

Appendix D

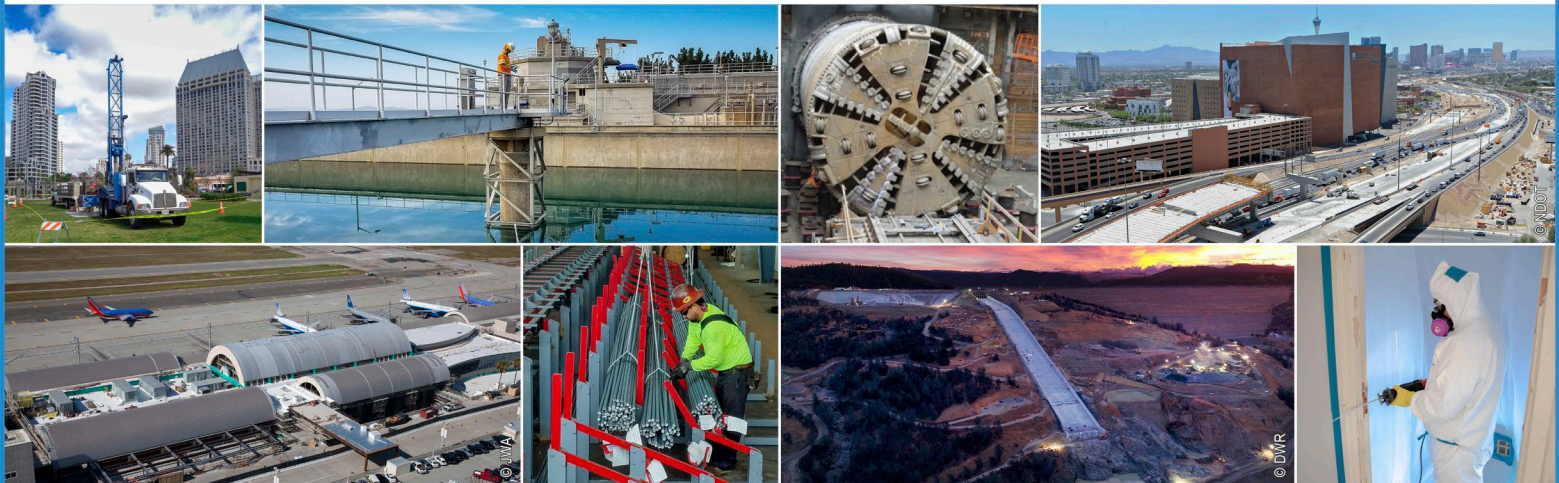
Geotechnical Evaluation

Geotechnical Evaluation Mission Basin Groundwater Purification Facility Well Expansion and Brine Minimization Oceanside, California

GHD, Inc.

320 Goddard | Irvine, California 92618

August 30, 2022 | Project No. 109182001



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

Ninyo & Moore

Geotechnical & Environmental Sciences Consultants

Geotechnical Evaluation
Mission Basin Groundwater Purification Facility
Well Expansion and Brine Minimization
Oceanside, California

Mr. Kevin Tirado, PE
GHD, Inc.
320 Goddard | Irvine, California 92618

August 30, 2022 | Project No. 109182001



Gabriel Smith, PE, GE
Senior Project Engineer



William R. Morrison, PE, GE
Principal Engineer



CTF/GS/NMM/WRM/mp



Nissa M. Morton, PG, CEG
Senior Project Geologist



CONTENTS

1.	INTRODUCTION	1
2.	SCOPE OF SERVICES	1
3.	SITE AND PROJECT DESCRIPTION	2
4.	SUBSURFACE EXPLORATION AND LABORATORY TESTING	3
4.1.	Geotechnical Laboratory Testing	3
4.2.	Limited Environmental Analytical Testing	4
5.	GEOLOGY	4
5.1.	Regional Geology	4
5.2.	Site Geology	5
5.2.1.	Fill	5
5.2.2.	Young Alluvium	5
5.3.	Groundwater	5
5.4.	Faulting and Seismicity	5
5.4.1.	Site-Specific Ground Motion	6
5.4.2.	Ground Rupture	8
5.4.3.	Liquefaction and Seismically Induced Settlement	8
5.4.3.1.	Dynamic Settlement of Saturated Soils	9
5.4.3.2.	Lateral Spread	10
5.4.3.3.	Surface Manifestation of Liquefaction	10
5.4.4.	Tsunamis	10
5.4.5.	Landsliding	11
5.5.	Flood Hazards	11
6.	CONCLUSIONS	11
7.	RECOMMENDATIONS	12
7.1.	Earthwork	12
7.1.1.	Site Preparation	12
7.1.2.	Remedial Earthwork	12
7.1.3.	Excavation Characteristics	13
7.1.4.	Temporary Excavations and Shoring	14
7.1.5.	Excavation Bottom Stability	15

7.1.6.	Materials for Fill	15
7.1.7.	Compacted Fill	15
7.1.8.	Modulus of Soil Reaction	16
7.1.9.	Pipe Bedding	17
7.1.10.	Pipe Zone Backfill	17
7.1.11.	Trench Zone Backfill	17
7.1.12.	Lateral Pressures for Thrust Blocks	18
7.1.13.	Drainage	18
7.2.	Seismic Design Considerations	18
7.3.	Foundations – Buildings and Settlement-Sensitive Structures	19
7.3.1.	Mat Foundations	19
7.3.2.	Static Settlement	20
7.4.	Underground Structures	20
7.5.	Exterior Concrete Flatwork	21
7.6.	Preliminary Flexible Pavement Design	21
7.7.	Corrosivity	22
7.8.	Concrete	22
7.9.	Pre-Construction Conference	23
7.10.	Plan Review and Construction Observation	23
8.	LIMITATIONS	23
9.	REFERENCES	25

TABLES

1 – 2019 California Building Code Seismic Design Criteria	19
2 – Recommended Preliminary Flexible Pavement Sections	21

FIGURES

- 1 – Site Location
- 2 – Exploration Locations
- 3 – Fault Locations
- 4 – Geology
- 5 – Acceleration Response Spectra
- 6 – Lateral Earth Pressures for Braced Excavations
- 7 – Lateral Earth Pressures for Temporary Cantilevered Shoring
- 8 – Thrust Block Lateral Earth Pressure Diagram
- 9 – Lateral Earth Pressures for Underground Structures

APPENDICES

- A – Boring and CPT Logs
- B – Laboratory Testing
- C – Environmental Analytical Laboratory Reports
- D – Liquefaction Analysis

1. INTRODUCTION

In accordance with your authorization, Ninyo & Moore has performed a geotechnical evaluation for the City of Oceanside's Mission Basin Groundwater Purification Facility (MBGPF) Well Expansion and Brine Minimization project in Oceanside, California (Figure 1). The purpose of this geotechnical evaluation was to evaluate the general geologic conditions at the site and to develop conclusions and recommendations regarding the geotechnical aspects relating to the project. This report presents a summary of our findings and conclusions regarding the geotechnical conditions at the project site and our recommendations for the design and construction of the proposed improvements.

2. SCOPE OF SERVICES

Ninyo & Moore's scope of services for this evaluation included the following:

- Reviewing readily available published geotechnical literature, topographic and geologic maps, fault maps, and aerial photographs.
- Performing geotechnical site reconnaissance by a representative from Ninyo & Moore to observe and document the existing surface conditions at the project site. During our site reconnaissance visits, we marked our boring and cone penetrometer test (CPT) locations for utility clearance by Underground Service Alert (USA).
- Performing geotechnical logging and sampling of the upper 20 feet of soil encountered during drilling of two pilot holes (referred to herein as EX-1 and EX-2) at proposed well sites (drilling of pilot holes performed by others).
- Drilling, logging, and sampling of three small diameter exploratory borings (referred to herein as B-1 through B-3). The soil borings were drilled to depths of up to approximately 51.5 feet.
- Performing four CPT soundings (referred to herein as CPT-1 through CPT-4) using a truck-mounted CPT rig. The CPT borings were advanced to depths of up to 60.5 feet.
- Performing geotechnical laboratory testing on representative samples to evaluate their pertinent soil parameters for design and classification purposes.
- Performing limited environmental analytical testing on soil samples representative of the project areas. Generally, samples were collected from boring B-3 and CPT-4 at depths of 2 feet, 5 feet, and 10 feet.
- Performing engineering analyses of the site geotechnical conditions based on the data obtained from our background review, subsurface exploration, and laboratory testing.
- Preparing this geotechnical evaluation report describing the findings and conclusions of our study and providing recommendations for the design and construction of the proposed improvements.

3. SITE AND PROJECT DESCRIPTION

The property that includes the City of Oceanside's Mission Basin Groundwater Purification Facility (MBGPF) is located north of Mission Avenue and east of Foussat Road in Oceanside, California (Figure 1). The site consists of an irregularly-shaped parcel with the MBGPF facility located in the northern portion of the property. The southern portion of the property generally consists of vacant land. A San Diego Gas & Electric (SDGE) easement with electrical transmission lines bounds the site to the west. A residential development bounds the property to the east, and a concrete-lined drainage channel and both Fireside Park and vacant land are located to the north of the facility. An administrative building and associated parking area are located within the eastern portion of the facility, and the groundwater purification equipment is located within the western portion of the site. The MBGPF consists of a drinking water treatment facility that uses reverse osmosis technology and filters to treat brackish water generated from wells within Mission Basin. The ground surface elevation at the MBGPF site ranges from approximately 45 feet above mean sea level (MSL) in the north portion of the site to approximately 40 feet above MSL in the southern portion.

A secondary project site is located approximately 2,600 feet to the southwest of the MBGPF (Figure 1). The secondary site consists of a triangular-shaped parcel of undeveloped land partially vegetated with landscaped materials. The parcel is bounded by Mission Avenue to the south, Highway 76 to the north, the intersection of Highway 76 and Mission Avenue to the east, and the City of Oceanside Fire Department Station 7 to the west. The ground surface elevation of the secondary site is approximately 35 feet above MSL.

Based on our review of the Title XVI Feasibility for the project (Woodward & Curran, 2018), we understand that the City of Oceanside wishes to increase the capacity of the MBGPF and to increase the supply of water generated in the vicinity of the site by expanding the number of wells in Mission Basin and to add additional treatment systems at the site. As such, the City is considering installing wells in the southern portion of the property and on the secondary project site adjacent to the City of Oceanside Fire Department Station 7, and constructing additional reverse osmosis and associated treatment facilities, as well as piping and other improvements. We understand that the new structures will be constructed at grades that are similar to those that currently exist.

4. SUBSURFACE EXPLORATION AND LABORATORY TESTING

Our subsurface exploration was conducted in multiple phases and mobilizations. The logging and sampling of the upper 20 feet of the soil profile encountered in borings EX-1 and EX-2 was performed on February 10 and 15, 2021. Borings EX-1 and EX-2 were pilot holes for planned production wells that were drilled using sonic drilling methods (under the direction of others). The drilling, logging, and sampling of two small-diameter borings (B-1 and B-2) at the MBGPF was performed on March 8, 2021. The drilling, logging, and sampling of a third small-diameter boring (B-3) was performed at the secondary project site on July 29, 2022 and four CPT soundings (CPT-1 through CPT-4) were advanced at the MBGPF on July 22, 2022. Prior to the subsurface exploration, the boring and CPT locations were cleared of underground utility conflicts by participating members of USA, by a private utility locator, and by MBGPF and/or City personnel. The purpose of the borings was to evaluate subsurface conditions and to collect soil samples for geotechnical laboratory and limited environmental analytical testing while the purpose of the CPT soundings was for the evaluation of subsurface conditions for the analysis of the liquefaction potential at the site.

Borings B-1 through B-3 were drilled to depths up to approximately 51.5 feet using a truck-mounted drill rig equipped with hollow-stem augers. Borings EX-1 and EX-2 were drilled to depths of 260 feet using a truck-mounted drill rig equipped with sonic technology. However, logging and sampling of these two borings by Ninyo & Moore was limited to the upper 20 feet. The four CPT soundings (CPT-1 through CPT-4) were advanced to depths up to approximately 60.5 feet using a truck-mounted CPT rig. During the drilling operations, Ninyo & Moore personnel logged the borings in general accordance with the Unified Soil Classification System (USCS) and ASTM International (ASTM) Test Method D 2488 by observing cuttings and drive samples. Representative bulk and in-place soil samples were obtained from the borings. The samples were then transported to our in-house geotechnical laboratory for testing purposes. The approximate locations of the exploratory borings and CPT soundings are shown on Figure 2. Logs of the borings and CPT soundings are included in Appendix A.

4.1. Geotechnical Laboratory Testing

Geotechnical laboratory testing of representative soil samples included the performance of tests to evaluate in-situ moisture content and dry density, gradation, Atterberg limits, consolidation, shear strength, expansion index, modified Proctor density, soil corrosivity, and R-value. The results of the in-situ moisture content and dry density tests are presented on the boring logs in Appendix A. Descriptions of the geotechnical laboratory test methods and the results of the other geotechnical laboratory tests performed are presented in Appendix B.

4.2. Limited Environmental Analytical Testing

Representative soil samples collected from boring B-3 at the secondary site and CPT-4 at the MGBPF site for limited environmental analytical laboratory testing were submitted to Eurofins Calscience, a State-certified environmental testing laboratory. The samples were analyzed for Total Petroleum Hydrocarbons (TPH), Volatile Organic Compounds (VOC), Pesticides, Polychlorinated Biphenyls (PCB), and Title 22 Metals. The environmental analytical laboratory results are included as Appendix C.

5. GEOLOGY

Our findings regarding regional and site geology at the project location are provided in the following sections.

5.1. Regional Geology

The project site is situated in the western portion of the Peninsular Ranges Geomorphic Province. This geomorphic province encompasses an area that extends approximately 900 miles from the Transverse Ranges and the Los Angeles Basin south to the southern tip of Baja California (Norris and Webb, 1990; Harden, 2004). The province varies in width from approximately 30 to 100 miles and generally consists of rugged mountains underlain by Jurassic metavolcanic and metasedimentary rocks, and Cretaceous igneous rocks of the southern California batholith. The portion of the province in western San Diego County that includes the project site generally consists of uplifted and dissected coastal plain underlain by Tertiary- and Quaternary-age sedimentary rocks.

The Peninsular Ranges Province is traversed by a group of sub-parallel faults and fault zones trending roughly northwest. Several of these faults are considered to be active. The Elsinore, San Jacinto and San Andreas faults are active fault systems located northeast of the project site and the Rose Canyon, Coronado Bank, San Diego Trough, and San Clemente faults are active faults located west of the project site (Figure 3). Major tectonic activity associated with these and other faults within this regional tectonic framework consists primarily of right-lateral, strike-slip movement. The offshore portion of the Newport-Inglewood Fault Zone, the nearest active fault system, has been mapped approximately 7 miles west of the project site.

5.2. Site Geology

Geologic units mapped at the site and encountered during our subsurface exploration included fill soils and young alluvium (Kennedy et al., 2007). Generalized descriptions of the earth units encountered during our field reconnaissance and subsurface exploration are provided in the subsequent sections. Additional descriptions of the subsurface units are provided on the boring logs in Appendix A. The regional geologic map of the site is shown on Figure 4.

5.2.1. Fill

Fill soils were encountered in each of our exploratory borings (EX-1, EX-2, and B-1 through B-3) and our CPTs (CPT-1 through CPT-4) from the ground surface and extending to depths of up to approximately 9 feet. As encountered, the fill soils generally consisted of various shades of brown, dry to moist, loose to medium dense, silty sand, poorly graded sand, and poorly graded sand with silt. Scattered gravel, roots, and wood debris were encountered in the upper portions of the fill. Documentation regarding the placement of existing fills was not available for our review.

5.2.2. Young Alluvium

Young alluvium was encountered in our borings and CPTs below the fill soils and extending to the depths explored of approximately 60.5 feet. As encountered, the young alluvium generally consisted of various shades of brown and gray, moist to wet, loose to very dense, silt, sandy silt, silty sand, poorly graded sand, poorly graded sand with silt, well graded sand with silt, and stiff clay. Scattered gravel was observed within the young alluvium.

5.3. Groundwater

Groundwater was encountered in borings EX-1, B-1, and B-2 at approximate depths ranging between 17 and 21 feet. Seepage was encountered in boring B-3 at an approximate depth of 18.5 feet. Fluctuations in the depth to groundwater will occur due to flood events, seasonal precipitation, variations in ground elevations, subsurface stratification, irrigation, groundwater pumping, storm water infiltration, tidal and river influences, and other factors. Additionally, perched water conditions may be encountered at the site due to the presence of trench backfill and underground utilities, as these areas tend to act as a conduit for subsurface water.

5.4. Faulting and Seismicity

The numerous faults in southern California include active, potentially active, and inactive faults. As defined by the California Geological Survey, active faults are faults that have ruptured within

Holocene time, or within approximately the last 11,000 years. Potentially active faults are those that show evidence of movement during Quaternary time (approximately the last 1.6 million years), but for which evidence of Holocene movement has not been established. Inactive faults have not ruptured in the last approximately 1.6 million years. The approximate locations of major active and potentially active faults in the vicinity of the site and their geographic relationship to the site are shown on Figure 3.

The site is located in a seismically active area, as is the majority of southern California, and the potential for strong ground motion is considered significant during the design life of the proposed structure. Based on our review of the referenced geologic maps, as well as on our site reconnaissance, no faults are mapped underlying the project site. The site is not within of a State of California Earthquake Fault Zone (EFZ) (formerly known as an Alquist-Priolo Special Studies Zone) (Hart and Bryant, 2007). The nearest known active fault is the offshore portion of the Newport-Inglewood Fault, located approximately 7 miles west of the site.

Based on this information, we consider the seismic parameters associated with the closest known active fault, the Newport-Inglewood Fault, to be appropriate for design purposes. In general, hazards associated with seismic activity include strong ground motion, ground rupture, liquefaction, seismically induced settlement, and tsunamis. These hazards, along with landsliding, are discussed in the following sections.

5.4.1. Site-Specific Ground Motion

Considering the proximity of the site to active faults capable of producing a maximum moment magnitude of 6.0 or more, the project area has a high potential for experiencing strong ground motion. The 2019 California Building Code (CBC) specifies that the risk-targeted maximum considered earthquake (MCE_R) ground motion response accelerations be used to evaluate seismic loads for design of buildings and other structures. Per the 2019 CBC, a site-specific ground motion hazard analysis shall be performed for structures on Site Class D with a mapped MCE_R , 5 percent damped, spectral response acceleration parameter at a period of 1 second (S_1) greater than or equal to 0.2g in accordance with Sections 21.2 and 21.3 of the American Society of Civil Engineers (ASCE) Publication 7-16 (2016) for the Minimum Design Loads and Associated Criteria for Building and Other Structures as updated by ASCE 7-16 Supplement 1 (ASCE, 2018). We calculated that the S_1 for the site is equal to 0.353g using the 2022 Structural Engineers Association of California [SEAOC]/Office of Statewide Health Planning and Development [OSHPD] seismic design tool (web-based); therefore, a site-specific ground motion hazard analysis was performed for the project site.

The site-specific ground motion hazard analysis consisted of the review of available seismologic information for nearby faults and performance of probabilistic seismic hazard analysis (PSHA) and deterministic seismic hazard analysis (DSHA) to develop acceleration response spectrum (ARS) curves corresponding to the MCE_R for 5 percent damping. Prior to the site-specific ground motion hazard analysis, we obtained the mapped seismic ground motion values and developed the general MCE_R response spectrum for 5 percent damping in accordance with Section 11.4 of ASCE 7-16. The average shear wave velocity (V_S) for the upper 30 meters of soil (V_{S30}) is mapped to be 198 meters per second (m/s) (Wald and Allen, 2008) and the depths to $V_S = 1,000$ m/s and $V_S = 2,500$ m/s are assumed to be 50 meters and 230 meters, respectively (Southern California Earthquake Center [SCEC] Community Velocity Model Version 11.9.0 Basin Depth). These values were evaluated using the Open Seismic Hazard Analysis software developed by USGS and SCEC (2022c). These values were utilized in our site-specific analysis.

The 2014 new generation attenuation (NGA) West-2 relationships were used to evaluate the site-specific ground motions. The NGA relationships that we used for developing the probabilistic and deterministic response spectra are by Chiou and Youngs (2014), Campbell and Bozorgnia (2014), Boore, Stewart, Seyhan, and Atkinson (2014), and Abrahamson, Silva, and Kamai (2014). The Open Seismic Hazard Analysis software developed by USGS (USGS, 2022c) was used for performing the PSHA. The Calculation of Weighted Average 2014 NGA Models spreadsheet by the Pacific Earthquake Engineering Research Center (PEER) was used for performing the DSHA (Seyhan, 2014).

The PSHA was performed for earthquake hazards having a 2 percent chance of being exceeded in 50 years multiplied by the risk coefficients per ASCE 7-16. The maximum rotated components of ground motions were considered in PSHA with 5 percent damping. For the DSHA, we analyzed accelerations from characteristic earthquakes on active faults within the region using the Building Seismic Safety Council 2014 Event Set (USGS, 2022b). A characteristic magnitude 7.0 event on the Newport-Inglewood (offshore) fault with a depth to top of rupture of 6.5 kilometers (km) and Joyner-Boore distance of 11.4 kilometers from the site was evaluated to be the controlling earthquake. Hence, the deterministic seismic hazard analysis was performed for the site using this event and corrections were made to the spectral accelerations for the 84th percentile of the maximum rotated component of ground motion with 5 percent damping.

The site-specific MCE_R response spectrum was taken as the lesser of the spectral response acceleration at any period from the PSHA and DSHA, and the site-specific general response spectrum was determined by taking two-thirds of the MCE_R response spectrum with some conditions in accordance with Section 21.3 of ASCE 7-16 as updated by ASCE 7-16 Supplement 1 (ASCE, 2018). Figure 5 presents the site-specific MCE_R response spectrum and the site-specific design response spectrum. The general mapped design response spectrum calculated in accordance with Section 11.4 of ASCE 7-16 is also presented on Figure 5 for comparison. The site-specific spectral response acceleration parameters, consistent with the 2019 CBC, are provided in Section 7.2 for the evaluation of seismic loads on buildings and other structures. The site-specific maximum considered earthquake geometric mean (MCE_G) peak ground acceleration, PGA_M , was calculated as 0.495g.

5.4.2. Ground Rupture

Based on our review of the referenced literature and our site reconnaissance, no active faults are known to cross the project vicinity. Therefore, the potential for ground rupture due to faulting at the site is considered low. However, lurching or cracking of the ground surface as a result of nearby seismic events is possible.

5.4.3. Liquefaction and Seismically Induced Settlement

Liquefaction is the phenomenon in which loosely deposited granular soils with silt and clay contents of less than approximately 35 percent and non-plastic silts located below the water table undergo rapid loss of shear strength when subjected to strong earthquake-induced ground shaking. Ground shaking of sufficient duration results in the loss of grain-to-grain contact due to a rapid rise in pore water pressure, and causes the soil to behave as a fluid for a short period of time. Liquefaction is known generally to occur in saturated or near-saturated cohesionless soils at depths shallower than 50 feet below the ground surface. Factors known to influence liquefaction potential include composition and thickness of soil layers, grain size, relative density, groundwater level, degree of saturation, and both intensity and duration of ground shaking.

According to the County of San Diego Seismic Department of Planning and Land Use (2007), the project vicinity is mapped as an area that is prone to liquefaction. As noted in the previous sections, the MBGPF and secondary sites are underlain by loose and medium dense fill soils and alluvium, and groundwater was encountered as shallow as approximately 17 feet bgs in our borings. Based on the proposed improvements, we evaluated the liquefaction potential at the MBGPF site using the data obtained from the CPT soundings. Liquefaction evaluation

was performed using a characteristic magnitude of 7.0 associated with the Newport-Inglewood (offshore) fault and MCE_G peak ground acceleration with adjustment for site class effects (PGA_M) of 0.495g as discussed in previous sections. A groundwater depth of 15 feet was used in our analysis based on our subsurface exploration. The liquefaction analysis was performed using the computer program LiquefyPro (CivilTech Software, 2007). The analysis was based on the National Center for Earthquake Engineering Research (NCEER) procedure (Youd, et al., 2001) using Modified Robertson Method (1997).

5.4.3.1. Dynamic Settlement of Saturated Soils

As a result of liquefaction, the proposed improvements may be subject to several hazards, including liquefaction-induced settlement. In order to estimate the amount of post-earthquake settlement, the method proposed by Tokimatsu and Seed (1987) was used in which the seismically induced cyclic stress ratios and corrected N-values are related to the volumetric strain of the soil. The amount of soil settlement during a strong seismic event depends on the thickness of the liquefiable layers and the density and/or consistency of the soils. Based on our knowledge and experience with the site soils, the occasional clay layers that were encountered are not sensitive enough to undergo cyclic strain softening.

We evaluated dynamic settlement at the site using the LiquefyPro software (CivilTech Software, 2007). Based on our evaluation, which assumes a peak ground acceleration of 0.495g and a characteristic magnitude of 7.0, a post-earthquake total settlement of up to approximately 5 inches is estimated for the MBGPF site (Appendix D). Based on the guidelines presented in CGS Special Publication 117A (2008) and assuming relatively uniform subsurface stratigraphy across the site, we estimate differential settlement to be approximately one-half of the total settlement over a horizontal distance of approximately 40 feet (i.e., on the order of 2.5 inches over a horizontal distance of approximately 40 feet). Some of the dynamic settlement can be reduced by remedial grading as described in the Recommendations section of this report.

Based on the proximity of the secondary site to the MBGPF site, as well as the similar subsurface conditions, we anticipate dynamic settlements at the secondary site to also occur. However, given the proposed improvements at the secondary site (i.e., well), design considerations for such settlements are not expected to be necessary. If site-specific dynamic settlement analysis is requested by the designer, additional subsurface exploration and/or evaluation can be performed.

5.4.3.2. Lateral Spread

Lateral spreading of ground surface during an earthquake usually takes place along weak shear zones that have formed within a liquefiable soil layer. Lateral spread has generally been observed to take place in the direction of a free-face (i.e., retaining wall, slope, channel) but has also been observed to a lesser extent on ground surfaces with very gentle slopes. An empirical model developed by Bartlett and Youd (1995, revised 1999) is typically used to predict the amount of horizontal ground displacement within a site. For a site located in proximity to a free-face, the amount of lateral ground displacement is strongly correlated with the distance of the site from the free-face. Other factors such as earthquake magnitude, distance from the earthquake epicenter, thickness of the liquefiable layers, and the fines content and particle sizes of the liquefiable layers also affect the amount of lateral ground displacement.

The project site is relatively flat and the nearest channel free face is located approximately 1,200 feet west of the site. Accordingly, lateral displacement is not a design consideration for the MBGPF facility.

Based on the proximity of the secondary site to the MBGPF site, as well as the similar subsurface conditions, we also anticipate lateral displacement at the secondary site to not be a design consideration.

5.4.3.3. Surface Manifestation of Liquefaction

Based on the design curves developed by Ishihara (1985) the potential for surface manifestation of liquefaction (i.e., ground subsidence, sand boils, and/or seismically induced bearing failure) at the MBGPF and secondary sites is considered low.

5.4.4. Tsunamis

Tsunamis are long wavelength seismic sea waves (long compared to the ocean depth) generated by sudden movements of the ocean bottom during submarine earthquakes, landslides, or volcanic activity. According to the tsunami inundation map for the Oceanside and San Luis Rey Quadrangles (California Emergency Management Agency, 2009), the project site is mapped as lying outside of tsunami inundation areas. Based on our review of the tsunami inundation map, along with the site's distance from the Pacific Ocean, the potential for damage due to tsunamis is considered unlikely.

5.4.5. Landsliding

Per Tan and Giffen (1995), the site is mapped as “marginally susceptible” to landsliding. Based on our review of referenced geologic maps, literature, and topographic maps, and on our site reconnaissance and subsurface exploration, landslides or indications of deep-seated landsliding do not underlie the project site. In our opinion, the potential for significant large-scale slope instability at the site is not a design consideration.

5.5. Flood Hazards

Based on review of Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), the site is located within a mapped flood zone (FEMA, 2012). The site is in an area mapped as Zone A99, which represents areas “subject to inundation by the 1-percent-annual-chance flood event, but which will ultimately be protected upon completion of an under-construction Federal flood protection system.”

6. CONCLUSIONS

Based on the results of our geotechnical evaluation, the following conclusions are provided for the proposed project:

- The site is generally underlain by fill soils and young alluvium.
- Groundwater was encountered in our borings at the site at approximate depths ranging between 17 and 21 feet.
- The onsite fill and young alluvial soils at the site are anticipated to be generally excavatable using heavy duty earthmoving equipment in good working condition.
- There are no known active faults crossing the project site and the potential for surface ground rupture is considered low. The offshore portion of the Newport-Inglewood Fault is mapped approximately 7 miles west of the project site. The potential for relatively strong seismic ground motions should be considered in the project design.
- The site is susceptible to liquefaction with total seismic settlements estimated to be up to approximately 5 inches.
- Results of our laboratory testing indicate that the upper soils at the MBGPF site possess a very low expansion potential.
- Based on the results of our limited geotechnical laboratory testing when compared to the Caltrans (2021) corrosion guidelines, the onsite soils are not considered corrosive.

7. RECOMMENDATIONS

Based on the results of our subsurface evaluation and our understanding of the proposed construction, we present the following general geotechnical recommendations relative to the design and construction of the proposed pressure reducing stations and ancillary improvements. Based on our understanding of the project, the following recommendations are provided for the design and construction of the proposed project.

7.1. Earthwork

In general, earthwork should be performed in accordance with the recommendations presented in this report. Ninyo & Moore should be contacted for questions regarding the recommendations or guidelines presented herein.

7.1.1. Site Preparation

Prior to performing site excavations, the project alignment should be cleared of vegetation, surface obstructions, rubble and debris, abandoned utilities and foundations, and other deleterious materials. Existing utilities within the project limits, if any, should be re-routed or protected from damage by construction activities. Obstructions that extend below finish grade, if any, should be removed and the resulting holes filled with compacted soils. Materials generated from the clearing operations should be removed from the project site and disposed of at a legal dumpsite.

7.1.2. Remedial Earthwork

Our subsurface exploration at the MBGPF site indicates that existing fills having thicknesses of up to 9 feet are present. Documentation regarding the placement of the existing fills was not available for our review. Consequently, we consider the existing fill to be potentially compressible in its current condition. In addition, the project site is underlain by alluvial soils that are susceptible to liquefaction during a seismic event. Our evaluation indicates that total liquefaction-induced seismic settlement on the order of 5 inches, with differential settlement on the order of 2.5 inches over a horizontal distance 40 feet, could occur. In order to mitigate the compressible nature of the existing fill materials along with some of the adverse effects associated with liquefaction (i.e., loss of bearing, excessive differential settlement, sand boils, etc.), we recommend that the existing fill that underlies proposed buildings and other settlement-sensitive structures within the MBGPF site be removed down to the alluvial materials and be replaced with compacted fill. Based on our subsurface exploration, we

anticipate that the existing fill extends to depths of 9 feet or more in the area of the MBGPF where structures are planned.

In addition, we recommend that settlement-sensitive structures be underlain by 5 feet or more of fill that is reinforced with geosynthetic material (geogrid) to help mitigate against the adverse effects of liquefaction at the site. To accomplish this, the fill soils, and upper portions of the alluvium where existing fills are less than 5 feet in thickness, should be removed. As such, the removals should extend to depths where the existing fill is removed, or 5 feet below the bottom of the proposed building foundation (whichever is deeper). For the purpose of this report, structural building areas are defined as the areas underlying the buildings and extending a horizontal distance of 10 feet beyond the footprints of the structures. The resultant removal surface should be scarified to a depth of approximately 8 inches, moisture conditioned, and recompacted to a relative compaction of 90 percent as evaluated by the ASTM International (ASTM) Test Method D 1557.

Subsequent to the scarification and recompaction of the bottom of the overexcavation, compacted fill should be placed within the overexcavation to finish grade. These materials should be compacted to a relative compaction of 90 percent as evaluated by ASTM D 1557. Materials for use as fill should be evaluated by Ninyo & Moore's representative prior to filling or importing. A layer of Tensar TriAx TX-7 geogrid (or equivalent) should be placed at a depth of 5 feet below finish grade within the soils placed as backfill. As placement of the fill materials within the overexcavated area proceeds, 2 additional layers of Tensar TriAx TX-7 geogrid (or equivalent) should be placed within the compacted fill. The additional layers of geogrid should be placed with a vertical spacing of approximately 1 foot within the fill (i.e. geogrid placed at approximate depths of 5 feet, 4 feet, and 3 feet below finish grade) and should extend across the width and length of the overexcavation. The penetrations of pipelines and other conduits through the geogrid reinforcement (where necessary) should be made in accordance with manufacturer guidelines.

7.1.3. Excavation Characteristics

The results of our field exploration program indicates that the site is underlain by fill soils and young alluvium. Excavation of the fill soils and young alluvium should be feasible with heavy-duty excavation equipment in good working condition. Due to the variable nature of the existing fill materials along with some portions of the alluvium, the contractor should anticipate caving and/or sloughing conditions when performing excavations due to the presence of loose soil.

7.1.4. Temporary Excavations and Shoring

For temporary excavations, we recommend that the following Occupational Safety and Health Administration (OSHA) soil classifications be used:

Fill and Young Alluvium

Type C

Upon making the excavations, the soil classifications and excavation performance should be evaluated in the field by the geotechnical consultant in accordance with the OSHA regulations. Temporary excavations should be constructed in accordance with OSHA recommendations. For trench or other excavations, OSHA requirements regarding personnel safety should be met using appropriate shoring (including trench boxes) or by laying back the slopes to no steeper than 1.5:1 (horizontal to vertical) in fill soils and young alluvium. Temporary excavations that encounter seepage may be shored or stabilized by placing sandbags or gravel along the base of the seepage zone. Excavations encountering seepage should be evaluated on a case-by-case basis. Onsite safety of personnel is the responsibility of the contractor.

In areas with limited space for construction (where temporary excavations may not be laid back at the recommended slope inclination), a temporary shoring system may be utilized to support the excavation sidewalls during construction. The shoring system should be designed using the magnitudes and distributions of the lateral earth pressures presented on Figure 6 for braced shoring and Figure 7 for cantilevered shoring. The recommended design earth pressures are based on the assumptions that (a) the shoring system is constructed without raising the ground surface elevation behind the shoring, (b) that there are no surcharge loads, such as soil stockpiles, construction materials, or vehicular traffic, and (c) that no loads act above a 1:1 plane extending up and back from the base of the shoring system. For shoring subjected to the above-mentioned surcharge loads, the contractor should include the effect of these loads on lateral earth pressures acting on the shoring wall.

Settlement of the ground surface may occur behind the shoring wall during excavation. The amount of settlement depends on the type of shoring system, the quality of contractor's workmanship, and soil conditions. Settlement may cause distress to adjacent structures, if present. To reduce the potential for distress to adjacent structures, we recommend that the shoring system be designed to limit the ground settlement behind the shoring to ½ inch or less. Possible causes of settlement that should be addressed include vibration during installation of the sheet piling, excavation for construction, construction vibrations, dewatering, and removal of the support system. We recommend that the potential settlement distress be evaluated carefully by the contractor prior to construction.

The contractor should retain a qualified and experienced engineer to design the shoring system. The shoring parameters presented in this report are for preliminary design purposes and the contractor should evaluate the adequacy of these parameters and make appropriate modifications for their design. We recommend that the contractor take appropriate measures to protect workers. OSHA requirements pertaining to worker safety should be observed. We further recommend that the construction methods provided herein be carefully evaluated by a qualified specialty contractor prior to commencement of the construction.

7.1.5. Excavation Bottom Stability

If unstable excavation bottom conditions are exposed (particularly during remedial earthwork, or during backfilling of utility trenches), they may be mitigated by over excavating the excavation bottom to suitable depths and replacing with a layer of $\frac{3}{4}$ - to $1\frac{1}{2}$ -inch crushed gravel encased in a woven geotextile (e.g., Mirafi® 600X geotextile or an approved equivalent). Recommendations for stabilizing excavation bottoms should be based on evaluation in the field by the geotechnical consultant at the time of construction.

7.1.6. Materials for Fill

Materials for fill (including materials utilized as backfill for excavations) may be processed from on-site excavations, or may consist of import materials. On-site soils with an organic content of less than approximately 3 percent by volume (or 1 percent by weight) are suitable for reuse as general fill material. Fill soils should be free of trash, debris, roots, vegetation, organics, or other deleterious materials. Fill and utility trench backfill materials should not contain rocks or lumps over 3 inches, and not more than 30 percent larger than $\frac{3}{4}$ inch. Larger chunks, if generated during excavation, may be broken into acceptably sized pieces or disposed of offsite.

Imported fill material, if needed, should meet the criteria described above and be granular soil possessing a low or very low expansion potential (i.e., an EI of 50 or less as evaluated by ASTM D 4829). Imported materials should also be non-corrosive in accordance with the Caltrans (2021) corrosion guidelines. Materials for use as fill should be evaluated by the geotechnical consultant's representative prior to filling or importing.

7.1.7. Compacted Fill

Prior to placement of compacted fill, the contractor should request an evaluation of the exposed ground surface by Ninyo & Moore. Unless otherwise recommended, the exposed

ground surface should then be scarified to a depth of approximately 8 inches and watered or dried, as needed, to achieve moisture contents generally at or slightly above the optimum moisture content. The scarified materials should then be compacted to a relative compaction of 90 percent as evaluated in accordance with the ASTM D 1557. The evaluation of compaction by the geotechnical consultant should not be considered to preclude any requirements for observation or approval by governing agencies. It is the contractor's responsibility to notify this office and the appropriate governing agency when project areas are ready for observation, and to provide reasonable time for that review.

Fill materials should be moisture conditioned to generally at or slightly above the laboratory optimum moisture content prior to placement. The optimum moisture content will vary with material type and other factors. Moisture conditioning of fill soils should be generally consistent within the soil mass.

Prior to placement of additional compacted fill material following a delay in the grading operations, the exposed surface of previously compacted fill should be prepared to receive fill. Preparation may include scarification, moisture conditioning, and recompaction.

Compacted fill should be placed in horizontal lifts of approximately 8 inches in loose thickness. Prior to compaction, each lift should be watered or dried as needed to achieve a moisture content generally at or slightly above the laboratory optimum, mixed, and then compacted by mechanical methods to a relative compaction of 90 percent as evaluated by ASTM D 1557. The upper 12 inches of the subgrade materials beneath vehicular pavements should be compacted to a relative compaction of 95 percent relative density as evaluated by ASTM D 1557. Successive lifts should be treated in a like manner until the desired finished grades are achieved.

7.1.8. Modulus of Soil Reaction

We anticipate that trenching operations will be used on this project. The modulus of soil reaction (E') is used to characterize the stiffness of soil backfill placed at the sides of buried flexible pipelines for the purpose of evaluating deflection caused by the weight of the backfill above the pipe. For pipelines constructed in granular fill soils, we recommend that a modulus of soil reaction of 1,200 pounds per square inch (psi) be used for design for 0 to 5 feet deep excavations and 1,800 psi for excavations exceeding 5 feet depth, provided that granular bedding material is placed adjacent to the pipe, as recommended in the following section of this report.

7.1.9. Pipe Bedding

We recommend that new pipelines, where constructed in an open excavation, be supported on 6 or more inches of granular bedding material. Granular pipe bedding should be provided to distribute vertical loads around the pipe. Bedding material and compaction requirements should be in accordance with this report. Pipe bedding typically consists of graded aggregate with a coefficient of uniformity of three or greater.

7.1.10. Pipe Zone Backfill

The pipe zone backfill extends from the top of the pipe bedding material and continues to extend to 1 foot or more above the top of the pipe in accordance with the recent edition of the Standard Specifications for the Public Works Construction (“Greenbook”). Pipe zone backfill should have a Sand Equivalent (SE) of 30 or greater, and be placed around the sides and top of the pipe. Special care should be taken not to allow voids beneath and around the pipe. Compaction of the pipe zone backfill should proceed up both sides of the pipe.

It has been our experience that the voids within a crushed rock material are sufficiently large to allow fines to migrate into the voids, thereby creating the potential for sinkholes and depressions to develop at the ground surface. If open-graded gravel is utilized as pipe zone backfill, this material should be separated from the adjacent trench sidewalls and overlying trench backfill with a geosynthetic filter fabric.

7.1.11. Trench Zone Backfill

Trench zone backfill should consist of granular soil that conforms to the most recent edition of the Standard Specifications for the Public Works Construction (“Greenbook”). In general, the material should be comprised of low-expansion-potential granular soil and should be free of trash, debris, roots, vegetation, or deleterious materials. Fill should generally be free of rocks or hard lumps of material in excess of 3 inches in diameter. Rocks or hard lumps larger than about 3 inches in diameter should be broken into smaller pieces or should be removed from the site. Wet materials generated from on-site excavations should be aerated to a moisture content near the laboratory optimum to allow compaction.

Imported materials should consist of clean, granular materials with a low expansion potential, corresponding to an expansion index of 50 or less as evaluated in accordance with ASTM D 4829. The corrosion potential of proposed imported soils should also be evaluated if structures will be in contact with the imported soils. Import material should be submitted to the geotechnical consultant for review prior to importing to the site. The contractor should be responsible for the uniformity of import material brought to the site.

7.1.12. Lateral Pressures for Thrust Blocks

Thrust restraint for buried pipelines may be achieved by transferring the thrust force to the soil outside the pipe through a thrust block. Thrust blocks may be designed using the lateral passive earth pressures presented on Figure 8. Thrust blocks should be backfilled with granular backfill material and compacted in accordance with recommendations presented in this report.

7.1.13. Drainage

Roof, pad, and slope drainage should be directed such that runoff water is diverted away from slopes and structures to suitable discharge areas by nonerodible devices (e.g., gutters, downspouts, concrete swales, etc.). Positive drainage adjacent to structures should be established and maintained. Positive drainage may be accomplished by providing drainage away from the foundations of the structure at a gradient of 2 percent or steeper for a distance of 5 feet or more outside building perimeters, and further maintained by a graded swale leading to an appropriate outlet, in accordance with the recommendations of the project civil engineer and/or landscape architect.

Surface drainage on the site should be provided so that water is not permitted to pond. A gradient of 2 percent or steeper should be maintained over the pad area and drainage patterns should be established to divert and remove water from the site to appropriate outlets.

Care should be taken by the contractor during final grading to preserve any berms, drainage terraces, interceptor swales or other drainage devices of a permanent nature on or adjacent to the property. Drainage patterns established at the time of final grading should be maintained for the life of the project. The property owner and the maintenance personnel should be made aware that altering drainage patterns might be detrimental to foundation performance.

7.2. Seismic Design Considerations

Design of the proposed improvements should be performed in accordance with the requirements of governing jurisdictions and applicable building codes. Table 1 presents the site-specific spectral response acceleration parameters in accordance with the CBC (2019) guidelines.

Table 1 – 2019 California Building Code Seismic Design Criteria

Site Coefficients and Spectral Response Acceleration Parameters	Values
Site Class	D
Mapped Spectral Response Acceleration at 0.2-second Period, S_s	0.956g
Mapped Spectral Response Acceleration at 1.0-second Period, S_1	0.353g
Site-Specific Spectral Response Acceleration at 0.2-second Period, S_{MS}	1.137g
Site-Specific Spectral Response Acceleration at 1.0-second Period, S_{M1}	0.740g
Site-Specific Design Spectral Response Acceleration at 0.2-second Period, S_{DS}	0.758g
Site-Specific Design Spectral Response Acceleration at 1.0-second Period, S_{D1}	0.493g
Site-Specific Maximum Considered Earthquake Geometric Mean (MCE_G) Peak Ground Acceleration, PGA_M	0.495g

7.3. Foundations – Buildings and Settlement-Sensitive Structures

As described earlier, the site is underlain by alluvial soils that are susceptible to liquefaction during a seismic event. Our analyses indicate that the site may undergo up to approximately 5 inches of total seismically-induced settlement, with a differential settlement on the order of 2.5 inches over a horizontal distance of 40 feet, during the design seismic event. The intent of the recommendations herein is to mitigate the effects of liquefaction such that buildings and settlement-sensitive structures at the MBGPF site would not be susceptible to collapse, however it may be susceptible to damage during the design earthquake and would potentially be in need of repair.

Accordingly, we are providing recommendations to support proposed buildings and settlement-sensitive improvements building on a mat foundation underlain by reinforced fill (recommended in Section 7.1.2. Design of foundations should also be in accordance with structural considerations. In addition, requirements of the governing jurisdictions, practices of the Structural Engineers Association of California, and applicable building codes should be considered in the design of structures. In the event the structural are categorized such that they are to withstand the liquefaction effects during the design seismic event, additional recommendation can be provided for the use of deep foundation systems or the implementation of ground improvement techniques.

7.3.1. Mat Foundations

As noted above, a reinforced concrete mat foundation supported on a reinforced fill is recommended. For the design of a mat foundation bearing on a 5-foot-thick reinforced fill mat above groundwater, a net allowable bearing pressure of 2,000 pounds per square foot (psf) may be used. This allowable bearing capacity may be increased by one-third when considering loads of a short duration such as wind or seismic forces. We recommend that mats be constructed with an embedment of 18 inches or more. Thickness and reinforcement of the mat foundation should be in accordance with the recommendations of the project structural engineer.

Mat foundations typically experience some deflection due to loads placed on the mat and the reaction of the soils directly underlying the mat. A design modulus of subgrade reaction (K) of 200 pounds per cubic inch (pci) should be used for the reinforced fill mat above groundwater when evaluating such deflections. This value is based on a unit square foot area and should be adjusted for large mats. Adjusted values of the modulus of subgrade reaction, K_v , can be obtained from the following equation for mats of various widths:

$$K_v = K[(B+1)/2B]^2 \quad (\text{pci})$$

The B in the above equation represents the width (i.e., the lesser dimension of the width and length) of the mat in feet.

For frictional resistance to lateral loads on mat, we recommend a coefficient of friction of 0.3 at the concrete-soil interface. For a mat with an embedment depth shallower than 18 inches, passive earth pressure should be ignored while evaluating lateral resistance; only frictional resistance should be considered. For mats with embedment depths greater than 18 inches, passive earth pressure equal to an equivalent fluid weight of 300 pounds per cubic foot (pcf) may be combined with frictional resistance to evaluate the total lateral resistance. The passive earth pressure should be considered to be applied at depths greater than 18 inches. The passive resistance values may be increased by one-third when considering loads of short duration such as wind or seismic forces. These recommendations assume no moisture-sensitive floor covering are planned for the proposed buildings at the site.

7.3.2. Static Settlement

We estimate that the proposed structures, designed and constructed as recommended herein, will undergo total static settlement of less than approximately 1 inch and differential static settlement of approximately ½ inch over a horizontal distance of 40 feet. Note, this does not include the seismically-induced settlements resulting from liquefaction during the design seismic event.

7.4. Underground Structures

Underground structures may be designed for lateral pressures represented by the pressure diagram on Figure 9. For preliminary design purposes, we recommend that the groundwater level be assumed to be at a depth of 15 feet or more below the ground surface for evaluation of lateral pressures and calculating the factor of safety against uplift. It is recommended that the exterior of underground walls and horizontal and vertical construction joints be waterproofed, as indicated by

the project civil engineer and/or architect. For pipe wall penetrations into the lift station, vaults, and other structures, standard “water-tight” penetration design should be utilized. To reduce the potential for relative pipe to wall differential settlement, which could cause pipe shearing, we recommend that a pipe joint be located close to the exterior of the wall. The type of joint should be such that relative movement across the joint can be accommodated without distress.

7.5. Exterior Concrete Flatwork

Exterior concrete flatwork should be 5 inches in thickness and should be reinforced with No. 3 reinforcing bars placed at 24 inches on-center both ways. A vapor retarder is not needed for exterior flatwork. To reduce the potential manifestation of distress to exterior concrete flatwork due to movement of the underlying soil, we recommend that such flatwork be installed with crack-control joints at appropriate spacing as designed by the structural engineer. Before placement of concrete, the subgrade soils should be scarified to a depth of 8 inches, moisture conditioned to generally above the laboratory optimum moisture content, and compacted to a relative compaction of 90 percent as evaluated by ASTM D 1557.

7.6. Preliminary Flexible Pavement Design

As part of the new construction, we anticipate that new pavements will be constructed to provide access to the buildings and site. Our laboratory testing of a near surface soil sample at the project site indicated a R-value of 48. For planning purposes, our preliminary pavement design has utilized a design R-Value of 40. This R-value, along with assumed design Traffic Indices (TI) of 5, 6, 6.5, and 7 has been the basis of our preliminary flexible pavement design. The assumed TIs should be evaluated by the Civil Engineer based on anticipated traffic loading at the site. Actual pavement recommendations should be based on R-value tests performed on bulk samples of the soils that are exposed at the finished subgrade elevations across the site at the completion of the grading operations. The preliminary recommended flexible pavement sections are presented in Table 2.

Traffic Index (Pavement Usage)	Design R-Value	Asphalt Concrete Thickness (inches)	Class 2 Aggregate Base Thickness (inches)
5 (Parking Areas)	40	3	6
6 (Driveways)	40	3.5	6
7 (Fire Lanes)	40	4	7

As indicated, the pavement structural sections recommended above assume TIs of 7.0 or less for site pavements. If traffic loads are different from those assumed herein, the pavement design should be re-evaluated. We recommend that the upper 12 inches of the subgrade be compacted to a relative compaction of 95 percent of the modified Proctor density as evaluated by the current version of ASTM D 1557. Additionally, the aggregate base materials should be compacted to a relative compaction of 95 percent of the modified Proctor density as evaluated by the current version of ASTM D 1557. The AC should be compacted to a relative compaction of 95 percent of Hveem unit weight.

Where rigid pavement sections are proposed, we recommend 7 inches of Portland cement concrete underlain by 4 inches of compacted aggregate base. We recommend that the Portland cement concrete have a 600 pounds per square inch (psi) flexural strength and that it be reinforced with No. 3 bars that are placed 18 inches on center (both ways). The rigid pavement and aggregate base should be placed on compacted subgrade that is prepared in accordance with the recommendations presented above.

7.7. Corrosivity

Laboratory testing was performed two representative samples of near-surface soil to evaluate soil pH, electrical resistivity, water-soluble chloride content, and water-soluble sulfate content. The soil pH and electrical resistivity tests were performed in general accordance with California Test Method (CT) 422. Sulfate testing was performed in general accordance with CT 417. The laboratory test results are presented in Appendix B.

The results of the corrosivity testing of the two samples indicated electrical resistivities of 1,900 ohm-centimeters (ohm-cm) and 11,400 ohm-cm, soil pH of 7.0 and 7.1, chloride contents of 20 parts per million (ppm) and 55 ppm, and sulfate contents of 0.001 percent and 0.011 percent (i.e., 10 ppm and 110 ppm). Based on a comparison with the Caltrans corrosion (2021) criteria, the onsite soils would not be classified as corrosive. Corrosive soils are defined as soil with an electrical resistivity less than 1,100 ohm-cm, a chloride content more than 500 ppm, more than 0.15 percent sulfates (1,500 ppm), and/or a pH less than 5.5.

7.8. Concrete

Concrete in contact with soil or water that contains high concentrations of water-soluble sulfates can be subject to premature chemical and/or physical deterioration. The soil samples tested in this evaluation indicated water-soluble sulfate contents of 0.001 percent and 0.011 percent by weight (i.e., about 10 ppm and 110 ppm). Based on the American Concrete Institute (ACI) 318 criteria, the site soils would correspond to exposure class S0. For this exposure class, ACI 318 recommends

that normal weight concrete in contact with soil possess a compressive strength of 2,500 pounds per square inch (psi) or more. Due to the potential for variability of site soils, we recommend that normal weight concrete in contact with soil use Type II, II/V, or V cement.

7.9. Pre-Construction Conference

We recommend that a pre-construction meeting be held prior to commencement of grading. The owner or his representative, the civil engineer, Ninyo & Moore, and the contractor should be in attendance to discuss the plans, the project, and the proposed construction schedule.

7.10. Plan Review and Construction Observation

The conclusions and recommendations provided in this report are based on our understanding of the proposed project and on our evaluation of the data collected based on subsurface conditions disclosed by one exploratory boring. If conditions are found to vary from those described in this report, Ninyo & Moore should be notified, and additional recommendations will be provided upon request. Ninyo & Moore should review the final project drawings and specifications prior to the commencement of construction. Ninyo & Moore should perform the needed observation and testing services during construction operations.

The recommendations provided in this report are based on the assumption that Ninyo & Moore will provide geotechnical observation and testing services during construction. In the event that it is decided not to utilize the services of Ninyo & Moore during construction, we request that the selected consultant provide the client with a letter (with a copy to Ninyo & Moore) indicating that they fully understand Ninyo & Moore's recommendations, and that they are in full agreement with the design parameters and recommendations contained in this report. Construction of proposed improvements should be performed by qualified subcontractors utilizing appropriate techniques and construction materials.

8. LIMITATIONS

The field evaluation, laboratory testing, and geotechnical analyses presented in this geotechnical report have been conducted in general accordance with current practice and the standard of care exercised by geotechnical consultants performing similar tasks in the project area. No warranty, expressed or implied, is made regarding the conclusions, recommendations, and opinions presented in this report. There is no evaluation detailed enough to reveal every subsurface condition. Variations may exist and conditions not observed or described in this report may be encountered during

construction. Uncertainties relative to subsurface conditions can be reduced through additional subsurface exploration. Additional subsurface evaluation will be performed upon request.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document.

This report is intended for design purposes only. It does not provide sufficient data to prepare an accurate bid by contractors. It is suggested that the bidders and their geotechnical consultant perform an independent evaluation of the subsurface conditions in the project areas. The independent evaluations may include, but not be limited to, review of other geotechnical reports prepared for the adjacent areas, site reconnaissance, and additional exploration and laboratory testing.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. If geotechnical conditions different from those described in this report are encountered, our office should be notified, and additional recommendations, if warranted, will be provided upon request. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

9. REFERENCES

- Abrahamson, N.A., Silva, W.J., and Kamai, R., 2014, Summary of the ASK 14 ground motion relation for active crustal regions, *Earthquake Spectra* Volume 30, pp. 1025-1055.
- American Concrete Institute (ACI), 2019, ACI 318 Building Code Requirements for Structural Concrete and Commentary.
- American Society of Civil Engineers (ASCE), 2017, Minimum Design Loads for Buildings and Other Structures, ASCE 7-16
- American Society of Civil Engineers (ASCE), 2018, Supplement 1, Standard 7-16 Minimum Design Loads and Associated Criteria for Buildings and Structures: dated December 12.
- Bartlett, S.F., and Youd, T.L., 1995, Empirical Prediction of Liquefaction-Induced Lateral Spread, *Journal of Geotechnical Engineering*, ASCE, Vol. 121, No. 4, pp. 316-329: dated April.
- Bartlett, S.F., Hansen, C.M. and Youd, T.L., 2002, Revised Multilinear Regression Equations for Prediction of Lateral Spread Displacement, *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 128, No. 124, pp. 1007-1017: dated December.
- Boore, D.M., Stewart, J.P., Seyhan, E., and Atkinson, G.M., 2014, NGA-West2 Equations for Predicting PGA, PGV, and 5% Damped PSA for Shallow Crustal Earthquakes, *Earthquake Spectra*, Vol. 30, No. 3, pp. 1057-1085: dated August.
- Building News, 2018, "Greenbook," Standard Specifications for Public Works Construction: BNI Publications.
- California Building Standards Commission, 2019, California Building Code (CBC): California Code of Regulations, Title 24, Part 2, Volumes 1 and 2.
- California Department of Transportation (Caltrans), 2021, Corrosion Guidelines, Version 3.2: dated May.
- California Department of Transportation, 2021, ARS Online Web Tool, version 2.3.09, http://dap3.dot.ca.gov/ARS_Online/.
- California Emergency Management Agency, 2009, Tsunami Inundation Map for Emergency Planning, Oceanside and San Luis Rey Quadrangles, Scale 1:24,000: dated June 1.
- California Geological Survey, State of California, 2008, Guidelines for Evaluating and Mitigating Seismic Hazards in California, CDMG Special Publication 117A.
- Campbell, K.W., and Bozorgnia, Y., 2014, NGA-West2 Ground Motion Model for the Average Horizontal Components of PGA, PGV, and 5% Damped Linear Acceleration Response Spectra, *Earthquake Spectra*, Vol. 30, No. 3, pp. 1087-1115: dated August.
- Chiou, B. S.-J., and Youngs, R.R., 2014, Update of the Chiou and Youngs NGA Model for the Average Horizontal Component of Peak Ground Motion and Response Spectra, *Earthquake Spectra*, August 2014, Vol. 30, No. 3: dated August.
- CivilTech Software, 2007, LiquefyPro (Version 5.5c), A Computer Program for Liquefaction and Settlement Analysis.
- Cotton, Bridges, Associates, 2002, City of Oceanside General Plan, Public Safety Element: dated June.

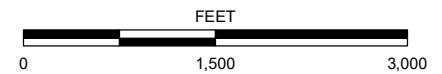
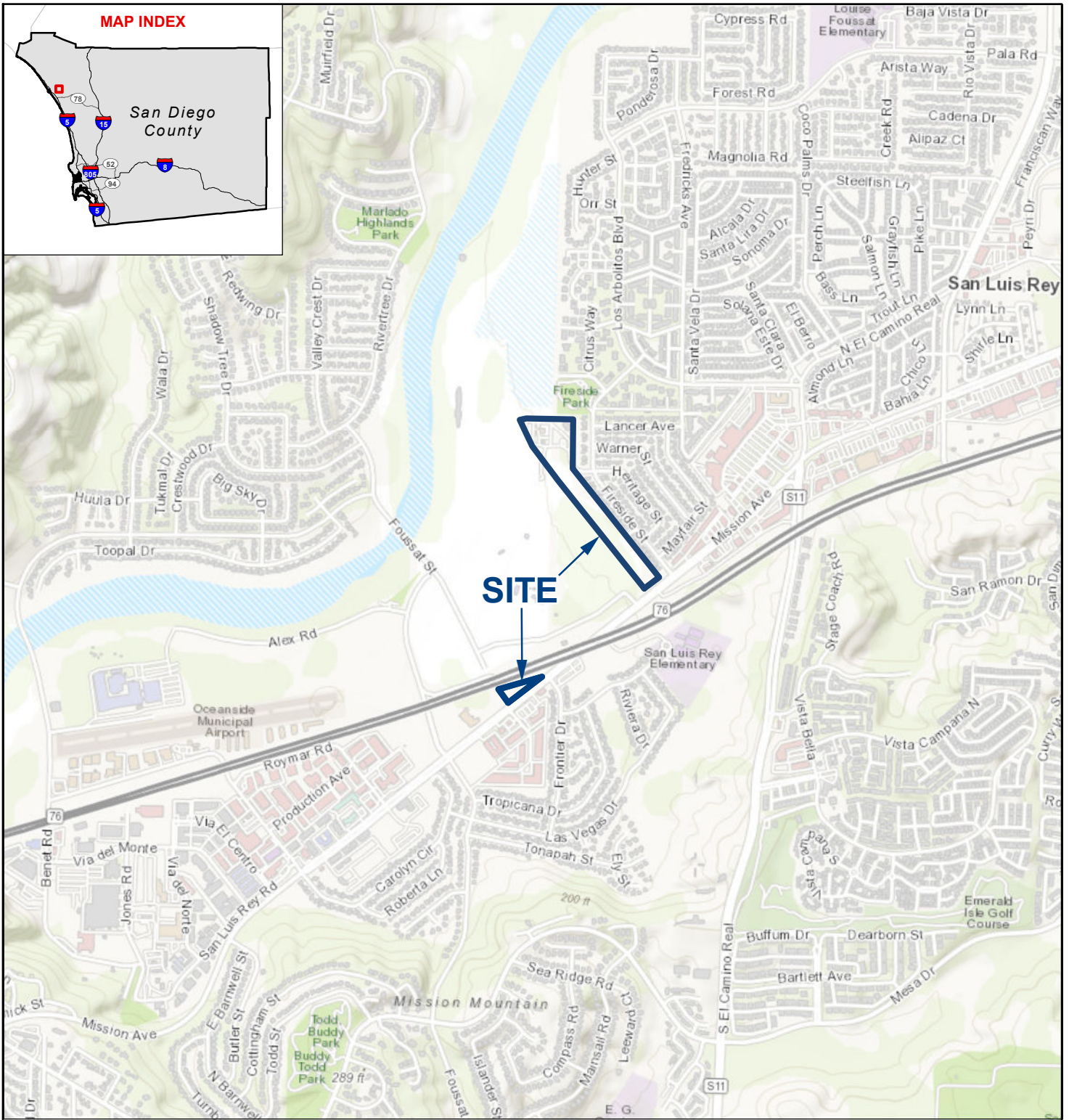
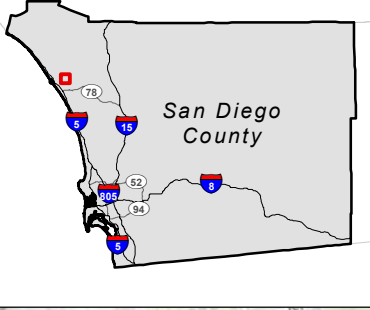
- County of San Diego Department of Planning and Land Use, 2007, Guidelines for Determining Significance, Geologic Hazards, Land Use and Environment Group, Department of Public Works: dated July 30.
- FEMA, 2012, Flood Insurance Rate Map San Diego County, California and Incorporated Areas, Panel 752 of 2375, Map Number 06073C0752H: dated May 16
- Geotracker website, 2022, www.geotracker.waterboards.ca.gov: accessed in July.
- Google Earth, 2022, <https://www.google.com/earth/>: accessed in July.
- Harden, D.R., 2004, California Geology, 2nd ed.: Prentice Hall, Inc.
- Hart, E.W., and Bryant, W.A., 2007, Fault-Rupture Hazard Zones in California, Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zone Maps: California Department of Conservation, Division of Mines and Geology, Special Publication 42, with Supplement 1 added in 2012, Supplement 2 added in 2014, Supplement 3 added in 2015, and Supplement 4 added in 2016.
- Hartley, J.D., and Duncan, J.M., 1987, E' and Its Variation with Depth: American Society of Civil Engineers (ASCE), Journal of Transportation Engineering, Vol. 113, No. 5: dated September.
- Historic Aerials website, 2022, www.historicaerials.com: accessed in July.
- Ishihara, K., 1985, Stability of Natural Deposits during Earthquakes, Proceedings of the Eleventh International Conference on soil Mechanics and Foundation Engineering, San Francisco, California, Volume 1, pp. 321-376 dated August.
- Ishihara, K., 1995, Effects of At-Depth Liquefaction on Embedded Foundations During Earthquakes, Proceedings of the Tenth Asian Regional Conference on Soil Mechanics and Foundation Engineering, August 29 through September 2, Beijing, China, Vol. 2, pp. 16-25.
- Jennings, C.W., 2010, Fault Activity Map of California and Adjacent Areas: California Geological Survey, California Geological Map Series, Map No. 6.
- Kennedy, M.P., Tan, S.S., Bovard, K.R., Alvarez, R.M., Watson, M.J., and Gutierrez, C.I., 2007, Geologic Map of Oceanside 30 x 60-minute Quadrangle, California, California Geological Survey, Regional Geologic Map No. 2, Scale 1:100,000.
- Ninyo & Moore, In-house Proprietary Data.
- Norris, R.M., and Webb, R.W., 1990, Geology of California: John Wiley & Sons, 541 pp.
- OpenSHA and the University of Southern California, 2010, Hazard Curve Application, Version 1.3.2.
- Robertson, P.K., and Wride, C.E., Cyclic Liquefaction and its Evaluation based on the SPT and CPT, Proceedings of the NCEER Workshop on Evaluation of Liquefaction Resistance of Soils, Youd, T.L, and Idriss, I.M. editors, Technical Report NCEER 97-0022, pp 41-88.
- SEAOC/OSHPD, 2022, Seismic Design Maps, <https://seismicmaps.org/>: accessed in July.
- Seed, H.B., and Idriss, I.M., 1982, Ground Motions and Soil Liquefaction During Earthquakes, Volume 5 of Engineering Monographs on Earthquake Criteria, Structural Design, and Strong Motion Records: Berkeley, Earthquake Engineering Research Institute.
- Seyhan, E, 2014, Weighted Average 2014 NGA West-2 GMPE, Pacific Earthquake Engineering Research Center.

- Southern California Earthquake Center (SCEC), 2011, SCEC Community Velocity Model, Version 11.9.0.
- Structural Engineering Association of California (SEAOC), Office of Statewide Health Planning and Development (OSHPD), 2022, U.S. Seismic Design Maps website, <https://seismicmaps.org/>: accessed in June.
- Tan, S.S. and Giffen, D.G., 1995, Landslide Hazards in the Northern Part of The San Diego Metropolitan Area, San Diego County, California, Landslide Hazard Identification Map No. 35: Oceanside and San Luis Rey Quadrangles (Plate A).
- Tokimatsu, K. and Seed, H.B., 1987, Evaluation of Settlement in Sands Due to Earthquake Shaking, American Society of Civil Engineering Journal of Geotechnical Engineering, 113(8), 861-878.
- United States Department of the Interior, Bureau of Reclamation, 1989, Engineering Geology Field Manual.
- United States Federal Emergency Management Agency (FEMA), 2012, Flood Insurance Rate Maps (FIRM), Nos. 06073C0752H and 06073C0754H, dated May 16.
- United States Geological Survey, 2018, San Luis Rey Quadrangle, California, 7.5 Minute Series: Scale 1:24,000
- United States Geological Survey (USGS), 2022a, 2008 National Seismic Hazard Maps – Fault Parameters Database, World Wide Web, https://earthquake.usgs.gov/cfusion/hazfaults_2008_search/query_main.cfm.
- United States Geological Survey (USGS), 2022b, 2014 Building Seismic Safety Council Scenario Catalog, World Wide Web, <https://earthquake.usgs.gov/scenarios/catalog/bssc2014/>.
- United States Geological Survey (USGS) and Southern California Earthquake Center (SCEC), 2022c, Open Seismic Hazard Analysis, <http://www.opensha.org/>: accessed in July.
- Wald, David J., and Allen, Trevor I., 2008, Topographic Slope as a Proxy for Seismic Site Conditions and Amplifications, Bulletin of the Seismological Society of America, Vol. 97, No. 5, pp. 1379-1395.
- Wills, C.J., and Clahan, L.B., 2006, Developing a Map of Geologically Defined Site-Condition Categories for California, Bulletin of the Seismological Society of America, v. 96, no. 4A, p. 1483–1501.
- Woodward & Curran, 2018, City of Oceanside Mission Basin Groundwater Purification Facility – Well Expansion and Brine Minimization, United States Department of the Interior, Bureau of Reclamation, Title XVI Feasibility Study: dated July.
- Youd, T.L., Idriss, I.M., Andrus, R.D., Arango, I., Castro, G., Christian, J.T., Dobry, R., Finn, W.D., Harder, L.F., Hynes, M.E., Ishihara, K., Koester, J.P., Liao, S.S.C., Marcuson, W.F., Martin, G.R., Mitchell, J.K., Moriwaki, Y., Power, M.S., Robertson, P.K., Seed, R.B., and Stokoe, K.H., II., 2001, Liquefaction Resistance of Soils: Summary Report from the 1996 NCEER and 1998 NCEER/NSF Workshops on Evaluation of Liquefaction Resistance of Soils, Journal of Geotechnical and Geoenvironmental Engineering: American Society of Civil Engineering 124(10), pp. 817-833.



FIGURES

MAP INDEX



NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE. | SOURCE: ESRI WORLD TOPO, 2021

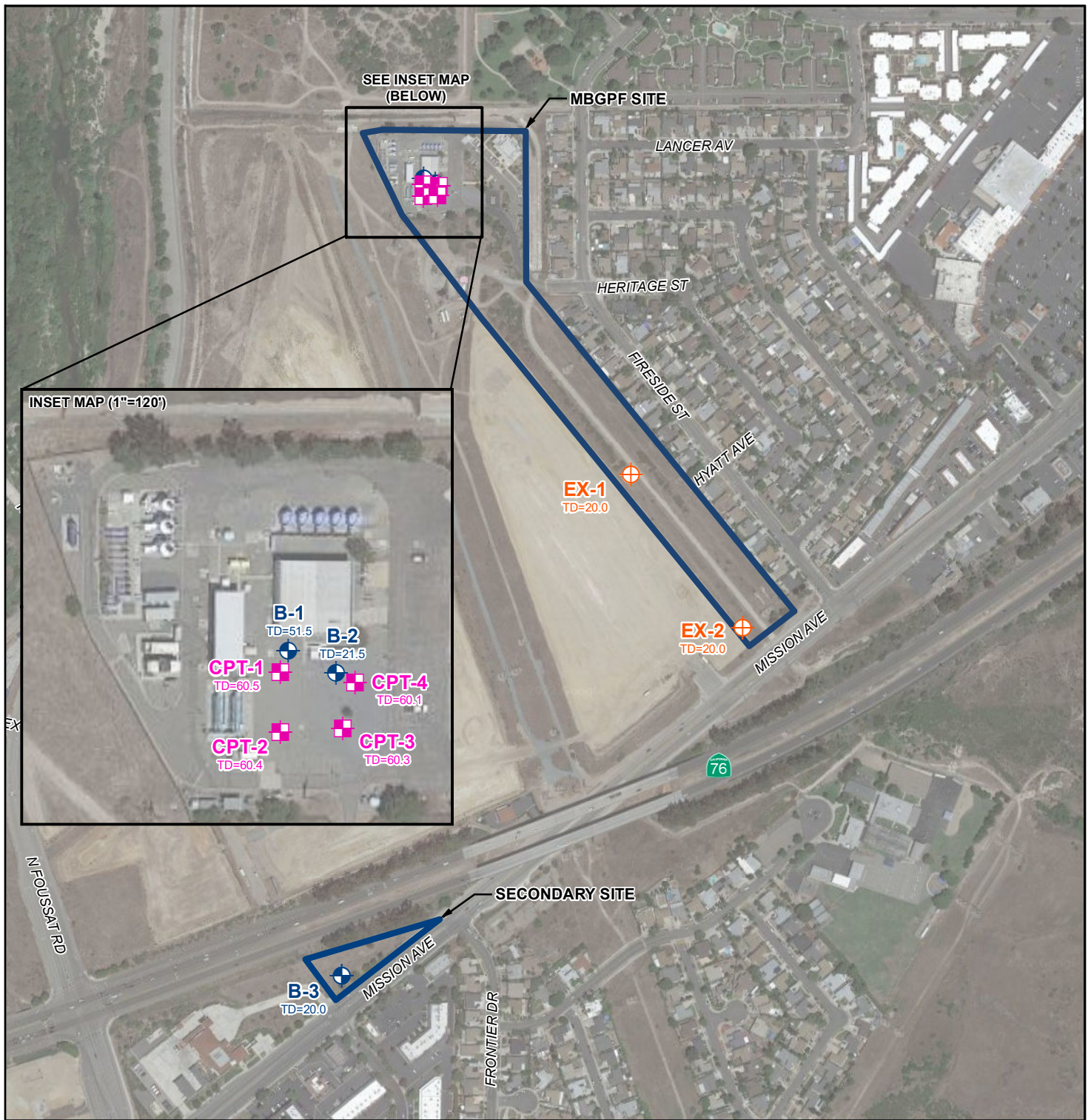
FIGURE 1

SITE LOCATION

MBGPF WELL EXPANSION AND BRINE MINIMIZATION
OCEANSIDE, CALIFORNIA



1_109182001_SL.mxd 8/5/2022 AOB



LEGEND

-  SITE BOUNDARY
-  **B-3** BORING
TD=20.0 TD=TOTAL DEPTH IN FEET
-  **CPT-4** CONE PENETRATION TEST
TD=60.0 TD=TOTAL DEPTH IN FEET
-  **EX-2** BOREHOLE (LOGGED AND SAMPLED BY NINYO & MOORE)
TD=20.0 TD=TOTAL DEPTH IN FEET

NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE. | SOURCE: GOOGLE EARTH, 2022

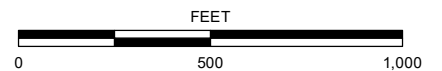
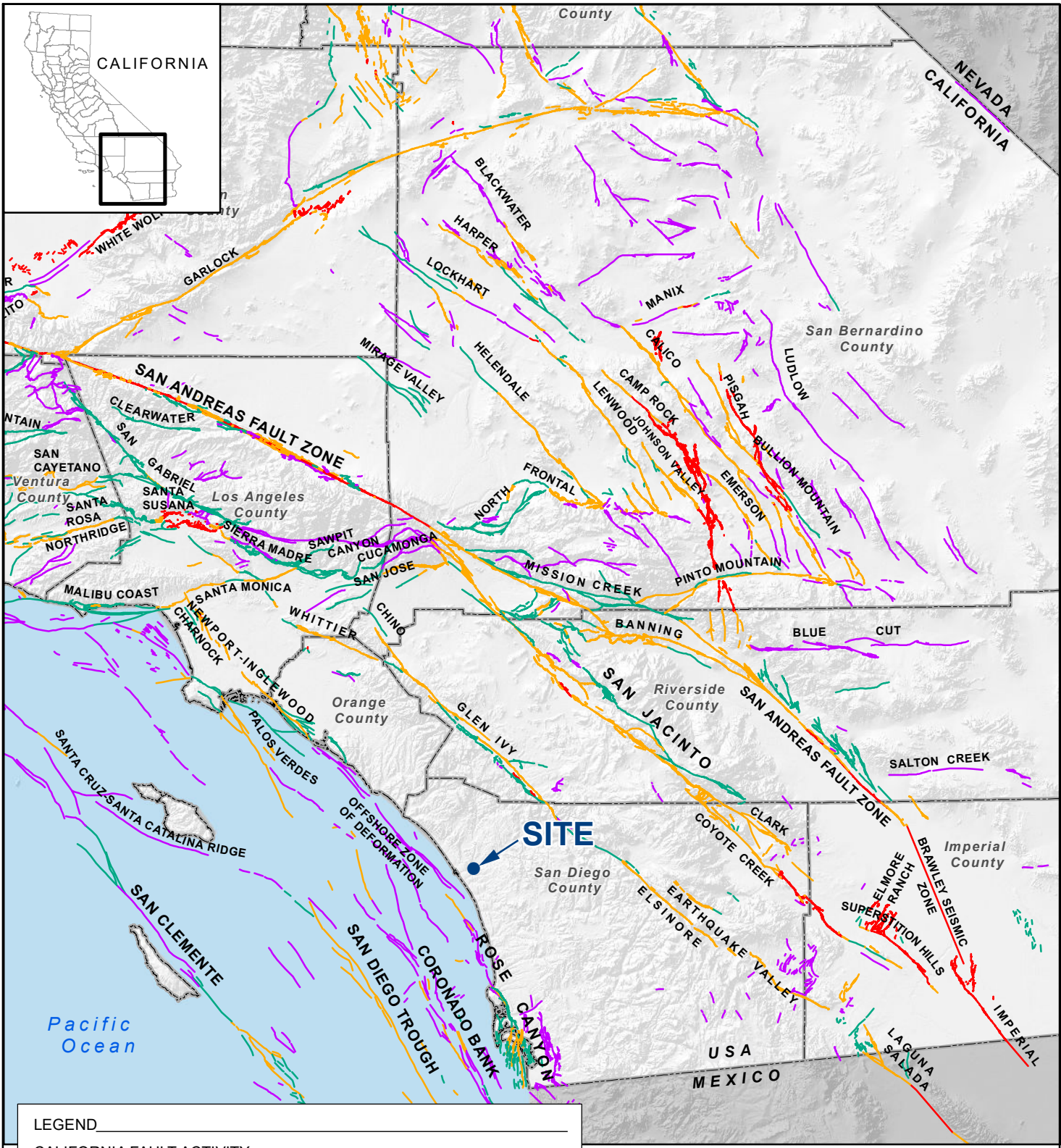


FIGURE 2

EXPLORATION LOCATIONS

MBGPF WELL EXPANSION AND BRINE MINIMIZATION
OCEANSIDE, CALIFORNIA

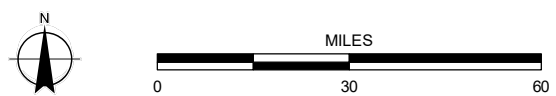


LEGEND

CALIFORNIA FAULT ACTIVITY

	HISTORICALLY ACTIVE		QUATERNARY (POTENTIALLY ACTIVE)
	HOLOCENE ACTIVE		STATE/COUNTY BOUNDARY
	LATE QUATERNARY (POTENTIALLY ACTIVE)		

SOURCE: U.S. GEOLOGICAL SURVEY AND CALIFORNIA GEOLOGICAL SURVEY, 2006. QUATERNARY FAULT AND FOLD DATABASE FOR THE UNITED STATES.



