GEOTECHNICAL ENGINEERING INVESTIGATION PROPOSED GRANTVILLE DEVELOPMENT 5901 – 5927 MISSION GORGE ROAD SAN DIEGO, CALIFORNIA

PROJECT NO. 112-19097 NOVEMBER 27, 2019

PREPARED FOR:

THE PACIFIC COMPANIES

ATTENTION: MS. DARREN BERBERIAN

PREPARED BY:

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Offices Serving the Western United States



GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING CONSTRUCTION TESTING & INSPECTION

November 27, 2019

KA Project No. 112-19097

Mr. Darren Berberian The Pacific Companies (949) 599-6069 darrenb@tpchousing.com

RE: GEOTECHNICAL ENGINEERING INVESTIGATION Proposed Grantville Development 5901 – 5927 Mission Gorge Road San Diego, California

Dear Mr. Berberian:

In accordance with your request and authorization, we have completed our Geotechnical Engineering Investigation for the above-referenced site. This report summarizes the results of our field investigation, laboratory testing and engineering analyses. Based on the data obtained, our understanding of the proposed project and our engineering analyses, it is our opinion that it is feasible to develop the site as planned.

As noted in our report, Krazan & Associates should be retained to review project plans and specifications prior to the start of construction, and to observe and test earthwork and foundation construction. Observation and testing services should also be performed by our field staff during construction activities will allow us to compare conditions exposed during construction with those encountered during our investigation and to present supplemental recommendations if warranted by different site conditions.

If you have any questions regarding the information or recommendations presented in our report, or if we may be of further assistance, please contact our office at (951) 273-1011.

Respectfully submitted, KRAZAN & ASSOCIATES, INC.

James M. Kellogg, PE, GE Managing Engineer RCE No. 65092 RGE No. 2902

cc: Addressee

GEOTECHNICAL ENGINEERING INVESTIGATION PROPOSED GRANTVILLE DEVELOPMENT 5901 – 5927 MISSION GORGE ROAD SAN DIEGO, CALIFORNIA

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GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING CONSTRUCTION TESTING & INSPECTION

November 27, 2019

KA Project No. 112-19097

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INTRODUCTION

This report presents the results of our Preliminary Geotechnical Engineering Investigation for the proposed development that is understood to include construction of a new mixed use retail and multi-family residential development. The proposed development is understood to include two (2) five-story structures above one level of at grade parking. It is anticipated that the proposed construction will include trash enclosures, associated parking and drive areas, and localized landscaped areas. Discussions regarding site conditions are presented herein, together with conclusions and recommendations pertaining to site preparation, grading, utility trench backfill, drainage and landscaping, foundations, concrete floor slabs and exterior concrete flatwork, retaining walls, soil corrosivity, and pavement design.

A Vicinity Map showing the location of the site is presented on Figure 1. A Site Plan showing the approximate boring locations is presented on Figure 2. Descriptions of the field and laboratory investigations, boring log legend and boring logs are presented in Appendix A. Appendix A contains a description of the laboratory-testing phase of this study, along with the laboratory test results. Appendices B and C contain general guide specifications for earthwork and flexible pavements, respectively. If conflicts in the text of the report occur with the general specifications in the appendices, the recommendations in the text of the report have precedence.

PURPOSE AND SCOPE OF SERVICES

This geotechnical investigation was conducted to evaluate subsurface soil and groundwater conditions at the project site. Engineering analysis of the field and laboratory data was performed for the purpose of developing and providing geotechnical recommendations for use in the design and construction of the earthwork, foundation and pavement aspects of the project.

Our scope of services was outlined in our proposal dated September 30, 2019 (KA Proposal No. G19118CAC) and included the following:

• A site reconnaissance by a member of our engineering staff to evaluate the surface conditions at the project site.

- Review of selected published geologic maps, reports and literature pertinent to the site and surrounding area.
- A field investigation consisting of drilling a total of eleven (11) borings to depths ranging from approximately twenty (20) to fifty (50) feet below the existing ground surface or auger refusal for evaluation of the subsurface conditions at the project site.
- Performance of laboratory tests on representative soil samples obtained from the borings to evaluate the physical and index properties of the subsurface soils.
- Evaluation of the data obtained from the investigation and engineering analyses of the data with respect to the geotechnical aspects of structural design, site grading and paving.
- Preparation of this report summarizing the findings, results, conclusions and recommendations of our investigation.

Environmental services, such as a chemical analysis of soil and groundwater for possible environmental contaminates, were not in our scope of services.

PROPOSED CONSTRUCTION

Based on our review of the site plan and our discussions with the project representative, we understand that the proposed development will include construction of a new mixed use retail and multi-family residential development. The proposed development is understood to include two (2) five-story structures above on level of at grade parking. It is anticipated that the proposed structure will be supported on a shallow foundation system and/or drilled pier foundation system with a slab-on-grade construction for the lowest floor. Foundation loads are anticipated to be highly moderate. Concrete slabs, buried utility lines, localized landscaped areas, and asphalt and Portland cement concrete pavements areas may be associated with the development.

In the event these structural or grading details are inconsistent with the final design criteria, we should be notified so that we can evaluate the potential impacts of the changes on the recommendations presented in this report and provide an updated report as necessary.

SITE LOCATION AND SITE DESCRIPTION

Currently, there are several businesses located at the subject site. These businesses range from auto sales, auto body shop, company yards, and vacant land. The subject site is located south of the intersection of Mission Gorge Road and Mission Gorge Place, in the city of San Diego, California. The subject site is located at the physical address of 5901 - 5927 Mission Gorge Road, San Diego, California. Presently, the site is occupied by approximately seven (7) existing buildings between one and two stories above grade. Most buildings are occupied by tenants with the above businesses. Driveways, drive aisles and parking is provided all across the subject site, the surface of the parking areas are composed of asphalt and Portland cement pavements. The southeast portion of the site is part of the proposed development but no subsurface exploration was conducted for that area. The site is bound to the north and west by Mission Gorge Road and auto dealerships beyond, and to the south by light commercial

developments and the San Diego Metropolitan Transit System beyond, to the east by light commercial developments. The site is relatively flat and level, with no major changes in elevation.

GEOLOGIC SETTING

The subject site is located within the Peninsular Range Geomorphic Province. The Peninsular Range Province is characterized by northwest trending mountain ranges separated by subparallel fault zones. The mountain ranges are underlain by basement rocks consisting of Jurassic meta-volcanic and meta-sedimentary rocks and Cretaceous igneous rocks of the southern California batholith. Surface and near surface deposits of the Peninsular Range Province are composed of late Cretaceous, Tertiary, and Quaternary sediments that flank the mountain ranges to the northeast and southwest. The site is located at the eastern end of the Buena Vista Lagoon. The local geologic area is underlain by the Santiago Formation and Quaternary Alluvium consisting of unconsolidated clay, silt, sand and gravel.

The Santiago Formation is considered to be middle Eocene in age and it is correlative in part with the Torrey sandstone of the La Jolla Group. The Santiago Formation is a light-colored, poorly-bedded, poorly-indurated, fine- to medium-grained sandstone interbeded with siltstone and claystone.

Near Oceanside and Carlsbad, the Delmar Formation grades into the Santiago Formation and its boundary with the Santiago Formation occurs directly below the northernmost depositional limit of the overlying Torrey Sandstone. Subsurface lithologies at the subject site are generally composed of artificial fill, colluvium, and formational materials.

SEISMICITY AND LIQUEFACTION POTENTIAL

Seismicity is a general term relating to the abrupt release of accumulated strain energy in the rock materials of the earth's crust in a given geographical area. The recurrence of accumulation and subsequent release of strain have resulted in faults and fault systems. Fault patterns and density reflect relative degrees of regional stress through time, but do not necessarily indicate recent seismic activity; therefore, the degree of seismic risk must be determined or estimated by the seismic record in any given region. The Newport-Inglewood and Rose Canyon Fault Zones are the nearest active fault zones to the site and are located approximately 5.6 miles from the site, respectively.

Soil liquefaction is a state of soil particle suspension caused by a complete loss of strength when the effective stress drops to zero. Liquefaction normally occurs under saturated conditions in soils such as sand in which the strength is purely frictional. However, liquefaction has occurred in soils other than clean sand. Liquefaction usually occurs under vibratory conditions such as those induced by seismic events. To evaluate the liquefaction potential of the site, the following items were evaluated:

- 1) Soil type
- 2) Groundwater depth
- 3) Relative density
- 4) Initial confining pressure
- 5) Intensity and duration of ground shaking

A Seismic Hazard Map has not been published by the State of California at the time of this publication for the vicinity of the subject site. The subject site is located on the San Diego Seismic Safety Study Map. Based on a review of the map, the subject site is located in an area designated as a Liquefaction Hazard Zone by the City of San Diego. The subsurface soil conditions encountered at the site consist of relatively medium dense to very dense and very stiff to hard soils. In addition, groundwater was encountered at a depth of approximately ten (10) feet below site grades.

The potential for soil liquefaction during a seismic event was evaluated using the LiquefyPro computer program (version 5.8h) developed by CivilTech Software. For the analysis, a maximum earthquake magnitude of 6.5 M_w and a peak horizontal ground surface acceleration of 0.432g were considered appropriate for the liquefaction analysis. A groundwater depth of 10 feet was used for the analysis. The computer analysis indicates that the subsurface soil conditions encountered at the subject site are not conducive to liquefaction induced settlement.

Based on our findings, it is our opinion that the potential for seismic-induced soil liquefaction within the project site is low. Therefore, measures to mitigate liquefaction potential are not considered necessary.

FAULT RUPTURE HAZARD ZONES

The Alquist-Priolo Geologic Hazards Zones Act went into affect in March, 1973. Since that time, the Act has been amended 11 times (Hart, 2007). The purpose of the Act, as provided in California Geologic Survey (CGS) Special Publication 42 (SP 42), is to prohibit the location of most structures for human occupancy across the traces of active faults and to mitigate thereby the hazard of fault-rupture". The Act was renamed the Alquist-Priolo Earthquake Fault Zoning Act in 1994, and at that time, the originally designated "Special Studies Zones" was renamed the "Earthquake Fault Zones."

The area of the subject site is not included on an Earthquake Fault Zones Map prepared by the CGS. The subject site is included in the San Diego Seismic Safety Study Map. But the site is not within a Fault-Rupture Hazard Zone. The Newport-Inglewood, Rose Canyon, and Coronado Bank Fault Zones are the nearest active fault zones to the site and are located approximately 5.6, 5.6, and 18.0 miles away from the site, respectively.

SEISMIC HAZARDS ZONES

In 1990, the California State Legislature passed the Seismic Hazard Mapping Act to protect public safety from the effects of strong shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes. The Act requires that the State Geologist delineate various seismic hazards zones on Seismic Hazards Zones Maps. Specifically, the maps identify areas where soil liquefaction and earthquake-induced landslides are most likely to occur. A site-specific geotechnical evaluation is required prior to permitting most urban developments within the mapped zones. The Act also requires sellers of real property within the zones to disclose this fact to potential buyers. A Liquefaction Hazard Map has not been prepared for the subject site. The subject site is included in the San Diego Seismic Safety Study Map. The subject site is located in an area designated as a Liquefaction Hazard Zone by the San Diego Seismic Hazard Map.

OTHER HAZARDS

Rockfall, Landslide, Slope Instability, Debris Flow: The subject site is relatively flat and level. It is our understanding that there are no significant slopes proposed as part of the proposed development. Provided the recommendations presented in this report are implemented into the design and construction of the anticipated development, rockfalls, landslides, slope instability, and debris flows are not anticipated to pose a hazard to the subject site.

Seiches: Seiches are large waves generated within enclosed bodies of water. The site is not located in close proximity to any lakes or reservoirs. As such, seiches are not anticipated to pose a hazard to the subject site.

Hydroconsolidation: The near surface soils encountered at the subject site were found to be medium dense to very dense. Provided remedial grading recommendations presented in this report are incorporated in the design and construction, hydroconsolidation is not anticipated to be a significant concern for the subject site.

SITE COEFFICIENT

The site class, per Table 1613.5.2, 2016 CBC, is based upon the site soil conditions. It is our opinion that a Site Class D is appropriate for building design at this site. For seismic design of the structures, in accordance with the seismic provisions of the 2016 CBC, we recommend the following parameters:

2016 CALIFORNIA BUILDING CODE			
Seismic Item	Value	CBC Reference	
Site Class	D	Table 1613.5.2	
Fa	1.118	Table 1613.5.3 (1)	
Ss	0.956	Figure 1613.5 (3)	
SMS	1.068	Section 1613.5.3	
SDS	0.712	Section 1613.5.4	

Fv	1.668	Table 1613.5.3 (2)
S1	0.366	Figure 1613.5 (4)
SM1	0.611	Section 1613.5.3
SD1	0.407	Section 1613.5.4

The seismic hazard most likely to impact the site is ground shaking due to a large earthquake on one of the major active regional faults. The Rose Canyon Fault and Newport-Inglewood Zones are located approximately 5.6 miles from the subject site. Because of the proximity to the subject site and the maximum probable events for these faults, it appears that a maximum probable event along these fault zones could produce a peak horizontal acceleration of approximately 0.432g when uncertainty is used. With respect to this hazard, the site is comparable to others in this general area within similar geologic settings.

FIELD AND LABORATORY INVESTIGATIONS

Subsurface soil conditions were explored by drilling a total of eleven (11) borings using a truck-mounted drill rig to depths ranging from approximately twenty (20) to fifty (50) feet below existing site grades or auger refusal. Bulk subgrade soil samples were also obtained for laboratory testing. The approximate boring and bulk sample locations are shown on the Site Plan, Figure 2. These approximate boring and sample locations were estimated in the field based on pacing and measuring from the limits of existing site features. During drilling operations, penetration tests were performed at regular intervals to evaluate the soil consistency and to obtain information regarding the engineering properties of the subsurface soils. Soil samples were retained for laboratory testing. The soils encountered were continuously examined and visually classified in accordance with the Unified Soil Classification System. A more detailed description of the field investigation is presented in Appendix A.

Laboratory tests were performed on selected soil samples to evaluate their physical characteristics and engineering properties. The laboratory-testing program was formulated with emphasis on the evaluation of natural in situ moisture and density, gradation, R-Value, maximum dry density, resistivity, pH value, sulfate and chloride-contents of the materials encountered. Details of the laboratory-testing program are discussed in Appendix A. The results of the laboratory tests are presented on the boring logs or on the test reports, which are also included in Appendix A. This information, along with the field observations, was used to prepare the final boring logs in Appendix A.

SOIL PROFILE AND SUBSURFACE CONDITIONS

Based on our findings, the subsurface conditions encountered appear typical of those found in the geologic region of the site. Generally, groundcover throughout the majority of the subject site consisted of approximately four (4) to six (6) inches of asphalt overlain by approximately three (3) to six (6) inches of discernable aggregate base material. In general, the subsurface soils encountered at the eastern portion of the site consisted of interbeded layers of medium dense to very dense clayey sand, silty sand, and poorly-graded sand with varying amounts of clay and silt content and very stiff to hard sandy clay up to the maximum depth explored, 50 feet below site grades. The western portion of the site had similar soils encountered with the exception of the upper three to six feet of fill material found at those locations. The

fill material seem to be consistent and uniform across the western portion of the site. The fill material encountered consisted of dense silty sand with traces of cobble and gravel content.

Field and laboratory tests suggest that these soils are moderately strong and slightly compressible. Penetration resistance, measured by the number of blows required to drive a Modified California sampler or a Standard Penetration Test (SPT) sampler, ranged from 7 blows per foot to over 50 blows per six inches. Dry densities ranged from approximately 101 to 125 pcf. Representative samples of the near surface soils consolidated approximately 0.8 to 1.9 percent under a 2 ksf load when saturated. Representative samples of the near surface soils were tested and found to have angles of internal friction of 28 and 29 degrees with cohesion values of 300 and 100 psf, respectively.

The above is a general description of soil conditions encountered at the site in the borings drilled for this investigation. For a more detailed description of the soil conditions encountered, please refer to the boring logs in Appendix A.

GROUNDWATER

Test boring locations were checked for the presence of groundwater during and immediately following the drilling operations. Groundwater was encountered at a depth of approximately 10 feet below current site grades during drilling operations. Based on conditions encountered at the boring locations, groundwater is anticipated to be present at depths on the order of ten feet below ground surface.

It should be recognized that water table elevation might fluctuate with time. The depth to groundwater can be expected to fluctuate both seasonally and from year to year. Fluctuations in the groundwater level may occur due to variations in precipitation, irrigation practices at the site and in the surrounding areas, climatic conditions, flow in adjacent or nearby canals, pumping from wells and possibly as the result of other factors that were not evident at the time of our investigation. Therefore, water level observations at the time of our field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report. Long-term monitoring in observation wells, sealed from the influence of surface water, is often required to more accurately define the potential range of groundwater conditions on a site.

SOIL CORROSIVITY

Corrosion tests were performed to evaluate the soil corrosivity to the buried structures. The tests consisted of minimum resistivity, sulfate content and chloride content, and the results of the tests are included as follows:

Parameter	Results	Test Method
pH Value	7.5	EPA 9045C
Resistivity	1,350 ohm-cm	CA. 643
Sulfate	231 ppm	CA. 417

Chloride	111 ppm	CA. 422

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of our field and laboratory investigations, along with previous geotechnical experience in the project area, the following is a summary of our evaluations, conclusions, and recommendations.

ADMINISTRATIVE SUMMARY

In brief, the subject site and soil conditions, with the exception of the existing development and the disturbed upper soils, appear to be conducive to the development of the project. Based on the data collected during this investigation and from a geotechnical engineering standpoint, it is our opinion that the proposed improvements may be made as anticipated provided that the recommendations presented in this report are considered in the design and construction of the project.

Existing structures are located within the project site vicinity. Any surface or buried structures encountered during construction should be properly removed and/or relocated. It is suspected that demolition activities of the existing structures will disturb the near surface soils. Areas disturbed by demolition activities should be excavated to firm native ground. The resulting excavations should be backfilled with Engineered Fill. Excavations, depressions, or soft and pliant areas extending below planned, finished subgrade levels should be cleaned to firm, undisturbed soil and backfilled with Engineered Fill. In general, any septic tanks, debris pits, cesspools, or similar structures should be entirely removed. Concrete footings should be removed to an equivalent depth of at least 3 feet below proposed footing elevations or as recommended by the Soils Engineer. Any other buried structures should be removed in accordance with the recommendations of the Soils Engineer. The resulting excavations should be backfilled with Engineered Fill.

To reduce post-construction soil movement and provide uniform support for the proposed structure, overexcavation and recompaction within the proposed building footprint area should be performed to a minimum depth of five (5) feet below existing grades or three (3) feet below bottom of the proposed footings, whichever is deeper. The actual depth of the overexcavation and recompaction should be determined by our field representative during construction. The overexcavation and recompaction should also extend laterally a minimum of five (5) feet beyond edges of the proposed footings and building appurtenances. Any undocumented fill encountered during grading should be removed and replaced with Engineered Fill.

Within the proposed exterior flatwork and pavement areas, the overexcavation and recompaction should be performed to a depth of at least one (1) foot below existing grade or finish subgrade, whichever is deeper. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation.

It is recommended that interior slabs-on-grade be designed at least five inches (5") in thickness. It is recommended that the slabs should be reinforced with a minimum of number three (#3) bars, eighteen inches (18") on center in both directions. It is recommended that exterior slabs-on-grade be designed at

least five inches (5") in thickness. It is recommended that the slabs should be reinforced with a minimum of number three (#3) bars, eighteen inches (18") on center in both directions.

The proposed structures, including walls and other foundation elements may be supported on a shallow foundation system after the bottom of the footings have been moisture-conditioned to at least 2 percent above optimum moisture-content, and recompacted to a minimum of 95 percent of the maximum dry density based on ASTM Test Method D1557. Spread and continuous footings can be designed for a maximum allowable soil bearing pressure, dead plus live load, of 2,600 psf.

Cast-in-place piles may be used as part of the deep foundation system to support heavier foundation loads. Thus, cast-in-place foundation piles should be designed as friction piles. It is recommended that all piles should be founded a minimum of twelve feet (12') into competent native soils. The actual depth of the piles should be determined by the foundation designer. An allowable friction between the concrete and native alluvium of 400 pounds per square foot may be used below the depth of one foot. The upper foot should be neglected when calculated pile foundation support. A lateral bearing of 400 pounds per square foot per foot of depth to a maximum of 4,000 psf may be used to resist lateral loading in approved native alluvium materials. It is recommended that piles have a minimum shaft diameter of eighteen (18) inches. Pile foundations should be no closer together than three (3) pile shaft diameters.

For preliminary purposes, an allowable bearing pressure of 1,000 pounds per square foot may be used for design of the slab. For preliminary modeling purposes a vertical modulus of subgrade reaction (Kv1), also referred to as a soil spring, of 30 pounds per square inch per inch may be used for long term conditions. An increased modulus of 40 pounds per square inch per inch may be used for short term loading to evaluate punching shear at columns and walls. The slab design should ultimately limit slab bending or arching in the lightly loaded mid-slab areas between load bearing columns and walls. Based on the preliminary nature of the project design and a lack of formal design documents, these values should be considered preliminary and should be reevaluated during final design. The values should be reevaluated in order to determine soil support values appropriate for the actual design conditions.

The site is predominately surrounded by existing developments. Associated with these developments are buried structures, such as utility lines. Any surface or buried structures encountered during construction should be properly removed and/or relocated. It is suspected that demolition activities of the existing structures will disturb the upper soils. Areas disturbed by demolition activities should be excavated to firm native ground. The resulting excavations should be backfilled with Engineered Fill, compacted to a minimum of 95 percent of maximum dry density based on ASTM Test Method D1557.

GROUNDWATER INFLUENCE ON STRUCTURES/CONSTRUCTION

Based on our findings and historical records, it is not anticipated that groundwater will rise within the zone of structural influence or affect the construction of foundations and pavements for the project. However, if earthwork is performed at depths greater than 10 feet below site grades, groundwater may be encountered, also during or soon after periods of precipitation, the subgrade soils may become saturated, "pump," or not respond to densification techniques. Typical remedial measures include: discing and aerating the soil during dry weather; mixing the soil with dryer materials; removing and replacing the soil with an approved fill material; or mixing the soil with an approved lime or cement product. Our firm

should be consulted prior to implementing remedial measures to observe the unstable subgrade conditions and provide appropriate recommendations.

SEISMIC CONSIDERATIONS

Ground Shaking

Although ground rupture is not considered to be a major concern at the subject site, the site will likely be subject to at least one moderate to severe earthquake and associated seismic shaking during its lifetime, as well as periodic slight to moderate earthquakes. Some degree of structural damage due to stronger seismic shaking should be expected at the site, but the risk can be reduced through adherence to seismic design codes.

Seismic Induced Settlement

One of the most common phenomena during seismic shaking accompanying any earthquake is the induced settlement of loose unconsolidated soils. Based on site subsurface conditions and the moderate to high seismicity of the region, any loose fill materials at the site could be vulnerable to this potential hazard. However, this hazard can be mitigated by following the design and construction recommendations of our Geotechnical Engineering Investigation (over-excavation and rework of the loose soils and/or fill). Based on the moderate penetration resistance measured, the native deposits underlying the surface materials do not appear to be subject to significant seismic settlement.

EARTHWORK

Site Preparation

General site clearing should include removal of vegetation; existing utilities; structures including foundations; basement walls and floors; existing stockpiled soil; trees and associated root systems; rubble; rubbish; and any loose and/or saturated materials. With the construction of a subterranean structure throughout the majority of the site and with the required excavation estimated to extend to a depth of approximately 10 to 15 feet below grade, we expect the remnants of any prior development, will be removed during the excavation of the site. The same is true for the root structures of any existing trees and any near-surface organic-laden soils. In the event that previously unidentified debris pits or underground utilities that are exposed and found to extend into adjacent properties should be capped.

To reduce post-construction soil movement and provide uniform support for the proposed structure, overexcavation and recompaction within the proposed building footprint area should be performed to a minimum depth of five (5) feet below existing grades or three (3) feet below bottom of the proposed footings, whichever is deeper. The actual depth of the overexcavation and recompaction should be determined by our field representative during construction. The overexcavation and recompaction should also extend laterally a minimum of five (5) feet beyond edges of the proposed footings and building appurtenances. Any undocumented fill encountered during grading should be removed and replaced with Engineered Fill.

The site is presently occupied by several one and two story buildings, and asphalt and concrete parking lots. Fill may be present at the site. Any fill soil encountered should be excavated and stockpiled so that the native soils can be properly prepared. Any clayey soils encountered at the site will not be suitable for reuse as Non-Expansive Engineered Fill. However, clayey soils will be suitable for reuse as General Engineered Fill, provided they are cleansed of excessive organics and debris, and are moisture-conditioned to a minimum of 2 percent above optimum moisture-content. Prior to fill placement Krazan & Associates, Inc. should inspect the bottom of the excavation to verify no additional removal will be required.

Existing structures are located immediately adjacent to the site. Associated with these structures are buried structures such as utilities. Demolition activities should include proper removal of any buried structures. Any surface or buried structures, such as utilities or loosely backfilled excavations, encountered during construction should be properly removed and the resulting excavations backfilled. After demolition activities, it is recommended that these disturbed soils be removed and/or recompacted. Excavations, depressions, or soft and pliant areas extending below planned, finished subgrade levels should be cleaned to firm, undisturbed soil and backfilled with Engineered Fill. In general, any septic tanks, debris pits, cesspools, or similar structures should be entirely removed.

