



Geotechnical
Environmental
Hydrogeology
Material Testing
Construction Inspection

June 21, 2019

Project No. 16-6239

Xebec Realty Partners, LLC
3010 Old Ranch Parkway, Suite 470
Seal Beach, CA 92660

Attention: Steven Christie, Senior Development Manager

Subject: Geotechnical Investigation Report, Signal Hill Business Park, 20th Street and Walnut Avenue, Signal Hill, California

Steven,

In accordance with your request and authorization, TGR Geotechnical, Inc. (TGR) has performed a preliminary geotechnical investigation for the proposed development at the subject site in the City of Signal Hill, California. This report presents the findings of our geotechnical investigation, including site seismicity and liquefaction analysis and provides geotechnical design recommendations for the proposed improvements. The work was performed in general accordance with our proposal dated March 24, 2017.

Based on our investigation the proposed development is feasible from a geotechnical viewpoint provided the recommendations presented in this report are implemented during design and construction.

If you have any questions regarding this report, please do not hesitate to contact this office. We appreciate this opportunity to be of service.

Respectfully submitted,

TGR GEOTECHNICAL, INC.



Sanjay Govil, PhD, PE, GE 2382
Principal Geotechnical Engineer



Edward L. Burrows, M.S, PG, CEG 1750
Principal Engineering Geologist

Distribution: (4) Addressee



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Attachments:

- Figure 1 - Site Location Map
- Figure 2 - Regional Geology Map
- Figure 3 - Historically High Groundwater Map
- Figure 4 - Regional Fault Map
- Figure 5 - Seismic Hazard Zone Map
- Figure 6 - Retaining Wall Detail

Plate 1 - Geotechnical Map

Appendix A – References

Appendix B – Log of Borings and CPTs by TGR and APEX

Appendix C – Laboratory Testing Procedures and Results

Appendix D – Liquefaction

INTRODUCTION

Site Descriptions and Proposed Project Development

The subject site consists of two vacant undeveloped dirt covered parcels of land consisting of a total of 8.38 acres. The westernmost parcel is bounded by Walnut Avenue on the east, Gundry Avenue on the west, an apartment complex currently under construction on the north and a landscaped area running parallel with E. Wesley Avenue to the south. This parcel is currently bisected by East 21st Street. The easternmost parcel is bounded by Walnut Avenue on the west, Gaviota Avenue on the east, Alamitos Avenue on the south and American University of Health Services on the north. Both the east and west parcels have a southerly gradient with elevations ranging from 45 feet above mean seal level (msl) along the northern property boundary to approximately 22 feet above msl at the southeast corner of the site. The elevations on the eastern parcel range from 42 feet above msl along the northern property boundary to 23 feet above msl at the southern boundary of the site. A limited review of available historic aerial photos shows that from at least 2002 to 2013 there were soil stockpiles at various locations across both sites. In 1994, there were numerous large diameter storage tanks located on both parcels along with other structures that appear to be oil field related.

Based on our review of the conceptual grading and utility plan (CA Engineering, 2019), we understand that the proposed development of the site will consist of nine buildings ranging in size from 7,650 sq. ft. to 27,530 sq. ft. with associated retaining walls, parking, drive aisles, trash enclosures and bio-planters. Cuts and fills of up to 7 and 10 feet, respectively are proposed for the westernmost parcel. Cuts and fills of up to 9 and 4 feet, respectively are proposed for the easternmost parcel. Cut slopes of up to 10 feet in height, with a 2:1 gradient, are proposed along the western, northern and northwestern perimeter of the westernmost parcel. Cut slopes of up to 5 feet in height, with a 2:1 gradient, are proposed along the northern and eastern perimeter of the easternmost parcel. Fill slopes of up to 6 feet in height, with a 2:1 gradient, are proposed along the southwest perimeter of the easternmost parcel. Import of soils is required to bring the site to design grades.

Previous Studies

Prior to the preparation of our report, TGR was provided with boring and CPT logs completed by APEX. The borings and CPTs were completed as part of environmental studies for the subject site. The logs of borings and CPTs by APEX are presented in Appendix B and the locations of the borings and CPTs are shown on Plate 1. Findings from these boring and CPT logs are as follows:

The borings, for the most part, were in the northern portion of the westernmost parcel (above 21st Street). The CPTs were in both the northern and southern portions of the westernmost parcel as well as the eastern parcel. The borings consisted of seven (7) 2.5-inch-diameter geoprobes advanced to depths of 32 to 40 feet below ground surface (bgs) and one (1) 8-inch diameter hollow stem auger boring advanced to a depth of 35 feet bgs. Twenty-one (21) CPTs were advanced to depths ranging from approximately 28 to 51 feet bgs.

The subsurface conditions encountered in the APEX borings generally consisted of a blanket of artificial fill ranging from one (1) to five (5) feet in depth which was encountered throughout the project site. Immediately underlying the artificial fill to depths ranging from 8 ½ to 14 feet silt and clayey silt was encountered. Below this and generally extending to the maximum depths

explored, sand was encountered. Groundwater was encountered within the APEX borings at depths ranging from 24 to 40 feet bgs.

Xebec Building Company (Xebec) performed potholing across portions of the westernmost parcel in August of 2017. A TGR representative was present during the potholing to observe subsurface soil conditions with respect to thickness of undocumented fill and depth to competent native soils.

Xebec performed extensive potholing across both the western and eastern parcels in February of 2019. A TGR representative was also present during the potholing to observe subsurface soil conditions with respect to thickness of undocumented fill and depth to competent native soils.

The following is a summary of the geotechnical observations during the 2017 and 2019 potholing. For purposes of this summary, the site has been broken down into three (3) parcels: the Northwest Parcel; the Southwest Parcel; and the East Parcel. The Northwest Parcel is bounded by existing development to the north, 21st Street to the south, Walnut Avenue to the east and Gundry Avenue to the west. The Southwest Parcel is bounded by Jenni Rivera Park to the southwest, Walnut Avenue to the east and 21st Street to the north. The East parcel is bounded existing development to the north, 20th Street and Alamitos Avenue to the south, Gaviota Avenue to the east and Walnut Avenue to the west.

Northwest Parcel – Where explored, the southern portion of this parcel is underlain by undocumented fill to shallow depths ranging from approximately 1 to 3 feet with an average depth of 2 feet. The northern elevated portion of this parcel, where explored, was underlain by approximately 2 to 4 feet of undocumented fill, with the exception of the northcentral area which contained trash and debris up to depths of approximately 10 feet. The undocumented fill and trash and debris in the northwest parcel is underlain by competent native soil.

Southwest Parcel – Where explored, this parcel is underlain by undocumented fill to shallow depths ranging from approximately 1 to 3 feet, with an average depth of 2 feet, except for the northeast area which contained a relatively small area of debris (brick). The undocumented fill and debris were underlain by competent native soil.

East Parcel – Where explored, this parcel is underlain by undocumented fill to shallow depths ranging from approximately 1 to 2 feet in the southern portion of this parcel. The northern portion of the parcel, where explored, was underlain by up to approximately 7 feet of undocumented fill. The undocumented fill was underlain by competent native soil.

Area Underneath 21st Street – TGR did not observe the subsurface conditions beneath 21st Street. However, we anticipate that soil conditions will be similar to those encountered directly to the north and south of the street.

Scope of Work

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

- Site reconnaissance.
- Review of readily available aerial photographs and previous work done for the site.

- Excavation of five (5) hollow stem auger borings to the approximate depths of 16.5 feet to 51.5 feet below the existing grade.
- Laboratory testing of selected samples for in-situ moisture density, maximum dry density and optimum moisture content, shear, consolidation, expansion potential, sulfates, corrosion, R-value, and sieve analysis.
- Analyses of data, including site seismicity, liquefaction study, seismic settlement, and foundation design for proposed improvements, and soils engineering/earthwork with respect to the suitability of the proposed development.
- Preparing this report summarizing current subsurface soil conditions, findings, and presenting our recommendations for the proposed development.

Field Investigation

Field exploration was performed on April 6, 2017 by a member from our firm who logged the borings and obtained representative samples, which were subsequently transported to the laboratory for further review and testing. The approximate locations of the borings are indicated on the enclosed Boring Location Map (Plate 1).

The subsurface conditions were explored by drilling, sampling, and logging five borings with a truck mounted hollow stem drill rig. Borings B-1 and B-5 were advanced to an approximate depth of 16.5 feet below existing grade, boring B-2 was advanced to an approximate depth of 26.5 feet below existing grade, and borings B-3 and B-4 were advanced to a depth of 51.5 feet below existing grade. Subsequent to drilling, all borings were backfilled with bentonite and the cuttings drummed for disposal by others. The logs of borings presenting soil conditions and descriptions are given in Appendix B.

The drill rig was equipped with a sampling apparatus to allow for recovery of driven modified California Ring Sampler (CRS), 3-inch outside diameter, and 2.42-inch inside diameter and SPT samples. Driven samples and bulk samples of the earth materials encountered at selected intervals were recovered from the borings.

The samples were driven using an automatic 140-pound hammer falling freely from a height of 30 inches. The blow counts for CRS were converted to equivalent SPT blow count. Soil descriptions were entered on the logs in general accordance with the Unified Soil Classification System (USCS). The locations and depths of the soil samples recovered are indicated on the logs in Appendix B.

Laboratory Testing

Laboratory tests were performed on representative samples to verify the field classification of the recovered samples and to evaluate the geotechnical properties of the subsurface soils. The following tests were performed:

- In-situ moisture content (ASTM D2216) and dry density (ASTM D7263);
- Maximum Dry Density and Optimum Moisture Content (ASTM D1557);
- Corrosion series:
 1. Soluble Sulfate (CAL.417A);
 2. Soluble Chlorides (CAL.422);
 3. Minimum Resistivity (CAL.643); and

4. pH.

- Consolidation (ASTM D2435);
- Direct Shear Strength (ASTM D3080);
- Expansion Potential (ASTM D4829);
- R-Value (CAL 301); and
- Sieve Analysis (ASTM D6913).

Laboratory tests for geotechnical characteristics were performed in general accordance with the ASTM procedures. The results of the in-situ moisture content and density tests are shown on the borings logs (Appendix B). The results of the laboratory tests are presented in Appendix C.

GEOTECHNICAL FINDINGS

Geology

Regional Geologic Setting

The project site is located in the southwest portion of the Long Beach 7.5-minute Quadrangle, Los Angeles County, California. Per the Geologic Map of the Long Beach 30'x60' Quadrangle, Los Angeles County, California (CGS, 2010), the subject site is underlain by Quaternary alluvial deposits comprised of layers of gravel, sand and silt. Figure 2 presents the Regional Geology Map.

Earth Units

Based on our subsurface investigation and a review of the borings by APEX, the subject area is underlain by a thin mantle of fill overlying Quaternary age alluvial deposits. The undocumented fill, which varies in thickness from 1 to 10 feet, consisted of sandy silt with scattered gravels and varying amounts of trash and debris. The undocumented fill is not considered suitable for support of the proposed structures. Given the history of the site and the observation of previous stockpiles material at the site as part of our limited aerial photo review, Oversize material may be encountered during grading. While the amount of oversize material at the site is anticipated to be minor, its presence should be noted and accounted for. The underlying alluvium was present to the maximum depth explored of 51.5 feet below the existing grade. Generally, the alluvium consisted of silt and clayey silt in the upper 10 to 15 feet. Below this depth, the soils generally consisted of fine to medium grained sand with some clay and silt layers to the total depth explored of 51.5 feet below grade. Detailed descriptions of the earth units encountered in our borings are presented in the log of the borings.

Groundwater

Subsurface water was encountered during the exploration at 25 to 29 feet below existing ground surface. Based on our review of available historical groundwater information (CDMG, 1998) regional groundwater has been mapped in the general site area at approximately 15 feet below site grade (Figure 3). Seasonal and long-term fluctuations in the groundwater may occur as a result of variations in subsurface conditions, rainfall, run-off conditions and other factors. Therefore, variations from our observations may occur. Static groundwater is not anticipated to impact the proposed development.

Seismic Review

Faulting and Seismicity

The subject site, like the rest of Southern California, is located within a seismically active region as a result of being located near the active margin between the North American and Pacific tectonic plates. The principal source of seismic activity is movement along the northwest-trending regional faults such as the San Andreas, San Jacinto and Elsinore fault zones. These fault systems produce approximately 5 to 35 millimeters per year of slip between the plates.

By definition of the State Mining and Geology Board, an active fault is one which has had surface displacement within the Holocene Epoch (roughly the last 11,000 years). The State Mining and Geology Board has defined a potentially active fault as any fault which has been active during the Quaternary Period (approximately the last 1,600,000 years). These definitions are used in delineating Earthquake Fault Zones as mandated by the Alquist-Priolo Geologic Hazard Zones Act of 1972 and as subsequently revised in 1994 (Hart, 1997) as the Alquist-Priolo Geologic Hazard Zoning Act and Earthquake Fault Zones.

These active and potentially active faults are capable of producing potentially damaging seismic shaking at the site. It is anticipated that the subject site will periodically experience ground acceleration as the result of small to moderate magnitude earthquakes. Other active faults without surface expression (blind faults) or other potentially active seismic sources that are not currently zoned and may be capable of generating an earthquake are known to be present under the region.

Based on our review of the referenced geologic maps, as well as our field reconnaissance, the subject site is not included within any Earthquake Fault Zones as created by the Alquist-Priolo Earthquake Fault Zoning Act (Hart, 1997). Our review of geologic literature pertaining to the site area indicates that there are no known active or potentially active faults located within or immediately adjacent to the subject property. The nearest fault to the subject site is the Newport Inglewood Fault, mapped approximately 0.25 miles northeast of the subject site. Other faults nearby include the Los Alamitos Fault mapped 3.6 miles northeast, the THUMS-Huntington Beach Fault mapped approximately 4.9 miles southwest, and the Palos Verdes Fault Zone mapped approximately 6.6 miles southwest of the site. Regional Fault Map (Figure 4) presents the location of the site with respect to the regional faults.

Secondary Seismic Hazards

Surface Fault Rupture and Ground Shaking

Since no known faults are located within the site, surface fault rupture is not anticipated. However, due to the proximity of known active and potentially active faults, severe ground shaking should be expected during the life of the proposed structures.

Liquefaction

Liquefaction is a seismic phenomenon in which loose, saturated, fine-grained granular soils behave similarly to a fluid when subjected to high-intensity ground shaking. Liquefaction occurs when these ground conditions exist: 1) Shallow groundwater; 2) Low density, fine, clean sandy soils; and 3) High-intensity ground motion. Effects of liquefaction can include sand boils, settlement, and bearing capacity failures below foundations.

A review of the Seismic Hazard Zone Map, Long Beach Quadrangle indicates that a portion of the project site is located in an area identified as having a potential for soil liquefaction (see Figure 5). Published historic high groundwater at this site is approximately 15 feet (Seismic Hazard Zone Report 028, 1998). Groundwater was encountered in borings B-3 and B-4 at depths of 25 and 29 feet, respectively. Liquefaction analysis was performed on the subsurface profile represented by borings B-3 and B-4. The analysis utilized a peak ground acceleration of 0.629g (peak ground acceleration for 2% probability of exceedance in 50 years) and a moment magnitude of 7.1. A historic high groundwater of 15 feet below existing grade was utilized in the calculations. The subsurface soils generally have a negligible potential for liquefaction. The total seismic settlement is estimated to be 0.0 to 0.2 inches. Details of calculations are presented in Appendix D.

Seismically Induced Settlement

Ground accelerations generated from a seismic event can produce settlements in sands or in granular earth materials both above and below the groundwater table. This phenomenon is often referred to as seismic settlement and is most common in relatively clean sands, although it can also occur in other soil materials. The total seismic settlement for the above subject site is anticipated to range from 0.0 inches to 0.20 inches. The differential seismic settlement is estimated to be negligible.

Lateral Spreading

Seismically induced lateral spreading involves primarily movement of earth materials due to earth shaking. Lateral spreading is demonstrated by near-vertical cracks with predominantly horizontal movement of the soil mass involved. The topography in the vicinity of the subject site is relatively flat. Therefore, the potential for lateral spreading at the subject site is considered very low.

DISCUSSIONS AND CONCLUSIONS

General

Based on our field exploration, laboratory testing and engineering analysis, it is our opinion that the proposed structures will be safe against hazard from landslide, settlement, or slippage and the proposed construction will have no adverse effect on the geologic stability of the adjacent properties provided our recommendations presented in this report are followed.

Conclusions

Based on our findings and analyses, the subject site is likely to be subjected to moderate to severe ground shaking due to the proximity of known active and potentially active faults. This may reasonably be expected during the life of the structures and should be designed accordingly.

The engineering evaluation performed concerning site preparation and the recommendations presented are based on information provided to us and obtained by us during our office and fieldwork. This report is prepared for the development of the nine industrial buildings between 7,650 and 27,530 square feet and associated retaining walls, parking, drive aisles, trash

enclosures and bio-planters at the subject property. In the event that any significant changes are made to the proposed development, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed, and the recommendations of this report are verified or modified in writing by TGR.

RECOMMENDATIONS

Seismic Design Parameters

When reviewing the 2016 California Building Code the following data should be incorporated into the design.

Latitude (degree)	33.7956
Longitude (degree)	-118.1727
Site Class	D
Site Coefficient, F_a	1.0
Site Coefficient, F_v	1.5
Mapped Spectral Acceleration at 0.2-sec Period, S_s	1.631 g
Mapped Spectral Acceleration at 1.0-sec Period, S_1	0.611 g
Spectral Acceleration at 0.2-sec Period Adjusted for Site Class, S_{MS}	1.631 g
Spectral Acceleration at 1.0-sec Period Adjusted for Site Class, S_{M1}	0.916 g
Design Spectral Acceleration at 0.2-sec Period, S_{DS}	1.087 g
Design Spectral Acceleration at 1.0-sec Period, S_{D1}	0.611 g

The structural consultant should review the above parameters and the 2016 California Building Code to evaluate the seismic design.

Conformance to the criteria presented in the above table for seismic design does not constitute any type of guarantee or assurance that significant structural damage or ground failure will not occur during a large earthquake event. The intent of the code is "life safety" and not to completely prevent damage of the structure, since such design may be economically prohibitive.

Foundation Design Recommendations

The proposed buildings may be supported on continuous and/or spread footings. Bearing capacity recommendations for shallow foundations are presented below. These recommendations assume that the footings will be supported on a minimum of two (2) feet of engineered fill or competent native soils with a minimum relative compaction of 90 percent. Existing undocumented fill is considered unsuitable for the support of structures and shall be removed or processed in-place and moisture conditioned prior to the placement of engineered fill.

For foundations supported on two (2) feet of engineered fill or competent native soil with a minimum ninety (90) percent relative compaction, an allowable bearing pressure of 2000 pounds per square foot may be used in design.

All shallow foundations should extend a minimum of twenty-four (24) inches below the lowest adjacent grade. The minimum recommended footing width is fifteen (15) inches for continuous footing and twenty-four (24) inches for pad footing. A minimum reinforcement of two (2) No. 4 steel bar top and bottom is required for continuous footings from a geotechnical viewpoint.

A one-third (1/3) increase on the aforementioned bearing pressure may be used in design for short-term wind or seismic loads.

Total settlement is estimated to not exceed 1.0 inches and the differential settlement is estimated as 0.50 inches over 30 feet or less.

Resistance to lateral loads including wind and seismic forces may be provided by frictional resistance between the bottom of concrete and the underlying fill soils and by passive pressure against the sides of the foundations. A coefficient of friction of 0.35 may be used between concrete foundation and underlying soil. The recommended passive pressure of the engineered fill may be taken as an equivalent fluid pressure of 250 pounds per cubic foot (2,500 psf max).

Retaining Walls

The following soil parameters may be used for the design of retaining walls with level backfill and a maximum height of six (6) feet. Retaining walls may be supported on continuous footings with a minimum width of 18 inches and minimum embedment of 24 inches below lowest adjacent grade.

<u>Conditions</u>	<u>Equivalent Fluid Pressure (psf/ft)</u>
Active (level)	45
Active (2:1)	66
Passive	250 (maximum 2500 psf)

- The passive pressure in the upper 6 inches of soil not confined by slabs or pavement should be neglected.
- A coefficient of friction of 0.35 may be used between concrete foundation and underlying soil.
- All footings should meet the setback requirements presented in 2016 CBC.
- The retaining wall should be provided with a drainage system (Miradrain or equivalent) to prevent buildup of hydrostatic pressure behind the walls. We do not recommend omitting the drains behind walls.

In addition to the above lateral forces due to retained earth, surcharge due to improvements, such as an adjacent structure, should be considered in the design of retaining walls. Loads applied within a 1:1 projection from the surcharging structure on the stem of the wall shall be considered as lateral surcharge. For lateral surcharge conditions, we recommend utilizing a horizontal load equal to 50 percent of the vertical load, as a minimum. This horizontal load

should be applied below the 1:1 projection plane. To minimize the surcharge load from an adjacent footing, deepened footings may be considered.

Cement Type and Corrosion

Concrete used should be designed in accordance with the provisions of ACI 318-11, Chapter 4 for Exposure Class S0.

Corrosion tests indicate strong corrosion potential for ferrous metals exposed to site soils.

TGR does not practice corrosion engineering. If needed, a qualified specialist should review the site conditions and evaluate the corrosion potential of the site soil to the proposed improvements and to provide the appropriate corrosion mitigations for the project.

Expansive Soil

Expansion index testing performed indicates that the materials underlying the site are considered to have a "very low" expansion potential (EI=10).

Shrinkage/Subsidence

Removal and recompaction of the near surface soils is estimated to result in shrinkage ranging from 10 to 15 percent. Minor ground subsidence is expected to occur in the soils below the zone of removal, due to settlement and machinery working. The subsidence is estimated to be between one and two tenths of a foot.

Slab-On-Grade

Slab-on-grade should be a minimum of 5-inches thick and reinforced with a minimum of No. 4 reinforcing bar on 18-inch centers in two horizontally perpendicular directions. Reinforcing should be properly supported to ensure placement near the vertical midpoint of the slab. "Hooking" of the reinforcement is not considered an acceptable method of positioning the steel. The slab should not be structurally connected to the buildings. The slab should be underlain by a minimum of two (2) feet of engineered fill or competent native soil with a minimum relative compaction of 90 percent of the maximum laboratory dry density (ASTM 1557). Prior to placement of concrete, the subgrade soils should be well moistened to at least optimum moisture content and verified by our field representative.

The actual thickness and reinforcement of the slab shall be designed by the structural engineer and should include the anticipated loading condition (fork lift, etc.) and the anticipated use of the building. For moisture sensitive flooring, the floor slab should be underlain by minimum 15-mil impermeable polyethylene membrane (Stego Wrap, Moistop Plus, or any equivalent meeting the requirements of ASTM E1745, Class A rating) as a capillary break. Sand may be placed above and below the impermeable polyethylene membrane at the discretion of the project structural engineer/concrete contractor for proper curing and finish of the concrete slab-on-grade and protection of the membrane and is considered outside the scope of geotechnical engineering.

Flatwork

Flatwork should be a minimum of 4-inches thick should be reinforced with a minimum of No. 3 reinforcing bar on 24-inch centers in two horizontally perpendicular directions. Reinforcing should be properly supported to ensure placement near the vertical midpoint of the slab. "Hooking" of the reinforcement is not considered an acceptable method of positioning the steel. The subgrade material should be compacted to a minimum of 90 percent of the maximum laboratory dry density (ASTM 1557) to a minimum depth of two (2) feet. Prior to placement of concrete, the subgrade soils should be well moistened to at least optimum moisture content and verified by our field representative. The actual thickness and reinforcement of the slab shall be designed by the structural engineer and should include the anticipated loading condition. Due to the presence of near surface compressible soils, some movement of the flatwork is anticipated.

Site Development Recommendations

General

During earthwork construction, all site preparation and the general procedures of the contractor should be observed, and the fill selectively tested by a representative of TGR. If unusual or unexpected conditions are exposed in the field, they should be reviewed by this office and if warranted, modified and/or additional recommendations will be offered. During site work, voids created from removal of buried elements (footings, pipelines, etc) shall be backfilled with engineered fill (min 90% relative compaction per ASTM D1557) under the observation of TGR.

Grading

All grading should conform to the guidelines presented in the California Building Code (2016 edition), except where specifically superseded in the text of this report. Prior to grading, TGR's representative should be present at the pre-construction meeting to provide grading guidelines, if needed, and review any earthwork. All uncertified fill within the building footprint and 5 feet outside laterally should be removed and replaced with engineered fill or processed in place. Import of approved soil may be required to achieve design grades.

To support the foundation a minimum of two (2) feet of approved engineered fill or competent native soil with a minimum relative compaction of 90 percent should be placed under the footings. A minimum of two (2) feet of engineered fill or competent native soil with a minimum relative compaction of 90 percent is recommended under slab-on-grade, and a minimum of two (2) feet of engineered fill is recommended under flatwork and pavement. Site soils could be reused as engineered fill provided there are no environmental concerns with the soil and the recommendations presented in this report are implemented. Exposed bottoms should be scarified a minimum of 6-inches, moisture conditioned and compacted to a minimum 90 percent relative compaction. Subsequently, site fill soils should be re-compacted to a minimum of ninety (90) percent relative compaction at a minimum of optimum moisture content. The lateral extent of removals beyond the building/structure/footing limits should be equal to at least the depth of fill or 5 feet, whichever is greater.

The depth of over-excavation should be reviewed by the Geotechnical Consultant during the actual construction. Any subsurface obstruction buried structural elements, and unsuitable material encountered during grading, should be immediately brought to the attention of the Geotechnical Consultant for proper exposure, removal and processing, as recommended.

Fill Placement

Prior to any fill placement, TGR should observe the exposed surface soils. The site soils may be re-used as engineered fill, provided they comply with environmental regulations and are free of organic content and particle size greater than 4-inches. Fill shall be moisture-conditioned to a minimum of optimum moisture content and compacted to a minimum relative compaction of 90 percent in accordance with ASTM D1557. Import soils shall be non-expansive and approved by TGR Geotechnical Inc.

Compaction

Prior to fill placement, the exposed surface should be scarified to a minimum depth of six (6) inches, fill placed in six (6) inch thick loose lifts if cohesionless and eight (8) inch thick loose lifts if cohesive fill, moisture conditioned to near optimum for cohesionless soils or a minimum of two (2) percent over optimum moisture for cohesive soils, and compacted to a minimum relative compaction of ninety (90) percent in accordance with ASTM D 1557.

Trenching

All excavations should conform to CAL-OSHA and local safety codes.

Drainage

Positive site drainage should be maintained at all times. Water should be directed away from foundations and not allowed to pond and/or seep into the ground. Pad drainage should be directed towards street/parking or other approved area.

Utility Trench Backfill

All utility trench backfill in structural areas and beneath hardscape features should be brought to near-optimum moisture content and compacted to a minimum relative compaction of 90 percent of the laboratory standard. Flooding/jetting is not recommended.

Sand backfill, (unless trench excavation material), should not be allowed in parallel exterior trenches adjacent to and within an area extending below a 1:1 plane projected from the outside bottom edge of the footing. All trench excavations should minimally conform to CAL-OSHA and local safety codes. Soils generated from utility trench excavations may be used provided it is moisture conditioned and compacted to 90 percent minimum relative compaction.

Percolation Testing

The upper 10 to 15 feet of the onsite soils consisted of silts and clayey silts where explored. The historic high groundwater for the general site area is approximately 15 feet below ground surface. Furthermore, we understand from APEX that the site soils are impacted with petroleum-related constituents. Based on the above, percolation testing was not performed at the subject site.

Preliminary Pavement Design

The Caltrans method of design was utilized to develop the following asphalt pavement section. The section was developed based on a tested "R-Value" for site subgrade soils.

Traffic indices of 4.5, 5, 6, and 7 were assumed for use in the evaluation of automobile parking stalls and driveways, and medium and heavy truck driveways, respectively. The traffic indices are subject to approval by controlling authorities and shall be approved by the project civil engineer.

ASPHALT PAVEMENT SECTION					PCC PAVEMENT SECTION		
Pavement Utilization	Traffic Index	Asphalt (Inch)	Aggregate Base (Inch)	Total (Inch)	PCC	Aggregate Base (Inch)	Total (Inch)
Parking Stalls	4.5	3.0	4.0	7.0	--	--	--
Auto Driveways	5.0	3.0	6.0	9.0	--	--	--
Truck Aisles/ Driveways	6.0	4.0	6.0	10.0	**7	-	7
Loading Dock	7.0	4.0	8.0	12.0	**7	-	7

**Minimum concrete compressive strength of 4,000 psi.

Aggregate base material should consist of CAB/CMB complying with the specifications in Section 200.2.2 of the current "Standard Specifications for Public Works Construction" and should be compacted to at least ninety-five (95) percent of the maximum dry density (ASTM D1557). The surface of the aggregate base should exhibit a firm and unyielding condition just prior to the placement of asphalt concrete paving.

The pavement subgrade should be constructed in accordance with the recommendations presented in the grading section of this report.

The R-value and the associated pavement section should be confirmed at the completion of site grading.

An increase in the PCC pavement slab thickness, placement of steel reinforcement (or other alternatives such as Fibermesh) and joint spacing due to loading conditions including shrinkage and thermal effects may be necessary and should be incorporated by the structural engineer as necessary to prevent adverse impact on pavement performance and maintenance.

Geotechnical Review of Plans

All grading and foundation plans should be reviewed and accepted by the geotechnical consultant prior to construction. If significant time elapses since preparation of this report, the geotechnical consultant should verify the current site conditions, and provide any additional recommendations (if necessary) prior to construction.

Geotechnical Observation/Testing During Construction

The geotechnical consultant should perform observation and/or testing at the following stages:

- During any grading and fill placement;
- After foundation excavation and prior to placing concrete;
- During placement of aggregate base and asphalt concrete;
- When any unusual soil conditions are encountered during any construction operation subsequent to issuance of this report.

Limitations

This report was prepared for a specific client and a specific project, based on the client's needs, directions and requirements at the time.

This report was necessarily based upon data obtained from a limited number of observances, site visits, soil and/or other samples, tests, analyses, histories of occurrences, spaced subsurface exploration and limited information on historical events and observations. Such information is necessarily incomplete. Variations can be experienced within small distances and under various climatic conditions. Changes in subsurface conditions can and do occur over time.

This report is not authorized for use by and is not to be relied upon by any party except the client with whom TGR contracted for the work. Use or reliance on this report by any other party is that party's sole risk. Unauthorized use of or reliance on this report constitutes an agreement to defend and indemnify TGR from and against any liability which may arise as a result of such use or reliance, regardless of any fault, negligence, or strict liability of TGR.

B-5



APPROXIMATE LOCATION OF EXPLORATORY BORING BY TGR

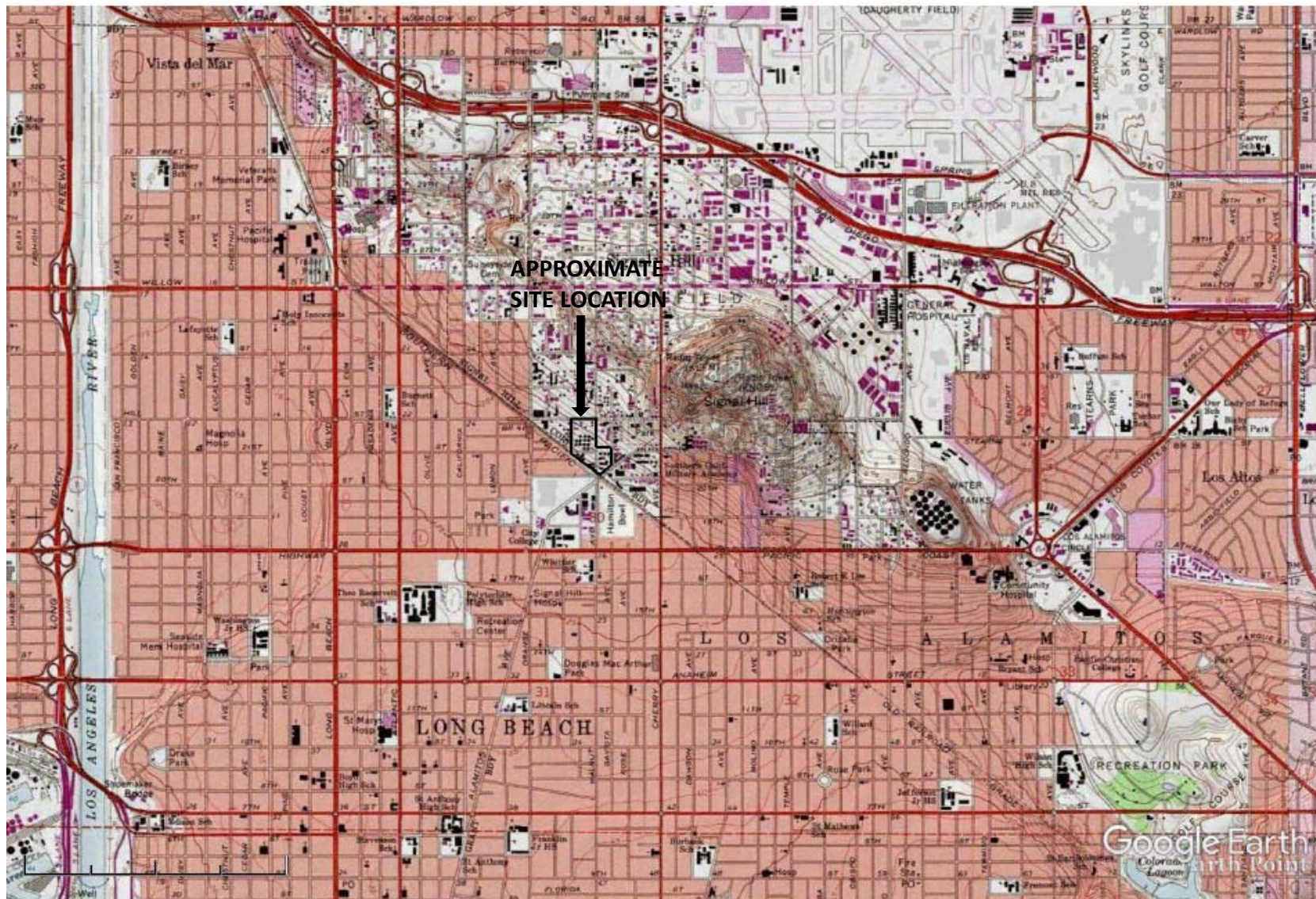


Geotechnical
Environmental
Hydrogeology
Material Testing
Construction Inspection

BORING LOCATION MAP
SIGNAL HILL BUSINESS PARK,
2020 WALNUT AVENUE, SIGNAL HILL, CALIFORNIA

PROJECT NO. 16-6239

PLATE 1



Google Earth

miles
km



Geotechnical
Environmental
Hydrogeology
Material Testing
Construction Inspection

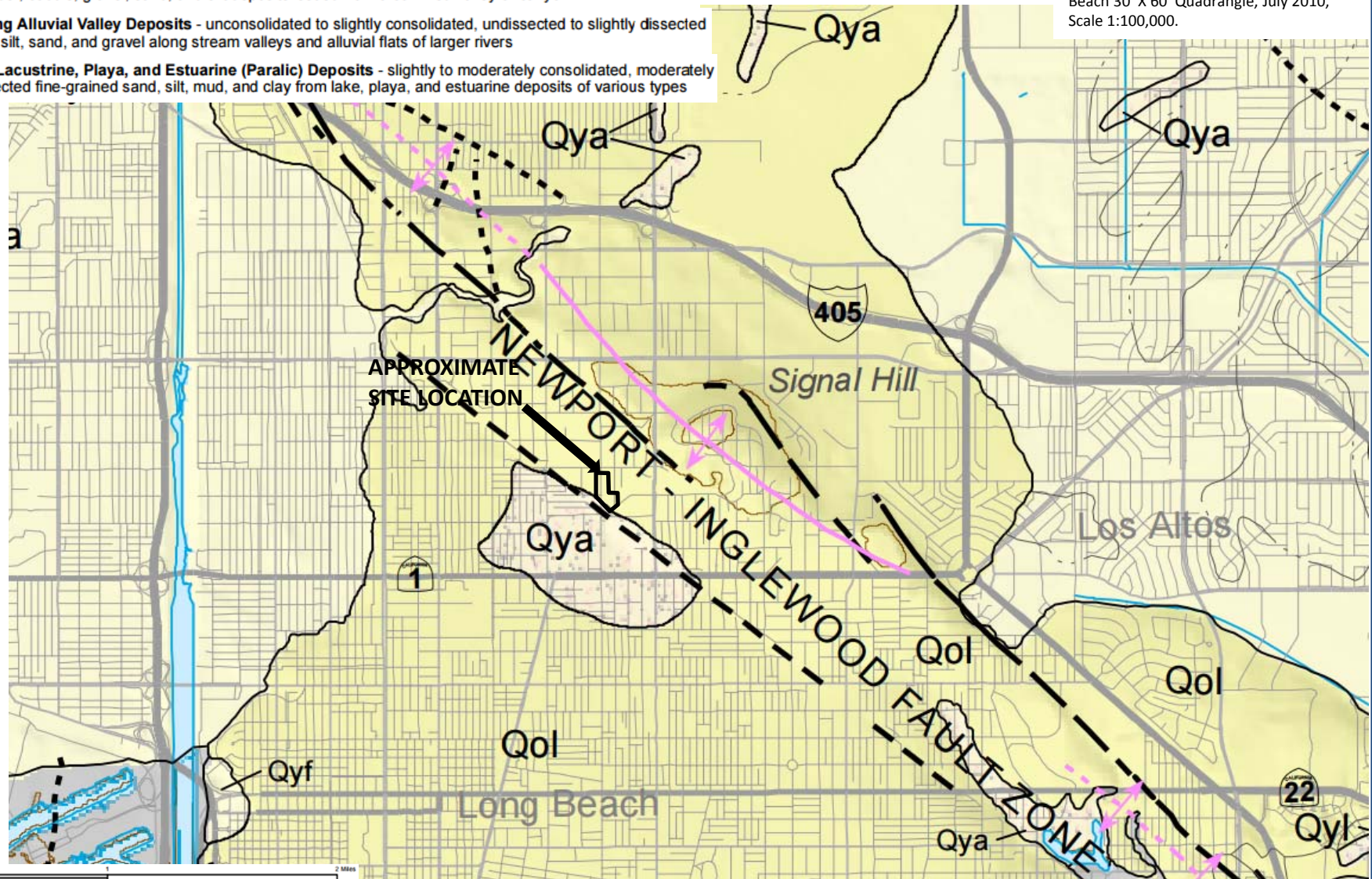
SITE LOCATION MAP
SIGNAL HILL BUSINESS PARK,
2020 WALNUT AVENUE, SIGNAL HILL, CALIFORNIA

PROJECT NO. 16-6239

FIGURE 1

- Qa** **Alluvial Valley Deposits** - unconsolidated clay, silt, sand, and gravel recently deposited parallel to localized stream valleys and/or spread more regionally onto alluvial flats of larger river valleys; sandy sediment generally more dominant than gravelly sediment
- Qyf** **Young Alluvial Fan Deposits** - unconsolidated to slightly consolidated, undissected to slightly dissected boulder, cobble, gravel, sand, and silt deposits issued from a confined valley or canyon
- Qya** **Young Alluvial Valley Deposits** - unconsolidated to slightly consolidated, undissected to slightly dissected clay, silt, sand, and gravel along stream valleys and alluvial flats of larger rivers
- Qol** **Old Lacustrine, Playa, and Estuarine (Paralic) Deposits** - slightly to moderately consolidated, moderately dissected fine-grained sand, silt, mud, and clay from lake, playa, and estuarine deposits of various types

Modified From: California Geologic Survey, 2010, Geologic Compilation of Quaternary Surficial Deposits In Southern California, Onshore Portion of the Long Beach 30' X 60' Quadrangle, July 2010, Scale 1:100,000.



Geotechnical
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Construction Inspection

REGIONAL GEOLOGY MAP SIGNAL HILL BUSINESS PARK, 2020 WALNUT AVENUE, SIGNAL HILL, CALIFORNIA

PROJECT NO. 16-6239

FIGURE 2

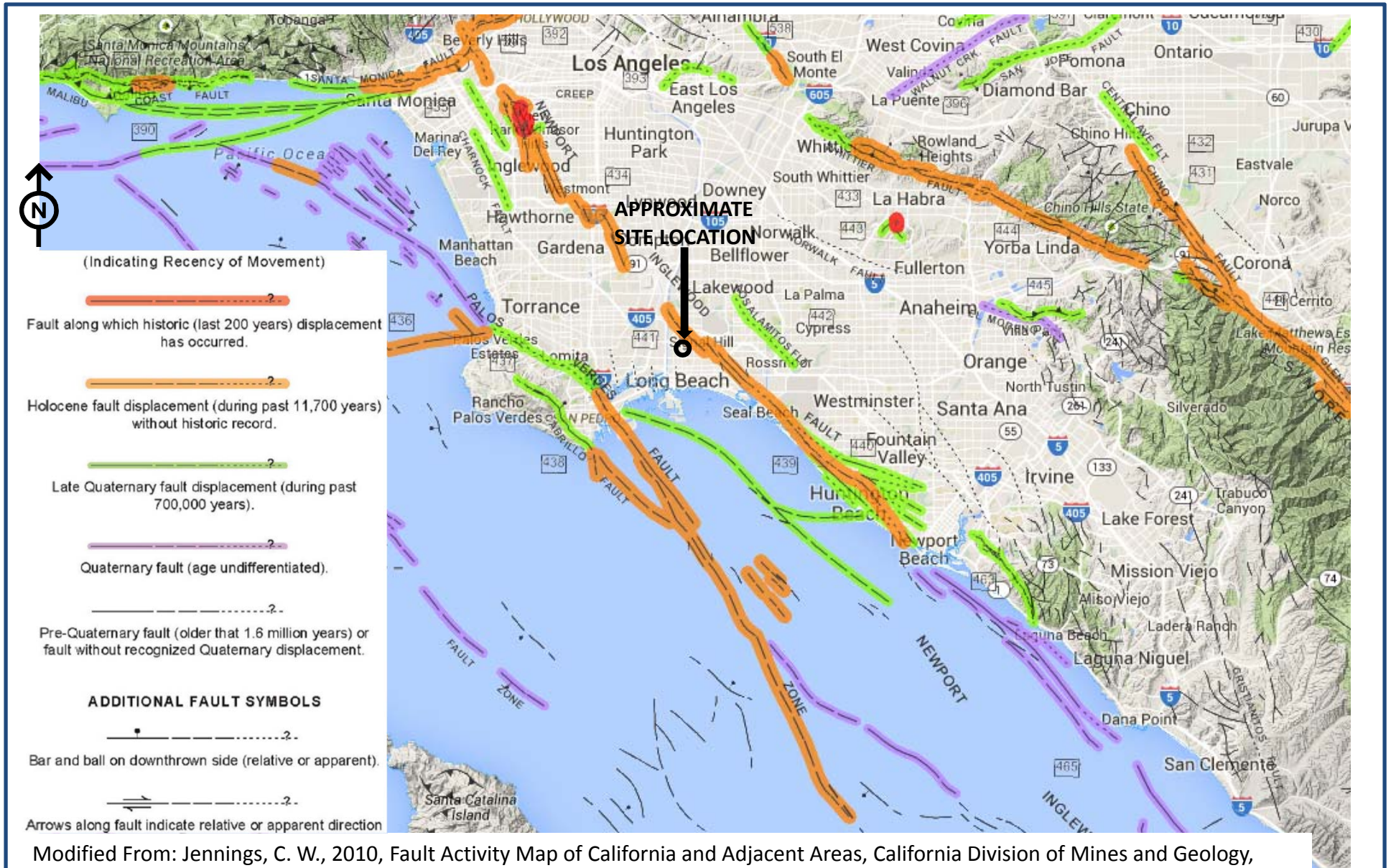


Geotechnical
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Hydrogeology
Material Testing
Construction Inspection

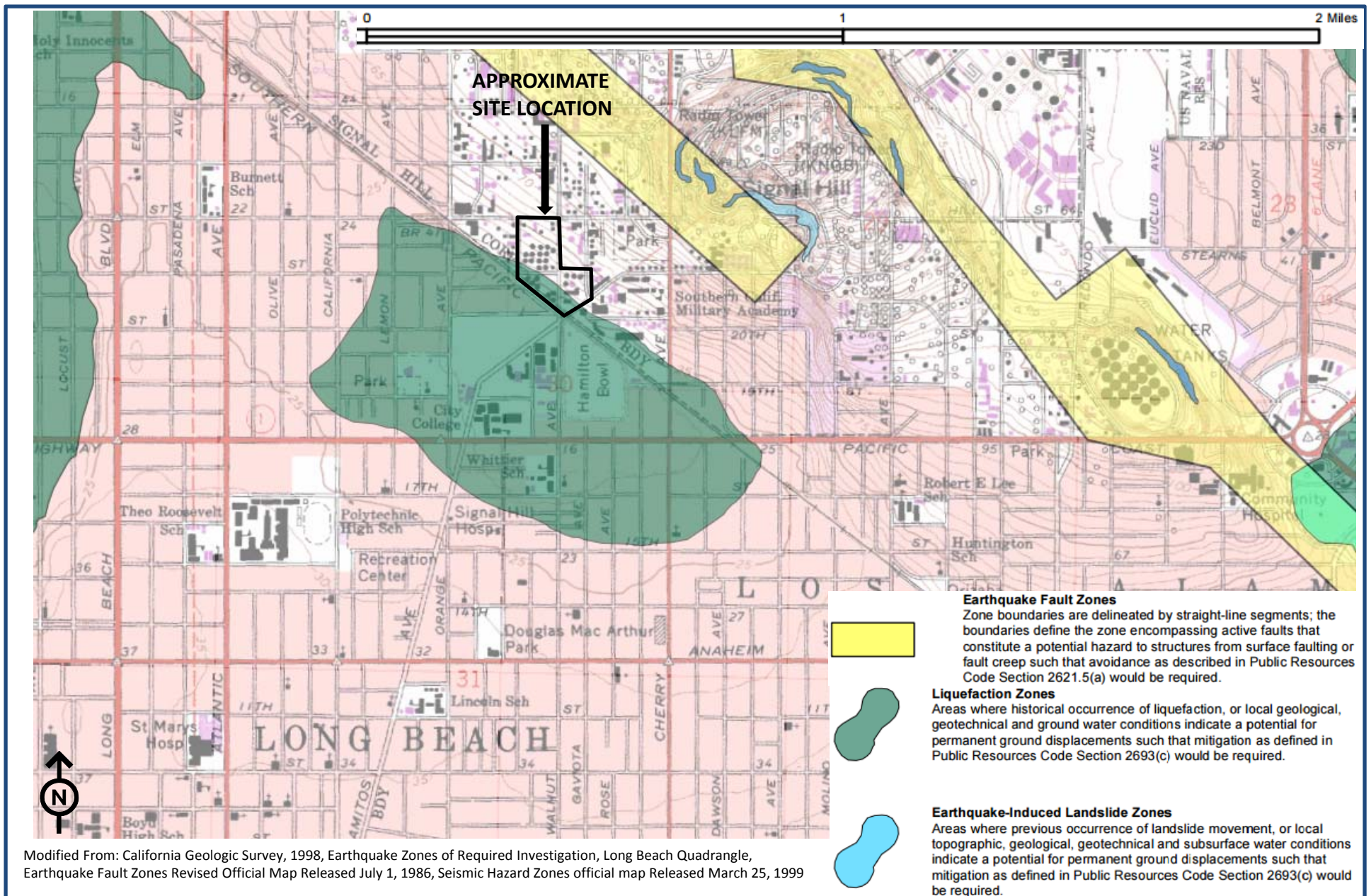
HISTORIC HIGH GROUNDWATER MAP SIGNAL HILL BUSINESS PARK, 2020 WALNUT AVENUE, SIGNAL HILL, CALIFORNIA

PROJECT NO. 16-6239

FIGURE 3

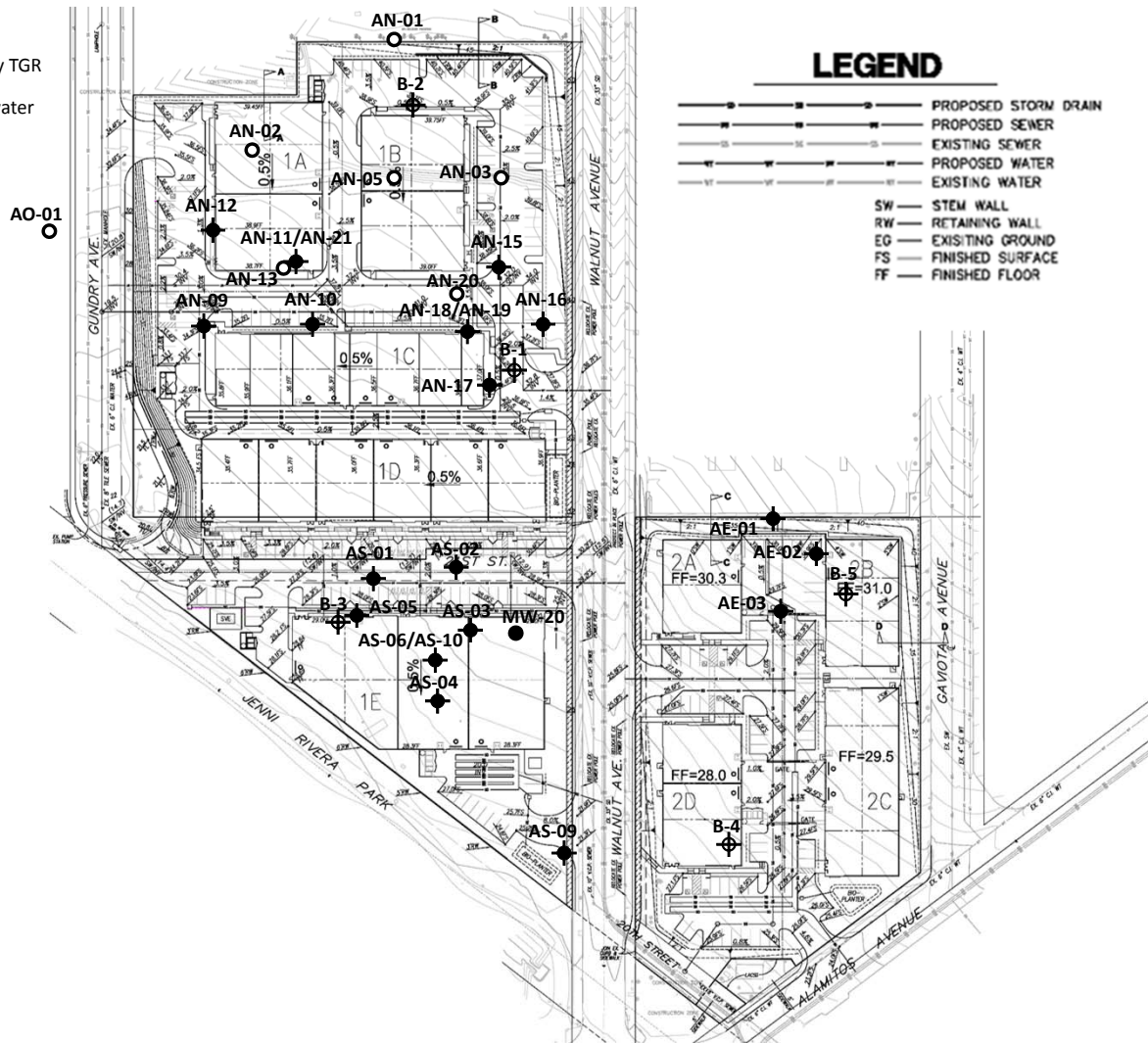


Modified From: Jennings, C. W., 2010, Fault Activity Map of California and Adjacent Areas, California Division of Mines and Geology, Geologic Data Map Series, No. 6, Scale 1:750,000.



LEGEND

- B-5  Approximate Location of Boring by TGR
- MW-20  Approximate Location of Groundwater Monitoring Well (APEX, 2017)
- AE-01  Approximate Location of CPT by FUGRO (2017)
- AN-20  Approximate Location of Soil and Groundwater Grab Sample (Apex, 2017)



CONCEPTUAL GRADING AND UTILITY PLAN #10 WALNUT AVE. SIGNAL HILL, CA

LEGEND

-  PROPOSED STORM DRAIN
-  PROPOSED SEWER
-  EXISTING SEWER
-  PROPOSED WATER
-  EXISTING WATER
- SW — STEM WALL
- RW — RETAINING WALL
- EG — EXISTING GROUND
- FS — FINISHED SURFACE
- FF — FINISHED FLOOR



Geotechnical
Environmental
Hydrogeology
Material Testing
Construction Inspection

GEOTECHNICAL MAP SIGNAL HILL BUSINESS PARK 2020 WALNUT AVENUE, SIGNAL HILL, CALIFORNIA

Project No.:16-6239

PLATE 1

APPENDIX A REFERENCES

APPENDIX A

References

- California, State of, Department of Conservation, Division of Mines and Geology, 2008, Guidelines for Evaluating and Mitigating Seismic Hazards in California, CDMG Special Publication 117A
- _____, 1998, Maps of Known Active Fault Near – Source Zones in California and Adjacent Portions of Nevada
- _____, 1998, Seismic Hazard Zone Report for the Long Beach 7.5-Minute Quadrangle, Los Angeles County, California, Seismic Hazard Zone Report 028
- _____, 1999, State of California Seismic Hazard Zones Map, Long Beach Quadrangle, Official Map Released March 25, 1999, Scale 1:24,000
- _____, 2010, Geologic Map of California; California Geologic Data Map Series Map No. 2
- CA Engineering, Inc., 2019, Conceptual Grading and Utility Plan #16, Walnut Ave., Signal Hill, CA, Job No. 215-39, dated February 5, 2019
- Hart, E. W., 1997, Fault-Rupture Hazard Zones in California, Alquist-Priolo Earthquake Fault Zoning with Index to Special Study Zones Maps: Department of Conservation, Division of Mines and Geology, Special Publication 42
- International Code Council (ICC), California Building Code, 2016 Edition
- Jennings, C. W., 2010, Fault Activity Map of California and Adjacent Areas, California Division of Mines and Geology, Geologic Data Map Series, No. 6, Scale 1:750,000
- Xebec, 2017, Signal Hill, Walnut Ave. and 21st St., Potholing Operation Narrative and Report, dated 8/14/2017
- Xebec, 2019, Signal Hill, Walnut Ave. and 21st St., Pothole Extension, Second Round of Potholing, Progress through 2-13-19

APPENDIX B LOG OF BORINGS

THE FOLLOWING DESCRIBES THE TERMS AND SYMBOLS USED ON THE LOG
OF BORINGS TO SUMMARIZE THE RESULTS OBTAINED IN THE FIELD
INVESTIGATION AND SUBSEQUENT LABORATORY TESTING

DENSITY AND CONSISTENCY

The consistency of fine grained soils and the density of coarse grained soils are described on the basis of the Standard Penetration Test as follows:

COARSE GRAINED SOILS	ESTIMATED UNCONFINED COMPRESSIVE STRENGTH (Tsf)	FINE GRAINED SOILS
----------------------	--	--------------------

Very Loose	< 4	< 0.25	Very Soft	< 2
Loose	4 – 10	0.35 – 0.50	Soft	2 – 4
Medium	10 – 30	0.50 – 1.0	Firm (Medium)	4 – 8
Dense	30 – 50	1.0 – 2.0	Stiff	8 – 15
Very Dense	> 50	2.0 – 4.0	Very Stiff	15 – 30
		> 4.0	Hard	> 30

PARTICLE SIZE DEFINITION (As per ASTM D2487 and D422)

Boulder	⇒ Larger than 12 inches	Coarse Sands	⇒ No. 10 to No. 4 sieve
Cobbles	⇒ 3 to 12 inches	Medium Sands	⇒ No. 40 to No. 10 sieve
Coarse Gravel	⇒ 3/4 to 3 inches	Fine Sands	⇒ No. 200 to 40 sieve
Fine Gravel	⇒ No. 4 to 3/4 inches	Silt	⇒ 5µm to No. 200 sieve
		Clay	⇒ Smaller than 5µm

SOIL CLASSIFICATION

Soils and bedrock are classified and described based on their engineering properties and characteristics using ASTM D2487 and D2488.

Percentage description of minor components:

Trace	1 – 10%	Some	20 – 35%
Little	10 – 20%	And or y	25 – 50%

Stratified soils description:

Parting	0 to 1/16 inch thick	Layer	½ to 12 inches thick
Seam	1/16 to ½ inch thick	Stratum	> 12 inches thick

SOIL CLASSIFICATION CHART

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)		
Clean Gravels (Less than 5% fines)		
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	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 (More than 12% fines)	
	GM	Silty gravels, gravel-sand-silt mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	GC	Clayey gravels, gravel-sand-clay mixtures
	Clean Sands (Less than 5% fines)	
	SW	Well-graded sands, gravelly sands, little or no fines
	SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)	
	SM	Silty sands, sand-silt mixtures
	SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more 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 of 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 50% or greater	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
	CH	Inorganic clays of high plasticity, fat clays
	OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS	PT	Peat and other highly organic soils

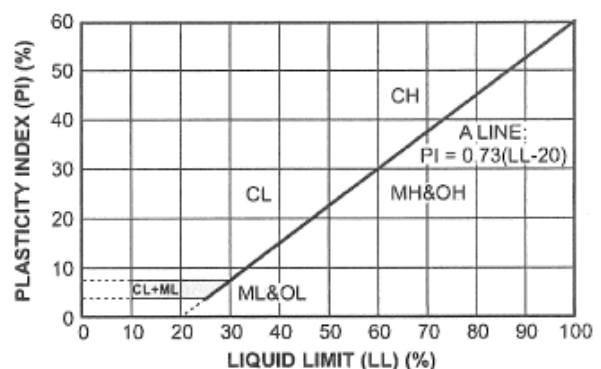
LABORATORY CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
GC	Atterberg limits above "A" line with P.I. greater than 7	
SW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
SP	Not meeting all gradation requirements for GW	
SM	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in shaded zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" line with P.I. greater than 7	

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:

Less than 5 percent GW, GP, SW, SP
 More than 12 percent GM, GC, SM, SC
 5 to 12 percent Borderline cases requiring dual symbols

PLASTICITY CHART



PARTICLE SIZE LIMITS

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	
	3"	¾"	NO. 4	NO. 10	NO. 40	NO. 200

LOG OF EXPLORATORY BORING B-1

Sheet 1 of 1

Project Number: **16-6239**
 Project Name: **Xebec Signal Hill**
 Date Drilled: **4/6/17 - 4/6/17**
 Ground Elev:

Logged By: **ELB**
 Project Engineer: **SG**
 Drill Type: **Hollow Stem**
 Drive Wt & Drop: **140lbs / 30in**

Depth (ft)	Graphic Log	FIELD RESULTS					LAB RESULTS						
		Bulk Sample	Drive Sample	SPT blows/ft (or equivalent N)	Pocket Pen (tsf)	USCS	Shelby Tube	Standard Split Spoon	No recovery				
					Modified California	Water Table ATD	Moisture Content (%)	Dry Density, (pcf)	Other Tests				
SUMMARY OF SUBSURFACE CONDITIONS													
						Surface covered with imported gravel. Silt- brown, slightly moist, stiff.							
5				16		ML					10	116	
				34		ML					13	121	
10				7		SP	Silt- grey, slightly moist, slight hydrocarbon odor.				17	99	Consolidation
							Sand- grey, slightly moist, fine grained, hydrocarbon odor.						
15				22		SP	Sand- light grey, slightly moist, fine to medium grained, slight hydrocarbon odor.				3	100	
20							Total Depth: 16.5 feet below existing grade. No groundwater encountered during drilling. No caving observed. Boring backfilled with bentonite upon completion, cuttings placed in 55-gallon drums for removal by others.						

LOG OF BORING 16-6239 XEBEC SIGNAL HILL.GPJ TGR GEOTECH.GDT 4/24/17

This Boring Log should be evaluated in conjunction with the complete geotechnical report. This Boring Log represents conditions observed at the specific location and date indicated, it is not warranted to be representative of subsurface conditions at other locations and times.

PLATE 2



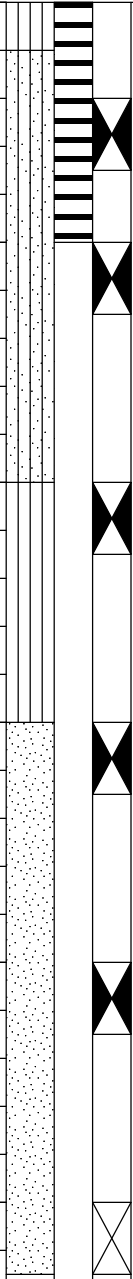
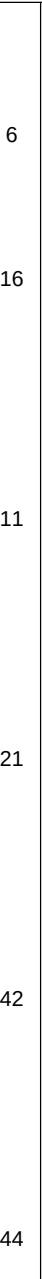
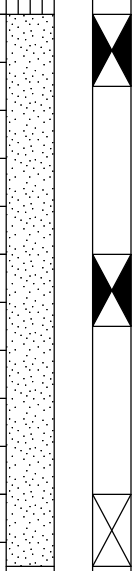
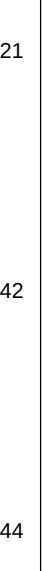
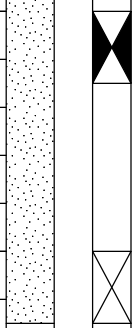
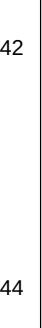
TGR GEOTECHNICAL, INC.

LOG OF EXPLORATORY BORING B-2

Sheet 1 of 1

Project Number: **16-6239**
 Project Name: **Xebec Signal Hill**
 Date Drilled: **4/6/17 - 4/6/17**
 Ground Elev:

Logged By: **ELB**
 Project Engineer: **SG**
 Drill Type: **Hollow Stem**
 Drive Wt & Drop: **140lbs / 30in**

Depth (ft)	Graphic Log	FIELD RESULTS					LAB RESULTS		
		Bulk Sample	Drive Sample	SPT blows/ft (or equivalent N)	Pocket Pen (tsf)	USCS	 Shelby Tube	 Standard Split Spoon	 No recovery
SUMMARY OF SUBSURFACE CONDITIONS					Moisture Content (%)	Dry Density, (pcf)	Other Tests		
5						ML	Silt- brown, dry, loose.		
							Sandy Silt- dark grey, slightly moist, hydrocarbon odor.		
							14	104	Cor., Max, Shear
							15	118	Consol
							14	106	
15						ML	Silt- grey, slightly moist, hydrocarbon odor, trace of fine grained sand.		
							9	95	
							7	103	
20						SP	Sand- light grey, slightly moist, fine to medium grained, strong hydrocarbon odor.		
							4		
25							Total Depth: 26.5 feet below existing grade. No groundwater encountered during drilling. No caving observed. Boring backfilled with bentonite upon completion, cuttings placed in 55-gallon drums for removal by others.		

LOG OF BORING 16-6239 XEBEC SIGNAL HILL.GPJ TGR GEOTECH.GDT 4/24/17

This Boring Log should be evaluated in conjunction with the complete geotechnical report. This Boring Log represents conditions observed at the specific location and date indicated, it is not warranted to be representative of subsurface conditions at other locations and times.

PLATE 3



TGR GEOTECHNICAL, INC.

LOG OF EXPLORATORY BORING B-3

Sheet 1 of 2

Project Number: **16-6239**
 Project Name: **Xebec Signal Hill**
 Date Drilled: **4/6/17 - 4/6/17**
 Ground Elev:

Logged By: **ELB**
 Project Engineer: **SG**
 Drill Type: **Hollow Stem**
 Drive Wt & Drop: **140lbs / 30in**

Depth (ft)	Graphic Log	FIELD RESULTS					LAB RESULTS		
		Bulk Sample	Drive Sample	SPT blows/ft (or equivalent N)	Pocket Pen (tsf)	USCS			
							Moisture Content (%)	Dry Density, (pcf)	Other Tests

This Boring Log should be evaluated in conjunction with the complete geotechnical report. This Boring Log represents conditions observed at the specific location and date indicated, it is not warranted to be representative of subsurface conditions at other locations and times.

PLATE 4



TGR GEOTECHNICAL, INC.

LOG OF BORING 16-6239 XEBEC SIGNAL HILL.GPJ TGR GEOTECH.GDT 4/24/17

LOG OF EXPLORATORY BORING B-3

Sheet 2 of 2

Project Number: **16-6239**
 Project Name: **Xebec Signal Hill**
 Date Drilled: **4/6/17 - 4/6/17**
 Ground Elev:

Logged By: **ELB**
 Project Engineer: **SG**
 Drill Type: **Hollow Stem**
 Drive Wt & Drop: **140lbs / 30in**

Depth (ft)	Graphic Log	FIELD RESULTS					LAB RESULTS		
		Bulk Sample	Drive Sample	SPT blows/ft (or equivalent N)	Pocket Pen (tsf)	USCS			
							Moisture Content (%)	Dry Density, (pcf)	Other Tests
Shelby Tube Standard Split Spoon No recovery Modified California Water Table ATD SUMMARY OF SUBSURFACE CONDITIONS									
35			46		SP	Sand- grey, slightly moist, fine to medium grained, 2-inch thick layer of silt, hydrocarbon odor.	18		
35			26		ML	Clayey Silt- light grey, orange oxidation, slightly moist.	19		
40			42		ML	Clay, Silt, and Sand layers- grey and light grey, slightly moist to moist, fine to medium sand.	30	-200= 74.1%	
45			35		SP	Sand- grey, wet, fine grained, hydrocarbon odor.	26		
50					SP		29	-200= 11%	
55						Total Depth: 51.5 feet below existing grade. Groundwater encountered at 25 feet below grade during drilling. No caving observed. Boring backfilled with bentonite upon completion, cuttings placed in 55-gallon drums for removal by others.			

LOG OF BORING 16-6239 XEBEC SIGNAL HILL.GPJ TGR GEOTECH.GDT 4/24/17

This Boring Log should be evaluated in conjunction with the complete geotechnical report. This Boring Log represents conditions observed at the specific location and date indicated, it is not warranted to be representative of subsurface conditions at other locations and times.