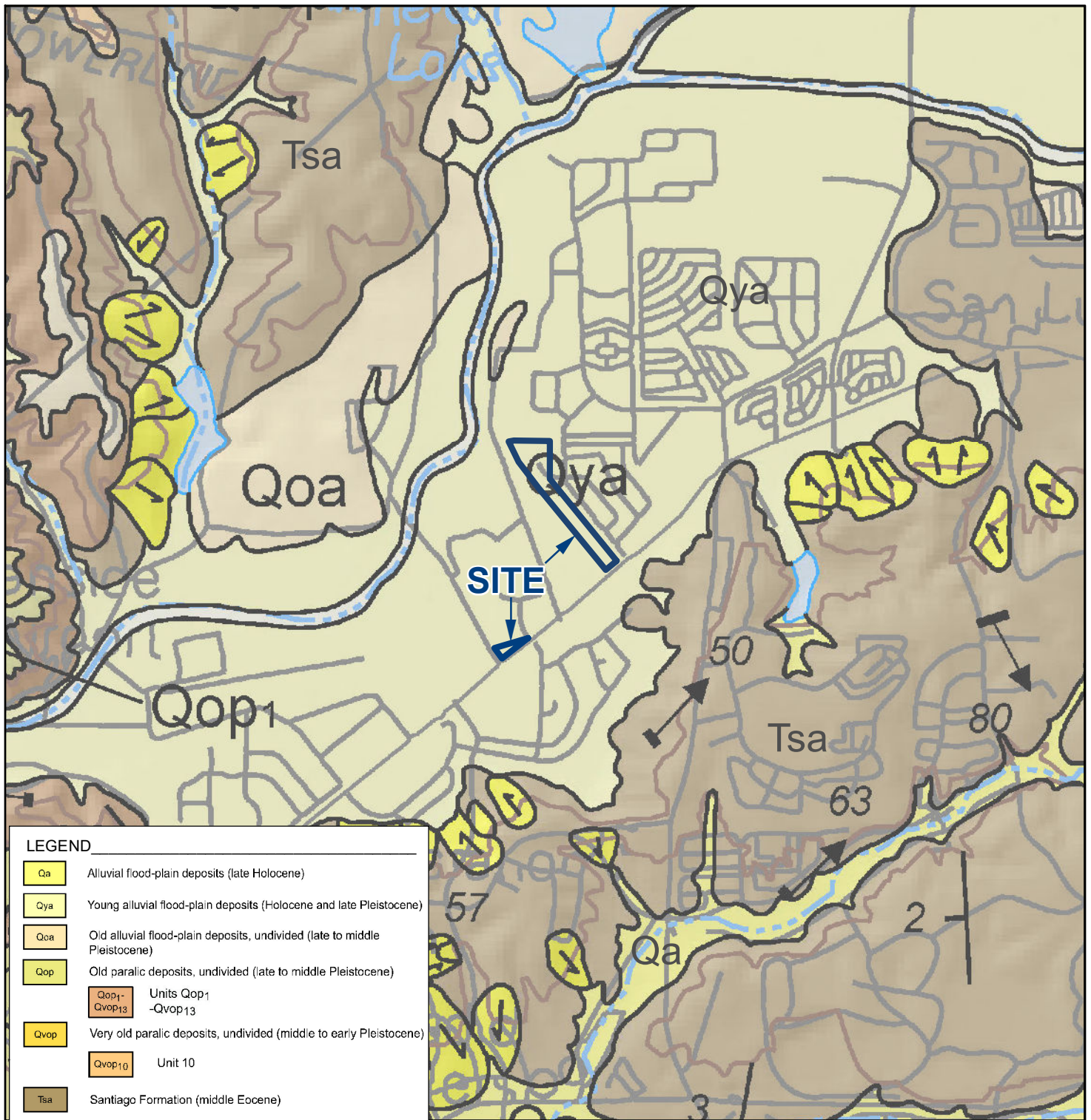
NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE.

FIGURE 3

FAULT LOCATIONS

MBGPF WELL EXPANSION AND BRINE MINIMIZATION
OCEANSIDE, CALIFORNIA

3_109182001_FL.mxd 8/5/2022 AOB

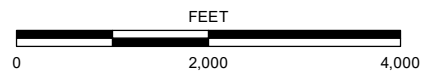


LEGEND

- Qa Alluvial flood-plain deposits (late Holocene)
- Qya Young alluvial flood-plain deposits (Holocene and late Pleistocene)
- Qoa Old alluvial flood-plain deposits, undivided (late to middle Pleistocene)
- Qop Old paralic deposits, undivided (late to middle Pleistocene)
- Units Qop₁-Qvop₁₃
- Qvop Very old paralic deposits, undivided (middle to early Pleistocene)
- Unit 10
- Tsa Santiago Formation (middle Eocene)

- Landslide - Arrows indicate principal direction of movement. Queried where existence is questionable.
- Fault - Solid where accurately located; dashed where approximately located; dotted where concealed. U = upthrown block, D = downthrown block. Arrow and number indicate direction and angle of dip of fault plane.
- Strike and dip of beds

REFERENCE: KENNEDY, M.P., TAN, S.S., 2008, GEOLOGIC MAP OF THE SAN DIEGO 30 X 60-MINUTE QUADRANGLE, CALIFORNIA



NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE.

FIGURE 4

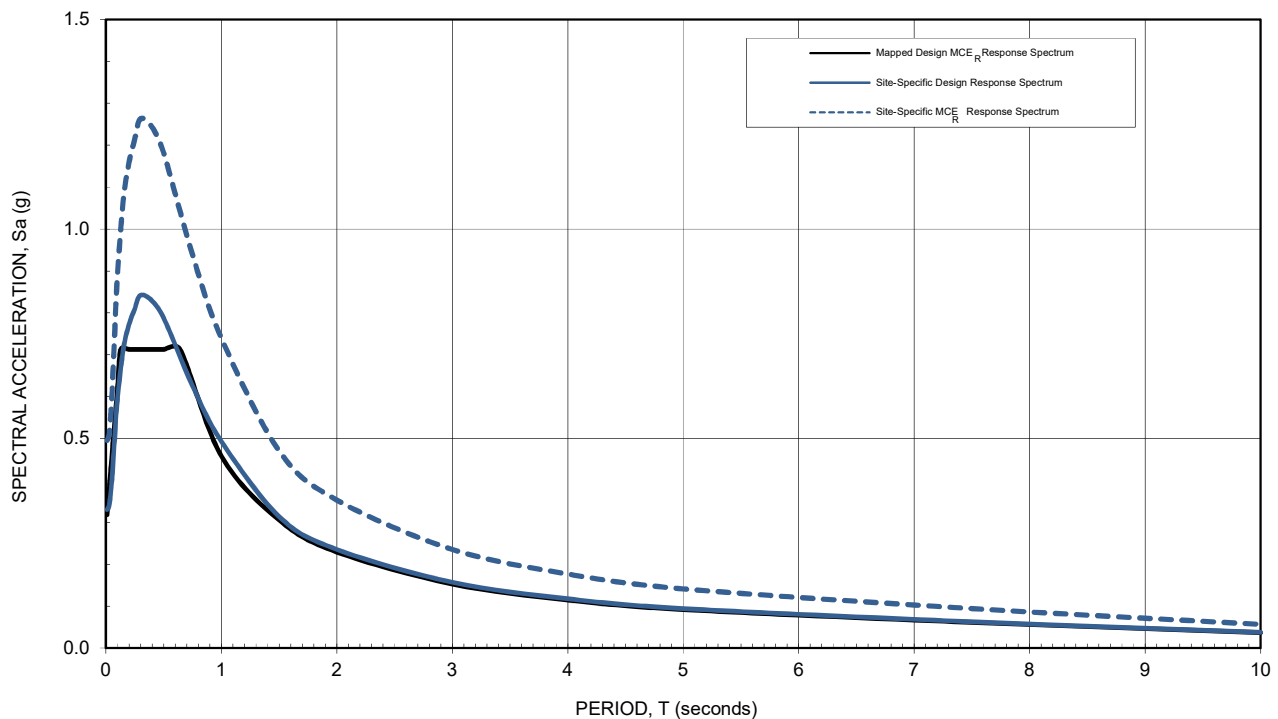
GEOLOGY

MBGPF WELL EXPANSION AND BRINE MINIMIZATION
OCEANSIDE, CALIFORNIA

PERIOD (seconds)	SITE-SPECIFIC MCE _R RESPONSE SPECTRUM Sa (g)	SITE-SPECIFIC DESIGN RESPONSE SPECTRUM Sa (g)
0.010	0.496	0.330
0.020	0.500	0.333
0.030	0.513	0.342
0.050	0.589	0.393
0.075	0.745	0.496
0.100	0.889	0.593
0.150	1.067	0.711
0.200	1.158	0.772
0.250	1.214	0.809
0.300	1.263	0.842
0.400	1.243	0.829

PERIOD (seconds)	SITE-SPECIFIC MCE _R RESPONSE SPECTRUM Sa (g)	SITE-SPECIFIC DESIGN RESPONSE SPECTRUM Sa (g)
0.500	1.182	0.788
0.750	0.939	0.626
1.000	0.740	0.493
1.500	0.471	0.314
2.000	0.353	0.235
3.000	0.235	0.157
4.000	0.177	0.118
5.000	0.141	0.094
7.500	0.094	0.063
10.000	0.056	0.038

$S_{DS} = 0.758 \text{ g}$ $S_{D1} = 0.493 \text{ g}$ $S_{MS} = 1.137 \text{ g}$ $S_{M1} = 0.740 \text{ g}$ $PGA_M = 0.495 \text{ g}$



NOTES:

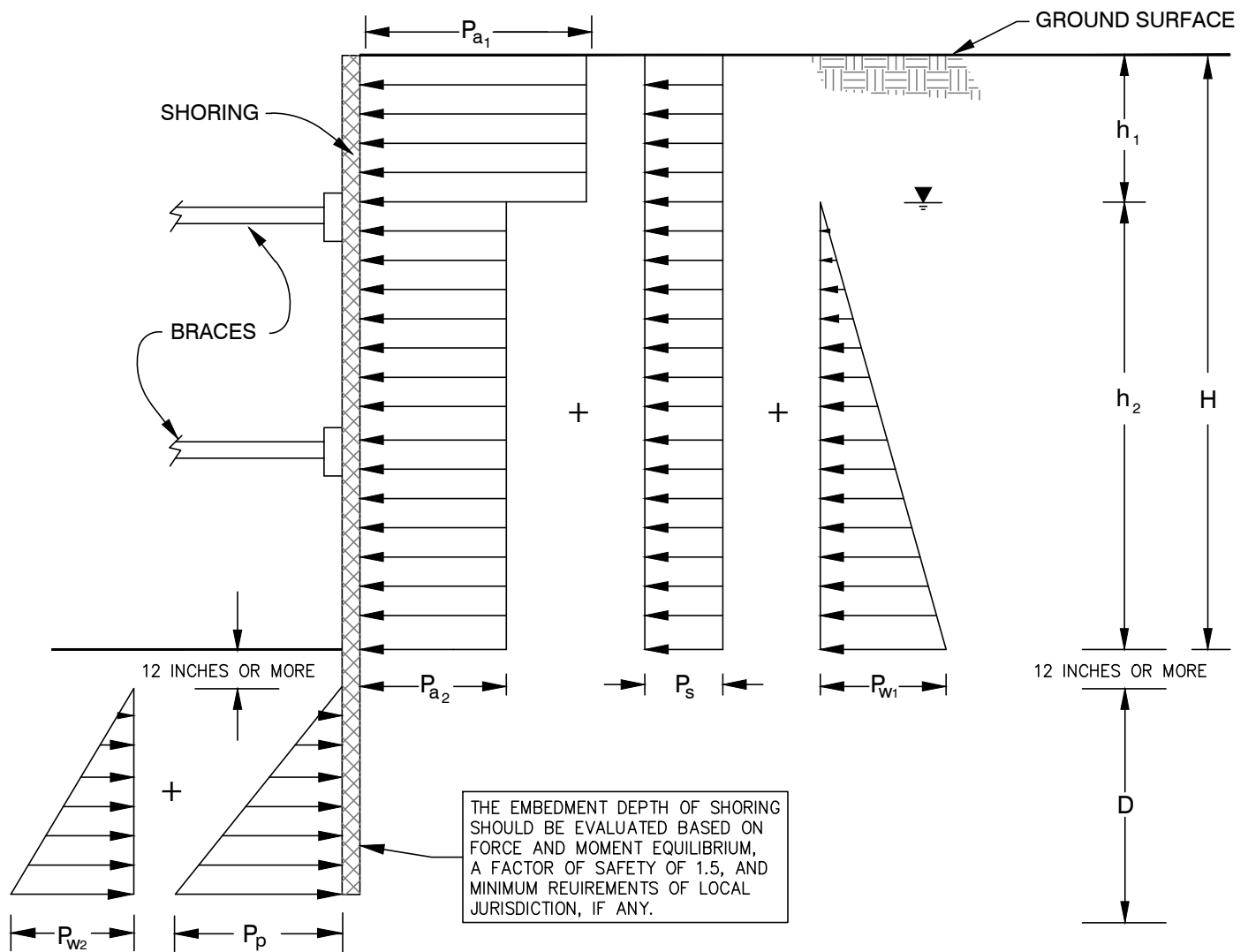
- 1 The probabilistic ground motion spectral response accelerations are based on the risk-targeted Maximum Considered Earthquake (MCE_R) having a 2% probability of exceedance in 50 years in the maximum direction using the Chiou & Youngs (2014), Campbell & Bozorgnia (2014), Boore et al. (2014), and Abrahamson et al. (2014) attenuation relationships and the risk coefficients.
- 2 The deterministic ground motion spectral response accelerations are for the 84th percentile of the geometric mean values in the maximum direction using the Chiou & Youngs (2014), Campbell & Bozorgnia (2014), Boore et al. (2014), and Abrahamson et al. (2014) attenuation relationships for deep soil sites considering a Mw 7.0 event on the Newport-Inglewood (offshore) fault zone located 13.10 kilometers from the site. It conforms with the lower bound limit per ASCE 7-16 Section 21.2.2.
- 3 The Site-Specific MCE_R Response Spectrum is the lesser of spectral ordinates of deterministic and probabilistic accelerations at each period per ASCE 7-16 Section 21.2.3. The Site-Specific Design Response Spectrum conforms with lower bound limit per ASCE 7-16 Section 21.3.
- 4 The Mapped Design MCE_R Response Spectrum is computed from mapped spectral ordinates modified for Site Class D (stiff soil profile) per ASCE 7-16 Section 11.4. It is presented for the sake of comparison.

FIGURE 5



ACCELERATION RESPONSE SPECTRA

MBGF WELL EXPANSION AND BRINE MINIMIZATION
OCEANSIDE, CALIFORNIA



THE EMBEDMENT DEPTH OF SHORING SHOULD BE EVALUATED BASED ON FORCE AND MOMENT EQUILIBRIUM, A FACTOR OF SAFETY OF 1.5, AND MINIMUM REQUIREMENTS OF LOCAL JURISDICTION, IF ANY.

NOTES:

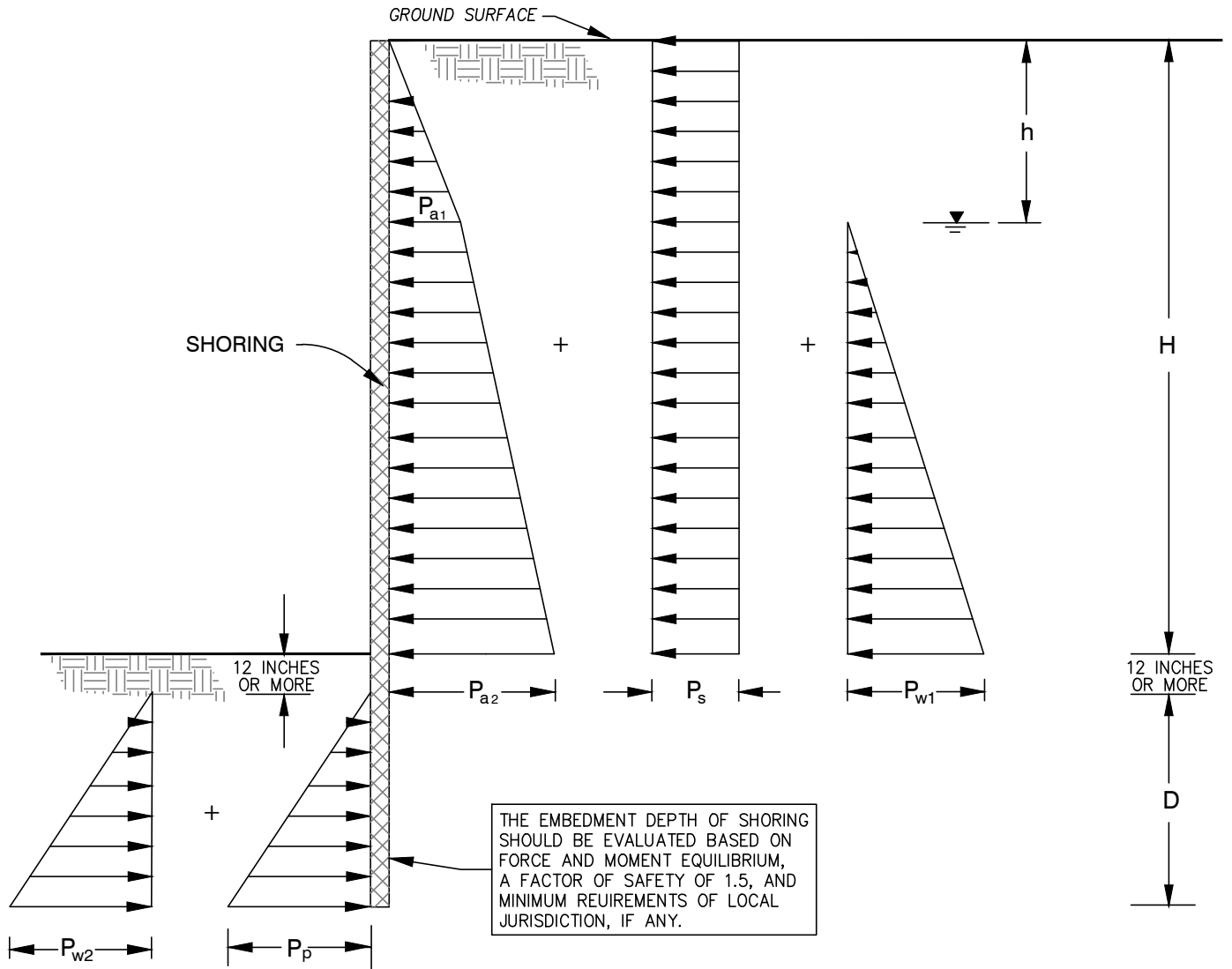
1. APPARENT LATERAL EARTH PRESSURES, P_{a1} AND P_{a2}
 $P_{a1} = 29h_1$ psf
 $P_{a2} = 14h_2$ psf
2. CONSTRUCTION TRAFFIC INDUCED SURCHARGE PRESSURE, P_s
 $P_s = 120$ psf
3. HYDROSTATIC PRESSURE, P_{w1} & P_{w2}
 $P_{w1} = 62.4(H - h)$ psf
 $P_{w2} = 62.4D$ psf
4. PASSIVE PRESSURE, P_p
 $P_p = 160D$ psf
5. SURCHARGES FROM EXCAVATED SOIL OR CONSTRUCTION MATERIALS ARE NOT INCLUDED
6. H , h_1 , h_2 AND D ARE IN FEET
7. GROUNDWATER TABLE
8. P_{w2} IS APPLICABLE WHEN DEWATERING IS TO BE PERFORMED FROM INSIDE OR OUTSIDE OF THE EXCAVATION

NOT TO SCALE

FIGURE 6

LATERAL EARTH PRESSURES FOR BRACED EXCAVATION

109182001 DETAIL FIGS 22-08.DWG AOB



THE EMBEDMENT DEPTH OF SHORING SHOULD BE EVALUATED BASED ON FORCE AND MOMENT EQUILIBRIUM, A FACTOR OF SAFETY OF 1.5, AND MINIMUM REIUREMENTS OF LOCAL JURISDICTION, IF ANY.

NOTES:

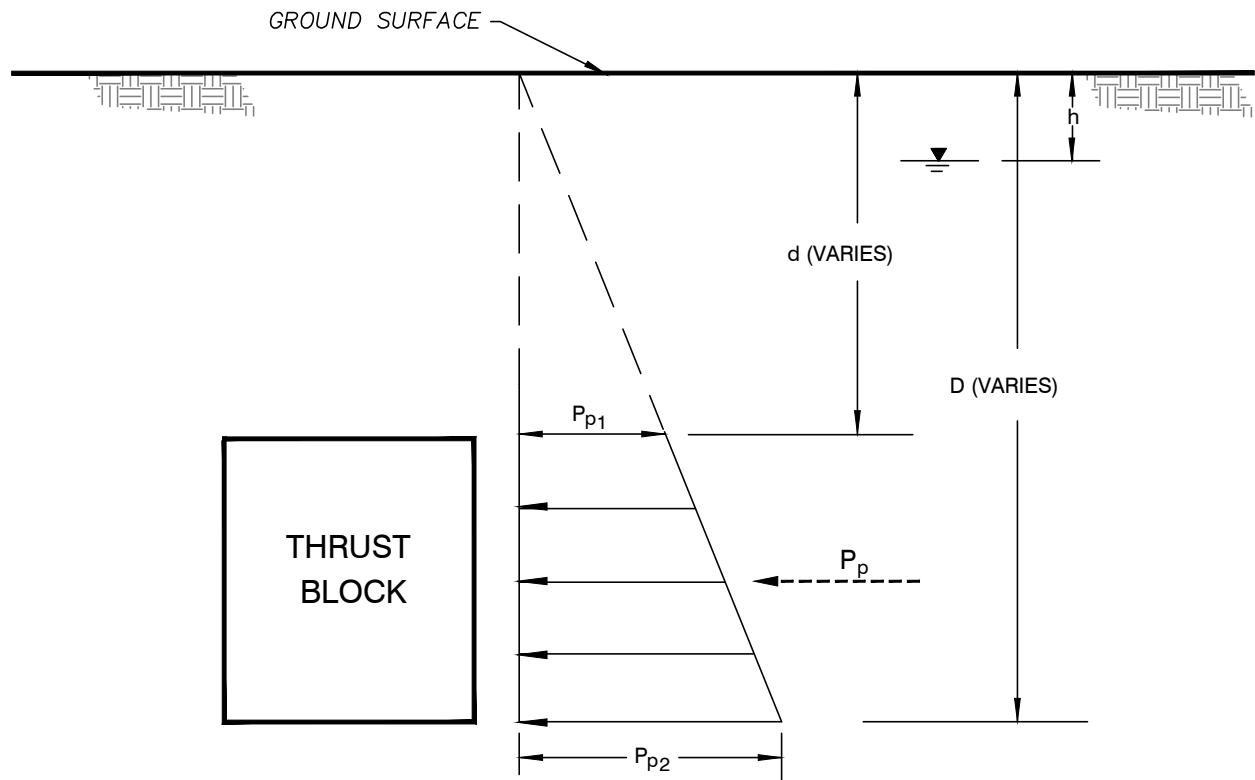
1. ACTIVE LATERAL EARTH PRESSURE, P_a
 $P_{a1} = 44h$ psf; $P_{a2} = P_{a1} + 21(H - h)$ psf
2. CONSTRUCTION TRAFFIC INDUCED SURCHARGE PRESSURE, P_s
 $P_s = 120$ psf
3. HYDROSTATIC PRESSURE, P_{w1} & P_{w2}
 $P_{w1} = 62.4(H - h)$ psf
 $P_{w2} = 62.4D$ psf
4. PASSIVE LATERAL EARTH PRESSURE, P_p
 $P_p = 160D$ psf
5. SURCHARGES FROM EXCAVATED SOIL OR CONSTRUCTION MATERIALS ARE NOT INCLUDED
6. H, h AND D ARE IN FEET
7. GROUNDWATER TABLE
8. P_{w2} IS APPLICABLE WHEN DEWATERING IS TO BE PERFORMED FROM INSIDE OR OUTSIDE OF THE EXCAVATION

NOT TO SCALE

FIGURE 7

LATERAL EARTH PRESSURES FOR TEMPORARY CANTILEVERED SHORING


MBGPF WELL EXPANSION AND BRINE MINIMIZATION
 OCEANSIDE, CALIFORNIA



NOTES:

1. GROUNDWATER BELOW BLOCK

$$P_p = 150(D^2 - d^2) \text{ lb/ft}$$
2. GROUNDWATER ABOVE BLOCK

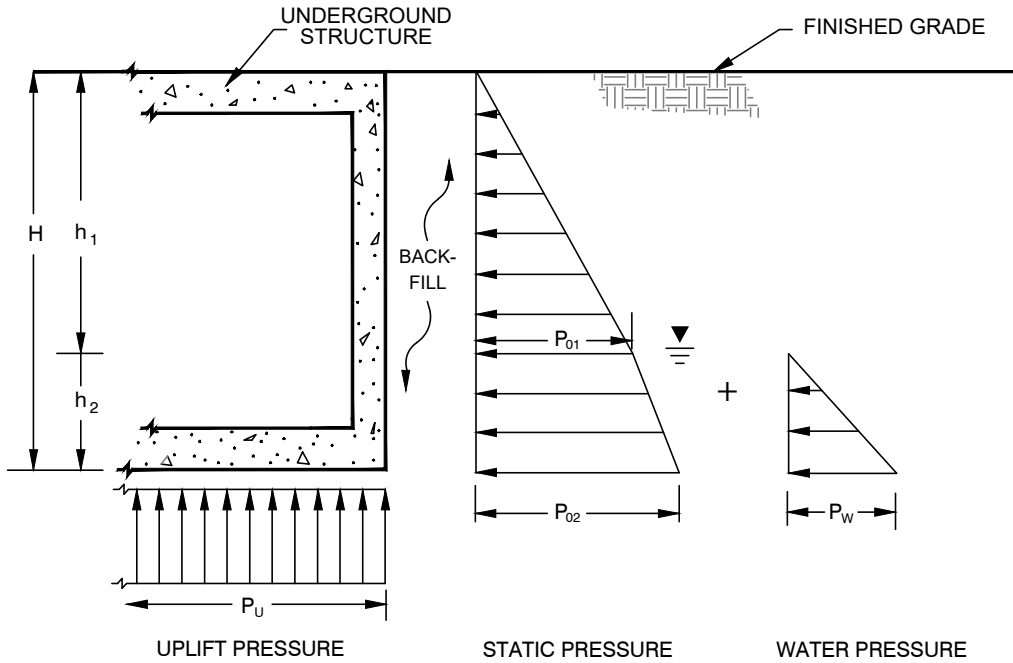
$$P_p = 1.4(D - d)[124.8h + 58(D + d)] \text{ lb/ft}$$
3. ASSUMES BACKFILL IS GRANULAR MATERIAL
4. ASSUMES THRUST BLOCK IS ADJACENT TO COMPETENT MATERIAL
5. D, d AND h ARE IN FEET
6.  GROUNDWATER TABLE

NOT TO SCALE


FIGURE 8

THRUST BLOCK LATERAL EARTH PRESSURE DIAGRAM

MBGPF WELL EXPANSION AND BRINE MINIMIZATION
 OCEANSIDE, CALIFORNIA



NOTES:

1. APPARENT LATERAL EARTH PRESSURES, P_{01} AND P_{02}
 $P_{01} = 64h_1$ psf
 $P_{02} = 64h_1 + 31h_2$ psf
2. HYDROSTATIC PRESSURE, P_w
 $P_w = 62.4h_2$ psf
3. UPLIFT PRESSURE, P_u
 $P_u = 62.4h_2$ psf
4. SURCHARGE PRESSURES CAUSED BY VEHICLES OR NEARBY STRUCTURES ARE NOT INCLUDED
5. H , h_1 AND h_2 ARE IN FEET
6.  GROUNDWATER TABLE

NOT TO SCALE

FIGURE 9

LATERAL EARTH PRESSURES FOR UNDERGROUND STRUCTURES

MBGPF WELL EXPANSION AND BRINE MINIMIZATION
 OCEANSIDE, CALIFORNIA



APPENDIX A

Boring and CPT Logs

APPENDIX A

BORING LOGS

Field Procedure for the Collection of Disturbed Samples

Disturbed soil samples were obtained in the field using the following method.

Bulk Samples

Bulk samples of representative earth materials were obtained from the exploratory borings. The samples were bagged and transported to the laboratory for testing.

The Standard Penetration Test (SPT) Sampler

Disturbed drive samples of earth materials were obtained by means of a Standard Penetration Test sampler. The sampler is composed of a split barrel with an external diameter of 2 inches and an unlined internal diameter of 1-3/8 inches. The sampler was driven into the ground 12 to 18 inches with a 140-pound hammer falling freely from a height of 30 inches in general accordance with ASTM D 1586. The blow counts were recorded for every 6 inches of penetration; the blow counts reported on the logs are those for the last 12 inches of penetration. Soil samples were observed and removed from the sampler, bagged, sealed and transported to the laboratory for testing.

Field Procedure for the Collection of Relatively Undisturbed Samples

Relatively undisturbed soil samples were obtained in the field using the following method.

The Modified Split-Barrel Drive Sampler

The sampler, with an external diameter of 3.0 inches, was lined with 1-inch long, thin brass rings with inside diameters of approximately 2.4 inches. The sample barrel was driven into the ground with the weight of a 140-pound hammer, in general accordance with ASTM D 3550. The driving weight was permitted to fall freely. The approximate length of the fall, the weight of the hammer, and the number of blows per foot of driving are presented on the boring logs as an index to the relative resistance of the materials sampled. The samples were removed from the sample barrel in the brass rings, sealed, and transported to the laboratory for testing.

Field Procedure for Cone Penetration Test (CPT) Sounding

A penetrometer with a conical tip having an apex angle of 60 degrees and a cone base area of 1.6 or 2.3 square inch was hydraulically pushed through the soil using the reaction mass of a 25-ton rig at a constant rate of about 0.8 inch per second in accordance with ASTM D 5778. The penetrometer was instrumented to measure, by electronic methods, the force on the conical point required to penetrate the soil and the force on a friction sleeve behind the cone tip as the penetrometer was advanced. Penetration data was collected and recorded electronically at intervals of about 1 inch. Cone resistance (q_c) was calculated by dividing the measured force of penetration by the cone base area. Friction sleeve resistance (f_s) was calculated by dividing the measured force on the friction sleeve by the surface area of the sleeve. The friction ratio (R_f) was calculated as the ratio of the tip resistance to the sleeve friction (q_c/f_s). A graph of the computed values of cone resistance and friction ratio are presented on the logs in the following pages. The tip resistance and friction ratio were used to classify the soil type encountered using the method by Robertson (1990).

BORING LOG EXPLANATION SHEET

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

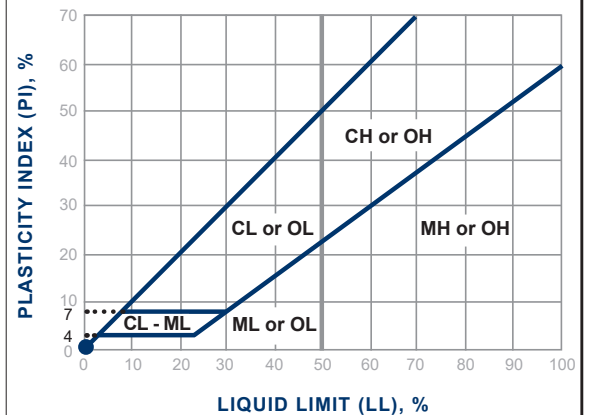
Soil Classification Chart Per ASTM D 2488

Primary Divisions		Secondary Divisions			
		Group Symbol	Group Name		
COARSE-GRAINED SOILS more than 50% retained on No. 200 sieve	GRAVEL more than 50% of coarse fraction retained on No. 4 sieve	CLEAN GRAVEL less than 5% fines	GW	well-graded GRAVEL	
			GP	poorly graded GRAVEL	
		GRAVEL with DUAL CLASSIFICATIONS 5% to 12% fines	GW-GM	well-graded GRAVEL with silt	
			GP-GM	poorly graded GRAVEL with silt	
			GW-GC	well-graded GRAVEL with clay	
			GP-GC	poorly graded GRAVEL with clay	
		GRAVEL with FINES more than 12% fines	GM	silty GRAVEL	
			GC	clayey GRAVEL	
			GC-GM	silty, clayey GRAVEL	
	SAND 50% or more of coarse fraction passes No. 4 sieve	CLEAN SAND less than 5% fines	SW	well-graded SAND	
			SP	poorly graded SAND	
		SAND with DUAL CLASSIFICATIONS 5% to 12% fines	SW-SM	well-graded SAND with silt	
			SP-SM	poorly graded SAND with silt	
			SW-SC	well-graded SAND with clay	
			SP-SC	poorly graded SAND with clay	
		SAND with FINES more than 12% fines	SM	silty SAND	
			SC	clayey SAND	
			SC-SM	silty, clayey SAND	
FINE-GRAINED SOILS 50% or more passes No. 200 sieve	SILT and CLAY liquid limit less than 50%	INORGANIC	CL	lean CLAY	
			ML	SILT	
			CL-ML	silty CLAY	
		ORGANIC	OL (PI > 4)	organic CLAY	
			OL (PI < 4)	organic SILT	
	SILT and CLAY liquid limit 50% or more	INORGANIC	CH	fat CLAY	
			MH	elastic SILT	
		ORGANIC	OH (plots on or above "A"-line)	organic CLAY	
			OH (plots below "A"-line)	organic SILT	
		Highly Organic Soils		PT	Peat

Grain Size

Description	Sieve Size	Grain Size	Approximate Size
Boulders	> 12"	> 12"	Larger than basketball-sized
Cobbles	3 - 12"	3 - 12"	Fist-sized to basketball-sized
Gravel	Coarse	3/4 - 3"	Thumb-sized to fist-sized
	Fine	#4 - 3/4"	Pea-sized to thumb-sized
Sand	Coarse	#10 - #4	Rock-salt-sized to pea-sized
	Medium	#40 - #10	Sugar-sized to rock-salt-sized
	Fine	#200 - #40	Flour-sized to sugar-sized
Fines	Passing #200	< 0.0029"	Flour-sized and smaller

Plasticity Chart



Apparent Density - Coarse-Grained Soil

Apparent Density	Spooling Cable or Cathead		Automatic Trip Hammer	
	SPT (blows/foot)	Modified Split Barrel (blows/foot)	SPT (blows/foot)	Modified Split Barrel (blows/foot)
Very Loose	≤ 4	≤ 8	≤ 3	≤ 5
Loose	5 - 10	9 - 21	4 - 7	6 - 14
Medium Dense	11 - 30	22 - 63	8 - 20	15 - 42
Dense	31 - 50	64 - 105	21 - 33	43 - 70
Very Dense	> 50	> 105	> 33	> 70

Consistency - Fine-Grained Soil

Consistency	Spooling Cable or Cathead		Automatic Trip Hammer	
	SPT (blows/foot)	Modified Split Barrel (blows/foot)	SPT (blows/foot)	Modified Split Barrel (blows/foot)
Very Soft	< 2	< 3	< 1	< 2
Soft	2 - 4	3 - 5	1 - 3	2 - 3
Firm	5 - 8	6 - 10	4 - 5	4 - 6
Stiff	9 - 15	11 - 20	6 - 10	7 - 13
Very Stiff	16 - 30	21 - 39	11 - 20	14 - 26
Hard	> 30	> 39	> 20	> 26

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED	BORING NO.				
	Bulk	Driven							2/10/21	EX-1				
									GROUND ELEVATION	40' ± (MSL)	SHEET	1	OF	1
									METHOD OF DRILLING	4" Diameter Sonic (Jensen Drilling Co.)				
									DRIVE WEIGHT	N/A	DROP	N/A		
									SAMPLED BY	CAT	LOGGED BY	CAT	REVIEWED BY	NMM
DESCRIPTION/INTERPRETATION														
0								SM	FILL: Brown, moist, medium dense, silty fine SAND; scattered roots in upper 6 inches. Light brown.					
				1.4				SM	YOUNG ALLUVIUM: Brown, moist, loose to medium dense, silty fine SAND. Light grayish brown.					
10				9.7					Micaceous.					
								ML	Wet. Gray, wet, dense, fine sandy SILT; scattered sand boils.					
20									Total Depth (Logged and Sampled) = 20 feet. Groundwater encountered at approximate 17 feet. Drilling for well continued to a reported depth of 260 feet. See well log by others. Note: Groundwater may rise to a level higher than that measured in borehole due to seasonal variations in precipitation and several other factors as discussed in the report. The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.					
30														
40														

FIGURE A- 1

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED	BORING NO.				
	Bulk	Driven							2/15/21	EX-2				
									GROUND ELEVATION	40' ± (MSL)	SHEET	1	OF	1
									METHOD OF DRILLING	4" Diameter Sonic (Jensen Drilling Co.)				
									DRIVE WEIGHT	N/A	DROP	N/A		
									SAMPLED BY	SJQ	LOGGED BY	SJQ	REVIEWED BY	NMM
DESCRIPTION/INTERPRETATION														
0				7.9				SM	FILL: Brown, moist, medium dense, silty fine SAND; scattered roots in upper 6 inches.					
				3.1				SM	YOUNG ALLUVIUM: Brown to light brown, moist, medium dense, silty fine SAND; scattered subrounded to subangular gravel.					
				1.9				SW-SM	Light grayish brown, moist, medium dense, well-graded fine to coarse SAND with silt; scattered subrounded to subangular gravel up to approximately 1 inch in diameter.					
10				21.2				ML	Dark grayish brown, wet (water added during drilling), medium dense, fine sandy SILT; with thin laminae of clay; micaceous.					
				20.0				SM	Yellowish brown, wet, medium dense to dense, silty fine to medium SAND; scattered iron oxide staining.					
20									Total Depth (Logged and Sampled) = 20 feet. Groundwater not encountered during drilling of upper 20 feet. Drilling for well continued to a reported depth of 260 feet. See well log by others.					
									Note: Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.					
									The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.					
30														
40														

FIGURE A-2

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED <u>3/08/21</u> BORING NO. <u>B-1</u>	
	Bulk	Driven							GROUND ELEVATION <u>45' +/- (MSL)</u>	SHEET <u>1</u> OF <u>2</u>
									METHOD OF DRILLING <u>8" Diameter Hollow Stem Auger (CME-75) (Baja Exploration)</u>	
									DRIVE WEIGHT <u>140 lbs. (Auto Hammer)</u> DROP <u>30"</u>	
									SAMPLED BY <u>SJQ</u> LOGGED BY <u>SJQ</u> REVIEWED BY <u>NMM</u>	
DESCRIPTION/INTERPRETATION										
0								SP-SM	CRUSHED ROCK SURFACE: Approximately 6 inches thick. FILL: Brown to grayish brown, moist, medium dense, poorly graded fine to medium SAND with silt; scattered coarse sand and pieces of brown clayey sand and clay.	
			24	9.1	107.5					
			5	5.2						
10								SP	YOUNG ALLUVIUM: Brown, moist, loose, poorly graded fine to medium SAND. Light brown; fine to medium sand; slight to moderate iron-oxide staining. Medium dense; increase in coarse sand.	
			18	13.1	100.2					
			10	3.0						
			32	19.0	106.7					
20								SP-SM	Light brown, moist, medium dense, poorly graded fine to coarse SAND with silt; scattered iron-oxide staining. Brown, wet, very dense, silty fine sand. Medium dense, fine to medium sand.	
			64	22.9						
			33							
30										
			20	20.1						
								CL	Black to dark gray, wet, stiff, CLAY; thinly laminated.	
			21					SP	Light gray, wet, dense, poorly graded medium SAND. Brown; poorly graded fine to medium sand.	
40										

FIGURE A-3

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED <u>3/08/21</u> BORING NO. <u>B-1</u>	
	Bulk	Driven							GROUND ELEVATION <u>45' +/- (MSL)</u> SHEET <u>2</u> OF <u>2</u>	
									METHOD OF DRILLING <u>8" Diameter Hollow Stem Auger (CME-75) (Baja Exploration)</u>	
									DRIVE WEIGHT <u>140 lbs. (Auto Hammer)</u> DROP <u>30"</u>	
									SAMPLED BY <u>SJQ</u> LOGGED BY <u>SJQ</u> REVIEWED BY <u>NMM</u>	
DESCRIPTION/INTERPRETATION										
40			18	20.5				SP-SM	YOUNG ALLUVIUM: (Continued) Gray, wet, medium dense, poorly graded fine SAND with silt.	
								SP	Grayish brown, loose to medium dense, poorly graded fine to medium SAND; scattered coarse sand.	
			16					ML	Dark gray to black, wet, medium dense, SILT; micaceous.	
50			18	22.4				SM	Dark gray, wet, medium dense, silty fine SAND.	
									<p>Total Depth = 51.5 feet. Groundwater encountered at approximately 21 feet. Backfilled with approximately 18 cubic feet of bentonite grout shortly after drilling on 3/08/21.</p> <p><u>Note:</u> Groundwater may rise to a level higher than that measured in borehole due to seasonal variations in precipitation and several other factors as discussed in the report.</p> <p>The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.</p>	

FIGURE A- 4

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	PID READING (PPM)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED <u>3/08/21</u> BORING NO. <u>B-2</u>		
	Bulk	Driven							GROUND ELEVATION <u>45' +/- (MSL)</u>	SHEET <u>1</u> OF <u>1</u>	
									METHOD OF DRILLING <u>8" Diameter Hollow Stem Auger (CME-75) (Baja Exploration)</u>		
									DRIVE WEIGHT <u>140 lbs. (Auto Hammer)</u>	DROP <u>30"</u>	
									SAMPLED BY <u>SJQ</u>	LOGGED BY <u>SJQ</u>	REVIEWED BY <u>NMM</u>
DESCRIPTION/INTERPRETATION											
0								SP	CRUSHED ROCK SURFACE: Approximately 6 inches thick. FILL: Brown, moist, medium dense, poorly graded fine to medium SAND; scattered silty and coarse sand; wood debris in upper approximately 12 inches.		
			22	12.1				SM	YOUNG ALLUVIUM: Brown, moist, medium dense, silty fine SAND; scattered thin laminae of brown sandy clay. Dense.		
			23	24.2	90.0			SP	Light brown, moist, medium dense, poorly graded fine to medium SAND.		
10			8	3.6					Scattered coarse sand.		
			11	4.1	99.7				Loose; increase coarse sand.		
			18					CL	Dark brown to gray, damp, stiff, CLAY.		
								SP-SM	Brown, moist, medium dense, fine to medium SAND; iron-oxide staining.		
20			25						Light brown to grayish brown; wet; medium sand; scattered coarse sand.		
									Total Depth = 21.5 feet. Groundwater encountered at approximately 20 feet. Backfilled with approximately 7.5 cubic feet of bentonite grout shortly after drilling on 3/08/21.		
									Note: Groundwater may rise to a level higher than that measured in borehole due to seasonal variations in precipitation and several other factors as discussed in the report.		
									The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.		

FIGURE A- 5

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED	BORING NO.				
	Bulk	Driven						7/29/22	B-3				
								GROUND ELEVATION	35' ± (MSL)	SHEET	1	OF	1
								METHOD OF DRILLING	8" Diameter Hollow Stem Auger (Baja)				
								DRIVE WEIGHT	140 lbs (Auto-Trip)	DROP	30"		
								SAMPLED BY	CTF	LOGGED BY	CTF	REVIEWED BY	NMM
								DESCRIPTION/INTERPRETATION					
0							SM	FILL: Brown, dry to moist, loose to medium dense, silty fine SAND; scattered gravel and rootlets; micaceous.					
							SM	ALLUVIUM: Brown, dry to moist, loose to medium dense, silty fine SAND.					
			18	1.9	111.6			Dry, medium dense.					
			7	17.7				Moist, loose to medium dense, some clayey fines.					
10			20	8.6	91.6		ML	Light grayish brown, moist, medium dense fine sandy SILT; micaceous.					
			12	1.4			SP	Light grayish brown, dry, medium dense, poorly graded fine SAND; micaceous.					
			34	12.6	102.9			Fine to medium-grained.					
20			12	29.6			ML	Dark grayish brown, wet, medium dense, fine sandy SILT; micaceous.					
								<p>Total Depth = 20 feet. Seepage encountered at approximately 18.5 feet. Backfilled shortly after drilling.</p> <p>Note: Groundwater may rise to a level higher than that measured in borehole due to seasonal variations in precipitation and several other factors as discussed in the report.</p> <p>The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.</p>					

FIGURE A- 6



APPENDIX B

Laboratory Testing

APPENDIX B

LABORATORY TESTING

Classification

Soils were visually and texturally classified in accordance with the Unified Soil Classification System (USCS) in general accordance with ASTM D 2488. Soil classifications are indicated on the logs of the exploratory borings in Appendix A.

In-Place Moisture and Density Tests

The moisture content and dry density of relatively undisturbed samples obtained from the exploratory borings were evaluated in general accordance with ASTM D 2937. The test results are presented on the logs of the exploratory borings in Appendix A.

Gradation Analysis

Gradation analysis tests were performed on selected representative soil samples in general accordance with ASTM D 422. The grain-size distribution curves are shown on Figures B-1 through B-17. The test results were utilized in evaluating the soil classification in accordance with the USCS.

Atterberg Limits

Tests were performed on a selected representative fine-grained soil sample to evaluate the liquid limit, plastic limit, and plasticity index in general accordance with ASTM D 4318. These test results were utilized to evaluate the soil classification in accordance with the USCS. The test results and classifications are shown on Figure B-18.

Consolidation Tests

Consolidation tests were performed on a selected relatively undisturbed soil sample in general accordance with ASTM D 2435. The sample was inundated during testing to represent adverse field conditions. The percent of consolidation for each load cycle was recorded as a ratio of the amount of vertical compression to the original height of the sample. The results of the testing are summarized on Figures B-19.

Direct Shear Tests

Direct shear tests were performed on remolded and relatively undisturbed samples in general accordance with ASTM D 3080 to evaluate the shear strength characteristics of the selected materials. The samples were inundated during shearing to represent adverse field conditions. The results are shown on Figures B-20 through and B-24.

Expansion Index Test

The expansion index of a selected material was evaluated in general accordance with ASTM D 4829. The specimen was molded under a specified compactive energy at approximately 50 percent saturation. The prepared 1-inch thick by 4-inch diameter specimen was loaded with a surcharge of 144 pounds per square foot and was inundated with tap water. Readings of volumetric swell were made for a period of 24 hours. The results of this test are presented on Figure B-25.

Proctor Density Tests

The maximum dry density and optimum moisture content of a selected representative soil sample were evaluated using the Modified Proctor method in general accordance with ASTM D 1557. The results of this testing are summarized on Figure B-26.

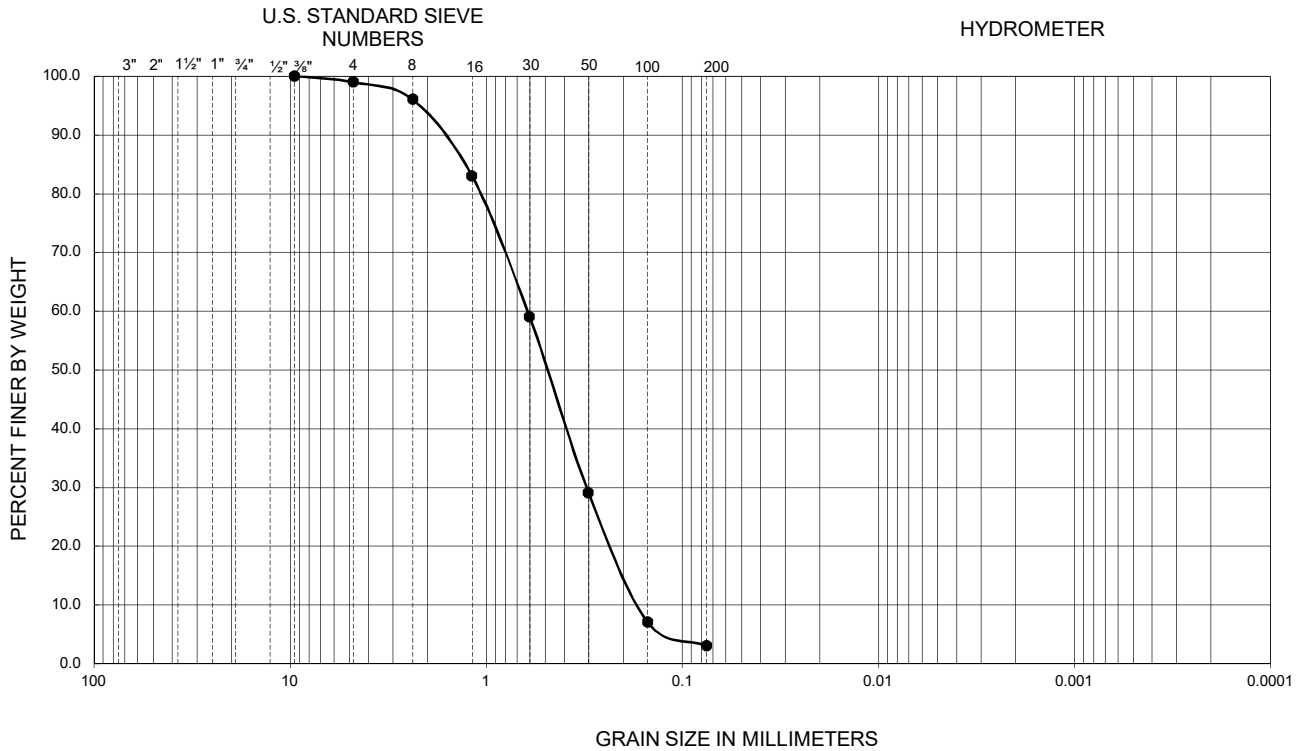
Soil Corrosivity Tests

Soil pH and resistivity tests were performed on representative samples in general accordance with CT 643. The soluble sulfate and chloride contents of the selected samples were evaluated in general accordance with CT 417 and CT 422, respectively. The test results are presented on Figure B-27.

R-Value

The resistance value, or R-value, for site soils was evaluated in general accordance with CT 301. Samples were prepared and evaluated for exudation pressure and expansion pressure. The equilibrium R-values are reported as the lesser or more conservative of the two calculated results. The test results are shown on Figure B-28.

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

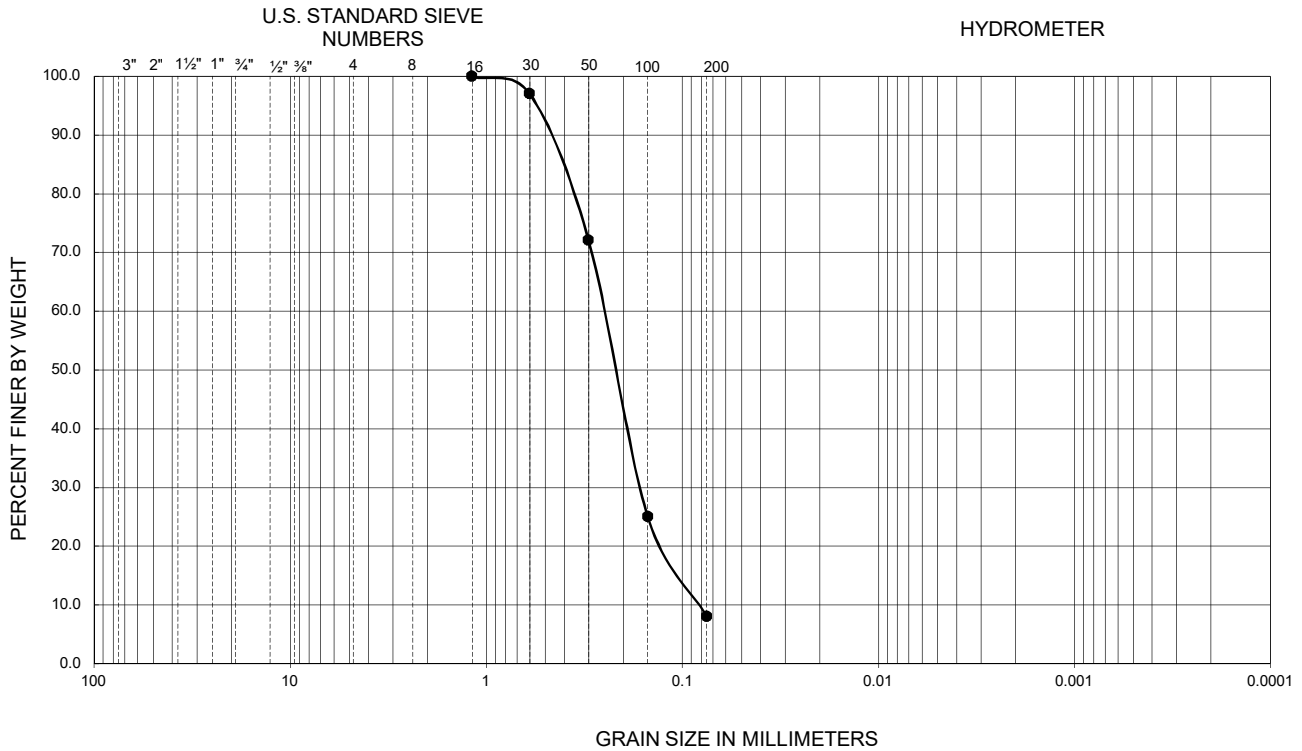


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀	D ₃₀	D ₆₀	C _u	C _c	Passing No. 200 (percent)	USCS
●	B-1	14.0-15.5	--	--	--	0.18	0.32	0.62	3.5	0.9	3	SP

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

FIGURE B-2

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

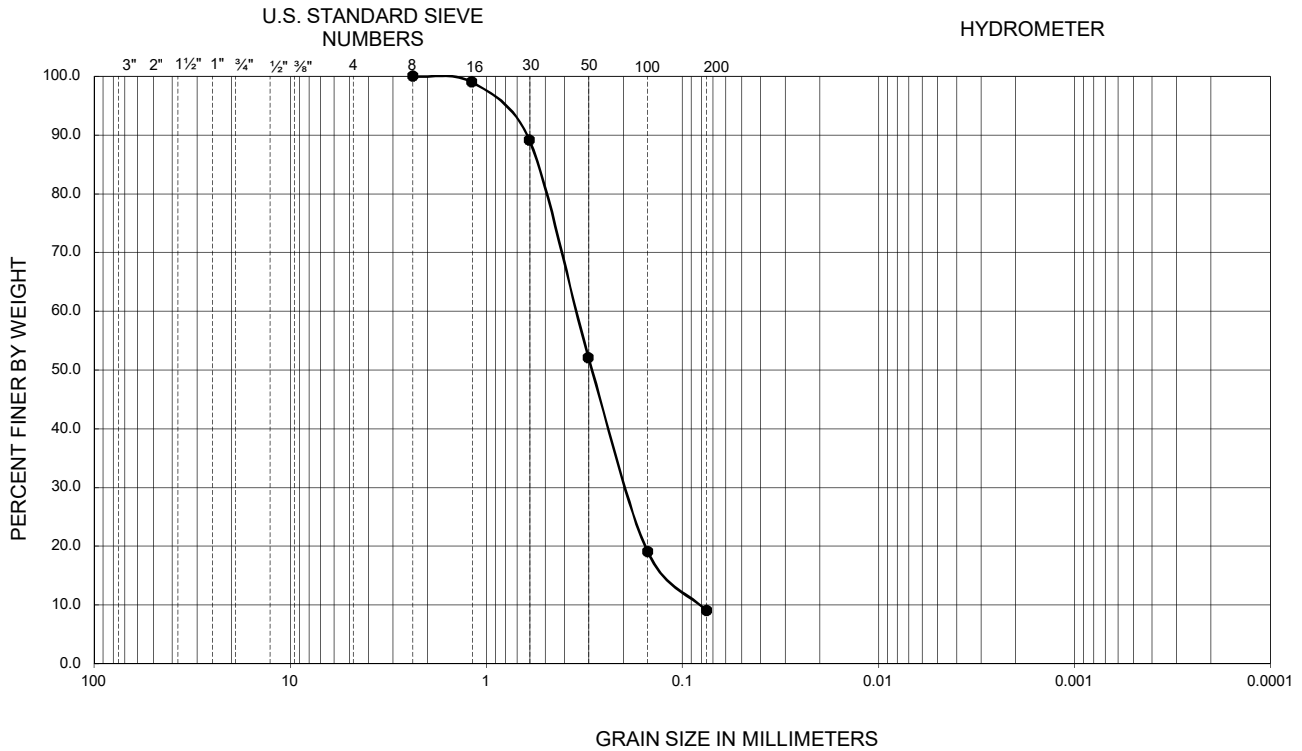


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀	D ₃₀	D ₆₀	C _u	C _c	Passing No. 200 (percent)	USCS
●	B-1	20.0-21.5	--	--	--	0.08	0.17	0.24	3.0	1.4	8	SP-SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

FIGURE B-3

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

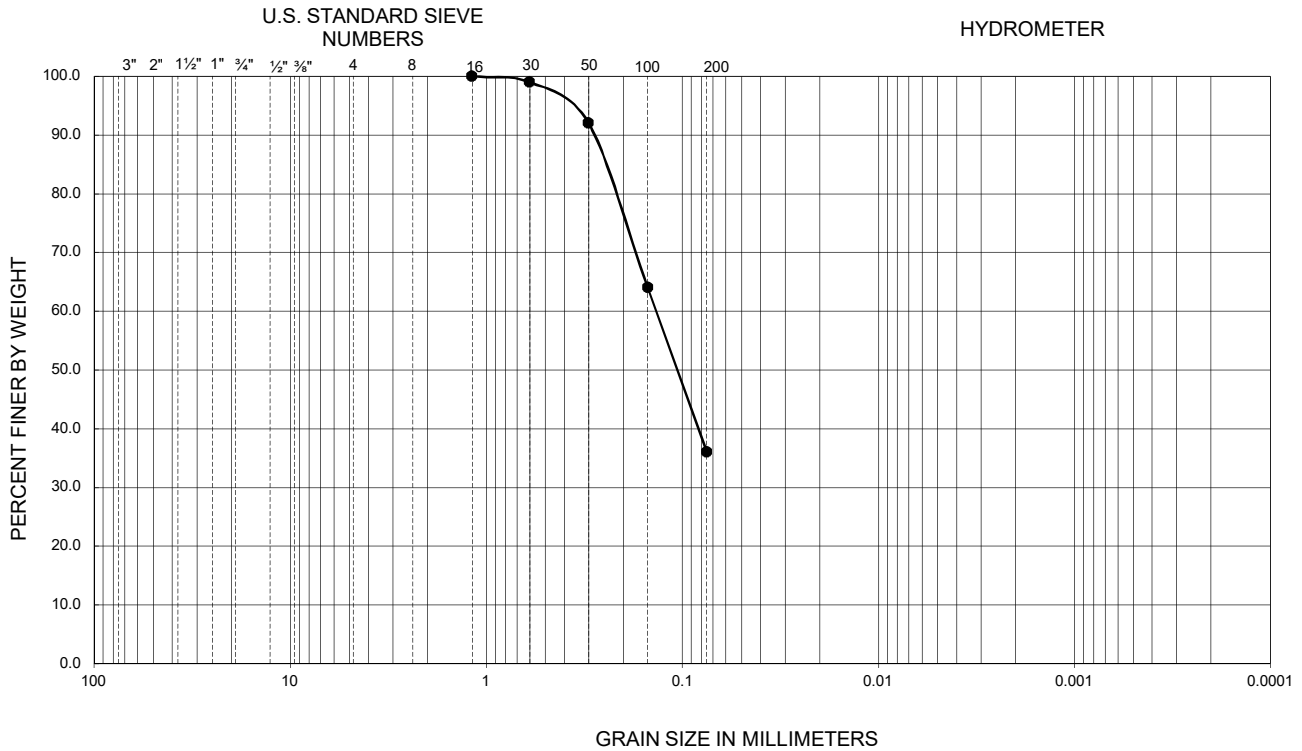


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀	D ₃₀	D ₆₀	C _u	C _c	Passing No. 200 (percent)	USCS
●	B-1	40.0-41.5	--	--	--	0.08	0.20	0.35	4.3	1.4	9	SP-SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

FIGURE B-5

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY



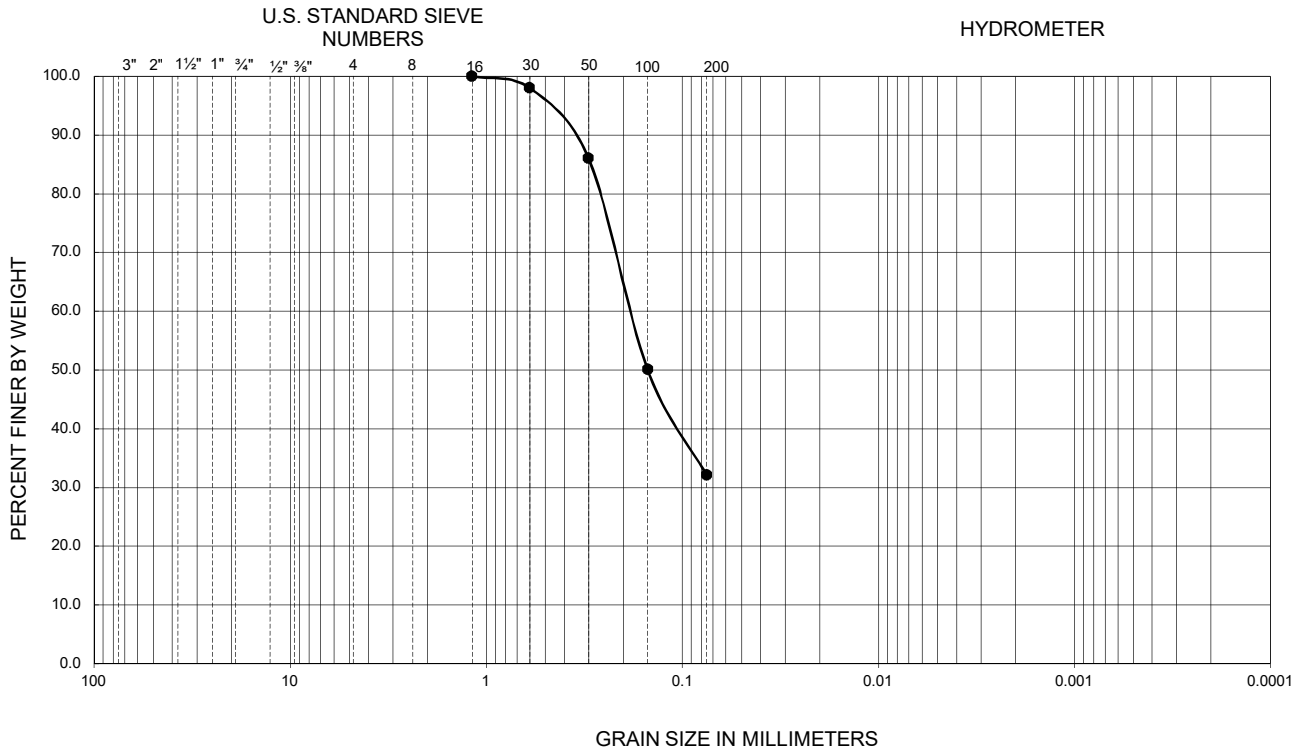
Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀	D ₃₀	D ₆₀	C _u	C _c	Passing No. 200 (percent)	USCS
●	B-1	50.0-51.5	NP	NP	NP	--	--	--	--	--	36	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

NP - INDICATES NON-PLASTIC

FIGURE B-6

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

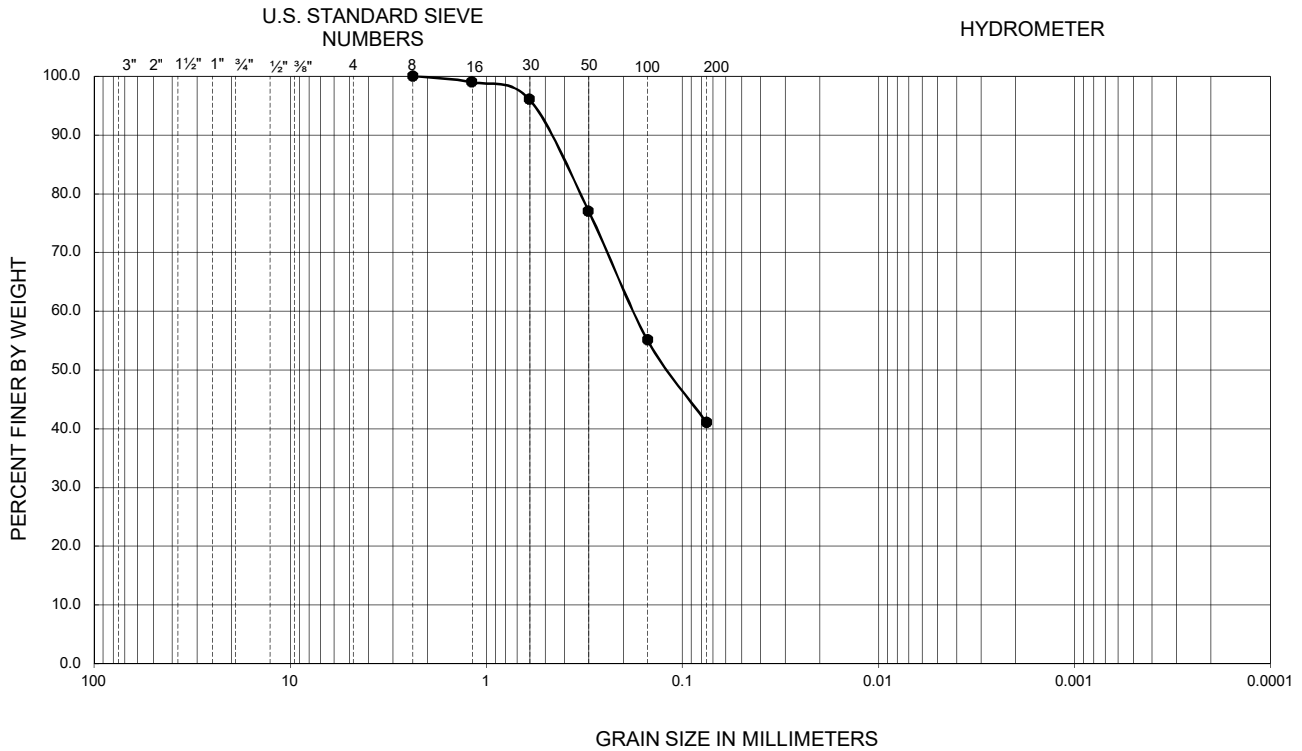


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀	D ₃₀	D ₆₀	C _u	C _c	Passing No. 200 (percent)	USCS
●	EX-1	4.0-10.0	--	--	--	--	--	--	--	--	32	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