Whenever excavation is made adjacent to existing streets, utilities and structures, there is the potential for movement. The adjacent structures and improvements should be inspected and documented to preclude claims for damage or settlement that are not associated with the construction of the planned development. A monitoring program should be established so excessive movement is detected early. The monitoring program should include optical surveying of the shoring and adjacent streets and buildings to detect any horizontal or vertical movement.

Any concrete footings encountered should be removed to an equivalent depth of at least 3 feet below proposed footing elevations or as recommended by the Soils Engineer. Any other buried structures should be removed in accordance with the recommendations of the Soils Engineer. The resulting excavations should be backfilled with Engineered Fill.

Following stripping, fill removal, and demolition activities, it is recommended that at a minimum, the upper five (5) feet of exposed subgrade soils beneath the building pad areas be excavated, worked until uniform and free from large clods, moisture-conditioned to at least optimum moisture-content, and recompacted to a minimum of 95 percent of the maximum dry density based on ASTM Test Method D1557. Within the pavement and exterior flatwork areas, the exposed subgrade should be excavated to a depth of twelve (12) inches, worked until uniform and free from large clods and moisture-conditioned to at least optimum moisture-conditioned to a test optimum moisture-conditioned to at least optimum moisture-conditioned to a depth of twelve (12) inches, worked until uniform and free from large clods and moisture-conditioned to at least optimum moisture-content and recompacted to a minimum of 95 percent of the maximum dry density based on ASTM Test Method D1557. Prior to backfilling, the bottom of the excavation should be proof-rolled and observed by Krazan & Associates, Inc. to verify stability. This compaction effort should stabilize the upper soils and locate any unsuitable or pliant areas not found during our field investigation.

In areas where slab-on-grade construction will be utilized, it is recommended that the soil within proposed slab-on-grade and exterior flatwork areas consist of Non-Expansive Engineered Fill. The non-expansive fill material should be a well-graded silty sand or sandy silt soil. Imported Fill should be

approved by the Soils Engineer prior to placement. The fill should be placed as specified as Engineered Fill.

The upper soils, during wet winter months, become very moist due to the absorptive characteristics of the soil. Earthwork operations performed during winter months may encounter very moist unstable soils, which may require removal to grade a stable building foundation. Project site winterization consisting of placement of aggregate base and protecting exposed soils during the construction phase should be performed.

A representative of our firm should be present during all site clearing and grading operations to test and observe earthwork construction. This testing and observation is an integral part of our service, as acceptance of earthwork construction is dependent upon compaction and stability of the material. The Soils Engineer may reject any material that does not meet compaction and stability requirements. Further recommendations of this report are predicated upon the assumption that earthwork construction will conform to recommendations set forth in this section and the Engineered Fill section.

Fill Placement

Prior to placement of fill soils, the upper 12 inches of native subgrade soils should be scarified, moistureconditioned to near optimum moisture-content, and recompacted to a minimum of 95 percent of the maximum dry density based on ASTM Test Method D1557. Fill material should be compacted to a minimum of 95 percent of the maximum dry density based on ASTM Test Method D1557.

The upper soils, during wet winter months, may become very moist due to the absorptive characteristics of the soil. Earthwork operations performed during winter months may encounter very moist unstable soils, which may require removal to grade a stable building foundation. Project site winterization consisting of placement of aggregate base and protecting exposed soils during the construction phase should be performed.

ENGINEERED FILL

The organic-free, on-site, soils are predominately clayey sand, poorly-graded sand, silty sand. These soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics and debris.

The preferred materials specified for Engineered Fill are suitable for most applications with the exception of exposure to erosion. Project site winterization and protection of exposed soils during the construction phase should be the sole responsibility of the contractor, since they have complete control of the project site at that time.

Imported Fill material should be predominately non-expansive granular material. This material should be approved by the Geotechnical Engineer prior to use and should typically possess the following characteristics:

NON-EXPANSIVE FILL PROPERTIES		
Percent Passing No. 200 Sieve	10 to 50	
Plasticity Index (PI)	12 maximum	
Liquid Limit	35 maximum	
UBC Standard 29-2 Expansion Index	20 maximum	

Imported Fill should be free from rocks and clods greater than 4 inches in diameter. All Imported Fill material should be submitted to the Soils Engineer for approval at least 48 hours prior to delivery to the site. Fill soils should be placed in lifts approximately 6 inches thick, moisture-conditioned to near optimum moisture-content, and compacted to achieve at least 95 percent of maximum dry density as determined by ASTM Test Method D1557. Additional lifts should not be placed if the previous lift did not meet the required dry density or if soil conditions are not stable.

FOUNDATIONS – CONVENTIONAL

The proposed structures, including walls and other foundation elements may be supported on a shallow foundation system bearing on a minimum of three (3) feet of compacted Engineered Fill. Spread and continuous footings can be designed for the following maximum allowable soil bearing pressures:

Load	Allowable Loading
Dead Load Only	2,000 psf
Dead-Plus-Live Load	2,600 psf
Total Load, including wind or seismic loads	3,500 psf

The footings should have a minimum embedment depth of 24 inches below pad subgrade (soil grade) or adjacent exterior grade, whichever is lower. Footings should have a minimum width of 18 inches, regardless of load. Shallow foundation systems should be designed to tolerate the anticipated static and seismic settlement. The actual foundation design should be performed by the project structural engineer.

It is recommended that the foundation for the proposed structure be placed entirely within compacted fill materials or entirely within alluvium or bedrock. Footings shall not transition from one bearing material to another. It is recommended that all foundations contain steel reinforcement of at least two (2) number four (#4) bars, one (1) top and one (1) bottom.

It is recommended that all foundations be set back a minimum of five (5) feet from the top of all adjacent slopes or deepened to maintain at least five (5) feet between the bottom of the footing and the slope face. Additionally, all footing set back criteria, should conform to 2010 CBC Section 1805.3.2 and Figure 1805.3.1. It is recommended that all footings be cleared of all loose soil and construction debris prior to pouring concrete.

Resistance to lateral footing displacement can be computed using an allowable friction factor of 0.25 acting between the base of foundations and the supporting subgrade. Lateral resistance for footings can

alternatively be developed using an allowable equivalent fluid passive pressure of 200 pounds per cubic foot acting against the appropriate vertical footing faces. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance. A 1/3 increase in the value above may be used for short duration, wind, or seismic loads. All of the above earth pressures are unfactored and are, therefore, not inclusive of factors of safety.

Foundations – Cast-In-Place Piers

It is understood that drilled and cast-in-place piers could be used to support the heavier foundation loads for the proposed buildings. Thus, cast-in-place foundation piles should be designed as friction piles. It is recommended that all piles should be founded a minimum of twelve feet (12') into competent native soils. The actual depth of the piles should be determined by the foundation designer. An allowable friction between the concrete and native alluvium of 400 pounds per square foot may be used below the depth of one foot. The upper foot should be neglected when calculated pile foundation support. A lateral bearing of 400 pounds per square foot per foot of depth to a maximum of 4,000 psf may be used to resist lateral loading in approved native alluvium materials. It is recommended that piles have a minimum shaft diameter of eighteen (18) inches. Pile foundations should be no closer together than three (3) pile shaft diameters.

SETTLEMENT

Seismic Induced Settlement

One of the most common phenomena during seismic shaking accompanying any earthquake is the induced settlement of loose unconsolidated soils. Based on site subsurface conditions and the moderate to high seismicity of the region, any loose or soft materials at the site could be vulnerable to this potential hazard. Although the soil conditions encountered are not considered subject to liquefaction induced settlement, seismic settlement due to seismic shaking is not expected to exceed 0.22 inch. The differential seismic settlement is anticipated to be less than 0.15 inch in 100 feet.

Static Settlement

Provided the site is prepared as recommended and that the foundations are designed and constructed in accordance with our recommendations, the static settlement due to foundation loads is not expected to exceed 1 inch. The differential settlement is anticipated to be less than ½ inch in 20 feet. Most of the settlement is expected to occur during construction as the loads are applied. However, additional post-construction settlement may occur if the foundation soils are flooded or saturated.

Lateral Load Resistance

Resistance to lateral footing displacement can be computed using an allowable friction factor of 0.25 acting between the base of foundations and the supporting subgrade. Where a vapor barrier material is used below concrete slabs-on-grade, a coefficient of friction should be provided by the vapor barrier manufacturer. Lateral resistance for footings can alternatively be developed using an allowable equivalent fluid passive pressure of 200 pounds per cubic foot acting against the appropriate vertical footing faces. Where equivalent fluid pressure against the sides of the footings or embedded slab edge are to be used, the footing or slab edge must be cast directly against undisturbed soils or the soils surrounding the structure must be recompacted to the requirements for Engineered Fill presented above.

The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance. A one-third increase in the value above may be used for short duration, wind, or seismic loads.

FLOOR SLABS AND EXTERIOR FLATWORK

To reduce post-construction soil movement beneath floor slabs and exterior flatwork, it is recommended that mitigation measures be performed. For conventional slab-on-grade, it is recommended that the upper 24 inches of soil consist of Non-Expansive Engineered Fill.

Concrete slab-on-grade floors should be underlain by a water vapor retarder. The water vapor retarder should be installed in accordance with ASTM Specification E 1643-98. According to ASTM Guidelines, the water vapor retarder should consist of a vapor retarder sheeting underlain by a minimum of 3 inches of compacted, clean, gravel of ³/₄-inch maximum size. To aid in concrete curing an optional 2 to 4 inches of granular fill may be placed on top of the vapor retarder. The granular fill should consist of damp clean sand with at least 10 to 30 percent of the sand passing the 100 sieve. The sand should be free of clay, silt, or organic material. Rock dust which is manufactured sand from rock crushing operations is typically suitable for the granular fill. This granular fill material should be compacted.

It is recommended that the concrete slabs be reinforced with at least No. 3 reinforcing bars, placed at 18 inches on center in each direction within the slabs middle third, to reduce crack separation and possible vertical offset at the cracks. Thicker floor slabs with increased concrete strength and reinforcement should be designed wherever heavy concentrated loads, heavy equipment, or machinery is anticipated.

The exterior floors should be poured separately in order to act independently of the walls and foundation system. Exterior finish grades should be sloped a minimum of 2 percent away from all interior slab areas to preclude ponding of water adjacent to the structures. All fills required to bring the building pads to grade should be Engineered Fills.

Moisture within the structure may be derived from water vapors, which were transformed from the moisture within the soils. This moisture vapor can travel through the vapor membrane and penetrate the slab-on-grade. This moisture vapor penetration can affect floor coverings and produce mold and mildew in the structure. To reduce moisture vapor intrusion, it is recommended that a vapor retarder be installed in accordance with ASTM guidelines. It is recommended that the utility trenches within the structure be compacted, as specified in our report, to reduce the transmission of moisture through the utility trench backfill. Special attention to the immediate drainage and irrigation around the building is recommended. Positive drainage should be established away from the structure and should be maintained throughout the life of the structure. Ponding of water should not be allowed adjacent to the structure. Over-irrigation within landscaped areas adjacent to the structure should not be performed. In addition, ventilation of the structure (i.e. ventilation fans) is recommended to reduce the accumulation of interior moisture.

RETAINING WALLS

Walls retaining horizontal backfill and capable of deflecting a minimum of 0.1 percent of its height at the top may be designed using an equivalent fluid active pressure of 44 pounds per square foot per foot of

depth. Walls that are incapable of this deflection or walls that are fully constrained against deflection may be designed for an equivalent fluid at-rest pressure of 64 pounds per square foot per foot of depth. Expansive soils should not be used for backfill against walls. The wedge of non-expansive backfill material should extend from the bottom of each retaining wall outward and upward at a slope of 2:1 (horizontal to vertical) or flatter. The stated lateral earth pressures do not include the effects of hydrostatic water pressures generated by infiltrating surface water that may accumulate behind the retaining walls; or loads imposed by construction equipment, foundations, or roadways. All of the above earth pressures are unfactored and are, therefore, not inclusive of factors of safety.

During grading and backfilling operations adjacent to any walls, heavy equipment should not be allowed to operate within a lateral distance of 5 feet from the wall, or within a lateral distance equal to the wall height, whichever is greater, to avoid developing excessive lateral pressures. Within this zone, only hand operated equipment ("whackers," vibratory plates, or pneumatic compactors) should be used to compact the backfill soils.

Retaining and/or below grade walls should be drained with either perforated pipe encased in freedraining gravel or a prefabricated drainage system. The gravel zone should have a minimum width of 12 inches wide and should extend upward to within 12 inches of the top of the wall. The upper 12 inches of backfill should consist of native soils, concrete pavement, asphaltic concrete pavement or other suitable backfill to minimize surface drainage into the wall drain system. The aggregate should conform to Class II permeable materials graded in accordance with the CalTrans Standard Specifications (May 2006). Prefabricated drainage systems, such as Miradrain®, Enkadrain®, or an equivalent substitute, are acceptable alternatives in lieu of gravel provided they are installed in accordance with the manufacturer's recommendations. If a prefabricated drainage system is proposed, Krazan & Associates, Inc. should review the system for final acceptance prior to installation.

Drainage pipes should be placed with perforations down and should discharge in a non-erosive manner away from foundations and other improvements. The pipes should be placed no higher than 6 inches above the heel of the wall in the center line of the drainage blanket and should have a minimum diameter of 4 inches. Collector pipes may be either slotted or perforated. Slots should be no wider than 1/8 inch in width, while perforations should be no more than ¼ inch in diameter. If retaining walls are less than 6 feet in height, the perforated pipe may be omitted in lieu of weep holes on 4 feet maximum spacing. The weep holes should consist of 4-inch diameter holes (concrete walls) or unmortared head joints (masonry walls) and not be higher than 18 inches above the lowest adjacent grade. Two 8-inch square overlapping patches of geotextile fabric (conforming to the CalTrans Standard Specifications for "edge drains") should be affixed to the rear wall opening of each weep hole to retard soil piping.

It is recommended that any uncertified fill material encountered within pavement areas, be removed and/or recompacted. The fill material should be moisture-conditioned to near optimum moisture-content and recompacted to a minimum of 95 percent of the maximum dry density based on ASTM Test Method D1557. As an alternative, the Owner may elect not to recompact the existing fill within paved areas. However, the Owner should be aware that the paved areas may settle which may require annual maintenance. At a minimum, it is recommended that the upper 12 inches of subgrade soil be moisture-

conditioned as necessary and recompacted to a minimum of 95 percent of the maximum dry density based on ASTM Test Method D1557.

To simulate the effect of earthquake loading on retaining walls, the walls may be evaluated based on an active lateral soil pressure calculated using an equivalent fluid weight of 45 pounds per cubic foot plus a horizontal seismic surcharge line force of 35H pounds per square foot of wall. The resultant of the lateral soil pressure should be applied at H/3 above the wall base and the resultant of the seismic surcharge force should be applied at a height of 0.6H above the wall base. For the purpose of this report, "H" is defined as the vertical height from the base of the wall to the ground surface above.

SHORING AND EXCAVATION STABILITY

The locations of the planned structures relative to existing developments, including houses, apartment buildings, commercial structures, and roadways, that surround the subject site will need to be evaluated for possible impacts of the excavations on these structures. Due to the close proximity of several of these structures to the property lines, the relatively small setback of the structure from the property lines, as well as the expected depth of the excavation, sloping back of the excavation walls is not feasible and shoring will be required.

The design of the shoring system is normally the responsibility of the contractor or shoring designer, and therefore, is outside the scope of this report. However, the logs of borings presented with this report may be used for factual data such as soil types encountered at the location of each particular boring and at the indicated depths for a preliminary assessment of shoring requirements. Interpolation between the exploratory borings is at the user's own risk. Design work for shoring system should be performed by an engineer with expertise in shoring systems. The design of the temporary shoring should take into account lateral pressures exerted by the adjacent soil, and, where present, surcharge loads due to adjacent embankments, buildings and any construction equipment or traffic expected to operate alongside the excavation.

Shoring on the sides of the excavation can be provided by means of a cantilever or restrained soldier beam or soldier pile and lagging wall. Lateral load resistance can be mobilized through the use of passive pressures on members that extend below the bottom of the excavation or interior bracing. Shoring must be designed with sufficient rigidity or must be supported by struts (bracing) to prevent deflection where in close proximity to structures. If the shoring is allowed to deflect, as occurs where designed as a cantilevered wall, settlement of the area behind the shoring will occur.

Whenever excavation is made adjacent to existing streets, utilities and structures, there is the potential for movement. The existing structures should be inspected and documented to preclude claims for damage or settlement that are not associated with the construction of the planned development. A monitoring program should be established so excessive movement is detected early. The monitoring program should include optical surveying of the shoring and adjacent streets and buildings to detect any horizontal or vertical movement.

UTILITY TRENCH LOCATION, CONSTRUCTION AND BACKFILL

To maintain the desired support for existing or new foundations, new utility trenches should be located such that the base of the trench excavation is located above an imaginary plane having an inclination of 1.0 horizontal to 1.0 vertical, extending downward from the bottom edge of the adjacent footing.

Utility trenches should be excavated according to accepted engineering practices following OSHA standards by a contractor experienced in such work. The responsibility for the safety of open trenches should be borne by the contractor. Traffic and vibration adjacent to trench walls should be kept to a minimum; cyclic wetting and drying of excavation side slopes should be avoided. Depending upon the location and depth of some utility trenches, groundwater flow into open excavations could be experienced, especially during or shortly following periods of precipitation. For purposes of this section of the report, backfill is defined as material placed in a trench starting one foot above the pipe; bedding and shading (also referred to as initial backfill) is all material placed in a trench below the backfill. With the exception of specific requirements of the local utility companies or building department, pipe bedding and shading should consist of clean medium-grained sand. The sand should be placed in a damp state and should be compacted by mechanical means prior to the placement of backfill soils. Above the pipe zone, underground utility trenches may be backfilled with either free-draining sand, on-site soil or imported soil. The trench backfill should be compacted to at least 95 percent relative compaction.

COMPACTED MATERIAL ACCEPTANCE

Compaction specifications are not the only criteria for acceptance of the site grading or other such activities. However, the compaction test is the most universally recognized test method for assessing the performance of the Grading Contractor. The numerical test results from the compaction test cannot be solely used to predict the engineering performance of the compacted material. Therefore, the acceptance of compacted materials will also be dependent upon the moisture-content and the stability of that material. The Geotechnical Engineer has the option of rejecting any compacted material regardless of the degree of compaction if that material is considered to be too dry or excessively wet, unstable or if future instability is suspected. A specific example of rejection of fill material passing the required percent compaction is a fill which has been compacted with in situ moisture-content significantly less than optimum moisture. Where expansive soils are present, heaving of the soils may occur with the introduction of water. Where the material is a lean clay or silt, this type of dry fill (brittle fill) is susceptible to future settlement if it becomes saturated or flooded.

SURFACE DRAINAGE AND LANDSCAPING

The ground surface should slope away from building and pavement areas toward appropriate drop inlets or other surface drainage devices. We recommended that adjacent paved exterior grades be sloped a minimum of 2 percent for a minimum distance of 5 feet away from structures. Ideally, asphalt concrete pavement areas should be sloped at a minimum of 2 percent, with Portland cement concrete sloped at a minimum of one percent toward drainage structures. These grades should be maintained for the life of the project. Roof drains should be designed to avoid discharging into landscape areas adjacent to the building. Downspouts should be directed to discharge directly onto paved surfaces to allow for surface drainage into the storm systems or should be connected directly to the on-site storm drain.

R-VALUE TEST RESULTS AND PAVEMENT DESIGN

One R-Value sample was obtained from the project site at the location shown on the attached site plan. The sample was tested in accordance with the State of California Materials Manual Test Designation 301. Results of the test are as follows:

Sample	Depth	Description	R-Value at Equilibrium
1	0-36"	Silty Sand (SM)	30
2	0-36"	Clayey Sand (SC)	25

These test results are moderate and indicate good subgrade support characteristics under dynamic traffic loads. The following table shows the recommended pavement sections for various traffic indices.

Traffic Index	Asphaltic Concrete	Class II Aggregate Base*	Compacted Subgrade*
4.5	2.5"	6.0"	12.0"
5.0	2.5"	8.0"	12.0"
5.5	3.0"	8.0"	12.0"
6.0	3.0"	10.0"	12.0"
6.5	3.5"	10.0"	12.0"
7.0	4.0"	11.0"	12.0"

* 95% compaction based on ASTM Test Method D1557 or CAL 216 ** 95% compaction based on ASTM Test Method D1557 or CAL 216

If traffic indices are not available, an estimated (typical value) index of 4.5 may be used for light automobile traffic, and an index of 7.0 may be used for light truck traffic.

PORTLAND CEMENT CONCRETE (RIGID) PAVEMENT

A minimum six-inch layer of compacted Class 2 Aggregate Base should be placed over the prepared subgrade prior to placement of the concrete pavements. With the addition of the aggregate base material, we recommend that a combined modulus of subgrade/base reaction value of 150 pounds per cubic inch be used in design where the rigid pavement is to be designed by a Structural Engineer.

Rigid pavement design procedures have been developed by various agencies, including AASHTO and the Portland Cement Association (PCA). We have evaluated the required pavement sections based on the procedure presented in "AASHTO Guide for Design of Pavement Structures 1993" traffic volumes.

	RIGID PAVEMENT				
Traffic Index	Traffic IndexPortland CementClass 2 AggregateCompactedConcrete (inches)Base (inches)Subgrade (inches)				
5.0	5.0	6.0	12		

7.0 6.5	6.0	12
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Please note that the concrete modulus of rupture is based on *flexural strength*, not compressive strength, and should be specified accordingly. A *flexural strength* of 550 psi should be specified accordingly. Our experience is that the compressive strength will have to be on the order of 3,800 to 4,500 psi in order to achieve the required flexural strength. Prior to the construction of any rigid pavement, we recommend that concrete mix histories with flexural strength data be obtained from the proposed supplier. In the absence of flexural strength history, we recommend that laboratory trial batching and testing be performed to allow for confirmation that the proposed concrete mix is capable of producing the required flexural strength.

The concrete pavements should be designed with both longitudinal and transverse joints. The saw-cut or formed joints should extend to a minimum depth of one-fourth of the pavement thickness plus ¼ inch. Joint spacing should not exceed 15 feet. Steel reinforcement of all rigid pavements is recommended to keep the joints tight and to control temperature cracking.

Keyed joints are recommended at all construction joints to transfer loads across the joints. Joints should be reinforced with a minimum of $\frac{1}{2}$ inch diameter by 48-inch long deformed reinforcing steel dowel bars placed at mid-slab depth on 18-inch center-to-center spacing to keep the joints tight for load transfer. The joints should be filled with a flexible sealer. Expansion joints should be constructed only where the pavements abut structures or fixed objects.

Smooth bar dowels, with a diameter of d/8, where d equals the thickness of the concrete, at least 14 inches in length, placed at a spacing of 12 inches on center, may also be considered for construction joints to transfer loads across the joints. The dowels should be centered across the joints with one side of the dowel lubricated to reduce the bond strength between the dowel and the concrete and fitted with a plastic cap to allow for bar expansion.

SOIL CORROSIVITY

Excessive sulfate in either the soil or native water may result in an adverse reaction between the cement in concrete (or stucco) and the soil. HUD/FHA and CBC have developed criteria for evaluation of sulfate levels and how they relate to cement reactivity with soil and/or water.

One soil sample was obtained from the site and tested in accordance with State of California Materials Manual Test Designation 417. The sulfate concentration detected from the soil sample indicated moderate sulfate exposure value as established by HUD/FHA and CBC. Therefore, it is recommended that concrete in contact with soil utilize Type II Cement and have a minimum compressive strength of 4,000 psi and a water to cement ratio of 0.50.

Electrical resistivity testing of the soil indicates that the onsite soils may have a severe potential for metal loss from electrochemical corrosion process. A qualified corrosion engineer should be consulted regarding the corrosion effects of the onsite soils on underground metal utilities.

ADDITIONAL SERVICES

Krazan & Associates should be retained to review your final foundation and grading plans, and specifications. It has been our experience that this review provides an opportunity to detect misinterpretation or misunderstandings with respect to the recommendations presented in this report prior to the start of construction.

Variations in soil types and conditions are possible and may be encountered during construction. In order to permit correlation between the soil data obtained during this investigation and the actual soil conditions encountered during construction, a representative of Krazan & Associates, Inc. should be present at the site during the earthwork and foundation construction activities to confirm that actual subsurface conditions are consistent with those contemplated in our development of this report. This will allow us the opportunity to compare actual conditions exposed during construction with those encountered in our investigation and to expedite supplemental recommendations if warranted by the exposed conditions. This activity is an integral part of our service, as acceptance of earthwork construction is dependent upon compaction testing and stability of the material. Krazan & Associates, Inc. will not be responsible for grades or staking, since this is the responsibility of the Prime Contractor.

All earthworks should be performed in accordance with the recommendations presented in this report, or as recommended by Krazan & Associates during construction. Krazan & Associates should be notified at least five working days prior to the start of construction and at least two days prior to when observation and testing services are needed. Krazan & Associates, Inc. will not be responsible for grades or staking, since this is the responsibility of the Prime Contractor.

The review of plans and specifications, and the observation and testing of earthwork related construction activities by Krazan & Associates are important elements of our services if we are to remain in the role of Geotechnical Engineer-Of-Record. If Krazan & Associates is not retained for these services, the client and the consultants providing these services will be assuming our responsibility for any potential claims that may arise during or after construction.

LIMITATIONS

Geotechnical Engineering is one of the newest divisions of Civil Engineering. This branch of Civil Engineering is constantly improving as new technologies and understanding of earth sciences advance. Although your site was analyzed using appropriate and current techniques and methods, undoubtedly there will be substantial future improvements in this branch of engineering. In addition to advancements in the field of Geotechnical Engineering, physical changes in the site due to site clearing or grading activities, new agency regulations, or possible changes in the proposed structure or development after issuance of this report will result in the need for professional review of this report. Updates or revisions to the recommendations report, and possibly additional study of the site may be required at that time. In light of this, the Owner should be aware that there is a practical limit to the usefulness of this report without critical review. Although the time limit for this review is strictly arbitrary, it is suggested that two years be considered a reasonable time for the usefulness of this report.