PLATE 5



TGR GEOTECHNICAL, INC.

LOG OF EXPLORATORY BORING B-4

Sheet 1 of 2

Project Number: **16-6239**
 Project Name: **Xebec Signal Hill**
 Date Drilled: **4/6/17 - 4/6/17**
 Ground Elev:

Logged By: **ELB**
 Project Engineer: **SG**
 Drill Type: **Hollow Stem**
 Drive Wt & Drop: **140lbs / 30in**

Depth (ft)	Graphic Log	FIELD RESULTS					LAB RESULTS			
		Bulk Sample	Drive Sample	SPT blows/ft (or equivalent N)	Pocket Pen (tsf)	USCS				
							Moisture Content (%)	Dry Density, (pcf)	Other Tests	
Shelby Tube Modified California Standard Split Spoon Water Table ATD No recovery										
SUMMARY OF SUBSURFACE CONDITIONS										
							Sandy Silt- light brown to reddish brown, dry to slightly moist, no hydrocarbon odor.			
5				12	ML		5	106		
				>50	ML		6	126		
10				41	SP		12	125	Consol	
15				30	SP		4			
20				56	SP		4		-200= 3.8%	
25				49	SP		21			
						...becomes wet.				

LOG OF BORING 16-6239 XEBEC SIGNAL HILL.GPJ TGR GEOTECH.GDT 4/24/17

This Boring Log should be evaluated in conjunction with the complete geotechnical report. This Boring Log represents conditions observed at the specific location and date indicated, it is not warranted to be representative of subsurface conditions at other locations and times.

PLATE 6



TGR GEOTECHNICAL, INC.

Sheet 2 of 2

Logged By: **ELB**
 Project Engineer: **SG**
 Drill Type: **Hollow Stem**
 Drive Wt & Drop: **140lbs / 30in**

LOG OF BORING 16-6239 XEBEC SIGNAL HILL.GPJ TGR GEOTECH.GDT 4/24/17

PLATE 7



LOG OF EXPLORATORY BORING B-5

Sheet 1 of 1

Project Number: **16-6239**
 Project Name: **Xebec Signal Hill**
 Date Drilled: **4/6/17 - 4/6/17**
 Ground Elev:

Logged By: **ELB**
 Project Engineer: **SG**
 Drill Type: **Hollow Stem**
 Drive Wt & Drop: **140lbs / 30in**

Depth (ft)	Graphic Log	FIELD RESULTS					LAB RESULTS							
		Bulk Sample	Drive Sample	SPT blows/ft (or equivalent N)	Pocket Pen (tsf)	USCS	Shelby Tube Modified California	Standard Split Spoon Water Table ATD	No recovery	Moisture Content (%)	Dry Density, (pcf)	Other Tests		
SUMMARY OF SUBSURFACE CONDITIONS														
							Silty Sand- light brown, dry to slightly moist, no hydrocarbon odor.					5	111	El, Cor., R-value
5							Silt- reddish brown, slightly moist, no hydrocarbon odor.					9	129	Consol
10							Sand- fine grained, brown, slightly moist, no hydrocarbon odor.					13	122	
15							Sand- medium grained, light brown, slightly moist, no hydrocarbon odor.					5	132	
20							Total Depth: 16.5 feet below existing grade. No groundwater encountered during drilling. No caving observed. Boring backfilled with bentonite upon completion, cuttings placed in 55-gallon drums for removal by others.							

LOG OF BORING 16-6239 XEBEC SIGNAL HILL.GPJ TGR GEOTECH.GDT 4/24/17

This Boring Log should be evaluated in conjunction with the complete geotechnical report. This Boring Log represents conditions observed at the specific location and date indicated, it is not warranted to be representative of subsurface conditions at other locations and times.

PLATE 8



TGR GEOTECHNICAL, INC.



BOREHOLE LOG

BORING / WELL ID: **AN-01**
TOTAL DEPTH: **40'**

PROJECT NAME AND SITE ADDRESS: **Former ChemOil Facility, Signal Hill, California**
BORING LOCATION / DESCRIPTION: **North parcel, north side.**

PROJECT INFORMATION	DRILLING INFORMATION
PROJECT NO.: 093-CHEMOIL-001	SUBCONTRACTOR: Kehoe Testing & Engineering
PERMIT NO.:	EQUIPMENT: GeoProbe 7800
LOGGED BY: R. Robitaille	SAMPLING METHOD: Continuous 1.75" x 48"
REVIEWED BY: P. Fuller	MONITORING DEVICE: PID 100 ppm Hexane
SURFACE ELEVATION: 42.5 feet amsl	BORING DIAMETER (IN): 2.5 inches
CASING TOP ELEVATION: NA	ANNULUS MATERIAL: NA
START DATE (TIME): 01/04/17 (0750)	BORING ANGLE: Vertical CASING DIAMETER: NA
FINISH DATE (TIME): 01/04/17 (1000)	SCREEN INTERVAL: NA

First Water Encountered
 Stabilized Water Level
 Sample Packaged for Analysis

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
	1.5				0		Boring cleared to five feet bgs with hand auger. ML: Sandy silt with gravel, very dark brown (10YR 3/2), moderately hard, dry, trace concrete debris, fill.	
	0.2				5		ML: Clayey silt, dark yellowish brown (10YR 4/6), moderately soft, dry, trace fine grained sand.	
0840	22				10		ML: Dark greenish gray (GLE Y 4/1), moderately soft, dry, trace fine grained sand.	
0840					15		SM: Silty sand, gray (5Y 5/1), loose, dry, well sorted fine to very fine grained sand, micaceous.	



BOREHOLE LOG

BORING / WELL ID: **AN-01**
TOTAL DEPTH: **40'**

PROJECT NAME AND SITE ADDRESS: **Former ChemOil Facility, Signal Hill, California**

BORING LOCATION / DESCRIPTION: **North parcel, north side.**

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
0900							Grades coarser sand, less silt.	
	44						SP: Sand, gray (2.5Y 6/1), loose, dry, well sorted fine to medium grained sand, trace shell fragments.	
0915	82				20			
	5.5				25			
							SW: Sand, light brownish gray (2.5Y 6/2), loose, dry, moderately poorly sorted fine to coarse grained sand, abundant shell fragments.	
					30		SP: Sand, gray (2.5Y 6/1), loose, dry, well sorted fine grained sand, no shell fragments.	
					35		ML: Silt with clay, gray (5Y 5/1), moderately hard, dry, abundant shell fragments, (0,0,75,25).	
	34						CL: Clayey silt, olive gray (5Y 5/2), dense, moist, very fine grained sand, abundant shell fragments, (0,20,40,40).	
1000	4.4						Hydropunch sampling performed at the following interval: 39 to 43 feet bgs (AN-01-40'GW, 1100).	
					40			

Boring backfilled with bentonite.



BOREHOLE LOG

BORING / WELL ID: **AN-02**

TOTAL DEPTH: **38'**

PROJECT NAME AND SITE ADDRESS: **Former ChemOil Facility, Signal Hill, California**

BORING LOCATION / DESCRIPTION: **North parcel**

PROJECT INFORMATION

PROJECT NO.: **093-CHEMOIL-001**
PERMIT NO.:
LOGGED BY: **R. Robitaille**
REVIEWED BY: **P. Fuller**
SURFACE ELEVATION: **35.4 feet amsl**
CASING TOP ELEVATION: **NA**
START DATE (TIME): **01/04/17 (1320)**
FINISH DATE (TIME): **01/04/17 (1440)**

DRILLING INFORMATION

SUBCONTRACTOR: **Kehoe Testing & Engineering**
EQUIPMENT: **GeoProbe 7800**
SAMPLING METHOD: **Continuous 1.75' x 48"**
MONITORING DEVICE: **PID 100ppm Hexane**
BORING DIAMETER (IN): **2.5 inches**
ANNULUS MATERIAL: **NA**
BORING ANGLE: **Vertical** CASING DIAMETER: **NA**
SCREEN INTERVAL: **NA**

 First Water Encountered

 Stabilized Water Level

 Sample Packaged for Analysis

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
1335	>15,000				0		Boring cleared to five feet bgs with hand auger. SM: Sandy silt with gravel, fill.	
					5		SM: Sandy silt, dark grayish brown (10YR 4/2), moderately hard, trace gravel, fine to coarse grained sand. Grades with gravel and oil, very dark brown oil (asphaltic).	
1340	86				10		ML: Silt, very dark gray (5Y 3/1) to black (5Y 2.5/1), moderately soft, dry, abundant oily staining, micaceous. Grades to trace staining, dark gray (GLEY 4/0), strong hydrocarbon odor.	
1345	126				15		SP: Sand, gray (5Y 6/1), loose, dry, fine to very fine grained sand, well sorted, micaceous, hydrocarbon odor.	

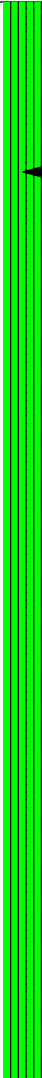
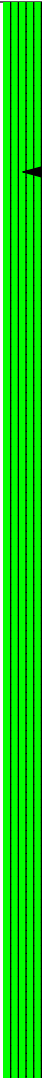


BOREHOLE LOG

BORING / WELL ID: **AN-02**
 TOTAL DEPTH: **38'**

PROJECT NAME AND SITE ADDRESS: **Former ChemOil Facility, Signal Hill, California**

BORING LOCATION / DESCRIPTION: **North parcel**

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
1355	184				20		Grades coarser sand, trace shell fragments.	 Boring backfilled with bentonite.
	10.8						SW: Sand, gray (5Y 6/1), loose, dry, poorly sorted, fine to coarse grained sand, abundant shell fragments.	
					25		SP: Sand, gray (5Y 6/1), loose, dry, poorly sorted, predominately fine grained sand, shell fragments.	
							Grades no shell fragments.	
1410					30			 Boring backfilled with bentonite.
	>15,000							
1420					35		SW: Sand, gray (5Y 6/1), looe, dry to wet at 36 feet bgs, poorly sorted, fine to coarse grained sand, abundant shell fragments, strong hydrocarbon odor.	
	>15,000						Hydropunch sampling performed at the following interval: 34 to 38 feet bgs (AN-02-38'GW, 0810).	



BOREHOLE LOG

BORING / WELL ID: **AN-03**

TOTAL DEPTH: **36'**

PROJECT NAME AND SITE ADDRESS: **Former ChemOil Facility, Signal Hill, California**

BORING LOCATION / DESCRIPTION: **East side of north parcel**

PROJECT INFORMATION

PROJECT NO.: **093-CHEMOIL-001**
PERMIT NO.:
LOGGED BY: **R. Robitaille**
REVIEWED BY: **P. Fuller**
SURFACE ELEVATION: **35.8 feet amsl**
CASING TOP ELEVATION: **NA**
START DATE (TIME): **01/05/17 (1245)**
FINISH DATE (TIME): **01/05/17 (1345)**

DRILLING INFORMATION

SUBCONTRACTOR: **Kehoe Testing & Engineering**
EQUIPMENT: **GeoProbe 7800**
SAMPLING METHOD: **Continuous 1.75" x 48"**
MONITORING DEVICE: **PID 100 ppm Hexane**
BORING DIAMETER (IN): **2.5 inches**
ANNULUS MATERIAL: **NA**
BORING ANGLE: **Vertical** CASING DIAMETER: **NA**
SCREEN INTERVAL: **NA**

 First Water Encountered

 Stabilized Water Level

 Sample Packaged for Analysis

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
					0		Boring cleared to five feet bgs with hand auger. Fill: Sandy silt with gravel, gray (2.5Y 6/1).	
	>15,000						Mixed Fill: Native soil, silt with gravel (ML), debris, dark gray (5Y 4/1).	
							ML: Silt, dark yellowish brown (10YR 4/4), moderately soft, dry, trace fine grained sand, strong hydrocarbon odor.	
1310					5		ML: Silt, gray (5Y 6/1), soft, dry, strong hydrocarbon odor.	
	>15,000						Grades with fine grained sand.	
							SP: Sand, gray (5Y 5/1), loose, dry, well sorted fine grained sand, strong hydrocarbon odor.	
1320					10		Grades coarse grained sand with shell fragments.	
	>15,000						Predominately medium grained sand.	
					15			

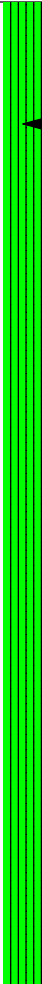


BOREHOLE LOG

BORING / WELL ID: **AN-03**
TOTAL DEPTH: **36'**

PROJECT NAME AND SITE ADDRESS: **Former ChemOil Facility, Signal Hill, California**

BORING LOCATION / DESCRIPTION: **East side of north parcel**

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
1330					20		SW: Sand, gray (5Y 5/1), loose, dry, poorly sorted fine to coarse grained sand, abundant shell fragments. CL: Silty clay, olive (5Y 5/3), hard, dry. SW: Sand, gray (5Y 5/1), loose, dry, poorly sorted fine to coarse grained sand, abundant shell fragments. SP: Sand, gray (5Y 5/1), loose, dry, well sorted fine grained sand, no shell fragments, strong hydrocarbon odor. Grades with trace shell fragments. Grades light yellowish brown (2.5Y 6/3). Grades light yellowish brown (2.5Y 6/3) and gray (5Y 5/1) mottled, no shell fragments.	 Boring backfilled with bentonite.
1340					30			
					35		SW: Sand, gray (5Y 5/1), loose, dry, poorly sorted fine to coarse grained sand, abundant shell fragments. SM: Silty sand, gray (5Y 5/1) and light olive brown (2.5Y 5/3) mottled, soft, moist, micaceous, no shell fragments, strong hydrocarbon odor.	
1345							Hydropunch sampling performed at the following interval: 36 to 40 feet bgs (AN-03-40'GW, 1430). Very slow recharge.	



BOREHOLE LOG

BORING / WELL ID: **AN-05**

TOTAL DEPTH: **36'**

PROJECT NAME AND SITE ADDRESS: **Former ChemOil Facility, Signal Hill, California**

BORING LOCATION / DESCRIPTION: **North parcel, central area**

PROJECT INFORMATION

PROJECT NO.: **093-CHEMOIL-001**
PERMIT NO.:
LOGGED BY: **R. Robitaille**
REVIEWED BY: **P. Fuller**
SURFACE ELEVATION: **33.9 feet amsl**
CASING TOP ELEVATION: **NA**
START DATE (TIME): **01/05/17 (0845)**
FINISH DATE (TIME): **01/05/17 (1010)**

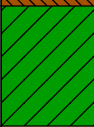
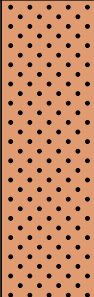
DRILLING INFORMATION

SUBCONTRACTOR: **Kehoe Testing & Engineering**
EQUIPMENT: **GeoProbe 7800**
SAMPLING METHOD: **Continuous 1.75" x 48"**
MONITORING DEVICE: **PID 100ppm Hexane**
BORING DIAMETER (IN): **2.5 inches**
ANNULUS MATERIAL: **NA**
BORING ANGLE: **Vertical** CASING DIAMETER: **NA**
SCREEN INTERVAL: **NA**

 First Water Encountered

 Stabilized Water Level

 Sample Packaged for Analysis

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
					0		Boring cleared to five feet bgs with hand auger. Fill: Silty sand with gravel.	
	>15,000						ML: Silt, dark gray (5Y 4/1), moderately soft, dry, trace fine grained sand, strong hydrocarbon odor.	
0930					5			
	>15,000						CL: Clayey silt, gray (5Y 5/1), moderately hard, dry, trace caliche, strong hydrocarbon odor. Grades with fine grained sand.	
					10			
0940							SP: Sand, gray (5Y 5/1), loose, dry, fine to medium grained sand, grades coarser with depth with silt at top.	
	>15,000						Grades with trace shell fragments.	
					15			



BOREHOLE LOG

BORING / WELL ID: **AN-05**
 TOTAL DEPTH: **36'**

PROJECT NAME AND SITE ADDRESS: **Former ChemOil Facility, Signal Hill, California**

BORING LOCATION / DESCRIPTION: **North parcel, central area**

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
							Abundant shell fragments, strong hydrocarbon odor.	
	>15,000						Grades no shell fragments, predominately fine grained sand.	
1000					20			
	>15,000							
					25			
					30			
1010								
	>15,000							
					35		Hydropunch sampling performed at the following interval: 36 to 40 feet bgs (AN-05-40'GW, 1100). No oil blebs, slight sheen, strong hydrocarbon odor.	



BOREHOLE LOG

BORING / WELL ID: **AN-13**
TOTAL DEPTH: **32'**

PROJECT NAME AND SITE ADDRESS: **Former ChemOil Facility, Signal Hill, California**
BORING LOCATION / DESCRIPTION: **Center of north parcel**

PROJECT INFORMATION	DRILLING INFORMATION
PROJECT NO.: 093-CHEMOIL-001	SUBCONTRACTOR: Kehoe Testing & Engineering
PERMIT NO.:	EQUIPMENT: GeoProbe 7800
LOGGED BY: R. Robitaille	SAMPLING METHOD: Continuous 1.75" x 48"
REVIEWED BY: P. Fuller	MONITORING DEVICE: PID 100 ppm Hexane
SURFACE ELEVATION: 29.9 feet amsl	BORING DIAMETER (IN): 2.5 inches
CASING TOP ELEVATION: NA	ANNULUS MATERIAL: NA
START DATE (TIME): 01/09/17 (1200)	BORING ANGLE: Vertical CASING DIAMETER: NA
FINISH DATE (TIME): 01/09/17 (1620)	SCREEN INTERVAL: NA

First Water Encountered
 Stabilized Water Level
 Sample Packaged for Analysis

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
					0		Boring cleared to five feet bgs with hand auger. Fill: Silty sand with gravel and debris.	
							CL: Clayey silt, dark gray (2.5Y 4/1), moderately hard, dry, trace fine grained sand, moderate hydrocarbon odor, (0,0,80,20).	
1210	208				5			
	>15,000						ML: Silt, gray (5Y 5/1), moderately soft, dry, trace clay, micaceous, strong hydrocarbon odor.	
1220	>15,000				10		Grades with increasing clay (0,0,80,20) (2 inches only). Grades with fine grained sand (0,30,70,0).	
							SM: Silty sand, gray (5Y 5/1), loose, dry, well sorted fine grained sand, trace medium grained sand, strong hydrocarbon odor.	
1225	>15,000				15		Grades increasing medium grained sand.	



BOREHOLE LOG

BORING / WELL ID: **AN-13**
 TOTAL DEPTH: **32'**

PROJECT NAME AND SITE ADDRESS: **Former ChemOil Facility, Signal Hill, California**

BORING LOCATION / DESCRIPTION: **Center of north parcel**

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
1245	>15,000				20		(Sampler jammed in rods.)	
1320	>15,000				25			
1330					30		Observed free product in soil. Hydropunch sampling performed at the following intervals: 27 to 31 feet bgs (AN-13-31' GW, 09:00). Mostly oil and oily water, low viscosity, dark brown. 37 to 41 feet bgs (AN-13-41' GW, 10:00). Heavy sheen. 51 to 54 feet bgs (AN-13-54' GW, 11:00). No sheen.	Boring backfilled with bentonite.



BOREHOLE LOG

BORING / WELL ID: **AN-20**

TOTAL DEPTH: **36'**

PROJECT NAME AND SITE ADDRESS: **Former ChemOil Facility, Signal Hill, California**

BORING LOCATION / DESCRIPTION: **Southwest of MW-11, northwest parcel**

PROJECT INFORMATION

PROJECT NO.: **093-CHEMOIL-001**
PERMIT NO.:
LOGGED BY: **A. Czuba**
REVIEWED BY: **P. Fuller**
SURFACE ELEVATION: **30.7 feet amsl**
CASING TOP ELEVATION: **NA**
START DATE (TIME): **01/18/17 (0805)**
FINISH DATE (TIME): **01/18/17 (0850)**

DRILLING INFORMATION

SUBCONTRACTOR: **Kehoe Testing & Engineering**
EQUIPMENT: **GeoProbe 6610DT**
SAMPLING METHOD: **Continuous 1.75" x 48"**
MONITORING DEVICE: **PID 100ppm Hexane**
BORING DIAMETER (IN): **2.5 inches**
ANNULUS MATERIAL: **NA**
BORING ANGLE: **Vertical** CASING DIAMETER: **NA**
SCREEN INTERVAL: **NA**

 First Water Encountered

 Stabilized Water Level

 Sample Packaged for Analysis

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
					0		Fill: Boring cleared to five feet bgs with hand auger. Fill.	
					5		ML: Sandy silt, brown (10YR 4/3), moist, poorly graded very fine grained sand, non-plastic, slight hydrocarbon odor, (0,40,60,0). Olive brown (2.5Y 4/3), strong hydrocarbon odor.	
0813	>15,000							
0816	>15,000				10			
					15		SP: Poorly graded sand, gray (LEY1 5/10Y), dry, fine to coarse grained sand, hydrocarbon odor, (0,100,0,0).	
0820	>15,000							



BOREHOLE LOG

BORING / WELL ID: **AN-20**
 TOTAL DEPTH: **36'**

PROJECT NAME AND SITE ADDRESS: **Former ChemOil Facility, Signal Hill, California**

BORING LOCATION / DESCRIPTION: **Southwest of MW-11, northwest parcel**

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
0826	3946						Poorly graded fine to medium grained sand, strong hydrocarbon odor.	
0830	>15,000				20		Very fine grained sand, (0,90,10,0).	
0840	>15,000				25			
0845	>15,000				30		SM: Silty sand, gray (GLEY 5/10Y), very moist, poorly graded fine grained sand, non-plastic, very strong hydrocarbon odor, (0,80,20,0).	
0850	>15,000						At 33.5 feet bgs: Sheen observed on soil/water.	
0850	>15,000				35		ML: Sandy silt, olive brown (2.5Y 4/1), slightly moist, hard, trace clay, strong hydrocarbon odor, (0,10,85,5).	
Hydropunch sampling performed at the following intervals: 28 to 32 feet bgs (AN-20-32'GW, 0943). 38 to 42 feet bgs (AN-20-42'GW, 1032). 48 to 52 feet bgs (AN-20-52'GW, 1130). 58 to 62 feet bgs (AN-20-62'GW, 1345).								



BOREHOLE LOG

BORING / WELL ID: **AO-01**
TOTAL DEPTH: **32'**

PROJECT NAME AND SITE ADDRESS: **Former ChemOil Facility, Signal Hill, California**
BORING LOCATION / DESCRIPTION: **In the street in front of 2109 Gundry Avenue**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT NO.:	093-CHEMOIL-001	SUBCONTRACTOR:	Kehoe Testing & Engineering
PERMIT NO.:		EQUIPMENT:	GeoProbe 7800
LOGGED BY:	R. Robitaille	SAMPLING METHOD:	Continuous 1.75" x 48"
REVIEWED BY:	P. Fuller	MONITORING DEVICE:	PID 100ppm Hexane
SURFACE ELEVATION:	27.0 feet amsl	BORING DIAMETER (IN):	2.5 inches
CASING TOP ELEVATION:	NA	ANNULUS MATERIAL:	NA
START DATE (TIME):	01/10/17 (0700)	BORING ANGLE:	Vertical CASING DIAMETER: NA
FINISH DATE (TIME):	01/10/17 (0930)	SCREEN INTERVAL:	NA

 First Water Encountered
  Stabilized Water Level
  Sample Packaged for Analysis

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
					0		Boring cleared to five feet bgs with hand auger. Asphalt to 0.25 feet bgs.	
	0.8						Base coarse fill material.	
0830					5		ML: Silt, dark grayish brown (2.5Y 4/2), moderately soft, dry, trace clay and fine grained sand. At 2.9 feet bgs: Grades dark gray (2.5Y 4/1). At 4.5 feet bgs: Grades dark yellowish brown (10YR 4/4).	
0835	8.0				10		ML: Clayey silt, dark grayish brown (2.5Y 4/2), soft, moist, trace fine grained sand, (0,0,75,25). ML: Silt, olive gray (5Y 5/2), soft, dry, trace fine grained sand.	
	5.2						Grades increasing sand.	
0845					15		SM: Silty sand, light olive gray (5Y 6/2), loose, dry, micaceous,	

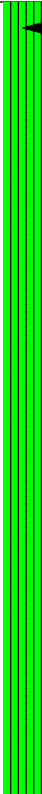


BOREHOLE LOG

BORING / WELL ID: **AO-01**
 TOTAL DEPTH: **32'**

PROJECT NAME AND SITE ADDRESS: **Former ChemOil Facility, Signal Hill, California**

BORING LOCATION / DESCRIPTION: **In the street in front of 2109 Gundry Avenue**

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
0855	5.1						very fine to fine grained sand, (0,70,30,0). SC: Thin zone clayey sand.	 Boring backfilled with bentonite.
	8.8				20		SP: Sand, gray (5Y 6/1), loose, dry, some shell fragments, micaceous, predominately fine grained sand, trace medium grained sand. At 19 feet bgs: Grades no shell fragments.	
	24				25		Gray (5Y 5/1), trace silt, faint hydrocarbon odor.	
0900							ML: Clayey silt, olive gray (5Y 5/2), moderately hard, dry.	
	>15,000						SP: Sand, gray (5Y 5/1), loose, dry, trace silt, faint hydrocarbon odor, micaceous, trace shell fragments.	
0920	>15,000				30		Hydropunch sampling performed at the following intervals: 30 to 34 feet bgs (AO-01-34'GW, 0945). Sheen. 40 to 44 feet bgs (AO-01-44'GW, 1140). Slight sheen. 56 to 60 feet bgs (AO-01-60'GW, 1320). No sheen.	



BOREHOLE LOG

BORING / WELL ID: **MW-20**
TOTAL DEPTH: **35'**

PROJECT NAME AND SITE ADDRESS: **Former ChemOil Facility, Signal Hill, California**
BORING LOCATION / DESCRIPTION: **Southwest parcel near AS-03.**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT NO.:	093-CHEMOIL-001	SUBCONTRACTOR:	Gregg Drilling
PERMIT NO.:	SR0092630	EQUIPMENT:	Truck-mounted HSA
LOGGED BY:	A. Czuba	SAMPLING METHOD:	Split Spoon
REVIEWED BY:	P. Fuller	MONITORING DEVICE:	PID
SURFACE ELEVATION:	25.4 feet amsl	BORING DIAMETER (IN):	8 inches
CASING TOP ELEVATION:	24.79 feet amsl	ANNULUS MATERIAL:	#2/12 Monterey Sand
START DATE (TIME):	01/10/17	BORING ANGLE:	Vertical CASING DIAMETER: 2 inches
FINISH DATE (TIME):	01/10/17	SCREEN INTERVAL:	20 to 35 feet bgs

 First Water Encountered
  Stabilized Water Level
  Sample Packaged for Analysis

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
0920	0				0		Boring cleared to five feet bgs with hand auger. SM: Silty sand, brown, slightly moist, poorly graded fine to coarse grained sand, low plasticity, no odor, (0,80,20,0).	 Traffic Rated Well Box Concrete Portland Cement with 5% Bentonite 2" Schedule 40 PVC Blank Casing
0943	40				5		SM: Silty sand, olive gray, dry, moderately soft, poorly graded, trace clay, slight hydrocarbon odor.	
0943	40						Grades brown.	
0949	34.2						Grades olive gray, poorly graded very fine grained sand.	
0955	>15,000						ML: Clayey silt, dark olive gray, dry, hard, poorly graded, low plasticity, no odor.	
1000	>15,000				10		SM: Silty sand, olive gray, dry, very fine grained sand, slight hydrocarbon odor, (0,70,30,0).	
1006	>15,000						Grades increasing silt, (0,60,40,0).	
1015	>15,000						SP: Poorly graded sand, dark gray, dry, fine to medium grained sand, trace silt, slight hydrocarbon odor, (0,100,0,0).	
1015	>15,000						SM: Silty sand, gray, dry, poorly graded fine to medium grained	
1020	81				15			



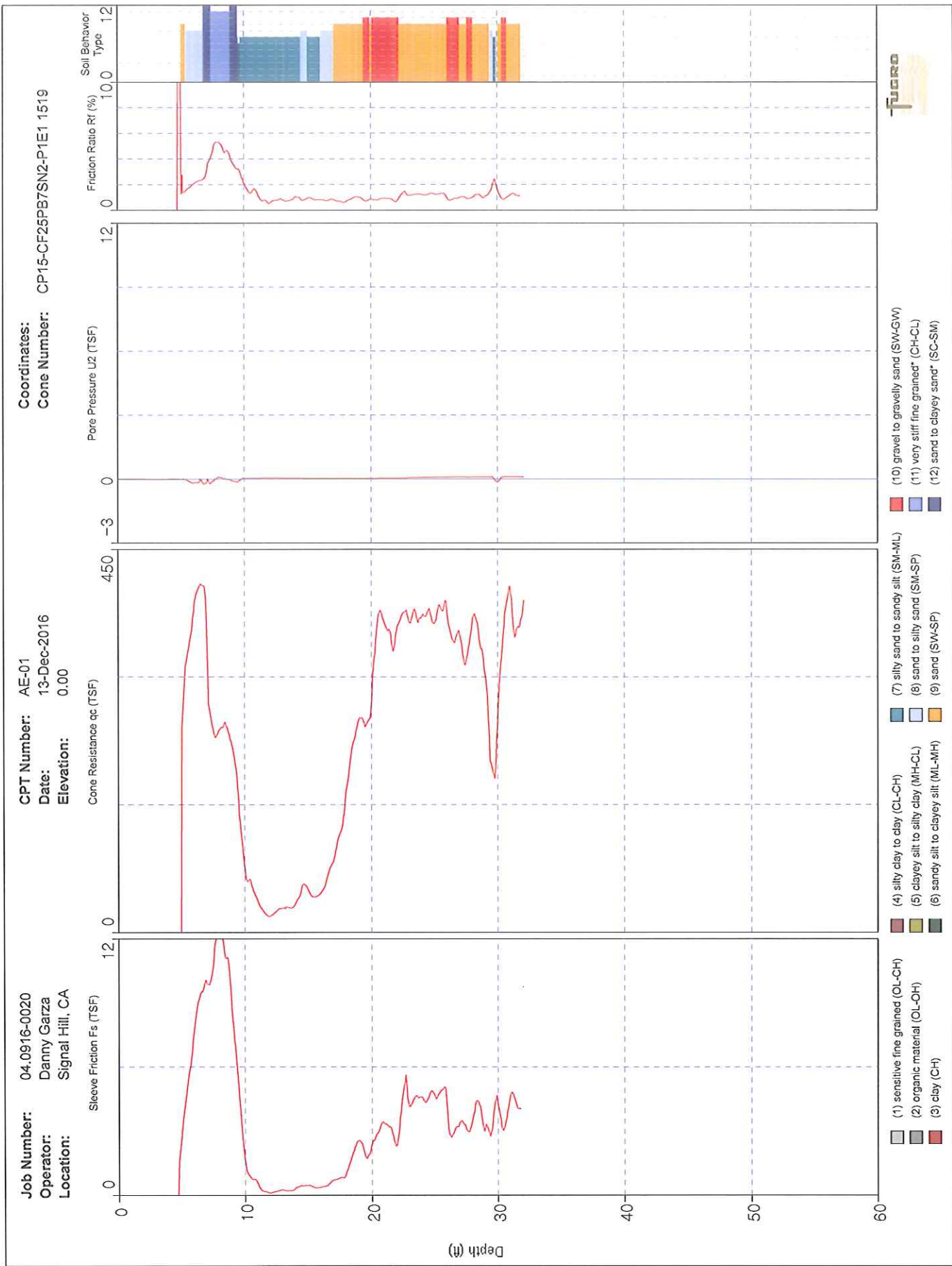
BOREHOLE LOG

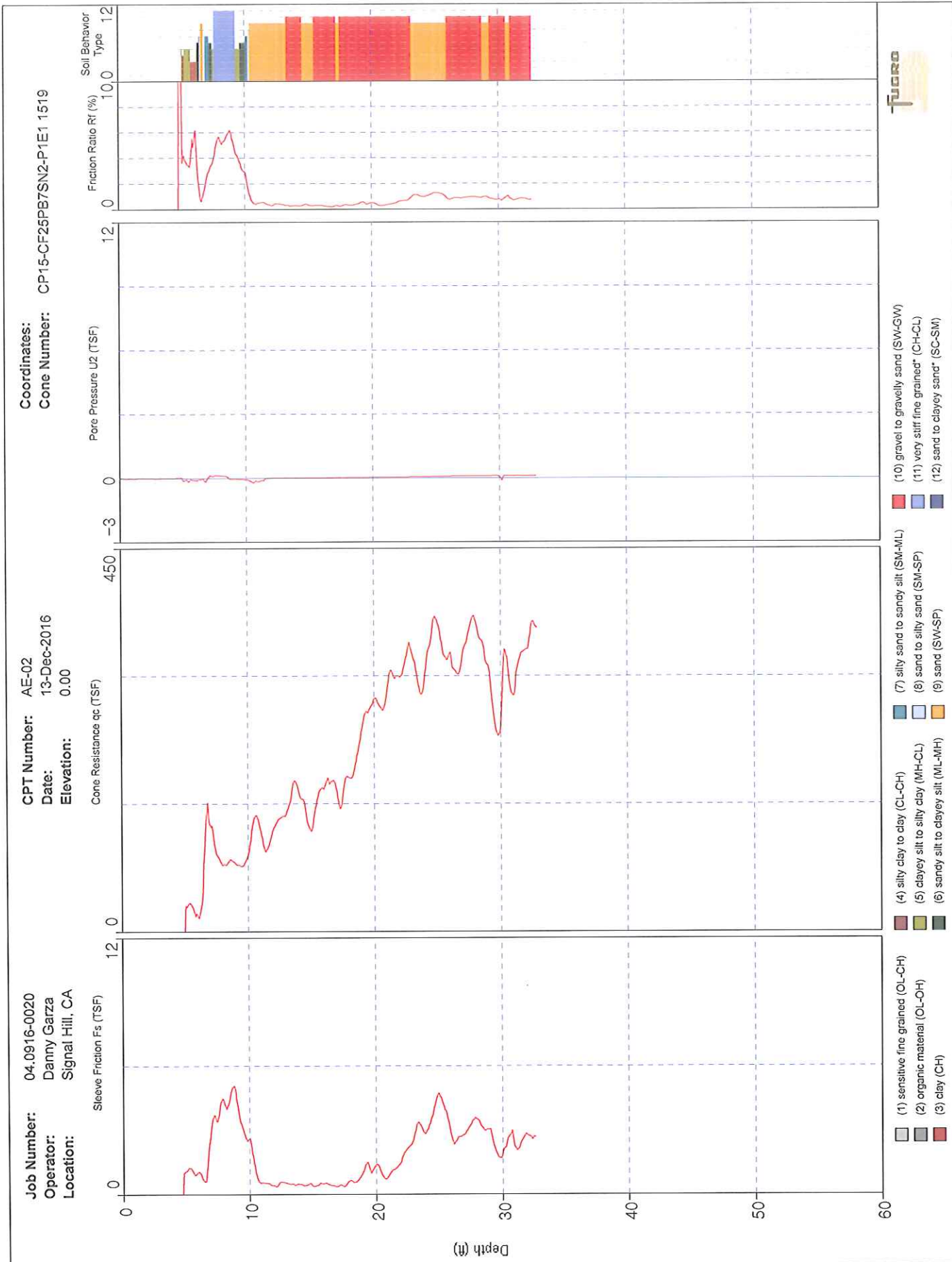
BORING / WELL ID: **MW-20**
TOTAL DEPTH: **35'**

PROJECT NAME AND SITE ADDRESS: **Former ChemOil Facility, Signal Hill, California**

BORING LOCATION / DESCRIPTION: **Southwest parcel near AS-03.**

TIME	PID READING	WATER LEVEL	SAMPLE INTERVAL	RECOVERY (%)	DEPTH	STRATIGRAPHY	LITHOLOGIC DESCRIPTION (classification, color, moisture, density, grain size / plasticity, other) ALL PERCENTAGES ARE APPROXIMATE UNLESS OTHERWISE STATED.	WELL CONSTRUCTION DETAILS
1026							sand, non-plastic, slight hydrocarbon odor, (0,80,20,0).	
1033	>15,000						SP: Poorly graded sand, gray, dry, fine to medium grained, slight hydrocarbon odor, (0,100,0,0).	Hydrated Bentonite Chips
1040					20		SM: Silty sand, gray, dry, poorly graded fine to medium grained sand, non-plastic, slight hydrocarbon odor, (0,80,20,0).	
1045	300						Olive gray, hydrocarbon odor, (0,75,25,0).	
1055							Very fine grained sand, hydrocarbon odor, (0,70,30,0).	
1338							Strong hydrocarbon odor, (0,75,25,0).	
1340	276				25		ML: Sandy silt, olive gray, saturated, poorly graded very fine grained sand, non-plastic, strong hydrocarbon odor, (0,20,80,0).	
1346	>15,000						SM: Silty sand, olive gray, poorly graded very fine grained sand, non-plastic, strong hydrocarbon odor, (0,60,40,0).	#2/12 Monterey Sand
1352	>15,000				30		Grades increasing sand, (0,70,30,0).	2" Schedule 40 PVC 0.002" Slotted Screen
1358	249							
1405	>15,000							
1405	28.5				35		ML: Clayey silt, light olive gray, saturated, poorly graded, medium plasticity, hydrocarbon odor, (0,0,75,25).	

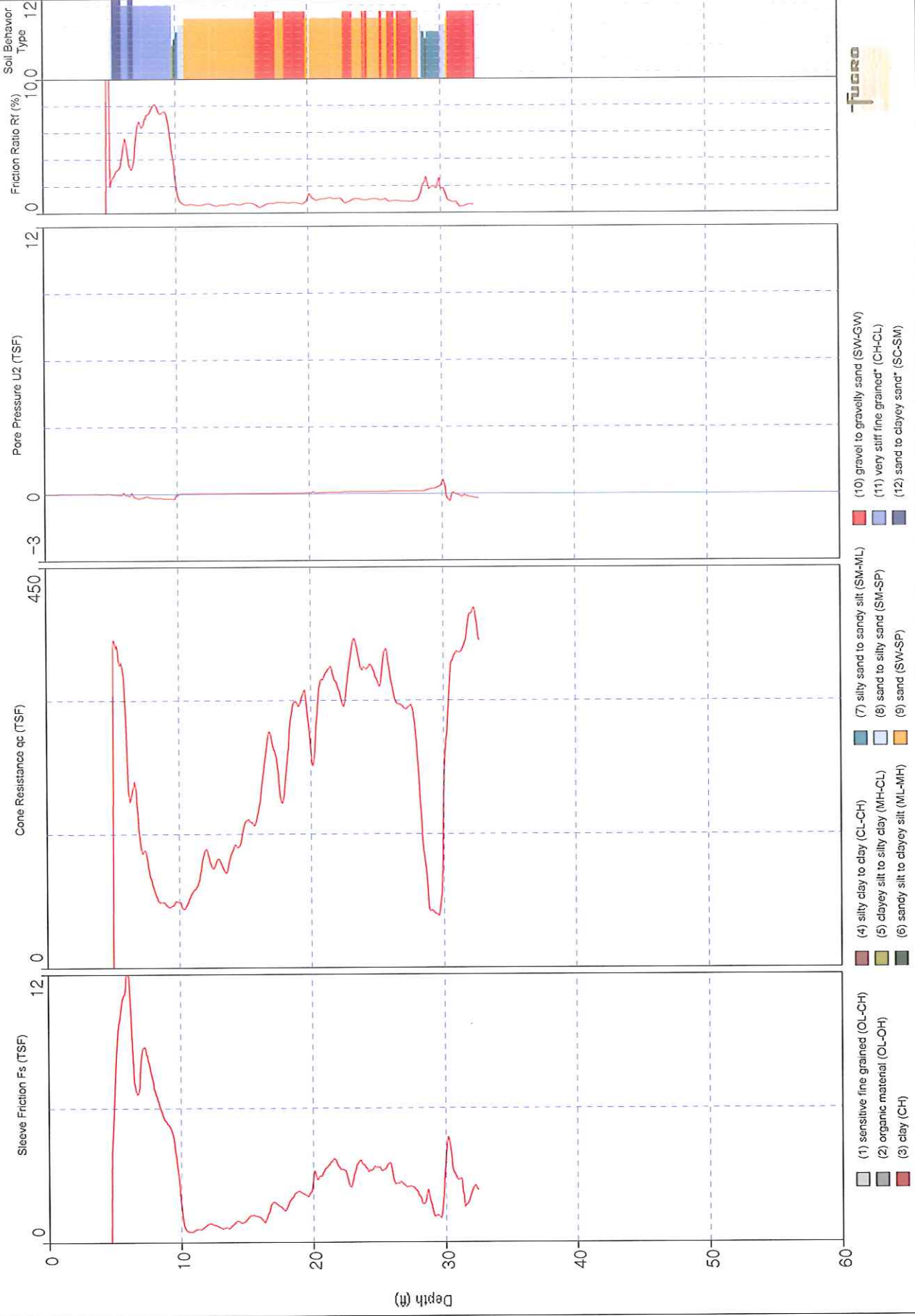


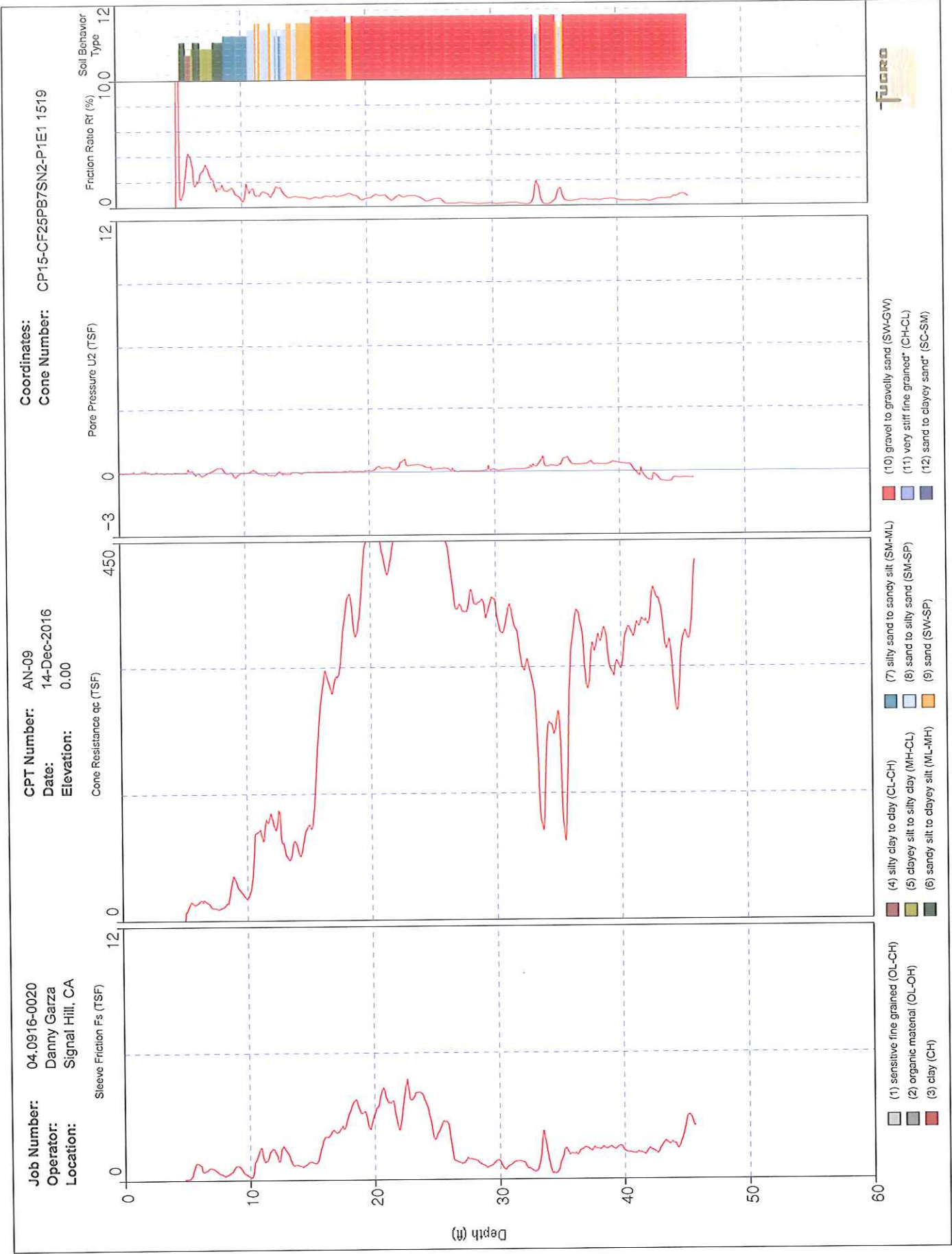


Job Number: 04.0916-0020
Operator: Danny Garza
Location: Signal Hill, CA

CPT Number: AE-03
Date: 13-Dec-2016
Elevation: 0.00

Coordinates:
Cone Number: CP15-CF25PB7SN2-P1E1 1519

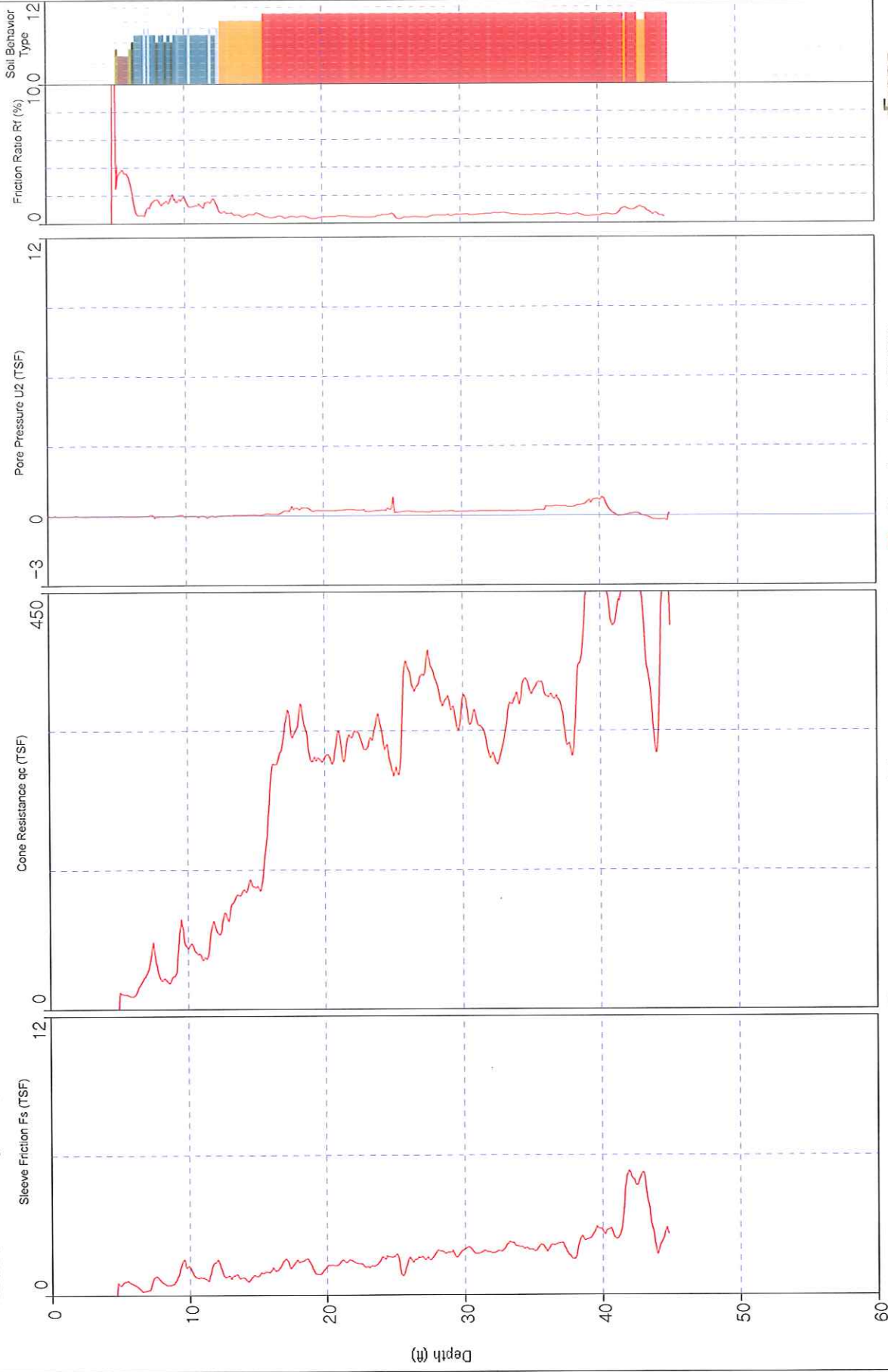




Job Number: 04.0916-0020
Operator: Danny Garza
Location: Signal Hill, CA

CPT Number: AN-10
Date: 14-Dec-2016
Elevation: 0.00

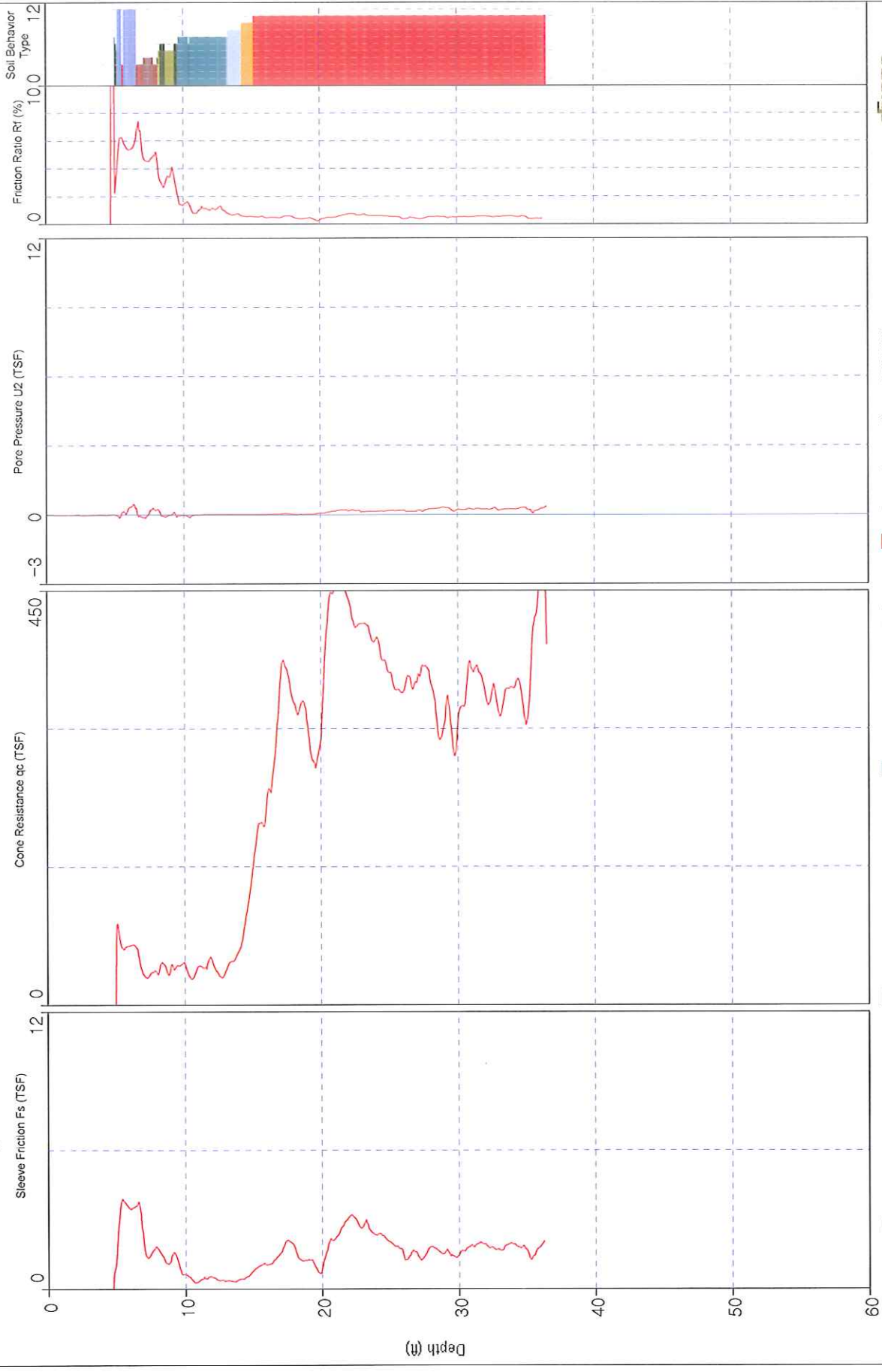
Coordinates:
Cone Number: CP15-CF25PB7SN2-P1E1 1519



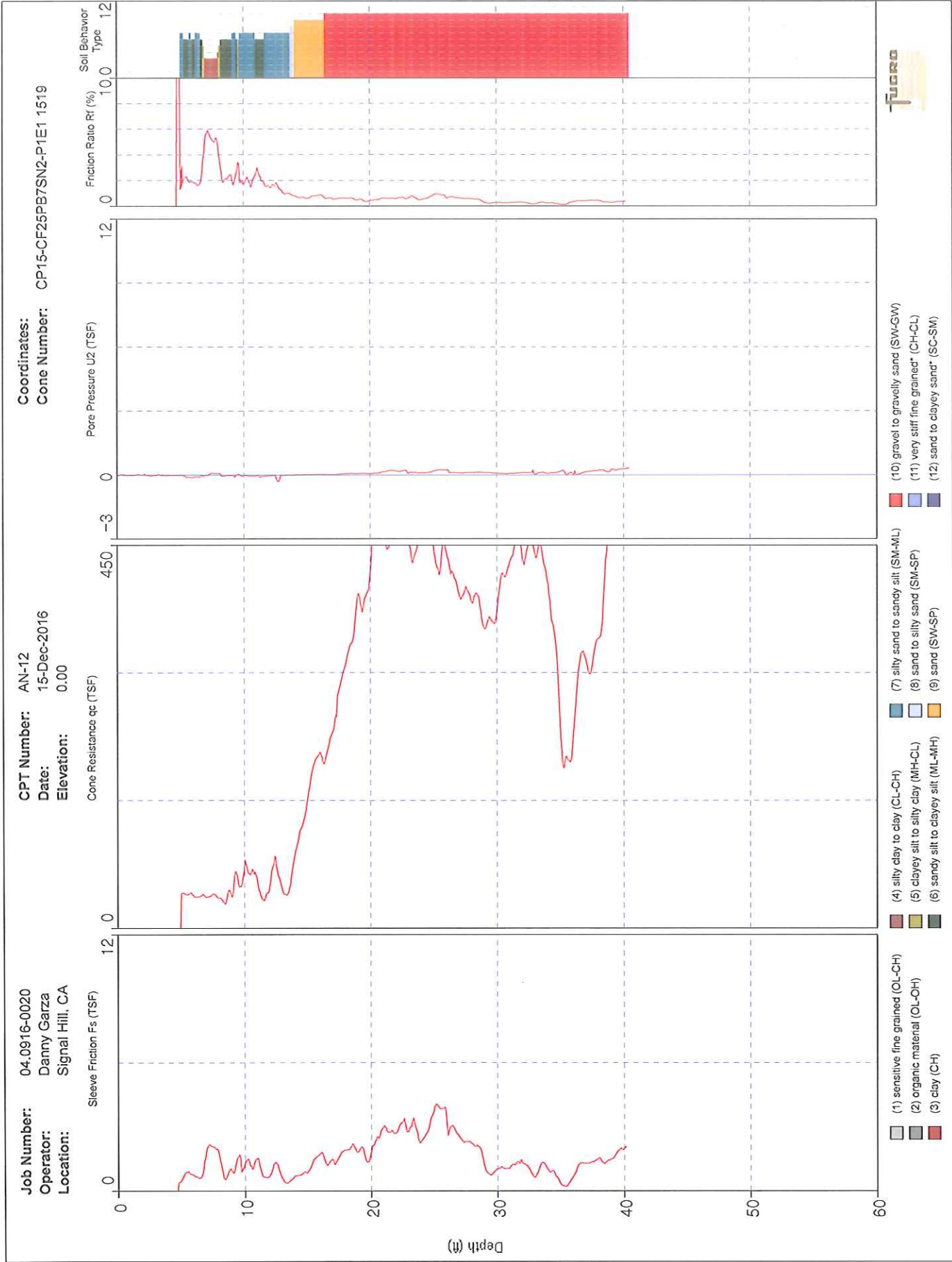
Job Number: 04.0916-0020
Operator: Danny Garza
Location: Signal Hill, CA

CPT Number: AN-11
Date: 15-Dec-2016
Elevation: 0.00

Coordinates:
Cone Number: CP15-CF25PB7SN2-P1E1 1519



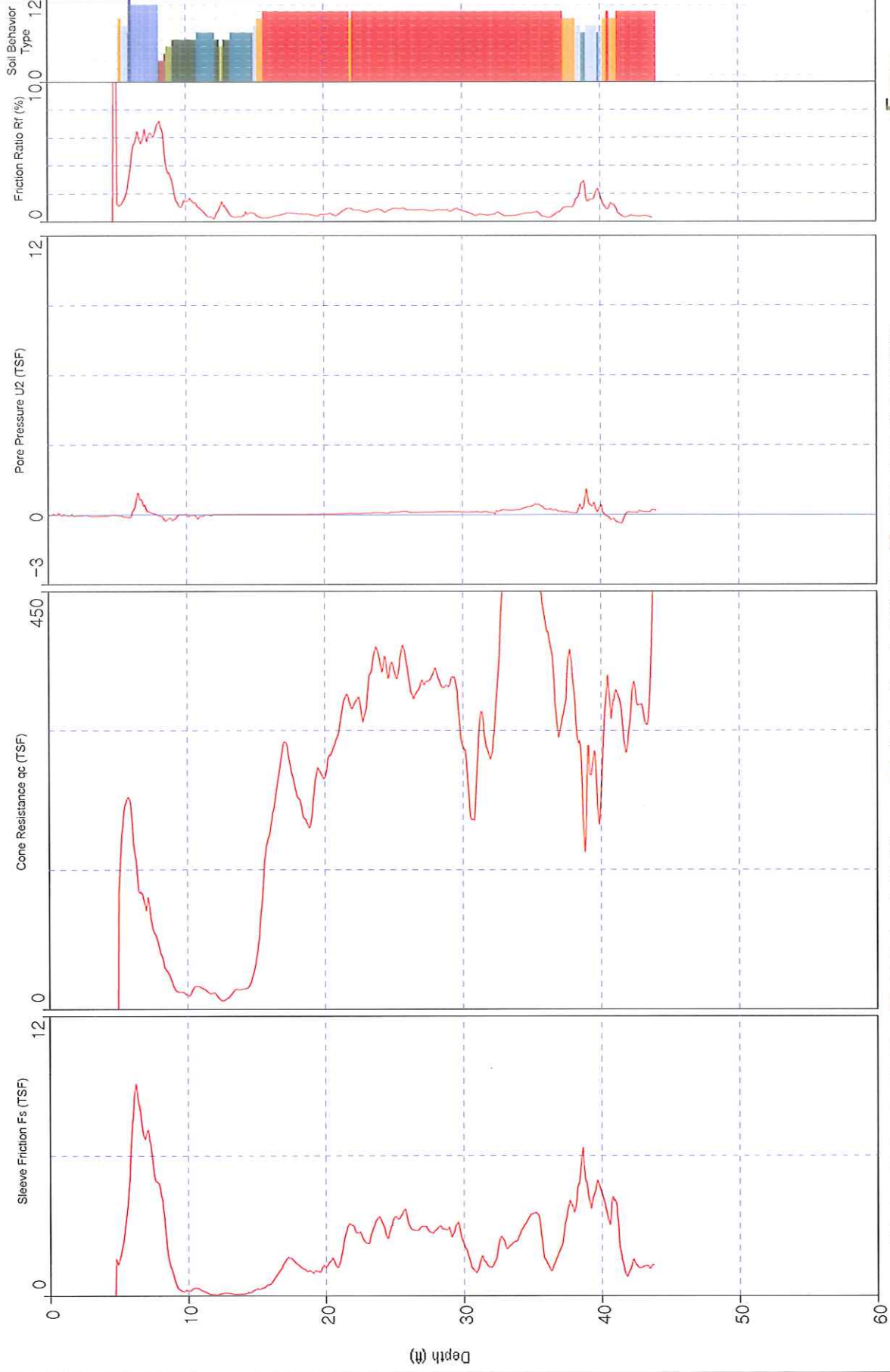
- (1) sensitive fine grained (OL-CH)
- (2) organic material (OL-OH)
- (3) clay (CH)
- (4) silty clay to clay (CL-CH)
- (5) clayey silt to silty clay (MH-CL)
- (6) sandy silt to clayey silt (ML-MH)
- (7) silty sand to sandy silt (SM-ML)
- (8) sand to silty sand (SM-SP)
- (9) sand (SW-SP)
- (10) gravel to gravelly sand (SW-GW)
- (11) very stiff fine grained* (CH-CL)
- (12) sand to clayey sand* (SC-SM)



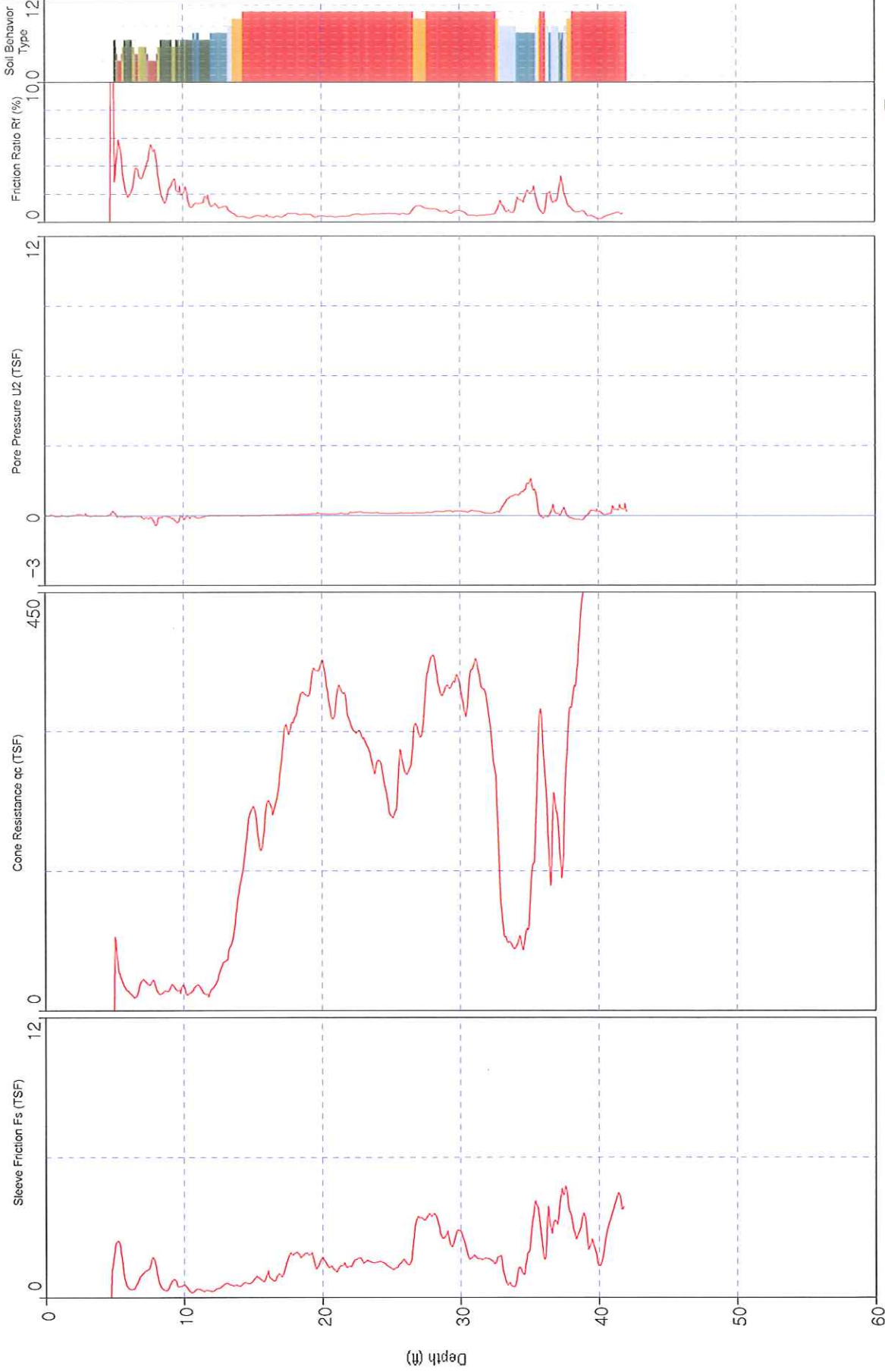
Job Number: 04.0916-0020
Operator: Danny Garza
Location: Signal Hill, CA

