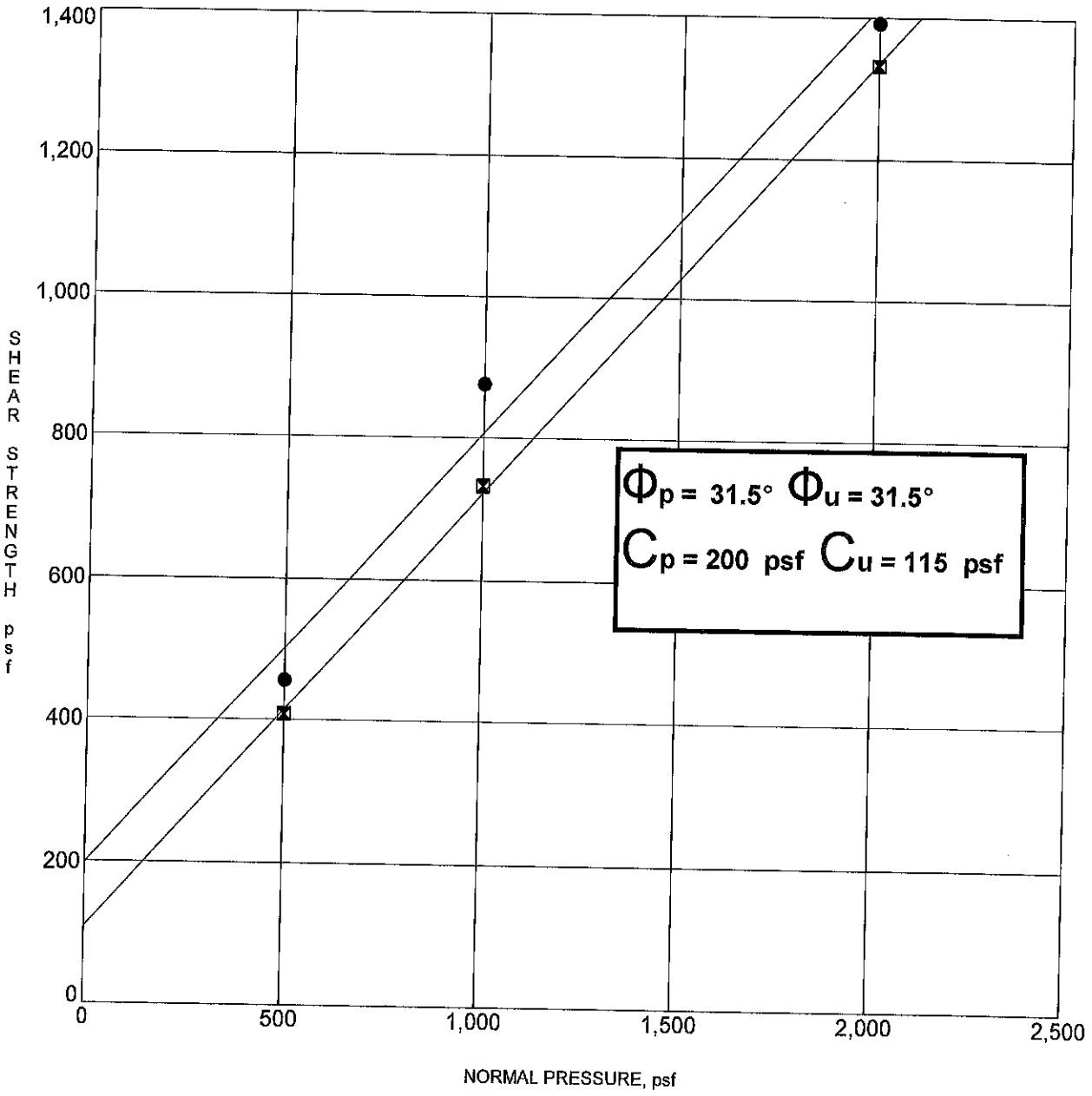
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-37



Specimen Identification			Classification	DD	MC%
●	B-2	30.0	SILTY SAND (SM) (Peak)	89	26
⊠	B-2	30.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

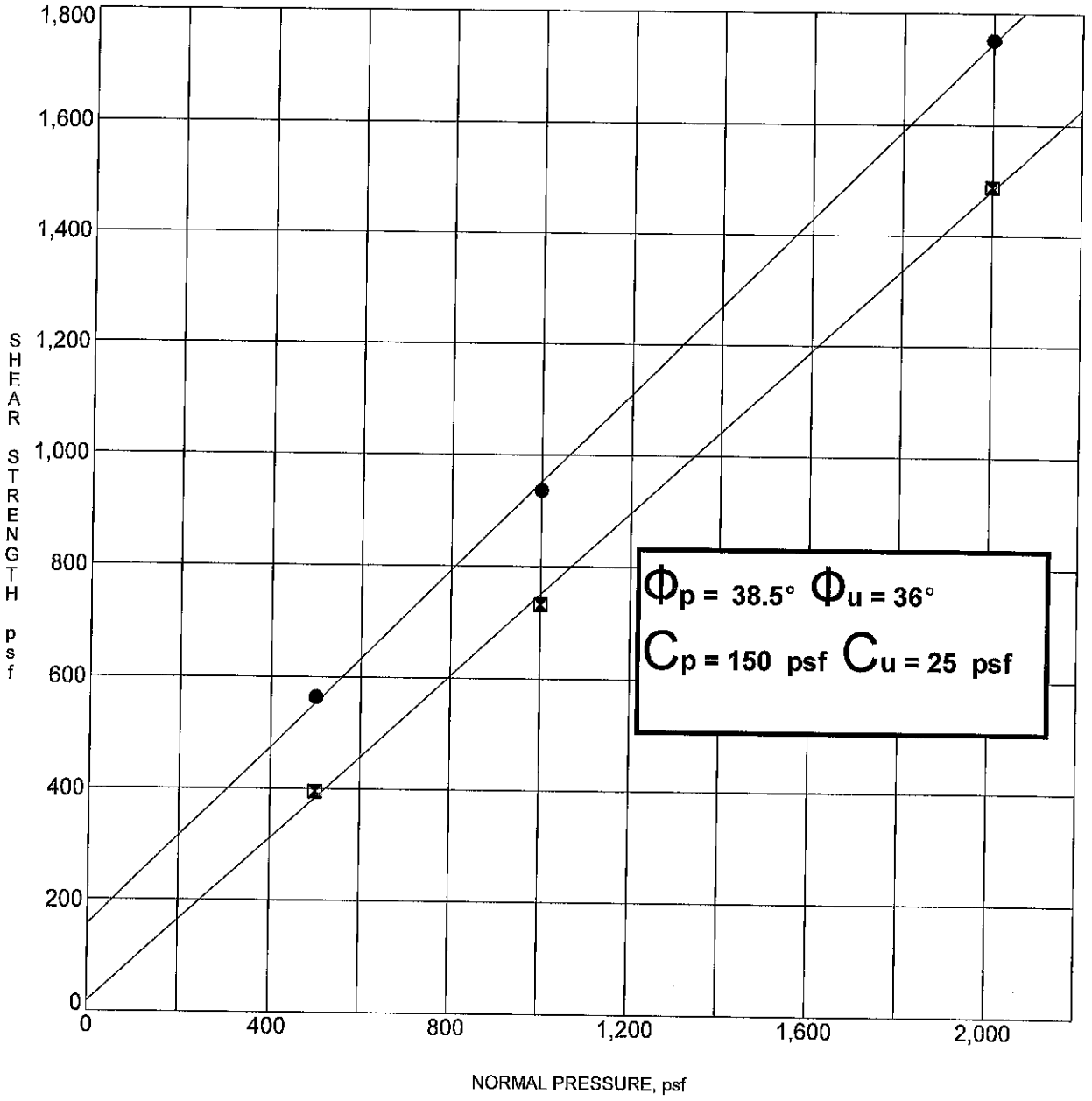
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-38



Specimen Identification			Classification	DD	MC%
●	B-3	20.0	SAND (SP) (Peak)	97	23
⊠	B-3	20.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

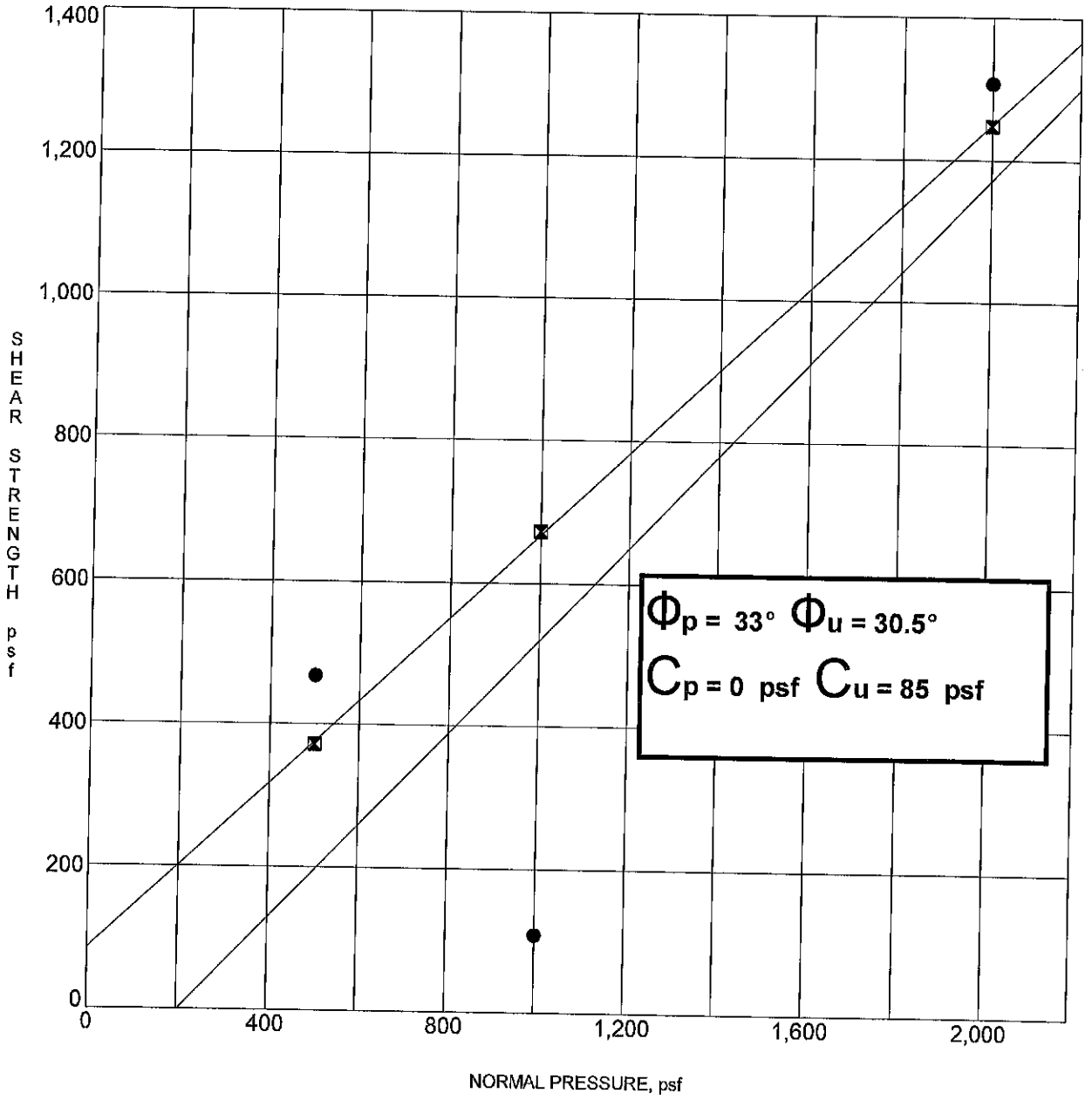
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-39



Specimen Identification			Classification	DD	MC%
●	B-3	40.0	SILTY SAND (SM) (Peak)	113	17
⊠	B-3	40.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

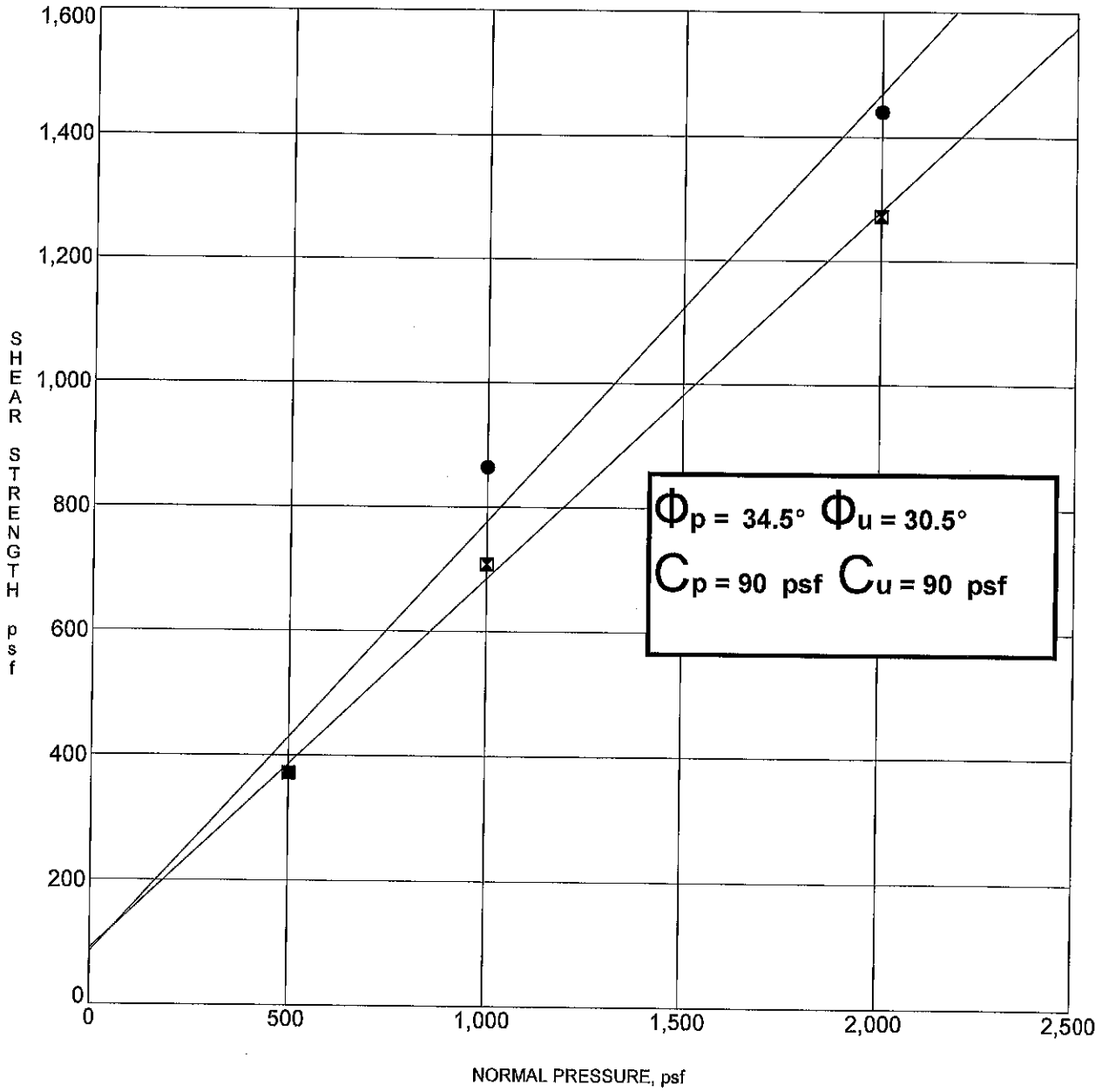
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-40



Specimen Identification			Classification	DD	MC%
●	B-4	0.0	SILTY SAND (SM) (Peak) (Remolded)	104	18
⊠	B-4	0.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

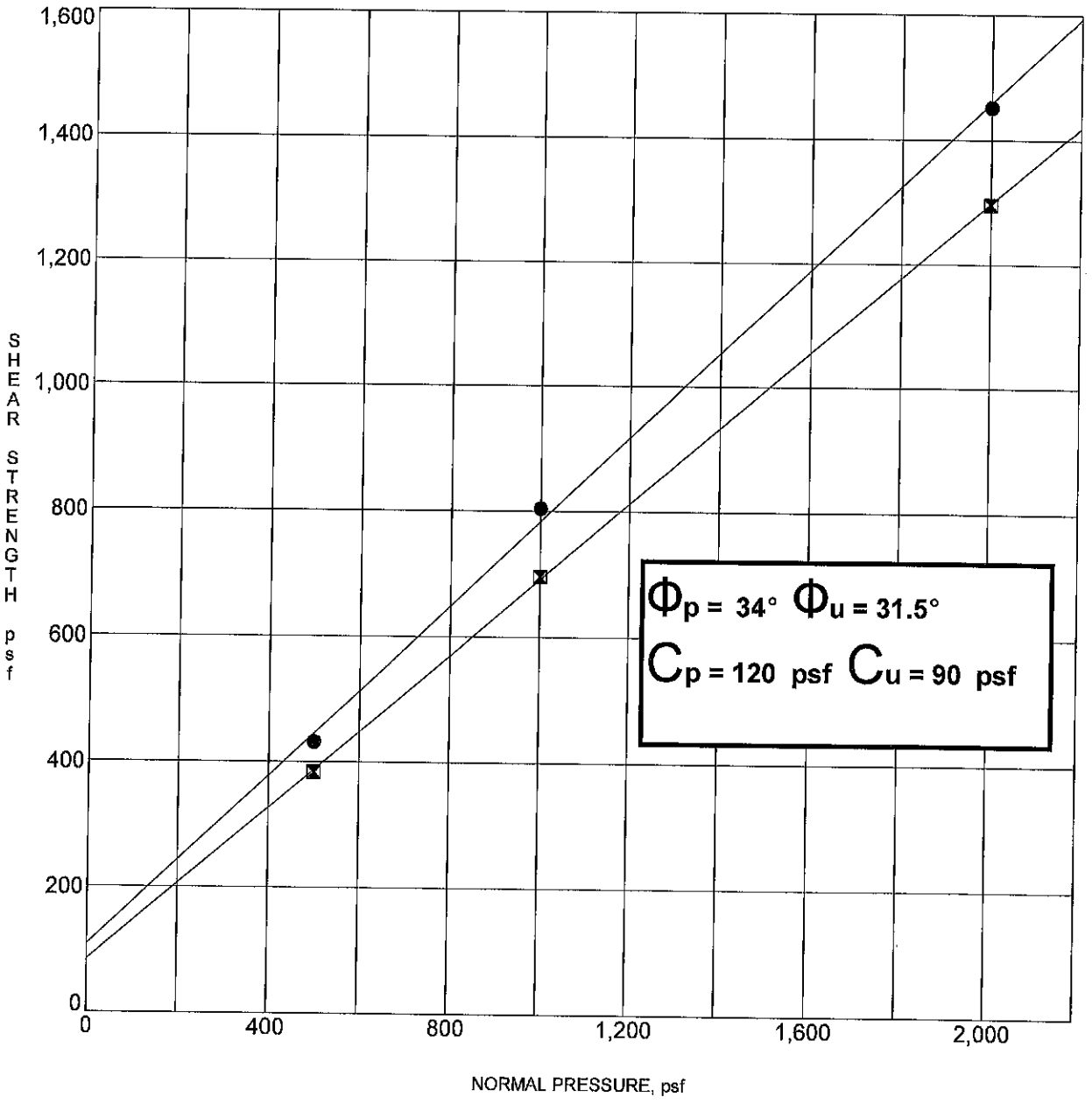
JOB NO. 20-01-3950

DATE 4/22/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-41



Specimen Identification			Classification	DD	MC%
●	B-5	20.0	SAND (SP) (Peak)	91	25
⊠	B-5	20.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

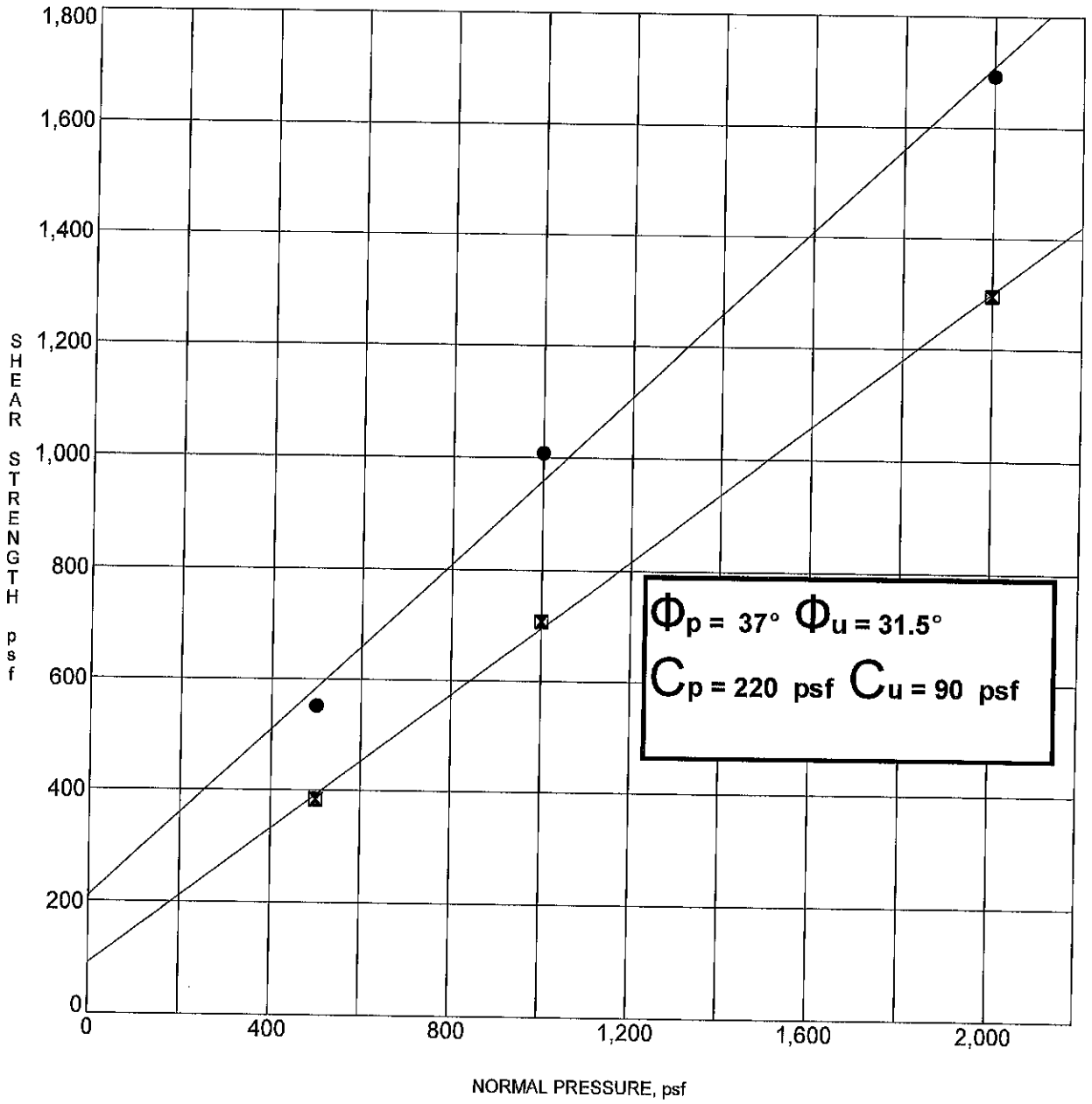
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-42



Specimen Identification			Classification	DD	MC%
●	B-5	30.0	SAND (SP) (Peak)	105	20
⊠	B-5	30.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