Foundation and earthwork construction is characterized by the presence of a calculated risk that soil and groundwater conditions have been fully revealed by the original foundation investigation. This risk is derived from the practical necessity of basing interpretations and design conclusions on limited sampling of the earth. The recommendations made in this report are based on the assumption that soil conditions do not vary significantly from those disclosed during our field investigation. The logs of the exploratory borings do not provide a warranty as to the conditions that may exist beneath the entire site. The extent and nature of subsurface soil and groundwater variations may not become evident until construction begins. It is possible that variations in soil conditions and depth to groundwater could exist beyond the points of exploration that may require additional studies, consultation, and possible design revisions. If conditions are encountered in the field during construction, which differ from those described in this report, our firm should be contacted immediately to provide any necessary revisions to these recommendations.

This report presents the results of our Geotechnical Engineering Investigation, which was conducted for the purpose of evaluating the soil conditions in terms of foundation and retaining wall design, and grading and paving of the site. This report does not include reporting of any services related to environmental studies conducted to assessment the presence or absence of hazardous and/or toxic materials in the soil, groundwater, or atmosphere, or the presence of wetlands. Any statements in this report or on any boring log regarding odors, unusual or suspicious items, or conditions observed, are strictly for descriptive purposes and are not intended to convey professional judgment regarding the presence of potentially hazardous or toxic substances. Conversely, the absence of statements in this report or on any boring log regarding odors, unusual or suspicious items, or conditions observed, does not constitute our rendering professional judgment regarding the absence of potentially hazardous or toxic substances.

The conclusions of this report are based on the information provided regarding the proposed construction. We emphasize that this report is valid for the project as described in the text of this report and it should not be used for any other sites or projects. The geotechnical engineering information presented herein is based upon our understanding of the proposed project and professional interpretation of the data obtained in our studies of the site. It is not warranted that such information and interpretation cannot be superseded by future geotechnical engineering developments. The Geotechnical Engineer should be notified of any changes to the proposed project so the recommendations may be reviewed and re-evaluated. The work conducted through the course of this investigation, including the preparation of this report, has been performed in accordance with the generally accepted standards of geotechnical engineering practice, which existed in geographic area of the project at the time the report was written. No other warranty, express or implied, is made. This report is issued with the understanding that the owner chooses the risk they wish to bear by the expenditures involved with the construction alternatives and scheduling that are chosen. If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (951) 273-1011.

Respectfully submitted, KRAZAN & ASSOCIATES, INC. James M. Kellogg, PE, GE Managing Engineer RCE No. 65092 RGE No. 2902

Jorge A. Pelayo, EIT Staff Engineer

Figures









SAN DIEGO, CALIFORNIA



APPENDIX A

FIELD AND LABORATORY INVESTIGATIONS

Field Investigation

Our field investigation consisted of a surface reconnaissance and a subsurface exploration program consisted of drilling, logging and sampling a total of eleven (11) borings. The depth of exploration was approximately 20 to 50 feet below the existing site surface.

A member of our staff visually classified the soils in the field as the drilling progressed and recorded a continuous log of each boring. Visual classification of the soils encountered in our exploratory borings was made in general accordance with the Unified Soil Classification System (ASTM D2487). A key for the classification of the soil and the boring logs are presented in this Appendix.

During drilling operations, penetration tests were performed at regular intervals to evaluate the soil consistency and to obtain information regarding the engineering properties of the subsoils. Samples were obtained from the borings by driving either a 2.5-inch inside diameter Modified California tube sampler fitted with brass sleeves or a 2-inch outside diameter, 1-3/8-inch inside diameter Standard Penetration ("split-spoon") test (SPT) sampler without sleeves. Soil samples were retained for possible laboratory testing. The samplers were driven up to a depth of 18 inches into the underlying soil using a 140-pound hammer falling 30 inches. The number of blows required to drive the sampler the last 12 inches are shown as blows per foot on the boring logs.

The approximate locations of our borings and bulk samples are shown on the Site Plan, Figure 2. These approximate locations were estimated in the field based on pacing and measuring from the limits of existing site features.

Laboratory Investigation

The laboratory investigation was programmed to determine the physical and mechanical properties of the soil underlying the site. The laboratory-testing program was formulated with emphasis on the evaluation of in-situ moisture, density, gradation, shear strength, consolidation potential, and Rvalue of the materials encountered. In addition, chemical tests were performed to evaluate the soil/cement reactivity and corrosivity. Test results were used in our engineering analysis with respect to site and building pad preparation through mass grading activities, foundation and retaining wall design recommendations, pavement section design, evaluation of the materials as possible fill materials and for possible exclusion of some soils from use at the structures as fill or backfill.

Select laboratory test results are presented on the boring logs, with graphic or tabulated results of selected tests included in this Appendix. The laboratory test data, along with the field observations, was used to prepare the final boring logs presented in the Appendix.

UNIFIED SOIL CLASSIFICATION SYSTEM



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CONSISTENCY CLASSIFICATION			
Description	Blows per Foot		
Granula	ar Soils		
Very Loose	< 5		
Loose	5-15		
Medium Dense	16-40		
Dense	41 - 65		
Very Dense	> 65		
Cohesive Soils			
Very Soft	< 3		
Soft	3-5		
Firm	6-10		
Stiff	11-20		
Very Stiff	21 - 40		
Hard	> 40		

GRAIN SIZE CLASSIFICATION			
Grain Type	Standard Sieve Size	Grain Size in Millimeters	
Boulders	Above 12 inches	Above 305	
Cobbles	12 to 13 inches	305 to 76.2	
Gravel	3 inches to No. 4	76.2 to 4.76	
Coarse-grained	3 to 1/2 inches	76.2 to 19.1	
Fine-grained	¾ inches to No. 4	19.1 to 4.76	
Sand	No. 4 to No. 200	4.76 to 0.074	
Coarse-grained	No. 4 to No. 10	4.76 to 2.00	
Medium-grained	No. 10 to No. 40	2.00 to 0.042	
Fine-grained	No. 40 to No. 200	0.042 to 0.074	
Silt and Clay	Below No. 200	Below 0.074	



Sieve Analysis

Project Number	: 11219097
Project Name	: Mission Gorge Road
Date	: 11/26/2019
Sample Location	: B-1 @ 5'
Soil Classification	: SC

Wet Weight	:	410.10
Dry Weight	:	410.10
Moisture Content	:	0%

Sieves	Sieve	Retained	Retained.	Cum	Cum.
Size/Number	Size, mm	Weight	%	% Retained	% Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50				100.0
#4	4.75	1.5	0.4	0.4	99.6
#8	2.36	1.0	0.2	0.6	99.4
#16	1.18	3.2	0.8	1.4	98.6
#30	0.60	17.3	4.2	5.6	94.4
#50	0.30	112.6	27.5	33.1	66.9
#100	0.15	64.5	15.7	48.8	51.2
#200	0.08	47.8	11.7	60.4	39.6


Project Number	: 11219097
Project Name	: Mission Gorge Road
Date	: 11/26/2019
Sample Location	: B-1 @ 10'
Soil Classification	: SC

Wet Weight	:	421.00
Dry Weight	:	421.00
Moisture Content	:	0%

Sieves	Sieve	Retained	Retained.	Cum	Cum.
Size/Number	Size, mm	Weight	%	% Retained	% Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	1.7	0.4	0.4	99.6
#4	4.75	3.1	0.7	1.1	98.9
#8	2.36	7.6	1.8	2.9	97.1
#16	1.18	46.5	11.0	14.0	86.0
#30	0.60	74.1	17.6	31.6	68.4
#50	0.30	100.0	23.8	55.3	44.7
#100	0.15	63.6	15.1	70.5	29.5
#200	0.08	37.7	9.0	79.4	20.6



Project Number	: 11219097
Project Name	: Mission Gorge Road
Date	: 11/26/2019
Sample Location	: B-1 @ 15'
Soil Classification	: SP

Wet Weight	:	413.30
Dry Weight	:	413.30
Moisture Content	:	0%

Sieves	Sieve	Retained	Retained.	Cum	Cum.
Size/Number	Size, mm	Weight	%	% Retained	% Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	3.9	0.9	0.9	99.1
#4	4.75	5.0	1.2	2.2	97.8
#8	2.36	4.8	1.2	3.3	96.7
#16	1.18	6.2	1.5	4.8	95.2
#30	0.60	18.3	4.4	9.2	90.8
#50	0.30	194.5	47.1	56.3	43.7
#100	0.15	91.9	22.2	78.5	21.5
#200	0.08	78.5	19.0	97.5	2.5



Project Number

Project Name

Date

Sample Location

Soil Classification

: 11219097

: Mission Gorge Road

: 11/26/2019

: B-1 @ 20'

: SP w/ trace gravel

Wet Weight	:	438.40
Dry Weight	:	438.40
Moisture Content	:	0%

Sieves	Sieve	Retained	Retained.	Cum	Cum.
Size/Number	Size, mm	Weight	%	% Retained	% Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	65.7	15.0	15.0	85.0
#4	4.75	21.8	5.0	20.0	80.0
#8	2.36	16.1	3.7	23.6	76.4
#16	1.18	31.6	7.2	30.8	69.2
#30	0.60	51.4	11.7	42.6	57.4
#50	0.30	156.4	35.7	78.2	21.8
#100	0.15	42.3	9.6	87.9	12.1
#200	0.08	25.5	5.8	93.7	6.3



Project Number	: 11219097
Project Name	: Mission Gorge Road
Date	: 11/26/2019
Sample Location	: B-1 @ 25'
Soil Classification	: CL

Wet Weight	:	434.80
Dry Weight	:	434.80
Moisture Content	;	0%

Sieves	Sieve	Retained	Retained.	Cum	Cum.
Size/Number	Size, mm	Weight	%	% Retained	% Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00	21.4	4.9	4.9	95.1
1/2"	12.50	12.5	2.9	7.8	92.2
3/8"	9.50	5.5	1.3	9.1	90.9
#4	4.75	20.2	4.6	13.7	86.3
#8	2.36	3.4	0.8	14.5	85.5
#16	1.18	18.0	4.1	18.6	81.4
#30	0.60	19.7	4.5	23.2	76.8
#50	0.30	25.6	5.9	29.0	71.0
#100	0.15	49.5	11.4	40.4	59.6
#200	0.08	34.0	7.8	48.3	51.7



Project Number	: 11219097
Project Name	: Mission Gorge Road
Date	: 11/26/2019
Sample Location	: B-1 @ 30'
Soil Classification	: SM

Wet Weight	:	408.90
Dry Weight	:	408.90
Moisture Content	:	0%

Sieves	Sieve	Retained	Retained.	Cum	Cum.
Size/Number	Size, mm	Weight	%	% Retained	% Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	9.3	2.3	2.3	97.7
#4	4.75	19.8	4.8	7.1	92.9
#8	2.36	18.3	4.5	11.6	88.4
#16	1.18	20.3	5.0	16.6	83.4
#30	0.60	24.9	6.1	22.6	77.4
#50	0.30	79.5	19.4	42.1	57.9
#100	0.15	38.2	9.3	51.4	48.6
#200	0.08	33.8	8.3	59.7	40.3



Project Number	: 11219097
Project Name	: Mission Gorge Road
Date	: 11/26/2019
Sample Location	: B-1 @ 35'
Soil Classification	: SM

Wet Weight	:	402.90
Dry Weight	:	402.90
Moisture Content	:	0%

Sieves	Sieve	Retained	Retained.	Cum	Cum.
Size/Number	Size, mm	Weight	%	% Retained	% Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50				100.0
#4	4.75				100.0
#8	2.36	1.3	0.3	0.3	99.7
#16	1.18	2.8	0.7	1.0	99.0
#30	0.60	58.9	14.6	15.6	84.4
#50	0.30	172.4	42.8	58.4	41.6
#100	0.15	34.6	8.6	67.0	33.0
#200	0.08	34.1	8.5	75.5	24.5



Project Number	: 11219097
Project Name	: Mission Gorge Road
Date	: 11/26/2019
Sample Location	: B-1 @ 40'
Soil Classification	: SM

Wet Weight	:	481.50
Dry Weight	:	481.50
Moisture Content	:	0%

Sieves	Sieve	Retained	Retained.	Cum	Cum.
Size/Number	Size, mm	Weight	%	% Retained	% Passing.
1-1/2"	37.50				100.0
1"	25.00	19.2	4.0	4.0	96.0
3/4"	19.00	15.9	3.3	7.3	92.7
1/2"	12.50	3.1	0.6	7.9	92.1
3/8"	9.50	0.1	0.0	8.0	92.0
#4	4.75	4.2	0.9	8.8	91.2
#8	2.36	5.0	1.0	9.9	90.1
#16	1.18	12.3	2.6	12.4	87.6
#30	0.60	82.5	17.1	29.6	70.4
#50	0.30	160.4	33.3	62.9	37.1
#100	0.15	33.6	7.0	69.8	30.2
#200	0.08	35.7	7.4	77.3	22.7



Project Number	: 11219097
Project Name	: Mission Gorge Road
Date	: 11/26/2019
Sample Location	: B-1 @ 45'
Soil Classification	: CL

Wet Weight	:	442.20
Dry Weight	:	442.20
Moisture Content	:	0%

Sieves	Sieve	Retained	Retained.	Cum	Cum.
Size/Number	Size, mm	Weight	%	% Retained	% Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	2.8	0.6	0.6	99.4
#4	4.75	0.1	0.0	0.7	99.3
#8	2.36	7.9	1.8	2.4	97.6
#16	1.18	17.8	4.0	6.5	93.5
#30	0.60	27.5	6.2	12.7	87.3
#50	0.30	70.2	15.9	28.6	71.4
#100	0.15	35.7	8.1	36.6	63.4
#200	0.08	39.6	9.0	45.6	54.4
				1	



Project Number	: 11219097
Project Name	: Mission Gorge Road
Date	: 11/26/2019
Sample Location	: B-1 @ 4'0
Soil Classification	: CL

Wet Weight	:	473.70
Dry Weight	:	473.70
Moisture Content	:	0%

Sieves	Sieve	Retained	Retained.	Cum	Cum.
Size/Number	Size, mm	Weight	%	% Retained	% Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	5.6	1.2	1.2	98.8
#4	4.75	2.5	0.5	1.7	98.3
#8	2.36	2.8	0.6	2.3	97.7
#16	1.18	9.8	2.1	4.4	95.6
#30	0.60	22.7	4.8	9.2	90.8
#50	0.30	47.2	10.0	19.1	80.9
#100	0.15	26.6	5.6	24.7	75.3
#200	0.08	34.2	7.2	32.0	68.0



Shear Strength Diagram (Direct Shear) ASTM D - 3080 / AASHTO T - 236



Shear Strength Diagram (Direct Shear) ASTM D - 3080 / AASHTO T - 236



Project No	Boring No. & Depth	Date	Soil Classification
11219097	B-4 @ 5'	11/27/2019	SC



Project No	Boring No. & Depth	Date	Soil Classification	
11219097	B-4 @ 10'	11/27/2019	SC	



Project No	Boring No. & Depth	Date	Soil Classification
11219097	B-11 @ 5'	11/27/2019	SM



Project No	Boring No. & Depth	Date	Soil Classification
11219097	B-11 @ 10'	11/27/2019	SC



ANAHEIM TEST LAB, INC

196 Technology Drive, Unit D Irvine, CA 92618 Phone (949)336-6544

Krazan & Associates, Inc. 1100 Olympic Drive, Ste. 103 Corona, CA 92881 DATE: 10/24/2019

P.O. NO: Verbal

LAB NO: C-3309, 1-2

SPECIFICATION: CTM-417/422/643

MATERIAL: Soil

Project No: 11219097 Location: Grantville Development San Diego

ANALYTICAL REPORT

CORROSION SERIES SUMMARY OF DATA

	рН	SOLUBLE SULFATES per CT. 417 ppm	SOLUBLE CHLORIDES per CT. 422 ppm	MIN. RESISTIVITY per CT. 643 ohm-cm
B-1 @ 0-5'	7.5	231	111	1,350



WES BRIDGER LAB MANAGER



OSHPD

Mission Gorge San Diego

Latitude, Longitude: 32.782045, -117.098930

		Norm Reeves Toyota San Diego
	The Hor	Catholic Charities Alission Gorge Pl
N	Aission	Valley Connect English San Diego, Mission A-1 Self Storage
Goo	gle	Mobil (P) Grotto Climbing & Yoga (P) Alvarado Canyon Rd Map data ©2019 Google
Date		11/25/2019, 11:02:11 AM
Design C	ode Refere	ASCE7-10
Risk Cat	egory	п
Site Clas	S	D - Stiff Soil
Туре	Value	Description
SS	0.956	MCE _R ground motion. (for 0.2 second period)
S ₁	0.366	MCE _R ground motion. (for 1.0s period)
S _{MS}	1.068	Site-modified spectral acceleration value
S _{M1}	0.611	Site-modified spectral acceleration value
S _{DS}	0.712	Numeric seismic design value at 0.2 second SA
S _{D1}	0.407	Numeric seismic design value at 1.0 second SA
Туре	Value	Description
SDC	D	Seismic design category
Fa	1.118	Site amplification factor at 0.2 second
Fv	1.668	Site amplification factor at 1.0 second
PGA	0.389	MCE _G peak ground acceleration
FPGA	1.111	Site amplification factor at PGA
PGAM	0.432	Site modified peak ground acceleration
TL	8	Long-period transition period in seconds
SsRT	0.956	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	1.03	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
S1RT	0.366	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.366	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.6	Factored deterministic acceleration value. (1.0 second)
PGAd	0.545	Factored deterministic acceleration value. (Peak Ground Acceleration)

11/25/2019

Туре	Value	Description
C _{RS}	0.928	Mapped value of the risk coefficient at short periods
C _{R1}	0.999	Mapped value of the risk coefficient at a period of 1 s



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APPENDIX B

EARTHWORK SPECIFICATIONS

GENERAL

When the text of the report conflicts with the general specifications in this appendix, the recommendations in the report have precedence.

SCOPE OF WORK: These specifications and applicable plans pertain to and include all earthwork associated with the site rough grading, including, but not limited to, the furnishing of all labor, tools and equipment necessary for site clearing and grubbing, stripping, preparation of foundation materials for receiving fill, excavation, processing, placement and compaction of fill and backfill materials to the lines and grades shown on the project grading plans and disposal of excess materials.

PERFORMANCE: The Contractor shall be responsible for the satisfactory completion of all earthworks in accordance with the project plans and specifications. This work shall be inspected and tested by a representative of Krazan and Associates, Incorporated, hereinafter referred to as the Geotechnical Engineer and/or Testing Agency. Attainment of design grades, when achieved, shall be certified by the project Civil Engineer. Both the Geotechnical Engineer and the Civil Engineer are the Owner's representatives. If the Contractor should fail to meet the technical or design requirements embodied in this document and on the applicable plans, he shall make the necessary adjustments until all work is deemed satisfactory as determined by both the Geotechnical Engineer and the Civil Engineer. No deviation from these specifications shall be made except upon written approval of the Geotechnical Engineer, Civil Engineer, or project Architect.

No earthwork shall be performed without the physical presence or approval of the Geotechnical Engineer. The Contractor shall notify the Geotechnical Engineer at least 2 working days prior to the commencement of any aspect of the site earthwork.

The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the Contractor shall defend, indemnify and hold the Owner and the Engineers harmless from any and all liability, real or alleged, in connection with the performance of work on this project, except for liability arising from the sole negligence of the Owner or the Engineers.

TECHNICAL REQUIREMENTS: All compacted materials shall be densified to the minimum relative compaction of 95 percent. Soil moisture content requirements presented in the Geotechnical Engineer's report shall also be complied with. The maximum laboratory compacted dry unit weight of each soil placed as fill shall be determined in accordance with ASTM Test Method D1557-00 (Modified Proctor). The optimum moisture content shall also be determined in accordance with this test method. The terms "relative compaction" and "compaction" are defined as the in-place dry density of the compacted soil divided by the laboratory compacted maximum dry density as determined by ASTM Test Method D1557-00, expressed as a percentage as specified in the technical portion of the Geotechnical Engineer's report. The location and frequency of field density tests shall be as determined by the Geotechnical Engineer. The results of these tests and compliance with these specifications shall be the basis upon which the Geotechnical Engineer will judge satisfactory completion of work.

SOILS AND FOUNDATION CONDITIONS: The Contractor is presumed to have visited the site and to have familiarized himself with existing site conditions and the contents of the data presented in the Geotechnical Engineering Investigation report.

The Contractor shall make his own interpretation of the data contained in the Geotechnical Engineering Investigation report and the Contractor shall not be relieved of liability under the Contract for any loss sustained as a result of any variance between conditions indicated by or deduced from said report and the actual conditions encountered during the progress of the work.

DUST CONTROL: The work includes dust control as required for the alleviation or prevention of any dust nuisance on or about the site or the borrow area, or off-site if caused by the Contractor's operation either during the performance of the earthwork or resulting from the conditions in which the Contractor leaves the site. The Contractor shall assume all liability, including court costs of codefendants, for all claims related to dust or wind-blown materials attributable to his work.

SITE PREPARATION

Site preparation shall consist of site clearing and grubbing, over-excavation of the proposed building pad areas, preparation of foundation materials for receiving fill, construction of Engineered Fill including the placement of non-expansive fill where recommended by the Geotechnical Engineer.

CLEARING AND GRUBBING: The Contractor shall accept the site in this present condition and shall demolish and/or remove from the area of designated project earthwork all structures, both surface and subsurface, trees, brush, roots, debris, organic matter and all other matter determined by the Geotechnical Engineer to be deleterious. Site stripping to remove organic materials and organic-laden soils in landscaped areas shall extend to a minimum depth of 2 inches or until all organic-laden soil with organic matter in excess of 3 percent of the soils by volume are removed. Such materials shall become the property of the Contractor and shall be removed from the site.

Tree root systems in proposed building areas should be removed to a minimum depth of 3 feet and to such an extent that would permit removal of all roots greater than 1 inch in diameter. Tree roots removed in parking areas may be limited to the upper 1½ feet of the ground surface. Backfill of tree root excavation should not be permitted until all exposed surfaces have been inspected and the Geotechnical Engineer is present for the proper control of backfill placement and compaction. Burning in areas that are to receive fill materials shall not be permitted.

Excavations required to achieve design grades, depressions, soft or pliant areas, or areas disturbed by demolition activities extending below planned finished subgrade levels should be excavated down to firm, undisturbed soil and backfilled with Engineered Fill. The resulting excavations should be backfilled with Engineered Fill.

EXCAVATION: Following clearing and grubbing operations, the proposed building pad area shall be over-excavated to a depth of at least two feet below existing grades or one foot below the planned foundation bottom levels, whichever is deeper, and the remaining areas of the building and adjoining exterior concrete flatwork or pavements at the building perimeter shall be over-excavated to a depth of at least one foot below existing grade. The areas of over-excavation and recompaction beneath footings and slabs shall extend out laterally a minimum of five feet beyond the perimeter of these elements.

All excavation shall be accomplished to the tolerance normally defined by the Civil Engineer as shown on the project grading plans. All over-excavation below the grades specified shall be backfilled at the Contractor's expense and shall be compacted in accordance with the applicable **TECHNICAL REQUIREMENTS**.

SUBGRADE PREPARATION: Surfaces to receive Engineered Fill or to support structures directly, shall be scarified to a depth of 8 inches, moisture conditioned as necessary and compacted in accordance with the **TECHNICAL REQUIREMENTS**, above.

Loose soil areas and/or areas of disturbed soil shall be should be excavated down to firm, undisturbed soil, moisture-conditioned as necessary and backfilled with Engineered Fill. All ruts, hummocks, or other uneven surface features shall be removed by surface grading prior to placement of any fill materials. All areas that are to receive fill materials shall be approved by the Geotechnical Engineer prior to the placement of any of the fill material.

FILL AND BACKFILL MATERIAL: No material shall be moved or compacted without the presence of the Geotechnical Engineer. Material from the required site excavation may be utilized for construction of site fills, with the limitations of their use presented in the Geotechnical Engineer's report, provided the Geotechnical Engineer gives prior approval. All materials utilized for constructing site fills shall be free from vegetation or other deleterious matter as determined by the Geotechnical Engineer, and shall comply with the requirements for non-expansive fill, aggregate base or aggregate subbase as applicable for its proposed used on the site as presented in the Geotechnical Engineer's report.

PLACEMENT, SPREADING AND COMPACTION: The placement and spreading of approved fill materials and the processing and compaction of approved fill and native materials shall be the responsibility of the Contractor. Fill materials should be placed and compacted in horizontal lifts, each not exceeding 8 inches in uncompacted thickness. Due to equipment limitations, thinner lifts may be necessary to achieve the recommended level of compaction. Compaction of fill materials by flooding, ponding, or jetting shall not be permitted unless specifically approved by local code, as well as the Geotechnical Engineer. Additional lifts should not be placed if the previous lift did not meet the required dry density (relative compaction) or if soil conditions are not stable. The compacted subgrade in pavement areas should be non-yielding when proof-rolled with a loaded ten-wheel truck, such as a water truck or dump truck, prior to pavement construction.

Both cut and fill shall be surface-compacted to the satisfaction of the Geotechnical Engineer prior to final acceptance.

SEASONAL LIMITS: No fill material shall be placed, spread, or rolled while it is frozen or thawing, or during unfavorable wet weather conditions. When the work is interrupted by heavy rains, fill operations shall not be resumed until the Geotechnical Engineer indicates that the moisture content and density of previously placed fill is as specified.