CPT Number: AN-15
Date: 14-Dec-2016
Elevation: 0.00

Coordinates:
Cone Number: CP15-CF25PB7SN2-P1E1 1519

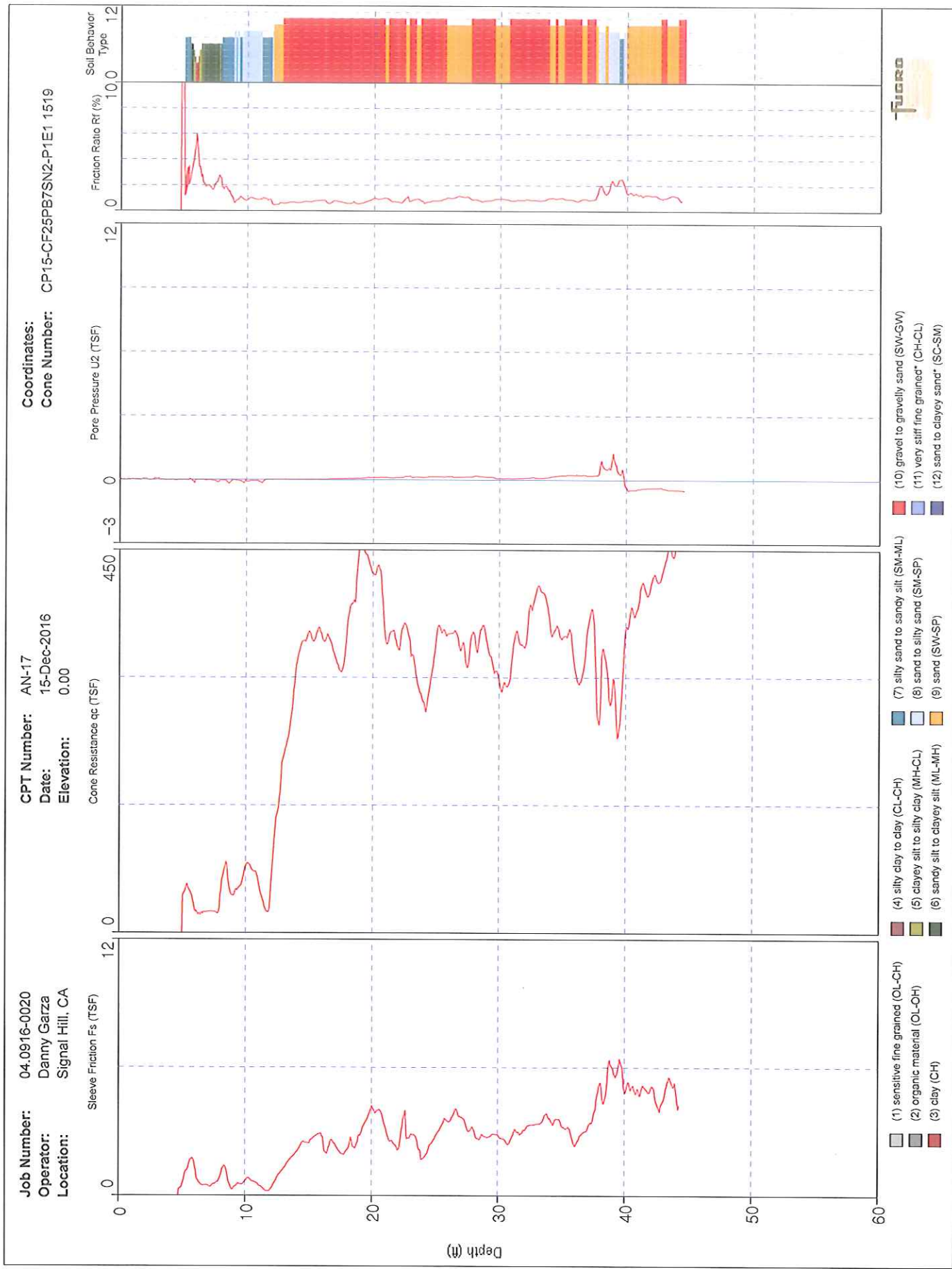


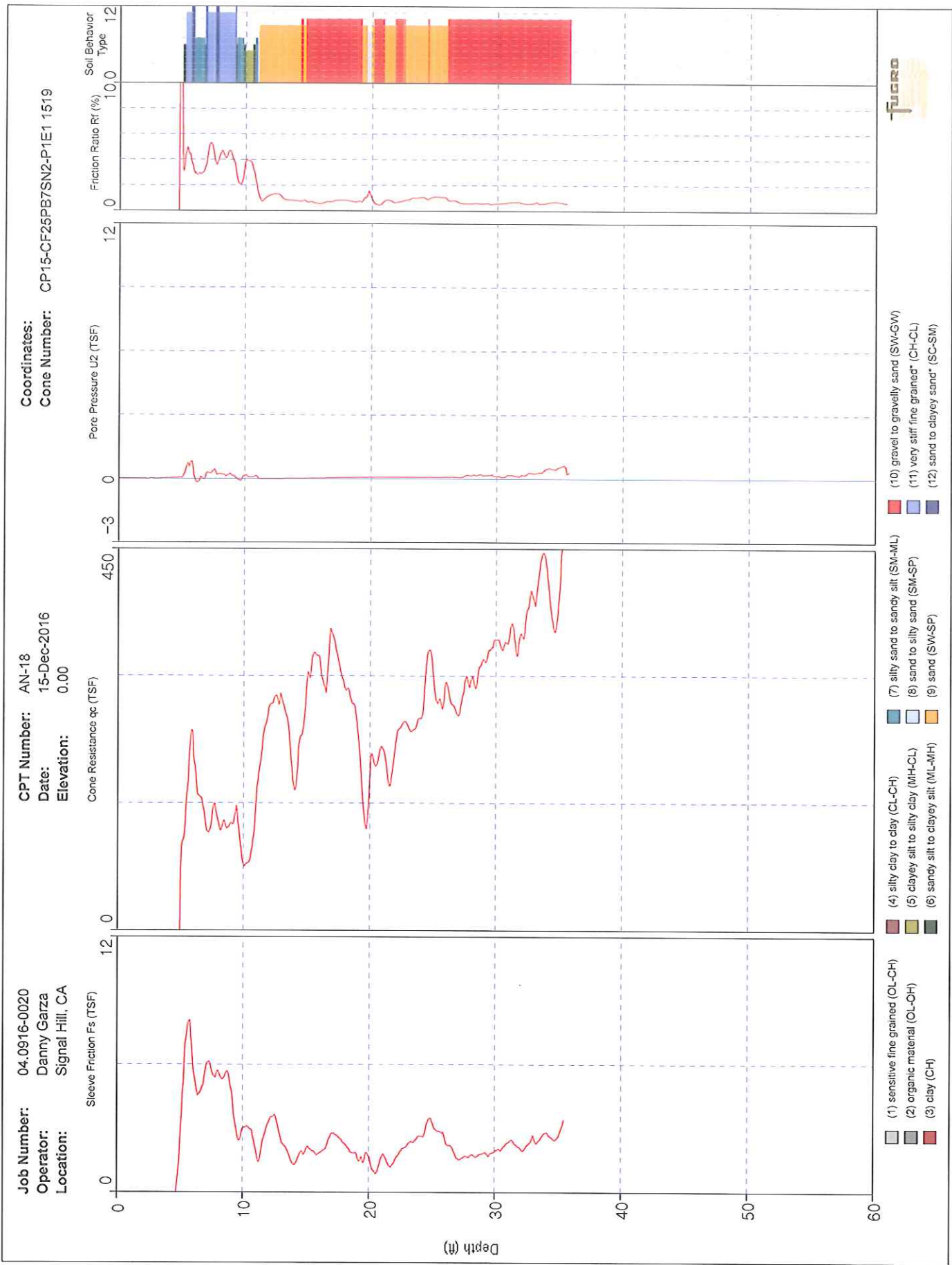
Job Number: 0409160020
Operator: D. Garza
Location: Signal Hill, CA
CPT Number: AN-16
Date: 14-Dec-2016
Elevation: 0.00
Coordinates:
Cone Number: CP15-CF25PB7SN2-P1E1 1519

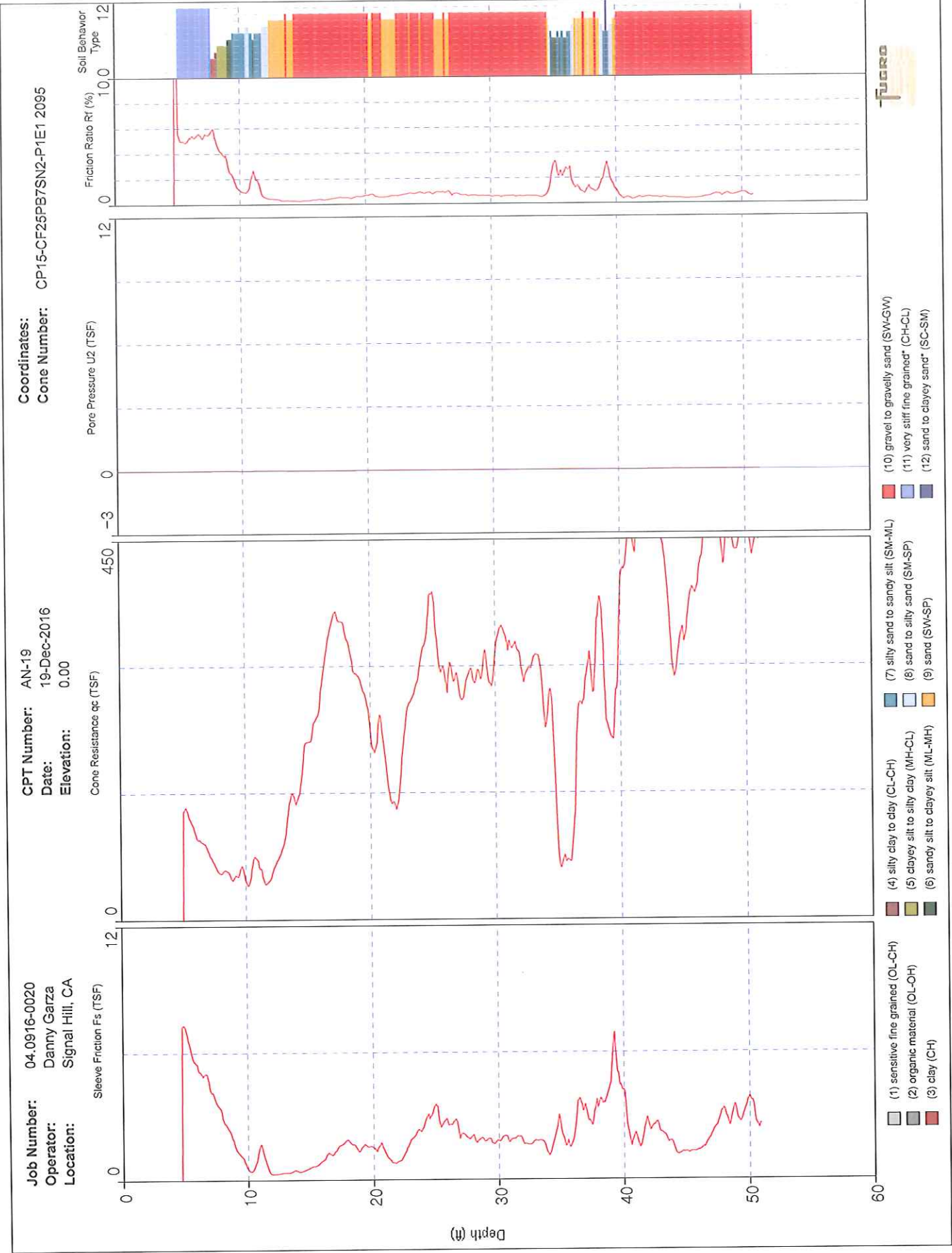


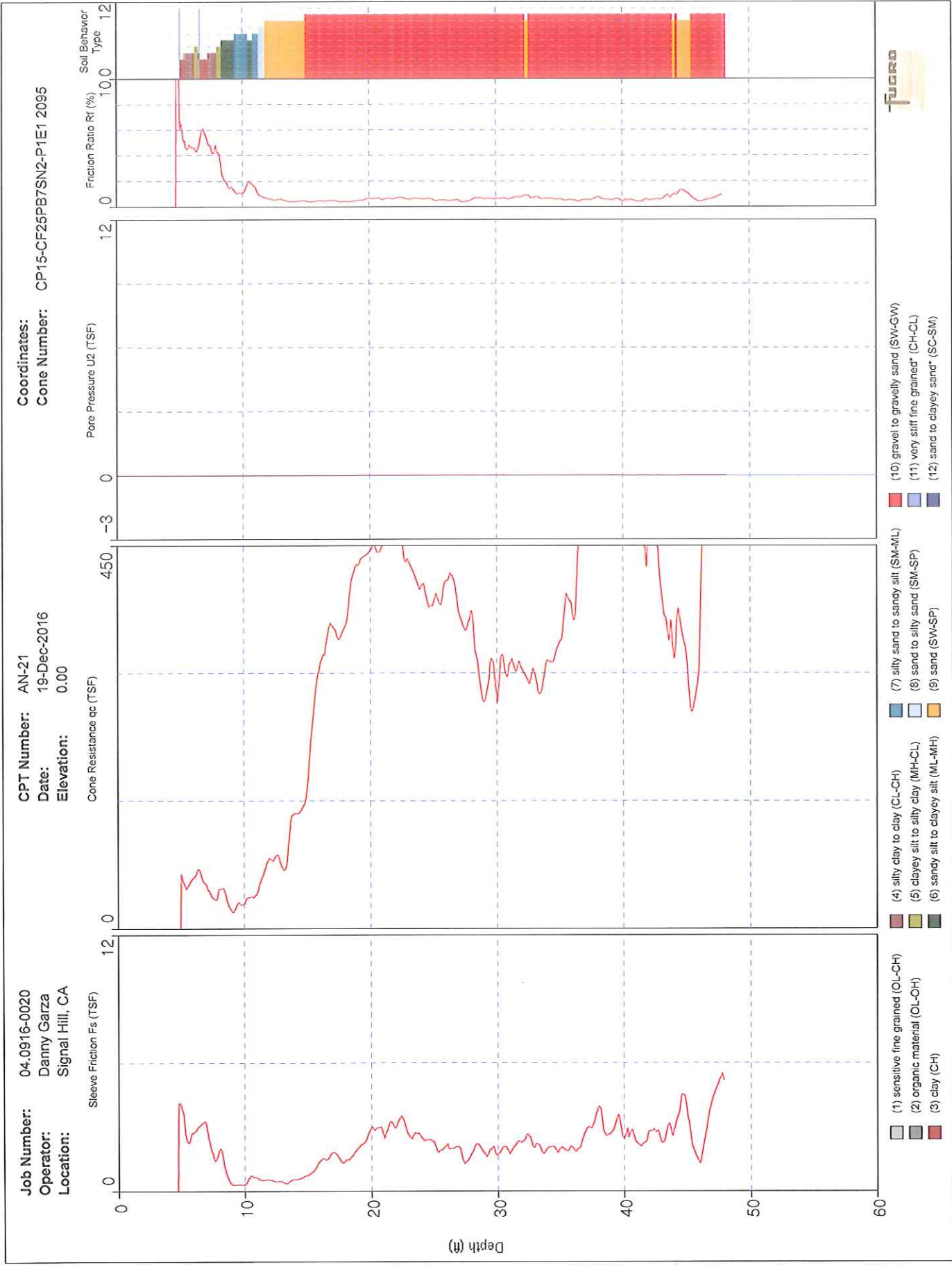
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- (2) organic material (OL-OH)
- (3) clay (CH)
- (4) silty clay to clay (CL-CH)
- (5) clayey silt to silty clay (MH-CL)
- (6) sandy silt to clayey silt (ML-MH)
- (7) silty sand to sandy silt (SM-ML)
- (8) sand to silty sand (SM-SP)
- (9) sand (SW-SP)
- (10) gravel to gravelly sand (SW-GW)
- (11) very stiff fine grained* (CH-CL)
- (12) sand to clayey sand* (SC-SM)

Robertson et al. 1986 *Overconsolidated or Cemented





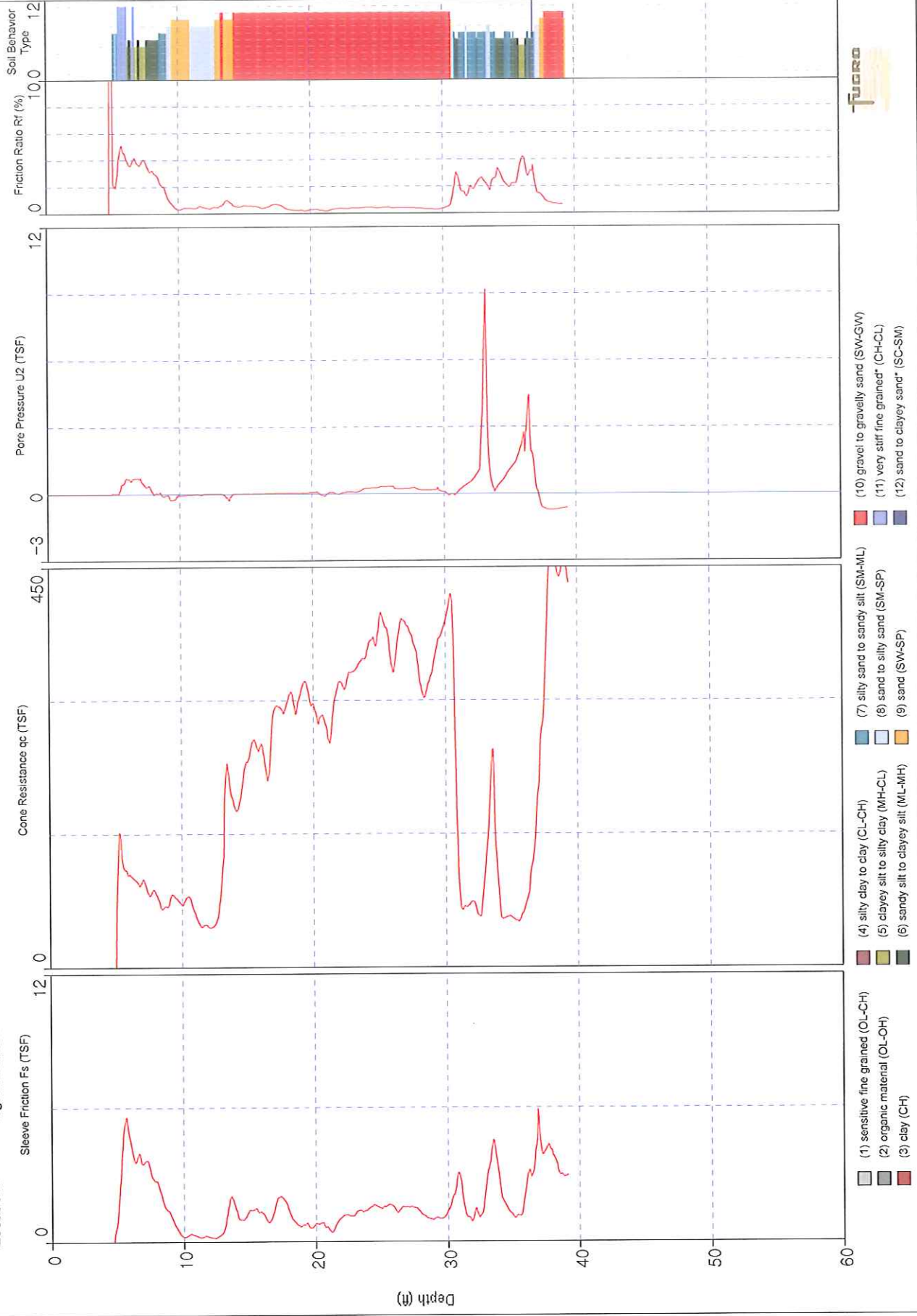




Job Number: 04.0916-0020
Operator: Danny Garza
Location: Signal Hill, CA

CPT Number: AS-01
Date: 14-Dec-2016
Elevation: 0.00

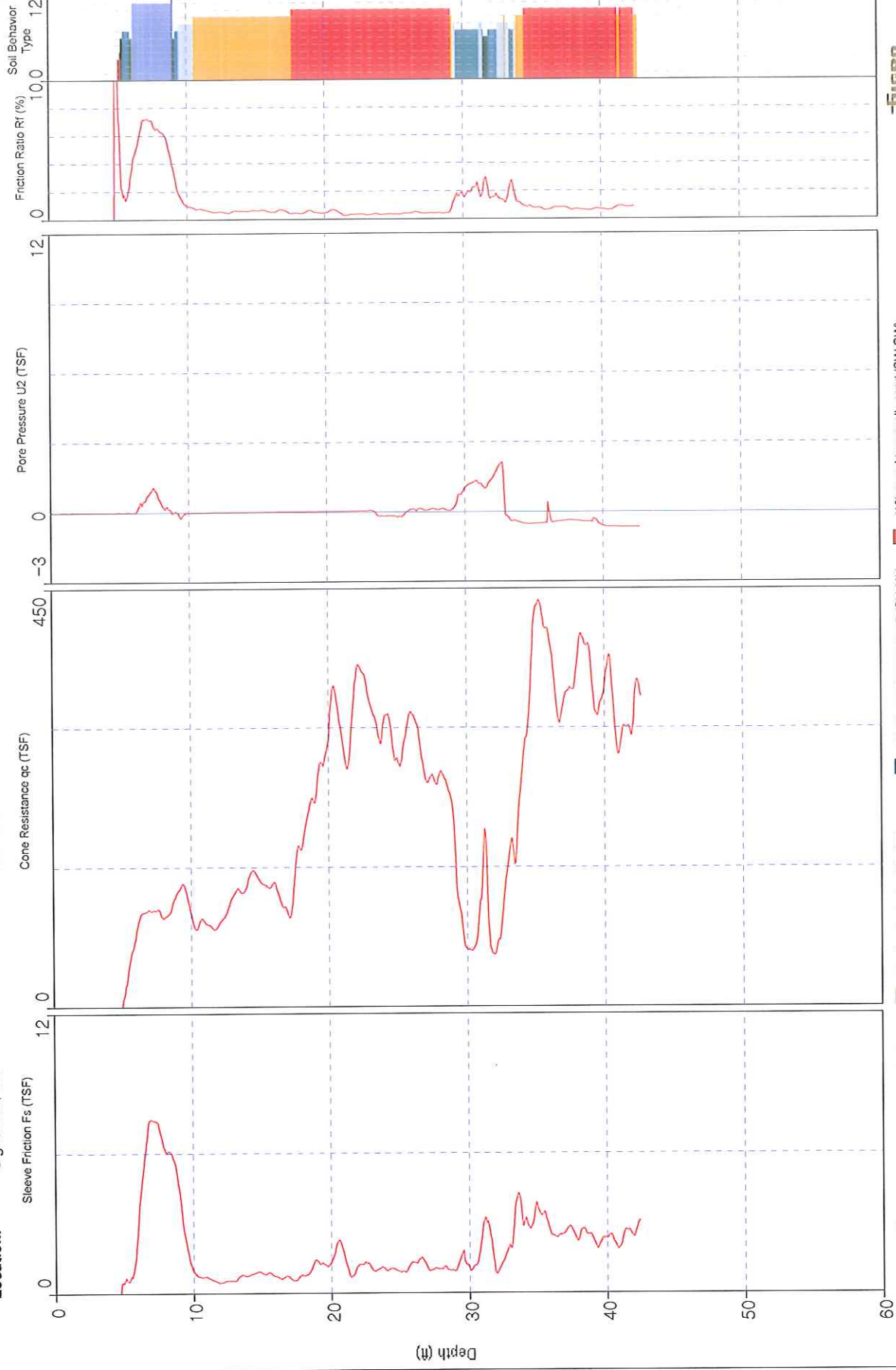
Coordinates:
Cone Number: CP15-CF25PB7SN2-P1E1 1519

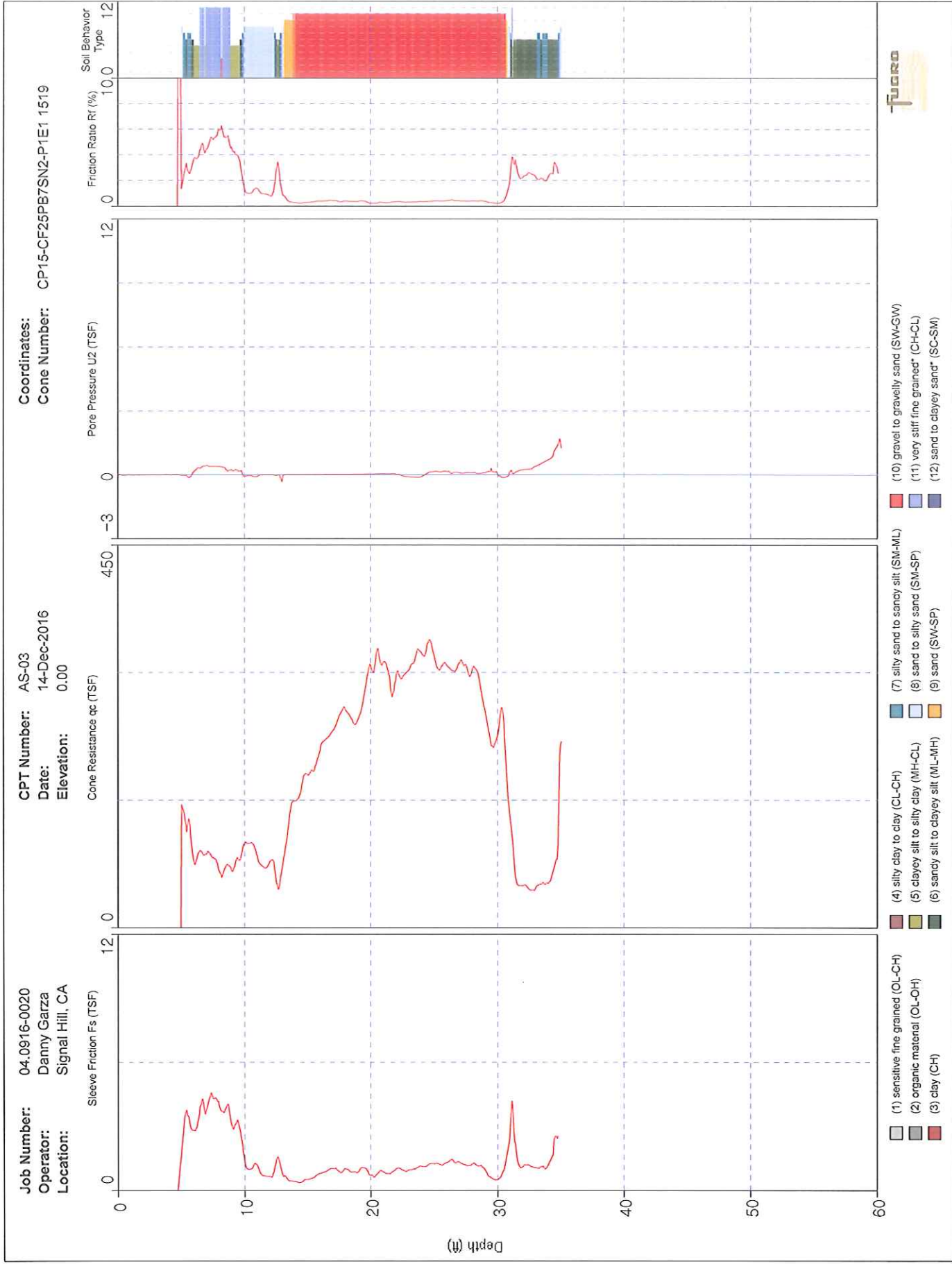


Job Number: 04.0916-0020
Operator: Danny Garza
Location: Signal Hill, CA

CPT Number: AS-02
Date: 13-Dec-2016
Elevation: 0.00

Coordinates:
Cone Number: CP15-CF25PB7SN2-P1E1 1519

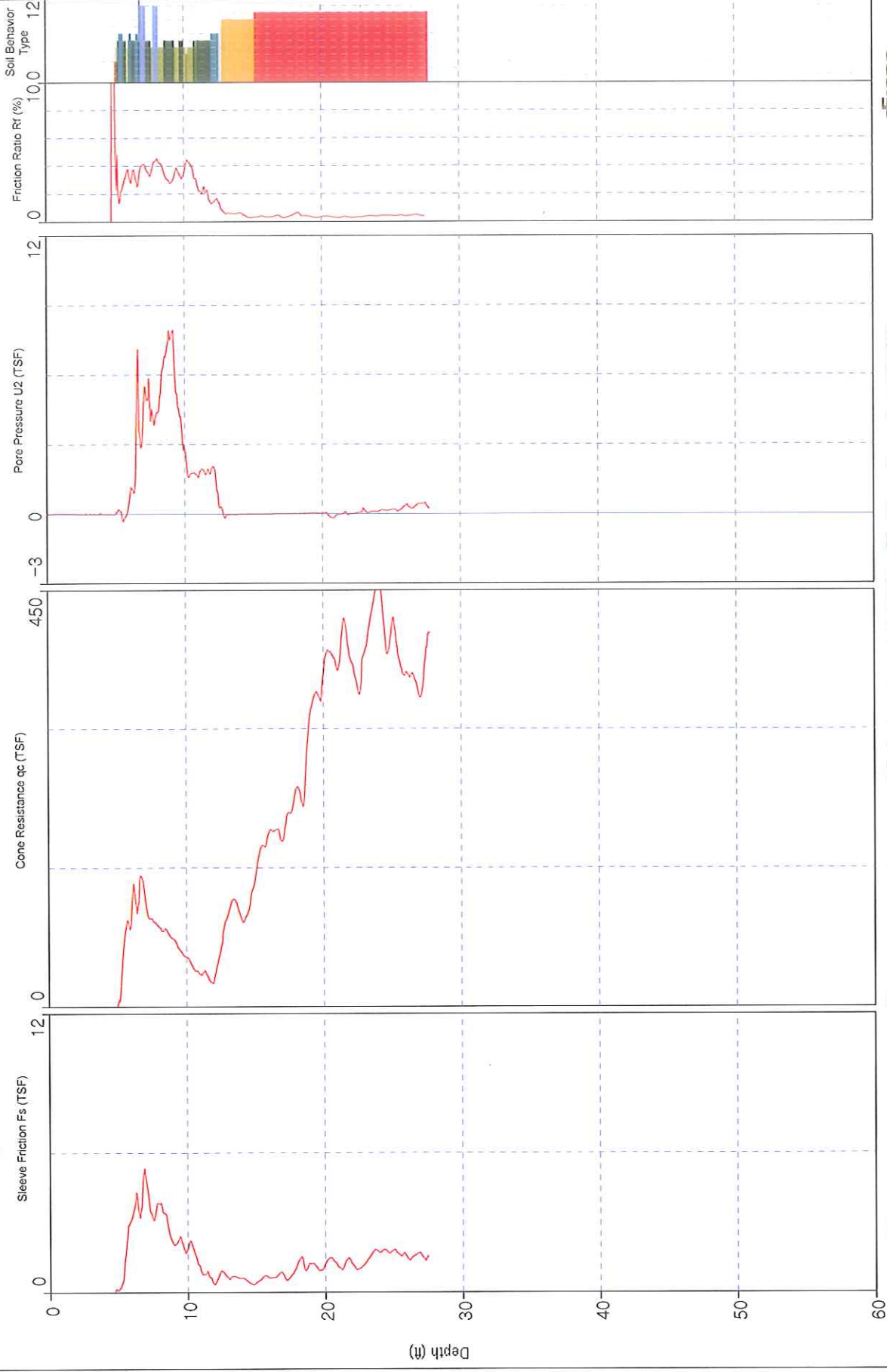


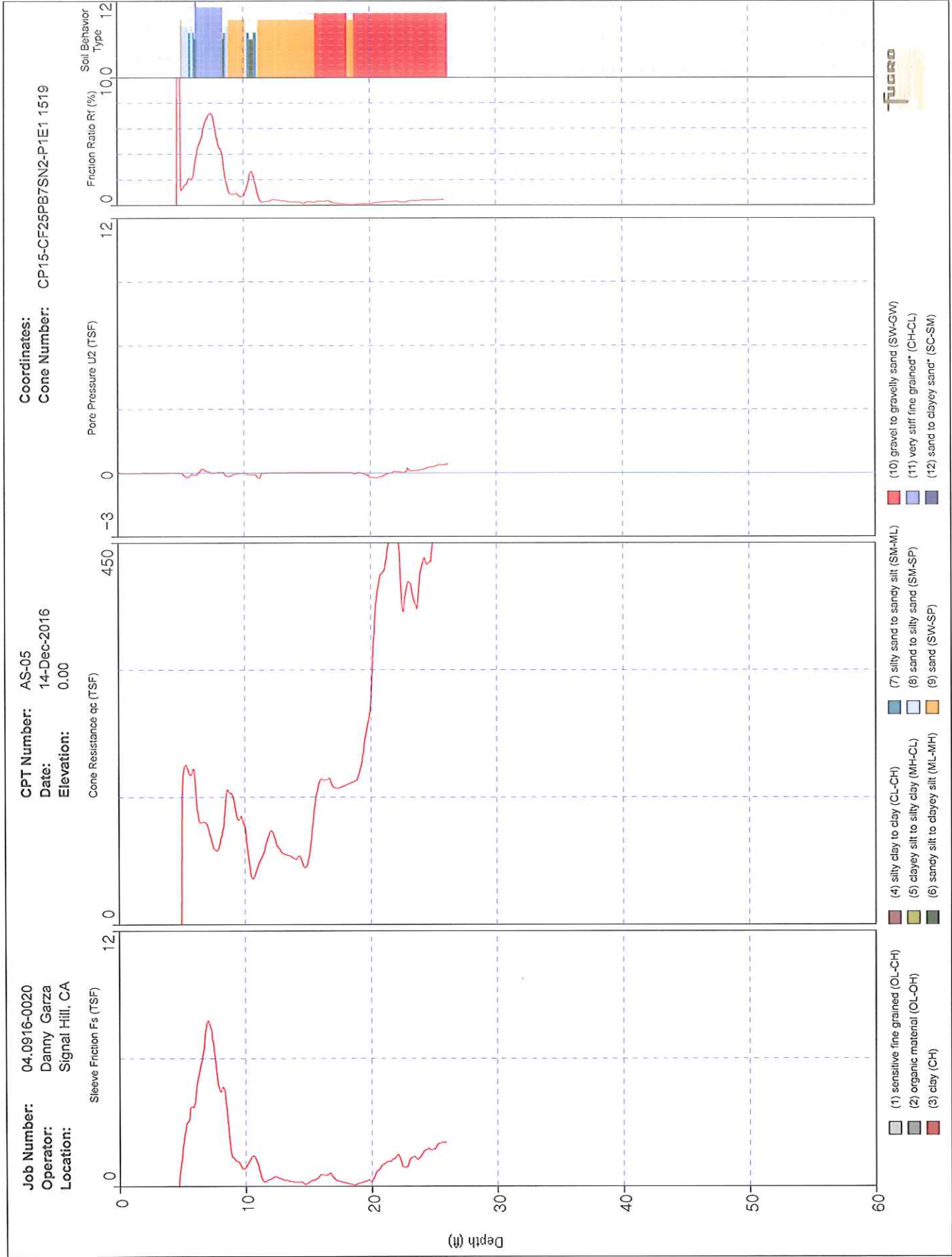


Job Number: 04.0916-0020
Operator: Danny Garza
Location: Signal Hill, CA

CPT Number: AS-04
Date: 14-Dec-2016
Elevation: 0.00

Coordinates:
Cone Number: CP15-CF25PB7SN2-P1E1 1519

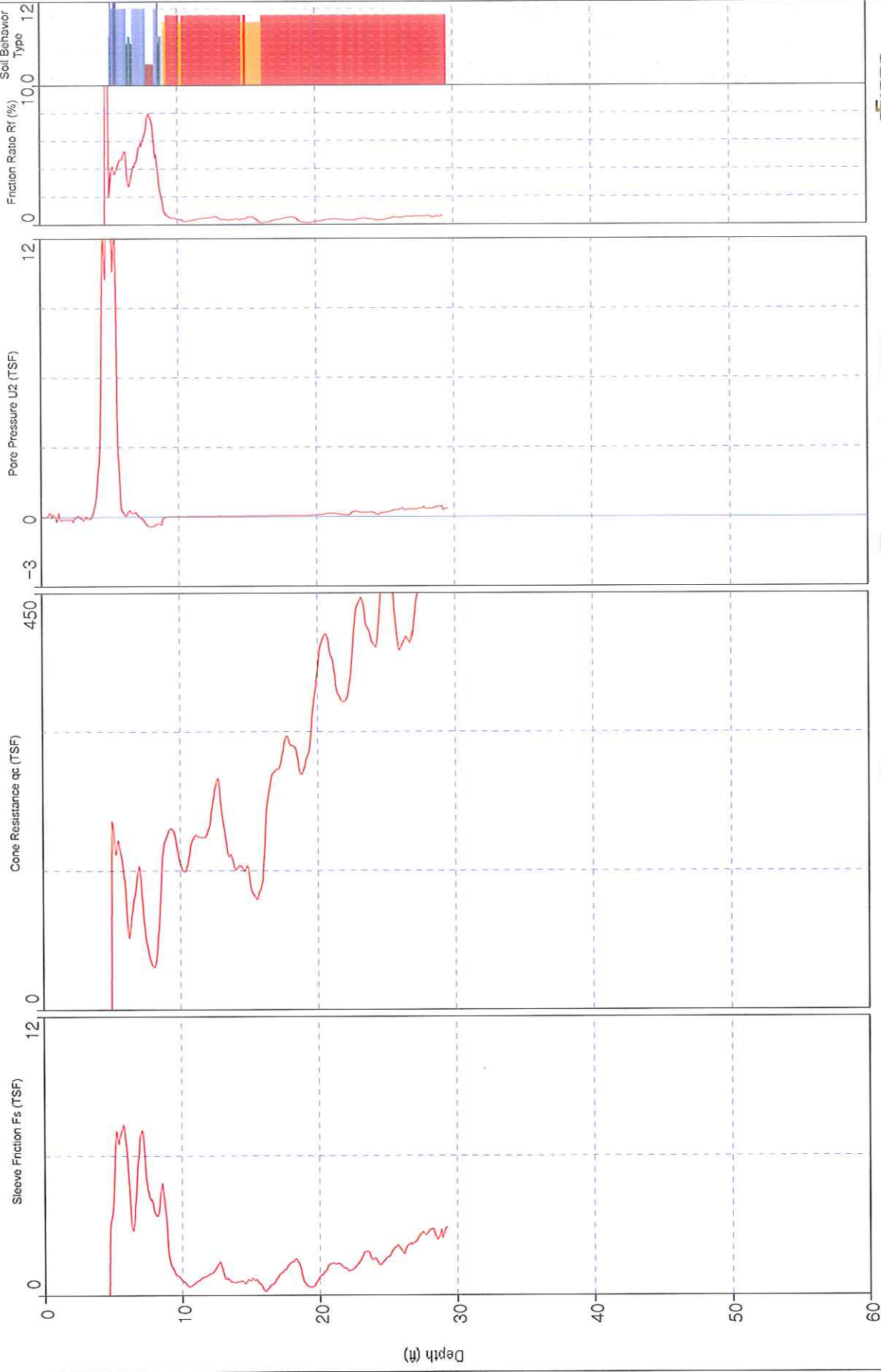




Job Number: 0409160020
Operator: D. Garza
Location: Signal Hill, CA

CPT Number: AS-06
Date: 15-Dec-2016
Elevation: 0.00

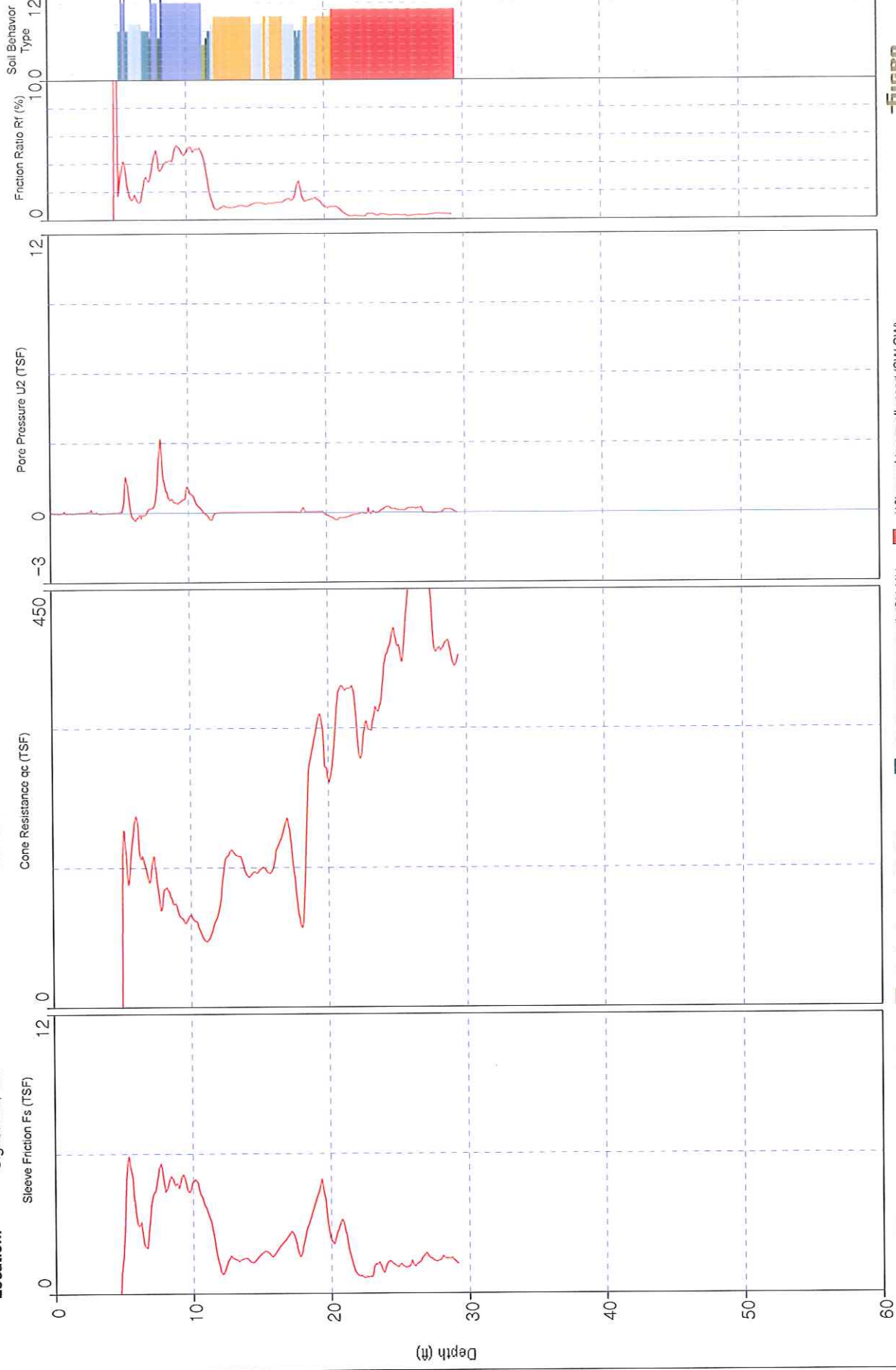
Coordinates:
Cone Number: CP15-CF25P87SN2-P1E1 1519



Job Number: 04.0916-0020
Operator: Danny Garza
Location: Signal Hill, CA

CPT Number: AS-09
Date: 14-Dec-2016
Elevation: 0.00

Coordinates:
Cone Number: CP15-CF25PB7SN2-P1E1 1519



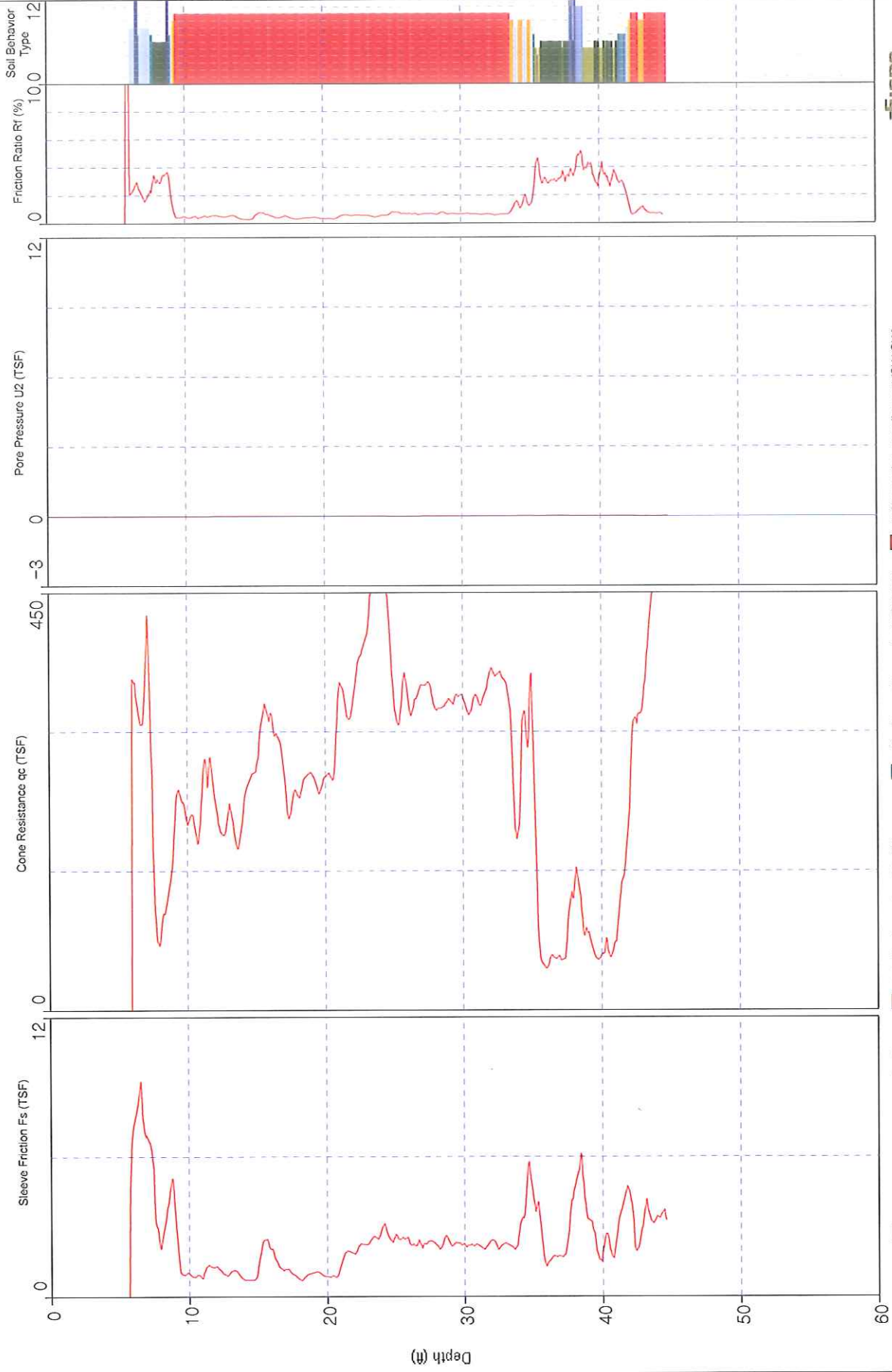
- (1) sensitive fine grained (OL-CH)
(2) organic material (OL-OH)
(3) clay (CH)
(4) silty clay to clay (CL-CH)
(5) clayey silt to silty clay (MH-CL)
(6) sandy silt to clayey silt (WL-MH)
(7) silty sand to sandy silt (SM-ML)
(8) sand to silty sand (SM-SP)
(9) sand (SW-SP)
(10) gravel to gravelly sand (SW-GW)
(11) very stiff fine grained* (CH-CL)
(12) sand to clayey sand* (SC-SM)



Job Number: 04.0916-0020
Operator: Danny Garza
Location: Signal Hill, CA

CPT Number: AS-10
Date: 19-Dec-2016
Elevation: 0.00

Coordinates:
Cone Number: CP15-CF25PB7SN2-P1E1 2095



APPENDIX C LABORATORY TEST RESULTS

APPENDIX C

Laboratory Testing Procedures and Results

Moisture and Density Determination Tests: Moisture content and dry density determinations were performed on relatively undisturbed samples obtained from the test borings. The results of these tests are presented in the boring logs. Where applicable, only moisture content was determined from "undisturbed" or disturbed samples.

Maximum Density Tests: The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM Test Method D1557. The results of these tests are presented in the test data and in the table below:

Sample Location	Sample Description	Maximum Dry Density (Pcf)	Optimum Moisture Content (%)
B-2 @ 0-5 feet	Sandy Silt	127.0	11

Direct Shear Tests: Direct shear test was performed on selected remolded and/or undisturbed sample, which was soaked for a minimum of 24 hours under a surcharge equal to the applied normal force during testing. After transfer of the sample to the shear box, and reloading the sample, pore pressures set up in the sample due to the transfer were allowed to dissipate for a period of approximately 1-hour prior to application of shearing force. The sample was tested under various normal loads, a motor-driven, strain-controlled, direct-shear testing apparatus at a strain rate of less than 0.001 to 0.5 inches per minute (depending upon the soil type). The test result is presented in the test data.

Sample Location	Sample Description	Friction Angle (degrees)	Apparent Cohesion (psf)
B-2 @ 0-5 feet	Sandy Silt (Remolded)	28	0
B-2@ 5 feet	Sandy Silt	38	168

Consolidation Tests (ASTM D2435): Consolidation test were performed on selected, relatively undisturbed ring samples. Samples were placed in a consolidometer and loads were applied in geometric progression. The percent consolidation for each load cycle was recorded as the ratio of the amount of vertical compression to the original 1-inch height. The consolidation pressure curves are presented in the test data.

Soluble Sulfates: The soluble sulfate contents of selected samples were determined by standard geochemical methods. The test results are presented in the table below:

Sample Location	Sample Description	Water Soluble Sulfate in Soil, (% by Weight)	Sulfate Content (ppm)	Exposure Class*
B-2 @ 0-5 ft	Silty Sand	0.0274	274	S0
B-3 @ 0-5 ft	Dark Brown Silty Sand	0.0200	200	S0
B-5 @ 0-5 ft	Silty Sand	0.0225	225	S0

* Based on the current version of ACI 318-11 Building Code, Table No. 4.2.1; Exposure Categories and Classes.

Corrosivity Test: Electrical conductivity, pH, and soluble chloride tests were conducted on representative samples and the results are provided below and in the test data:

Sample Location	Sample Description	Soluble Chloride (CAL.422) ppm	Electrical Resistivity (CAL.643) (ohm-cm)	PH (CAL.747)	Potential Degree of Attack on Steel
B-2 @ 0-5 feet	Silty Sand	145	1,500	7.0	Strong
B-3 @ 0-5 feet	Dark Brown Silty Sand	112	2,000	7.0	Strong
B-5 @ 0-5 feet	Silty Sand	107	2,000	6.9	Strong

Expansion Index Tests: The expansion potential of selected materials was evaluated by the Expansion Index Test, ASTM D4829. Specimens are molded under a given compactive energy to approximately the optimum moisture content and approximately 50 percent saturation or approximately 90 percent relative compaction. The prepared 1-inch thick by 4-inch diameter specimens are loaded to an equivalent 144 psf surcharge and are inundated with tap water until volumetric equilibrium is reached. The results of these tests are presented in the table below:

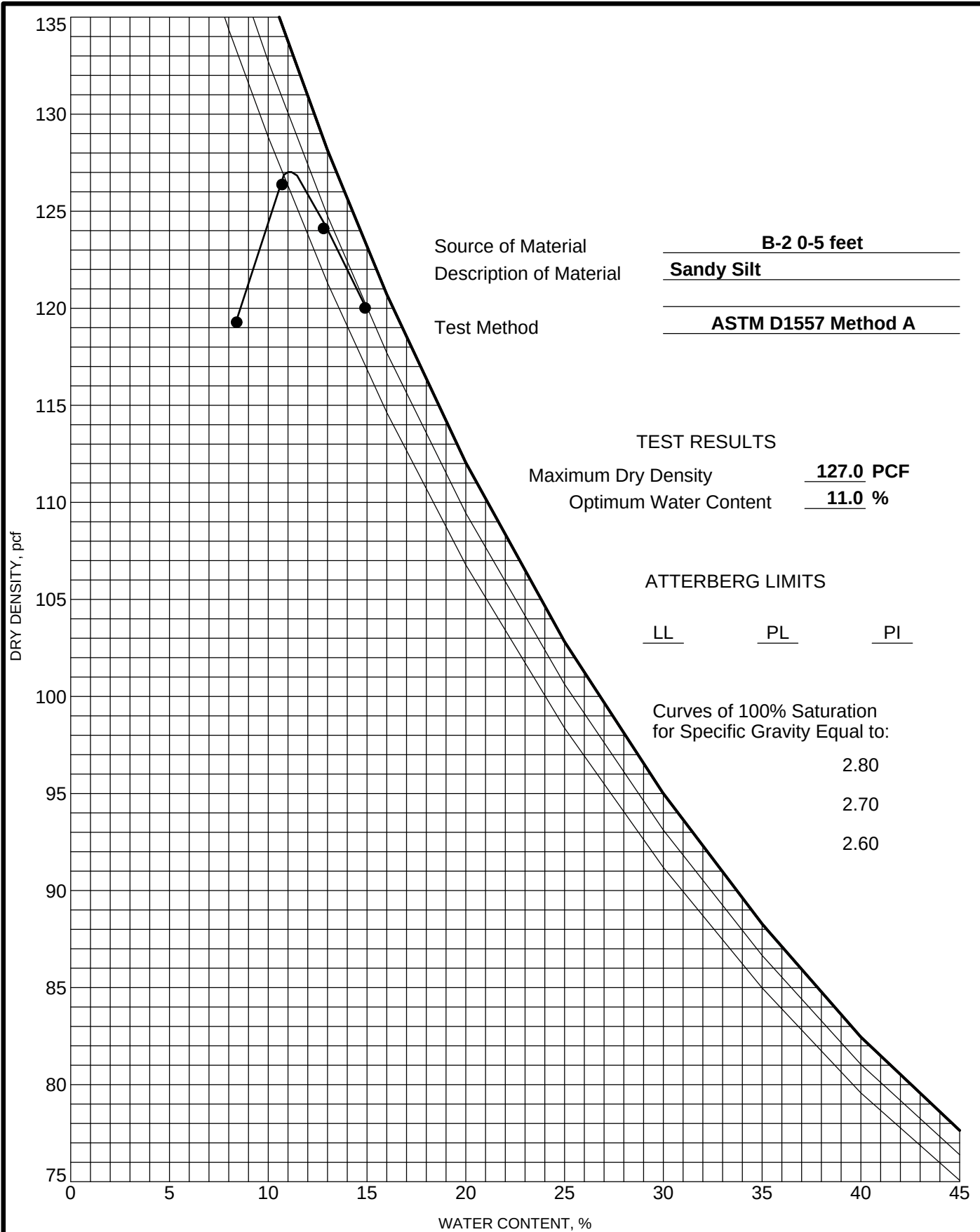
Sample Location	Sample Description	Expansion Index	Expansion Potential
B-3 @ 0-5 feet	Fine Silty Sand	10	Very Low
B-5 @ 0-5 feet	Silty Sand	4	Very Low

Wash Sieve Test: Typical materials were washed over No. 200 sieve (ASTM Test Method D1140). The test results are presented below:

Sample Location	% Passing No. 200 Sieve
B-3 @ 20 feet	3.5%
B-3 @ 40 feet	74.1%
B-3 @ 50 feet	11.0%
B-4 @ 20 feet	3.8%
B-4 @ 40 feet	44.9%

R-Value: The resistance “R”-Value was determined by the California Materials Method No. 301 for subgrade soils. One sample was prepared and exudation pressure and “R”-Value determined. The graphically determined “R”-Value at exudation pressure of 300 psi is summarized in the table below:

Sample Location	Sample Description	R-Value
B-3 @ 0-5 ft	Fine Sandy Silt	48
B-5 @ 0-5ft	Silty Sand	61



TGR GEOTECHNICAL, INC. Fax:

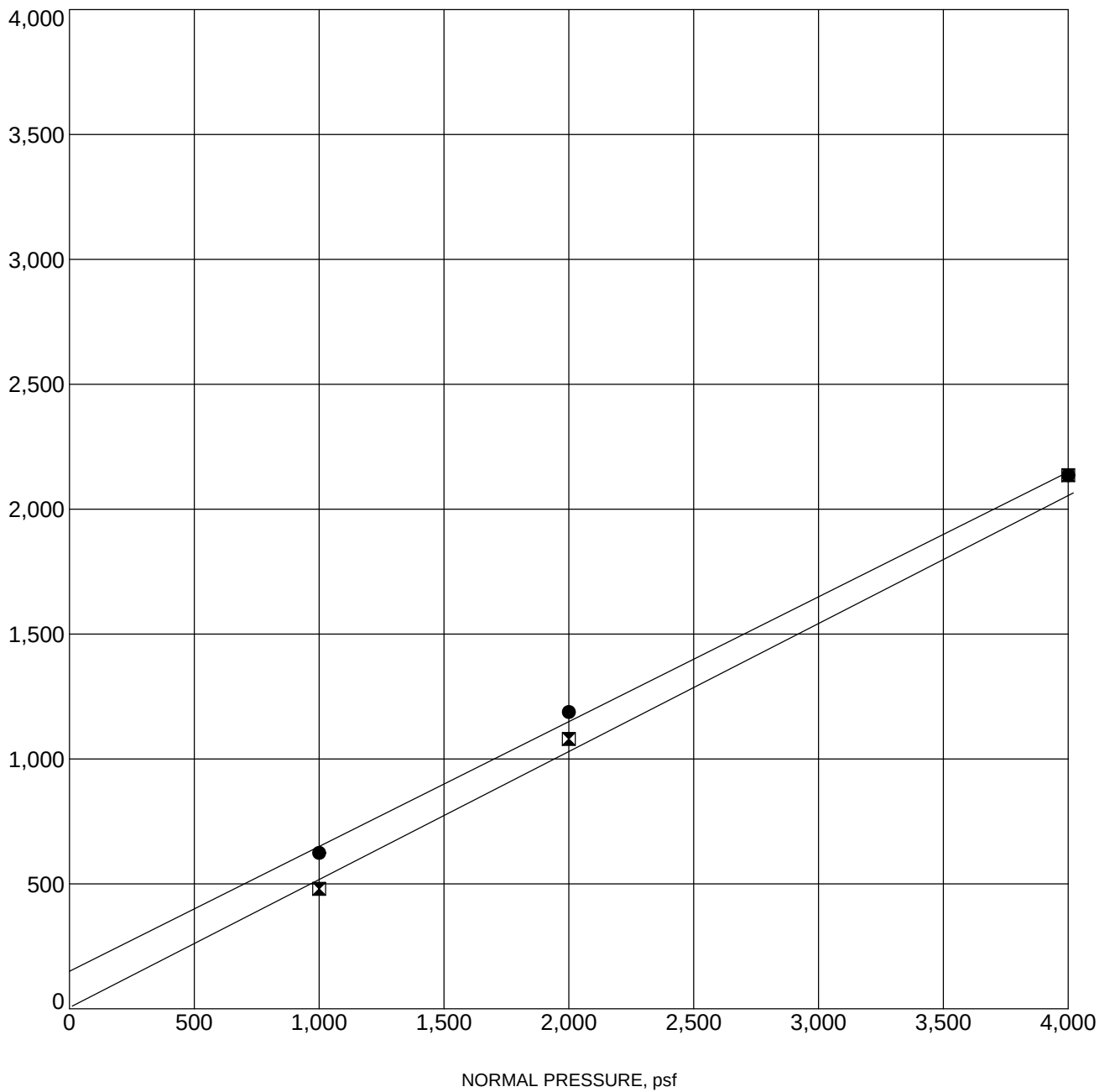
3037 S. Harbor Blvd.
Santa Ana, CA
Telephone:

MOISTURE-DENSITY RELATIONSHIP

Project Number: 16-6239

Project Name: Xebec Signal Hill

SHEAR STRENGTH, psf



Specimen Identification			Classification	γ_d	MC%	c	ϕ
●	B-2	0-5 feet	Sandy Silt, Remolded, Peak Stress	114	11	150	27
⊠	B-2	0-5 feet	Sandy Silt, Remolded, Ultimate Stress	114	11	0	28



TGR GEOTECHNICAL, INC. Fax:

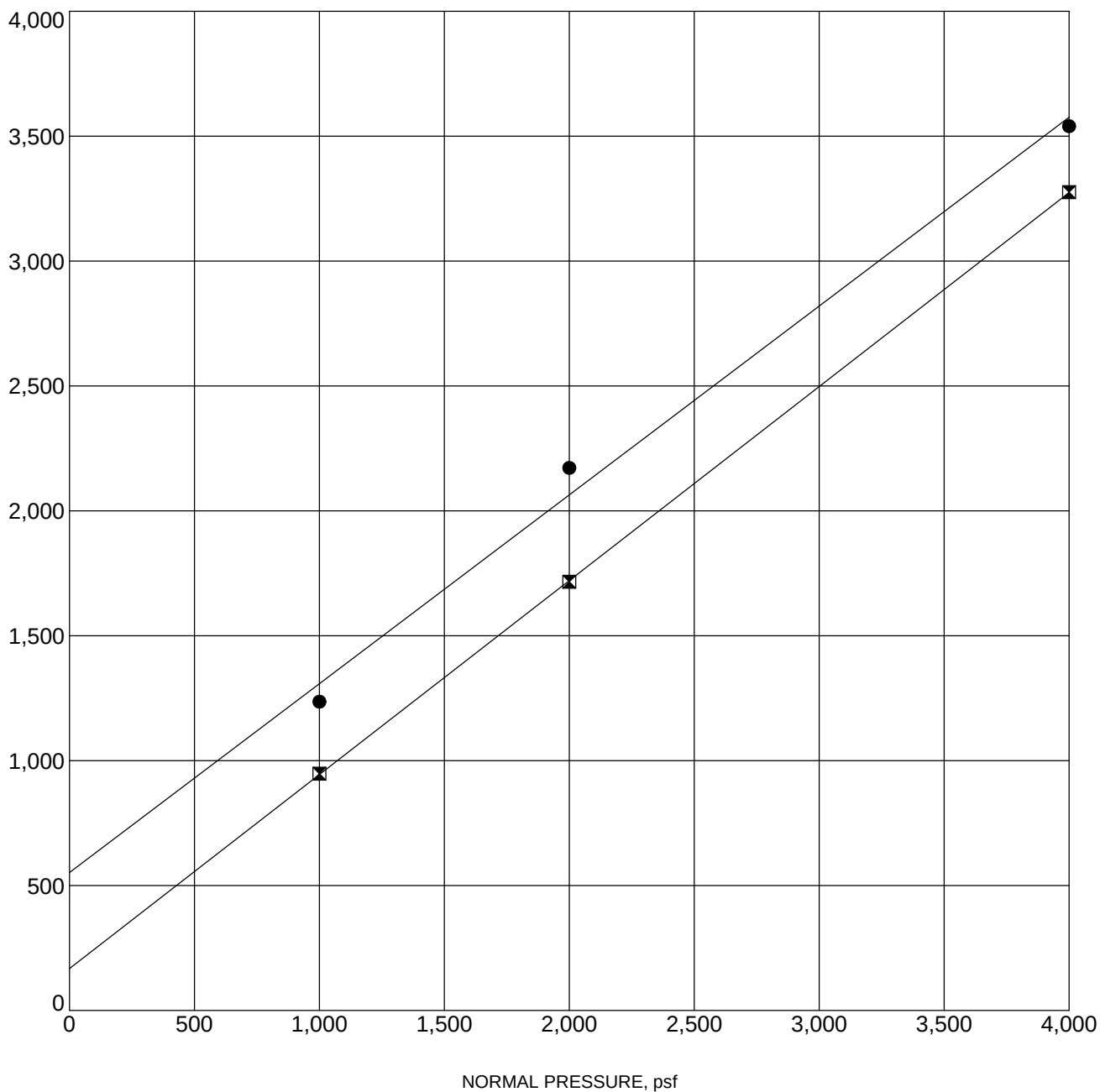
3037 S. Harbor Blvd.
Santa Ana, CA
Telephone:

DIRECT SHEAR TEST

Project Number: 16-6239

Project Name: Xebec Signal Hill

SHEAR STRENGTH, psf



Specimen Identification			Classification	γ_d	MC%	c	ϕ
●	B-2	5 ft	Silt, Peak Stress	118	15	552	37
■	B-2	5 ft	Silt, Ultimate Stress	118	15	168	38



TGR GEOTECHNICAL, INC. Fax:

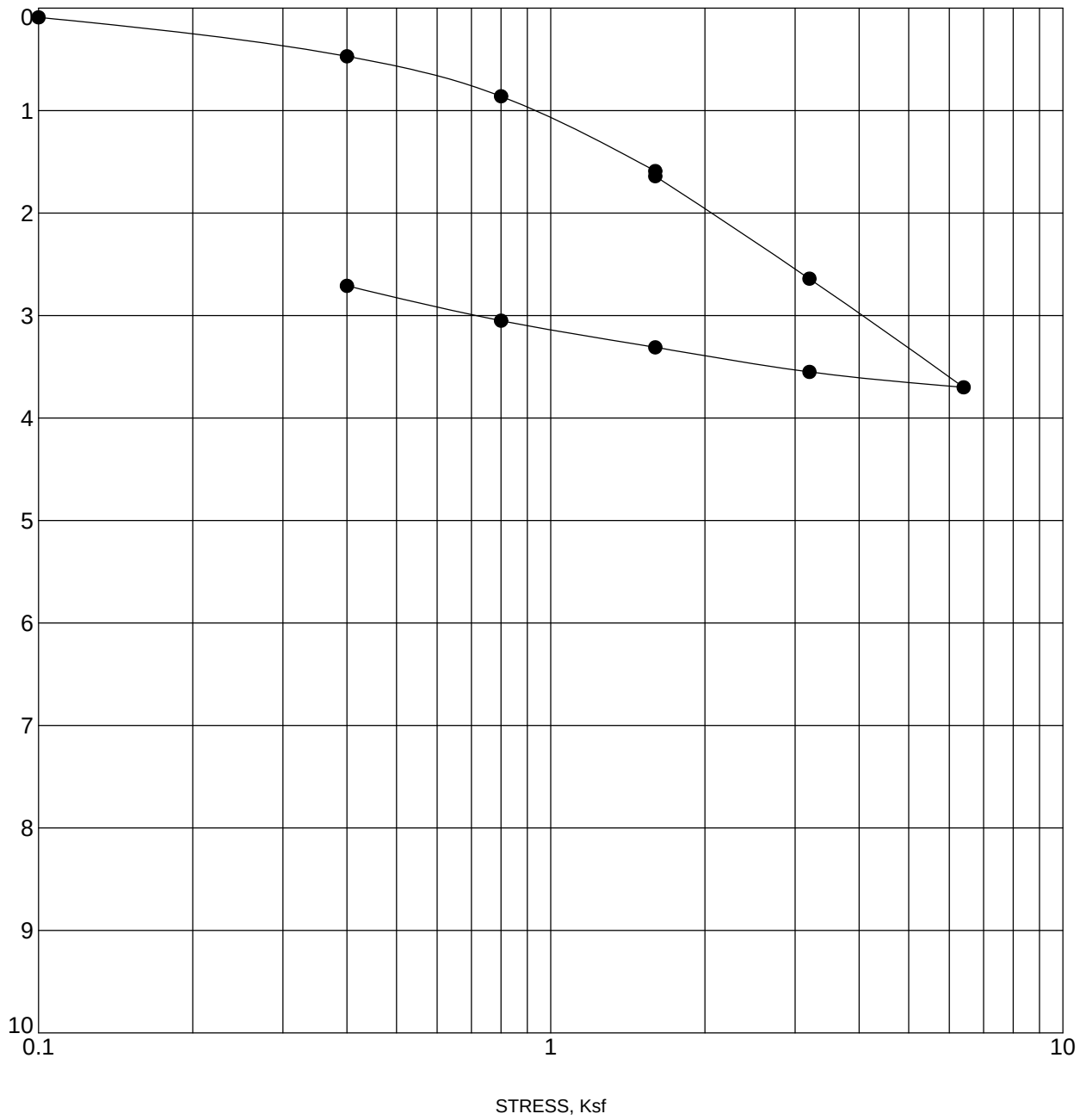
3037 S. Harbor Blvd.
Santa Ana, CA
Telephone:

DIRECT SHEAR TEST

Project Number: 16-6239

Project Name: Xebec Signal Hill

STRAIN, %



Specimen Identification			Classification	γ_d	MC%
●	B-1	10.0	Sand	99	17



TGR GEOTECHNICAL, INC. Fax:

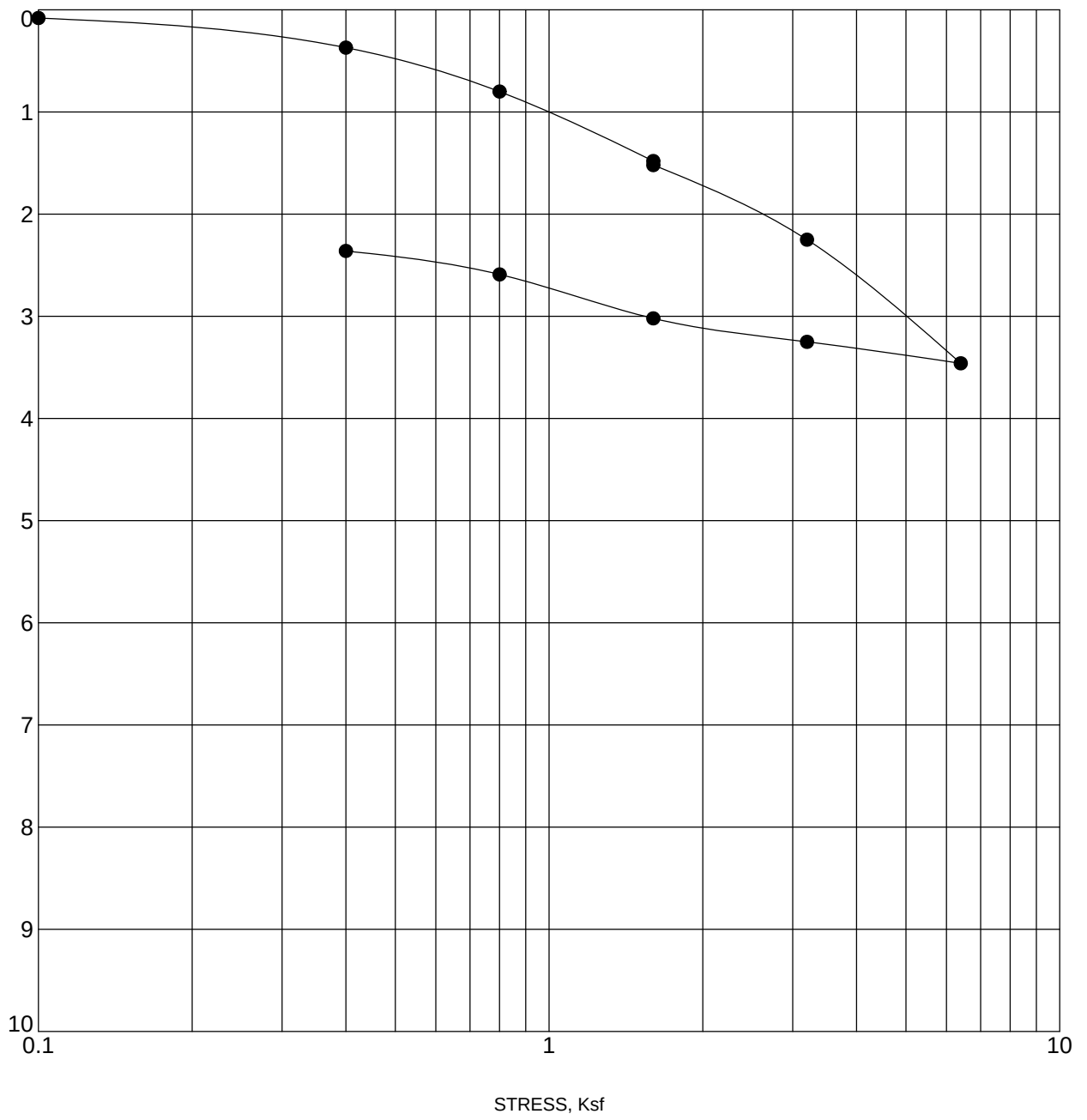
3037 S. Harbor Blvd.
Santa Ana, CA
Telephone:

CONSOLIDATION TEST

Project Number: 16-6239

Project Name: Xebec Signal Hill

STRAIN, %



Specimen Identification			Classification	γ_d	MC%
●	B-2	5.0	Silt	118	15



TGR GEOTECHNICAL, INC.