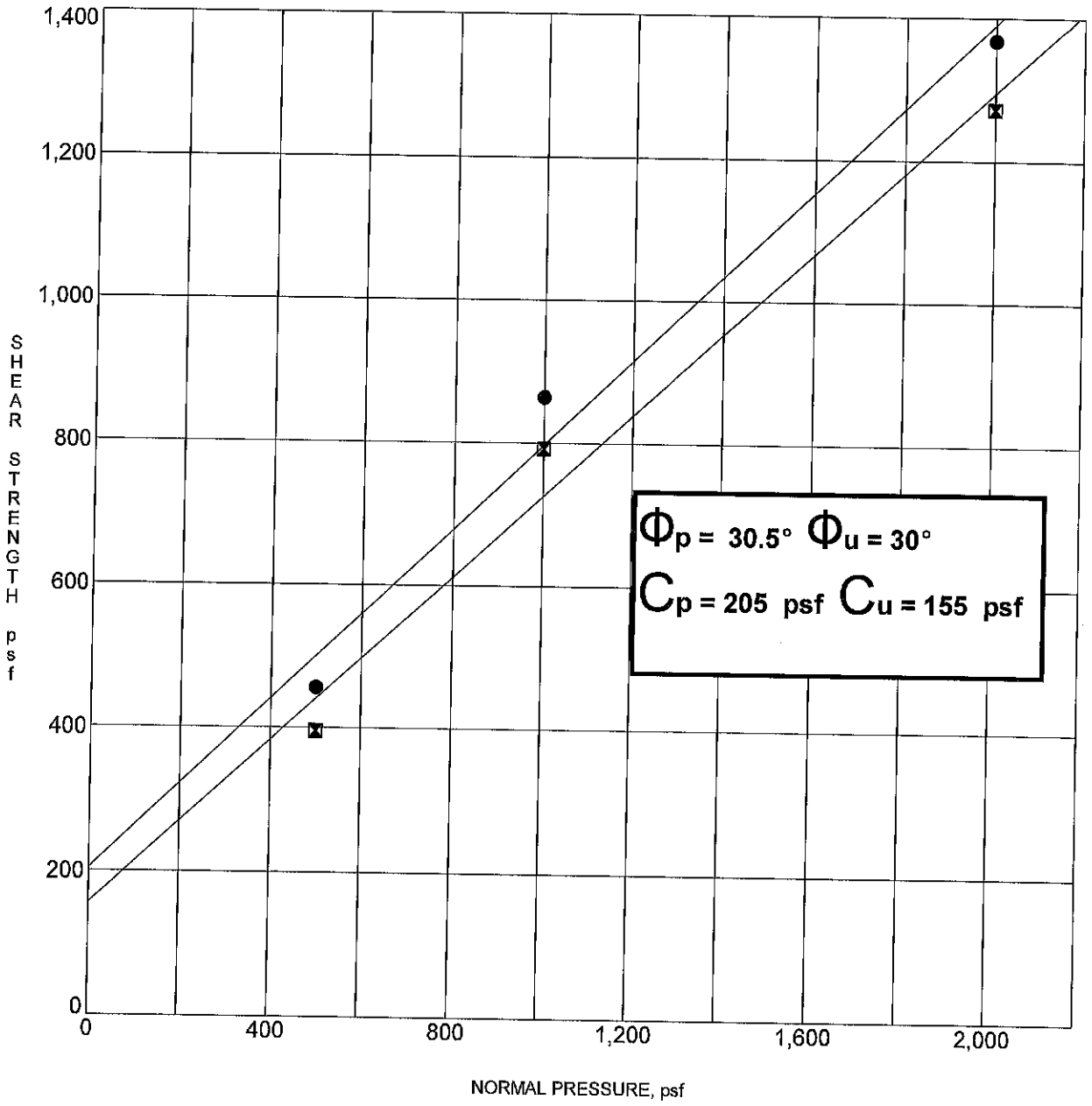
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-43



Specimen Identification			Classification	DD	MC%
●	B-7	5.0	SAND (SP) (Peak)	97	23
⊠	B-7	5.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

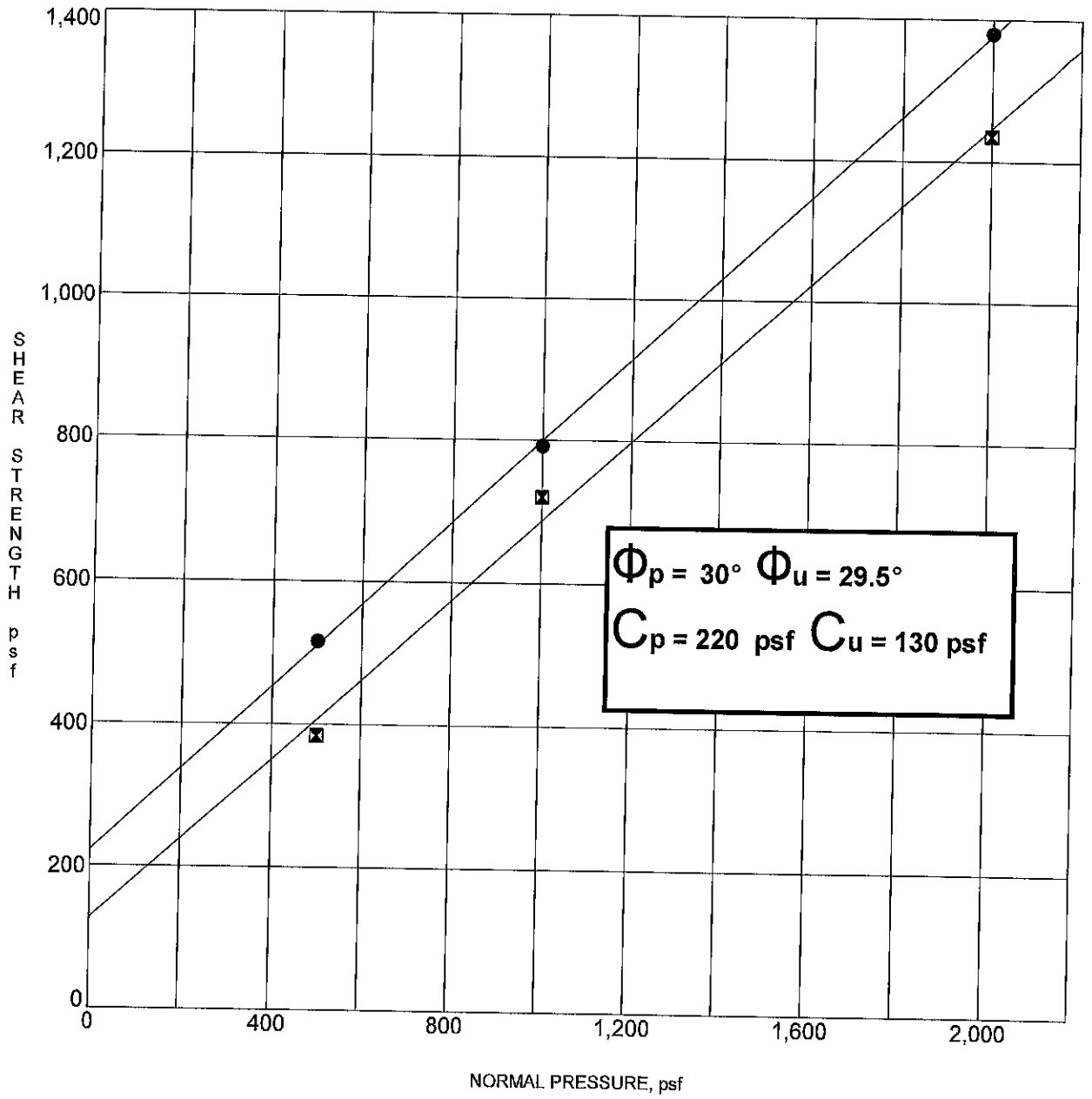
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-44



Specimen Identification			Classification	DD	MC%
●	B-7	10.0	SAND (SP) (Peak)	94	26
⊠	B-7	10.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

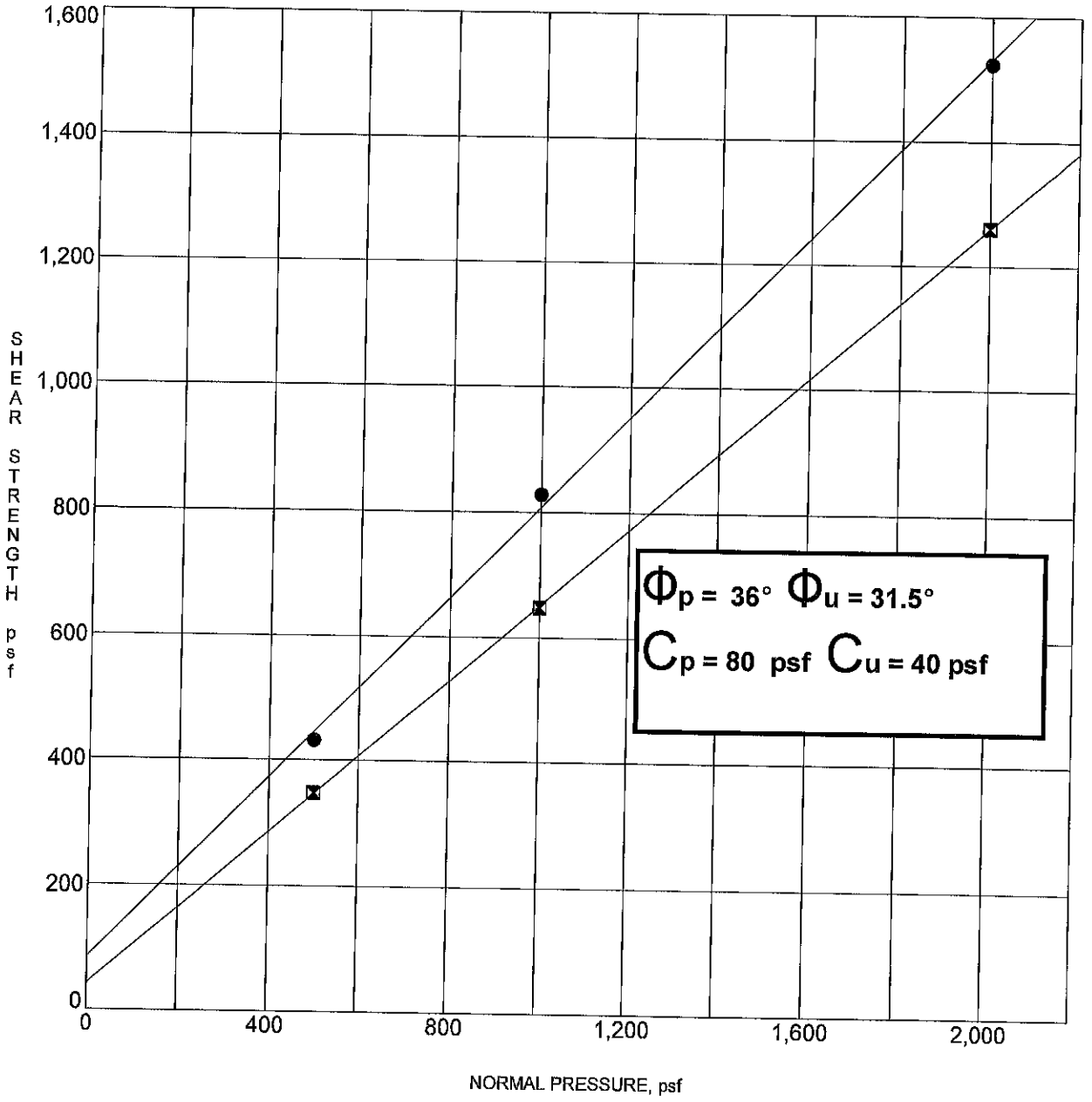
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-45



Specimen Identification			Classification	DD	MC%
●	B-8	15.0	SAND (SP) (Peak)	92	26
⊠	B-8	15.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

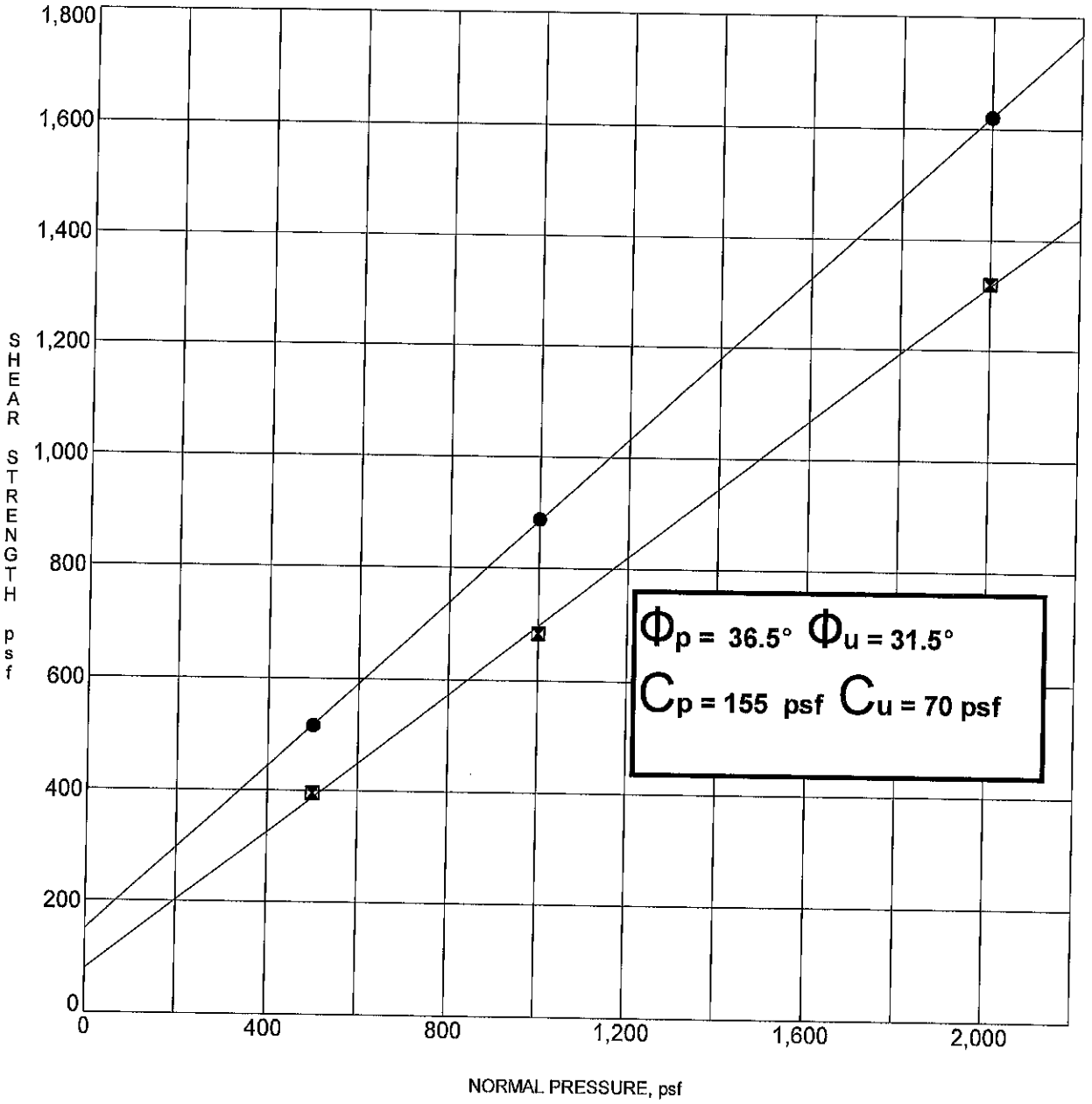
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-46



Specimen Identification			Classification	DD	MC%
●	B-8	25.0	SAND (SP) (Peak)	98	22
⊠	B-8	25.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

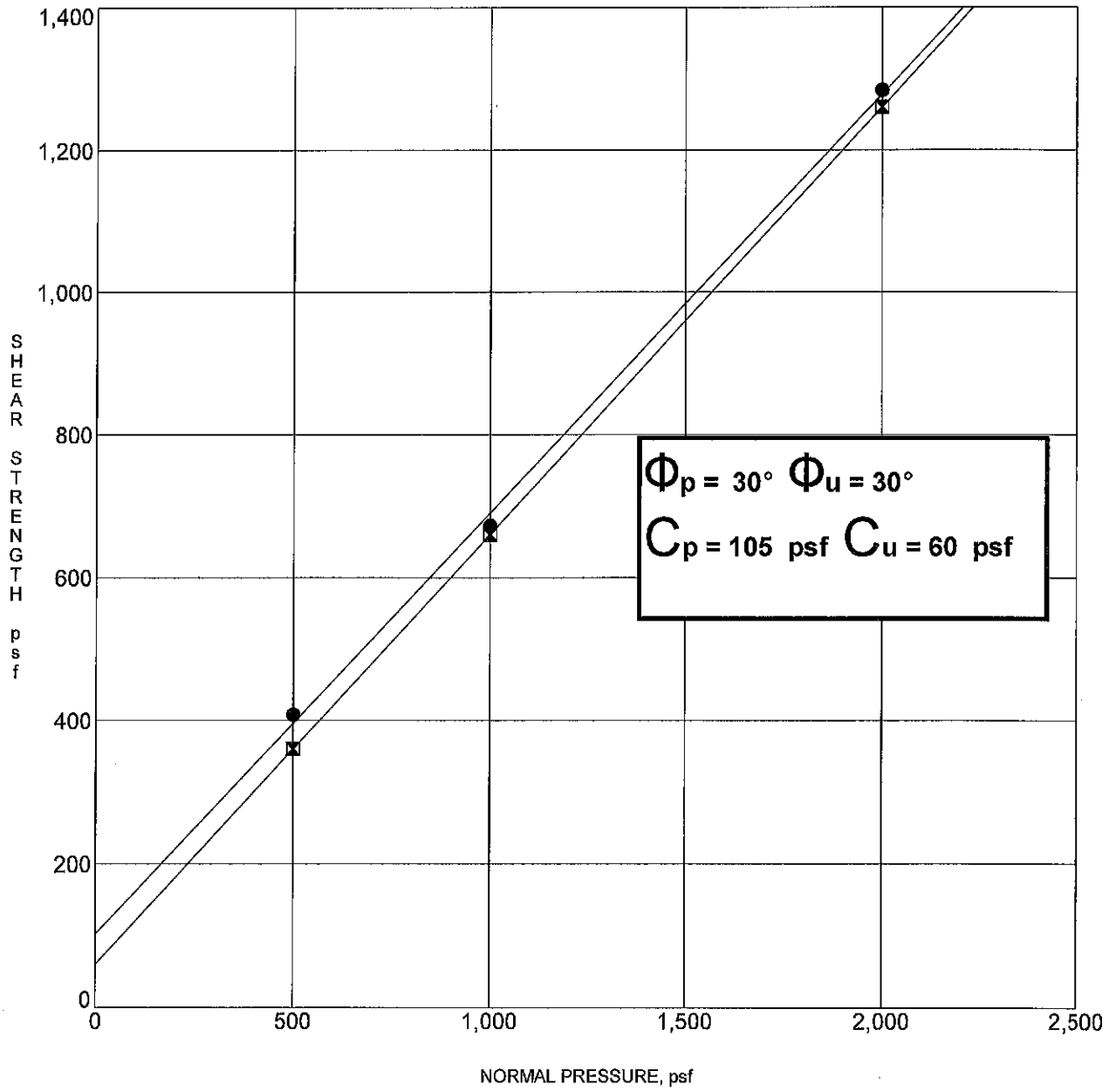
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-47



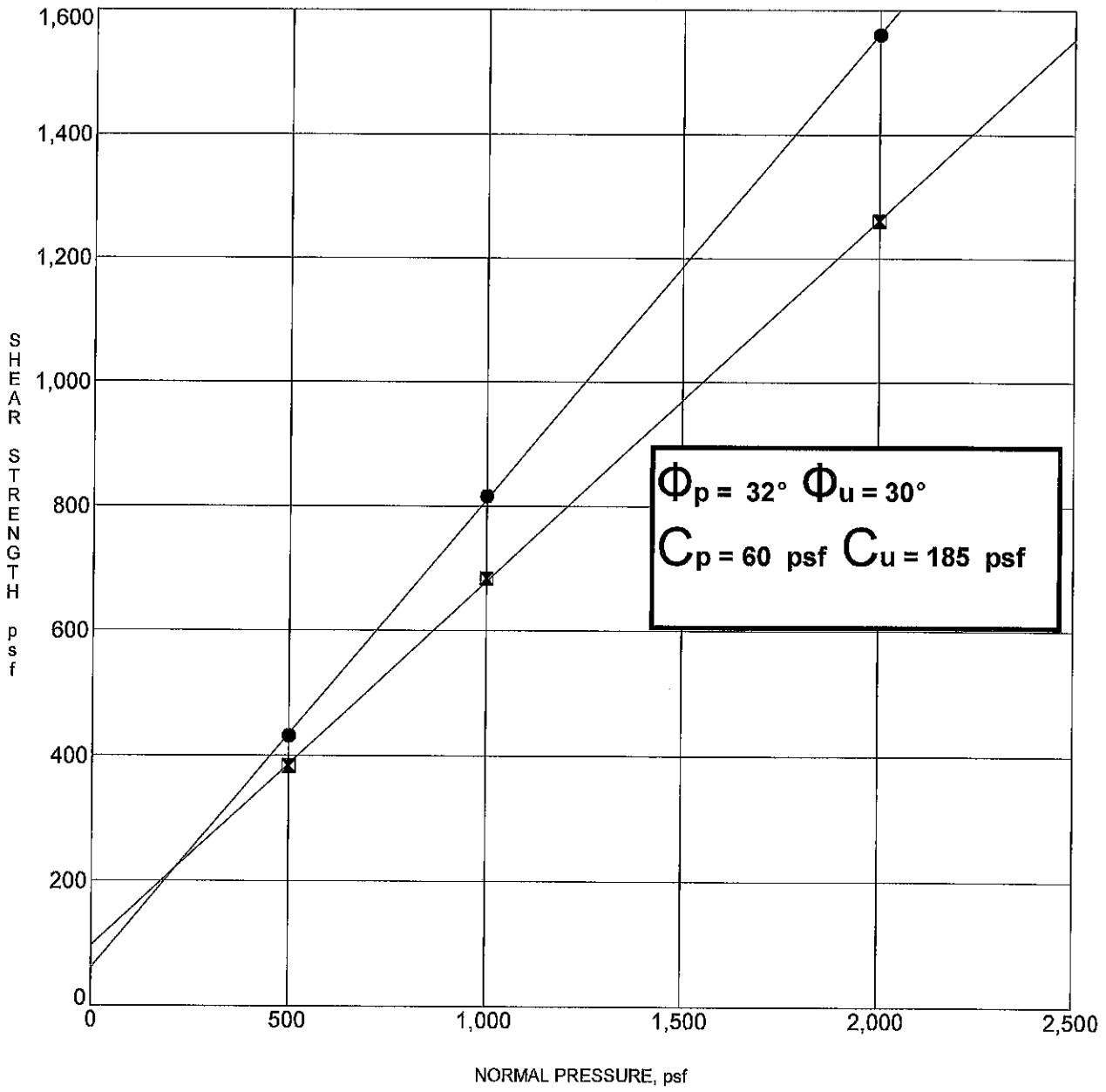
Specimen Identification			Classification	DD	MC%
●	B-9	2.0	SAND (SM) (Peak) (Remolded)	109	16
⊠	B-9	2.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA JOB NO. 20-01-3950
DATE 4/22/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-48



Specimen Identification			Classification	DD	MC%
●	B-9	5.0	SAND (SP) (Peak)	88	28
⊠	B-9	5.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

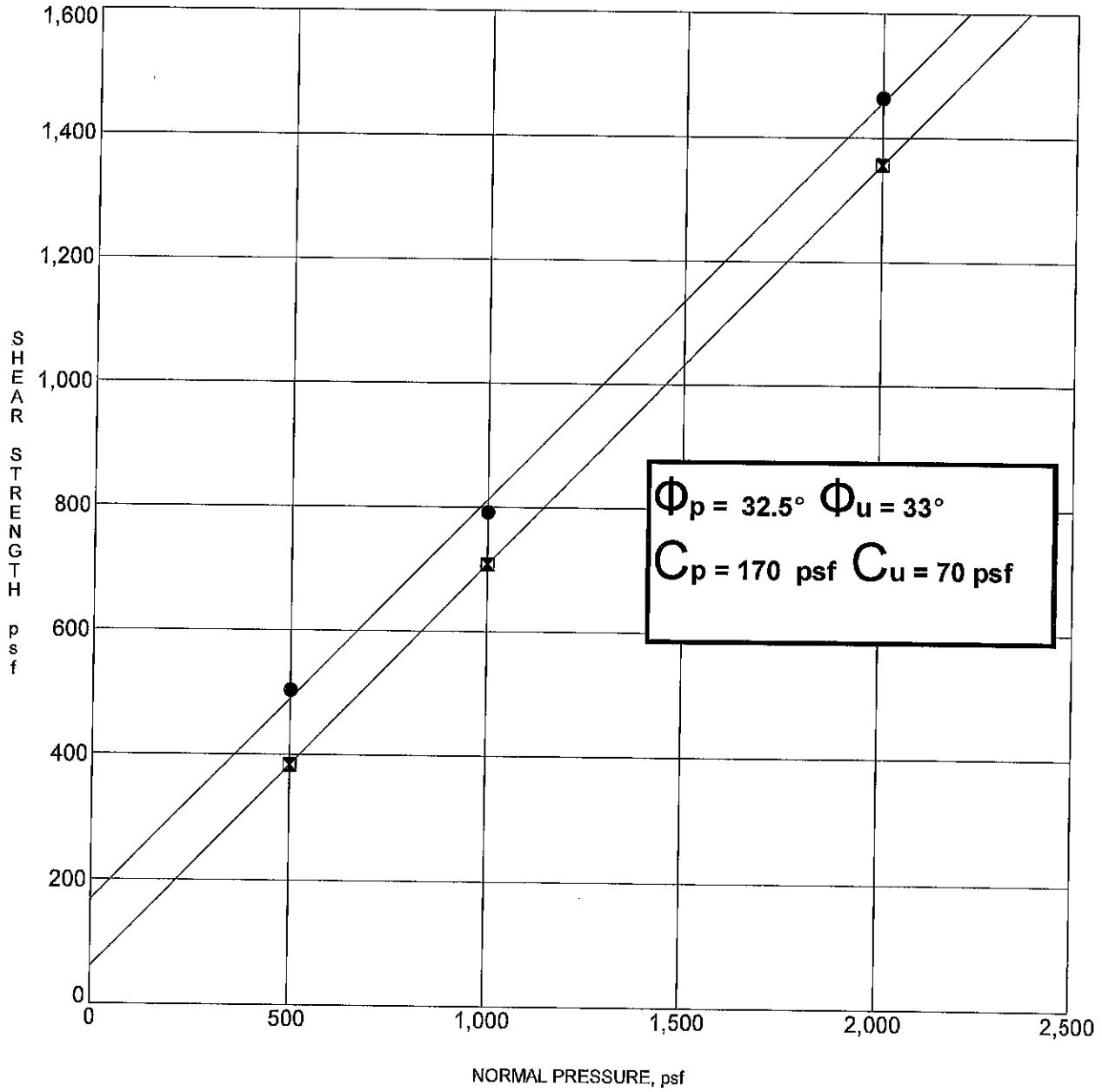
JOB NO. 20-01-3950

DATE 4/22/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-49



Specimen Identification			Classification	DD	MC%
●	B-9	10.0	SILTY SAND (SM) (Peak)	103	22
⊠	B-9	10.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