APPENDIX C

PAVEMENT SPECIFICATIONS

1. **DEFINITIONS** - The term "pavement" shall include asphalt concrete surfacing, untreated aggregate base, and aggregate subbase. The term "subgrade" is that portion of the area on which surfacing, base, or subbase is to be placed.

The term "Standard Specifications": hereinafter referred to is the January 1999 Standard Specifications of the State of California, Department of Transportation, and the "Materials Manual" is the Materials Manual of Testing and Control Procedures, State of California, Department of Public Works, Division of Highways. The term "relative compaction" refers to the field density expressed as a percentage of the maximum laboratory density as defined in the ASTM D1557-00.

2. SCOPE OF WORK - This portion of the work shall include all labor, materials, tools, and equipment necessary for, and reasonably incidental to the completion of the pavement shown on the plans and as herein specified, except work specifically notes as "Work Not Included."

3. PREPARATION OF THE SUBGRADE - The Contractor shall prepare the surface of the various subgrades receiving subsequent pavement courses to the lines, grades, and dimensions given on the plans. The upper 12 inches of the soil subgrade beneath the pavement section shall be compacted to a minimum relative compaction of 95 percent. The finished subgrades shall be tested and approved by the Geotechnical Engineer prior to the placement of additional pavement courses.

4. UNTREATED AGGREGATE BASE - The aggregate base material shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate base material shall conform to the requirements of Section 26 of the Standard Specifications for Class 2 material, ³/₄-inches maximum size. The aggregate base material shall be compacted to a minimum relative compaction of 95 percent. The aggregate base material shall be spread and compacted in accordance with Section 26 of the Standard Specifications. The aggregate base material shall be spread in layers not exceeding 6 inches and each layer of aggregate material course shall be tested and approved by the Geotechnical Engineer prior to the placement of successive layers.

5. AGGREGATE SUBBASE - The aggregate subbase shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate subbase material shall conform to the requirements of Section 25 of the Standard Specifications for Class II material. The aggregate subbase material shall be compacted to a minimum relative compaction of 95 percent, and it shall be spread and compacted in accordance with Section 25 of the Standard Specifications. Each layer of aggregate subbase shall be tested and approved by the Geotechnical Engineer prior to the placement of successive layers.

6. ASPHALT CONCRETE SURFACING - Asphalt concrete surfacing shall consist of a mixture of mineral aggregate and paving grade asphalt, mixed at a central mixing plant and spread and compacted on a prepared base in conformity with the lines, grades, and dimensions shown on the plans. The viscosity grade of the asphalt shall be AR-8000. The mineral aggregate shall be Type B, ½-inch or ¾-inch maximum, medium grading, for the wearing course and ¾-inch maximum, medium grading for the base course, and shall conform to the requirements set forth in Section 39 of the Standard Specifications. The drying, proportioning, and mixing of the materials shall conform to Section 39.

The prime coat, spreading and compacting equipment, and spreading and compacting the mixture shall conform to the applicable chapters of Section 39, with the exception that no surface course shall be placed when the atmospheric temperature is below 50 degrees F. The surfacing shall be rolled with a combination steel-wheel and pneumatic rollers, as described in Section 39-6. The surface course shall be placed with an approved self-propelled mechanical spreading and finishing machine.

7. FOG SEAL COAT - The fog seal (mixing type asphalt emulsion) shall conform to and be applied in accordance with the requirements of Section 37.




****** LIQUEFACTION ANALYSIS SUMMARY Copyright by CivilTech Software www.civiltechsoftware.com ***** Font: Courier New, Regular, Size 8 is recommended for this report. Licensed to , 11/27/2019 6:44:44 AM Input File Name: P:\112\2019\2019 Projects\11219097 Mission Gorge Rd\Reports\Liquefaction Analysis\11219097 Liquefaction Analysis.liq Title: Mission Gorge Road Subtitle: 11219097 Surface Elev.= Hole No.=B-1 Depth of Hole= 50.00 ft Water Table during Earthquake= 10.00 ft Water Table during In-Situ Testing= 10.00 ft Max. Acceleration= 0.43 g Earthquake Magnitude= 6.50 Input Data: Surface Elev.= Hole No.=B-1 Depth of Hole=50.00 ft Water Table during Earthquake= 10.00 ft Water Table during In-Situ Testing= 10.00 ft Max. Acceleration=0.43 g Earthquake Magnitude=6.50 No-Liquefiable Soils: CL, OL are Non-Liq. Soil SPT or BPT Calculation. 2. Settlement Analysis Method: Ishihara / Yoshimine 3. Fines Correction for Liquefaction: Idriss/Seed 4. Fine Correction for Settlement: During Liquefaction* Settlement Calculation in: All zones* 6. Hammer Energy Ratio, Ce = 17. Borehole Diameter, Cb=1 8. Sampling Method,
 9. User request factor of safety (apply to CSR), Plot one CSR curve (fs1=1) Cs = 1User= 110. Use Curve Smoothing: Yes* * Recommended Options In-Situ Test Data: gamma Depth SPT Fines ft pcf % 5.00 120.00 10.00 39.60 10.00 28.00 120.00 20.60 15.00 24.00 120.00 2.50 20.00 120.00 26.00 6.30 20.00 25.00 115.00 NoLiq 120.00 30.00 58.00 40.30 35.00 59.00 120.00 24.50 22.70 40.00 55.00 120.00 115.00 45.00 68.00 NoLig

11219097 Liquefaction Analysis.sum

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11219097 Liquefaction Analysis.sum 50.00 76.00 115.00 68.00

Output Results: Settlement of Saturated Sands=0.21 in. Settlement of Unsaturated Sands=0.01 in. Total Settlement of Saturated and Unsaturated Sands=0.22 in. Differential Settlement=0.110 to 0.145 in. Depth CRRm CSRfs F.S. S_sat. S_dry S_a]] ft in. in. in. 0.28 0.21 0.22 5.00 0.32 5.00 0.01 5.05 0.32 0.28 5.00 0.21 0.01 0.22 5.00 0.21 0.21 5.10 0.33 0.28 0.01 0.22 5.15 0.33 0.28 5.00 0.01 0.22 0.21 0.21 0.21 0.21 0.21 0.21 5.00 0.34 0.01 0.22 0.28 0.28 0.28 0.28 5.25 0.34 5.00 0.01 0.22 0.35 0.35 0.36 5.30 0.22 5.00 0.01 5.00 0.01 0.22 5.40 0.28 5.00 0.22 0.01 0.22 5.45 0.36 0.28 5.00 0.21 0.01 0.21 5.50 0.37 0.28 5.00 0.01 0.22 0.21 5.55 0.37 5.00 0.01 0.22 0.28 0.21 0.21 0.21 0.21 0.21 0.21 0.22 0.22 0.22 5.60 0.38 5.00 0.01 0.28 0.28 0.28 0.28 0.28 0.28 5.65 5.70 5.75 0.38 5.00 0.01 0.39 0.39 0.40 5.00 0.01 5.00 0.22 0.01 5.80 0.01 0.22 0.21 5.85 0.41 0.28 5.00 0.01 0.22 0.41 0.22 5.90 0.28 5.00 0.01 0.21 5.95 0.28 0.22 0.42 5.00 0.01 6.00 0.43 0.28 5.00 0.21 0.01 0.22 0.21 0.21 0.21 0.21 0.21 0.21 0.22 0.43 5.00 0.01 6.05 0.28 6.10 0.44 0.28 5.00 0.01 5.00 0.22 6.15 0.45 0.01 6.20 0.22 0.45 0.28 0.01 0.46 0.28 5.00 0.22 0.01 0.28 5.00 0.21 0.22 6.30 0.46 0.01 0.21 6.35 0.46 0.28 5.00 0.01 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21 0.21 6.40 0.47 0.28 5.00 0.01 0.21 5.00 6.45 0.47 0.28 0.01 0.21 0.28 0.21 0.21 5.00 0.01 6.50 0.48 6.55 0.48 5.00 0.01 0.21 0.28 5.00 0.01 6.60 0.49 0.28 0.21 0.49 5.00 0.01 6.65 6.70 0.50 0.28 5.00 0.01 0.21 0.21 6.75 0.50 0.28 5.00 0.01 0.21 0.21 0.21 0.28 0.21 6.80 0.51 5.00 0.01 6.85 0.51 0.28 5.00 0.01 0.21 0.21 0.21 0.21 0.21 6.90 0.52 0.28 5.00 0.01 0.21 0.28 0.28 0.28 0.52 5.00 0.01 0.21 7.00 5.00 0.53 0.01 0.21 0.21 0.01 7.10 0.54 0.28 5.00 0.21 0.01 0.21 0.21 7.15 0.55 0.28 5.00 0.01 0.21 0.21 0.28 5.00 7.20 0.56 0.01 0.21 7.25 5.00 0.21 0.01 0.57 0.28 0.21 0.21 0.21 0.21 0.21 0.21 0.58 7.30 0.28 5.00 0.01 0.21 7.35 0.59 0.28 5.00 0.01 0.21 0.28 0.21 0.21 7.40 0.60 5.00 0.01 5.00 7.45 0.62 0.01 7.50 0.21 0.28 5.00 0.21 0.01 0.65

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		11219	097 Liqu	efaction	Analysis	s.sum
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7.70	2.88	0.28	5.00	0.21	0.01	0.21
7.75	2.88	0.28	5.00	0.21	0.01	0.21
7.80	2.88	0.28	5.00	0.21	0.01	0.21
7.85	2.88	0.28	5.00	0.21	0.00	0.21
7.90	2.00	0.28	5.00	0.21	0.00	0.21
7.95	2.00	0.20	5.00	0.21	0.00	0.21
8.00	2.00	0.20	5.00	0.21	0.00	0.21
8 10	2.88	0.28	5.00	0.21	0.00	0.21
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8.60	2.00	0.20	5.00	0.21	0.00	0.21
8 70	2.00	0.28	5.00	0.21	0.00	0.21
8 75	2.00	0.28	5.00	0.21	0.00	0.21
8.80	2.88	0.28	5.00	0.21	0.00	0.21
8.85	2.88	0.28	5.00	0.21	0.00	0.21
8.90	2.88	0.27	5.00	0.21	0.00	0.21
8.95	2.88	0.27	5.00	0.21	0.00	0.21
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10.35	2.00	0.28	5.00	0.21	0.00	0.21
10.40	2.00	0.20	5.00	0.21	0.00	0.21
10.50	2.88	0.28	5.00	0.21	0.00	0.21
10.55	2.88	0.28	5.00	0.21	0.00	0.21
10.60	2.88	0.28	5.00	0.21	0.00	0.21
10.65	2.88	0.28	5.00	0.21	0.00	0.21
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10.00	2.00	0.29	5.00	0.21	0.00	0.21
10.90	2.00	0.29	5.00	0.21	0.00	0.21
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11.05	2.88	0.29	5.00	0.21	0.00	0.21
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11 90	2.00	0.30	5.00	0.21	0.00	0.21
11.95	2.88	0.30	5.00	0.21	0.00	0.21
12.00	2.88	0.30	5.00	0.21	0.00	0.21
12.05	2.88	0.30	5.00	0.21	0.00	0.21
12.10	2.88	0.30	5.00	0.21	0.00	0.21
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13.40	0.47	0.31	1.49	0.20	0.00	0.20
13.45	0.46	0.31	1 4/	0.19	0.00	0.19
13.50	0.40	0.31	1 44	0.19	0.00	0.19
13.60	0.45	0.32	1.43	0.19	0.00	0.19
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13.75	0.44	0.32	1.39	0.19	0.00	0.19
13.80	0.44	0.32	1.38	0.19	0.00	0.19
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	14.50	0.41	0.32	1.26	0.16	0.00	0.16
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	14.55	0.41	0.32	1.20	0.16	0.00	0.10
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	14.60	0.40	0.32	1 24	0.10	0.00	0.10
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	14.00	0.40	0.33	1.23	0.16	0.00	0.16
14.86 0.48 0.33 1.46 0.15 0.00 0.15 14.85 0.47 0.33 1.44 0.15 0.00 0.15 14.90 0.47 0.33 1.44 0.15 0.00 0.15 14.95 0.47 0.33 1.42 0.15 0.00 0.15 15.05 0.47 0.33 1.42 0.15 0.00 0.15 15.10 0.47 0.33 1.42 0.15 0.00 0.15 15.20 0.47 0.33 1.41 0.14 0.00 0.14 15.25 0.47 0.33 1.41 0.14 0.00 0.14 15.25 0.47 0.33 1.41 0.14 0.00 0.14 15.26 0.47 0.33 1.41 0.14 0.00 0.14 15.46 0.47 0.33 1.40 0.14 0.00 0.14 15.45 0.47 0.33 1.40 0.13 0.00	14.75	0.40	0.33	1.23	0.16	0.00	0.16
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	14.80	0.48	0.33	1.46	0.15	0.00	0.15
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$\begin{array}{cccccccccccccccccccccccccccccccccccc$	14.90	0.47	0.33	1.44	0.15	0.00	0.15
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	14.95	0.47	0.33	1.43	0.15	0.00	0.15
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	15.00	0.47	0.33	1.42	0.15	0.00	0.15
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	15.05	0.47	0.33	1.42	0.15	0.00	0.15
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	15.10 15.15	0.47	0.33	1 42	0.15	0.00	0.15
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	15 20	0.47	0.33	1 41	0.14	0.00	0.14
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	15.25	0.47	0.33	1.41	0.14	0.00	0.14
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	15.30	0.47	0.33	1.41	0.14	0.00	0.14
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	15.35	0.47	0.33	1.41	0.14	0.00	0.14
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	15.40	0.47	0.33	1.41	0.14	0.00	0.14
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	15.45	0.47	0.33	1.40	0.14	0.00	0.14
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	15.50	0.47	0.33	1.40	0.14	0.00	0.14
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	15.00	0.47	0.33	1.40	0.14	0.00	0.14
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	15 65	0.47	0.33	1.40	0.13	0.00	0.13
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	15.70	0.47	0.33	1.39	0.13	0.00	0.13
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	15.75	0.46	0.33	1.39	0.13	0.00	0.13
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	15.80	0.46	0.33	1.39	0.13	0.00	0.13
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	15.85	0.46	0.33	1.39	0.13	0.00	0.13
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	15.90	0.46	0.34	1.39	0.13	0.00	0.13
16.00 0.46 0.34 1.38 0.12 0.00 0.12 16.05 0.46 0.34 1.38 0.12 0.00 0.12 16.10 0.46 0.34 1.38 0.12 0.00 0.12 16.15 0.46 0.34 1.38 0.12 0.00 0.12 16.20 0.46 0.34 1.38 0.12 0.00 0.12 16.25 0.46 0.34 1.37 0.12 0.00 0.12 16.30 0.46 0.34 1.37 0.12 0.00 0.12 16.35 0.46 0.34 1.37 0.12 0.00 0.12 16.40 0.46 0.34 1.37 0.11 0.00 0.11 16.40 0.46 0.34 1.37 0.11 0.00 0.11 16.55 0.46 0.34 1.37 0.11 0.00 0.11 16.55 0.46 0.34 1.36 0.11 0.00 0.11 16.60 0.46 0.34 1.36 0.11 0.00 0.11 16.75 0.46 0.34 1.36 0.11 0.00 0.11 16.75 0.46 0.34 1.36 0.11 0.00 0.11 16.80 0.46 0.34 1.35 0.10 0.00 0.10 16.85 0.46 0.34 1.35 0.10 0.00 0.10 16.95 0.46 0.34 1.35 0.10 <t< td=""><td>15.95</td><td>0.46</td><td>0.34</td><td>1.39</td><td>0.13</td><td>0.00</td><td>0.13</td></t<>	15.95	0.46	0.34	1.39	0.13	0.00	0.13
16.050.460.341.380.120.000.1216.150.460.341.380.120.000.1216.200.460.341.380.120.000.1216.250.460.341.370.120.000.1216.300.460.341.370.120.000.1216.350.460.341.370.120.000.1216.350.460.341.370.120.000.1216.400.460.341.370.110.000.1116.450.460.341.370.110.000.1116.550.460.341.370.110.000.1116.550.460.341.360.110.000.1116.650.460.341.360.110.000.1116.650.460.341.360.110.000.1116.750.460.341.360.110.000.1116.750.460.341.360.110.000.1116.800.460.341.350.100.000.1016.850.460.341.350.100.000.1016.900.460.341.350.100.000.1016.950.460.341.350.100.000.1016.950.460.341.350.100.000.1016.95 <td>16.00</td> <td>0.40</td> <td>0.34</td> <td>1 38</td> <td>0.12</td> <td>0.00</td> <td>0.12</td>	16.00	0.40	0.34	1 38	0.12	0.00	0.12
16.15 0.46 0.34 1.38 0.12 0.00 0.12 16.20 0.46 0.34 1.38 0.12 0.00 0.12 16.25 0.46 0.34 1.37 0.12 0.00 0.12 16.30 0.46 0.34 1.37 0.12 0.00 0.12 16.35 0.46 0.34 1.37 0.12 0.00 0.12 16.35 0.46 0.34 1.37 0.12 0.00 0.12 16.40 0.46 0.34 1.37 0.11 0.00 0.11 16.45 0.46 0.34 1.37 0.11 0.00 0.11 16.50 0.46 0.34 1.36 0.11 0.00 0.11 16.60 0.46 0.34 1.36 0.11 0.00 0.11 16.65 0.46 0.34 1.36 0.11 0.00 0.11 16.70 0.46 0.34 1.36 0.11 0.00 0.11 16.75 0.46 0.34 1.36 0.11 0.00 0.11 16.80 0.46 0.34 1.35 0.10 0.00 0.10 16.85 0.46 0.34 1.35 0.10 0.00 0.10 16.90 0.46 0.34 1.35 0.10 0.00 0.10 16.95 0.46 0.34 1.35 0.10 0.00 0.10	16 10	0.46	0.34	1.38	0.12	0.00	0.12
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	16.15	0.46	0.34	1.38	0.12	0.00	0.12
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	16.20	0.46	0.34	1.38	0.12	0.00	0.12
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	16.25	0.46	0.34	1.37	0.12	0.00	0.12
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	16.30	0.46	0.34	1.37	0.12	0.00	0.12
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	16.35	0.46	0.34	1.37	0.12	0.00	0.12
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	16.40	0.46	0.34	1.37 1.27	0.11	0.00	0.11
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	16 50	0.40	0.34	1 37	0.11	0.00	0.11
16.60 0.46 0.34 1.36 0.11 0.00 0.11 16.65 0.46 0.34 1.36 0.11 0.00 0.11 16.70 0.46 0.34 1.36 0.11 0.00 0.11 16.70 0.46 0.34 1.36 0.11 0.00 0.11 16.75 0.46 0.34 1.36 0.11 0.00 0.11 16.80 0.46 0.34 1.36 0.11 0.00 0.11 16.80 0.46 0.34 1.35 0.10 0.00 0.10 16.85 0.46 0.34 1.35 0.10 0.00 0.10 16.90 0.46 0.34 1.35 0.10 0.00 0.10 16.95 0.46 0.34 1.35 0.10 0.00 0.10 16.95 0.46 0.34 1.35 0.10 0.00 0.10 16.95 0.46 0.34 1.35 0.10 0.00 0.10	16.55	0.46	0.34	1.36	0.11	0.00	0.11
16.65 0.46 0.34 1.36 0.11 0.00 0.11 16.70 0.46 0.34 1.36 0.11 0.00 0.11 16.75 0.46 0.34 1.36 0.11 0.00 0.11 16.75 0.46 0.34 1.36 0.11 0.00 0.11 16.80 0.46 0.34 1.36 0.11 0.00 0.11 16.80 0.46 0.34 1.36 0.10 0.00 0.10 16.85 0.46 0.34 1.35 0.10 0.00 0.10 16.90 0.46 0.34 1.35 0.10 0.00 0.10 16.95 0.46 0.34 1.35 0.10 0.00 0.10 16.95 0.46 0.34 1.35 0.10 0.00 0.10 Page 5	16.60	0.46	0.34	1.36	0.11	0.00	0.11
16.70 0.46 0.34 1.36 0.11 0.00 0.11 16.75 0.46 0.34 1.36 0.11 0.00 0.11 16.80 0.46 0.34 1.36 0.11 0.00 0.11 16.80 0.46 0.34 1.36 0.10 0.00 0.10 16.85 0.46 0.34 1.35 0.10 0.00 0.10 16.90 0.46 0.34 1.35 0.10 0.00 0.10 16.95 0.46 0.34 1.35 0.10 0.00 0.10 16.95 0.46 0.34 1.35 0.10 0.00 0.10 16.95 0.46 0.34 1.35 0.10 0.00 0.10 Page 5 0.46 0.34 1.35 0.10 0.00 0.10	16.65	0.46	0.34	1.36	0.11	0.00	0.11
16.75 0.46 0.34 1.36 0.11 0.00 0.11 16.80 0.46 0.34 1.36 0.10 0.00 0.10 16.85 0.46 0.34 1.35 0.10 0.00 0.10 16.90 0.46 0.34 1.35 0.10 0.00 0.10 16.95 0.46 0.34 1.35 0.10 0.00 0.10 16.95 0.46 0.34 1.35 0.10 0.00 0.10 16.95 0.46 0.34 1.35 0.10 0.00 0.10 Page 5 0.46 0.34 1.35 0.10 0.00 0.10	16.70	0.46	0.34	1.36	0.11	0.00	0.11
16.80 0.46 0.34 1.36 0.10 0.00 0.10 16.85 0.46 0.34 1.35 0.10 0.00 0.10 16.90 0.46 0.34 1.35 0.10 0.00 0.10 16.95 0.46 0.34 1.35 0.10 0.00 0.10 16.95 0.46 0.34 1.35 0.10 0.00 0.10 16.95 0.46 0.34 1.35 0.10 0.00 0.10 Page 5 0.46 0.34 1.35 0.10 0.00 0.10	16.75	0.46	0.34	1.36	0.11	0.00	0.11
10.05 0.46 0.34 1.35 0.10 0.00 0.10 16.90 0.46 0.34 1.35 0.10 0.00 0.10 16.95 0.46 0.34 1.35 0.10 0.00 0.10 16.95 0.46 0.34 1.35 0.10 0.00 0.10 Page 5 0.46 0.34 1.35 0.10 0.00 0.10	16.80	0.46	0.34	1.30	0.10	0.00	0.10
16.95 0.46 0.34 1.35 0.10 0.00 0.10 Page 5	16 00	0.40	0.34	1 25	0.10	0.00	0.10
Page 5	16.95	0.46	0.34	1.35	0.10	0.00	0.10
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		11219	097 Liqu	efaction	Analysi	s.sum
17.00	0.46	0.34	1.35	0.10	0.00	0.10
17.05	0.46	0.34	1 35	0.10	0.00	0.10
17.15	0.46	0.34	1.34	0.10	0.00	0.10
17.20	0.46	0.34	1.34	0.09	0.00	0.09
17.25	0.46	0.34	1.34	0.09	0.00	0.09
17.30	0.46	0.35	1.34	0.09	0.00	0.09
17 40	0.46	0.35	1 34	0.09	0.00	0.09
17.45	0.46	0.35	1.33	0.09	0.00	0.09
17.50	0.46	0.35	1.33	0.09	0.00	0.09
17.55	0.46	0.35	1.33	0.08	0.00	0.08
17.60	0.46	0.35	1 22	0.08	0.00	0.08
17.70	0.46	0.35	1.33	0.08	0.00	0.08
17.75	0.46	0.35	1.33	0.08	0.00	0.08
17.80	0.46	0.35	1.32	0.08	0.00	0.08
17 00	0.46	0.35	1 32	0.08	0.00	0.08
17.95	0.46	0.35	1.32	0.07	0.00	0.07
18.00	0.46	0.35	1.32	0.07	0.00	0.07
18.05	0.46	0.35	1.32	0.07	0.00	0.07
18.10	0.46	0.35	1.32	0.07	0.00	0.07
18.20	0.46	0.35	1.31	0.07	0.00	0.07
18.25	0.46	0.35	1.31	0.06	0.00	0.06
18.30	0.46	0.35	1.31	0.06	0.00	0.06
18.35	0.46	0.35	1 31	0.06	0.00	0.06
18.45	0.46	0.35	1.31	0.06	0.00	0.06
18.50	0.46	0.35	1.31	0.06	0.00	0.06
18.55	0.46	0.35	1.31	0.06	0.00	0.06
18.60	0.46	0.35	1 31	0.05	0.00	0.05
18.70	0.46	0.35	1.31	0.05	0.00	0.05
18.75	0.46	0.35	1.31	0.05	0.00	0.05
18.80	0.46	0.35	1.30	0.05	0.00	0.05
18.90	0.46	0.36	1.30	0.05	0.00	0.05
18.95	0.46	0.36	1.30	0.04	0.00	0.04
19.00	0.46	0.36	1.30	0.04	0.00	0.04
19.05	0.46	0.36	1.30	0.04	0.00	0.04
19.10	0.46	0.36	1.30	0.04	0.00	0.04
19.20	0.46	0.36	1.30	0.04	0.00	0.04
19.25	0.46	0.36	1.30	0.04	0.00	0.04
19.30	0.46	0.36	1.30	0.03	0.00	0.03
19.40	0.46	0.36	1.29	0.03	0.00	0.03
19.45	0.46	0.36	1.29	0.03	0.00	0.03
19.50	0.46	0.36	1.29	0.03	0.00	0.03
19.55	0.46	0.30	1 29	0.03	0.00	0.03
19.65	0.46	0.36	1.29	0.02	0.00	0.02
19.70	0.46	0.36	1.29	0.02	0.00	0.02
19.75	0.47	0.36	1 20	0.02	0.00	0.02
19.85	0.47	0.36	1.29	0.02	0.00	0.02
19.90	0.47	0.36	1.29	0.02	0.00	0.02
19.95	0.47	0.36	1.29	0.01	0.00	0.01
20.00	0.47	0.36	1.30	0.01	0.00	0.01
20.10	0.48	0.36	1.32	0.01	0.00	0.01
				Page 6		