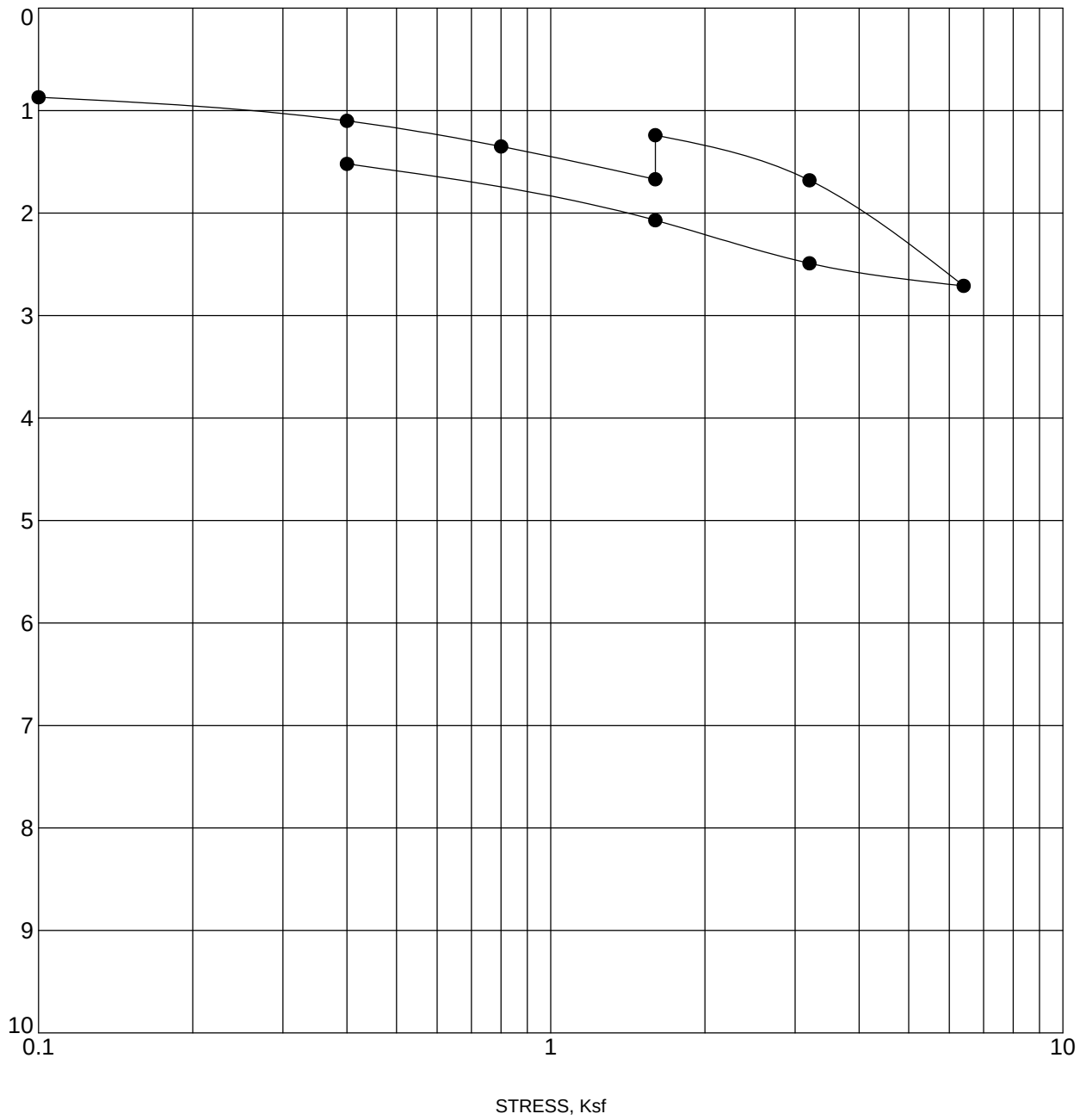
3037 S. Harbor Blvd.
 Santa Ana, CA
 Telephone:
 Fax:

CONSOLIDATION TEST

Project Number: 16-6239

Project Name: Xebec Signal Hill

STRAIN, %



Specimen Identification			Classification	γ_d	MC%
●	B-4	10.0	Sand	125	12



TGR GEOTECHNICAL, INC. Fax:

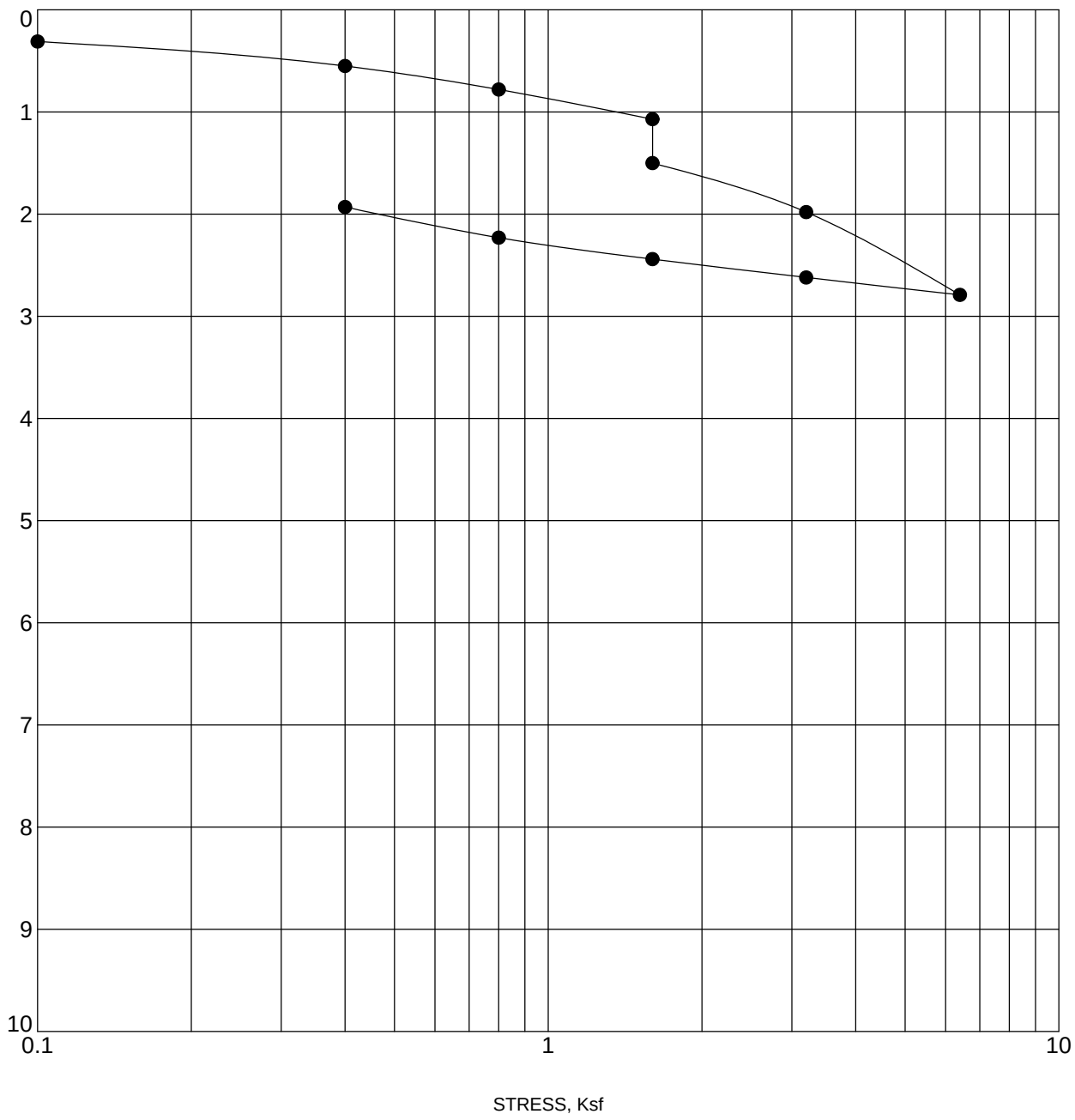
3037 S. Harbor Blvd.
Santa Ana, CA
Telephone:

CONSOLIDATION TEST

Project Number: 16-6239

Project Name: Xebec Signal Hill

STRAIN, %



Specimen Identification		Classification	γ_d	MC%
● B-5	5.0	Silt	129	9

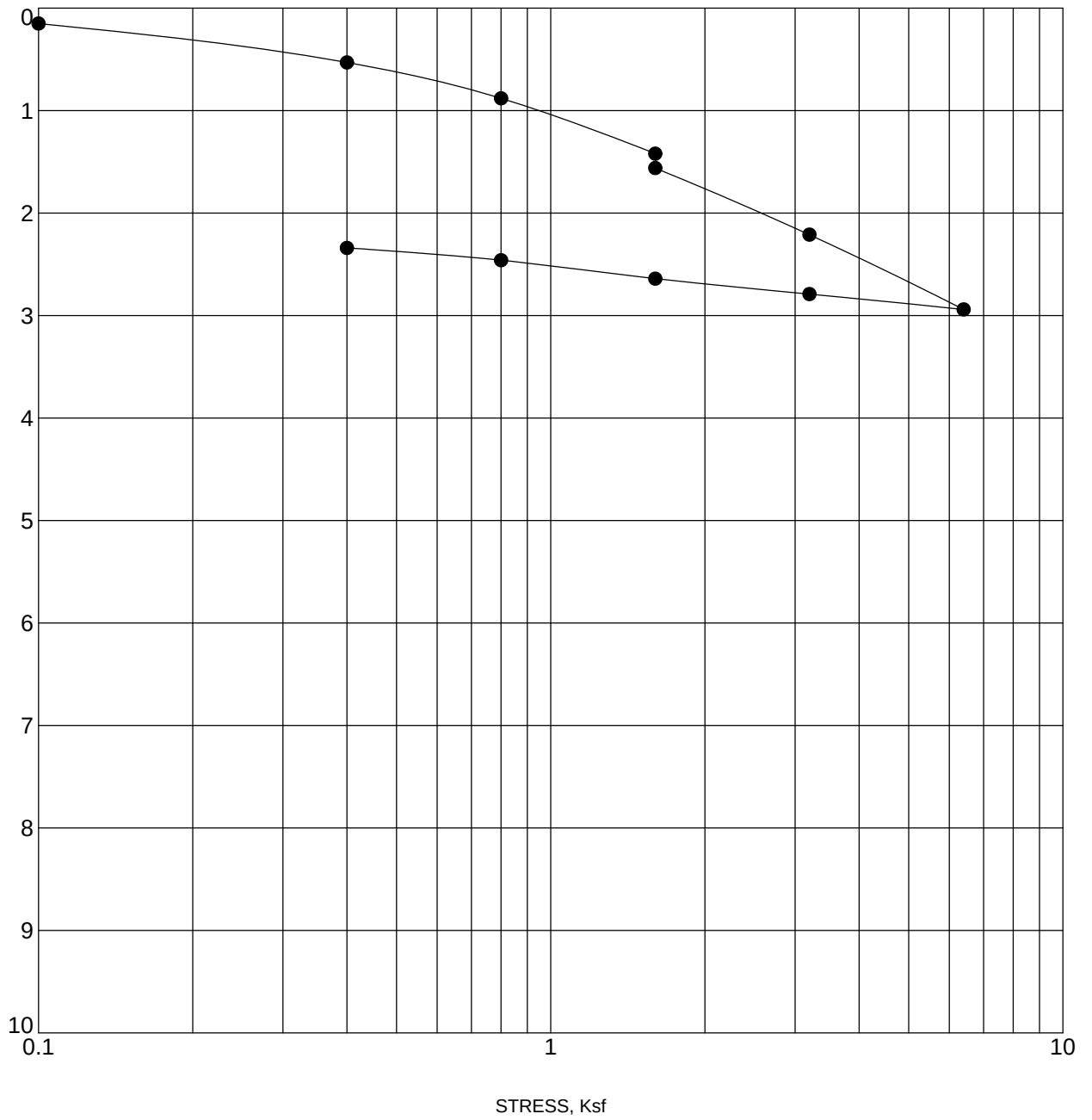


3037 S. Harbor Blvd.
 Santa Ana, CA
 Telephone:
 TGR GEOTECHNICAL, INC. Fax:

CONSOLIDATION TEST

Project Number: 16-6239
 Project Name: Xebec Signal Hill

STRAIN, %



Specimen Identification		Classification	γ_d	MC%
● B-2	15.0	Sand	95	9



TGR GEOTECHNICAL, INC.

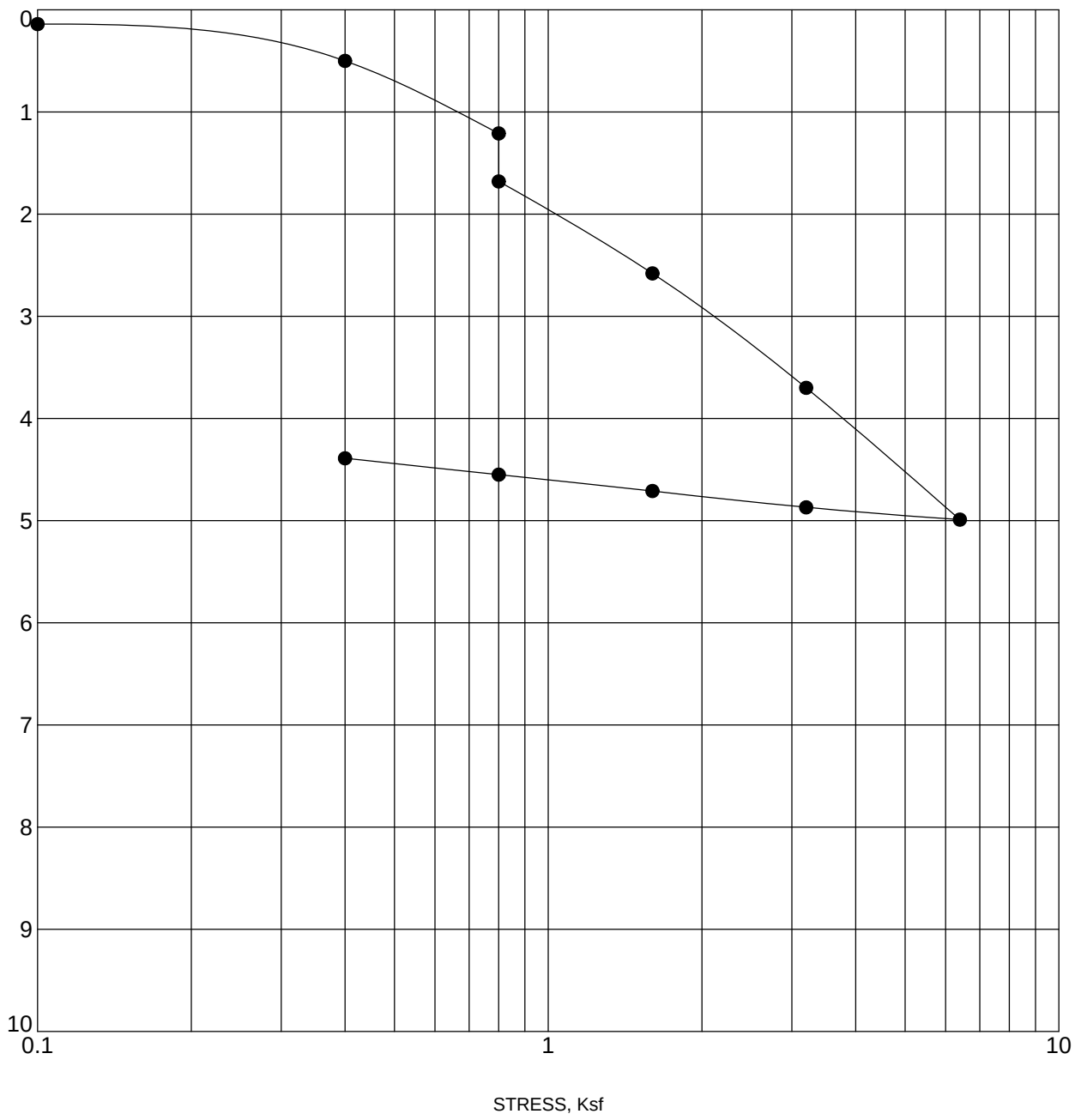
3037 S. Harbor Blvd.
 Santa Ana, CA
 Telephone:
 Fax:

CONSOLIDATION TEST

Project Number: 16-6239

Project Name: Xebec Signal Hill

STRAIN, %



Specimen Identification			Classification	γ_d	MC%
●	B-5	15.0	Sand	132	5



3037 S. Harbor Blvd.
 Santa Ana, CA
 Telephone:
 TGR GEOTECHNICAL, INC. Fax:

CONSOLIDATION TEST

Project Number: 16-6239
 Project Name: Xebec Signal Hill

ANAHEIM TEST LAB, INC

3008 ORANGE AVENUE
SANTA ANA, CALIFORNIA 92707
PHONE (714) 549-7267

TO:

TGR GEOTECHNICAL
3037 S. HARBOR BLVD.
SANTA ANA, CA 92704

DATE: 04/11/17

P.O. NO: VERBAL

LAB NO: C-0421 1-2

SPECIFICATION: CA-417/422/643

MATERIAL: Soil

PROJECT NO: 16-6239

Xebec-Signal Hill

ANALYTICAL REPORT

CORROSION SERIES SUMMARY OF DATA

	PH	SOLUBLE SULFATES per CA. 417 ppm	SOLUBLE CHLORIDES per CA. 422 ppm	MIN. RESISTIVITY per CA. 643 ohm-cm
1) B-3 @ 0-5' Dark Brown, Silty Sand	7.0	200	112	2,000
2) B-5 @ 0-5' Silty Sand	6.9	225	107	2,000

RESPECTFULLY SUBMITTED



WES BRIDGER CHEMIST

ANAHEIM TEST LAB, INC

3008 ORANGE AVENUE
SANTA ANA, CALIFORNIA 92707
PHONE (714) 549-7267

TO:

TGR GEOTECHNICAL
3037 S. HARBOR BLVD.
SANTA ANA, CA 92704

DATE: 04/12/17

P.O. NO: VERBAL

LAB NO: C-0425

SPECIFICATION: CA-417/422/643

MATERIAL: Silty Sand

PROJECT NO: 16-6239

Xebec-Signal Hill

ANALYTICAL REPORT

CORROSION SERIES SUMMARY OF DATA

	PH	SOLUBLE SULFATES per CA. 417 ppm	SOLUBLE CHLORIDES per CA. 422 ppm	MIN. RESISTIVITY per CA. 643 ohm-cm
B-2 @ 0-5'	7.0	274	145	1,500

RESPECTFULLY SUBMITTED



WES BRIDGER CHEMIST

ANAHEIM TEST LAB, INC

3008 ORANGE AVENUE
SANTA ANA, CALIFORNIA 92707
PHONE (714) 549-7267

TO:

TGR GEOTECHNICAL
3037 S. HARBOR BLVD.
SANTA ANA, CA. 92704

DATE: 04/13/17

P.O. NO.: VERBAL

LAB NO.: C-0421 1-2

SPECIFICATION: CA 301

MATERIAL: Soil

PROJECT#: 16-6239
Xebec-Signal Hill

ANALYTICAL REPORT

"R" VALUE

BY EXUDATION

BY EXPANSION

1) B-3 @ 0-5'
Brown, F. Sandy Silt
w. trace Gravel

48

56

2) B-5 @ 0-5'
Brown, F.M. Silty Sand
w. Gravel

61

N/A

RESPECTFULLY SUBMITTED



WES BRIDGER CHEMIST

APPENDIX D LIQUEFACTION ANALYSIS

LIQUEFACTION ANALYSIS

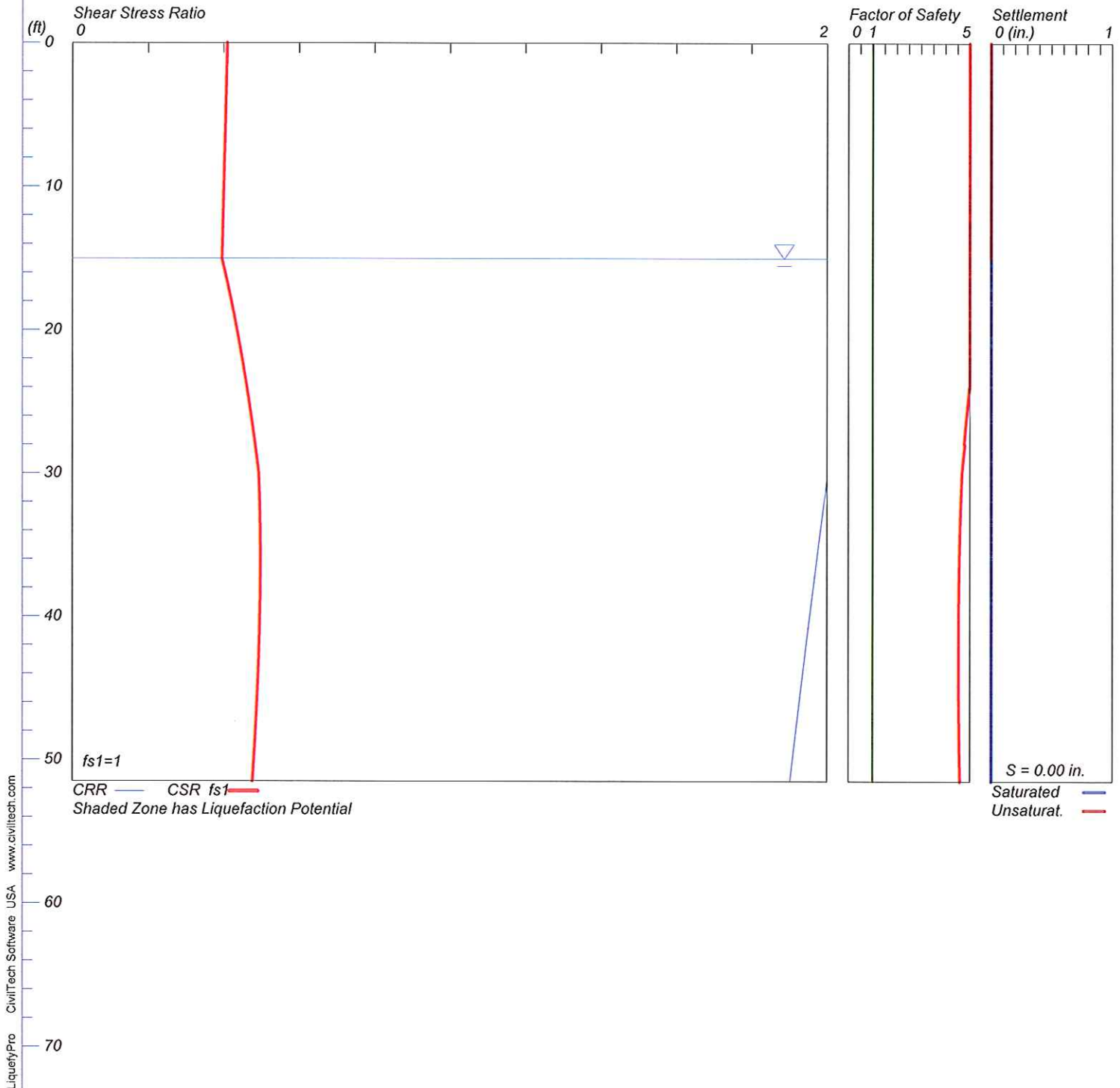
Xebec Signal Hill

Hole No.=B-3 Water Depth=15 ft

Ground Improvement of Fill=5 ft

Magnitude=7.1

Acceleration=0.629g



16-6239-Xebec Signal Hill-B3.sum

LIQUEFACTION ANALYSIS CALCULATION SHEET

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(425) 453-6488 Fax (425) 453-5848

Licensed to , 5/1/2017 9:42:13 AM

Input File Name: D:\Liquefy5\16-6239-Xebec Signal Hill-B3.liq
Title: Xebec Signal Hill
Subtitle: 16-6239

Surface Elev.=
Hole No.=B-3
Depth of Hole= 51.5 ft
Water Table during Earthquake= 15.0 ft
Water Table during In-Situ Testing= 25.0 ft
Max. Acceleration= 0.63 g
Earthquake Magnitude= 7.1

Input Data:

Surface Elev.=
Hole No.=B-3
Depth of Hole=51.5 ft
Water Table during Earthquake= 15.0 ft
Water Table during In-Situ Testing= 25.0 ft
Max. Acceleration=0.63 g
Earthquake Magnitude=7.1

1. SPT or BPT Calculation.
2. Settlement Analysis Method: Ishihara / Yoshimine*
3. Fines Correction for Liquefaction: Stark/Olson et al.*
4. Fine Correction for Settlement: During Liquefaction*
5. Settlement Calculation in: All zones*
6. Hammer Energy Ratio,
7. Borehole Diameter,
8. Sampling Method,
9. User request factor of safety (apply to CSR) , User= 1
Plot one CSR curve (fs1=1)
10. Use Curve Smoothing: Yes*
- * Recommended Options

Ce = 1.25
Cb= 1.15
Cs= 1.2

Fill on Top= 5 ft Fill Unit Weight= 125 pcf
Depth of this report is based on original ground surface, not based on fill
In-Situ Test Data:

Depth ft	SPT	gamma pcf	Fines %
0.0	20.0	124.0	NoLiq
6.0	28.0	124.0	NoLiq
11.0	32.0	123.0	NoLiq
16.0	15.0	110.0	3.5
21.0	26.0	110.0	3.5
26.0	35.0	110.0	3.5
31.0	46.0	110.0	3.5
36.0	26.0	110.0	3.5
41.0	42.0	110.0	74.0

16-6239-Xebec Signal Hill-B3.sum

46.0	35.0	110.0	74.0
51.0	36.0	110.0	11.0

Output Results:

Settlement of Saturated Sands=0.00 in.
Settlement of Unsaturated Sands=0.00 in.
Total Settlement of Saturated and Unsaturated Sands=0.00 in.
Differential Settlement=0.000 to 0.000 in.

Depth ft	CRRv	CSRm	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	2.00	0.41	5.00	0.00	0.00	0.00
0.05	2.00	0.41	5.00	0.00	0.00	0.00
0.10	2.00	0.41	5.00	0.00	0.00	0.00
0.15	2.00	0.41	5.00	0.00	0.00	0.00
0.20	2.00	0.41	5.00	0.00	0.00	0.00
0.25	2.00	0.41	5.00	0.00	0.00	0.00
0.30	2.00	0.41	5.00	0.00	0.00	0.00
0.35	2.00	0.41	5.00	0.00	0.00	0.00
0.40	2.00	0.41	5.00	0.00	0.00	0.00
0.45	2.00	0.41	5.00	0.00	0.00	0.00
0.50	2.00	0.41	5.00	0.00	0.00	0.00
0.55	2.00	0.41	5.00	0.00	0.00	0.00
0.60	2.00	0.41	5.00	0.00	0.00	0.00
0.65	2.00	0.41	5.00	0.00	0.00	0.00
0.70	2.00	0.41	5.00	0.00	0.00	0.00
0.75	2.00	0.41	5.00	0.00	0.00	0.00
0.80	2.00	0.41	5.00	0.00	0.00	0.00
0.85	2.00	0.41	5.00	0.00	0.00	0.00
0.90	2.00	0.41	5.00	0.00	0.00	0.00
0.95	2.00	0.41	5.00	0.00	0.00	0.00
1.00	2.00	0.41	5.00	0.00	0.00	0.00
1.05	2.00	0.41	5.00	0.00	0.00	0.00
1.10	2.00	0.41	5.00	0.00	0.00	0.00
1.15	2.00	0.41	5.00	0.00	0.00	0.00
1.20	2.00	0.41	5.00	0.00	0.00	0.00
1.25	2.00	0.41	5.00	0.00	0.00	0.00
1.30	2.00	0.41	5.00	0.00	0.00	0.00
1.35	2.00	0.41	5.00	0.00	0.00	0.00
1.40	2.00	0.41	5.00	0.00	0.00	0.00
1.45	2.00	0.41	5.00	0.00	0.00	0.00
1.50	2.00	0.41	5.00	0.00	0.00	0.00
1.55	2.00	0.41	5.00	0.00	0.00	0.00
1.60	2.00	0.41	5.00	0.00	0.00	0.00
1.65	2.00	0.41	5.00	0.00	0.00	0.00
1.70	2.00	0.41	5.00	0.00	0.00	0.00
1.75	2.00	0.41	5.00	0.00	0.00	0.00
1.80	2.00	0.41	5.00	0.00	0.00	0.00
1.85	2.00	0.41	5.00	0.00	0.00	0.00
1.90	2.00	0.41	5.00	0.00	0.00	0.00
1.95	2.00	0.41	5.00	0.00	0.00	0.00
2.00	2.00	0.41	5.00	0.00	0.00	0.00
2.05	2.00	0.41	5.00	0.00	0.00	0.00
2.10	2.00	0.41	5.00	0.00	0.00	0.00
2.15	2.00	0.41	5.00	0.00	0.00	0.00
2.20	2.00	0.41	5.00	0.00	0.00	0.00
2.25	2.00	0.41	5.00	0.00	0.00	0.00
2.30	2.00	0.41	5.00	0.00	0.00	0.00
2.35	2.00	0.41	5.00	0.00	0.00	0.00
2.40	2.00	0.41	5.00	0.00	0.00	0.00
2.45	2.00	0.41	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
2.50	2.00	0.41	5.00	0.00	0.00	0.00
2.55	2.00	0.41	5.00	0.00	0.00	0.00
2.60	2.00	0.41	5.00	0.00	0.00	0.00
2.65	2.00	0.41	5.00	0.00	0.00	0.00
2.70	2.00	0.41	5.00	0.00	0.00	0.00
2.75	2.00	0.41	5.00	0.00	0.00	0.00
2.80	2.00	0.41	5.00	0.00	0.00	0.00
2.85	2.00	0.41	5.00	0.00	0.00	0.00
2.90	2.00	0.41	5.00	0.00	0.00	0.00
2.95	2.00	0.41	5.00	0.00	0.00	0.00
3.00	2.00	0.41	5.00	0.00	0.00	0.00
3.05	2.00	0.41	5.00	0.00	0.00	0.00
3.10	2.00	0.41	5.00	0.00	0.00	0.00
3.15	2.00	0.41	5.00	0.00	0.00	0.00
3.20	2.00	0.41	5.00	0.00	0.00	0.00
3.25	2.00	0.41	5.00	0.00	0.00	0.00
3.30	2.00	0.41	5.00	0.00	0.00	0.00
3.35	2.00	0.41	5.00	0.00	0.00	0.00
3.40	2.00	0.41	5.00	0.00	0.00	0.00
3.45	2.00	0.41	5.00	0.00	0.00	0.00
3.50	2.00	0.41	5.00	0.00	0.00	0.00
3.55	2.00	0.41	5.00	0.00	0.00	0.00
3.60	2.00	0.41	5.00	0.00	0.00	0.00
3.65	2.00	0.41	5.00	0.00	0.00	0.00
3.70	2.00	0.41	5.00	0.00	0.00	0.00
3.75	2.00	0.41	5.00	0.00	0.00	0.00
3.80	2.00	0.41	5.00	0.00	0.00	0.00
3.85	2.00	0.41	5.00	0.00	0.00	0.00
3.90	2.00	0.41	5.00	0.00	0.00	0.00
3.95	2.00	0.41	5.00	0.00	0.00	0.00
4.00	2.00	0.41	5.00	0.00	0.00	0.00
4.05	2.00	0.40	5.00	0.00	0.00	0.00
4.10	2.00	0.40	5.00	0.00	0.00	0.00
4.15	2.00	0.40	5.00	0.00	0.00	0.00
4.20	2.00	0.40	5.00	0.00	0.00	0.00
4.25	2.00	0.40	5.00	0.00	0.00	0.00
4.30	2.00	0.40	5.00	0.00	0.00	0.00
4.35	2.00	0.40	5.00	0.00	0.00	0.00
4.40	2.00	0.40	5.00	0.00	0.00	0.00
4.45	2.00	0.40	5.00	0.00	0.00	0.00
4.50	2.00	0.40	5.00	0.00	0.00	0.00
4.55	2.00	0.40	5.00	0.00	0.00	0.00
4.60	2.00	0.40	5.00	0.00	0.00	0.00
4.65	2.00	0.40	5.00	0.00	0.00	0.00
4.70	2.00	0.40	5.00	0.00	0.00	0.00
4.75	2.00	0.40	5.00	0.00	0.00	0.00
4.80	2.00	0.40	5.00	0.00	0.00	0.00
4.85	2.00	0.40	5.00	0.00	0.00	0.00
4.90	2.00	0.40	5.00	0.00	0.00	0.00
4.95	2.00	0.40	5.00	0.00	0.00	0.00
5.00	2.00	0.40	5.00	0.00	0.00	0.00
5.05	2.00	0.40	5.00	0.00	0.00	0.00
5.10	2.00	0.40	5.00	0.00	0.00	0.00
5.15	2.00	0.40	5.00	0.00	0.00	0.00
5.20	2.00	0.40	5.00	0.00	0.00	0.00
5.25	2.00	0.40	5.00	0.00	0.00	0.00
5.30	2.00	0.40	5.00	0.00	0.00	0.00
5.35	2.00	0.40	5.00	0.00	0.00	0.00
5.40	2.00	0.40	5.00	0.00	0.00	0.00
5.45	2.00	0.40	5.00	0.00	0.00	0.00
5.50	2.00	0.40	5.00	0.00	0.00	0.00
5.55	2.00	0.40	5.00	0.00	0.00	0.00
5.60	2.00	0.40	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
5.65	2.00	0.40	5.00	0.00	0.00	0.00
5.70	2.00	0.40	5.00	0.00	0.00	0.00
5.75	2.00	0.40	5.00	0.00	0.00	0.00
5.80	2.00	0.40	5.00	0.00	0.00	0.00
5.85	2.00	0.40	5.00	0.00	0.00	0.00
5.90	2.00	0.40	5.00	0.00	0.00	0.00
5.95	2.00	0.40	5.00	0.00	0.00	0.00
6.00	2.00	0.40	5.00	0.00	0.00	0.00
6.05	2.00	0.40	5.00	0.00	0.00	0.00
6.10	2.00	0.40	5.00	0.00	0.00	0.00
6.15	2.00	0.40	5.00	0.00	0.00	0.00
6.20	2.00	0.40	5.00	0.00	0.00	0.00
6.25	2.00	0.40	5.00	0.00	0.00	0.00
6.30	2.00	0.40	5.00	0.00	0.00	0.00
6.35	2.00	0.40	5.00	0.00	0.00	0.00
6.40	2.00	0.40	5.00	0.00	0.00	0.00
6.45	2.00	0.40	5.00	0.00	0.00	0.00
6.50	2.00	0.40	5.00	0.00	0.00	0.00
6.55	2.00	0.40	5.00	0.00	0.00	0.00
6.60	2.00	0.40	5.00	0.00	0.00	0.00
6.65	2.00	0.40	5.00	0.00	0.00	0.00
6.70	2.00	0.40	5.00	0.00	0.00	0.00
6.75	2.00	0.40	5.00	0.00	0.00	0.00
6.80	2.00	0.40	5.00	0.00	0.00	0.00
6.85	2.00	0.40	5.00	0.00	0.00	0.00
6.90	2.00	0.40	5.00	0.00	0.00	0.00
6.95	2.00	0.40	5.00	0.00	0.00	0.00
7.00	2.00	0.40	5.00	0.00	0.00	0.00
7.05	2.00	0.40	5.00	0.00	0.00	0.00
7.10	2.00	0.40	5.00	0.00	0.00	0.00
7.15	2.00	0.40	5.00	0.00	0.00	0.00
7.20	2.00	0.40	5.00	0.00	0.00	0.00
7.25	2.00	0.40	5.00	0.00	0.00	0.00
7.30	2.00	0.40	5.00	0.00	0.00	0.00
7.35	2.00	0.40	5.00	0.00	0.00	0.00
7.40	2.00	0.40	5.00	0.00	0.00	0.00
7.45	2.00	0.40	5.00	0.00	0.00	0.00
7.50	2.00	0.40	5.00	0.00	0.00	0.00
7.55	2.00	0.40	5.00	0.00	0.00	0.00
7.60	2.00	0.40	5.00	0.00	0.00	0.00
7.65	2.00	0.40	5.00	0.00	0.00	0.00
7.70	2.00	0.40	5.00	0.00	0.00	0.00
7.75	2.00	0.40	5.00	0.00	0.00	0.00
7.80	2.00	0.40	5.00	0.00	0.00	0.00
7.85	2.00	0.40	5.00	0.00	0.00	0.00
7.90	2.00	0.40	5.00	0.00	0.00	0.00
7.95	2.00	0.40	5.00	0.00	0.00	0.00
8.00	2.00	0.40	5.00	0.00	0.00	0.00
8.05	2.00	0.40	5.00	0.00	0.00	0.00
8.10	2.00	0.40	5.00	0.00	0.00	0.00
8.15	2.00	0.40	5.00	0.00	0.00	0.00
8.20	2.00	0.40	5.00	0.00	0.00	0.00
8.25	2.00	0.40	5.00	0.00	0.00	0.00
8.30	2.00	0.40	5.00	0.00	0.00	0.00
8.35	2.00	0.40	5.00	0.00	0.00	0.00
8.40	2.00	0.40	5.00	0.00	0.00	0.00
8.45	2.00	0.40	5.00	0.00	0.00	0.00
8.50	2.00	0.40	5.00	0.00	0.00	0.00
8.55	2.00	0.40	5.00	0.00	0.00	0.00
8.60	2.00	0.40	5.00	0.00	0.00	0.00
8.65	2.00	0.40	5.00	0.00	0.00	0.00
8.70	2.00	0.40	5.00	0.00	0.00	0.00
8.75	2.00	0.40	5.00	0.00	0.00	0.00