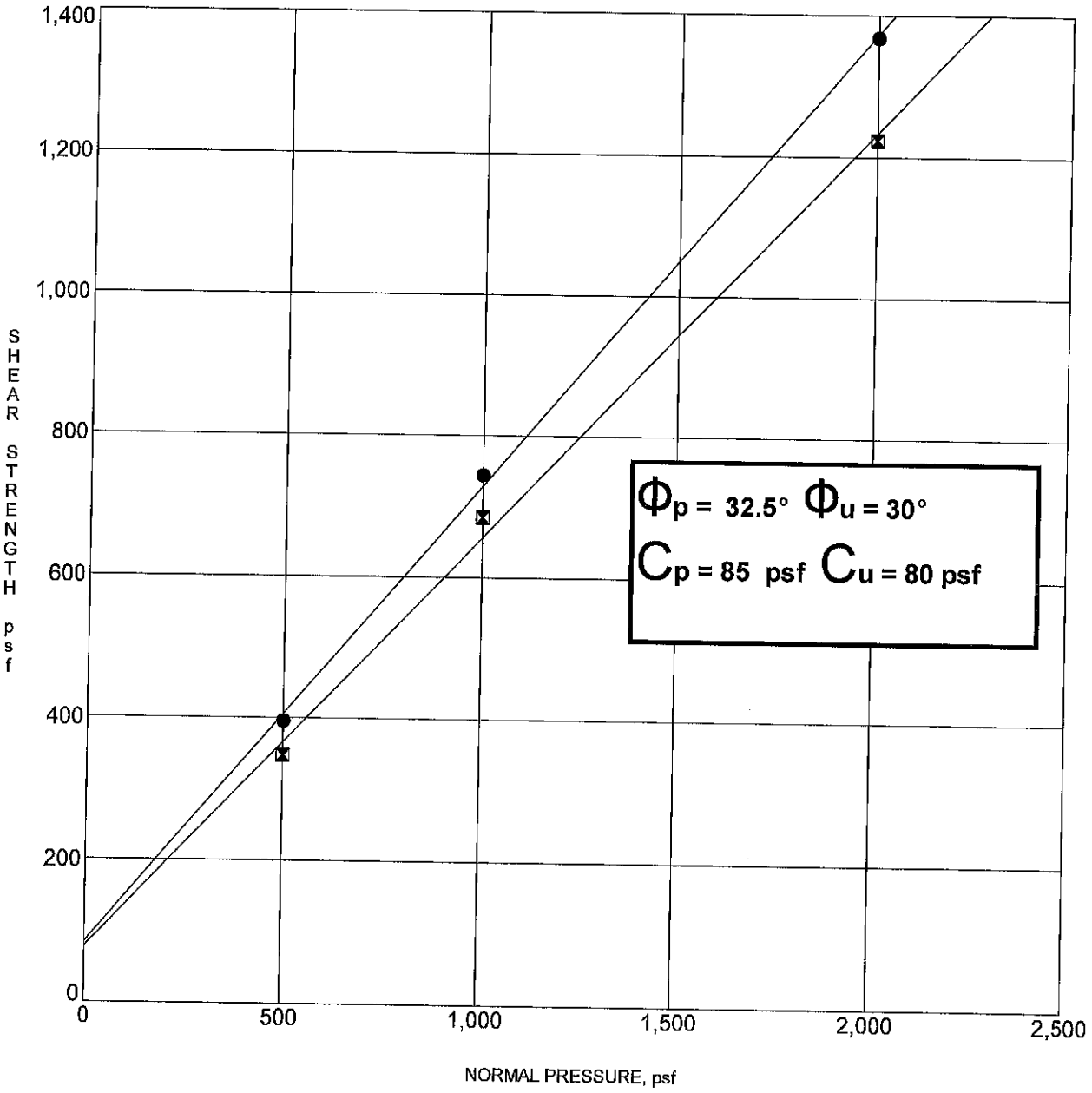
JOB NO. 20-01-3950

DATE 4/20/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-50



Specimen Identification			Classification	DD	MC%
●	B-11	15.0	SILTY SAND (SM) (Peak)	105	18
⊠	B-11	15.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

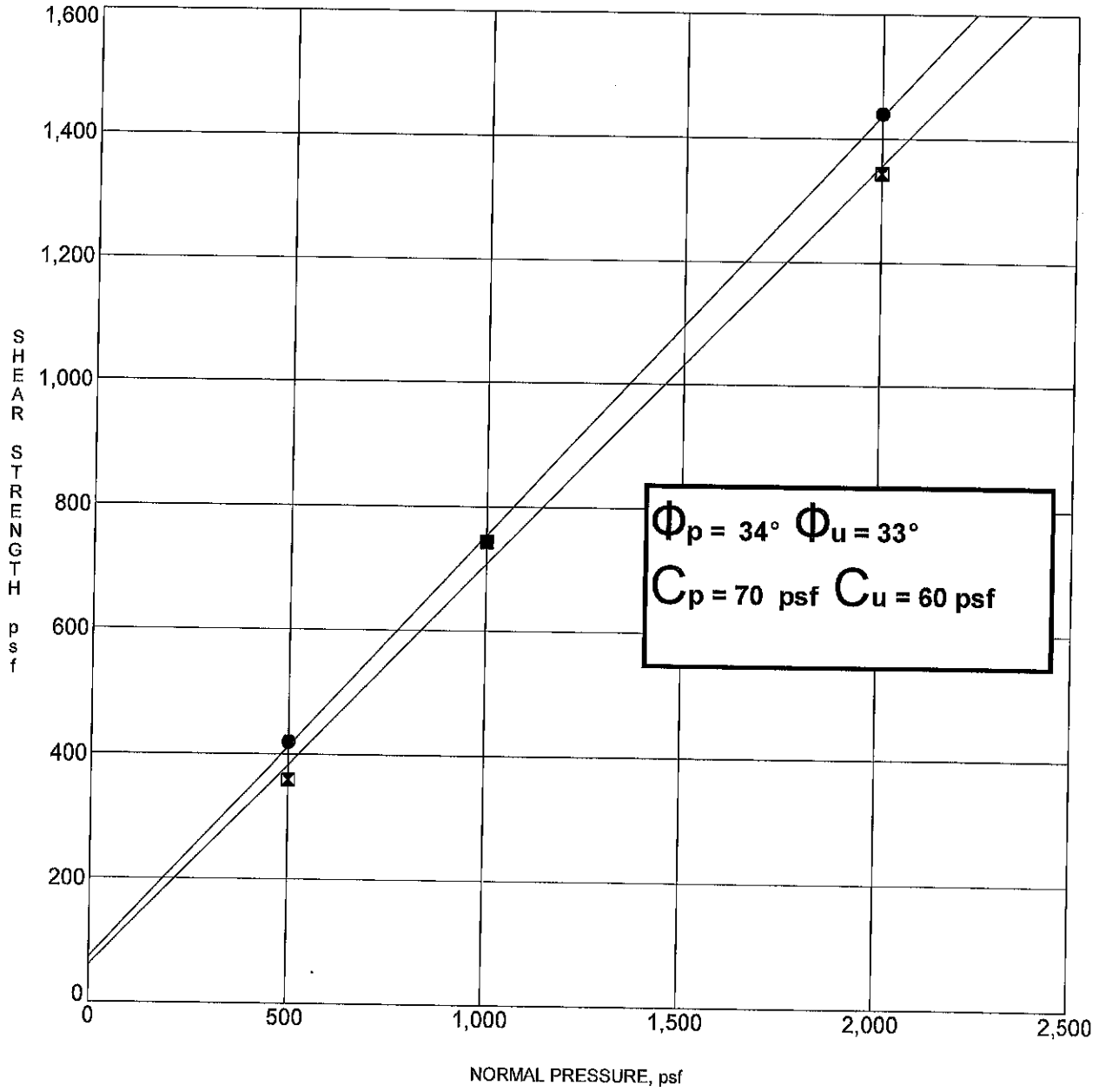
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-51



Specimen Identification			Classification	DD	MC%
●	B-11	40.0	SAND (SP) (Peak)	93	24
⊠	B-11	40.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

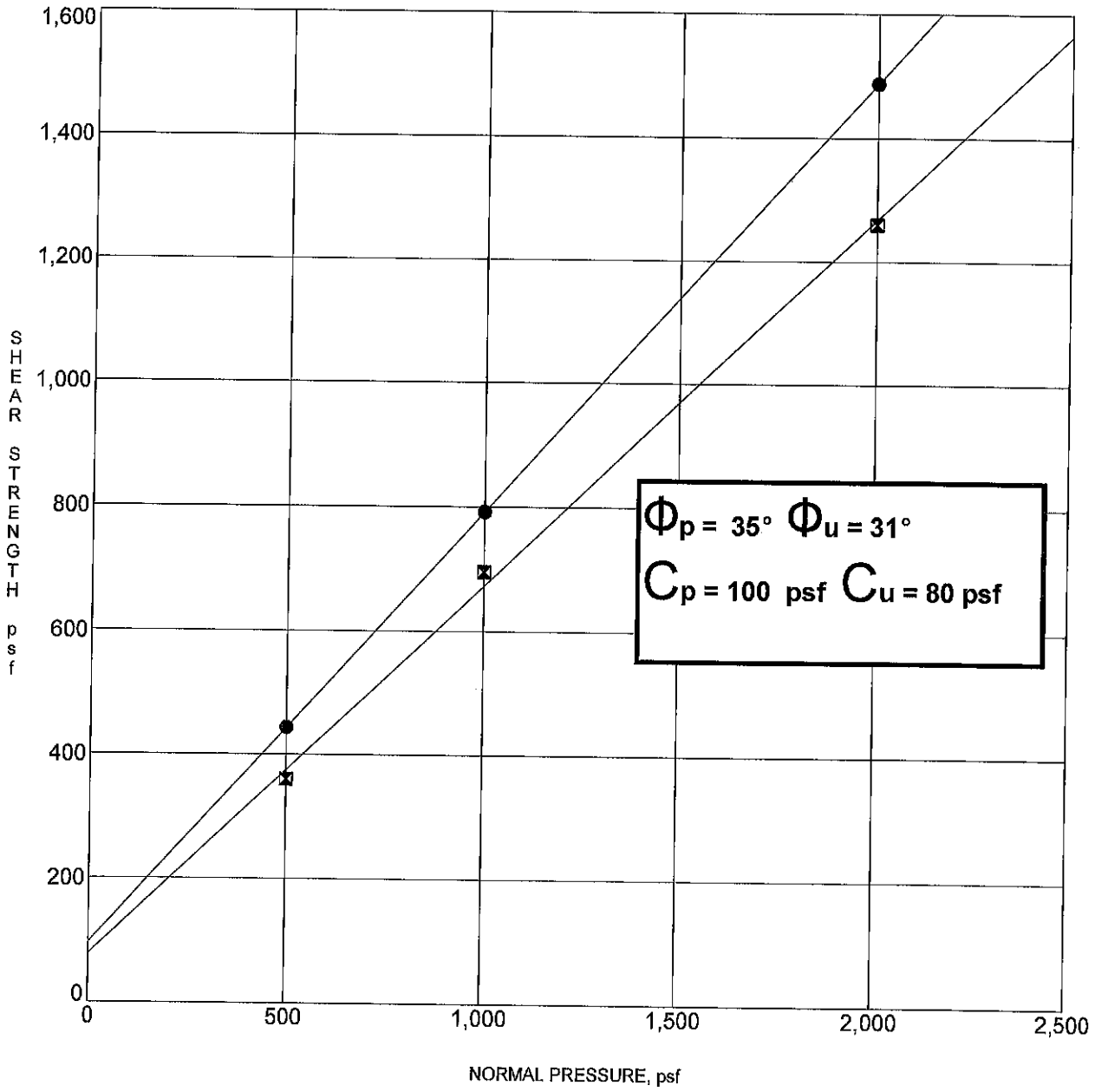
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-52



Specimen Identification			Classification	DD	MC%
●	B-12	5.0	SAND (SP) (Peak)	99	22
⊠	B-12	5.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

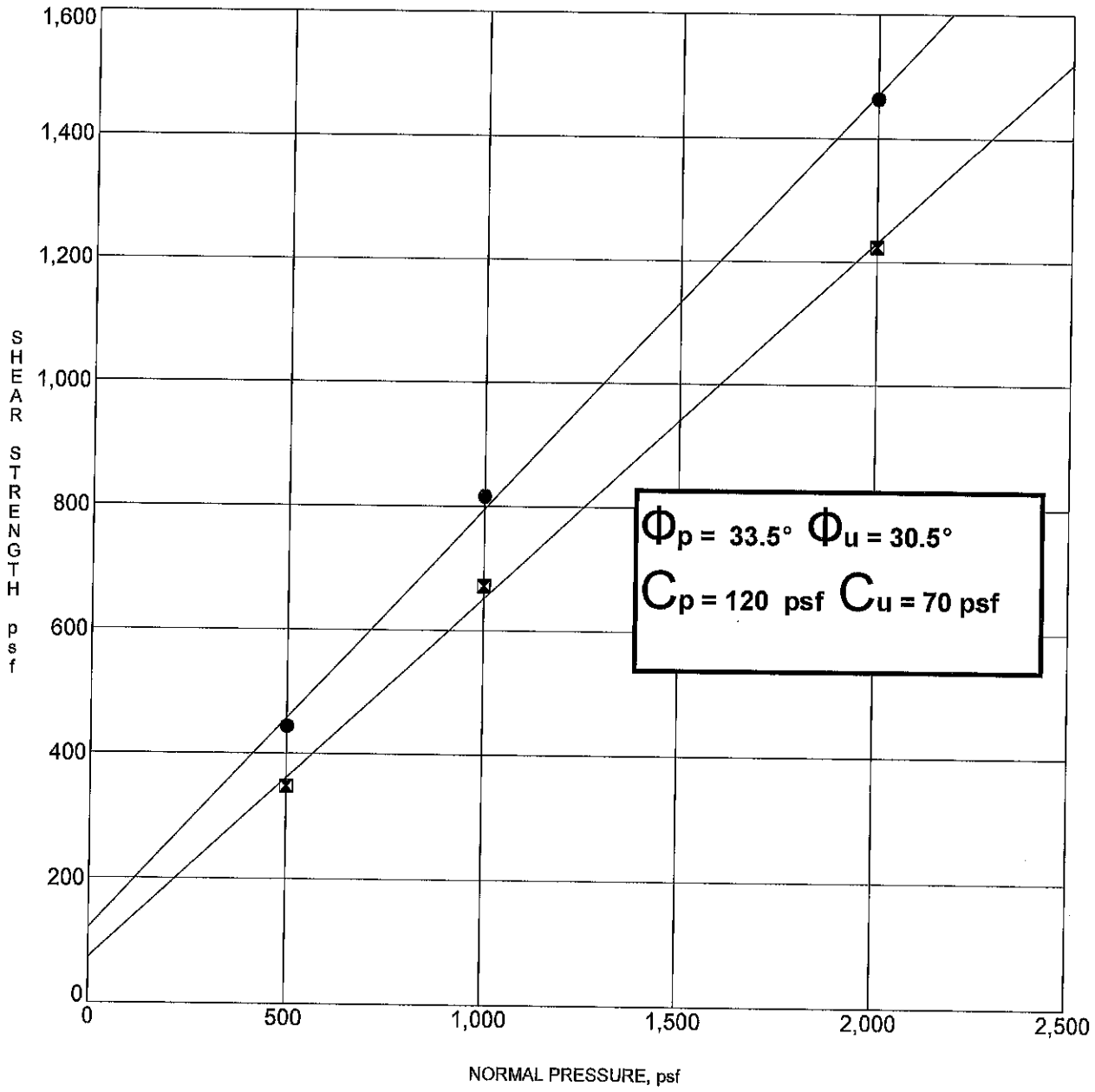
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-53



Specimen Identification			Classification	DD	MC%
●	B-12	20.0	SILTY SAND (SM) (Peak)	97	23
⊠	B-12	20.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

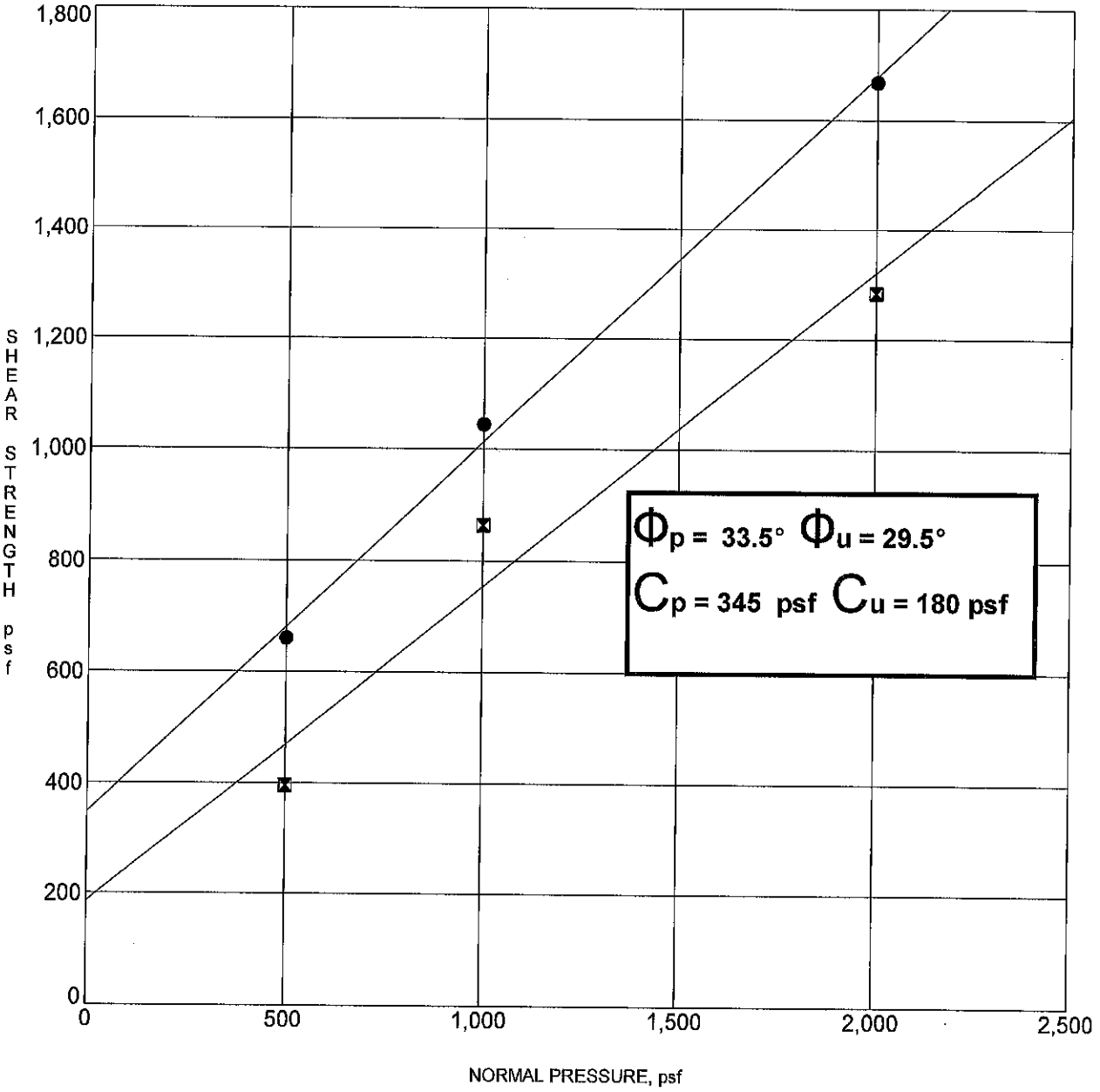
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-54



Specimen Identification			Classification	DD	MC%
●	B-12	30.0	SILTY SAND (SM) (Peak)	107	20
⊠	B-12	30.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

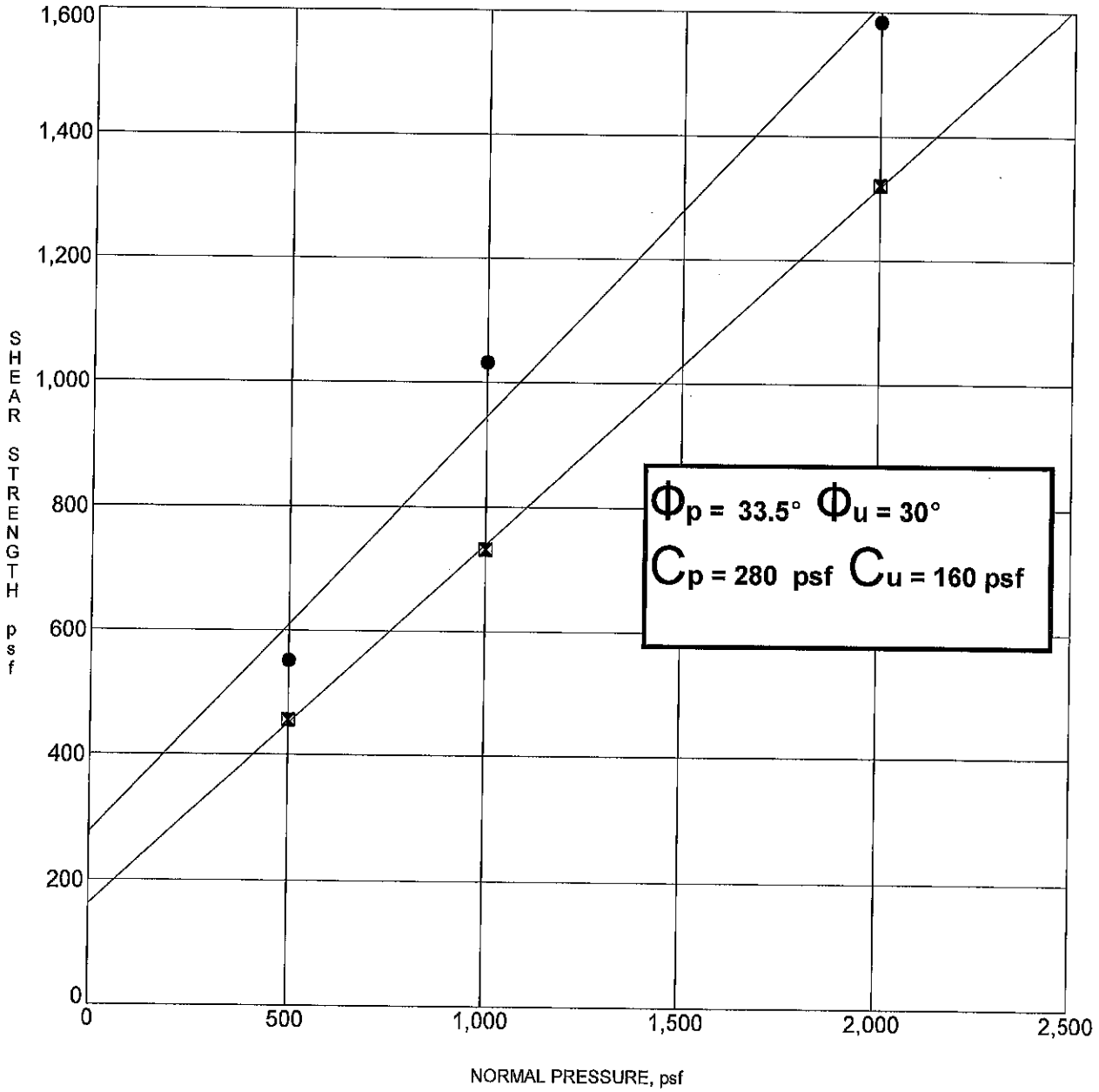
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-55



Specimen Identification			Classification	DD	MC%
●	B-12	60.0	SAND (SP) (Peak)	113	15
⊠	B-12	60.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