20.15       0.49       0.36       1.34       0.01       0.00       0.01         20.20       0.50       0.36       1.42       0.01       0.00       0.01         20.30       0.53       0.36       1.46       0.00       0.00       0.00         20.35       0.55       0.36       1.52       0.00       0.00       0.00         20.45       0.63       0.36       5.00       0.00       0.00       0.00         20.55       2.88       0.36       5.00       0.00       0.00       0.00         20.66       2.88       0.36       5.00       0.00       0.00       0.00         20.70       2.88       0.37       5.00       0.00       0.00       0.00         20.85       2.88       0.37       5.00       0.00       0.00       0.00         20.85       2.88       0.37       5.00       0.00       0.00       0.00         20.95       2.88       0.37       5.00       0.00       0.00       0.00         20.95       2.88       0.37       5.00       0.00       0.00       0.00         20.95       2.88       0.37       5.00       0.00			11219	097 Liqu	efaction	Analysi	s.sum
20.20       0.50       0.36       1.47       0.01       0.00       0.01         20.35       0.53       0.36       1.42       0.01       0.00       0.00         20.35       0.53       0.36       1.52       0.00       0.00       0.00         20.40       0.58       0.36       1.74       0.00       0.00       0.00         20.50       2.88       0.36       5.00       0.00       0.00       0.00         20.65       2.88       0.36       5.00       0.00       0.00       0.00         20.65       2.88       0.37       5.00       0.00       0.00       0.00         20.75       2.88       0.37       5.00       0.00       0.00       0.00         20.85       2.88       0.37       5.00       0.00       0.00       0.00         20.85       2.88       0.37       5.00       0.00       0.00       0.00         20.95       2.88       0.37       5.00       0.00       0.00       0.00         21.00       2.88       0.37       5.00       0.00       0.00       0.00         21.00       2.88       0.37       5.00       0.00	20.15	0.49	0.36	1.34	0.01	0.00	0.01
20.30       0.53       0.36       1.42       0.00       0.00       0.00         20.35       0.55       0.36       1.52       0.00       0.00       0.00         20.46       0.58       0.36       1.60       0.00       0.00       0.00         20.45       0.63       0.36       1.74       0.00       0.00       0.00         20.55       2.88       0.36       5.00       0.00       0.00       0.00         20.65       2.88       0.37       5.00       0.00       0.00       0.00         20.75       2.88       0.37       5.00       0.00       0.00       0.00         20.75       2.88       0.37       5.00       0.00       0.00       0.00         20.80       2.88       0.37       5.00       0.00       0.00       0.00         20.90       2.88       0.37       5.00       0.00       0.00       0.00         21.00       2.88       0.37       5.00       0.00       0.00       0.00         21.10       2.88       0.37       5.00       0.00       0.00       0.00         21.10       2.88       0.37       5.00       0.00	20.20	0.50	0.36	1.37	0.01	0.00	0.01
20.35       0.55       0.36       1.52       0.00       0.00       0.00         20.45       0.63       0.36       1.74       0.00       0.00       0.00         20.55       2.88       0.36       5.00       0.00       0.00       0.00         20.55       2.88       0.36       5.00       0.00       0.00       0.00         20.60       2.88       0.36       5.00       0.00       0.00       0.00         20.60       2.88       0.37       5.00       0.00       0.00       0.00         20.70       2.88       0.37       5.00       0.00       0.00       0.00         20.75       2.88       0.37       5.00       0.00       0.00       0.00         20.85       2.88       0.37       5.00       0.00       0.00       0.00         20.95       2.88       0.37       5.00       0.00       0.00       0.00         21.00       2.88       0.37       5.00       0.00       0.00       0.00         21.10       2.88       0.37       5.00       0.00       0.00       0.00         21.20       2.88       0.37       5.00       0.00	20.23	0.51	0.36	1 46	0.01	0.00	0.01
20.40       0.58       0.36       1.60       0.00       0.00       0.00         20.45       0.63       0.36       1.74       0.00       0.00       0.00         20.50       2.88       0.36       5.00       0.00       0.00       0.00         20.55       2.88       0.36       5.00       0.00       0.00       0.00         20.65       2.88       0.37       5.00       0.00       0.00       0.00         20.75       2.88       0.37       5.00       0.00       0.00       0.00         20.75       2.88       0.37       5.00       0.00       0.00       0.00         20.80       2.88       0.37       5.00       0.00       0.00       0.00         20.90       2.88       0.37       5.00       0.00       0.00       0.00         21.00       2.88       0.37       5.00       0.00       0.00       0.00         21.10       2.88       0.37       5.00       0.00       0.00       0.00         21.11       2.88       0.37       5.00       0.00       0.00       0.00         21.15       2.88       0.37       5.00       0.00	20.35	0.55	0.36	1.52	0.00	0.00	0.00
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	20.40	0.58	0.36	1.60	0.00	0.00	0.00
$ \begin{array}{c} 20.50 \\ 20.55 \\ 2.88 \\ 0.36 \\ 0.36 \\ 5.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\$	20.45	0.63	0.36	1.74	0.00	0.00	0.00
20.55       2.88       0.36       5.00       0.00       0.00       0.00         20.66       2.88       0.37       5.00       0.00       0.00       0.00         20.70       2.88       0.37       5.00       0.00       0.00       0.00         20.75       2.88       0.37       5.00       0.00       0.00       0.00         20.75       2.88       0.37       5.00       0.00       0.00       0.00         20.80       2.88       0.37       5.00       0.00       0.00       0.00         20.90       2.88       0.37       5.00       0.00       0.00       0.00         21.05       2.88       0.37       5.00       0.00       0.00       0.00         21.10       2.88       0.37       5.00       0.00       0.00       0.00         21.15       2.88       0.37       5.00       0.00       0.00       0.00         21.20       2.88       0.37       5.00       0.00       0.00       0.00         21.31       2.88       0.37       5.00       0.00       0.00       0.00         21.35       2.88       0.37       5.00       0.00	20.50	2.88	0.36	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	20.55	2.88	0.36	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	20.60	2.88	0.36	5.00	0.00	0.00	0.00
20.70       2.88       0.37       5.00       0.00       0.00       0.00         20.75       2.88       0.37       5.00       0.00       0.00       0.00         20.85       2.88       0.37       5.00       0.00       0.00       0.00         20.90       2.88       0.37       5.00       0.00       0.00       0.00         20.95       2.88       0.37       5.00       0.00       0.00       0.00         21.00       2.88       0.37       5.00       0.00       0.00       0.00         21.10       2.88       0.37       5.00       0.00       0.00       0.00         21.12       2.88       0.37       5.00       0.00       0.00       0.00         21.12       2.88       0.37       5.00       0.00       0.00       0.00         21.30       2.88       0.37       5.00       0.00       0.00       0.00         21.35       2.88       0.37       5.00       0.00       0.00       0.00         21.45       2.88       0.37       5.00       0.00       0.00       0.00         21.45       2.88       0.37       5.00       0.00	20.65	2.88	0.37	5.00	0.00	0.00	0.00
20.80       2.88       0.37       5.00       0.00       0.00       0.00         20.85       2.88       0.37       5.00       0.00       0.00       0.00         20.90       2.88       0.37       5.00       0.00       0.00       0.00         20.95       2.88       0.37       5.00       0.00       0.00       0.00         21.05       2.88       0.37       5.00       0.00       0.00       0.00         21.05       2.88       0.37       5.00       0.00       0.00       0.00         21.10       2.88       0.37       5.00       0.00       0.00       0.00         21.20       2.88       0.37       5.00       0.00       0.00       0.00         21.22       2.88       0.37       5.00       0.00       0.00       0.00         21.35       2.88       0.37       5.00       0.00       0.00       0.00         21.45       2.88       0.37       5.00       0.00       0.00       0.00         21.45       2.88       0.37       5.00       0.00       0.00       0.00         21.45       2.88       0.37       5.00       0.00	20.70	2.00	0.37	5.00	0.00	0.00	0.00
20.85         2.88         0.37         5.00         0.00         0.00         0.00           20.90         2.88         0.37         5.00         0.00         0.00         0.00           20.95         2.88         0.37         5.00         0.00         0.00         0.00           21.00         2.88         0.37         5.00         0.00         0.00         0.00           21.10         2.88         0.37         5.00         0.00         0.00         0.00           21.15         2.88         0.37         5.00         0.00         0.00         0.00           21.25         2.88         0.37         5.00         0.00         0.00         0.00           21.25         2.88         0.37         5.00         0.00         0.00         0.00           21.40         2.88         0.37         5.00         0.00         0.00         0.00           21.40         2.88         0.37         5.00         0.00         0.00         0.00           21.45         2.88         0.37         5.00         0.00         0.00         0.00           21.45         2.88         0.37         5.00         0.00 <t< td=""><td>20.80</td><td>2.88</td><td>0.37</td><td>5.00</td><td>0.00</td><td>0.00</td><td>0.00</td></t<>	20.80	2.88	0.37	5.00	0.00	0.00	0.00
20.90       2.88       0.37       5.00       0.00       0.00       0.00         20.95       2.88       0.37       5.00       0.00       0.00       0.00         21.00       2.88       0.37       5.00       0.00       0.00       0.00         21.10       2.88       0.37       5.00       0.00       0.00       0.00         21.10       2.88       0.37       5.00       0.00       0.00       0.00         21.12       2.88       0.37       5.00       0.00       0.00       0.00         21.25       2.88       0.37       5.00       0.00       0.00       0.00         21.35       2.88       0.37       5.00       0.00       0.00       0.00         21.40       2.88       0.37       5.00       0.00       0.00       0.00         21.45       2.88       0.37       5.00       0.00       0.00       0.00         21.45       2.88       0.37       5.00       0.00       0.00       0.00         21.55       2.88       0.37       5.00       0.00       0.00       0.00         21.50       2.88       0.37       5.00       0.00	20.85	2.88	0.37	5.00	0.00	0.00	0.00
20.95       2.88       0.37       5.00       0.00       0.00       0.00         21.00       2.88       0.37       5.00       0.00       0.00       0.00         21.10       2.88       0.37       5.00       0.00       0.00       0.00         21.15       2.88       0.37       5.00       0.00       0.00       0.00         21.15       2.88       0.37       5.00       0.00       0.00       0.00         21.25       2.88       0.37       5.00       0.00       0.00       0.00         21.30       2.88       0.37       5.00       0.00       0.00       0.00         21.40       2.88       0.37       5.00       0.00       0.00       0.00         21.45       2.88       0.37       5.00       0.00       0.00       0.00         21.45       2.88       0.37       5.00       0.00       0.00       0.00         21.66       2.88       0.37       5.00       0.00       0.00       0.00         21.65       2.88       0.37       5.00       0.00       0.00       0.00         21.65       2.88       0.37       5.00       0.00	20.90	2.88	0.37	5.00	0.00	0.00	0.00
21.00       2.88       0.37       5.00       0.00       0.00       0.00         21.05       2.88       0.37       5.00       0.00       0.00       0.00         21.15       2.88       0.37       5.00       0.00       0.00       0.00         21.20       2.88       0.37       5.00       0.00       0.00       0.00         21.20       2.88       0.37       5.00       0.00       0.00       0.00         21.30       2.88       0.37       5.00       0.00       0.00       0.00         21.40       2.88       0.37       5.00       0.00       0.00       0.00         21.40       2.88       0.37       5.00       0.00       0.00       0.00         21.45       2.88       0.37       5.00       0.00       0.00       0.00         21.55       2.88       0.37       5.00       0.00       0.00       0.00         21.60       2.88       0.37       5.00       0.00       0.00       0.00         21.75       2.88       0.37       5.00       0.00       0.00       0.00         21.75       2.88       0.37       5.00       0.00	20.95	2.88	0.37	5.00	0.00	0.00	0.00
21.10       2.88       0.37       5.00       0.00       0.00       0.00         21.11       2.88       0.37       5.00       0.00       0.00       0.00         21.20       2.88       0.37       5.00       0.00       0.00       0.00         21.25       2.88       0.37       5.00       0.00       0.00       0.00         21.30       2.88       0.37       5.00       0.00       0.00       0.00         21.30       2.88       0.37       5.00       0.00       0.00       0.00         21.40       2.88       0.37       5.00       0.00       0.00       0.00         21.40       2.88       0.37       5.00       0.00       0.00       0.00         21.45       2.88       0.37       5.00       0.00       0.00       0.00         21.55       2.88       0.37       5.00       0.00       0.00       0.00         21.65       2.88       0.37       5.00       0.00       0.00       0.00         21.70       2.88       0.37       5.00       0.00       0.00       0.00         21.80       2.88       0.37       5.00       0.00	21.00	2.88	0.37	5.00	0.00	0.00	0.00
21.10       2.88       0.37       5.00       0.00       0.00       0.00         21.20       2.88       0.37       5.00       0.00       0.00       0.00         21.30       2.88       0.37       5.00       0.00       0.00       0.00         21.30       2.88       0.37       5.00       0.00       0.00       0.00         21.35       2.88       0.37       5.00       0.00       0.00       0.00         21.40       2.88       0.37       5.00       0.00       0.00       0.00         21.45       2.88       0.37       5.00       0.00       0.00       0.00         21.45       2.88       0.37       5.00       0.00       0.00       0.00         21.60       2.88       0.37       5.00       0.00       0.00       0.00         21.61       2.88       0.37       5.00       0.00       0.00       0.00         21.70       2.88       0.37       5.00       0.00       0.00       0.00         21.80       2.88       0.37       5.00       0.00       0.00       0.00         21.80       2.88       0.37       5.00       0.00	21.05	2.00	0.37	5.00	0.00	0.00	0.00
21.20       2.88       0.37       5.00       0.00       0.00       0.00         21.25       2.88       0.37       5.00       0.00       0.00       0.00         21.30       2.88       0.37       5.00       0.00       0.00       0.00         21.35       2.88       0.37       5.00       0.00       0.00       0.00         21.40       2.88       0.37       5.00       0.00       0.00       0.00         21.40       2.88       0.37       5.00       0.00       0.00       0.00         21.50       2.88       0.37       5.00       0.00       0.00       0.00         21.60       2.88       0.37       5.00       0.00       0.00       0.00         21.60       2.88       0.37       5.00       0.00       0.00       0.00         21.75       2.88       0.37       5.00       0.00       0.00       0.00         21.80       2.88       0.37       5.00       0.00       0.00       0.00         21.95       2.88       0.37       5.00       0.00       0.00       0.00         22.00       2.88       0.37       5.00       0.00	21.10	2.88	0.37	5.00	0.00	0.00	0.00
21.25       2.88       0.37       5.00       0.00       0.00       0.00         21.30       2.88       0.37       5.00       0.00       0.00       0.00         21.35       2.88       0.37       5.00       0.00       0.00       0.00         21.45       2.88       0.37       5.00       0.00       0.00       0.00         21.45       2.88       0.37       5.00       0.00       0.00       0.00         21.55       2.88       0.37       5.00       0.00       0.00       0.00         21.60       2.88       0.37       5.00       0.00       0.00       0.00         21.65       2.88       0.37       5.00       0.00       0.00       0.00         21.70       2.88       0.37       5.00       0.00       0.00       0.00         21.80       2.88       0.37       5.00       0.00       0.00       0.00         21.80       2.88       0.37       5.00       0.00       0.00       0.00         21.95       2.88       0.37       5.00       0.00       0.00       0.00         22.00       2.88       0.37       5.00       0.00	21.20	2.88	0.37	5.00	0.00	0.00	0.00
21.30       2.88       0.37       5.00       0.00       0.00       0.00         21.40       2.88       0.37       5.00       0.00       0.00       0.00         21.45       2.88       0.37       5.00       0.00       0.00       0.00         21.45       2.88       0.37       5.00       0.00       0.00       0.00         21.45       2.88       0.37       5.00       0.00       0.00       0.00         21.55       2.88       0.37       5.00       0.00       0.00       0.00         21.65       2.88       0.37       5.00       0.00       0.00       0.00         21.65       2.88       0.37       5.00       0.00       0.00       0.00         21.70       2.88       0.37       5.00       0.00       0.00       0.00         21.80       2.88       0.37       5.00       0.00       0.00       0.00         21.80       2.88       0.37       5.00       0.00       0.00       0.00         22.05       2.88       0.37       5.00       0.00       0.00       0.00         22.05       2.88       0.37       5.00       0.00	21.25	2.88	0.37	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	21.30	2.88	0.37	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	21.35	2.88	0.37	5.00	0.00	0.00	0.00
21.50       2.88       0.37       5.00       0.00       0.00       0.00         21.55       2.88       0.37       5.00       0.00       0.00       0.00         21.60       2.88       0.37       5.00       0.00       0.00       0.00         21.60       2.88       0.37       5.00       0.00       0.00       0.00         21.61       2.88       0.37       5.00       0.00       0.00       0.00         21.75       2.88       0.37       5.00       0.00       0.00       0.00         21.75       2.88       0.37       5.00       0.00       0.00       0.00         21.80       2.88       0.37       5.00       0.00       0.00       0.00         21.95       2.88       0.37       5.00       0.00       0.00       0.00         22.00       2.88       0.37       5.00       0.00       0.00       0.00         22.15       2.88       0.37       5.00       0.00       0.00       0.00         22.15       2.88       0.37       5.00       0.00       0.00       0.00         22.15       2.88       0.37       5.00       0.00	21.40	2.88	0.37	5.00	0.00	0.00	0.00
21.50       2.88       0.37       5.00       0.00       0.00       0.00         21.65       2.88       0.37       5.00       0.00       0.00       0.00         21.65       2.88       0.37       5.00       0.00       0.00       0.00         21.65       2.88       0.37       5.00       0.00       0.00       0.00         21.70       2.88       0.37       5.00       0.00       0.00       0.00         21.75       2.88       0.37       5.00       0.00       0.00       0.00         21.80       2.88       0.37       5.00       0.00       0.00       0.00         21.95       2.88       0.37       5.00       0.00       0.00       0.00         21.95       2.88       0.37       5.00       0.00       0.00       0.00         22.05       2.88       0.37       5.00       0.00       0.00       0.00         22.15       2.88       0.37       5.00       0.00       0.00       0.00         22.10       2.88       0.37       5.00       0.00       0.00       0.00         22.15       2.88       0.37       5.00       0.00	21.45	2.00	0.37	5.00	0.00	0.00	0.00
21.60       2.88       0.37       5.00       0.00       0.00       0.00         21.65       2.88       0.37       5.00       0.00       0.00       0.00         21.70       2.88       0.37       5.00       0.00       0.00       0.00         21.75       2.88       0.37       5.00       0.00       0.00       0.00         21.85       2.88       0.37       5.00       0.00       0.00       0.00         21.85       2.88       0.37       5.00       0.00       0.00       0.00         21.90       2.88       0.37       5.00       0.00       0.00       0.00         22.00       2.88       0.37       5.00       0.00       0.00       0.00         22.00       2.88       0.37       5.00       0.00       0.00       0.00         22.10       2.88       0.37       5.00       0.00       0.00       0.00         22.11       2.88       0.37       5.00       0.00       0.00       0.00         22.20       2.88       0.37       5.00       0.00       0.00       0.00         22.15       2.88       0.37       5.00       0.00	21.55	2.88	0.37	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	21.60	2.88	0.37	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	21.65	2.88	0.37	5.00	0.00	0.00	0.00
21.75       2.88       0.37       5.00       0.00       0.00       0.00         21.80       2.88       0.37       5.00       0.00       0.00       0.00         21.85       2.88       0.37       5.00       0.00       0.00       0.00         21.95       2.88       0.37       5.00       0.00       0.00       0.00         21.95       2.88       0.37       5.00       0.00       0.00       0.00         22.00       2.88       0.37       5.00       0.00       0.00       0.00         22.00       2.88       0.37       5.00       0.00       0.00       0.00         22.10       2.88       0.37       5.00       0.00       0.00       0.00         22.10       2.88       0.37       5.00       0.00       0.00       0.00         22.20       2.88       0.37       5.00       0.00       0.00       0.00         22.210       2.88       0.37       5.00       0.00       0.00       0.00         22.25       2.88       0.37       5.00       0.00       0.00       0.00         22.30       2.88       0.37       5.00       0.00	21.70	2.88	0.37	5.00	0.00	0.00	0.00
21.80       2.88       0.37       5.00       0.00       0.00       0.00         21.85       2.88       0.37       5.00       0.00       0.00       0.00         21.95       2.88       0.37       5.00       0.00       0.00       0.00         21.95       2.88       0.37       5.00       0.00       0.00       0.00         22.00       2.88       0.37       5.00       0.00       0.00       0.00         22.05       2.88       0.37       5.00       0.00       0.00       0.00         22.10       2.88       0.37       5.00       0.00       0.00       0.00         22.15       2.88       0.37       5.00       0.00       0.00       0.00         22.15       2.88       0.37       5.00       0.00       0.00       0.00         22.30       2.88       0.37       5.00       0.00       0.00       0.00         22.30       2.88       0.37       5.00       0.00       0.00       0.00         22.30       2.88       0.37       5.00       0.00       0.00       0.00         22.40       2.88       0.37       5.00       0.00	21.75	2.88	0.37	5.00	0.00	0.00	0.00
21.90       2.88       0.37       5.00       0.00       0.00       0.00         21.95       2.88       0.37       5.00       0.00       0.00       0.00         22.00       2.88       0.37       5.00       0.00       0.00       0.00         22.05       2.88       0.37       5.00       0.00       0.00       0.00         22.10       2.88       0.37       5.00       0.00       0.00       0.00         22.11       2.88       0.37       5.00       0.00       0.00       0.00         22.15       2.88       0.37       5.00       0.00       0.00       0.00         22.12       2.88       0.37       5.00       0.00       0.00       0.00         22.20       2.88       0.37       5.00       0.00       0.00       0.00         22.30       2.88       0.37       5.00       0.00       0.00       0.00         22.31       2.88       0.37       5.00       0.00       0.00       0.00         22.40       2.88       0.37       5.00       0.00       0.00       0.00         22.45       2.88       0.37       5.00       0.00	21.80	2.00	0.37	5.00	0.00	0.00	0.00
21.95       2.88       0.37       5.00       0.00       0.00       0.00         22.00       2.88       0.37       5.00       0.00       0.00       0.00         22.05       2.88       0.37       5.00       0.00       0.00       0.00         22.10       2.88       0.37       5.00       0.00       0.00       0.00         22.11       2.88       0.37       5.00       0.00       0.00       0.00         22.12       2.88       0.37       5.00       0.00       0.00       0.00         22.20       2.88       0.37       5.00       0.00       0.00       0.00         22.15       2.88       0.37       5.00       0.00       0.00       0.00         22.20       2.88       0.37       5.00       0.00       0.00       0.00         22.30       2.88       0.37       5.00       0.00       0.00       0.00         22.40       2.88       0.37       5.00       0.00       0.00       0.00         22.40       2.88       0.37       5.00       0.00       0.00       0.00         22.45       2.88       0.37       5.00       0.00	21.90	2.88	0.37	5.00	0.00	0.00	0.00
22.00       2.88       0.37       5.00       0.00       0.00       0.00         22.05       2.88       0.37       5.00       0.00       0.00       0.00         22.10       2.88       0.37       5.00       0.00       0.00       0.00         22.15       2.88       0.37       5.00       0.00       0.00       0.00         22.15       2.88       0.37       5.00       0.00       0.00       0.00         22.20       2.88       0.37       5.00       0.00       0.00       0.00         22.25       2.88       0.37       5.00       0.00       0.00       0.00         22.30       2.88       0.37       5.00       0.00       0.00       0.00         22.40       2.88       0.37       5.00       0.00       0.00       0.00         22.40       2.88       0.37       5.00       0.00       0.00       0.00         22.45       2.88       0.37       5.00       0.00       0.00       0.00         22.50       2.88       0.37       5.00       0.00       0.00       0.00         22.60       2.88       0.38       5.00       0.00	21.95	2.88	0.37	5.00	0.00	0.00	0.00
22.05       2.88       0.37       5.00       0.00       0.00       0.00         22.10       2.88       0.37       5.00       0.00       0.00       0.00         22.15       2.88       0.37       5.00       0.00       0.00       0.00         22.20       2.88       0.37       5.00       0.00       0.00       0.00         22.25       2.88       0.37       5.00       0.00       0.00       0.00         22.30       2.88       0.37       5.00       0.00       0.00       0.00         22.35       2.88       0.37       5.00       0.00       0.00       0.00         22.40       2.88       0.37       5.00       0.00       0.00       0.00         22.40       2.88       0.37       5.00       0.00       0.00       0.00         22.45       2.88       0.37       5.00       0.00       0.00       0.00         22.50       2.88       0.37       5.00       0.00       0.00       0.00         22.60       2.88       0.37       5.00       0.00       0.00       0.00         22.61       2.88       0.38       5.00       0.00	22.00	2.88	0.37	5.00	0.00	0.00	0.00
22.10       2.88       0.37       5.00       0.00       0.00       0.00         22.15       2.88       0.37       5.00       0.00       0.00       0.00         22.20       2.88       0.37       5.00       0.00       0.00       0.00         22.25       2.88       0.37       5.00       0.00       0.00       0.00         22.30       2.88       0.37       5.00       0.00       0.00       0.00         22.35       2.88       0.37       5.00       0.00       0.00       0.00         22.40       2.88       0.37       5.00       0.00       0.00       0.00         22.45       2.88       0.37       5.00       0.00       0.00       0.00         22.50       2.88       0.37       5.00       0.00       0.00       0.00         22.50       2.88       0.37       5.00       0.00       0.00       0.00         22.60       2.88       0.37       5.00       0.00       0.00       0.00         22.65       2.88       0.38       5.00       0.00       0.00       0.00         22.65       2.88       0.38       5.00       0.00	22.05	2.88	0.37	5.00	0.00	0.00	0.00
22.15       2.88       0.37       5.00       0.00       0.00       0.00         22.25       2.88       0.37       5.00       0.00       0.00       0.00         22.30       2.88       0.37       5.00       0.00       0.00       0.00         22.30       2.88       0.37       5.00       0.00       0.00       0.00         22.35       2.88       0.37       5.00       0.00       0.00       0.00         22.40       2.88       0.37       5.00       0.00       0.00       0.00         22.40       2.88       0.37       5.00       0.00       0.00       0.00         22.45       2.88       0.37       5.00       0.00       0.00       0.00         22.50       2.88       0.37       5.00       0.00       0.00       0.00         22.60       2.88       0.37       5.00       0.00       0.00       0.00         22.65       2.88       0.38       5.00       0.00       0.00       0.00         22.70       2.88       0.38       5.00       0.00       0.00       0.00         22.75       2.88       0.38       5.00       0.00	22.10	2.88	0.37	5.00	0.00	0.00	0.00
22.25       2.88       0.37       5.00       0.00       0.00       0.00         22.30       2.88       0.37       5.00       0.00       0.00       0.00         22.35       2.88       0.37       5.00       0.00       0.00       0.00         22.40       2.88       0.37       5.00       0.00       0.00       0.00         22.40       2.88       0.37       5.00       0.00       0.00       0.00         22.45       2.88       0.37       5.00       0.00       0.00       0.00         22.50       2.88       0.37       5.00       0.00       0.00       0.00         22.60       2.88       0.37       5.00       0.00       0.00       0.00         22.65       2.88       0.37       5.00       0.00       0.00       0.00         22.65       2.88       0.38       5.00       0.00       0.00       0.00         22.70       2.88       0.38       5.00       0.00       0.00       0.00         22.75       2.88       0.38       5.00       0.00       0.00       0.00         22.80       2.88       0.38       5.00       0.00	22.13	2.00	0.37	5.00	0.00	0.00	0.00
22.30       2.88       0.37       5.00       0.00       0.00       0.00         22.35       2.88       0.37       5.00       0.00       0.00       0.00         22.40       2.88       0.37       5.00       0.00       0.00       0.00         22.40       2.88       0.37       5.00       0.00       0.00       0.00         22.45       2.88       0.37       5.00       0.00       0.00       0.00         22.50       2.88       0.37       5.00       0.00       0.00       0.00         22.55       2.88       0.37       5.00       0.00       0.00       0.00         22.60       2.88       0.37       5.00       0.00       0.00       0.00         22.65       2.88       0.38       5.00       0.00       0.00       0.00         22.70       2.88       0.38       5.00       0.00       0.00       0.00         22.75       2.88       0.38       5.00       0.00       0.00       0.00         22.80       2.88       0.38       5.00       0.00       0.00       0.00         2.90       2.88       0.38       5.00       0.00	22.20	2.88	0.37	5.00	0.00	0.00	0.00
22.35       2.88       0.37       5.00       0.00       0.00       0.00         22.40       2.88       0.37       5.00       0.00       0.00       0.00         22.45       2.88       0.37       5.00       0.00       0.00       0.00         22.50       2.88       0.37       5.00       0.00       0.00       0.00         22.55       2.88       0.37       5.00       0.00       0.00       0.00         22.60       2.88       0.37       5.00       0.00       0.00       0.00         22.65       2.88       0.37       5.00       0.00       0.00       0.00         22.65       2.88       0.38       5.00       0.00       0.00       0.00         22.65       2.88       0.38       5.00       0.00       0.00       0.00         22.65       2.88       0.38       5.00       0.00       0.00       0.00         22.70       2.88       0.38       5.00       0.00       0.00       0.00         22.80       2.88       0.38       5.00       0.00       0.00       0.00         2.80       2.88       0.38       5.00       0.00	22.30	2.88	0.37	5.00	0.00	0.00	0.00
22.40       2.88       0.37       5.00       0.00       0.00       0.00         22.45       2.88       0.37       5.00       0.00       0.00       0.00         22.50       2.88       0.37       5.00       0.00       0.00       0.00         22.55       2.88       0.37       5.00       0.00       0.00       0.00         22.60       2.88       0.37       5.00       0.00       0.00       0.00         22.60       2.88       0.37       5.00       0.00       0.00       0.00         22.65       2.88       0.37       5.00       0.00       0.00       0.00         22.65       2.88       0.38       5.00       0.00       0.00       0.00         22.70       2.88       0.38       5.00       0.00       0.00       0.00         22.75       2.88       0.38       5.00       0.00       0.00       0.00         22.80       2.88       0.38       5.00       0.00       0.00       0.00         2.90       2.88       0.38       5.00       0.00       0.00       0.00         2.95       2.88       0.38       5.00       0.00	22.35	2.88	0.37	5.00	0.00	0.00	0.00
22.45       2.88       0.37       5.00       0.00       0.00       0.00         22.50       2.88       0.37       5.00       0.00       0.00       0.00         22.55       2.88       0.37       5.00       0.00       0.00       0.00         22.60       2.88       0.37       5.00       0.00       0.00       0.00         22.65       2.88       0.37       5.00       0.00       0.00       0.00         22.65       2.88       0.38       5.00       0.00       0.00       0.00         22.70       2.88       0.38       5.00       0.00       0.00       0.00         22.75       2.88       0.38       5.00       0.00       0.00       0.00         22.80       2.88       0.38       5.00       0.00       0.00       0.00         22.90       2.88       0.38       5.00       0.00       0.00       0.00         23.00       2.88       0.38       5.00       0.00       0.00       0.00         23.10       2.88       0.38       5.00       0.00       0.00       0.00         23.10       2.88       0.38       5.00       0.00	22.40	2.88	0.37	5.00	0.00	0.00	0.00
22.50       2.88       0.37       5.00       0.00       0.00       0.00         22.65       2.88       0.37       5.00       0.00       0.00       0.00         22.65       2.88       0.37       5.00       0.00       0.00       0.00         22.65       2.88       0.38       5.00       0.00       0.00       0.00         22.70       2.88       0.38       5.00       0.00       0.00       0.00         22.75       2.88       0.38       5.00       0.00       0.00       0.00         22.80       2.88       0.38       5.00       0.00       0.00       0.00         22.90       2.88       0.38       5.00       0.00       0.00       0.00         22.95       2.88       0.38       5.00       0.00       0.00       0.00         23.00       2.88       0.38       5.00       0.00       0.00       0.00         23.05       2.88       0.38       5.00       0.00       0.00       0.00         23.10       2.88       0.38       5.00       0.00       0.00       0.00         23.15       2.88       0.38       5.00       0.00	22.45	2.88	0.37	5.00	0.00	0.00	0.00
22.60       2.88       0.37       5.00       0.00       0.00       0.00         22.65       2.88       0.38       5.00       0.00       0.00       0.00         22.70       2.88       0.38       5.00       0.00       0.00       0.00         22.75       2.88       0.38       5.00       0.00       0.00       0.00         22.80       2.88       0.38       5.00       0.00       0.00       0.00         22.85       2.88       0.38       5.00       0.00       0.00       0.00         22.90       2.88       0.38       5.00       0.00       0.00       0.00         22.95       2.88       0.38       5.00       0.00       0.00       0.00         23.00       2.88       0.38       5.00       0.00       0.00       0.00         23.05       2.88       0.38       5.00       0.00       0.00       0.00         23.10       2.88       0.38       5.00       0.00       0.00       0.00         23.15       2.88       0.38       5.00       0.00       0.00       0.00         23.20       2.88       0.38       5.00       0.00	22.50	2.00	0.37	5.00	0.00	0.00	0.00
22.65       2.88       0.38       5.00       0.00       0.00       0.00         22.70       2.88       0.38       5.00       0.00       0.00       0.00         22.75       2.88       0.38       5.00       0.00       0.00       0.00         22.80       2.88       0.38       5.00       0.00       0.00       0.00         22.80       2.88       0.38       5.00       0.00       0.00       0.00         22.85       2.88       0.38       5.00       0.00       0.00       0.00         22.90       2.88       0.38       5.00       0.00       0.00       0.00         23.00       2.88       0.38       5.00       0.00       0.00       0.00         23.00       2.88       0.38       5.00       0.00       0.00       0.00         23.05       2.88       0.38       5.00       0.00       0.00       0.00         23.10       2.88       0.38       5.00       0.00       0.00       0.00         23.15       2.88       0.38       5.00       0.00       0.00       0.00         23.20       2.88       0.38       5.00       0.00	22.60	2.88	0.37	5.00	0.00	0.00	0.00
22.70       2.88       0.38       5.00       0.00       0.00       0.00         22.75       2.88       0.38       5.00       0.00       0.00       0.00         22.80       2.88       0.38       5.00       0.00       0.00       0.00         22.85       2.88       0.38       5.00       0.00       0.00       0.00         22.90       2.88       0.38       5.00       0.00       0.00       0.00         22.95       2.88       0.38       5.00       0.00       0.00       0.00         23.00       2.88       0.38       5.00       0.00       0.00       0.00         23.05       2.88       0.38       5.00       0.00       0.00       0.00         23.10       2.88       0.38       5.00       0.00       0.00       0.00         23.15       2.88       0.38       5.00       0.00       0.00       0.00         23.20       2.88       0.38       5.00       0.00       0.00       0.00         23.25       2.88       0.38       5.00       0.00       0.00       0.00	22.65	2.88	0.38	5.00	0.00	0.00	0.00
22.75       2.88       0.38       5.00       0.00       0.00       0.00         22.80       2.88       0.38       5.00       0.00       0.00       0.00         22.85       2.88       0.38       5.00       0.00       0.00       0.00         22.90       2.88       0.38       5.00       0.00       0.00       0.00         22.95       2.88       0.38       5.00       0.00       0.00       0.00         23.00       2.88       0.38       5.00       0.00       0.00       0.00         23.05       2.88       0.38       5.00       0.00       0.00       0.00         23.10       2.88       0.38       5.00       0.00       0.00       0.00         23.15       2.88       0.38       5.00       0.00       0.00       0.00         23.20       2.88       0.38       5.00       0.00       0.00       0.00         23.25       2.88       0.38       5.00       0.00       0.00       0.00         23.25       2.88       0.38       5.00       0.00       0.00       0.00	22.70	2.88	0.38	5.00	0.00	0.00	0.00
22.80       2.88       0.38       5.00       0.00       0.00       0.00         22.85       2.88       0.38       5.00       0.00       0.00       0.00         22.90       2.88       0.38       5.00       0.00       0.00       0.00         22.95       2.88       0.38       5.00       0.00       0.00       0.00         23.00       2.88       0.38       5.00       0.00       0.00       0.00         23.05       2.88       0.38       5.00       0.00       0.00       0.00         23.10       2.88       0.38       5.00       0.00       0.00       0.00         23.15       2.88       0.38       5.00       0.00       0.00       0.00         23.20       2.88       0.38       5.00       0.00       0.00       0.00         23.25       2.88       0.38       5.00       0.00       0.00       0.00         23.25       2.88       0.38       5.00       0.00       0.00       0.00	22.75	2.88	0.38	5.00	0.00	0.00	0.00
22.85       2.86       0.36       5.00       0.00       0.00       0.00         22.90       2.88       0.38       5.00       0.00       0.00       0.00         22.95       2.88       0.38       5.00       0.00       0.00       0.00         23.00       2.88       0.38       5.00       0.00       0.00       0.00         23.05       2.88       0.38       5.00       0.00       0.00       0.00         23.10       2.88       0.38       5.00       0.00       0.00       0.00         23.15       2.88       0.38       5.00       0.00       0.00       0.00         23.20       2.88       0.38       5.00       0.00       0.00       0.00         23.25       2.88       0.38       5.00       0.00       0.00       0.00         23.25       2.88       0.38       5.00       0.00       0.00       0.00         Page 7	22.80	2.88	0.38	5.00	0.00	0.00	0.00
22.95       2.88       0.38       5.00       0.00       0.00       0.00         23.00       2.88       0.38       5.00       0.00       0.00       0.00         23.05       2.88       0.38       5.00       0.00       0.00       0.00         23.10       2.88       0.38       5.00       0.00       0.00       0.00         23.15       2.88       0.38       5.00       0.00       0.00       0.00         23.20       2.88       0.38       5.00       0.00       0.00       0.00         23.25       2.88       0.38       5.00       0.00       0.00       0.00         Page 7       Page 7	22.00	2.00	0.20	5.00	0.00	0.00	0.00
23.00       2.88       0.38       5.00       0.00       0.00       0.00         23.05       2.88       0.38       5.00       0.00       0.00       0.00         23.10       2.88       0.38       5.00       0.00       0.00       0.00         23.10       2.88       0.38       5.00       0.00       0.00       0.00         23.15       2.88       0.38       5.00       0.00       0.00       0.00         23.20       2.88       0.38       5.00       0.00       0.00       0.00         23.25       2.88       0.38       5.00       0.00       0.00       0.00	22.95	2.88	0.38	5.00	0.00	0.00	0.00
23.05       2.88       0.38       5.00       0.00       0.00       0.00         23.10       2.88       0.38       5.00       0.00       0.00       0.00         23.15       2.88       0.38       5.00       0.00       0.00       0.00         23.20       2.88       0.38       5.00       0.00       0.00       0.00         23.25       2.88       0.38       5.00       0.00       0.00       0.00         Page 7       Page 7	23.00	2.88	0.38	5.00	0.00	0.00	0.00
23.10       2.88       0.38       5.00       0.00       0.00       0.00         23.15       2.88       0.38       5.00       0.00       0.00       0.00         23.20       2.88       0.38       5.00       0.00       0.00       0.00         23.25       2.88       0.38       5.00       0.00       0.00       0.00         Page 7       7	23.05	2.88	0.38	5.00	0.00	0.00	0.00
23.15       2.88       0.38       5.00       0.00       0.00       0.00         23.20       2.88       0.38       5.00       0.00       0.00       0.00         23.25       2.88       0.38       5.00       0.00       0.00       0.00         Page 7       7	23.10	2.88	0.38	5.00	0.00	0.00	0.00
23.25 2.88 0.38 5.00 0.00 0.00 0.00 Page 7	23.15	2.00	0.38	5.00	0.00	0.00	0.00
Page 7	23.20	2.88	0.38	5.00	0.00	0.00	0.00
	-3.63	2.00	0150	5100	Page 7	0.00	0100