		16-6239-Xebec	Signal	Hill-B3.sum		
8.80	2.00	0.40	5.00	0.00	0.00	0.00
8.85	2.00	0.40	5.00	0.00	0.00	0.00
8.90	2.00	0.40	5.00	0.00	0.00	0.00
8.95	2.00	0.40	5.00	0.00	0.00	0.00
9.00	2.00	0.40	5.00	0.00	0.00	0.00
9.05	2.00	0.40	5.00	0.00	0.00	0.00
9.10	2.00	0.40	5.00	0.00	0.00	0.00
9.15	2.00	0.40	5.00	0.00	0.00	0.00
9.20	2.00	0.40	5.00	0.00	0.00	0.00
9.25	2.00	0.40	5.00	0.00	0.00	0.00
9.30	2.00	0.40	5.00	0.00	0.00	0.00
9.35	2.00	0.40	5.00	0.00	0.00	0.00
9.40	2.00	0.40	5.00	0.00	0.00	0.00
9.45	2.00	0.40	5.00	0.00	0.00	0.00
9.50	2.00	0.40	5.00	0.00	0.00	0.00
9.55	2.00	0.40	5.00	0.00	0.00	0.00
9.60	2.00	0.40	5.00	0.00	0.00	0.00
9.65	2.00	0.40	5.00	0.00	0.00	0.00
9.70	2.00	0.40	5.00	0.00	0.00	0.00
9.75	2.00	0.40	5.00	0.00	0.00	0.00
9.80	2.00	0.40	5.00	0.00	0.00	0.00
9.85	2.00	0.40	5.00	0.00	0.00	0.00
9.90	2.00	0.40	5.00	0.00	0.00	0.00
9.95	2.00	0.40	5.00	0.00	0.00	0.00
10.00	2.00	0.40	5.00	0.00	0.00	0.00
10.05	2.00	0.40	5.00	0.00	0.00	0.00
10.10	2.00	0.40	5.00	0.00	0.00	0.00
10.15	2.00	0.40	5.00	0.00	0.00	0.00
10.20	2.00	0.40	5.00	0.00	0.00	0.00
10.25	2.00	0.40	5.00	0.00	0.00	0.00
10.30	2.00	0.40	5.00	0.00	0.00	0.00
10.35	2.00	0.40	5.00	0.00	0.00	0.00
10.40	2.00	0.40	5.00	0.00	0.00	0.00
10.45	2.00	0.40	5.00	0.00	0.00	0.00
10.50	2.00	0.40	5.00	0.00	0.00	0.00
10.55	2.00	0.40	5.00	0.00	0.00	0.00
10.60	2.00	0.40	5.00	0.00	0.00	0.00
10.65	2.00	0.40	5.00	0.00	0.00	0.00
10.70	2.00	0.40	5.00	0.00	0.00	0.00
10.75	2.00	0.40	5.00	0.00	0.00	0.00
10.80	2.00	0.40	5.00	0.00	0.00	0.00
10.85	2.00	0.40	5.00	0.00	0.00	0.00
10.90	2.00	0.40	5.00	0.00	0.00	0.00
10.95	2.00	0.40	5.00	0.00	0.00	0.00
11.00	2.00	0.40	5.00	0.00	0.00	0.00
11.05	2.00	0.40	5.00	0.00	0.00	0.00
11.10	2.00	0.40	5.00	0.00	0.00	0.00
11.15	2.00	0.40	5.00	0.00	0.00	0.00
11.20	2.00	0.40	5.00	0.00	0.00	0.00
11.25	2.00	0.40	5.00	0.00	0.00	0.00
11.30	2.00	0.40	5.00	0.00	0.00	0.00
11.35	2.00	0.40	5.00	0.00	0.00	0.00
11.40	2.00	0.40	5.00	0.00	0.00	0.00
11.45	2.00	0.40	5.00	0.00	0.00	0.00
11.50	2.00	0.40	5.00	0.00	0.00	0.00
11.55	2.00	0.40	5.00	0.00	0.00	0.00
11.60	2.00	0.40	5.00	0.00	0.00	0.00
11.65	2.00	0.40	5.00	0.00	0.00	0.00
11.70	2.00	0.40	5.00	0.00	0.00	0.00
11.75	2.00	0.40	5.00	0.00	0.00	0.00
11.80	2.00	0.40	5.00	0.00	0.00	0.00
11.85	2.00	0.40	5.00	0.00	0.00	0.00
11.90	2.00	0.40	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
11.95	2.00	0.40	5.00	0.00	0.00	0.00
12.00	2.00	0.40	5.00	0.00	0.00	0.00
12.05	2.00	0.40	5.00	0.00	0.00	0.00
12.10	2.00	0.40	5.00	0.00	0.00	0.00
12.15	2.00	0.40	5.00	0.00	0.00	0.00
12.20	2.00	0.40	5.00	0.00	0.00	0.00
12.25	2.00	0.40	5.00	0.00	0.00	0.00
12.30	2.00	0.40	5.00	0.00	0.00	0.00
12.35	2.00	0.40	5.00	0.00	0.00	0.00
12.40	2.00	0.40	5.00	0.00	0.00	0.00
12.45	2.00	0.40	5.00	0.00	0.00	0.00
12.50	2.00	0.40	5.00	0.00	0.00	0.00
12.55	2.00	0.40	5.00	0.00	0.00	0.00
12.60	2.00	0.40	5.00	0.00	0.00	0.00
12.65	2.00	0.40	5.00	0.00	0.00	0.00
12.70	2.00	0.40	5.00	0.00	0.00	0.00
12.75	2.00	0.40	5.00	0.00	0.00	0.00
12.80	2.00	0.40	5.00	0.00	0.00	0.00
12.85	2.00	0.40	5.00	0.00	0.00	0.00
12.90	2.00	0.40	5.00	0.00	0.00	0.00
12.95	2.00	0.40	5.00	0.00	0.00	0.00
13.00	2.00	0.40	5.00	0.00	0.00	0.00
13.05	2.00	0.40	5.00	0.00	0.00	0.00
13.10	2.00	0.40	5.00	0.00	0.00	0.00
13.15	2.00	0.40	5.00	0.00	0.00	0.00
13.20	2.00	0.40	5.00	0.00	0.00	0.00
13.25	2.00	0.40	5.00	0.00	0.00	0.00
13.30	2.00	0.40	5.00	0.00	0.00	0.00
13.35	2.00	0.40	5.00	0.00	0.00	0.00
13.40	2.00	0.40	5.00	0.00	0.00	0.00
13.45	2.00	0.40	5.00	0.00	0.00	0.00
13.50	2.00	0.40	5.00	0.00	0.00	0.00
13.55	2.00	0.40	5.00	0.00	0.00	0.00
13.60	2.00	0.40	5.00	0.00	0.00	0.00
13.65	2.00	0.40	5.00	0.00	0.00	0.00
13.70	2.00	0.40	5.00	0.00	0.00	0.00
13.75	2.00	0.40	5.00	0.00	0.00	0.00
13.80	2.00	0.40	5.00	0.00	0.00	0.00
13.85	2.00	0.40	5.00	0.00	0.00	0.00
13.90	2.00	0.40	5.00	0.00	0.00	0.00
13.95	2.00	0.40	5.00	0.00	0.00	0.00
14.00	2.00	0.40	5.00	0.00	0.00	0.00
14.05	2.00	0.40	5.00	0.00	0.00	0.00
14.10	2.00	0.40	5.00	0.00	0.00	0.00
14.15	2.00	0.40	5.00	0.00	0.00	0.00
14.20	2.00	0.40	5.00	0.00	0.00	0.00
14.25	2.00	0.40	5.00	0.00	0.00	0.00
14.30	2.00	0.40	5.00	0.00	0.00	0.00
14.35	2.00	0.40	5.00	0.00	0.00	0.00
14.40	2.00	0.40	5.00	0.00	0.00	0.00
14.45	2.00	0.40	5.00	0.00	0.00	0.00
14.50	2.00	0.40	5.00	0.00	0.00	0.00
14.55	2.00	0.39	5.00	0.00	0.00	0.00
14.60	2.00	0.39	5.00	0.00	0.00	0.00
14.65	2.00	0.39	5.00	0.00	0.00	0.00
14.70	2.00	0.39	5.00	0.00	0.00	0.00
14.75	2.00	0.39	5.00	0.00	0.00	0.00
14.80	2.00	0.39	5.00	0.00	0.00	0.00
14.85	2.00	0.39	5.00	0.00	0.00	0.00
14.90	2.00	0.39	5.00	0.00	0.00	0.00
14.95	2.00	0.39	5.00	0.00	0.00	0.00
15.00	2.00	0.39	5.00	0.00	0.00	0.00
15.05	2.00	0.40	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
15.10	2.00	0.40	5.00	0.00	0.00	0.00
15.15	2.00	0.40	5.00	0.00	0.00	0.00
15.20	2.00	0.40	5.00	0.00	0.00	0.00
15.25	2.00	0.40	5.00	0.00	0.00	0.00
15.30	2.00	0.40	5.00	0.00	0.00	0.00
15.35	2.00	0.40	5.00	0.00	0.00	0.00
15.40	2.00	0.40	5.00	0.00	0.00	0.00
15.45	2.00	0.40	5.00	0.00	0.00	0.00
15.50	2.00	0.40	5.00	0.00	0.00	0.00
15.55	2.00	0.40	5.00	0.00	0.00	0.00
15.60	2.00	0.40	5.00	0.00	0.00	0.00
15.65	2.00	0.40	5.00	0.00	0.00	0.00
15.70	2.00	0.40	5.00	0.00	0.00	0.00
15.75	2.00	0.40	5.00	0.00	0.00	0.00
15.80	2.00	0.40	5.00	0.00	0.00	0.00
15.85	2.00	0.40	5.00	0.00	0.00	0.00
15.90	2.00	0.40	5.00	0.00	0.00	0.00
15.95	2.00	0.40	5.00	0.00	0.00	0.00
16.00	2.00	0.40	5.00	0.00	0.00	0.00
16.05	2.00	0.40	5.00	0.00	0.00	0.00
16.10	2.00	0.40	5.00	0.00	0.00	0.00
16.15	2.00	0.40	5.00	0.00	0.00	0.00
16.20	2.00	0.41	5.00	0.00	0.00	0.00
16.25	2.00	0.41	5.00	0.00	0.00	0.00
16.30	2.00	0.41	5.00	0.00	0.00	0.00
16.35	2.00	0.41	5.00	0.00	0.00	0.00
16.40	2.00	0.41	5.00	0.00	0.00	0.00
16.45	2.00	0.41	5.00	0.00	0.00	0.00
16.50	2.00	0.41	5.00	0.00	0.00	0.00
16.55	2.00	0.41	5.00	0.00	0.00	0.00
16.60	2.00	0.41	5.00	0.00	0.00	0.00
16.65	2.00	0.41	5.00	0.00	0.00	0.00
16.70	2.00	0.41	5.00	0.00	0.00	0.00
16.75	2.00	0.41	5.00	0.00	0.00	0.00
16.80	2.00	0.41	5.00	0.00	0.00	0.00
16.85	2.00	0.41	5.00	0.00	0.00	0.00
16.90	2.00	0.41	5.00	0.00	0.00	0.00
16.95	2.00	0.41	5.00	0.00	0.00	0.00
17.00	2.00	0.41	5.00	0.00	0.00	0.00
17.05	2.00	0.41	5.00	0.00	0.00	0.00
17.10	2.00	0.41	5.00	0.00	0.00	0.00
17.15	2.00	0.41	5.00	0.00	0.00	0.00
17.20	2.00	0.41	5.00	0.00	0.00	0.00
17.25	2.00	0.41	5.00	0.00	0.00	0.00
17.30	2.00	0.41	5.00	0.00	0.00	0.00
17.35	2.00	0.41	5.00	0.00	0.00	0.00
17.40	2.00	0.42	5.00	0.00	0.00	0.00
17.45	2.00	0.42	5.00	0.00	0.00	0.00
17.50	2.00	0.42	5.00	0.00	0.00	0.00
17.55	2.00	0.42	5.00	0.00	0.00	0.00
17.60	2.00	0.42	5.00	0.00	0.00	0.00
17.65	2.00	0.42	5.00	0.00	0.00	0.00
17.70	2.00	0.42	5.00	0.00	0.00	0.00
17.75	2.00	0.42	5.00	0.00	0.00	0.00
17.80	2.00	0.42	5.00	0.00	0.00	0.00
17.85	2.00	0.42	5.00	0.00	0.00	0.00
17.90	2.00	0.42	5.00	0.00	0.00	0.00
17.95	2.00	0.42	5.00	0.00	0.00	0.00
18.00	2.00	0.42	5.00	0.00	0.00	0.00
18.05	2.00	0.42	5.00	0.00	0.00	0.00
18.10	2.00	0.42	5.00	0.00	0.00	0.00
18.15	2.00	0.42	5.00	0.00	0.00	0.00
18.20	2.00	0.42	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
18.25	2.00	0.42	5.00	0.00	0.00	0.00
18.30	2.00	0.42	5.00	0.00	0.00	0.00
18.35	2.00	0.42	5.00	0.00	0.00	0.00
18.40	2.00	0.42	5.00	0.00	0.00	0.00
18.45	2.00	0.42	5.00	0.00	0.00	0.00
18.50	2.00	0.42	5.00	0.00	0.00	0.00
18.55	2.00	0.42	5.00	0.00	0.00	0.00
18.60	2.00	0.42	5.00	0.00	0.00	0.00
18.65	2.00	0.42	5.00	0.00	0.00	0.00
18.70	2.00	0.43	5.00	0.00	0.00	0.00
18.75	2.00	0.43	5.00	0.00	0.00	0.00
18.80	2.00	0.43	5.00	0.00	0.00	0.00
18.85	2.00	0.43	5.00	0.00	0.00	0.00
18.90	2.00	0.43	5.00	0.00	0.00	0.00
18.95	2.00	0.43	5.00	0.00	0.00	0.00
19.00	2.00	0.43	5.00	0.00	0.00	0.00
19.05	2.00	0.43	5.00	0.00	0.00	0.00
19.10	2.00	0.43	5.00	0.00	0.00	0.00
19.15	2.00	0.43	5.00	0.00	0.00	0.00
19.20	2.00	0.43	5.00	0.00	0.00	0.00
19.25	2.00	0.43	5.00	0.00	0.00	0.00
19.30	2.00	0.43	5.00	0.00	0.00	0.00
19.35	2.00	0.43	5.00	0.00	0.00	0.00
19.40	2.00	0.43	5.00	0.00	0.00	0.00
19.45	2.00	0.43	5.00	0.00	0.00	0.00
19.50	2.00	0.43	5.00	0.00	0.00	0.00
19.55	2.00	0.43	5.00	0.00	0.00	0.00
19.60	2.00	0.43	5.00	0.00	0.00	0.00
19.65	2.00	0.43	5.00	0.00	0.00	0.00
19.70	2.00	0.43	5.00	0.00	0.00	0.00
19.75	2.00	0.43	5.00	0.00	0.00	0.00
19.80	2.00	0.43	5.00	0.00	0.00	0.00
19.85	2.00	0.43	5.00	0.00	0.00	0.00
19.90	2.00	0.43	5.00	0.00	0.00	0.00
19.95	2.00	0.43	5.00	0.00	0.00	0.00
20.00	2.00	0.43	5.00	0.00	0.00	0.00
20.05	2.00	0.44	5.00	0.00	0.00	0.00
20.10	2.00	0.44	5.00	0.00	0.00	0.00
20.15	2.00	0.44	5.00	0.00	0.00	0.00
20.20	2.00	0.44	5.00	0.00	0.00	0.00
20.25	2.00	0.44	5.00	0.00	0.00	0.00
20.30	2.00	0.44	5.00	0.00	0.00	0.00
20.35	2.00	0.44	5.00	0.00	0.00	0.00
20.40	2.00	0.44	5.00	0.00	0.00	0.00
20.45	2.00	0.44	5.00	0.00	0.00	0.00
20.50	2.00	0.44	5.00	0.00	0.00	0.00
20.55	2.00	0.44	5.00	0.00	0.00	0.00
20.60	2.00	0.44	5.00	0.00	0.00	0.00
20.65	2.00	0.44	5.00	0.00	0.00	0.00
20.70	2.00	0.44	5.00	0.00	0.00	0.00
20.75	2.00	0.44	5.00	0.00	0.00	0.00
20.80	2.00	0.44	5.00	0.00	0.00	0.00
20.85	2.00	0.44	5.00	0.00	0.00	0.00
20.90	2.00	0.44	5.00	0.00	0.00	0.00
20.95	2.00	0.44	5.00	0.00	0.00	0.00
21.00	2.00	0.44	5.00	0.00	0.00	0.00
21.05	2.00	0.44	5.00	0.00	0.00	0.00
21.10	2.00	0.44	5.00	0.00	0.00	0.00
21.15	2.00	0.44	5.00	0.00	0.00	0.00
21.20	2.00	0.44	5.00	0.00	0.00	0.00
21.25	2.00	0.44	5.00	0.00	0.00	0.00
21.30	2.00	0.44	5.00	0.00	0.00	0.00
21.35	2.00	0.44	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
21.40	2.00	0.44	5.00	0.00	0.00	0.00
21.45	2.00	0.44	5.00	0.00	0.00	0.00
21.50	2.00	0.45	5.00	0.00	0.00	0.00
21.55	2.00	0.45	5.00	0.00	0.00	0.00
21.60	2.00	0.45	5.00	0.00	0.00	0.00
21.65	2.00	0.45	5.00	0.00	0.00	0.00
21.70	2.00	0.45	5.00	0.00	0.00	0.00
21.75	2.00	0.45	5.00	0.00	0.00	0.00
21.80	2.00	0.45	5.00	0.00	0.00	0.00
21.85	2.00	0.45	5.00	0.00	0.00	0.00
21.90	2.00	0.45	5.00	0.00	0.00	0.00
21.95	2.00	0.45	5.00	0.00	0.00	0.00
22.00	2.00	0.45	5.00	0.00	0.00	0.00
22.05	2.00	0.45	5.00	0.00	0.00	0.00
22.10	2.00	0.45	5.00	0.00	0.00	0.00
22.15	2.00	0.45	5.00	0.00	0.00	0.00
22.20	2.00	0.45	5.00	0.00	0.00	0.00
22.25	2.00	0.45	5.00	0.00	0.00	0.00
22.30	2.00	0.45	5.00	0.00	0.00	0.00
22.35	2.00	0.45	5.00	0.00	0.00	0.00
22.40	2.00	0.45	5.00	0.00	0.00	0.00
22.45	2.00	0.45	5.00	0.00	0.00	0.00
22.50	2.00	0.45	5.00	0.00	0.00	0.00
22.55	2.00	0.45	5.00	0.00	0.00	0.00
22.60	2.00	0.45	5.00	0.00	0.00	0.00
22.65	2.00	0.45	5.00	0.00	0.00	0.00
22.70	2.00	0.45	5.00	0.00	0.00	0.00
22.75	2.00	0.45	5.00	0.00	0.00	0.00
22.80	2.00	0.45	5.00	0.00	0.00	0.00
22.85	2.00	0.45	5.00	0.00	0.00	0.00
22.90	2.00	0.45	5.00	0.00	0.00	0.00
22.95	2.00	0.45	5.00	0.00	0.00	0.00
23.00	2.00	0.45	5.00	0.00	0.00	0.00
23.05	2.00	0.46	5.00	0.00	0.00	0.00
23.10	2.00	0.46	5.00	0.00	0.00	0.00
23.15	2.00	0.46	5.00	0.00	0.00	0.00
23.20	2.00	0.46	5.00	0.00	0.00	0.00
23.25	2.00	0.46	5.00	0.00	0.00	0.00
23.30	2.00	0.46	5.00	0.00	0.00	0.00
23.35	2.00	0.46	5.00	0.00	0.00	0.00
23.40	2.00	0.46	5.00	0.00	0.00	0.00
23.45	2.00	0.46	5.00	0.00	0.00	0.00
23.50	2.00	0.46	5.00	0.00	0.00	0.00
23.55	2.00	0.46	5.00	0.00	0.00	0.00
23.60	2.00	0.46	5.00	0.00	0.00	0.00
23.65	2.00	0.46	5.00	0.00	0.00	0.00
23.70	2.00	0.46	5.00	0.00	0.00	0.00
23.75	2.00	0.46	5.00	0.00	0.00	0.00
23.80	2.00	0.46	5.00	0.00	0.00	0.00
23.85	2.00	0.46	5.00	0.00	0.00	0.00
23.90	2.00	0.46	5.00	0.00	0.00	0.00
23.95	2.00	0.46	4.99	0.00	0.00	0.00
24.00	2.00	0.46	4.99	0.00	0.00	0.00
24.05	2.00	0.46	4.99	0.00	0.00	0.00
24.10	2.00	0.46	4.98	0.00	0.00	0.00
24.15	2.00	0.46	4.98	0.00	0.00	0.00
24.20	2.00	0.46	4.98	0.00	0.00	0.00
24.25	2.00	0.46	4.97	0.00	0.00	0.00
24.30	2.00	0.46	4.97	0.00	0.00	0.00
24.35	2.00	0.46	4.97	0.00	0.00	0.00
24.40	2.00	0.46	4.96	0.00	0.00	0.00
24.45	2.00	0.46	4.96	0.00	0.00	0.00
24.50	2.00	0.46	4.96	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
24.55	2.00	0.46	4.95	0.00	0.00	0.00
24.60	2.00	0.46	4.95	0.00	0.00	0.00
24.65	2.00	0.46	4.95	0.00	0.00	0.00
24.70	2.00	0.47	4.95	0.00	0.00	0.00
24.75	2.00	0.47	4.94	0.00	0.00	0.00
24.80	2.00	0.47	4.94	0.00	0.00	0.00
24.85	2.00	0.47	4.94	0.00	0.00	0.00
24.90	2.00	0.47	4.93	0.00	0.00	0.00
24.95	2.00	0.47	4.93	0.00	0.00	0.00
25.00	2.00	0.47	4.93	0.00	0.00	0.00
25.05	2.00	0.47	4.92	0.00	0.00	0.00
25.10	2.00	0.47	4.92	0.00	0.00	0.00
25.15	2.00	0.47	4.92	0.00	0.00	0.00
25.20	2.00	0.47	4.92	0.00	0.00	0.00
25.25	2.00	0.47	4.91	0.00	0.00	0.00
25.30	2.00	0.47	4.91	0.00	0.00	0.00
25.35	2.00	0.47	4.91	0.00	0.00	0.00
25.40	2.00	0.47	4.90	0.00	0.00	0.00
25.45	2.00	0.47	4.90	0.00	0.00	0.00
25.50	2.00	0.47	4.90	0.00	0.00	0.00
25.55	2.00	0.47	4.89	0.00	0.00	0.00
25.60	2.00	0.47	4.89	0.00	0.00	0.00
25.65	2.00	0.47	4.89	0.00	0.00	0.00
25.70	2.00	0.47	4.89	0.00	0.00	0.00
25.75	2.00	0.47	4.88	0.00	0.00	0.00
25.80	2.00	0.47	4.88	0.00	0.00	0.00
25.85	2.00	0.47	4.88	0.00	0.00	0.00
25.90	2.00	0.47	4.87	0.00	0.00	0.00
25.95	2.00	0.47	4.87	0.00	0.00	0.00
26.00	2.00	0.47	4.87	0.00	0.00	0.00
26.05	2.00	0.47	4.87	0.00	0.00	0.00
26.10	2.00	0.47	4.86	0.00	0.00	0.00
26.15	2.00	0.47	4.86	0.00	0.00	0.00
26.20	2.00	0.47	4.86	0.00	0.00	0.00
26.25	2.00	0.47	4.86	0.00	0.00	0.00
26.30	2.00	0.47	4.85	0.00	0.00	0.00
26.35	2.00	0.47	4.85	0.00	0.00	0.00
26.40	2.00	0.47	4.85	0.00	0.00	0.00
26.45	2.00	0.47	4.84	0.00	0.00	0.00
26.50	2.00	0.48	4.84	0.00	0.00	0.00
26.55	2.00	0.48	4.84	0.00	0.00	0.00
26.60	2.00	0.48	4.84	0.00	0.00	0.00
26.65	2.00	0.48	4.83	0.00	0.00	0.00
26.70	2.00	0.48	4.83	0.00	0.00	0.00
26.75	2.00	0.48	4.83	0.00	0.00	0.00
26.80	2.00	0.48	4.83	0.00	0.00	0.00
26.85	2.00	0.48	4.82	0.00	0.00	0.00
26.90	2.00	0.48	4.82	0.00	0.00	0.00
26.95	2.00	0.48	4.82	0.00	0.00	0.00
27.00	2.00	0.48	4.81	0.00	0.00	0.00
27.05	2.00	0.48	4.81	0.00	0.00	0.00
27.10	2.00	0.48	4.81	0.00	0.00	0.00
27.15	2.00	0.48	4.81	0.00	0.00	0.00
27.20	2.00	0.48	4.80	0.00	0.00	0.00
27.25	2.00	0.48	4.80	0.00	0.00	0.00
27.30	2.00	0.48	4.80	0.00	0.00	0.00
27.35	2.00	0.48	4.80	0.00	0.00	0.00
27.40	2.00	0.48	4.79	0.00	0.00	0.00
27.45	2.00	0.48	4.79	0.00	0.00	0.00
27.50	2.00	0.48	4.79	0.00	0.00	0.00
27.55	2.00	0.48	4.79	0.00	0.00	0.00
27.60	2.00	0.48	4.78	0.00	0.00	0.00
27.65	2.00	0.48	4.78	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
27.70	2.00	0.48	4.78	0.00	0.00	0.00
27.75	2.00	0.48	4.78	0.00	0.00	0.00
27.80	2.00	0.48	4.77	0.00	0.00	0.00
27.85	2.00	0.48	4.77	0.00	0.00	0.00
27.90	2.00	0.48	4.77	0.00	0.00	0.00
27.95	2.01	0.48	4.80	0.00	0.00	0.00
28.00	2.01	0.48	4.79	0.00	0.00	0.00
28.05	2.01	0.48	4.79	0.00	0.00	0.00
28.10	2.01	0.48	4.79	0.00	0.00	0.00
28.15	2.01	0.48	4.78	0.00	0.00	0.00
28.20	2.01	0.48	4.78	0.00	0.00	0.00
28.25	2.01	0.48	4.78	0.00	0.00	0.00
28.30	2.01	0.48	4.77	0.00	0.00	0.00
28.35	2.01	0.48	4.77	0.00	0.00	0.00
28.40	2.01	0.48	4.77	0.00	0.00	0.00
28.45	2.01	0.49	4.77	0.00	0.00	0.00
28.50	2.01	0.49	4.76	0.00	0.00	0.00
28.55	2.01	0.49	4.76	0.00	0.00	0.00
28.60	2.01	0.49	4.76	0.00	0.00	0.00
28.65	2.01	0.49	4.75	0.00	0.00	0.00
28.70	2.01	0.49	4.75	0.00	0.00	0.00
28.75	2.01	0.49	4.75	0.00	0.00	0.00
28.80	2.01	0.49	4.74	0.00	0.00	0.00
28.85	2.01	0.49	4.74	0.00	0.00	0.00
28.90	2.01	0.49	4.74	0.00	0.00	0.00
28.95	2.01	0.49	4.74	0.00	0.00	0.00
29.00	2.01	0.49	4.73	0.00	0.00	0.00
29.05	2.01	0.49	4.73	0.00	0.00	0.00
29.10	2.01	0.49	4.73	0.00	0.00	0.00
29.15	2.01	0.49	4.72	0.00	0.00	0.00
29.20	2.01	0.49	4.72	0.00	0.00	0.00
29.25	2.01	0.49	4.72	0.00	0.00	0.00
29.30	2.01	0.49	4.72	0.00	0.00	0.00
29.35	2.01	0.49	4.71	0.00	0.00	0.00
29.40	2.01	0.49	4.71	0.00	0.00	0.00
29.45	2.00	0.49	4.71	0.00	0.00	0.00
29.50	2.00	0.49	4.70	0.00	0.00	0.00
29.55	2.00	0.49	4.70	0.00	0.00	0.00
29.60	2.00	0.49	4.70	0.00	0.00	0.00
29.65	2.00	0.49	4.70	0.00	0.00	0.00
29.70	2.00	0.49	4.69	0.00	0.00	0.00
29.75	2.00	0.49	4.69	0.00	0.00	0.00
29.80	2.00	0.49	4.69	0.00	0.00	0.00
29.85	2.00	0.49	4.69	0.00	0.00	0.00
29.90	2.00	0.49	4.68	0.00	0.00	0.00
29.95	2.00	0.49	4.68	0.00	0.00	0.00
30.00	2.00	0.49	4.68	0.00	0.00	0.00
30.05	2.00	0.49	4.68	0.00	0.00	0.00
30.10	2.00	0.49	4.68	0.00	0.00	0.00
30.15	2.00	0.49	4.67	0.00	0.00	0.00
30.20	2.00	0.49	4.67	0.00	0.00	0.00
30.25	2.00	0.49	4.67	0.00	0.00	0.00
30.30	2.00	0.49	4.67	0.00	0.00	0.00
30.35	2.00	0.49	4.67	0.00	0.00	0.00
30.40	2.00	0.49	4.67	0.00	0.00	0.00
30.45	2.00	0.49	4.67	0.00	0.00	0.00
30.50	2.00	0.49	4.67	0.00	0.00	0.00
30.55	2.00	0.49	4.66	0.00	0.00	0.00
30.60	2.00	0.49	4.66	0.00	0.00	0.00
30.65	2.00	0.49	4.66	0.00	0.00	0.00
30.70	2.00	0.49	4.66	0.00	0.00	0.00
30.75	2.00	0.49	4.66	0.00	0.00	0.00
30.80	2.00	0.49	4.66	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
30.85	2.00	0.49	4.66	0.00	0.00	0.00
30.90	2.00	0.49	4.66	0.00	0.00	0.00
30.95	2.00	0.49	4.65	0.00	0.00	0.00
31.00	2.00	0.49	4.65	0.00	0.00	0.00
31.05	2.00	0.49	4.65	0.00	0.00	0.00
31.10	2.00	0.49	4.65	0.00	0.00	0.00
31.15	2.00	0.49	4.65	0.00	0.00	0.00
31.20	2.00	0.49	4.65	0.00	0.00	0.00
31.25	2.00	0.49	4.65	0.00	0.00	0.00
31.30	2.00	0.49	4.65	0.00	0.00	0.00
31.35	2.00	0.49	4.65	0.00	0.00	0.00
31.40	2.00	0.49	4.64	0.00	0.00	0.00
31.45	2.00	0.49	4.64	0.00	0.00	0.00
31.50	1.99	0.49	4.64	0.00	0.00	0.00
31.55	1.99	0.49	4.64	0.00	0.00	0.00
31.60	1.99	0.49	4.64	0.00	0.00	0.00
31.65	1.99	0.49	4.64	0.00	0.00	0.00
31.70	1.99	0.49	4.64	0.00	0.00	0.00
31.75	1.99	0.49	4.64	0.00	0.00	0.00
31.80	1.99	0.49	4.64	0.00	0.00	0.00
31.85	1.99	0.49	4.64	0.00	0.00	0.00
31.90	1.99	0.49	4.63	0.00	0.00	0.00
31.95	1.99	0.49	4.63	0.00	0.00	0.00
32.00	1.99	0.49	4.63	0.00	0.00	0.00
32.05	1.99	0.49	4.63	0.00	0.00	0.00
32.10	1.99	0.49	4.63	0.00	0.00	0.00
32.15	1.99	0.49	4.63	0.00	0.00	0.00
32.20	1.99	0.49	4.63	0.00	0.00	0.00
32.25	1.99	0.49	4.63	0.00	0.00	0.00
32.30	1.99	0.50	4.63	0.00	0.00	0.00
32.35	1.99	0.50	4.63	0.00	0.00	0.00
32.40	1.99	0.50	4.62	0.00	0.00	0.00
32.45	1.99	0.50	4.62	0.00	0.00	0.00
32.50	1.99	0.50	4.62	0.00	0.00	0.00
32.55	1.99	0.50	4.62	0.00	0.00	0.00
32.60	1.99	0.50	4.62	0.00	0.00	0.00
32.65	1.99	0.50	4.62	0.00	0.00	0.00
32.70	1.99	0.50	4.62	0.00	0.00	0.00
32.75	1.99	0.50	4.62	0.00	0.00	0.00
32.80	1.99	0.50	4.62	0.00	0.00	0.00
32.85	1.99	0.50	4.62	0.00	0.00	0.00
32.90	1.99	0.50	4.61	0.00	0.00	0.00
32.95	1.99	0.50	4.61	0.00	0.00	0.00
33.00	1.99	0.50	4.61	0.00	0.00	0.00
33.05	1.99	0.50	4.61	0.00	0.00	0.00
33.10	1.99	0.50	4.61	0.00	0.00	0.00
33.15	1.99	0.50	4.61	0.00	0.00	0.00
33.20	1.99	0.50	4.61	0.00	0.00	0.00
33.25	1.99	0.50	4.61	0.00	0.00	0.00
33.30	1.99	0.50	4.61	0.00	0.00	0.00
33.35	1.99	0.50	4.61	0.00	0.00	0.00
33.40	1.99	0.50	4.61	0.00	0.00	0.00
33.45	1.99	0.50	4.61	0.00	0.00	0.00
33.50	1.99	0.50	4.60	0.00	0.00	0.00
33.55	1.98	0.50	4.60	0.00	0.00	0.00
33.60	1.98	0.50	4.60	0.00	0.00	0.00
33.65	1.98	0.50	4.60	0.00	0.00	0.00
33.70	1.98	0.50	4.60	0.00	0.00	0.00
33.75	1.98	0.50	4.60	0.00	0.00	0.00
33.80	1.98	0.50	4.60	0.00	0.00	0.00
33.85	1.98	0.50	4.60	0.00	0.00	0.00
33.90	1.98	0.50	4.60	0.00	0.00	0.00
33.95	1.98	0.50	4.60	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
34.00	1.98	0.50	4.60	0.00	0.00	0.00
34.05	1.98	0.50	4.60	0.00	0.00	0.00
34.10	1.98	0.50	4.59	0.00	0.00	0.00
34.15	1.98	0.50	4.59	0.00	0.00	0.00
34.20	1.98	0.50	4.59	0.00	0.00	0.00
34.25	1.98	0.50	4.59	0.00	0.00	0.00
34.30	1.98	0.50	4.59	0.00	0.00	0.00
34.35	1.98	0.50	4.59	0.00	0.00	0.00
34.40	1.98	0.50	4.59	0.00	0.00	0.00
34.45	1.98	0.50	4.59	0.00	0.00	0.00
34.50	1.98	0.50	4.59	0.00	0.00	0.00
34.55	1.98	0.50	4.59	0.00	0.00	0.00
34.60	1.98	0.50	4.59	0.00	0.00	0.00
34.65	1.98	0.50	4.59	0.00	0.00	0.00
34.70	1.98	0.50	4.59	0.00	0.00	0.00
34.75	1.98	0.50	4.59	0.00	0.00	0.00
34.80	1.98	0.50	4.58	0.00	0.00	0.00
34.85	1.98	0.50	4.58	0.00	0.00	0.00
34.90	1.98	0.50	4.58	0.00	0.00	0.00
34.95	1.98	0.50	4.58	0.00	0.00	0.00
35.00	1.98	0.50	4.58	0.00	0.00	0.00
35.05	1.98	0.50	4.58	0.00	0.00	0.00
35.10	1.98	0.50	4.58	0.00	0.00	0.00
35.15	1.98	0.50	4.58	0.00	0.00	0.00
35.20	1.98	0.50	4.58	0.00	0.00	0.00
35.25	1.98	0.50	4.58	0.00	0.00	0.00
35.30	1.98	0.50	4.58	0.00	0.00	0.00
35.35	1.98	0.50	4.58	0.00	0.00	0.00
35.40	1.98	0.50	4.58	0.00	0.00	0.00
35.45	1.98	0.50	4.58	0.00	0.00	0.00
35.50	1.98	0.50	4.58	0.00	0.00	0.00
35.55	1.98	0.50	4.57	0.00	0.00	0.00
35.60	1.98	0.50	4.57	0.00	0.00	0.00
35.65	1.97	0.50	4.57	0.00	0.00	0.00
35.70	1.97	0.50	4.57	0.00	0.00	0.00
35.75	1.97	0.50	4.57	0.00	0.00	0.00
35.80	1.97	0.50	4.57	0.00	0.00	0.00
35.85	1.97	0.50	4.57	0.00	0.00	0.00
35.90	1.97	0.50	4.57	0.00	0.00	0.00
35.95	1.97	0.50	4.57	0.00	0.00	0.00
36.00	1.97	0.50	4.57	0.00	0.00	0.00
36.05	1.97	0.50	4.57	0.00	0.00	0.00
36.10	1.97	0.50	4.57	0.00	0.00	0.00
36.15	1.97	0.50	4.57	0.00	0.00	0.00
36.20	1.97	0.50	4.57	0.00	0.00	0.00
36.25	1.97	0.50	4.57	0.00	0.00	0.00
36.30	1.97	0.50	4.57	0.00	0.00	0.00
36.35	1.97	0.50	4.57	0.00	0.00	0.00
36.40	1.97	0.50	4.57	0.00	0.00	0.00
36.45	1.97	0.50	4.56	0.00	0.00	0.00
36.50	1.97	0.50	4.56	0.00	0.00	0.00
36.55	1.97	0.50	4.56	0.00	0.00	0.00
36.60	1.97	0.50	4.56	0.00	0.00	0.00
36.65	1.97	0.50	4.56	0.00	0.00	0.00
36.70	1.97	0.50	4.56	0.00	0.00	0.00
36.75	1.97	0.50	4.56	0.00	0.00	0.00
36.80	1.97	0.50	4.56	0.00	0.00	0.00
36.85	1.97	0.50	4.56	0.00	0.00	0.00
36.90	1.97	0.50	4.56	0.00	0.00	0.00
36.95	1.97	0.50	4.56	0.00	0.00	0.00
37.00	1.97	0.50	4.56	0.00	0.00	0.00
37.05	1.97	0.50	4.56	0.00	0.00	0.00
37.10	1.97	0.50	4.56	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
37.15	1.97	0.50	4.56	0.00	0.00	0.00
37.20	1.97	0.50	4.56	0.00	0.00	0.00
37.25	1.97	0.50	4.56	0.00	0.00	0.00
37.30	1.97	0.50	4.56	0.00	0.00	0.00
37.35	1.97	0.50	4.56	0.00	0.00	0.00
37.40	1.97	0.50	4.56	0.00	0.00	0.00
37.45	1.97	0.50	4.56	0.00	0.00	0.00
37.50	1.97	0.50	4.55	0.00	0.00	0.00
37.55	1.97	0.50	4.55	0.00	0.00	0.00
37.60	1.97	0.50	4.55	0.00	0.00	0.00
37.65	1.97	0.50	4.55	0.00	0.00	0.00
37.70	1.97	0.50	4.55	0.00	0.00	0.00
37.75	1.97	0.50	4.55	0.00	0.00	0.00
37.80	1.96	0.50	4.55	0.00	0.00	0.00
37.85	1.96	0.50	4.55	0.00	0.00	0.00
37.90	1.96	0.50	4.55	0.00	0.00	0.00
37.95	1.96	0.50	4.55	0.00	0.00	0.00
38.00	1.96	0.50	4.55	0.00	0.00	0.00
38.05	1.96	0.50	4.55	0.00	0.00	0.00
38.10	1.96	0.50	4.55	0.00	0.00	0.00
38.15	1.96	0.50	4.55	0.00	0.00	0.00
38.20	1.96	0.50	4.55	0.00	0.00	0.00
38.25	1.96	0.50	4.55	0.00	0.00	0.00
38.30	1.96	0.50	4.55	0.00	0.00	0.00
38.35	1.96	0.50	4.55	0.00	0.00	0.00
38.40	1.96	0.50	4.55	0.00	0.00	0.00
38.45	1.96	0.50	4.55	0.00	0.00	0.00
38.50	1.96	0.50	4.55	0.00	0.00	0.00
38.55	1.96	0.50	4.55	0.00	0.00	0.00
38.60	1.96	0.50	4.55	0.00	0.00	0.00
38.65	1.96	0.50	4.55	0.00	0.00	0.00
38.70	1.96	0.50	4.55	0.00	0.00	0.00
38.75	1.96	0.50	4.55	0.00	0.00	0.00
38.80	1.96	0.50	4.55	0.00	0.00	0.00
38.85	1.96	0.50	4.55	0.00	0.00	0.00
38.90	1.96	0.50	4.55	0.00	0.00	0.00
38.95	1.96	0.50	4.54	0.00	0.00	0.00
39.00	1.96	0.50	4.54	0.00	0.00	0.00
39.05	1.96	0.50	4.54	0.00	0.00	0.00
39.10	1.96	0.50	4.54	0.00	0.00	0.00
39.15	1.96	0.50	4.54	0.00	0.00	0.00
39.20	1.96	0.50	4.54	0.00	0.00	0.00
39.25	1.96	0.50	4.54	0.00	0.00	0.00
39.30	1.96	0.50	4.54	0.00	0.00	0.00
39.35	1.96	0.50	4.54	0.00	0.00	0.00
39.40	1.96	0.50	4.54	0.00	0.00	0.00
39.45	1.96	0.50	4.54	0.00	0.00	0.00
39.50	1.96	0.50	4.54	0.00	0.00	0.00
39.55	1.96	0.50	4.54	0.00	0.00	0.00
39.60	1.96	0.50	4.54	0.00	0.00	0.00
39.65	1.96	0.50	4.54	0.00	0.00	0.00
39.70	1.96	0.50	4.54	0.00	0.00	0.00
39.75	1.96	0.50	4.54	0.00	0.00	0.00
39.80	1.96	0.50	4.54	0.00	0.00	0.00
39.85	1.96	0.50	4.54	0.00	0.00	0.00
39.90	1.95	0.50	4.54	0.00	0.00	0.00
39.95	1.95	0.50	4.54	0.00	0.00	0.00
40.00	1.95	0.50	4.54	0.00	0.00	0.00
40.05	1.95	0.50	4.54	0.00	0.00	0.00
40.10	1.95	0.50	4.54	0.00	0.00	0.00
40.15	1.95	0.50	4.54	0.00	0.00	0.00
40.20	1.95	0.50	4.54	0.00	0.00	0.00
40.25	1.95	0.50	4.54	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
40.30	1.95	0.49	4.54	0.00	0.00	0.00
40.35	1.95	0.49	4.54	0.00	0.00	0.00
40.40	1.95	0.49	4.54	0.00	0.00	0.00
40.45	1.95	0.49	4.54	0.00	0.00	0.00
40.50	1.95	0.49	4.54	0.00	0.00	0.00
40.55	1.95	0.49	4.54	0.00	0.00	0.00
40.60	1.95	0.49	4.54	0.00	0.00	0.00
40.65	1.95	0.49	4.54	0.00	0.00	0.00
40.70	1.95	0.49	4.54	0.00	0.00	0.00
40.75	1.95	0.49	4.54	0.00	0.00	0.00
40.80	1.95	0.49	4.54	0.00	0.00	0.00
40.85	1.95	0.49	4.54	0.00	0.00	0.00
40.90	1.95	0.49	4.54	0.00	0.00	0.00
40.95	1.95	0.49	4.54	0.00	0.00	0.00
41.00	1.95	0.49	4.54	0.00	0.00	0.00
41.05	1.95	0.49	4.54	0.00	0.00	0.00
41.10	1.95	0.49	4.54	0.00	0.00	0.00
41.15	1.95	0.49	4.54	0.00	0.00	0.00
41.20	1.95	0.49	4.54	0.00	0.00	0.00
41.25	1.95	0.49	4.54	0.00	0.00	0.00
41.30	1.95	0.49	4.54	0.00	0.00	0.00
41.35	1.95	0.49	4.54	0.00	0.00	0.00
41.40	1.95	0.49	4.54	0.00	0.00	0.00
41.45	1.95	0.49	4.54	0.00	0.00	0.00
41.50	1.95	0.49	4.54	0.00	0.00	0.00
41.55	1.95	0.49	4.54	0.00	0.00	0.00
41.60	1.95	0.49	4.54	0.00	0.00	0.00
41.65	1.95	0.49	4.54	0.00	0.00	0.00
41.70	1.95	0.49	4.54	0.00	0.00	0.00
41.75	1.95	0.49	4.54	0.00	0.00	0.00
41.80	1.95	0.49	4.54	0.00	0.00	0.00
41.85	1.95	0.49	4.54	0.00	0.00	0.00
41.90	1.95	0.49	4.54	0.00	0.00	0.00
41.95	1.95	0.49	4.54	0.00	0.00	0.00
42.00	1.95	0.49	4.54	0.00	0.00	0.00
42.05	1.95	0.49	4.54	0.00	0.00	0.00
42.10	1.94	0.49	4.54	0.00	0.00	0.00
42.15	1.94	0.49	4.54	0.00	0.00	0.00
42.20	1.94	0.49	4.54	0.00	0.00	0.00
42.25	1.94	0.49	4.54	0.00	0.00	0.00
42.30	1.94	0.49	4.54	0.00	0.00	0.00
42.35	1.94	0.49	4.54	0.00	0.00	0.00
42.40	1.94	0.49	4.54	0.00	0.00	0.00
42.45	1.94	0.49	4.54	0.00	0.00	0.00
42.50	1.94	0.49	4.54	0.00	0.00	0.00
42.55	1.94	0.49	4.54	0.00	0.00	0.00
42.60	1.94	0.49	4.54	0.00	0.00	0.00
42.65	1.94	0.49	4.54	0.00	0.00	0.00
42.70	1.94	0.49	4.54	0.00	0.00	0.00
42.75	1.94	0.49	4.54	0.00	0.00	0.00
42.80	1.94	0.49	4.54	0.00	0.00	0.00
42.85	1.94	0.49	4.54	0.00	0.00	0.00
42.90	1.94	0.49	4.54	0.00	0.00	0.00
42.95	1.94	0.49	4.54	0.00	0.00	0.00
43.00	1.94	0.49	4.54	0.00	0.00	0.00
43.05	1.94	0.49	4.54	0.00	0.00	0.00
43.10	1.94	0.49	4.54	0.00	0.00	0.00
43.15	1.94	0.49	4.54	0.00	0.00	0.00
43.20	1.94	0.49	4.54	0.00	0.00	0.00
43.25	1.94	0.49	4.54	0.00	0.00	0.00
43.30	1.94	0.49	4.54	0.00	0.00	0.00
43.35	1.94	0.49	4.54	0.00	0.00	0.00
43.40	1.94	0.49	4.54	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
43.45	1.94	0.49	4.54	0.00	0.00	0.00
43.50	1.94	0.49	4.54	0.00	0.00	0.00
43.55	1.94	0.49	4.54	0.00	0.00	0.00
43.60	1.94	0.49	4.54	0.00	0.00	0.00
43.65	1.94	0.49	4.54	0.00	0.00	0.00
43.70	1.94	0.49	4.54	0.00	0.00	0.00
43.75	1.94	0.49	4.54	0.00	0.00	0.00
43.80	1.94	0.49	4.54	0.00	0.00	0.00
43.85	1.94	0.49	4.54	0.00	0.00	0.00
43.90	1.94	0.49	4.54	0.00	0.00	0.00
43.95	1.94	0.49	4.54	0.00	0.00	0.00
44.00	1.94	0.49	4.54	0.00	0.00	0.00
44.05	1.94	0.49	4.54	0.00	0.00	0.00
44.10	1.94	0.49	4.54	0.00	0.00	0.00
44.15	1.94	0.49	4.54	0.00	0.00	0.00
44.20	1.94	0.49	4.54	0.00	0.00	0.00
44.25	1.94	0.49	4.54	0.00	0.00	0.00
44.30	1.93	0.49	4.54	0.00	0.00	0.00
44.35	1.93	0.49	4.54	0.00	0.00	0.00
44.40	1.93	0.49	4.54	0.00	0.00	0.00
44.45	1.93	0.49	4.54	0.00	0.00	0.00
44.50	1.93	0.49	4.54	0.00	0.00	0.00
44.55	1.93	0.49	4.54	0.00	0.00	0.00
44.60	1.93	0.49	4.54	0.00	0.00	0.00
44.65	1.93	0.49	4.54	0.00	0.00	0.00
44.70	1.93	0.49	4.54	0.00	0.00	0.00
44.75	1.93	0.49	4.54	0.00	0.00	0.00
44.80	1.93	0.49	4.54	0.00	0.00	0.00
44.85	1.93	0.49	4.54	0.00	0.00	0.00
44.90	1.93	0.49	4.54	0.00	0.00	0.00
44.95	1.93	0.49	4.54	0.00	0.00	0.00
45.00	1.93	0.49	4.54	0.00	0.00	0.00
45.05	1.93	0.49	4.54	0.00	0.00	0.00
45.10	1.93	0.49	4.54	0.00	0.00	0.00
45.15	1.93	0.49	4.54	0.00	0.00	0.00
45.20	1.93	0.49	4.54	0.00	0.00	0.00
45.25	1.93	0.49	4.54	0.00	0.00	0.00
45.30	1.93	0.49	4.54	0.00	0.00	0.00
45.35	1.93	0.49	4.54	0.00	0.00	0.00
45.40	1.93	0.49	4.54	0.00	0.00	0.00
45.45	1.93	0.49	4.54	0.00	0.00	0.00
45.50	1.93	0.49	4.54	0.00	0.00	0.00
45.55	1.93	0.49	4.54	0.00	0.00	0.00
45.60	1.93	0.49	4.54	0.00	0.00	0.00
45.65	1.93	0.49	4.54	0.00	0.00	0.00
45.70	1.93	0.49	4.54	0.00	0.00	0.00
45.75	1.93	0.49	4.54	0.00	0.00	0.00
45.80	1.93	0.49	4.54	0.00	0.00	0.00
45.85	1.93	0.49	4.54	0.00	0.00	0.00
45.90	1.93	0.49	4.54	0.00	0.00	0.00
45.95	1.93	0.49	4.54	0.00	0.00	0.00
46.00	1.93	0.49	4.55	0.00	0.00	0.00
46.05	1.93	0.49	4.55	0.00	0.00	0.00
46.10	1.93	0.49	4.55	0.00	0.00	0.00
46.15	1.93	0.49	4.55	0.00	0.00	0.00
46.20	1.93	0.49	4.55	0.00	0.00	0.00
46.25	1.93	0.49	4.55	0.00	0.00	0.00
46.30	1.93	0.49	4.55	0.00	0.00	0.00
46.35	1.93	0.49	4.55	0.00	0.00	0.00
46.40	1.93	0.49	4.55	0.00	0.00	0.00
46.45	1.93	0.49	4.55	0.00	0.00	0.00
46.50	1.92	0.49	4.55	0.00	0.00	0.00
46.55	1.92	0.49	4.55	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
46.60	1.92	0.49	4.55	0.00	0.00	0.00
46.65	1.92	0.49	4.55	0.00	0.00	0.00
46.70	1.92	0.49	4.55	0.00	0.00	0.00
46.75	1.92	0.49	4.55	0.00	0.00	0.00
46.80	1.92	0.49	4.55	0.00	0.00	0.00
46.85	1.92	0.49	4.55	0.00	0.00	0.00
46.90	1.92	0.49	4.55	0.00	0.00	0.00
46.95	1.92	0.49	4.55	0.00	0.00	0.00
47.00	1.92	0.49	4.55	0.00	0.00	0.00
47.05	1.92	0.49	4.55	0.00	0.00	0.00
47.10	1.92	0.49	4.55	0.00	0.00	0.00
47.15	1.92	0.49	4.55	0.00	0.00	0.00
47.20	1.92	0.49	4.55	0.00	0.00	0.00
47.25	1.92	0.49	4.55	0.00	0.00	0.00
47.30	1.92	0.49	4.55	0.00	0.00	0.00
47.35	1.92	0.49	4.55	0.00	0.00	0.00
47.40	1.92	0.49	4.55	0.00	0.00	0.00
47.45	1.92	0.49	4.55	0.00	0.00	0.00
47.50	1.92	0.48	4.56	0.00	0.00	0.00
47.55	1.92	0.48	4.56	0.00	0.00	0.00
47.60	1.92	0.48	4.56	0.00	0.00	0.00
47.65	1.92	0.48	4.56	0.00	0.00	0.00
47.70	1.92	0.48	4.56	0.00	0.00	0.00
47.75	1.92	0.48	4.56	0.00	0.00	0.00
47.80	1.92	0.48	4.56	0.00	0.00	0.00
47.85	1.92	0.48	4.56	0.00	0.00	0.00
47.90	1.92	0.48	4.56	0.00	0.00	0.00
47.95	1.92	0.48	4.56	0.00	0.00	0.00
48.00	1.92	0.48	4.56	0.00	0.00	0.00
48.05	1.92	0.48	4.56	0.00	0.00	0.00
48.10	1.92	0.48	4.56	0.00	0.00	0.00
48.15	1.92	0.48	4.56	0.00	0.00	0.00
48.20	1.92	0.48	4.56	0.00	0.00	0.00
48.25	1.92	0.48	4.56	0.00	0.00	0.00
48.30	1.92	0.48	4.56	0.00	0.00	0.00
48.35	1.92	0.48	4.56	0.00	0.00	0.00
48.40	1.92	0.48	4.56	0.00	0.00	0.00
48.45	1.92	0.48	4.56	0.00	0.00	0.00
48.50	1.92	0.48	4.56	0.00	0.00	0.00
48.55	1.92	0.48	4.56	0.00	0.00	0.00
48.60	1.92	0.48	4.56	0.00	0.00	0.00
48.65	1.92	0.48	4.56	0.00	0.00	0.00
48.70	1.92	0.48	4.57	0.00	0.00	0.00
48.75	1.91	0.48	4.57	0.00	0.00	0.00
48.80	1.91	0.48	4.57	0.00	0.00	0.00
48.85	1.91	0.48	4.57	0.00	0.00	0.00
48.90	1.91	0.48	4.57	0.00	0.00	0.00
48.95	1.91	0.48	4.57	0.00	0.00	0.00
49.00	1.91	0.48	4.57	0.00	0.00	0.00
49.05	1.91	0.48	4.57	0.00	0.00	0.00
49.10	1.91	0.48	4.57	0.00	0.00	0.00
49.15	1.91	0.48	4.57	0.00	0.00	0.00
49.20	1.91	0.48	4.57	0.00	0.00	0.00
49.25	1.91	0.48	4.57	0.00	0.00	0.00
49.30	1.91	0.48	4.57	0.00	0.00	0.00
49.35	1.91	0.48	4.57	0.00	0.00	0.00
49.40	1.91	0.48	4.57	0.00	0.00	0.00
49.45	1.91	0.48	4.57	0.00	0.00	0.00
49.50	1.91	0.48	4.57	0.00	0.00	0.00
49.55	1.91	0.48	4.57	0.00	0.00	0.00
49.60	1.91	0.48	4.57	0.00	0.00	0.00
49.65	1.91	0.48	4.57	0.00	0.00	0.00
49.70	1.91	0.48	4.58	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
49.75	1.91	0.48	4.58	0.00	0.00	0.00
49.80	1.91	0.48	4.58	0.00	0.00	0.00
49.85	1.91	0.48	4.58	0.00	0.00	0.00
49.90	1.91	0.48	4.58	0.00	0.00	0.00
49.95	1.91	0.48	4.58	0.00	0.00	0.00
50.00	1.91	0.48	4.58	0.00	0.00	0.00
50.05	1.91	0.48	4.58	0.00	0.00	0.00
50.10	1.91	0.48	4.58	0.00	0.00	0.00
50.15	1.91	0.48	4.58	0.00	0.00	0.00
50.20	1.91	0.48	4.58	0.00	0.00	0.00
50.25	1.91	0.48	4.58	0.00	0.00	0.00
50.30	1.91	0.48	4.58	0.00	0.00	0.00
50.35	1.91	0.48	4.58	0.00	0.00	0.00
50.40	1.91	0.48	4.58	0.00	0.00	0.00
50.45	1.91	0.48	4.58	0.00	0.00	0.00
50.50	1.91	0.48	4.58	0.00	0.00	0.00
50.55	1.91	0.48	4.58	0.00	0.00	0.00
50.60	1.91	0.48	4.59	0.00	0.00	0.00
50.65	1.91	0.48	4.59	0.00	0.00	0.00
50.70	1.91	0.48	4.59	0.00	0.00	0.00
50.75	1.91	0.48	4.59	0.00	0.00	0.00
50.80	1.91	0.48	4.59	0.00	0.00	0.00
50.85	1.91	0.48	4.59	0.00	0.00	0.00
50.90	1.91	0.48	4.59	0.00	0.00	0.00
50.95	1.91	0.48	4.59	0.00	0.00	0.00
51.00	1.90	0.48	4.59	0.00	0.00	0.00
51.05	1.90	0.48	4.59	0.00	0.00	0.00
51.10	1.90	0.48	4.59	0.00	0.00	0.00
51.15	1.90	0.48	4.59	0.00	0.00	0.00
51.20	1.90	0.48	4.59	0.00	0.00	0.00
51.25	1.90	0.48	4.59	0.00	0.00	0.00
51.30	1.90	0.48	4.59	0.00	0.00	0.00
51.35	1.90	0.48	4.59	0.00	0.00	0.00
51.40	1.90	0.48	4.60	0.00	0.00	0.00
51.45	1.90	0.48	4.60	0.00	0.00	0.00
51.50	1.90	0.48	4.60	0.00	0.00	0.00

* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units Depth = ft, Stress or Pressure = tsf (atm), Unit Weight =
pcf, Settlement = in.

CRRv	Cyclic resistance ratio from soils
CSRm	Cyclic stress ratio induced by a given earthquake (with user
request factor of safety)	
F.S.	Factor of Safety against liquefaction, F.S.=CRRv/CSRm
S_sat	Settlement from saturated sands
S_dry	Settlement from Unsaturated Sands
S_all	Total Settlement from Saturated and Unsaturated Sands
NoLiq	No-Liquefy Soils

LIQUEFACTION ANALYSIS

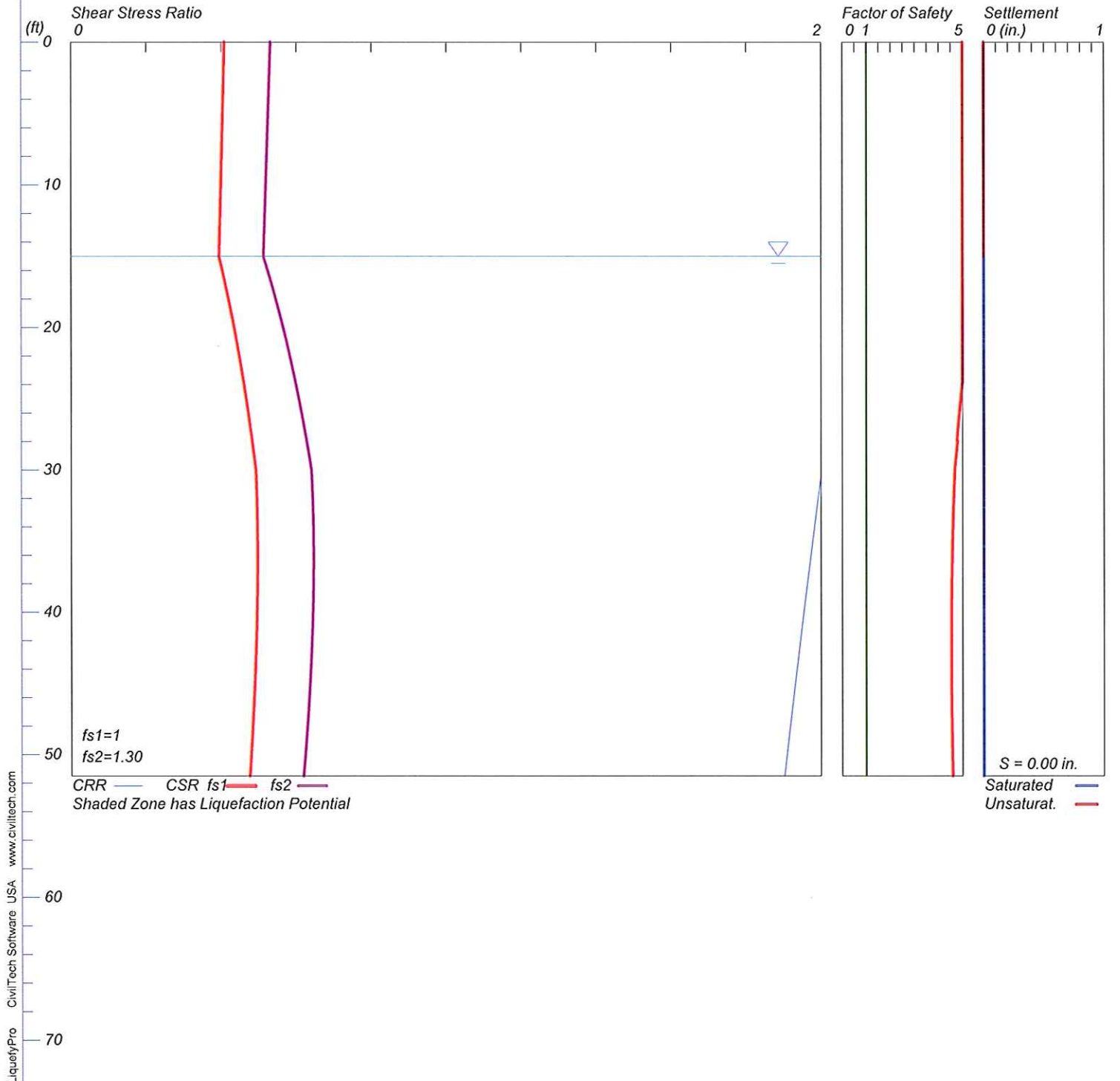
Xebec Signal Hill

Hole No.=B-3 Water Depth=15 ft

Ground Improvement of Fill=5 ft

Magnitude=7.1

Acceleration=0.629g



16-6239-Xebec Signal Hill-B3.sum

LIQUEFACTION ANALYSIS CALCULATION SHEET

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Input File Name: D:\Liquefy5\16-6239-Xebec Signal Hill-B3.liq
Title: Xebec Signal Hill
Subtitle: 16-6239

Surface Elev.=
Hole No.=B-3
Depth of Hole= 51.5 ft
Water Table during Earthquake= 15.0 ft
Water Table during In-Situ Testing= 25.0 ft
Max. Acceleration= 0.63 g
Earthquake Magnitude= 7.1

Input Data:

Surface Elev.=
Hole No.=B-3
Depth of Hole=51.5 ft
Water Table during Earthquake= 15.0 ft
Water Table during In-Situ Testing= 25.0 ft
Max. Acceleration=0.63 g
Earthquake Magnitude=7.1

1. SPT or BPT Calculation.
 2. Settlement Analysis Method: Ishihara / Yoshimine*
 3. Fines Correction for Liquefaction: Stark/Olson et al.*
 4. Fine Correction for Settlement: During Liquefaction*
 5. Settlement Calculation in: All zones*
 6. Hammer Energy Ratio, Ce = 1.25
 7. Borehole Diameter, Cb= 1.15
 8. Sampling Method, Cs= 1.2
 9. User request factor of safety (apply to CSR) , User= 1.3
Plot two CSR (fs1=1, fs2=User)
 10. Use Curve Smoothing: Yes*
- * Recommended Options

Fill on Top= 5 ft Fill Unit Weight= 125 pcf
Depth of this report is based on original ground surface, not based on fill
In-Situ Test Data:

Depth ft	SPT	gamma pcf	Fines %
0.0	20.0	124.0	NoLiq
6.0	28.0	124.0	NoLiq
11.0	32.0	123.0	NoLiq
16.0	15.0	110.0	3.5
21.0	26.0	110.0	3.5
26.0	35.0	110.0	3.5
31.0	46.0	110.0	3.5
36.0	26.0	110.0	3.5
41.0	42.0	110.0	74.0

16-6239-Xebec Signal Hill-B3.sum

46.0	35.0	110.0	74.0
51.0	36.0	110.0	11.0

Output Results:

Settlement of Saturated Sands=0.00 in.
Settlement of Unsaturated Sands=0.00 in.
Total Settlement of Saturated and Unsaturated Sands=0.00 in.
Differential Settlement=0.000 to 0.000 in.