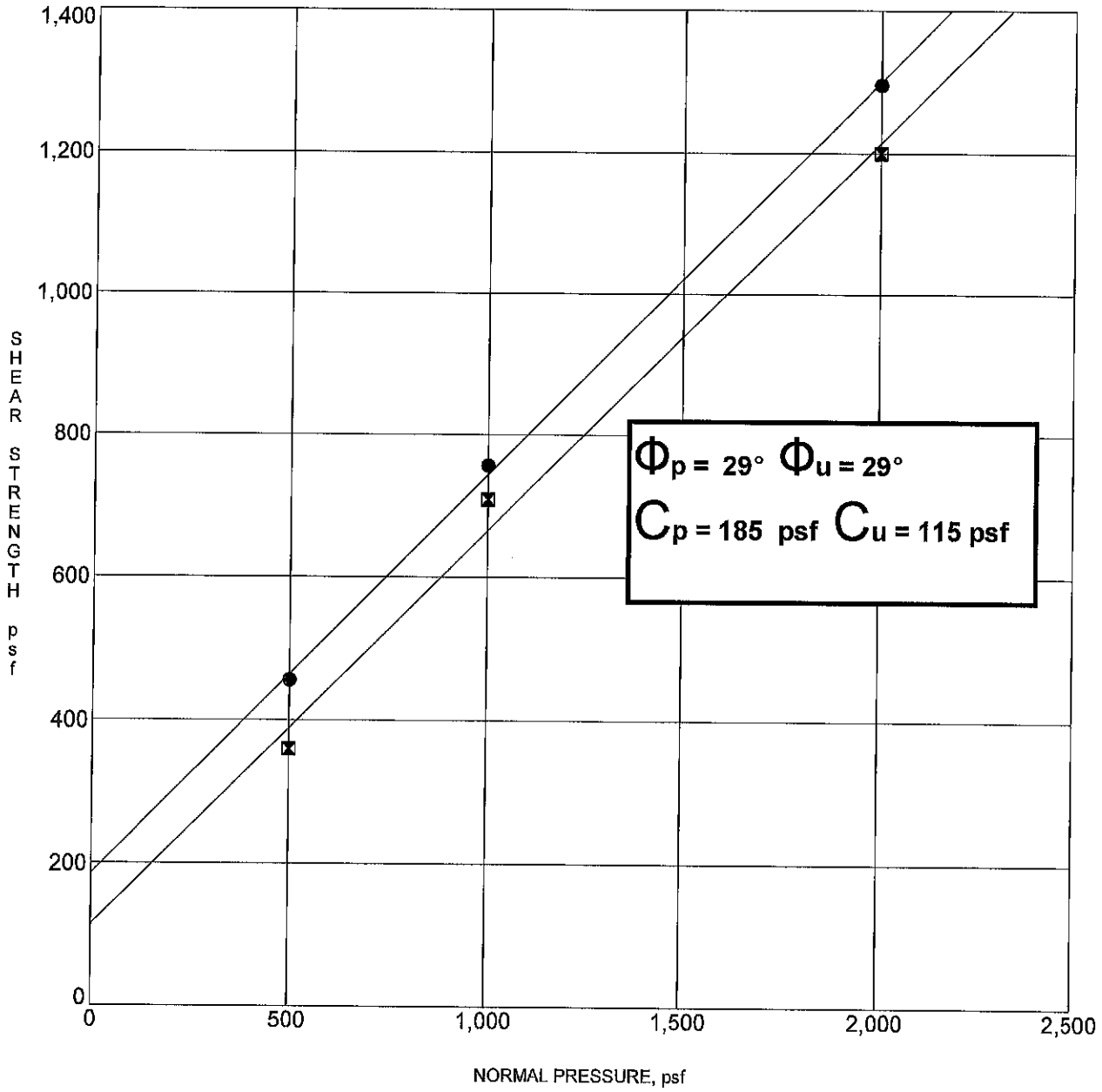
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-56



Specimen Identification			Classification	DD	MC%
●	B-12	80.0	SANDY SILT (ML) (Peak)	96	26
⊠	B-12	80.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

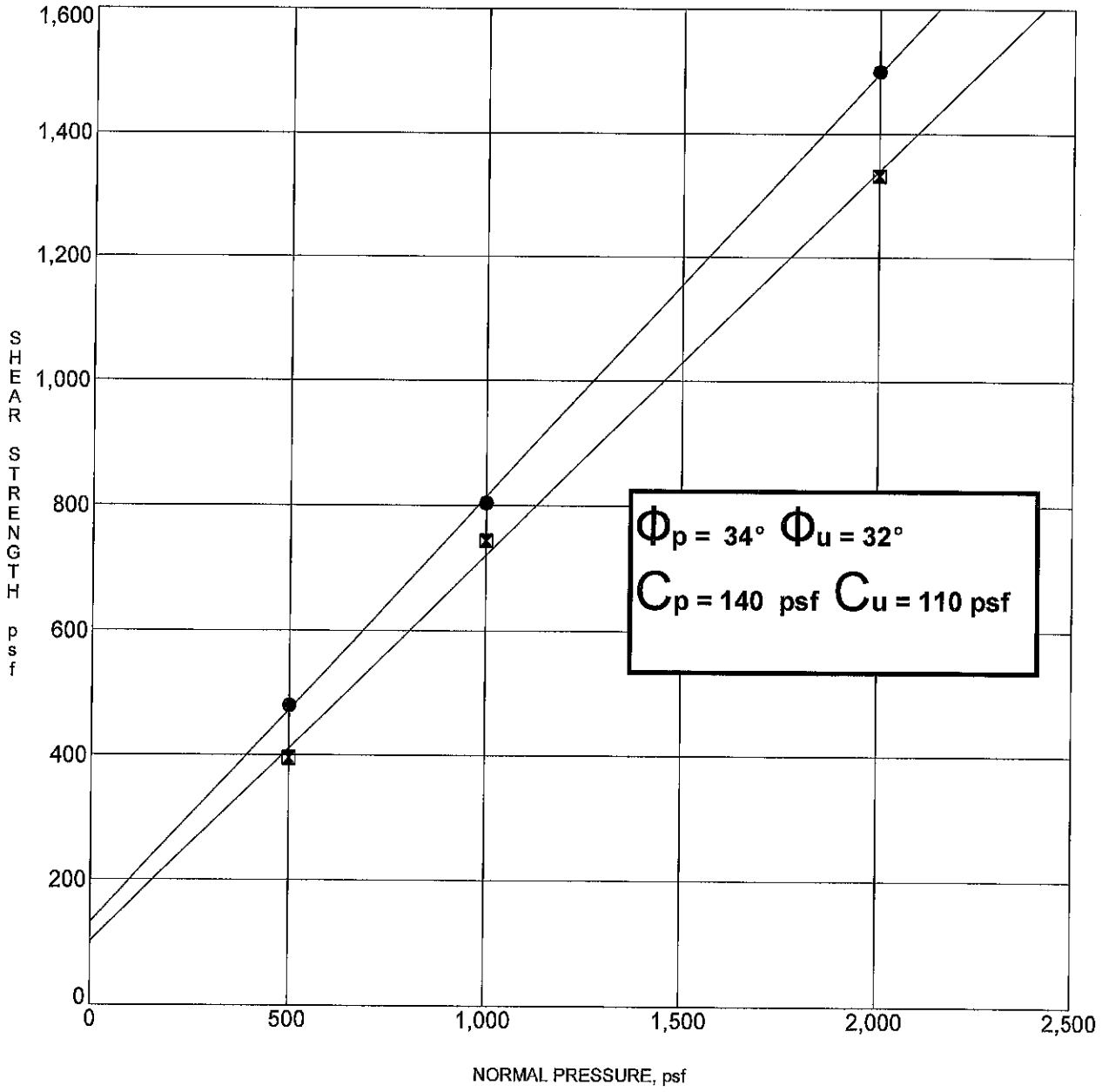
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-57



Specimen Identification			Classification	DD	MC%
●	B-14	5.0	SAND (SP) (Peak)	97	24
⊠	B-14	5.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

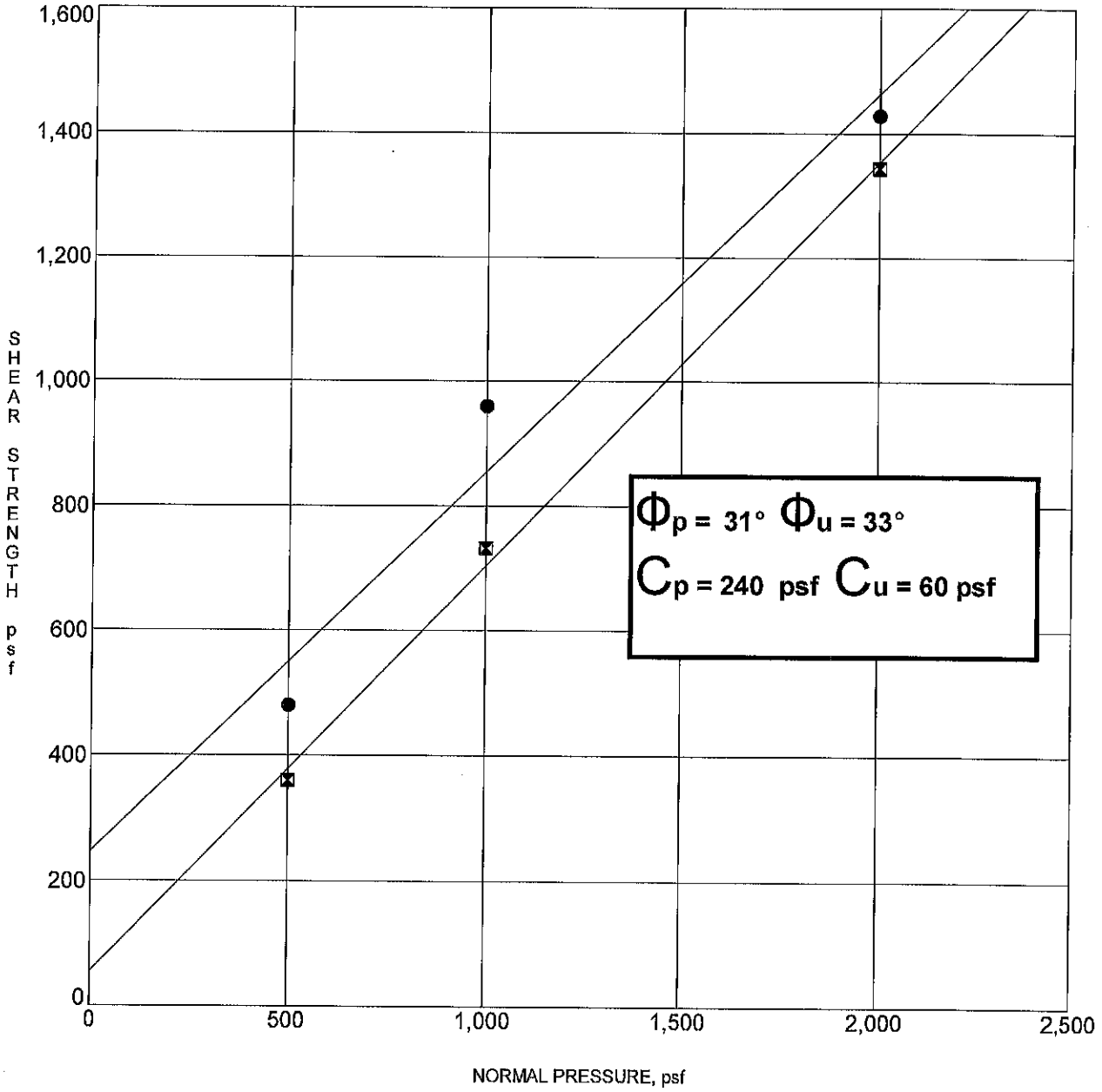
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-58



Specimen Identification			Classification	DD	MC%
●	B-14	17.5	SILTY SAND (SM) (Peak)	110	17
⊠	B-14	17.5	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

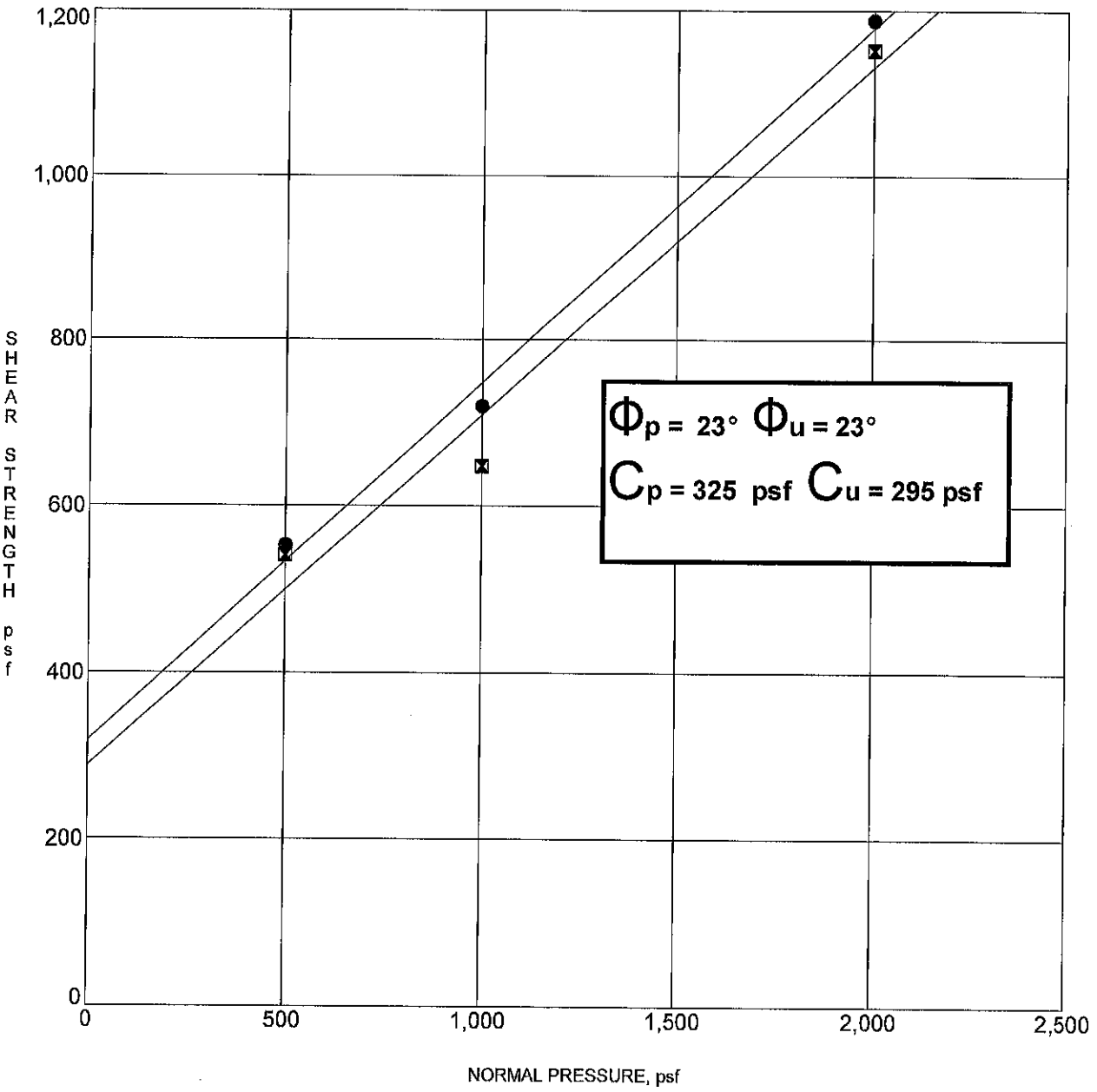
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-59



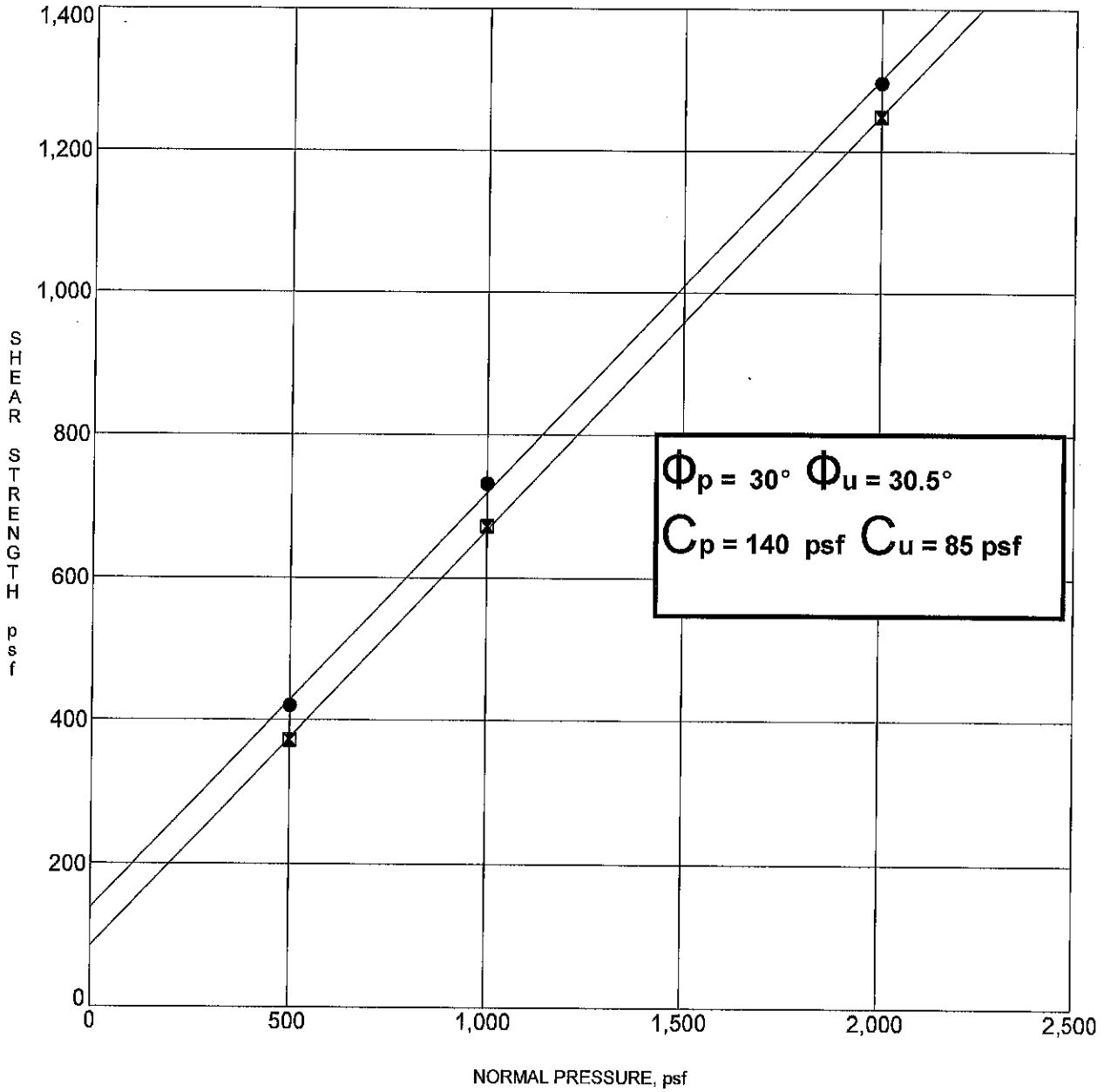
Specimen Identification			Classification	DD	MC%
●	B-16	55.0	SANDY SILT (ML) (Peak)	105	22
⊠	B-16	55.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA JOB NO. 20-01-3950
DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-60



Specimen Identification			Classification	DD	MC%
●	B-16	75.0	CLAYEY SILT (ML) (Peak)	104	21
⊠	B-16	75.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

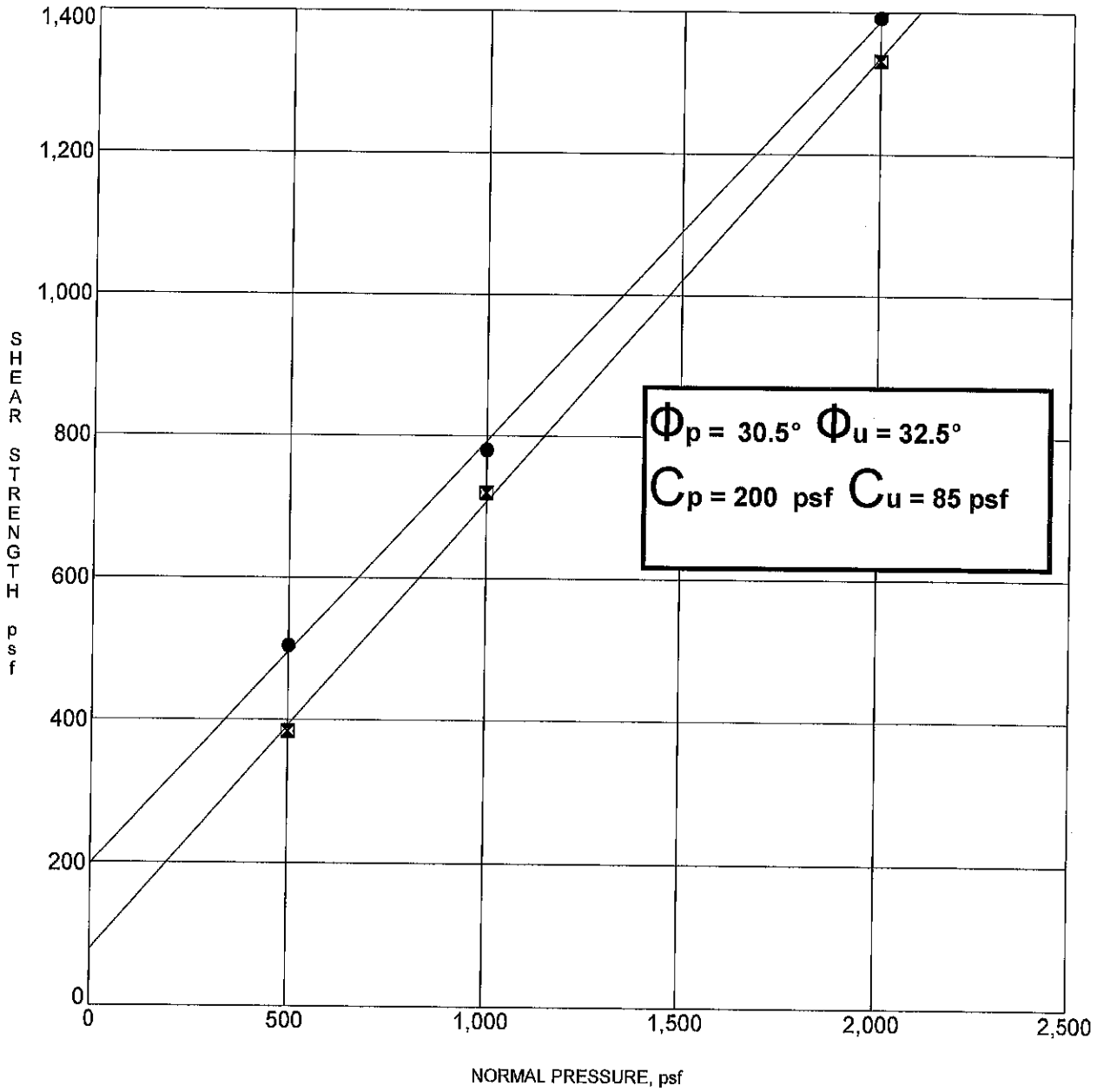
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-61



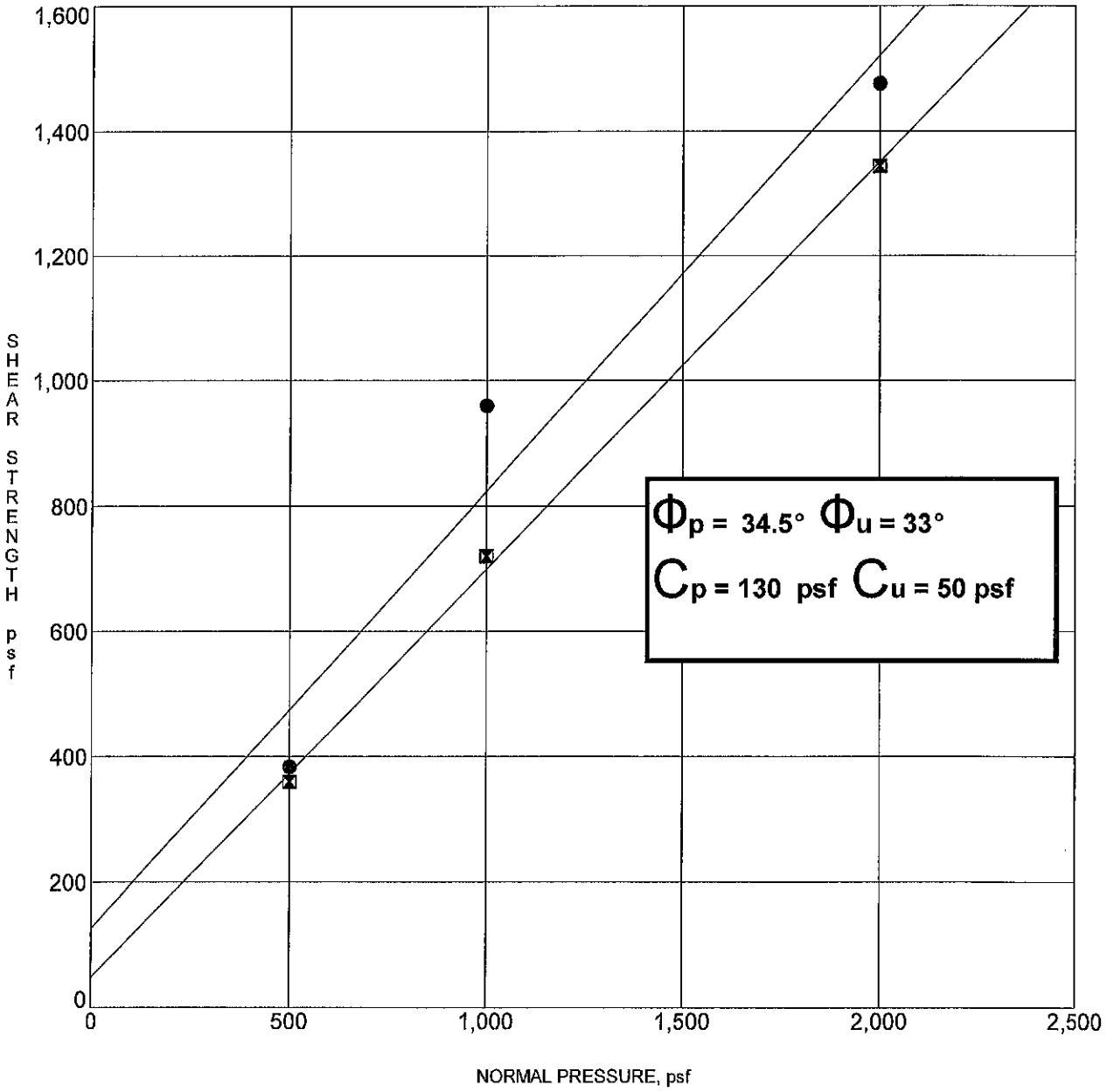
Specimen Identification			Classification	DD	MC%
●	B-16	90.0	SILTY SAND (SM) (Peak)	103	22
⊠	B-16	90.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA JOB NO. 20-01-3950
DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-62