		11219	097 Liqu	efaction	Analysi	s.sum
23.30	2.88	0.38	5.00	0.00	0.00	0.00
23.35	2.88	0.38	5.00	0.00	0.00	0.00
23.40	2.88	0.38	5.00	0.00	0.00	0.00
23.45	2.00	0.38	5.00	0.00	0.00	0.00
23.30	2.00	0.30	5.00	0.00	0.00	0.00
23.55	2.00	0.38	5.00	0.00	0.00	0.00
23 65	2 88	0.38	5.00	0.00	0.00	0.00
23.70	2.88	0.38	5.00	0.00	0.00	0.00
23.75	2.88	0.38	5.00	0.00	0.00	0.00
23.80	2.88	0.38	5.00	0.00	0.00	0.00
23.85	2.88	0.38	5.00	0.00	0.00	0.00
23.90	0.68	0.38	1.78	0.00	0.00	0.00
23.95	0.65	0.38	1.70	0.00	0.00	0.00
24.00	2 00	0.38	5 00	0.00	0.00	0.00
24 10	2.00	0.38	5.00	0.00	0.00	0.00
24.15	2.00	0.38	5.00	0.00	0.00	0.00
24.20	2.00	0.38	5.00	0.00	0.00	0.00
24.25	2.00	0.38	5.00	0.00	0.00	0.00
24.30	2.00	0.38	5.00	0.00	0.00	0.00
24.35	2.00	0.38	5.00	0.00	0.00	0.00
24.40	2.00	0.38	5.00	0.00	0.00	0.00
24.45	2.00	0.38	5.00	0.00	0.00	0.00
24.55	2.00	0.38	5.00	0.00	0.00	0.00
24.60	2.00	0.38	5.00	0.00	0.00	0.00
24.65	2.00	0.38	5.00	0.00	0.00	0.00
24.70	2.00	0.38	5.00	0.00	0.00	0.00
24.75	2.00	0.38	5.00	0.00	0.00	0.00
24.80	2.00	0.38	5.00	0.00	0.00	0.00
24.00	2.00	0.38	5.00	0.00	0.00	0.00
24.95	2.00	0.38	5.00	0.00	0.00	0.00
25.00	2.00	0.39	5.00	0.00	0.00	0.00
25.05	2.00	0.39	5.00	0.00	0.00	0.00
25.10	2.00	0.39	5.00	0.00	0.00	0.00
25.15	2.00	0.39	5.00	0.00	0.00	0.00
25.20	2.00	0.39	5.00	0.00	0.00	0.00
25.30	2.00	0.39	5.00	0.00	0.00	0.00
25.35	2.00	0.39	5.00	0.00	0.00	0.00
25.40	2.00	0.39	5.00	0.00	0.00	0.00
25.45	2.00	0.39	5.00	0.00	0.00	0.00
25.50	2.00	0.39	5.00	0.00	0.00	0.00
23.33	2.00	0.39	5.00	0.00	0.00	0.00
25.60	2.00	0.39	5.00	0.00	0.00	0.00
25.70	2.00	0.39	5.00	0.00	0.00	0.00
25.75	2.00	0.39	5.00	0.00	0.00	0.00
25.80	2.00	0.39	5.00	0.00	0.00	0.00
25.85	2.00	0.39	5.00	0.00	0.00	0.00
25.90	2.00	0.39	5.00	0.00	0.00	0.00
25.95	2.00	0.39	5.00	0.00	0.00	0.00
26.00	2.00	0.39	5.00	0.00	0.00	0.00
26.10	2.00	0.39	5.00	0.00	0.00	0.00
26.15	2.00	0.39	5.00	0.00	0.00	0.00
26.20	2.00	0.39	5.00	0.00	0.00	0.00
26.25	2.00	0.39	5.00	0.00	0.00	0.00
26.30	2.00	0.39	5.00	0.00	0.00	0.00
20.35	2.00	0.39	5.00	0.00	0.00	0.00
20.40	2.00	0.35	5.00	Page 8	0.00	0.00

		11219	097 Liqu	efaction	Analysi	s.sum
26.45	2.00	0.39	5.00	0.00	0.00	0.00
26.50	2.00	0.39	5.00	0.00	0.00	0.00
26.60	2.00	0.39	5.00	0.00	0.00	0.00
26.65	2.00	0.39	5.00	0.00	0.00	0.00
26.70	2.00	0.39	5.00	0.00	0.00	0.00
26.75	2.00	0.39	5.00	0.00	0.00	0.00
26.80	2.00	0.39	5.00	0.00	0.00	0.00
20.00	2.00	0.39	5.00	0.00	0.00	0.00
26.95	2.00	0.39	5.00	0.00	0.00	0.00
27.00	2.00	0.39	5.00	0.00	0.00	0.00
27.05	2.00	0.39	5.00	0.00	0.00	0.00
27.10	2.00	0.39	5.00	0.00	0.00	0.00
27.13	2.00	0.39	5.00	0.00	0.00	0.00
27.25	2.00	0.39	5.00	0.00	0.00	0.00
27.30	2.00	0.39	5.00	0.00	0.00	0.00
27.35	2.00	0.39	5.00	0.00	0.00	0.00
27.40	2.00	0.39	5.00	0.00	0.00	0.00
27.45	2.00	0.39	5.00	0.00	0.00	0.00
27.55	2.00	0.39	5.00	0.00	0.00	0.00
27.60	2.00	0.39	5.00	0.00	0.00	0.00
27.65	2.00	0.39	5.00	0.00	0.00	0.00
27.70	2.00	0.39	5.00	0.00	0.00	0.00
27.80	2.00	0.39	5.00	0.00	0.00	0.00
27.85	2,00	0.40	5.00	0.00	0.00	0.00
27.90	2.00	0.40	5.00	0.00	0.00	0.00
27.95	2.00	0.40	5.00	0.00	0.00	0.00
28.00	2.00	0.40	5.00	0.00	0.00	0.00
28.10	2.00	0.40	5.00	0.00	0.00	0.00
28.15	2.00	0.40	5.00	0.00	0.00	0.00
28.20	2.00	0.40	5.00	0.00	0.00	0.00
28.25	2.00	0.40	5.00	0.00	0.00	0.00
28.35	2.00	0.40	5.00	0.00	0.00	0.00
28.40	2.00	0.40	5.00	0.00	0.00	0.00
28.45	2.00	0.40	5.00	0.00	0.00	0.00
28.50	2.00	0.40	5.00	0.00	0.00	0.00
28.55	2.00	0.40	5.00	0.00	0.00	0.00
28.65	2.00	0.40	5.00	0.00	0.00	0.00
28.70	2.00	0.40	5.00	0.00	0.00	0.00
28.75	2.00	0.40	5.00	0.00	0.00	0.00
28.80	2.00	0.40	5.00	0.00	0.00	0.00
28.90	2.00	0.40	5.00	0.00	0.00	0.00
28.95	2.00	0.40	5.00	0.00	0.00	0.00
29.00	2.00	0.40	5.00	0.00	0.00	0.00
29.05	2.00	0.40	5.00	0.00	0.00	0.00
29.10	2.00	0.40	5.00	0.00	0.00	0.00
29.20	2.00	0.40	5.00	0.00	0.00	0.00
29.25	2.00	0.40	5.00	0.00	0.00	0.00
29.30	2.00	0.40	5.00	0.00	0.00	0.00
29.35	2.00	0.40	5.00	0.00	0.00	0.00
29.45	2.00	0.40	5.00	0.00	0.00	0.00
29.50	2.00	0.40	5.00	0.00	0.00	0.00
29.55	2.00	0.40	5.00	0.00	0.00	0.00
				Page 9		

		11219	097 Liqu	efaction	Analysi	s.sum
29.60	2.00	0.40	5.00	0.00	0.00	0.00
29.65	2.00	0.40	5.00	0.00	0.00	0.00
29.70	2.00	0.40	5.00	0.00	0.00	0.00
29 80	2.00	0.40	5.00	0.00	0.00	0.00
29.85	2.00	0.40	5.00	0.00	0.00	0.00
29.90	2.00	0.40	5.00	0.00	0.00	0.00
29.95	2.00	0.40	5.00	0.00	0.00	0.00
30.00	2.00	0.40	5.00	0.00	0.00	0.00
30.05	2.88	0.40	5.00	0.00	0.00	0.00
30.10	2.88	0.40	5.00	0.00	0.00	0.00
30.15	2.00	0.40	5.00	0.00	0.00	0.00
30.25	2.88	0.40	5.00	0.00	0.00	0.00
30.30	2.88	0.40	5.00	0.00	0.00	0.00
30.35	2.88	0.40	5.00	0.00	0.00	0.00
30.40	2.88	0.40	5.00	0.00	0.00	0.00
30.45	2.88	0.40	5.00	0.00	0.00	0.00
30.50	2.88	0.40	5.00	0.00	0.00	0.00
30.33	2.00	0.40	5.00	0.00	0.00	0.00
30.65	2.88	0.40	5.00	0.00	0.00	0.00
30.70	2.88	0.40	5.00	0.00	0.00	0.00
30.75	2.88	0.40	5.00	0.00	0.00	0.00
30.80	2.88	0.40	5.00	0.00	0.00	0.00
30.85	2.88	0.40	5.00	0.00	0.00	0.00
30.90	2.88	0.40	5.00	0.00	0.00	0.00
31 00	2.88	0.40	5.00	0.00	0.00	0.00
31.05	2.88	0.40	5.00	0.00	0.00	0.00
31.10	2.88	0.40	5.00	0.00	0.00	0.00
31.15	2.88	0.40	5.00	0.00	0.00	0.00
31.20	2.88	0.40	5.00	0.00	0.00	0.00
31.25	2.88	0.40	5.00	0.00	0.00	0.00
31.30	2.00	0.40	5.00	0.00	0.00	0.00
31.40	2.88	0.40	5.00	0.00	0.00	0.00
31.45	2.88	0.40	5.00	0.00	0.00	0.00
31.50	2.88	0.40	5.00	0.00	0.00	0.00
31.55	2.88	0.40	5.00	0.00	0.00	0.00
31.60 21.65	2.88	0.40	5.00	0.00	0.00	0.00
31 70	2.88	0.40	5.00	0.00	0.00	0.00
31.75	2.88	0.40	5.00	0.00	0.00	0.00
31.80	2.88	0.40	5.00	0.00	0.00	0.00
31.85	2.88	0.40	5.00	0.00	0.00	0.00
31.90	2.88	0.40	5.00	0.00	0.00	0.00
31.95	2.88	0.40	5.00	0.00	0.00	0.00
32.00	2.00	0.40	5.00	0.00	0.00	0.00
32.10	2.88	0.40	5.00	0.00	0.00	0.00
32.15	2.88	0.40	5.00	0.00	0.00	0.00
32.20	2.88	0.40	5.00	0.00	0.00	0.00
32.25	2.88	0.40	5.00	0.00	0.00	0.00
32.30	2.88	0.40	5.00	0.00	0.00	0.00
32.33	2.88	0.40	5.00	0.00	0.00	0.00
32.45	2.88	0.40	5.00	0.00	0.00	0.00
32.50	2.88	0.40	5.00	0.00	0.00	0.00
32.55	2.88	0.40	5.00	0.00	0.00	0.00
32.60	2.88	0.40	5.00	0.00	0.00	0.00
32.05	2.00	0.40	5.00	0.00	0.00	0.00
52.70	2.00	0.40	5.00	Page 10	0.00	0.00