FIGURE B-7

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

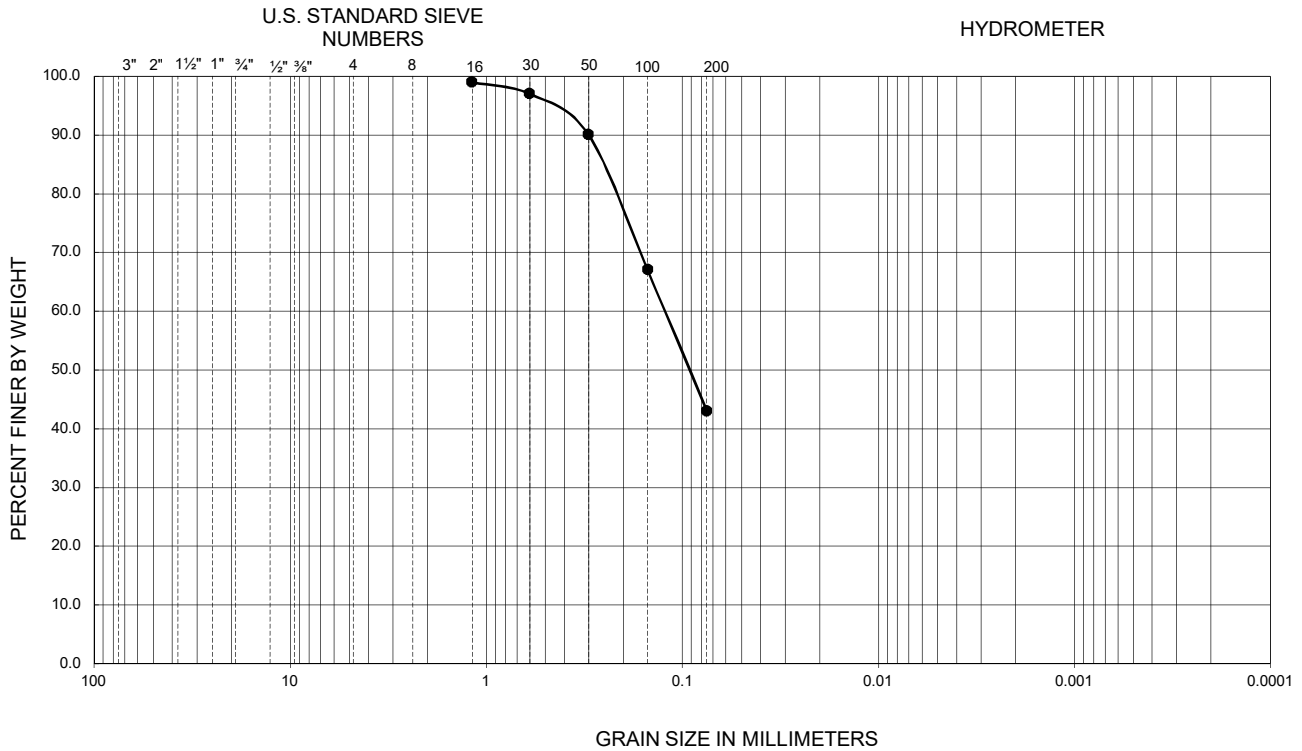


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀	D ₃₀	D ₆₀	C _u	C _c	Passing No. 200 (percent)	USCS
●	EX-1	10.0-17.5	--	--	--	--	--	--	--	--	41	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

FIGURE B-8

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

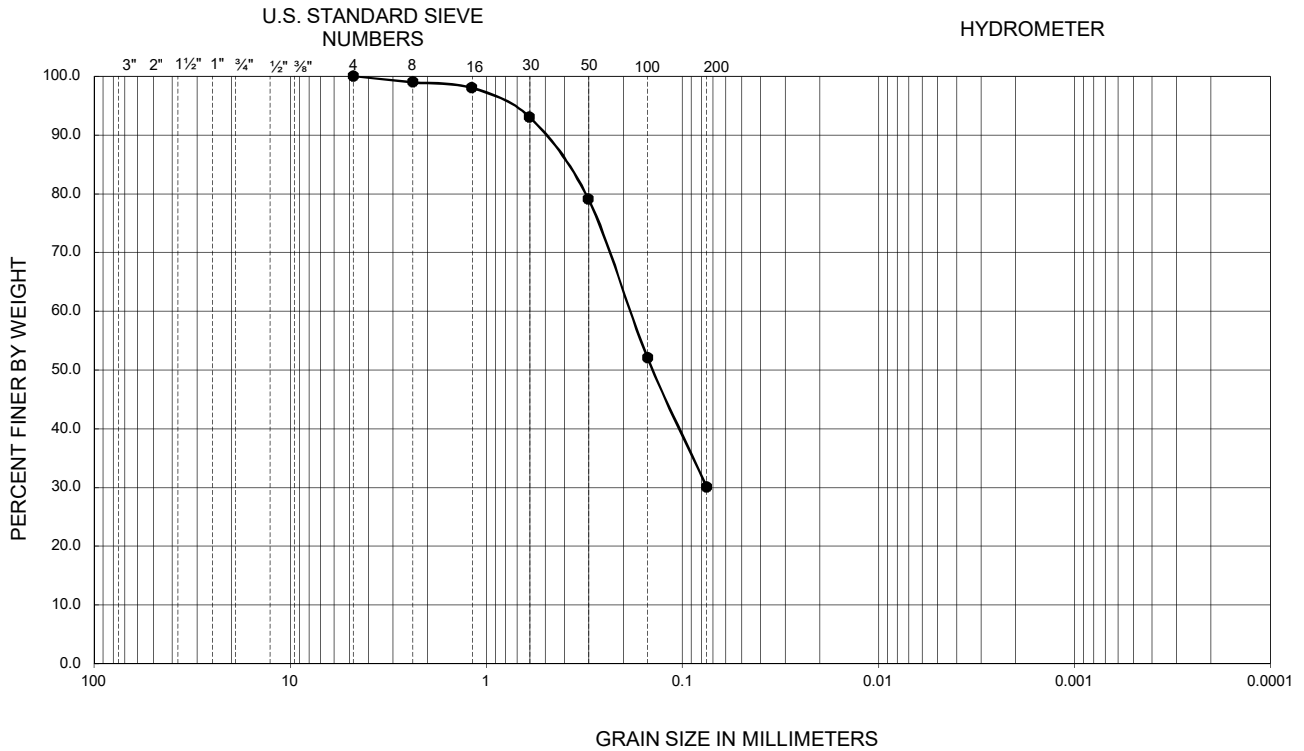


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀	D ₃₀	D ₆₀	C _u	C _c	Passing No. 200 (percent)	USCS
●	EX-2	0.0-5.0	--	--	--	--	--	--	--	--	43	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

FIGURE B-9

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

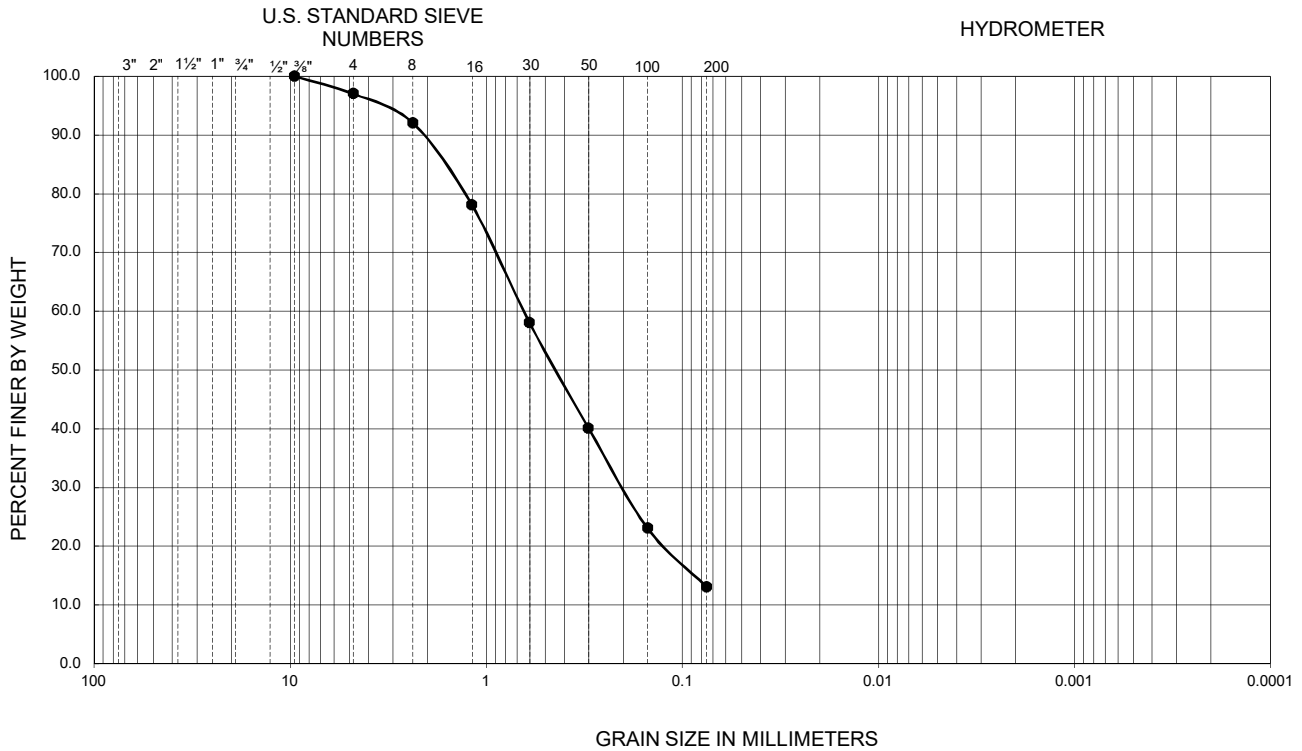


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀	D ₃₀	D ₆₀	C _u	C _c	Passing No. 200 (percent)	USCS
●	EX-2	7.0-8.0	--	--	--	--	--	--	--	--	30	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

FIGURE B-10

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

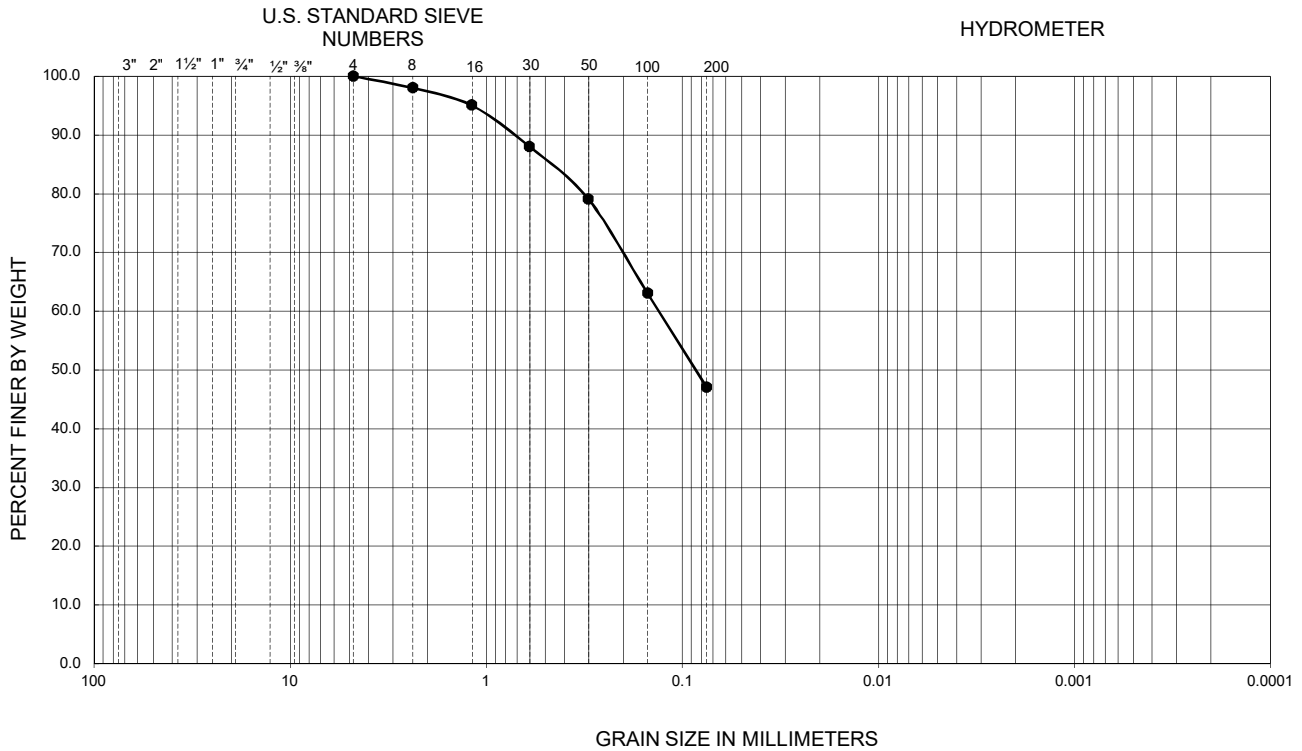


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀	D ₃₀	D ₆₀	C _u	C _c	Passing No. 200 (percent)	USCS
●	EX-2	9.0-10.0	--	--	--	--	--	--	--	--	13	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

FIGURE B-11

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

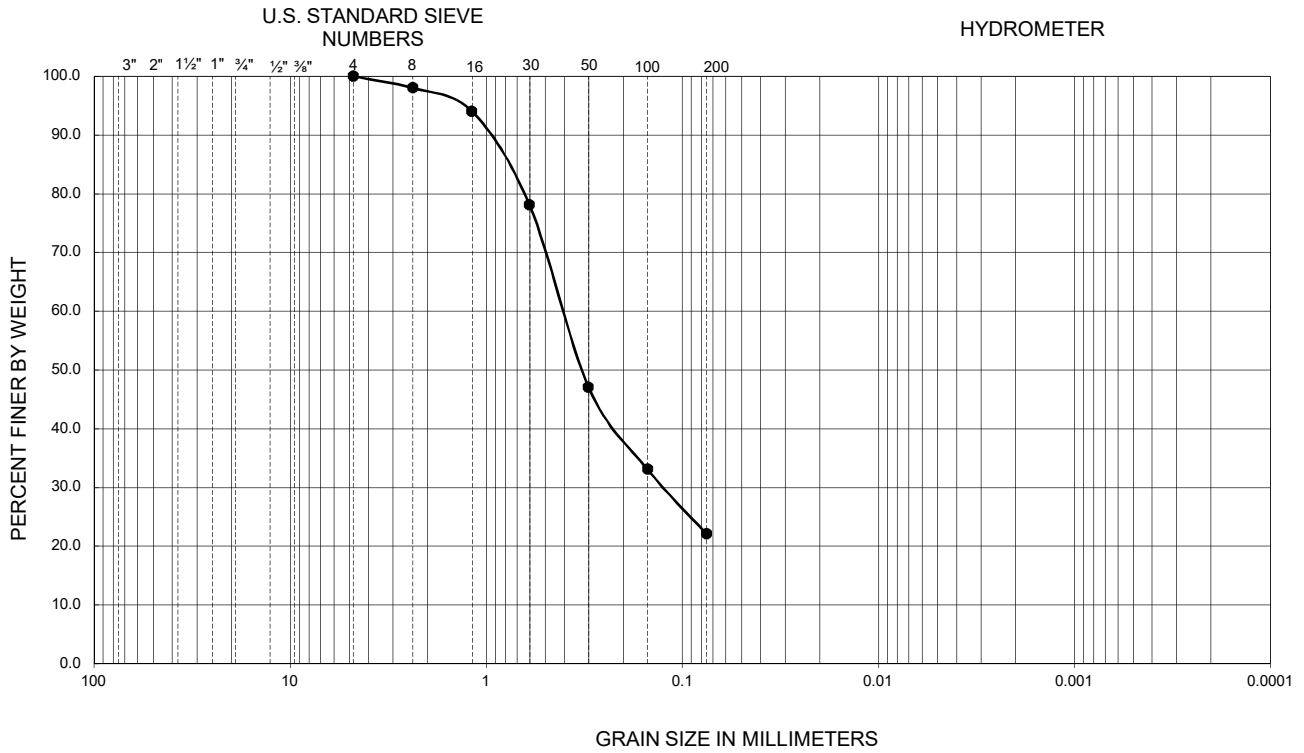


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀	D ₃₀	D ₆₀	C _u	C _c	Passing No. 200 (percent)	USCS
●	EX-2	10.0-11.0	--	--	--	--	--	--	--	--	47	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

FIGURE B-12

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

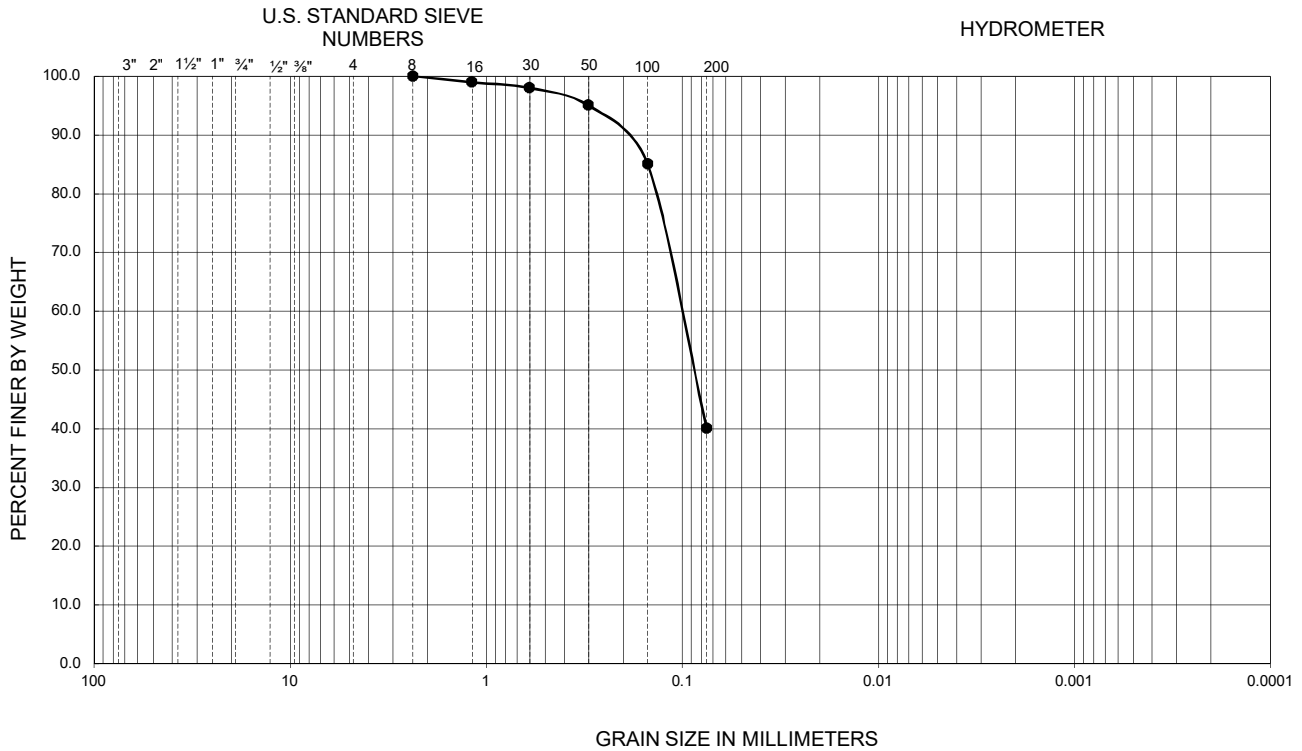


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀	D ₃₀	D ₆₀	C _u	C _c	Passing No. 200 (percent)	USCS
●	EX-2	19.0-20.0	--	--	--	--	--	--	--	--	22	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

FIGURE B-13

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

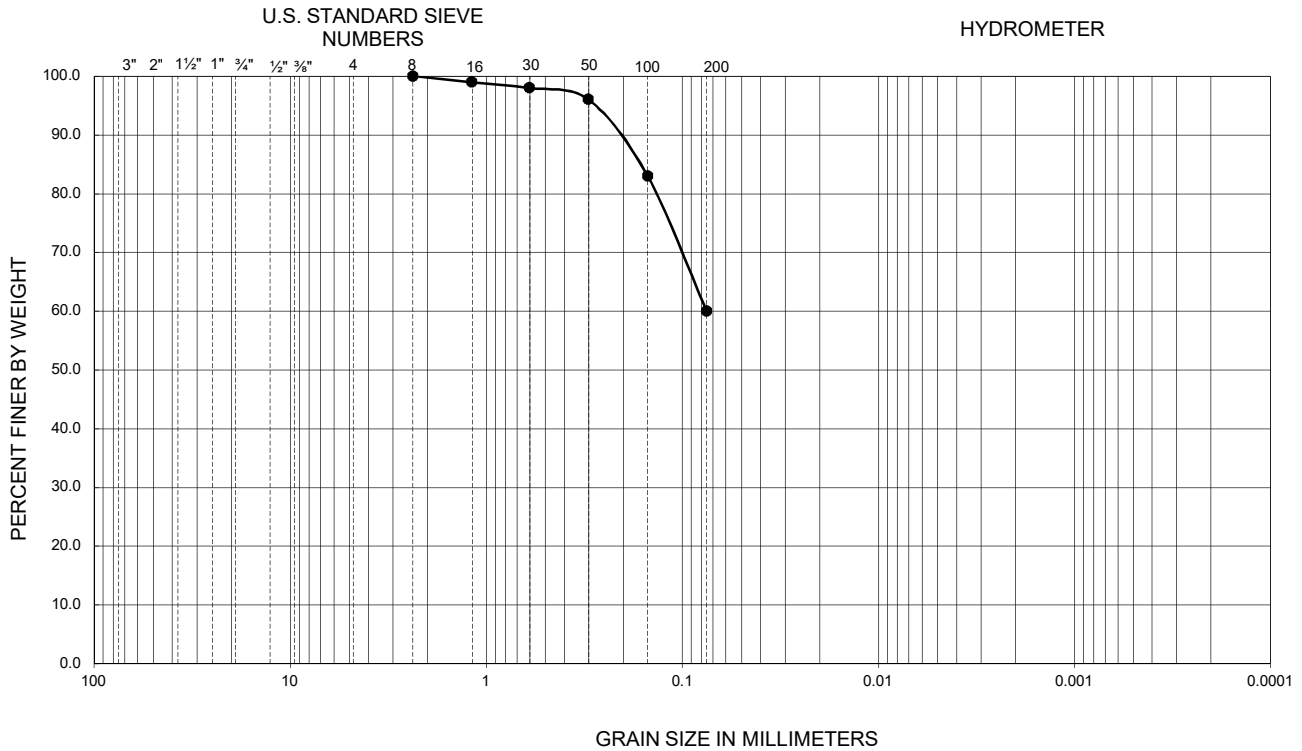


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀	D ₃₀	D ₆₀	C _u	C _c	Passing No. 200 (percent)	USCS
●	B-3	7.5-9.0	--	--	--	--	--	--	--	--	40	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

FIGURE B-14

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY



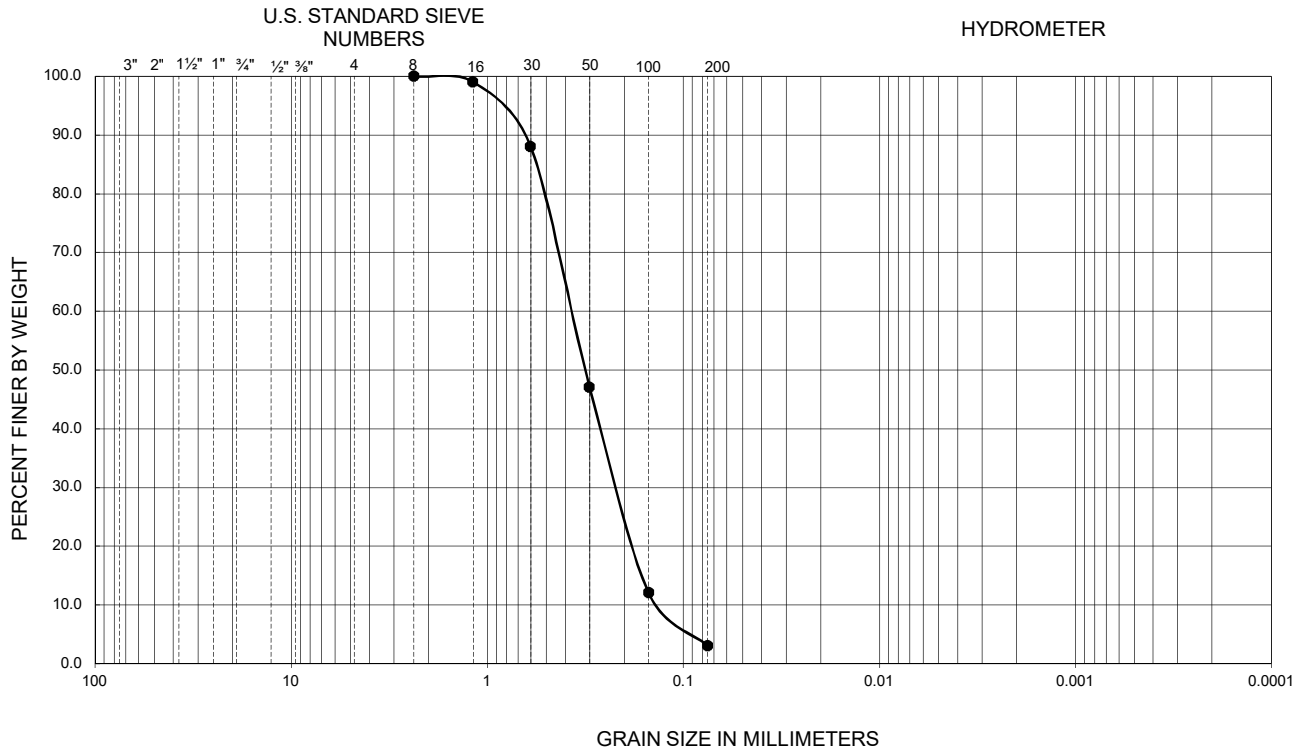
Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀	D ₃₀	D ₆₀	C _u	C _c	Passing No. 200 (percent)	USCS
●	B-3	10.0-11.5	NP	NP	NP	--	--	--	--	--	60	ML

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

NP - INDICATES NON-PLASTIC

FIGURE B-15

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

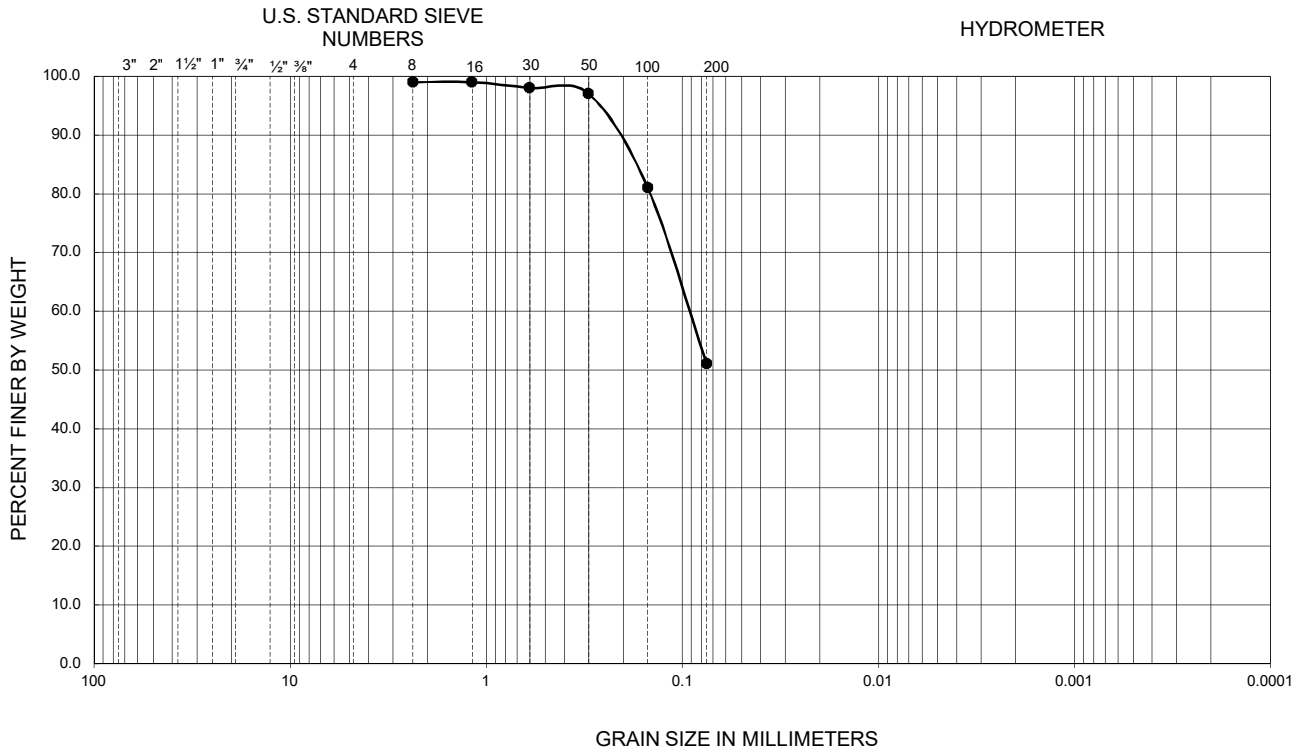


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀	D ₃₀	D ₆₀	C _u	C _c	Passing No. 200 (percent)	USCS
●	B-3	12.5-14.0	--	--	--	0.14	0.23	0.37	2.6	1.1	3	SP

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

FIGURE B-16

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY



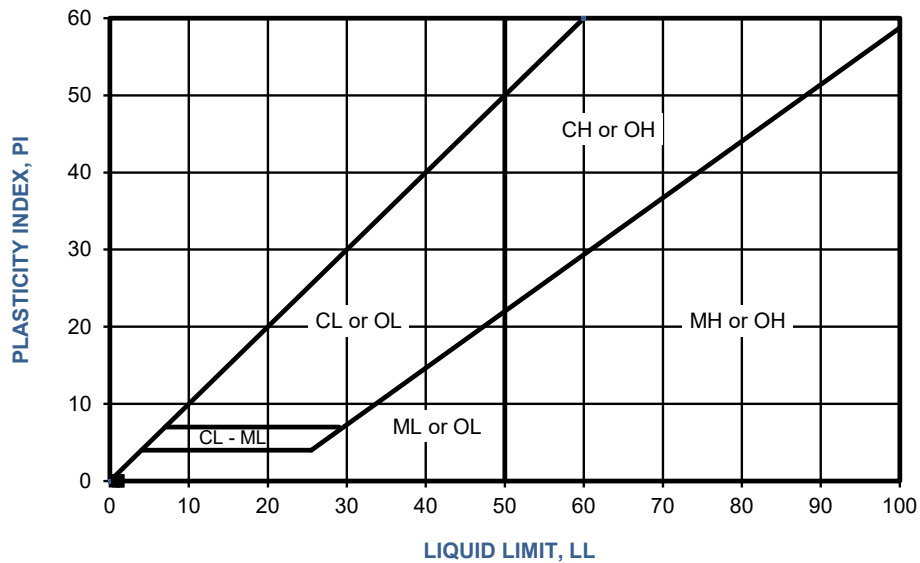
Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀	D ₃₀	D ₆₀	C _u	C _c	Passing No. 200 (percent)	USCS
●	B-3	18.5-20.0	--	--	--	--	--	--	--	--	51	ML

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

FIGURE B-17

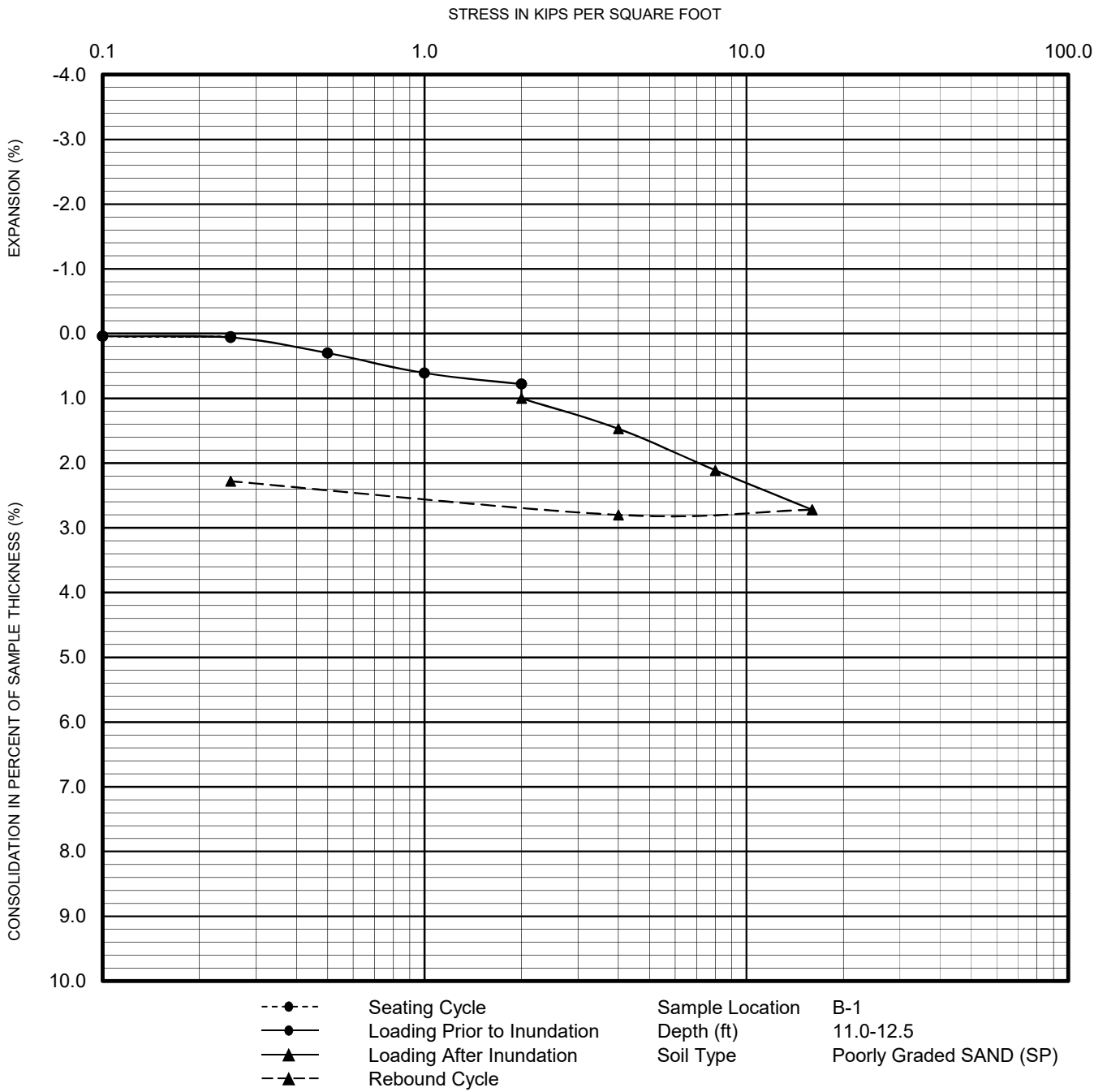
SYMBOL	LOCATION	DEPTH (ft)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	USCS CLASSIFICATION (Fraction Finer Than No. 40 Sieve)	USCS
●	B-1	50.0-51.5	NP	NP	NP	ML	SM
■	B-3	10.0-11.5	NP	NP	NP	ML	ML

NP - INDICATES NON-PLASTIC



PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 4318

FIGURE B-18



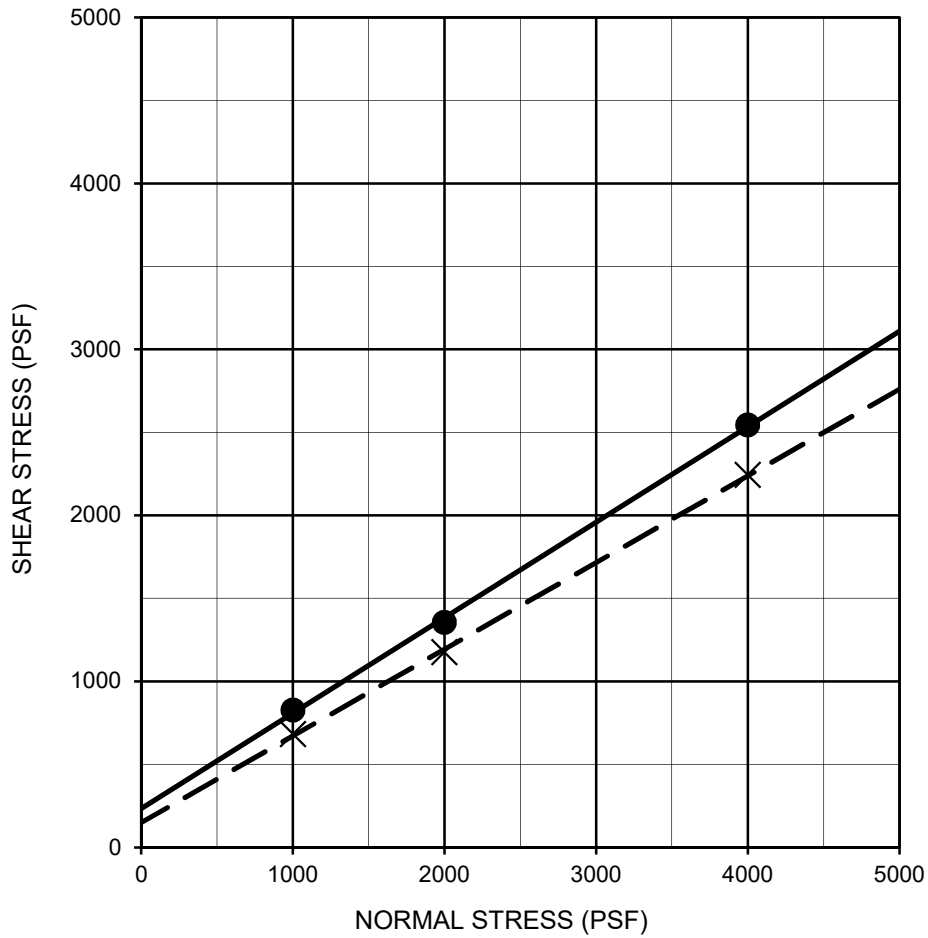
PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2435

FIGURE B-19



CONSOLIDATION TEST RESULTS

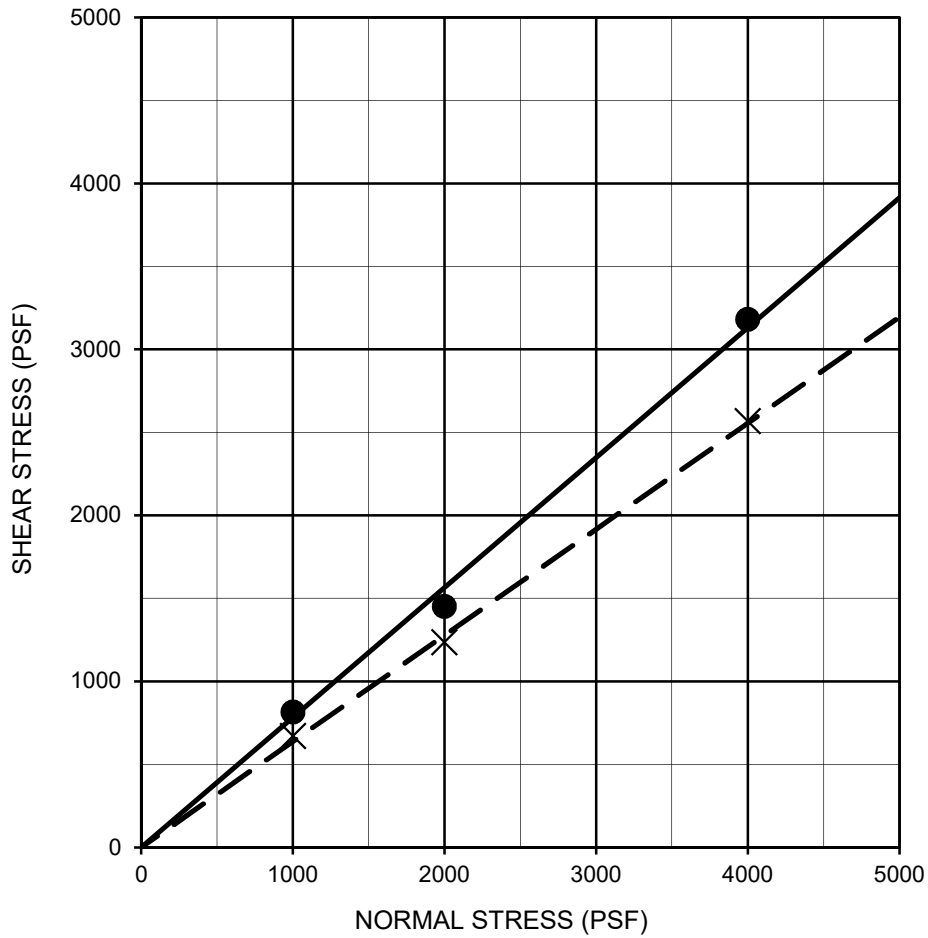
MBGPF WELL EXPANSION AND BRINE MINIMIZATION
OCEANSIDE, CALIFORNIA



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion (psf)	Friction Angle (degrees)	Soil Type
Remolded @ 90% Relative Compaction	—●—	B-1	1.0-5.0	Peak	230	30	SP
	- - X - -	B-1	1.0-5.0	Ultimate	150	28	SP

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080

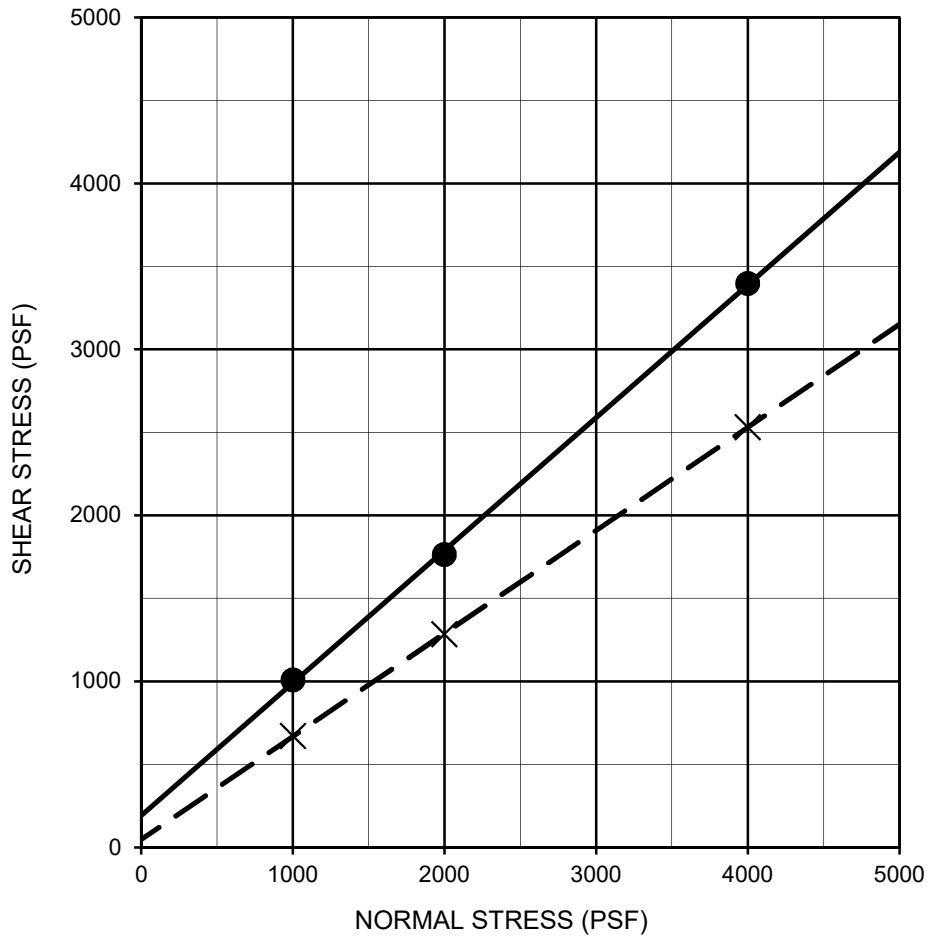
FIGURE B-20



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion (psf)	Friction Angle (degrees)	Soil Type
Poorly Graded SAND	—●—	B-1	5.0-6.5	Peak	0	38	SP
Poorly Graded SAND	- - X - -	B-1	5.0-6.5	Ultimate	0	33	SP

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080

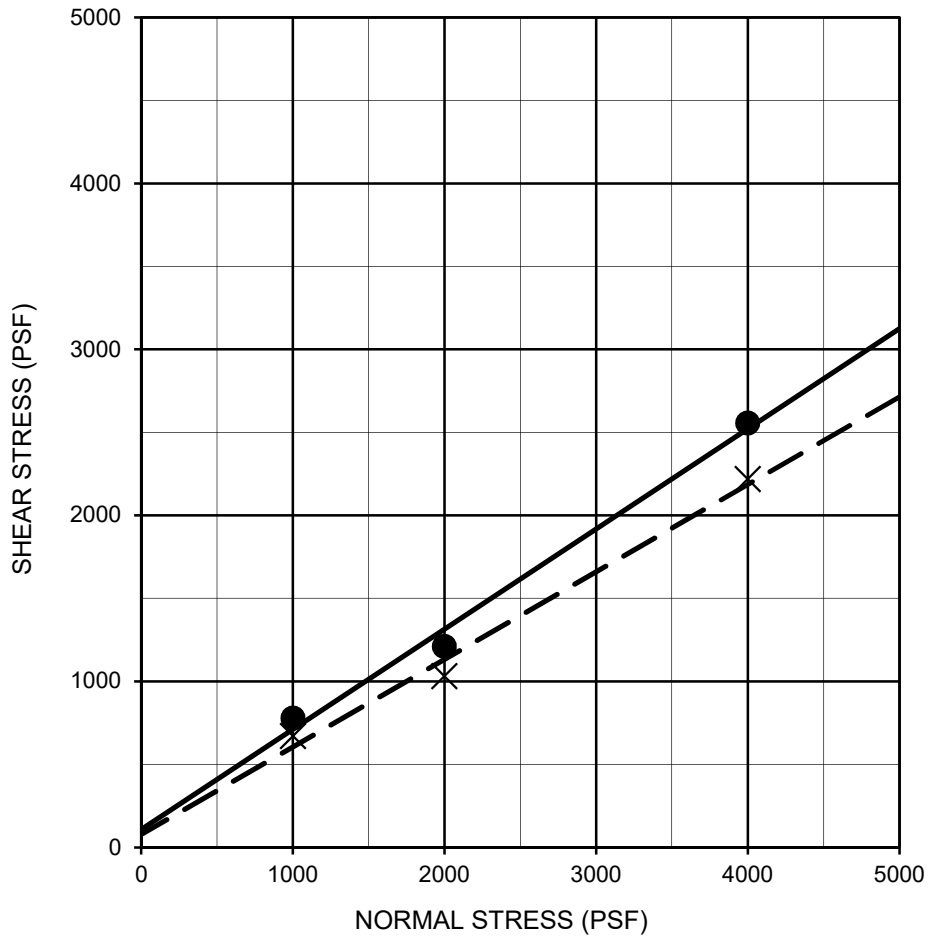
FIGURE B-21



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion (psf)	Friction Angle (degrees)	Soil Type
Poorly Graded SAND	—●—	B-1	17.0-18.5	Peak	190	39	SP
Poorly Graded SAND	- - X - -	B-1	17.0-18.5	Ultimate	50	32	SP

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080

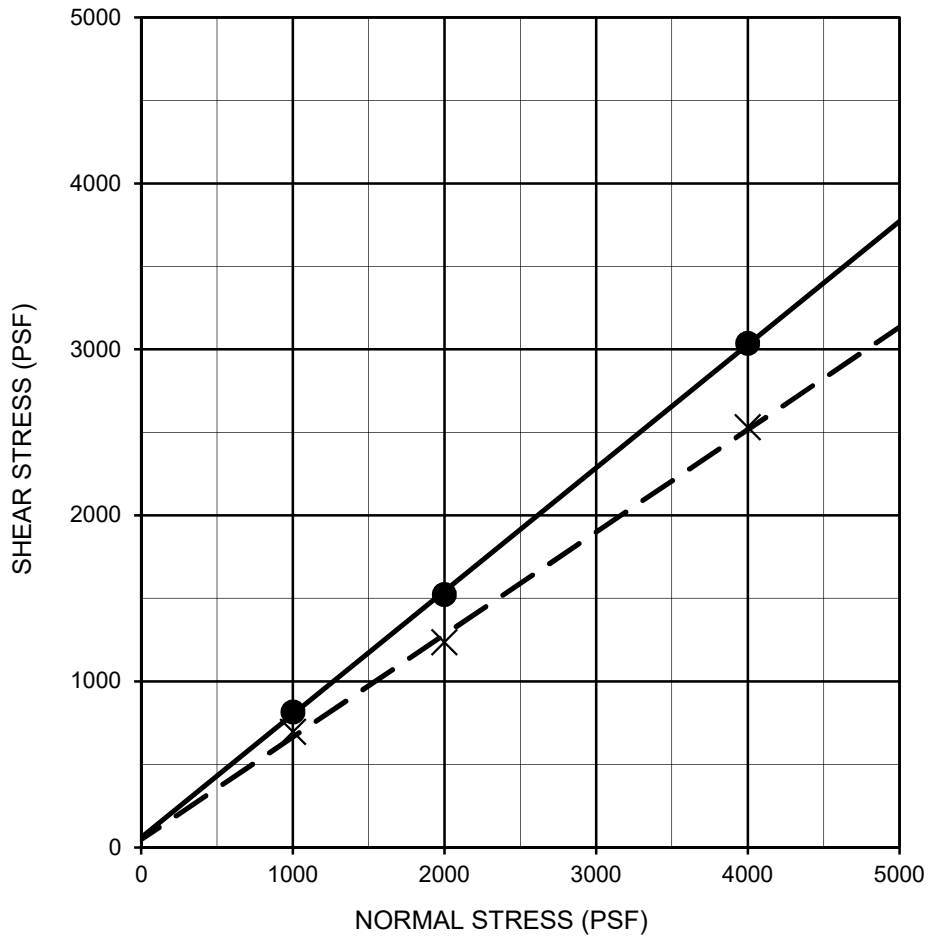
FIGURE B-22



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion (psf)	Friction Angle (degrees)	Soil Type
Poorly Graded SAND	—●—	B-2	8.0-9.5	Peak	110	31	SP
Poorly Graded SAND	- - X - -	B-2	8.0-9.5	Ultimate	80	28	SP

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080

FIGURE B-23



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion (psf)	Friction Angle (degrees)	Soil Type
Poorly Graded SAND	—●—	B-2	14.0-15.5	Peak	60	37	SP
Poorly Graded SAND	- - X - -	B-2	14.0-15.5	Ultimate	50	32	SP

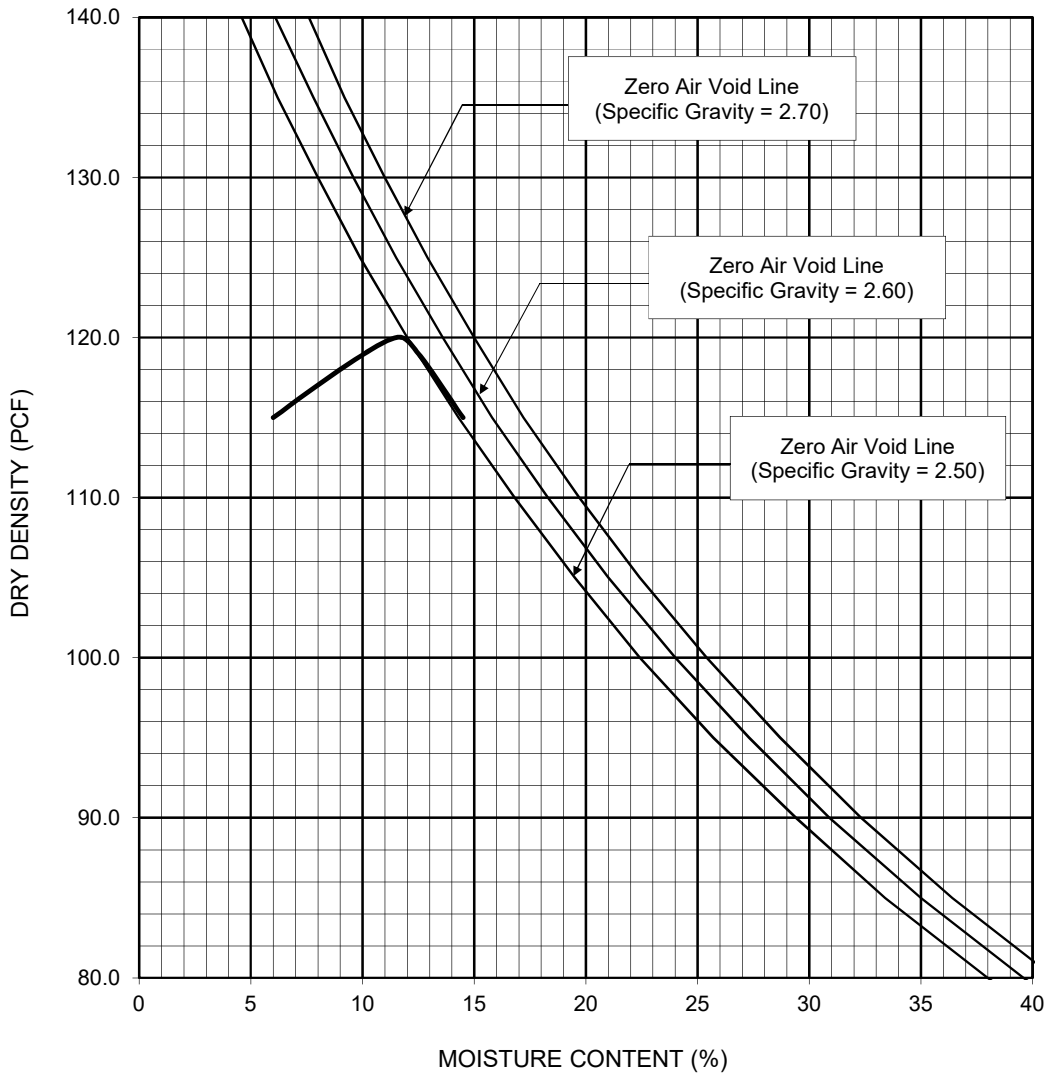
PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080

FIGURE B-24

SAMPLE LOCATION	SAMPLE DEPTH (ft)	INITIAL MOISTURE (percent)	COMPACTED DRY DENSITY (pcf)	FINAL MOISTURE (percent)	VOLUMETRIC SWELL (in)	EXPANSION INDEX	POTENTIAL EXPANSION
B-2	1.0-5.0	9.0	112.0	19.4	0.008	8	Very Low

PERFORMED IN GENERAL ACCORDANCE WITH UBC STANDARD 18-2 ASTM D 4829

FIGURE B-25



Sample Location	Depth (ft)	Soil Description	Maximum Dry Density (pcf)	Optimum Moisture Content (percent)
B-1	1.0-5.0	Poorly Graded SAND (SP)	120.0	11.5
Dry Density and Moisture Content Values Corrected for Oversize (ASTM D 4718)				

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 1557 ASTM D 698 METHOD A B C

FIGURE B-26



PROCTOR DENSITY TEST RESULTS

MBGPF WELL EXPANSION AND BRINE MINIMIZATION
OCEANSIDE, CALIFORNIA

109182001 | 8/22

SAMPLE LOCATION	SAMPLE DEPTH (ft)	pH ¹	RESISTIVITY ¹ (ohm-cm)	SULFATE CONTENT ²		CHLORIDE CONTENT ³ (ppm)
				(ppm)	(%)	
B-1	1.0-5.0	7.0	11,400	10	0.001	20
B-2	1.0-5.0	7.1	1,900	110	0.011	55

¹ PERFORMED IN ACCORDANCE WITH CALIFORNIA TEST METHOD 643

² PERFORMED IN ACCORDANCE WITH CALIFORNIA TEST METHOD 417

³ PERFORMED IN ACCORDANCE WITH CALIFORNIA TEST METHOD 422

FIGURE B-27

SAMPLE LOCATION	SAMPLE DEPTH (ft)	SOIL TYPE	R-VALUE
B-1 and B-2 (combined)	1.0-5.0	Poorly Graded SAND (SP)	48

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2844/CT 301

FIGURE B-28



APPENDIX C

Environmental Analytical Laboratory Reports

ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-104203-1

Client Project/Site: GHD/MBGPF Well Expansion & Brine Min.

For:

Ninyo & Moore
5710 Ruffin Road
San Diego, California 92123

Attn: Gabriel Smith



Authorized for release by:

7/29/2022 4:21:27 PM

Erick Ovalle, Project Manager
(657)210-6331

Erick.Ovalle@et.eurofinsus.com

Designee for

Virendra Patel, Project Manager I
(714)895-5494

Virendra.Patel@et.eurofinsus.com

LINKS

Review your project
results through



Have a Question?



Visit us at:

www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Detection Summary	5
Client Sample Results	6
Surrogate Summary	19
QC Sample Results	21
QC Association Summary	35
Lab Chronicle	38
Certification Summary	40
Method Summary	41
Sample Summary	42
Chain of Custody	43
Receipt Checklists	44

Definitions/Glossary

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ninyo & Moore
Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Job ID: 570-104203-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative 570-104203-1

Comments

No additional comments.

Receipt

The samples were received on 7/25/2022 7:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.4° C.

GC/MS VOA

Method 8260B: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 570-251957 and analytical batch 570-251961 was outside control limits. Sample matrix interference is suspected.

Method 8260B: The initial calibration curve analyzed in batch 570-251961 was outside method criteria for the following analyte: Bromomethane. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte is considered an estimated concentration.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA

Method 8015B: The matrix spike duplicate (MSD) precision of C4-C13 for preparation batch 570-252088 and analytical batch 570-252086 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method 8081A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-251850 and analytical batch 570-252540 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

Method 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries of Antimony for preparation batch 570-251876 and analytical batch 570-252321 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. (570-104140-F-2-C MS ^5) and (570-104140-F-2-D MSD ^5)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Client Sample ID: 109182001-1

Lab Sample ID: 570-104203-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C13-C22	7.4		4.9		mg/Kg	1		8015B	Total/NA
C23-C40	6.5		4.9		mg/Kg	1		8015B	Total/NA
Barium	67.7		3.00		mg/Kg	5		6010B	Total/NA
Cobalt	3.11		1.00		mg/Kg	5		6010B	Total/NA
Chromium	8.99		1.00		mg/Kg	5		6010B	Total/NA
Copper	4.89		2.00		mg/Kg	5		6010B	Total/NA
Nickel	3.21		2.00		mg/Kg	5		6010B	Total/NA
Vanadium	24.0		1.00		mg/Kg	5		6010B	Total/NA
Zinc	18.7		5.00		mg/Kg	5		6010B	Total/NA

Client Sample ID: 109182001-2

Lab Sample ID: 570-104203-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	142		2.99		mg/Kg	5		6010B	Total/NA
Cobalt	6.64		0.995		mg/Kg	5		6010B	Total/NA
Chromium	20.5		0.995		mg/Kg	5		6010B	Total/NA
Copper	13.5		1.99		mg/Kg	5		6010B	Total/NA
Nickel	7.25		1.99		mg/Kg	5		6010B	Total/NA
Vanadium	53.1		0.995		mg/Kg	5		6010B	Total/NA
Zinc	42.3		4.98		mg/Kg	5		6010B	Total/NA

Client Sample ID: 109182001-3

Lab Sample ID: 570-104203-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	52.7		3.00		mg/Kg	5		6010B	Total/NA
Cobalt	2.93		1.00		mg/Kg	5		6010B	Total/NA
Chromium	9.64		1.00		mg/Kg	5		6010B	Total/NA
Copper	4.10		2.00		mg/Kg	5		6010B	Total/NA
Nickel	2.60		2.00		mg/Kg	5		6010B	Total/NA
Vanadium	21.3		1.00		mg/Kg	5		6010B	Total/NA
Zinc	15.6		5.00		mg/Kg	5		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: 109182001-1
Date Collected: 07/22/22 11:32
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,1,1-Trichloroethane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		9.9		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,1,2-Trichloroethane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,1-Dichloroethane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,1-Dichloroethene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,1-Dichloropropene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,2,3-Trichlorobenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,2-Dibromo-3-Chloropropane	ND		9.9		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,2-Dibromoethane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,2-Dichlorobenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,2-Dichloroethane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,2-Dichloropropane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,3,5-Trimethylbenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,3-Dichlorobenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,3-Dichloropropane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
1,4-Dichlorobenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
2,2-Dichloropropane	ND		5.0		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
2-Butanone	ND		20		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
2-Chlorotoluene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
2-Hexanone	ND		20		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
4-Chlorotoluene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
4-Methyl-2-pentanone	ND		20		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Acetone	ND		20		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Benzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Bromobenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Bromochloromethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Bromodichloromethane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Bromoform	ND		5.0		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Bromomethane	ND		20		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
cis-1,2-Dichloroethene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
cis-1,3-Dichloropropane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Carbon disulfide	ND		9.9		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Carbon tetrachloride	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Chlorobenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Chloroethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Chloroform	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Chloromethane	ND		20		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Dibromochloromethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Dibromomethane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Dichlorodifluoromethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Ethylbenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Isopropylbenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Methylene Chloride	ND		9.9		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Methyl-t-Butyl Ether (MTBE)	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 12:48	1

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: 109182001-1
Date Collected: 07/22/22 11:32
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		9.9		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
n-Butylbenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
N-Propylbenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
o-Xylene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
m,p-Xylene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
p-Isopropyltoluene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
sec-Butylbenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Styrene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
trans-1,2-Dichloroethene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
trans-1,3-Dichloropropene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
tert-Butylbenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Tetrachloroethene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Toluene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Trichloroethene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Trichlorofluoromethane	ND		9.9		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Vinyl acetate	ND		9.9		ug/Kg		07/26/22 08:32	07/26/22 12:48	1
Vinyl chloride	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 12:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		64 - 141	07/26/22 08:32	07/26/22 12:48	1
4-Bromofluorobenzene (Surr)	95		76 - 120	07/26/22 08:32	07/26/22 12:48	1
Dibromofluoromethane (Surr)	106		47 - 142	07/26/22 08:32	07/26/22 12:48	1
Toluene-d8 (Surr)	95		80 - 120	07/26/22 08:32	07/26/22 12:48	1

Client Sample ID: 109182001-2
Date Collected: 07/22/22 11:36
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,1,1-Trichloroethane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,1,2-Trichloroethane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,1-Dichloroethane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,1-Dichloroethene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,1-Dichloropropene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,2,3-Trichlorobenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,2-Dibromoethane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,2-Dichlorobenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,2-Dichloroethane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,2-Dichloropropane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,3,5-Trimethylbenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,3-Dichlorobenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,3-Dichloropropane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
2,2-Dichloropropane	ND		5.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1

Eurofins Calscience

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: 109182001-2
Date Collected: 07/22/22 11:36
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone	ND		20		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
2-Chlorotoluene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
2-Hexanone	ND		20		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
4-Chlorotoluene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
4-Methyl-2-pentanone	ND		20		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Acetone	ND		20		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Benzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Bromobenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Bromochloromethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Bromodichloromethane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Bromoform	ND		5.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Bromomethane	ND		20		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
cis-1,2-Dichloroethene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Carbon disulfide	ND		10		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Carbon tetrachloride	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Chlorobenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Chloroethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Chloroform	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Chloromethane	ND		20		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Dibromochloromethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Dibromomethane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Dichlorodifluoromethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Ethylbenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Isopropylbenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Methylene Chloride	ND		10		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Methyl-t-Butyl Ether (MTBE)	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Naphthalene	ND		10		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
n-Butylbenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
N-Propylbenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
o-Xylene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
m,p-Xylene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
p-Isopropyltoluene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
sec-Butylbenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Styrene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
trans-1,2-Dichloroethene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
trans-1,3-Dichloropropene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
tert-Butylbenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Tetrachloroethene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Toluene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Trichloroethene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Trichlorofluoromethane	ND		10		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Vinyl acetate	ND		10		ug/Kg		07/26/22 08:32	07/26/22 13:09	1
Vinyl chloride	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 13:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		64 - 141	07/26/22 08:32	07/26/22 13:09	1
4-Bromofluorobenzene (Surr)	96		76 - 120	07/26/22 08:32	07/26/22 13:09	1
Dibromofluoromethane (Surr)	107		47 - 142	07/26/22 08:32	07/26/22 13:09	1
Toluene-d8 (Surr)	96		80 - 120	07/26/22 08:32	07/26/22 13:09	1

Eurofins Calscience

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: 109182001-3
Date Collected: 07/22/22 11:44
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,1,1-Trichloroethane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		9.9		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,1,2-Trichloroethane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,1-Dichloroethane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,1-Dichloroethene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,1-Dichloropropene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,2,3-Trichlorobenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,2-Dibromo-3-Chloropropane	ND		9.9		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,2-Dibromoethane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,2-Dichlorobenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,2-Dichloroethane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,2-Dichloropropane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,3,5-Trimethylbenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,3-Dichlorobenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,3-Dichloropropane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
1,4-Dichlorobenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
2,2-Dichloropropane	ND		5.0		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
2-Butanone	ND		20		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
2-Chlorotoluene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
2-Hexanone	ND		20		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
4-Chlorotoluene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
4-Methyl-2-pentanone	ND		20		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Acetone	ND		20		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Benzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Bromobenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Bromochloromethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Bromodichloromethane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Bromoform	ND		5.0		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Bromomethane	ND		20		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
cis-1,2-Dichloroethene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
cis-1,3-Dichloropropane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Carbon disulfide	ND		9.9		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Carbon tetrachloride	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Chlorobenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Chloroethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Chloroform	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Chloromethane	ND		20		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Dibromochloromethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Dibromomethane	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Dichlorodifluoromethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Ethylbenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Isopropylbenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Methylene Chloride	ND		9.9		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Methyl-t-Butyl Ether (MTBE)	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:30	1

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: 109182001-3
Date Collected: 07/22/22 11:44
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		9.9		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
n-Butylbenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
N-Propylbenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
o-Xylene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
m,p-Xylene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
p-Isopropyltoluene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
sec-Butylbenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Styrene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
trans-1,2-Dichloroethene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
trans-1,3-Dichloropropene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
tert-Butylbenzene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Tetrachloroethene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Toluene	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Trichloroethene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Trichlorofluoromethane	ND		9.9		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Vinyl acetate	ND		9.9		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Vinyl chloride	ND		0.99		ug/Kg		07/26/22 08:32	07/26/22 13:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>1,2-Dichloroethane-d4 (Surr)</i>	100		64 - 141				07/26/22 08:32	07/26/22 13:30	1
<i>4-Bromofluorobenzene (Surr)</i>	97		76 - 120				07/26/22 08:32	07/26/22 13:30	1
<i>Dibromofluoromethane (Surr)</i>	106		47 - 142				07/26/22 08:32	07/26/22 13:30	1
<i>Toluene-d8 (Surr)</i>	96		80 - 120				07/26/22 08:32	07/26/22 13:30	1

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8015B - Gasoline Range Organics - (GC)

Client Sample ID: 109182001-1
Date Collected: 07/22/22 11:32
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C12)	ND		0.10		mg/Kg		07/26/22 17:57	07/26/22 19:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		42 - 126				07/26/22 17:57	07/26/22 19:55	1

Client Sample ID: 109182001-2
Date Collected: 07/22/22 11:36
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C12)	ND		0.098		mg/Kg		07/26/22 17:57	07/26/22 20:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		42 - 126				07/26/22 17:57	07/26/22 20:19	1

Client Sample ID: 109182001-3
Date Collected: 07/22/22 11:44
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C12)	ND		0.099		mg/Kg		07/26/22 17:57	07/26/22 20:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		42 - 126				07/26/22 17:57	07/26/22 20:43	1

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Client Sample ID: 109182001-1
Date Collected: 07/22/22 11:32
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	7.4		4.9		mg/Kg		07/27/22 17:40	07/29/22 03:26	1
C23-C40	6.5		4.9		mg/Kg		07/27/22 17:40	07/29/22 03:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane (Surr)	92		60 - 138				07/27/22 17:40	07/29/22 03:26	1

Client Sample ID: 109182001-2
Date Collected: 07/22/22 11:36
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		4.9		mg/Kg		07/27/22 17:40	07/29/22 03:51	1
C23-C40	ND		4.9		mg/Kg		07/27/22 17:40	07/29/22 03:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane (Surr)	99		60 - 138				07/27/22 17:40	07/29/22 03:51	1

Client Sample ID: 109182001-3
Date Collected: 07/22/22 11:44
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		4.9		mg/Kg		07/27/22 17:40	07/29/22 04:17	1
C23-C40	ND		4.9		mg/Kg		07/27/22 17:40	07/29/22 04:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane (Surr)	83		60 - 138				07/27/22 17:40	07/29/22 04:17	1

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: 109182001-1
Date Collected: 07/22/22 11:32
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
4,4'-DDE	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
4,4'-DDT	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
Aldrin	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
alpha-BHC	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
alpha-Chlordane	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
beta-BHC	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
Chlordane	ND		25		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
delta-BHC	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
Dieldrin	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
Endosulfan I	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
Endosulfan II	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
Endosulfan sulfate	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
Endrin	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
Endrin aldehyde	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
Endrin ketone	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
gamma-Chlordane	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
gamma-BHC	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
Heptachlor	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
Heptachlor epoxide	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
Methoxychlor	ND	F1	5.0		ug/Kg		07/25/22 17:56	07/28/22 09:47	1
Toxaphene	ND		25		ug/Kg		07/25/22 17:56	07/28/22 09:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	62		38 - 148	07/25/22 17:56	07/28/22 09:47	1
DCB Decachlorobiphenyl (Surr)	63		37 - 151	07/25/22 17:56	07/28/22 09:47	1

Client Sample ID: 109182001-2
Date Collected: 07/22/22 11:36
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
4,4'-DDE	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
4,4'-DDT	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
Aldrin	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
alpha-BHC	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
alpha-Chlordane	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
beta-BHC	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
Chlordane	ND		25		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
delta-BHC	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
Dieldrin	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
Endosulfan I	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
Endosulfan II	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
Endosulfan sulfate	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
Endrin	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
Endrin aldehyde	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
Endrin ketone	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
gamma-Chlordane	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
gamma-BHC	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
Heptachlor	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1

Eurofins Calscience

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Client Sample ID: 109182001-2
Date Collected: 07/22/22 11:36
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor epoxide	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
Methoxychlor	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
Toxaphene	ND		25		ug/Kg		07/25/22 17:56	07/28/22 10:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene (Surr)</i>	63		38 - 148				07/25/22 17:56	07/28/22 10:02	1
<i>DCB Decachlorobiphenyl (Surr)</i>	65		37 - 151				07/25/22 17:56	07/28/22 10:02	1

Client Sample ID: 109182001-3
Date Collected: 07/22/22 11:44
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
4,4'-DDE	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
4,4'-DDT	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
Aldrin	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
alpha-BHC	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
alpha-Chlordane	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
beta-BHC	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
Chlordane	ND		25		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
delta-BHC	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
Dieldrin	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
Endosulfan I	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
Endosulfan II	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
Endosulfan sulfate	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
Endrin	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
Endrin aldehyde	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
Endrin ketone	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
gamma-Chlordane	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
gamma-BHC	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
Heptachlor	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
Heptachlor epoxide	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
Methoxychlor	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
Toxaphene	ND		25		ug/Kg		07/25/22 17:56	07/28/22 10:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene (Surr)</i>	62		38 - 148				07/25/22 17:56	07/28/22 10:17	1
<i>DCB Decachlorobiphenyl (Surr)</i>	63		37 - 151				07/25/22 17:56	07/28/22 10:17	1

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: 109182001-1
Date Collected: 07/22/22 11:32
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	ND		50		ug/Kg		07/25/22 17:56	07/26/22 21:43	1
Aroclor-1221	ND		50		ug/Kg		07/25/22 17:56	07/26/22 21:43	1
Aroclor-1232	ND		50		ug/Kg		07/25/22 17:56	07/26/22 21:43	1
Aroclor-1242	ND		50		ug/Kg		07/25/22 17:56	07/26/22 21:43	1
Aroclor-1248	ND		50		ug/Kg		07/25/22 17:56	07/26/22 21:43	1
Aroclor-1254	ND		50		ug/Kg		07/25/22 17:56	07/26/22 21:43	1
Aroclor-1260	ND		50		ug/Kg		07/25/22 17:56	07/26/22 21:43	1
Aroclor-1262	ND		50		ug/Kg		07/25/22 17:56	07/26/22 21:43	1
Aroclor-1268	ND		50		ug/Kg		07/25/22 17:56	07/26/22 21:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	64		25 - 120				07/25/22 17:56	07/26/22 21:43	1
DCB Decachlorobiphenyl (Surr)	60		20 - 120				07/25/22 17:56	07/26/22 21:43	1

Client Sample ID: 109182001-2
Date Collected: 07/22/22 11:36
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	ND		50		ug/Kg		07/25/22 17:56	07/26/22 22:02	1
Aroclor-1221	ND		50		ug/Kg		07/25/22 17:56	07/26/22 22:02	1
Aroclor-1232	ND		50		ug/Kg		07/25/22 17:56	07/26/22 22:02	1
Aroclor-1242	ND		50		ug/Kg		07/25/22 17:56	07/26/22 22:02	1
Aroclor-1248	ND		50		ug/Kg		07/25/22 17:56	07/26/22 22:02	1
Aroclor-1254	ND		50		ug/Kg		07/25/22 17:56	07/26/22 22:02	1
Aroclor-1260	ND		50		ug/Kg		07/25/22 17:56	07/26/22 22:02	1
Aroclor-1262	ND		50		ug/Kg		07/25/22 17:56	07/26/22 22:02	1
Aroclor-1268	ND		50		ug/Kg		07/25/22 17:56	07/26/22 22:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	65		25 - 120				07/25/22 17:56	07/26/22 22:02	1
DCB Decachlorobiphenyl (Surr)	63		20 - 120				07/25/22 17:56	07/26/22 22:02	1