Specimen Identification			Classification	DD	MC%
●	B-17	3.0	SAND (SP) (Peak) (Remolded)	112	14
⊠	B-17	3.0	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

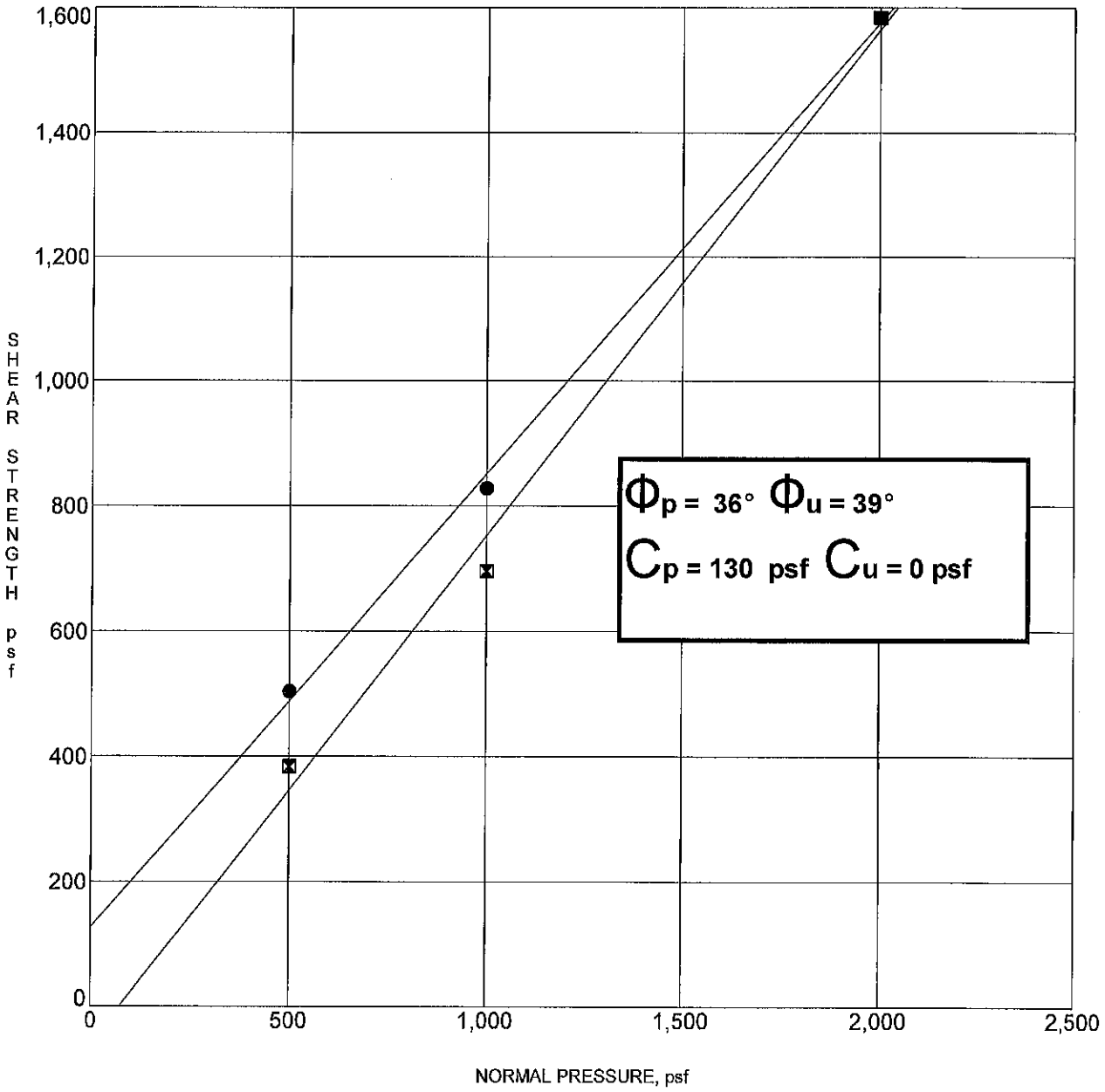
JOB NO. 20-01-3950

DATE 4/22/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-63



Specimen Identification			Classification	DD	MC%
●	B-19	2.5	SAND (SP) (Peak)	93	25
⊠	B-19	2.5	(Ultimate)		

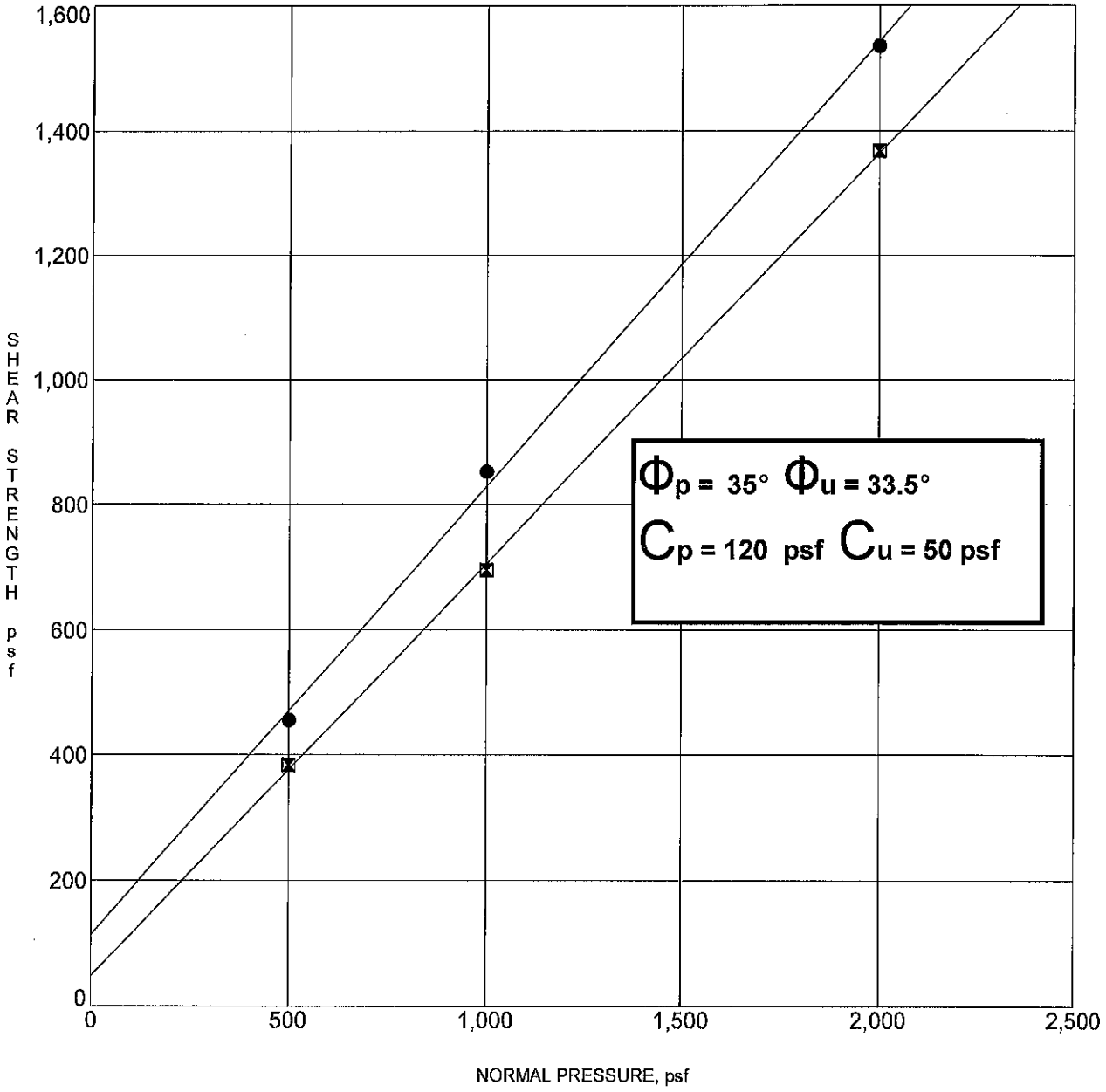
PROJECT **Anaheim Ball Park - Anaheim, CA** JOB NO. **20-01-3950**

DATE **4/17/20**

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-64



Specimen Identification			Classification	DD	MC%
●	B-19	12.5	SAND (SP) (Peak)	95	25
⊠	B-19	12.5	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

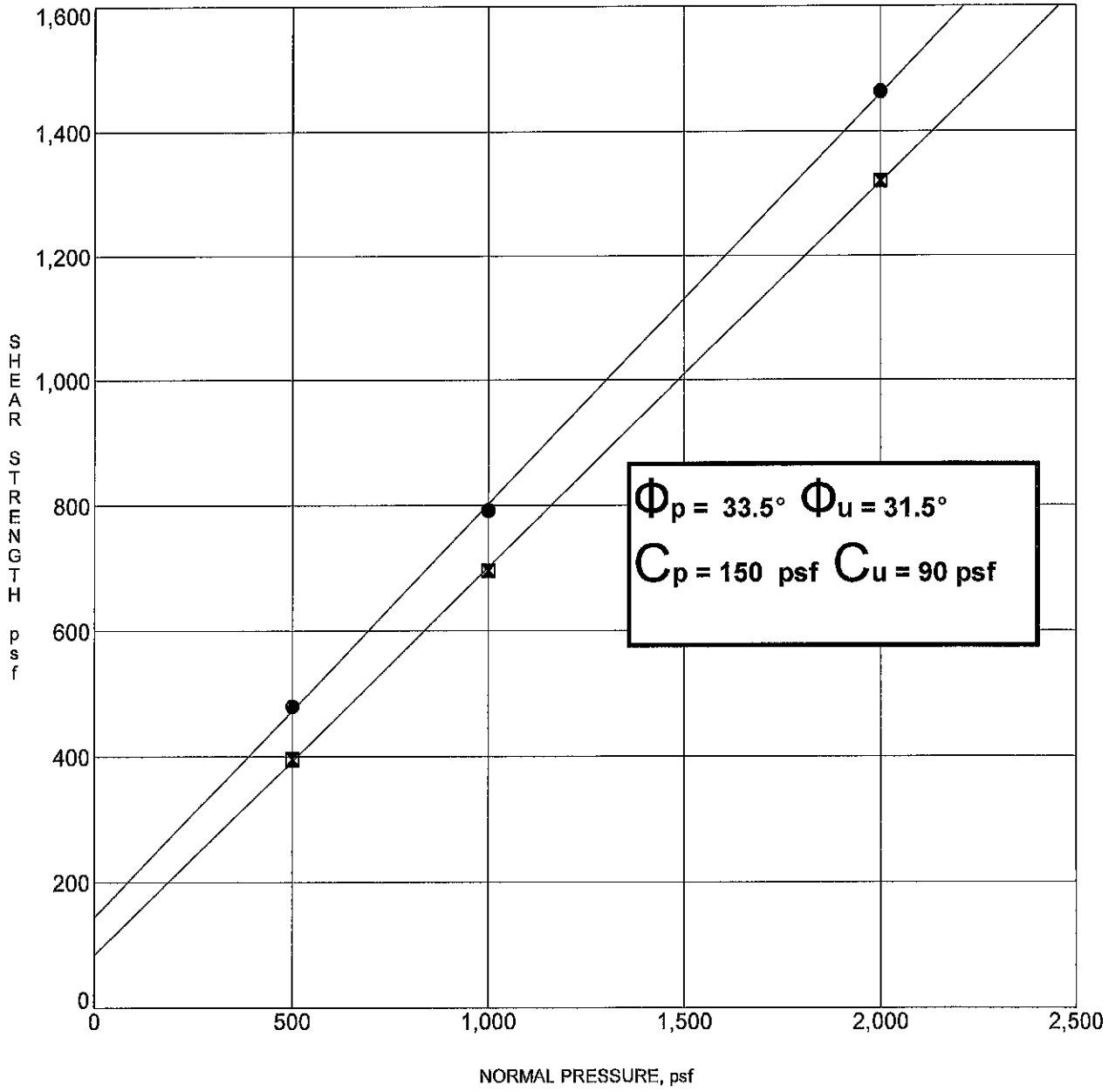
JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-65



Specimen Identification			Classification	DD	MC%
●	B-19	22.5	CLAYEY SAND (SC) (Peak)	108	19
⊠	B-19	22.5	(Ultimate)		

PROJECT Anaheim Ball Park - Anaheim, CA

JOB NO. 20-01-3950

DATE 4/17/20

SHEAR TEST DIAGRAM

Harrington Geotechnical Engineering, Inc.

PLATE B-66

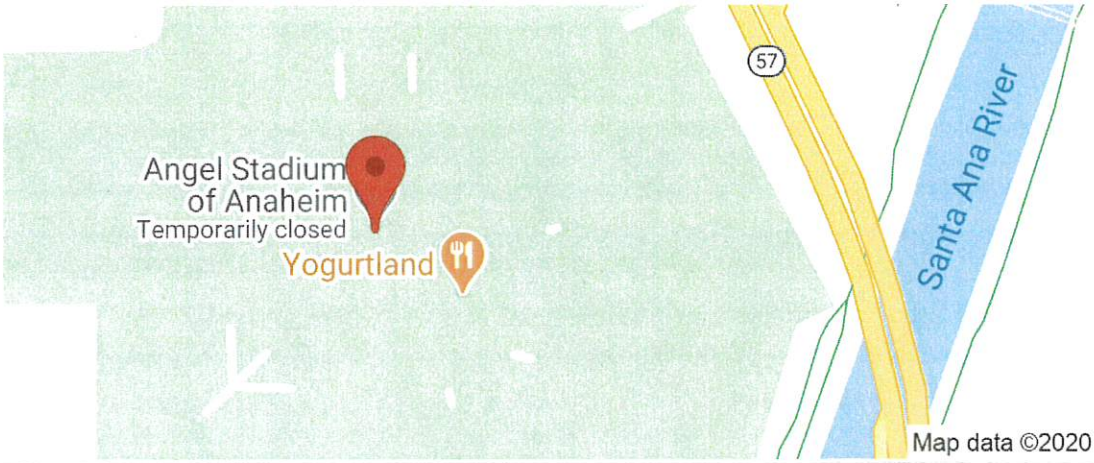
APPENDIX C

SEISMIC DATA AND RESPONSE SPECTRUM

Angel Ballpark, Anaheim, CA

2000 E Gene Autry Way, Anaheim, CA 92806, USA

Latitude, Longitude: 33.800308, -117.8827321



Date	4/7/2020, 10:57:42 AM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D - Stiff Soil

Type	Value	Description
S_S	1.392	MCE_R ground motion. (for 0.2 second period)
S_1	0.494	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.392	Site-modified spectral acceleration value
S_{M1}	null -See Section 11.4.8	Site-modified spectral acceleration value
S_{DS}	0.928	Numeric seismic design value at 0.2 second SA
S_{D1}	null -See Section 11.4.8	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	null -See Section 11.4.8	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	null -See Section 11.4.8	Site amplification factor at 1.0 second
PGA	0.586	MCE_G peak ground acceleration
F_{PGA}	1.1	Site amplification factor at PGA
PGA_M	0.645	Site modified peak ground acceleration
T_L	8	Long-period transition period in seconds
SsRT	1.392	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	1.506	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.849	Factored deterministic acceleration value. (0.2 second)
S1RT	0.494	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.535	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.632	Factored deterministic acceleration value. (1.0 second)
PGAd	0.758	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.924	Mapped value of the risk coefficient at short periods
C_{R1}	0.923	Mapped value of the risk coefficient at a period of 1 s

APPENDIX D

LIQUEFACTION ANALYSIS

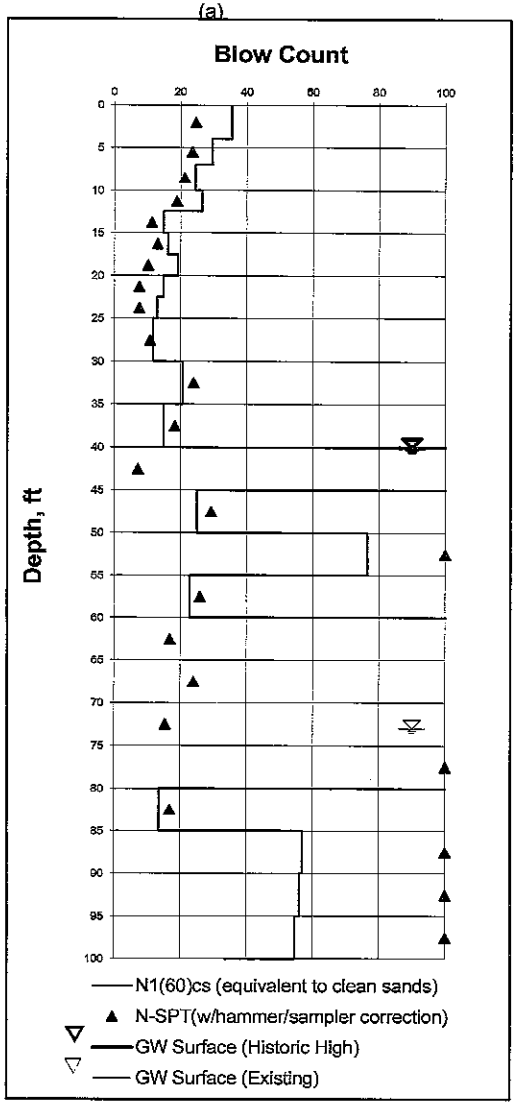
COMPUTER PROGRAM: EQLique&Settle"2"

Location..... **B-1**

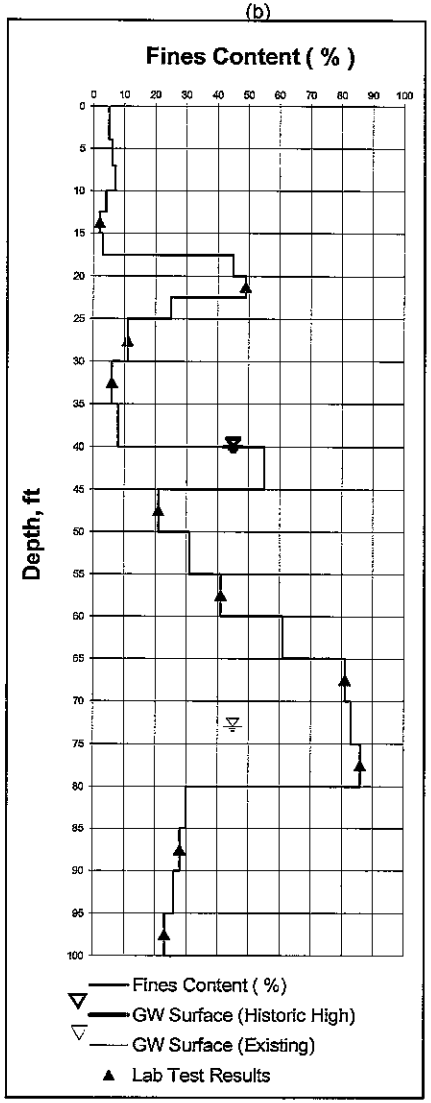
Elevation (MSL) (ft) 100

NOTE: If the total settlement is very small (e.g.<0.05"), it will not be seen due to the scale used, and should be reported as "negligible".

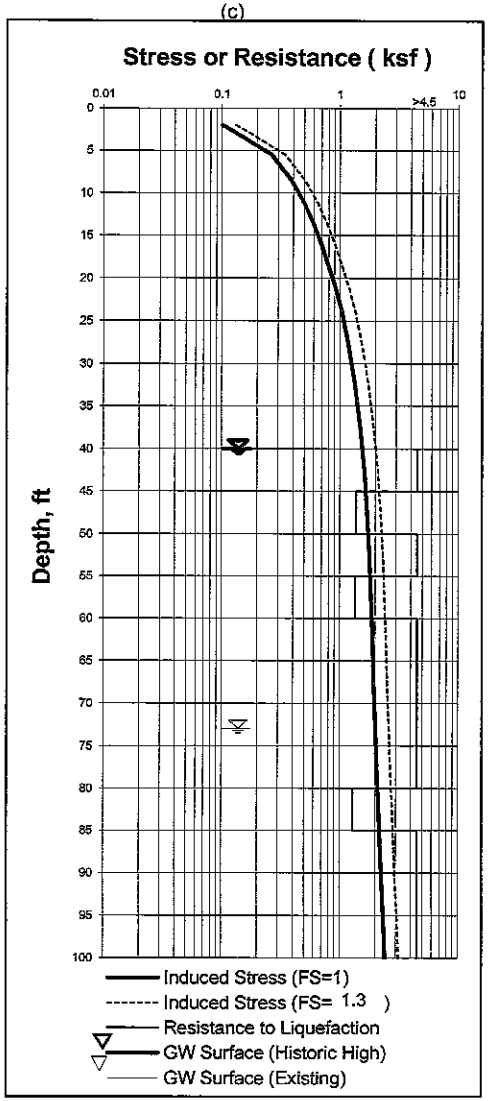
(a)



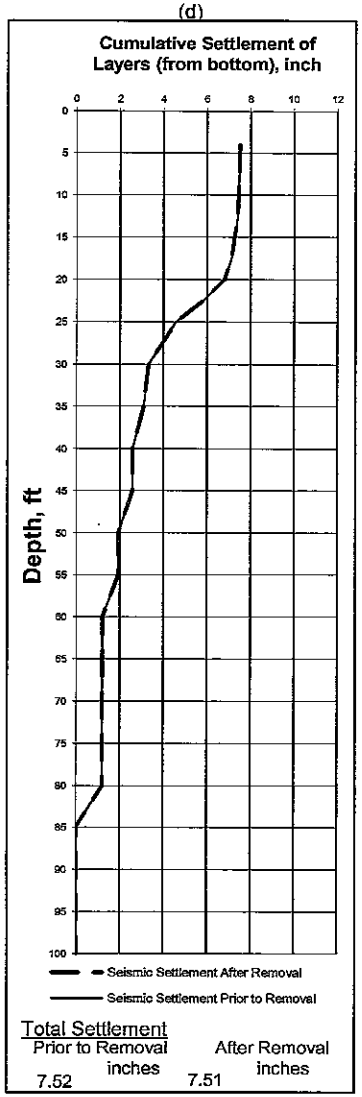
(b)



(c)



(d)



Total Settlement

Prior to Removal 7.52 inches

After Removal 7.51 inches

Removal & Recomp. Depth (ft) = 3

PROJECT: Angel Ballpark of Anaheim Anaheim, Orange County, California Los Angeles Angels	Weighted Ground Accel. (M=7.5) = 0.65 g Site Magnitude = 7.5	**Liquefaction Potential and Seismic Settlements Based on Boring Data** **HARRINGTON GEOTECHNICAL INC** **Geotechnical Engineering Consultants**

Job No.:	20-01-3950
Date:	4-7-2020
Figure No.	5

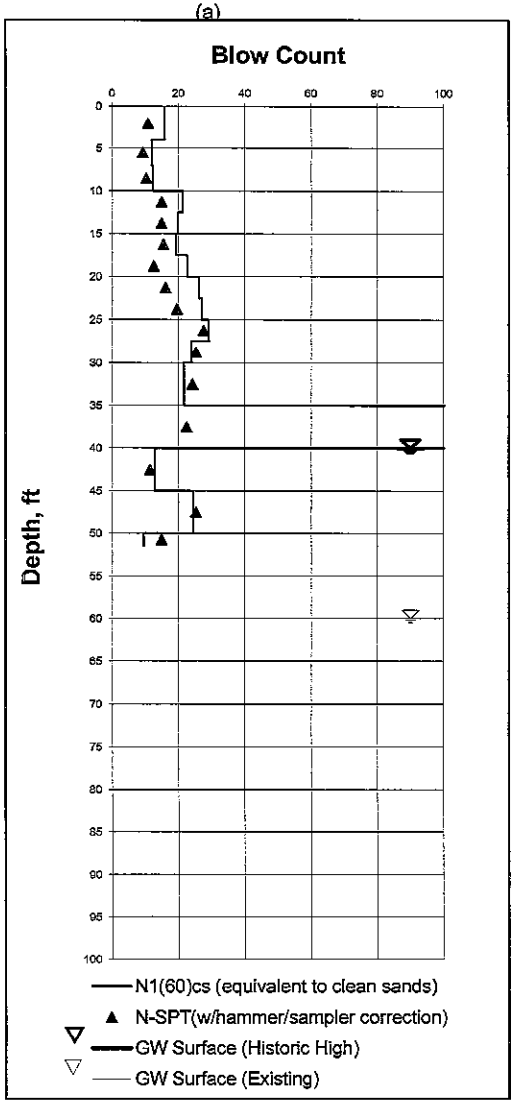
COMPUTER PROGRAM: EQLique&Settle"2"

Location..... B-2

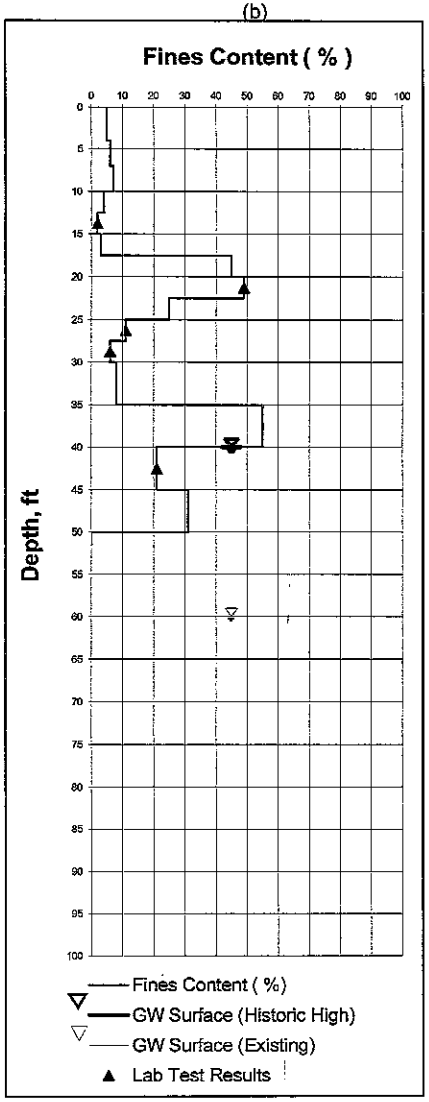
Elevation (MSL) (ft) 100

NOTE: If the total settlement is very small (e.g.<0.05"), it will not be seen due to the scale used, and should be reported as "negligible".