		11219	097 Liqu	efaction	Analysi	s.sum
32.75	2.88	0.40	5.00	0.00	0.00	0.00
32.80	2.88	0.40	5.00	0.00	0.00	0.00
32.83	2.00	0.40	5.00	0.00	0.00	0.00
32.90	2.00	0.40	5.00	0.00	0.00	0.00
33 00	2.88	0.40	5.00	0.00	0.00	0.00
33.05	2.88	0.40	5.00	0.00	0.00	0.00
33.10	2.88	0.40	5.00	0.00	0.00	0.00
33.15	2.88	0.40	5.00	0.00	0.00	0.00
33.20	2.88	0.40	5.00	0.00	0.00	0.00
33.25	2.88	0.40	5.00	0.00	0.00	0.00
33.30	2.88	0.40	5.00	0.00	0.00	0.00
33.33	2.00	0.40	5.00	0.00	0.00	0.00
33.45	2.88	0.40	5.00	0.00	0.00	0.00
33.50	2.88	0.40	5.00	0.00	0.00	0.00
33.55	2.88	0.40	5.00	0.00	0.00	0.00
33.60	2.88	0.40	5.00	0.00	0.00	0.00
33.65	2.88	0.40	5.00	0.00	0.00	0.00
33.70	2.88	0.40	5.00	0.00	0.00	0.00
33.80	2.00	0.40	5.00	0.00	0.00	0.00
33.85	2.88	0.40	5.00	0.00	0.00	0.00
33.90	2.88	0.40	5.00	0.00	0.00	0.00
33.95	2.88	0.40	5.00	0.00	0.00	0.00
34.00	2.88	0.40	5.00	0.00	0.00	0.00
34.05	2.88	0.40	5.00	0.00	0.00	0.00
34.10	2.00	0.40	5.00	0.00	0.00	0.00
34.20	2.88	0.40	5.00	0.00	0.00	0.00
34.25	2.88	0.40	5.00	0.00	0.00	0.00
34.30	2.88	0.40	5.00	0.00	0.00	0.00
34.35	2.88	0.40	5.00	0.00	0.00	0.00
34.40	2.88	0.40	5.00	0.00	0.00	0.00
34.43	2.00	0.40	5.00	0.00	0.00	0.00
34.55	2.88	0.40	5.00	0.00	0.00	0.00
34.60	2.88	0.40	5.00	0.00	0.00	0.00
34.65	2.88	0.40	5.00	0.00	0.00	0.00
34.70	2.88	0.40	5.00	0.00	0.00	0.00
34.75	2.88	0.40	5.00	0.00	0.00	0.00
34.00	2.00	0.40	5.00	0.00	0.00	0.00
34.90	2.88	0.40	5.00	0.00	0.00	0.00
34.95	2.88	0.40	5.00	0.00	0.00	0.00
35.00	2.88	0.40	5.00	0.00	0.00	0.00
35.05	2.88	0.40	5.00	0.00	0.00	0.00
35.10	2.88	0.40	5.00	0.00	0.00	0.00
35.15	2.00	0.40	5.00	0.00	0.00	0.00
35.25	2.88	0.40	5.00	0.00	0.00	0.00
35.30	2.88	0.40	5.00	0.00	0.00	0.00
35.35	2.88	0.40	5.00	0.00	0.00	0.00
35.40	2.88	0.40	5.00	0.00	0.00	0.00
35.45	2.88	0.40	5.00	0.00	0.00	0.00
35.50	2.00	0.40	5.00	0.00	0.00	0.00
35.60	2.88	0.40	5.00	0.00	0.00	0.00
35.65	2.88	0.40	5.00	0.00	0.00	0.00
35.70	2.88	0.40	5.00	0.00	0.00	0.00
35.75	2.88	0.40	5.00	0.00	0.00	0.00
35.80	2.00	0.40	5.00	0.00	0.00	0.00
22.03	2.00	0.40	5.00	Page 11	0.00	0.00
				. uge at		

$\begin{array}{cccccccccccccccccccccccccccccccccccc$			11219	097 Liqu	efaction	Analysi	s.sum
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	35.90	2.88	0.40	5.00	0.00	0.00	0.00
30.00       2.88       0.40       5.00       0.00       0.00       0.00         36.10       2.88       0.40       5.00       0.00       0.00       0.00         36.12       2.88       0.40       5.00       0.00       0.00       0.00         36.25       2.88       0.40       5.00       0.00       0.00       0.00         36.30       2.88       0.40       5.00       0.00       0.00       0.00         36.40       2.88       0.40       5.00       0.00       0.00       0.00         36.40       2.88       0.40       5.00       0.00       0.00       0.00         36.40       2.88       0.40       5.00       0.00       0.00       0.00         36.55       2.88       0.40       5.00       0.00       0.00       0.00         36.65       2.88       0.40       5.00       0.00       0.00       0.00         36.75       2.88       0.40       5.00       0.00       0.00       0.00         36.75       2.88       0.40       5.00       0.00       0.00       0.00         36.75       2.88       0.40       5.00       0.00	35.95	2.88	0.40	5.00	0.00	0.00	0.00
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	36.05	2.88	0.40	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	36.10	2.88	0.40	5.00	0.00	0.00	0.00
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	36.15	2.88	0.40	5.00	0.00	0.00	0.00
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	36.20	2.88	0.40	5.00	0.00	0.00	0.00
36:35       2.88       0.40       5.00       0.00       0.00       0.00         36:40       2.88       0.40       5.00       0.00       0.00       0.00         36:45       2.88       0.40       5.00       0.00       0.00       0.00         36:50       2.88       0.40       5.00       0.00       0.00       0.00         36:55       2.88       0.40       5.00       0.00       0.00       0.00         36:65       2.88       0.40       5.00       0.00       0.00       0.00         36:75       2.88       0.40       5.00       0.00       0.00       0.00         36:75       2.88       0.40       5.00       0.00       0.00       0.00         36:85       2.88       0.40       5.00       0.00       0.00       0.00         36:95       2.88       0.40       5.00       0.00       0.00       0.00         37:00       2.88       0.40       5.00       0.00       0.00       0.00         37:10       2.88       0.40       5.00       0.00       0.00       0.00         37:12       2.88       0.40       5.00       0.00	36 30	2.88	0.40	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	36.35	2.88	0.40	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	36.40	2.88	0.40	5.00	0.00	0.00	0.00
36.50       2.88       0.40       5.00       0.00       0.00       0.00         36.55       2.88       0.40       5.00       0.00       0.00       0.00         36.65       2.88       0.40       5.00       0.00       0.00       0.00         36.65       2.88       0.40       5.00       0.00       0.00       0.00         36.75       2.88       0.40       5.00       0.00       0.00       0.00         36.80       2.88       0.40       5.00       0.00       0.00       0.00         36.95       2.88       0.40       5.00       0.00       0.00       0.00         36.95       2.88       0.40       5.00       0.00       0.00       0.00         37.05       2.88       0.40       5.00       0.00       0.00       0.00         37.10       2.88       0.40       5.00       0.00       0.00       0.00         37.25       2.88       0.40       5.00       0.00       0.00       0.00         37.30       2.88       0.40       5.00       0.00       0.00       0.00         37.55       2.88       0.40       5.00       0.00	36.45	2.88	0.40	5.00	0.00	0.00	0.00
36.60       2.88       0.40       5.00       0.00       0.00       0.00         36.70       2.88       0.40       5.00       0.00       0.00       0.00         36.75       2.88       0.40       5.00       0.00       0.00       0.00         36.75       2.88       0.40       5.00       0.00       0.00       0.00         36.85       2.88       0.40       5.00       0.00       0.00       0.00         36.85       2.88       0.40       5.00       0.00       0.00       0.00         36.90       2.88       0.40       5.00       0.00       0.00       0.00         37.00       2.88       0.40       5.00       0.00       0.00       0.00         37.10       2.88       0.40       5.00       0.00       0.00       0.00         37.12       2.88       0.40       5.00       0.00       0.00       0.00         37.32       2.88       0.40       5.00       0.00       0.00       0.00         37.45       2.88       0.40       5.00       0.00       0.00       0.00         37.45       2.88       0.40       5.00       0.00	36.55	2.88	0.40	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	36.60	2.88	0.40	5.00	0.00	0.00	0.00
36.70       2.88       0.40       5.00       0.00       0.00       0.00         36.75       2.88       0.40       5.00       0.00       0.00       0.00         36.80       2.88       0.40       5.00       0.00       0.00       0.00         36.90       2.88       0.40       5.00       0.00       0.00       0.00         36.95       2.88       0.40       5.00       0.00       0.00       0.00         37.05       2.88       0.40       5.00       0.00       0.00       0.00         37.05       2.88       0.40       5.00       0.00       0.00       0.00         37.15       2.88       0.40       5.00       0.00       0.00       0.00         37.25       2.88       0.40       5.00       0.00       0.00       0.00         37.30       2.88       0.40       5.00       0.00       0.00       0.00         37.40       2.88       0.40       5.00       0.00       0.00       0.00         37.55       2.88       0.40       5.00       0.00       0.00       0.00         37.55       2.88       0.40       5.00       0.00	36.65	2.88	0.40	5.00	0.00	0.00	0.00
36:30       2.88       0.40       5.00       0.00       0.00       0.00         36:80       2.88       0.40       5.00       0.00       0.00       0.00         36:90       2.88       0.40       5.00       0.00       0.00       0.00         36:90       2.88       0.40       5.00       0.00       0.00       0.00         36:90       2.88       0.40       5.00       0.00       0.00       0.00         37:00       2.88       0.40       5.00       0.00       0.00       0.00         37:10       2.88       0.40       5.00       0.00       0.00       0.00         37:15       2.88       0.40       5.00       0.00       0.00       0.00         37:25       2.88       0.40       5.00       0.00       0.00       0.00         37:40       2.88       0.40       5.00       0.00       0.00       0.00         37:50       2.88       0.40       5.00       0.00       0.00       0.00         37:55       2.88       0.40       5.00       0.00       0.00       0.00         37:75       2.88       0.40       5.00       0.00	36.70	2.88	0.40	5.00	0.00	0.00	0.00
36.85         2.88         0.40         5.00         0.00         0.00         0.00           36.95         2.88         0.40         5.00         0.00         0.00         0.00           37.00         2.88         0.40         5.00         0.00         0.00         0.00           37.00         2.88         0.40         5.00         0.00         0.00         0.00           37.10         2.88         0.40         5.00         0.00         0.00         0.00           37.15         2.88         0.40         5.00         0.00         0.00         0.00           37.20         2.88         0.40         5.00         0.00         0.00         0.00           37.35         2.88         0.40         5.00         0.00         0.00         0.00           37.45         2.88         0.40         5.00         0.00         0.00         0.00           37.45         2.88         0.40         5.00         0.00         0.00         0.00           37.45         2.88         0.40         5.00         0.00         0.00         0.00           37.65         2.88         0.40         5.00         0.00 <t< td=""><td>36.80</td><td>2.88</td><td>0.40</td><td>5.00</td><td>0.00</td><td>0.00</td><td>0.00</td></t<>	36.80	2.88	0.40	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	36.85	2.88	0.40	5.00	0.00	0.00	0.00
37.00       2.88       0.40       5.00       0.00       0.00       0.00         37.00       2.88       0.40       5.00       0.00       0.00       0.00         37.10       2.88       0.40       5.00       0.00       0.00       0.00         37.12       2.88       0.40       5.00       0.00       0.00       0.00         37.12       2.88       0.40       5.00       0.00       0.00       0.00         37.25       2.88       0.40       5.00       0.00       0.00       0.00         37.30       2.88       0.40       5.00       0.00       0.00       0.00         37.40       2.88       0.40       5.00       0.00       0.00       0.00         37.50       2.88       0.40       5.00       0.00       0.00       0.00         37.55       2.88       0.40       5.00       0.00       0.00       0.00         37.60       2.88       0.40       5.00       0.00       0.00       0.00         37.75       2.88       0.40       5.00       0.00       0.00       0.00         37.75       2.88       0.40       5.00       0.00	36.90	2.88	0.40	5.00	0.00	0.00	0.00
37.05       2.88       0.40       5.00       0.00       0.00       0.00         37.10       2.88       0.40       5.00       0.00       0.00       0.00         37.15       2.88       0.40       5.00       0.00       0.00       0.00         37.25       2.88       0.40       5.00       0.00       0.00       0.00         37.30       2.88       0.40       5.00       0.00       0.00       0.00         37.45       2.88       0.40       5.00       0.00       0.00       0.00         37.45       2.88       0.40       5.00       0.00       0.00       0.00         37.50       2.88       0.40       5.00       0.00       0.00       0.00         37.65       2.88       0.40       5.00       0.00       0.00       0.00         37.65       2.88       0.40       5.00       0.00       0.00       0.00         37.65       2.88       0.40       5.00       0.00       0.00       0.00         37.70       2.88       0.40       5.00       0.00       0.00       0.00         37.85       2.88       0.40       5.00       0.00	30.95	2.00	0.40	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	37.05	2.88	0.40	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	37.10	2.88	0.40	5.00	0.00	0.00	0.00
37.25       2.88       0.40       5.00       0.00       0.00       0.00         37.25       2.88       0.40       5.00       0.00       0.00       0.00         37.35       2.88       0.40       5.00       0.00       0.00       0.00         37.40       2.88       0.40       5.00       0.00       0.00       0.00         37.45       2.88       0.40       5.00       0.00       0.00       0.00         37.55       2.88       0.40       5.00       0.00       0.00       0.00         37.60       2.88       0.40       5.00       0.00       0.00       0.00         37.61       2.88       0.40       5.00       0.00       0.00       0.00         37.75       2.88       0.40       5.00       0.00       0.00       0.00         37.75       2.88       0.40       5.00       0.00       0.00       0.00         37.80       2.88       0.40       5.00       0.00       0.00       0.00         37.95       2.88       0.40       5.00       0.00       0.00       0.00         37.95       2.88       0.40       5.00       0.00	37.15	2.88	0.40	5.00	0.00	0.00	0.00
37.30       2.88       0.40       5.00       0.00       0.00       0.00         37.35       2.88       0.40       5.00       0.00       0.00       0.00         37.40       2.88       0.40       5.00       0.00       0.00       0.00         37.45       2.88       0.40       5.00       0.00       0.00       0.00         37.55       2.88       0.40       5.00       0.00       0.00       0.00         37.60       2.88       0.40       5.00       0.00       0.00       0.00         37.65       2.88       0.40       5.00       0.00       0.00       0.00         37.75       2.88       0.40       5.00       0.00       0.00       0.00         37.75       2.88       0.40       5.00       0.00       0.00       0.00         37.80       2.88       0.40       5.00       0.00       0.00       0.00         37.95       2.88       0.40       5.00       0.00       0.00       0.00         37.95       2.88       0.40       5.00       0.00       0.00       0.00         38.05       2.88       0.39       5.00       0.00	37.25	2.88	0.40	5.00	0.00	0.00	0.00
37.35       2.88       0.40       5.00       0.00       0.00       0.00         37.40       2.88       0.40       5.00       0.00       0.00       0.00         37.45       2.88       0.40       5.00       0.00       0.00       0.00         37.55       2.88       0.40       5.00       0.00       0.00       0.00         37.60       2.88       0.40       5.00       0.00       0.00       0.00         37.65       2.88       0.40       5.00       0.00       0.00       0.00         37.70       2.88       0.40       5.00       0.00       0.00       0.00         37.70       2.88       0.40       5.00       0.00       0.00       0.00         37.70       2.88       0.40       5.00       0.00       0.00       0.00         37.80       2.88       0.40       5.00       0.00       0.00       0.00         37.90       2.88       0.40       5.00       0.00       0.00       0.00         38.05       2.88       0.39       5.00       0.00       0.00       0.00         38.10       2.88       0.39       5.00       0.00	37.30	2.88	0.40	5.00	0.00	0.00	0.00
37.40       2.88       0.40       5.00       0.00       0.00       0.00         37.45       2.88       0.40       5.00       0.00       0.00       0.00         37.55       2.88       0.40       5.00       0.00       0.00       0.00         37.55       2.88       0.40       5.00       0.00       0.00       0.00         37.60       2.88       0.40       5.00       0.00       0.00       0.00         37.65       2.88       0.40       5.00       0.00       0.00       0.00         37.70       2.88       0.40       5.00       0.00       0.00       0.00         37.70       2.88       0.40       5.00       0.00       0.00       0.00         37.70       2.88       0.40       5.00       0.00       0.00       0.00         37.80       2.88       0.40       5.00       0.00       0.00       0.00         37.90       2.88       0.40       5.00       0.00       0.00       0.00         38.05       2.88       0.39       5.00       0.00       0.00       0.00         38.10       2.88       0.39       5.00       0.00	37.35	2.88	0.40	5.00	0.00	0.00	0.00
37.50       2.88       0.40       5.00       0.00       0.00       0.00         37.55       2.88       0.40       5.00       0.00       0.00       0.00         37.60       2.88       0.40       5.00       0.00       0.00       0.00         37.60       2.88       0.40       5.00       0.00       0.00       0.00         37.70       2.88       0.40       5.00       0.00       0.00       0.00         37.75       2.88       0.40       5.00       0.00       0.00       0.00         37.85       2.88       0.40       5.00       0.00       0.00       0.00         37.90       2.88       0.40       5.00       0.00       0.00       0.00         37.95       2.88       0.40       5.00       0.00       0.00       0.00         37.95       2.88       0.40       5.00       0.00       0.00       0.00         38.00       2.88       0.40       5.00       0.00       0.00       0.00         38.15       2.88       0.39       5.00       0.00       0.00       0.00         38.15       2.88       0.39       5.00       0.00	37.40	2.00	0.40	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	37.50	2.88	0.40	5.00	0.00	0.00	0.00
37.60       2.88       0.40       5.00       0.00       0.00       0.00         37.65       2.88       0.40       5.00       0.00       0.00       0.00         37.70       2.88       0.40       5.00       0.00       0.00       0.00         37.70       2.88       0.40       5.00       0.00       0.00       0.00         37.70       2.88       0.40       5.00       0.00       0.00       0.00         37.70       2.88       0.40       5.00       0.00       0.00       0.00         37.80       2.88       0.40       5.00       0.00       0.00       0.00         37.90       2.88       0.40       5.00       0.00       0.00       0.00         37.95       2.88       0.40       5.00       0.00       0.00       0.00         38.00       2.88       0.40       5.00       0.00       0.00       0.00         38.10       2.88       0.39       5.00       0.00       0.00       0.00         38.15       2.88       0.39       5.00       0.00       0.00       0.00         38.25       2.88       0.39       5.00       0.00	37.55	2.88	0.40	5.00	0.00	0.00	0.00
37.70       2.88       0.40       5.00       0.00       0.00       0.00         37.70       2.88       0.40       5.00       0.00       0.00       0.00         37.70       2.88       0.40       5.00       0.00       0.00       0.00         37.80       2.88       0.40       5.00       0.00       0.00       0.00         37.90       2.88       0.40       5.00       0.00       0.00       0.00         37.95       2.88       0.40       5.00       0.00       0.00       0.00         38.00       2.88       0.40       5.00       0.00       0.00       0.00         38.00       2.88       0.39       5.00       0.00       0.00       0.00         38.10       2.88       0.39       5.00       0.00       0.00       0.00         38.15       2.88       0.39       5.00       0.00       0.00       0.00         38.20       2.88       0.39       5.00       0.00       0.00       0.00         38.10       2.88       0.39       5.00       0.00       0.00       0.00         38.20       2.88       0.39       5.00       0.00	37.60	2.88	0.40	5.00	0.00	0.00	0.00
37.75       2.88       0.40       5.00       0.00       0.00       0.00         37.80       2.88       0.40       5.00       0.00       0.00       0.00         37.85       2.88       0.40       5.00       0.00       0.00       0.00         37.90       2.88       0.40       5.00       0.00       0.00       0.00         37.95       2.88       0.40       5.00       0.00       0.00       0.00         38.00       2.88       0.40       5.00       0.00       0.00       0.00         38.00       2.88       0.40       5.00       0.00       0.00       0.00         38.10       2.88       0.39       5.00       0.00       0.00       0.00         38.10       2.88       0.39       5.00       0.00       0.00       0.00         38.11       2.88       0.39       5.00       0.00       0.00       0.00         38.20       2.88       0.39       5.00       0.00       0.00       0.00         38.35       2.88       0.39       5.00       0.00       0.00       0.00         38.40       2.88       0.39       5.00       0.00	37.70	2.88	0.40	5.00	0.00	0.00	0.00
37.80       2.88       0.40       5.00       0.00       0.00       0.00         37.85       2.88       0.40       5.00       0.00       0.00       0.00         37.90       2.88       0.40       5.00       0.00       0.00       0.00         37.95       2.88       0.40       5.00       0.00       0.00       0.00         38.00       2.88       0.40       5.00       0.00       0.00       0.00         38.00       2.88       0.40       5.00       0.00       0.00       0.00         38.05       2.88       0.39       5.00       0.00       0.00       0.00         38.10       2.88       0.39       5.00       0.00       0.00       0.00         38.20       2.88       0.39       5.00       0.00       0.00       0.00         38.30       2.88       0.39       5.00       0.00       0.00       0.00         38.30       2.88       0.39       5.00       0.00       0.00       0.00         38.40       2.88       0.39       5.00       0.00       0.00       0.00         38.45       2.88       0.39       5.00       0.00	37.75	2.88	0.40	5.00	0.00	0.00	0.00
37.85       2.88       0.40       5.00       0.00       0.00       0.00         37.90       2.88       0.40       5.00       0.00       0.00       0.00         38.00       2.88       0.40       5.00       0.00       0.00       0.00         38.00       2.88       0.40       5.00       0.00       0.00       0.00         38.00       2.88       0.39       5.00       0.00       0.00       0.00         38.10       2.88       0.39       5.00       0.00       0.00       0.00         38.10       2.88       0.39       5.00       0.00       0.00       0.00         38.20       2.88       0.39       5.00       0.00       0.00       0.00         38.21       2.88       0.39       5.00       0.00       0.00       0.00         38.25       2.88       0.39       5.00       0.00       0.00       0.00         38.40       2.88       0.39       5.00       0.00       0.00       0.00         38.45       2.88       0.39       5.00       0.00       0.00       0.00         38.45       2.88       0.39       5.00       0.00	37.80	2.88	0.40	5.00	0.00	0.00	0.00
37.95       2.88       0.40       5.00       0.00       0.00       0.00         38.00       2.88       0.40       5.00       0.00       0.00       0.00         38.05       2.88       0.39       5.00       0.00       0.00       0.00         38.10       2.88       0.39       5.00       0.00       0.00       0.00         38.15       2.88       0.39       5.00       0.00       0.00       0.00         38.20       2.88       0.39       5.00       0.00       0.00       0.00         38.20       2.88       0.39       5.00       0.00       0.00       0.00         38.30       2.88       0.39       5.00       0.00       0.00       0.00         38.30       2.88       0.39       5.00       0.00       0.00       0.00         38.40       2.88       0.39       5.00       0.00       0.00       0.00         38.45       2.88       0.39       5.00       0.00       0.00       0.00         38.55       2.88       0.39       5.00       0.00       0.00       0.00         38.60       2.88       0.39       5.00       0.00	37.05	2.00	0.40	5.00	0.00	0.00	0.00
38.00       2.88       0.40       5.00       0.00       0.00       0.00         38.05       2.88       0.39       5.00       0.00       0.00       0.00         38.10       2.88       0.39       5.00       0.00       0.00       0.00         38.15       2.88       0.39       5.00       0.00       0.00       0.00         38.20       2.88       0.39       5.00       0.00       0.00       0.00         38.20       2.88       0.39       5.00       0.00       0.00       0.00         38.25       2.88       0.39       5.00       0.00       0.00       0.00         38.30       2.88       0.39       5.00       0.00       0.00       0.00         38.30       2.88       0.39       5.00       0.00       0.00       0.00         38.40       2.88       0.39       5.00       0.00       0.00       0.00         38.40       2.88       0.39       5.00       0.00       0.00       0.00         38.50       2.88       0.39       5.00       0.00       0.00       0.00         38.60       2.88       0.39       5.00       0.00	37.95	2.88	0.40	5.00	0.00	0.00	0.00
38.05       2.88       0.39       5.00       0.00       0.00       0.00         38.10       2.88       0.39       5.00       0.00       0.00       0.00         38.15       2.88       0.39       5.00       0.00       0.00       0.00         38.20       2.88       0.39       5.00       0.00       0.00       0.00         38.25       2.88       0.39       5.00       0.00       0.00       0.00         38.30       2.88       0.39       5.00       0.00       0.00       0.00         38.35       2.88       0.39       5.00       0.00       0.00       0.00         38.40       2.88       0.39       5.00       0.00       0.00       0.00         38.45       2.88       0.39       5.00       0.00       0.00       0.00         38.50       2.88       0.39       5.00       0.00       0.00       0.00         38.55       2.88       0.39       5.00       0.00       0.00       0.00         38.60       2.88       0.39       5.00       0.00       0.00       0.00         38.65       2.88       0.39       5.00       0.00	38.00	2.88	0.40	5.00	0.00	0.00	0.00
38.10       2.88       0.39       5.00       0.00       0.00       0.00         38.15       2.88       0.39       5.00       0.00       0.00       0.00         38.20       2.88       0.39       5.00       0.00       0.00       0.00         38.25       2.88       0.39       5.00       0.00       0.00       0.00         38.30       2.88       0.39       5.00       0.00       0.00       0.00         38.35       2.88       0.39       5.00       0.00       0.00       0.00         38.40       2.88       0.39       5.00       0.00       0.00       0.00         38.45       2.88       0.39       5.00       0.00       0.00       0.00         38.50       2.88       0.39       5.00       0.00       0.00       0.00         38.55       2.88       0.39       5.00       0.00       0.00       0.00         38.65       2.88       0.39       5.00       0.00       0.00       0.00         38.65       2.88       0.39       5.00       0.00       0.00       0.00         38.75       2.88       0.39       5.00       0.00	38.05	2.88	0.39	5.00	0.00	0.00	0.00
38.20       2.88       0.39       5.00       0.00       0.00       0.00         38.25       2.88       0.39       5.00       0.00       0.00       0.00         38.30       2.88       0.39       5.00       0.00       0.00       0.00         38.35       2.88       0.39       5.00       0.00       0.00       0.00         38.40       2.88       0.39       5.00       0.00       0.00       0.00         38.40       2.88       0.39       5.00       0.00       0.00       0.00         38.45       2.88       0.39       5.00       0.00       0.00       0.00         38.50       2.88       0.39       5.00       0.00       0.00       0.00         38.55       2.88       0.39       5.00       0.00       0.00       0.00         38.60       2.88       0.39       5.00       0.00       0.00       0.00         38.75       2.88       0.39       5.00       0.00       0.00       0.00         38.65       2.88       0.39       5.00       0.00       0.00       0.00         38.75       2.88       0.39       5.00       0.00	38.15	2.88	0.39	5.00	0.00	0.00	0.00
38.25       2.88       0.39       5.00       0.00       0.00       0.00         38.30       2.88       0.39       5.00       0.00       0.00       0.00         38.35       2.88       0.39       5.00       0.00       0.00       0.00         38.40       2.88       0.39       5.00       0.00       0.00       0.00         38.40       2.88       0.39       5.00       0.00       0.00       0.00         38.45       2.88       0.39       5.00       0.00       0.00       0.00         38.50       2.88       0.39       5.00       0.00       0.00       0.00         38.55       2.88       0.39       5.00       0.00       0.00       0.00         38.60       2.88       0.39       5.00       0.00       0.00       0.00         38.70       2.88       0.39       5.00       0.00       0.00       0.00         38.75       2.88       0.39       5.00       0.00       0.00       0.00         38.75       2.88       0.39       5.00       0.00       0.00       0.00         38.75       2.88       0.39       5.00       0.00	38.20	2.88	0.39	5.00	0.00	0.00	0.00
38.30       2.88       0.39       5.00       0.00       0.00       0.00         38.35       2.88       0.39       5.00       0.00       0.00       0.00         38.40       2.88       0.39       5.00       0.00       0.00       0.00         38.40       2.88       0.39       5.00       0.00       0.00       0.00         38.45       2.88       0.39       5.00       0.00       0.00       0.00         38.50       2.88       0.39       5.00       0.00       0.00       0.00         38.55       2.88       0.39       5.00       0.00       0.00       0.00         38.60       2.88       0.39       5.00       0.00       0.00       0.00         38.65       2.88       0.39       5.00       0.00       0.00       0.00         38.70       2.88       0.39       5.00       0.00       0.00       0.00         38.75       2.88       0.39       5.00       0.00       0.00       0.00         38.75       2.88       0.39       5.00       0.00       0.00       0.00         38.80       2.88       0.39       5.00       0.00	38.25	2.88	0.39	5.00	0.00	0.00	0.00
38.40       2.88       0.39       5.00       0.00       0.00       0.00         38.40       2.88       0.39       5.00       0.00       0.00       0.00         38.45       2.88       0.39       5.00       0.00       0.00       0.00         38.50       2.88       0.39       5.00       0.00       0.00       0.00         38.55       2.88       0.39       5.00       0.00       0.00       0.00         38.60       2.88       0.39       5.00       0.00       0.00       0.00         38.65       2.88       0.39       5.00       0.00       0.00       0.00         38.70       2.88       0.39       5.00       0.00       0.00       0.00         38.75       2.88       0.39       5.00       0.00       0.00       0.00         38.80       2.88       0.39       5.00       0.00       0.00       0.00         38.85       2.88       0.39       5.00       0.00       0.00       0.00         38.90       2.88       0.39       5.00       0.00       0.00       0.00         38.95       2.88       0.39       5.00       0.00	38.30	2.88	0.39	5.00	0.00	0.00	0.00
38.45       2.88       0.39       5.00       0.00       0.00       0.00         38.50       2.88       0.39       5.00       0.00       0.00       0.00         38.55       2.88       0.39       5.00       0.00       0.00       0.00         38.60       2.88       0.39       5.00       0.00       0.00       0.00         38.65       2.88       0.39       5.00       0.00       0.00       0.00         38.65       2.88       0.39       5.00       0.00       0.00       0.00         38.70       2.88       0.39       5.00       0.00       0.00       0.00         38.75       2.88       0.39       5.00       0.00       0.00       0.00         38.80       2.88       0.39       5.00       0.00       0.00       0.00         38.85       2.88       0.39       5.00       0.00       0.00       0.00         38.90       2.88       0.39       5.00       0.00       0.00       0.00         38.95       2.88       0.39       5.00       0.00       0.00       0.00         38.95       2.88       0.39       5.00       0.00	38.40	2.88	0.39	5.00	0.00	0.00	0.00
38.50       2.88       0.39       5.00       0.00       0.00       0.00         38.55       2.88       0.39       5.00       0.00       0.00       0.00         38.60       2.88       0.39       5.00       0.00       0.00       0.00         38.65       2.88       0.39       5.00       0.00       0.00       0.00         38.70       2.88       0.39       5.00       0.00       0.00       0.00         38.75       2.88       0.39       5.00       0.00       0.00       0.00         38.80       2.88       0.39       5.00       0.00       0.00       0.00         38.85       2.88       0.39       5.00       0.00       0.00       0.00         38.90       2.88       0.39       5.00       0.00       0.00       0.00         38.90       2.88       0.39       5.00       0.00       0.00       0.00         38.95       2.88       0.39       5.00       0.00       0.00       0.00         38.95       2.88       0.39       5.00       0.00       0.00       0.00         39.00       2.88       0.39       5.00       0.00	38.45	2.88	0.39	5.00	0.00	0.00	0.00
38.60       2.88       0.39       5.00       0.00       0.00       0.00         38.65       2.88       0.39       5.00       0.00       0.00       0.00         38.70       2.88       0.39       5.00       0.00       0.00       0.00         38.75       2.88       0.39       5.00       0.00       0.00       0.00         38.75       2.88       0.39       5.00       0.00       0.00       0.00         38.80       2.88       0.39       5.00       0.00       0.00       0.00         38.80       2.88       0.39       5.00       0.00       0.00       0.00         38.90       2.88       0.39       5.00       0.00       0.00       0.00         38.95       2.88       0.39       5.00       0.00       0.00       0.00         39.00       2.88       0.39       5.00       0.00       0.00       0.00         39.00       2.88       0.39       5.00       0.00       0.00       0.00         39.00       2.88       0.39       5.00       0.00       0.00       0.00	38.50	2.88	0.39	5.00	0.00	0.00	0.00
38.65       2.88       0.39       5.00       0.00       0.00       0.00         38.70       2.88       0.39       5.00       0.00       0.00       0.00         38.75       2.88       0.39       5.00       0.00       0.00       0.00         38.80       2.88       0.39       5.00       0.00       0.00       0.00         38.85       2.88       0.39       5.00       0.00       0.00       0.00         38.90       2.88       0.39       5.00       0.00       0.00       0.00         38.95       2.88       0.39       5.00       0.00       0.00       0.00         39.00       2.88       0.39       5.00       0.00       0.00       0.00         39.00       2.88       0.39       5.00       0.00       0.00       0.00         39.00       2.88       0.39       5.00       0.00       0.00       0.00	38.60	2.88	0.39	5.00	0.00	0.00	0.00
38.70       2.88       0.39       5.00       0.00       0.00       0.00         38.75       2.88       0.39       5.00       0.00       0.00       0.00         38.80       2.88       0.39       5.00       0.00       0.00       0.00         38.85       2.88       0.39       5.00       0.00       0.00       0.00         38.90       2.88       0.39       5.00       0.00       0.00       0.00         38.95       2.88       0.39       5.00       0.00       0.00       0.00         39.00       2.88       0.39       5.00       0.00       0.00       0.00         9.00       2.88       0.39       5.00       0.00       0.00       0.00         9.00       2.88       0.39       5.00       0.00       0.00       0.00	38.65	2.88	0.39	5.00	0.00	0.00	0.00
38.75       2.88       0.39       5.00       0.00       0.00       0.00         38.80       2.88       0.39       5.00       0.00       0.00       0.00         38.85       2.88       0.39       5.00       0.00       0.00       0.00         38.90       2.88       0.39       5.00       0.00       0.00       0.00         38.95       2.88       0.39       5.00       0.00       0.00       0.00         39.00       2.88       0.39       5.00       0.00       0.00       0.00         39.00       2.88       0.39       5.00       0.00       0.00       0.00	38.70	2.88	0.39	5.00	0.00	0.00	0.00
38.85       2.88       0.39       5.00       0.00       0.00       0.00         38.90       2.88       0.39       5.00       0.00       0.00       0.00         38.95       2.88       0.39       5.00       0.00       0.00       0.00         39.00       2.88       0.39       5.00       0.00       0.00       0.00         39.00       2.88       0.39       5.00       0.00       0.00       0.00         Page 12       12       12       12       12       12	38.75	2.00	0.39	5.00	0.00	0.00	0.00
38.90       2.88       0.39       5.00       0.00       0.00       0.00         38.95       2.88       0.39       5.00       0.00       0.00       0.00         39.00       2.88       0.39       5.00       0.00       0.00       0.00         Page 12       12	38.85	2.88	0.39	5.00	0.00	0.00	0.00
38.95 2.88 0.39 5.00 0.00 0.00 0.00 39.00 2.88 0.39 5.00 0.00 0.00 0.00 Page 12	38.90	2.88	0.39	5.00	0.00	0.00	0.00
Page 12	38.95	2.88	0.39	5.00	0.00	0.00	0.00
	19.00	2,00	6.35	5.00	Page 12	0.00	0.00