Depth ft	CRRv	CSRm	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	2.00	0.41	5.00	0.00	0.00	0.00
0.05	2.00	0.41	5.00	0.00	0.00	0.00
0.10	2.00	0.41	5.00	0.00	0.00	0.00
0.15	2.00	0.41	5.00	0.00	0.00	0.00
0.20	2.00	0.41	5.00	0.00	0.00	0.00
0.25	2.00	0.41	5.00	0.00	0.00	0.00
0.30	2.00	0.41	5.00	0.00	0.00	0.00
0.35	2.00	0.41	5.00	0.00	0.00	0.00
0.40	2.00	0.41	5.00	0.00	0.00	0.00
0.45	2.00	0.41	5.00	0.00	0.00	0.00
0.50	2.00	0.41	5.00	0.00	0.00	0.00
0.55	2.00	0.41	5.00	0.00	0.00	0.00
0.60	2.00	0.41	5.00	0.00	0.00	0.00
0.65	2.00	0.41	5.00	0.00	0.00	0.00
0.70	2.00	0.41	5.00	0.00	0.00	0.00
0.75	2.00	0.41	5.00	0.00	0.00	0.00
0.80	2.00	0.41	5.00	0.00	0.00	0.00
0.85	2.00	0.41	5.00	0.00	0.00	0.00
0.90	2.00	0.41	5.00	0.00	0.00	0.00
0.95	2.00	0.41	5.00	0.00	0.00	0.00
1.00	2.00	0.41	5.00	0.00	0.00	0.00
1.05	2.00	0.41	5.00	0.00	0.00	0.00
1.10	2.00	0.41	5.00	0.00	0.00	0.00
1.15	2.00	0.41	5.00	0.00	0.00	0.00
1.20	2.00	0.41	5.00	0.00	0.00	0.00
1.25	2.00	0.41	5.00	0.00	0.00	0.00
1.30	2.00	0.41	5.00	0.00	0.00	0.00
1.35	2.00	0.41	5.00	0.00	0.00	0.00
1.40	2.00	0.41	5.00	0.00	0.00	0.00
1.45	2.00	0.41	5.00	0.00	0.00	0.00
1.50	2.00	0.41	5.00	0.00	0.00	0.00
1.55	2.00	0.41	5.00	0.00	0.00	0.00
1.60	2.00	0.41	5.00	0.00	0.00	0.00
1.65	2.00	0.41	5.00	0.00	0.00	0.00
1.70	2.00	0.41	5.00	0.00	0.00	0.00
1.75	2.00	0.41	5.00	0.00	0.00	0.00
1.80	2.00	0.41	5.00	0.00	0.00	0.00
1.85	2.00	0.41	5.00	0.00	0.00	0.00
1.90	2.00	0.41	5.00	0.00	0.00	0.00
1.95	2.00	0.41	5.00	0.00	0.00	0.00
2.00	2.00	0.41	5.00	0.00	0.00	0.00
2.05	2.00	0.41	5.00	0.00	0.00	0.00
2.10	2.00	0.41	5.00	0.00	0.00	0.00
2.15	2.00	0.41	5.00	0.00	0.00	0.00
2.20	2.00	0.41	5.00	0.00	0.00	0.00
2.25	2.00	0.41	5.00	0.00	0.00	0.00
2.30	2.00	0.41	5.00	0.00	0.00	0.00
2.35	2.00	0.41	5.00	0.00	0.00	0.00
2.40	2.00	0.41	5.00	0.00	0.00	0.00
2.45	2.00	0.41	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
2.50	2.00	0.41	5.00	0.00	0.00	0.00
2.55	2.00	0.41	5.00	0.00	0.00	0.00
2.60	2.00	0.41	5.00	0.00	0.00	0.00
2.65	2.00	0.41	5.00	0.00	0.00	0.00
2.70	2.00	0.41	5.00	0.00	0.00	0.00
2.75	2.00	0.41	5.00	0.00	0.00	0.00
2.80	2.00	0.41	5.00	0.00	0.00	0.00
2.85	2.00	0.41	5.00	0.00	0.00	0.00
2.90	2.00	0.41	5.00	0.00	0.00	0.00
2.95	2.00	0.41	5.00	0.00	0.00	0.00
3.00	2.00	0.41	5.00	0.00	0.00	0.00
3.05	2.00	0.41	5.00	0.00	0.00	0.00
3.10	2.00	0.41	5.00	0.00	0.00	0.00
3.15	2.00	0.41	5.00	0.00	0.00	0.00
3.20	2.00	0.41	5.00	0.00	0.00	0.00
3.25	2.00	0.41	5.00	0.00	0.00	0.00
3.30	2.00	0.41	5.00	0.00	0.00	0.00
3.35	2.00	0.41	5.00	0.00	0.00	0.00
3.40	2.00	0.41	5.00	0.00	0.00	0.00
3.45	2.00	0.41	5.00	0.00	0.00	0.00
3.50	2.00	0.41	5.00	0.00	0.00	0.00
3.55	2.00	0.41	5.00	0.00	0.00	0.00
3.60	2.00	0.41	5.00	0.00	0.00	0.00
3.65	2.00	0.41	5.00	0.00	0.00	0.00
3.70	2.00	0.41	5.00	0.00	0.00	0.00
3.75	2.00	0.41	5.00	0.00	0.00	0.00
3.80	2.00	0.41	5.00	0.00	0.00	0.00
3.85	2.00	0.41	5.00	0.00	0.00	0.00
3.90	2.00	0.41	5.00	0.00	0.00	0.00
3.95	2.00	0.41	5.00	0.00	0.00	0.00
4.00	2.00	0.41	5.00	0.00	0.00	0.00
4.05	2.00	0.40	5.00	0.00	0.00	0.00
4.10	2.00	0.40	5.00	0.00	0.00	0.00
4.15	2.00	0.40	5.00	0.00	0.00	0.00
4.20	2.00	0.40	5.00	0.00	0.00	0.00
4.25	2.00	0.40	5.00	0.00	0.00	0.00
4.30	2.00	0.40	5.00	0.00	0.00	0.00
4.35	2.00	0.40	5.00	0.00	0.00	0.00
4.40	2.00	0.40	5.00	0.00	0.00	0.00
4.45	2.00	0.40	5.00	0.00	0.00	0.00
4.50	2.00	0.40	5.00	0.00	0.00	0.00
4.55	2.00	0.40	5.00	0.00	0.00	0.00
4.60	2.00	0.40	5.00	0.00	0.00	0.00
4.65	2.00	0.40	5.00	0.00	0.00	0.00
4.70	2.00	0.40	5.00	0.00	0.00	0.00
4.75	2.00	0.40	5.00	0.00	0.00	0.00
4.80	2.00	0.40	5.00	0.00	0.00	0.00
4.85	2.00	0.40	5.00	0.00	0.00	0.00
4.90	2.00	0.40	5.00	0.00	0.00	0.00
4.95	2.00	0.40	5.00	0.00	0.00	0.00
5.00	2.00	0.40	5.00	0.00	0.00	0.00
5.05	2.00	0.40	5.00	0.00	0.00	0.00
5.10	2.00	0.40	5.00	0.00	0.00	0.00
5.15	2.00	0.40	5.00	0.00	0.00	0.00
5.20	2.00	0.40	5.00	0.00	0.00	0.00
5.25	2.00	0.40	5.00	0.00	0.00	0.00
5.30	2.00	0.40	5.00	0.00	0.00	0.00
5.35	2.00	0.40	5.00	0.00	0.00	0.00
5.40	2.00	0.40	5.00	0.00	0.00	0.00
5.45	2.00	0.40	5.00	0.00	0.00	0.00
5.50	2.00	0.40	5.00	0.00	0.00	0.00
5.55	2.00	0.40	5.00	0.00	0.00	0.00
5.60	2.00	0.40	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
5.65	2.00	0.40	5.00	0.00	0.00	0.00
5.70	2.00	0.40	5.00	0.00	0.00	0.00
5.75	2.00	0.40	5.00	0.00	0.00	0.00
5.80	2.00	0.40	5.00	0.00	0.00	0.00
5.85	2.00	0.40	5.00	0.00	0.00	0.00
5.90	2.00	0.40	5.00	0.00	0.00	0.00
5.95	2.00	0.40	5.00	0.00	0.00	0.00
6.00	2.00	0.40	5.00	0.00	0.00	0.00
6.05	2.00	0.40	5.00	0.00	0.00	0.00
6.10	2.00	0.40	5.00	0.00	0.00	0.00
6.15	2.00	0.40	5.00	0.00	0.00	0.00
6.20	2.00	0.40	5.00	0.00	0.00	0.00
6.25	2.00	0.40	5.00	0.00	0.00	0.00
6.30	2.00	0.40	5.00	0.00	0.00	0.00
6.35	2.00	0.40	5.00	0.00	0.00	0.00
6.40	2.00	0.40	5.00	0.00	0.00	0.00
6.45	2.00	0.40	5.00	0.00	0.00	0.00
6.50	2.00	0.40	5.00	0.00	0.00	0.00
6.55	2.00	0.40	5.00	0.00	0.00	0.00
6.60	2.00	0.40	5.00	0.00	0.00	0.00
6.65	2.00	0.40	5.00	0.00	0.00	0.00
6.70	2.00	0.40	5.00	0.00	0.00	0.00
6.75	2.00	0.40	5.00	0.00	0.00	0.00
6.80	2.00	0.40	5.00	0.00	0.00	0.00
6.85	2.00	0.40	5.00	0.00	0.00	0.00
6.90	2.00	0.40	5.00	0.00	0.00	0.00
6.95	2.00	0.40	5.00	0.00	0.00	0.00
7.00	2.00	0.40	5.00	0.00	0.00	0.00
7.05	2.00	0.40	5.00	0.00	0.00	0.00
7.10	2.00	0.40	5.00	0.00	0.00	0.00
7.15	2.00	0.40	5.00	0.00	0.00	0.00
7.20	2.00	0.40	5.00	0.00	0.00	0.00
7.25	2.00	0.40	5.00	0.00	0.00	0.00
7.30	2.00	0.40	5.00	0.00	0.00	0.00
7.35	2.00	0.40	5.00	0.00	0.00	0.00
7.40	2.00	0.40	5.00	0.00	0.00	0.00
7.45	2.00	0.40	5.00	0.00	0.00	0.00
7.50	2.00	0.40	5.00	0.00	0.00	0.00
7.55	2.00	0.40	5.00	0.00	0.00	0.00
7.60	2.00	0.40	5.00	0.00	0.00	0.00
7.65	2.00	0.40	5.00	0.00	0.00	0.00
7.70	2.00	0.40	5.00	0.00	0.00	0.00
7.75	2.00	0.40	5.00	0.00	0.00	0.00
7.80	2.00	0.40	5.00	0.00	0.00	0.00
7.85	2.00	0.40	5.00	0.00	0.00	0.00
7.90	2.00	0.40	5.00	0.00	0.00	0.00
7.95	2.00	0.40	5.00	0.00	0.00	0.00
8.00	2.00	0.40	5.00	0.00	0.00	0.00
8.05	2.00	0.40	5.00	0.00	0.00	0.00
8.10	2.00	0.40	5.00	0.00	0.00	0.00
8.15	2.00	0.40	5.00	0.00	0.00	0.00
8.20	2.00	0.40	5.00	0.00	0.00	0.00
8.25	2.00	0.40	5.00	0.00	0.00	0.00
8.30	2.00	0.40	5.00	0.00	0.00	0.00
8.35	2.00	0.40	5.00	0.00	0.00	0.00
8.40	2.00	0.40	5.00	0.00	0.00	0.00
8.45	2.00	0.40	5.00	0.00	0.00	0.00
8.50	2.00	0.40	5.00	0.00	0.00	0.00
8.55	2.00	0.40	5.00	0.00	0.00	0.00
8.60	2.00	0.40	5.00	0.00	0.00	0.00
8.65	2.00	0.40	5.00	0.00	0.00	0.00
8.70	2.00	0.40	5.00	0.00	0.00	0.00
8.75	2.00	0.40	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
8.80	2.00	0.40	5.00	0.00	0.00	0.00
8.85	2.00	0.40	5.00	0.00	0.00	0.00
8.90	2.00	0.40	5.00	0.00	0.00	0.00
8.95	2.00	0.40	5.00	0.00	0.00	0.00
9.00	2.00	0.40	5.00	0.00	0.00	0.00
9.05	2.00	0.40	5.00	0.00	0.00	0.00
9.10	2.00	0.40	5.00	0.00	0.00	0.00
9.15	2.00	0.40	5.00	0.00	0.00	0.00
9.20	2.00	0.40	5.00	0.00	0.00	0.00
9.25	2.00	0.40	5.00	0.00	0.00	0.00
9.30	2.00	0.40	5.00	0.00	0.00	0.00
9.35	2.00	0.40	5.00	0.00	0.00	0.00
9.40	2.00	0.40	5.00	0.00	0.00	0.00
9.45	2.00	0.40	5.00	0.00	0.00	0.00
9.50	2.00	0.40	5.00	0.00	0.00	0.00
9.55	2.00	0.40	5.00	0.00	0.00	0.00
9.60	2.00	0.40	5.00	0.00	0.00	0.00
9.65	2.00	0.40	5.00	0.00	0.00	0.00
9.70	2.00	0.40	5.00	0.00	0.00	0.00
9.75	2.00	0.40	5.00	0.00	0.00	0.00
9.80	2.00	0.40	5.00	0.00	0.00	0.00
9.85	2.00	0.40	5.00	0.00	0.00	0.00
9.90	2.00	0.40	5.00	0.00	0.00	0.00
9.95	2.00	0.40	5.00	0.00	0.00	0.00
10.00	2.00	0.40	5.00	0.00	0.00	0.00
10.05	2.00	0.40	5.00	0.00	0.00	0.00
10.10	2.00	0.40	5.00	0.00	0.00	0.00
10.15	2.00	0.40	5.00	0.00	0.00	0.00
10.20	2.00	0.40	5.00	0.00	0.00	0.00
10.25	2.00	0.40	5.00	0.00	0.00	0.00
10.30	2.00	0.40	5.00	0.00	0.00	0.00
10.35	2.00	0.40	5.00	0.00	0.00	0.00
10.40	2.00	0.40	5.00	0.00	0.00	0.00
10.45	2.00	0.40	5.00	0.00	0.00	0.00
10.50	2.00	0.40	5.00	0.00	0.00	0.00
10.55	2.00	0.40	5.00	0.00	0.00	0.00
10.60	2.00	0.40	5.00	0.00	0.00	0.00
10.65	2.00	0.40	5.00	0.00	0.00	0.00
10.70	2.00	0.40	5.00	0.00	0.00	0.00
10.75	2.00	0.40	5.00	0.00	0.00	0.00
10.80	2.00	0.40	5.00	0.00	0.00	0.00
10.85	2.00	0.40	5.00	0.00	0.00	0.00
10.90	2.00	0.40	5.00	0.00	0.00	0.00
10.95	2.00	0.40	5.00	0.00	0.00	0.00
11.00	2.00	0.40	5.00	0.00	0.00	0.00
11.05	2.00	0.40	5.00	0.00	0.00	0.00
11.10	2.00	0.40	5.00	0.00	0.00	0.00
11.15	2.00	0.40	5.00	0.00	0.00	0.00
11.20	2.00	0.40	5.00	0.00	0.00	0.00
11.25	2.00	0.40	5.00	0.00	0.00	0.00
11.30	2.00	0.40	5.00	0.00	0.00	0.00
11.35	2.00	0.40	5.00	0.00	0.00	0.00
11.40	2.00	0.40	5.00	0.00	0.00	0.00
11.45	2.00	0.40	5.00	0.00	0.00	0.00
11.50	2.00	0.40	5.00	0.00	0.00	0.00
11.55	2.00	0.40	5.00	0.00	0.00	0.00
11.60	2.00	0.40	5.00	0.00	0.00	0.00
11.65	2.00	0.40	5.00	0.00	0.00	0.00
11.70	2.00	0.40	5.00	0.00	0.00	0.00
11.75	2.00	0.40	5.00	0.00	0.00	0.00
11.80	2.00	0.40	5.00	0.00	0.00	0.00
11.85	2.00	0.40	5.00	0.00	0.00	0.00
11.90	2.00	0.40	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
11.95	2.00	0.40	5.00	0.00	0.00	0.00
12.00	2.00	0.40	5.00	0.00	0.00	0.00
12.05	2.00	0.40	5.00	0.00	0.00	0.00
12.10	2.00	0.40	5.00	0.00	0.00	0.00
12.15	2.00	0.40	5.00	0.00	0.00	0.00
12.20	2.00	0.40	5.00	0.00	0.00	0.00
12.25	2.00	0.40	5.00	0.00	0.00	0.00
12.30	2.00	0.40	5.00	0.00	0.00	0.00
12.35	2.00	0.40	5.00	0.00	0.00	0.00
12.40	2.00	0.40	5.00	0.00	0.00	0.00
12.45	2.00	0.40	5.00	0.00	0.00	0.00
12.50	2.00	0.40	5.00	0.00	0.00	0.00
12.55	2.00	0.40	5.00	0.00	0.00	0.00
12.60	2.00	0.40	5.00	0.00	0.00	0.00
12.65	2.00	0.40	5.00	0.00	0.00	0.00
12.70	2.00	0.40	5.00	0.00	0.00	0.00
12.75	2.00	0.40	5.00	0.00	0.00	0.00
12.80	2.00	0.40	5.00	0.00	0.00	0.00
12.85	2.00	0.40	5.00	0.00	0.00	0.00
12.90	2.00	0.40	5.00	0.00	0.00	0.00
12.95	2.00	0.40	5.00	0.00	0.00	0.00
13.00	2.00	0.40	5.00	0.00	0.00	0.00
13.05	2.00	0.40	5.00	0.00	0.00	0.00
13.10	2.00	0.40	5.00	0.00	0.00	0.00
13.15	2.00	0.40	5.00	0.00	0.00	0.00
13.20	2.00	0.40	5.00	0.00	0.00	0.00
13.25	2.00	0.40	5.00	0.00	0.00	0.00
13.30	2.00	0.40	5.00	0.00	0.00	0.00
13.35	2.00	0.40	5.00	0.00	0.00	0.00
13.40	2.00	0.40	5.00	0.00	0.00	0.00
13.45	2.00	0.40	5.00	0.00	0.00	0.00
13.50	2.00	0.40	5.00	0.00	0.00	0.00
13.55	2.00	0.40	5.00	0.00	0.00	0.00
13.60	2.00	0.40	5.00	0.00	0.00	0.00
13.65	2.00	0.40	5.00	0.00	0.00	0.00
13.70	2.00	0.40	5.00	0.00	0.00	0.00
13.75	2.00	0.40	5.00	0.00	0.00	0.00
13.80	2.00	0.40	5.00	0.00	0.00	0.00
13.85	2.00	0.40	5.00	0.00	0.00	0.00
13.90	2.00	0.40	5.00	0.00	0.00	0.00
13.95	2.00	0.40	5.00	0.00	0.00	0.00
14.00	2.00	0.40	5.00	0.00	0.00	0.00
14.05	2.00	0.40	5.00	0.00	0.00	0.00
14.10	2.00	0.40	5.00	0.00	0.00	0.00
14.15	2.00	0.40	5.00	0.00	0.00	0.00
14.20	2.00	0.40	5.00	0.00	0.00	0.00
14.25	2.00	0.40	5.00	0.00	0.00	0.00
14.30	2.00	0.40	5.00	0.00	0.00	0.00
14.35	2.00	0.40	5.00	0.00	0.00	0.00
14.40	2.00	0.40	5.00	0.00	0.00	0.00
14.45	2.00	0.40	5.00	0.00	0.00	0.00
14.50	2.00	0.40	5.00	0.00	0.00	0.00
14.55	2.00	0.39	5.00	0.00	0.00	0.00
14.60	2.00	0.39	5.00	0.00	0.00	0.00
14.65	2.00	0.39	5.00	0.00	0.00	0.00
14.70	2.00	0.39	5.00	0.00	0.00	0.00
14.75	2.00	0.39	5.00	0.00	0.00	0.00
14.80	2.00	0.39	5.00	0.00	0.00	0.00
14.85	2.00	0.39	5.00	0.00	0.00	0.00
14.90	2.00	0.39	5.00	0.00	0.00	0.00
14.95	2.00	0.39	5.00	0.00	0.00	0.00
15.00	2.00	0.39	5.00	0.00	0.00	0.00
15.05	2.00	0.40	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
15.10	2.00	0.40	5.00	0.00	0.00	0.00
15.15	2.00	0.40	5.00	0.00	0.00	0.00
15.20	2.00	0.40	5.00	0.00	0.00	0.00
15.25	2.00	0.40	5.00	0.00	0.00	0.00
15.30	2.00	0.40	5.00	0.00	0.00	0.00
15.35	2.00	0.40	5.00	0.00	0.00	0.00
15.40	2.00	0.40	5.00	0.00	0.00	0.00
15.45	2.00	0.40	5.00	0.00	0.00	0.00
15.50	2.00	0.40	5.00	0.00	0.00	0.00
15.55	2.00	0.40	5.00	0.00	0.00	0.00
15.60	2.00	0.40	5.00	0.00	0.00	0.00
15.65	2.00	0.40	5.00	0.00	0.00	0.00
15.70	2.00	0.40	5.00	0.00	0.00	0.00
15.75	2.00	0.40	5.00	0.00	0.00	0.00
15.80	2.00	0.40	5.00	0.00	0.00	0.00
15.85	2.00	0.40	5.00	0.00	0.00	0.00
15.90	2.00	0.40	5.00	0.00	0.00	0.00
15.95	2.00	0.40	5.00	0.00	0.00	0.00
16.00	2.00	0.40	5.00	0.00	0.00	0.00
16.05	2.00	0.40	5.00	0.00	0.00	0.00
16.10	2.00	0.40	5.00	0.00	0.00	0.00
16.15	2.00	0.40	5.00	0.00	0.00	0.00
16.20	2.00	0.41	5.00	0.00	0.00	0.00
16.25	2.00	0.41	5.00	0.00	0.00	0.00
16.30	2.00	0.41	5.00	0.00	0.00	0.00
16.35	2.00	0.41	5.00	0.00	0.00	0.00
16.40	2.00	0.41	5.00	0.00	0.00	0.00
16.45	2.00	0.41	5.00	0.00	0.00	0.00
16.50	2.00	0.41	5.00	0.00	0.00	0.00
16.55	2.00	0.41	5.00	0.00	0.00	0.00
16.60	2.00	0.41	5.00	0.00	0.00	0.00
16.65	2.00	0.41	5.00	0.00	0.00	0.00
16.70	2.00	0.41	5.00	0.00	0.00	0.00
16.75	2.00	0.41	5.00	0.00	0.00	0.00
16.80	2.00	0.41	5.00	0.00	0.00	0.00
16.85	2.00	0.41	5.00	0.00	0.00	0.00
16.90	2.00	0.41	5.00	0.00	0.00	0.00
16.95	2.00	0.41	5.00	0.00	0.00	0.00
17.00	2.00	0.41	5.00	0.00	0.00	0.00
17.05	2.00	0.41	5.00	0.00	0.00	0.00
17.10	2.00	0.41	5.00	0.00	0.00	0.00
17.15	2.00	0.41	5.00	0.00	0.00	0.00
17.20	2.00	0.41	5.00	0.00	0.00	0.00
17.25	2.00	0.41	5.00	0.00	0.00	0.00
17.30	2.00	0.41	5.00	0.00	0.00	0.00
17.35	2.00	0.41	5.00	0.00	0.00	0.00
17.40	2.00	0.42	5.00	0.00	0.00	0.00
17.45	2.00	0.42	5.00	0.00	0.00	0.00
17.50	2.00	0.42	5.00	0.00	0.00	0.00
17.55	2.00	0.42	5.00	0.00	0.00	0.00
17.60	2.00	0.42	5.00	0.00	0.00	0.00
17.65	2.00	0.42	5.00	0.00	0.00	0.00
17.70	2.00	0.42	5.00	0.00	0.00	0.00
17.75	2.00	0.42	5.00	0.00	0.00	0.00
17.80	2.00	0.42	5.00	0.00	0.00	0.00
17.85	2.00	0.42	5.00	0.00	0.00	0.00
17.90	2.00	0.42	5.00	0.00	0.00	0.00
17.95	2.00	0.42	5.00	0.00	0.00	0.00
18.00	2.00	0.42	5.00	0.00	0.00	0.00
18.05	2.00	0.42	5.00	0.00	0.00	0.00
18.10	2.00	0.42	5.00	0.00	0.00	0.00
18.15	2.00	0.42	5.00	0.00	0.00	0.00
18.20	2.00	0.42	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
18.25	2.00	0.42	5.00	0.00	0.00	0.00
18.30	2.00	0.42	5.00	0.00	0.00	0.00
18.35	2.00	0.42	5.00	0.00	0.00	0.00
18.40	2.00	0.42	5.00	0.00	0.00	0.00
18.45	2.00	0.42	5.00	0.00	0.00	0.00
18.50	2.00	0.42	5.00	0.00	0.00	0.00
18.55	2.00	0.42	5.00	0.00	0.00	0.00
18.60	2.00	0.42	5.00	0.00	0.00	0.00
18.65	2.00	0.42	5.00	0.00	0.00	0.00
18.70	2.00	0.43	5.00	0.00	0.00	0.00
18.75	2.00	0.43	5.00	0.00	0.00	0.00
18.80	2.00	0.43	5.00	0.00	0.00	0.00
18.85	2.00	0.43	5.00	0.00	0.00	0.00
18.90	2.00	0.43	5.00	0.00	0.00	0.00
18.95	2.00	0.43	5.00	0.00	0.00	0.00
19.00	2.00	0.43	5.00	0.00	0.00	0.00
19.05	2.00	0.43	5.00	0.00	0.00	0.00
19.10	2.00	0.43	5.00	0.00	0.00	0.00
19.15	2.00	0.43	5.00	0.00	0.00	0.00
19.20	2.00	0.43	5.00	0.00	0.00	0.00
19.25	2.00	0.43	5.00	0.00	0.00	0.00
19.30	2.00	0.43	5.00	0.00	0.00	0.00
19.35	2.00	0.43	5.00	0.00	0.00	0.00
19.40	2.00	0.43	5.00	0.00	0.00	0.00
19.45	2.00	0.43	5.00	0.00	0.00	0.00
19.50	2.00	0.43	5.00	0.00	0.00	0.00
19.55	2.00	0.43	5.00	0.00	0.00	0.00
19.60	2.00	0.43	5.00	0.00	0.00	0.00
19.65	2.00	0.43	5.00	0.00	0.00	0.00
19.70	2.00	0.43	5.00	0.00	0.00	0.00
19.75	2.00	0.43	5.00	0.00	0.00	0.00
19.80	2.00	0.43	5.00	0.00	0.00	0.00
19.85	2.00	0.43	5.00	0.00	0.00	0.00
19.90	2.00	0.43	5.00	0.00	0.00	0.00
19.95	2.00	0.43	5.00	0.00	0.00	0.00
20.00	2.00	0.43	5.00	0.00	0.00	0.00
20.05	2.00	0.44	5.00	0.00	0.00	0.00
20.10	2.00	0.44	5.00	0.00	0.00	0.00
20.15	2.00	0.44	5.00	0.00	0.00	0.00
20.20	2.00	0.44	5.00	0.00	0.00	0.00
20.25	2.00	0.44	5.00	0.00	0.00	0.00
20.30	2.00	0.44	5.00	0.00	0.00	0.00
20.35	2.00	0.44	5.00	0.00	0.00	0.00
20.40	2.00	0.44	5.00	0.00	0.00	0.00
20.45	2.00	0.44	5.00	0.00	0.00	0.00
20.50	2.00	0.44	5.00	0.00	0.00	0.00
20.55	2.00	0.44	5.00	0.00	0.00	0.00
20.60	2.00	0.44	5.00	0.00	0.00	0.00
20.65	2.00	0.44	5.00	0.00	0.00	0.00
20.70	2.00	0.44	5.00	0.00	0.00	0.00
20.75	2.00	0.44	5.00	0.00	0.00	0.00
20.80	2.00	0.44	5.00	0.00	0.00	0.00
20.85	2.00	0.44	5.00	0.00	0.00	0.00
20.90	2.00	0.44	5.00	0.00	0.00	0.00
20.95	2.00	0.44	5.00	0.00	0.00	0.00
21.00	2.00	0.44	5.00	0.00	0.00	0.00
21.05	2.00	0.44	5.00	0.00	0.00	0.00
21.10	2.00	0.44	5.00	0.00	0.00	0.00
21.15	2.00	0.44	5.00	0.00	0.00	0.00
21.20	2.00	0.44	5.00	0.00	0.00	0.00
21.25	2.00	0.44	5.00	0.00	0.00	0.00
21.30	2.00	0.44	5.00	0.00	0.00	0.00
21.35	2.00	0.44	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
21.40	2.00	0.44	5.00	0.00	0.00	0.00
21.45	2.00	0.44	5.00	0.00	0.00	0.00
21.50	2.00	0.45	5.00	0.00	0.00	0.00
21.55	2.00	0.45	5.00	0.00	0.00	0.00
21.60	2.00	0.45	5.00	0.00	0.00	0.00
21.65	2.00	0.45	5.00	0.00	0.00	0.00
21.70	2.00	0.45	5.00	0.00	0.00	0.00
21.75	2.00	0.45	5.00	0.00	0.00	0.00
21.80	2.00	0.45	5.00	0.00	0.00	0.00
21.85	2.00	0.45	5.00	0.00	0.00	0.00
21.90	2.00	0.45	5.00	0.00	0.00	0.00
21.95	2.00	0.45	5.00	0.00	0.00	0.00
22.00	2.00	0.45	5.00	0.00	0.00	0.00
22.05	2.00	0.45	5.00	0.00	0.00	0.00
22.10	2.00	0.45	5.00	0.00	0.00	0.00
22.15	2.00	0.45	5.00	0.00	0.00	0.00
22.20	2.00	0.45	5.00	0.00	0.00	0.00
22.25	2.00	0.45	5.00	0.00	0.00	0.00
22.30	2.00	0.45	5.00	0.00	0.00	0.00
22.35	2.00	0.45	5.00	0.00	0.00	0.00
22.40	2.00	0.45	5.00	0.00	0.00	0.00
22.45	2.00	0.45	5.00	0.00	0.00	0.00
22.50	2.00	0.45	5.00	0.00	0.00	0.00
22.55	2.00	0.45	5.00	0.00	0.00	0.00
22.60	2.00	0.45	5.00	0.00	0.00	0.00
22.65	2.00	0.45	5.00	0.00	0.00	0.00
22.70	2.00	0.45	5.00	0.00	0.00	0.00
22.75	2.00	0.45	5.00	0.00	0.00	0.00
22.80	2.00	0.45	5.00	0.00	0.00	0.00
22.85	2.00	0.45	5.00	0.00	0.00	0.00
22.90	2.00	0.45	5.00	0.00	0.00	0.00
22.95	2.00	0.45	5.00	0.00	0.00	0.00
23.00	2.00	0.45	5.00	0.00	0.00	0.00
23.05	2.00	0.46	5.00	0.00	0.00	0.00
23.10	2.00	0.46	5.00	0.00	0.00	0.00
23.15	2.00	0.46	5.00	0.00	0.00	0.00
23.20	2.00	0.46	5.00	0.00	0.00	0.00
23.25	2.00	0.46	5.00	0.00	0.00	0.00
23.30	2.00	0.46	5.00	0.00	0.00	0.00
23.35	2.00	0.46	5.00	0.00	0.00	0.00
23.40	2.00	0.46	5.00	0.00	0.00	0.00
23.45	2.00	0.46	5.00	0.00	0.00	0.00
23.50	2.00	0.46	5.00	0.00	0.00	0.00
23.55	2.00	0.46	5.00	0.00	0.00	0.00
23.60	2.00	0.46	5.00	0.00	0.00	0.00
23.65	2.00	0.46	5.00	0.00	0.00	0.00
23.70	2.00	0.46	5.00	0.00	0.00	0.00
23.75	2.00	0.46	5.00	0.00	0.00	0.00
23.80	2.00	0.46	5.00	0.00	0.00	0.00
23.85	2.00	0.46	5.00	0.00	0.00	0.00
23.90	2.00	0.46	5.00	0.00	0.00	0.00
23.95	2.00	0.46	4.99	0.00	0.00	0.00
24.00	2.00	0.46	4.99	0.00	0.00	0.00
24.05	2.00	0.46	4.99	0.00	0.00	0.00
24.10	2.00	0.46	4.98	0.00	0.00	0.00
24.15	2.00	0.46	4.98	0.00	0.00	0.00
24.20	2.00	0.46	4.98	0.00	0.00	0.00
24.25	2.00	0.46	4.97	0.00	0.00	0.00
24.30	2.00	0.46	4.97	0.00	0.00	0.00
24.35	2.00	0.46	4.97	0.00	0.00	0.00
24.40	2.00	0.46	4.96	0.00	0.00	0.00
24.45	2.00	0.46	4.96	0.00	0.00	0.00
24.50	2.00	0.46	4.96	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
24.55	2.00	0.46	4.95	0.00	0.00	0.00
24.60	2.00	0.46	4.95	0.00	0.00	0.00
24.65	2.00	0.46	4.95	0.00	0.00	0.00
24.70	2.00	0.47	4.95	0.00	0.00	0.00
24.75	2.00	0.47	4.94	0.00	0.00	0.00
24.80	2.00	0.47	4.94	0.00	0.00	0.00
24.85	2.00	0.47	4.94	0.00	0.00	0.00
24.90	2.00	0.47	4.93	0.00	0.00	0.00
24.95	2.00	0.47	4.93	0.00	0.00	0.00
25.00	2.00	0.47	4.93	0.00	0.00	0.00
25.05	2.00	0.47	4.92	0.00	0.00	0.00
25.10	2.00	0.47	4.92	0.00	0.00	0.00
25.15	2.00	0.47	4.92	0.00	0.00	0.00
25.20	2.00	0.47	4.92	0.00	0.00	0.00
25.25	2.00	0.47	4.91	0.00	0.00	0.00
25.30	2.00	0.47	4.91	0.00	0.00	0.00
25.35	2.00	0.47	4.91	0.00	0.00	0.00
25.40	2.00	0.47	4.90	0.00	0.00	0.00
25.45	2.00	0.47	4.90	0.00	0.00	0.00
25.50	2.00	0.47	4.90	0.00	0.00	0.00
25.55	2.00	0.47	4.89	0.00	0.00	0.00
25.60	2.00	0.47	4.89	0.00	0.00	0.00
25.65	2.00	0.47	4.89	0.00	0.00	0.00
25.70	2.00	0.47	4.89	0.00	0.00	0.00
25.75	2.00	0.47	4.88	0.00	0.00	0.00
25.80	2.00	0.47	4.88	0.00	0.00	0.00
25.85	2.00	0.47	4.88	0.00	0.00	0.00
25.90	2.00	0.47	4.87	0.00	0.00	0.00
25.95	2.00	0.47	4.87	0.00	0.00	0.00
26.00	2.00	0.47	4.87	0.00	0.00	0.00
26.05	2.00	0.47	4.87	0.00	0.00	0.00
26.10	2.00	0.47	4.86	0.00	0.00	0.00
26.15	2.00	0.47	4.86	0.00	0.00	0.00
26.20	2.00	0.47	4.86	0.00	0.00	0.00
26.25	2.00	0.47	4.86	0.00	0.00	0.00
26.30	2.00	0.47	4.85	0.00	0.00	0.00
26.35	2.00	0.47	4.85	0.00	0.00	0.00
26.40	2.00	0.47	4.85	0.00	0.00	0.00
26.45	2.00	0.47	4.84	0.00	0.00	0.00
26.50	2.00	0.48	4.84	0.00	0.00	0.00
26.55	2.00	0.48	4.84	0.00	0.00	0.00
26.60	2.00	0.48	4.84	0.00	0.00	0.00
26.65	2.00	0.48	4.83	0.00	0.00	0.00
26.70	2.00	0.48	4.83	0.00	0.00	0.00
26.75	2.00	0.48	4.83	0.00	0.00	0.00
26.80	2.00	0.48	4.83	0.00	0.00	0.00
26.85	2.00	0.48	4.82	0.00	0.00	0.00
26.90	2.00	0.48	4.82	0.00	0.00	0.00
26.95	2.00	0.48	4.82	0.00	0.00	0.00
27.00	2.00	0.48	4.81	0.00	0.00	0.00
27.05	2.00	0.48	4.81	0.00	0.00	0.00
27.10	2.00	0.48	4.81	0.00	0.00	0.00
27.15	2.00	0.48	4.81	0.00	0.00	0.00
27.20	2.00	0.48	4.80	0.00	0.00	0.00
27.25	2.00	0.48	4.80	0.00	0.00	0.00
27.30	2.00	0.48	4.80	0.00	0.00	0.00
27.35	2.00	0.48	4.80	0.00	0.00	0.00
27.40	2.00	0.48	4.79	0.00	0.00	0.00
27.45	2.00	0.48	4.79	0.00	0.00	0.00
27.50	2.00	0.48	4.79	0.00	0.00	0.00
27.55	2.00	0.48	4.79	0.00	0.00	0.00
27.60	2.00	0.48	4.78	0.00	0.00	0.00
27.65	2.00	0.48	4.78	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
27.70	2.00	0.48	4.78	0.00	0.00	0.00
27.75	2.00	0.48	4.78	0.00	0.00	0.00
27.80	2.00	0.48	4.77	0.00	0.00	0.00
27.85	2.00	0.48	4.77	0.00	0.00	0.00
27.90	2.00	0.48	4.77	0.00	0.00	0.00
27.95	2.01	0.48	4.80	0.00	0.00	0.00
28.00	2.01	0.48	4.79	0.00	0.00	0.00
28.05	2.01	0.48	4.79	0.00	0.00	0.00
28.10	2.01	0.48	4.79	0.00	0.00	0.00
28.15	2.01	0.48	4.78	0.00	0.00	0.00
28.20	2.01	0.48	4.78	0.00	0.00	0.00
28.25	2.01	0.48	4.78	0.00	0.00	0.00
28.30	2.01	0.48	4.77	0.00	0.00	0.00
28.35	2.01	0.48	4.77	0.00	0.00	0.00
28.40	2.01	0.48	4.77	0.00	0.00	0.00
28.45	2.01	0.49	4.77	0.00	0.00	0.00
28.50	2.01	0.49	4.76	0.00	0.00	0.00
28.55	2.01	0.49	4.76	0.00	0.00	0.00
28.60	2.01	0.49	4.76	0.00	0.00	0.00
28.65	2.01	0.49	4.75	0.00	0.00	0.00
28.70	2.01	0.49	4.75	0.00	0.00	0.00
28.75	2.01	0.49	4.75	0.00	0.00	0.00
28.80	2.01	0.49	4.74	0.00	0.00	0.00
28.85	2.01	0.49	4.74	0.00	0.00	0.00
28.90	2.01	0.49	4.74	0.00	0.00	0.00
28.95	2.01	0.49	4.74	0.00	0.00	0.00
29.00	2.01	0.49	4.73	0.00	0.00	0.00
29.05	2.01	0.49	4.73	0.00	0.00	0.00
29.10	2.01	0.49	4.73	0.00	0.00	0.00
29.15	2.01	0.49	4.72	0.00	0.00	0.00
29.20	2.01	0.49	4.72	0.00	0.00	0.00
29.25	2.01	0.49	4.72	0.00	0.00	0.00
29.30	2.01	0.49	4.72	0.00	0.00	0.00
29.35	2.01	0.49	4.71	0.00	0.00	0.00
29.40	2.01	0.49	4.71	0.00	0.00	0.00
29.45	2.00	0.49	4.71	0.00	0.00	0.00
29.50	2.00	0.49	4.70	0.00	0.00	0.00
29.55	2.00	0.49	4.70	0.00	0.00	0.00
29.60	2.00	0.49	4.70	0.00	0.00	0.00
29.65	2.00	0.49	4.70	0.00	0.00	0.00
29.70	2.00	0.49	4.69	0.00	0.00	0.00
29.75	2.00	0.49	4.69	0.00	0.00	0.00
29.80	2.00	0.49	4.69	0.00	0.00	0.00
29.85	2.00	0.49	4.69	0.00	0.00	0.00
29.90	2.00	0.49	4.68	0.00	0.00	0.00
29.95	2.00	0.49	4.68	0.00	0.00	0.00
30.00	2.00	0.49	4.68	0.00	0.00	0.00
30.05	2.00	0.49	4.68	0.00	0.00	0.00
30.10	2.00	0.49	4.68	0.00	0.00	0.00
30.15	2.00	0.49	4.67	0.00	0.00	0.00
30.20	2.00	0.49	4.67	0.00	0.00	0.00
30.25	2.00	0.49	4.67	0.00	0.00	0.00
30.30	2.00	0.49	4.67	0.00	0.00	0.00
30.35	2.00	0.49	4.67	0.00	0.00	0.00
30.40	2.00	0.49	4.67	0.00	0.00	0.00
30.45	2.00	0.49	4.67	0.00	0.00	0.00
30.50	2.00	0.49	4.67	0.00	0.00	0.00
30.55	2.00	0.49	4.66	0.00	0.00	0.00
30.60	2.00	0.49	4.66	0.00	0.00	0.00
30.65	2.00	0.49	4.66	0.00	0.00	0.00
30.70	2.00	0.49	4.66	0.00	0.00	0.00
30.75	2.00	0.49	4.66	0.00	0.00	0.00
30.80	2.00	0.49	4.66	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
30.85	2.00	0.49	4.66	0.00	0.00	0.00
30.90	2.00	0.49	4.66	0.00	0.00	0.00
30.95	2.00	0.49	4.65	0.00	0.00	0.00
31.00	2.00	0.49	4.65	0.00	0.00	0.00
31.05	2.00	0.49	4.65	0.00	0.00	0.00
31.10	2.00	0.49	4.65	0.00	0.00	0.00
31.15	2.00	0.49	4.65	0.00	0.00	0.00
31.20	2.00	0.49	4.65	0.00	0.00	0.00
31.25	2.00	0.49	4.65	0.00	0.00	0.00
31.30	2.00	0.49	4.65	0.00	0.00	0.00
31.35	2.00	0.49	4.65	0.00	0.00	0.00
31.40	2.00	0.49	4.64	0.00	0.00	0.00
31.45	2.00	0.49	4.64	0.00	0.00	0.00
31.50	1.99	0.49	4.64	0.00	0.00	0.00
31.55	1.99	0.49	4.64	0.00	0.00	0.00
31.60	1.99	0.49	4.64	0.00	0.00	0.00
31.65	1.99	0.49	4.64	0.00	0.00	0.00
31.70	1.99	0.49	4.64	0.00	0.00	0.00
31.75	1.99	0.49	4.64	0.00	0.00	0.00
31.80	1.99	0.49	4.64	0.00	0.00	0.00
31.85	1.99	0.49	4.64	0.00	0.00	0.00
31.90	1.99	0.49	4.63	0.00	0.00	0.00
31.95	1.99	0.49	4.63	0.00	0.00	0.00
32.00	1.99	0.49	4.63	0.00	0.00	0.00
32.05	1.99	0.49	4.63	0.00	0.00	0.00
32.10	1.99	0.49	4.63	0.00	0.00	0.00
32.15	1.99	0.49	4.63	0.00	0.00	0.00
32.20	1.99	0.49	4.63	0.00	0.00	0.00
32.25	1.99	0.49	4.63	0.00	0.00	0.00
32.30	1.99	0.50	4.63	0.00	0.00	0.00
32.35	1.99	0.50	4.63	0.00	0.00	0.00
32.40	1.99	0.50	4.62	0.00	0.00	0.00
32.45	1.99	0.50	4.62	0.00	0.00	0.00
32.50	1.99	0.50	4.62	0.00	0.00	0.00
32.55	1.99	0.50	4.62	0.00	0.00	0.00
32.60	1.99	0.50	4.62	0.00	0.00	0.00
32.65	1.99	0.50	4.62	0.00	0.00	0.00
32.70	1.99	0.50	4.62	0.00	0.00	0.00
32.75	1.99	0.50	4.62	0.00	0.00	0.00
32.80	1.99	0.50	4.62	0.00	0.00	0.00
32.85	1.99	0.50	4.62	0.00	0.00	0.00
32.90	1.99	0.50	4.61	0.00	0.00	0.00
32.95	1.99	0.50	4.61	0.00	0.00	0.00
33.00	1.99	0.50	4.61	0.00	0.00	0.00
33.05	1.99	0.50	4.61	0.00	0.00	0.00
33.10	1.99	0.50	4.61	0.00	0.00	0.00
33.15	1.99	0.50	4.61	0.00	0.00	0.00
33.20	1.99	0.50	4.61	0.00	0.00	0.00
33.25	1.99	0.50	4.61	0.00	0.00	0.00
33.30	1.99	0.50	4.61	0.00	0.00	0.00
33.35	1.99	0.50	4.61	0.00	0.00	0.00
33.40	1.99	0.50	4.61	0.00	0.00	0.00
33.45	1.99	0.50	4.61	0.00	0.00	0.00
33.50	1.99	0.50	4.60	0.00	0.00	0.00
33.55	1.98	0.50	4.60	0.00	0.00	0.00
33.60	1.98	0.50	4.60	0.00	0.00	0.00
33.65	1.98	0.50	4.60	0.00	0.00	0.00
33.70	1.98	0.50	4.60	0.00	0.00	0.00
33.75	1.98	0.50	4.60	0.00	0.00	0.00
33.80	1.98	0.50	4.60	0.00	0.00	0.00
33.85	1.98	0.50	4.60	0.00	0.00	0.00
33.90	1.98	0.50	4.60	0.00	0.00	0.00
33.95	1.98	0.50	4.60	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
34.00	1.98	0.50	4.60	0.00	0.00	0.00
34.05	1.98	0.50	4.60	0.00	0.00	0.00
34.10	1.98	0.50	4.59	0.00	0.00	0.00
34.15	1.98	0.50	4.59	0.00	0.00	0.00
34.20	1.98	0.50	4.59	0.00	0.00	0.00
34.25	1.98	0.50	4.59	0.00	0.00	0.00
34.30	1.98	0.50	4.59	0.00	0.00	0.00
34.35	1.98	0.50	4.59	0.00	0.00	0.00
34.40	1.98	0.50	4.59	0.00	0.00	0.00
34.45	1.98	0.50	4.59	0.00	0.00	0.00
34.50	1.98	0.50	4.59	0.00	0.00	0.00
34.55	1.98	0.50	4.59	0.00	0.00	0.00
34.60	1.98	0.50	4.59	0.00	0.00	0.00
34.65	1.98	0.50	4.59	0.00	0.00	0.00
34.70	1.98	0.50	4.59	0.00	0.00	0.00
34.75	1.98	0.50	4.59	0.00	0.00	0.00
34.80	1.98	0.50	4.58	0.00	0.00	0.00
34.85	1.98	0.50	4.58	0.00	0.00	0.00
34.90	1.98	0.50	4.58	0.00	0.00	0.00
34.95	1.98	0.50	4.58	0.00	0.00	0.00
35.00	1.98	0.50	4.58	0.00	0.00	0.00
35.05	1.98	0.50	4.58	0.00	0.00	0.00
35.10	1.98	0.50	4.58	0.00	0.00	0.00
35.15	1.98	0.50	4.58	0.00	0.00	0.00
35.20	1.98	0.50	4.58	0.00	0.00	0.00
35.25	1.98	0.50	4.58	0.00	0.00	0.00
35.30	1.98	0.50	4.58	0.00	0.00	0.00
35.35	1.98	0.50	4.58	0.00	0.00	0.00
35.40	1.98	0.50	4.58	0.00	0.00	0.00
35.45	1.98	0.50	4.58	0.00	0.00	0.00
35.50	1.98	0.50	4.58	0.00	0.00	0.00
35.55	1.98	0.50	4.57	0.00	0.00	0.00
35.60	1.98	0.50	4.57	0.00	0.00	0.00
35.65	1.97	0.50	4.57	0.00	0.00	0.00
35.70	1.97	0.50	4.57	0.00	0.00	0.00
35.75	1.97	0.50	4.57	0.00	0.00	0.00
35.80	1.97	0.50	4.57	0.00	0.00	0.00
35.85	1.97	0.50	4.57	0.00	0.00	0.00
35.90	1.97	0.50	4.57	0.00	0.00	0.00
35.95	1.97	0.50	4.57	0.00	0.00	0.00
36.00	1.97	0.50	4.57	0.00	0.00	0.00
36.05	1.97	0.50	4.57	0.00	0.00	0.00
36.10	1.97	0.50	4.57	0.00	0.00	0.00
36.15	1.97	0.50	4.57	0.00	0.00	0.00
36.20	1.97	0.50	4.57	0.00	0.00	0.00
36.25	1.97	0.50	4.57	0.00	0.00	0.00
36.30	1.97	0.50	4.57	0.00	0.00	0.00
36.35	1.97	0.50	4.57	0.00	0.00	0.00
36.40	1.97	0.50	4.57	0.00	0.00	0.00
36.45	1.97	0.50	4.56	0.00	0.00	0.00
36.50	1.97	0.50	4.56	0.00	0.00	0.00
36.55	1.97	0.50	4.56	0.00	0.00	0.00
36.60	1.97	0.50	4.56	0.00	0.00	0.00
36.65	1.97	0.50	4.56	0.00	0.00	0.00
36.70	1.97	0.50	4.56	0.00	0.00	0.00
36.75	1.97	0.50	4.56	0.00	0.00	0.00
36.80	1.97	0.50	4.56	0.00	0.00	0.00
36.85	1.97	0.50	4.56	0.00	0.00	0.00
36.90	1.97	0.50	4.56	0.00	0.00	0.00
36.95	1.97	0.50	4.56	0.00	0.00	0.00
37.00	1.97	0.50	4.56	0.00	0.00	0.00
37.05	1.97	0.50	4.56	0.00	0.00	0.00
37.10	1.97	0.50	4.56	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
37.15	1.97	0.50	4.56	0.00	0.00	0.00
37.20	1.97	0.50	4.56	0.00	0.00	0.00
37.25	1.97	0.50	4.56	0.00	0.00	0.00
37.30	1.97	0.50	4.56	0.00	0.00	0.00
37.35	1.97	0.50	4.56	0.00	0.00	0.00
37.40	1.97	0.50	4.56	0.00	0.00	0.00
37.45	1.97	0.50	4.56	0.00	0.00	0.00
37.50	1.97	0.50	4.55	0.00	0.00	0.00
37.55	1.97	0.50	4.55	0.00	0.00	0.00
37.60	1.97	0.50	4.55	0.00	0.00	0.00
37.65	1.97	0.50	4.55	0.00	0.00	0.00
37.70	1.97	0.50	4.55	0.00	0.00	0.00
37.75	1.97	0.50	4.55	0.00	0.00	0.00
37.80	1.96	0.50	4.55	0.00	0.00	0.00
37.85	1.96	0.50	4.55	0.00	0.00	0.00
37.90	1.96	0.50	4.55	0.00	0.00	0.00
37.95	1.96	0.50	4.55	0.00	0.00	0.00
38.00	1.96	0.50	4.55	0.00	0.00	0.00
38.05	1.96	0.50	4.55	0.00	0.00	0.00
38.10	1.96	0.50	4.55	0.00	0.00	0.00
38.15	1.96	0.50	4.55	0.00	0.00	0.00
38.20	1.96	0.50	4.55	0.00	0.00	0.00
38.25	1.96	0.50	4.55	0.00	0.00	0.00
38.30	1.96	0.50	4.55	0.00	0.00	0.00
38.35	1.96	0.50	4.55	0.00	0.00	0.00
38.40	1.96	0.50	4.55	0.00	0.00	0.00
38.45	1.96	0.50	4.55	0.00	0.00	0.00
38.50	1.96	0.50	4.55	0.00	0.00	0.00
38.55	1.96	0.50	4.55	0.00	0.00	0.00
38.60	1.96	0.50	4.55	0.00	0.00	0.00
38.65	1.96	0.50	4.55	0.00	0.00	0.00
38.70	1.96	0.50	4.55	0.00	0.00	0.00
38.75	1.96	0.50	4.55	0.00	0.00	0.00
38.80	1.96	0.50	4.55	0.00	0.00	0.00
38.85	1.96	0.50	4.55	0.00	0.00	0.00
38.90	1.96	0.50	4.55	0.00	0.00	0.00
38.95	1.96	0.50	4.54	0.00	0.00	0.00
39.00	1.96	0.50	4.54	0.00	0.00	0.00
39.05	1.96	0.50	4.54	0.00	0.00	0.00
39.10	1.96	0.50	4.54	0.00	0.00	0.00
39.15	1.96	0.50	4.54	0.00	0.00	0.00
39.20	1.96	0.50	4.54	0.00	0.00	0.00
39.25	1.96	0.50	4.54	0.00	0.00	0.00
39.30	1.96	0.50	4.54	0.00	0.00	0.00
39.35	1.96	0.50	4.54	0.00	0.00	0.00
39.40	1.96	0.50	4.54	0.00	0.00	0.00
39.45	1.96	0.50	4.54	0.00	0.00	0.00
39.50	1.96	0.50	4.54	0.00	0.00	0.00
39.55	1.96	0.50	4.54	0.00	0.00	0.00
39.60	1.96	0.50	4.54	0.00	0.00	0.00
39.65	1.96	0.50	4.54	0.00	0.00	0.00
39.70	1.96	0.50	4.54	0.00	0.00	0.00
39.75	1.96	0.50	4.54	0.00	0.00	0.00
39.80	1.96	0.50	4.54	0.00	0.00	0.00
39.85	1.96	0.50	4.54	0.00	0.00	0.00
39.90	1.95	0.50	4.54	0.00	0.00	0.00
39.95	1.95	0.50	4.54	0.00	0.00	0.00
40.00	1.95	0.50	4.54	0.00	0.00	0.00
40.05	1.95	0.50	4.54	0.00	0.00	0.00
40.10	1.95	0.50	4.54	0.00	0.00	0.00
40.15	1.95	0.50	4.54	0.00	0.00	0.00
40.20	1.95	0.50	4.54	0.00	0.00	0.00
40.25	1.95	0.50	4.54	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
40.30	1.95	0.49	4.54	0.00	0.00	0.00
40.35	1.95	0.49	4.54	0.00	0.00	0.00
40.40	1.95	0.49	4.54	0.00	0.00	0.00
40.45	1.95	0.49	4.54	0.00	0.00	0.00
40.50	1.95	0.49	4.54	0.00	0.00	0.00
40.55	1.95	0.49	4.54	0.00	0.00	0.00
40.60	1.95	0.49	4.54	0.00	0.00	0.00
40.65	1.95	0.49	4.54	0.00	0.00	0.00
40.70	1.95	0.49	4.54	0.00	0.00	0.00
40.75	1.95	0.49	4.54	0.00	0.00	0.00
40.80	1.95	0.49	4.54	0.00	0.00	0.00
40.85	1.95	0.49	4.54	0.00	0.00	0.00
40.90	1.95	0.49	4.54	0.00	0.00	0.00
40.95	1.95	0.49	4.54	0.00	0.00	0.00
41.00	1.95	0.49	4.54	0.00	0.00	0.00
41.05	1.95	0.49	4.54	0.00	0.00	0.00
41.10	1.95	0.49	4.54	0.00	0.00	0.00
41.15	1.95	0.49	4.54	0.00	0.00	0.00
41.20	1.95	0.49	4.54	0.00	0.00	0.00
41.25	1.95	0.49	4.54	0.00	0.00	0.00
41.30	1.95	0.49	4.54	0.00	0.00	0.00
41.35	1.95	0.49	4.54	0.00	0.00	0.00
41.40	1.95	0.49	4.54	0.00	0.00	0.00
41.45	1.95	0.49	4.54	0.00	0.00	0.00
41.50	1.95	0.49	4.54	0.00	0.00	0.00
41.55	1.95	0.49	4.54	0.00	0.00	0.00
41.60	1.95	0.49	4.54	0.00	0.00	0.00
41.65	1.95	0.49	4.54	0.00	0.00	0.00
41.70	1.95	0.49	4.54	0.00	0.00	0.00
41.75	1.95	0.49	4.54	0.00	0.00	0.00
41.80	1.95	0.49	4.54	0.00	0.00	0.00
41.85	1.95	0.49	4.54	0.00	0.00	0.00
41.90	1.95	0.49	4.54	0.00	0.00	0.00
41.95	1.95	0.49	4.54	0.00	0.00	0.00
42.00	1.95	0.49	4.54	0.00	0.00	0.00
42.05	1.95	0.49	4.54	0.00	0.00	0.00
42.10	1.94	0.49	4.54	0.00	0.00	0.00
42.15	1.94	0.49	4.54	0.00	0.00	0.00
42.20	1.94	0.49	4.54	0.00	0.00	0.00
42.25	1.94	0.49	4.54	0.00	0.00	0.00
42.30	1.94	0.49	4.54	0.00	0.00	0.00
42.35	1.94	0.49	4.54	0.00	0.00	0.00
42.40	1.94	0.49	4.54	0.00	0.00	0.00
42.45	1.94	0.49	4.54	0.00	0.00	0.00
42.50	1.94	0.49	4.54	0.00	0.00	0.00
42.55	1.94	0.49	4.54	0.00	0.00	0.00
42.60	1.94	0.49	4.54	0.00	0.00	0.00
42.65	1.94	0.49	4.54	0.00	0.00	0.00
42.70	1.94	0.49	4.54	0.00	0.00	0.00
42.75	1.94	0.49	4.54	0.00	0.00	0.00
42.80	1.94	0.49	4.54	0.00	0.00	0.00
42.85	1.94	0.49	4.54	0.00	0.00	0.00
42.90	1.94	0.49	4.54	0.00	0.00	0.00
42.95	1.94	0.49	4.54	0.00	0.00	0.00
43.00	1.94	0.49	4.54	0.00	0.00	0.00
43.05	1.94	0.49	4.54	0.00	0.00	0.00
43.10	1.94	0.49	4.54	0.00	0.00	0.00
43.15	1.94	0.49	4.54	0.00	0.00	0.00
43.20	1.94	0.49	4.54	0.00	0.00	0.00
43.25	1.94	0.49	4.54	0.00	0.00	0.00
43.30	1.94	0.49	4.54	0.00	0.00	0.00
43.35	1.94	0.49	4.54	0.00	0.00	0.00
43.40	1.94	0.49	4.54	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
43.45	1.94	0.49	4.54	0.00	0.00	0.00
43.50	1.94	0.49	4.54	0.00	0.00	0.00
43.55	1.94	0.49	4.54	0.00	0.00	0.00
43.60	1.94	0.49	4.54	0.00	0.00	0.00
43.65	1.94	0.49	4.54	0.00	0.00	0.00
43.70	1.94	0.49	4.54	0.00	0.00	0.00
43.75	1.94	0.49	4.54	0.00	0.00	0.00
43.80	1.94	0.49	4.54	0.00	0.00	0.00
43.85	1.94	0.49	4.54	0.00	0.00	0.00
43.90	1.94	0.49	4.54	0.00	0.00	0.00
43.95	1.94	0.49	4.54	0.00	0.00	0.00
44.00	1.94	0.49	4.54	0.00	0.00	0.00
44.05	1.94	0.49	4.54	0.00	0.00	0.00
44.10	1.94	0.49	4.54	0.00	0.00	0.00
44.15	1.94	0.49	4.54	0.00	0.00	0.00
44.20	1.94	0.49	4.54	0.00	0.00	0.00
44.25	1.94	0.49	4.54	0.00	0.00	0.00
44.30	1.93	0.49	4.54	0.00	0.00	0.00
44.35	1.93	0.49	4.54	0.00	0.00	0.00
44.40	1.93	0.49	4.54	0.00	0.00	0.00
44.45	1.93	0.49	4.54	0.00	0.00	0.00
44.50	1.93	0.49	4.54	0.00	0.00	0.00
44.55	1.93	0.49	4.54	0.00	0.00	0.00
44.60	1.93	0.49	4.54	0.00	0.00	0.00
44.65	1.93	0.49	4.54	0.00	0.00	0.00
44.70	1.93	0.49	4.54	0.00	0.00	0.00
44.75	1.93	0.49	4.54	0.00	0.00	0.00
44.80	1.93	0.49	4.54	0.00	0.00	0.00
44.85	1.93	0.49	4.54	0.00	0.00	0.00
44.90	1.93	0.49	4.54	0.00	0.00	0.00
44.95	1.93	0.49	4.54	0.00	0.00	0.00
45.00	1.93	0.49	4.54	0.00	0.00	0.00
45.05	1.93	0.49	4.54	0.00	0.00	0.00
45.10	1.93	0.49	4.54	0.00	0.00	0.00
45.15	1.93	0.49	4.54	0.00	0.00	0.00
45.20	1.93	0.49	4.54	0.00	0.00	0.00
45.25	1.93	0.49	4.54	0.00	0.00	0.00
45.30	1.93	0.49	4.54	0.00	0.00	0.00
45.35	1.93	0.49	4.54	0.00	0.00	0.00
45.40	1.93	0.49	4.54	0.00	0.00	0.00
45.45	1.93	0.49	4.54	0.00	0.00	0.00
45.50	1.93	0.49	4.54	0.00	0.00	0.00
45.55	1.93	0.49	4.54	0.00	0.00	0.00
45.60	1.93	0.49	4.54	0.00	0.00	0.00
45.65	1.93	0.49	4.54	0.00	0.00	0.00
45.70	1.93	0.49	4.54	0.00	0.00	0.00
45.75	1.93	0.49	4.54	0.00	0.00	0.00
45.80	1.93	0.49	4.54	0.00	0.00	0.00
45.85	1.93	0.49	4.54	0.00	0.00	0.00
45.90	1.93	0.49	4.54	0.00	0.00	0.00
45.95	1.93	0.49	4.54	0.00	0.00	0.00
46.00	1.93	0.49	4.55	0.00	0.00	0.00
46.05	1.93	0.49	4.55	0.00	0.00	0.00
46.10	1.93	0.49	4.55	0.00	0.00	0.00
46.15	1.93	0.49	4.55	0.00	0.00	0.00
46.20	1.93	0.49	4.55	0.00	0.00	0.00
46.25	1.93	0.49	4.55	0.00	0.00	0.00
46.30	1.93	0.49	4.55	0.00	0.00	0.00
46.35	1.93	0.49	4.55	0.00	0.00	0.00
46.40	1.93	0.49	4.55	0.00	0.00	0.00
46.45	1.93	0.49	4.55	0.00	0.00	0.00
46.50	1.92	0.49	4.55	0.00	0.00	0.00
46.55	1.92	0.49	4.55	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
46.60	1.92	0.49	4.55	0.00	0.00	0.00
46.65	1.92	0.49	4.55	0.00	0.00	0.00
46.70	1.92	0.49	4.55	0.00	0.00	0.00
46.75	1.92	0.49	4.55	0.00	0.00	0.00
46.80	1.92	0.49	4.55	0.00	0.00	0.00
46.85	1.92	0.49	4.55	0.00	0.00	0.00
46.90	1.92	0.49	4.55	0.00	0.00	0.00
46.95	1.92	0.49	4.55	0.00	0.00	0.00
47.00	1.92	0.49	4.55	0.00	0.00	0.00
47.05	1.92	0.49	4.55	0.00	0.00	0.00
47.10	1.92	0.49	4.55	0.00	0.00	0.00
47.15	1.92	0.49	4.55	0.00	0.00	0.00
47.20	1.92	0.49	4.55	0.00	0.00	0.00
47.25	1.92	0.49	4.55	0.00	0.00	0.00
47.30	1.92	0.49	4.55	0.00	0.00	0.00
47.35	1.92	0.49	4.55	0.00	0.00	0.00
47.40	1.92	0.49	4.55	0.00	0.00	0.00
47.45	1.92	0.49	4.55	0.00	0.00	0.00
47.50	1.92	0.48	4.56	0.00	0.00	0.00
47.55	1.92	0.48	4.56	0.00	0.00	0.00
47.60	1.92	0.48	4.56	0.00	0.00	0.00
47.65	1.92	0.48	4.56	0.00	0.00	0.00
47.70	1.92	0.48	4.56	0.00	0.00	0.00
47.75	1.92	0.48	4.56	0.00	0.00	0.00
47.80	1.92	0.48	4.56	0.00	0.00	0.00
47.85	1.92	0.48	4.56	0.00	0.00	0.00
47.90	1.92	0.48	4.56	0.00	0.00	0.00
47.95	1.92	0.48	4.56	0.00	0.00	0.00
48.00	1.92	0.48	4.56	0.00	0.00	0.00
48.05	1.92	0.48	4.56	0.00	0.00	0.00
48.10	1.92	0.48	4.56	0.00	0.00	0.00
48.15	1.92	0.48	4.56	0.00	0.00	0.00
48.20	1.92	0.48	4.56	0.00	0.00	0.00
48.25	1.92	0.48	4.56	0.00	0.00	0.00
48.30	1.92	0.48	4.56	0.00	0.00	0.00
48.35	1.92	0.48	4.56	0.00	0.00	0.00
48.40	1.92	0.48	4.56	0.00	0.00	0.00
48.45	1.92	0.48	4.56	0.00	0.00	0.00
48.50	1.92	0.48	4.56	0.00	0.00	0.00
48.55	1.92	0.48	4.56	0.00	0.00	0.00
48.60	1.92	0.48	4.56	0.00	0.00	0.00
48.65	1.92	0.48	4.56	0.00	0.00	0.00
48.70	1.92	0.48	4.57	0.00	0.00	0.00
48.75	1.91	0.48	4.57	0.00	0.00	0.00
48.80	1.91	0.48	4.57	0.00	0.00	0.00
48.85	1.91	0.48	4.57	0.00	0.00	0.00
48.90	1.91	0.48	4.57	0.00	0.00	0.00
48.95	1.91	0.48	4.57	0.00	0.00	0.00
49.00	1.91	0.48	4.57	0.00	0.00	0.00
49.05	1.91	0.48	4.57	0.00	0.00	0.00
49.10	1.91	0.48	4.57	0.00	0.00	0.00
49.15	1.91	0.48	4.57	0.00	0.00	0.00
49.20	1.91	0.48	4.57	0.00	0.00	0.00
49.25	1.91	0.48	4.57	0.00	0.00	0.00
49.30	1.91	0.48	4.57	0.00	0.00	0.00
49.35	1.91	0.48	4.57	0.00	0.00	0.00
49.40	1.91	0.48	4.57	0.00	0.00	0.00
49.45	1.91	0.48	4.57	0.00	0.00	0.00
49.50	1.91	0.48	4.57	0.00	0.00	0.00
49.55	1.91	0.48	4.57	0.00	0.00	0.00
49.60	1.91	0.48	4.57	0.00	0.00	0.00
49.65	1.91	0.48	4.57	0.00	0.00	0.00
49.70	1.91	0.48	4.58	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B3.sum						
49.75	1.91	0.48	4.58	0.00	0.00	0.00
49.80	1.91	0.48	4.58	0.00	0.00	0.00
49.85	1.91	0.48	4.58	0.00	0.00	0.00
49.90	1.91	0.48	4.58	0.00	0.00	0.00
49.95	1.91	0.48	4.58	0.00	0.00	0.00
50.00	1.91	0.48	4.58	0.00	0.00	0.00
50.05	1.91	0.48	4.58	0.00	0.00	0.00
50.10	1.91	0.48	4.58	0.00	0.00	0.00
50.15	1.91	0.48	4.58	0.00	0.00	0.00
50.20	1.91	0.48	4.58	0.00	0.00	0.00
50.25	1.91	0.48	4.58	0.00	0.00	0.00
50.30	1.91	0.48	4.58	0.00	0.00	0.00
50.35	1.91	0.48	4.58	0.00	0.00	0.00
50.40	1.91	0.48	4.58	0.00	0.00	0.00
50.45	1.91	0.48	4.58	0.00	0.00	0.00
50.50	1.91	0.48	4.58	0.00	0.00	0.00
50.55	1.91	0.48	4.58	0.00	0.00	0.00
50.60	1.91	0.48	4.59	0.00	0.00	0.00
50.65	1.91	0.48	4.59	0.00	0.00	0.00
50.70	1.91	0.48	4.59	0.00	0.00	0.00
50.75	1.91	0.48	4.59	0.00	0.00	0.00
50.80	1.91	0.48	4.59	0.00	0.00	0.00
50.85	1.91	0.48	4.59	0.00	0.00	0.00
50.90	1.91	0.48	4.59	0.00	0.00	0.00
50.95	1.91	0.48	4.59	0.00	0.00	0.00
51.00	1.90	0.48	4.59	0.00	0.00	0.00
51.05	1.90	0.48	4.59	0.00	0.00	0.00
51.10	1.90	0.48	4.59	0.00	0.00	0.00
51.15	1.90	0.48	4.59	0.00	0.00	0.00
51.20	1.90	0.48	4.59	0.00	0.00	0.00
51.25	1.90	0.48	4.59	0.00	0.00	0.00
51.30	1.90	0.48	4.59	0.00	0.00	0.00
51.35	1.90	0.48	4.59	0.00	0.00	0.00
51.40	1.90	0.48	4.60	0.00	0.00	0.00
51.45	1.90	0.48	4.60	0.00	0.00	0.00
51.50	1.90	0.48	4.60	0.00	0.00	0.00

* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units Depth = ft, Stress or Pressure = tsf (atm), Unit Weight =
pcf, Settlement = in.

CRRv	Cyclic resistance ratio from soils
CSRm	Cyclic stress ratio induced by a given earthquake (with user
request factor of safety)	
F.S.	Factor of Safety against liquefaction, F.S.=CRRv/CSRm
S_sat	Settlement from saturated sands
S_dry	Settlement from Unsaturated Sands
S_all	Total Settlement from Saturated and Unsaturated Sands
NoLiq	No-Liquefy Soils

LIQUEFACTION ANALYSIS

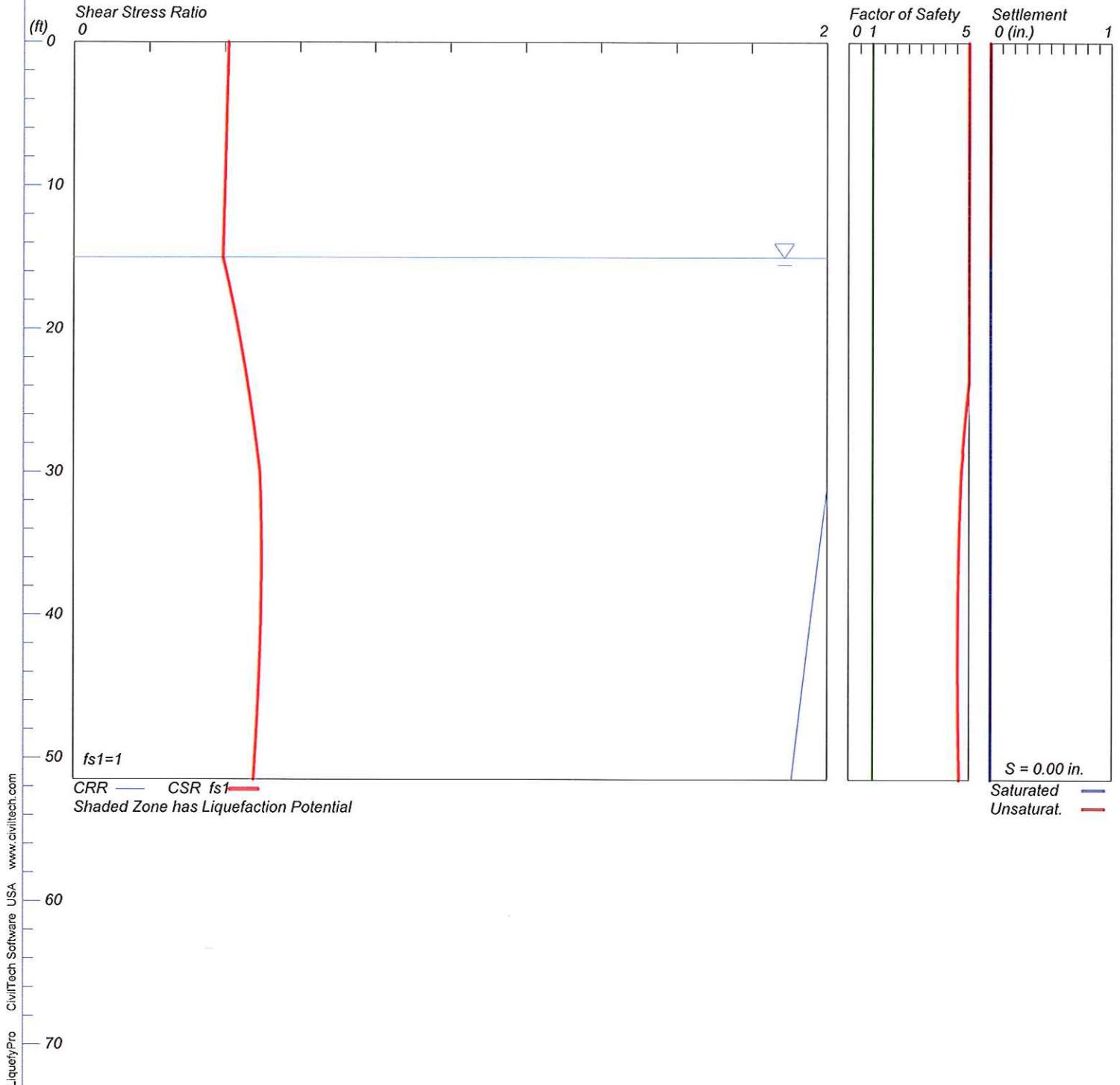
Xebec Signal Hill

Hole No.=B-4 Water Depth=15 ft

Ground Improvement of Fill=5 ft

Magnitude=7.1

Acceleration=0.629g



16-6239-Xebec Signal Hill-B4.sum

LIQUEFACTION ANALYSIS CALCULATION SHEET

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Input File Name: D:\Liquefy5\16-6239-Xebec Signal Hill-B4.liq
Title: Xebec Signal Hill
Subtitle: 16-6239

Surface Elev.=
Hole No.=B-4
Depth of Hole= 51.5 ft
Water Table during Earthquake= 15.0 ft
Water Table during In-Situ Testing= 25.0 ft
Max. Acceleration= 0.63 g
Earthquake Magnitude= 7.1

Input Data:

Surface Elev.=
Hole No.=B-4
Depth of Hole=51.5 ft
Water Table during Earthquake= 15.0 ft
Water Table during In-Situ Testing= 25.0 ft
Max. Acceleration=0.63 g
Earthquake Magnitude=7.1

1. SPT or BPT Calculation.
2. Settlement Analysis Method: Ishihara / Yoshimine*
3. Fines Correction for Liquefaction: Stark/Olson et al.*
4. Fine Correction for Settlement: During Liquefaction*
5. Settlement Calculation in: All zones*
6. Hammer Energy Ratio,
7. Borehole Diameter,
8. Sampling Method,
9. User request factor of safety (apply to CSR) , User= 1
Plot one CSR curve (fs1=1)
10. Use Curve Smoothing: Yes*
- * Recommended Options

Ce = 1.25
Cb= 1.15
Cs= 1.2

Fill on Top= 5 ft Fill Unit Weight= 125 pcf
Depth of this report is based on original ground surface, not based on fill
In-Situ Test Data:

Depth ft	SPT	gamma pcf	Fines %
0.0	12.0	106.0	NoLiq
6.0	50.0	126.0	NoLiq
11.0	41.0	125.0	NoLiq
16.0	30.0	110.0	3.8
21.0	56.0	110.0	3.8
26.0	49.0	110.0	3.8
31.0	60.0	110.0	3.8
36.0	28.0	110.0	3.8
41.0	30.0	110.0	45.0

16-6239-Xebec Signal Hill-B4.sum
 46.0 32.0 110.0 45.0
 51.0 26.0 110.0 45.0

Output Results:

Settlement of Saturated Sands=0.00 in.
 Settlement of Unsaturated Sands=0.00 in.
 Total Settlement of Saturated and Unsaturated Sands=0.00 in.
 Differential Settlement=0.000 to 0.000 in.

Depth ft	CRRv	CSRm	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	2.00	0.41	5.00	0.00	0.00	0.00
0.05	2.00	0.41	5.00	0.00	0.00	0.00
0.10	2.00	0.41	5.00	0.00	0.00	0.00
0.15	2.00	0.41	5.00	0.00	0.00	0.00
0.20	2.00	0.41	5.00	0.00	0.00	0.00
0.25	2.00	0.41	5.00	0.00	0.00	0.00
0.30	2.00	0.41	5.00	0.00	0.00	0.00
0.35	2.00	0.41	5.00	0.00	0.00	0.00
0.40	2.00	0.41	5.00	0.00	0.00	0.00
0.45	2.00	0.41	5.00	0.00	0.00	0.00
0.50	2.00	0.41	5.00	0.00	0.00	0.00
0.55	2.00	0.41	5.00	0.00	0.00	0.00
0.60	2.00	0.41	5.00	0.00	0.00	0.00
0.65	2.00	0.41	5.00	0.00	0.00	0.00
0.70	2.00	0.41	5.00	0.00	0.00	0.00
0.75	2.00	0.41	5.00	0.00	0.00	0.00
0.80	2.00	0.41	5.00	0.00	0.00	0.00
0.85	2.00	0.41	5.00	0.00	0.00	0.00
0.90	2.00	0.41	5.00	0.00	0.00	0.00
0.95	2.00	0.41	5.00	0.00	0.00	0.00
1.00	2.00	0.41	5.00	0.00	0.00	0.00
1.05	2.00	0.41	5.00	0.00	0.00	0.00
1.10	2.00	0.41	5.00	0.00	0.00	0.00
1.15	2.00	0.41	5.00	0.00	0.00	0.00
1.20	2.00	0.41	5.00	0.00	0.00	0.00
1.25	2.00	0.41	5.00	0.00	0.00	0.00
1.30	2.00	0.41	5.00	0.00	0.00	0.00
1.35	2.00	0.41	5.00	0.00	0.00	0.00
1.40	2.00	0.41	5.00	0.00	0.00	0.00
1.45	2.00	0.41	5.00	0.00	0.00	0.00
1.50	2.00	0.41	5.00	0.00	0.00	0.00
1.55	2.00	0.41	5.00	0.00	0.00	0.00
1.60	2.00	0.41	5.00	0.00	0.00	0.00
1.65	2.00	0.41	5.00	0.00	0.00	0.00
1.70	2.00	0.41	5.00	0.00	0.00	0.00
1.75	2.00	0.41	5.00	0.00	0.00	0.00
1.80	2.00	0.41	5.00	0.00	0.00	0.00
1.85	2.00	0.41	5.00	0.00	0.00	0.00
1.90	2.00	0.41	5.00	0.00	0.00	0.00
1.95	2.00	0.41	5.00	0.00	0.00	0.00
2.00	2.00	0.41	5.00	0.00	0.00	0.00
2.05	2.00	0.41	5.00	0.00	0.00	0.00
2.10	2.00	0.41	5.00	0.00	0.00	0.00
2.15	2.00	0.41	5.00	0.00	0.00	0.00
2.20	2.00	0.41	5.00	0.00	0.00	0.00
2.25	2.00	0.41	5.00	0.00	0.00	0.00
2.30	2.00	0.41	5.00	0.00	0.00	0.00
2.35	2.00	0.41	5.00	0.00	0.00	0.00
2.40	2.00	0.41	5.00	0.00	0.00	0.00
2.45	2.00	0.41	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
2.50	2.00	0.41	5.00	0.00	0.00	0.00
2.55	2.00	0.41	5.00	0.00	0.00	0.00
2.60	2.00	0.41	5.00	0.00	0.00	0.00
2.65	2.00	0.41	5.00	0.00	0.00	0.00
2.70	2.00	0.41	5.00	0.00	0.00	0.00
2.75	2.00	0.41	5.00	0.00	0.00	0.00
2.80	2.00	0.41	5.00	0.00	0.00	0.00
2.85	2.00	0.41	5.00	0.00	0.00	0.00
2.90	2.00	0.41	5.00	0.00	0.00	0.00
2.95	2.00	0.41	5.00	0.00	0.00	0.00
3.00	2.00	0.41	5.00	0.00	0.00	0.00
3.05	2.00	0.41	5.00	0.00	0.00	0.00
3.10	2.00	0.41	5.00	0.00	0.00	0.00
3.15	2.00	0.41	5.00	0.00	0.00	0.00
3.20	2.00	0.41	5.00	0.00	0.00	0.00
3.25	2.00	0.41	5.00	0.00	0.00	0.00
3.30	2.00	0.41	5.00	0.00	0.00	0.00
3.35	2.00	0.41	5.00	0.00	0.00	0.00
3.40	2.00	0.41	5.00	0.00	0.00	0.00
3.45	2.00	0.41	5.00	0.00	0.00	0.00
3.50	2.00	0.41	5.00	0.00	0.00	0.00
3.55	2.00	0.41	5.00	0.00	0.00	0.00
3.60	2.00	0.41	5.00	0.00	0.00	0.00
3.65	2.00	0.41	5.00	0.00	0.00	0.00
3.70	2.00	0.41	5.00	0.00	0.00	0.00
3.75	2.00	0.41	5.00	0.00	0.00	0.00
3.80	2.00	0.41	5.00	0.00	0.00	0.00
3.85	2.00	0.41	5.00	0.00	0.00	0.00
3.90	2.00	0.41	5.00	0.00	0.00	0.00
3.95	2.00	0.41	5.00	0.00	0.00	0.00
4.00	2.00	0.41	5.00	0.00	0.00	0.00
4.05	2.00	0.40	5.00	0.00	0.00	0.00
4.10	2.00	0.40	5.00	0.00	0.00	0.00
4.15	2.00	0.40	5.00	0.00	0.00	0.00
4.20	2.00	0.40	5.00	0.00	0.00	0.00
4.25	2.00	0.40	5.00	0.00	0.00	0.00
4.30	2.00	0.40	5.00	0.00	0.00	0.00
4.35	2.00	0.40	5.00	0.00	0.00	0.00
4.40	2.00	0.40	5.00	0.00	0.00	0.00
4.45	2.00	0.40	5.00	0.00	0.00	0.00
4.50	2.00	0.40	5.00	0.00	0.00	0.00
4.55	2.00	0.40	5.00	0.00	0.00	0.00
4.60	2.00	0.40	5.00	0.00	0.00	0.00
4.65	2.00	0.40	5.00	0.00	0.00	0.00
4.70	2.00	0.40	5.00	0.00	0.00	0.00
4.75	2.00	0.40	5.00	0.00	0.00	0.00
4.80	2.00	0.40	5.00	0.00	0.00	0.00
4.85	2.00	0.40	5.00	0.00	0.00	0.00
4.90	2.00	0.40	5.00	0.00	0.00	0.00
4.95	2.00	0.40	5.00	0.00	0.00	0.00
5.00	2.00	0.40	5.00	0.00	0.00	0.00
5.05	2.00	0.40	5.00	0.00	0.00	0.00
5.10	2.00	0.40	5.00	0.00	0.00	0.00
5.15	2.00	0.40	5.00	0.00	0.00	0.00
5.20	2.00	0.40	5.00	0.00	0.00	0.00
5.25	2.00	0.40	5.00	0.00	0.00	0.00
5.30	2.00	0.40	5.00	0.00	0.00	0.00
5.35	2.00	0.40	5.00	0.00	0.00	0.00
5.40	2.00	0.40	5.00	0.00	0.00	0.00
5.45	2.00	0.40	5.00	0.00	0.00	0.00
5.50	2.00	0.40	5.00	0.00	0.00	0.00
5.55	2.00	0.40	5.00	0.00	0.00	0.00
5.60	2.00	0.40	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
5.65	2.00	0.40	5.00	0.00	0.00	0.00
5.70	2.00	0.40	5.00	0.00	0.00	0.00
5.75	2.00	0.40	5.00	0.00	0.00	0.00
5.80	2.00	0.40	5.00	0.00	0.00	0.00
5.85	2.00	0.40	5.00	0.00	0.00	0.00
5.90	2.00	0.40	5.00	0.00	0.00	0.00
5.95	2.00	0.40	5.00	0.00	0.00	0.00
6.00	2.00	0.40	5.00	0.00	0.00	0.00
6.05	2.00	0.40	5.00	0.00	0.00	0.00
6.10	2.00	0.40	5.00	0.00	0.00	0.00
6.15	2.00	0.40	5.00	0.00	0.00	0.00
6.20	2.00	0.40	5.00	0.00	0.00	0.00
6.25	2.00	0.40	5.00	0.00	0.00	0.00
6.30	2.00	0.40	5.00	0.00	0.00	0.00
6.35	2.00	0.40	5.00	0.00	0.00	0.00
6.40	2.00	0.40	5.00	0.00	0.00	0.00
6.45	2.00	0.40	5.00	0.00	0.00	0.00
6.50	2.00	0.40	5.00	0.00	0.00	0.00
6.55	2.00	0.40	5.00	0.00	0.00	0.00
6.60	2.00	0.40	5.00	0.00	0.00	0.00
6.65	2.00	0.40	5.00	0.00	0.00	0.00
6.70	2.00	0.40	5.00	0.00	0.00	0.00
6.75	2.00	0.40	5.00	0.00	0.00	0.00
6.80	2.00	0.40	5.00	0.00	0.00	0.00
6.85	2.00	0.40	5.00	0.00	0.00	0.00
6.90	2.00	0.40	5.00	0.00	0.00	0.00
6.95	2.00	0.40	5.00	0.00	0.00	0.00
7.00	2.00	0.40	5.00	0.00	0.00	0.00
7.05	2.00	0.40	5.00	0.00	0.00	0.00
7.10	2.00	0.40	5.00	0.00	0.00	0.00
7.15	2.00	0.40	5.00	0.00	0.00	0.00
7.20	2.00	0.40	5.00	0.00	0.00	0.00
7.25	2.00	0.40	5.00	0.00	0.00	0.00
7.30	2.00	0.40	5.00	0.00	0.00	0.00
7.35	2.00	0.40	5.00	0.00	0.00	0.00
7.40	2.00	0.40	5.00	0.00	0.00	0.00
7.45	2.00	0.40	5.00	0.00	0.00	0.00
7.50	2.00	0.40	5.00	0.00	0.00	0.00
7.55	2.00	0.40	5.00	0.00	0.00	0.00
7.60	2.00	0.40	5.00	0.00	0.00	0.00
7.65	2.00	0.40	5.00	0.00	0.00	0.00
7.70	2.00	0.40	5.00	0.00	0.00	0.00
7.75	2.00	0.40	5.00	0.00	0.00	0.00
7.80	2.00	0.40	5.00	0.00	0.00	0.00
7.85	2.00	0.40	5.00	0.00	0.00	0.00
7.90	2.00	0.40	5.00	0.00	0.00	0.00
7.95	2.00	0.40	5.00	0.00	0.00	0.00
8.00	2.00	0.40	5.00	0.00	0.00	0.00
8.05	2.00	0.40	5.00	0.00	0.00	0.00
8.10	2.00	0.40	5.00	0.00	0.00	0.00
8.15	2.00	0.40	5.00	0.00	0.00	0.00
8.20	2.00	0.40	5.00	0.00	0.00	0.00
8.25	2.00	0.40	5.00	0.00	0.00	0.00
8.30	2.00	0.40	5.00	0.00	0.00	0.00
8.35	2.00	0.40	5.00	0.00	0.00	0.00
8.40	2.00	0.40	5.00	0.00	0.00	0.00
8.45	2.00	0.40	5.00	0.00	0.00	0.00
8.50	2.00	0.40	5.00	0.00	0.00	0.00
8.55	2.00	0.40	5.00	0.00	0.00	0.00
8.60	2.00	0.40	5.00	0.00	0.00	0.00
8.65	2.00	0.40	5.00	0.00	0.00	0.00
8.70	2.00	0.40	5.00	0.00	0.00	0.00
8.75	2.00	0.40	5.00	0.00	0.00	0.00