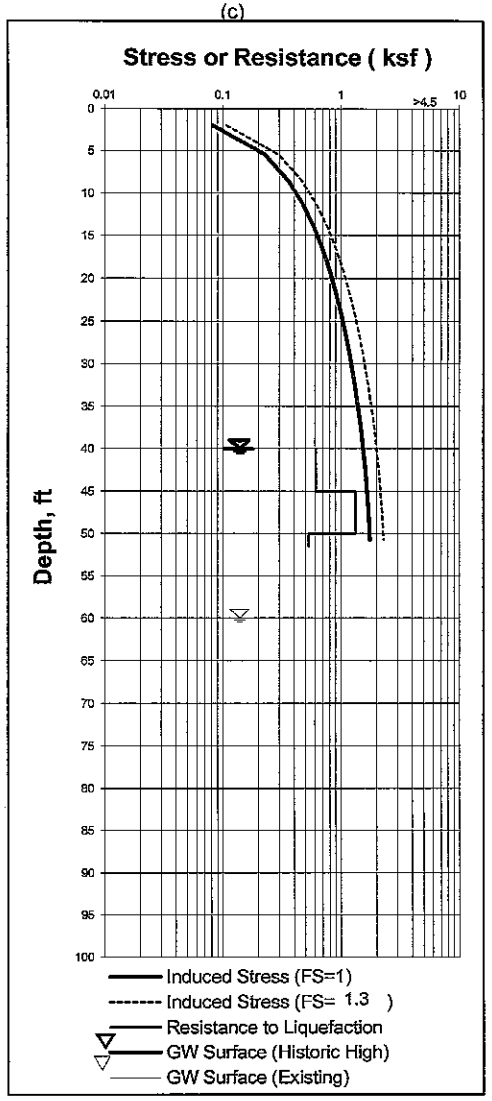
(a)



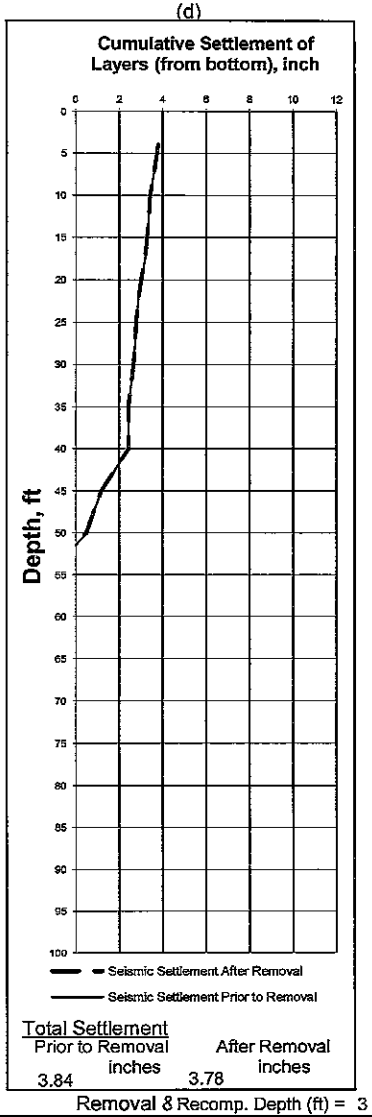
(b)



(c)



(d)



Total Settlement

Prior to Removal	After Removal
3.84 inches	3.78 inches

Removal & Recomp. Depth (ft) = 3

PROJECT: Angel Ballpark of Anaheim
Anaheim, Orange County, California

Los Angeles Angels

Weighted Ground Accel. (M=7.5) = 0.65 g

Site Magnitude = 7.5

Liquefaction Potential and Seismic Settlements Based on Boring Data

HARRINGTON GEOTECHNICAL INC
Geotechnical Engineering Consultants

Job No.:	20-01-3950
Date:	4-7-2020
Figure No.	6

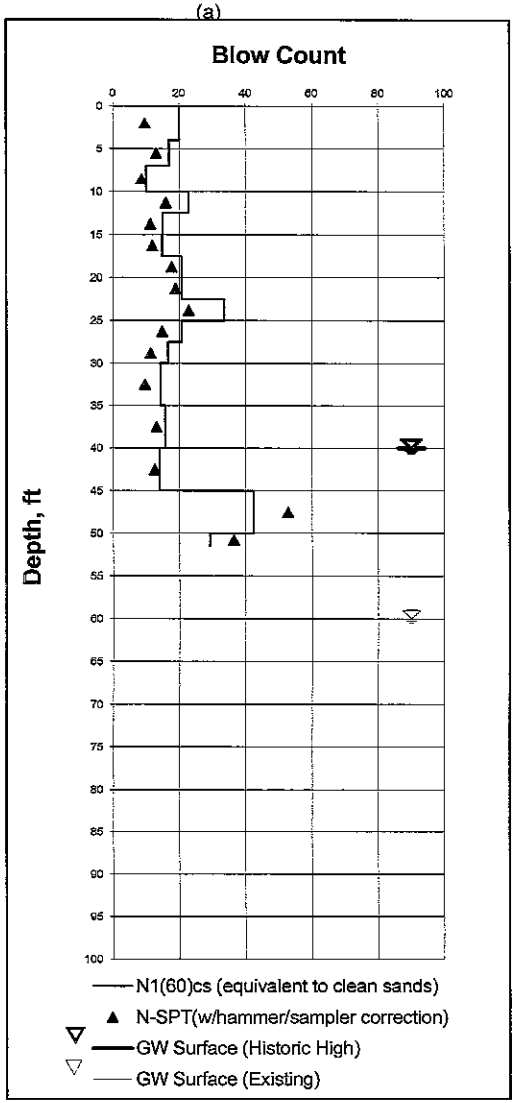
COMPUTER PROGRAM: EQLique&Settle"2"

Location..... B-3

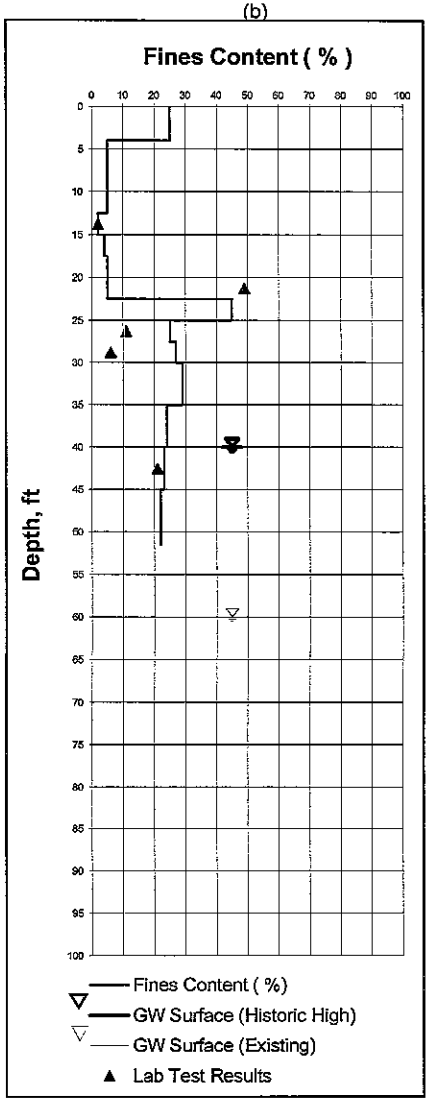
Elevation (MSL) (ft) 100

NOTE: If the total settlement is very small (e.g.<0.05"), it will not be seen due to the scale used, and should be reported as "negligible".

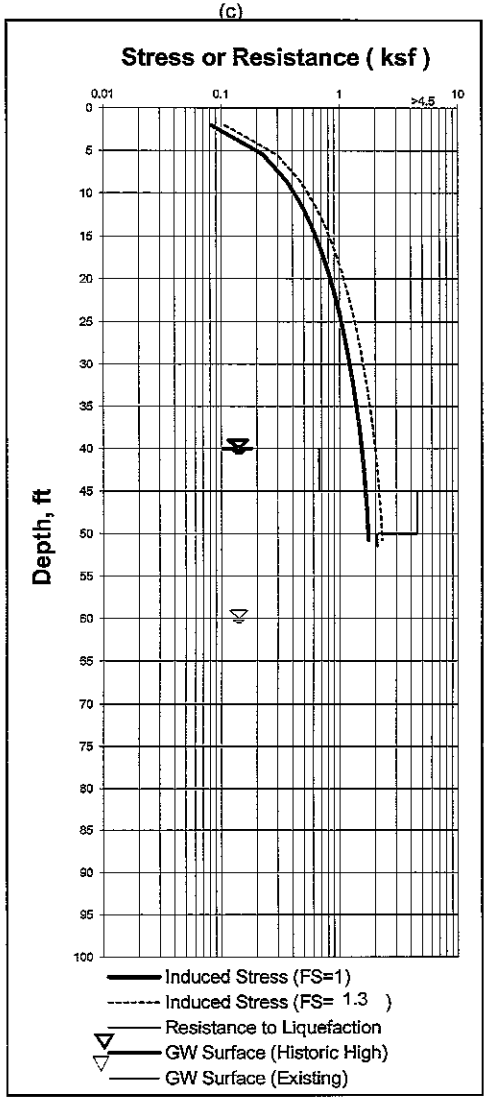
(a)



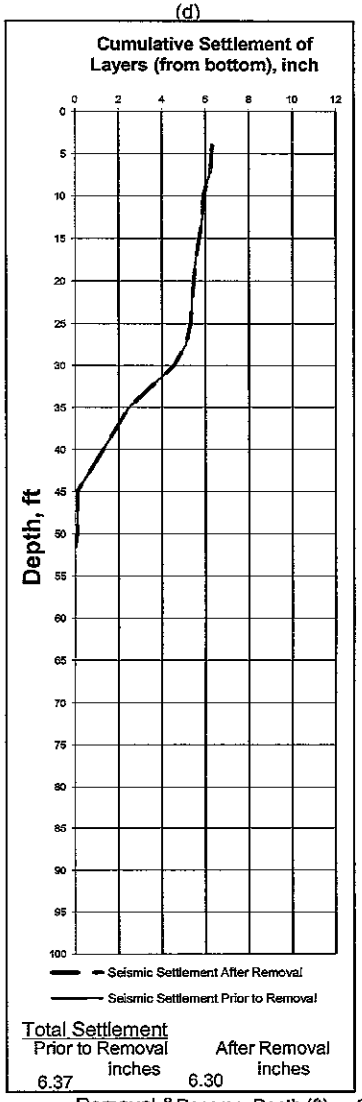
(b)



(c)



(d)



Total Settlement

Prior to Removal 6.37 inches

After Removal 6.30 inches

Removal & Recomp. Depth (ft) = 3

PROJECT: Angel Ballpark of Anaheim
Anaheim, Orange County, California

Los Angeles Angels

Weighted Ground Accel. (M=7.5) = 0.65 g

Site Magnitude = 7.5

Liquefaction Potential and Seismic Settlements Based on Boring Data

HARRINGTON GEOTECHNICAL INC
Geotechnical Engineering Consultants

Job No.:	20-01-3950
Date:	4-7-2020
Figure No.	7

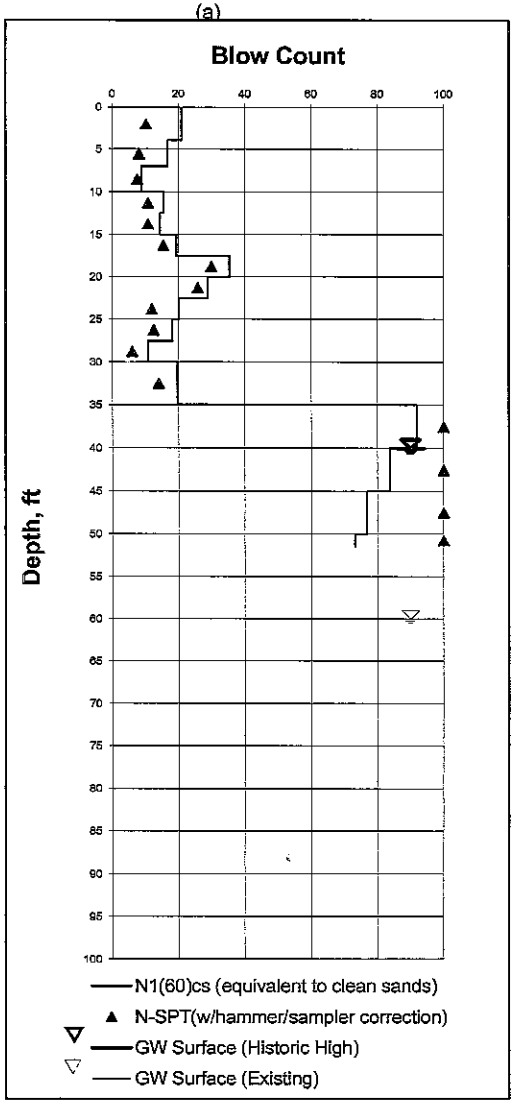
COMPUTER PROGRAM: EQLique&Settle"2"

Location..... **B-4**

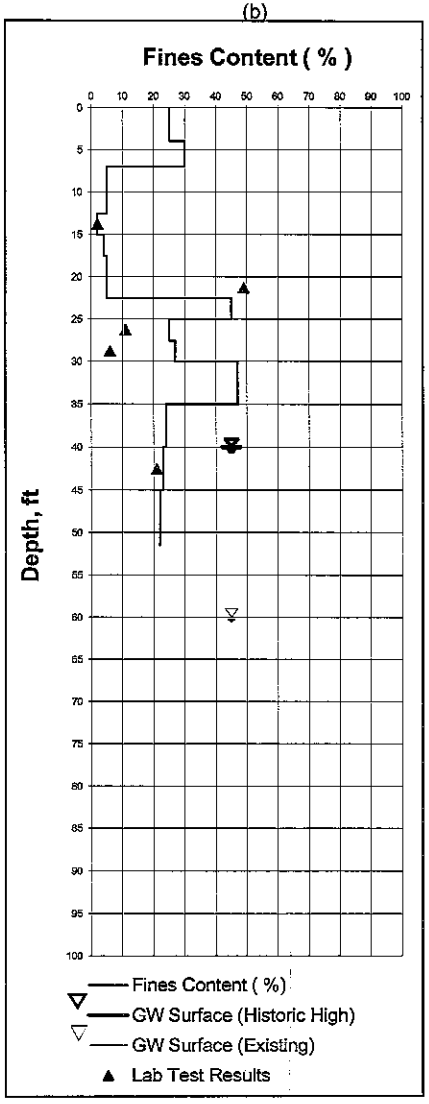
Elevation (MSL) (ft) 100

NOTE: If the total settlement is very small (e.g.<0.05"), it will not be seen due to the scale used, and should be reported as "negligible".

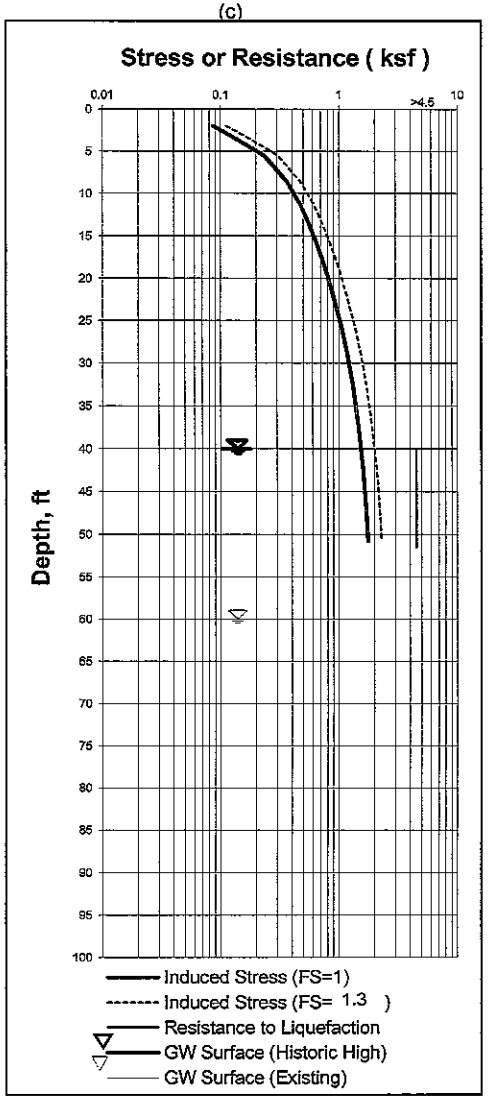
(a)



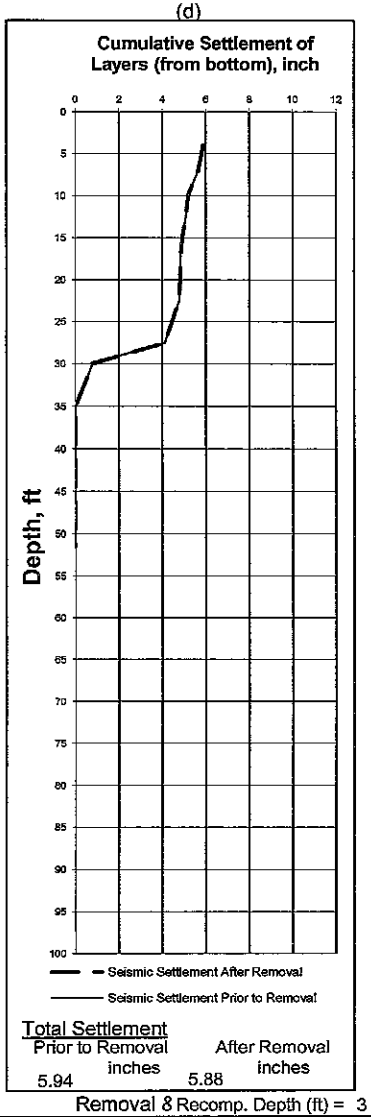
(b)



(c)



(d)



Total Settlement

Prior to Removal		After Removal	
5.94	inches	5.88	inches

Removal & Recomp. Depth (ft) = 3

PROJECT: Angel Ballpark of Anaheim Anaheim, Orange County, California Los Angeles Angels	Weighted Ground Accel. (M=7.5) = 0.65 g Site Magnitude = 7.5	**Liquefaction Potential and Seismic Settlements Based on Boring Data**	
		HARRINGTON GEOTECHNICAL INC **Geotechnical Engineering Consultants**	Job No.: 20-01-3950 Date: 4-7-2020 Figure No. 8

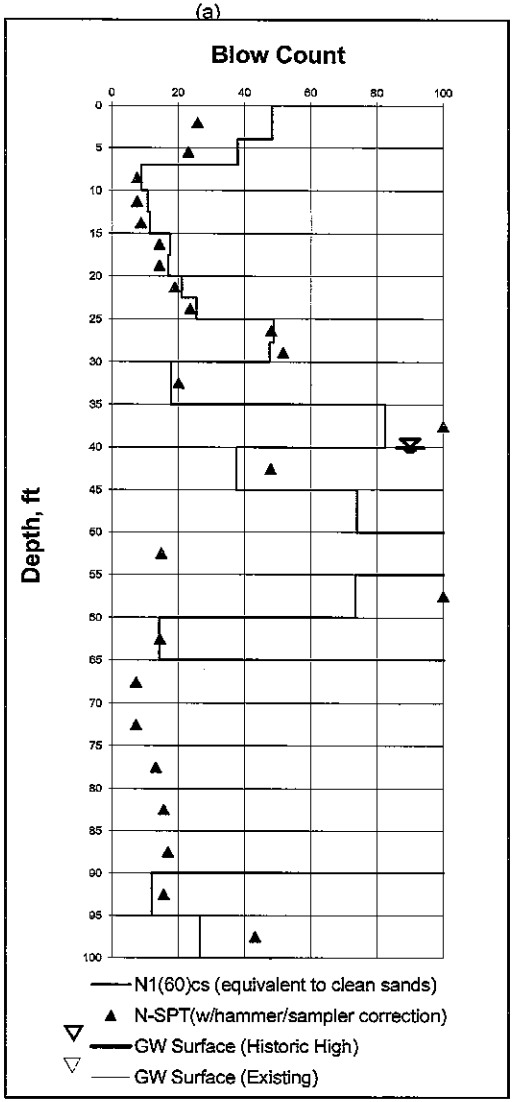
COMPUTER PROGRAM: EQLique&Settle"2"

Location..... B-5

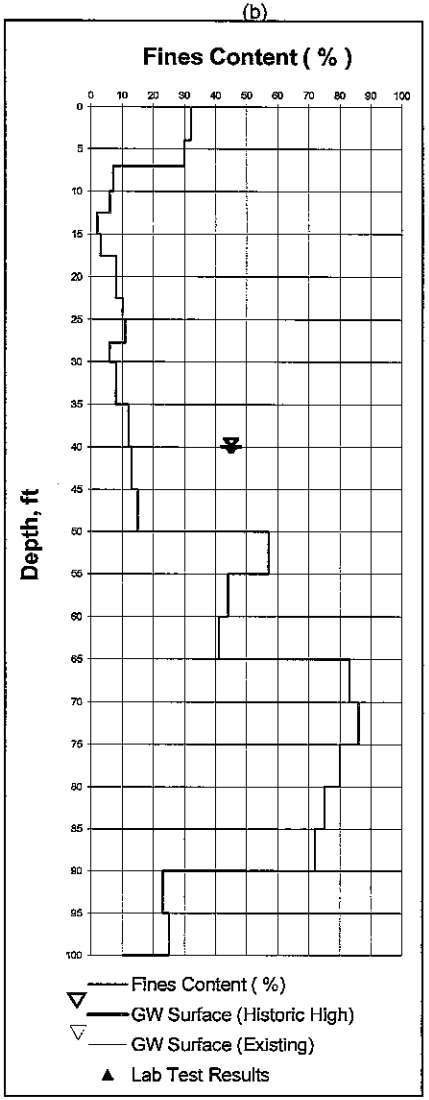
Elevation (MSL) (ft) 100

NOTE: If the total settlement is very small (e.g.<0.05"), it will not be seen due to the scale used, and should be reported as "negligible".