Client Sample ID: 109182001-3
Date Collected: 07/22/22 11:44
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	ND		50		ug/Kg		07/25/22 17:56	07/26/22 22:21	1
Aroclor-1221	ND		50		ug/Kg		07/25/22 17:56	07/26/22 22:21	1
Aroclor-1232	ND		50		ug/Kg		07/25/22 17:56	07/26/22 22:21	1
Aroclor-1242	ND		50		ug/Kg		07/25/22 17:56	07/26/22 22:21	1
Aroclor-1248	ND		50		ug/Kg		07/25/22 17:56	07/26/22 22:21	1
Aroclor-1254	ND		50		ug/Kg		07/25/22 17:56	07/26/22 22:21	1
Aroclor-1260	ND		50		ug/Kg		07/25/22 17:56	07/26/22 22:21	1
Aroclor-1262	ND		50		ug/Kg		07/25/22 17:56	07/26/22 22:21	1
Aroclor-1268	ND		50		ug/Kg		07/25/22 17:56	07/26/22 22:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	62		25 - 120				07/25/22 17:56	07/26/22 22:21	1
DCB Decachlorobiphenyl (Surr)	62		20 - 120				07/25/22 17:56	07/26/22 22:21	1

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 6010B - Metals (ICP)

Client Sample ID: 109182001-1
Date Collected: 07/22/22 11:32
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.50		mg/Kg		07/26/22 10:00	07/26/22 21:21	5
Arsenic	ND		3.00		mg/Kg		07/26/22 10:00	07/26/22 21:21	5
Barium	67.7		3.00		mg/Kg		07/26/22 10:00	07/26/22 21:21	5
Beryllium	ND		0.500		mg/Kg		07/26/22 10:00	07/26/22 21:21	5
Cadmium	ND		0.500		mg/Kg		07/26/22 10:00	07/26/22 21:21	5
Cobalt	3.11		1.00		mg/Kg		07/26/22 10:00	07/26/22 21:21	5
Chromium	8.99		1.00		mg/Kg		07/26/22 10:00	07/26/22 21:21	5
Copper	4.89		2.00		mg/Kg		07/26/22 10:00	07/26/22 21:21	5
Molybdenum	ND		2.00		mg/Kg		07/26/22 10:00	07/26/22 21:21	5
Nickel	3.21		2.00		mg/Kg		07/26/22 10:00	07/26/22 21:21	5
Antimony	ND		10.0		mg/Kg		07/26/22 10:00	07/26/22 21:21	5
Selenium	ND		3.00		mg/Kg		07/26/22 10:00	07/26/22 21:21	5
Thallium	ND		10.0		mg/Kg		07/26/22 10:00	07/26/22 21:21	5
Vanadium	24.0		1.00		mg/Kg		07/26/22 10:00	07/26/22 21:21	5
Zinc	18.7		5.00		mg/Kg		07/26/22 10:00	07/26/22 21:21	5
Lead	ND		2.00		mg/Kg		07/26/22 10:00	07/26/22 21:21	5

Client Sample ID: 109182001-2
Date Collected: 07/22/22 11:36
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.49		mg/Kg		07/26/22 10:00	07/26/22 21:23	5
Arsenic	ND		2.99		mg/Kg		07/26/22 10:00	07/26/22 21:23	5
Barium	142		2.99		mg/Kg		07/26/22 10:00	07/26/22 21:23	5
Beryllium	ND		0.498		mg/Kg		07/26/22 10:00	07/26/22 21:23	5
Cadmium	ND		0.498		mg/Kg		07/26/22 10:00	07/26/22 21:23	5
Cobalt	6.64		0.995		mg/Kg		07/26/22 10:00	07/26/22 21:23	5
Chromium	20.5		0.995		mg/Kg		07/26/22 10:00	07/26/22 21:23	5
Copper	13.5		1.99		mg/Kg		07/26/22 10:00	07/26/22 21:23	5
Molybdenum	ND		1.99		mg/Kg		07/26/22 10:00	07/26/22 21:23	5
Nickel	7.25		1.99		mg/Kg		07/26/22 10:00	07/26/22 21:23	5
Antimony	ND		9.95		mg/Kg		07/26/22 10:00	07/26/22 21:23	5
Selenium	ND		2.99		mg/Kg		07/26/22 10:00	07/26/22 21:23	5
Thallium	ND		9.95		mg/Kg		07/26/22 10:00	07/26/22 21:23	5
Vanadium	53.1		0.995		mg/Kg		07/26/22 10:00	07/26/22 21:23	5
Zinc	42.3		4.98		mg/Kg		07/26/22 10:00	07/26/22 21:23	5
Lead	ND		1.99		mg/Kg		07/26/22 10:00	07/26/22 21:23	5

Client Sample ID: 109182001-3
Date Collected: 07/22/22 11:44
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.50		mg/Kg		07/26/22 10:00	07/26/22 21:26	5
Arsenic	ND		3.00		mg/Kg		07/26/22 10:00	07/26/22 21:26	5
Barium	52.7		3.00		mg/Kg		07/26/22 10:00	07/26/22 21:26	5
Beryllium	ND		0.500		mg/Kg		07/26/22 10:00	07/26/22 21:26	5
Cadmium	ND		0.500		mg/Kg		07/26/22 10:00	07/26/22 21:26	5
Cobalt	2.93		1.00		mg/Kg		07/26/22 10:00	07/26/22 21:26	5
Chromium	9.64		1.00		mg/Kg		07/26/22 10:00	07/26/22 21:26	5
Copper	4.10		2.00		mg/Kg		07/26/22 10:00	07/26/22 21:26	5

Eurofins Calscience

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: 109182001-3
Date Collected: 07/22/22 11:44
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND		2.00		mg/Kg		07/26/22 10:00	07/26/22 21:26	5
Nickel	2.60		2.00		mg/Kg		07/26/22 10:00	07/26/22 21:26	5
Antimony	ND		10.0		mg/Kg		07/26/22 10:00	07/26/22 21:26	5
Selenium	ND		3.00		mg/Kg		07/26/22 10:00	07/26/22 21:26	5
Thallium	ND		10.0		mg/Kg		07/26/22 10:00	07/26/22 21:26	5
Vanadium	21.3		1.00		mg/Kg		07/26/22 10:00	07/26/22 21:26	5
Zinc	15.6		5.00		mg/Kg		07/26/22 10:00	07/26/22 21:26	5
Lead	ND		2.00		mg/Kg		07/26/22 10:00	07/26/22 21:26	5

Client Sample Results

Client: Ninyo & Moore
Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: 109182001-1
Date Collected: 07/22/22 11:32
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0833		mg/Kg		07/26/22 19:25	07/27/22 13:04	1

Client Sample ID: 109182001-2
Date Collected: 07/22/22 11:36
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0833		mg/Kg		07/26/22 19:25	07/27/22 13:06	1

Client Sample ID: 109182001-3
Date Collected: 07/22/22 11:44
Date Received: 07/25/22 13:05

Lab Sample ID: 570-104203-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0817		mg/Kg		07/26/22 19:25	07/27/22 13:08	1

Surrogate Summary

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (64-141)	BFB (76-120)	DBFM (47-142)	TOL (80-120)
570-104011-A-1-D MS	Matrix Spike	99	92	103	98
570-104011-A-1-E MSD	Matrix Spike Duplicate	98	93	104	97
570-104203-1	109182001-1	100	95	106	95
570-104203-2	109182001-2	100	96	107	96
570-104203-3	109182001-3	100	97	106	96
LCS 570-251957/1-A	Lab Control Sample	99	93	104	99
LCSD 570-251957/2-A	Lab Control Sample Dup	98	94	102	99
MB 570-251957/3-A	Method Blank	95	96	103	95

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 8015B - Gasoline Range Organics - (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB1 (42-126)
570-104142-A-2-G MS	Matrix Spike	96
570-104142-A-2-H MSD	Matrix Spike Duplicate	98
570-104203-1	109182001-1	86
570-104203-2	109182001-2	86
570-104203-3	109182001-3	84
LCS 570-252088/1-A	Lab Control Sample	99
LCSD 570-252088/2-A	Lab Control Sample Dup	103
MB 570-252088/3-A	Method Blank	92

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		OTCSN1 (60-138)
570-104011-A-1-M MS	Matrix Spike	95
570-104011-A-1-N MSD	Matrix Spike Duplicate	93
570-104203-1	109182001-1	92
570-104203-2	109182001-2	99
570-104203-3	109182001-3	83
LCS 570-252503/2-A	Lab Control Sample	95
LCSD 570-252503/3-A	Lab Control Sample Dup	91
MB 570-252503/1-A	Method Blank	88

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Surrogate Summary

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (38-148)	DCB1 (37-151)
570-104203-1	109182001-1	62	63
570-104203-1 MSD	109182001-1	61	64
570-104203-2	109182001-2	63	65
570-104203-3	109182001-3	62	63
LCS 570-251850/2-A	Lab Control Sample	79	80
LCSD 570-251850/3-A	Lab Control Sample Dup	77	78
MB 570-251850/1-A	Method Blank	88	89

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2 (38-148)	DCB2 (37-151)
570-104203-1 MS	109182001-1	63	65

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (25-120)	DCB1 (20-120)
570-104203-1	109182001-1	64	60
570-104203-1 MS	109182001-1	62	54
570-104203-1 MSD	109182001-1	62	52
570-104203-2	109182001-2	65	63
570-104203-3	109182001-3	62	62
LCS 570-251850/6-A	Lab Control Sample	79	55
LCSD 570-251850/7-A	Lab Control Sample Dup	75	58
MB 570-251850/1-A	Method Blank	89	78

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)

DCB = DCB Decachlorobiphenyl (Surr)

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-251957/3-A
Matrix: Solid
Analysis Batch: 251961

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 251957

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,1,1-Trichloroethane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,1,2-Trichloroethane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,1-Dichloroethane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,1-Dichloroethene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,1-Dichloropropene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,2,3-Trichlorobenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,2-Dibromoethane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,2-Dichlorobenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,2-Dichloroethane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,2-Dichloropropane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,3,5-Trimethylbenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,3-Dichlorobenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,3-Dichloropropane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
2,2-Dichloropropane	ND		5.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
2-Butanone	ND		20		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
2-Chlorotoluene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
2-Hexanone	ND		20		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
4-Chlorotoluene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
4-Methyl-2-pentanone	ND		20		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Acetone	ND		20		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Benzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Bromobenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Bromochloromethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Bromodichloromethane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Bromoform	ND		5.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Bromomethane	ND		20		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
cis-1,2-Dichloroethene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Carbon disulfide	ND		10		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Carbon tetrachloride	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Chlorobenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Chloroethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Chloroform	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Chloromethane	ND		20		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Dibromochloromethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Dibromomethane	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Dichlorodifluoromethane	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Ethylbenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Isopropylbenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Methylene Chloride	ND		10		ug/Kg		07/26/22 08:32	07/26/22 10:21	1

Eurofins Calscience

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 570-251957/3-A
Matrix: Solid
Analysis Batch: 251961

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 251957

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methyl-t-Butyl Ether (MTBE)	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Naphthalene	ND		10		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
n-Butylbenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
N-Propylbenzene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
o-Xylene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
m,p-Xylene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
p-Isopropyltoluene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
sec-Butylbenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Styrene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
trans-1,2-Dichloroethene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
trans-1,3-Dichloropropene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
tert-Butylbenzene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Tetrachloroethene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Toluene	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Trichloroethene	ND		2.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Trichlorofluoromethane	ND		10		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Vinyl acetate	ND		10		ug/Kg		07/26/22 08:32	07/26/22 10:21	1
Vinyl chloride	ND		1.0		ug/Kg		07/26/22 08:32	07/26/22 10:21	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	95		64 - 141	07/26/22 08:32	07/26/22 10:21	1
4-Bromofluorobenzene (Surr)	96		76 - 120	07/26/22 08:32	07/26/22 10:21	1
Dibromofluoromethane (Surr)	103		47 - 142	07/26/22 08:32	07/26/22 10:21	1
Toluene-d8 (Surr)	95		80 - 120	07/26/22 08:32	07/26/22 10:21	1

Lab Sample ID: LCS 570-251957/1-A
Matrix: Solid
Analysis Batch: 251961

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 251957

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2-Dibromoethane	50.0	54.97		ug/Kg		110	80 - 120
1,2-Dichlorobenzene	50.0	55.04		ug/Kg		110	80 - 120
1,2-Dichloroethane	50.0	48.35		ug/Kg		97	80 - 120
Benzene	50.0	51.30		ug/Kg		103	80 - 120
Carbon tetrachloride	50.0	52.10		ug/Kg		104	80 - 131
Chlorobenzene	50.0	52.46		ug/Kg		105	80 - 120
Ethylbenzene	50.0	53.07		ug/Kg		106	80 - 120
Methyl-t-Butyl Ether (MTBE)	50.0	52.94		ug/Kg		106	80 - 122
o-Xylene	50.0	51.95		ug/Kg		104	80 - 120
m,p-Xylene	100	104.6		ug/Kg		105	80 - 120
Toluene	50.0	52.23		ug/Kg		104	80 - 120
Trichloroethene	50.0	52.61		ug/Kg		105	80 - 120
Vinyl chloride	50.0	57.69		ug/Kg		115	80 - 129

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	99		64 - 141
4-Bromofluorobenzene (Surr)	93		76 - 120

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-251957/1-A
Matrix: Solid
Analysis Batch: 251961

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 251957

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	104		47 - 142
Toluene-d8 (Surr)	99		80 - 120

Lab Sample ID: LCSD 570-251957/2-A
Matrix: Solid
Analysis Batch: 251961

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 251957

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
1,1-Dichloroethene	50.0	51.82		ug/Kg		104	70 - 131	0	20	
1,2-Dibromoethane	50.0	55.78		ug/Kg		112	80 - 120	1	20	
1,2-Dichlorobenzene	50.0	55.12		ug/Kg		110	80 - 120	0	20	
1,2-Dichloroethane	50.0	48.96		ug/Kg		98	80 - 120	1	20	
Benzene	50.0	51.04		ug/Kg		102	80 - 120	0	20	
Carbon tetrachloride	50.0	52.47		ug/Kg		105	80 - 131	1	20	
Chlorobenzene	50.0	53.91		ug/Kg		108	80 - 120	3	20	
Ethylbenzene	50.0	53.48		ug/Kg		107	80 - 120	1	20	
Methyl-t-Butyl Ether (MTBE)	50.0	53.24		ug/Kg		106	80 - 122	1	20	
o-Xylene	50.0	53.76		ug/Kg		108	80 - 120	3	20	
m,p-Xylene	100	106.7		ug/Kg		107	80 - 120	2	20	
Toluene	50.0	52.67		ug/Kg		105	80 - 120	1	20	
Trichloroethene	50.0	52.63		ug/Kg		105	80 - 120	0	20	
Vinyl chloride	50.0	57.41		ug/Kg		115	80 - 129	0	20	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	98		64 - 141
4-Bromofluorobenzene (Surr)	94		76 - 120
Dibromofluoromethane (Surr)	102		47 - 142
Toluene-d8 (Surr)	99		80 - 120

Lab Sample ID: 570-104011-A-1-D MS
Matrix: Solid
Analysis Batch: 251961

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 251957

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	RPD
1,1-Dichloroethene	ND		49.5	47.13		ug/Kg		95	60 - 125	
1,2-Dibromoethane	ND		49.5	52.03		ug/Kg		105	65 - 125	
1,2-Dichlorobenzene	ND		49.5	49.76		ug/Kg		101	47 - 130	
1,2-Dichloroethane	ND		49.5	46.67		ug/Kg		94	66 - 127	
Benzene	ND		49.5	48.03		ug/Kg		97	70 - 125	
Carbon tetrachloride	ND		49.5	46.05		ug/Kg		93	60 - 130	
Chlorobenzene	ND		49.5	49.02		ug/Kg		99	65 - 125	
Ethylbenzene	ND		49.5	48.88		ug/Kg		99	64 - 125	
Methyl-t-Butyl Ether (MTBE)	ND		49.5	49.33		ug/Kg		100	61 - 125	
o-Xylene	ND		49.5	49.15		ug/Kg		99	59 - 128	
m,p-Xylene	ND		99.0	98.88		ug/Kg		100	60 - 125	
Toluene	ND		49.5	48.76		ug/Kg		98	68 - 125	
Trichloroethene	ND		49.5	51.39		ug/Kg		104	41 - 169	
Vinyl chloride	ND		49.5	55.90		ug/Kg		113	59 - 125	

Eurofins Calscience

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-104011-A-1-D MS
Matrix: Solid
Analysis Batch: 251961

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 251957

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		64 - 141
4-Bromofluorobenzene (Surr)	92		76 - 120
Dibromofluoromethane (Surr)	103		47 - 142
Toluene-d8 (Surr)	98		80 - 120

Lab Sample ID: 570-104011-A-1-E MSD
Matrix: Solid
Analysis Batch: 251961

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 251957

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
1,1-Dichloroethene	ND		50.0	48.73		ug/Kg		97	60 - 125	3	20	
1,2-Dibromoethane	ND		50.0	51.83		ug/Kg		104	65 - 125	0	21	
1,2-Dichlorobenzene	ND		50.0	45.83		ug/Kg		92	47 - 130	8	29	
1,2-Dichloroethane	ND		50.0	47.24		ug/Kg		94	66 - 127	1	20	
Benzene	ND		50.0	48.36		ug/Kg		97	70 - 125	1	20	
Carbon tetrachloride	ND		50.0	47.51		ug/Kg		95	60 - 130	3	20	
Chlorobenzene	ND		50.0	48.83		ug/Kg		98	65 - 125	0	22	
Ethylbenzene	ND		50.0	48.40		ug/Kg		97	64 - 125	1	22	
Methyl-t-Butyl Ether (MTBE)	ND		50.0	50.34		ug/Kg		101	61 - 125	2	20	
o-Xylene	ND		50.0	48.16		ug/Kg		96	59 - 128	2	24	
m,p-Xylene	ND		100	96.61		ug/Kg		97	60 - 125	2	24	
Toluene	ND		50.0	49.08		ug/Kg		98	68 - 125	1	20	
Trichloroethene	ND		50.0	51.17		ug/Kg		102	41 - 169	0	21	
Vinyl chloride	ND		50.0	56.11		ug/Kg		112	59 - 125	0	20	

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		64 - 141
4-Bromofluorobenzene (Surr)	93		76 - 120
Dibromofluoromethane (Surr)	104		47 - 142
Toluene-d8 (Surr)	97		80 - 120

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 570-252088/3-A
Matrix: Solid
Analysis Batch: 252086

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 252088

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C12)	ND		0.098		mg/Kg		07/26/22 13:34	07/26/22 15:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		42 - 126	07/26/22 13:34	07/26/22 15:47	1

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: LCS 570-252088/1-A
Matrix: Solid
Analysis Batch: 252086

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 252088

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	1.98	2.136		mg/Kg		108	70 - 124
Surrogate		LCS %Recovery	LCS Qualifier				Limits
4-Bromofluorobenzene (Surr)		99					42 - 126

Lab Sample ID: LCSD 570-252088/2-A
Matrix: Solid
Analysis Batch: 252086

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 252088

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Gasoline Range Organics (C4-C13)	1.96	2.061		mg/Kg		105	70 - 124	4	18
Surrogate		LCSD %Recovery	LCSD Qualifier				Limits		
4-Bromofluorobenzene (Surr)		103					42 - 126		

Lab Sample ID: 570-104142-A-2-G MS
Matrix: Solid
Analysis Batch: 252086

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 252088

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	ND	F2	1.99	1.394		mg/Kg		70	48 - 114
Surrogate		MS %Recovery		MS Qualifier					Limits
4-Bromofluorobenzene (Surr)		96							42 - 126

Lab Sample ID: 570-104142-A-2-H MSD
Matrix: Solid
Analysis Batch: 252086

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 252088

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Gasoline Range Organics (C4-C13)	ND	F2	1.99	1.081	F2	mg/Kg		54	48 - 114	25	23
Surrogate		MSD %Recovery		MSD Qualifier					Limits		
4-Bromofluorobenzene (Surr)		98							42 - 126		

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 570-252503/1-A
Matrix: Solid
Analysis Batch: 252621

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 252503

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0		mg/Kg		07/27/22 17:40	07/28/22 18:39	1
C23-C40	ND		5.0		mg/Kg		07/27/22 17:40	07/28/22 18:39	1

Eurofins Calscience

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 570-252503/1-A
Matrix: Solid
Analysis Batch: 252621

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 252503

Surrogate	MB MB	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane (Surr)	88			60 - 138	07/27/22 17:40	07/28/22 18:39	1

Lab Sample ID: LCS 570-252503/2-A
Matrix: Solid
Analysis Batch: 252621

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 252503

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	%Rec
Diesel Range Organics [C10-C28]	400	493.7		mg/Kg		123	80 - 130	
Surrogate	LCS LCS	%Recovery	Qualifier	Limits				
<i>n</i> -Octacosane (Surr)	95			60 - 138				

Lab Sample ID: LCSD 570-252503/3-A
Matrix: Solid
Analysis Batch: 252621

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 252503

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Diesel Range Organics [C10-C28]	400	497.7		mg/Kg		124	80 - 130	1	20
Surrogate	LCSD LCSD	%Recovery	Qualifier	Limits					
<i>n</i> -Octacosane (Surr)	91			60 - 138					

Lab Sample ID: 570-104011-A-1-M MS
Matrix: Solid
Analysis Batch: 252621

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 252503

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Diesel Range Organics [C10-C28]	36		396	506.2		mg/Kg		119	43 - 165
Surrogate	MS MS	%Recovery	Qualifier	Limits					
<i>n</i> -Octacosane (Surr)	95			60 - 138					

Lab Sample ID: 570-104011-A-1-N MSD
Matrix: Solid
Analysis Batch: 252621

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 252503

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Diesel Range Organics [C10-C28]	36		394	482.4		mg/Kg		113	43 - 165	5	35
Surrogate	MSD MSD	%Recovery	Qualifier	Limits							
<i>n</i> -Octacosane (Surr)	93			60 - 138							

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 570-251850/1-A
Matrix: Solid
Analysis Batch: 252540

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 251850

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
4,4'-DDD	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
4,4'-DDE	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
4,4'-DDT	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
Aldrin	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
alpha-BHC	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
alpha-Chlordane	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
beta-BHC	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
Chlordane	ND		25		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
delta-BHC	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
Dieldrin	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
Endosulfan I	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
Endosulfan II	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
Endosulfan sulfate	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
Endrin	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
Endrin aldehyde	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
Endrin ketone	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
gamma-Chlordane	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
gamma-BHC	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
Heptachlor	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
Heptachlor epoxide	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
Methoxychlor	ND		5.0		ug/Kg		07/25/22 17:56	07/28/22 07:17	1
Toxaphene	ND		25		ug/Kg		07/25/22 17:56	07/28/22 07:17	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene (Surr)	88		38 - 148	07/25/22 17:56	07/28/22 07:17	1
DCB Decachlorobiphenyl (Surr)	89		37 - 151	07/25/22 17:56	07/28/22 07:17	1

Lab Sample ID: LCS 570-251850/2-A
Matrix: Solid
Analysis Batch: 252540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 251850

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
4,4'-DDD	25.0	17.83		ug/Kg		71	54 - 154
4,4'-DDE	25.0	17.40		ug/Kg		70	51 - 149
4,4'-DDT	25.0	18.14		ug/Kg		73	39 - 152
Aldrin	25.0	18.32		ug/Kg		73	52 - 138
alpha-BHC	25.0	19.23		ug/Kg		77	51 - 140
alpha-Chlordane	25.0	17.68		ug/Kg		71	53 - 141
beta-BHC	25.0	17.98		ug/Kg		72	53 - 141
delta-BHC	25.0	18.90		ug/Kg		76	20 - 132
Dieldrin	25.0	17.51		ug/Kg		70	52 - 144
Endosulfan I	25.0	17.60		ug/Kg		70	49 - 139
Endosulfan II	25.0	18.43		ug/Kg		74	51 - 150
Endosulfan sulfate	25.0	17.94		ug/Kg		72	45 - 139
Endrin	25.0	17.60		ug/Kg		70	53 - 151
Endrin aldehyde	25.0	14.93		ug/Kg		60	31 - 146
gamma-Chlordane	25.0	18.24		ug/Kg		73	46 - 156
gamma-BHC	25.0	19.14		ug/Kg		77	53 - 141

Eurofins Calscience

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 570-251850/2-A
Matrix: Solid
Analysis Batch: 252540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 251850

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Heptachlor	25.0	18.79		ug/Kg		75	52 - 144
Heptachlor epoxide	25.0	18.47		ug/Kg		74	54 - 141
Methoxychlor	25.0	21.29		ug/Kg		85	47 - 148

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene (Surr)	79		38 - 148
DCB Decachlorobiphenyl (Surr)	80		37 - 151

Lab Sample ID: LCSD 570-251850/3-A
Matrix: Solid
Analysis Batch: 252540

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 251850

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
4,4'-DDD	25.0	17.37		ug/Kg		69	54 - 154	3	30
4,4'-DDE	25.0	17.01		ug/Kg		68	51 - 149	2	28
4,4'-DDT	25.0	17.60		ug/Kg		70	39 - 152	3	31
Aldrin	25.0	18.16		ug/Kg		73	52 - 138	1	30
alpha-BHC	25.0	18.91		ug/Kg		76	51 - 140	2	29
alpha-Chlordane	25.0	17.28		ug/Kg		69	53 - 141	2	28
beta-BHC	25.0	17.65		ug/Kg		71	53 - 141	2	29
delta-BHC	25.0	18.53		ug/Kg		74	20 - 132	2	40
Dieldrin	25.0	17.21		ug/Kg		69	52 - 144	2	28
Endosulfan I	25.0	17.18		ug/Kg		69	49 - 139	2	28
Endosulfan II	25.0	17.85		ug/Kg		71	51 - 150	3	29
Endosulfan sulfate	25.0	17.61		ug/Kg		70	45 - 139	2	30
Endrin	25.0	17.14		ug/Kg		69	53 - 151	3	29
Endrin aldehyde	25.0	14.88		ug/Kg		60	31 - 146	0	40
gamma-Chlordane	25.0	17.87		ug/Kg		71	46 - 156	2	39
gamma-BHC	25.0	18.83		ug/Kg		75	53 - 141	2	29
Heptachlor	25.0	18.54		ug/Kg		74	52 - 144	1	29
Heptachlor epoxide	25.0	18.10		ug/Kg		72	54 - 141	2	29
Methoxychlor	25.0	20.58		ug/Kg		82	47 - 148	3	29

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tetrachloro-m-xylene (Surr)	77		38 - 148
DCB Decachlorobiphenyl (Surr)	78		37 - 151

Lab Sample ID: 570-104203-1 MS
Matrix: Solid
Analysis Batch: 252540

Client Sample ID: 109182001-1
Prep Type: Total/NA
Prep Batch: 251850

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
4,4'-DDD	ND		24.9	18.96		ug/Kg		76	27 - 144
4,4'-DDE	ND		24.9	13.96		ug/Kg		56	28 - 141
4,4'-DDT	ND		24.9	ND		ug/Kg		12	10 - 154
Aldrin	ND		24.9	13.92		ug/Kg		56	26 - 125
alpha-BHC	ND		24.9	14.37		ug/Kg		58	24 - 125
alpha-Chlordane	ND		24.9	13.80		ug/Kg		55	17 - 144

Eurolins Calscience

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 570-104203-1 MS

Matrix: Solid

Analysis Batch: 252540

Client Sample ID: 109182001-1

Prep Type: Total/NA

Prep Batch: 251850

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				
beta-BHC	ND		24.9	12.76		ug/Kg		51	28 - 125
delta-BHC	ND		24.9	13.77		ug/Kg		55	10 - 125
Dieldrin	ND		24.9	13.85		ug/Kg		56	19 - 145
Endosulfan I	ND		24.9	13.32		ug/Kg		54	25 - 125
Endosulfan II	ND		24.9	16.53		ug/Kg		66	13 - 142
Endosulfan sulfate	ND		24.9	13.99		ug/Kg		56	14 - 126
Endrin	ND		24.9	13.62		ug/Kg		55	28 - 139
Endrin aldehyde	ND		24.9	15.10		ug/Kg		61	12 - 125
gamma-Chlordane	ND		24.9	14.67		ug/Kg		59	10 - 160
gamma-BHC	ND		24.9	13.50		ug/Kg		54	24 - 125
Heptachlor	ND		24.9	11.12		ug/Kg		45	19 - 127
Heptachlor epoxide	ND		24.9	13.99		ug/Kg		56	33 - 123
Methoxychlor	ND	F1	24.9	ND	F1	ug/Kg		16	19 - 128

Surrogate	MS %Recovery	MS Qualifier	MS Limits
Tetrachloro-m-xylene (Surr)	63		38 - 148
DCB Decachlorobiphenyl (Surr)	65		37 - 151

Lab Sample ID: 570-104203-1 MSD

Matrix: Solid

Analysis Batch: 252540

Client Sample ID: 109182001-1

Prep Type: Total/NA

Prep Batch: 251850

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier						
4,4'-DDD	ND		25.0	18.97		ug/Kg		76	27 - 144	0	40
4,4'-DDE	ND		25.0	13.88		ug/Kg		56	28 - 141	1	32
4,4'-DDT	ND		25.0	ND		ug/Kg		16	10 - 154	30	40
Aldrin	ND		25.0	13.96		ug/Kg		56	26 - 125	0	40
alpha-BHC	ND		25.0	14.51		ug/Kg		58	24 - 125	1	40
alpha-Chlordane	ND		25.0	13.86		ug/Kg		56	17 - 144	0	40
beta-BHC	ND		25.0	12.93		ug/Kg		52	28 - 125	1	39
delta-BHC	ND		25.0	13.87		ug/Kg		56	10 - 125	1	40
Dieldrin	ND		25.0	13.90		ug/Kg		56	19 - 145	0	39
Endosulfan I	ND		25.0	13.31		ug/Kg		53	25 - 125	0	39
Endosulfan II	ND		25.0	16.74		ug/Kg		67	13 - 142	1	40
Endosulfan sulfate	ND		25.0	14.98		ug/Kg		60	14 - 126	7	38
Endrin	ND		25.0	13.84		ug/Kg		55	28 - 139	2	40
Endrin aldehyde	ND		25.0	16.01		ug/Kg		64	12 - 125	6	40
gamma-Chlordane	ND		25.0	14.17		ug/Kg		57	10 - 160	3	40
gamma-BHC	ND		25.0	13.64		ug/Kg		55	24 - 125	1	40
Heptachlor	ND		25.0	11.71		ug/Kg		47	19 - 127	5	40
Heptachlor epoxide	ND		25.0	13.95		ug/Kg		56	33 - 123	0	34
Methoxychlor	ND	F1	25.0	5.859		ug/Kg		23	19 - 128	37	40

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
Tetrachloro-m-xylene (Surr)	61		38 - 148
DCB Decachlorobiphenyl (Surr)	64		37 - 151

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 570-251850/1-A
Matrix: Solid
Analysis Batch: 252223

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 251850

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aroclor-1016	ND		50		ug/Kg		07/25/22 17:56	07/26/22 20:46	1
Aroclor-1221	ND		50		ug/Kg		07/25/22 17:56	07/26/22 20:46	1
Aroclor-1232	ND		50		ug/Kg		07/25/22 17:56	07/26/22 20:46	1
Aroclor-1242	ND		50		ug/Kg		07/25/22 17:56	07/26/22 20:46	1
Aroclor-1248	ND		50		ug/Kg		07/25/22 17:56	07/26/22 20:46	1
Aroclor-1254	ND		50		ug/Kg		07/25/22 17:56	07/26/22 20:46	1
Aroclor-1260	ND		50		ug/Kg		07/25/22 17:56	07/26/22 20:46	1
Aroclor-1262	ND		50		ug/Kg		07/25/22 17:56	07/26/22 20:46	1
Aroclor-1268	ND		50		ug/Kg		07/25/22 17:56	07/26/22 20:46	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene (Surr)	89		25 - 120	07/25/22 17:56	07/26/22 20:46	1
DCB Decachlorobiphenyl (Surr)	78		20 - 120	07/25/22 17:56	07/26/22 20:46	1

Lab Sample ID: LCS 570-251850/6-A
Matrix: Solid
Analysis Batch: 252223

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 251850

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
Aroclor-1016	100	77.03		ug/Kg		77	53 - 133
Aroclor-1260	100	64.57		ug/Kg		65	39 - 140

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	79		25 - 120
DCB Decachlorobiphenyl (Surr)	55		20 - 120

Lab Sample ID: LCSD 570-251850/7-A
Matrix: Solid
Analysis Batch: 252223

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 251850

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	Limits	RPD	Limit
		Result	Qualifier						
Aroclor-1016	100	77.26		ug/Kg		77	53 - 133	0	32
Aroclor-1260	100	62.18		ug/Kg		62	39 - 140	4	40

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	75		25 - 120
DCB Decachlorobiphenyl (Surr)	58		20 - 120

Lab Sample ID: 570-104203-1 MS
Matrix: Solid
Analysis Batch: 252223

Client Sample ID: 109182001-1
Prep Type: Total/NA
Prep Batch: 251850

Analyte	Sample Result	Sample Qualifier	Spike Added	MS	MS	Unit	D	%Rec	Limits
				Result	Qualifier				
Aroclor-1016	ND		100	80.32		ug/Kg		80	20 - 162
Aroclor-1260	ND		100	95.13		ug/Kg		95	20 - 155

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 570-104203-1 MS
Matrix: Solid
Analysis Batch: 252223

Client Sample ID: 109182001-1
Prep Type: Total/NA
Prep Batch: 251850

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	62		25 - 120
DCB Decachlorobiphenyl (Surr)	54		20 - 120

Lab Sample ID: 570-104203-1 MSD
Matrix: Solid
Analysis Batch: 252223

Client Sample ID: 109182001-1
Prep Type: Total/NA
Prep Batch: 251850

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Aroclor-1016	ND		99.6	85.21		ug/Kg		86	20 - 162	6	40	
Aroclor-1260	ND		99.6	90.26		ug/Kg		91	20 - 155	5	40	

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	62		25 - 120
DCB Decachlorobiphenyl (Surr)	52		20 - 120

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-251876/1-A ^5
Matrix: Solid
Analysis Batch: 252321

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 251876

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Silver	ND		1.52		mg/Kg		07/26/22 10:00	07/26/22 18:01	5
Arsenic	ND		3.03		mg/Kg		07/26/22 10:00	07/26/22 18:01	5
Barium	ND		3.03		mg/Kg		07/26/22 10:00	07/26/22 18:01	5
Beryllium	ND		0.505		mg/Kg		07/26/22 10:00	07/26/22 18:01	5
Cadmium	ND		0.505		mg/Kg		07/26/22 10:00	07/26/22 18:01	5
Cobalt	ND		1.01		mg/Kg		07/26/22 10:00	07/26/22 18:01	5
Chromium	ND		1.01		mg/Kg		07/26/22 10:00	07/26/22 18:01	5
Copper	ND		2.02		mg/Kg		07/26/22 10:00	07/26/22 18:01	5
Molybdenum	ND		2.02		mg/Kg		07/26/22 10:00	07/26/22 18:01	5
Nickel	ND		2.02		mg/Kg		07/26/22 10:00	07/26/22 18:01	5
Antimony	ND		10.1		mg/Kg		07/26/22 10:00	07/26/22 18:01	5
Selenium	ND		3.03		mg/Kg		07/26/22 10:00	07/26/22 18:01	5
Thallium	ND		10.1		mg/Kg		07/26/22 10:00	07/26/22 18:01	5
Vanadium	ND		1.01		mg/Kg		07/26/22 10:00	07/26/22 18:01	5
Zinc	ND		5.05		mg/Kg		07/26/22 10:00	07/26/22 18:01	5
Lead	ND		2.02		mg/Kg		07/26/22 10:00	07/26/22 18:01	5

Lab Sample ID: LCS 570-251876/2-A ^5
Matrix: Solid
Analysis Batch: 252321

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 251876

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	RPD
Silver	24.5	22.59		mg/Kg		92	80 - 120	
Arsenic	49.0	45.44		mg/Kg		93	80 - 120	
Barium	49.0	45.69		mg/Kg		93	80 - 120	
Beryllium	49.0	45.45		mg/Kg		93	80 - 120	
Cadmium	49.0	44.09		mg/Kg		90	80 - 120	

Eurofins Calscience

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-251876/2-A ^5
Matrix: Solid
Analysis Batch: 252321

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 251876

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	49.0	45.42		mg/Kg		93	80 - 120
Chromium	49.0	45.65		mg/Kg		93	80 - 120
Copper	49.0	45.13		mg/Kg		92	80 - 120
Molybdenum	49.0	46.14		mg/Kg		94	80 - 120
Nickel	49.0	45.60		mg/Kg		93	80 - 120
Antimony	49.0	53.96		mg/Kg		110	80 - 120
Selenium	49.0	42.19		mg/Kg		86	80 - 120
Thallium	49.0	45.25		mg/Kg		92	80 - 120
Vanadium	49.0	44.96		mg/Kg		92	80 - 120
Zinc	49.0	44.39		mg/Kg		91	80 - 120
Lead	49.0	44.87		mg/Kg		92	80 - 120

Lab Sample ID: LCSD 570-251876/3-A ^5
Matrix: Solid
Analysis Batch: 252321

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 251876

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Silver	25.3	24.02		mg/Kg		95	80 - 120	6	20
Arsenic	50.5	47.40		mg/Kg		94	80 - 120	4	20
Barium	50.5	48.40		mg/Kg		96	80 - 120	6	20
Beryllium	50.5	48.03		mg/Kg		95	80 - 120	6	20
Cadmium	50.5	46.94		mg/Kg		93	80 - 120	6	20
Cobalt	50.5	48.31		mg/Kg		96	80 - 120	6	20
Chromium	50.5	48.36		mg/Kg		96	80 - 120	6	20
Copper	50.5	47.75		mg/Kg		95	80 - 120	6	20
Molybdenum	50.5	49.22		mg/Kg		97	80 - 120	6	20
Nickel	50.5	48.38		mg/Kg		96	80 - 120	6	20
Antimony	50.5	56.21		mg/Kg		111	80 - 120	4	20
Selenium	50.5	44.43		mg/Kg		88	80 - 120	5	20
Thallium	50.5	49.00		mg/Kg		97	80 - 120	8	20
Vanadium	50.5	47.53		mg/Kg		94	80 - 120	6	20
Zinc	50.5	46.44		mg/Kg		92	80 - 120	5	20
Lead	50.5	47.50		mg/Kg		94	80 - 120	6	20

Lab Sample ID: 570-104140-F-2-C MS ^5
Matrix: Solid
Analysis Batch: 252321

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 251876

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Silver	ND		25.5	23.69		mg/Kg		93	75 - 125
Arsenic	3.21		51.0	49.20		mg/Kg		90	75 - 125
Barium	18.1		51.0	64.86		mg/Kg		92	75 - 125
Beryllium	ND		51.0	48.21		mg/Kg		94	75 - 125
Cadmium	ND		51.0	45.98		mg/Kg		90	75 - 125
Cobalt	2.66		51.0	49.06		mg/Kg		91	75 - 125
Chromium	7.76		51.0	56.47		mg/Kg		95	75 - 125
Copper	7.19		51.0	55.00		mg/Kg		94	75 - 125
Molybdenum	ND		51.0	47.82		mg/Kg		92	75 - 125
Nickel	4.64		51.0	52.79		mg/Kg		94	75 - 125

Eurofins Calscience

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 570-104140-F-2-C MS ^5
Matrix: Solid
Analysis Batch: 252321

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 251876

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND	F1	51.0	23.27	F1	mg/Kg		46	75 - 125
Selenium	ND		51.0	43.98		mg/Kg		86	75 - 125
Thallium	ND		51.0	47.68		mg/Kg		93	75 - 125
Vanadium	9.68		51.0	58.51		mg/Kg		96	75 - 125
Zinc	22.9		51.0	63.24		mg/Kg		79	75 - 125
Lead	3.25		51.0	50.50		mg/Kg		93	75 - 125

Lab Sample ID: 570-104140-F-2-D MSD ^5
Matrix: Solid
Analysis Batch: 252321

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 251876

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Silver	ND		25.1	23.44		mg/Kg		93	75 - 125	1	20
Arsenic	3.21		50.3	49.01		mg/Kg		91	75 - 125	0	20
Barium	18.1		50.3	65.75		mg/Kg		95	75 - 125	1	20
Beryllium	ND		50.3	47.75		mg/Kg		95	75 - 125	1	20
Cadmium	ND		50.3	45.52		mg/Kg		90	75 - 125	1	20
Cobalt	2.66		50.3	48.37		mg/Kg		91	75 - 125	1	20
Chromium	7.76		50.3	55.31		mg/Kg		95	75 - 125	2	20
Copper	7.19		50.3	54.31		mg/Kg		94	75 - 125	1	20
Molybdenum	ND		50.3	47.53		mg/Kg		93	75 - 125	1	20
Nickel	4.64		50.3	51.86		mg/Kg		94	75 - 125	2	20
Antimony	ND	F1	50.3	26.21	F1	mg/Kg		52	75 - 125	12	20
Selenium	ND		50.3	44.42		mg/Kg		88	75 - 125	1	20
Thallium	ND		50.3	46.77		mg/Kg		93	75 - 125	2	20
Vanadium	9.68		50.3	56.90		mg/Kg		94	75 - 125	3	20
Zinc	22.9		50.3	62.91		mg/Kg		80	75 - 125	1	20
Lead	3.25		50.3	58.62		mg/Kg		110	75 - 125	15	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 570-252226/1-A
Matrix: Solid
Analysis Batch: 252465

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 252226

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0868		mg/Kg		07/26/22 19:25	07/27/22 12:53	1

Lab Sample ID: LCS 570-252226/2-A
Matrix: Solid
Analysis Batch: 252465

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 252226

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.769	0.7673		mg/Kg		100	85 - 121

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 570-252226/3-A
Matrix: Solid
Analysis Batch: 252465

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 252226

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Mercury	0.784	0.8015		mg/Kg		102	85 - 121	4	10	

Lab Sample ID: 570-103873-D-1-F MS
Matrix: Solid
Analysis Batch: 252465

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 252226

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Mercury	0.106		0.769	0.8766		mg/Kg		100	75 - 125			

Lab Sample ID: 570-103873-D-1-G MSD
Matrix: Solid
Analysis Batch: 252465

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 252226

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Mercury	0.106		0.833	0.8515		mg/Kg		89	75 - 125	3	14	

QC Association Summary

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

GC/MS VOA

Prep Batch: 251957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104203-1	109182001-1	Total/NA	Solid	5030C	
570-104203-2	109182001-2	Total/NA	Solid	5030C	
570-104203-3	109182001-3	Total/NA	Solid	5030C	
MB 570-251957/3-A	Method Blank	Total/NA	Solid	5030C	
LCS 570-251957/1-A	Lab Control Sample	Total/NA	Solid	5030C	
LCSD 570-251957/2-A	Lab Control Sample Dup	Total/NA	Solid	5030C	
570-104011-A-1-D MS	Matrix Spike	Total/NA	Solid	5030C	
570-104011-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5030C	

Analysis Batch: 251961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104203-1	109182001-1	Total/NA	Solid	8260B	251957
570-104203-2	109182001-2	Total/NA	Solid	8260B	251957
570-104203-3	109182001-3	Total/NA	Solid	8260B	251957
MB 570-251957/3-A	Method Blank	Total/NA	Solid	8260B	251957
LCS 570-251957/1-A	Lab Control Sample	Total/NA	Solid	8260B	251957
LCSD 570-251957/2-A	Lab Control Sample Dup	Total/NA	Solid	8260B	251957
570-104011-A-1-D MS	Matrix Spike	Total/NA	Solid	8260B	251957
570-104011-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B	251957

GC VOA

Analysis Batch: 252086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104203-1	109182001-1	Total/NA	Solid	8015B	252088
570-104203-2	109182001-2	Total/NA	Solid	8015B	252088
570-104203-3	109182001-3	Total/NA	Solid	8015B	252088
MB 570-252088/3-A	Method Blank	Total/NA	Solid	8015B	252088
LCS 570-252088/1-A	Lab Control Sample	Total/NA	Solid	8015B	252088
LCSD 570-252088/2-A	Lab Control Sample Dup	Total/NA	Solid	8015B	252088
570-104142-A-2-G MS	Matrix Spike	Total/NA	Solid	8015B	252088
570-104142-A-2-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	252088

Prep Batch: 252088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104203-1	109182001-1	Total/NA	Solid	5030C	
570-104203-2	109182001-2	Total/NA	Solid	5030C	
570-104203-3	109182001-3	Total/NA	Solid	5030C	
MB 570-252088/3-A	Method Blank	Total/NA	Solid	5030C	
LCS 570-252088/1-A	Lab Control Sample	Total/NA	Solid	5030C	
LCSD 570-252088/2-A	Lab Control Sample Dup	Total/NA	Solid	5030C	
570-104142-A-2-G MS	Matrix Spike	Total/NA	Solid	5030C	
570-104142-A-2-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5030C	

GC Semi VOA

Prep Batch: 251850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104203-1	109182001-1	Total/NA	Solid	3546	
570-104203-2	109182001-2	Total/NA	Solid	3546	
570-104203-3	109182001-3	Total/NA	Solid	3546	
MB 570-251850/1-A	Method Blank	Total/NA	Solid	3546	

Eurofins Calscience

QC Association Summary

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

GC Semi VOA (Continued)

Prep Batch: 251850 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-251850/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 570-251850/6-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 570-251850/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 570-251850/7-A	Lab Control Sample Dup	Total/NA	Solid	3546	
570-104203-1 MS	109182001-1	Total/NA	Solid	3546	
570-104203-1 MS	109182001-1	Total/NA	Solid	3546	
570-104203-1 MSD	109182001-1	Total/NA	Solid	3546	
570-104203-1 MSD	109182001-1	Total/NA	Solid	3546	

Analysis Batch: 252223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104203-1	109182001-1	Total/NA	Solid	8082	251850
570-104203-2	109182001-2	Total/NA	Solid	8082	251850
570-104203-3	109182001-3	Total/NA	Solid	8082	251850
MB 570-251850/1-A	Method Blank	Total/NA	Solid	8082	251850
LCS 570-251850/6-A	Lab Control Sample	Total/NA	Solid	8082	251850
LCSD 570-251850/7-A	Lab Control Sample Dup	Total/NA	Solid	8082	251850
570-104203-1 MS	109182001-1	Total/NA	Solid	8082	251850
570-104203-1 MSD	109182001-1	Total/NA	Solid	8082	251850

Prep Batch: 252503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104203-1	109182001-1	Total/NA	Solid	3550C	
570-104203-2	109182001-2	Total/NA	Solid	3550C	
570-104203-3	109182001-3	Total/NA	Solid	3550C	
MB 570-252503/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 570-252503/2-A	Lab Control Sample	Total/NA	Solid	3550C	
LCSD 570-252503/3-A	Lab Control Sample Dup	Total/NA	Solid	3550C	
570-104011-A-1-M MS	Matrix Spike	Total/NA	Solid	3550C	
570-104011-A-1-N MSD	Matrix Spike Duplicate	Total/NA	Solid	3550C	

Analysis Batch: 252540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104203-1	109182001-1	Total/NA	Solid	8081A	251850
570-104203-2	109182001-2	Total/NA	Solid	8081A	251850
570-104203-3	109182001-3	Total/NA	Solid	8081A	251850
MB 570-251850/1-A	Method Blank	Total/NA	Solid	8081A	251850
LCS 570-251850/2-A	Lab Control Sample	Total/NA	Solid	8081A	251850
LCSD 570-251850/3-A	Lab Control Sample Dup	Total/NA	Solid	8081A	251850
570-104203-1 MS	109182001-1	Total/NA	Solid	8081A	251850
570-104203-1 MSD	109182001-1	Total/NA	Solid	8081A	251850

Analysis Batch: 252621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104203-1	109182001-1	Total/NA	Solid	8015B	252503
570-104203-2	109182001-2	Total/NA	Solid	8015B	252503
570-104203-3	109182001-3	Total/NA	Solid	8015B	252503
MB 570-252503/1-A	Method Blank	Total/NA	Solid	8015B	252503
LCS 570-252503/2-A	Lab Control Sample	Total/NA	Solid	8015B	252503
LCSD 570-252503/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B	252503
570-104011-A-1-M MS	Matrix Spike	Total/NA	Solid	8015B	252503

Eurofins Calscience

QC Association Summary

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

GC Semi VOA (Continued)

Analysis Batch: 252621 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104011-A-1-N MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	252503

Metals

Prep Batch: 251876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104203-1	109182001-1	Total/NA	Solid	3050B	
570-104203-2	109182001-2	Total/NA	Solid	3050B	
570-104203-3	109182001-3	Total/NA	Solid	3050B	
MB 570-251876/1-A ^5	Method Blank	Total/NA	Solid	3050B	
LCS 570-251876/2-A ^5	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-251876/3-A ^5	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-104140-F-2-C MS ^5	Matrix Spike	Total/NA	Solid	3050B	
570-104140-F-2-D MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	3050B	

Prep Batch: 252226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104203-1	109182001-1	Total/NA	Solid	7471A	
570-104203-2	109182001-2	Total/NA	Solid	7471A	
570-104203-3	109182001-3	Total/NA	Solid	7471A	
MB 570-252226/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 570-252226/2-A	Lab Control Sample	Total/NA	Solid	7471A	
LCSD 570-252226/3-A	Lab Control Sample Dup	Total/NA	Solid	7471A	
570-103873-D-1-F MS	Matrix Spike	Total/NA	Solid	7471A	
570-103873-D-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	

Analysis Batch: 252321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104203-1	109182001-1	Total/NA	Solid	6010B	251876
570-104203-2	109182001-2	Total/NA	Solid	6010B	251876
570-104203-3	109182001-3	Total/NA	Solid	6010B	251876
MB 570-251876/1-A ^5	Method Blank	Total/NA	Solid	6010B	251876
LCS 570-251876/2-A ^5	Lab Control Sample	Total/NA	Solid	6010B	251876
LCSD 570-251876/3-A ^5	Lab Control Sample Dup	Total/NA	Solid	6010B	251876
570-104140-F-2-C MS ^5	Matrix Spike	Total/NA	Solid	6010B	251876
570-104140-F-2-D MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	6010B	251876

Analysis Batch: 252465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104203-1	109182001-1	Total/NA	Solid	7471A	252226
570-104203-2	109182001-2	Total/NA	Solid	7471A	252226
570-104203-3	109182001-3	Total/NA	Solid	7471A	252226
MB 570-252226/1-A	Method Blank	Total/NA	Solid	7471A	252226
LCS 570-252226/2-A	Lab Control Sample	Total/NA	Solid	7471A	252226
LCSD 570-252226/3-A	Lab Control Sample Dup	Total/NA	Solid	7471A	252226
570-103873-D-1-F MS	Matrix Spike	Total/NA	Solid	7471A	252226
570-103873-D-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	252226

Lab Chronicle

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Client Sample ID: 109182001-1

Lab Sample ID: 570-104203-1

Date Collected: 07/22/22 11:32

Matrix: Solid

Date Received: 07/25/22 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			5.03 g	5 mL	251957	07/26/22 08:32	AH8S	ECL 4
Total/NA	Analysis	8260B		1	5 mL	5 mL	251961	07/26/22 12:48	U4JL	ECL 4
Instrument ID: GCMSQ										
Total/NA	Prep	5030C			5.01 g	5 mL	252088	07/26/22 17:57	A9VE	ECL 4
Total/NA	Analysis	8015B		1	5 g	5 mL	252086	07/26/22 19:55	A9VE	ECL 4
Instrument ID: GC53										
Total/NA	Prep	3550C			10.15 g	10 mL	252503	07/27/22 17:40	USUL	ECL 4
Total/NA	Analysis	8015B		1			252621	07/29/22 03:26	N5Y3	ECL 4
Instrument ID: GC69A										
Total/NA	Prep	3546			20.03 g	10 mL	251850	07/25/22 17:56	USUL	ECL 4
Total/NA	Analysis	8081A		1			252540	07/28/22 09:47	N5Y3	ECL 4
Instrument ID: GC54A										
Total/NA	Prep	3546			20.03 g	10 mL	251850	07/25/22 17:56	USUL	ECL 4
Total/NA	Analysis	8082		1			252223	07/26/22 21:43	AJ2Q	ECL 4
Instrument ID: GC81A										
Total/NA	Prep	3050B			2.00 g	50 mL	251876	07/26/22 10:00		ECL 4
Total/NA	Analysis	6010B		5			252321	07/26/22 21:21	K1UV	ECL 4
Instrument ID: ICP10										
Total/NA	Prep	7471A			0.50 g	50 mL	252226	07/26/22 19:25	SR3N	ECL 4
Total/NA	Analysis	7471A		1			252465	07/27/22 13:04	C0YH	ECL 4
Instrument ID: HG7										

Client Sample ID: 109182001-2

Lab Sample ID: 570-104203-2

Date Collected: 07/22/22 11:36

Matrix: Solid

Date Received: 07/25/22 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			5.00 g	5 mL	251957	07/26/22 08:32	AH8S	ECL 4
Total/NA	Analysis	8260B		1	5 mL	5 mL	251961	07/26/22 13:09	U4JL	ECL 4
Instrument ID: GCMSQ										
Total/NA	Prep	5030C			5.09 g	5 mL	252088	07/26/22 17:57	A9VE	ECL 4
Total/NA	Analysis	8015B		1	5 g	5 mL	252086	07/26/22 20:19	A9VE	ECL 4
Instrument ID: GC53										
Total/NA	Prep	3550C			10.18 g	10 mL	252503	07/27/22 17:40	USUL	ECL 4
Total/NA	Analysis	8015B		1			252621	07/29/22 03:51	N5Y3	ECL 4
Instrument ID: GC69A										
Total/NA	Prep	3546			20.04 g	10 mL	251850	07/25/22 17:56	USUL	ECL 4
Total/NA	Analysis	8081A		1			252540	07/28/22 10:02	N5Y3	ECL 4
Instrument ID: GC54A										
Total/NA	Prep	3546			20.04 g	10 mL	251850	07/25/22 17:56	USUL	ECL 4
Total/NA	Analysis	8082		1			252223	07/26/22 22:02	AJ2Q	ECL 4
Instrument ID: GC81A										
Total/NA	Prep	3050B			2.01 g	50 mL	251876	07/26/22 10:00		ECL 4
Total/NA	Analysis	6010B		5			252321	07/26/22 21:23	K1UV	ECL 4
Instrument ID: ICP10										

Lab Chronicle

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Client Sample ID: 109182001-2

Lab Sample ID: 570-104203-2

Date Collected: 07/22/22 11:36

Matrix: Solid

Date Received: 07/25/22 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			0.50 g	50 mL	252226	07/26/22 19:25	SR3N	ECL 4
Total/NA	Analysis	7471A		1			252465	07/27/22 13:06	C0YH	ECL 4
Instrument ID: HG7										

Client Sample ID: 109182001-3

Lab Sample ID: 570-104203-3

Date Collected: 07/22/22 11:44

Matrix: Solid

Date Received: 07/25/22 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			5.03 g	5 mL	251957	07/26/22 08:32	AH8S	ECL 4
Total/NA	Analysis	8260B		1	5 mL	5 mL	251961	07/26/22 13:30	U4JL	ECL 4
Instrument ID: GCMSQ										
Total/NA	Prep	5030C			5.05 g	5 mL	252088	07/26/22 17:57	A9VE	ECL 4
Total/NA	Analysis	8015B		1	5 g	5 mL	252086	07/26/22 20:43	A9VE	ECL 4
Instrument ID: GC53										
Total/NA	Prep	3550C			10.14 g	10 mL	252503	07/27/22 17:40	USUL	ECL 4
Total/NA	Analysis	8015B		1			252621	07/29/22 04:17	N5Y3	ECL 4
Instrument ID: GC69A										
Total/NA	Prep	3546			20.03 g	10 mL	251850	07/25/22 17:56	USUL	ECL 4
Total/NA	Analysis	8081A		1			252540	07/28/22 10:17	N5Y3	ECL 4
Instrument ID: GC54A										
Total/NA	Prep	3546			20.03 g	10 mL	251850	07/25/22 17:56	USUL	ECL 4
Total/NA	Analysis	8082		1			252223	07/26/22 22:21	AJ2Q	ECL 4
Instrument ID: GC81A										
Total/NA	Prep	3050B			2.00 g	50 mL	251876	07/26/22 10:00		ECL 4
Total/NA	Analysis	6010B		5			252321	07/26/22 21:26	K1UV	ECL 4
Instrument ID: ICP10										
Total/NA	Prep	7471A			0.51 g	50 mL	252226	07/26/22 19:25	SR3N	ECL 4
Total/NA	Analysis	7471A		1			252465	07/27/22 13:08	C0YH	ECL 4
Instrument ID: HG7										

Laboratory References:

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: Ninyo & Moore
Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Laboratory: Eurofins Calscience

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4175	01-31-23

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

Method Summary

Client: Ninyo & Moore
Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	ECL 4
8015B	Gasoline Range Organics - (GC)	SW846	ECL 4
8015B	Diesel Range Organics (DRO) (GC)	SW846	ECL 4
8081A	Organochlorine Pesticides (GC)	SW846	ECL 4
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	ECL 4
6010B	Metals (ICP)	SW846	ECL 4
7471A	Mercury (CVAA)	SW846	ECL 4
3050B	Preparation, Metals	SW846	ECL 4
3546	Microwave Extraction	SW846	ECL 4
3550C	Ultrasonic Extraction	SW846	ECL 4
5030C	Purge and Trap	SW846	ECL 4
7471A	Preparation, Mercury	SW846	ECL 4

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: Ninyo & Moore
Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104203-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-104203-1	109182001-1	Solid	07/22/22 11:32	07/25/22 13:05
570-104203-2	109182001-2	Solid	07/22/22 11:36	07/25/22 13:05
570-104203-3	109182001-3	Solid	07/22/22 11:44	07/25/22 13:05

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

Login Sample Receipt Checklist

Client: Ninyo & Moore

Job Number: 570-104203-1

Login Number: 104203

List Number: 1

Creator: Skinner, Alma D

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-104951-1

Client Project/Site: GHD/MBGPF Well Expansion & Brine Min.

For:

Ninyo & Moore
5710 Ruffin Road
San Diego, California 92123

Attn: Gabriel Smith

Virendra & Patel

Authorized for release by:
8/10/2022 8:42:11 PM

Virendra Patel, Project Manager I
(714)895-5494
Virendra.Patel@et.eurofinsus.com

LINKS

Review your project
results through



Have a Question?



Visit us at:

www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Detection Summary	5
Client Sample Results	6
Surrogate Summary	20
QC Sample Results	22
QC Association Summary	36
Lab Chronicle	40
Certification Summary	42
Method Summary	43
Sample Summary	44
Chain of Custody	45
Receipt Checklists	46

Definitions/Glossary

Client: Ninyo & Moore
Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits

GC Semi VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ninyo & Moore
Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Job ID: 570-104951-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative 570-104951-1

Comments

No additional comments.

Receipt

The samples were received on 8/1/2022 7:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.0° C.

GC/MS VOA

Method 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-254012 and analytical batch 570-254013 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA

Method 8015B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision of C4-C13 for preparation batch 570-253744 and analytical batch 570-253699 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) was within acceptance limits

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method 8081A: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with preparation batch 570-253886 and analytical batch 570-255300 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of 4,4'-DDE and 4,4'-DDT in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

Method 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries of Antimony for preparation batch 570-253934 and analytical batch 570-254710 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.(570-104951-A-1-I MS ^5) and (570-104951-A-1-J MSD ^5)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Ninyo & Moore
Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Client Sample ID: 109182001-4

Lab Sample ID: 570-104951-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C13-C22	8.4		5.0		mg/Kg	1		8015B	Total/NA
C23-C40	10		5.0		mg/Kg	1		8015B	Total/NA
4,4'-DDT	20		5.0		ug/Kg	1		8081A	Total/NA
4,4'-DDE - DL	180		50		ug/Kg	10		8081A	Total/NA
Barium	91.1		3.00		mg/Kg	5		6010B	Total/NA
Cobalt	4.91		1.00		mg/Kg	5		6010B	Total/NA
Chromium	13.0		1.00		mg/Kg	5		6010B	Total/NA
Copper	10.2		2.00		mg/Kg	5		6010B	Total/NA
Nickel	5.21		2.00		mg/Kg	5		6010B	Total/NA
Vanadium	35.7		1.00		mg/Kg	5		6010B	Total/NA
Zinc	32.7		5.00		mg/Kg	5		6010B	Total/NA
Lead	4.91		2.00		mg/Kg	5		6010B	Total/NA

Client Sample ID: 109182001-5

Lab Sample ID: 570-104951-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDE	17		4.9		ug/Kg	1		8081A	Total/NA
Barium	68.4		3.00		mg/Kg	5		6010B	Total/NA
Cobalt	3.36		1.00		mg/Kg	5		6010B	Total/NA
Chromium	7.90		1.00		mg/Kg	5		6010B	Total/NA
Copper	11.3		2.00		mg/Kg	5		6010B	Total/NA
Nickel	3.15		2.00		mg/Kg	5		6010B	Total/NA
Vanadium	24.3		1.00		mg/Kg	5		6010B	Total/NA
Zinc	24.3		5.00		mg/Kg	5		6010B	Total/NA

Client Sample ID: 109182001-6

Lab Sample ID: 570-104951-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDE	27		4.9		ug/Kg	1		8081A	Total/NA
Barium	117		2.96		mg/Kg	5		6010B	Total/NA
Cobalt	5.79		0.985		mg/Kg	5		6010B	Total/NA
Chromium	15.3		0.985		mg/Kg	5		6010B	Total/NA
Copper	11.9		1.97		mg/Kg	5		6010B	Total/NA
Nickel	5.75		1.97		mg/Kg	5		6010B	Total/NA
Vanadium	41.4		0.985		mg/Kg	5		6010B	Total/NA
Zinc	36.9		4.93		mg/Kg	5		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: 109182001-4
Date Collected: 07/29/22 14:02
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,1,1-Trichloroethane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,1,2-Trichloroethane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,1-Dichloroethane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,1-Dichloroethene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,1-Dichloropropene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,2,3-Trichlorobenzene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,2-Dibromoethane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,2-Dichlorobenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,2-Dichloroethane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,2-Dichloropropane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,3,5-Trimethylbenzene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,3-Dichlorobenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,3-Dichloropropane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
2,2-Dichloropropane	ND		5.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
2-Butanone	ND		20		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
2-Chlorotoluene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
2-Hexanone	ND		20		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
4-Chlorotoluene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
4-Methyl-2-pentanone	ND		20		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Acetone	ND		20		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Benzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Bromobenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Bromochloromethane	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Bromodichloromethane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Bromoform	ND		5.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Bromomethane	ND		20		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
cis-1,2-Dichloroethene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
cis-1,3-Dichloropropane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Carbon disulfide	ND		10		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Carbon tetrachloride	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Chlorobenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Chloroethane	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Chloroform	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Chloromethane	ND		20		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Dibromochloromethane	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Dibromomethane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Dichlorodifluoromethane	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Ethylbenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Isopropylbenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Methylene Chloride	ND		10		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Methyl-t-Butyl Ether (MTBE)	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1

Eurofins Calscience

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: 109182001-4
Date Collected: 07/29/22 14:02
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		10		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
n-Butylbenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
N-Propylbenzene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
o-Xylene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
m,p-Xylene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
p-Isopropyltoluene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
sec-Butylbenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Styrene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
trans-1,2-Dichloroethene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
trans-1,3-Dichloropropene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
tert-Butylbenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Tetrachloroethene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Toluene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Trichloroethene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Trichlorofluoromethane	ND		10		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Vinyl acetate	ND		10		ug/Kg		08/03/22 14:42	08/03/22 17:05	1
Vinyl chloride	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		64 - 141	08/03/22 14:42	08/03/22 17:05	1
4-Bromofluorobenzene (Surr)	102		76 - 120	08/03/22 14:42	08/03/22 17:05	1
Dibromofluoromethane (Surr)	107		47 - 142	08/03/22 14:42	08/03/22 17:05	1
Toluene-d8 (Surr)	100		80 - 120	08/03/22 14:42	08/03/22 17:05	1

Client Sample ID: 109182001-5
Date Collected: 07/29/22 14:20
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,1,1-Trichloroethane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,1,2-Trichloroethane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,1-Dichloroethane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,1-Dichloroethene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,1-Dichloropropene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,2,3-Trichlorobenzene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,2-Dibromoethane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,2-Dichlorobenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,2-Dichloroethane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,2-Dichloropropane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,3,5-Trimethylbenzene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,3-Dichlorobenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,3-Dichloropropane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
2,2-Dichloropropane	ND		5.1		ug/Kg		08/03/22 14:42	08/03/22 17:26	1

Eurofins Calscience

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: 109182001-5
Date Collected: 07/29/22 14:20
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone	ND		20		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
2-Chlorotoluene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
2-Hexanone	ND		20		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
4-Chlorotoluene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
4-Methyl-2-pentanone	ND		20		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Acetone	ND		20		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Benzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Bromobenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Bromochloromethane	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Bromodichloromethane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Bromoform	ND		5.1		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Bromomethane	ND		20		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
cis-1,2-Dichloroethene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Carbon disulfide	ND		10		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Carbon tetrachloride	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Chlorobenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Chloroethane	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Chloroform	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Chloromethane	ND		20		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Dibromochloromethane	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Dibromomethane	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Dichlorodifluoromethane	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Ethylbenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Isopropylbenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Methylene Chloride	ND		10		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Methyl-t-Butyl Ether (MTBE)	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Naphthalene	ND		10		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
n-Butylbenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
N-Propylbenzene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
o-Xylene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
m,p-Xylene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
p-Isopropyltoluene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
sec-Butylbenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Styrene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
trans-1,2-Dichloroethene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
trans-1,3-Dichloropropene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
tert-Butylbenzene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Tetrachloroethene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Toluene	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Trichloroethene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Trichlorofluoromethane	ND		10		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Vinyl acetate	ND		10		ug/Kg		08/03/22 14:42	08/03/22 17:26	1
Vinyl chloride	ND		1.0		ug/Kg		08/03/22 14:42	08/03/22 17:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		64 - 141	08/03/22 14:42	08/03/22 17:26	1
4-Bromofluorobenzene (Surr)	101		76 - 120	08/03/22 14:42	08/03/22 17:26	1
Dibromofluoromethane (Surr)	105		47 - 142	08/03/22 14:42	08/03/22 17:26	1
Toluene-d8 (Surr)	100		80 - 120	08/03/22 14:42	08/03/22 17:26	1

Eurofins Calscience

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: 109182001-6
Date Collected: 07/29/22 14:34
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,1,1-Trichloroethane	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		9.8		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,1,2-Trichloroethane	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,1-Dichloroethane	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,1-Dichloroethene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,1-Dichloropropene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,2,3-Trichlorobenzene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,2-Dibromo-3-Chloropropane	ND		9.8		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,2-Dibromoethane	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,2-Dichlorobenzene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,2-Dichloroethane	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,2-Dichloropropane	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,3,5-Trimethylbenzene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,3-Dichlorobenzene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,3-Dichloropropane	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
1,4-Dichlorobenzene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
2,2-Dichloropropane	ND		4.9		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
2-Butanone	ND		20		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
2-Chlorotoluene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
2-Hexanone	ND		20		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
4-Chlorotoluene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
4-Methyl-2-pentanone	ND		20		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Acetone	ND		20		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Benzene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Bromobenzene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Bromochloromethane	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Bromodichloromethane	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Bromoform	ND		4.9		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Bromomethane	ND		20		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
cis-1,2-Dichloroethene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
cis-1,3-Dichloropropane	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Carbon disulfide	ND		9.8		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Carbon tetrachloride	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Chlorobenzene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Chloroethane	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Chloroform	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Chloromethane	ND		20		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Dibromochloromethane	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Dibromomethane	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Dichlorodifluoromethane	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Ethylbenzene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Isopropylbenzene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Methylene Chloride	ND		9.8		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Methyl-t-Butyl Ether (MTBE)	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:47	1

Eurofins Calscience

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: 109182001-6
Date Collected: 07/29/22 14:34
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		9.8		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
n-Butylbenzene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
N-Propylbenzene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
o-Xylene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
m,p-Xylene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
p-Isopropyltoluene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
sec-Butylbenzene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Styrene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
trans-1,2-Dichloroethene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
trans-1,3-Dichloropropene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
tert-Butylbenzene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Tetrachloroethene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Toluene	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Trichloroethene	ND		2.0		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Trichlorofluoromethane	ND		9.8		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Vinyl acetate	ND		9.8		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Vinyl chloride	ND		0.98		ug/Kg		08/03/22 14:42	08/03/22 17:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		64 - 141				08/03/22 14:42	08/03/22 17:47	1
4-Bromofluorobenzene (Surr)	101		76 - 120				08/03/22 14:42	08/03/22 17:47	1
Dibromofluoromethane (Surr)	106		47 - 142				08/03/22 14:42	08/03/22 17:47	1
Toluene-d8 (Surr)	102		80 - 120				08/03/22 14:42	08/03/22 17:47	1

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8015B - Gasoline Range Organics - (GC)

Client Sample ID: 109182001-4
Date Collected: 07/29/22 14:02
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C12)	ND		0.099		mg/Kg		08/02/22 12:42	08/02/22 14:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	58		42 - 126				08/02/22 12:42	08/02/22 14:52	1

Client Sample ID: 109182001-5
Date Collected: 07/29/22 14:20
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C12)	ND		0.10		mg/Kg		08/02/22 12:42	08/02/22 15:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	50		42 - 126				08/02/22 12:42	08/02/22 15:22	1

Client Sample ID: 109182001-6
Date Collected: 07/29/22 14:34
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C4-C12)	ND		0.10		mg/Kg		08/02/22 12:42	08/02/22 15:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	65		42 - 126				08/02/22 12:42	08/02/22 15:51	1

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Client Sample ID: 109182001-4
Date Collected: 07/29/22 14:02
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	8.4		5.0		mg/Kg		08/05/22 09:09	08/06/22 02:27	1
C23-C40	10		5.0		mg/Kg		08/05/22 09:09	08/06/22 02:27	1
Surrogate	%Recovery	Qualifier	Limits						
<i>n</i> -Octacosane (Surr)	117		60 - 138						
							Prepared	Analyzed	Dil Fac
							08/05/22 09:09	08/06/22 02:27	1

Client Sample ID: 109182001-5
Date Collected: 07/29/22 14:20
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		4.9		mg/Kg		08/05/22 09:09	08/06/22 02:48	1
C23-C40	ND		4.9		mg/Kg		08/05/22 09:09	08/06/22 02:48	1
Surrogate	%Recovery	Qualifier	Limits						
<i>n</i> -Octacosane (Surr)	119		60 - 138						
							Prepared	Analyzed	Dil Fac
							08/05/22 09:09	08/06/22 02:48	1

Client Sample ID: 109182001-6
Date Collected: 07/29/22 14:34
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		4.9		mg/Kg		08/05/22 09:09	08/06/22 03:10	1
C23-C40	ND		4.9		mg/Kg		08/05/22 09:09	08/06/22 03:10	1
Surrogate	%Recovery	Qualifier	Limits						
<i>n</i> -Octacosane (Surr)	113		60 - 138						
							Prepared	Analyzed	Dil Fac
							08/05/22 09:09	08/06/22 03:10	1

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: 109182001-4
Date Collected: 07/29/22 14:02
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
4,4'-DDT	20		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
Aldrin	ND		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
alpha-BHC	ND		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
alpha-Chlordane	ND		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
beta-BHC	ND		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
Chlordane	ND		25		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
delta-BHC	ND		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
Dieldrin	ND		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
Endosulfan I	ND		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
Endosulfan II	ND		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
Endosulfan sulfate	ND		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
Endrin	ND		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
Endrin aldehyde	ND		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
Endrin ketone	ND		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
gamma-Chlordane	ND		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
gamma-BHC	ND		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
Heptachlor	ND		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
Heptachlor epoxide	ND		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
Methoxychlor	ND		5.0		ug/Kg		08/02/22 17:23	08/09/22 07:29	1
Toxaphene	ND		25		ug/Kg		08/02/22 17:23	08/09/22 07:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene (Surr)</i>	69		38 - 148	08/02/22 17:23	08/09/22 07:29	1
<i>DCB Decachlorobiphenyl (Surr)</i>	79		37 - 151	08/02/22 17:23	08/09/22 07:29	1