		11219	097 Liqu	efaction	Analysi	s.sum
39.05	2.88	0.39	5.00	0.00	0.00	0.00
39.10	2.88	0.39	5.00	0.00	0.00	0.00
39.15	2.00	0.39	5.00	0.00	0.00	0.00
39.20	2.00	0.39	5.00	0.00	0.00	0.00
39.23	2.00	0.39	5.00	0.00	0.00	0.00
39 35	2.88	0.39	5.00	0.00	0.00	0.00
39.40	2.88	0.39	5.00	0.00	0.00	0.00
39,45	2.88	0.39	5.00	0.00	0.00	0.00
39.50	2.88	0.39	5.00	0.00	0.00	0.00
39.55	2.88	0.39	5.00	0.00	0.00	0.00
39.60	2.88	0.39	5.00	0.00	0.00	0.00
39.65	2.88	0.39	5.00	0.00	0.00	0.00
39.70	2.00	0.39	5.00	0.00	0.00	0.00
39.80	2.88	0.39	5.00	0.00	0.00	0.00
39.85	2.88	0.39	5.00	0.00	0.00	0.00
39.90	2.88	0.39	5.00	0.00	0.00	0.00
39.95	2.88	0.39	5.00	0.00	0.00	0.00
40.00	2.88	0.39	5.00	0.00	0.00	0.00
40.05	2.88	0.39	5.00	0.00	0.00	0.00
40.10	2.00	0.39	5.00	0.00	0.00	0.00
40.15	2.00	0.39	5.00	0.00	0.00	0.00
40.25	2.88	0.39	5.00	0.00	0.00	0.00
40.30	2.88	0.39	5.00	0.00	0.00	0.00
40.35	2.88	0.39	5.00	0.00	0.00	0.00
40.40	2.88	0.39	5.00	0.00	0.00	0.00
40.45	2.88	0.39	5.00	0.00	0.00	0.00
40.50	2.88	0.39	5.00	0.00	0.00	0.00
40.55	2.00	0.39	5.00	0.00	0.00	0.00
40.65	2.88	0.39	5.00	0.00	0.00	0.00
40.70	2.88	0.39	5.00	0.00	0.00	0.00
40.75	2.88	0.39	5.00	0.00	0.00	0.00
40.80	2.88	0.39	5.00	0.00	0.00	0.00
40.85	2.88	0.39	5.00	0.00	0.00	0.00
40.90	2.88	0.39	5.00	0.00	0.00	0.00
40.95	2.00	0.39	5.00	0.00	0.00	0.00
41.05	2.88	0.39	5.00	0.00	0.00	0.00
41.10	2.88	0.39	5.00	0.00	0.00	0.00
41.15	2.88	0.39	5.00	0.00	0.00	0.00
41.20	2.88	0.39	5.00	0.00	0.00	0.00
41.25	2.88	0.39	5.00	0.00	0.00	0.00
41.30	2.00	0.39	5.00	0.00	0.00	0.00
41.35	2.88	0.39	5.00	0.00	0.00	0.00
41.45	2.88	0.39	5.00	0.00	0.00	0.00
41.50	2.88	0.39	5.00	0.00	0.00	0.00
41.55	2.88	0.39	5.00	0.00	0.00	0.00
41.60	2.88	0.39	5.00	0.00	0.00	0.00
41.65	2.88	0.39	5.00	0.00	0.00	0.00
41.70	2.00	0.39	5.00	0.00	0.00	0.00
41 80	2.88	0.39	5.00	0.00	0.00	0.00
41.85	2.88	0.39	5.00	0.00	0.00	0.00
41.90	2.88	0.39	5.00	0.00	0.00	0.00
41.95	2.88	0.39	5.00	0.00	0.00	0.00
42.00	2.88	0.39	5.00	0.00	0.00	0.00
42.05	2.88	0.39	5,00	0.00	0.00	0.00
42.10	2.00	0.39	5 00	0.00	0.00	0.00
76.13	2.00	0.33	5.00	Page 13	0.00	0.00

		11219	097 Liqu	efaction	Analysi	s.sum
42.20	2.88	0.39	5.00	0.00	0.00	0.00
42.25	2.88	0.39	5.00	0.00	0.00	0.00
42.30	2.00	0.39	5.00	0.00	0.00	0.00
42.33	2.00	0.39	5.00	0.00	0.00	0.00
42.40	2.88	0.39	5.00	0.00	0.00	0.00
42.50	2.88	0.39	5.00	0.00	0.00	0.00
42.55	2.88	0.39	5.00	0.00	0.00	0.00
42.60	2.88	0.39	5.00	0.00	0.00	0.00
42.65	2.88	0.39	5.00	0.00	0.00	0.00
42.70	2.88	0.39	5.00	0.00	0.00	0.00
42.75	2.88	0.39	5.00	0.00	0.00	0.00
42.80	2.00	0.39	5.00	0.00	0.00	0.00
42.05	2.00	0.39	5.00	0.00	0.00	0.00
42.95	2.88	0.39	5.00	0.00	0.00	0.00
43.00	2.88	0.39	5.00	0.00	0.00	0.00
43.05	2.88	0.39	5.00	0.00	0.00	0.00
43.10	2.88	0.39	5.00	0.00	0.00	0.00
43.15	2.88	0.39	5.00	0.00	0.00	0.00
43.20	2.00	0.39	5.00	0.00	0.00	0.00
43.23	2.00	0.39	5.00	0.00	0.00	0.00
43.35	2.88	0.39	5.00	0.00	0.00	0.00
43.40	2.88	0.39	5.00	0.00	0.00	0.00
43.45	2.88	0.39	5.00	0.00	0.00	0.00
43.50	2.88	0.39	5.00	0.00	0.00	0.00
43.55	2.88	0.39	5.00	0.00	0.00	0.00
43.60	2.88	0.39	5.00	0.00	0.00	0.00
43.03	2.00	0.39	5.00	0.00	0.00	0.00
43.75	2.88	0.39	5.00	0.00	0.00	0.00
43.80	2,88	0.39	5.00	0.00	0.00	0.00
43.85	2.88	0.38	5.00	0.00	0.00	0.00
43.90	2.88	0.38	5.00	0.00	0.00	0.00
43.95	2.88	0.38	5.00	0.00	0.00	0.00
44.00	2.88	0.38	5.00	0.00	0.00	0.00
44.05	2.00	0.38	5.00	0.00	0.00	0.00
44.15	2.00	0.38	5.00	0.00	0.00	0.00
44.20	2.00	0.38	5.00	0.00	0.00	0.00
44.25	2.00	0.38	5.00	0.00	0.00	0.00
44.30	2.00	0.38	5.00	0.00	0.00	0.00
44.35	2.00	0.38	5.00	0.00	0.00	0.00
44.40	2.00	0.38	5.00	0.00	0.00	0.00
44.45	2.00	0.38	5.00	0.00	0.00	0.00
44.55	2.00	0.38	5.00	0.00	0.00	0.00
44.60	2.00	0.38	5.00	0.00	0.00	0.00
44.65	2.00	0.38	5.00	0.00	0.00	0.00
44.70	2.00	0.38	5.00	0.00	0.00	0.00
44.75	2.00	0.38	5.00	0.00	0.00	0.00
44.00	2.00	0.38	5.00	0.00	0.00	0.00
44 90	2.00	0.38	5.00	0.00	0.00	0.00
44.95	2.00	0.38	5.00	0.00	0.00	0.00
45.00	2.00	0.38	5.00	0.00	0.00	0.00
45.05	2.00	0.38	5.00	0.00	0.00	0.00
45.10	2.00	0.38	5.00	0.00	0.00	0.00
45.15	2.00	0.38	5.00	0.00	0.00	0.00
45.25	2.00	0.38	5.00	0.00	0.00	0.00
45.30	2.00	0.38	5.00	0.00	0.00	0.00
	-1-1			Page 14		

$\begin{array}{cccccccccccccccccccccccccccccccccccc$		NI 601.226	11219	097 Liqu	efaction	Analysi	s.sum
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	45.35	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	45.40	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	45.50	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	45.55	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	45.60	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	45.65	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	45.70	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	45.80	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	45.85	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	45.90	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	45.95	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	46.05	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	46.10	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	46.15	2.00	0.38	5.00	0.00	0.00	0.00
46.30 $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.35$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.40$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.40$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.45$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.45$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.55$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.66$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.65$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.65$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.75$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.85$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.85$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.90$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.95$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.00$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.10$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.25$ $2.00$ $0.38$ $5.00$ $0.00$ <t< td=""><td>46.20</td><td>2.00</td><td>0.38</td><td>5.00</td><td>0.00</td><td>0.00</td><td>0.00</td></t<>	46.20	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	46.30	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	46.35	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	46.40	2.00	0.38	5.00	0.00	0.00	0.00
46.55 $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.60$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.65$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.70$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.70$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.75$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.80$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.80$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.90$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.90$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.95$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.00$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.10$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.12$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.30$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.35$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.40$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.45$ $2.00$ $0.38$ $5.00$ $0.00$ <t< td=""><td>40.45</td><td>2.00</td><td>0.38</td><td>5.00</td><td>0.00</td><td>0.00</td><td>0.00</td></t<>	40.45	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	46.55	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	46.60	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	46.65	2.00	0.38	5.00	0.00	0.00	0.00
46.80 $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.85$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.90$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.90$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $46.95$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.00$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.05$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.10$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.15$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.20$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.30$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.35$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.40$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.45$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.45$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.55$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$ $47.55$ $2.00$ $0.38$ $5.00$ $0.00$ $0.00$ $0.00$	46.70	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	46.80	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	46.85	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	46.90	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	40.95	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	47.05	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	47.10	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	47.15	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	47.20	2.00	0.38	5.00	0.00	0.00	0.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	47.30	2.00	0.38	5.00	0.00	0.00	0.00
47.40       2.00       0.38       5.00       0.00       0.00       0.00         47.45       2.00       0.38       5.00       0.00       0.00       0.00         47.50       2.00       0.38       5.00       0.00       0.00       0.00         47.55       2.00       0.38       5.00       0.00       0.00       0.00         47.55       2.00       0.38       5.00       0.00       0.00       0.00	47.35	2.00	0.38	5.00	0.00	0.00	0.00
47.43         2.00         0.38         5.00         0.00         0.00         0.00           47.50         2.00         0.38         5.00         0.00         0.00         0.00           47.55         2.00         0.38         5.00         0.00         0.00         0.00	47.40	2.00	0.38	5.00	0.00	0.00	0.00
47.55 2.00 0.38 5.00 0.00 0.00 0.00	47.50	2.00	0.38	5.00	0.00	0.00	0.00
	47.55	2.00	0.38	5.00	0.00	0.00	0.00
47.60 2.00 0.38 5.00 0.00 0.00 0.00	47.60	2.00	0.38	5.00	0.00	0.00	0.00
47.65 2.00 0.38 5.00 0.00 0.00 0.00	47.05	2.00	0.38	5.00	0.00	0.00	0.00
47.75 2.00 0.38 5.00 0.00 0.00 0.00	47.75	2.00	0.38	5.00	0.00	0.00	0.00
47.80 2.00 0.38 5.00 0.00 0.00 0.00	47.80	2.00	0.38	5.00	0.00	0.00	0.00
47.85 2.00 0.38 5.00 0.00 0.00 0.00	47.85	2.00	0.38	5.00	0.00	0.00	0.00
47,90 2.00 0.38 5.00 0.00 0.00 0.00	47.90	2.00	0.38	5.00	0.00	0.00	0.00
48.00 2.00 0.38 5.00 0.00 0.00 0.00	48.00	2.00	0.38	5.00	0.00	0.00	0.00
48.05 2.00 0.38 5.00 0.00 0.00 0.00	48.05	2.00	0.38	5.00	0.00	0.00	0.00
48.10 2.00 0.38 5.00 0.00 0.00 0.00	48.10	2.00	0.38	5.00	0.00	0.00	0.00
48.20 2.00 0.38 5.00 0.00 0.00 0.00	48.20	2.00	0.38	5.00	0.00	0.00	0.00
48.25 2.00 0.38 5.00 0.00 0.00 0.00	48.25	2.00	0.38	5.00	0.00	0.00	0.00
48.30 2.00 0.38 5.00 0.00 0.00 0.00	48.30	2.00	0.38	5.00	0.00	0.00	0.00
48.35         2.00         0.38         5.00         0.00         0.00         0.00           48.40         2.00         0.38         5.00         0.00         0.00         0.00	48.35	2.00	0.38	5.00	0.00	0.00	0.00
48.45 2.00 0.38 5.00 0.00 0.00 0.00	48.45	2.00	0.38	5.00	0.00	0.00	0.00

		112190	097 Liqu	efaction	Analysi	s.sum	
48.50	2.00	0.38	5.00	0.00	0.00	0.00	
48.55	2.00	0.38	5.00	0.00	0.00	0.00	
48.60	2.00	0.37	5.00	0.00	0.00	0.00	
48.65	2.00	0.37	5.00	0.00	0.00	0.00	
48.70	2.00	0.37	5.00	0.00	0.00	0.00	
48.75	2.00	0.37	5.00	0.00	0.00	0.00	
48.80	2.00	0.37	5.00	0.00	0.00	0.00	
48.85	2.00	0.37	5.00	0.00	0.00	0.00	
48.90	2.00	0.37	5.00	0.00	0.00	0.00	
48.95	2.00	0.37	5.00	0.00	0.00	0.00	
49.00	2.00	0.37	5.00	0.00	0.00	0.00	
49.05	2.00	0.37	5.00	0.00	0.00	0.00	
49.10	2.00	0.37	5.00	0.00	0.00	0.00	
49.15	2.00	0.37	5.00	0.00	0.00	0.00	
49.20	2.00	0.37	5.00	0.00	0.00	0.00	
49.25	2.00	0.37	5.00	0.00	0.00	0.00	
49.30	2.00	0.37	5.00	0.00	0.00	0.00	
49.33	2.00	0.37	5.00	0.00	0.00	0.00	
49.40	2.00	0.37	5.00	0.00	0.00	0.00	
49.45	2.00	0.37	5.00	0.00	0.00	0.00	
49.50	2.00	0.37	5.00	0.00	0.00	0.00	
49.33	2.00	0.37	5.00	0.00	0.00	0.00	
49.00	2.00	0.37	5.00	0.00	0.00	0.00	
49.05	2.00	0.37	5.00	0.00	0.00	0.00	
49.70	2.00	0.37	5.00	0.00	0.00	0.00	
49 80	2.00	0.37	5.00	0.00	0.00	0.00	
49.85	2.00	0.37	5.00	0.00	0.00	0.00	
49 90	2.00	0.37	5 00	0.00	0.00	0.00	
49 95	2 00	0.37	5.00	0.00	0.00	0.00	
50.00	2.00	0.37	5.00	0.00	0.00	0.00	
50100	2.00	0.57	5.00	0.00	0100	0.00	
* F.S.	<1, Liqu	efaction	Potentia	al Zone			
(F.S.	is limit	ed to 5,	CRR is	limited	to 2,	CSR is li	mited to 2)

Units: Unit: qc, fs, Stress or Pressure = atm (1.0581tsf); Unit Weight = pcf; Depth = ft; Settlement = in.

the second se		
	1 atm	(atmosphere) = 1 tsf (ton/ft2)
	CRRm	Cyclic resistance ratio from soils
	CSRsf	Cyclic stress ratio induced by a given earthquake (with user
request	factor	of safety)
	F.S.	Factor of Safety against liquefaction, F.S.=CRRm/CSRsf
	S_sat	Settlement from saturated sands
	S_dry	Settlement from Unsaturated Sands
	s_a11	Total Settlement from Saturated and Unsaturated Sands
	NoLiq	No-Liquefy Soils