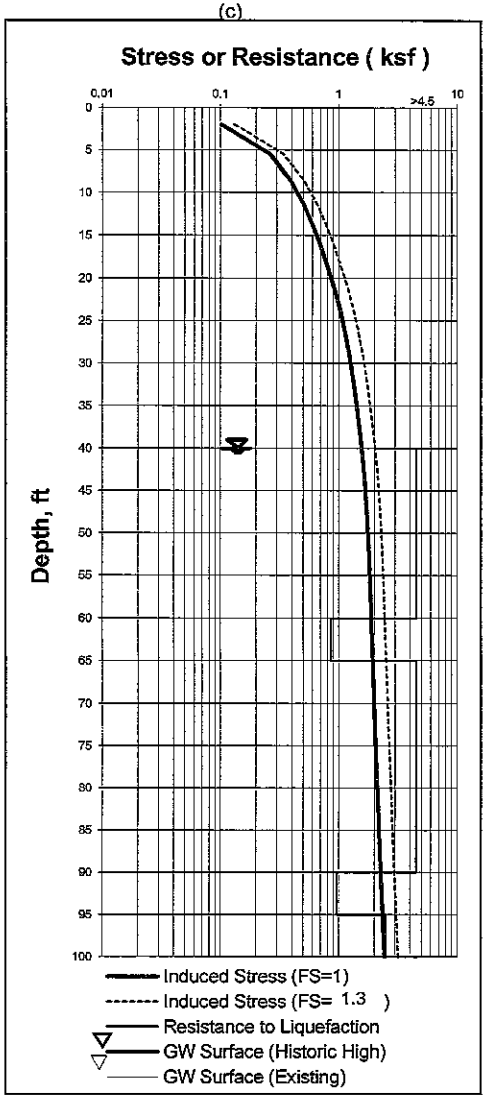
(a)



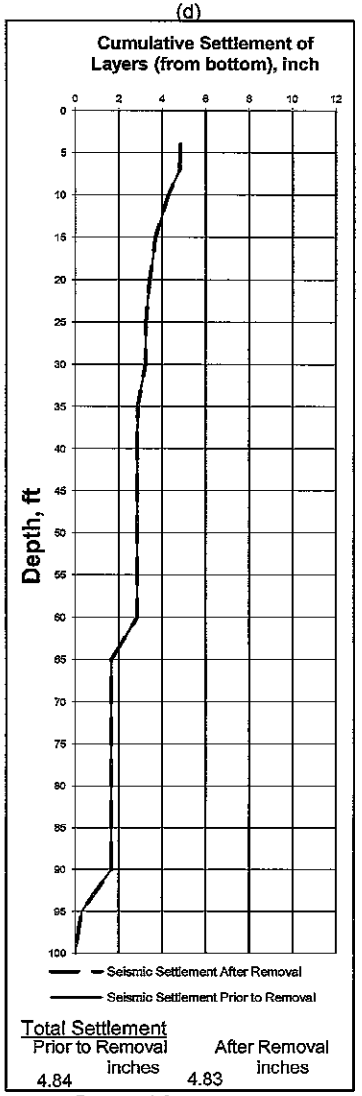
(b)



(c)



(d)



Total Settlement

Prior to Removal		After Removal	
4.84	inches	4.83	inches

Removal & Recomp. Depth (ft) = 3

PROJECT: Angel Ballpark of Anaheim Anaheim, Orange County, California Los Angeles Angels	Weighted Ground Accel. (M=7.5) = 0.65 g Site Magnitude = 7.5	**Liquefaction Potential and Seismic Settlements Based on Boring Data** **HARRINGTON GEOTECHNICAL INC** **Geotechnical Engineering Consultants**

Job No.:	20-01-3950
Date:	4-7-2020
Figure No.	9

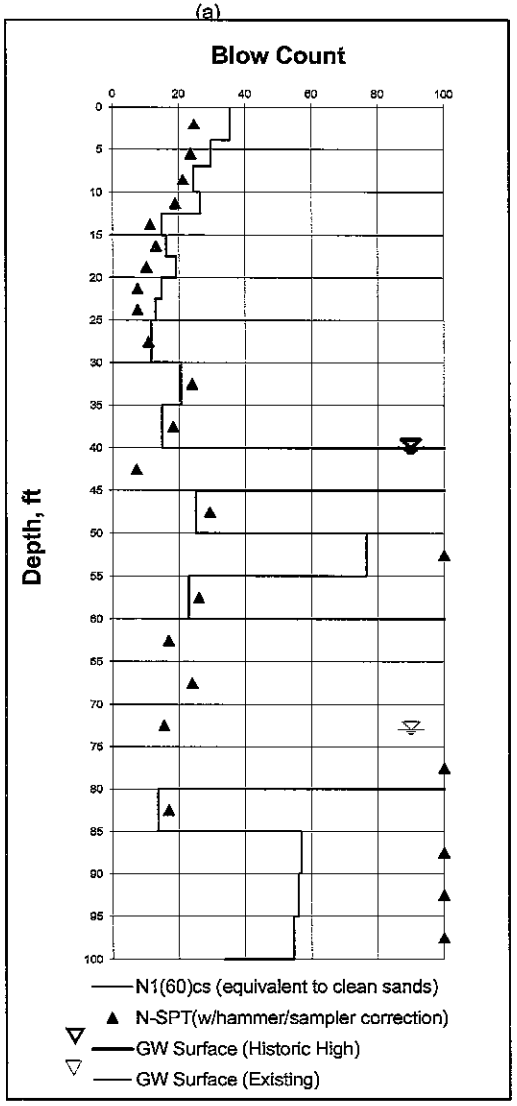
COMPUTER PROGRAM: EQLique&Settle"2"

Location..... B-140

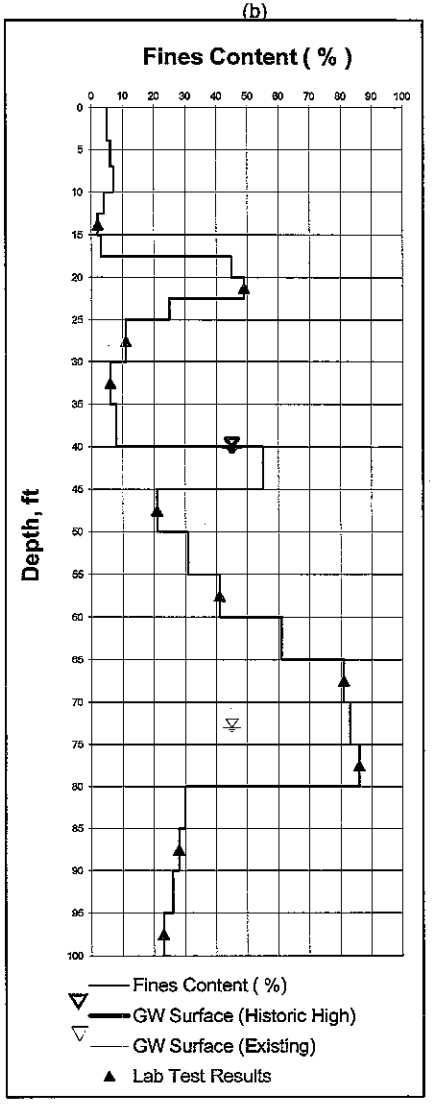
Elevation (MSL) (ft) 100

NOTE: If the total settlement is very small (e.g.<0.05"), it will not be seen due to the scale used, and should be reported as "negligible".

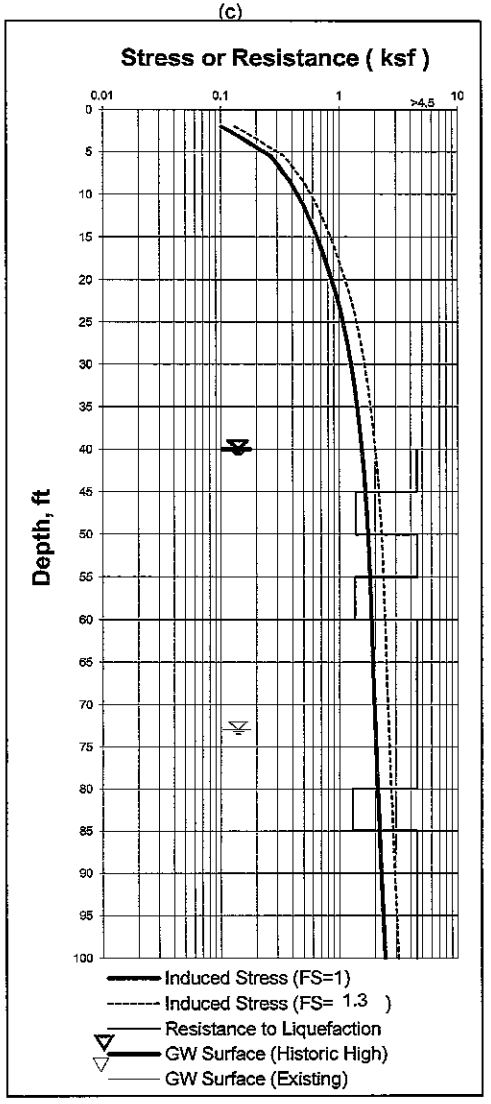
(a)



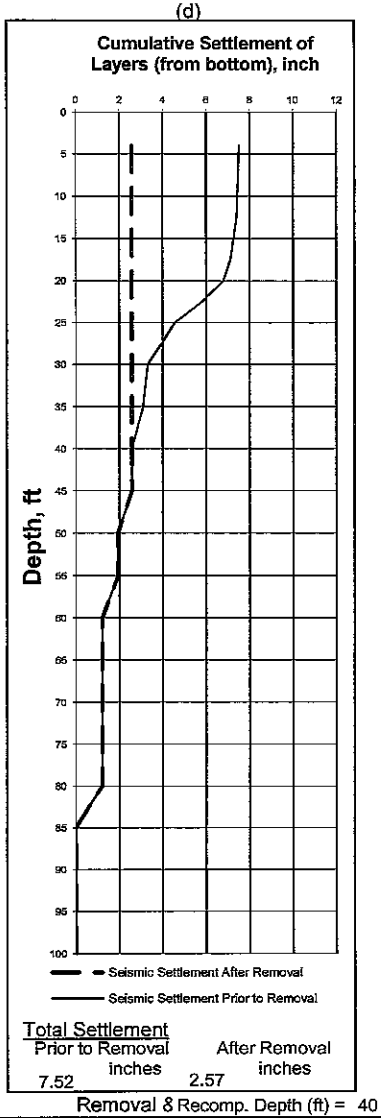
(b)



(c)



(d)



Total Settlement

Prior to Removal	After Removal
7.52 inches	2.57 inches

Removal & Recomp. Depth (ft) = 40

PROJECT: Angel Ballpark of Anaheim Anaheim, Orange County, California Los Angeles Angels	Weighted Ground Accel. (M=7.5) = 0.65 g Site Magnitude = 7.5	**Liquefaction Potential and Seismic Settlements Based on Boring Data** **HARRINGTON GEOTECHNICAL INC** **Geotechnical Engineering Consultants**

Job No.:	20-01-3950
Date:	4-7-2020
Figure No.	10

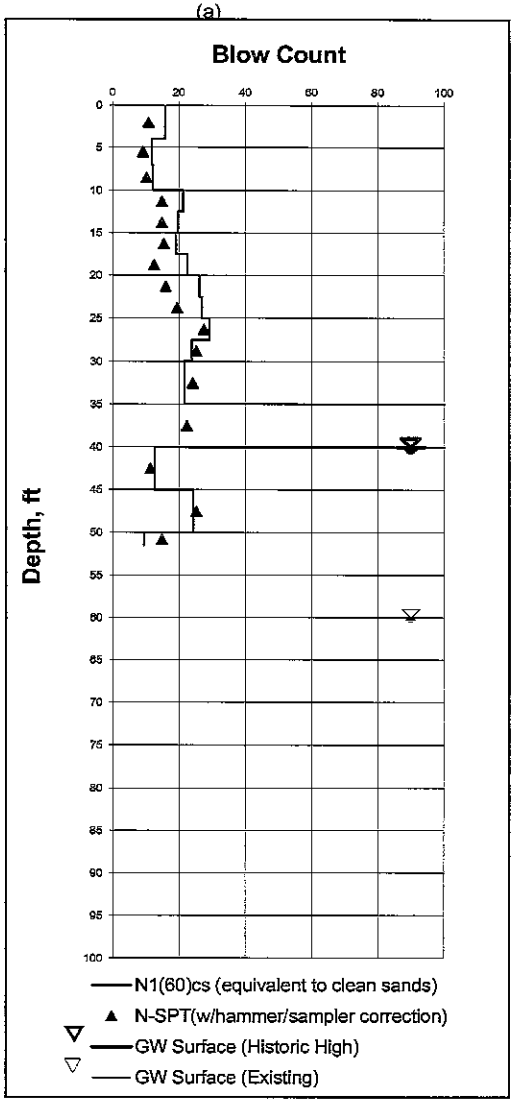
COMPUTER PROGRAM: EQLique&Settle"2"

Location..... **B-240**

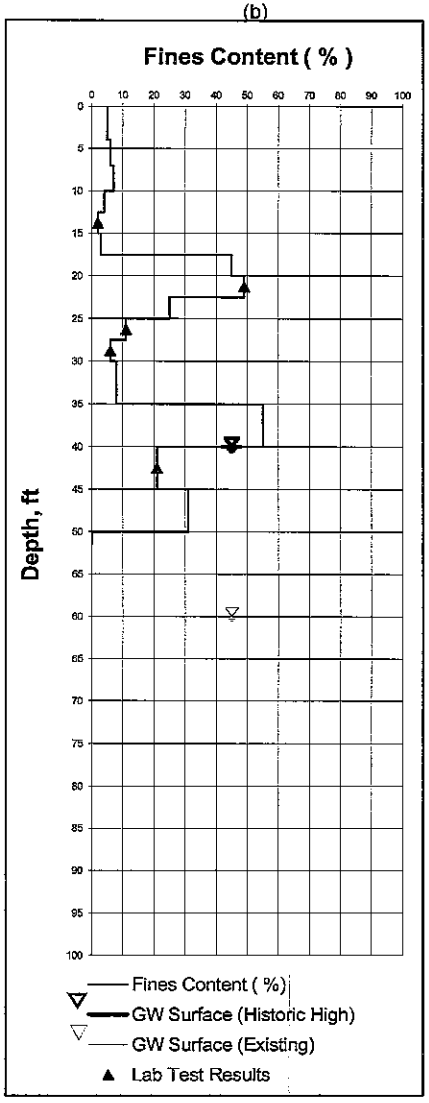
Elevation (MSL) (ft) 100

NOTE: If the total settlement is very small (e.g.<0.05"), it will not be seen due to the scale used, and should be reported as "negligible".

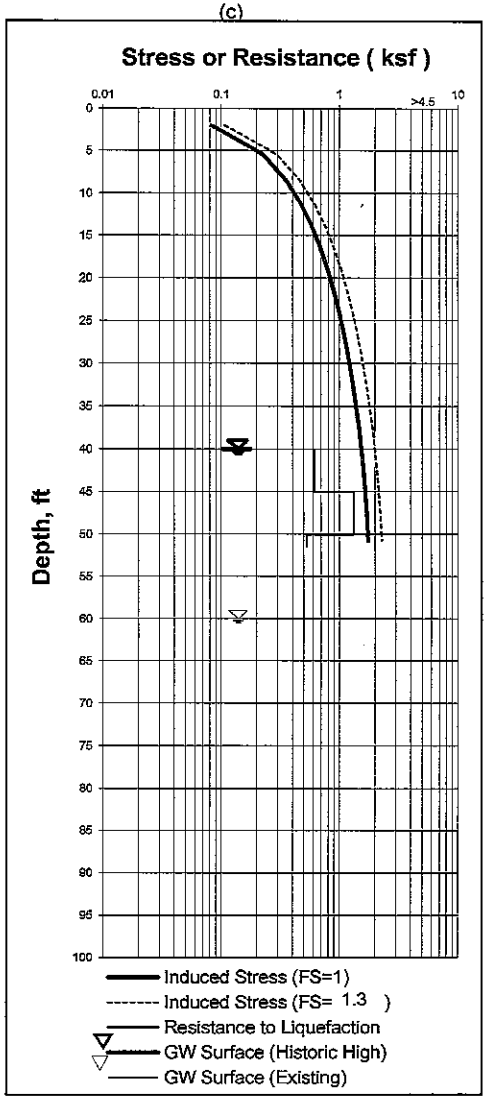
(a)



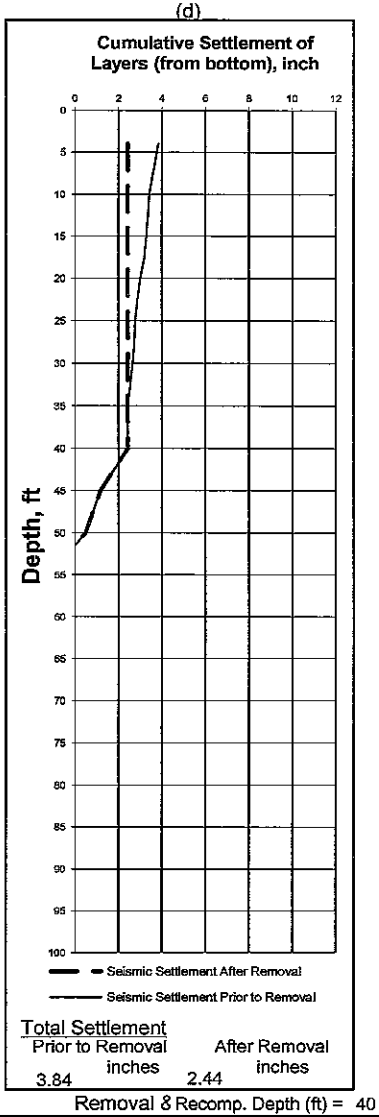
(b)



(c)



(d)



Total Settlement

Prior to Removal	After Removal
3.84 inches	2.44 inches

Removal & Recomp. Depth (ft) = 40

PROJECT: Angel Ballpark of Anaheim
Anaheim, Orange County, California

Los Angeles Angels

Weighted Ground Accel. (M=7.5) = 0.65 g

Site Magnitude = 7.5

Liquefaction Potential and Seismic Settlements Based on Boring Data

HARRINGTON GEOTECHNICAL INC
Geotechnical Engineering Consultants

Job No.:	20-01-3950
Date:	4-7-2020
Figure No.	11

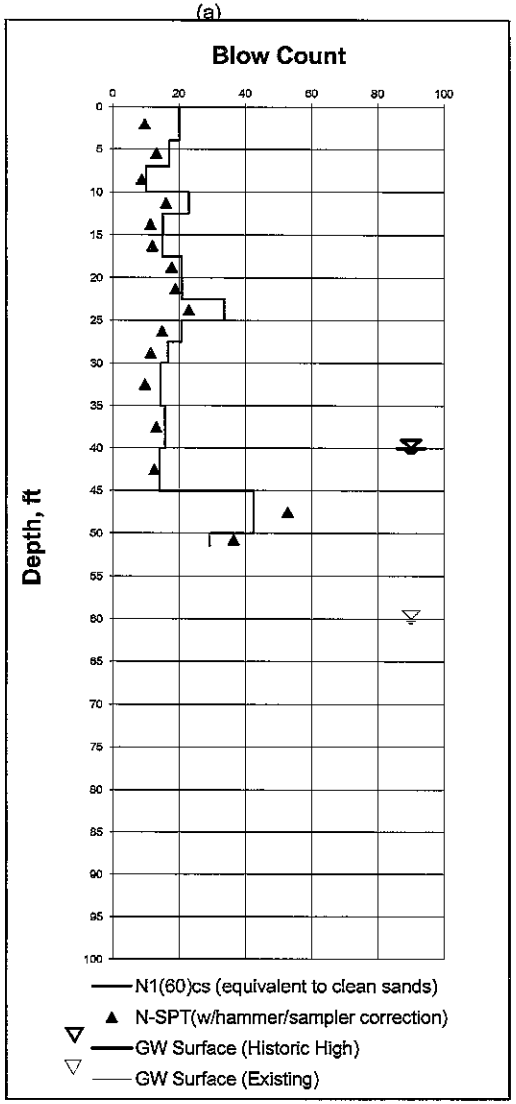
COMPUTER PROGRAM: EQLique&Settle"2"

Location..... B-340

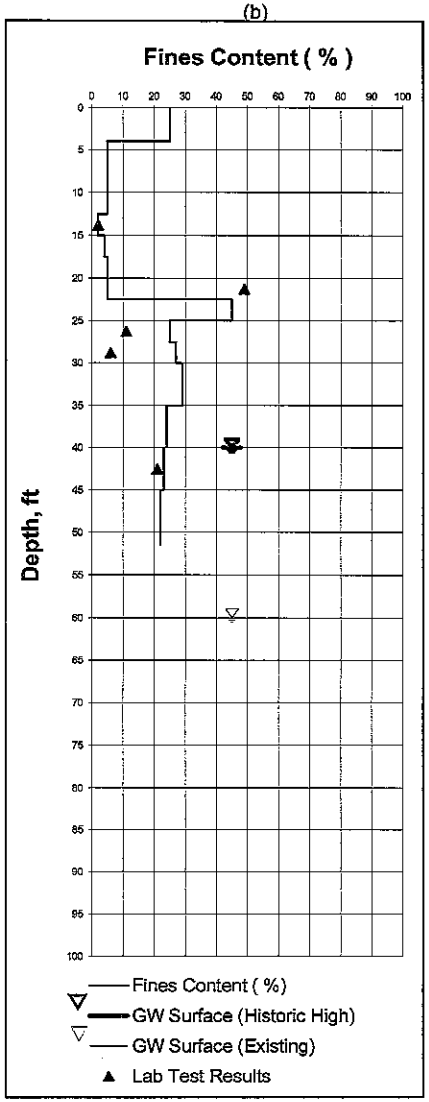
Elevation (MSL) (ft) 100

NOTE: If the total settlement is very small (e.g.<0.05"), it will not be seen due to the scale used, and should be reported as "negligible".

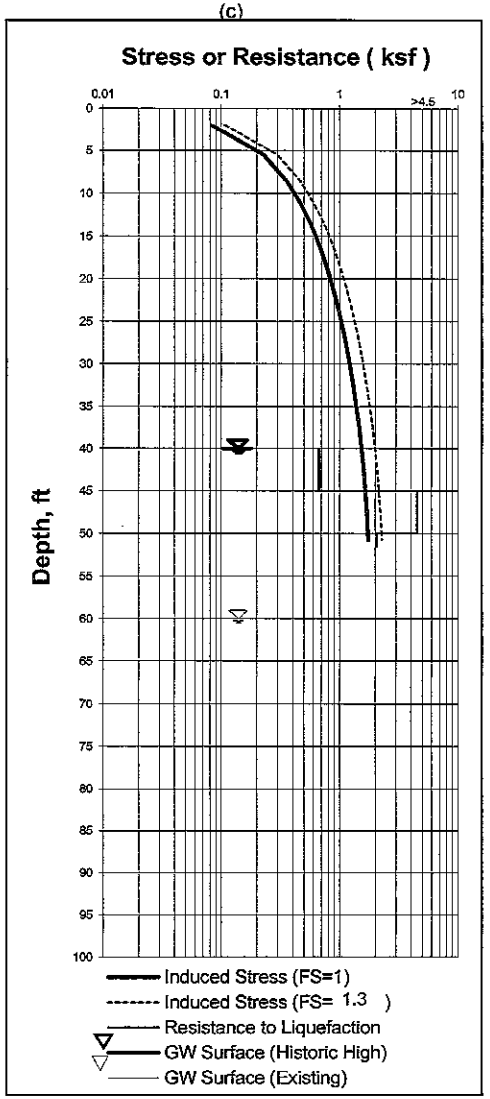
(a)



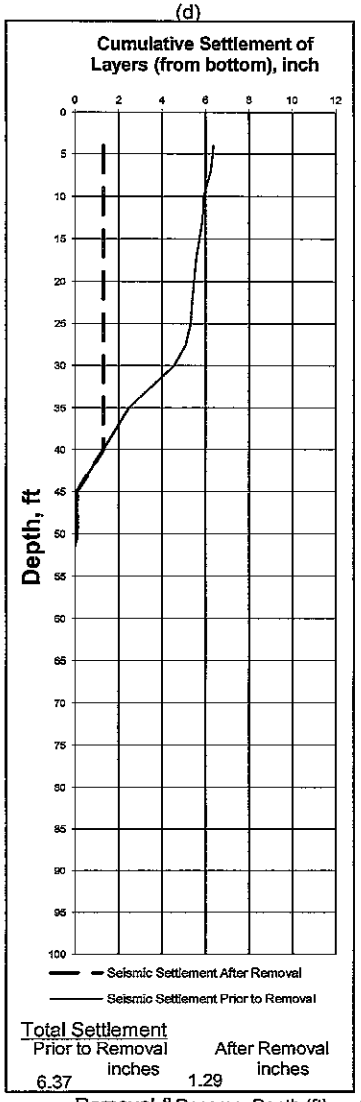
(b)



(c)



(d)



Total Settlement

Prior to Removal inches	After Removal inches
6.37	1.29

Removal & Recomp. Depth (ft) = 40

PROJECT: Angel Ballpark of Anaheim Anaheim, Orange County, California Los Angeles Angels	Weighted Ground Accel. (M=7.5) = 0.65 g Site Magnitude = 7.5	**Liquefaction Potential and Seismic Settlements Based on Boring Data** **HARRINGTON GEOTECHNICAL INC** **Geotechnical Engineering Consultants**

Job No.:	20-01-3950
Date:	4-7-2020
Figure No.	12

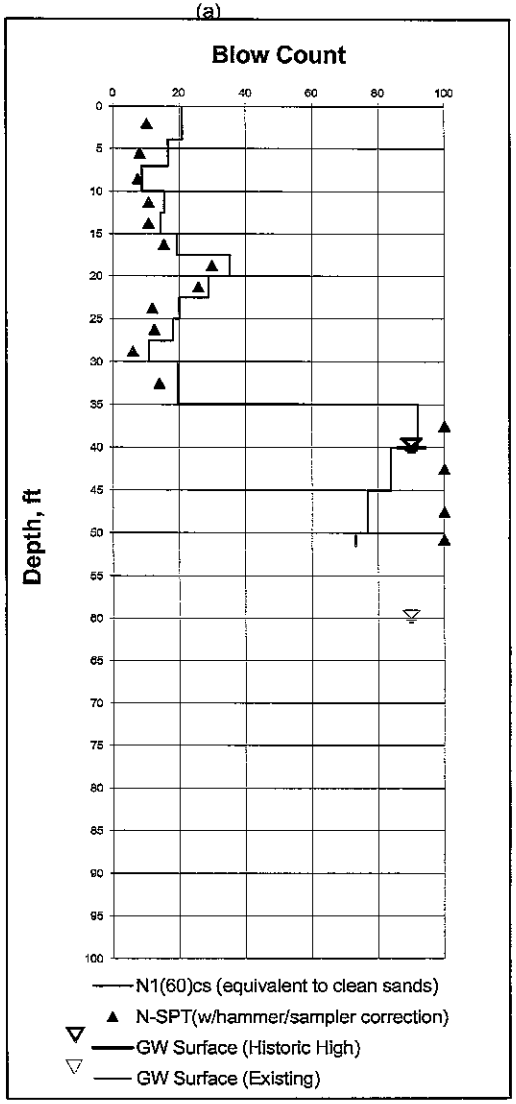
COMPUTER PROGRAM: EQLique&Settle"2"

Location..... B-430

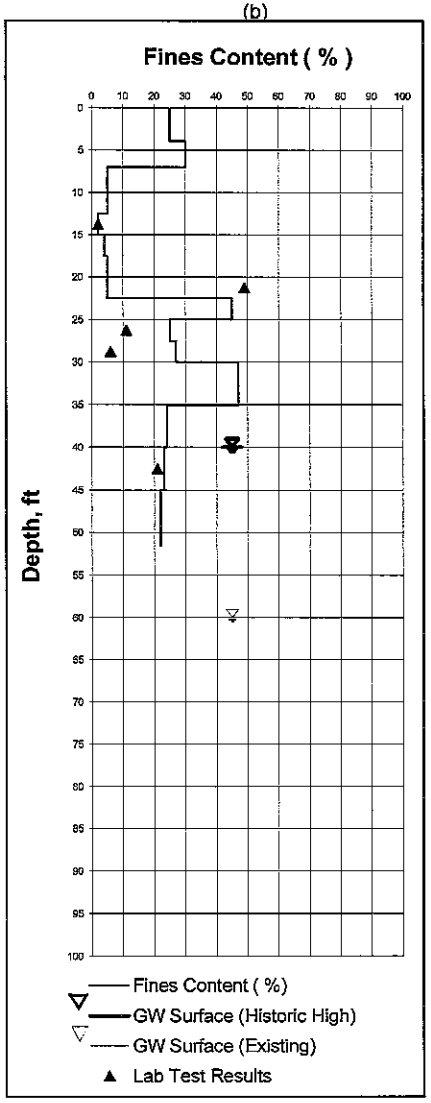
Elevation (MSL) (ft) 100

NOTE: If the total settlement is very small (e.g.<0.05"), it will not be seen due to the scale used, and should be reported as "negligible".