Client Sample ID: 109182001-5
Date Collected: 07/29/22 14:20
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
4,4'-DDE	17		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
4,4'-DDT	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
Aldrin	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
alpha-BHC	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
alpha-Chlordane	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
beta-BHC	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
Chlordane	ND		25		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
delta-BHC	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
Dieldrin	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
Endosulfan I	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
Endosulfan II	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
Endosulfan sulfate	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
Endrin	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
Endrin aldehyde	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
Endrin ketone	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
gamma-Chlordane	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
gamma-BHC	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
Heptachlor	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
Heptachlor epoxide	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1

Euofins Calscience

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Client Sample ID: 109182001-5
Date Collected: 07/29/22 14:20
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
Toxaphene	ND		25		ug/Kg		08/02/22 17:23	08/09/22 07:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	73		38 - 148				08/02/22 17:23	08/09/22 07:44	1
DCB Decachlorobiphenyl (Surr)	80		37 - 151				08/02/22 17:23	08/09/22 07:44	1

Client Sample ID: 109182001-6
Date Collected: 07/29/22 14:34
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
4,4'-DDE	27		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
4,4'-DDT	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
Aldrin	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
alpha-BHC	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
alpha-Chlordane	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
beta-BHC	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
Chlordane	ND		25		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
delta-BHC	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
Dieldrin	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
Endosulfan I	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
Endosulfan II	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
Endosulfan sulfate	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
Endrin	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
Endrin aldehyde	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
Endrin ketone	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
gamma-Chlordane	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
gamma-BHC	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
Heptachlor	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
Heptachlor epoxide	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
Methoxychlor	ND		4.9		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
Toxaphene	ND		25		ug/Kg		08/02/22 17:23	08/09/22 07:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	73		38 - 148				08/02/22 17:23	08/09/22 07:59	1
DCB Decachlorobiphenyl (Surr)	74		37 - 151				08/02/22 17:23	08/09/22 07:59	1

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8081A - Organochlorine Pesticides (GC) - DL

Client Sample ID: 109182001-4
Date Collected: 07/29/22 14:02
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	180		50		ug/Kg		08/02/22 17:23	08/09/22 15:48	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	87		38 - 148				08/02/22 17:23	08/09/22 15:48	10
DCB Decachlorobiphenyl (Surr)	116		37 - 151				08/02/22 17:23	08/09/22 15:48	10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: 109182001-4
Date Collected: 07/29/22 14:02
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	ND		50		ug/Kg		08/02/22 17:23	08/05/22 01:28	1
Aroclor-1221	ND		50		ug/Kg		08/02/22 17:23	08/05/22 01:28	1
Aroclor-1232	ND		50		ug/Kg		08/02/22 17:23	08/05/22 01:28	1
Aroclor-1242	ND		50		ug/Kg		08/02/22 17:23	08/05/22 01:28	1
Aroclor-1248	ND		50		ug/Kg		08/02/22 17:23	08/05/22 01:28	1
Aroclor-1254	ND		50		ug/Kg		08/02/22 17:23	08/05/22 01:28	1
Aroclor-1260	ND		50		ug/Kg		08/02/22 17:23	08/05/22 01:28	1
Aroclor-1262	ND		50		ug/Kg		08/02/22 17:23	08/05/22 01:28	1
Aroclor-1268	ND		50		ug/Kg		08/02/22 17:23	08/05/22 01:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	74		25 - 120				08/02/22 17:23	08/05/22 01:28	1
DCB Decachlorobiphenyl (Surr)	87		20 - 120				08/02/22 17:23	08/05/22 01:28	1

Client Sample ID: 109182001-5
Date Collected: 07/29/22 14:20
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	ND		49		ug/Kg		08/02/22 17:23	08/05/22 01:46	1
Aroclor-1221	ND		49		ug/Kg		08/02/22 17:23	08/05/22 01:46	1
Aroclor-1232	ND		49		ug/Kg		08/02/22 17:23	08/05/22 01:46	1
Aroclor-1242	ND		49		ug/Kg		08/02/22 17:23	08/05/22 01:46	1
Aroclor-1248	ND		49		ug/Kg		08/02/22 17:23	08/05/22 01:46	1
Aroclor-1254	ND		49		ug/Kg		08/02/22 17:23	08/05/22 01:46	1
Aroclor-1260	ND		49		ug/Kg		08/02/22 17:23	08/05/22 01:46	1
Aroclor-1262	ND		49		ug/Kg		08/02/22 17:23	08/05/22 01:46	1
Aroclor-1268	ND		49		ug/Kg		08/02/22 17:23	08/05/22 01:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	75		25 - 120				08/02/22 17:23	08/05/22 01:46	1
DCB Decachlorobiphenyl (Surr)	86		20 - 120				08/02/22 17:23	08/05/22 01:46	1

Client Sample ID: 109182001-6
Date Collected: 07/29/22 14:34
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	ND		49		ug/Kg		08/02/22 17:23	08/05/22 02:04	1
Aroclor-1221	ND		49		ug/Kg		08/02/22 17:23	08/05/22 02:04	1
Aroclor-1232	ND		49		ug/Kg		08/02/22 17:23	08/05/22 02:04	1
Aroclor-1242	ND		49		ug/Kg		08/02/22 17:23	08/05/22 02:04	1
Aroclor-1248	ND		49		ug/Kg		08/02/22 17:23	08/05/22 02:04	1
Aroclor-1254	ND		49		ug/Kg		08/02/22 17:23	08/05/22 02:04	1
Aroclor-1260	ND		49		ug/Kg		08/02/22 17:23	08/05/22 02:04	1
Aroclor-1262	ND		49		ug/Kg		08/02/22 17:23	08/05/22 02:04	1
Aroclor-1268	ND		49		ug/Kg		08/02/22 17:23	08/05/22 02:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	75		25 - 120				08/02/22 17:23	08/05/22 02:04	1
DCB Decachlorobiphenyl (Surr)	85		20 - 120				08/02/22 17:23	08/05/22 02:04	1

Client Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 6010B - Metals (ICP)

Client Sample ID: 109182001-4
Date Collected: 07/29/22 14:02
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.50		mg/Kg		08/03/22 08:15	08/05/22 09:30	5
Arsenic	ND		3.00		mg/Kg		08/03/22 08:15	08/05/22 09:30	5
Barium	91.1		3.00		mg/Kg		08/03/22 08:15	08/05/22 09:30	5
Beryllium	ND		0.500		mg/Kg		08/03/22 08:15	08/05/22 09:30	5
Cadmium	ND		0.500		mg/Kg		08/03/22 08:15	08/05/22 09:30	5
Cobalt	4.91		1.00		mg/Kg		08/03/22 08:15	08/05/22 09:30	5
Chromium	13.0		1.00		mg/Kg		08/03/22 08:15	08/05/22 09:30	5
Copper	10.2		2.00		mg/Kg		08/03/22 08:15	08/05/22 09:30	5
Molybdenum	ND		2.00		mg/Kg		08/03/22 08:15	08/05/22 09:30	5
Nickel	5.21		2.00		mg/Kg		08/03/22 08:15	08/05/22 09:30	5
Antimony	ND	F1	10.0		mg/Kg		08/03/22 08:15	08/05/22 09:30	5
Selenium	ND		3.00		mg/Kg		08/03/22 08:15	08/05/22 09:30	5
Thallium	ND		10.0		mg/Kg		08/03/22 08:15	08/05/22 09:30	5
Vanadium	35.7		1.00		mg/Kg		08/03/22 08:15	08/05/22 09:30	5
Zinc	32.7		5.00		mg/Kg		08/03/22 08:15	08/05/22 09:30	5
Lead	4.91		2.00		mg/Kg		08/03/22 08:15	08/05/22 09:30	5

Client Sample ID: 109182001-5
Date Collected: 07/29/22 14:20
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.50		mg/Kg		08/03/22 08:15	08/05/22 10:15	5
Arsenic	ND		3.00		mg/Kg		08/03/22 08:15	08/05/22 10:15	5
Barium	68.4		3.00		mg/Kg		08/03/22 08:15	08/05/22 10:15	5
Beryllium	ND		0.500		mg/Kg		08/03/22 08:15	08/05/22 10:15	5
Cadmium	ND		0.500		mg/Kg		08/03/22 08:15	08/05/22 10:15	5
Cobalt	3.36		1.00		mg/Kg		08/03/22 08:15	08/05/22 10:15	5
Chromium	7.90		1.00		mg/Kg		08/03/22 08:15	08/05/22 10:15	5
Copper	11.3		2.00		mg/Kg		08/03/22 08:15	08/05/22 10:15	5
Molybdenum	ND		2.00		mg/Kg		08/03/22 08:15	08/05/22 10:15	5
Nickel	3.15		2.00		mg/Kg		08/03/22 08:15	08/05/22 10:15	5
Antimony	ND		10.0		mg/Kg		08/03/22 08:15	08/05/22 10:15	5
Selenium	ND		3.00		mg/Kg		08/03/22 08:15	08/05/22 10:15	5
Thallium	ND		10.0		mg/Kg		08/03/22 08:15	08/05/22 10:15	5
Vanadium	24.3		1.00		mg/Kg		08/03/22 08:15	08/05/22 10:15	5
Zinc	24.3		5.00		mg/Kg		08/03/22 08:15	08/05/22 10:15	5
Lead	ND		2.00		mg/Kg		08/03/22 08:15	08/05/22 10:15	5

Client Sample ID: 109182001-6
Date Collected: 07/29/22 14:34
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.48		mg/Kg		08/03/22 08:15	08/05/22 10:23	5
Arsenic	ND		2.96		mg/Kg		08/03/22 08:15	08/05/22 10:23	5
Barium	117		2.96		mg/Kg		08/03/22 08:15	08/05/22 10:23	5
Beryllium	ND		0.493		mg/Kg		08/03/22 08:15	08/05/22 10:23	5
Cadmium	ND		0.493		mg/Kg		08/03/22 08:15	08/05/22 10:23	5
Cobalt	5.79		0.985		mg/Kg		08/03/22 08:15	08/05/22 10:23	5
Chromium	15.3		0.985		mg/Kg		08/03/22 08:15	08/05/22 10:23	5
Copper	11.9		1.97		mg/Kg		08/03/22 08:15	08/05/22 10:23	5

Eurofins Calscience

Client Sample Results

Client: Ninyo & Moore
Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: 109182001-6
Date Collected: 07/29/22 14:34
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND		1.97		mg/Kg		08/03/22 08:15	08/05/22 10:23	5
Nickel	5.75		1.97		mg/Kg		08/03/22 08:15	08/05/22 10:23	5
Antimony	ND		9.85		mg/Kg		08/03/22 08:15	08/05/22 10:23	5
Selenium	ND		2.96		mg/Kg		08/03/22 08:15	08/05/22 10:23	5
Thallium	ND		9.85		mg/Kg		08/03/22 08:15	08/05/22 10:23	5
Vanadium	41.4		0.985		mg/Kg		08/03/22 08:15	08/05/22 10:23	5
Zinc	36.9		4.93		mg/Kg		08/03/22 08:15	08/05/22 10:23	5
Lead	ND		1.97		mg/Kg		08/03/22 08:15	08/05/22 10:23	5

Client Sample Results

Client: Ninyo & Moore
Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: 109182001-4
Date Collected: 07/29/22 14:02
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-1
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0833		mg/Kg		08/02/22 17:05	08/02/22 20:06	1

Client Sample ID: 109182001-5
Date Collected: 07/29/22 14:20
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-2
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0868		mg/Kg		08/02/22 17:05	08/02/22 20:08	1

Client Sample ID: 109182001-6
Date Collected: 07/29/22 14:34
Date Received: 08/01/22 19:00

Lab Sample ID: 570-104951-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0833		mg/Kg		08/02/22 17:05	08/02/22 20:10	1

Surrogate Summary

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (64-141)	BFB (76-120)	DBFM (47-142)	TOL (80-120)
570-104951-1	109182001-4	105	102	107	100
570-104951-2	109182001-5	103	101	105	100
570-104951-3	109182001-6	101	101	106	102
570-105115-A-1-F MS	Matrix Spike	101	101	102	103
570-105115-A-1-G MSD	Matrix Spike Duplicate	100	100	101	101
LCS 570-254012/1-A	Lab Control Sample	101	102	99	102
LCSD 570-254012/2-A	Lab Control Sample Dup	102	102	100	102
MB 570-254012/3-A	Method Blank	100	103	103	100

Surrogate Legend
 DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 DBFM = Dibromofluoromethane (Surr)
 TOL = Toluene-d8 (Surr)

Method: 8015B - Gasoline Range Organics - (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB1 (42-126)
570-104930-A-1-F MS	Matrix Spike	81
570-104930-A-1-H MSD	Matrix Spike Duplicate	51
570-104951-1	109182001-4	58
570-104951-2	109182001-5	50
570-104951-3	109182001-6	65
LCS 570-253744/1-A	Lab Control Sample	97
LCSD 570-253744/2-A	Lab Control Sample Dup	103
MB 570-253744/3-A	Method Blank	57

Surrogate Legend
 BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		OTCSN1 (60-138)
570-104700-D-13-B MS	Matrix Spike	112
570-104700-D-13-C MSD	Matrix Spike Duplicate	111
570-104951-1	109182001-4	117
570-104951-2	109182001-5	119
570-104951-3	109182001-6	113
LCS 570-254683/2-A	Lab Control Sample	98
LCSD 570-254683/3-A	Lab Control Sample Dup	106
MB 570-254683/1-A	Method Blank	103

Surrogate Legend
 OTCSN = n-Octacosane (Surr)

Surrogate Summary

Client: Ninyo & Moore

Job ID: 570-104951-1

Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (38-148)	DCB1 (37-151)
570-104951-1 - DL	109182001-4	87	116
570-104951-1	109182001-4	69	79
570-104951-1 MS	109182001-4	66	74
570-104951-1 MSD	109182001-4	68	79
570-104951-2	109182001-5	73	80
570-104951-3	109182001-6	73	74
LCS 570-253886/2-A	Lab Control Sample	95	96
LCSD 570-253886/3-A	Lab Control Sample Dup	93	93
MB 570-253886/1-A	Method Blank	96	86

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (25-120)	DCB1 (20-120)
570-104951-1	109182001-4	74	87
570-104951-1 MS	109182001-4	75	87
570-104951-1 MSD	109182001-4	75	87
570-104951-2	109182001-5	75	86
570-104951-3	109182001-6	75	85
LCS 570-253886/6-A	Lab Control Sample	94	106
LCSD 570-253886/7-A	Lab Control Sample Dup	92	104
MB 570-253886/1-A	Method Blank	95	105

Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)

DCB = DCB Decachlorobiphenyl (Surr)

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-254012/3-A

Matrix: Solid

Analysis Batch: 254013

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 254012

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,1,1-Trichloroethane	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,1,2-Trichloroethane	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,1-Dichloroethane	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,1-Dichloroethene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,1-Dichloropropene	ND		2.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,2,3-Trichlorobenzene	ND		2.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,2,3-Trichloropropane	ND		2.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,2,4-Trichlorobenzene	ND		2.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,2,4-Trimethylbenzene	ND		2.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,2-Dibromoethane	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,2-Dichlorobenzene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,2-Dichloroethane	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,2-Dichloropropane	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,3,5-Trimethylbenzene	ND		2.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,3-Dichlorobenzene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,3-Dichloropropane	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
1,4-Dichlorobenzene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
2,2-Dichloropropane	ND		5.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
2-Butanone	ND		20		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
2-Chlorotoluene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
2-Hexanone	ND		20		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
4-Chlorotoluene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
4-Methyl-2-pentanone	ND		20		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Acetone	ND		20		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Benzene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Bromobenzene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Bromochloromethane	ND		2.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Bromodichloromethane	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Bromoform	ND		5.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Bromomethane	ND		20		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
cis-1,2-Dichloroethene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
cis-1,3-Dichloropropene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Carbon disulfide	ND		10		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Carbon tetrachloride	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Chlorobenzene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Chloroethane	ND		2.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Chloroform	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Chloromethane	ND		20		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Dibromochloromethane	ND		2.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Dibromomethane	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Dichlorodifluoromethane	ND		2.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Ethylbenzene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Isopropylbenzene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Methylene Chloride	ND		10		ug/Kg		08/03/22 08:51	08/03/22 10:27	1

Eurofins Calscience

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 570-254012/3-A
Matrix: Solid
Analysis Batch: 254013

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 254012

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methyl-t-Butyl Ether (MTBE)	ND		2.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Naphthalene	ND		10		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
n-Butylbenzene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
N-Propylbenzene	ND		2.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
o-Xylene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
m,p-Xylene	ND		2.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
p-Isopropyltoluene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
sec-Butylbenzene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Styrene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
trans-1,2-Dichloroethene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
trans-1,3-Dichloropropene	ND		2.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
tert-Butylbenzene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Tetrachloroethene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Toluene	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Trichloroethene	ND		2.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Trichlorofluoromethane	ND		10		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Vinyl acetate	ND		10		ug/Kg		08/03/22 08:51	08/03/22 10:27	1
Vinyl chloride	ND		1.0		ug/Kg		08/03/22 08:51	08/03/22 10:27	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	100		64 - 141	08/03/22 08:51	08/03/22 10:27	1
4-Bromofluorobenzene (Surr)	103		76 - 120	08/03/22 08:51	08/03/22 10:27	1
Dibromofluoromethane (Surr)	103		47 - 142	08/03/22 08:51	08/03/22 10:27	1
Toluene-d8 (Surr)	100		80 - 120	08/03/22 08:51	08/03/22 10:27	1

Lab Sample ID: LCS 570-254012/1-A
Matrix: Solid
Analysis Batch: 254013

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 254012

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2-Dibromoethane	50.0	48.13		ug/Kg		96	80 - 120
1,2-Dichlorobenzene	50.0	48.50		ug/Kg		97	80 - 120
1,2-Dichloroethane	50.0	46.66		ug/Kg		93	80 - 120
Benzene	50.0	52.09		ug/Kg		104	80 - 120
Carbon tetrachloride	50.0	61.60		ug/Kg		123	80 - 131
Chlorobenzene	50.0	50.30		ug/Kg		101	80 - 120
Ethylbenzene	50.0	52.09		ug/Kg		104	80 - 120
Methyl-t-Butyl Ether (MTBE)	50.0	52.27		ug/Kg		105	80 - 122
o-Xylene	50.0	51.01		ug/Kg		102	80 - 120
m,p-Xylene	100	103.6		ug/Kg		104	80 - 120
Toluene	50.0	51.51		ug/Kg		103	80 - 120
Trichloroethene	50.0	51.85		ug/Kg		104	80 - 120
Vinyl chloride	50.0	50.58		ug/Kg		101	80 - 129

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	101		64 - 141
4-Bromofluorobenzene (Surr)	102		76 - 120

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-254012/1-A
Matrix: Solid
Analysis Batch: 254013

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 254012

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Dibromofluoromethane (Surr)</i>	99		47 - 142
<i>Toluene-d8 (Surr)</i>	102		80 - 120

Lab Sample ID: LCSD 570-254012/2-A
Matrix: Solid
Analysis Batch: 254013

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 254012

<i>Analyte</i>	<i>Spike Added</i>	<i>LCSD Result</i>	<i>LCSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,1-Dichloroethene	50.0	56.24		ug/Kg		112	70 - 131	1	20
1,2-Dibromoethane	50.0	49.75		ug/Kg		100	80 - 120	3	20
1,2-Dichlorobenzene	50.0	48.51		ug/Kg		97	80 - 120	0	20
1,2-Dichloroethane	50.0	47.46		ug/Kg		95	80 - 120	2	20
Benzene	50.0	52.73		ug/Kg		105	80 - 120	1	20
Carbon tetrachloride	50.0	62.62		ug/Kg		125	80 - 131	2	20
Chlorobenzene	50.0	50.09		ug/Kg		100	80 - 120	0	20
Ethylbenzene	50.0	51.63		ug/Kg		103	80 - 120	1	20
Methyl-t-Butyl Ether (MTBE)	50.0	53.25		ug/Kg		106	80 - 122	2	20
o-Xylene	50.0	51.21		ug/Kg		102	80 - 120	0	20
m,p-Xylene	100	103.5		ug/Kg		104	80 - 120	0	20
Toluene	50.0	51.83		ug/Kg		104	80 - 120	1	20
Trichloroethene	50.0	53.04		ug/Kg		106	80 - 120	2	20
Vinyl chloride	50.0	51.76		ug/Kg		104	80 - 129	2	20

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	102		64 - 141
<i>4-Bromofluorobenzene (Surr)</i>	102		76 - 120
<i>Dibromofluoromethane (Surr)</i>	100		47 - 142
<i>Toluene-d8 (Surr)</i>	102		80 - 120

Lab Sample ID: 570-105115-A-1-F MS
Matrix: Solid
Analysis Batch: 254013

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 254012

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
1,1-Dichloroethene	ND		50.3	55.75		ug/Kg		111	60 - 125
1,2-Dibromoethane	ND		50.3	46.71		ug/Kg		93	65 - 125
1,2-Dichlorobenzene	ND		50.3	44.94		ug/Kg		89	47 - 130
1,2-Dichloroethane	ND		50.3	46.14		ug/Kg		92	66 - 127
Benzene	ND		50.3	51.71		ug/Kg		103	70 - 125
Carbon tetrachloride	ND		50.3	56.11		ug/Kg		112	60 - 130
Chlorobenzene	ND		50.3	48.31		ug/Kg		96	65 - 125
Ethylbenzene	ND		50.3	50.68		ug/Kg		101	64 - 125
Methyl-t-Butyl Ether (MTBE)	ND		50.3	48.42		ug/Kg		96	61 - 125
o-Xylene	ND		50.3	50.24		ug/Kg		100	59 - 128
m,p-Xylene	ND		101	98.85		ug/Kg		98	60 - 125
Toluene	ND		50.3	49.83		ug/Kg		99	68 - 125
Trichloroethene	ND		50.3	51.79		ug/Kg		103	41 - 169
Vinyl chloride	ND		50.3	50.30		ug/Kg		100	59 - 125

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-105115-A-1-F MS
Matrix: Solid
Analysis Batch: 254013

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 254012

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		64 - 141
4-Bromofluorobenzene (Surr)	101		76 - 120
Dibromofluoromethane (Surr)	102		47 - 142
Toluene-d8 (Surr)	103		80 - 120

Lab Sample ID: 570-105115-A-1-G MSD
Matrix: Solid
Analysis Batch: 254013

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 254012

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
1,1-Dichloroethene	ND		49.9	52.99		ug/Kg		106	60 - 125	5	20	
1,2-Dibromoethane	ND		49.9	45.52		ug/Kg		91	65 - 125	3	21	
1,2-Dichlorobenzene	ND		49.9	42.88		ug/Kg		86	47 - 130	5	29	
1,2-Dichloroethane	ND		49.9	44.05		ug/Kg		88	66 - 127	5	20	
Benzene	ND		49.9	49.39		ug/Kg		99	70 - 125	5	20	
Carbon tetrachloride	ND		49.9	56.18		ug/Kg		113	60 - 130	0	20	
Chlorobenzene	ND		49.9	46.88		ug/Kg		94	65 - 125	3	22	
Ethylbenzene	ND		49.9	48.65		ug/Kg		98	64 - 125	4	22	
Methyl-t-Butyl Ether (MTBE)	ND		49.9	47.25		ug/Kg		95	61 - 125	2	20	
o-Xylene	ND		49.9	48.51		ug/Kg		97	59 - 128	4	24	
m,p-Xylene	ND		99.8	95.59		ug/Kg		96	60 - 125	3	24	
Toluene	ND		49.9	47.52		ug/Kg		95	68 - 125	5	20	
Trichloroethene	ND		49.9	49.57		ug/Kg		99	41 - 169	4	21	
Vinyl chloride	ND		49.9	51.21		ug/Kg		103	59 - 125	2	20	

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		64 - 141
4-Bromofluorobenzene (Surr)	100		76 - 120
Dibromofluoromethane (Surr)	101		47 - 142
Toluene-d8 (Surr)	101		80 - 120

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 570-253744/3-A
Matrix: Solid
Analysis Batch: 253699

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 253744

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	57		42 - 126	08/02/22 10:25	08/02/22 11:56	1

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: LCS 570-253744/1-A
Matrix: Solid
Analysis Batch: 253699

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 253744

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	1.99	1.876		mg/Kg		94	70 - 124
Surrogate		LCS %Recovery	LCS Qualifier				Limits
4-Bromofluorobenzene (Surr)		97					42 - 126

Lab Sample ID: LCSD 570-253744/2-A
Matrix: Solid
Analysis Batch: 253699

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 253744

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Gasoline Range Organics (C4-C13)	2.00	1.874		mg/Kg		94	70 - 124	0	18
Surrogate		LCSD %Recovery	LCSD Qualifier				Limits		
4-Bromofluorobenzene (Surr)		103					42 - 126		

Lab Sample ID: 570-104930-A-1-F MS
Matrix: Solid
Analysis Batch: 253699

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 253744

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	ND	F2 F1	1.96	1.205		mg/Kg		61	48 - 114
Surrogate		MS %Recovery		MS Qualifier					Limits
4-Bromofluorobenzene (Surr)		81							42 - 126

Lab Sample ID: 570-104930-A-1-H MSD
Matrix: Solid
Analysis Batch: 253699

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 253744

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Gasoline Range Organics (C4-C13)	ND	F2 F1	1.97	0.8000	F2 F1	mg/Kg		41	48 - 114	40	23
Surrogate		MSD %Recovery		MSD Qualifier					Limits		
4-Bromofluorobenzene (Surr)		51							42 - 126		

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 570-254683/1-A
Matrix: Solid
Analysis Batch: 254715

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 254683

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0		mg/Kg		08/05/22 09:09	08/05/22 17:10	1
C23-C40	ND		5.0		mg/Kg		08/05/22 09:09	08/05/22 17:10	1

Eurofins Calscience

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 570-254683/1-A
Matrix: Solid
Analysis Batch: 254715

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 254683

Surrogate	MB MB	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane (Surr)		103		60 - 138	08/05/22 09:09	08/05/22 17:10	1

Lab Sample ID: LCS 570-254683/2-A
Matrix: Solid
Analysis Batch: 254715

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 254683

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	%Rec
Diesel Range Organics [C10-C28]	400	452.6		mg/Kg		113	80 - 130	
Surrogate	LCS LCS	%Recovery	Qualifier	Limits				
<i>n</i> -Octacosane (Surr)		98		60 - 138				

Lab Sample ID: LCSD 570-254683/3-A
Matrix: Solid
Analysis Batch: 254715

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 254683

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Diesel Range Organics [C10-C28]	400	481.9		mg/Kg		120	80 - 130	6	20
Surrogate	LCSD LCSD	%Recovery	Qualifier	Limits					
<i>n</i> -Octacosane (Surr)		106		60 - 138					

Lab Sample ID: 570-104700-D-13-B MS
Matrix: Solid
Analysis Batch: 254715

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 254683

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Diesel Range Organics [C10-C28]	ND		386	480.6		mg/Kg		124	43 - 165
Surrogate	MS MS	%Recovery	Qualifier	Limits					
<i>n</i> -Octacosane (Surr)		112		60 - 138					

Lab Sample ID: 570-104700-D-13-C MSD
Matrix: Solid
Analysis Batch: 254715

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 254683

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Diesel Range Organics [C10-C28]	ND		393	500.5		mg/Kg		127	43 - 165	4	35
Surrogate	MSD MSD	%Recovery	Qualifier	Limits							
<i>n</i> -Octacosane (Surr)		111		60 - 138							

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 570-253886/1-A
Matrix: Solid
Analysis Batch: 254284

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 253886

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
4,4'-DDD	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
4,4'-DDE	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
4,4'-DDT	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
Aldrin	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
alpha-BHC	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
alpha-Chlordane	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
beta-BHC	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
Chlordane	ND		25		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
delta-BHC	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
Dieldrin	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
Endosulfan I	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
Endosulfan II	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
Endosulfan sulfate	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
Endrin	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
Endrin aldehyde	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
Endrin ketone	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
gamma-Chlordane	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
gamma-BHC	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
Heptachlor	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
Heptachlor epoxide	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
Methoxychlor	ND		5.0		ug/Kg		08/02/22 17:23	08/04/22 16:37	1
Toxaphene	ND		25		ug/Kg		08/02/22 17:23	08/04/22 16:37	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene (Surr)	96		38 - 148	08/02/22 17:23	08/04/22 16:37	1
DCB Decachlorobiphenyl (Surr)	86		37 - 151	08/02/22 17:23	08/04/22 16:37	1

Lab Sample ID: LCS 570-253886/2-A
Matrix: Solid
Analysis Batch: 254284

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 253886

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
4,4'-DDD	25.0	21.13		ug/Kg		85	54 - 154
4,4'-DDE	25.0	21.11		ug/Kg		84	51 - 149
4,4'-DDT	25.0	22.57		ug/Kg		90	39 - 152
Aldrin	25.0	20.91		ug/Kg		84	52 - 138
alpha-BHC	25.0	22.18		ug/Kg		89	51 - 140
alpha-Chlordane	25.0	21.16		ug/Kg		85	53 - 141
beta-BHC	25.0	21.24		ug/Kg		85	53 - 141
delta-BHC	25.0	22.83		ug/Kg		91	20 - 132
Dieldrin	25.0	22.27		ug/Kg		89	52 - 144
Endosulfan I	25.0	21.65		ug/Kg		87	49 - 139
Endosulfan II	25.0	21.47		ug/Kg		86	51 - 150
Endosulfan sulfate	25.0	22.11		ug/Kg		88	45 - 139
Endrin	25.0	20.84		ug/Kg		83	53 - 151
Endrin aldehyde	25.0	19.84		ug/Kg		79	31 - 146
gamma-Chlordane	25.0	21.95		ug/Kg		88	46 - 156
gamma-BHC	25.0	21.40		ug/Kg		86	53 - 141

Eurofins Calscience

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 570-253886/2-A
Matrix: Solid
Analysis Batch: 254284

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 253886

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Heptachlor	25.0	22.67		ug/Kg		91	52 - 144
Heptachlor epoxide	25.0	21.86		ug/Kg		87	54 - 141
Methoxychlor	25.0	23.64		ug/Kg		95	47 - 148

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene (Surr)	95		38 - 148
DCB Decachlorobiphenyl (Surr)	96		37 - 151

Lab Sample ID: LCSD 570-253886/3-A
Matrix: Solid
Analysis Batch: 254284

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 253886

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
4,4'-DDD	25.0	20.76		ug/Kg		83	54 - 154	2	30
4,4'-DDE	25.0	20.37		ug/Kg		81	51 - 149	4	28
4,4'-DDT	25.0	21.80		ug/Kg		87	39 - 152	3	31
Aldrin	25.0	20.39		ug/Kg		82	52 - 138	3	30
alpha-BHC	25.0	21.36		ug/Kg		85	51 - 140	4	29
alpha-Chlordane	25.0	20.48		ug/Kg		82	53 - 141	3	28
beta-BHC	25.0	20.61		ug/Kg		82	53 - 141	3	29
delta-BHC	25.0	22.05		ug/Kg		88	20 - 132	3	40
Dieldrin	25.0	21.23		ug/Kg		85	52 - 144	5	28
Endosulfan I	25.0	20.93		ug/Kg		84	49 - 139	3	28
Endosulfan II	25.0	20.94		ug/Kg		84	51 - 150	3	29
Endosulfan sulfate	25.0	21.64		ug/Kg		87	45 - 139	2	30
Endrin	25.0	20.25		ug/Kg		81	53 - 151	3	29
Endrin aldehyde	25.0	19.62		ug/Kg		78	31 - 146	1	40
gamma-Chlordane	25.0	21.22		ug/Kg		85	46 - 156	3	39
gamma-BHC	25.0	20.71		ug/Kg		83	53 - 141	3	29
Heptachlor	25.0	22.47		ug/Kg		90	52 - 144	1	29
Heptachlor epoxide	25.0	21.35		ug/Kg		85	54 - 141	2	29
Methoxychlor	25.0	23.17		ug/Kg		93	47 - 148	2	29

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tetrachloro-m-xylene (Surr)	93		38 - 148
DCB Decachlorobiphenyl (Surr)	93		37 - 151

Lab Sample ID: 570-104951-1 MS
Matrix: Solid
Analysis Batch: 255300

Client Sample ID: 109182001-4
Prep Type: Total/NA
Prep Batch: 253886

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
4,4'-DDD	ND		24.9	18.42		ug/Kg		74	27 - 144
4,4'-DDE	140	E	24.9	218.2	E 4	ug/Kg		316	28 - 141
4,4'-DDT	20		24.9	45.95	E	ug/Kg		104	10 - 154
Aldrin	ND		24.9	14.42		ug/Kg		58	26 - 125
alpha-BHC	ND		24.9	14.87		ug/Kg		60	24 - 125
alpha-Chlordane	ND		24.9	15.53		ug/Kg		62	17 - 144

Eurofins Calscience

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 570-104951-1 MS
Matrix: Solid
Analysis Batch: 255300

Client Sample ID: 109182001-4
Prep Type: Total/NA
Prep Batch: 253886

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
beta-BHC	ND		24.9	14.45		ug/Kg		58	28 - 125
delta-BHC	ND		24.9	15.64		ug/Kg		63	10 - 125
Dieldrin	ND		24.9	15.99		ug/Kg		61	19 - 145
Endosulfan I	ND		24.9	16.12		ug/Kg		65	25 - 125
Endosulfan II	ND		24.9	15.08		ug/Kg		60	13 - 142
Endosulfan sulfate	ND		24.9	16.50		ug/Kg		66	14 - 126
Endrin	ND		24.9	16.24		ug/Kg		65	28 - 139
Endrin aldehyde	ND		24.9	13.65		ug/Kg		55	12 - 125
gamma-Chlordane	ND		24.9	15.78		ug/Kg		63	10 - 160
gamma-BHC	ND		24.9	14.79		ug/Kg		59	24 - 125
Heptachlor	ND		24.9	15.23		ug/Kg		61	19 - 127
Heptachlor epoxide	ND		24.9	16.04		ug/Kg		64	33 - 123
Methoxychlor	ND		24.9	18.38		ug/Kg		74	19 - 128

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene (Surr)	66		38 - 148
DCB Decachlorobiphenyl (Surr)	74		37 - 151

Lab Sample ID: 570-104951-1 MSD
Matrix: Solid
Analysis Batch: 255300

Client Sample ID: 109182001-4
Prep Type: Total/NA
Prep Batch: 253886

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
4,4'-DDD	ND		25.0	20.30		ug/Kg		81	27 - 144	10	40
4,4'-DDE	140	E	25.0	286.6	E 4	ug/Kg		589	28 - 141	27	32
4,4'-DDT	20		25.0	58.36	E	ug/Kg		153	10 - 154	24	40
Aldrin	ND		25.0	15.33		ug/Kg		61	26 - 125	6	40
alpha-BHC	ND		25.0	15.87		ug/Kg		64	24 - 125	6	40
alpha-Chlordane	ND		25.0	16.69		ug/Kg		67	17 - 144	7	40
beta-BHC	ND		25.0	15.46		ug/Kg		62	28 - 125	7	39
delta-BHC	ND		25.0	16.80		ug/Kg		67	10 - 125	7	40
Dieldrin	ND		25.0	17.38		ug/Kg		67	19 - 145	8	39
Endosulfan I	ND		25.0	17.34		ug/Kg		69	25 - 125	7	39
Endosulfan II	ND		25.0	16.78		ug/Kg		67	13 - 142	11	40
Endosulfan sulfate	ND		25.0	18.09		ug/Kg		72	14 - 126	9	38
Endrin	ND		25.0	17.68		ug/Kg		71	28 - 139	8	40
Endrin aldehyde	ND		25.0	15.47		ug/Kg		62	12 - 125	13	40
gamma-Chlordane	ND		25.0	17.25		ug/Kg		69	10 - 160	9	40
gamma-BHC	ND		25.0	15.78		ug/Kg		63	24 - 125	6	40
Heptachlor	ND		25.0	16.19		ug/Kg		65	19 - 127	6	40
Heptachlor epoxide	ND		25.0	17.23		ug/Kg		69	33 - 123	7	34
Methoxychlor	ND		25.0	20.06		ug/Kg		80	19 - 128	9	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene (Surr)	68		38 - 148
DCB Decachlorobiphenyl (Surr)	79		37 - 151

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 570-253886/1-A
Matrix: Solid
Analysis Batch: 254450

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 253886

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aroclor-1016	ND		50		ug/Kg		08/02/22 17:23	08/04/22 23:40	1
Aroclor-1221	ND		50		ug/Kg		08/02/22 17:23	08/04/22 23:40	1
Aroclor-1232	ND		50		ug/Kg		08/02/22 17:23	08/04/22 23:40	1
Aroclor-1242	ND		50		ug/Kg		08/02/22 17:23	08/04/22 23:40	1
Aroclor-1248	ND		50		ug/Kg		08/02/22 17:23	08/04/22 23:40	1
Aroclor-1254	ND		50		ug/Kg		08/02/22 17:23	08/04/22 23:40	1
Aroclor-1260	ND		50		ug/Kg		08/02/22 17:23	08/04/22 23:40	1
Aroclor-1262	ND		50		ug/Kg		08/02/22 17:23	08/04/22 23:40	1
Aroclor-1268	ND		50		ug/Kg		08/02/22 17:23	08/04/22 23:40	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene (Surr)	95		25 - 120	08/02/22 17:23	08/04/22 23:40	1
DCB Decachlorobiphenyl (Surr)	105		20 - 120	08/02/22 17:23	08/04/22 23:40	1

Lab Sample ID: LCS 570-253886/6-A
Matrix: Solid
Analysis Batch: 254450

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 253886

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Aroclor-1016	100	97.62		ug/Kg		98	53 - 133
Aroclor-1260	100	114.0		ug/Kg		114	39 - 140

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	94		25 - 120
DCB Decachlorobiphenyl (Surr)	106		20 - 120

Lab Sample ID: LCSD 570-253886/7-A
Matrix: Solid
Analysis Batch: 254450

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 253886

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
		Result	Qualifier						
Aroclor-1016	100	93.91		ug/Kg		94	53 - 133	4	32
Aroclor-1260	100	112.8		ug/Kg		113	39 - 140	1	40

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	92		25 - 120
DCB Decachlorobiphenyl (Surr)	104		20 - 120

Lab Sample ID: 570-104951-1 MS
Matrix: Solid
Analysis Batch: 254450

Client Sample ID: 109182001-4
Prep Type: Total/NA
Prep Batch: 253886

Analyte	Sample Result	Sample Qualifier	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
				Result	Qualifier				
Aroclor-1016	ND		99.9	76.43		ug/Kg		77	20 - 162
Aroclor-1260	ND		99.9	100.8		ug/Kg		101	20 - 155

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 570-104951-1 MS
Matrix: Solid
Analysis Batch: 254450

Client Sample ID: 109182001-4
Prep Type: Total/NA
Prep Batch: 253886

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	75		25 - 120
DCB Decachlorobiphenyl (Surr)	87		20 - 120

Lab Sample ID: 570-104951-1 MSD
Matrix: Solid
Analysis Batch: 254450

Client Sample ID: 109182001-4
Prep Type: Total/NA
Prep Batch: 253886

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Aroclor-1016	ND		99.6	77.08		ug/Kg		77	20 - 162	1		40
Aroclor-1260	ND		99.6	101.4		ug/Kg		102	20 - 155	1		40

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	75		25 - 120
DCB Decachlorobiphenyl (Surr)	87		20 - 120

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-253934/1-A ^5
Matrix: Solid
Analysis Batch: 254710

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 253934

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Silver	ND		1.51		mg/Kg		08/03/22 08:15	08/05/22 09:20	5
Arsenic	ND		3.02		mg/Kg		08/03/22 08:15	08/05/22 09:20	5
Barium	ND		3.02		mg/Kg		08/03/22 08:15	08/05/22 09:20	5
Beryllium	ND		0.503		mg/Kg		08/03/22 08:15	08/05/22 09:20	5
Cadmium	ND		0.503		mg/Kg		08/03/22 08:15	08/05/22 09:20	5
Cobalt	ND		1.01		mg/Kg		08/03/22 08:15	08/05/22 09:20	5
Chromium	ND		1.01		mg/Kg		08/03/22 08:15	08/05/22 09:20	5
Copper	ND		2.01		mg/Kg		08/03/22 08:15	08/05/22 09:20	5
Molybdenum	ND		2.01		mg/Kg		08/03/22 08:15	08/05/22 09:20	5
Nickel	ND		2.01		mg/Kg		08/03/22 08:15	08/05/22 09:20	5
Antimony	ND		10.1		mg/Kg		08/03/22 08:15	08/05/22 09:20	5
Selenium	ND		3.02		mg/Kg		08/03/22 08:15	08/05/22 09:20	5
Thallium	ND		10.1		mg/Kg		08/03/22 08:15	08/05/22 09:20	5
Vanadium	ND		1.01		mg/Kg		08/03/22 08:15	08/05/22 09:20	5
Zinc	ND		5.03		mg/Kg		08/03/22 08:15	08/05/22 09:20	5
Lead	ND		2.01		mg/Kg		08/03/22 08:15	08/05/22 09:20	5

Lab Sample ID: LCS 570-253934/2-A ^5
Matrix: Solid
Analysis Batch: 254710

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 253934

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	RPD
Silver	25.5	22.65		mg/Kg		89	80 - 120	
Arsenic	51.0	46.19		mg/Kg		91	80 - 120	
Barium	51.0	45.79		mg/Kg		90	80 - 120	
Beryllium	51.0	46.05		mg/Kg		90	80 - 120	
Cadmium	51.0	46.17		mg/Kg		91	80 - 120	

Eurofins Calscience

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-253934/2-A ^5
Matrix: Solid
Analysis Batch: 254710

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 253934

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	51.0	46.30		mg/Kg		91	80 - 120
Chromium	51.0	46.25		mg/Kg		91	80 - 120
Copper	51.0	46.06		mg/Kg		90	80 - 120
Molybdenum	51.0	46.45		mg/Kg		91	80 - 120
Nickel	51.0	46.59		mg/Kg		91	80 - 120
Antimony	51.0	50.27		mg/Kg		99	80 - 120
Selenium	51.0	44.08		mg/Kg		86	80 - 120
Thallium	51.0	44.83		mg/Kg		88	80 - 120
Vanadium	51.0	45.71		mg/Kg		90	80 - 120
Zinc	51.0	45.89		mg/Kg		90	80 - 120
Lead	51.0	46.39		mg/Kg		91	80 - 120

Lab Sample ID: LCSD 570-253934/3-A ^5
Matrix: Solid
Analysis Batch: 254710

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 253934

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Silver	25.4	21.83		mg/Kg		86	80 - 120	4	20
Arsenic	50.8	45.52		mg/Kg		90	80 - 120	1	20
Barium	50.8	44.02		mg/Kg		87	80 - 120	4	20
Beryllium	50.8	44.37		mg/Kg		87	80 - 120	4	20
Cadmium	50.8	44.38		mg/Kg		87	80 - 120	4	20
Cobalt	50.8	44.68		mg/Kg		88	80 - 120	4	20
Chromium	50.8	44.44		mg/Kg		88	80 - 120	4	20
Copper	50.8	44.31		mg/Kg		87	80 - 120	4	20
Molybdenum	50.8	44.71		mg/Kg		88	80 - 120	4	20
Nickel	50.8	44.85		mg/Kg		88	80 - 120	4	20
Antimony	50.8	48.21		mg/Kg		95	80 - 120	4	20
Selenium	50.8	41.99		mg/Kg		83	80 - 120	5	20
Thallium	50.8	43.20		mg/Kg		85	80 - 120	4	20
Vanadium	50.8	44.02		mg/Kg		87	80 - 120	4	20
Zinc	50.8	44.25		mg/Kg		87	80 - 120	4	20
Lead	50.8	44.21		mg/Kg		87	80 - 120	5	20

Lab Sample ID: 570-104951-1 MS
Matrix: Solid
Analysis Batch: 254710

Client Sample ID: 109182001-4
Prep Type: Total/NA
Prep Batch: 253934

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Silver	ND		24.8	20.66		mg/Kg		83	75 - 125
Arsenic	ND		49.5	43.70		mg/Kg		85	75 - 125
Barium	91.1		49.5	145.3		mg/Kg		110	75 - 125
Beryllium	ND		49.5	42.35		mg/Kg		85	75 - 125
Cadmium	ND		49.5	40.83		mg/Kg		82	75 - 125
Cobalt	4.91		49.5	46.20		mg/Kg		83	75 - 125
Chromium	13.0		49.5	57.46		mg/Kg		90	75 - 125
Copper	10.2		49.5	54.49		mg/Kg		90	75 - 125
Molybdenum	ND		49.5	40.45		mg/Kg		82	75 - 125
Nickel	5.21		49.5	47.39		mg/Kg		85	75 - 125

Eurofins Calscience

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 570-104951-1 MS
Matrix: Solid
Analysis Batch: 254710

Client Sample ID: 109182001-4
Prep Type: Total/NA
Prep Batch: 253934

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier		Result	Qualifier				Limits	RPD
Antimony	ND	F1	49.5	12.28	F1	mg/Kg		25	75 - 125	
Selenium	ND		49.5	39.42		mg/Kg		80	75 - 125	
Thallium	ND		49.5	40.50		mg/Kg		82	75 - 125	
Vanadium	35.7		49.5	81.68		mg/Kg		93	75 - 125	
Zinc	32.7		49.5	76.29		mg/Kg		88	75 - 125	
Lead	4.91		49.5	45.37		mg/Kg		82	75 - 125	

Lab Sample ID: 570-104951-1 MSD
Matrix: Solid
Analysis Batch: 254710

Client Sample ID: 109182001-4
Prep Type: Total/NA
Prep Batch: 253934

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	
	Result	Qualifier		Result	Qualifier				Limits	RPD	Limit	
Silver	ND		25.0	21.46		mg/Kg		86	75 - 125	4	20	
Arsenic	ND		50.0	44.70		mg/Kg		86	75 - 125	2	20	
Barium	91.1		50.0	140.4		mg/Kg		99	75 - 125	3	20	
Beryllium	ND		50.0	43.89		mg/Kg		87	75 - 125	4	20	
Cadmium	ND		50.0	42.35		mg/Kg		85	75 - 125	4	20	
Cobalt	4.91		50.0	47.63		mg/Kg		85	75 - 125	3	20	
Chromium	13.0		50.0	57.79		mg/Kg		90	75 - 125	1	20	
Copper	10.2		50.0	55.66		mg/Kg		91	75 - 125	2	20	
Molybdenum	ND		50.0	43.18		mg/Kg		86	75 - 125	7	20	
Nickel	5.21		50.0	48.46		mg/Kg		87	75 - 125	2	20	
Antimony	ND	F1	50.0	13.98	F1	mg/Kg		28	75 - 125	13	20	
Selenium	ND		50.0	41.00		mg/Kg		82	75 - 125	4	20	
Thallium	ND		50.0	41.84		mg/Kg		84	75 - 125	3	20	
Vanadium	35.7		50.0	80.51		mg/Kg		90	75 - 125	1	20	
Zinc	32.7		50.0	77.03		mg/Kg		89	75 - 125	1	20	
Lead	4.91		50.0	47.29		mg/Kg		85	75 - 125	4	20	

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 570-253869/1-A
Matrix: Solid
Analysis Batch: 253864

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 253869

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.0850		mg/Kg		08/02/22 17:05	08/02/22 19:32	1

Lab Sample ID: LCS 570-253869/2-A
Matrix: Solid
Analysis Batch: 253864

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 253869

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec	
		Added	Result				Qualifier	Limits
Mercury	0.385	0.4237		mg/Kg		110	85 - 121	

QC Sample Results

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 570-253869/3-A
Matrix: Solid
Analysis Batch: 253864

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 253869

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Mercury	0.392	0.4330		mg/Kg		110	85 - 121	2	10	

Lab Sample ID: 570-104702-A-7-H MS
Matrix: Solid
Analysis Batch: 253864

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 253869

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Mercury	ND		0.408	0.4833		mg/Kg		107	75 - 125			

Lab Sample ID: 570-104702-A-7-I MSD
Matrix: Solid
Analysis Batch: 253864

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 253869

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Mercury	ND		0.417	0.4516		mg/Kg		97	75 - 125	7	14	

QC Association Summary

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

GC/MS VOA

Prep Batch: 254012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104951-1	109182001-4	Total/NA	Solid	5030C	
570-104951-2	109182001-5	Total/NA	Solid	5030C	
570-104951-3	109182001-6	Total/NA	Solid	5030C	
MB 570-254012/3-A	Method Blank	Total/NA	Solid	5030C	
LCS 570-254012/1-A	Lab Control Sample	Total/NA	Solid	5030C	
LCSD 570-254012/2-A	Lab Control Sample Dup	Total/NA	Solid	5030C	
570-105115-A-1-F MS	Matrix Spike	Total/NA	Solid	5030C	
570-105115-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5030C	

Analysis Batch: 254013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104951-1	109182001-4	Total/NA	Solid	8260B	254012
570-104951-2	109182001-5	Total/NA	Solid	8260B	254012
570-104951-3	109182001-6	Total/NA	Solid	8260B	254012
MB 570-254012/3-A	Method Blank	Total/NA	Solid	8260B	254012
LCS 570-254012/1-A	Lab Control Sample	Total/NA	Solid	8260B	254012
LCSD 570-254012/2-A	Lab Control Sample Dup	Total/NA	Solid	8260B	254012
570-105115-A-1-F MS	Matrix Spike	Total/NA	Solid	8260B	254012
570-105115-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B	254012

GC VOA

Analysis Batch: 253699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104951-1	109182001-4	Total/NA	Solid	8015B	253744
570-104951-2	109182001-5	Total/NA	Solid	8015B	253744
570-104951-3	109182001-6	Total/NA	Solid	8015B	253744
MB 570-253744/3-A	Method Blank	Total/NA	Solid	8015B	253744
LCS 570-253744/1-A	Lab Control Sample	Total/NA	Solid	8015B	253744
LCSD 570-253744/2-A	Lab Control Sample Dup	Total/NA	Solid	8015B	253744
570-104930-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B	253744
570-104930-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	253744

Prep Batch: 253744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104951-1	109182001-4	Total/NA	Solid	5030C	
570-104951-2	109182001-5	Total/NA	Solid	5030C	
570-104951-3	109182001-6	Total/NA	Solid	5030C	
MB 570-253744/3-A	Method Blank	Total/NA	Solid	5030C	
LCS 570-253744/1-A	Lab Control Sample	Total/NA	Solid	5030C	
LCSD 570-253744/2-A	Lab Control Sample Dup	Total/NA	Solid	5030C	
570-104930-A-1-F MS	Matrix Spike	Total/NA	Solid	5030C	
570-104930-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5030C	

GC Semi VOA

Prep Batch: 253886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104951-1 - DL	109182001-4	Total/NA	Solid	3546	
570-104951-1	109182001-4	Total/NA	Solid	3546	
570-104951-2	109182001-5	Total/NA	Solid	3546	
570-104951-3	109182001-6	Total/NA	Solid	3546	

Eurofins Calscience

QC Association Summary

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

GC Semi VOA (Continued)

Prep Batch: 253886 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-253886/1-A	Method Blank	Total/NA	Solid	3546	
LCS 570-253886/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 570-253886/6-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 570-253886/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 570-253886/7-A	Lab Control Sample Dup	Total/NA	Solid	3546	
570-104951-1 MS	109182001-4	Total/NA	Solid	3546	
570-104951-1 MS	109182001-4	Total/NA	Solid	3546	
570-104951-1 MSD	109182001-4	Total/NA	Solid	3546	
570-104951-1 MSD	109182001-4	Total/NA	Solid	3546	

Analysis Batch: 254284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-253886/1-A	Method Blank	Total/NA	Solid	8081A	253886
LCS 570-253886/2-A	Lab Control Sample	Total/NA	Solid	8081A	253886
LCSD 570-253886/3-A	Lab Control Sample Dup	Total/NA	Solid	8081A	253886

Analysis Batch: 254450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104951-1	109182001-4	Total/NA	Solid	8082	253886
570-104951-2	109182001-5	Total/NA	Solid	8082	253886
570-104951-3	109182001-6	Total/NA	Solid	8082	253886
MB 570-253886/1-A	Method Blank	Total/NA	Solid	8082	253886
LCS 570-253886/6-A	Lab Control Sample	Total/NA	Solid	8082	253886
LCSD 570-253886/7-A	Lab Control Sample Dup	Total/NA	Solid	8082	253886
570-104951-1 MS	109182001-4	Total/NA	Solid	8082	253886
570-104951-1 MSD	109182001-4	Total/NA	Solid	8082	253886

Prep Batch: 254683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104951-1	109182001-4	Total/NA	Solid	3550C	
570-104951-2	109182001-5	Total/NA	Solid	3550C	
570-104951-3	109182001-6	Total/NA	Solid	3550C	
MB 570-254683/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 570-254683/2-A	Lab Control Sample	Total/NA	Solid	3550C	
LCSD 570-254683/3-A	Lab Control Sample Dup	Total/NA	Solid	3550C	
570-104700-D-13-B MS	Matrix Spike	Total/NA	Solid	3550C	
570-104700-D-13-C MSD	Matrix Spike Duplicate	Total/NA	Solid	3550C	

Analysis Batch: 254715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104951-1	109182001-4	Total/NA	Solid	8015B	254683
570-104951-2	109182001-5	Total/NA	Solid	8015B	254683
570-104951-3	109182001-6	Total/NA	Solid	8015B	254683
MB 570-254683/1-A	Method Blank	Total/NA	Solid	8015B	254683
LCS 570-254683/2-A	Lab Control Sample	Total/NA	Solid	8015B	254683
LCSD 570-254683/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B	254683
570-104700-D-13-B MS	Matrix Spike	Total/NA	Solid	8015B	254683
570-104700-D-13-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	254683

QC Association Summary

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

GC Semi VOA

Analysis Batch: 255300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104951-1	109182001-4	Total/NA	Solid	8081A	253886
570-104951-1 - DL	109182001-4	Total/NA	Solid	8081A	253886
570-104951-2	109182001-5	Total/NA	Solid	8081A	253886
570-104951-3	109182001-6	Total/NA	Solid	8081A	253886
570-104951-1 MS	109182001-4	Total/NA	Solid	8081A	253886
570-104951-1 MSD	109182001-4	Total/NA	Solid	8081A	253886

Metals

Analysis Batch: 253864

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104951-1	109182001-4	Total/NA	Solid	7471A	253869
570-104951-2	109182001-5	Total/NA	Solid	7471A	253869
570-104951-3	109182001-6	Total/NA	Solid	7471A	253869
MB 570-253869/1-A	Method Blank	Total/NA	Solid	7471A	253869
LCS 570-253869/2-A	Lab Control Sample	Total/NA	Solid	7471A	253869
LCSD 570-253869/3-A	Lab Control Sample Dup	Total/NA	Solid	7471A	253869
570-104702-A-7-H MS	Matrix Spike	Total/NA	Solid	7471A	253869
570-104702-A-7-I MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	253869

Prep Batch: 253869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104951-1	109182001-4	Total/NA	Solid	7471A	
570-104951-2	109182001-5	Total/NA	Solid	7471A	
570-104951-3	109182001-6	Total/NA	Solid	7471A	
MB 570-253869/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 570-253869/2-A	Lab Control Sample	Total/NA	Solid	7471A	
LCSD 570-253869/3-A	Lab Control Sample Dup	Total/NA	Solid	7471A	
570-104702-A-7-H MS	Matrix Spike	Total/NA	Solid	7471A	
570-104702-A-7-I MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	

Prep Batch: 253934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104951-1	109182001-4	Total/NA	Solid	3050B	
570-104951-2	109182001-5	Total/NA	Solid	3050B	
570-104951-3	109182001-6	Total/NA	Solid	3050B	
MB 570-253934/1-A ^5	Method Blank	Total/NA	Solid	3050B	
LCS 570-253934/2-A ^5	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-253934/3-A ^5	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-104951-1 MS	109182001-4	Total/NA	Solid	3050B	
570-104951-1 MSD	109182001-4	Total/NA	Solid	3050B	

Analysis Batch: 254710

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104951-1	109182001-4	Total/NA	Solid	6010B	253934
570-104951-2	109182001-5	Total/NA	Solid	6010B	253934
570-104951-3	109182001-6	Total/NA	Solid	6010B	253934
MB 570-253934/1-A ^5	Method Blank	Total/NA	Solid	6010B	253934
LCS 570-253934/2-A ^5	Lab Control Sample	Total/NA	Solid	6010B	253934
LCSD 570-253934/3-A ^5	Lab Control Sample Dup	Total/NA	Solid	6010B	253934
570-104951-1 MS	109182001-4	Total/NA	Solid	6010B	253934

Eurofins Calscience

QC Association Summary

Client: Ninyo & Moore
Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Metals (Continued)

Analysis Batch: 254710 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-104951-1 MSD	109182001-4	Total/NA	Solid	6010B	253934

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

Lab Chronicle

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Client Sample ID: 109182001-4

Lab Sample ID: 570-104951-1

Date Collected: 07/29/22 14:02

Matrix: Solid

Date Received: 08/01/22 19:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			4.96 g	5 mL	254012	08/03/22 14:42	AH8S	EETSW CA
Total/NA	Analysis	8260B		1	5 mL	5 mL	254013	08/03/22 17:05	U4JL	EETSW C
Instrument ID: GCMSCC										
Total/NA	Prep	5030C			5.06 g	5 mL	253744	08/02/22 12:42	U1MC	EETSW C
Total/NA	Analysis	8015B		1	5 g	5 mL	253699	08/02/22 14:52	P1R	EETSW C
Instrument ID: GC25										
Total/NA	Prep	3550C			10.06 g	10 mL	254683	08/05/22 09:09	USUL	EETSW C
Total/NA	Analysis	8015B		1			254715	08/06/22 02:27	N5Y3	EETSW C
Instrument ID: GC50										
Total/NA	Prep	3546			20.20 g	10 mL	253886	08/02/22 17:23	USUL	EETSW C
Total/NA	Analysis	8081A		1			255300	08/09/22 07:29	N5Y3	EETSW C
Instrument ID: GC52A										
Total/NA	Prep	3546	DL		20.20 g	10 mL	253886	08/02/22 17:23	USUL	EETSW C
Total/NA	Analysis	8081A	DL	10			255300	08/09/22 15:48	N5Y3	EETSW C
Instrument ID: GC52A										
Total/NA	Prep	3546			20.20 g	10 mL	253886	08/02/22 17:23	USUL	EETSW C
Total/NA	Analysis	8082		1			254450	08/05/22 01:28	UJ3K	EETSW C
Instrument ID: GC58										
Total/NA	Prep	3050B			2.00 g	50 mL	253934	08/03/22 08:15		EETSW C
Total/NA	Analysis	6010B		5			254710	08/05/22 09:30	K1UV	EETSW C
Instrument ID: ICP11										
Total/NA	Prep	7471A			0.50 g	50 mL	253869	08/02/22 17:05	SR3N	EETSW C
Total/NA	Analysis	7471A		1			253864	08/02/22 20:06	C0YH	EETSW C
Instrument ID: HG7										

Client Sample ID: 109182001-5

Lab Sample ID: 570-104951-2

Date Collected: 07/29/22 14:20

Matrix: Solid

Date Received: 08/01/22 19:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			4.93 g	5 mL	254012	08/03/22 14:42	AH8S	EETSW CA
Total/NA	Analysis	8260B		1	5 mL	5 mL	254013	08/03/22 17:26	U4JL	EETSW C
Instrument ID: GCMSCC										
Total/NA	Prep	5030C			5.00 g	5 mL	253744	08/02/22 12:42	U1MC	EETSW C
Total/NA	Analysis	8015B		1	5 g	5 mL	253699	08/02/22 15:22	P1R	EETSW C
Instrument ID: GC25										
Total/NA	Prep	3550C			10.13 g	10 mL	254683	08/05/22 09:09	USUL	EETSW C
Total/NA	Analysis	8015B		1			254715	08/06/22 02:48	N5Y3	EETSW C
Instrument ID: GC50										
Total/NA	Prep	3546			20.29 g	10 mL	253886	08/02/22 17:23	USUL	EETSW C
Total/NA	Analysis	8081A		1			255300	08/09/22 07:44	N5Y3	EETSW C
Instrument ID: GC52A										
Total/NA	Prep	3546			20.29 g	10 mL	253886	08/02/22 17:23	USUL	EETSW C
Total/NA	Analysis	8082		1			254450	08/05/22 01:46	UJ3K	EETSW C
Instrument ID: GC58										

Lab Chronicle

Client: Ninyo & Moore
 Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Client Sample ID: 109182001-5

Lab Sample ID: 570-104951-2

Date Collected: 07/29/22 14:20

Matrix: Solid

Date Received: 08/01/22 19:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	253934	08/03/22 08:15		EETSW CA
Total/NA	Analysis	6010B		5			254710	08/05/22 10:15	K1UV	EETSW C
Instrument ID: ICP11										
Total/NA	Prep	7471A			0.48 g	50 mL	253869	08/02/22 17:05	SR3N	EETSW C
Total/NA	Analysis	7471A		1			253864	08/02/22 20:08	C0YH	EETSW C
Instrument ID: HG7										

Client Sample ID: 109182001-6

Lab Sample ID: 570-104951-3

Date Collected: 07/29/22 14:34

Matrix: Solid

Date Received: 08/01/22 19:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030C			5.10 g	5 mL	254012	08/03/22 14:42	AH8S	EETSW CA
Total/NA	Analysis	8260B		1	5 mL	5 mL	254013	08/03/22 17:47	U4JL	EETSW C
Instrument ID: GCMSCC										
Total/NA	Prep	5030C			4.98 g	5 mL	253744	08/02/22 12:42	U1MC	EETSW C
Total/NA	Analysis	8015B		1	5 g	5 mL	253699	08/02/22 15:51	P1R	EETSW C
Instrument ID: GC25										
Total/NA	Prep	3550C			10.26 g	10 mL	254683	08/05/22 09:09	USUL	EETSW C
Total/NA	Analysis	8015B		1			254715	08/06/22 03:10	N5Y3	EETSW C
Instrument ID: GC50										
Total/NA	Prep	3546			20.34 g	10 mL	253886	08/02/22 17:23	USUL	EETSW C
Total/NA	Analysis	8081A		1			255300	08/09/22 07:59	N5Y3	EETSW C
Instrument ID: GC52A										
Total/NA	Prep	3546			20.34 g	10 mL	253886	08/02/22 17:23	USUL	EETSW C
Total/NA	Analysis	8082		1			254450	08/05/22 02:04	UJ3K	EETSW C
Instrument ID: GC58										
Total/NA	Prep	3050B			2.03 g	50 mL	253934	08/03/22 08:15		EETSW C
Total/NA	Analysis	6010B		5			254710	08/05/22 10:23	K1UV	EETSW C
Instrument ID: ICP11										
Total/NA	Prep	7471A			0.50 g	50 mL	253869	08/02/22 17:05	SR3N	EETSW C
Total/NA	Analysis	7471A		1			253864	08/02/22 20:10	C0YH	EETSW C
Instrument ID: HG7										

Laboratory References:

EETSW CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: Ninyo & Moore
Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Laboratory: Eurofins Calscience

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4175	02-02-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Method Summary

Client: Ninyo & Moore
Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	EETSW CAL 4
8015B	Gasoline Range Organics - (GC)	SW846	EETSW CAL 4
8015B	Diesel Range Organics (DRO) (GC)	SW846	EETSW CAL 4
8081A	Organochlorine Pesticides (GC)	SW846	EETSW CAL 4
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	EETSW CAL 4
6010B	Metals (ICP)	SW846	EETSW CAL 4
7471A	Mercury (CVAA)	SW846	EETSW CAL 4
3050B	Preparation, Metals	SW846	EETSW CAL 4
3546	Microwave Extraction	SW846	EETSW CAL 4
3550C	Ultrasonic Extraction	SW846	EETSW CAL 4
5030C	Purge and Trap	SW846	EETSW CAL 4
7471A	Preparation, Mercury	SW846	EETSW CAL 4

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EETSW CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: Ninyo & Moore
Project/Site: GHD/MBGPF Well Expansion & Brine Min.

Job ID: 570-104951-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-104951-1	109182001-4	Solid	07/29/22 14:02	08/01/22 19:00
570-104951-2	109182001-5	Solid	07/29/22 14:20	08/01/22 19:00
570-104951-3	109182001-6	Solid	07/29/22 14:34	08/01/22 19:00

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



Calscience

7440 Lincoln Way Garden Grove CA 92841-1427 • (714) 895-5494
For courier service / sample drop off information contact us26_sales@eurofins.com or call us

LABORATORY CLIENT

NINYO & MOORE

ADDRESS: 5710 RUFFIN ROAD

CITY: SAN DIEGO

STATE: CA

ZIP: 92123

TEL: (858) 576-1000

E-MAIL:

cfrank@ninyoandmore.com

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD")

SAME DAY 24 HR 48 HR 72 HR 5 DAYS STANDARD

COELT EDF GLOBAL ID:

LOG CODE:

SPECIAL INSTRUCTIONS

EC1 PROJECT # 57011834

LAB USE ONLY	SAMPLE ID	SAMPLING		MATRIX	NO. OF CONT.
		DATE	TIME		
1	109182001-4	7/29/22	2:02 PM	SOIL	1
2	109182001-5	7/29/22	2:20 PM	SOIL	1
3	109182001-6	7/29/22	2:34 PM	SOIL	1

Unpreserved	<input checked="" type="checkbox"/>
Preserved	<input type="checkbox"/>
Field Filtered	<input type="checkbox"/>

CLIENT PROJECT NAME / NUMBER.