		16-6239-Xebec	Signal	Hill-B4.sum		
8.80	2.00	0.40	5.00	0.00	0.00	0.00
8.85	2.00	0.40	5.00	0.00	0.00	0.00
8.90	2.00	0.40	5.00	0.00	0.00	0.00
8.95	2.00	0.40	5.00	0.00	0.00	0.00
9.00	2.00	0.40	5.00	0.00	0.00	0.00
9.05	2.00	0.40	5.00	0.00	0.00	0.00
9.10	2.00	0.40	5.00	0.00	0.00	0.00
9.15	2.00	0.40	5.00	0.00	0.00	0.00
9.20	2.00	0.40	5.00	0.00	0.00	0.00
9.25	2.00	0.40	5.00	0.00	0.00	0.00
9.30	2.00	0.40	5.00	0.00	0.00	0.00
9.35	2.00	0.40	5.00	0.00	0.00	0.00
9.40	2.00	0.40	5.00	0.00	0.00	0.00
9.45	2.00	0.40	5.00	0.00	0.00	0.00
9.50	2.00	0.40	5.00	0.00	0.00	0.00
9.55	2.00	0.40	5.00	0.00	0.00	0.00
9.60	2.00	0.40	5.00	0.00	0.00	0.00
9.65	2.00	0.40	5.00	0.00	0.00	0.00
9.70	2.00	0.40	5.00	0.00	0.00	0.00
9.75	2.00	0.40	5.00	0.00	0.00	0.00
9.80	2.00	0.40	5.00	0.00	0.00	0.00
9.85	2.00	0.40	5.00	0.00	0.00	0.00
9.90	2.00	0.40	5.00	0.00	0.00	0.00
9.95	2.00	0.40	5.00	0.00	0.00	0.00
10.00	2.00	0.40	5.00	0.00	0.00	0.00
10.05	2.00	0.40	5.00	0.00	0.00	0.00
10.10	2.00	0.40	5.00	0.00	0.00	0.00
10.15	2.00	0.40	5.00	0.00	0.00	0.00
10.20	2.00	0.40	5.00	0.00	0.00	0.00
10.25	2.00	0.40	5.00	0.00	0.00	0.00
10.30	2.00	0.40	5.00	0.00	0.00	0.00
10.35	2.00	0.40	5.00	0.00	0.00	0.00
10.40	2.00	0.40	5.00	0.00	0.00	0.00
10.45	2.00	0.40	5.00	0.00	0.00	0.00
10.50	2.00	0.40	5.00	0.00	0.00	0.00
10.55	2.00	0.40	5.00	0.00	0.00	0.00
10.60	2.00	0.40	5.00	0.00	0.00	0.00
10.65	2.00	0.40	5.00	0.00	0.00	0.00
10.70	2.00	0.40	5.00	0.00	0.00	0.00
10.75	2.00	0.40	5.00	0.00	0.00	0.00
10.80	2.00	0.40	5.00	0.00	0.00	0.00
10.85	2.00	0.40	5.00	0.00	0.00	0.00
10.90	2.00	0.40	5.00	0.00	0.00	0.00
10.95	2.00	0.40	5.00	0.00	0.00	0.00
11.00	2.00	0.40	5.00	0.00	0.00	0.00
11.05	2.00	0.40	5.00	0.00	0.00	0.00
11.10	2.00	0.40	5.00	0.00	0.00	0.00
11.15	2.00	0.40	5.00	0.00	0.00	0.00
11.20	2.00	0.40	5.00	0.00	0.00	0.00
11.25	2.00	0.40	5.00	0.00	0.00	0.00
11.30	2.00	0.40	5.00	0.00	0.00	0.00
11.35	2.00	0.40	5.00	0.00	0.00	0.00
11.40	2.00	0.40	5.00	0.00	0.00	0.00
11.45	2.00	0.40	5.00	0.00	0.00	0.00
11.50	2.00	0.40	5.00	0.00	0.00	0.00
11.55	2.00	0.40	5.00	0.00	0.00	0.00
11.60	2.00	0.40	5.00	0.00	0.00	0.00
11.65	2.00	0.40	5.00	0.00	0.00	0.00
11.70	2.00	0.40	5.00	0.00	0.00	0.00
11.75	2.00	0.40	5.00	0.00	0.00	0.00
11.80	2.00	0.40	5.00	0.00	0.00	0.00
11.85	2.00	0.40	5.00	0.00	0.00	0.00
11.90	2.00	0.40	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
11.95	2.00	0.40	5.00	0.00	0.00	0.00
12.00	2.00	0.40	5.00	0.00	0.00	0.00
12.05	2.00	0.40	5.00	0.00	0.00	0.00
12.10	2.00	0.40	5.00	0.00	0.00	0.00
12.15	2.00	0.40	5.00	0.00	0.00	0.00
12.20	2.00	0.40	5.00	0.00	0.00	0.00
12.25	2.00	0.40	5.00	0.00	0.00	0.00
12.30	2.00	0.40	5.00	0.00	0.00	0.00
12.35	2.00	0.40	5.00	0.00	0.00	0.00
12.40	2.00	0.40	5.00	0.00	0.00	0.00
12.45	2.00	0.40	5.00	0.00	0.00	0.00
12.50	2.00	0.40	5.00	0.00	0.00	0.00
12.55	2.00	0.40	5.00	0.00	0.00	0.00
12.60	2.00	0.40	5.00	0.00	0.00	0.00
12.65	2.00	0.40	5.00	0.00	0.00	0.00
12.70	2.00	0.40	5.00	0.00	0.00	0.00
12.75	2.00	0.40	5.00	0.00	0.00	0.00
12.80	2.00	0.40	5.00	0.00	0.00	0.00
12.85	2.00	0.40	5.00	0.00	0.00	0.00
12.90	2.00	0.40	5.00	0.00	0.00	0.00
12.95	2.00	0.40	5.00	0.00	0.00	0.00
13.00	2.00	0.40	5.00	0.00	0.00	0.00
13.05	2.00	0.40	5.00	0.00	0.00	0.00
13.10	2.00	0.40	5.00	0.00	0.00	0.00
13.15	2.00	0.40	5.00	0.00	0.00	0.00
13.20	2.00	0.40	5.00	0.00	0.00	0.00
13.25	2.00	0.40	5.00	0.00	0.00	0.00
13.30	2.00	0.40	5.00	0.00	0.00	0.00
13.35	2.00	0.40	5.00	0.00	0.00	0.00
13.40	2.00	0.40	5.00	0.00	0.00	0.00
13.45	2.00	0.40	5.00	0.00	0.00	0.00
13.50	2.00	0.40	5.00	0.00	0.00	0.00
13.55	2.00	0.40	5.00	0.00	0.00	0.00
13.60	2.00	0.40	5.00	0.00	0.00	0.00
13.65	2.00	0.40	5.00	0.00	0.00	0.00
13.70	2.00	0.40	5.00	0.00	0.00	0.00
13.75	2.00	0.40	5.00	0.00	0.00	0.00
13.80	2.00	0.40	5.00	0.00	0.00	0.00
13.85	2.00	0.40	5.00	0.00	0.00	0.00
13.90	2.00	0.40	5.00	0.00	0.00	0.00
13.95	2.00	0.40	5.00	0.00	0.00	0.00
14.00	2.00	0.40	5.00	0.00	0.00	0.00
14.05	2.00	0.40	5.00	0.00	0.00	0.00
14.10	2.00	0.40	5.00	0.00	0.00	0.00
14.15	2.00	0.40	5.00	0.00	0.00	0.00
14.20	2.00	0.40	5.00	0.00	0.00	0.00
14.25	2.00	0.40	5.00	0.00	0.00	0.00
14.30	2.00	0.40	5.00	0.00	0.00	0.00
14.35	2.00	0.40	5.00	0.00	0.00	0.00
14.40	2.00	0.40	5.00	0.00	0.00	0.00
14.45	2.00	0.40	5.00	0.00	0.00	0.00
14.50	2.00	0.40	5.00	0.00	0.00	0.00
14.55	2.00	0.39	5.00	0.00	0.00	0.00
14.60	2.00	0.39	5.00	0.00	0.00	0.00
14.65	2.00	0.39	5.00	0.00	0.00	0.00
14.70	2.00	0.39	5.00	0.00	0.00	0.00
14.75	2.00	0.39	5.00	0.00	0.00	0.00
14.80	2.00	0.39	5.00	0.00	0.00	0.00
14.85	2.00	0.39	5.00	0.00	0.00	0.00
14.90	2.00	0.39	5.00	0.00	0.00	0.00
14.95	2.00	0.39	5.00	0.00	0.00	0.00
15.00	2.00	0.39	5.00	0.00	0.00	0.00
15.05	2.00	0.40	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
15.10	2.00	0.40	5.00	0.00	0.00	0.00
15.15	2.00	0.40	5.00	0.00	0.00	0.00
15.20	2.00	0.40	5.00	0.00	0.00	0.00
15.25	2.00	0.40	5.00	0.00	0.00	0.00
15.30	2.00	0.40	5.00	0.00	0.00	0.00
15.35	2.00	0.40	5.00	0.00	0.00	0.00
15.40	2.00	0.40	5.00	0.00	0.00	0.00
15.45	2.00	0.40	5.00	0.00	0.00	0.00
15.50	2.00	0.40	5.00	0.00	0.00	0.00
15.55	2.00	0.40	5.00	0.00	0.00	0.00
15.60	2.00	0.40	5.00	0.00	0.00	0.00
15.65	2.00	0.40	5.00	0.00	0.00	0.00
15.70	2.00	0.40	5.00	0.00	0.00	0.00
15.75	2.00	0.40	5.00	0.00	0.00	0.00
15.80	2.00	0.40	5.00	0.00	0.00	0.00
15.85	2.00	0.40	5.00	0.00	0.00	0.00
15.90	2.00	0.40	5.00	0.00	0.00	0.00
15.95	2.00	0.40	5.00	0.00	0.00	0.00
16.00	2.00	0.40	5.00	0.00	0.00	0.00
16.05	2.00	0.40	5.00	0.00	0.00	0.00
16.10	2.00	0.40	5.00	0.00	0.00	0.00
16.15	2.00	0.40	5.00	0.00	0.00	0.00
16.20	2.00	0.41	5.00	0.00	0.00	0.00
16.25	2.00	0.41	5.00	0.00	0.00	0.00
16.30	2.00	0.41	5.00	0.00	0.00	0.00
16.35	2.00	0.41	5.00	0.00	0.00	0.00
16.40	2.00	0.41	5.00	0.00	0.00	0.00
16.45	2.00	0.41	5.00	0.00	0.00	0.00
16.50	2.00	0.41	5.00	0.00	0.00	0.00
16.55	2.00	0.41	5.00	0.00	0.00	0.00
16.60	2.00	0.41	5.00	0.00	0.00	0.00
16.65	2.00	0.41	5.00	0.00	0.00	0.00
16.70	2.00	0.41	5.00	0.00	0.00	0.00
16.75	2.00	0.41	5.00	0.00	0.00	0.00
16.80	2.00	0.41	5.00	0.00	0.00	0.00
16.85	2.00	0.41	5.00	0.00	0.00	0.00
16.90	2.00	0.41	5.00	0.00	0.00	0.00
16.95	2.00	0.41	5.00	0.00	0.00	0.00
17.00	2.00	0.41	5.00	0.00	0.00	0.00
17.05	2.00	0.41	5.00	0.00	0.00	0.00
17.10	2.00	0.41	5.00	0.00	0.00	0.00
17.15	2.00	0.41	5.00	0.00	0.00	0.00
17.20	2.00	0.41	5.00	0.00	0.00	0.00
17.25	2.00	0.41	5.00	0.00	0.00	0.00
17.30	2.00	0.41	5.00	0.00	0.00	0.00
17.35	2.00	0.41	5.00	0.00	0.00	0.00
17.40	2.00	0.42	5.00	0.00	0.00	0.00
17.45	2.00	0.42	5.00	0.00	0.00	0.00
17.50	2.00	0.42	5.00	0.00	0.00	0.00
17.55	2.00	0.42	5.00	0.00	0.00	0.00
17.60	2.00	0.42	5.00	0.00	0.00	0.00
17.65	2.00	0.42	5.00	0.00	0.00	0.00
17.70	2.00	0.42	5.00	0.00	0.00	0.00
17.75	2.00	0.42	5.00	0.00	0.00	0.00
17.80	2.00	0.42	5.00	0.00	0.00	0.00
17.85	2.00	0.42	5.00	0.00	0.00	0.00
17.90	2.00	0.42	5.00	0.00	0.00	0.00
17.95	2.00	0.42	5.00	0.00	0.00	0.00
18.00	2.00	0.42	5.00	0.00	0.00	0.00
18.05	2.00	0.42	5.00	0.00	0.00	0.00
18.10	2.00	0.42	5.00	0.00	0.00	0.00
18.15	2.00	0.42	5.00	0.00	0.00	0.00
18.20	2.00	0.42	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
18.25	2.00	0.42	5.00	0.00	0.00	0.00
18.30	2.00	0.42	5.00	0.00	0.00	0.00
18.35	2.00	0.42	5.00	0.00	0.00	0.00
18.40	2.00	0.42	5.00	0.00	0.00	0.00
18.45	2.00	0.42	5.00	0.00	0.00	0.00
18.50	2.00	0.42	5.00	0.00	0.00	0.00
18.55	2.00	0.42	5.00	0.00	0.00	0.00
18.60	2.00	0.42	5.00	0.00	0.00	0.00
18.65	2.00	0.43	5.00	0.00	0.00	0.00
18.70	2.00	0.43	5.00	0.00	0.00	0.00
18.75	2.00	0.43	5.00	0.00	0.00	0.00
18.80	2.00	0.43	5.00	0.00	0.00	0.00
18.85	2.00	0.43	5.00	0.00	0.00	0.00
18.90	2.00	0.43	5.00	0.00	0.00	0.00
18.95	2.00	0.43	5.00	0.00	0.00	0.00
19.00	2.00	0.43	5.00	0.00	0.00	0.00
19.05	2.00	0.43	5.00	0.00	0.00	0.00
19.10	2.00	0.43	5.00	0.00	0.00	0.00
19.15	2.00	0.43	5.00	0.00	0.00	0.00
19.20	2.00	0.43	5.00	0.00	0.00	0.00
19.25	2.00	0.43	5.00	0.00	0.00	0.00
19.30	2.00	0.43	5.00	0.00	0.00	0.00
19.35	2.00	0.43	5.00	0.00	0.00	0.00
19.40	2.00	0.43	5.00	0.00	0.00	0.00
19.45	2.00	0.43	5.00	0.00	0.00	0.00
19.50	2.00	0.43	5.00	0.00	0.00	0.00
19.55	2.00	0.43	5.00	0.00	0.00	0.00
19.60	2.00	0.43	5.00	0.00	0.00	0.00
19.65	2.00	0.43	5.00	0.00	0.00	0.00
19.70	2.00	0.43	5.00	0.00	0.00	0.00
19.75	2.00	0.43	5.00	0.00	0.00	0.00
19.80	2.00	0.43	5.00	0.00	0.00	0.00
19.85	2.00	0.43	5.00	0.00	0.00	0.00
19.90	2.00	0.43	5.00	0.00	0.00	0.00
19.95	2.00	0.44	5.00	0.00	0.00	0.00
20.00	2.00	0.44	5.00	0.00	0.00	0.00
20.05	2.00	0.44	5.00	0.00	0.00	0.00
20.10	2.00	0.44	5.00	0.00	0.00	0.00
20.15	2.00	0.44	5.00	0.00	0.00	0.00
20.20	2.00	0.44	5.00	0.00	0.00	0.00
20.25	2.00	0.44	5.00	0.00	0.00	0.00
20.30	2.00	0.44	5.00	0.00	0.00	0.00
20.35	2.00	0.44	5.00	0.00	0.00	0.00
20.40	2.00	0.44	5.00	0.00	0.00	0.00
20.45	2.00	0.44	5.00	0.00	0.00	0.00
20.50	2.00	0.44	5.00	0.00	0.00	0.00
20.55	2.00	0.44	5.00	0.00	0.00	0.00
20.60	2.00	0.44	5.00	0.00	0.00	0.00
20.65	2.00	0.44	5.00	0.00	0.00	0.00
20.70	2.00	0.44	5.00	0.00	0.00	0.00
20.75	2.00	0.44	5.00	0.00	0.00	0.00
20.80	2.00	0.44	5.00	0.00	0.00	0.00
20.85	2.00	0.44	5.00	0.00	0.00	0.00
20.90	2.00	0.44	5.00	0.00	0.00	0.00
20.95	2.00	0.44	5.00	0.00	0.00	0.00
21.00	2.00	0.44	5.00	0.00	0.00	0.00
21.05	2.00	0.44	5.00	0.00	0.00	0.00
21.10	2.00	0.44	5.00	0.00	0.00	0.00
21.15	2.00	0.44	5.00	0.00	0.00	0.00
21.20	2.00	0.44	5.00	0.00	0.00	0.00
21.25	2.00	0.44	5.00	0.00	0.00	0.00
21.30	2.00	0.44	5.00	0.00	0.00	0.00
21.35	2.00	0.44	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
21.40	2.00	0.45	5.00	0.00	0.00	0.00
21.45	2.00	0.45	5.00	0.00	0.00	0.00
21.50	2.00	0.45	5.00	0.00	0.00	0.00
21.55	2.00	0.45	5.00	0.00	0.00	0.00
21.60	2.00	0.45	5.00	0.00	0.00	0.00
21.65	2.00	0.45	5.00	0.00	0.00	0.00
21.70	2.00	0.45	5.00	0.00	0.00	0.00
21.75	2.00	0.45	5.00	0.00	0.00	0.00
21.80	2.00	0.45	5.00	0.00	0.00	0.00
21.85	2.00	0.45	5.00	0.00	0.00	0.00
21.90	2.00	0.45	5.00	0.00	0.00	0.00
21.95	2.00	0.45	5.00	0.00	0.00	0.00
22.00	2.00	0.45	5.00	0.00	0.00	0.00
22.05	2.00	0.45	5.00	0.00	0.00	0.00
22.10	2.00	0.45	5.00	0.00	0.00	0.00
22.15	2.00	0.45	5.00	0.00	0.00	0.00
22.20	2.00	0.45	5.00	0.00	0.00	0.00
22.25	2.00	0.45	5.00	0.00	0.00	0.00
22.30	2.00	0.45	5.00	0.00	0.00	0.00
22.35	2.00	0.45	5.00	0.00	0.00	0.00
22.40	2.00	0.45	5.00	0.00	0.00	0.00
22.45	2.00	0.45	5.00	0.00	0.00	0.00
22.50	2.00	0.45	5.00	0.00	0.00	0.00
22.55	2.00	0.45	5.00	0.00	0.00	0.00
22.60	2.00	0.45	5.00	0.00	0.00	0.00
22.65	2.00	0.45	5.00	0.00	0.00	0.00
22.70	2.00	0.45	5.00	0.00	0.00	0.00
22.75	2.00	0.45	5.00	0.00	0.00	0.00
22.80	2.00	0.45	5.00	0.00	0.00	0.00
22.85	2.00	0.45	5.00	0.00	0.00	0.00
22.90	2.00	0.46	5.00	0.00	0.00	0.00
22.95	2.00	0.46	5.00	0.00	0.00	0.00
23.00	2.00	0.46	5.00	0.00	0.00	0.00
23.05	2.00	0.46	5.00	0.00	0.00	0.00
23.10	2.00	0.46	5.00	0.00	0.00	0.00
23.15	2.00	0.46	5.00	0.00	0.00	0.00
23.20	2.00	0.46	5.00	0.00	0.00	0.00
23.25	2.00	0.46	5.00	0.00	0.00	0.00
23.30	2.00	0.46	5.00	0.00	0.00	0.00
23.35	2.00	0.46	5.00	0.00	0.00	0.00
23.40	2.00	0.46	5.00	0.00	0.00	0.00
23.45	2.00	0.46	5.00	0.00	0.00	0.00
23.50	2.00	0.46	5.00	0.00	0.00	0.00
23.55	2.00	0.46	5.00	0.00	0.00	0.00
23.60	2.00	0.46	5.00	0.00	0.00	0.00
23.65	2.00	0.46	5.00	0.00	0.00	0.00
23.70	2.00	0.46	5.00	0.00	0.00	0.00
23.75	2.00	0.46	5.00	0.00	0.00	0.00
23.80	2.00	0.46	4.99	0.00	0.00	0.00
23.85	2.00	0.46	4.99	0.00	0.00	0.00
23.90	2.00	0.46	4.99	0.00	0.00	0.00
23.95	2.00	0.46	4.98	0.00	0.00	0.00
24.00	2.00	0.46	4.98	0.00	0.00	0.00
24.05	2.00	0.46	4.98	0.00	0.00	0.00
24.10	2.00	0.46	4.97	0.00	0.00	0.00
24.15	2.00	0.46	4.97	0.00	0.00	0.00
24.20	2.00	0.46	4.97	0.00	0.00	0.00
24.25	2.00	0.46	4.96	0.00	0.00	0.00
24.30	2.00	0.46	4.96	0.00	0.00	0.00
24.35	2.00	0.46	4.96	0.00	0.00	0.00
24.40	2.00	0.46	4.95	0.00	0.00	0.00
24.45	2.00	0.46	4.95	0.00	0.00	0.00
24.50	2.00	0.46	4.95	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
24.55	2.00	0.47	4.95	0.00	0.00	0.00
24.60	2.00	0.47	4.94	0.00	0.00	0.00
24.65	2.00	0.47	4.94	0.00	0.00	0.00
24.70	2.00	0.47	4.94	0.00	0.00	0.00
24.75	2.00	0.47	4.93	0.00	0.00	0.00
24.80	2.00	0.47	4.93	0.00	0.00	0.00
24.85	2.00	0.47	4.93	0.00	0.00	0.00
24.90	2.00	0.47	4.92	0.00	0.00	0.00
24.95	2.00	0.47	4.92	0.00	0.00	0.00
25.00	2.00	0.47	4.92	0.00	0.00	0.00
25.05	2.00	0.47	4.91	0.00	0.00	0.00
25.10	2.00	0.47	4.91	0.00	0.00	0.00
25.15	2.00	0.47	4.91	0.00	0.00	0.00
25.20	2.00	0.47	4.91	0.00	0.00	0.00
25.25	2.00	0.47	4.90	0.00	0.00	0.00
25.30	2.00	0.47	4.90	0.00	0.00	0.00
25.35	2.00	0.47	4.90	0.00	0.00	0.00
25.40	2.00	0.47	4.89	0.00	0.00	0.00
25.45	2.00	0.47	4.89	0.00	0.00	0.00
25.50	2.00	0.47	4.89	0.00	0.00	0.00
25.55	2.00	0.47	4.88	0.00	0.00	0.00
25.60	2.00	0.47	4.88	0.00	0.00	0.00
25.65	2.00	0.47	4.88	0.00	0.00	0.00
25.70	2.00	0.47	4.88	0.00	0.00	0.00
25.75	2.00	0.47	4.87	0.00	0.00	0.00
25.80	2.00	0.47	4.87	0.00	0.00	0.00
25.85	2.00	0.47	4.87	0.00	0.00	0.00
25.90	2.00	0.47	4.86	0.00	0.00	0.00
25.95	2.00	0.47	4.86	0.00	0.00	0.00
26.00	2.00	0.47	4.86	0.00	0.00	0.00
26.05	2.00	0.47	4.86	0.00	0.00	0.00
26.10	2.00	0.47	4.85	0.00	0.00	0.00
26.15	2.00	0.47	4.85	0.00	0.00	0.00
26.20	2.00	0.47	4.85	0.00	0.00	0.00
26.25	2.00	0.47	4.84	0.00	0.00	0.00
26.30	2.00	0.48	4.84	0.00	0.00	0.00
26.35	2.00	0.48	4.84	0.00	0.00	0.00
26.40	2.00	0.48	4.84	0.00	0.00	0.00
26.45	2.00	0.48	4.83	0.00	0.00	0.00
26.50	2.00	0.48	4.83	0.00	0.00	0.00
26.55	2.00	0.48	4.83	0.00	0.00	0.00
26.60	2.00	0.48	4.83	0.00	0.00	0.00
26.65	2.00	0.48	4.82	0.00	0.00	0.00
26.70	2.00	0.48	4.82	0.00	0.00	0.00
26.75	2.00	0.48	4.82	0.00	0.00	0.00
26.80	2.00	0.48	4.81	0.00	0.00	0.00
26.85	2.00	0.48	4.81	0.00	0.00	0.00
26.90	2.00	0.48	4.81	0.00	0.00	0.00
26.95	2.00	0.48	4.81	0.00	0.00	0.00
27.00	2.00	0.48	4.80	0.00	0.00	0.00
27.05	2.00	0.48	4.80	0.00	0.00	0.00
27.10	2.00	0.48	4.80	0.00	0.00	0.00
27.15	2.00	0.48	4.80	0.00	0.00	0.00
27.20	2.00	0.48	4.79	0.00	0.00	0.00
27.25	2.00	0.48	4.79	0.00	0.00	0.00
27.30	2.00	0.48	4.79	0.00	0.00	0.00
27.35	2.00	0.48	4.79	0.00	0.00	0.00
27.40	2.00	0.48	4.78	0.00	0.00	0.00
27.45	2.00	0.48	4.78	0.00	0.00	0.00
27.50	2.00	0.48	4.78	0.00	0.00	0.00
27.55	2.00	0.48	4.78	0.00	0.00	0.00
27.60	2.00	0.48	4.77	0.00	0.00	0.00
27.65	2.00	0.48	4.77	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
27.70	2.00	0.48	4.77	0.00	0.00	0.00
27.75	2.00	0.48	4.77	0.00	0.00	0.00
27.80	2.00	0.48	4.76	0.00	0.00	0.00
27.85	2.00	0.48	4.76	0.00	0.00	0.00
27.90	2.00	0.48	4.76	0.00	0.00	0.00
27.95	2.00	0.48	4.76	0.00	0.00	0.00
28.00	2.00	0.48	4.75	0.00	0.00	0.00
28.05	2.00	0.48	4.75	0.00	0.00	0.00
28.10	2.00	0.48	4.75	0.00	0.00	0.00
28.15	2.00	0.48	4.75	0.00	0.00	0.00
28.20	2.00	0.48	4.74	0.00	0.00	0.00
28.25	2.00	0.49	4.74	0.00	0.00	0.00
28.30	2.00	0.49	4.74	0.00	0.00	0.00
28.35	2.00	0.49	4.74	0.00	0.00	0.00
28.40	2.00	0.49	4.73	0.00	0.00	0.00
28.45	2.00	0.49	4.73	0.00	0.00	0.00
28.50	2.00	0.49	4.73	0.00	0.00	0.00
28.55	2.00	0.49	4.73	0.00	0.00	0.00
28.60	2.00	0.49	4.72	0.00	0.00	0.00
28.65	2.01	0.49	4.75	0.00	0.00	0.00
28.70	2.01	0.49	4.75	0.00	0.00	0.00
28.75	2.01	0.49	4.74	0.00	0.00	0.00
28.80	2.01	0.49	4.74	0.00	0.00	0.00
28.85	2.01	0.49	4.74	0.00	0.00	0.00
28.90	2.01	0.49	4.74	0.00	0.00	0.00
28.95	2.01	0.49	4.73	0.00	0.00	0.00
29.00	2.01	0.49	4.73	0.00	0.00	0.00
29.05	2.01	0.49	4.73	0.00	0.00	0.00
29.10	2.01	0.49	4.72	0.00	0.00	0.00
29.15	2.01	0.49	4.72	0.00	0.00	0.00
29.20	2.01	0.49	4.72	0.00	0.00	0.00
29.25	2.01	0.49	4.72	0.00	0.00	0.00
29.30	2.01	0.49	4.71	0.00	0.00	0.00
29.35	2.01	0.49	4.71	0.00	0.00	0.00
29.40	2.01	0.49	4.71	0.00	0.00	0.00
29.45	2.01	0.49	4.70	0.00	0.00	0.00
29.50	2.01	0.49	4.70	0.00	0.00	0.00
29.55	2.01	0.49	4.70	0.00	0.00	0.00
29.60	2.01	0.49	4.70	0.00	0.00	0.00
29.65	2.01	0.49	4.69	0.00	0.00	0.00
29.70	2.01	0.49	4.69	0.00	0.00	0.00
29.75	2.01	0.49	4.69	0.00	0.00	0.00
29.80	2.01	0.49	4.68	0.00	0.00	0.00
29.85	2.01	0.49	4.68	0.00	0.00	0.00
29.90	2.01	0.49	4.68	0.00	0.00	0.00
29.95	2.01	0.49	4.68	0.00	0.00	0.00
30.00	2.01	0.49	4.67	0.00	0.00	0.00
30.05	2.01	0.49	4.67	0.00	0.00	0.00
30.10	2.01	0.49	4.67	0.00	0.00	0.00
30.15	2.00	0.49	4.67	0.00	0.00	0.00
30.20	2.00	0.49	4.67	0.00	0.00	0.00
30.25	2.00	0.49	4.67	0.00	0.00	0.00
30.30	2.00	0.49	4.67	0.00	0.00	0.00
30.35	2.00	0.49	4.67	0.00	0.00	0.00
30.40	2.00	0.49	4.66	0.00	0.00	0.00
30.45	2.00	0.49	4.66	0.00	0.00	0.00
30.50	2.00	0.49	4.66	0.00	0.00	0.00
30.55	2.00	0.49	4.66	0.00	0.00	0.00
30.60	2.00	0.49	4.66	0.00	0.00	0.00
30.65	2.00	0.49	4.66	0.00	0.00	0.00
30.70	2.00	0.49	4.66	0.00	0.00	0.00
30.75	2.00	0.49	4.66	0.00	0.00	0.00
30.80	2.00	0.49	4.65	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
30.85	2.00	0.49	4.65	0.00	0.00	0.00
30.90	2.00	0.49	4.65	0.00	0.00	0.00
30.95	2.00	0.49	4.65	0.00	0.00	0.00
31.00	2.00	0.49	4.65	0.00	0.00	0.00
31.05	2.00	0.49	4.65	0.00	0.00	0.00
31.10	2.00	0.50	4.65	0.00	0.00	0.00
31.15	2.00	0.50	4.65	0.00	0.00	0.00
31.20	2.00	0.50	4.65	0.00	0.00	0.00
31.25	2.00	0.50	4.64	0.00	0.00	0.00
31.30	2.00	0.50	4.64	0.00	0.00	0.00
31.35	2.00	0.50	4.64	0.00	0.00	0.00
31.40	2.00	0.50	4.64	0.00	0.00	0.00
31.45	2.00	0.50	4.64	0.00	0.00	0.00
31.50	2.00	0.50	4.64	0.00	0.00	0.00
31.55	2.00	0.50	4.64	0.00	0.00	0.00
31.60	2.00	0.50	4.64	0.00	0.00	0.00
31.65	2.00	0.50	4.64	0.00	0.00	0.00
31.70	2.00	0.50	4.63	0.00	0.00	0.00
31.75	2.00	0.50	4.63	0.00	0.00	0.00
31.80	2.00	0.50	4.63	0.00	0.00	0.00
31.85	2.00	0.50	4.63	0.00	0.00	0.00
31.90	2.00	0.50	4.63	0.00	0.00	0.00
31.95	2.00	0.50	4.63	0.00	0.00	0.00
32.00	2.00	0.50	4.63	0.00	0.00	0.00
32.05	2.00	0.50	4.63	0.00	0.00	0.00
32.10	2.00	0.50	4.63	0.00	0.00	0.00
32.15	2.00	0.50	4.63	0.00	0.00	0.00
32.20	1.99	0.50	4.62	0.00	0.00	0.00
32.25	1.99	0.50	4.62	0.00	0.00	0.00
32.30	1.99	0.50	4.62	0.00	0.00	0.00
32.35	1.99	0.50	4.62	0.00	0.00	0.00
32.40	1.99	0.50	4.62	0.00	0.00	0.00
32.45	1.99	0.50	4.62	0.00	0.00	0.00
32.50	1.99	0.50	4.62	0.00	0.00	0.00
32.55	1.99	0.50	4.62	0.00	0.00	0.00
32.60	1.99	0.50	4.62	0.00	0.00	0.00
32.65	1.99	0.50	4.62	0.00	0.00	0.00
32.70	1.99	0.50	4.61	0.00	0.00	0.00
32.75	1.99	0.50	4.61	0.00	0.00	0.00
32.80	1.99	0.50	4.61	0.00	0.00	0.00
32.85	1.99	0.50	4.61	0.00	0.00	0.00
32.90	1.99	0.50	4.61	0.00	0.00	0.00
32.95	1.99	0.50	4.61	0.00	0.00	0.00
33.00	1.99	0.50	4.61	0.00	0.00	0.00
33.05	1.99	0.50	4.61	0.00	0.00	0.00
33.10	1.99	0.50	4.61	0.00	0.00	0.00
33.15	1.99	0.50	4.61	0.00	0.00	0.00
33.20	1.99	0.50	4.61	0.00	0.00	0.00
33.25	1.99	0.50	4.60	0.00	0.00	0.00
33.30	1.99	0.50	4.60	0.00	0.00	0.00
33.35	1.99	0.50	4.60	0.00	0.00	0.00
33.40	1.99	0.50	4.60	0.00	0.00	0.00
33.45	1.99	0.50	4.60	0.00	0.00	0.00
33.50	1.99	0.50	4.60	0.00	0.00	0.00
33.55	1.99	0.50	4.60	0.00	0.00	0.00
33.60	1.99	0.50	4.60	0.00	0.00	0.00
33.65	1.99	0.50	4.60	0.00	0.00	0.00
33.70	1.99	0.50	4.60	0.00	0.00	0.00
33.75	1.99	0.50	4.60	0.00	0.00	0.00
33.80	1.99	0.50	4.60	0.00	0.00	0.00
33.85	1.99	0.50	4.59	0.00	0.00	0.00
33.90	1.99	0.50	4.59	0.00	0.00	0.00
33.95	1.99	0.50	4.59	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
34.00	1.99	0.50	4.59	0.00	0.00	0.00
34.05	1.99	0.50	4.59	0.00	0.00	0.00
34.10	1.99	0.50	4.59	0.00	0.00	0.00
34.15	1.99	0.50	4.59	0.00	0.00	0.00
34.20	1.99	0.50	4.59	0.00	0.00	0.00
34.25	1.99	0.50	4.59	0.00	0.00	0.00
34.30	1.98	0.50	4.59	0.00	0.00	0.00
34.35	1.98	0.50	4.59	0.00	0.00	0.00
34.40	1.98	0.50	4.59	0.00	0.00	0.00
34.45	1.98	0.50	4.59	0.00	0.00	0.00
34.50	1.98	0.50	4.58	0.00	0.00	0.00
34.55	1.98	0.50	4.58	0.00	0.00	0.00
34.60	1.98	0.50	4.58	0.00	0.00	0.00
34.65	1.98	0.50	4.58	0.00	0.00	0.00
34.70	1.98	0.50	4.58	0.00	0.00	0.00
34.75	1.98	0.50	4.58	0.00	0.00	0.00
34.80	1.98	0.50	4.58	0.00	0.00	0.00
34.85	1.98	0.50	4.58	0.00	0.00	0.00
34.90	1.98	0.50	4.58	0.00	0.00	0.00
34.95	1.98	0.50	4.58	0.00	0.00	0.00
35.00	1.98	0.50	4.58	0.00	0.00	0.00
35.05	1.98	0.50	4.58	0.00	0.00	0.00
35.10	1.98	0.50	4.58	0.00	0.00	0.00
35.15	1.98	0.50	4.58	0.00	0.00	0.00
35.20	1.98	0.50	4.57	0.00	0.00	0.00
35.25	1.98	0.50	4.57	0.00	0.00	0.00
35.30	1.98	0.50	4.57	0.00	0.00	0.00
35.35	1.98	0.50	4.57	0.00	0.00	0.00
35.40	1.98	0.50	4.57	0.00	0.00	0.00
35.45	1.98	0.50	4.57	0.00	0.00	0.00
35.50	1.98	0.50	4.57	0.00	0.00	0.00
35.55	1.98	0.50	4.57	0.00	0.00	0.00
35.60	1.98	0.50	4.57	0.00	0.00	0.00
35.65	1.98	0.50	4.57	0.00	0.00	0.00
35.70	1.98	0.50	4.57	0.00	0.00	0.00
35.75	1.98	0.50	4.57	0.00	0.00	0.00
35.80	1.98	0.50	4.57	0.00	0.00	0.00
35.85	1.98	0.50	4.57	0.00	0.00	0.00
35.90	1.98	0.50	4.57	0.00	0.00	0.00
35.95	1.98	0.50	4.57	0.00	0.00	0.00
36.00	1.98	0.50	4.57	0.00	0.00	0.00
36.05	1.98	0.50	4.56	0.00	0.00	0.00
36.10	1.98	0.50	4.56	0.00	0.00	0.00
36.15	1.98	0.50	4.56	0.00	0.00	0.00
36.20	1.98	0.50	4.56	0.00	0.00	0.00
36.25	1.98	0.50	4.56	0.00	0.00	0.00
36.30	1.98	0.50	4.56	0.00	0.00	0.00
36.35	1.97	0.50	4.56	0.00	0.00	0.00
36.40	1.97	0.50	4.56	0.00	0.00	0.00
36.45	1.97	0.50	4.56	0.00	0.00	0.00
36.50	1.97	0.50	4.56	0.00	0.00	0.00
36.55	1.97	0.50	4.56	0.00	0.00	0.00
36.60	1.97	0.50	4.56	0.00	0.00	0.00
36.65	1.97	0.50	4.56	0.00	0.00	0.00
36.70	1.97	0.50	4.56	0.00	0.00	0.00
36.75	1.97	0.50	4.56	0.00	0.00	0.00
36.80	1.97	0.50	4.56	0.00	0.00	0.00
36.85	1.97	0.50	4.56	0.00	0.00	0.00
36.90	1.97	0.50	4.56	0.00	0.00	0.00
36.95	1.97	0.50	4.56	0.00	0.00	0.00
37.00	1.97	0.50	4.55	0.00	0.00	0.00
37.05	1.97	0.50	4.55	0.00	0.00	0.00
37.10	1.97	0.50	4.55	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
37.15	1.97	0.50	4.55	0.00	0.00	0.00
37.20	1.97	0.50	4.55	0.00	0.00	0.00
37.25	1.97	0.50	4.55	0.00	0.00	0.00
37.30	1.97	0.50	4.55	0.00	0.00	0.00
37.35	1.97	0.50	4.55	0.00	0.00	0.00
37.40	1.97	0.50	4.55	0.00	0.00	0.00
37.45	1.97	0.50	4.55	0.00	0.00	0.00
37.50	1.97	0.50	4.55	0.00	0.00	0.00
37.55	1.97	0.50	4.55	0.00	0.00	0.00
37.60	1.97	0.50	4.55	0.00	0.00	0.00
37.65	1.97	0.50	4.55	0.00	0.00	0.00
37.70	1.97	0.50	4.55	0.00	0.00	0.00
37.75	1.97	0.50	4.55	0.00	0.00	0.00
37.80	1.97	0.50	4.55	0.00	0.00	0.00
37.85	1.97	0.50	4.55	0.00	0.00	0.00
37.90	1.97	0.50	4.55	0.00	0.00	0.00
37.95	1.97	0.50	4.55	0.00	0.00	0.00
38.00	1.97	0.50	4.55	0.00	0.00	0.00
38.05	1.97	0.50	4.55	0.00	0.00	0.00
38.10	1.97	0.50	4.55	0.00	0.00	0.00
38.15	1.97	0.50	4.55	0.00	0.00	0.00
38.20	1.97	0.50	4.54	0.00	0.00	0.00
38.25	1.97	0.50	4.54	0.00	0.00	0.00
38.30	1.97	0.50	4.54	0.00	0.00	0.00
38.35	1.97	0.50	4.54	0.00	0.00	0.00
38.40	1.97	0.50	4.54	0.00	0.00	0.00
38.45	1.97	0.50	4.54	0.00	0.00	0.00
38.50	1.96	0.50	4.54	0.00	0.00	0.00
38.55	1.96	0.50	4.54	0.00	0.00	0.00
38.60	1.96	0.50	4.54	0.00	0.00	0.00
38.65	1.96	0.50	4.54	0.00	0.00	0.00
38.70	1.96	0.50	4.54	0.00	0.00	0.00
38.75	1.96	0.50	4.54	0.00	0.00	0.00
38.80	1.96	0.50	4.54	0.00	0.00	0.00
38.85	1.96	0.50	4.54	0.00	0.00	0.00
38.90	1.96	0.50	4.54	0.00	0.00	0.00
38.95	1.96	0.50	4.54	0.00	0.00	0.00
39.00	1.96	0.50	4.54	0.00	0.00	0.00
39.05	1.96	0.50	4.54	0.00	0.00	0.00
39.10	1.96	0.50	4.54	0.00	0.00	0.00
39.15	1.96	0.50	4.54	0.00	0.00	0.00
39.20	1.96	0.50	4.54	0.00	0.00	0.00
39.25	1.96	0.50	4.54	0.00	0.00	0.00
39.30	1.96	0.50	4.54	0.00	0.00	0.00
39.35	1.96	0.50	4.54	0.00	0.00	0.00
39.40	1.96	0.50	4.54	0.00	0.00	0.00
39.45	1.96	0.50	4.54	0.00	0.00	0.00
39.50	1.96	0.50	4.54	0.00	0.00	0.00
39.55	1.96	0.50	4.54	0.00	0.00	0.00
39.60	1.96	0.50	4.54	0.00	0.00	0.00
39.65	1.96	0.50	4.54	0.00	0.00	0.00
39.70	1.96	0.50	4.54	0.00	0.00	0.00
39.75	1.96	0.50	4.54	0.00	0.00	0.00
39.80	1.96	0.50	4.54	0.00	0.00	0.00
39.85	1.96	0.50	4.54	0.00	0.00	0.00
39.90	1.96	0.50	4.54	0.00	0.00	0.00
39.95	1.96	0.50	4.53	0.00	0.00	0.00
40.00	1.96	0.50	4.53	0.00	0.00	0.00
40.05	1.96	0.50	4.53	0.00	0.00	0.00
40.10	1.96	0.50	4.53	0.00	0.00	0.00
40.15	1.96	0.50	4.53	0.00	0.00	0.00
40.20	1.96	0.50	4.53	0.00	0.00	0.00
40.25	1.96	0.50	4.53	0.00	0.00	0.00

		16-6239-Xebec	Signal	Hill-B4.sum		
40.30	1.96	0.50	4.53	0.00	0.00	0.00
40.35	1.96	0.50	4.53	0.00	0.00	0.00
40.40	1.96	0.50	4.53	0.00	0.00	0.00
40.45	1.96	0.50	4.53	0.00	0.00	0.00
40.50	1.96	0.50	4.53	0.00	0.00	0.00
40.55	1.96	0.50	4.53	0.00	0.00	0.00
40.60	1.95	0.50	4.53	0.00	0.00	0.00
40.65	1.95	0.50	4.53	0.00	0.00	0.00
40.70	1.95	0.50	4.53	0.00	0.00	0.00
40.75	1.95	0.50	4.53	0.00	0.00	0.00
40.80	1.95	0.50	4.53	0.00	0.00	0.00
40.85	1.95	0.50	4.53	0.00	0.00	0.00
40.90	1.95	0.50	4.53	0.00	0.00	0.00
40.95	1.95	0.50	4.53	0.00	0.00	0.00
41.00	1.95	0.50	4.53	0.00	0.00	0.00
41.05	1.95	0.50	4.53	0.00	0.00	0.00
41.10	1.95	0.50	4.53	0.00	0.00	0.00
41.15	1.95	0.50	4.53	0.00	0.00	0.00
41.20	1.95	0.50	4.53	0.00	0.00	0.00
41.25	1.95	0.50	4.53	0.00	0.00	0.00
41.30	1.95	0.50	4.53	0.00	0.00	0.00
41.35	1.95	0.50	4.53	0.00	0.00	0.00
41.40	1.95	0.50	4.53	0.00	0.00	0.00
41.45	1.95	0.50	4.53	0.00	0.00	0.00
41.50	1.95	0.50	4.53	0.00	0.00	0.00
41.55	1.95	0.50	4.53	0.00	0.00	0.00
41.60	1.95	0.50	4.53	0.00	0.00	0.00
41.65	1.95	0.50	4.53	0.00	0.00	0.00
41.70	1.95	0.50	4.53	0.00	0.00	0.00
41.75	1.95	0.49	4.53	0.00	0.00	0.00
41.80	1.95	0.49	4.53	0.00	0.00	0.00
41.85	1.95	0.49	4.53	0.00	0.00	0.00
41.90	1.95	0.49	4.53	0.00	0.00	0.00
41.95	1.95	0.49	4.53	0.00	0.00	0.00
42.00	1.95	0.49	4.53	0.00	0.00	0.00
42.05	1.95	0.49	4.53	0.00	0.00	0.00
42.10	1.95	0.49	4.53	0.00	0.00	0.00
42.15	1.95	0.49	4.53	0.00	0.00	0.00
42.20	1.95	0.49	4.53	0.00	0.00	0.00
42.25	1.95	0.49	4.53	0.00	0.00	0.00
42.30	1.95	0.49	4.53	0.00	0.00	0.00
42.35	1.95	0.49	4.53	0.00	0.00	0.00
42.40	1.95	0.49	4.53	0.00	0.00	0.00
42.45	1.95	0.49	4.53	0.00	0.00	0.00
42.50	1.95	0.49	4.53	0.00	0.00	0.00
42.55	1.95	0.49	4.53	0.00	0.00	0.00
42.60	1.95	0.49	4.53	0.00	0.00	0.00
42.65	1.95	0.49	4.53	0.00	0.00	0.00
42.70	1.95	0.49	4.53	0.00	0.00	0.00
42.75	1.95	0.49	4.53	0.00	0.00	0.00
42.80	1.94	0.49	4.53	0.00	0.00	0.00
42.85	1.94	0.49	4.53	0.00	0.00	0.00
42.90	1.94	0.49	4.53	0.00	0.00	0.00
42.95	1.94	0.49	4.53	0.00	0.00	0.00
43.00	1.94	0.49	4.53	0.00	0.00	0.00
43.05	1.94	0.49	4.53	0.00	0.00	0.00
43.10	1.94	0.49	4.53	0.00	0.00	0.00
43.15	1.94	0.49	4.53	0.00	0.00	0.00
43.20	1.94	0.49	4.53	0.00	0.00	0.00
43.25	1.94	0.49	4.53	0.00	0.00	0.00
43.30	1.94	0.49	4.53	0.00	0.00	0.00
43.35	1.94	0.49	4.53	0.00	0.00	0.00
43.40	1.94	0.49	4.53	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
43.45	1.94	0.49	4.53	0.00	0.00	0.00
43.50	1.94	0.49	4.53	0.00	0.00	0.00
43.55	1.94	0.49	4.53	0.00	0.00	0.00
43.60	1.94	0.49	4.53	0.00	0.00	0.00
43.65	1.94	0.49	4.53	0.00	0.00	0.00
43.70	1.94	0.49	4.53	0.00	0.00	0.00
43.75	1.94	0.49	4.53	0.00	0.00	0.00
43.80	1.94	0.49	4.53	0.00	0.00	0.00
43.85	1.94	0.49	4.53	0.00	0.00	0.00
43.90	1.94	0.49	4.53	0.00	0.00	0.00
43.95	1.94	0.49	4.53	0.00	0.00	0.00
44.00	1.94	0.49	4.53	0.00	0.00	0.00
44.05	1.94	0.49	4.53	0.00	0.00	0.00
44.10	1.94	0.49	4.53	0.00	0.00	0.00
44.15	1.94	0.49	4.53	0.00	0.00	0.00
44.20	1.94	0.49	4.53	0.00	0.00	0.00
44.25	1.94	0.49	4.53	0.00	0.00	0.00
44.30	1.94	0.49	4.53	0.00	0.00	0.00
44.35	1.94	0.49	4.53	0.00	0.00	0.00
44.40	1.94	0.49	4.53	0.00	0.00	0.00
44.45	1.94	0.49	4.53	0.00	0.00	0.00
44.50	1.94	0.49	4.53	0.00	0.00	0.00
44.55	1.94	0.49	4.53	0.00	0.00	0.00
44.60	1.94	0.49	4.53	0.00	0.00	0.00
44.65	1.94	0.49	4.53	0.00	0.00	0.00
44.70	1.94	0.49	4.53	0.00	0.00	0.00
44.75	1.94	0.49	4.53	0.00	0.00	0.00
44.80	1.94	0.49	4.53	0.00	0.00	0.00
44.85	1.94	0.49	4.53	0.00	0.00	0.00
44.90	1.94	0.49	4.53	0.00	0.00	0.00
44.95	1.94	0.49	4.53	0.00	0.00	0.00
45.00	1.93	0.49	4.54	0.00	0.00	0.00
45.05	1.93	0.49	4.54	0.00	0.00	0.00
45.10	1.93	0.49	4.54	0.00	0.00	0.00
45.15	1.93	0.49	4.54	0.00	0.00	0.00
45.20	1.93	0.49	4.54	0.00	0.00	0.00
45.25	1.93	0.49	4.54	0.00	0.00	0.00
45.30	1.93	0.49	4.54	0.00	0.00	0.00
45.35	1.93	0.49	4.54	0.00	0.00	0.00
45.40	1.93	0.49	4.54	0.00	0.00	0.00
45.45	1.93	0.49	4.54	0.00	0.00	0.00
45.50	1.93	0.49	4.54	0.00	0.00	0.00
45.55	1.93	0.49	4.54	0.00	0.00	0.00
45.60	1.93	0.49	4.54	0.00	0.00	0.00
45.65	1.93	0.49	4.54	0.00	0.00	0.00
45.70	1.93	0.49	4.54	0.00	0.00	0.00
45.75	1.93	0.49	4.54	0.00	0.00	0.00
45.80	1.93	0.49	4.54	0.00	0.00	0.00
45.85	1.93	0.49	4.54	0.00	0.00	0.00
45.90	1.93	0.49	4.54	0.00	0.00	0.00
45.95	1.93	0.49	4.54	0.00	0.00	0.00
46.00	1.93	0.49	4.54	0.00	0.00	0.00
46.05	1.93	0.49	4.54	0.00	0.00	0.00
46.10	1.93	0.49	4.54	0.00	0.00	0.00
46.15	1.93	0.49	4.54	0.00	0.00	0.00
46.20	1.93	0.49	4.54	0.00	0.00	0.00
46.25	1.93	0.49	4.54	0.00	0.00	0.00
46.30	1.93	0.49	4.54	0.00	0.00	0.00
46.35	1.93	0.49	4.54	0.00	0.00	0.00
46.40	1.93	0.49	4.54	0.00	0.00	0.00
46.45	1.93	0.49	4.54	0.00	0.00	0.00
46.50	1.93	0.49	4.54	0.00	0.00	0.00
46.55	1.93	0.49	4.54	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
46.60	1.93	0.49	4.54	0.00	0.00	0.00
46.65	1.93	0.49	4.54	0.00	0.00	0.00
46.70	1.93	0.49	4.54	0.00	0.00	0.00
46.75	1.93	0.49	4.54	0.00	0.00	0.00
46.80	1.93	0.49	4.54	0.00	0.00	0.00
46.85	1.93	0.49	4.54	0.00	0.00	0.00
46.90	1.93	0.49	4.55	0.00	0.00	0.00
46.95	1.93	0.49	4.55	0.00	0.00	0.00
47.00	1.93	0.49	4.55	0.00	0.00	0.00
47.05	1.93	0.49	4.55	0.00	0.00	0.00
47.10	1.93	0.49	4.55	0.00	0.00	0.00
47.15	1.93	0.49	4.55	0.00	0.00	0.00
47.20	1.92	0.49	4.55	0.00	0.00	0.00
47.25	1.92	0.49	4.55	0.00	0.00	0.00
47.30	1.92	0.49	4.55	0.00	0.00	0.00
47.35	1.92	0.49	4.55	0.00	0.00	0.00
47.40	1.92	0.49	4.55	0.00	0.00	0.00
47.45	1.92	0.49	4.55	0.00	0.00	0.00
47.50	1.92	0.49	4.55	0.00	0.00	0.00
47.55	1.92	0.49	4.55	0.00	0.00	0.00
47.60	1.92	0.49	4.55	0.00	0.00	0.00
47.65	1.92	0.49	4.55	0.00	0.00	0.00
47.70	1.92	0.49	4.55	0.00	0.00	0.00
47.75	1.92	0.49	4.55	0.00	0.00	0.00
47.80	1.92	0.49	4.55	0.00	0.00	0.00
47.85	1.92	0.49	4.55	0.00	0.00	0.00
47.90	1.92	0.49	4.55	0.00	0.00	0.00
47.95	1.92	0.49	4.55	0.00	0.00	0.00
48.00	1.92	0.49	4.55	0.00	0.00	0.00
48.05	1.92	0.49	4.55	0.00	0.00	0.00
48.10	1.92	0.49	4.55	0.00	0.00	0.00
48.15	1.92	0.49	4.55	0.00	0.00	0.00
48.20	1.92	0.48	4.56	0.00	0.00	0.00
48.25	1.92	0.48	4.56	0.00	0.00	0.00
48.30	1.92	0.48	4.56	0.00	0.00	0.00
48.35	1.92	0.48	4.56	0.00	0.00	0.00
48.40	1.92	0.48	4.56	0.00	0.00	0.00
48.45	1.92	0.48	4.56	0.00	0.00	0.00
48.50	1.92	0.48	4.56	0.00	0.00	0.00
48.55	1.92	0.48	4.56	0.00	0.00	0.00
48.60	1.92	0.48	4.56	0.00	0.00	0.00
48.65	1.92	0.48	4.56	0.00	0.00	0.00
48.70	1.92	0.48	4.56	0.00	0.00	0.00
48.75	1.92	0.48	4.56	0.00	0.00	0.00
48.80	1.92	0.48	4.56	0.00	0.00	0.00
48.85	1.92	0.48	4.56	0.00	0.00	0.00
48.90	1.92	0.48	4.56	0.00	0.00	0.00
48.95	1.92	0.48	4.56	0.00	0.00	0.00
49.00	1.92	0.48	4.56	0.00	0.00	0.00
49.05	1.92	0.48	4.56	0.00	0.00	0.00
49.10	1.92	0.48	4.56	0.00	0.00	0.00
49.15	1.92	0.48	4.56	0.00	0.00	0.00
49.20	1.92	0.48	4.56	0.00	0.00	0.00
49.25	1.92	0.48	4.56	0.00	0.00	0.00
49.30	1.92	0.48	4.57	0.00	0.00	0.00
49.35	1.92	0.48	4.57	0.00	0.00	0.00
49.40	1.92	0.48	4.57	0.00	0.00	0.00
49.45	1.91	0.48	4.57	0.00	0.00	0.00
49.50	1.91	0.48	4.57	0.00	0.00	0.00
49.55	1.91	0.48	4.57	0.00	0.00	0.00
49.60	1.91	0.48	4.57	0.00	0.00	0.00
49.65	1.91	0.48	4.57	0.00	0.00	0.00
49.70	1.91	0.48	4.57	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
49.75	1.91	0.48	4.57	0.00	0.00	0.00
49.80	1.91	0.48	4.57	0.00	0.00	0.00
49.85	1.91	0.48	4.57	0.00	0.00	0.00
49.90	1.91	0.48	4.57	0.00	0.00	0.00
49.95	1.91	0.48	4.57	0.00	0.00	0.00
50.00	1.91	0.48	4.57	0.00	0.00	0.00
50.05	1.91	0.48	4.57	0.00	0.00	0.00
50.10	1.91	0.48	4.57	0.00	0.00	0.00
50.15	1.91	0.48	4.57	0.00	0.00	0.00
50.20	1.91	0.48	4.58	0.00	0.00	0.00
50.25	1.91	0.48	4.58	0.00	0.00	0.00
50.30	1.91	0.48	4.58	0.00	0.00	0.00
50.35	1.91	0.48	4.58	0.00	0.00	0.00
50.40	1.91	0.48	4.58	0.00	0.00	0.00
50.45	1.91	0.48	4.58	0.00	0.00	0.00
50.50	1.91	0.48	4.58	0.00	0.00	0.00
50.55	1.91	0.48	4.58	0.00	0.00	0.00
50.60	1.91	0.48	4.58	0.00	0.00	0.00
50.65	1.91	0.48	4.58	0.00	0.00	0.00
50.70	1.91	0.48	4.58	0.00	0.00	0.00
50.75	1.91	0.48	4.58	0.00	0.00	0.00
50.80	1.91	0.48	4.58	0.00	0.00	0.00
50.85	1.91	0.48	4.58	0.00	0.00	0.00
50.90	1.91	0.48	4.58	0.00	0.00	0.00
50.95	1.91	0.48	4.58	0.00	0.00	0.00
51.00	1.91	0.48	4.58	0.00	0.00	0.00
51.05	1.91	0.48	4.59	0.00	0.00	0.00
51.10	1.91	0.48	4.59	0.00	0.00	0.00
51.15	1.91	0.48	4.59	0.00	0.00	0.00
51.20	1.91	0.48	4.59	0.00	0.00	0.00
51.25	1.91	0.48	4.59	0.00	0.00	0.00
51.30	1.91	0.48	4.59	0.00	0.00	0.00
51.35	1.91	0.48	4.59	0.00	0.00	0.00
51.40	1.91	0.48	4.59	0.00	0.00	0.00
51.45	1.91	0.48	4.59	0.00	0.00	0.00
51.50	1.91	0.48	4.59	0.00	0.00	0.00

* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units Depth = ft, Stress or Pressure = tsf (atm), Unit Weight =
pcf, Settlement = in.

CRRv	Cyclic resistance ratio from soils
CSRm	Cyclic stress ratio induced by a given earthquake (with user
request factor of safety)	
F.S.	Factor of Safety against liquefaction, F.S.=CRRv/CSRm
S_sat	Settlement from saturated sands
S_dry	Settlement from Unsaturated Sands
S_all	Total Settlement from Saturated and Unsaturated Sands
NoLiq	No-Liquefy Soils

LIQUEFACTION ANALYSIS

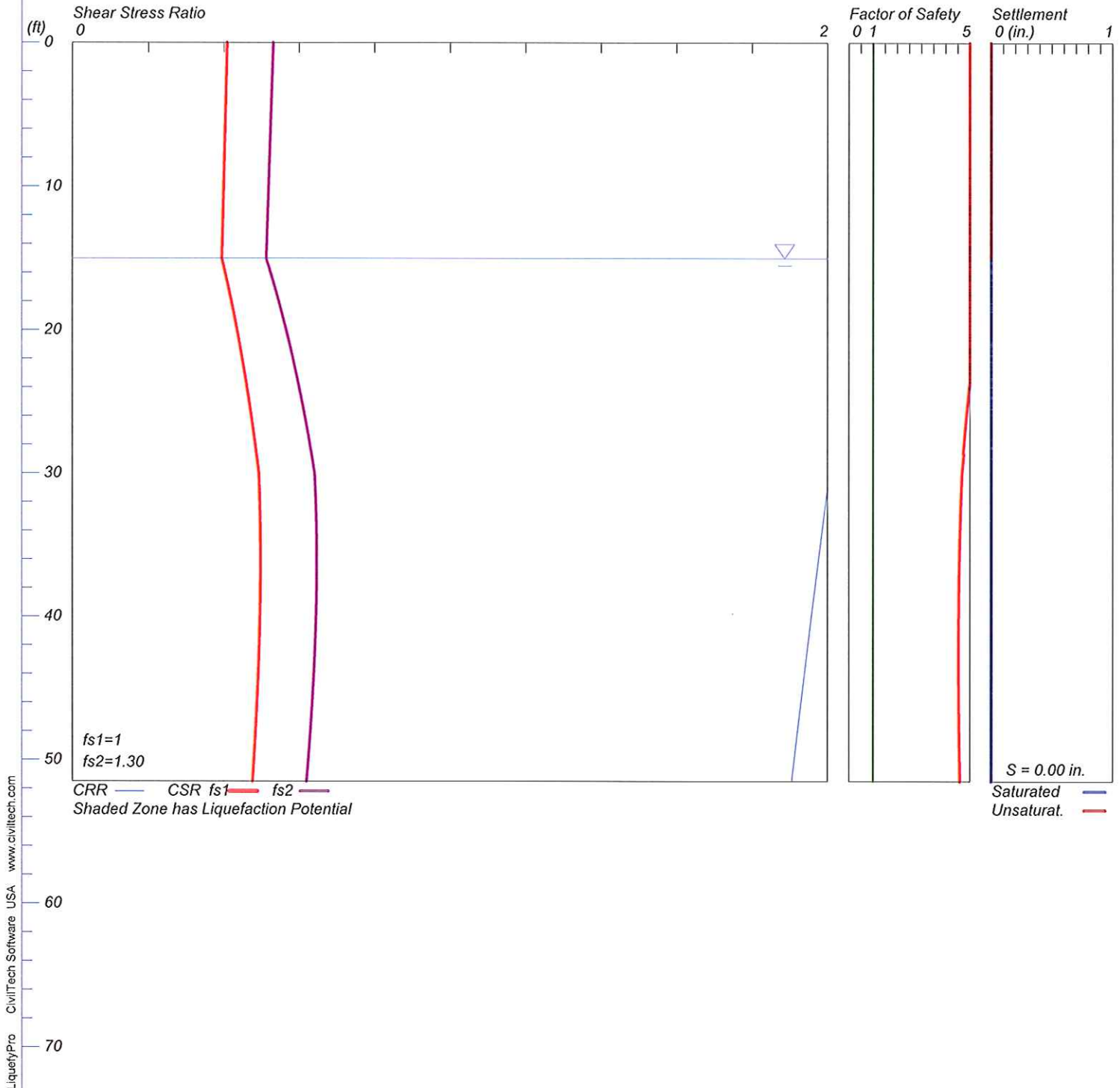
Xebec Signal Hill

Hole No.=B-4 Water Depth=15 ft

Ground Improvement of Fill=5 ft

Magnitude=7.1

Acceleration=0.629g



16-6239-Xebec Signal Hill-B4.sum

LIQUEFACTION ANALYSIS CALCULATION SHEET

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Input File Name: D:\Liquefy5\16-6239-Xebec Signal Hill-B4.liq
Title: Xebec Signal Hill
Subtitle: 16-6239

Surface Elev.=
Hole No.=B-4
Depth of Hole= 51.5 ft
Water Table during Earthquake= 15.0 ft
Water Table during In-Situ Testing= 25.0 ft
Max. Acceleration= 0.63 g
Earthquake Magnitude= 7.1

Input Data:

Surface Elev.=
Hole No.=B-4
Depth of Hole=51.5 ft
Water Table during Earthquake= 15.0 ft
Water Table during In-Situ Testing= 25.0 ft
Max. Acceleration=0.63 g
Earthquake Magnitude=7.1

1. SPT or BPT Calculation.
 2. Settlement Analysis Method: Ishihara / Yoshimine*
 3. Fines Correction for Liquefaction: Stark/Olson et al.*
 4. Fine Correction for Settlement: During Liquefaction*
 5. Settlement Calculation in: All zones*
 6. Hammer Energy Ratio, Ce = 1.25
 7. Borehole Diameter, Cb= 1.15
 8. Sampling Method, Cs= 1.2
 9. User request factor of safety (apply to CSR) , User= 1.3
Plot two CSR (fs1=1, fs2=User)
 10. Use Curve Smoothing: Yes*
- * Recommended Options

Fill on Top= 5 ft Fill Unit Weight= 125 pcf
Depth of this report is based on original ground surface, not based on fill
In-Situ Test Data:

Depth ft	SPT	gamma pcf	Fines %
0.0	12.0	106.0	NoLiq
6.0	50.0	126.0	NoLiq
11.0	41.0	125.0	NoLiq
16.0	30.0	110.0	3.8
21.0	56.0	110.0	3.8
26.0	49.0	110.0	3.8
31.0	60.0	110.0	3.8
36.0	28.0	110.0	3.8
41.0	30.0	110.0	45.0

16-6239-Xebec Signal Hill-B4.sum
 46.0 32.0 110.0 45.0
 51.0 26.0 110.0 45.0

Output Results:

Settlement of Saturated Sands=0.00 in.
 Settlement of Unsaturated Sands=0.00 in.
 Total Settlement of Saturated and Unsaturated Sands=0.00 in.
 Differential Settlement=0.000 to 0.000 in.