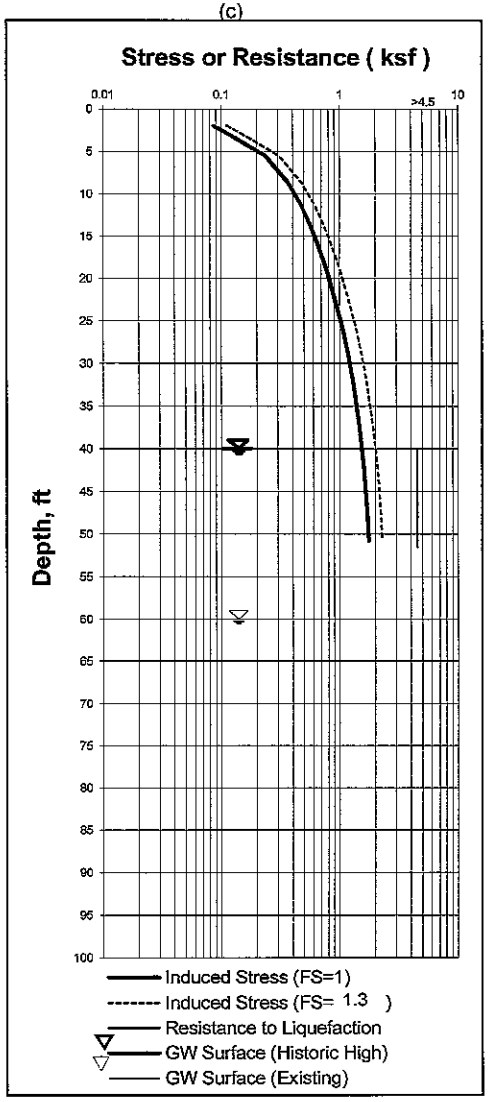
(a)



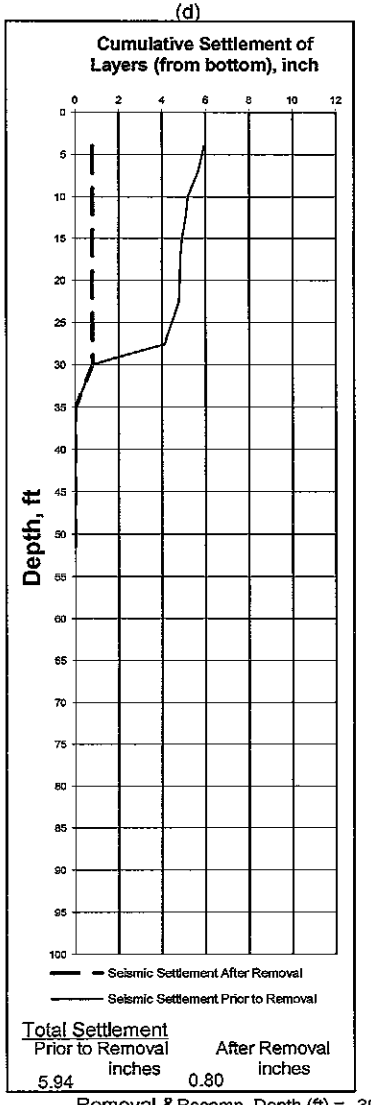
(b)



(c)



(d)



Total Settlement

Prior to Removal	After Removal
5.94 inches	0.80 inches

Removal & Recomp. Depth (ft) = 30

PROJECT: Angel Ballpark of Anaheim Anaheim, Orange County, California Los Angeles Angels	Weighted Ground Accel. (M=7.5) = 0.65 g Site Magnitude = 7.5	**Liquefaction Potential and Seismic Settlements Based on Boring Data** **HARRINGTON GEOTECHNICAL INC** **Geotechnical Engineering Consultants**	Job No.: 20-01-3950 Date: 4-7-2020 Figure No. 13

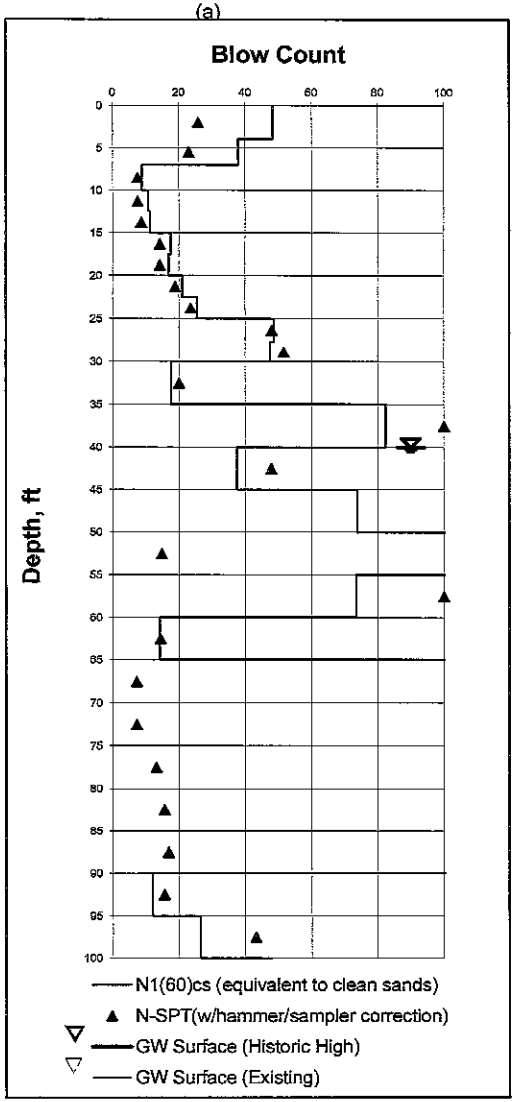
COMPUTER PROGRAM: EQLique&Settle"2"

Location..... **B-540**

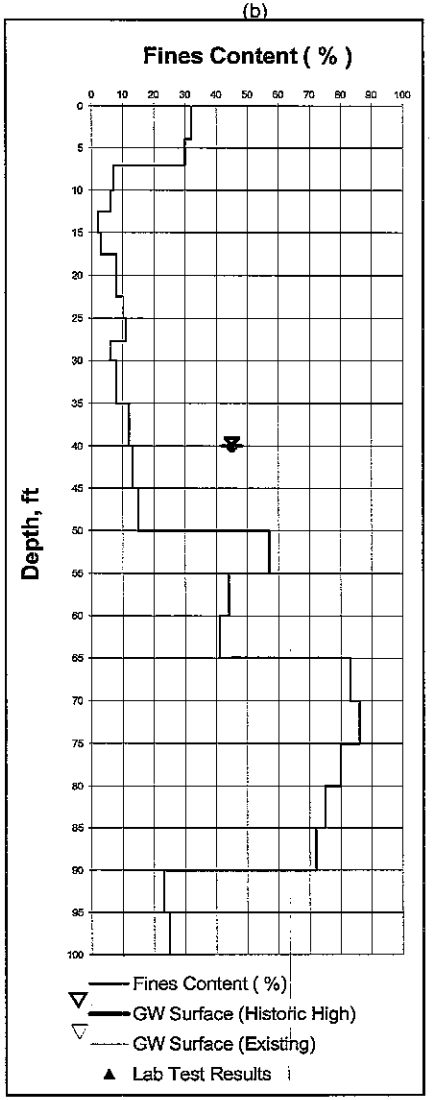
Elevation (MSL) (ft) 100

NOTE: If the total settlement is very small (e.g.<0.05"), it will not be seen due to the scale used, and should be reported as "negligible".

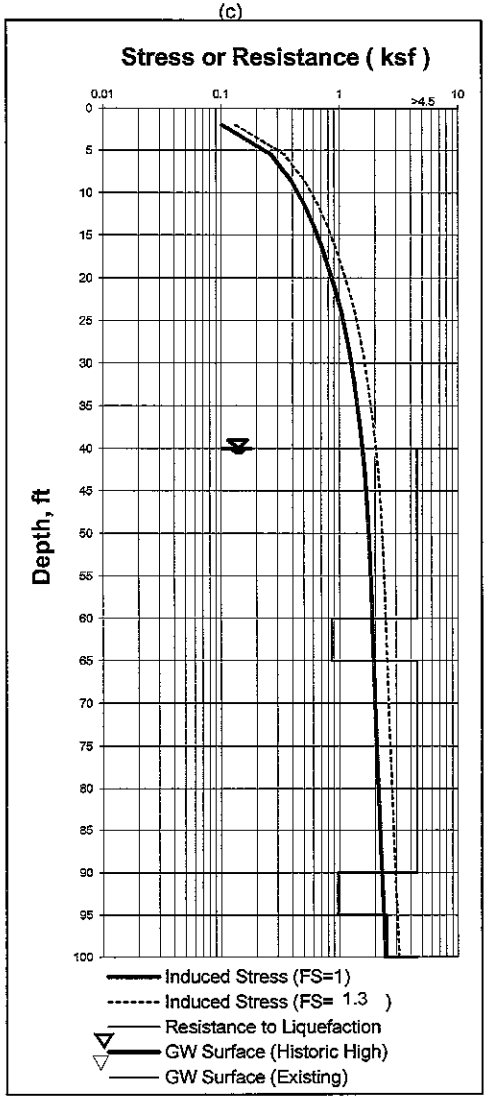
(a)



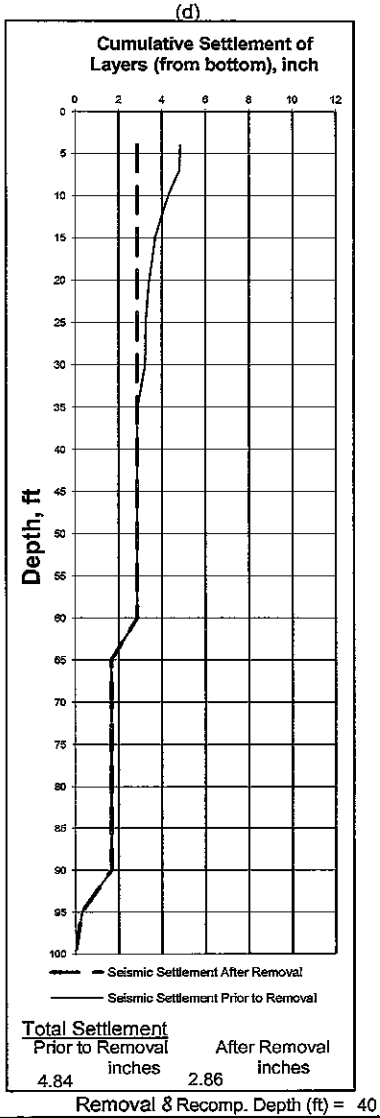
(b)



(c)



(d)



Total Settlement

Prior to Removal	After Removal
4.84 inches	2.86 inches

Removal & Recomp. Depth (ft) = 40

PROJECT: Angel Ballpark of Anaheim
Anaheim, Orange County, California

Los Angeles Angels

Weighted Ground Accel. (M=7.5) = 0.65 g

Site Magnitude = 7.5

Liquefaction Potential and Seismic Settlements Based on Boring Data

HARRINGTON GEOTECHNICAL INC
Geotechnical Engineering Consultants

Job No.:	20-01-3950
Date:	4-7-2020
Figure No.	14

APPENDIX E

GRADING SPECIFICATIONS

GRADING SPECIFICATIONS

These specifications present generally accepted standards and minimum grading (earthwork) requirements for the development of the subject project. These specifications shall be the project guidelines for earthwork except where specifically superseded in the geotechnical report(s) for the subject project; including the approved grading plan; and/or approved grading permit.

The Project Geotechnical Engineer and Project Engineering Geologist should be properly notified for an opportunity to review the following recommendations in order to comment on the suitability of the recommendations for the proposed development.

1. General

1.1. The Contractor shall be responsible for the satisfactory completion of all earthwork (including grading of constructed fills and cuts) in accordance with the project plans and specifications.

1.2. The Project Geotechnical Engineer and Project Engineering Geologist or their authorized representatives shall perform observations, testing services and geotechnical consultation throughout the duration of the project.

1.3. It is the Contractor's responsibility to prepare the ground surface to receive the fill to the satisfaction of the Project Geotechnical Engineer and to place, spread, mix and compact the fill materials in accordance with the project specifications and as required by the Project Geotechnical Engineer. The Contractor shall also remove all material considered by the Project Geotechnical Engineer to be unsuitable for use in the construction of compacted fills.

1.4. The Contractor shall have suitable and sufficient equipment in operation to handle the volume of fill material being placed and provide support equipment to properly compact the material in accordance with project specifications. When necessary, equipment will be shut down temporarily in order to permit proper compaction of fills by support equipment.

2. Site Preparation

2.1. Excessive vegetation and all deleterious material shall be removed from the fill areas and disposed of offsite of the grading operation. Existing earth materials determined by the Project Geotechnical Engineer as being unsuitable (incompatible) for placement in compacted fill areas shall be removed and disposed of offsite of the grading

operation. When applicable, the Contractor may obtain the approval of the Project Geotechnical Engineer and the controlling authorities for the project to dispose of the above-described materials, or a portion thereof, in designated areas onsite.

2.2. The exposed surfaces in areas to receive fill shall be scarified to a depth specified by the geotechnical report or a nominal 6 inches as determined by the Project Geotechnical Engineer; moisture conditioned as necessary; and compacted. In areas where it is necessary to obtain the approval of the controlling agency prior to placing fill, it will be the Contractor's responsibility to arrange the required inspections.

2.3. Any underground structures, e.g. cesspools, cisterns, septic tanks, wells, pipelines, etc., encountered during the grading operation are to be removed or relocated and the ground prepared for fill (cut) in a proper manner as recommended by the Project Geotechnical Engineer and/or the controlling agency for the project.

3. Subdrains

3.1. All subdrains should be constructed below the fill areas. Horizontal subdrains should be constructed below sloping fill areas at approximate 30 feet vertical intervals. Typical subdrains (less than 300 linear feet in length) should of constructed of 4-inch-diameter, perforated, Schedule 40 PVC pipe surrounded by one cubic foot per linear foot of gravel and filter fabric. Canyon subdrains should consist of 8-inch-diameter, perforated, Schedule 40 PVC pipe surrounded by nine cubic feet per linear foot of approved gravel wrapped with filter fabric.

4. Compacted Fills/Fill Slopes

4.1. All material imported to the grading operation should be reviewed by the Project Geotechnical Engineer for compatibility prior to placement as fill. Laboratory testing of import materials may be required as recommended by the Project Geotechnical Engineer. Import materials deemed unacceptable for placement of fill should be removed from the fill areas and disposed of offsite of the grading operation.

4.2. All rock or rock fragments less than 8 inches in size should be incorporated into fill in a manner which will prevent nesting and the rock/rock fragments are completely surrounded with compacted fill.

4.3. All rocks greater than 8 inches in size shall be removed from the project site or placed in accordance with the recommendations of the Project Geotechnical Engineer and controlling agency code in areas designated as suitable for rock disposal.

4.4. All fill materials shall be placed in thin loose lifts, moisture conditioned as necessary and compacted in accordance with project specifications. Each layer shall be spread evenly

and shall be thoroughly mixed during the spreading to obtain a nearly uniform moisture condition and a nearly uniform blend of materials.

4.5. All wet materials proposed for placement in fill areas should be moisture conditioned as necessary (either air dried or mechanically mixed). The Project Geotechnical Engineer may recommend removal of materials deemed too wet for placement of fill.

4.6. All fills shall be compacted to minimum project standards in compliance with the testing methods specified in the geotechnical report and in accordance with recommendations of the Project Geotechnical Engineer. Unless otherwise specified, the compaction standard shall be ASTM D1557 (latest approved standard).

4.7. All proposed slopes receiving fill (or ground sloping in excess of a ratio of five horizontal to one vertical), the fill shall be keyed and benched through all unsuitable topsoil, colluvium, alluvium, or creep-prone material into competent bedrock in accordance with the recommendations and approval of the Project Geotechnical Engineer or Project Engineering Geologist.

4.8. All drainage terraces for proposed fill slopes shall be constructed in compliance with the approved Grading Plan and/or the recommendations of the Project Civil Engineer. The preparation of the ground for construction of the drainage terraces should be reviewed for suitability by the Project Geotechnical Engineer.

4.9. All fill slopes (including buttresses and stabilization fills) shall be graded to a ratio not to exceed two horizontal to one vertical. The Contractor shall be required to obtain the specified minimum relative compaction out to the proposed finish slope face of slope. This may be achieved by both overbuilding the slope and cutting back to expose the compacted core, or by direct compaction of the slope face with suitable equipment, or by any other procedure which produces the designated result.

5. Keying and Benching

5.1. All fill-over-cut slopes shall be properly keyed through topsoil, colluvium or creep-prone material into bedrock or other firm material, and the transition shall be stripped of all unsuitable materials prior to placing fill. See the Keying and Benching Detail, Figure 1. The cut portion should be completed and then evaluated by the Project Engineering Geologist prior to placement of fill. The minimum dimensions of the key should be determined by the Project Engineering Geologist. All keys should include a subdrain as specified in Section 3.

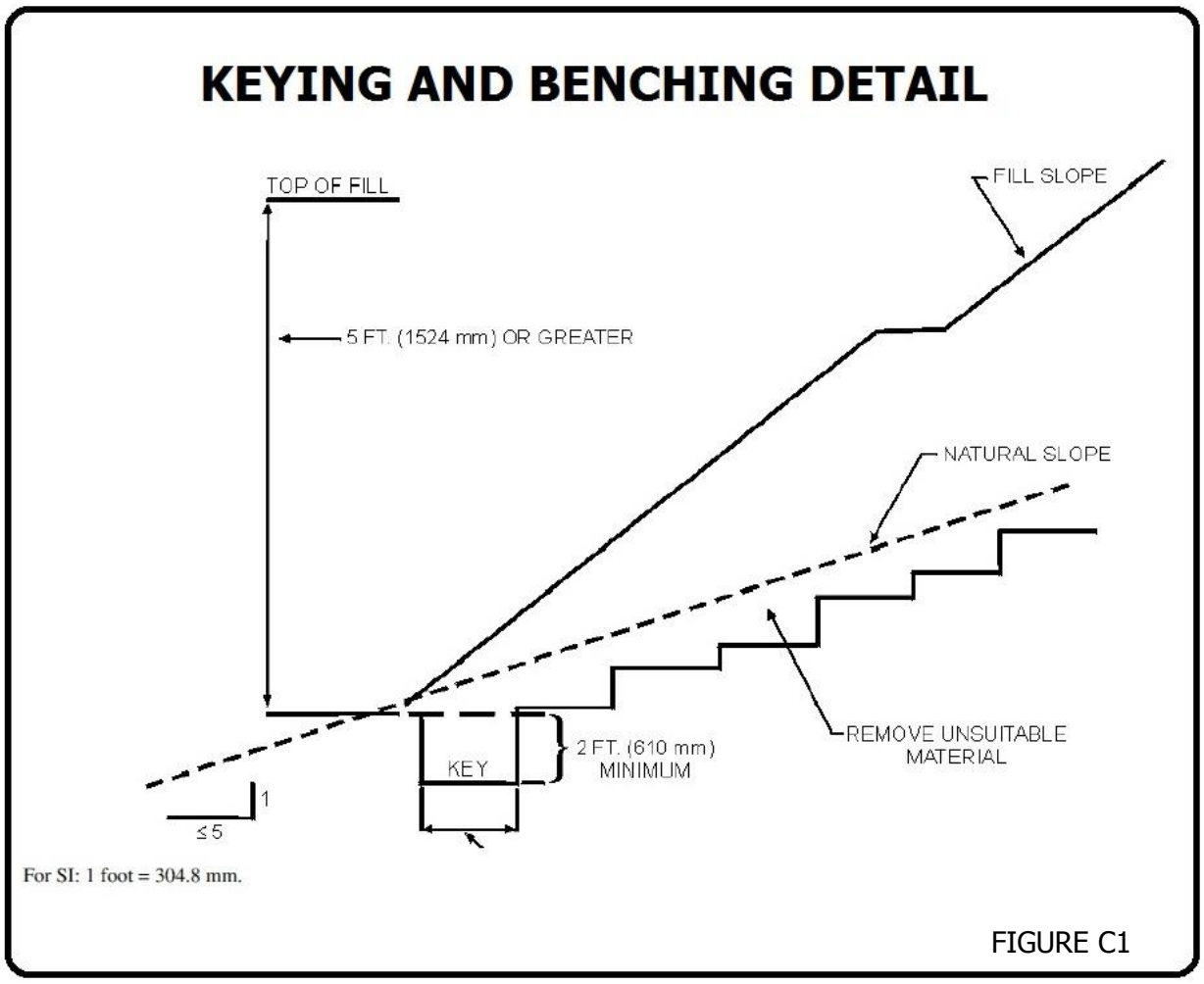


FIGURE C1

6. Cut Slopes

6.1. All cut slopes shall be inspected by the Project Engineering Geologist. The Contractor should notify the Project Engineering Geologist when cut slopes are started. If, during the course of grading, previously unforeseen and/or unanticipated adverse or potentially adverse geologic conditions are encountered, the Engineering Geologist and Geotechnical Engineer shall investigate, analyze and make recommendations for mitigation of these conditions.

6.2. All cut slopes shall be graded to a ratio not to exceed two horizontal to one vertical.

6.3. All drainage terraces for proposed cut slopes and shall be constructed in compliance with the approved Grading Plan and/or the recommendations of the Project Civil Engineer. The preparation of the ground for construction of the drainage terraces should be reviewed for suitability by the Project Geotechnical Engineer.

7. Retaining Wall Backfill

7.1. Retaining wall backfill should include a 12" wide blanket of granular soil (with a sand equivalent of at least 30) above a constructed subdrain and extend to within 3 feet of finished grade. The top 3 feet of backfill should consist of site material compacted to at least 90 percent relative compaction to impede surface water infiltration. Benches at least 2 feet wide should be cut into the excavation slope (backcut) at 2-foot vertical intervals during backfill placement.

7.2. The subdrain should consist of a 3-inch-diameter, perforated, Schedule 40 PVC or ABS SDR-35 pipe surrounded by one cubic foot/foot of 3/4-inch gravel wrapped in Mirafi 140 N geofabric or similar product. An adequate outlet for the subdrain should be provided and the location of the subdrain outlet should be reviewed by the project geotechnical engineer (engineering geologist) for suitability.

8. Utility Trench Backfills

8.1. Backfill for utility trenches should consist of site material that must be adequately compacted to preclude detrimental settlement. It is recommended, therefore, that backfills placed below the building foundation and to a distance of five feet outside thereof, and/or below concrete flatwork, be placed in appropriate lifts, moisture conditioned as necessary and mechanically compacted as to at least 90 percent of maximum dry density. Import materials (including sand) should be reviewed by the Project Geotechnical Engineer for suitability.

9. Grading Observations

9.1. Grading operations shall be observed by the Project Geotechnical Engineer (Geotechnical Technician) and where required, the Project Engineering Geologist.

9.2. All field density tests shall be made by the Geotechnical Technician to establish the relative compaction and moisture content of the fill in accordance with project specifications. Density tests shall generally be performed at (minimum) intervals not to exceed of 2 vertical feet or 1,000 cubic yards of material placed.

9.3. All field density testing of fill placed during the grading operation shall conform to the minimum project specifications. When test results indicate that the density of any layer of fill, or portion thereof, is below the required relative compaction (or outside the acceptable moisture range); the fill shall be reworked until the required density and/or

moisture content has been attained; or the material shall be removed. No additional fill shall be placed over an area until the last placed lift of fill has been tested and found to meet the density and moisture requirements and that lift has been approved by the Project Geotechnical Engineer.