GHD/MRGP Well Expansion & Brine Min. 109182001

PROJECT CONTACT:

WILLIAM MORRISON

PO NO

109182001

SAMPLER(S) (PRINT)

CHRISTOPHER FRANK

REQUESTED ANALYSES

Please check box or fill in blank as needed

<input type="checkbox"/> TPH(g) <input type="checkbox"/> GRO	<input type="checkbox"/> TPH(d) <input type="checkbox"/> DRO	<input type="checkbox"/> TPH <input type="checkbox"/> C6-C36 <input type="checkbox"/> C6-C44	<input checked="" type="checkbox"/> TPH	<input checked="" type="checkbox"/> BTEX / MTBE <input type="checkbox"/> 8260	<input type="checkbox"/> VOCs (8260)	<input type="checkbox"/> Oxygenates (8260)	<input type="checkbox"/> Prep (5035) <input type="checkbox"/> En Core <input type="checkbox"/> Terra Core	<input type="checkbox"/> SVOCs (8270)	<input type="checkbox"/> Pesticides (8081) <i>OCPS</i>	<input type="checkbox"/> PCBs (8082)	<input type="checkbox"/> PAHs <input type="checkbox"/> 8270 <input type="checkbox"/> 8270 SIM	<input checked="" type="checkbox"/> T22 Metals <input type="checkbox"/> 6010/747X <input type="checkbox"/> 6020/747X	<input type="checkbox"/> Cr(VI) <input type="checkbox"/> 7196 <input type="checkbox"/> 7199 <input type="checkbox"/> 218 6
--	--	--	---	---	--------------------------------------	--	---	---------------------------------------	--	--------------------------------------	---	--	--

Relinquished by (Signature)

Relinquished by (Signature)

William Rivera

Relinquished by (Signature)

Received by (Signature/Affiliation)

William Rivera

Received by (Signature/Affiliation)

William Rivera

Received by (Signature/Affiliation)

Date

8/1/22

Time

1550

Date

8/1/22

Time

1900

Date

Time

1.0/1.0 SC12



Login Sample Receipt Checklist

Client: Ninyo & Moore

Job Number: 570-104951-1

Login Number: 104951

List Number: 1

Creator: Vitente, Precy

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





APPENDIX D

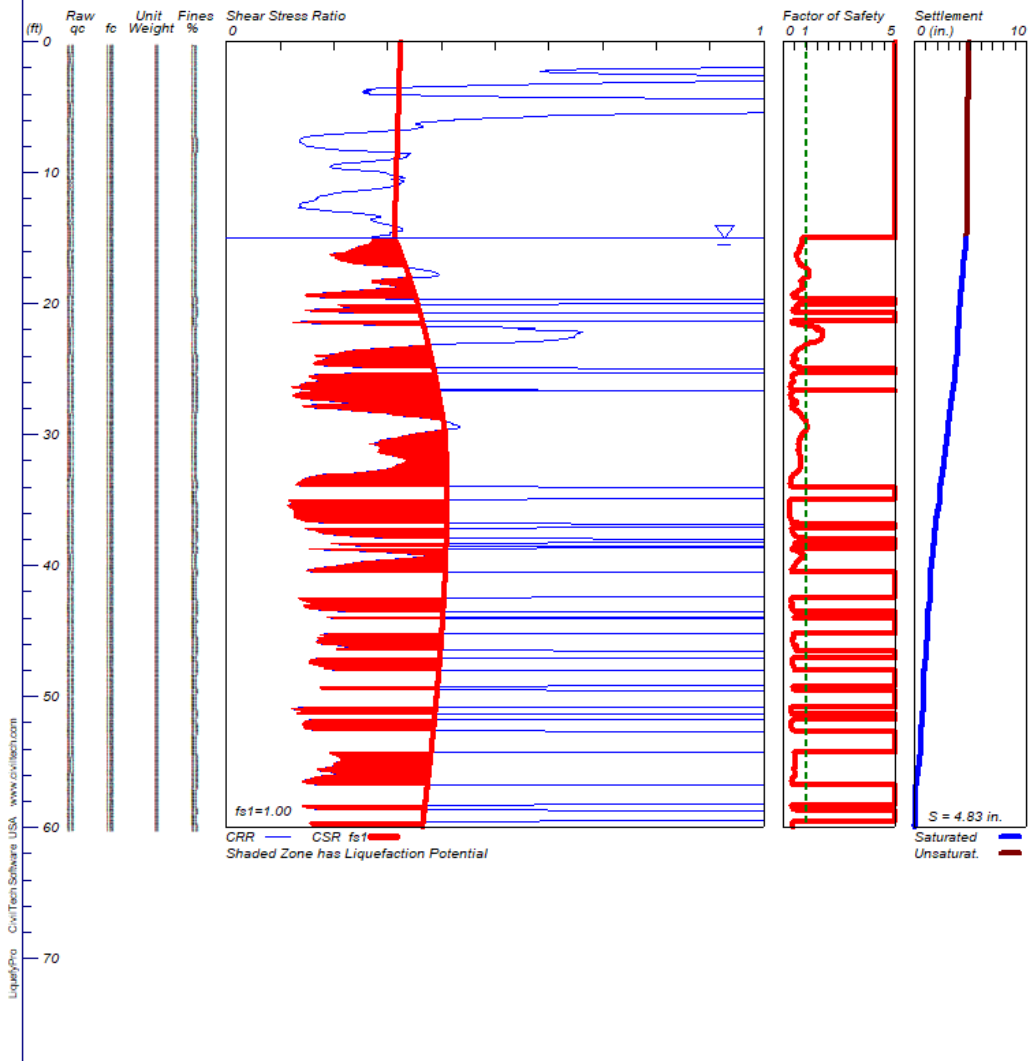
Liquefaction Analysis

LIQUEFACTION ANALYSIS

MBGPF Expansion

Hole No.=CPT-1 Water Depth=15 ft Surface Elev.=46

Magnitude=7
Acceleration=0.5g



LiquefyPro - CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS CALCULATION SHEET

Copyright by CivilTech Software
www.civiltech.com
(425) 453-6488 Fax (425) 453-5848

Licensed to , 8/1/2022 12:16:56 PM

Input File Name: G:\File Share\CTF temp\Projects\109182001 GHD MBGPF Well
Expansion - CTF\Liquefaction\CPT-1.liq
Title: MBGPF Expansion
Subtitle: 109182001

Surface Elev.=46
Hole No.=CPT-1
Depth of Hole= 60.0 ft
Water Table during Earthquake= 15.0 ft
Water Table during In-Situ Testing= 15.0 ft
Max. Acceleration= 0.5 g
Earthquake Magnitude= 7.0

Input Data:

Surface Elev.=46
Hole No.=CPT-1
Depth of Hole=60.0 ft
Water Table during Earthquake= 15.0 ft
Water Table during In-Situ Testing= 15.0 ft
Max. Acceleration=0.5 g
Earthquake Magnitude=7.0

1. CPT Calculation Method: Modify Robertson*
 2. Settlement Analysis Method: Tokimatsu, M-correction
 3. Fines Correction for Liquefaction: Idriss/Seed (SPT only)
 4. Fine Correction for Settlement: During Liquefaction*
 5. Settlement Calculation in: All zones*
 6. Hammer Energy Ratio, Ce = 1.25
 7. Borehole Diameter, Cb= 1
 8. Sampling Method, Cs= 1
 9. User request factor of safety (apply to CSR) , User= 1
Plot one CSR curve (fs1=User)
 10. Use Curve Smoothing: Yes*
- * Recommended Options

In-Situ Test Data:

Depth ft	qc tsf	fs tsf	gamma pcf	Fines %	D50 mm
0.0	-0.1	0.2	120.0	NoLiq	0.5
0.1	23.5	0.3	120.0	4.9	0.5
0.1	41.6	0.4	120.0	2.5	0.5
0.2	50.1	0.5	120.0	2.5	0.5
0.3	57.8	0.5	120.0	1.9	0.5
0.3	69.8	0.6	120.0	1.3	0.5
0.4	81.8	0.6	120.0	0.6	0.5
0.5	89.3	0.6	120.0	0.3	0.5
0.5	96.6	0.7	120.0	0.2	0.5
0.6	102.3	0.7	120.0	0.0	0.5
0.7	97.3	0.5	120.0	0.0	0.5
0.7	101.9	0.5	120.0	0.0	0.5
0.8	96.1	0.5	120.0	0.0	0.5
0.9	101.5	0.5	120.0	0.0	0.5
0.9	105.7	0.5	120.0	0.0	0.5
1.0	101.0	0.6	120.0	0.2	0.5
1.1	106.1	0.6	120.0	0.3	0.5
1.1	113.8	0.6	120.0	0.1	0.5
1.2	123.3	0.6	120.0	0.0	0.5
1.3	123.4	0.6	120.0	0.0	0.5
1.3	123.4	0.6	120.0	0.0	0.5
1.4	120.0	0.6	120.0	0.3	0.5
1.5	99.5	0.7	120.0	1.5	0.5
1.5	105.5	0.6	120.0	1.2	0.5
1.6	99.3	0.6	120.0	1.7	0.5
1.7	89.5	0.8	120.0	3.7	0.5
1.7	87.7	1.0	120.0	4.8	0.5
1.8	80.6	0.9	120.0	5.7	0.5
1.8	74.6	0.9	120.0	6.4	0.5
1.9	63.9	0.8	120.0	7.5	0.5
2.0	66.4	0.7	120.0	6.8	0.5
2.1	63.3	0.6	120.0	6.1	0.5
2.1	60.2	0.5	120.0	5.8	0.5
2.2	60.7	0.4	120.0	4.5	0.5
2.2	60.0	0.3	120.0	3.8	0.5
2.3	61.3	0.3	120.0	3.5	0.5
2.4	63.2	0.3	120.0	3.3	0.5
2.4	68.0	0.3	120.0	2.8	0.5
2.5	73.5	0.4	120.0	2.8	0.5
2.6	77.5	0.4	120.0	2.6	0.5
2.6	86.1	0.4	120.0	2.1	0.5
2.7	94.5	0.4	120.0	1.7	0.5
2.8	97.6	0.5	120.0	1.9	0.5
2.8	93.9	0.5	120.0	2.3	0.5
2.9	90.5	0.5	120.0	2.8	0.5
3.0	88.7	0.5	120.0	3.0	0.5
3.0	83.9	0.5	120.0	3.5	0.5

3.1	79.4	0.5	120.0	4.0	0.5
3.2	77.8	0.5	120.0	4.2	0.5
3.2	72.3	0.5	120.0	4.7	0.5
3.3	71.3	0.4	120.0	4.7	0.5
3.4	66.4	0.4	120.0	4.9	0.5
3.4	61.7	0.4	120.0	5.2	0.5
3.5	57.7	0.3	120.0	5.6	0.5
3.6	53.4	0.3	120.0	5.8	0.5
3.6	53.3	0.2	120.0	4.4	0.5
3.7	54.8	0.2	120.0	4.5	0.5
3.8	53.3	0.2	120.0	5.1	0.5
3.8	53.3	0.2	120.0	5.3	0.5
3.9	55.9	0.2	120.0	5.3	0.5
4.0	54.1	0.2	120.0	5.6	0.5
4.0	57.7	0.2	120.0	4.9	0.5
4.1	68.7	0.3	120.0	3.6	0.5
4.1	74.2	0.3	120.0	3.2	0.5
4.2	81.9	0.3	120.0	3.1	0.5
4.3	87.3	0.4	120.0	3.1	0.5
4.4	96.5	0.5	120.0	3.1	0.5
4.4	105.9	0.6	120.0	2.7	0.5
4.5	124.4	0.7	120.0	2.1	0.5
4.5	136.1	0.8	120.0	1.9	0.5
4.6	149.6	0.9	120.0	1.9	0.5
4.7	156.1	1.0	120.0	2.1	0.5
4.7	160.1	1.2	120.0	2.5	0.5
4.8	161.0	1.3	120.0	2.8	0.5
4.9	159.6	1.4	120.0	3.2	0.5
4.9	157.0	1.4	120.0	3.6	0.5
5.0	149.0	1.4	120.0	4.2	0.5
5.1	143.0	1.4	120.0	4.6	0.5
5.1	139.9	1.4	120.0	4.7	0.5
5.2	135.4	1.3	120.0	4.8	0.5
5.3	131.6	1.3	120.0	4.8	0.5
5.3	125.8	1.2	120.0	5.1	0.5
5.4	118.1	1.1	120.0	5.5	0.5
5.5	107.7	1.1	120.0	6.2	0.5
5.5	101.1	1.0	120.0	6.7	0.5
5.6	97.8	0.9	120.0	6.6	0.5
5.7	93.5	0.8	120.0	6.3	0.5
5.7	90.9	0.8	120.0	6.6	0.5
5.8	89.3	0.8	120.0	6.9	0.5
5.9	87.9	0.8	120.0	7.3	0.5
5.9	76.6	0.8	120.0	8.3	0.5
6.0	80.9	0.7	120.0	7.7	0.5
6.0	78.6	0.7	120.0	7.6	0.5
6.1	77.2	0.6	120.0	7.6	0.5
6.2	75.6	0.6	120.0	7.6	0.5
6.2	75.7	0.6	120.0	7.4	0.5
6.3	76.7	0.6	120.0	7.2	0.5

6.4	78.5	0.6	120.0	6.9	0.5
6.4	79.5	0.6	120.0	6.8	0.5
6.5	80.0	0.6	120.0	6.8	0.5
6.6	79.4	0.6	120.0	6.9	0.5
6.6	79.3	0.6	120.0	7.0	0.5
6.7	77.6	0.6	120.0	7.3	0.5
6.8	75.6	0.6	120.0	7.6	0.5
6.8	71.5	0.5	120.0	8.1	0.5
6.9	68.1	0.5	120.0	8.4	0.5
7.0	64.1	0.5	120.0	8.9	0.5
7.0	59.2	0.4	120.0	9.6	0.5
7.1	53.6	0.4	120.0	10.4	0.5
7.2	48.2	0.4	120.0	11.3	0.5
7.2	43.6	0.3	120.0	12.2	0.5
7.3	38.7	0.3	120.0	13.5	0.5
7.4	36.7	0.3	120.0	14.4	0.5
7.4	35.5	0.3	120.0	15.1	0.5
7.5	34.5	0.3	120.0	15.6	0.5
7.6	33.3	0.3	120.0	16.6	0.5
7.6	33.0	0.3	120.0	17.0	0.5
7.7	33.5	0.3	120.0	17.0	0.5
7.8	35.5	0.3	120.0	16.6	0.5
7.8	36.8	0.3	120.0	16.2	0.5
7.9	38.1	0.4	120.0	15.7	0.5
8.0	39.8	0.4	120.0	15.1	0.5
8.0	42.0	0.4	120.0	14.3	0.5
8.1	45.8	0.4	120.0	13.2	0.5
8.1	52.3	0.4	120.0	11.5	0.5
8.2	58.1	0.4	120.0	9.7	0.5
8.3	68.4	0.3	120.0	6.5	0.5
8.3	75.9	0.3	120.0	5.5	0.5
8.4	83.5	0.3	120.0	4.8	0.5
8.5	89.7	0.4	120.0	4.4	0.5
8.5	93.4	0.4	120.0	4.4	0.5
8.6	93.5	0.4	120.0	4.6	0.5
8.7	93.5	0.4	120.0	4.8	0.5
8.7	93.6	0.5	120.0	5.0	0.5
8.8	93.2	0.5	120.0	5.3	0.5
8.9	92.2	0.5	120.0	5.6	0.5
8.9	89.8	0.5	120.0	5.9	0.5
9.0	87.3	0.5	120.0	6.2	0.5
9.1	83.5	0.5	120.0	6.6	0.5
9.1	80.6	0.5	120.0	6.9	0.5
9.2	76.2	0.5	120.0	7.4	0.5
9.3	73.5	0.4	120.0	7.8	0.5
9.3	70.5	0.4	120.0	8.1	0.5
9.4	67.3	0.4	120.0	8.6	0.5
9.5	66.1	0.4	120.0	8.6	0.5
9.5	65.5	0.4	120.0	8.6	0.5
9.6	66.2	0.4	120.0	8.4	0.5

9.7	68.0	0.4	120.0	8.2	0.5
9.7	73.2	0.4	120.0	7.4	0.5
9.8	78.5	0.4	120.0	6.7	0.5
9.9	87.4	0.4	120.0	5.8	0.5
9.9	91.9	0.4	120.0	5.5	0.5
10.0	93.3	0.5	120.0	5.4	0.5
10.1	95.1	0.4	120.0	4.8	0.5
10.1	96.3	0.2	120.0	3.4	0.5
10.2	96.8	0.3	120.0	3.3	0.5
10.2	98.4	0.3	120.0	3.8	0.5
10.3	100.7	0.4	120.0	4.1	0.5
10.4	102.0	0.4	120.0	4.5	0.5
10.4	100.8	0.5	120.0	4.9	0.5
10.5	97.1	0.5	120.0	5.5	0.5
10.6	99.6	0.5	120.0	5.5	0.5
10.6	100.8	0.6	120.0	5.7	0.5
10.7	100.3	0.6	120.0	5.9	0.5
10.8	100.9	0.6	120.0	5.9	0.5
10.8	99.4	0.6	120.0	5.9	0.5
10.9	101.0	0.5	120.0	5.6	0.5
11.0	101.3	0.5	120.0	5.4	0.5
11.0	100.7	0.5	120.0	5.4	0.5
11.1	99.3	0.5	120.0	5.4	0.5
11.2	97.8	0.5	120.0	5.5	0.5
11.2	96.3	0.5	120.0	5.6	0.5
11.3	93.9	0.5	120.0	5.8	0.5
11.4	90.1	0.4	120.0	6.1	0.5
11.4	82.6	0.4	120.0	6.8	0.5
11.5	79.0	0.4	120.0	7.1	0.5
11.6	76.6	0.4	120.0	7.3	0.5
11.6	74.7	0.3	120.0	7.3	0.5
11.7	74.2	0.3	120.0	7.3	0.5
11.8	71.8	0.3	120.0	7.5	0.5
11.8	69.9	0.3	120.0	7.7	0.5
11.9	68.9	0.3	120.0	7.7	0.5
12.0	68.7	0.3	120.0	7.6	0.5
12.0	68.8	0.3	120.0	7.5	0.5
12.1	68.3	0.3	120.0	7.5	0.5
12.1	67.3	0.3	120.0	7.6	0.5
12.2	64.1	0.3	120.0	8.0	0.5
12.3	61.7	0.2	120.0	7.6	0.5
12.3	59.4	0.1	120.0	7.1	0.5
12.4	57.5	0.2	120.0	7.7	0.5
12.5	55.9	0.2	120.0	8.4	0.5
12.6	56.8	0.2	120.0	8.6	0.5
12.6	58.2	0.2	120.0	8.8	0.5
12.7	50.5	0.2	120.0	9.8	0.5
12.7	63.4	0.2	120.0	8.6	0.5
12.8	69.4	0.3	120.0	7.8	0.5
12.9	75.3	0.3	120.0	7.6	0.5

12.9	79.9	0.4	120.0	7.6	0.5
13.0	84.1	0.5	120.0	7.6	0.5
13.1	88.3	0.5	120.0	7.6	0.5
13.1	91.2	0.6	120.0	7.6	0.5
13.2	95.3	0.6	120.0	7.6	0.5
13.3	97.6	0.6	120.0	7.6	0.5
13.3	100.3	0.7	120.0	7.4	0.5
13.4	100.9	0.7	120.0	7.3	0.5
13.4	100.1	0.7	120.0	7.4	0.5
13.5	97.6	0.6	120.0	7.6	0.5
13.6	97.7	0.6	120.0	7.5	0.5
13.6	98.8	0.6	120.0	7.3	0.5
13.7	100.9	0.6	120.0	7.0	0.5
13.8	102.5	0.6	120.0	6.8	0.5
13.8	104.4	0.6	120.0	6.6	0.5
13.9	107.4	0.6	120.0	6.3	0.5
14.0	109.2	0.6	120.0	6.3	0.5
14.0	110.5	0.6	120.0	6.2	0.5
14.1	111.9	0.7	120.0	6.3	0.5
14.2	113.5	0.7	120.0	6.3	0.5
14.3	114.3	0.7	120.0	6.3	0.5
14.3	114.4	0.7	120.0	6.3	0.5
14.4	114.4	0.7	120.0	6.3	0.5
14.5	114.6	0.7	120.0	6.3	0.5
14.5	114.9	0.6	120.0	5.5	0.5
14.6	115.4	0.4	120.0	4.4	0.5
14.6	115.8	0.4	120.0	4.3	0.5
14.7	116.3	0.5	120.0	4.6	0.5
14.8	116.3	0.5	120.0	4.8	0.5
14.8	111.1	0.5	120.0	5.4	0.5
14.9	107.3	0.5	120.0	5.7	0.5
15.0	108.8	0.5	120.0	5.7	0.5
15.0	108.6	0.5	120.0	5.8	0.5
15.1	108.4	0.5	120.0	5.9	0.5
15.2	107.9	0.6	120.0	6.1	0.5
15.2	107.5	0.6	120.0	6.2	0.5
15.3	107.2	0.6	120.0	6.3	0.5
15.4	106.6	0.6	120.0	6.4	0.5
15.4	105.7	0.6	120.0	6.5	0.5
15.5	104.5	0.6	120.0	6.6	0.5
15.6	102.8	0.6	120.0	6.9	0.5
15.6	100.9	0.6	120.0	7.1	0.5
15.7	99.3	0.6	120.0	7.3	0.5
15.8	97.9	0.6	120.0	7.5	0.5
15.8	96.9	0.6	120.0	7.6	0.5
15.9	95.7	0.6	120.0	7.7	0.5
15.9	94.3	0.6	120.0	7.9	0.5
16.0	93.2	0.6	120.0	8.0	0.5
16.1	92.1	0.6	120.0	7.9	0.5
16.2	91.7	0.4	120.0	6.5	0.5

16.2	92.0	0.3	120.0	5.4	0.5
16.3	92.0	0.3	120.0	5.4	0.5
16.4	92.6	0.3	120.0	5.8	0.5
16.4	93.0	0.4	120.0	6.2	0.5
16.5	91.8	0.4	120.0	6.6	0.5
16.5	91.7	0.4	120.0	7.0	0.5
16.6	91.7	0.5	120.0	7.3	0.5
16.7	91.6	0.5	120.0	7.7	0.5
16.7	92.5	0.5	120.0	7.7	0.5
16.8	94.3	0.5	120.0	7.7	0.5
16.9	95.6	0.6	120.0	7.7	0.5
16.9	98.7	0.6	120.0	7.4	0.5
17.0	102.5	0.6	120.0	7.1	0.5
17.1	107.9	0.6	120.0	6.8	0.5
17.1	116.6	0.7	120.0	6.2	0.5
17.2	120.4	0.7	120.0	6.0	0.5
17.3	124.8	0.7	120.0	5.9	0.5
17.3	127.2	0.8	120.0	5.9	0.5
17.4	129.1	0.8	120.0	5.8	0.5
17.5	131.3	0.8	120.0	5.7	0.5
17.5	133.0	0.8	120.0	5.7	0.5
17.6	133.9	0.8	120.0	5.7	0.5
17.7	134.6	0.8	120.0	5.8	0.5
17.7	134.9	0.9	120.0	5.8	0.5
17.8	134.9	0.9	120.0	5.9	0.5
17.9	134.3	0.9	120.0	5.9	0.5
17.9	132.9	0.9	120.0	6.1	0.5
18.0	128.2	0.8	120.0	6.3	0.5
18.0	122.4	0.8	120.0	6.5	0.5
18.1	116.2	0.7	120.0	6.8	0.5
18.2	112.4	0.7	120.0	7.0	0.5
18.3	109.8	0.7	120.0	7.1	0.5
18.3	112.4	0.7	120.0	6.9	0.5
18.4	109.6	0.7	120.0	6.9	0.5
18.4	112.3	0.7	120.0	6.7	0.5
18.5	116.1	0.7	120.0	6.3	0.5
18.6	120.3	0.7	120.0	6.0	0.5
18.7	123.8	0.7	120.0	5.8	0.5
18.7	123.9	0.7	120.0	5.8	0.5
18.8	122.8	0.7	120.0	5.9	0.5
18.9	120.2	0.5	120.0	5.1	0.5
18.9	116.5	0.4	120.0	4.3	0.5
19.0	111.4	0.4	120.0	4.7	0.5
19.0	104.2	0.4	120.0	5.6	0.5
19.1	95.2	0.4	120.0	6.9	0.5
19.2	82.9	0.5	120.0	8.8	0.5
19.3	65.4	0.5	120.0	12.3	0.5
19.3	61.2	0.5	120.0	13.9	0.5
19.4	50.7	0.5	120.0	18.2	0.5
19.4	46.1	0.6	120.0	20.4	0.5

19.5	38.4	0.6	120.0	25.8	0.5
19.6	34.7	0.7	120.0	29.0	0.5
19.6	30.3	0.7	120.0	33.3	0.5
19.7	27.8	0.7	120.0	91.6	0.5
19.8	25.4	0.7	120.0	NoLiq	0.5
19.8	23.0	0.6	120.0	NoLiq	0.5
19.9	22.5	0.6	120.0	NoLiq	0.5
20.0	24.6	0.5	120.0	NoLiq	0.5
20.0	26.1	0.5	120.0	71.2	0.5
20.1	29.3	0.6	120.0	32.3	0.5
20.2	29.5	0.6	120.0	32.0	0.5
20.2	28.6	0.6	120.0	32.7	0.5
20.3	27.7	0.5	120.0	33.0	0.5
20.4	27.7	0.5	120.0	32.3	0.5
20.4	28.8	0.5	120.0	30.5	0.5
20.5	33.1	0.5	120.0	27.1	0.5
20.5	33.3	0.5	120.0	27.2	0.5
20.6	31.5	0.5	120.0	29.0	0.5
20.7	29.6	0.5	120.0	31.5	0.5
20.7	26.9	0.6	120.0	95.6	0.5
20.8	23.1	0.7	120.0	NoLiq	0.5
20.9	21.4	0.6	120.0	NoLiq	0.5
20.9	18.3	0.6	120.0	NoLiq	0.5
21.0	14.9	0.5	120.0	NoLiq	0.5
21.1	13.7	0.5	120.0	NoLiq	0.5
21.2	13.3	0.5	120.0	NoLiq	0.5
21.2	14.3	0.5	120.0	NoLiq	0.5
21.3	16.8	0.4	120.0	NoLiq	0.5
21.3	18.6	0.3	120.0	58.6	0.5
21.4	34.2	0.3	120.0	21.9	0.5
21.5	81.0	0.4	120.0	9.3	0.5
21.5	104.4	0.5	120.0	6.7	0.5
21.6	125.8	0.6	120.0	5.2	0.5
21.7	138.8	0.6	120.0	4.5	0.5
21.7	149.5	0.7	120.0	4.0	0.5
21.8	160.2	0.7	120.0	3.7	0.5
21.9	165.4	0.8	120.0	3.7	0.5
21.9	172.6	0.9	120.0	3.8	0.5
22.0	164.1	0.9	120.0	4.2	0.5
22.0	174.4	0.9	120.0	3.9	0.5
22.1	180.7	1.0	120.0	3.7	0.5
22.2	181.4	1.0	120.0	3.7	0.5
22.3	180.8	1.0	120.0	3.7	0.5
22.3	180.2	1.0	120.0	3.7	0.5
22.4	180.3	1.0	120.0	3.8	0.5
22.4	180.3	1.0	120.0	3.8	0.5
22.5	180.3	1.0	120.0	3.9	0.5
22.6	180.4	1.0	120.0	4.0	0.5
22.6	179.1	1.0	120.0	4.2	0.5
22.7	178.3	1.0	120.0	4.2	0.5

22.8	176.7	1.0	120.0	4.2	0.5
22.8	174.4	1.0	120.0	4.2	0.5
22.9	169.0	0.9	120.0	4.3	0.5
23.0	163.3	0.9	120.0	4.6	0.5
23.0	157.7	0.9	120.0	4.9	0.5
23.1	151.7	0.9	120.0	5.1	0.5
23.2	143.2	0.8	120.0	5.3	0.5
23.3	139.1	0.8	120.0	5.4	0.5
23.3	136.6	0.7	120.0	5.4	0.5
23.4	128.0	0.7	120.0	6.0	0.5
23.4	122.8	0.7	120.0	6.4	0.5
23.5	112.2	0.7	120.0	7.5	0.5
23.6	106.4	0.7	120.0	8.4	0.5
23.6	94.6	0.8	120.0	11.0	0.5
23.7	87.1	0.9	120.0	12.9	0.5
23.8	72.8	1.1	120.0	17.3	0.5
23.8	65.1	1.1	120.0	19.7	0.5
23.9	51.5	0.8	120.0	22.2	0.5
24.0	46.2	0.7	120.0	23.4	0.5
24.0	43.3	0.8	120.0	25.8	0.5
24.1	43.6	0.8	120.0	26.5	0.5
24.2	43.6	0.9	120.0	28.2	0.5
24.2	40.3	0.9	120.0	28.0	0.5
24.3	49.3	0.9	120.0	24.4	0.5
24.4	54.5	0.8	120.0	21.3	0.5
24.4	55.7	0.8	120.0	20.4	0.5
24.5	55.9	0.8	120.0	20.1	0.5
24.5	54.5	0.7	120.0	20.1	0.5
24.6	54.7	0.7	120.0	20.4	0.5
24.7	52.7	0.8	120.0	21.9	0.5
24.7	47.5	0.9	120.0	24.9	0.5
24.8	39.8	0.9	120.0	29.5	0.5
24.9	35.5	0.8	120.0	32.2	0.5
24.9	32.0	0.8	120.0	95.7	0.5
25.0	29.7	0.7	120.0	NoLiq	0.5
25.1	28.0	0.7	120.0	NoLiq	0.5
25.1	29.5	0.7	120.0	NoLiq	0.5
25.2	30.5	0.7	120.0	NoLiq	0.5
25.3	30.3	0.6	120.0	75.0	0.5
25.4	30.2	0.6	120.0	32.1	0.5
25.4	31.3	0.5	120.0	30.2	0.5
25.5	32.6	0.5	120.0	29.0	0.5
25.5	33.2	0.5	120.0	28.5	0.5
25.6	34.3	0.5	120.0	28.1	0.5
25.7	35.3	0.6	120.0	27.9	0.5
25.7	35.1	0.6	120.0	28.4	0.5
25.8	34.9	0.6	120.0	28.9	0.5
25.9	34.2	0.6	120.0	29.4	0.5
25.9	33.6	0.6	120.0	29.6	0.5
26.0	34.4	0.6	120.0	28.2	0.5

26.1	37.0	0.5	120.0	26.4	0.5
26.1	42.2	0.5	120.0	23.0	0.5
26.2	41.9	0.5	120.0	23.3	0.5
26.3	39.0	0.5	120.0	24.3	0.5
26.3	35.5	0.3	120.0	23.5	0.5
26.4	32.0	0.3	120.0	25.6	0.5
26.5	29.5	0.4	120.0	28.3	0.5
26.5	27.2	0.4	120.0	30.9	0.5
26.6	25.3	0.4	120.0	98.1	0.5
26.6	26.9	0.4	120.0	43.8	0.5
26.7	26.6	0.4	120.0	31.5	0.5
26.8	29.5	0.4	120.0	29.4	0.5
26.8	30.7	0.4	120.0	28.0	0.5
26.9	31.3	0.4	120.0	26.9	0.5
27.0	32.4	0.3	120.0	25.7	0.5
27.0	33.1	0.3	120.0	24.9	0.5
27.1	33.8	0.4	120.0	25.0	0.5
27.2	34.6	0.4	120.0	25.6	0.5
27.2	34.9	0.5	120.0	26.4	0.5
27.3	34.6	0.5	120.0	27.6	0.5
27.4	34.2	0.6	120.0	29.3	0.5
27.4	33.6	0.6	120.0	30.9	0.5
27.5	33.6	0.7	120.0	32.0	0.5
27.6	33.6	0.7	120.0	32.1	0.5
27.6	33.6	0.7	120.0	31.3	0.5
27.7	37.0	0.6	120.0	27.9	0.5
27.8	41.8	0.6	120.0	24.4	0.5
27.8	55.8	0.6	120.0	17.7	0.5
27.9	68.6	0.6	120.0	14.0	0.5
28.0	87.6	0.6	120.0	10.3	0.5
28.0	97.1	0.6	120.0	8.8	0.5
28.1	106.4	0.6	120.0	7.8	0.5
28.2	118.9	0.5	120.0	5.7	0.5
28.2	124.6	0.4	120.0	4.6	0.5
28.3	130.2	0.4	120.0	4.3	0.5
28.4	137.3	0.5	120.0	4.5	0.5
28.4	141.7	0.6	120.0	4.7	0.5
28.5	140.6	0.6	120.0	4.9	0.5
28.6	145.2	0.7	120.0	5.0	0.5
28.6	148.7	0.7	120.0	5.0	0.5
28.7	152.3	0.8	120.0	5.1	0.5
28.7	153.5	0.8	120.0	5.2	0.5
28.8	156.1	0.9	120.0	5.2	0.5
28.9	158.6	0.9	120.0	5.1	0.5
28.9	160.3	0.9	120.0	5.1	0.5
29.0	161.5	0.9	120.0	5.0	0.5
29.1	162.7	0.9	120.0	4.9	0.5
29.2	163.9	0.9	120.0	4.9	0.5
29.2	164.0	0.9	120.0	5.0	0.5
29.3	164.2	1.0	120.0	5.1	0.5

29.4	164.7	1.0	120.0	5.3	0.5
29.4	164.3	1.0	120.0	5.5	0.5
29.5	163.9	1.1	120.0	5.6	0.5
29.5	162.1	1.1	120.0	5.9	0.5
29.6	159.6	1.1	120.0	6.1	0.5
29.7	155.2	1.1	120.0	6.4	0.5
29.7	151.9	1.1	120.0	6.6	0.5
29.8	150.5	1.1	120.0	6.6	0.5
29.9	147.2	1.0	120.0	6.7	0.5
29.9	145.8	1.0	120.0	6.7	0.5
30.0	144.9	1.0	120.0	6.6	0.5
30.0	142.7	0.9	120.0	6.6	0.5
30.1	142.8	0.9	120.0	6.4	0.5
30.2	141.6	0.8	120.0	6.2	0.5
30.3	141.6	0.8	120.0	6.0	0.5
30.3	140.8	0.7	120.0	5.4	0.5
30.4	139.5	0.5	120.0	4.2	0.5
30.4	138.4	0.5	120.0	4.3	0.5
30.5	139.5	0.5	120.0	4.6	0.5
30.6	138.1	0.6	120.0	4.8	0.5
30.7	139.4	0.6	120.0	5.3	0.5
30.7	129.1	0.6	120.0	5.9	0.5
30.8	133.9	0.7	120.0	6.0	0.5
30.9	134.5	0.7	120.0	6.2	0.5
30.9	134.3	0.8	120.0	6.4	0.5
31.0	133.6	0.8	120.0	6.6	0.5
31.0	132.9	0.8	120.0	6.8	0.5
31.1	132.3	0.8	120.0	6.9	0.5
31.2	132.0	0.8	120.0	6.9	0.5
31.2	132.3	0.8	120.0	6.9	0.5
31.3	131.6	0.8	120.0	7.0	0.5
31.4	132.3	0.8	120.0	7.0	0.5
31.4	134.6	0.8	120.0	6.8	0.5
31.5	136.5	0.8	120.0	6.7	0.5
31.6	139.9	0.8	120.0	6.5	0.5
31.6	142.5	0.8	120.0	6.3	0.5
31.7	143.7	0.9	120.0	6.2	0.5
31.8	145.0	0.8	120.0	6.1	0.5
31.8	147.5	0.8	120.0	5.8	0.5
31.9	148.5	0.8	120.0	5.8	0.5
32.0	149.4	0.8	120.0	5.7	0.5
32.0	149.4	0.8	120.0	5.7	0.5
32.1	149.5	0.8	120.0	5.6	0.5
32.2	149.7	0.8	120.0	5.5	0.5
32.2	148.8	0.8	120.0	5.4	0.5
32.3	147.7	0.8	120.0	5.4	0.5
32.4	146.9	0.7	120.0	5.4	0.5
32.4	147.0	0.7	120.0	5.3	0.5
32.5	146.9	0.7	120.0	5.2	0.5
32.5	146.3	0.7	120.0	5.2	0.5

32.6	144.4	0.7	120.0	5.1	0.5
32.7	142.1	0.5	120.0	4.3	0.5
32.8	138.5	0.4	120.0	4.1	0.5
32.8	136.6	0.4	120.0	4.1	0.5
32.9	132.8	0.4	120.0	4.4	0.5
33.0	127.6	0.4	120.0	4.9	0.5
33.0	120.4	0.5	120.0	6.0	0.5
33.1	96.7	0.5	120.0	7.8	0.5
33.2	94.1	0.5	120.0	8.7	0.5
33.2	88.9	0.5	120.0	9.5	0.5
33.3	82.8	0.5	120.0	10.5	0.5
33.3	77.7	0.5	120.0	11.5	0.5
33.4	73.1	0.5	120.0	12.3	0.5
33.5	70.9	0.5	120.0	12.8	0.5
33.5	67.8	0.4	120.0	13.3	0.5
33.6	65.5	0.4	120.0	13.9	0.5
33.7	62.0	0.4	120.0	14.9	0.5
33.7	57.7	0.5	120.0	16.4	0.5
33.8	52.1	0.5	120.0	18.6	0.5
33.9	43.1	0.5	120.0	23.6	0.5
33.9	37.4	0.6	120.0	27.8	0.5
34.0	31.1	0.6	120.0	NoLiq	0.5
34.1	25.5	0.6	120.0	NoLiq	0.5
34.1	21.2	0.6	120.0	NoLiq	0.5
34.2	19.4	0.6	120.0	NoLiq	0.5
34.3	17.7	0.4	120.0	NoLiq	0.5
34.3	16.8	0.3	120.0	NoLiq	0.5
34.4	15.8	0.3	120.0	NoLiq	0.5
34.5	14.4	0.2	120.0	NoLiq	0.5
34.5	13.5	0.2	120.0	NoLiq	0.5
34.6	12.4	0.2	120.0	NoLiq	0.5
34.7	11.4	0.2	120.0	NoLiq	0.5
34.7	10.9	0.2	120.0	NoLiq	0.5
34.8	10.4	0.2	120.0	NoLiq	0.5
34.9	15.1	0.2	120.0	NoLiq	0.5
34.9	25.2	0.2	120.0	55.5	0.5
35.0	31.1	0.3	120.0	26.2	0.5
35.0	33.4	0.3	120.0	24.6	0.5
35.1	33.2	0.3	120.0	25.3	0.5
35.2	33.2	0.3	120.0	25.6	0.5
35.2	34.2	0.3	120.0	25.2	0.5
35.3	36.2	0.3	120.0	23.9	0.5
35.4	38.0	0.3	120.0	21.8	0.5
35.5	40.7	0.3	120.0	21.1	0.5
35.5	42.1	0.3	120.0	20.5	0.5
35.6	43.5	0.3	120.0	20.0	0.5
35.6	43.3	0.4	120.0	20.5	0.5
35.7	42.5	0.4	120.0	21.7	0.5
35.8	43.7	0.4	120.0	22.0	0.5
35.8	41.3	0.4	120.0	22.7	0.5

35.9	44.1	0.4	120.0	21.8	0.5
36.0	48.1	0.4	120.0	19.9	0.5
36.0	50.3	0.4	120.0	18.8	0.5
36.1	51.7	0.4	120.0	18.1	0.5
36.2	53.6	0.4	120.0	17.3	0.5
36.2	54.7	0.4	120.0	16.7	0.5
36.3	57.2	0.4	120.0	16.0	0.5
36.4	60.4	0.4	120.0	15.4	0.5
36.4	63.0	0.5	120.0	15.1	0.5
36.5	64.2	0.5	120.0	15.6	0.5
36.5	62.2	0.6	120.0	17.3	0.5
36.6	59.4	0.7	120.0	19.8	0.5
36.7	55.6	0.9	120.0	23.2	0.5
36.7	53.0	1.1	120.0	27.0	0.5
36.8	48.4	1.2	120.0	45.9	0.5
36.9	39.0	1.0	120.0	NoLiq	0.5
37.0	32.0	0.9	120.0	NoLiq	0.5
37.0	39.7	0.8	120.0	NoLiq	0.5
37.1	31.5	0.7	120.0	NoLiq	0.5
37.1	40.4	0.7	120.0	39.5	0.5
37.2	60.6	0.7	120.0	18.9	0.5
37.3	77.1	0.7	120.0	14.6	0.5
37.3	85.5	0.7	120.0	12.5	0.5
37.4	87.8	0.7	120.0	12.2	0.5
37.5	89.0	0.7	120.0	12.3	0.5
37.5	89.5	0.8	120.0	12.8	0.5
37.6	90.7	0.9	120.0	14.1	0.5
37.7	90.6	1.1	120.0	15.6	0.5
37.7	88.1	1.4	120.0	17.7	0.5
37.8	82.1	1.6	120.0	20.5	0.5
37.9	70.8	1.8	120.0	25.3	0.5
37.9	55.5	1.8	120.0	91.2	0.5
38.0	44.2	1.6	120.0	NoLiq	0.5
38.1	35.4	1.4	120.0	NoLiq	0.5
38.1	28.7	1.0	120.0	NoLiq	0.5
38.2	28.7	0.9	120.0	NoLiq	0.5
38.3	51.9	1.0	120.0	52.2	0.5
38.3	65.3	1.2	120.0	23.1	0.5
38.4	65.3	1.2	120.0	23.5	0.5
38.5	53.2	1.2	120.0	27.5	0.5
38.5	45.5	1.1	120.0	58.5	0.5
38.6	36.5	0.9	120.0	NoLiq	0.5
38.7	42.0	0.8	120.0	28.4	0.5
38.7	64.9	0.8	120.0	18.7	0.5
38.8	95.2	0.8	120.0	12.0	0.5
38.8	123.3	0.8	120.0	8.4	0.5
38.9	140.8	0.8	120.0	6.9	0.5
39.0	152.0	0.8	120.0	6.0	0.5
39.0	158.9	0.9	120.0	5.6	0.5
39.1	165.4	0.9	120.0	5.5	0.5

39.2	167.6	1.0	120.0	5.6	0.5
39.3	168.4	1.0	120.0	5.8	0.5
39.3	167.7	1.1	120.0	6.1	0.5
39.4	164.5	1.1	120.0	6.4	0.5
39.4	158.8	1.0	120.0	6.6	0.5
39.5	152.5	1.0	120.0	6.9	0.5
39.6	144.3	1.0	120.0	7.6	0.5
39.6	136.5	1.0	120.0	8.1	0.5
39.7	130.1	0.9	120.0	8.5	0.5
39.8	127.2	0.9	120.0	8.6	0.5
39.8	123.4	0.8	120.0	8.7	0.5
39.9	120.0	0.8	120.0	9.0	0.5
40.0	114.5	0.8	120.0	9.7	0.5
40.0	107.4	0.8	120.0	10.5	0.5
40.1	101.2	0.8	120.0	11.2	0.5
40.2	89.6	0.8	120.0	12.9	0.5
40.2	79.1	0.7	120.0	14.8	0.5
40.3	71.8	0.7	120.0	16.6	0.5
40.3	62.3	0.7	120.0	19.4	0.5
40.4	50.0	0.7	120.0	24.7	0.5
40.5	40.2	0.8	120.0	89.5	0.5
40.5	31.7	0.7	120.0	NoLiq	0.5
40.6	23.0	0.6	120.0	NoLiq	0.5
40.7	19.1	0.5	120.0	NoLiq	0.5
40.7	15.1	0.5	120.0	NoLiq	0.5
40.8	12.5	0.5	120.0	NoLiq	0.5
40.9	16.6	0.5	120.0	NoLiq	0.5
40.9	24.0	0.5	120.0	NoLiq	0.5
41.0	25.1	0.4	120.0	NoLiq	0.5
41.1	23.8	0.4	120.0	NoLiq	0.5
41.2	19.5	0.5	120.0	NoLiq	0.5
41.2	15.9	0.5	120.0	NoLiq	0.5
41.3	14.1	0.4	120.0	NoLiq	0.5
41.3	10.2	0.4	120.0	NoLiq	0.5
41.4	9.4	0.4	120.0	NoLiq	0.5
41.5	10.9	0.4	120.0	NoLiq	0.5
41.5	16.6	0.4	120.0	NoLiq	0.5
41.6	23.7	0.5	120.0	NoLiq	0.5
41.7	29.8	0.7	120.0	NoLiq	0.5
41.7	27.3	0.7	120.0	NoLiq	0.5
41.8	21.3	0.7	120.0	NoLiq	0.5
41.9	18.4	0.7	120.0	NoLiq	0.5
41.9	15.6	0.6	120.0	NoLiq	0.5
42.0	13.1	0.6	120.0	NoLiq	0.5
42.1	12.5	0.6	120.0	NoLiq	0.5
42.1	13.4	0.5	120.0	NoLiq	0.5
42.2	14.9	0.5	120.0	NoLiq	0.5
42.3	18.9	0.5	120.0	NoLiq	0.5
42.3	26.7	0.5	120.0	NoLiq	0.5
42.4	39.8	0.5	120.0	27.3	0.5

42.5	46.8	0.6	120.0	23.7	0.5
42.5	52.8	0.6	120.0	21.4	0.5
42.6	57.4	0.6	120.0	19.9	0.5
42.7	60.9	0.7	120.0	19.2	0.5
42.7	64.4	0.7	120.0	18.9	0.5
42.8	65.9	0.8	120.0	19.0	0.5
42.9	67.1	0.8	120.0	19.4	0.5
42.9	66.7	0.9	120.0	19.7	0.5
43.0	65.9	0.8	120.0	19.5	0.5
43.1	64.3	0.7	120.0	18.5	0.5
43.1	63.0	0.7	120.0	18.9	0.5
43.2	61.4	0.7	120.0	20.0	0.5
43.3	58.4	0.8	120.0	21.8	0.5
43.3	55.6	0.8	120.0	23.7	0.5
43.4	49.6	0.8	120.0	25.8	0.5
43.4	49.8	0.9	120.0	27.4	0.5
43.5	48.3	1.0	120.0	35.5	0.5
43.6	43.8	1.1	120.0	NoLiq	0.5
43.7	38.3	1.1	120.0	NoLiq	0.5
43.7	35.8	1.0	120.0	NoLiq	0.5
43.8	36.3	0.9	120.0	NoLiq	0.5
43.8	40.9	0.8	120.0	NoLiq	0.5
43.9	45.4	0.9	120.0	29.1	0.5
44.0	46.7	0.9	120.0	29.1	0.5
44.0	42.7	1.0	120.0	88.7	0.5
44.1	36.6	1.0	120.0	NoLiq	0.5
44.2	28.7	1.0	120.0	NoLiq	0.5
44.2	25.4	1.0	120.0	NoLiq	0.5
44.3	21.8	1.0	120.0	NoLiq	0.5
44.4	20.1	0.9	120.0	NoLiq	0.5
44.4	18.3	0.8	120.0	NoLiq	0.5
44.5	16.3	0.7	120.0	NoLiq	0.5
44.5	15.3	0.6	120.0	NoLiq	0.5
44.6	14.3	0.6	120.0	NoLiq	0.5
44.7	13.4	0.5	120.0	NoLiq	0.5
44.8	13.0	0.5	120.0	NoLiq	0.5
44.8	13.8	0.6	120.0	NoLiq	0.5
44.9	15.1	0.6	120.0	NoLiq	0.5
45.0	18.3	0.6	120.0	NoLiq	0.5
45.0	22.5	0.6	120.0	NoLiq	0.5
45.1	31.3	0.7	120.0	NoLiq	0.5
45.2	39.1	0.8	120.0	96.1	0.5
45.2	48.2	0.9	120.0	28.0	0.5
45.3	62.7	1.0	120.0	23.1	0.5
45.3	74.6	1.1	120.0	20.0	0.5
45.4	89.7	1.1	120.0	16.1	0.5
45.5	97.8	0.8	120.0	12.5	0.5
45.5	100.1	0.6	120.0	10.9	0.5
45.6	100.0	0.8	120.0	11.8	0.5
45.7	95.4	0.8	120.0	12.6	0.5

45.8	91.8	0.9	120.0	14.4	0.5
45.8	83.5	0.9	120.0	15.8	0.5
45.9	79.9	1.0	120.0	17.5	0.5
45.9	72.0	1.0	120.0	19.9	0.5
46.0	67.4	1.1	120.0	22.1	0.5
46.1	61.7	1.2	120.0	25.0	0.5
46.1	57.3	1.3	120.0	27.5	0.5
46.2	55.2	1.3	120.0	28.9	0.5
46.3	56.6	1.2	120.0	27.6	0.5
46.3	55.9	1.1	120.0	27.3	0.5
46.4	53.7	1.1	120.0	27.6	0.5
46.5	50.8	1.1	120.0	28.9	0.5
46.5	46.8	1.0	120.0	85.9	0.5
46.6	42.0	0.9	120.0	NoLiq	0.5
46.7	39.5	0.9	120.0	NoLiq	0.5
46.7	35.4	0.9	120.0	NoLiq	0.5
46.8	33.8	0.9	120.0	NoLiq	0.5
46.9	31.3	0.9	120.0	NoLiq	0.5
46.9	31.0	0.9	120.0	NoLiq	0.5
47.0	36.6	0.9	120.0	NoLiq	0.5
47.1	51.3	0.9	120.0	52.2	0.5
47.1	58.1	0.9	120.0	24.4	0.5
47.2	65.0	0.9	120.0	21.1	0.5
47.2	67.0	0.9	120.0	20.2	0.5
47.3	69.7	0.8	120.0	19.2	0.5
47.4	70.5	0.9	120.0	19.0	0.5
47.5	70.3	0.9	120.0	19.1	0.5
47.5	68.3	0.9	120.0	20.5	0.5
47.6	67.1	1.0	120.0	21.4	0.5
47.7	64.3	1.1	120.0	23.0	0.5
47.7	62.8	1.1	120.0	23.8	0.5
47.8	60.2	1.1	120.0	25.0	0.5
47.8	58.9	1.1	120.0	25.1	0.5
47.9	56.4	1.1	120.0	26.7	0.5
48.0	54.3	1.2	120.0	28.6	0.5
48.1	47.4	1.4	120.0	NoLiq	0.5
48.1	43.3	1.4	120.0	NoLiq	0.5
48.2	39.5	1.4	120.0	NoLiq	0.5
48.3	35.3	1.2	120.0	NoLiq	0.5
48.3	33.5	0.8	120.0	NoLiq	0.5
48.4	35.0	0.8	120.0	NoLiq	0.5
48.4	37.9	0.8	120.0	NoLiq	0.5
48.5	44.0	0.8	120.0	NoLiq	0.5
48.6	45.2	0.9	120.0	NoLiq	0.5
48.7	42.2	1.1	120.0	NoLiq	0.5
48.7	38.6	1.2	120.0	NoLiq	0.5
48.8	36.1	1.2	120.0	NoLiq	0.5
48.8	35.3	1.1	120.0	NoLiq	0.5
48.9	37.0	1.0	120.0	NoLiq	0.5
49.0	37.6	1.0	120.0	NoLiq	0.5

49.0	39.8	1.0	120.0	NoLiq	0.5
49.1	47.4	1.1	120.0	NoLiq	0.5
49.2	55.3	1.1	120.0	27.6	0.5
49.2	60.3	1.1	120.0	25.5	0.5
49.3	67.5	1.1	120.0	22.5	0.5
49.4	72.7	1.1	120.0	21.1	0.5
49.4	71.2	1.1	120.0	21.7	0.5
49.5	59.8	1.1	120.0	25.4	0.5
49.5	49.2	1.1	120.0	NoLiq	0.5
49.6	41.3	1.1	120.0	NoLiq	0.5
49.7	33.3	1.0	120.0	NoLiq	0.5
49.7	29.0	1.0	120.0	NoLiq	0.5
49.8	24.8	1.0	120.0	NoLiq	0.5
49.9	20.9	0.9	120.0	NoLiq	0.5
49.9	19.8	0.9	120.0	NoLiq	0.5
50.0	19.8	0.9	120.0	NoLiq	0.5
50.1	21.2	0.9	120.0	NoLiq	0.5
50.1	24.3	0.8	120.0	NoLiq	0.5
50.2	25.5	0.7	120.0	NoLiq	0.5
50.3	26.4	0.7	120.0	NoLiq	0.5
50.3	26.4	0.7	120.0	NoLiq	0.5
50.4	26.0	0.8	120.0	NoLiq	0.5
50.5	26.3	0.8	120.0	NoLiq	0.5
50.5	26.2	0.9	120.0	NoLiq	0.5
50.6	28.4	0.9	120.0	NoLiq	0.5
50.7	32.7	0.9	120.0	NoLiq	0.5
50.7	41.0	0.9	120.0	NoLiq	0.5
50.8	46.3	0.9	120.0	98.8	0.5
50.9	50.8	0.7	120.0	24.5	0.5
50.9	53.0	0.4	120.0	21.1	0.5
51.0	52.5	0.6	120.0	22.5	0.5
51.1	50.5	0.7	120.0	24.3	0.5
51.1	47.6	0.7	120.0	26.3	0.5
51.2	41.5	0.6	120.0	27.7	0.5
51.3	44.6	0.5	120.0	26.1	0.5
51.3	40.8	0.5	120.0	67.5	0.5
51.4	36.9	0.6	120.0	NoLiq	0.5
51.5	33.6	0.7	120.0	NoLiq	0.5
51.5	31.0	0.8	120.0	NoLiq	0.5
51.6	29.3	0.9	120.0	NoLiq	0.5
51.7	30.8	0.9	120.0	NoLiq	0.5
51.7	38.6	0.9	120.0	NoLiq	0.5
51.8	51.8	0.9	120.0	41.7	0.5
51.8	63.0	0.9	120.0	21.9	0.5
51.9	70.8	0.8	120.0	19.0	0.5
52.0	75.2	0.8	120.0	17.1	0.5
52.0	78.8	0.7	120.0	15.6	0.5
52.1	81.4	0.7	120.0	14.7	0.5
52.2	83.4	0.7	120.0	14.1	0.5
52.2	85.3	0.6	120.0	13.6	0.5

52.3	86.8	0.6	120.0	13.3	0.5
52.4	87.1	0.6	120.0	13.2	0.5
52.4	84.9	0.7	120.0	14.4	0.5
52.5	79.1	0.9	120.0	17.2	0.5
52.6	69.5	1.1	120.0	22.1	0.5
52.6	55.9	1.3	120.0	98.7	0.5
52.7	45.7	1.4	120.0	NoLiq	0.5
52.8	34.4	1.5	120.0	NoLiq	0.5
52.8	30.1	1.5	120.0	NoLiq	0.5
52.9	25.6	1.3	120.0	NoLiq	0.5
53.0	22.6	1.2	120.0	NoLiq	0.5
53.0	18.5	1.1	120.0	NoLiq	0.5
53.1	15.9	1.0	120.0	NoLiq	0.5
53.2	14.3	0.9	120.0	NoLiq	0.5
53.2	14.2	1.0	120.0	NoLiq	0.5
53.3	14.2	1.0	120.0	NoLiq	0.5
53.3	14.4	1.0	120.0	NoLiq	0.5
53.4	14.5	1.0	120.0	NoLiq	0.5
53.5	14.7	1.0	120.0	NoLiq	0.5
53.5	12.8	1.1	120.0	NoLiq	0.5
53.6	13.9	1.1	120.0	NoLiq	0.5
53.7	14.0	1.2	120.0	NoLiq	0.5
53.7	14.1	1.3	120.0	NoLiq	0.5
53.8	14.7	1.4	120.0	NoLiq	0.5
53.9	15.1	1.4	120.0	NoLiq	0.5
53.9	16.5	1.1	120.0	NoLiq	0.5
54.0	19.6	1.1	120.0	NoLiq	0.5
54.1	24.0	1.2	120.0	NoLiq	0.5
54.1	37.3	1.3	120.0	NoLiq	0.5
54.2	59.2	1.3	120.0	75.6	0.5
54.3	80.9	1.3	120.0	21.1	0.5
54.3	93.6	1.3	120.0	17.7	0.5
54.4	106.0	1.2	120.0	14.6	0.5
54.5	113.8	1.1	120.0	12.9	0.5
54.5	117.3	1.1	120.0	12.3	0.5
54.6	119.8	1.1	120.0	12.1	0.5
54.7	120.3	1.2	120.0	12.3	0.5
54.7	119.7	1.2	120.0	12.6	0.5
54.8	117.9	1.3	120.0	13.0	0.5
54.8	117.1	1.3	120.0	13.2	0.5
54.9	115.8	1.3	120.0	13.4	0.5
55.0	115.1	1.2	120.0	13.3	0.5
55.1	115.1	1.1	120.0	12.6	0.5
55.1	115.6	1.1	120.0	12.6	0.5
55.2	116.1	1.2	120.0	12.6	0.5
55.3	117.2	1.1	120.0	12.3	0.5
55.3	117.0	1.1	120.0	12.1	0.5
55.4	111.9	1.0	120.0	11.9	0.5
55.5	112.5	0.9	120.0	11.9	0.5
55.5	104.9	0.9	120.0	12.5	0.5

55.6	99.9	0.9	120.0	13.8	0.5
55.6	95.3	1.0	120.0	15.1	0.5
55.7	84.7	1.3	120.0	19.5	0.5
55.8	79.1	1.4	120.0	21.5	0.5
55.9	69.5	1.4	120.0	24.9	0.5
55.9	66.2	1.4	120.0	25.9	0.5
56.0	64.4	1.3	120.0	25.7	0.5
56.0	65.0	1.2	120.0	24.9	0.5
56.1	63.6	1.1	120.0	23.9	0.5
56.2	75.7	1.1	120.0	20.5	0.5
56.3	77.6	1.0	120.0	19.2	0.5
56.3	79.1	0.9	120.0	18.1	0.5
56.4	79.2	0.8	120.0	17.2	0.5
56.4	78.8	0.8	120.0	16.7	0.5
56.5	77.7	0.8	120.0	17.0	0.5
56.6	75.7	0.8	120.0	18.4	0.5
56.6	71.3	1.0	120.0	20.9	0.5
56.7	66.1	1.1	120.0	23.7	0.5
56.8	55.9	1.2	120.0	63.4	0.5
56.8	48.7	1.2	120.0	NoLiq	0.5
56.9	40.8	1.2	120.0	NoLiq	0.5
57.0	35.5	1.1	120.0	NoLiq	0.5
57.0	32.3	1.1	120.0	NoLiq	0.5
57.1	28.4	1.1	120.0	NoLiq	0.5
57.2	24.7	1.0	120.0	NoLiq	0.5
57.2	22.6	0.9	120.0	NoLiq	0.5
57.3	22.0	0.8	120.0	NoLiq	0.5
57.4	21.0	0.8	120.0	NoLiq	0.5
57.4	20.1	0.7	120.0	NoLiq	0.5
57.5	18.9	0.5	120.0	NoLiq	0.5
57.5	17.5	0.4	120.0	NoLiq	0.5
57.6	16.6	0.4	120.0	NoLiq	0.5
57.7	16.3	0.2	120.0	NoLiq	0.5
57.8	16.0	0.3	120.0	NoLiq	0.5
57.8	15.7	0.4	120.0	NoLiq	0.5
57.9	15.8	0.5	120.0	NoLiq	0.5
57.9	15.9	0.7	120.0	NoLiq	0.5
58.0	19.9	0.9	120.0	NoLiq	0.5
58.1	25.0	1.0	120.0	NoLiq	0.5
58.2	32.7	0.9	120.0	NoLiq	0.5
58.2	43.2	0.8	120.0	NoLiq	0.5
58.3	55.6	0.8	120.0	41.9	0.5
58.3	63.0	0.8	120.0	22.5	0.5
58.4	70.3	0.8	120.0	19.6	0.5
58.5	73.3	0.9	120.0	19.5	0.5
58.5	72.9	1.0	120.0	20.6	0.5
58.6	68.8	1.1	120.0	22.9	0.5
58.7	62.5	1.3	120.0	44.9	0.5
58.7	54.8	1.4	120.0	NoLiq	0.5
58.8	45.6	1.5	120.0	NoLiq	0.5

58.9	40.3	1.5	120.0	NoLiq	0.5
58.9	36.4	1.5	120.0	NoLiq	0.5
59.0	34.2	1.5	120.0	NoLiq	0.5
59.0	30.8	1.5	120.0	NoLiq	0.5
59.1	26.8	1.5	120.0	NoLiq	0.5
59.2	26.1	1.5	120.0	NoLiq	0.5
59.3	28.0	1.5	120.0	NoLiq	0.5
59.3	33.2	1.3	120.0	NoLiq	0.5
59.4	38.5	1.2	120.0	NoLiq	0.5
59.5	45.6	1.0	120.0	NoLiq	0.5
59.5	53.5	1.0	120.0	56.9	0.5
59.6	61.6	1.0	120.0	24.5	0.5
59.7	68.4	1.0	120.0	22.1	0.5
59.7	72.5	1.0	120.0	21.1	0.5
59.8	76.2	1.0	120.0	20.2	0.5
59.9	77.1	1.1	120.0	20.0	0.5
59.9	78.1	1.1	120.0	20.0	0.5
60.0	78.8	1.1	120.0	20.0	0.5

Output Results:

Settlement of Saturated Sands=4.69 in.
Settlement of Unsaturated Sands=0.14 in.
Total Settlement of Saturated and Unsaturated Sands=4.83 in.
Differential Settlement=2.413 to 3.185 in.

Depth ft	CRRm	CSRsf	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	2.00	0.32	5.00	4.69	0.14	4.83
0.05	2.00	0.32	5.00	4.69	0.14	4.83
0.10	2.48	0.32	5.00	4.69	0.14	4.83
0.15	2.48	0.32	5.00	4.69	0.14	4.83
0.20	2.48	0.32	5.00	4.69	0.14	4.83
0.25	2.48	0.32	5.00	4.69	0.14	4.83
0.30	2.48	0.32	5.00	4.69	0.14	4.83
0.35	2.48	0.32	5.00	4.69	0.14	4.83
0.40	2.48	0.32	5.00	4.69	0.14	4.83
0.45	2.48	0.32	5.00	4.69	0.14	4.83
0.50	2.48	0.32	5.00	4.69	0.14	4.83
0.55	2.48	0.32	5.00	4.69	0.14	4.83
0.60	2.48	0.32	5.00	4.69	0.14	4.83
0.65	2.48	0.32	5.00	4.69	0.14	4.83
0.70	2.48	0.32	5.00	4.69	0.14	4.83
0.75	2.48	0.32	5.00	4.69	0.14	4.82
0.80	2.48	0.32	5.00	4.69	0.14	4.82
0.85	2.48	0.32	5.00	4.69	0.14	4.82
0.90	2.48	0.32	5.00	4.69	0.14	4.82
0.95	2.48	0.32	5.00	4.69	0.14	4.82
1.00	2.48	0.32	5.00	4.69	0.14	4.82

1.05	2.48	0.32	5.00	4.69	0.14	4.82
1.10	2.48	0.32	5.00	4.69	0.14	4.82
1.15	2.48	0.32	5.00	4.69	0.14	4.82
1.20	2.48	0.32	5.00	4.69	0.14	4.82
1.25	2.48	0.32	5.00	4.69	0.14	4.82
1.30	2.48	0.32	5.00	4.69	0.14	4.82
1.35	2.48	0.32	5.00	4.69	0.14	4.82
1.40	2.48	0.32	5.00	4.69	0.14	4.82
1.45	2.48	0.32	5.00	4.69	0.14	4.82
1.50	2.48	0.32	5.00	4.69	0.14	4.82
1.55	2.48	0.32	5.00	4.69	0.14	4.82
1.60	2.48	0.32	5.00	4.69	0.14	4.82
1.65	2.48	0.32	5.00	4.69	0.14	4.82
1.70	2.42	0.32	5.00	4.69	0.14	4.82
1.75	2.09	0.32	5.00	4.69	0.14	4.82
1.80	1.75	0.32	5.00	4.69	0.14	4.82
1.85	1.41	0.32	5.00	4.69	0.14	4.82
1.90	1.12	0.32	5.00	4.69	0.14	4.82
1.95	1.02	0.32	5.00	4.69	0.14	4.82
2.00	0.95	0.32	5.00	4.69	0.14	4.82
2.05	0.81	0.32	5.00	4.69	0.14	4.82
2.10	0.68	0.32	5.00	4.69	0.14	4.82
2.15	0.63	0.32	5.00	4.69	0.14	4.82
2.20	0.61	0.32	5.00	4.69	0.14	4.82
2.25	0.58	0.32	5.00	4.69	0.14	4.82
2.30	0.59	0.32	5.00	4.69	0.14	4.82
2.35	0.61	0.32	5.00	4.69	0.14	4.82
2.40	0.65	0.32	5.00	4.69	0.14	4.82
2.45	0.73	0.32	5.00	4.69	0.13	4.82
2.50	0.82	0.32	5.00	4.69	0.13	4.82
2.55	0.93	0.32	5.00	4.69	0.13	4.82
2.60	1.11	0.32	5.00	4.69	0.13	4.82
2.65	1.32	0.32	5.00	4.69	0.13	4.82
2.70	1.54	0.32	5.00	4.69	0.13	4.82
2.75	1.61	0.32	5.00	4.69	0.13	4.82
2.80	1.50	0.32	5.00	4.69	0.13	4.82
2.85	1.36	0.32	5.00	4.69	0.13	4.82
2.90	1.25	0.32	5.00	4.69	0.13	4.82
2.95	1.15	0.32	5.00	4.69	0.13	4.82
3.00	1.04	0.32	5.00	4.69	0.13	4.82
3.05	0.93	0.32	5.00	4.69	0.13	4.82
3.10	0.82	0.32	5.00	4.69	0.13	4.82
3.15	0.74	0.32	5.00	4.69	0.13	4.82
3.20	0.66	0.32	5.00	4.69	0.13	4.82
3.25	0.58	0.32	5.00	4.69	0.13	4.82
3.30	0.54	0.32	5.00	4.69	0.13	4.82
3.35	0.48	0.32	5.00	4.69	0.13	4.82
3.40	0.41	0.32	5.00	4.69	0.13	4.82
3.45	0.36	0.32	5.00	4.69	0.13	4.82
3.50	0.33	0.32	5.00	4.69	0.13	4.82

3.55	0.29	0.32	5.00	4.69	0.13	4.82
3.60	0.27	0.32	5.00	4.69	0.13	4.82
3.65	0.26	0.32	5.00	4.69	0.13	4.82
3.70	0.27	0.32	5.00	4.69	0.13	4.82
3.75	0.26	0.32	5.00	4.69	0.13	4.82
3.80	0.25	0.32	5.00	4.69	0.13	4.82
3.85	0.26	0.32	5.00	4.69	0.13	4.82
3.90	0.27	0.32	5.00	4.69	0.13	4.82
3.95	0.26	0.32	5.00	4.69	0.13	4.82
4.00	0.27	0.32	5.00	4.69	0.13	4.82
4.05	0.32	0.32	5.00	4.69	0.13	4.82
4.10	0.40	0.32	5.00	4.69	0.13	4.82
4.15	0.47	0.32	5.00	4.69	0.13	4.82
4.20	0.54	0.32	5.00	4.69	0.13	4.82
4.25	0.62	0.32	5.00	4.69	0.13	4.82
4.30	0.72	0.32	5.00	4.69	0.13	4.82
4.35	0.84	0.32	5.00	4.69	0.13	4.82
4.40	1.05	0.32	5.00	4.69	0.13	4.82
4.45	1.38	0.32	5.00	4.69	0.13	4.82
4.50	1.78	0.32	5.00	4.69	0.13	4.82
4.55	2.20	0.32	5.00	4.69	0.13	4.82
4.60	2.48	0.32	5.00	4.69	0.13	4.82
4.65	2.48	0.32	5.00	4.69	0.13	4.82
4.70	2.48	0.32	5.00	4.69	0.13	4.82
4.75	2.48	0.32	5.00	4.69	0.13	4.82
4.80	2.48	0.32	5.00	4.69	0.13	4.82
4.85	2.48	0.32	5.00	4.69	0.13	4.81
4.90	2.48	0.32	5.00	4.69	0.13	4.81
4.95	2.48	0.32	5.00	4.69	0.13	4.81
5.00	2.31	0.32	5.00	4.69	0.13	4.81
5.05	2.06	0.32	5.00	4.69	0.13	4.81
5.10	1.94	0.32	5.00	4.69	0.13	4.81
5.15	1.81	0.32	5.00	4.69	0.13	4.81
5.20	1.67	0.32	5.00	4.69	0.13	4.81
5.25	1.53	0.32	5.00	4.69	0.13	4.81
5.30	1.38	0.32	5.00	4.69	0.13	4.81
5.35	1.23	0.32	5.00	4.69	0.13	4.81
5.40	1.08	0.32	5.00	4.69	0.13	4.81
5.45	0.94	0.32	5.00	4.69	0.13	4.81
5.50	0.84	0.32	5.00	4.69	0.13	4.81
5.55	0.76	0.32	5.00	4.69	0.13	4.81
5.60	0.68	0.32	5.00	4.69	0.13	4.81
5.65	0.62	0.32	5.00	4.69	0.13	4.81
5.70	0.58	0.32	5.00	4.69	0.13	4.81
5.75	0.56	0.32	5.00	4.69	0.13	4.81
5.80	0.54	0.32	5.00	4.69	0.12	4.81
5.85	0.53	0.32	5.00	4.69	0.12	4.81
5.90	0.43	0.32	5.00	4.69	0.12	4.81
5.95	0.42	0.32	5.00	4.69	0.12	4.81
6.00	0.42	0.32	5.00	4.69	0.12	4.81

6.05	0.40	0.32	5.00	4.69	0.12	4.81
6.10	0.38	0.32	5.00	4.69	0.12	4.81
6.15	0.37	0.32	5.00	4.69	0.12	4.81
6.20	0.36	0.32	5.00	4.69	0.12	4.81
6.25	0.35	0.32	5.00	4.69	0.12	4.81
6.30	0.35	0.32	5.00	4.69	0.12	4.81
6.35	0.36	0.32	5.00	4.69	0.12	4.81
6.40	0.36	0.32	5.00	4.69	0.12	4.81
6.45	0.36	0.32	5.00	4.69	0.12	4.81
6.50	0.36	0.32	5.00	4.69	0.12	4.81
6.55	0.36	0.32	5.00	4.69	0.12	4.81
6.60	0.36	0.32	5.00	4.69	0.12	4.81
6.65	0.35	0.32	5.00	4.69	0.12	4.81
6.70	0.34	0.32	5.00	4.69	0.12	4.81
6.75	0.33	0.32	5.00	4.69	0.12	4.81
6.80	0.31	0.32	5.00	4.69	0.12	4.81
6.85	0.29	0.32	5.00	4.69	0.12	4.81
6.90	0.27	0.32	5.00	4.69	0.12	4.81
6.95	0.25	0.32	5.00	4.69	0.12	4.81
7.00	0.23	0.32	5.00	4.69	0.12	4.81
7.05	0.21	0.32	5.00	4.69	0.12	4.81
7.10	0.19	0.32	5.00	4.69	0.12	4.81
7.15	0.17	0.32	5.00	4.69	0.12	4.80
7.20	0.16	0.32	5.00	4.69	0.12	4.80
7.25	0.15	0.32	5.00	4.69	0.12	4.80
7.30	0.14	0.32	5.00	4.69	0.11	4.80
7.35	0.14	0.32	5.00	4.69	0.11	4.80
7.40	0.14	0.32	5.00	4.69	0.11	4.80
7.45	0.14	0.32	5.00	4.69	0.11	4.80
7.50	0.14	0.32	5.00	4.69	0.11	4.80
7.55	0.14	0.32	5.00	4.69	0.11	4.80
7.60	0.14	0.32	5.00	4.69	0.11	4.80
7.65	0.14	0.32	5.00	4.69	0.11	4.80
7.70	0.14	0.32	5.00	4.69	0.11	4.80
7.75	0.14	0.32	5.00	4.69	0.11	4.79
7.80	0.14	0.32	5.00	4.69	0.11	4.79
7.85	0.15	0.32	5.00	4.69	0.10	4.79
7.90	0.15	0.32	5.00	4.69	0.10	4.79
7.95	0.15	0.32	5.00	4.69	0.10	4.79
8.00	0.15	0.32	5.00	4.69	0.10	4.79
8.05	0.16	0.32	5.00	4.69	0.10	4.79
8.10	0.17	0.32	5.00	4.69	0.10	4.79
8.15	0.18	0.32	5.00	4.69	0.10	4.79
8.20	0.19	0.32	5.00	4.69	0.10	4.79
8.25	0.20	0.32	5.00	4.69	0.10	4.79
8.30	0.22	0.32	5.00	4.69	0.10	4.79
8.35	0.25	0.32	5.00	4.69	0.10	4.79
8.40	0.28	0.32	5.00	4.69	0.10	4.78
8.45	0.31	0.32	5.00	4.69	0.10	4.78
8.50	0.33	0.32	5.00	4.69	0.10	4.78

8.55	0.34	0.32	5.00	4.69	0.10	4.78
8.60	0.34	0.32	5.00	4.69	0.10	4.78
8.65	0.34	0.32	5.00	4.69	0.09	4.78
8.70	0.34	0.32	5.00	4.69	0.09	4.78
8.75	0.34	0.32	5.00	4.69	0.09	4.78
8.80	0.34	0.32	5.00	4.69	0.09	4.78
8.85	0.33	0.32	5.00	4.69	0.09	4.78
8.90	0.32	0.32	5.00	4.69	0.09	4.78
8.95	0.31	0.32	5.00	4.69	0.09	4.78
9.00	0.30	0.32	5.00	4.69	0.09	4.78
9.05	0.29	0.32	5.00	4.69	0.09	4.78
9.10	0.27	0.32	5.00	4.69	0.09	4.78
9.15	0.26	0.32	5.00	4.69	0.09	4.78
9.20	0.24	0.32	5.00	4.69	0.09	4.78
9.25	0.23	0.32	5.00	4.69	0.09	4.78
9.30	0.22	0.32	5.00	4.69	0.09	4.78
9.35	0.21	0.32	5.00	4.69	0.09	4.78
9.40	0.20	0.32	5.00	4.69	0.09	4.78
9.45	0.20	0.32	5.00	4.69	0.09	4.78
9.50	0.19	0.32	5.00	4.69	0.09	4.77
9.55	0.19	0.32	5.00	4.69	0.09	4.77
9.60	0.19	0.32	5.00	4.69	0.09	4.77
9.65	0.20	0.32	5.00	4.69	0.08	4.77
9.70	0.21	0.32	5.00	4.69	0.08	4.77
9.75	0.22	0.32	5.00	4.69	0.08	4.77
9.80	0.24	0.32	5.00	4.69	0.08	4.77
9.85	0.26	0.32	5.00	4.69	0.08	4.77
9.90	0.28	0.32	5.00	4.69	0.08	4.77
9.95	0.29	0.32	5.00	4.69	0.08	4.77
10.00	0.30	0.32	5.00	4.69	0.08	4.77
10.05	0.30	0.32	5.00	4.69	0.08	4.77
10.10	0.30	0.32	5.00	4.69	0.08	4.77
10.15	0.31	0.32	5.00	4.69	0.08	4.77
10.20	0.31	0.32	5.00	4.69	0.08	4.77
10.25	0.32	0.32	5.00	4.69	0.08	4.77
10.30	0.32	0.32	5.00	4.69	0.08	4.77
10.35	0.33	0.32	5.00	4.69	0.08	4.77
10.40	0.33	0.32	5.00	4.69	0.08	4.77
10.45	0.32	0.32	5.00	4.69	0.08	4.76
10.50	0.31	0.32	5.00	4.69	0.08	4.76
10.55	0.32	0.32	5.00	4.69	0.08	4.76
10.60	0.33	0.32	5.00	4.69	0.08	4.76
10.65	0.33	0.32	5.00	4.69	0.07	4.76
10.70	0.33	0.32	5.00	4.69	0.07	4.76
10.75	0.33	0.32	5.00	4.69	0.07	4.76
10.80	0.33	0.32	5.00	4.69	0.07	4.76
10.85	0.32	0.32	5.00	4.69	0.07	4.76
10.90	0.32	0.32	5.00	4.69	0.07	4.76
10.95	0.32	0.32	5.00	4.69	0.07	4.76
11.00	0.32	0.32	5.00	4.69	0.07	4.76

11.05	0.31	0.32	5.00	4.69	0.07	4.76
11.10	0.30	0.32	5.00	4.69	0.07	4.76
11.15	0.29	0.32	5.00	4.69	0.07	4.76
11.20	0.29	0.32	5.00	4.69	0.07	4.76
11.25	0.28	0.32	5.00	4.69	0.07	4.76
11.30	0.27	0.32	5.00	4.69	0.07	4.76
11.35	0.25	0.32	5.00	4.69	0.07	4.76
11.40	0.24	0.32	5.00	4.69	0.07	4.76
11.45	0.22	0.32	5.00	4.69	0.07	4.75
11.50	0.21	0.32	5.00	4.69	0.07	4.75
11.55	0.20	0.32	5.00	4.69	0.07	4.75
11.60	0.20	0.32	5.00	4.69	0.06	4.75
11.65	0.19	0.32	5.00	4.69	0.06	4.75
11.70	0.19	0.32	5.00	4.69	0.06	4.75
11.75	0.18	0.32	5.00	4.69	0.06	4.75
11.80	0.18	0.32	5.00	4.69	0.06	4.75
11.85	0.17	0.32	5.00	4.69	0.06	4.75
11.90	0.17	0.32	5.00	4.69	0.06	4.75
11.95	0.17	0.32	5.00	4.69	0.06	4.75
12.00	0.17	0.32	5.00	4.69	0.06	4.74
12.05	0.17	0.32	5.00	4.69	0.06	4.74
12.10	0.17	0.32	5.00	4.69	0.05	4.74
12.15	0.16	0.32	5.00	4.69	0.05	4.74
12.20	0.16	0.32	5.00	4.69	0.05	4.74
12.25	0.15	0.32	5.00	4.69	0.05	4.74
12.30	0.14	0.32	5.00	4.69	0.05	4.74
12.35	0.14	0.32	5.00	4.69	0.05	4.74
12.40	0.14	0.32	5.00	4.69	0.05	4.73
12.45	0.14	0.32	5.00	4.69	0.04	4.73
12.50	0.14	0.32	5.00	4.69	0.04	4.73
12.55	0.14	0.32	5.00	4.69	0.04	4.73
12.60	0.14	0.32	5.00	4.69	0.04	4.73
12.65	0.13	0.32	5.00	4.69	0.04	4.72
12.70	0.14	0.32	5.00	4.69	0.04	4.72
12.75	0.16	0.32	5.00	4.69	0.03	4.72
12.80	0.17	0.32	5.00	4.69	0.03	4.72
12.85	0.18	0.32	5.00	4.69	0.03	4.72
12.90	0.19	0.32	5.00	4.69	0.03	4.72
12.95	0.20	0.32	5.00	4.69	0.03	4.72
13.00	0.21	0.32	5.00	4.69	0.03	4.72
13.05	0.23	0.32	5.00	4.69	0.03	4.71
13.10	0.24	0.32	5.00	4.69	0.03	4.71
13.15	0.25	0.32	5.00	4.69	0.03	4.71
13.20	0.26	0.31	5.00	4.69	0.02	4.71
13.25	0.27	0.31	5.00	4.69	0.02	4.71
13.30	0.28	0.31	5.00	4.69	0.02	4.71
13.35	0.29	0.31	5.00	4.69	0.02	4.71
13.40	0.29	0.31	5.00	4.69	0.02	4.71
13.45	0.28	0.31	5.00	4.69	0.02	4.71
13.50	0.28	0.31	5.00	4.69	0.02	4.71