Depth ft	CRRv	CSRm	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	2.00	0.41	5.00	0.00	0.00	0.00
0.05	2.00	0.41	5.00	0.00	0.00	0.00
0.10	2.00	0.41	5.00	0.00	0.00	0.00
0.15	2.00	0.41	5.00	0.00	0.00	0.00
0.20	2.00	0.41	5.00	0.00	0.00	0.00
0.25	2.00	0.41	5.00	0.00	0.00	0.00
0.30	2.00	0.41	5.00	0.00	0.00	0.00
0.35	2.00	0.41	5.00	0.00	0.00	0.00
0.40	2.00	0.41	5.00	0.00	0.00	0.00
0.45	2.00	0.41	5.00	0.00	0.00	0.00
0.50	2.00	0.41	5.00	0.00	0.00	0.00
0.55	2.00	0.41	5.00	0.00	0.00	0.00
0.60	2.00	0.41	5.00	0.00	0.00	0.00
0.65	2.00	0.41	5.00	0.00	0.00	0.00
0.70	2.00	0.41	5.00	0.00	0.00	0.00
0.75	2.00	0.41	5.00	0.00	0.00	0.00
0.80	2.00	0.41	5.00	0.00	0.00	0.00
0.85	2.00	0.41	5.00	0.00	0.00	0.00
0.90	2.00	0.41	5.00	0.00	0.00	0.00
0.95	2.00	0.41	5.00	0.00	0.00	0.00
1.00	2.00	0.41	5.00	0.00	0.00	0.00
1.05	2.00	0.41	5.00	0.00	0.00	0.00
1.10	2.00	0.41	5.00	0.00	0.00	0.00
1.15	2.00	0.41	5.00	0.00	0.00	0.00
1.20	2.00	0.41	5.00	0.00	0.00	0.00
1.25	2.00	0.41	5.00	0.00	0.00	0.00
1.30	2.00	0.41	5.00	0.00	0.00	0.00
1.35	2.00	0.41	5.00	0.00	0.00	0.00
1.40	2.00	0.41	5.00	0.00	0.00	0.00
1.45	2.00	0.41	5.00	0.00	0.00	0.00
1.50	2.00	0.41	5.00	0.00	0.00	0.00
1.55	2.00	0.41	5.00	0.00	0.00	0.00
1.60	2.00	0.41	5.00	0.00	0.00	0.00
1.65	2.00	0.41	5.00	0.00	0.00	0.00
1.70	2.00	0.41	5.00	0.00	0.00	0.00
1.75	2.00	0.41	5.00	0.00	0.00	0.00
1.80	2.00	0.41	5.00	0.00	0.00	0.00
1.85	2.00	0.41	5.00	0.00	0.00	0.00
1.90	2.00	0.41	5.00	0.00	0.00	0.00
1.95	2.00	0.41	5.00	0.00	0.00	0.00
2.00	2.00	0.41	5.00	0.00	0.00	0.00
2.05	2.00	0.41	5.00	0.00	0.00	0.00
2.10	2.00	0.41	5.00	0.00	0.00	0.00
2.15	2.00	0.41	5.00	0.00	0.00	0.00
2.20	2.00	0.41	5.00	0.00	0.00	0.00
2.25	2.00	0.41	5.00	0.00	0.00	0.00
2.30	2.00	0.41	5.00	0.00	0.00	0.00
2.35	2.00	0.41	5.00	0.00	0.00	0.00
2.40	2.00	0.41	5.00	0.00	0.00	0.00
2.45	2.00	0.41	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
2.50	2.00	0.41	5.00	0.00	0.00	0.00
2.55	2.00	0.41	5.00	0.00	0.00	0.00
2.60	2.00	0.41	5.00	0.00	0.00	0.00
2.65	2.00	0.41	5.00	0.00	0.00	0.00
2.70	2.00	0.41	5.00	0.00	0.00	0.00
2.75	2.00	0.41	5.00	0.00	0.00	0.00
2.80	2.00	0.41	5.00	0.00	0.00	0.00
2.85	2.00	0.41	5.00	0.00	0.00	0.00
2.90	2.00	0.41	5.00	0.00	0.00	0.00
2.95	2.00	0.41	5.00	0.00	0.00	0.00
3.00	2.00	0.41	5.00	0.00	0.00	0.00
3.05	2.00	0.41	5.00	0.00	0.00	0.00
3.10	2.00	0.41	5.00	0.00	0.00	0.00
3.15	2.00	0.41	5.00	0.00	0.00	0.00
3.20	2.00	0.41	5.00	0.00	0.00	0.00
3.25	2.00	0.41	5.00	0.00	0.00	0.00
3.30	2.00	0.41	5.00	0.00	0.00	0.00
3.35	2.00	0.41	5.00	0.00	0.00	0.00
3.40	2.00	0.41	5.00	0.00	0.00	0.00
3.45	2.00	0.41	5.00	0.00	0.00	0.00
3.50	2.00	0.41	5.00	0.00	0.00	0.00
3.55	2.00	0.41	5.00	0.00	0.00	0.00
3.60	2.00	0.41	5.00	0.00	0.00	0.00
3.65	2.00	0.41	5.00	0.00	0.00	0.00
3.70	2.00	0.41	5.00	0.00	0.00	0.00
3.75	2.00	0.41	5.00	0.00	0.00	0.00
3.80	2.00	0.41	5.00	0.00	0.00	0.00
3.85	2.00	0.41	5.00	0.00	0.00	0.00
3.90	2.00	0.41	5.00	0.00	0.00	0.00
3.95	2.00	0.41	5.00	0.00	0.00	0.00
4.00	2.00	0.41	5.00	0.00	0.00	0.00
4.05	2.00	0.40	5.00	0.00	0.00	0.00
4.10	2.00	0.40	5.00	0.00	0.00	0.00
4.15	2.00	0.40	5.00	0.00	0.00	0.00
4.20	2.00	0.40	5.00	0.00	0.00	0.00
4.25	2.00	0.40	5.00	0.00	0.00	0.00
4.30	2.00	0.40	5.00	0.00	0.00	0.00
4.35	2.00	0.40	5.00	0.00	0.00	0.00
4.40	2.00	0.40	5.00	0.00	0.00	0.00
4.45	2.00	0.40	5.00	0.00	0.00	0.00
4.50	2.00	0.40	5.00	0.00	0.00	0.00
4.55	2.00	0.40	5.00	0.00	0.00	0.00
4.60	2.00	0.40	5.00	0.00	0.00	0.00
4.65	2.00	0.40	5.00	0.00	0.00	0.00
4.70	2.00	0.40	5.00	0.00	0.00	0.00
4.75	2.00	0.40	5.00	0.00	0.00	0.00
4.80	2.00	0.40	5.00	0.00	0.00	0.00
4.85	2.00	0.40	5.00	0.00	0.00	0.00
4.90	2.00	0.40	5.00	0.00	0.00	0.00
4.95	2.00	0.40	5.00	0.00	0.00	0.00
5.00	2.00	0.40	5.00	0.00	0.00	0.00
5.05	2.00	0.40	5.00	0.00	0.00	0.00
5.10	2.00	0.40	5.00	0.00	0.00	0.00
5.15	2.00	0.40	5.00	0.00	0.00	0.00
5.20	2.00	0.40	5.00	0.00	0.00	0.00
5.25	2.00	0.40	5.00	0.00	0.00	0.00
5.30	2.00	0.40	5.00	0.00	0.00	0.00
5.35	2.00	0.40	5.00	0.00	0.00	0.00
5.40	2.00	0.40	5.00	0.00	0.00	0.00
5.45	2.00	0.40	5.00	0.00	0.00	0.00
5.50	2.00	0.40	5.00	0.00	0.00	0.00
5.55	2.00	0.40	5.00	0.00	0.00	0.00
5.60	2.00	0.40	5.00	0.00	0.00	0.00

		16-6239-Xebec	Signal	Hill-B4.sum		
5.65	2.00	0.40	5.00	0.00	0.00	0.00
5.70	2.00	0.40	5.00	0.00	0.00	0.00
5.75	2.00	0.40	5.00	0.00	0.00	0.00
5.80	2.00	0.40	5.00	0.00	0.00	0.00
5.85	2.00	0.40	5.00	0.00	0.00	0.00
5.90	2.00	0.40	5.00	0.00	0.00	0.00
5.95	2.00	0.40	5.00	0.00	0.00	0.00
6.00	2.00	0.40	5.00	0.00	0.00	0.00
6.05	2.00	0.40	5.00	0.00	0.00	0.00
6.10	2.00	0.40	5.00	0.00	0.00	0.00
6.15	2.00	0.40	5.00	0.00	0.00	0.00
6.20	2.00	0.40	5.00	0.00	0.00	0.00
6.25	2.00	0.40	5.00	0.00	0.00	0.00
6.30	2.00	0.40	5.00	0.00	0.00	0.00
6.35	2.00	0.40	5.00	0.00	0.00	0.00
6.40	2.00	0.40	5.00	0.00	0.00	0.00
6.45	2.00	0.40	5.00	0.00	0.00	0.00
6.50	2.00	0.40	5.00	0.00	0.00	0.00
6.55	2.00	0.40	5.00	0.00	0.00	0.00
6.60	2.00	0.40	5.00	0.00	0.00	0.00
6.65	2.00	0.40	5.00	0.00	0.00	0.00
6.70	2.00	0.40	5.00	0.00	0.00	0.00
6.75	2.00	0.40	5.00	0.00	0.00	0.00
6.80	2.00	0.40	5.00	0.00	0.00	0.00
6.85	2.00	0.40	5.00	0.00	0.00	0.00
6.90	2.00	0.40	5.00	0.00	0.00	0.00
6.95	2.00	0.40	5.00	0.00	0.00	0.00
7.00	2.00	0.40	5.00	0.00	0.00	0.00
7.05	2.00	0.40	5.00	0.00	0.00	0.00
7.10	2.00	0.40	5.00	0.00	0.00	0.00
7.15	2.00	0.40	5.00	0.00	0.00	0.00
7.20	2.00	0.40	5.00	0.00	0.00	0.00
7.25	2.00	0.40	5.00	0.00	0.00	0.00
7.30	2.00	0.40	5.00	0.00	0.00	0.00
7.35	2.00	0.40	5.00	0.00	0.00	0.00
7.40	2.00	0.40	5.00	0.00	0.00	0.00
7.45	2.00	0.40	5.00	0.00	0.00	0.00
7.50	2.00	0.40	5.00	0.00	0.00	0.00
7.55	2.00	0.40	5.00	0.00	0.00	0.00
7.60	2.00	0.40	5.00	0.00	0.00	0.00
7.65	2.00	0.40	5.00	0.00	0.00	0.00
7.70	2.00	0.40	5.00	0.00	0.00	0.00
7.75	2.00	0.40	5.00	0.00	0.00	0.00
7.80	2.00	0.40	5.00	0.00	0.00	0.00
7.85	2.00	0.40	5.00	0.00	0.00	0.00
7.90	2.00	0.40	5.00	0.00	0.00	0.00
7.95	2.00	0.40	5.00	0.00	0.00	0.00
8.00	2.00	0.40	5.00	0.00	0.00	0.00
8.05	2.00	0.40	5.00	0.00	0.00	0.00
8.10	2.00	0.40	5.00	0.00	0.00	0.00
8.15	2.00	0.40	5.00	0.00	0.00	0.00
8.20	2.00	0.40	5.00	0.00	0.00	0.00
8.25	2.00	0.40	5.00	0.00	0.00	0.00
8.30	2.00	0.40	5.00	0.00	0.00	0.00
8.35	2.00	0.40	5.00	0.00	0.00	0.00
8.40	2.00	0.40	5.00	0.00	0.00	0.00
8.45	2.00	0.40	5.00	0.00	0.00	0.00
8.50	2.00	0.40	5.00	0.00	0.00	0.00
8.55	2.00	0.40	5.00	0.00	0.00	0.00
8.60	2.00	0.40	5.00	0.00	0.00	0.00
8.65	2.00	0.40	5.00	0.00	0.00	0.00
8.70	2.00	0.40	5.00	0.00	0.00	0.00
8.75	2.00	0.40	5.00	0.00	0.00	0.00

		16-6239-Xebec	Signal	Hill-B4.sum		
8.80	2.00	0.40	5.00	0.00	0.00	0.00
8.85	2.00	0.40	5.00	0.00	0.00	0.00
8.90	2.00	0.40	5.00	0.00	0.00	0.00
8.95	2.00	0.40	5.00	0.00	0.00	0.00
9.00	2.00	0.40	5.00	0.00	0.00	0.00
9.05	2.00	0.40	5.00	0.00	0.00	0.00
9.10	2.00	0.40	5.00	0.00	0.00	0.00
9.15	2.00	0.40	5.00	0.00	0.00	0.00
9.20	2.00	0.40	5.00	0.00	0.00	0.00
9.25	2.00	0.40	5.00	0.00	0.00	0.00
9.30	2.00	0.40	5.00	0.00	0.00	0.00
9.35	2.00	0.40	5.00	0.00	0.00	0.00
9.40	2.00	0.40	5.00	0.00	0.00	0.00
9.45	2.00	0.40	5.00	0.00	0.00	0.00
9.50	2.00	0.40	5.00	0.00	0.00	0.00
9.55	2.00	0.40	5.00	0.00	0.00	0.00
9.60	2.00	0.40	5.00	0.00	0.00	0.00
9.65	2.00	0.40	5.00	0.00	0.00	0.00
9.70	2.00	0.40	5.00	0.00	0.00	0.00
9.75	2.00	0.40	5.00	0.00	0.00	0.00
9.80	2.00	0.40	5.00	0.00	0.00	0.00
9.85	2.00	0.40	5.00	0.00	0.00	0.00
9.90	2.00	0.40	5.00	0.00	0.00	0.00
9.95	2.00	0.40	5.00	0.00	0.00	0.00
10.00	2.00	0.40	5.00	0.00	0.00	0.00
10.05	2.00	0.40	5.00	0.00	0.00	0.00
10.10	2.00	0.40	5.00	0.00	0.00	0.00
10.15	2.00	0.40	5.00	0.00	0.00	0.00
10.20	2.00	0.40	5.00	0.00	0.00	0.00
10.25	2.00	0.40	5.00	0.00	0.00	0.00
10.30	2.00	0.40	5.00	0.00	0.00	0.00
10.35	2.00	0.40	5.00	0.00	0.00	0.00
10.40	2.00	0.40	5.00	0.00	0.00	0.00
10.45	2.00	0.40	5.00	0.00	0.00	0.00
10.50	2.00	0.40	5.00	0.00	0.00	0.00
10.55	2.00	0.40	5.00	0.00	0.00	0.00
10.60	2.00	0.40	5.00	0.00	0.00	0.00
10.65	2.00	0.40	5.00	0.00	0.00	0.00
10.70	2.00	0.40	5.00	0.00	0.00	0.00
10.75	2.00	0.40	5.00	0.00	0.00	0.00
10.80	2.00	0.40	5.00	0.00	0.00	0.00
10.85	2.00	0.40	5.00	0.00	0.00	0.00
10.90	2.00	0.40	5.00	0.00	0.00	0.00
10.95	2.00	0.40	5.00	0.00	0.00	0.00
11.00	2.00	0.40	5.00	0.00	0.00	0.00
11.05	2.00	0.40	5.00	0.00	0.00	0.00
11.10	2.00	0.40	5.00	0.00	0.00	0.00
11.15	2.00	0.40	5.00	0.00	0.00	0.00
11.20	2.00	0.40	5.00	0.00	0.00	0.00
11.25	2.00	0.40	5.00	0.00	0.00	0.00
11.30	2.00	0.40	5.00	0.00	0.00	0.00
11.35	2.00	0.40	5.00	0.00	0.00	0.00
11.40	2.00	0.40	5.00	0.00	0.00	0.00
11.45	2.00	0.40	5.00	0.00	0.00	0.00
11.50	2.00	0.40	5.00	0.00	0.00	0.00
11.55	2.00	0.40	5.00	0.00	0.00	0.00
11.60	2.00	0.40	5.00	0.00	0.00	0.00
11.65	2.00	0.40	5.00	0.00	0.00	0.00
11.70	2.00	0.40	5.00	0.00	0.00	0.00
11.75	2.00	0.40	5.00	0.00	0.00	0.00
11.80	2.00	0.40	5.00	0.00	0.00	0.00
11.85	2.00	0.40	5.00	0.00	0.00	0.00
11.90	2.00	0.40	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
11.95	2.00	0.40	5.00	0.00	0.00	0.00
12.00	2.00	0.40	5.00	0.00	0.00	0.00
12.05	2.00	0.40	5.00	0.00	0.00	0.00
12.10	2.00	0.40	5.00	0.00	0.00	0.00
12.15	2.00	0.40	5.00	0.00	0.00	0.00
12.20	2.00	0.40	5.00	0.00	0.00	0.00
12.25	2.00	0.40	5.00	0.00	0.00	0.00
12.30	2.00	0.40	5.00	0.00	0.00	0.00
12.35	2.00	0.40	5.00	0.00	0.00	0.00
12.40	2.00	0.40	5.00	0.00	0.00	0.00
12.45	2.00	0.40	5.00	0.00	0.00	0.00
12.50	2.00	0.40	5.00	0.00	0.00	0.00
12.55	2.00	0.40	5.00	0.00	0.00	0.00
12.60	2.00	0.40	5.00	0.00	0.00	0.00
12.65	2.00	0.40	5.00	0.00	0.00	0.00
12.70	2.00	0.40	5.00	0.00	0.00	0.00
12.75	2.00	0.40	5.00	0.00	0.00	0.00
12.80	2.00	0.40	5.00	0.00	0.00	0.00
12.85	2.00	0.40	5.00	0.00	0.00	0.00
12.90	2.00	0.40	5.00	0.00	0.00	0.00
12.95	2.00	0.40	5.00	0.00	0.00	0.00
13.00	2.00	0.40	5.00	0.00	0.00	0.00
13.05	2.00	0.40	5.00	0.00	0.00	0.00
13.10	2.00	0.40	5.00	0.00	0.00	0.00
13.15	2.00	0.40	5.00	0.00	0.00	0.00
13.20	2.00	0.40	5.00	0.00	0.00	0.00
13.25	2.00	0.40	5.00	0.00	0.00	0.00
13.30	2.00	0.40	5.00	0.00	0.00	0.00
13.35	2.00	0.40	5.00	0.00	0.00	0.00
13.40	2.00	0.40	5.00	0.00	0.00	0.00
13.45	2.00	0.40	5.00	0.00	0.00	0.00
13.50	2.00	0.40	5.00	0.00	0.00	0.00
13.55	2.00	0.40	5.00	0.00	0.00	0.00
13.60	2.00	0.40	5.00	0.00	0.00	0.00
13.65	2.00	0.40	5.00	0.00	0.00	0.00
13.70	2.00	0.40	5.00	0.00	0.00	0.00
13.75	2.00	0.40	5.00	0.00	0.00	0.00
13.80	2.00	0.40	5.00	0.00	0.00	0.00
13.85	2.00	0.40	5.00	0.00	0.00	0.00
13.90	2.00	0.40	5.00	0.00	0.00	0.00
13.95	2.00	0.40	5.00	0.00	0.00	0.00
14.00	2.00	0.40	5.00	0.00	0.00	0.00
14.05	2.00	0.40	5.00	0.00	0.00	0.00
14.10	2.00	0.40	5.00	0.00	0.00	0.00
14.15	2.00	0.40	5.00	0.00	0.00	0.00
14.20	2.00	0.40	5.00	0.00	0.00	0.00
14.25	2.00	0.40	5.00	0.00	0.00	0.00
14.30	2.00	0.40	5.00	0.00	0.00	0.00
14.35	2.00	0.40	5.00	0.00	0.00	0.00
14.40	2.00	0.40	5.00	0.00	0.00	0.00
14.45	2.00	0.40	5.00	0.00	0.00	0.00
14.50	2.00	0.40	5.00	0.00	0.00	0.00
14.55	2.00	0.39	5.00	0.00	0.00	0.00
14.60	2.00	0.39	5.00	0.00	0.00	0.00
14.65	2.00	0.39	5.00	0.00	0.00	0.00
14.70	2.00	0.39	5.00	0.00	0.00	0.00
14.75	2.00	0.39	5.00	0.00	0.00	0.00
14.80	2.00	0.39	5.00	0.00	0.00	0.00
14.85	2.00	0.39	5.00	0.00	0.00	0.00
14.90	2.00	0.39	5.00	0.00	0.00	0.00
14.95	2.00	0.39	5.00	0.00	0.00	0.00
15.00	2.00	0.39	5.00	0.00	0.00	0.00
15.05	2.00	0.40	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
15.10	2.00	0.40	5.00	0.00	0.00	0.00
15.15	2.00	0.40	5.00	0.00	0.00	0.00
15.20	2.00	0.40	5.00	0.00	0.00	0.00
15.25	2.00	0.40	5.00	0.00	0.00	0.00
15.30	2.00	0.40	5.00	0.00	0.00	0.00
15.35	2.00	0.40	5.00	0.00	0.00	0.00
15.40	2.00	0.40	5.00	0.00	0.00	0.00
15.45	2.00	0.40	5.00	0.00	0.00	0.00
15.50	2.00	0.40	5.00	0.00	0.00	0.00
15.55	2.00	0.40	5.00	0.00	0.00	0.00
15.60	2.00	0.40	5.00	0.00	0.00	0.00
15.65	2.00	0.40	5.00	0.00	0.00	0.00
15.70	2.00	0.40	5.00	0.00	0.00	0.00
15.75	2.00	0.40	5.00	0.00	0.00	0.00
15.80	2.00	0.40	5.00	0.00	0.00	0.00
15.85	2.00	0.40	5.00	0.00	0.00	0.00
15.90	2.00	0.40	5.00	0.00	0.00	0.00
15.95	2.00	0.40	5.00	0.00	0.00	0.00
16.00	2.00	0.40	5.00	0.00	0.00	0.00
16.05	2.00	0.40	5.00	0.00	0.00	0.00
16.10	2.00	0.40	5.00	0.00	0.00	0.00
16.15	2.00	0.40	5.00	0.00	0.00	0.00
16.20	2.00	0.41	5.00	0.00	0.00	0.00
16.25	2.00	0.41	5.00	0.00	0.00	0.00
16.30	2.00	0.41	5.00	0.00	0.00	0.00
16.35	2.00	0.41	5.00	0.00	0.00	0.00
16.40	2.00	0.41	5.00	0.00	0.00	0.00
16.45	2.00	0.41	5.00	0.00	0.00	0.00
16.50	2.00	0.41	5.00	0.00	0.00	0.00
16.55	2.00	0.41	5.00	0.00	0.00	0.00
16.60	2.00	0.41	5.00	0.00	0.00	0.00
16.65	2.00	0.41	5.00	0.00	0.00	0.00
16.70	2.00	0.41	5.00	0.00	0.00	0.00
16.75	2.00	0.41	5.00	0.00	0.00	0.00
16.80	2.00	0.41	5.00	0.00	0.00	0.00
16.85	2.00	0.41	5.00	0.00	0.00	0.00
16.90	2.00	0.41	5.00	0.00	0.00	0.00
16.95	2.00	0.41	5.00	0.00	0.00	0.00
17.00	2.00	0.41	5.00	0.00	0.00	0.00
17.05	2.00	0.41	5.00	0.00	0.00	0.00
17.10	2.00	0.41	5.00	0.00	0.00	0.00
17.15	2.00	0.41	5.00	0.00	0.00	0.00
17.20	2.00	0.41	5.00	0.00	0.00	0.00
17.25	2.00	0.41	5.00	0.00	0.00	0.00
17.30	2.00	0.41	5.00	0.00	0.00	0.00
17.35	2.00	0.41	5.00	0.00	0.00	0.00
17.40	2.00	0.42	5.00	0.00	0.00	0.00
17.45	2.00	0.42	5.00	0.00	0.00	0.00
17.50	2.00	0.42	5.00	0.00	0.00	0.00
17.55	2.00	0.42	5.00	0.00	0.00	0.00
17.60	2.00	0.42	5.00	0.00	0.00	0.00
17.65	2.00	0.42	5.00	0.00	0.00	0.00
17.70	2.00	0.42	5.00	0.00	0.00	0.00
17.75	2.00	0.42	5.00	0.00	0.00	0.00
17.80	2.00	0.42	5.00	0.00	0.00	0.00
17.85	2.00	0.42	5.00	0.00	0.00	0.00
17.90	2.00	0.42	5.00	0.00	0.00	0.00
17.95	2.00	0.42	5.00	0.00	0.00	0.00
18.00	2.00	0.42	5.00	0.00	0.00	0.00
18.05	2.00	0.42	5.00	0.00	0.00	0.00
18.10	2.00	0.42	5.00	0.00	0.00	0.00
18.15	2.00	0.42	5.00	0.00	0.00	0.00
18.20	2.00	0.42	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
18.25	2.00	0.42	5.00	0.00	0.00	0.00
18.30	2.00	0.42	5.00	0.00	0.00	0.00
18.35	2.00	0.42	5.00	0.00	0.00	0.00
18.40	2.00	0.42	5.00	0.00	0.00	0.00
18.45	2.00	0.42	5.00	0.00	0.00	0.00
18.50	2.00	0.42	5.00	0.00	0.00	0.00
18.55	2.00	0.42	5.00	0.00	0.00	0.00
18.60	2.00	0.42	5.00	0.00	0.00	0.00
18.65	2.00	0.43	5.00	0.00	0.00	0.00
18.70	2.00	0.43	5.00	0.00	0.00	0.00
18.75	2.00	0.43	5.00	0.00	0.00	0.00
18.80	2.00	0.43	5.00	0.00	0.00	0.00
18.85	2.00	0.43	5.00	0.00	0.00	0.00
18.90	2.00	0.43	5.00	0.00	0.00	0.00
18.95	2.00	0.43	5.00	0.00	0.00	0.00
19.00	2.00	0.43	5.00	0.00	0.00	0.00
19.05	2.00	0.43	5.00	0.00	0.00	0.00
19.10	2.00	0.43	5.00	0.00	0.00	0.00
19.15	2.00	0.43	5.00	0.00	0.00	0.00
19.20	2.00	0.43	5.00	0.00	0.00	0.00
19.25	2.00	0.43	5.00	0.00	0.00	0.00
19.30	2.00	0.43	5.00	0.00	0.00	0.00
19.35	2.00	0.43	5.00	0.00	0.00	0.00
19.40	2.00	0.43	5.00	0.00	0.00	0.00
19.45	2.00	0.43	5.00	0.00	0.00	0.00
19.50	2.00	0.43	5.00	0.00	0.00	0.00
19.55	2.00	0.43	5.00	0.00	0.00	0.00
19.60	2.00	0.43	5.00	0.00	0.00	0.00
19.65	2.00	0.43	5.00	0.00	0.00	0.00
19.70	2.00	0.43	5.00	0.00	0.00	0.00
19.75	2.00	0.43	5.00	0.00	0.00	0.00
19.80	2.00	0.43	5.00	0.00	0.00	0.00
19.85	2.00	0.43	5.00	0.00	0.00	0.00
19.90	2.00	0.43	5.00	0.00	0.00	0.00
19.95	2.00	0.44	5.00	0.00	0.00	0.00
20.00	2.00	0.44	5.00	0.00	0.00	0.00
20.05	2.00	0.44	5.00	0.00	0.00	0.00
20.10	2.00	0.44	5.00	0.00	0.00	0.00
20.15	2.00	0.44	5.00	0.00	0.00	0.00
20.20	2.00	0.44	5.00	0.00	0.00	0.00
20.25	2.00	0.44	5.00	0.00	0.00	0.00
20.30	2.00	0.44	5.00	0.00	0.00	0.00
20.35	2.00	0.44	5.00	0.00	0.00	0.00
20.40	2.00	0.44	5.00	0.00	0.00	0.00
20.45	2.00	0.44	5.00	0.00	0.00	0.00
20.50	2.00	0.44	5.00	0.00	0.00	0.00
20.55	2.00	0.44	5.00	0.00	0.00	0.00
20.60	2.00	0.44	5.00	0.00	0.00	0.00
20.65	2.00	0.44	5.00	0.00	0.00	0.00
20.70	2.00	0.44	5.00	0.00	0.00	0.00
20.75	2.00	0.44	5.00	0.00	0.00	0.00
20.80	2.00	0.44	5.00	0.00	0.00	0.00
20.85	2.00	0.44	5.00	0.00	0.00	0.00
20.90	2.00	0.44	5.00	0.00	0.00	0.00
20.95	2.00	0.44	5.00	0.00	0.00	0.00
21.00	2.00	0.44	5.00	0.00	0.00	0.00
21.05	2.00	0.44	5.00	0.00	0.00	0.00
21.10	2.00	0.44	5.00	0.00	0.00	0.00
21.15	2.00	0.44	5.00	0.00	0.00	0.00
21.20	2.00	0.44	5.00	0.00	0.00	0.00
21.25	2.00	0.44	5.00	0.00	0.00	0.00
21.30	2.00	0.44	5.00	0.00	0.00	0.00
21.35	2.00	0.44	5.00	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
21.40	2.00	0.45	5.00	0.00	0.00	0.00
21.45	2.00	0.45	5.00	0.00	0.00	0.00
21.50	2.00	0.45	5.00	0.00	0.00	0.00
21.55	2.00	0.45	5.00	0.00	0.00	0.00
21.60	2.00	0.45	5.00	0.00	0.00	0.00
21.65	2.00	0.45	5.00	0.00	0.00	0.00
21.70	2.00	0.45	5.00	0.00	0.00	0.00
21.75	2.00	0.45	5.00	0.00	0.00	0.00
21.80	2.00	0.45	5.00	0.00	0.00	0.00
21.85	2.00	0.45	5.00	0.00	0.00	0.00
21.90	2.00	0.45	5.00	0.00	0.00	0.00
21.95	2.00	0.45	5.00	0.00	0.00	0.00
22.00	2.00	0.45	5.00	0.00	0.00	0.00
22.05	2.00	0.45	5.00	0.00	0.00	0.00
22.10	2.00	0.45	5.00	0.00	0.00	0.00
22.15	2.00	0.45	5.00	0.00	0.00	0.00
22.20	2.00	0.45	5.00	0.00	0.00	0.00
22.25	2.00	0.45	5.00	0.00	0.00	0.00
22.30	2.00	0.45	5.00	0.00	0.00	0.00
22.35	2.00	0.45	5.00	0.00	0.00	0.00
22.40	2.00	0.45	5.00	0.00	0.00	0.00
22.45	2.00	0.45	5.00	0.00	0.00	0.00
22.50	2.00	0.45	5.00	0.00	0.00	0.00
22.55	2.00	0.45	5.00	0.00	0.00	0.00
22.60	2.00	0.45	5.00	0.00	0.00	0.00
22.65	2.00	0.45	5.00	0.00	0.00	0.00
22.70	2.00	0.45	5.00	0.00	0.00	0.00
22.75	2.00	0.45	5.00	0.00	0.00	0.00
22.80	2.00	0.45	5.00	0.00	0.00	0.00
22.85	2.00	0.45	5.00	0.00	0.00	0.00
22.90	2.00	0.46	5.00	0.00	0.00	0.00
22.95	2.00	0.46	5.00	0.00	0.00	0.00
23.00	2.00	0.46	5.00	0.00	0.00	0.00
23.05	2.00	0.46	5.00	0.00	0.00	0.00
23.10	2.00	0.46	5.00	0.00	0.00	0.00
23.15	2.00	0.46	5.00	0.00	0.00	0.00
23.20	2.00	0.46	5.00	0.00	0.00	0.00
23.25	2.00	0.46	5.00	0.00	0.00	0.00
23.30	2.00	0.46	5.00	0.00	0.00	0.00
23.35	2.00	0.46	5.00	0.00	0.00	0.00
23.40	2.00	0.46	5.00	0.00	0.00	0.00
23.45	2.00	0.46	5.00	0.00	0.00	0.00
23.50	2.00	0.46	5.00	0.00	0.00	0.00
23.55	2.00	0.46	5.00	0.00	0.00	0.00
23.60	2.00	0.46	5.00	0.00	0.00	0.00
23.65	2.00	0.46	5.00	0.00	0.00	0.00
23.70	2.00	0.46	5.00	0.00	0.00	0.00
23.75	2.00	0.46	5.00	0.00	0.00	0.00
23.80	2.00	0.46	4.99	0.00	0.00	0.00
23.85	2.00	0.46	4.99	0.00	0.00	0.00
23.90	2.00	0.46	4.99	0.00	0.00	0.00
23.95	2.00	0.46	4.98	0.00	0.00	0.00
24.00	2.00	0.46	4.98	0.00	0.00	0.00
24.05	2.00	0.46	4.98	0.00	0.00	0.00
24.10	2.00	0.46	4.97	0.00	0.00	0.00
24.15	2.00	0.46	4.97	0.00	0.00	0.00
24.20	2.00	0.46	4.97	0.00	0.00	0.00
24.25	2.00	0.46	4.96	0.00	0.00	0.00
24.30	2.00	0.46	4.96	0.00	0.00	0.00
24.35	2.00	0.46	4.96	0.00	0.00	0.00
24.40	2.00	0.46	4.95	0.00	0.00	0.00
24.45	2.00	0.46	4.95	0.00	0.00	0.00
24.50	2.00	0.46	4.95	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
24.55	2.00	0.47	4.95	0.00	0.00	0.00
24.60	2.00	0.47	4.94	0.00	0.00	0.00
24.65	2.00	0.47	4.94	0.00	0.00	0.00
24.70	2.00	0.47	4.94	0.00	0.00	0.00
24.75	2.00	0.47	4.93	0.00	0.00	0.00
24.80	2.00	0.47	4.93	0.00	0.00	0.00
24.85	2.00	0.47	4.93	0.00	0.00	0.00
24.90	2.00	0.47	4.92	0.00	0.00	0.00
24.95	2.00	0.47	4.92	0.00	0.00	0.00
25.00	2.00	0.47	4.92	0.00	0.00	0.00
25.05	2.00	0.47	4.91	0.00	0.00	0.00
25.10	2.00	0.47	4.91	0.00	0.00	0.00
25.15	2.00	0.47	4.91	0.00	0.00	0.00
25.20	2.00	0.47	4.91	0.00	0.00	0.00
25.25	2.00	0.47	4.90	0.00	0.00	0.00
25.30	2.00	0.47	4.90	0.00	0.00	0.00
25.35	2.00	0.47	4.90	0.00	0.00	0.00
25.40	2.00	0.47	4.89	0.00	0.00	0.00
25.45	2.00	0.47	4.89	0.00	0.00	0.00
25.50	2.00	0.47	4.89	0.00	0.00	0.00
25.55	2.00	0.47	4.88	0.00	0.00	0.00
25.60	2.00	0.47	4.88	0.00	0.00	0.00
25.65	2.00	0.47	4.88	0.00	0.00	0.00
25.70	2.00	0.47	4.88	0.00	0.00	0.00
25.75	2.00	0.47	4.87	0.00	0.00	0.00
25.80	2.00	0.47	4.87	0.00	0.00	0.00
25.85	2.00	0.47	4.87	0.00	0.00	0.00
25.90	2.00	0.47	4.86	0.00	0.00	0.00
25.95	2.00	0.47	4.86	0.00	0.00	0.00
26.00	2.00	0.47	4.86	0.00	0.00	0.00
26.05	2.00	0.47	4.86	0.00	0.00	0.00
26.10	2.00	0.47	4.85	0.00	0.00	0.00
26.15	2.00	0.47	4.85	0.00	0.00	0.00
26.20	2.00	0.47	4.85	0.00	0.00	0.00
26.25	2.00	0.47	4.84	0.00	0.00	0.00
26.30	2.00	0.48	4.84	0.00	0.00	0.00
26.35	2.00	0.48	4.84	0.00	0.00	0.00
26.40	2.00	0.48	4.84	0.00	0.00	0.00
26.45	2.00	0.48	4.83	0.00	0.00	0.00
26.50	2.00	0.48	4.83	0.00	0.00	0.00
26.55	2.00	0.48	4.83	0.00	0.00	0.00
26.60	2.00	0.48	4.83	0.00	0.00	0.00
26.65	2.00	0.48	4.82	0.00	0.00	0.00
26.70	2.00	0.48	4.82	0.00	0.00	0.00
26.75	2.00	0.48	4.82	0.00	0.00	0.00
26.80	2.00	0.48	4.81	0.00	0.00	0.00
26.85	2.00	0.48	4.81	0.00	0.00	0.00
26.90	2.00	0.48	4.81	0.00	0.00	0.00
26.95	2.00	0.48	4.81	0.00	0.00	0.00
27.00	2.00	0.48	4.80	0.00	0.00	0.00
27.05	2.00	0.48	4.80	0.00	0.00	0.00
27.10	2.00	0.48	4.80	0.00	0.00	0.00
27.15	2.00	0.48	4.80	0.00	0.00	0.00
27.20	2.00	0.48	4.79	0.00	0.00	0.00
27.25	2.00	0.48	4.79	0.00	0.00	0.00
27.30	2.00	0.48	4.79	0.00	0.00	0.00
27.35	2.00	0.48	4.79	0.00	0.00	0.00
27.40	2.00	0.48	4.78	0.00	0.00	0.00
27.45	2.00	0.48	4.78	0.00	0.00	0.00
27.50	2.00	0.48	4.78	0.00	0.00	0.00
27.55	2.00	0.48	4.78	0.00	0.00	0.00
27.60	2.00	0.48	4.77	0.00	0.00	0.00
27.65	2.00	0.48	4.77	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
27.70	2.00	0.48	4.77	0.00	0.00	0.00
27.75	2.00	0.48	4.77	0.00	0.00	0.00
27.80	2.00	0.48	4.76	0.00	0.00	0.00
27.85	2.00	0.48	4.76	0.00	0.00	0.00
27.90	2.00	0.48	4.76	0.00	0.00	0.00
27.95	2.00	0.48	4.76	0.00	0.00	0.00
28.00	2.00	0.48	4.75	0.00	0.00	0.00
28.05	2.00	0.48	4.75	0.00	0.00	0.00
28.10	2.00	0.48	4.75	0.00	0.00	0.00
28.15	2.00	0.48	4.75	0.00	0.00	0.00
28.20	2.00	0.48	4.74	0.00	0.00	0.00
28.25	2.00	0.49	4.74	0.00	0.00	0.00
28.30	2.00	0.49	4.74	0.00	0.00	0.00
28.35	2.00	0.49	4.74	0.00	0.00	0.00
28.40	2.00	0.49	4.73	0.00	0.00	0.00
28.45	2.00	0.49	4.73	0.00	0.00	0.00
28.50	2.00	0.49	4.73	0.00	0.00	0.00
28.55	2.00	0.49	4.73	0.00	0.00	0.00
28.60	2.00	0.49	4.72	0.00	0.00	0.00
28.65	2.01	0.49	4.75	0.00	0.00	0.00
28.70	2.01	0.49	4.75	0.00	0.00	0.00
28.75	2.01	0.49	4.74	0.00	0.00	0.00
28.80	2.01	0.49	4.74	0.00	0.00	0.00
28.85	2.01	0.49	4.74	0.00	0.00	0.00
28.90	2.01	0.49	4.74	0.00	0.00	0.00
28.95	2.01	0.49	4.73	0.00	0.00	0.00
29.00	2.01	0.49	4.73	0.00	0.00	0.00
29.05	2.01	0.49	4.73	0.00	0.00	0.00
29.10	2.01	0.49	4.72	0.00	0.00	0.00
29.15	2.01	0.49	4.72	0.00	0.00	0.00
29.20	2.01	0.49	4.72	0.00	0.00	0.00
29.25	2.01	0.49	4.72	0.00	0.00	0.00
29.30	2.01	0.49	4.71	0.00	0.00	0.00
29.35	2.01	0.49	4.71	0.00	0.00	0.00
29.40	2.01	0.49	4.71	0.00	0.00	0.00
29.45	2.01	0.49	4.70	0.00	0.00	0.00
29.50	2.01	0.49	4.70	0.00	0.00	0.00
29.55	2.01	0.49	4.70	0.00	0.00	0.00
29.60	2.01	0.49	4.70	0.00	0.00	0.00
29.65	2.01	0.49	4.69	0.00	0.00	0.00
29.70	2.01	0.49	4.69	0.00	0.00	0.00
29.75	2.01	0.49	4.69	0.00	0.00	0.00
29.80	2.01	0.49	4.68	0.00	0.00	0.00
29.85	2.01	0.49	4.68	0.00	0.00	0.00
29.90	2.01	0.49	4.68	0.00	0.00	0.00
29.95	2.01	0.49	4.68	0.00	0.00	0.00
30.00	2.01	0.49	4.67	0.00	0.00	0.00
30.05	2.01	0.49	4.67	0.00	0.00	0.00
30.10	2.01	0.49	4.67	0.00	0.00	0.00
30.15	2.00	0.49	4.67	0.00	0.00	0.00
30.20	2.00	0.49	4.67	0.00	0.00	0.00
30.25	2.00	0.49	4.67	0.00	0.00	0.00
30.30	2.00	0.49	4.67	0.00	0.00	0.00
30.35	2.00	0.49	4.67	0.00	0.00	0.00
30.40	2.00	0.49	4.66	0.00	0.00	0.00
30.45	2.00	0.49	4.66	0.00	0.00	0.00
30.50	2.00	0.49	4.66	0.00	0.00	0.00
30.55	2.00	0.49	4.66	0.00	0.00	0.00
30.60	2.00	0.49	4.66	0.00	0.00	0.00
30.65	2.00	0.49	4.66	0.00	0.00	0.00
30.70	2.00	0.49	4.66	0.00	0.00	0.00
30.75	2.00	0.49	4.66	0.00	0.00	0.00
30.80	2.00	0.49	4.65	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
30.85	2.00	0.49	4.65	0.00	0.00	0.00
30.90	2.00	0.49	4.65	0.00	0.00	0.00
30.95	2.00	0.49	4.65	0.00	0.00	0.00
31.00	2.00	0.49	4.65	0.00	0.00	0.00
31.05	2.00	0.49	4.65	0.00	0.00	0.00
31.10	2.00	0.50	4.65	0.00	0.00	0.00
31.15	2.00	0.50	4.65	0.00	0.00	0.00
31.20	2.00	0.50	4.65	0.00	0.00	0.00
31.25	2.00	0.50	4.64	0.00	0.00	0.00
31.30	2.00	0.50	4.64	0.00	0.00	0.00
31.35	2.00	0.50	4.64	0.00	0.00	0.00
31.40	2.00	0.50	4.64	0.00	0.00	0.00
31.45	2.00	0.50	4.64	0.00	0.00	0.00
31.50	2.00	0.50	4.64	0.00	0.00	0.00
31.55	2.00	0.50	4.64	0.00	0.00	0.00
31.60	2.00	0.50	4.64	0.00	0.00	0.00
31.65	2.00	0.50	4.64	0.00	0.00	0.00
31.70	2.00	0.50	4.63	0.00	0.00	0.00
31.75	2.00	0.50	4.63	0.00	0.00	0.00
31.80	2.00	0.50	4.63	0.00	0.00	0.00
31.85	2.00	0.50	4.63	0.00	0.00	0.00
31.90	2.00	0.50	4.63	0.00	0.00	0.00
31.95	2.00	0.50	4.63	0.00	0.00	0.00
32.00	2.00	0.50	4.63	0.00	0.00	0.00
32.05	2.00	0.50	4.63	0.00	0.00	0.00
32.10	2.00	0.50	4.63	0.00	0.00	0.00
32.15	2.00	0.50	4.63	0.00	0.00	0.00
32.20	1.99	0.50	4.62	0.00	0.00	0.00
32.25	1.99	0.50	4.62	0.00	0.00	0.00
32.30	1.99	0.50	4.62	0.00	0.00	0.00
32.35	1.99	0.50	4.62	0.00	0.00	0.00
32.40	1.99	0.50	4.62	0.00	0.00	0.00
32.45	1.99	0.50	4.62	0.00	0.00	0.00
32.50	1.99	0.50	4.62	0.00	0.00	0.00
32.55	1.99	0.50	4.62	0.00	0.00	0.00
32.60	1.99	0.50	4.62	0.00	0.00	0.00
32.65	1.99	0.50	4.62	0.00	0.00	0.00
32.70	1.99	0.50	4.61	0.00	0.00	0.00
32.75	1.99	0.50	4.61	0.00	0.00	0.00
32.80	1.99	0.50	4.61	0.00	0.00	0.00
32.85	1.99	0.50	4.61	0.00	0.00	0.00
32.90	1.99	0.50	4.61	0.00	0.00	0.00
32.95	1.99	0.50	4.61	0.00	0.00	0.00
33.00	1.99	0.50	4.61	0.00	0.00	0.00
33.05	1.99	0.50	4.61	0.00	0.00	0.00
33.10	1.99	0.50	4.61	0.00	0.00	0.00
33.15	1.99	0.50	4.61	0.00	0.00	0.00
33.20	1.99	0.50	4.61	0.00	0.00	0.00
33.25	1.99	0.50	4.60	0.00	0.00	0.00
33.30	1.99	0.50	4.60	0.00	0.00	0.00
33.35	1.99	0.50	4.60	0.00	0.00	0.00
33.40	1.99	0.50	4.60	0.00	0.00	0.00
33.45	1.99	0.50	4.60	0.00	0.00	0.00
33.50	1.99	0.50	4.60	0.00	0.00	0.00
33.55	1.99	0.50	4.60	0.00	0.00	0.00
33.60	1.99	0.50	4.60	0.00	0.00	0.00
33.65	1.99	0.50	4.60	0.00	0.00	0.00
33.70	1.99	0.50	4.60	0.00	0.00	0.00
33.75	1.99	0.50	4.60	0.00	0.00	0.00
33.80	1.99	0.50	4.60	0.00	0.00	0.00
33.85	1.99	0.50	4.59	0.00	0.00	0.00
33.90	1.99	0.50	4.59	0.00	0.00	0.00
33.95	1.99	0.50	4.59	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
34.00	1.99	0.50	4.59	0.00	0.00	0.00
34.05	1.99	0.50	4.59	0.00	0.00	0.00
34.10	1.99	0.50	4.59	0.00	0.00	0.00
34.15	1.99	0.50	4.59	0.00	0.00	0.00
34.20	1.99	0.50	4.59	0.00	0.00	0.00
34.25	1.99	0.50	4.59	0.00	0.00	0.00
34.30	1.98	0.50	4.59	0.00	0.00	0.00
34.35	1.98	0.50	4.59	0.00	0.00	0.00
34.40	1.98	0.50	4.59	0.00	0.00	0.00
34.45	1.98	0.50	4.59	0.00	0.00	0.00
34.50	1.98	0.50	4.58	0.00	0.00	0.00
34.55	1.98	0.50	4.58	0.00	0.00	0.00
34.60	1.98	0.50	4.58	0.00	0.00	0.00
34.65	1.98	0.50	4.58	0.00	0.00	0.00
34.70	1.98	0.50	4.58	0.00	0.00	0.00
34.75	1.98	0.50	4.58	0.00	0.00	0.00
34.80	1.98	0.50	4.58	0.00	0.00	0.00
34.85	1.98	0.50	4.58	0.00	0.00	0.00
34.90	1.98	0.50	4.58	0.00	0.00	0.00
34.95	1.98	0.50	4.58	0.00	0.00	0.00
35.00	1.98	0.50	4.58	0.00	0.00	0.00
35.05	1.98	0.50	4.58	0.00	0.00	0.00
35.10	1.98	0.50	4.58	0.00	0.00	0.00
35.15	1.98	0.50	4.58	0.00	0.00	0.00
35.20	1.98	0.50	4.57	0.00	0.00	0.00
35.25	1.98	0.50	4.57	0.00	0.00	0.00
35.30	1.98	0.50	4.57	0.00	0.00	0.00
35.35	1.98	0.50	4.57	0.00	0.00	0.00
35.40	1.98	0.50	4.57	0.00	0.00	0.00
35.45	1.98	0.50	4.57	0.00	0.00	0.00
35.50	1.98	0.50	4.57	0.00	0.00	0.00
35.55	1.98	0.50	4.57	0.00	0.00	0.00
35.60	1.98	0.50	4.57	0.00	0.00	0.00
35.65	1.98	0.50	4.57	0.00	0.00	0.00
35.70	1.98	0.50	4.57	0.00	0.00	0.00
35.75	1.98	0.50	4.57	0.00	0.00	0.00
35.80	1.98	0.50	4.57	0.00	0.00	0.00
35.85	1.98	0.50	4.57	0.00	0.00	0.00
35.90	1.98	0.50	4.57	0.00	0.00	0.00
35.95	1.98	0.50	4.57	0.00	0.00	0.00
36.00	1.98	0.50	4.57	0.00	0.00	0.00
36.05	1.98	0.50	4.56	0.00	0.00	0.00
36.10	1.98	0.50	4.56	0.00	0.00	0.00
36.15	1.98	0.50	4.56	0.00	0.00	0.00
36.20	1.98	0.50	4.56	0.00	0.00	0.00
36.25	1.98	0.50	4.56	0.00	0.00	0.00
36.30	1.98	0.50	4.56	0.00	0.00	0.00
36.35	1.97	0.50	4.56	0.00	0.00	0.00
36.40	1.97	0.50	4.56	0.00	0.00	0.00
36.45	1.97	0.50	4.56	0.00	0.00	0.00
36.50	1.97	0.50	4.56	0.00	0.00	0.00
36.55	1.97	0.50	4.56	0.00	0.00	0.00
36.60	1.97	0.50	4.56	0.00	0.00	0.00
36.65	1.97	0.50	4.56	0.00	0.00	0.00
36.70	1.97	0.50	4.56	0.00	0.00	0.00
36.75	1.97	0.50	4.56	0.00	0.00	0.00
36.80	1.97	0.50	4.56	0.00	0.00	0.00
36.85	1.97	0.50	4.56	0.00	0.00	0.00
36.90	1.97	0.50	4.56	0.00	0.00	0.00
36.95	1.97	0.50	4.56	0.00	0.00	0.00
37.00	1.97	0.50	4.55	0.00	0.00	0.00
37.05	1.97	0.50	4.55	0.00	0.00	0.00
37.10	1.97	0.50	4.55	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
37.15	1.97	0.50	4.55	0.00	0.00	0.00
37.20	1.97	0.50	4.55	0.00	0.00	0.00
37.25	1.97	0.50	4.55	0.00	0.00	0.00
37.30	1.97	0.50	4.55	0.00	0.00	0.00
37.35	1.97	0.50	4.55	0.00	0.00	0.00
37.40	1.97	0.50	4.55	0.00	0.00	0.00
37.45	1.97	0.50	4.55	0.00	0.00	0.00
37.50	1.97	0.50	4.55	0.00	0.00	0.00
37.55	1.97	0.50	4.55	0.00	0.00	0.00
37.60	1.97	0.50	4.55	0.00	0.00	0.00
37.65	1.97	0.50	4.55	0.00	0.00	0.00
37.70	1.97	0.50	4.55	0.00	0.00	0.00
37.75	1.97	0.50	4.55	0.00	0.00	0.00
37.80	1.97	0.50	4.55	0.00	0.00	0.00
37.85	1.97	0.50	4.55	0.00	0.00	0.00
37.90	1.97	0.50	4.55	0.00	0.00	0.00
37.95	1.97	0.50	4.55	0.00	0.00	0.00
38.00	1.97	0.50	4.55	0.00	0.00	0.00
38.05	1.97	0.50	4.55	0.00	0.00	0.00
38.10	1.97	0.50	4.55	0.00	0.00	0.00
38.15	1.97	0.50	4.55	0.00	0.00	0.00
38.20	1.97	0.50	4.54	0.00	0.00	0.00
38.25	1.97	0.50	4.54	0.00	0.00	0.00
38.30	1.97	0.50	4.54	0.00	0.00	0.00
38.35	1.97	0.50	4.54	0.00	0.00	0.00
38.40	1.97	0.50	4.54	0.00	0.00	0.00
38.45	1.97	0.50	4.54	0.00	0.00	0.00
38.50	1.96	0.50	4.54	0.00	0.00	0.00
38.55	1.96	0.50	4.54	0.00	0.00	0.00
38.60	1.96	0.50	4.54	0.00	0.00	0.00
38.65	1.96	0.50	4.54	0.00	0.00	0.00
38.70	1.96	0.50	4.54	0.00	0.00	0.00
38.75	1.96	0.50	4.54	0.00	0.00	0.00
38.80	1.96	0.50	4.54	0.00	0.00	0.00
38.85	1.96	0.50	4.54	0.00	0.00	0.00
38.90	1.96	0.50	4.54	0.00	0.00	0.00
38.95	1.96	0.50	4.54	0.00	0.00	0.00
39.00	1.96	0.50	4.54	0.00	0.00	0.00
39.05	1.96	0.50	4.54	0.00	0.00	0.00
39.10	1.96	0.50	4.54	0.00	0.00	0.00
39.15	1.96	0.50	4.54	0.00	0.00	0.00
39.20	1.96	0.50	4.54	0.00	0.00	0.00
39.25	1.96	0.50	4.54	0.00	0.00	0.00
39.30	1.96	0.50	4.54	0.00	0.00	0.00
39.35	1.96	0.50	4.54	0.00	0.00	0.00
39.40	1.96	0.50	4.54	0.00	0.00	0.00
39.45	1.96	0.50	4.54	0.00	0.00	0.00
39.50	1.96	0.50	4.54	0.00	0.00	0.00
39.55	1.96	0.50	4.54	0.00	0.00	0.00
39.60	1.96	0.50	4.54	0.00	0.00	0.00
39.65	1.96	0.50	4.54	0.00	0.00	0.00
39.70	1.96	0.50	4.54	0.00	0.00	0.00
39.75	1.96	0.50	4.54	0.00	0.00	0.00
39.80	1.96	0.50	4.54	0.00	0.00	0.00
39.85	1.96	0.50	4.54	0.00	0.00	0.00
39.90	1.96	0.50	4.54	0.00	0.00	0.00
39.95	1.96	0.50	4.53	0.00	0.00	0.00
40.00	1.96	0.50	4.53	0.00	0.00	0.00
40.05	1.96	0.50	4.53	0.00	0.00	0.00
40.10	1.96	0.50	4.53	0.00	0.00	0.00
40.15	1.96	0.50	4.53	0.00	0.00	0.00
40.20	1.96	0.50	4.53	0.00	0.00	0.00
40.25	1.96	0.50	4.53	0.00	0.00	0.00

		16-6239-Xebec	Signal	Hill-B4.sum		
40.30	1.96	0.50	4.53	0.00	0.00	0.00
40.35	1.96	0.50	4.53	0.00	0.00	0.00
40.40	1.96	0.50	4.53	0.00	0.00	0.00
40.45	1.96	0.50	4.53	0.00	0.00	0.00
40.50	1.96	0.50	4.53	0.00	0.00	0.00
40.55	1.96	0.50	4.53	0.00	0.00	0.00
40.60	1.95	0.50	4.53	0.00	0.00	0.00
40.65	1.95	0.50	4.53	0.00	0.00	0.00
40.70	1.95	0.50	4.53	0.00	0.00	0.00
40.75	1.95	0.50	4.53	0.00	0.00	0.00
40.80	1.95	0.50	4.53	0.00	0.00	0.00
40.85	1.95	0.50	4.53	0.00	0.00	0.00
40.90	1.95	0.50	4.53	0.00	0.00	0.00
40.95	1.95	0.50	4.53	0.00	0.00	0.00
41.00	1.95	0.50	4.53	0.00	0.00	0.00
41.05	1.95	0.50	4.53	0.00	0.00	0.00
41.10	1.95	0.50	4.53	0.00	0.00	0.00
41.15	1.95	0.50	4.53	0.00	0.00	0.00
41.20	1.95	0.50	4.53	0.00	0.00	0.00
41.25	1.95	0.50	4.53	0.00	0.00	0.00
41.30	1.95	0.50	4.53	0.00	0.00	0.00
41.35	1.95	0.50	4.53	0.00	0.00	0.00
41.40	1.95	0.50	4.53	0.00	0.00	0.00
41.45	1.95	0.50	4.53	0.00	0.00	0.00
41.50	1.95	0.50	4.53	0.00	0.00	0.00
41.55	1.95	0.50	4.53	0.00	0.00	0.00
41.60	1.95	0.50	4.53	0.00	0.00	0.00
41.65	1.95	0.50	4.53	0.00	0.00	0.00
41.70	1.95	0.50	4.53	0.00	0.00	0.00
41.75	1.95	0.49	4.53	0.00	0.00	0.00
41.80	1.95	0.49	4.53	0.00	0.00	0.00
41.85	1.95	0.49	4.53	0.00	0.00	0.00
41.90	1.95	0.49	4.53	0.00	0.00	0.00
41.95	1.95	0.49	4.53	0.00	0.00	0.00
42.00	1.95	0.49	4.53	0.00	0.00	0.00
42.05	1.95	0.49	4.53	0.00	0.00	0.00
42.10	1.95	0.49	4.53	0.00	0.00	0.00
42.15	1.95	0.49	4.53	0.00	0.00	0.00
42.20	1.95	0.49	4.53	0.00	0.00	0.00
42.25	1.95	0.49	4.53	0.00	0.00	0.00
42.30	1.95	0.49	4.53	0.00	0.00	0.00
42.35	1.95	0.49	4.53	0.00	0.00	0.00
42.40	1.95	0.49	4.53	0.00	0.00	0.00
42.45	1.95	0.49	4.53	0.00	0.00	0.00
42.50	1.95	0.49	4.53	0.00	0.00	0.00
42.55	1.95	0.49	4.53	0.00	0.00	0.00
42.60	1.95	0.49	4.53	0.00	0.00	0.00
42.65	1.95	0.49	4.53	0.00	0.00	0.00
42.70	1.95	0.49	4.53	0.00	0.00	0.00
42.75	1.95	0.49	4.53	0.00	0.00	0.00
42.80	1.94	0.49	4.53	0.00	0.00	0.00
42.85	1.94	0.49	4.53	0.00	0.00	0.00
42.90	1.94	0.49	4.53	0.00	0.00	0.00
42.95	1.94	0.49	4.53	0.00	0.00	0.00
43.00	1.94	0.49	4.53	0.00	0.00	0.00
43.05	1.94	0.49	4.53	0.00	0.00	0.00
43.10	1.94	0.49	4.53	0.00	0.00	0.00
43.15	1.94	0.49	4.53	0.00	0.00	0.00
43.20	1.94	0.49	4.53	0.00	0.00	0.00
43.25	1.94	0.49	4.53	0.00	0.00	0.00
43.30	1.94	0.49	4.53	0.00	0.00	0.00
43.35	1.94	0.49	4.53	0.00	0.00	0.00
43.40	1.94	0.49	4.53	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
43.45	1.94	0.49	4.53	0.00	0.00	0.00
43.50	1.94	0.49	4.53	0.00	0.00	0.00
43.55	1.94	0.49	4.53	0.00	0.00	0.00
43.60	1.94	0.49	4.53	0.00	0.00	0.00
43.65	1.94	0.49	4.53	0.00	0.00	0.00
43.70	1.94	0.49	4.53	0.00	0.00	0.00
43.75	1.94	0.49	4.53	0.00	0.00	0.00
43.80	1.94	0.49	4.53	0.00	0.00	0.00
43.85	1.94	0.49	4.53	0.00	0.00	0.00
43.90	1.94	0.49	4.53	0.00	0.00	0.00
43.95	1.94	0.49	4.53	0.00	0.00	0.00
44.00	1.94	0.49	4.53	0.00	0.00	0.00
44.05	1.94	0.49	4.53	0.00	0.00	0.00
44.10	1.94	0.49	4.53	0.00	0.00	0.00
44.15	1.94	0.49	4.53	0.00	0.00	0.00
44.20	1.94	0.49	4.53	0.00	0.00	0.00
44.25	1.94	0.49	4.53	0.00	0.00	0.00
44.30	1.94	0.49	4.53	0.00	0.00	0.00
44.35	1.94	0.49	4.53	0.00	0.00	0.00
44.40	1.94	0.49	4.53	0.00	0.00	0.00
44.45	1.94	0.49	4.53	0.00	0.00	0.00
44.50	1.94	0.49	4.53	0.00	0.00	0.00
44.55	1.94	0.49	4.53	0.00	0.00	0.00
44.60	1.94	0.49	4.53	0.00	0.00	0.00
44.65	1.94	0.49	4.53	0.00	0.00	0.00
44.70	1.94	0.49	4.53	0.00	0.00	0.00
44.75	1.94	0.49	4.53	0.00	0.00	0.00
44.80	1.94	0.49	4.53	0.00	0.00	0.00
44.85	1.94	0.49	4.53	0.00	0.00	0.00
44.90	1.94	0.49	4.53	0.00	0.00	0.00
44.95	1.94	0.49	4.53	0.00	0.00	0.00
45.00	1.93	0.49	4.54	0.00	0.00	0.00
45.05	1.93	0.49	4.54	0.00	0.00	0.00
45.10	1.93	0.49	4.54	0.00	0.00	0.00
45.15	1.93	0.49	4.54	0.00	0.00	0.00
45.20	1.93	0.49	4.54	0.00	0.00	0.00
45.25	1.93	0.49	4.54	0.00	0.00	0.00
45.30	1.93	0.49	4.54	0.00	0.00	0.00
45.35	1.93	0.49	4.54	0.00	0.00	0.00
45.40	1.93	0.49	4.54	0.00	0.00	0.00
45.45	1.93	0.49	4.54	0.00	0.00	0.00
45.50	1.93	0.49	4.54	0.00	0.00	0.00
45.55	1.93	0.49	4.54	0.00	0.00	0.00
45.60	1.93	0.49	4.54	0.00	0.00	0.00
45.65	1.93	0.49	4.54	0.00	0.00	0.00
45.70	1.93	0.49	4.54	0.00	0.00	0.00
45.75	1.93	0.49	4.54	0.00	0.00	0.00
45.80	1.93	0.49	4.54	0.00	0.00	0.00
45.85	1.93	0.49	4.54	0.00	0.00	0.00
45.90	1.93	0.49	4.54	0.00	0.00	0.00
45.95	1.93	0.49	4.54	0.00	0.00	0.00
46.00	1.93	0.49	4.54	0.00	0.00	0.00
46.05	1.93	0.49	4.54	0.00	0.00	0.00
46.10	1.93	0.49	4.54	0.00	0.00	0.00
46.15	1.93	0.49	4.54	0.00	0.00	0.00
46.20	1.93	0.49	4.54	0.00	0.00	0.00
46.25	1.93	0.49	4.54	0.00	0.00	0.00
46.30	1.93	0.49	4.54	0.00	0.00	0.00
46.35	1.93	0.49	4.54	0.00	0.00	0.00
46.40	1.93	0.49	4.54	0.00	0.00	0.00
46.45	1.93	0.49	4.54	0.00	0.00	0.00
46.50	1.93	0.49	4.54	0.00	0.00	0.00
46.55	1.93	0.49	4.54	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
46.60	1.93	0.49	4.54	0.00	0.00	0.00
46.65	1.93	0.49	4.54	0.00	0.00	0.00
46.70	1.93	0.49	4.54	0.00	0.00	0.00
46.75	1.93	0.49	4.54	0.00	0.00	0.00
46.80	1.93	0.49	4.54	0.00	0.00	0.00
46.85	1.93	0.49	4.54	0.00	0.00	0.00
46.90	1.93	0.49	4.55	0.00	0.00	0.00
46.95	1.93	0.49	4.55	0.00	0.00	0.00
47.00	1.93	0.49	4.55	0.00	0.00	0.00
47.05	1.93	0.49	4.55	0.00	0.00	0.00
47.10	1.93	0.49	4.55	0.00	0.00	0.00
47.15	1.93	0.49	4.55	0.00	0.00	0.00
47.20	1.92	0.49	4.55	0.00	0.00	0.00
47.25	1.92	0.49	4.55	0.00	0.00	0.00
47.30	1.92	0.49	4.55	0.00	0.00	0.00
47.35	1.92	0.49	4.55	0.00	0.00	0.00
47.40	1.92	0.49	4.55	0.00	0.00	0.00
47.45	1.92	0.49	4.55	0.00	0.00	0.00
47.50	1.92	0.49	4.55	0.00	0.00	0.00
47.55	1.92	0.49	4.55	0.00	0.00	0.00
47.60	1.92	0.49	4.55	0.00	0.00	0.00
47.65	1.92	0.49	4.55	0.00	0.00	0.00
47.70	1.92	0.49	4.55	0.00	0.00	0.00
47.75	1.92	0.49	4.55	0.00	0.00	0.00
47.80	1.92	0.49	4.55	0.00	0.00	0.00
47.85	1.92	0.49	4.55	0.00	0.00	0.00
47.90	1.92	0.49	4.55	0.00	0.00	0.00
47.95	1.92	0.49	4.55	0.00	0.00	0.00
48.00	1.92	0.49	4.55	0.00	0.00	0.00
48.05	1.92	0.49	4.55	0.00	0.00	0.00
48.10	1.92	0.49	4.55	0.00	0.00	0.00
48.15	1.92	0.49	4.55	0.00	0.00	0.00
48.20	1.92	0.48	4.56	0.00	0.00	0.00
48.25	1.92	0.48	4.56	0.00	0.00	0.00
48.30	1.92	0.48	4.56	0.00	0.00	0.00
48.35	1.92	0.48	4.56	0.00	0.00	0.00
48.40	1.92	0.48	4.56	0.00	0.00	0.00
48.45	1.92	0.48	4.56	0.00	0.00	0.00
48.50	1.92	0.48	4.56	0.00	0.00	0.00
48.55	1.92	0.48	4.56	0.00	0.00	0.00
48.60	1.92	0.48	4.56	0.00	0.00	0.00
48.65	1.92	0.48	4.56	0.00	0.00	0.00
48.70	1.92	0.48	4.56	0.00	0.00	0.00
48.75	1.92	0.48	4.56	0.00	0.00	0.00
48.80	1.92	0.48	4.56	0.00	0.00	0.00
48.85	1.92	0.48	4.56	0.00	0.00	0.00
48.90	1.92	0.48	4.56	0.00	0.00	0.00
48.95	1.92	0.48	4.56	0.00	0.00	0.00
49.00	1.92	0.48	4.56	0.00	0.00	0.00
49.05	1.92	0.48	4.56	0.00	0.00	0.00
49.10	1.92	0.48	4.56	0.00	0.00	0.00
49.15	1.92	0.48	4.56	0.00	0.00	0.00
49.20	1.92	0.48	4.56	0.00	0.00	0.00
49.25	1.92	0.48	4.56	0.00	0.00	0.00
49.30	1.92	0.48	4.57	0.00	0.00	0.00
49.35	1.92	0.48	4.57	0.00	0.00	0.00
49.40	1.92	0.48	4.57	0.00	0.00	0.00
49.45	1.91	0.48	4.57	0.00	0.00	0.00
49.50	1.91	0.48	4.57	0.00	0.00	0.00
49.55	1.91	0.48	4.57	0.00	0.00	0.00
49.60	1.91	0.48	4.57	0.00	0.00	0.00
49.65	1.91	0.48	4.57	0.00	0.00	0.00
49.70	1.91	0.48	4.57	0.00	0.00	0.00

16-6239-Xebec Signal Hill-B4.sum						
49.75	1.91	0.48	4.57	0.00	0.00	0.00
49.80	1.91	0.48	4.57	0.00	0.00	0.00
49.85	1.91	0.48	4.57	0.00	0.00	0.00
49.90	1.91	0.48	4.57	0.00	0.00	0.00
49.95	1.91	0.48	4.57	0.00	0.00	0.00
50.00	1.91	0.48	4.57	0.00	0.00	0.00
50.05	1.91	0.48	4.57	0.00	0.00	0.00
50.10	1.91	0.48	4.57	0.00	0.00	0.00
50.15	1.91	0.48	4.57	0.00	0.00	0.00
50.20	1.91	0.48	4.58	0.00	0.00	0.00
50.25	1.91	0.48	4.58	0.00	0.00	0.00
50.30	1.91	0.48	4.58	0.00	0.00	0.00
50.35	1.91	0.48	4.58	0.00	0.00	0.00
50.40	1.91	0.48	4.58	0.00	0.00	0.00
50.45	1.91	0.48	4.58	0.00	0.00	0.00
50.50	1.91	0.48	4.58	0.00	0.00	0.00
50.55	1.91	0.48	4.58	0.00	0.00	0.00
50.60	1.91	0.48	4.58	0.00	0.00	0.00
50.65	1.91	0.48	4.58	0.00	0.00	0.00
50.70	1.91	0.48	4.58	0.00	0.00	0.00
50.75	1.91	0.48	4.58	0.00	0.00	0.00
50.80	1.91	0.48	4.58	0.00	0.00	0.00
50.85	1.91	0.48	4.58	0.00	0.00	0.00
50.90	1.91	0.48	4.58	0.00	0.00	0.00
50.95	1.91	0.48	4.58	0.00	0.00	0.00
51.00	1.91	0.48	4.58	0.00	0.00	0.00
51.05	1.91	0.48	4.59	0.00	0.00	0.00
51.10	1.91	0.48	4.59	0.00	0.00	0.00
51.15	1.91	0.48	4.59	0.00	0.00	0.00
51.20	1.91	0.48	4.59	0.00	0.00	0.00
51.25	1.91	0.48	4.59	0.00	0.00	0.00
51.30	1.91	0.48	4.59	0.00	0.00	0.00
51.35	1.91	0.48	4.59	0.00	0.00	0.00
51.40	1.91	0.48	4.59	0.00	0.00	0.00
51.45	1.91	0.48	4.59	0.00	0.00	0.00
51.50	1.91	0.48	4.59	0.00	0.00	0.00

* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units Depth = ft, Stress or Pressure = tsf (atm), Unit Weight =
pcf, Settlement = in.

CRRv	Cyclic resistance ratio from soils
CSRm	Cyclic stress ratio induced by a given earthquake (with user
request factor of safety)	
F.S.	Factor of Safety against liquefaction, F.S.=CRRv/CSRm
S_sat	Settlement from saturated sands
S_dry	Settlement from Unsaturated Sands
S_all	Total Settlement from Saturated and Unsaturated Sands
NoLiq	No-Liquefy Soils