13.55	0.27	0.31	5.00	4.69	0.02	4.71
13.60	0.27	0.31	5.00	4.69	0.02	4.71
13.65	0.27	0.31	5.00	4.69	0.02	4.71
13.70	0.27	0.31	5.00	4.69	0.02	4.71
13.75	0.28	0.31	5.00	4.69	0.02	4.71
13.80	0.28	0.31	5.00	4.69	0.02	4.70
13.85	0.29	0.31	5.00	4.69	0.02	4.70
13.90	0.29	0.31	5.00	4.69	0.02	4.70
13.95	0.30	0.31	5.00	4.69	0.01	4.70
14.00	0.30	0.31	5.00	4.69	0.01	4.70
14.05	0.31	0.31	5.00	4.69	0.01	4.70
14.10	0.32	0.31	5.00	4.69	0.01	4.70
14.15	0.32	0.31	5.00	4.69	0.01	4.70
14.20	0.32	0.31	5.00	4.69	0.01	4.70
14.25	0.33	0.31	5.00	4.69	0.01	4.70
14.30	0.33	0.31	5.00	4.69	0.01	4.70
14.35	0.33	0.31	5.00	4.69	0.01	4.70
14.40	0.33	0.31	5.00	4.69	0.01	4.70
14.45	0.33	0.31	5.00	4.69	0.01	4.70
14.50	0.32	0.31	5.00	4.69	0.01	4.70
14.55	0.30	0.31	5.00	4.69	0.01	4.70
14.60	0.30	0.31	5.00	4.69	0.01	4.69
14.65	0.30	0.31	5.00	4.69	0.01	4.69
14.70	0.31	0.31	5.00	4.69	0.00	4.69
14.75	0.30	0.31	5.00	4.69	0.00	4.69
14.80	0.29	0.31	5.00	4.69	0.00	4.69
14.85	0.28	0.31	5.00	4.69	0.00	4.69
14.90	0.27	0.31	5.00	4.69	0.00	4.69
14.95	0.27	0.31	5.00	4.69	0.00	4.69
15.00	0.27	0.31	0.87*	4.69	0.00	4.69
15.05	0.27	0.31	0.87*	4.68	0.00	4.68
15.10	0.27	0.31	0.87*	4.67	0.00	4.67
15.15	0.27	0.32	0.87*	4.67	0.00	4.67
15.20	0.27	0.32	0.86*	4.66	0.00	4.66
15.25	0.27	0.32	0.86*	4.66	0.00	4.66
15.30	0.27	0.32	0.85*	4.65	0.00	4.65
15.35	0.27	0.32	0.85*	4.64	0.00	4.64
15.40	0.27	0.32	0.84*	4.64	0.00	4.64
15.45	0.26	0.32	0.83*	4.63	0.00	4.63
15.50	0.26	0.32	0.81*	4.62	0.00	4.62
15.55	0.26	0.32	0.80*	4.62	0.00	4.62
15.60	0.25	0.32	0.79*	4.61	0.00	4.61
15.65	0.25	0.32	0.78*	4.60	0.00	4.60
15.70	0.24	0.32	0.76*	4.59	0.00	4.59
15.75	0.24	0.32	0.75*	4.59	0.00	4.59
15.80	0.24	0.32	0.74*	4.58	0.00	4.58
15.85	0.24	0.32	0.73*	4.57	0.00	4.57
15.90	0.23	0.32	0.72*	4.57	0.00	4.57
15.95	0.23	0.32	0.71*	4.56	0.00	4.56
16.00	0.22	0.32	0.69*	4.55	0.00	4.55

16.05	0.22	0.32	0.69*	4.54	0.00	4.54
16.10	0.22	0.32	0.68*	4.54	0.00	4.54
16.15	0.20	0.32	0.63*	4.53	0.00	4.53
16.20	0.19	0.33	0.60*	4.52	0.00	4.52
16.25	0.19	0.33	0.59*	4.51	0.00	4.51
16.30	0.20	0.33	0.60*	4.50	0.00	4.50
16.35	0.20	0.33	0.61*	4.49	0.00	4.49
16.40	0.20	0.33	0.62*	4.48	0.00	4.48
16.45	0.20	0.33	0.62*	4.47	0.00	4.47
16.50	0.20	0.33	0.62*	4.46	0.00	4.46
16.55	0.21	0.33	0.63*	4.46	0.00	4.46
16.60	0.21	0.33	0.63*	4.45	0.00	4.45
16.65	0.21	0.33	0.64*	4.44	0.00	4.44
16.70	0.21	0.33	0.64*	4.43	0.00	4.43
16.75	0.22	0.33	0.65*	4.42	0.00	4.42
16.80	0.22	0.33	0.67*	4.41	0.00	4.41
16.85	0.22	0.33	0.68*	4.41	0.00	4.41
16.90	0.23	0.33	0.69*	4.40	0.00	4.40
16.95	0.24	0.33	0.71*	4.39	0.00	4.39
17.00	0.25	0.33	0.74*	4.38	0.00	4.38
17.05	0.26	0.33	0.78*	4.38	0.00	4.38
17.10	0.28	0.33	0.84*	4.37	0.00	4.37
17.15	0.30	0.33	0.90*	4.36	0.00	4.36
17.20	0.32	0.33	0.96*	4.36	0.00	4.36
17.25	0.33	0.33	1.00*	4.35	0.00	4.35
17.30	0.35	0.34	1.03	4.35	0.00	4.35
17.35	0.36	0.34	1.06	4.34	0.00	4.34
17.40	0.36	0.34	1.08	4.34	0.00	4.34
17.45	0.37	0.34	1.10	4.34	0.00	4.34
17.50	0.38	0.34	1.12	4.34	0.00	4.34
17.55	0.38	0.34	1.14	4.33	0.00	4.33
17.60	0.39	0.34	1.15	4.33	0.00	4.33
17.65	0.39	0.34	1.16	4.33	0.00	4.33
17.70	0.39	0.34	1.16	4.33	0.00	4.33
17.75	0.40	0.34	1.17	4.33	0.00	4.33
17.80	0.40	0.34	1.17	4.33	0.00	4.33
17.85	0.39	0.34	1.16	4.33	0.00	4.33
17.90	0.39	0.34	1.14	4.33	0.00	4.33
17.95	0.37	0.34	1.10	4.32	0.00	4.32
18.00	0.35	0.34	1.04	4.32	0.00	4.32
18.05	0.33	0.34	0.97*	4.32	0.00	4.32
18.10	0.31	0.34	0.90*	4.31	0.00	4.31
18.15	0.29	0.34	0.86*	4.31	0.00	4.31
18.20	0.28	0.34	0.82*	4.30	0.00	4.30
18.25	0.27	0.34	0.79*	4.30	0.00	4.30
18.30	0.28	0.34	0.81*	4.29	0.00	4.29
18.35	0.27	0.34	0.79*	4.28	0.00	4.28
18.40	0.27	0.34	0.79*	4.27	0.00	4.27
18.45	0.28	0.34	0.81*	4.27	0.00	4.27
18.50	0.29	0.34	0.84*	4.26	0.00	4.26

18.55	0.30	0.35	0.86*	4.25	0.00	4.25
18.60	0.31	0.35	0.89*	4.25	0.00	4.25
18.65	0.32	0.35	0.91*	4.24	0.00	4.24
18.70	0.32	0.35	0.92*	4.23	0.00	4.23
18.75	0.32	0.35	0.91*	4.23	0.00	4.23
18.80	0.31	0.35	0.89*	4.22	0.00	4.22
18.85	0.29	0.35	0.83*	4.22	0.00	4.22
18.90	0.27	0.35	0.78*	4.21	0.00	4.21
18.95	0.26	0.35	0.74*	4.20	0.00	4.20
19.00	0.24	0.35	0.68*	4.19	0.00	4.19
19.05	0.22	0.35	0.64*	4.18	0.00	4.18
19.10	0.21	0.35	0.59*	4.18	0.00	4.18
19.15	0.19	0.35	0.53*	4.17	0.00	4.17
19.20	0.17	0.35	0.48*	4.16	0.00	4.16
19.25	0.15	0.35	0.44*	4.15	0.00	4.15
19.30	0.15	0.35	0.43*	4.14	0.00	4.14
19.35	0.15	0.35	0.42*	4.13	0.00	4.13
19.40	0.15	0.35	0.42*	4.12	0.00	4.12
19.45	0.15	0.35	0.43*	4.11	0.00	4.11
19.50	0.16	0.35	0.46*	4.10	0.00	4.10
19.55	0.18	0.35	0.52*	4.09	0.00	4.09
19.60	0.23	0.35	0.66*	4.08	0.00	4.08
19.65	0.36	0.35	1.01	4.08	0.00	4.08
19.70	2.00	0.35	5.00	4.08	0.00	4.08
19.75	2.00	0.35	5.00	4.08	0.00	4.08
19.80	2.00	0.35	5.00	4.08	0.00	4.08
19.85	2.00	0.36	5.00	4.08	0.00	4.08
19.90	2.00	0.36	5.00	4.08	0.00	4.08
19.95	2.00	0.36	5.00	4.08	0.00	4.08
20.00	2.00	0.36	5.00	4.08	0.00	4.08
20.05	0.24	0.36	0.67*	4.08	0.00	4.08
20.10	0.21	0.36	0.58*	4.08	0.00	4.08
20.15	0.21	0.36	0.60*	4.08	0.00	4.08
20.20	0.23	0.36	0.65*	4.08	0.00	4.08
20.25	0.24	0.36	0.66*	4.08	0.00	4.08
20.30	0.23	0.36	0.64*	4.08	0.00	4.08
20.35	0.20	0.36	0.57*	4.08	0.00	4.08
20.40	0.17	0.36	0.48*	4.07	0.00	4.07
20.45	0.15	0.36	0.43*	4.07	0.00	4.07
20.50	0.15	0.36	0.41*	4.06	0.00	4.06
20.55	0.15	0.36	0.42*	4.05	0.00	4.05
20.60	0.16	0.36	0.45*	4.04	0.00	4.04
20.65	0.18	0.36	0.50*	4.03	0.00	4.03
20.70	0.24	0.36	0.66*	4.03	0.00	4.03
20.75	2.00	0.36	5.00	4.03	0.00	4.03
20.80	2.00	0.36	5.00	4.03	0.00	4.03
20.85	2.00	0.36	5.00	4.03	0.00	4.03
20.90	2.00	0.36	5.00	4.03	0.00	4.03
20.95	2.00	0.36	5.00	4.03	0.00	4.03
21.00	2.00	0.36	5.00	4.03	0.00	4.03

21.05	2.00	0.36	5.00	4.03	0.00	4.03
21.10	2.00	0.36	5.00	4.03	0.00	4.03
21.15	2.00	0.36	5.00	4.03	0.00	4.03
21.20	2.00	0.36	5.00	4.03	0.00	4.03
21.25	2.00	0.36	5.00	4.03	0.00	4.03
21.30	2.00	0.36	5.00	4.03	0.00	4.03
21.35	0.15	0.37	0.42*	4.03	0.00	4.03
21.40	0.12	0.37	0.34*	4.02	0.00	4.02
21.45	0.14	0.37	0.37*	4.01	0.00	4.01
21.50	0.18	0.37	0.49*	4.00	0.00	4.00
21.55	0.23	0.37	0.63*	3.99	0.00	3.99
21.60	0.28	0.37	0.76*	3.98	0.00	3.98
21.65	0.33	0.37	0.90*	3.97	0.00	3.97
21.70	0.39	0.37	1.07	3.96	0.00	3.96
21.75	0.45	0.37	1.21	3.96	0.00	3.96
21.80	0.49	0.37	1.34	3.95	0.00	3.95
21.85	0.53	0.37	1.44	3.95	0.00	3.95
21.90	0.57	0.37	1.55	3.95	0.00	3.95
21.95	0.55	0.37	1.50	3.95	0.00	3.95
22.00	0.54	0.37	1.47	3.95	0.00	3.95
22.05	0.60	0.37	1.63	3.95	0.00	3.95
22.10	0.64	0.37	1.74	3.95	0.00	3.95
22.15	0.66	0.37	1.79	3.95	0.00	3.95
22.20	0.66	0.37	1.79	3.95	0.00	3.95
22.25	0.66	0.37	1.77	3.95	0.00	3.95
22.30	0.65	0.37	1.76	3.95	0.00	3.95
22.35	0.65	0.37	1.75	3.95	0.00	3.95
22.40	0.65	0.37	1.75	3.95	0.00	3.95
22.45	0.65	0.37	1.74	3.95	0.00	3.95
22.50	0.65	0.37	1.74	3.95	0.00	3.95
22.55	0.65	0.37	1.73	3.95	0.00	3.95
22.60	0.64	0.37	1.72	3.95	0.00	3.95
22.65	0.63	0.37	1.69	3.95	0.00	3.95
22.70	0.62	0.37	1.67	3.95	0.00	3.95
22.75	0.61	0.37	1.64	3.95	0.00	3.95
22.80	0.60	0.37	1.60	3.95	0.00	3.95
22.85	0.58	0.37	1.54	3.95	0.00	3.95
22.90	0.55	0.37	1.47	3.95	0.00	3.95
22.95	0.52	0.38	1.38	3.95	0.00	3.95
23.00	0.48	0.38	1.28	3.95	0.00	3.95
23.05	0.44	0.38	1.18	3.95	0.00	3.95
23.10	0.41	0.38	1.10	3.94	0.00	3.94
23.15	0.39	0.38	1.04	3.94	0.00	3.94
23.20	0.37	0.38	0.98*	3.93	0.00	3.93
23.25	0.35	0.38	0.92*	3.93	0.00	3.93
23.30	0.33	0.38	0.88*	3.92	0.00	3.92
23.35	0.31	0.38	0.83*	3.91	0.00	3.91
23.40	0.29	0.38	0.78*	3.91	0.00	3.91
23.45	0.28	0.38	0.73*	3.90	0.00	3.90
23.50	0.26	0.38	0.69*	3.89	0.00	3.89

23.55	0.24	0.38	0.64*	3.88	0.00	3.88
23.60	0.23	0.38	0.61*	3.88	0.00	3.88
23.65	0.22	0.38	0.59*	3.87	0.00	3.87
23.70	0.21	0.38	0.56*	3.86	0.00	3.86
23.75	0.21	0.38	0.55*	3.85	0.00	3.85
23.80	0.21	0.38	0.55*	3.84	0.00	3.84
23.85	0.20	0.38	0.53*	3.84	0.00	3.84
23.90	0.18	0.38	0.47*	3.83	0.00	3.83
23.95	0.16	0.38	0.43*	3.82	0.00	3.82
24.00	0.17	0.38	0.44*	3.81	0.00	3.81
24.05	0.18	0.38	0.46*	3.81	0.00	3.81
24.10	0.19	0.38	0.50*	3.80	0.00	3.80
24.15	0.20	0.38	0.54*	3.79	0.00	3.79
24.20	0.23	0.38	0.60*	3.78	0.00	3.78
24.25	0.20	0.38	0.53*	3.78	0.00	3.78
24.30	0.18	0.38	0.48*	3.78	0.00	3.78
24.35	0.17	0.38	0.45*	3.77	0.00	3.77
24.40	0.17	0.38	0.44*	3.76	0.00	3.76
24.45	0.17	0.38	0.44*	3.75	0.00	3.75
24.50	0.17	0.38	0.43*	3.74	0.00	3.74
24.55	0.16	0.38	0.42*	3.73	0.00	3.73
24.60	0.16	0.38	0.42*	3.73	0.00	3.73
24.65	0.16	0.38	0.43*	3.72	0.00	3.72
24.70	0.17	0.38	0.45*	3.71	0.00	3.71
24.75	0.19	0.39	0.49*	3.70	0.00	3.70
24.80	0.21	0.39	0.55*	3.69	0.00	3.69
24.85	0.25	0.39	0.66*	3.69	0.00	3.69
24.90	0.30	0.39	0.79*	3.69	0.00	3.69
24.95	2.00	0.39	5.00	3.69	0.00	3.69
25.00	2.00	0.39	5.00	3.69	0.00	3.69
25.05	2.00	0.39	5.00	3.69	0.00	3.69
25.10	2.00	0.39	5.00	3.69	0.00	3.69
25.15	2.00	0.39	5.00	3.69	0.00	3.69
25.20	2.00	0.39	5.00	3.69	0.00	3.69
25.25	2.00	0.39	5.00	3.69	0.00	3.69
25.30	0.23	0.39	0.60*	3.69	0.00	3.69
25.35	0.21	0.39	0.54*	3.68	0.00	3.68
25.40	0.17	0.39	0.45*	3.68	0.00	3.68
25.45	0.16	0.39	0.41*	3.67	0.00	3.67
25.50	0.15	0.39	0.40*	3.66	0.00	3.66
25.55	0.16	0.39	0.40*	3.66	0.00	3.66
25.60	0.16	0.39	0.40*	3.65	0.00	3.65
25.65	0.16	0.39	0.40*	3.64	0.00	3.64
25.70	0.16	0.39	0.41*	3.63	0.00	3.63
25.75	0.16	0.39	0.42*	3.62	0.00	3.62
25.80	0.17	0.39	0.44*	3.61	0.00	3.61
25.85	0.17	0.39	0.44*	3.61	0.00	3.61
25.90	0.18	0.39	0.45*	3.60	0.00	3.60
25.95	0.17	0.39	0.44*	3.59	0.00	3.59
26.00	0.16	0.39	0.41*	3.59	0.00	3.59

26.05	0.15	0.39	0.38*	3.58	0.00	3.58
26.10	0.14	0.39	0.36*	3.57	0.00	3.57
26.15	0.14	0.39	0.35*	3.56	0.00	3.56
26.20	0.14	0.39	0.36*	3.55	0.00	3.55
26.25	0.14	0.39	0.36*	3.54	0.00	3.54
26.30	0.13	0.39	0.34*	3.53	0.00	3.53
26.35	0.12	0.39	0.31*	3.52	0.00	3.52
26.40	0.12	0.39	0.32*	3.51	0.00	3.51
26.45	0.13	0.39	0.34*	3.49	0.00	3.49
26.50	0.14	0.39	0.36*	3.48	0.00	3.48
26.55	0.16	0.39	0.40*	3.48	0.00	3.48
26.60	2.00	0.39	5.00	3.47	0.00	3.47
26.65	0.16	0.39	0.40*	3.47	0.00	3.47
26.70	0.16	0.39	0.41*	3.46	0.00	3.46
26.75	0.15	0.39	0.37*	3.45	0.00	3.45
26.80	0.14	0.40	0.35*	3.44	0.00	3.44
26.85	0.13	0.40	0.34*	3.43	0.00	3.43
26.90	0.13	0.40	0.33*	3.42	0.00	3.42
26.95	0.13	0.40	0.32*	3.41	0.00	3.41
27.00	0.12	0.40	0.31*	3.40	0.00	3.40
27.05	0.12	0.40	0.31*	3.39	0.00	3.39
27.10	0.13	0.40	0.32*	3.38	0.00	3.38
27.15	0.13	0.40	0.33*	3.37	0.00	3.37
27.20	0.13	0.40	0.34*	3.36	0.00	3.36
27.25	0.14	0.40	0.35*	3.35	0.00	3.35
27.30	0.15	0.40	0.37*	3.34	0.00	3.34
27.35	0.16	0.40	0.40*	3.33	0.00	3.33
27.40	0.18	0.40	0.45*	3.32	0.00	3.32
27.45	0.20	0.40	0.51*	3.31	0.00	3.31
27.50	0.23	0.40	0.57*	3.31	0.00	3.31
27.55	0.24	0.40	0.60*	3.30	0.00	3.30
27.60	0.23	0.40	0.57*	3.30	0.00	3.30
27.65	0.20	0.40	0.50*	3.30	0.00	3.30
27.70	0.17	0.40	0.43*	3.29	0.00	3.29
27.75	0.15	0.40	0.38*	3.29	0.00	3.29
27.80	0.14	0.40	0.36*	3.28	0.00	3.28
27.85	0.14	0.40	0.36*	3.27	0.00	3.27
27.90	0.15	0.40	0.39*	3.26	0.00	3.26
27.95	0.17	0.40	0.42*	3.25	0.00	3.25
28.00	0.18	0.40	0.46*	3.24	0.00	3.24
28.05	0.20	0.40	0.50*	3.23	0.00	3.23
28.10	0.21	0.40	0.54*	3.22	0.00	3.22
28.15	0.23	0.40	0.57*	3.21	0.00	3.21
28.20	0.24	0.40	0.59*	3.20	0.00	3.20
28.25	0.25	0.40	0.63*	3.19	0.00	3.19
28.30	0.27	0.40	0.67*	3.18	0.00	3.18
28.35	0.29	0.40	0.72*	3.17	0.00	3.17
28.40	0.31	0.40	0.76*	3.17	0.00	3.17
28.45	0.31	0.40	0.77*	3.16	0.00	3.16
28.50	0.31	0.40	0.77*	3.15	0.00	3.15

28.55	0.32	0.40	0.80*	3.14	0.00	3.14
28.60	0.34	0.40	0.83*	3.14	0.00	3.14
28.65	0.35	0.40	0.87*	3.13	0.00	3.13
28.70	0.36	0.40	0.90*	3.12	0.00	3.12
28.75	0.37	0.40	0.92*	3.12	0.00	3.12
28.80	0.38	0.40	0.95*	3.11	0.00	3.11
28.85	0.39	0.40	0.97*	3.10	0.00	3.10
28.90	0.40	0.40	0.99*	3.10	0.00	3.10
28.95	0.41	0.40	1.00	3.09	0.00	3.09
29.00	0.41	0.40	1.01	3.08	0.00	3.08
29.05	0.41	0.40	1.02	3.08	0.00	3.08
29.10	0.42	0.40	1.03	3.07	0.00	3.07
29.15	0.42	0.41	1.04	3.07	0.00	3.07
29.20	0.42	0.41	1.04	3.06	0.00	3.06
29.25	0.42	0.41	1.04	3.06	0.00	3.06
29.30	0.43	0.41	1.05	3.05	0.00	3.05
29.35	0.43	0.41	1.06	3.04	0.00	3.04
29.40	0.43	0.41	1.07	3.04	0.00	3.04
29.45	0.43	0.41	1.07	3.03	0.00	3.03
29.50	0.43	0.41	1.06	3.03	0.00	3.03
29.55	0.43	0.41	1.05	3.03	0.00	3.03
29.60	0.42	0.41	1.03	3.02	0.00	3.02
29.65	0.41	0.41	1.00*	3.02	0.00	3.02
29.70	0.39	0.41	0.97*	3.01	0.00	3.01
29.75	0.38	0.41	0.94*	3.00	0.00	3.00
29.80	0.38	0.41	0.92*	3.00	0.00	3.00
29.85	0.36	0.41	0.89*	2.99	0.00	2.99
29.90	0.36	0.41	0.87*	2.99	0.00	2.99
29.95	0.35	0.41	0.86*	2.98	0.00	2.98
30.00	0.34	0.41	0.84*	2.97	0.00	2.97
30.05	0.33	0.41	0.82*	2.97	0.00	2.97
30.10	0.33	0.41	0.81*	2.96	0.00	2.96
30.15	0.33	0.41	0.80*	2.95	0.00	2.95
30.20	0.32	0.41	0.78*	2.95	0.00	2.95
30.25	0.32	0.41	0.78*	2.94	0.00	2.94
30.30	0.31	0.41	0.75*	2.93	0.00	2.93
30.35	0.29	0.41	0.71*	2.92	0.00	2.92
30.40	0.29	0.41	0.70*	2.92	0.00	2.92
30.45	0.28	0.41	0.70*	2.91	0.00	2.91
30.50	0.29	0.41	0.70*	2.90	0.00	2.90
30.55	0.28	0.41	0.70*	2.89	0.00	2.89
30.60	0.28	0.41	0.69*	2.88	0.00	2.88
30.65	0.29	0.41	0.70*	2.88	0.00	2.88
30.70	0.27	0.41	0.65*	2.87	0.00	2.87
30.75	0.27	0.41	0.66*	2.86	0.00	2.86
30.80	0.28	0.41	0.68*	2.85	0.00	2.85
30.85	0.28	0.41	0.69*	2.84	0.00	2.84
30.90	0.29	0.41	0.70*	2.84	0.00	2.84
30.95	0.29	0.41	0.70*	2.83	0.00	2.83
31.00	0.29	0.41	0.70*	2.82	0.00	2.82

31.05	0.29	0.41	0.70*	2.81	0.00	2.81
31.10	0.28	0.41	0.69*	2.81	0.00	2.81
31.15	0.28	0.41	0.69*	2.80	0.00	2.80
31.20	0.28	0.41	0.69*	2.79	0.00	2.79
31.25	0.28	0.41	0.69*	2.78	0.00	2.78
31.30	0.28	0.41	0.69*	2.78	0.00	2.78
31.35	0.28	0.41	0.69*	2.77	0.00	2.77
31.40	0.29	0.41	0.70*	2.76	0.00	2.76
31.45	0.29	0.41	0.71*	2.75	0.00	2.75
31.50	0.30	0.41	0.72*	2.75	0.00	2.75
31.55	0.31	0.41	0.74*	2.74	0.00	2.74
31.60	0.31	0.41	0.76*	2.73	0.00	2.73
31.65	0.32	0.41	0.77*	2.72	0.00	2.72
31.70	0.32	0.41	0.78*	2.72	0.00	2.72
31.75	0.32	0.41	0.78*	2.71	0.00	2.71
31.80	0.33	0.41	0.79*	2.70	0.00	2.70
31.85	0.33	0.41	0.80*	2.70	0.00	2.70
31.90	0.33	0.41	0.81*	2.69	0.00	2.69
31.95	0.33	0.41	0.81*	2.68	0.00	2.68
32.00	0.33	0.41	0.81*	2.68	0.00	2.68
32.05	0.33	0.41	0.81*	2.67	0.00	2.67
32.10	0.33	0.41	0.81*	2.66	0.00	2.66
32.15	0.33	0.41	0.81*	2.65	0.00	2.65
32.20	0.33	0.41	0.80*	2.65	0.00	2.65
32.25	0.32	0.41	0.79*	2.64	0.00	2.64
32.30	0.32	0.41	0.78*	2.63	0.00	2.63
32.35	0.32	0.41	0.77*	2.63	0.00	2.63
32.40	0.31	0.41	0.76*	2.62	0.00	2.62
32.45	0.31	0.41	0.76*	2.61	0.00	2.61
32.50	0.31	0.41	0.75*	2.60	0.00	2.60
32.55	0.31	0.41	0.75*	2.60	0.00	2.60
32.60	0.30	0.41	0.74*	2.59	0.00	2.59
32.65	0.29	0.41	0.72*	2.58	0.00	2.58
32.70	0.29	0.41	0.70*	2.57	0.00	2.57
32.75	0.28	0.41	0.67*	2.57	0.00	2.57
32.80	0.27	0.41	0.65*	2.56	0.00	2.56
32.85	0.26	0.41	0.62*	2.55	0.00	2.55
32.90	0.24	0.41	0.60*	2.54	0.00	2.54
32.95	0.23	0.41	0.57*	2.53	0.00	2.53
33.00	0.22	0.41	0.53*	2.52	0.00	2.52
33.05	0.19	0.41	0.45*	2.51	0.00	2.51
33.10	0.17	0.41	0.42*	2.50	0.00	2.50
33.15	0.17	0.41	0.41*	2.49	0.00	2.49
33.20	0.16	0.41	0.40*	2.48	0.00	2.48
33.25	0.16	0.41	0.38*	2.47	0.00	2.47
33.30	0.15	0.41	0.37*	2.46	0.00	2.46
33.35	0.15	0.41	0.36*	2.45	0.00	2.45
33.40	0.15	0.41	0.35*	2.44	0.00	2.44
33.45	0.14	0.41	0.35*	2.43	0.00	2.43
33.50	0.14	0.41	0.34*	2.42	0.00	2.42

33.55	0.14	0.41	0.34*	2.41	0.00	2.41
33.60	0.14	0.41	0.33*	2.39	0.00	2.39
33.65	0.13	0.41	0.33*	2.38	0.00	2.38
33.70	0.13	0.41	0.32*	2.37	0.00	2.37
33.75	0.13	0.41	0.32*	2.36	0.00	2.36
33.80	0.13	0.41	0.32*	2.35	0.00	2.35
33.85	0.13	0.41	0.32*	2.34	0.00	2.34
33.90	0.14	0.41	0.34*	2.33	0.00	2.33
33.95	0.16	0.41	0.38*	2.32	0.00	2.32
34.00	2.00	0.41	5.00	2.31	0.00	2.31
34.05	2.00	0.41	5.00	2.31	0.00	2.31
34.10	2.00	0.41	5.00	2.31	0.00	2.31
34.15	2.00	0.41	5.00	2.31	0.00	2.31
34.20	2.00	0.41	5.00	2.31	0.00	2.31
34.25	2.00	0.41	5.00	2.31	0.00	2.31
34.30	2.00	0.41	5.00	2.31	0.00	2.31
34.35	2.00	0.41	5.00	2.31	0.00	2.31
34.40	2.00	0.41	5.00	2.31	0.00	2.31
34.45	2.00	0.41	5.00	2.31	0.00	2.31
34.50	2.00	0.41	5.00	2.31	0.00	2.31
34.55	2.00	0.41	5.00	2.31	0.00	2.31
34.60	2.00	0.41	5.00	2.31	0.00	2.31
34.65	2.00	0.41	5.00	2.31	0.00	2.31
34.70	2.00	0.41	5.00	2.31	0.00	2.31
34.75	2.00	0.41	5.00	2.31	0.00	2.31
34.80	2.00	0.41	5.00	2.31	0.00	2.31
34.85	2.00	0.41	5.00	2.31	0.00	2.31
34.90	2.00	0.41	5.00	2.31	0.00	2.31
34.95	0.12	0.41	0.29*	2.31	0.00	2.31
35.00	0.12	0.41	0.28*	2.30	0.00	2.30
35.05	0.12	0.41	0.28*	2.28	0.00	2.28
35.10	0.12	0.41	0.29*	2.27	0.00	2.27
35.15	0.12	0.41	0.29*	2.26	0.00	2.26
35.20	0.12	0.41	0.29*	2.25	0.00	2.25
35.25	0.12	0.41	0.29*	2.24	0.00	2.24
35.30	0.12	0.41	0.29*	2.22	0.00	2.22
35.35	0.12	0.41	0.28*	2.21	0.00	2.21
35.40	0.12	0.41	0.28*	2.20	0.00	2.20
35.45	0.12	0.41	0.29*	2.19	0.00	2.19
35.50	0.12	0.41	0.29*	2.17	0.00	2.17
35.55	0.12	0.41	0.29*	2.16	0.00	2.16
35.60	0.12	0.41	0.29*	2.15	0.00	2.15
35.65	0.12	0.41	0.29*	2.14	0.00	2.14
35.70	0.12	0.41	0.30*	2.13	0.00	2.13
35.75	0.13	0.41	0.30*	2.11	0.00	2.11
35.80	0.13	0.41	0.31*	2.10	0.00	2.10
35.85	0.13	0.41	0.31*	2.09	0.00	2.09
35.90	0.13	0.41	0.31*	2.08	0.00	2.08
35.95	0.13	0.41	0.31*	2.07	0.00	2.07
36.00	0.13	0.41	0.31*	2.06	0.00	2.06

36.05	0.13	0.41	0.31*	2.04	0.00	2.04
36.10	0.13	0.41	0.31*	2.03	0.00	2.03
36.15	0.13	0.41	0.31*	2.02	0.00	2.02
36.20	0.13	0.41	0.31*	2.01	0.00	2.01
36.25	0.13	0.41	0.31*	2.00	0.00	2.00
36.30	0.13	0.41	0.31*	1.98	0.00	1.98
36.35	0.13	0.41	0.32*	1.97	0.00	1.97
36.40	0.13	0.41	0.32*	1.96	0.00	1.96
36.45	0.14	0.41	0.33*	1.95	0.00	1.95
36.50	0.14	0.41	0.34*	1.94	0.00	1.94
36.55	0.14	0.41	0.35*	1.93	0.00	1.93
36.60	0.15	0.41	0.36*	1.92	0.00	1.92
36.65	0.16	0.41	0.39*	1.91	0.00	1.91
36.70	0.18	0.41	0.45*	1.90	0.00	1.90
36.75	0.23	0.41	0.55*	1.89	0.00	1.89
36.80	0.28	0.41	0.68*	1.88	0.00	1.88
36.85	2.00	0.41	5.00	1.88	0.00	1.88
36.90	2.00	0.41	5.00	1.88	0.00	1.88
36.95	2.00	0.41	5.00	1.88	0.00	1.88
37.00	2.00	0.41	5.00	1.88	0.00	1.88
37.05	2.00	0.41	5.00	1.88	0.00	1.88
37.10	2.00	0.41	5.00	1.88	0.00	1.88
37.15	0.15	0.41	0.37*	1.88	0.00	1.88
37.20	0.15	0.41	0.36*	1.87	0.00	1.87
37.25	0.15	0.41	0.37*	1.86	0.00	1.86
37.30	0.16	0.41	0.39*	1.85	0.00	1.85
37.35	0.17	0.41	0.41*	1.84	0.00	1.84
37.40	0.17	0.41	0.41*	1.83	0.00	1.83
37.45	0.17	0.41	0.42*	1.82	0.00	1.82
37.50	0.18	0.41	0.43*	1.81	0.00	1.81
37.55	0.18	0.41	0.45*	1.80	0.00	1.80
37.60	0.19	0.41	0.47*	1.79	0.00	1.79
37.65	0.20	0.41	0.50*	1.79	0.00	1.79
37.70	0.22	0.41	0.54*	1.78	0.00	1.78
37.75	0.24	0.41	0.58*	1.77	0.00	1.77
37.80	0.26	0.41	0.63*	1.76	0.00	1.76
37.85	0.29	0.41	0.71*	1.76	0.00	1.76
37.90	0.36	0.41	0.88*	1.76	0.00	1.76
37.95	2.00	0.41	5.00	1.76	0.00	1.76
38.00	2.00	0.41	5.00	1.76	0.00	1.76
38.05	2.00	0.41	5.00	1.76	0.00	1.76
38.10	2.00	0.41	5.00	1.76	0.00	1.76
38.15	2.00	0.41	5.00	1.76	0.00	1.76
38.20	2.00	0.41	5.00	1.76	0.00	1.76
38.25	2.00	0.41	5.00	1.76	0.00	1.76
38.30	0.20	0.41	0.48*	1.76	0.00	1.76
38.35	0.21	0.41	0.50*	1.75	0.00	1.75
38.40	0.21	0.41	0.52*	1.74	0.00	1.74
38.45	0.23	0.41	0.56*	1.74	0.00	1.74
38.50	0.25	0.41	0.61*	1.73	0.00	1.73

38.55	2.00	0.41	5.00	1.73	0.00	1.73
38.60	2.00	0.41	5.00	1.73	0.00	1.73
38.65	2.00	0.41	5.00	1.73	0.00	1.73
38.70	0.15	0.41	0.38*	1.73	0.00	1.73
38.75	0.17	0.41	0.40*	1.72	0.00	1.72
38.80	0.19	0.41	0.48*	1.71	0.00	1.71
38.85	0.23	0.41	0.57*	1.70	0.00	1.70
38.90	0.26	0.41	0.64*	1.69	0.00	1.69
38.95	0.29	0.41	0.70*	1.68	0.00	1.68
39.00	0.31	0.41	0.75*	1.68	0.00	1.68
39.05	0.33	0.41	0.80*	1.67	0.00	1.67
39.10	0.35	0.41	0.84*	1.66	0.00	1.66
39.15	0.36	0.41	0.88*	1.65	0.00	1.65
39.20	0.37	0.41	0.90*	1.65	0.00	1.65
39.25	0.38	0.41	0.92*	1.64	0.00	1.64
39.30	0.38	0.41	0.93*	1.63	0.00	1.63
39.35	0.37	0.41	0.91*	1.63	0.00	1.63
39.40	0.36	0.41	0.87*	1.62	0.00	1.62
39.45	0.34	0.41	0.83*	1.62	0.00	1.62
39.50	0.32	0.41	0.79*	1.61	0.00	1.61
39.55	0.30	0.41	0.74*	1.60	0.00	1.60
39.60	0.29	0.41	0.70*	1.60	0.00	1.60
39.65	0.27	0.41	0.66*	1.59	0.00	1.59
39.70	0.26	0.41	0.63*	1.58	0.00	1.58
39.75	0.25	0.41	0.60*	1.57	0.00	1.57
39.80	0.24	0.41	0.58*	1.56	0.00	1.56
39.85	0.23	0.41	0.57*	1.56	0.00	1.56
39.90	0.22	0.41	0.55*	1.55	0.00	1.55
39.95	0.22	0.41	0.53*	1.54	0.00	1.54
40.00	0.21	0.41	0.51*	1.53	0.00	1.53
40.05	0.20	0.41	0.49*	1.52	0.00	1.52
40.10	0.19	0.41	0.46*	1.51	0.00	1.51
40.15	0.18	0.41	0.43*	1.50	0.00	1.50
40.20	0.17	0.41	0.41*	1.49	0.00	1.49
40.25	0.16	0.41	0.39*	1.49	0.00	1.49
40.30	0.15	0.41	0.38*	1.48	0.00	1.48
40.35	0.15	0.41	0.37*	1.47	0.00	1.47
40.40	0.15	0.41	0.37*	1.46	0.00	1.46
40.45	0.16	0.41	0.40*	1.45	0.00	1.45
40.50	2.00	0.41	5.00	1.44	0.00	1.44
40.55	2.00	0.41	5.00	1.44	0.00	1.44
40.60	2.00	0.41	5.00	1.44	0.00	1.44
40.65	2.00	0.41	5.00	1.44	0.00	1.44
40.70	2.00	0.41	5.00	1.44	0.00	1.44
40.75	2.00	0.41	5.00	1.44	0.00	1.44
40.80	2.00	0.41	5.00	1.44	0.00	1.44
40.85	2.00	0.41	5.00	1.44	0.00	1.44
40.90	2.00	0.41	5.00	1.44	0.00	1.44
40.95	2.00	0.41	5.00	1.44	0.00	1.44
41.00	2.00	0.41	5.00	1.44	0.00	1.44

41.05	2.00	0.41	5.00	1.44	0.00	1.44
41.10	2.00	0.41	5.00	1.44	0.00	1.44
41.15	2.00	0.41	5.00	1.44	0.00	1.44
41.20	2.00	0.41	5.00	1.44	0.00	1.44
41.25	2.00	0.41	5.00	1.44	0.00	1.44
41.30	2.00	0.41	5.00	1.44	0.00	1.44
41.35	2.00	0.41	5.00	1.44	0.00	1.44
41.40	2.00	0.41	5.00	1.44	0.00	1.44
41.45	2.00	0.41	5.00	1.44	0.00	1.44
41.50	2.00	0.41	5.00	1.44	0.00	1.44
41.55	2.00	0.41	5.00	1.44	0.00	1.44
41.60	2.00	0.41	5.00	1.44	0.00	1.44
41.65	2.00	0.41	5.00	1.44	0.00	1.44
41.70	2.00	0.41	5.00	1.44	0.00	1.44
41.75	2.00	0.41	5.00	1.44	0.00	1.44
41.80	2.00	0.41	5.00	1.44	0.00	1.44
41.85	2.00	0.41	5.00	1.44	0.00	1.44
41.90	2.00	0.41	5.00	1.44	0.00	1.44
41.95	2.00	0.41	5.00	1.44	0.00	1.44
42.00	2.00	0.41	5.00	1.44	0.00	1.44
42.05	2.00	0.41	5.00	1.44	0.00	1.44
42.10	2.00	0.41	5.00	1.44	0.00	1.44
42.15	2.00	0.41	5.00	1.44	0.00	1.44
42.20	2.00	0.41	5.00	1.44	0.00	1.44
42.25	2.00	0.41	5.00	1.44	0.00	1.44
42.30	2.00	0.41	5.00	1.44	0.00	1.44
42.35	2.00	0.41	5.00	1.44	0.00	1.44
42.40	2.00	0.41	5.00	1.44	0.00	1.44
42.45	0.13	0.41	0.33*	1.44	0.00	1.44
42.50	0.13	0.41	0.33*	1.43	0.00	1.43
42.55	0.14	0.41	0.33*	1.42	0.00	1.42
42.60	0.14	0.41	0.34*	1.41	0.00	1.41
42.65	0.14	0.41	0.35*	1.40	0.00	1.40
42.70	0.14	0.41	0.36*	1.38	0.00	1.38
42.75	0.15	0.41	0.37*	1.37	0.00	1.37
42.80	0.15	0.41	0.38*	1.36	0.00	1.36
42.85	0.16	0.41	0.39*	1.36	0.00	1.36
42.90	0.16	0.41	0.39*	1.35	0.00	1.35
42.95	0.16	0.41	0.39*	1.34	0.00	1.34
43.00	0.15	0.40	0.38*	1.33	0.00	1.33
43.05	0.14	0.40	0.35*	1.32	0.00	1.32
43.10	0.14	0.40	0.35*	1.31	0.00	1.31
43.15	0.15	0.40	0.36*	1.30	0.00	1.30
43.20	0.15	0.40	0.37*	1.29	0.00	1.29
43.25	0.15	0.40	0.37*	1.28	0.00	1.28
43.30	0.15	0.40	0.38*	1.27	0.00	1.27
43.35	0.16	0.40	0.40*	1.26	0.00	1.26
43.40	0.18	0.40	0.44*	1.25	0.00	1.25
43.45	0.19	0.40	0.47*	1.24	0.00	1.24
43.50	0.22	0.40	0.55*	1.24	0.00	1.24

43.55	2.00	0.40	5.00	1.23	0.00	1.23
43.60	2.00	0.40	5.00	1.23	0.00	1.23
43.65	2.00	0.40	5.00	1.23	0.00	1.23
43.70	2.00	0.40	5.00	1.23	0.00	1.23
43.75	2.00	0.40	5.00	1.23	0.00	1.23
43.80	2.00	0.40	5.00	1.23	0.00	1.23
43.85	2.00	0.40	5.00	1.23	0.00	1.23
43.90	2.00	0.40	5.00	1.23	0.00	1.23
43.95	0.19	0.40	0.46*	1.23	0.00	1.23
44.00	0.20	0.40	0.49*	1.22	0.00	1.22
44.05	2.00	0.40	5.00	1.22	0.00	1.22
44.10	2.00	0.40	5.00	1.22	0.00	1.22
44.15	2.00	0.40	5.00	1.22	0.00	1.22
44.20	2.00	0.40	5.00	1.22	0.00	1.22
44.25	2.00	0.40	5.00	1.22	0.00	1.22
44.30	2.00	0.40	5.00	1.22	0.00	1.22
44.35	2.00	0.40	5.00	1.22	0.00	1.22
44.40	2.00	0.40	5.00	1.22	0.00	1.22
44.45	2.00	0.40	5.00	1.22	0.00	1.22
44.50	2.00	0.40	5.00	1.22	0.00	1.22
44.55	2.00	0.40	5.00	1.22	0.00	1.22
44.60	2.00	0.40	5.00	1.22	0.00	1.22
44.65	2.00	0.40	5.00	1.22	0.00	1.22
44.70	2.00	0.40	5.00	1.22	0.00	1.22
44.75	2.00	0.40	5.00	1.22	0.00	1.22
44.80	2.00	0.40	5.00	1.22	0.00	1.22
44.85	2.00	0.40	5.00	1.22	0.00	1.22
44.90	2.00	0.40	5.00	1.22	0.00	1.22
44.95	2.00	0.40	5.00	1.22	0.00	1.22
45.00	2.00	0.40	5.00	1.22	0.00	1.22
45.05	2.00	0.40	5.00	1.22	0.00	1.22
45.10	2.00	0.40	5.00	1.22	0.00	1.22
45.15	2.00	0.40	5.00	1.22	0.00	1.22
45.20	0.19	0.40	0.47*	1.22	0.00	1.22
45.25	0.18	0.40	0.44*	1.21	0.00	1.21
45.30	0.18	0.40	0.44*	1.20	0.00	1.20
45.35	0.18	0.40	0.46*	1.20	0.00	1.20
45.40	0.19	0.40	0.47*	1.19	0.00	1.19
45.45	0.18	0.40	0.46*	1.18	0.00	1.18
45.50	0.18	0.40	0.44*	1.17	0.00	1.17
45.55	0.17	0.40	0.42*	1.16	0.00	1.16
45.60	0.17	0.40	0.43*	1.15	0.00	1.15
45.65	0.17	0.40	0.43*	1.14	0.00	1.14
45.70	0.17	0.40	0.43*	1.13	0.00	1.13
45.75	0.17	0.40	0.43*	1.12	0.00	1.12
45.80	0.17	0.40	0.42*	1.11	0.00	1.11
45.85	0.17	0.40	0.42*	1.10	0.00	1.10
45.90	0.17	0.40	0.42*	1.10	0.00	1.10
45.95	0.17	0.40	0.43*	1.09	0.00	1.09
46.00	0.18	0.40	0.45*	1.08	0.00	1.08

46.05	0.20	0.40	0.49*	1.07	0.00	1.07
46.10	0.22	0.40	0.54*	1.06	0.00	1.06
46.15	0.24	0.40	0.60*	1.06	0.00	1.06
46.20	0.25	0.40	0.63*	1.05	0.00	1.05
46.25	0.23	0.40	0.57*	1.05	0.00	1.05
46.30	0.21	0.40	0.54*	1.05	0.00	1.05
46.35	0.21	0.40	0.52*	1.04	0.00	1.04
46.40	0.21	0.40	0.51*	1.04	0.00	1.04
46.45	0.21	0.40	0.54*	1.03	0.00	1.03
46.50	2.00	0.40	5.00	1.02	0.00	1.02
46.55	2.00	0.40	5.00	1.02	0.00	1.02
46.60	2.00	0.40	5.00	1.02	0.00	1.02
46.65	2.00	0.40	5.00	1.02	0.00	1.02
46.70	2.00	0.40	5.00	1.02	0.00	1.02
46.75	2.00	0.40	5.00	1.02	0.00	1.02
46.80	2.00	0.40	5.00	1.02	0.00	1.02
46.85	2.00	0.40	5.00	1.02	0.00	1.02
46.90	2.00	0.40	5.00	1.02	0.00	1.02
46.95	2.00	0.40	5.00	1.02	0.00	1.02
47.00	2.00	0.40	5.00	1.02	0.00	1.02
47.05	2.00	0.40	5.00	1.02	0.00	1.02
47.10	0.17	0.40	0.43*	1.02	0.00	1.02
47.15	0.16	0.40	0.41*	1.02	0.00	1.02
47.20	0.16	0.40	0.40*	1.01	0.00	1.01
47.25	0.16	0.40	0.39*	1.00	0.00	1.00
47.30	0.15	0.40	0.39*	0.99	0.00	0.99
47.35	0.15	0.40	0.39*	0.98	0.00	0.98
47.40	0.16	0.40	0.39*	0.97	0.00	0.97
47.45	0.15	0.40	0.39*	0.96	0.00	0.96
47.50	0.16	0.40	0.40*	0.95	0.00	0.95
47.55	0.16	0.40	0.41*	0.94	0.00	0.94
47.60	0.17	0.40	0.42*	0.93	0.00	0.93
47.65	0.17	0.40	0.44*	0.93	0.00	0.93
47.70	0.18	0.40	0.45*	0.92	0.00	0.92
47.75	0.18	0.40	0.46*	0.91	0.00	0.91
47.80	0.19	0.40	0.47*	0.90	0.00	0.90
47.85	0.18	0.40	0.46*	0.90	0.00	0.90
47.90	0.19	0.40	0.48*	0.89	0.00	0.89
47.95	0.20	0.40	0.51*	0.88	0.00	0.88
48.00	0.25	0.40	0.64*	0.88	0.00	0.88
48.05	2.00	0.40	5.00	0.87	0.00	0.87
48.10	2.00	0.40	5.00	0.87	0.00	0.87
48.15	2.00	0.40	5.00	0.87	0.00	0.87
48.20	2.00	0.40	5.00	0.87	0.00	0.87
48.25	2.00	0.40	5.00	0.87	0.00	0.87
48.30	2.00	0.40	5.00	0.87	0.00	0.87
48.35	2.00	0.40	5.00	0.87	0.00	0.87
48.40	2.00	0.40	5.00	0.87	0.00	0.87
48.45	2.00	0.40	5.00	0.87	0.00	0.87
48.50	2.00	0.40	5.00	0.87	0.00	0.87

48.55	2.00	0.40	5.00	0.87	0.00	0.87
48.60	2.00	0.40	5.00	0.87	0.00	0.87
48.65	2.00	0.39	5.00	0.87	0.00	0.87
48.70	2.00	0.39	5.00	0.87	0.00	0.87
48.75	2.00	0.39	5.00	0.87	0.00	0.87
48.80	2.00	0.39	5.00	0.87	0.00	0.87
48.85	2.00	0.39	5.00	0.87	0.00	0.87
48.90	2.00	0.39	5.00	0.87	0.00	0.87
48.95	2.00	0.39	5.00	0.87	0.00	0.87
49.00	2.00	0.39	5.00	0.87	0.00	0.87
49.05	2.00	0.39	5.00	0.87	0.00	0.87
49.10	2.00	0.39	5.00	0.87	0.00	0.87
49.15	2.00	0.39	5.00	0.87	0.00	0.87
49.20	0.20	0.39	0.50*	0.87	0.00	0.87
49.25	0.18	0.39	0.46*	0.87	0.00	0.87
49.30	0.18	0.39	0.45*	0.86	0.00	0.86
49.35	0.17	0.39	0.44*	0.85	0.00	0.85
49.40	0.17	0.39	0.44*	0.84	0.00	0.84
49.45	0.18	0.39	0.45*	0.84	0.00	0.84
49.50	0.19	0.39	0.48*	0.83	0.00	0.83
49.55	2.00	0.39	5.00	0.82	0.00	0.82
49.60	2.00	0.39	5.00	0.82	0.00	0.82
49.65	2.00	0.39	5.00	0.82	0.00	0.82
49.70	2.00	0.39	5.00	0.82	0.00	0.82
49.75	2.00	0.39	5.00	0.82	0.00	0.82
49.80	2.00	0.39	5.00	0.82	0.00	0.82
49.85	2.00	0.39	5.00	0.82	0.00	0.82
49.90	2.00	0.39	5.00	0.82	0.00	0.82
49.95	2.00	0.39	5.00	0.82	0.00	0.82
50.00	2.00	0.39	5.00	0.82	0.00	0.82
50.05	2.00	0.39	5.00	0.82	0.00	0.82
50.10	2.00	0.39	5.00	0.82	0.00	0.82
50.15	2.00	0.39	5.00	0.82	0.00	0.82
50.20	2.00	0.39	5.00	0.82	0.00	0.82
50.25	2.00	0.39	5.00	0.82	0.00	0.82
50.30	2.00	0.39	5.00	0.82	0.00	0.82
50.35	2.00	0.39	5.00	0.82	0.00	0.82
50.40	2.00	0.39	5.00	0.82	0.00	0.82
50.45	2.00	0.39	5.00	0.82	0.00	0.82
50.50	2.00	0.39	5.00	0.82	0.00	0.82
50.55	2.00	0.39	5.00	0.82	0.00	0.82
50.60	2.00	0.39	5.00	0.82	0.00	0.82
50.65	2.00	0.39	5.00	0.82	0.00	0.82
50.70	2.00	0.39	5.00	0.82	0.00	0.82
50.75	2.00	0.39	5.00	0.82	0.00	0.82
50.80	2.00	0.39	5.00	0.82	0.00	0.82
50.85	0.14	0.39	0.37*	0.82	0.00	0.82
50.90	0.12	0.39	0.32*	0.81	0.00	0.81
50.95	0.12	0.39	0.31*	0.80	0.00	0.80
51.00	0.13	0.39	0.33*	0.79	0.00	0.79

51.05	0.13	0.39	0.35*	0.78	0.00	0.78
51.10	0.14	0.39	0.36*	0.77	0.00	0.77
51.15	0.15	0.39	0.37*	0.76	0.00	0.76
51.20	0.14	0.39	0.37*	0.75	0.00	0.75
51.25	0.13	0.39	0.34*	0.74	0.00	0.74
51.30	0.13	0.39	0.34*	0.73	0.00	0.73
51.35	2.00	0.39	5.00	0.72	0.00	0.72
51.40	2.00	0.39	5.00	0.72	0.00	0.72
51.45	2.00	0.39	5.00	0.72	0.00	0.72
51.50	2.00	0.39	5.00	0.72	0.00	0.72
51.55	2.00	0.39	5.00	0.72	0.00	0.72
51.60	2.00	0.39	5.00	0.72	0.00	0.72
51.65	2.00	0.39	5.00	0.72	0.00	0.72
51.70	2.00	0.39	5.00	0.72	0.00	0.72
51.75	2.00	0.39	5.00	0.72	0.00	0.72
51.80	0.16	0.39	0.41*	0.72	0.00	0.72
51.85	0.15	0.39	0.39*	0.71	0.00	0.71
51.90	0.15	0.39	0.38*	0.70	0.00	0.70
51.95	0.15	0.39	0.38*	0.69	0.00	0.69
52.00	0.14	0.39	0.37*	0.68	0.00	0.68
52.05	0.14	0.39	0.37*	0.67	0.00	0.67
52.10	0.14	0.39	0.37*	0.66	0.00	0.66
52.15	0.14	0.39	0.37*	0.65	0.00	0.65
52.20	0.14	0.39	0.37*	0.64	0.00	0.64
52.25	0.14	0.39	0.37*	0.63	0.00	0.63
52.30	0.15	0.39	0.38*	0.62	0.00	0.62
52.35	0.14	0.39	0.37*	0.61	0.00	0.61
52.40	0.14	0.39	0.37*	0.60	0.00	0.60
52.45	0.15	0.39	0.38*	0.59	0.00	0.59
52.50	0.15	0.39	0.40*	0.58	0.00	0.58
52.55	0.16	0.39	0.42*	0.57	0.00	0.57
52.60	0.19	0.39	0.48*	0.56	0.00	0.56
52.65	2.00	0.39	5.00	0.55	0.00	0.55
52.70	2.00	0.39	5.00	0.55	0.00	0.55
52.75	2.00	0.39	5.00	0.55	0.00	0.55
52.80	2.00	0.39	5.00	0.55	0.00	0.55
52.85	2.00	0.39	5.00	0.55	0.00	0.55
52.90	2.00	0.39	5.00	0.55	0.00	0.55
52.95	2.00	0.38	5.00	0.55	0.00	0.55
53.00	2.00	0.38	5.00	0.55	0.00	0.55
53.05	2.00	0.38	5.00	0.55	0.00	0.55
53.10	2.00	0.38	5.00	0.55	0.00	0.55
53.15	2.00	0.38	5.00	0.55	0.00	0.55
53.20	2.00	0.38	5.00	0.55	0.00	0.55
53.25	2.00	0.38	5.00	0.55	0.00	0.55
53.30	2.00	0.38	5.00	0.55	0.00	0.55
53.35	2.00	0.38	5.00	0.55	0.00	0.55
53.40	2.00	0.38	5.00	0.55	0.00	0.55
53.45	2.00	0.38	5.00	0.55	0.00	0.55
53.50	2.00	0.38	5.00	0.55	0.00	0.55

53.55	2.00	0.38	5.00	0.55	0.00	0.55
53.60	2.00	0.38	5.00	0.55	0.00	0.55
53.65	2.00	0.38	5.00	0.55	0.00	0.55
53.70	2.00	0.38	5.00	0.55	0.00	0.55
53.75	2.00	0.38	5.00	0.55	0.00	0.55
53.80	2.00	0.38	5.00	0.55	0.00	0.55
53.85	2.00	0.38	5.00	0.55	0.00	0.55
53.90	2.00	0.38	5.00	0.55	0.00	0.55
53.95	2.00	0.38	5.00	0.55	0.00	0.55
54.00	2.00	0.38	5.00	0.55	0.00	0.55
54.05	2.00	0.38	5.00	0.55	0.00	0.55
54.10	2.00	0.38	5.00	0.55	0.00	0.55
54.15	2.00	0.38	5.00	0.55	0.00	0.55
54.20	2.00	0.38	5.00	0.55	0.00	0.55
54.25	0.20	0.38	0.52*	0.55	0.00	0.55
54.30	0.19	0.38	0.50*	0.55	0.00	0.55
54.35	0.19	0.38	0.51*	0.54	0.00	0.54
54.40	0.20	0.38	0.51*	0.53	0.00	0.53
54.45	0.20	0.38	0.52*	0.52	0.00	0.52
54.50	0.20	0.38	0.53*	0.52	0.00	0.52
54.55	0.20	0.38	0.54*	0.51	0.00	0.51
54.60	0.21	0.38	0.55*	0.50	0.00	0.50
54.65	0.21	0.38	0.55*	0.49	0.00	0.49
54.70	0.21	0.38	0.56*	0.48	0.00	0.48
54.75	0.21	0.38	0.56*	0.48	0.00	0.48
54.80	0.21	0.38	0.56*	0.47	0.00	0.47
54.85	0.21	0.38	0.56*	0.46	0.00	0.46
54.90	0.21	0.38	0.56*	0.45	0.00	0.45
54.95	0.21	0.38	0.56*	0.45	0.00	0.45
55.00	0.21	0.38	0.54*	0.44	0.00	0.44
55.05	0.20	0.38	0.53*	0.43	0.00	0.43
55.10	0.20	0.38	0.52*	0.42	0.00	0.42
55.15	0.20	0.38	0.53*	0.41	0.00	0.41
55.20	0.20	0.38	0.53*	0.41	0.00	0.41
55.25	0.20	0.38	0.53*	0.40	0.00	0.40
55.30	0.20	0.38	0.53*	0.39	0.00	0.39
55.35	0.19	0.38	0.51*	0.38	0.00	0.38
55.40	0.19	0.38	0.49*	0.37	0.00	0.37
55.45	0.18	0.38	0.48*	0.36	0.00	0.36
55.50	0.18	0.38	0.47*	0.36	0.00	0.36
55.55	0.17	0.38	0.45*	0.35	0.00	0.35
55.60	0.17	0.38	0.45*	0.34	0.00	0.34
55.65	0.17	0.38	0.45*	0.33	0.00	0.33
55.70	0.18	0.38	0.47*	0.32	0.00	0.32
55.75	0.19	0.38	0.50*	0.31	0.00	0.31
55.80	0.20	0.38	0.52*	0.30	0.00	0.30
55.85	0.21	0.38	0.55*	0.30	0.00	0.30
55.90	0.21	0.38	0.57*	0.29	0.00	0.29
55.95	0.21	0.38	0.54*	0.29	0.00	0.29
56.00	0.19	0.38	0.52*	0.28	0.00	0.28

56.05	0.18	0.38	0.48*	0.27	0.00	0.27
56.10	0.17	0.38	0.46*	0.27	0.00	0.27
56.15	0.16	0.38	0.44*	0.26	0.00	0.26
56.20	0.16	0.38	0.43*	0.25	0.00	0.25
56.25	0.16	0.38	0.42*	0.24	0.00	0.24
56.30	0.15	0.38	0.41*	0.23	0.00	0.23
56.35	0.15	0.38	0.40*	0.23	0.00	0.23
56.40	0.15	0.38	0.39*	0.22	0.00	0.22
56.45	0.14	0.38	0.38*	0.21	0.00	0.21
56.50	0.14	0.38	0.38*	0.20	0.00	0.20
56.55	0.14	0.38	0.38*	0.19	0.00	0.19
56.60	0.15	0.38	0.40*	0.18	0.00	0.18
56.65	0.16	0.38	0.42*	0.17	0.00	0.17
56.70	0.17	0.38	0.46*	0.16	0.00	0.16
56.75	0.20	0.37	0.53*	0.15	0.00	0.15
56.80	2.00	0.37	5.00	0.14	0.00	0.14
56.85	2.00	0.37	5.00	0.14	0.00	0.14
56.90	2.00	0.37	5.00	0.14	0.00	0.14
56.95	2.00	0.37	5.00	0.14	0.00	0.14
57.00	2.00	0.37	5.00	0.14	0.00	0.14
57.05	2.00	0.37	5.00	0.14	0.00	0.14
57.10	2.00	0.37	5.00	0.14	0.00	0.14
57.15	2.00	0.37	5.00	0.14	0.00	0.14
57.20	2.00	0.37	5.00	0.14	0.00	0.14
57.25	2.00	0.37	5.00	0.14	0.00	0.14
57.30	2.00	0.37	5.00	0.14	0.00	0.14
57.35	2.00	0.37	5.00	0.14	0.00	0.14
57.40	2.00	0.37	5.00	0.14	0.00	0.14
57.45	2.00	0.37	5.00	0.14	0.00	0.14
57.50	2.00	0.37	5.00	0.14	0.00	0.14
57.55	2.00	0.37	5.00	0.14	0.00	0.14
57.60	2.00	0.37	5.00	0.14	0.00	0.14
57.65	2.00	0.37	5.00	0.14	0.00	0.14
57.70	2.00	0.37	5.00	0.14	0.00	0.14
57.75	2.00	0.37	5.00	0.14	0.00	0.14
57.80	2.00	0.37	5.00	0.14	0.00	0.14
57.85	2.00	0.37	5.00	0.14	0.00	0.14
57.90	2.00	0.37	5.00	0.14	0.00	0.14
57.95	2.00	0.37	5.00	0.14	0.00	0.14
58.00	2.00	0.37	5.00	0.14	0.00	0.14
58.05	2.00	0.37	5.00	0.14	0.00	0.14
58.10	2.00	0.37	5.00	0.14	0.00	0.14
58.15	2.00	0.37	5.00	0.14	0.00	0.14
58.20	2.00	0.37	5.00	0.14	0.00	0.14
58.25	2.00	0.37	5.00	0.14	0.00	0.14
58.30	0.15	0.37	0.39*	0.14	0.00	0.14
58.35	0.14	0.37	0.38*	0.14	0.00	0.14
58.40	0.14	0.37	0.38*	0.13	0.00	0.13
58.45	0.14	0.37	0.39*	0.12	0.00	0.12
58.50	0.15	0.37	0.40*	0.11	0.00	0.11

58.55	0.16	0.37	0.42*	0.10	0.00	0.10
58.60	0.17	0.37	0.46*	0.09	0.00	0.09
58.65	0.19	0.37	0.52*	0.08	0.00	0.08
58.70	2.00	0.37	5.00	0.08	0.00	0.08
58.75	2.00	0.37	5.00	0.08	0.00	0.08
58.80	2.00	0.37	5.00	0.08	0.00	0.08
58.85	2.00	0.37	5.00	0.08	0.00	0.08
58.90	2.00	0.37	5.00	0.08	0.00	0.08
58.95	2.00	0.37	5.00	0.08	0.00	0.08
59.00	2.00	0.37	5.00	0.08	0.00	0.08
59.05	2.00	0.37	5.00	0.08	0.00	0.08
59.10	2.00	0.37	5.00	0.08	0.00	0.08
59.15	2.00	0.37	5.00	0.08	0.00	0.08
59.20	2.00	0.37	5.00	0.08	0.00	0.08
59.25	2.00	0.37	5.00	0.08	0.00	0.08
59.30	2.00	0.37	5.00	0.08	0.00	0.08
59.35	2.00	0.37	5.00	0.08	0.00	0.08
59.40	2.00	0.37	5.00	0.08	0.00	0.08
59.45	2.00	0.37	5.00	0.08	0.00	0.08
59.50	2.00	0.37	5.00	0.08	0.00	0.08
59.55	0.16	0.37	0.45*	0.08	0.00	0.08
59.60	0.16	0.37	0.43*	0.07	0.00	0.07
59.65	0.15	0.37	0.42*	0.06	0.00	0.06
59.70	0.16	0.37	0.42*	0.05	0.00	0.05
59.75	0.16	0.37	0.43*	0.04	0.00	0.04
59.80	0.16	0.37	0.43*	0.03	0.00	0.03
59.85	0.16	0.37	0.43*	0.03	0.00	0.03
59.90	0.16	0.37	0.44*	0.02	0.00	0.02
59.95	0.16	0.37	0.44*	0.01	0.00	0.01
60.00	0.16	0.37	0.44*	0.00	0.00	0.00

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

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

—

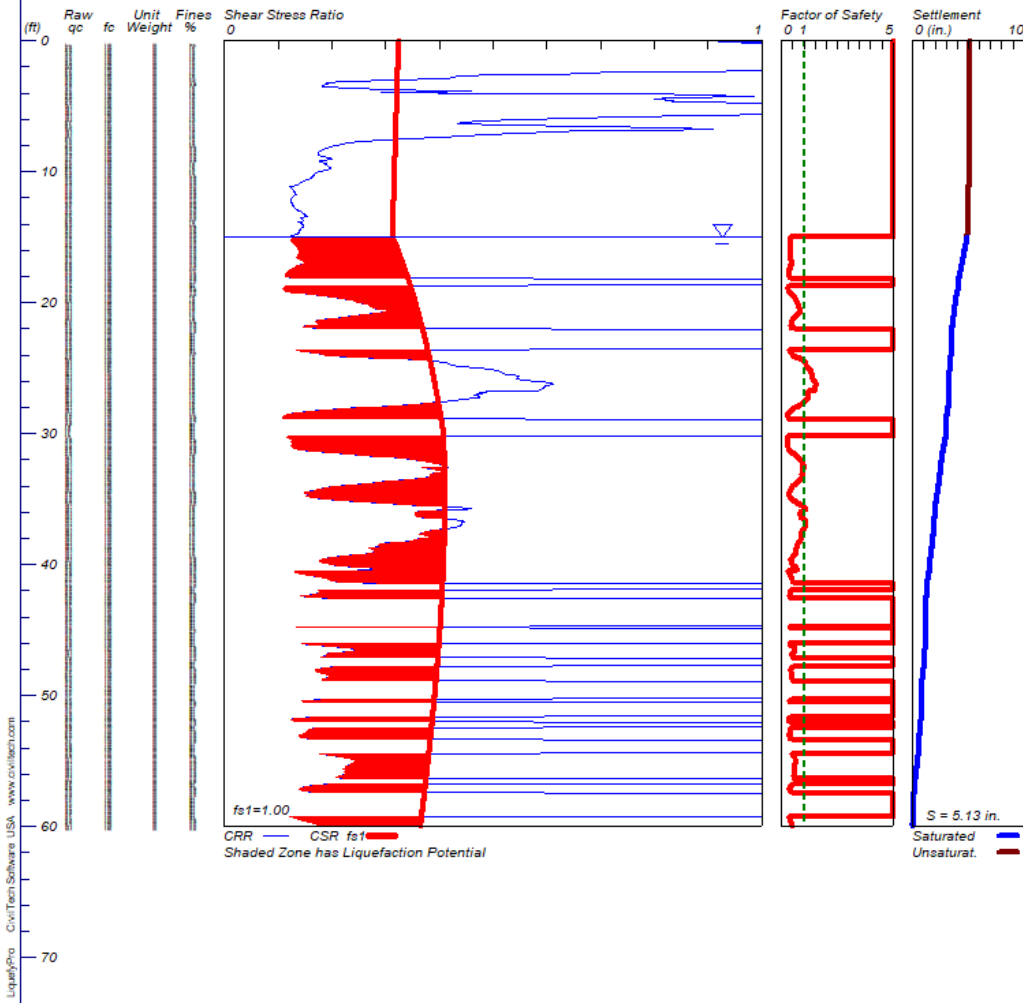
CRRm	Cyclic resistance ratio from soils
CSRsf	Cyclic stress ratio induced by a given earthquake (with user request factor of safety)
F.S.	Factor of Safety against liquefaction, F.S.=CRRm/CSRsf
S_sat	Settlement from saturated sands
S_dry	Settlement from Unsaturated Sands
S_all	Total Settlement from Saturated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

LIQUEFACTION ANALYSIS

MBGPF Expansion

Hole No.=CPT-2 Water Depth=15 ft Surface Elev.=46

Magnitude=7
Acceleration=0.5g



LiquefyPro - CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS CALCULATION SHEET

Copyright by CivilTech Software
www.civiltech.com
(425) 453-6488 Fax (425) 453-5848

Licensed to , 8/1/2022 12:17:41 PM

Input File Name: G:\File Share\CTF temp\Projects\109182001 GHD MBGPF Well
Expansion - CTF\Liquefaction\CPT-2.liq
Title: MBGPF Expansion
Subtitle: 109182001

Surface Elev.=46
Hole No.=CPT-2
Depth of Hole= 60.0 ft
Water Table during Earthquake= 15.0 ft
Water Table during In-Situ Testing= 15.0 ft
Max. Acceleration= 0.5 g
Earthquake Magnitude= 7.0

Input Data:

Surface Elev.=46
Hole No.=CPT-2
Depth of Hole=60.0 ft
Water Table during Earthquake= 15.0 ft
Water Table during In-Situ Testing= 15.0 ft
Max. Acceleration=0.5 g
Earthquake Magnitude=7.0

1. CPT Calculation Method: Modify Robertson*
 2. Settlement Analysis Method: Tokimatsu, M-correction
 3. Fines Correction for Liquefaction: Idriss/Seed (SPT only)
 4. Fine Correction for Settlement: During Liquefaction*
 5. Settlement Calculation in: All zones*
 6. Hammer Energy Ratio, Ce = 1.25
 7. Borehole Diameter, Cb= 1
 8. Sampling Method, Cs= 1
 9. User request factor of safety (apply to CSR) , User= 1
Plot one CSR curve (fs1=User)
 10. Use Curve Smoothing: Yes*
- * Recommended Options

In-Situ Test Data:

Depth ft	qc tsf	fs tsf	gamma pcf	Fines %	D50 mm
0.0	0.0	0.1	120.0	NoLiq	0.5
0.1	8.4	0.2	120.0	14.2	0.5
0.1	19.4	0.3	120.0	6.8	0.5
0.2	35.7	0.3	120.0	2.6	0.5
0.3	51.4	0.3	120.0	0.9	0.5
0.3	84.2	0.4	120.0	0.0	0.5
0.4	85.9	0.5	120.0	0.0	0.5
0.5	90.2	0.5	120.0	0.0	0.5
0.5	84.1	0.5	120.0	0.2	0.5
0.6	75.8	0.5	120.0	1.0	0.5
0.7	71.7	0.5	120.0	1.7	0.5
0.7	71.1	0.5	120.0	2.3	0.5
0.8	59.9	0.5	120.0	3.4	0.5
0.9	57.4	0.4	120.0	3.6	0.5
0.9	53.8	0.5	120.0	4.3	0.5
1.0	53.4	0.5	120.0	4.6	0.5
1.1	51.3	0.5	120.0	5.1	0.5
1.1	53.1	0.5	120.0	4.9	0.5
1.2	59.9	0.5	120.0	4.0	0.5
1.3	61.7	0.5	120.0	3.9	0.5
1.3	66.8	0.5	120.0	3.5	0.5
1.4	73.8	0.5	120.0	2.7	0.5
1.5	76.9	0.5	120.0	2.5	0.5
1.5	81.9	0.5	120.0	2.2	0.5
1.6	88.0	0.5	120.0	1.9	0.5
1.7	97.4	0.6	120.0	1.4	0.5
1.7	105.6	0.6	120.0	1.1	0.5
1.8	109.9	0.7	120.0	1.3	0.5
1.9	96.9	0.7	120.0	2.3	0.5
1.9	93.1	0.6	120.0	2.5	0.5
2.0	93.6	0.6	120.0	2.6	0.5
2.0	91.3	0.7	120.0	3.3	0.5
2.1	81.9	0.7	120.0	4.3	0.5
2.2	81.7	0.7	120.0	4.6	0.5
2.2	82.1	0.7	120.0	4.5	0.5
2.3	75.4	0.6	120.0	4.8	0.5
2.4	68.8	0.6	120.0	5.8	0.5
2.4	61.0	0.7	120.0	7.7	0.5
2.5	58.2	0.9	120.0	9.7	0.5
2.6	56.1	0.6	120.0	8.3	0.5
2.6	55.1	0.5	120.0	8.4	0.5
2.7	49.1	0.7	120.0	10.8	0.5
2.8	50.8	0.6	120.0	9.9	0.5
2.8	52.5	0.6	120.0	9.6	0.5
2.9	46.3	0.6	120.0	10.9	0.5
3.0	46.6	0.6	120.0	11.3	0.5
3.0	42.3	0.5	120.0	12.0	0.5

3.1	40.8	0.5	120.0	11.9	0.5
3.2	37.4	0.3	120.0	11.0	0.5
3.2	35.7	0.3	120.0	9.9	0.5
3.3	39.7	0.2	120.0	7.8	0.5
3.4	39.5	0.2	120.0	7.4	0.5
3.4	39.5	0.2	120.0	7.2	0.5
3.5	39.3	0.2	120.0	7.4	0.5
3.6	45.6	0.2	120.0	6.0	0.5
3.6	50.4	0.2	120.0	4.9	0.5
3.7	56.7	0.1	120.0	3.0	0.5
3.7	60.0	0.2	120.0	3.2	0.5
3.8	69.3	0.3	120.0	3.3	0.5
3.9	74.6	0.3	120.0	4.0	0.5
3.9	51.3	0.4	120.0	6.8	0.5
4.0	90.5	0.5	120.0	3.5	0.5
4.1	93.9	0.5	120.0	3.2	0.5
4.2	97.8	0.6	120.0	3.3	0.5
4.2	99.4	0.6	120.0	3.4	0.5
4.3	102.4	0.6	120.0	3.6	0.5
4.3	97.3	0.7	120.0	4.0	0.5
4.4	96.3	0.6	120.0	4.2	0.5
4.5	95.3	0.6	120.0	4.1	0.5
4.6	98.5	0.6	120.0	3.6	0.5
4.6	98.1	0.6	120.0	3.5	0.5
4.7	100.7	0.6	120.0	3.4	0.5
4.7	105.1	0.6	120.0	3.2	0.5
4.8	111.5	0.6	120.0	3.0	0.5
4.9	120.2	0.7	120.0	2.6	0.5
4.9	130.0	0.7	120.0	2.3	0.5
5.0	139.7	0.8	120.0	2.0	0.5
5.1	147.0	0.8	120.0	1.9	0.5
5.1	149.7	0.9	120.0	2.0	0.5
5.2	148.4	0.9	120.0	2.2	0.5
5.3	145.9	1.0	120.0	2.6	0.5
5.3	141.4	1.0	120.0	2.9	0.5
5.4	136.7	1.0	120.0	3.3	0.5
5.4	132.8	1.0	120.0	3.6	0.5
5.5	127.0	1.0	120.0	4.2	0.5
5.6	121.0	1.0	120.0	4.7	0.5
5.7	116.3	1.0	120.0	5.2	0.5
5.7	110.9	1.0	120.0	5.8	0.5
5.8	104.4	1.0	120.0	6.4	0.5
5.8	100.4	1.0	120.0	6.8	0.5
5.9	97.0	0.9	120.0	7.0	0.5
6.0	93.3	0.9	120.0	7.1	0.5
6.0	89.8	0.8	120.0	7.2	0.5
6.1	86.9	0.7	120.0	7.0	0.5
6.2	86.7	0.7	120.0	6.6	0.5
6.2	86.7	0.6	120.0	6.2	0.5
6.3	86.5	0.6	120.0	6.0	0.5

6.4	91.9	0.6	120.0	5.5	0.5
6.4	99.6	0.6	120.0	4.8	0.5
6.5	107.8	0.5	120.0	3.3	0.5
6.6	115.0	0.5	120.0	2.4	0.5
6.7	120.2	0.5	120.0	2.4	0.5
6.7	122.5	0.6	120.0	2.5	0.5
6.8	124.5	0.6	120.0	2.9	0.5
6.8	123.5	0.7	120.0	3.2	0.5
6.9	109.9	0.7	120.0	4.3	0.5
7.0	109.2	0.7	120.0	4.7	0.5
7.0	105.7	0.7	120.0	5.2	0.5
7.1	101.0	0.8	120.0	5.8	0.5
7.2	97.2	0.8	120.0	6.3	0.5
7.2	93.4	0.8	120.0	6.8	0.5
7.3	90.9	0.7	120.0	7.1	0.5
7.4	87.3	0.7	120.0	7.5	0.5
7.4	83.5	0.7	120.0	7.8	0.5
7.5	79.6	0.7	120.0	8.2	0.5
7.6	75.2	0.6	120.0	8.7	0.5
7.6	70.6	0.6	120.0	9.2	0.5
7.7	66.8	0.6	120.0	9.6	0.5
7.8	64.1	0.5	120.0	9.8	0.5
7.8	62.3	0.5	120.0	10.0	0.5
7.9	61.0	0.5	120.0	10.2	0.5
7.9	60.2	0.5	120.0	10.3	0.5
8.0	59.1	0.5	120.0	10.6	0.5
8.1	58.0	0.5	120.0	10.8	0.5
8.1	56.8	0.5	120.0	11.0	0.5
8.2	56.0	0.4	120.0	11.1	0.5
8.3	55.1	0.4	120.0	11.3	0.5
8.3	54.2	0.4	120.0	11.4	0.5
8.4	53.6	0.4	120.0	11.6	0.5
8.5	52.3	0.4	120.0	11.9	0.5
8.5	51.8	0.4	120.0	12.1	0.5
8.6	51.3	0.4	120.0	12.4	0.5
8.7	51.4	0.4	120.0	12.4	0.5
8.8	52.7	0.4	120.0	12.3	0.5
8.8	54.5	0.4	120.0	11.9	0.5
8.9	56.9	0.5	120.0	11.3	0.5
8.9	59.7	0.5	120.0	10.7	0.5
9.0	61.9	0.5	120.0	10.2	0.5
9.1	63.2	0.4	120.0	9.1	0.5
9.1	63.7	0.2	120.0	7.2	0.5
9.2	64.2	0.2	120.0	6.7	0.5
9.3	64.8	0.3	120.0	6.8	0.5
9.3	65.4	0.3	120.0	7.1	0.5
9.4	66.7	0.3	120.0	7.5	0.5
9.5	65.0	0.3	120.0	7.9	0.5
9.5	66.5	0.3	120.0	7.9	0.5
9.6	66.3	0.4	120.0	8.2	0.5

9.6	66.9	0.4	120.0	8.4	0.5
9.7	67.3	0.4	120.0	8.6	0.5
9.8	67.1	0.4	120.0	8.7	0.5
9.8	66.5	0.4	120.0	8.8	0.5
9.9	64.2	0.4	120.0	9.2	0.5
10.0	61.5	0.4	120.0	9.8	0.5
10.1	58.6	0.4	120.0	10.5	0.5
10.1	57.0	0.4	120.0	11.0	0.5
10.2	55.7	0.4	120.0	11.5	0.5
10.2	55.0	0.4	120.0	11.9	0.5
10.3	54.2	0.4	120.0	12.3	0.5
10.4	53.1	0.4	120.0	12.7	0.5
10.4	52.3	0.4	120.0	13.0	0.5
10.5	51.8	0.4	120.0	13.2	0.5
10.6	50.9	0.4	120.0	13.4	0.5
10.6	50.2	0.4	120.0	13.5	0.5
10.7	48.8	0.4	120.0	13.7	0.5
10.8	46.7	0.4	120.0	14.1	0.5
10.9	45.2	0.4	120.0	14.5	0.5
10.9	43.7	0.3	120.0	14.9	0.5
10.9	43.1	0.3	120.0	15.1	0.5
11.0	42.4	0.3	120.0	15.1	0.5
11.1	42.3	0.2	120.0	12.9	0.5
11.1	42.1	0.2	120.0	11.9	0.5
11.2	42.0	0.2	120.0	12.2	0.5
11.3	42.2	0.2	120.0	12.8	0.5
11.4	42.4	0.2	120.0	13.1	0.5
11.4	43.5	0.2	120.0	13.1	0.5
11.5	43.7	0.3	120.0	13.3	0.5
11.6	43.9	0.3	120.0	13.5	0.5
11.6	45.0	0.3	120.0	13.4	0.5
11.7	45.3	0.3	120.0	13.4	0.5
11.7	45.2	0.3	120.0	13.4	0.5
11.8	44.8	0.3	120.0	13.4	0.5
11.9	43.8	0.3	120.0	13.5	0.5
11.9	42.4	0.3	120.0	13.9	0.5
12.0	40.8	0.2	120.0	14.4	0.5
12.1	40.1	0.2	120.0	14.8	0.5
12.2	39.0	0.2	120.0	15.3	0.5
12.2	38.8	0.3	120.0	15.6	0.5
12.3	38.5	0.3	120.0	16.1	0.5
12.3	38.3	0.3	120.0	16.5	0.5
12.4	37.8	0.3	120.0	17.0	0.5
12.5	38.3	0.3	120.0	17.3	0.5
12.5	37.6	0.3	120.0	17.9	0.5
12.6	38.3	0.3	120.0	17.7	0.5
12.7	39.3	0.3	120.0	17.4	0.5
12.8	41.6	0.3	120.0	16.5	0.5
12.8	43.2	0.3	120.0	15.9	0.5
12.9	45.0	0.3	120.0	15.2	0.5

12.9	48.4	0.3	120.0	14.0	0.5
13.0	50.8	0.3	120.0	13.2	0.5
13.1	52.9	0.3	120.0	12.5	0.5
13.1	55.9	0.3	120.0	11.6	0.5
13.2	57.6	0.3	120.0	11.1	0.5
13.3	59.1	0.3	120.0	10.8	0.5
13.3	61.3	0.3	120.0	10.3	0.5
13.4	62.7	0.3	120.0	10.1	0.5
13.5	63.9	0.3	120.0	8.6	0.5
13.5	64.1	0.2	120.0	6.9	0.5
13.6	64.2	0.2	120.0	7.3	0.5
13.6	64.3	0.2	120.0	7.6	0.5
13.7	64.7	0.2	120.0	8.2	0.5
13.8	62.1	0.3	120.0	9.2	0.5
13.9	55.2	0.3	120.0	11.1	0.5
13.9	58.2	0.3	120.0	11.0	0.5
14.0	58.4	0.3	120.0	11.3	0.5
14.1	58.4	0.4	120.0	11.5	0.5
14.1	58.7	0.4	120.0	11.7	0.5
14.2	58.3	0.4	120.0	11.8	0.5
14.3	57.9	0.4	120.0	11.9	0.5
14.3	56.9	0.3	120.0	12.0	0.5
14.4	56.1	0.3	120.0	12.1	0.5
14.4	56.0	0.3	120.0	12.1	0.5
14.5	55.8	0.3	120.0	12.1	0.5
14.6	55.8	0.3	120.0	12.1	0.5
14.6	55.6	0.3	120.0	12.2	0.5
14.7	54.4	0.3	120.0	12.5	0.5
14.8	52.6	0.3	120.0	12.9	0.5
14.8	52.1	0.3	120.0	11.9	0.5
14.9	51.3	0.2	120.0	10.4	0.5
15.0	51.3	0.2	120.0	10.6	0.5
15.0	51.5	0.2	120.0	10.9	0.5
15.1	51.7	0.2	120.0	11.5	0.5
15.2	51.6	0.2	120.0	12.0	0.5
15.2	44.3	0.3	120.0	13.7	0.5
15.3	49.1	0.3	120.0	13.1	0.5
15.4	49.6	0.3	120.0	13.2	0.5
15.4	49.9	0.3	120.0	13.3	0.5
15.5	50.3	0.3	120.0	13.5	0.5
15.6	50.9	0.3	120.0	13.4	0.5
15.6	51.9	0.3	120.0	13.2	0.5
15.7	53.0	0.3	120.0	13.0	0.5
15.8	54.3	0.3	120.0	12.8	0.5
15.8	55.0	0.3	120.0	12.7	0.5
15.9	55.2	0.3	120.0	12.8	0.5
16.0	55.1	0.3	120.0	12.9	0.5
16.0	55.9	0.4	120.0	12.8	0.5
16.1	56.5	0.4	120.0	12.7	0.5
16.1	56.6	0.4	120.0	12.7	0.5

16.2	55.8	0.4	120.0	13.0	0.5
16.3	54.4	0.4	120.0	13.3	0.5
16.4	53.3	0.4	120.0	13.6	0.5
16.4	54.3	0.4	120.0	13.4	0.5
16.5	53.0	0.3	120.0	13.6	0.5
16.6	54.2	0.3	120.0	13.3	0.5
16.6	55.8	0.4	120.0	12.9	0.5
16.7	58.4	0.4	120.0	12.3	0.5
16.7	60.1	0.4	120.0	12.0	0.5
16.8	62.0	0.4	120.0	11.7	0.5
16.9	62.9	0.4	120.0	11.6	0.5
16.9	63.9	0.4	120.0	11.5	0.5
17.0	64.3	0.4	120.0	11.4	0.5
17.1	63.7	0.4	120.0	11.3	0.5
17.1	62.3	0.3	120.0	10.1	0.5
17.2	61.2	0.2	120.0	9.2	0.5
17.3	59.5	0.2	120.0	9.8	0.5
17.3	57.0	0.2	120.0	10.6	0.5
17.4	54.3	0.2	120.0	11.4	0.5
17.5	51.3	0.2	120.0	12.4	0.5
17.5	44.5	0.2	120.0	13.9	0.5
17.6	43.6	0.2	120.0	14.4	0.5
17.7	42.3	0.2	120.0	14.8	0.5
17.7	40.8	0.2	120.0	15.3	0.5
17.8	39.3	0.2	120.0	15.9	0.5
17.9	37.4	0.2	120.0	16.8	0.5
17.9	35.8	0.2	120.0	17.8	0.5
18.0	33.0	0.2	120.0	20.1	0.5
18.0	30.3	0.3	120.0	22.7	0.5
18.1	26.9	0.3	120.0	27.1	0.5
18.2	21.7	0.4	120.0	93.9	0.5
18.3	17.9	0.4	120.0	NoLiq	0.5
18.3	14.7	0.5	120.0	NoLiq	0.5
18.4	12.3	0.4	120.0	NoLiq	0.5
18.4	11.1	0.3	120.0	NoLiq	0.5
18.5	10.6	0.3	120.0	NoLiq	0.5
18.6	10.6	0.3	120.0	NoLiq	0.5
18.6	16.6	0.3	120.0	89.8	0.5
18.7	23.1	0.3	120.0	29.8	0.5
18.8	32.3	0.2	120.0	20.9	0.5
18.9	36.7	0.2	120.0	16.0	0.5
18.9	38.5	0.1	120.0	14.1	0.5
19.0	40.6	0.1	120.0	12.7	0.5
19.0	43.2	0.1	120.0	11.8	0.5
19.1	47.5	0.1	120.0	10.9	0.5
19.2	51.6	0.2	120.0	10.3	0.5
19.2	61.9	0.2	120.0	9.0	0.5
19.3	70.8	0.2	120.0	8.1	0.5
19.4	78.8	0.3	120.0	7.5	0.5
19.5	85.9	0.3	120.0	7.2	0.5

19.5	89.0	0.4	120.0	7.0	0.5
19.6	93.9	0.4	120.0	6.8	0.5
19.6	98.8	0.4	120.0	6.6	0.5
19.7	101.0	0.5	120.0	6.4	0.5
19.8	106.2	0.5	120.0	6.1	0.5
19.8	108.5	0.5	120.0	5.9	0.5
19.9	111.7	0.4	120.0	4.9	0.5
20.0	113.9	0.3	120.0	4.0	0.5
20.0	115.2	0.3	120.0	4.0	0.5
20.1	118.5	0.4	120.0	4.4	0.5
20.2	119.0	0.4	120.0	4.6	0.5
20.2	120.6	0.5	120.0	4.8	0.5
20.3	118.9	0.5	120.0	5.2	0.5
20.3	120.3	0.6	120.0	5.4	0.5
20.4	117.3	0.6	120.0	6.0	0.5
20.5	120.0	0.7	120.0	6.2	0.5
20.5	121.6	0.7	120.0	6.4	0.5
20.6	121.4	0.7	120.0	6.6	0.5
20.7	121.0	0.8	120.0	6.7	0.5
20.8	118.8	0.7	120.0	6.9	0.5
20.8	116.6	0.7	120.0	7.1	0.5
20.9	112.7	0.7	120.0	7.4	0.5
20.9	109.4	0.7	120.0	7.7	0.5
21.0	104.4	0.7	120.0	8.2	0.5
21.1	99.2	0.7	120.0	8.8	0.5
21.1	95.4	0.7	120.0	9.4	0.5
21.2	87.4	0.7	120.0	10.7	0.5
21.3	80.7	0.7	120.0	12.0	0.5
21.3	68.8	0.7	120.0	15.1	0.5
21.4	60.4	0.8	120.0	17.8	0.5
21.5	49.3	0.8	120.0	22.1	0.5
21.5	42.0	0.8	120.0	25.8	0.5
21.6	38.8	0.7	120.0	27.1	0.5
21.7	37.2	0.7	120.0	27.5	0.5
21.7	36.2	0.6	120.0	27.8	0.5
21.8	35.7	0.6	120.0	27.1	0.5
21.9	33.2	0.5	120.0	27.4	0.5
22.0	30.1	0.5	120.0	30.3	0.5
22.0	28.6	0.5	120.0	32.2	0.5
22.1	26.6	0.6	120.0	NoLiq	0.5
22.1	25.8	0.7	120.0	NoLiq	0.5
22.2	24.2	0.7	120.0	NoLiq	0.5
22.2	24.1	0.7	120.0	NoLiq	0.5
22.3	23.2	0.7	120.0	NoLiq	0.5
22.4	21.4	0.7	120.0	NoLiq	0.5
22.4	21.7	0.7	120.0	NoLiq	0.5
22.5	25.7	0.7	120.0	NoLiq	0.5
22.6	26.9	0.7	120.0	NoLiq	0.5
22.6	24.4	0.6	120.0	NoLiq	0.5
22.7	22.3	0.6	120.0	NoLiq	0.5

22.8	22.9	0.6	120.0	NoLiq	0.5
22.9	23.6	0.6	120.0	NoLiq	0.5
22.9	25.2	0.6	120.0	NoLiq	0.5
23.0	26.0	0.7	120.0	NoLiq	0.5
23.0	25.2	0.6	120.0	NoLiq	0.5
23.1	22.8	0.6	120.0	NoLiq	0.5
23.2	20.7	0.6	120.0	NoLiq	0.5
23.2	19.4	0.6	120.0	NoLiq	0.5
23.3	18.5	0.6	120.0	NoLiq	0.5
23.4	18.9	0.6	120.0	NoLiq	0.5
23.4	19.7	0.5	120.0	NoLiq	0.5
23.5	21.5	0.5	120.0	NoLiq	0.5
23.6	38.1	0.5	120.0	23.6	0.5
23.6	55.3	0.5	120.0	16.3	0.5
23.7	71.7	0.3	120.0	9.8	0.5
23.8	79.7	0.3	120.0	8.4	0.5
23.8	87.5	0.4	120.0	7.7	0.5
23.9	92.1	0.4	120.0	7.5	0.5
24.0	94.9	0.5	120.0	8.0	0.5
24.0	89.4	0.5	120.0	8.5	0.5
24.1	103.4	0.6	120.0	7.7	0.5
24.2	118.6	0.7	120.0	6.8	0.5
24.2	126.7	0.7	120.0	6.4	0.5
24.3	133.0	0.8	120.0	6.3	0.5
24.4	138.1	0.9	120.0	6.2	0.5
24.4	142.8	0.9	120.0	6.1	0.5
24.5	146.6	1.0	120.0	6.1	0.5
24.5	148.3	1.0	120.0	6.0	0.5
24.6	150.1	1.0	120.0	5.9	0.5
24.7	151.6	1.0	120.0	5.8	0.5
24.8	152.9	1.0	120.0	5.6	0.5
24.8	154.5	1.0	120.0	5.5	0.5
24.9	157.7	1.0	120.0	5.3	0.5
24.9	161.8	1.0	120.0	5.1	0.5
25.0	165.7	1.0	120.0	4.9	0.5
25.1	167.5	1.0	120.0	4.9	0.5
25.1	168.7	1.0	120.0	5.0	0.5
25.2	169.4	1.1	120.0	5.0	0.5
25.3	169.7	1.1	120.0	5.1	0.5
25.3	169.9	1.1	120.0	5.2	0.5
25.4	170.3	1.1	120.0	5.2	0.5
25.5	172.2	1.1	120.0	5.1	0.5
25.5	173.9	1.1	120.0	4.9	0.5
25.6	175.1	1.1	120.0	4.8	0.5
25.6	175.6	1.1	120.0	4.8	0.5
25.7	175.4	1.1	120.0	4.8	0.5
25.8	175.2	1.1	120.0	4.9	0.5
25.9	175.3	1.1	120.0	4.9	0.5
25.9	177.8	1.2	120.0	5.0	0.5
26.0	180.2	1.2	120.0	5.0	0.5

26.1	182.5	1.2	120.0	5.0	0.5
26.1	183.6	1.3	120.0	5.0	0.5
26.2	184.7	1.3	120.0	4.9	0.5
26.3	184.5	1.2	120.0	4.9	0.5
26.3	183.6	1.2	120.0	4.8	0.5
26.4	182.9	1.1	120.0	4.6	0.5
26.5	183.3	1.0	120.0	4.3	0.5
26.5	183.2	1.1	120.0	4.3	0.5
26.6	182.7	1.1	120.0	4.5	0.5
26.6	182.6	1.1	120.0	4.6	0.5
26.7	182.2	1.2	120.0	4.9	0.5
26.8	166.1	1.2	120.0	5.5	0.5
26.8	167.1	1.1	120.0	5.7	0.5
26.9	164.9	1.1	120.0	5.7	0.5
27.0	167.1	1.1	120.0	5.6	0.5
27.0	163.5	1.1	120.0	5.5	0.5
27.1	167.1	1.1	120.0	5.2	0.5
27.2	167.9	1.0	120.0	5.0	0.5
27.2	168.9	1.0	120.0	4.9	0.5
27.3	166.5	1.0	120.0	4.9	0.5
27.4	164.8	0.9	120.0	4.9	0.5
27.4	162.7	0.9	120.0	4.9	0.5
27.5	160.8	0.9	120.0	4.9	0.5
27.6	158.8	0.9	120.0	4.9	0.5
27.6	154.8	0.8	120.0	4.9	0.5
27.7	152.7	0.8	120.0	4.9	0.5
27.8	149.6	0.7	120.0	4.9	0.5
27.8	144.3	0.7	120.0	5.1	0.5
27.9	138.3	0.7	120.0	5.3	0.5
28.0	130.7	0.6	120.0	5.6	0.5
28.0	124.2	0.6	120.0	6.0	0.5
28.1	115.1	0.6	120.0	6.6	0.5
28.2	105.9	0.6	120.0	7.5	0.5
28.2	97.6	0.5	120.0	8.3	0.5
28.3	87.9	0.5	120.0	9.1	0.5
28.4	76.9	0.4	120.0	10.5	0.5
28.4	65.2	0.4	120.0	12.5	0.5
28.5	50.5	0.3	120.0	16.0	0.5
28.5	40.1	0.3	120.0	19.4	0.5
28.6	36.8	0.3	120.0	20.9	0.5
28.7	29.8	0.2	120.0	23.1	0.5
28.8	24.9	0.2	120.0	25.6	0.5
28.8	22.2	0.2	120.0	28.3	0.5
28.9	17.9	0.2	120.0	NoLiq	0.5
28.9	16.0	0.2	120.0	NoLiq	0.5
29.0	13.3	0.2	120.0	NoLiq	0.5
29.1	10.5	0.2	120.0	NoLiq	0.5
29.1	9.2	0.2	120.0	NoLiq	0.5
29.2	7.5	0.2	120.0	NoLiq	0.5
29.3	6.6	0.2	120.0	NoLiq	0.5

29.3	5.7	0.2	120.0	NoLiq	0.5
29.4	5.4	0.2	120.0	NoLiq	0.5
29.5	5.4	0.1	120.0	NoLiq	0.5
29.5	5.4	0.1	120.0	NoLiq	0.5
29.6	5.4	0.1	120.0	NoLiq	0.5
29.7	5.7	0.1	120.0	NoLiq	0.5
29.7	5.9	0.1	120.0	NoLiq	0.5
29.8	5.9	0.1	120.0	NoLiq	0.5
29.9	6.1	0.2	120.0	NoLiq	0.5
29.9	6.6	0.2	120.0	NoLiq	0.5
30.0	7.9	0.2	120.0	NoLiq	0.5
30.0	10.1	0.2	120.0	NoLiq	0.5
30.1	16.4	0.2	120.0	NoLiq	0.5
30.2	23.7	0.2	120.0	47.2	0.5
30.3	37.4	0.3	120.0	21.9	0.5
30.3	45.1	0.4	120.0	19.0	0.5
30.4	50.6	0.4	120.0	17.4	0.5
30.5	53.8	0.4	120.0	16.9	0.5
30.5	55.3	0.5	120.0	16.4	0.5
30.6	55.1	0.3	120.0	14.9	0.5
30.7	54.3	0.3	120.0	15.2	0.5
30.7	53.8	0.4	120.0	15.8	0.5
30.8	52.9	0.4	120.0	16.3	0.5
30.9	52.2	0.4	120.0	17.2	0.5
30.9	46.7	0.4	120.0	18.3	0.5
31.0	48.4	0.4	120.0	18.5	0.5
31.0	50.4	0.4	120.0	17.7	0.5
31.1	54.4	0.4	120.0	16.2	0.5
31.2	62.4	0.4	120.0	14.1	0.5
31.3	70.8	0.5	120.0	12.5	0.5
31.3	82.8	0.5	120.0	10.6	0.5
31.4	96.3	0.5	120.0	9.0	0.5
31.4	107.6	0.6	120.0	7.9	0.5
31.5	115.7	0.6	120.0	7.3	0.5
31.6	122.0	0.7	120.0	7.0	0.5
31.6	126.1	0.7	120.0	6.8	0.5
31.7	133.8	0.7	120.0	6.3	0.5
31.8	142.1	0.7	120.0	5.7	0.5
31.8	147.2	0.7	120.0	5.3	0.5
31.9	151.5	0.7	120.0	4.9	0.5
32.0	154.8	0.7	120.0	4.7	0.5
32.0	157.5	0.7	120.0	4.6	0.5
32.1	159.0	0.7	120.0	4.5	0.5
32.2	161.2	0.7	120.0	4.5	0.5
32.2	162.7	0.8	120.0	4.4	0.5
32.3	164.7	0.7	120.0	3.8	0.5
32.4	166.5	0.4	120.0	2.6	0.5
32.4	168.0	0.4	120.0	2.4	0.5
32.5	168.1	0.5	120.0	2.5	0.5
32.6	169.1	0.5	120.0	2.8	0.5

32.6	157.5	0.5	120.0	3.2	0.5
32.7	168.5	0.6	120.0	3.1	0.5
32.8	165.3	0.6	120.0	3.4	0.5
32.8	167.9	0.6	120.0	3.5	0.5
32.9	167.3	0.7	120.0	3.7	0.5
33.0	167.2	0.7	120.0	3.7	0.5
33.0	166.2	0.7	120.0	3.7	0.5
33.1	164.4	0.6	120.0	3.7	0.5
33.1	163.6	0.6	120.0	3.7	0.5
33.2	164.1	0.6	120.0	3.6	0.5
33.3	165.4	0.6	120.0	3.5	0.5
33.3	164.7	0.6	120.0	3.4	0.5
33.4	160.9	0.5	120.0	3.3	0.5
33.5	158.6	0.5	120.0	3.2	0.5
33.5	155.6	0.5	120.0	3.2	0.5
33.6	150.2	0.4	120.0	3.3	0.5
33.7	146.3	0.4	120.0	3.3	0.5
33.7	142.8	0.4	120.0	3.3	0.5
33.8	140.2	0.4	120.0	3.4	0.5
33.9	135.0	0.3	120.0	3.6	0.5
33.9	128.8	0.3	120.0	4.0	0.5
34.0	121.9	0.4	120.0	4.8	0.5
34.0	114.3	0.4	120.0	6.0	0.5
34.1	102.8	0.6	120.0	8.6	0.5
34.2	90.8	0.7	120.0	11.3	0.5
34.3	76.2	0.8	120.0	15.9	0.5
34.3	64.9	1.0	120.0	19.6	0.5
34.4	47.8	0.8	120.0	24.7	0.5
34.5	42.9	0.6	120.0	25.7	0.5
34.5	43.3	0.6	120.0	25.5	0.5
34.6	43.3	0.6	120.0	25.7	0.5
34.7	43.7	0.7	120.0	25.5	0.5
34.7	48.3	0.7	120.0	23.6	0.5
34.8	63.1	0.7	120.0	18.3	0.5
34.8	69.4	0.7	120.0	16.5	0.5
34.9	79.7	0.8	120.0	14.3	0.5
35.0	91.1	0.9	120.0	12.9	0.5
35.0	97.0	0.9	120.0	12.3	0.5
35.1	106.6	1.0	120.0	11.4	0.5
35.2	118.2	1.1	120.0	10.4	0.5
35.2	125.4	1.1	120.0	9.9	0.5
35.3	134.0	1.2	120.0	9.4	0.5
35.4	139.1	1.3	120.0	9.1	0.5
35.4	144.4	1.3	120.0	8.9	0.5
35.5	151.7	1.4	120.0	8.6	0.5
35.6	155.7	1.5	120.0	8.5	0.5
35.6	159.3	1.6	120.0	8.6	0.5
35.7	162.6	1.7	120.0	8.8	0.5
35.8	163.2	1.7	120.0	8.7	0.5
35.8	162.4	1.5	120.0	8.0	0.5

35.9	159.4	1.0	120.0	6.6	0.5
36.0	157.1	1.1	120.0	6.6	0.5
36.0	155.4	1.1	120.0	6.8	0.5
36.1	154.7	1.1	120.0	6.9	0.5
36.2	155.1	1.1	120.0	6.9	0.5
36.2	155.4	1.1	120.0	6.9	0.5
36.3	155.4	1.1	120.0	6.9	0.5
36.4	155.7	1.1	120.0	7.0	0.5
36.4	161.4	1.2	120.0	6.9	0.5
36.5	165.5	1.2	120.0	6.8	0.5
36.5	170.7	1.3	120.0	6.6	0.5
36.6	172.6	1.3	120.0	6.6	0.5
36.7	173.5	1.3	120.0	6.7	0.5
36.7	173.0	1.4	120.0	6.8	0.5
36.8	170.8	1.4	120.0	7.0	0.5
36.9	170.7	1.4	120.0	7.1	0.5
37.0	170.1	1.4	120.0	7.2	0.5
37.0	169.4	1.4	120.0	7.3	0.5
37.1	168.6	1.5	120.0	7.5	0.5
37.2	166.5	1.4	120.0	7.6	0.5
37.2	164.7	1.4	120.0	7.8	0.5
37.3	161.8	1.4	120.0	8.0	0.5
37.3	158.3	1.4	120.0	8.2	0.5
37.4	155.4	1.4	120.0	8.2	0.5
37.5	154.4	1.3	120.0	8.2	0.5
37.5	154.0	1.3	120.0	8.1	0.5
37.6	153.8	1.3	120.0	8.1	0.5
37.7	151.6	1.3	120.0	8.3	0.5
37.7	154.7	1.3	120.0	8.1	0.5
37.8	156.6	1.3	120.0	8.0	0.5
37.9	157.1	1.3	120.0	8.0	0.5
37.9	156.6	1.3	120.0	8.0	0.5
38.0	155.1	1.3	120.0	8.2	0.5
38.1	151.2	1.3	120.0	8.4	0.5
38.1	149.8	1.3	120.0	8.5	0.5
38.2	149.1	1.3	120.0	8.6	0.5
38.3	148.6	1.3	120.0	8.4	0.5
38.3	147.2	1.0	120.0	7.3	0.5
38.4	146.2	0.8	120.0	6.4	0.5
38.5	145.4	0.8	120.0	6.3	0.5
38.5	144.8	0.8	120.0	6.5	0.5
38.6	144.3	0.9	120.0	6.7	0.5
38.7	143.5	0.9	120.0	7.3	0.5
38.7	131.3	0.9	120.0	7.8	0.5
38.8	135.5	1.0	120.0	8.1	0.5
38.9	134.7	1.0	120.0	8.5	0.5
38.9	133.4	1.1	120.0	8.9	0.5
39.0	132.5	1.1	120.0	9.2	0.5
39.1	131.2	1.1	120.0	9.5	0.5
39.1	129.4	1.1	120.0	9.7	0.5

39.2	125.9	1.1	120.0	10.0	0.5
39.3	119.4	1.1	120.0	10.6	0.5
39.3	114.9	1.0	120.0	10.9	0.5
39.4	110.2	1.0	120.0	11.3	0.5
39.4	103.2	0.9	120.0	11.9	0.5
39.5	96.8	0.9	120.0	12.8	0.5
39.6	87.2	0.9	120.0	14.8	0.5
39.6	79.5	1.0	120.0	16.7	0.5
39.7	72.9	1.0	120.0	18.6	0.5
39.8	66.7	1.0	120.0	20.6	0.5
39.8	63.5	1.0	120.0	22.1	0.5
39.9	61.2	1.1	120.0	23.4	0.5
40.0	58.5	1.1	120.0	24.7	0.5
40.0	56.7	1.1	120.0	25.7	0.5
40.1	55.1	1.2	120.0	26.8	0.5
40.2	52.9	1.2	120.0	28.6	0.5
40.2	50.8	1.2	120.0	29.5	0.5
40.3	51.0	1.2	120.0	29.8	0.5
40.4	49.3	1.2	120.0	30.4	0.5
40.4	51.2	1.2	120.0	28.8	0.5
40.5	56.3	1.0	120.0	24.5	0.5
40.6	63.7	0.4	120.0	15.9	0.5
40.6	71.1	0.4	120.0	12.9	0.5
40.7	77.1	0.4	120.0	12.0	0.5
40.8	82.0	0.5	120.0	11.6	0.5
40.8	85.4	0.6	120.0	11.7	0.5
40.9	92.4	0.7	120.0	11.5	0.5
41.0	96.5	0.8	120.0	11.8	0.5
41.0	97.2	0.9	120.0	12.4	0.5
41.1	95.6	0.9	120.0	13.4	0.5
41.1	92.3	1.0	120.0	14.8	0.5
41.2	83.9	1.2	120.0	17.9	0.5
41.3	74.7	1.3	120.0	21.1	0.5
41.3	69.3	1.4	120.0	23.3	0.5
41.4	58.2	1.5	120.0	41.3	0.5
41.5	50.7	1.5	120.0	NoLiq	0.5
41.5	46.5	1.4	120.0	NoLiq	0.5
41.6	44.5	1.3	120.0	NoLiq	0.5
41.7	42.6	1.3	120.0	NoLiq	0.5
41.8	40.2	1.2	120.0	NoLiq	0.5
41.8	38.0	1.1	120.0	NoLiq	0.5
41.9	37.1	1.1	120.0	NoLiq	0.5
41.9	44.3	1.0	120.0	42.0	0.5
42.0	68.7	1.0	120.0	20.7	0.5
42.1	84.9	1.0	120.0	16.8	0.5
42.1	81.9	1.0	120.0	16.6	0.5
42.2	76.7	1.0	120.0	17.8	0.5
42.3	67.9	1.0	120.0	19.9	0.5
42.3	59.7	0.8	120.0	21.3	0.5
42.4	55.3	0.7	120.0	21.4	0.5

42.5	49.0	0.8	120.0	25.4	0.5
42.5	43.1	0.8	120.0	39.8	0.5
42.6	40.9	0.8	120.0	97.2	0.5
42.7	36.9	0.8	120.0	NoLiq	0.5
42.7	37.1	0.8	120.0	NoLiq	0.5
42.8	38.0	0.9	120.0	NoLiq	0.5
42.8	35.4	0.9	120.0	NoLiq	0.5
42.9	29.4	0.9	120.0	NoLiq	0.5
43.0	23.6	0.9	120.0	NoLiq	0.5
43.1	19.9	0.8	120.0	NoLiq	0.5
43.1	18.3	0.7	120.0	NoLiq	0.5
43.2	15.6	0.6	120.0	NoLiq	0.5
43.3	14.2	0.5	120.0	NoLiq	0.5
43.3	13.9	0.4	120.0	NoLiq	0.5
43.4	13.1	0.4	120.0	NoLiq	0.5
43.5	12.8	0.4	120.0	NoLiq	0.5
43.5	12.6	0.4	120.0	NoLiq	0.5
43.6	13.4	0.5	120.0	NoLiq	0.5
43.7	14.9	0.5	120.0	NoLiq	0.5
43.7	16.2	0.5	120.0	NoLiq	0.5
43.8	19.8	0.6	120.0	NoLiq	0.5
43.8	24.8	0.6	120.0	NoLiq	0.5
43.9	33.0	0.7	120.0	NoLiq	0.5
44.0	38.0	0.8	120.0	NoLiq	0.5
44.0	39.7	0.8	120.0	NoLiq	0.5
44.1	40.5	0.7	120.0	NoLiq	0.5
44.2	40.3	0.7	120.0	NoLiq	0.5
44.2	39.4	0.7	120.0	NoLiq	0.5
44.3	37.5	0.7	120.0	NoLiq	0.5
44.4	33.7	0.8	120.0	NoLiq	0.5
44.4	29.4	0.8	120.0	NoLiq	0.5
44.5	26.2	0.7	120.0	NoLiq	0.5
44.6	24.4	0.6	120.0	NoLiq	0.5
44.6	25.9	0.5	120.0	NoLiq	0.5
44.7	33.6	0.5	120.0	85.8	0.5
44.8	39.2	0.4	120.0	27.4	0.5
44.8	37.7	0.6	120.0	94.2	0.5
44.9	32.9	0.7	120.0	NoLiq	0.5
44.9	30.1	0.8	120.0	NoLiq	0.5
45.0	25.1	0.9	120.0	NoLiq	0.5
45.1	21.9	0.9	120.0	NoLiq	0.5
45.2	19.2	0.8	120.0	NoLiq	0.5
45.2	18.5	0.7	120.0	NoLiq	0.5
45.3	16.7	0.7	120.0	NoLiq	0.5
45.4	15.3	0.5	120.0	NoLiq	0.5
45.4	14.8	0.5	120.0	NoLiq	0.5
45.5	14.2	0.4	120.0	NoLiq	0.5
45.5	14.1	0.3	120.0	NoLiq	0.5
45.6	13.5	0.3	120.0	NoLiq	0.5
45.7	13.9	0.4	120.0	NoLiq	0.5

45.7	13.1	0.5	120.0	NoLiq	0.5
45.8	13.9	0.5	120.0	NoLiq	0.5
45.9	18.3	0.6	120.0	NoLiq	0.5
45.9	26.1	0.6	120.0	NoLiq	0.5
46.0	46.3	0.7	120.0	25.8	0.5
46.1	72.2	0.8	120.0	17.8	0.5
46.2	91.0	0.9	120.0	14.1	0.5
46.2	99.9	0.9	120.0	13.0	0.5
46.3	112.0	1.0	120.0	11.6	0.5
46.3	122.1	1.0	120.0	10.6	0.5
46.4	127.7	1.1	120.0	10.1	0.5
46.5	131.4	1.1	120.0	10.0	0.5
46.5	129.2	1.2	120.0	10.4	0.5
46.6	123.7	1.2	120.0	11.1	0.5
46.7	117.5	1.1	120.0	11.8	0.5
46.7	108.1	1.1	120.0	13.2	0.5
46.8	97.1	1.1	120.0	15.1	0.5
46.9	85.7	1.2	120.0	17.7	0.5
46.9	74.6	1.3	120.0	21.0	0.5
47.0	63.9	1.2	120.0	24.1	0.5
47.1	52.9	0.9	120.0	26.9	0.5
47.2	44.5	1.0	120.0	NoLiq	0.5
47.2	41.2	1.0	120.0	NoLiq	0.5
47.3	36.0	1.0	120.0	NoLiq	0.5
47.3	36.2	1.0	120.0	NoLiq	0.5
47.4	36.2	1.0	120.0	NoLiq	0.5
47.5	36.3	1.0	120.0	NoLiq	0.5
47.5	39.7	1.0	120.0	NoLiq	0.5
47.6	43.5	1.0	120.0	NoLiq	0.5
47.6	45.7	1.1	120.0	NoLiq	0.5
47.7	48.5	1.1	120.0	83.2	0.5
47.8	52.2	1.1	120.0	28.4	0.5
47.8	54.7	1.1	120.0	27.0	0.5
47.9	57.9	1.0	120.0	25.4	0.5
48.0	60.6	1.0	120.0	24.0	0.5
48.0	61.9	1.0	120.0	23.4	0.5
48.1	63.3	1.0	120.0	23.0	0.5
48.2	63.5	1.0	120.0	23.1	0.5
48.2	63.1	1.1	120.0	23.4	0.5
48.3	62.3	1.1	120.0	24.1	0.5
48.4	61.0	1.1	120.0	24.9	0.5
48.4	60.2	1.1	120.0	25.4	0.5
48.5	59.4	1.2	120.0	25.9	0.5
48.6	58.6	1.1	120.0	26.0	0.5
48.6	58.1	1.1	120.0	26.1	0.5
48.7	57.3	1.1	120.0	26.0	0.5
48.8	55.5	1.0	120.0	26.3	0.5
48.8	53.2	1.0	120.0	27.5	0.5
48.9	49.3	1.1	120.0	NoLiq	0.5
49.0	41.3	1.2	120.0	NoLiq	0.5

49.0	37.6	1.1	120.0	NoLiq	0.5
49.1	31.5	1.0	120.0	NoLiq	0.5
49.2	29.0	0.9	120.0	NoLiq	0.5
49.2	25.5	0.8	120.0	NoLiq	0.5
49.3	27.9	0.4	120.0	NoLiq	0.5
49.4	30.3	0.4	120.0	NoLiq	0.5
49.4	31.4	0.5	120.0	NoLiq	0.5
49.5	32.4	0.5	120.0	NoLiq	0.5
49.5	32.8	0.6	120.0	NoLiq	0.5
49.6	32.9	0.8	120.0	NoLiq	0.5
49.7	32.8	0.9	120.0	NoLiq	0.5
49.7	32.8	1.1	120.0	NoLiq	0.5
49.8	29.5	1.1	120.0	NoLiq	0.5
49.9	27.7	1.2	120.0	NoLiq	0.5
49.9	27.7	1.2	120.0	NoLiq	0.5
50.0	27.6	1.3	120.0	NoLiq	0.5
50.1	35.3	1.4	120.0	NoLiq	0.5
50.1	48.2	1.5	120.0	NoLiq	0.5
50.2	59.6	1.5	120.0	29.2	0.5
50.3	64.3	1.3	120.0	25.5	0.5
50.3	63.0	0.9	120.0	22.8	0.5
50.4	57.6	0.8	120.0	22.6	0.5
50.5	49.6	0.7	120.0	26.1	0.5
50.5	41.8	0.8	120.0	79.8	0.5
50.6	35.0	0.7	120.0	NoLiq	0.5
50.7	29.3	0.8	120.0	NoLiq	0.5
50.7	24.8	0.8	120.0	NoLiq	0.5
50.8	22.1	1.0	120.0	NoLiq	0.5
50.9	21.7	1.1	120.0	NoLiq	0.5
50.9	23.4	1.2	120.0	NoLiq	0.5
51.0	28.3	1.3	120.0	NoLiq	0.5
51.1	37.6	1.2	120.0	NoLiq	0.5
51.1	47.2	1.0	120.0	NoLiq	0.5
51.2	48.3	1.2	120.0	NoLiq	0.5
51.2	45.4	1.1	120.0	NoLiq	0.5
51.3	39.5	1.0	120.0	NoLiq	0.5
51.4	39.0	0.7	120.0	NoLiq	0.5
51.5	39.0	0.9	120.0	NoLiq	0.5
51.5	38.6	1.0	120.0	NoLiq	0.5
51.6	51.0	1.0	120.0	40.6	0.5
51.7	59.3	0.9	120.0	23.8	0.5
51.7	69.3	0.8	120.0	19.5	0.5
51.8	64.5	0.6	120.0	18.1	0.5
51.8	60.9	0.5	120.0	18.6	0.5
51.9	52.8	0.6	120.0	22.2	0.5
52.0	49.0	0.6	120.0	24.7	0.5
52.0	40.9	0.8	120.0	NoLiq	0.5
52.1	34.5	0.9	120.0	NoLiq	0.5
52.2	34.5	1.0	120.0	NoLiq	0.5
52.2	34.5	1.1	120.0	NoLiq	0.5

52.3	34.5	1.1	120.0	NoLiq	0.5
52.4	44.4	1.2	120.0	NoLiq	0.5
52.4	57.7	1.2	120.0	53.5	0.5
52.5	69.2	1.1	120.0	22.1	0.5
52.6	81.9	0.9	120.0	17.1	0.5
52.6	87.3	0.8	120.0	14.9	0.5
52.7	90.3	0.8	120.0	13.8	0.5
52.8	91.1	0.7	120.0	13.3	0.5
52.8	90.6	0.7	120.0	13.1	0.5
52.9	88.2	0.7	120.0	13.3	0.5
53.0	84.9	0.6	120.0	13.7	0.5
53.0	81.4	0.6	120.0	14.4	0.5
53.1	78.1	0.7	120.0	15.3	0.5
53.2	74.8	0.7	120.0	16.7	0.5
53.2	70.6	0.8	120.0	18.9	0.5
53.3	64.8	0.9	120.0	21.9	0.5
53.3	57.0	1.0	120.0	26.3	0.5
53.4	47.7	1.2	120.0	NoLiq	0.5
53.5	35.2	1.3	120.0	NoLiq	0.5
53.6	29.7	1.2	120.0	NoLiq	0.5
53.6	25.7	1.0	120.0	NoLiq	0.5
53.7	20.0	0.9	120.0	NoLiq	0.5
53.8	17.0	0.8	120.0	NoLiq	0.5
53.8	16.8	0.7	120.0	NoLiq	0.5
53.9	16.8	0.8	120.0	NoLiq	0.5
54.0	16.5	0.5	120.0	NoLiq	0.5
54.0	17.9	0.5	120.0	NoLiq	0.5
54.1	20.0	0.7	120.0	NoLiq	0.5
54.1	17.0	0.8	120.0	NoLiq	0.5
54.2	27.4	0.9	120.0	NoLiq	0.5
54.3	36.2	1.0	120.0	NoLiq	0.5
54.3	51.8	1.1	120.0	NoLiq	0.5
54.4	71.3	1.2	120.0	22.5	0.5
54.5	91.4	1.2	120.0	17.4	0.5
54.5	100.0	1.2	120.0	15.6	0.5
54.6	113.4	1.2	120.0	13.2	0.5
54.7	122.5	1.2	120.0	11.9	0.5
54.8	129.4	1.2	120.0	11.1	0.5
54.8	131.4	1.2	120.0	10.9	0.5
54.9	133.9	1.3	120.0	11.0	0.5
54.9	133.9	1.3	120.0	11.2	0.5
55.0	134.0	1.4	120.0	11.4	0.5
55.1	132.2	1.4	120.0	11.8	0.5
55.1	130.6	1.4	120.0	12.0	0.5
55.2	128.2	1.4	120.0	12.3	0.5
55.3	126.9	1.4	120.0	12.5	0.5
55.3	126.3	1.4	120.0	12.4	0.5
55.4	125.4	1.3	120.0	12.1	0.5
55.5	126.3	1.3	120.0	12.0	0.5
55.5	126.1	1.3	120.0	12.1	0.5

55.6	126.3	1.3	120.0	12.3	0.5
55.7	120.6	1.3	120.0	12.8	0.5
55.7	126.0	1.3	120.0	12.5	0.5
55.8	123.6	1.3	120.0	12.5	0.5
55.8	125.8	1.3	120.0	12.4	0.5
55.9	125.8	1.3	120.0	12.4	0.5
56.0	123.4	1.3	120.0	12.7	0.5
56.0	120.8	1.4	120.0	13.3	0.5
56.1	114.3	1.4	120.0	14.7	0.5
56.2	101.8	1.5	120.0	17.2	0.5
56.2	90.5	1.5	120.0	19.9	0.5
56.3	72.0	1.5	120.0	25.0	0.5
56.4	56.3	1.5	120.0	69.9	0.5
56.5	48.4	1.4	120.0	NoLiq	0.5
56.5	48.5	1.3	120.0	NoLiq	0.5
56.6	48.6	1.4	120.0	NoLiq	0.5
56.6	53.7	1.4	120.0	NoLiq	0.5
56.7	58.4	1.4	120.0	NoLiq	0.5
56.8	65.0	1.4	120.0	26.5	0.5
56.8	68.1	1.2	120.0	23.9	0.5
56.9	69.5	1.1	120.0	22.4	0.5
57.0	72.1	0.9	120.0	20.3	0.5
57.0	73.0	0.9	120.0	19.2	0.5
57.1	73.3	0.8	120.0	18.4	0.5
57.2	73.0	0.8	120.0	18.4	0.5
57.2	72.0	0.8	120.0	19.0	0.5
57.3	68.3	0.9	120.0	21.5	0.5
57.4	63.4	1.1	120.0	24.4	0.5
57.4	56.8	1.2	120.0	58.7	0.5
57.5	43.3	1.3	120.0	NoLiq	0.5
57.6	35.4	1.0	120.0	NoLiq	0.5
57.6	30.7	0.8	120.0	NoLiq	0.5
57.7	27.6	0.8	120.0	NoLiq	0.5
57.8	23.3	0.7	120.0	NoLiq	0.5
57.8	20.6	0.7	120.0	NoLiq	0.5
57.9	18.2	0.6	120.0	NoLiq	0.5
57.9	17.7	0.5	120.0	NoLiq	0.5
58.0	16.0	0.5	120.0	NoLiq	0.5
58.1	15.2	0.4	120.0	NoLiq	0.5
58.1	15.2	0.3	120.0	NoLiq	0.5
58.2	15.2	0.3	120.0	NoLiq	0.5
58.3	15.6	0.3	120.0	NoLiq	0.5
58.3	16.2	0.2	120.0	NoLiq	0.5
58.4	16.5	0.2	120.0	NoLiq	0.5
58.5	16.5	0.2	120.0	NoLiq	0.5
58.5	16.4	0.2	120.0	NoLiq	0.5
58.6	16.1	0.2	120.0	NoLiq	0.5
58.7	15.7	0.2	120.0	NoLiq	0.5
58.7	15.4	0.2	120.0	NoLiq	0.5
58.8	15.0	0.2	120.0	NoLiq	0.5

58.9	14.8	0.3	120.0	NoLiq	0.5
58.9	14.7	0.4	120.0	NoLiq	0.5
59.0	15.5	0.5	120.0	NoLiq	0.5
59.1	19.1	0.5	120.0	NoLiq	0.5
59.1	26.0	0.5	120.0	NoLiq	0.5
59.2	42.8	0.5	120.0	27.0	0.5
59.3	56.6	0.6	120.0	21.3	0.5
59.3	71.8	0.6	120.0	17.0	0.5
59.4	79.4	0.6	120.0	15.1	0.5
59.5	86.7	0.6	120.0	13.6	0.5
59.5	91.1	0.6	120.0	13.0	0.5
59.6	96.7	0.7	120.0	12.6	0.5
59.7	101.8	0.8	120.0	12.4	0.5
59.7	104.2	0.8	120.0	12.4	0.5
59.8	107.4	0.9	120.0	12.5	0.5
59.8	109.4	1.0	120.0	12.6	0.5
59.9	111.2	1.0	120.0	12.6	0.5
60.0	112.0	1.0	120.0	12.6	0.5

Output Results:

Settlement of Saturated Sands=4.92 in.
Settlement of Unsaturated Sands=0.21 in.
Total Settlement of Saturated and Unsaturated Sands=5.13 in.
Differential Settlement=2.566 to 3.387 in.

Depth ft	CRRm	CSRsf	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	2.00	0.32	5.00	4.92	0.21	5.13
0.05	2.00	0.32	5.00	4.92	0.21	5.13
0.10	0.92	0.32	5.00	4.92	0.21	5.13
0.15	1.71	0.32	5.00	4.92	0.21	5.13
0.20	2.48	0.32	5.00	4.92	0.21	5.13
0.25	2.48	0.32	5.00	4.92	0.21	5.13
0.30	2.48	0.32	5.00	4.92	0.21	5.13
0.35	2.48	0.32	5.00	4.92	0.21	5.13
0.40	2.48	0.32	5.00	4.92	0.21	5.13
0.45	2.48	0.32	5.00	4.92	0.21	5.13
0.50	2.48	0.32	5.00	4.92	0.21	5.13
0.55	2.48	0.32	5.00	4.92	0.21	5.13
0.60	2.48	0.32	5.00	4.92	0.21	5.13
0.65	2.48	0.32	5.00	4.92	0.21	5.13
0.70	2.48	0.32	5.00	4.92	0.21	5.13
0.75	2.48	0.32	5.00	4.92	0.21	5.13
0.80	2.35	0.32	5.00	4.92	0.21	5.13
0.85	1.96	0.32	5.00	4.92	0.21	5.13
0.90	1.60	0.32	5.00	4.92	0.21	5.13
0.95	1.35	0.32	5.00	4.92	0.21	5.13
1.00	1.22	0.32	5.00	4.92	0.21	5.13

1.05	1.08	0.32	5.00	4.92	0.21	5.13
1.10	1.03	0.32	5.00	4.92	0.21	5.13
1.15	1.10	0.32	5.00	4.92	0.21	5.13
1.20	1.33	0.32	5.00	4.92	0.21	5.13
1.25	1.35	0.32	5.00	4.92	0.21	5.13
1.30	1.52	0.32	5.00	4.92	0.21	5.13
1.35	1.72	0.32	5.00	4.92	0.21	5.13
1.40	1.93	0.32	5.00	4.92	0.21	5.13
1.45	2.02	0.32	5.00	4.92	0.21	5.13
1.50	2.23	0.32	5.00	4.92	0.21	5.13
1.55	2.48	0.32	5.00	4.92	0.21	5.13
1.60	2.48	0.32	5.00	4.92	0.21	5.13
1.65	2.48	0.32	5.00	4.92	0.21	5.13
1.70	2.48	0.32	5.00	4.92	0.21	5.13
1.75	2.48	0.32	5.00	4.92	0.21	5.13
1.80	2.48	0.32	5.00	4.92	0.21	5.13
1.85	2.48	0.32	5.00	4.92	0.21	5.13
1.90	2.46	0.32	5.00	4.92	0.21	5.13
1.95	2.35	0.32	5.00	4.92	0.21	5.13
2.00	2.22	0.32	5.00	4.92	0.21	5.13
2.05	2.01	0.32	5.00	4.92	0.21	5.13
2.10	1.53	0.32	5.00	4.92	0.21	5.13
2.15	1.40	0.32	5.00	4.92	0.21	5.13
2.20	1.37	0.32	5.00	4.92	0.21	5.13
2.25	1.27	0.32	5.00	4.92	0.21	5.13
2.30	1.06	0.32	5.00	4.92	0.21	5.13
2.35	0.87	0.32	5.00	4.92	0.21	5.13
2.40	0.73	0.32	5.00	4.92	0.21	5.13
2.45	0.67	0.32	5.00	4.92	0.21	5.13
2.50	0.68	0.32	5.00	4.92	0.21	5.13
2.55	0.61	0.32	5.00	4.92	0.21	5.13
2.60	0.50	0.32	5.00	4.92	0.21	5.13
2.65	0.45	0.32	5.00	4.92	0.21	5.13
2.70	0.44	0.32	5.00	4.92	0.21	5.13
2.75	0.42	0.32	5.00	4.92	0.21	5.13
2.80	0.42	0.32	5.00	4.92	0.21	5.13
2.85	0.42	0.32	5.00	4.92	0.21	5.13
2.90	0.37	0.32	5.00	4.92	0.21	5.13
2.95	0.35	0.32	5.00	4.92	0.20	5.13
3.00	0.32	0.32	5.00	4.92	0.20	5.13
3.05	0.29	0.32	5.00	4.92	0.20	5.13
3.10	0.26	0.32	5.00	4.92	0.20	5.13
3.15	0.22	0.32	5.00	4.92	0.20	5.13
3.20	0.20	0.32	5.00	4.92	0.20	5.13
3.25	0.19	0.32	5.00	4.92	0.20	5.13
3.30	0.19	0.32	5.00	4.92	0.20	5.13
3.35	0.19	0.32	5.00	4.92	0.20	5.13
3.40	0.19	0.32	5.00	4.92	0.20	5.13
3.45	0.18	0.32	5.00	4.92	0.20	5.13
3.50	0.18	0.32	5.00	4.92	0.20	5.13

3.55	0.20	0.32	5.00	4.92	0.20	5.13
3.60	0.22	0.32	5.00	4.92	0.20	5.12
3.65	0.25	0.32	5.00	4.92	0.20	5.12
3.70	0.29	0.32	5.00	4.92	0.20	5.12
3.75	0.33	0.32	5.00	4.92	0.20	5.12
3.80	0.39	0.32	5.00	4.92	0.20	5.12
3.85	0.46	0.32	5.00	4.92	0.20	5.12
3.90	0.37	0.32	5.00	4.92	0.20	5.12
3.95	0.29	0.32	5.00	4.92	0.20	5.12
4.00	0.50	0.32	5.00	4.92	0.20	5.12
4.05	0.80	0.32	5.00	4.92	0.20	5.12
4.10	0.87	0.32	5.00	4.92	0.20	5.12
4.15	0.91	0.32	5.00	4.92	0.20	5.12
4.20	0.95	0.32	5.00	4.92	0.20	5.12
4.25	0.99	0.32	5.00	4.92	0.20	5.12
4.30	0.96	0.32	5.00	4.92	0.20	5.12
4.35	0.86	0.32	5.00	4.92	0.20	5.12
4.40	0.83	0.32	5.00	4.92	0.20	5.12
4.45	0.80	0.32	5.00	4.92	0.20	5.12
4.50	0.80	0.32	5.00	4.92	0.20	5.12
4.55	0.83	0.32	5.00	4.92	0.20	5.12
4.60	0.82	0.32	5.00	4.92	0.20	5.12
4.65	0.84	0.32	5.00	4.92	0.20	5.12
4.70	0.89	0.32	5.00	4.92	0.20	5.12
4.75	0.97	0.32	5.00	4.92	0.20	5.12
4.80	1.09	0.32	5.00	4.92	0.20	5.12
4.85	1.27	0.32	5.00	4.92	0.20	5.12
4.90	1.48	0.32	5.00	4.92	0.20	5.12
4.95	1.72	0.32	5.00	4.92	0.20	5.12
5.00	1.97	0.32	5.00	4.92	0.20	5.12
5.05	2.17	0.32	5.00	4.92	0.20	5.12
5.10	2.25	0.32	5.00	4.92	0.20	5.12
5.15	2.24	0.32	5.00	4.92	0.20	5.12
5.20	2.15	0.32	5.00	4.92	0.20	5.12
5.25	2.05	0.32	5.00	4.92	0.20	5.12
5.30	1.90	0.32	5.00	4.92	0.20	5.12
5.35	1.76	0.32	5.00	4.92	0.20	5.12
5.40	1.62	0.32	5.00	4.92	0.20	5.12
5.45	1.48	0.32	5.00	4.92	0.20	5.12
5.50	1.35	0.32	5.00	4.92	0.20	5.12
5.55	1.20	0.32	5.00	4.92	0.20	5.12
5.60	1.07	0.32	5.00	4.92	0.20	5.12
5.65	1.00	0.32	5.00	4.92	0.19	5.12
5.70	0.92	0.32	5.00	4.92	0.19	5.12
5.75	0.85	0.32	5.00	4.92	0.19	5.12
5.80	0.78	0.32	5.00	4.92	0.19	5.12
5.85	0.72	0.32	5.00	4.92	0.19	5.12
5.90	0.67	0.32	5.00	4.92	0.19	5.12
5.95	0.63	0.32	5.00	4.92	0.19	5.12
6.00	0.58	0.32	5.00	4.92	0.19	5.12

6.05	0.53	0.32	5.00	4.92	0.19	5.12
6.10	0.49	0.32	5.00	4.92	0.19	5.12
6.15	0.47	0.32	5.00	4.92	0.19	5.12
6.20	0.45	0.32	5.00	4.92	0.19	5.12
6.25	0.44	0.32	5.00	4.92	0.19	5.12
6.30	0.43	0.32	5.00	4.92	0.19	5.12
6.35	0.46	0.32	5.00	4.92	0.19	5.12
6.40	0.50	0.32	5.00	4.92	0.19	5.12
6.45	0.56	0.32	5.00	4.92	0.19	5.12
6.50	0.64	0.32	5.00	4.92	0.19	5.12
6.55	0.72	0.32	5.00	4.92	0.19	5.12
6.60	0.79	0.32	5.00	4.92	0.19	5.12
6.65	0.85	0.32	5.00	4.92	0.19	5.12
6.70	0.89	0.32	5.00	4.92	0.19	5.11
6.75	0.91	0.32	5.00	4.92	0.19	5.11
6.80	0.91	0.32	5.00	4.92	0.19	5.11
6.85	0.80	0.32	5.00	4.92	0.19	5.11
6.90	0.65	0.32	5.00	4.92	0.19	5.11
6.95	0.63	0.32	5.00	4.92	0.19	5.11
7.00	0.60	0.32	5.00	4.92	0.19	5.11
7.05	0.56	0.32	5.00	4.92	0.19	5.11
7.10	0.53	0.32	5.00	4.92	0.19	5.11
7.15	0.50	0.32	5.00	4.92	0.19	5.11
7.20	0.48	0.32	5.00	4.92	0.19	5.11
7.25	0.46	0.32	5.00	4.92	0.19	5.11
7.30	0.44	0.32	5.00	4.92	0.19	5.11
7.35	0.41	0.32	5.00	4.92	0.19	5.11
7.40	0.39	0.32	5.00	4.92	0.19	5.11
7.45	0.36	0.32	5.00	4.92	0.19	5.11
7.50	0.34	0.32	5.00	4.92	0.19	5.11
7.55	0.31	0.32	5.00	4.92	0.19	5.11
7.60	0.29	0.32	5.00	4.92	0.19	5.11
7.65	0.27	0.32	5.00	4.92	0.19	5.11
7.70	0.25	0.32	5.00	4.92	0.19	5.11
7.75	0.24	0.32	5.00	4.92	0.19	5.11
7.80	0.23	0.32	5.00	4.92	0.18	5.11
7.85	0.22	0.32	5.00	4.92	0.18	5.11
7.90	0.22	0.32	5.00	4.92	0.18	5.11
7.95	0.21	0.32	5.00	4.92	0.18	5.11
8.00	0.21	0.32	5.00	4.92	0.18	5.11
8.05	0.20	0.32	5.00	4.92	0.18	5.11
8.10	0.20	0.32	5.00	4.92	0.18	5.11
8.15	0.20	0.32	5.00	4.92	0.18	5.11
8.20	0.19	0.32	5.00	4.92	0.18	5.10
8.25	0.19	0.32	5.00	4.92	0.18	5.10
8.30	0.19	0.32	5.00	4.92	0.18	5.10
8.35	0.18	0.32	5.00	4.92	0.18	5.10
8.40	0.18	0.32	5.00	4.92	0.18	5.10
8.45	0.18	0.32	5.00	4.92	0.18	5.10
8.50	0.18	0.32	5.00	4.92	0.18	5.10

8.55	0.17	0.32	5.00	4.92	0.18	5.10
8.60	0.17	0.32	5.00	4.92	0.18	5.10
8.65	0.17	0.32	5.00	4.92	0.17	5.10
8.70	0.18	0.32	5.00	4.92	0.17	5.10
8.75	0.18	0.32	5.00	4.92	0.17	5.10
8.80	0.18	0.32	5.00	4.92	0.17	5.10
8.85	0.19	0.32	5.00	4.92	0.17	5.10
8.90	0.19	0.32	5.00	4.92	0.17	5.09
8.95	0.20	0.32	5.00	4.92	0.17	5.09
9.00	0.20	0.32	5.00	4.92	0.17	5.09
9.05	0.20	0.32	5.00	4.92	0.17	5.09
9.10	0.19	0.32	5.00	4.92	0.17	5.09
9.15	0.18	0.32	5.00	4.92	0.17	5.09
9.20	0.18	0.32	5.00	4.92	0.17	5.09
9.25	0.18	0.32	5.00	4.92	0.17	5.09
9.30	0.18	0.32	5.00	4.92	0.17	5.09
9.35	0.19	0.32	5.00	4.92	0.16	5.09
9.40	0.19	0.32	5.00	4.92	0.16	5.09
9.45	0.19	0.32	5.00	4.92	0.16	5.09
9.50	0.19	0.32	5.00	4.92	0.16	5.09
9.55	0.19	0.32	5.00	4.92	0.16	5.09
9.60	0.19	0.32	5.00	4.92	0.16	5.08
9.65	0.20	0.32	5.00	4.92	0.16	5.08
9.70	0.20	0.32	5.00	4.92	0.16	5.08
9.75	0.20	0.32	5.00	4.92	0.16	5.08
9.80	0.20	0.32	5.00	4.92	0.16	5.08
9.85	0.19	0.32	5.00	4.92	0.16	5.08
9.90	0.19	0.32	5.00	4.92	0.16	5.08
9.95	0.18	0.32	5.00	4.92	0.16	5.08
10.00	0.18	0.32	5.00	4.92	0.16	5.08
10.05	0.17	0.32	5.00	4.92	0.15	5.08
10.10	0.17	0.32	5.00	4.92	0.15	5.08
10.15	0.17	0.32	5.00	4.92	0.15	5.08
10.20	0.17	0.32	5.00	4.92	0.15	5.08
10.25	0.17	0.32	5.00	4.92	0.15	5.08
10.30	0.17	0.32	5.00	4.92	0.15	5.08
10.35	0.16	0.32	5.00	4.92	0.15	5.07
10.40	0.16	0.32	5.00	4.92	0.15	5.07
10.45	0.16	0.32	5.00	4.92	0.15	5.07
10.50	0.16	0.32	5.00	4.92	0.15	5.07
10.55	0.16	0.32	5.00	4.92	0.15	5.07
10.60	0.16	0.32	5.00	4.92	0.15	5.07
10.65	0.15	0.32	5.00	4.92	0.15	5.07
10.70	0.15	0.32	5.00	4.92	0.14	5.07
10.75	0.15	0.32	5.00	4.92	0.14	5.07
10.80	0.14	0.32	5.00	4.92	0.14	5.07
10.85	0.14	0.32	5.00	4.92	0.14	5.07
10.90	0.14	0.32	5.00	4.92	0.14	5.06
10.95	0.14	0.32	5.00	4.92	0.14	5.06
11.00	0.14	0.32	5.00	4.92	0.14	5.06

11.05	0.13	0.32	5.00	4.92	0.14	5.06
11.10	0.13	0.32	5.00	4.92	0.14	5.06
11.15	0.12	0.32	5.00	4.92	0.13	5.06
11.20	0.12	0.32	5.00	4.92	0.13	5.06
11.25	0.12	0.32	5.00	4.92	0.13	5.05
11.30	0.13	0.32	5.00	4.92	0.13	5.05
11.35	0.13	0.32	5.00	4.92	0.13	5.05
11.40	0.13	0.32	5.00	4.92	0.13	5.05
11.45	0.13	0.32	5.00	4.92	0.12	5.05
11.50	0.13	0.32	5.00	4.92	0.12	5.05
11.55	0.13	0.32	5.00	4.92	0.12	5.04
11.60	0.13	0.32	5.00	4.92	0.12	5.04
11.65	0.13	0.32	5.00	4.92	0.12	5.04
11.70	0.13	0.32	5.00	4.92	0.12	5.04
11.75	0.13	0.32	5.00	4.92	0.11	5.04
11.80	0.13	0.32	5.00	4.92	0.11	5.04
11.85	0.13	0.32	5.00	4.92	0.11	5.04
11.90	0.13	0.32	5.00	4.92	0.11	5.03
11.95	0.13	0.32	5.00	4.92	0.11	5.03
12.00	0.13	0.32	5.00	4.92	0.11	5.03
12.05	0.12	0.32	5.00	4.92	0.11	5.03
12.10	0.12	0.32	5.00	4.92	0.10	5.03
12.15	0.12	0.32	5.00	4.92	0.10	5.03
12.20	0.12	0.32	5.00	4.92	0.10	5.02
12.25	0.12	0.32	5.00	4.92	0.10	5.02
12.30	0.12	0.32	5.00	4.92	0.10	5.02
12.35	0.12	0.32	5.00	4.92	0.09	5.02
12.40	0.13	0.32	5.00	4.92	0.09	5.02
12.45	0.13	0.32	5.00	4.92	0.09	5.01
12.50	0.13	0.32	5.00	4.92	0.09	5.01
12.55	0.13	0.32	5.00	4.92	0.09	5.01
12.60	0.13	0.32	5.00	4.92	0.09	5.01
12.65	0.13	0.32	5.00	4.92	0.08	5.01
12.70	0.13	0.32	5.00	4.92	0.08	5.01
12.75	0.13	0.32	5.00	4.92	0.08	5.01
12.80	0.13	0.32	5.00	4.92	0.08	5.00
12.85	0.13	0.32	5.00	4.92	0.08	5.00
12.90	0.14	0.32	5.00	4.92	0.08	5.00
12.95	0.14	0.32	5.00	4.92	0.07	5.00
13.00	0.14	0.32	5.00	4.92	0.07	5.00
13.05	0.14	0.32	5.00	4.92	0.07	5.00
13.10	0.14	0.32	5.00	4.92	0.07	4.99
13.15	0.15	0.32	5.00	4.92	0.07	4.99
13.20	0.15	0.31	5.00	4.92	0.07	4.99
13.25	0.15	0.31	5.00	4.92	0.07	4.99
13.30	0.15	0.31	5.00	4.92	0.06	4.99
13.35	0.15	0.31	5.00	4.92	0.06	4.99
13.40	0.15	0.31	5.00	4.92	0.06	4.99
13.45	0.15	0.31	5.00	4.92	0.06	4.98
13.50	0.15	0.31	5.00	4.92	0.06	4.98

13.55	0.14	0.31	5.00	4.92	0.06	4.98
13.60	0.14	0.31	5.00	4.92	0.05	4.98
13.65	0.14	0.31	5.00	4.92	0.05	4.98
13.70	0.15	0.31	5.00	4.92	0.05	4.97
13.75	0.15	0.31	5.00	4.92	0.05	4.97
13.80	0.15	0.31	5.00	4.92	0.05	4.97
13.85	0.14	0.31	5.00	4.92	0.05	4.97
13.90	0.14	0.31	5.00	4.92	0.04	4.97
13.95	0.14	0.31	5.00	4.92	0.04	4.97
14.00	0.15	0.31	5.00	4.92	0.04	4.96
14.05	0.15	0.31	5.00	4.92	0.04	4.96
14.10	0.15	0.31	5.00	4.92	0.04	4.96
14.15	0.15	0.31	5.00	4.92	0.04	4.96
14.20	0.15	0.31	5.00	4.92	0.03	4.96
14.25	0.15	0.31	5.00	4.92	0.03	4.96
14.30	0.14	0.31	5.00	4.92	0.03	4.95
14.35	0.14	0.31	5.00	4.92	0.03	4.95
14.40	0.14	0.31	5.00	4.92	0.03	4.95
14.45	0.14	0.31	5.00	4.92	0.02	4.95
14.50	0.14	0.31	5.00	4.92	0.02	4.95
14.55	0.14	0.31	5.00	4.92	0.02	4.95
14.60	0.14	0.31	5.00	4.92	0.02	4.94
14.65	0.14	0.31	5.00	4.92	0.02	4.94
14.70	0.14	0.31	5.00	4.92	0.02	4.94
14.75	0.14	0.31	5.00	4.92	0.01	4.94
14.80	0.13	0.31	5.00	4.92	0.01	4.94
14.85	0.13	0.31	5.00	4.92	0.01	4.93
14.90	0.12	0.31	5.00	4.92	0.01	4.93
14.95	0.12	0.31	5.00	4.92	0.00	4.93
15.00	0.12	0.31	0.40*	4.92	0.00	4.92
15.05	0.13	0.31	0.40*	4.91	0.00	4.91
15.10	0.13	0.31	0.40*	4.90	0.00	4.90
15.15	0.13	0.32	0.40*	4.88	0.00	4.88
15.20	0.12	0.32	0.39*	4.87	0.00	4.87
15.25	0.12	0.32	0.39*	4.86	0.00	4.86
15.30	0.13	0.32	0.40*	4.85	0.00	4.85
15.35	0.13	0.32	0.40*	4.83	0.00	4.83
15.40	0.13	0.32	0.40*	4.82	0.00	4.82
15.45	0.13	0.32	0.41*	4.81	0.00	4.81
15.50	0.13	0.32	0.41*	4.80	0.00	4.80
15.55	0.13	0.32	0.41*	4.79	0.00	4.79
15.60	0.13	0.32	0.41*	4.77	0.00	4.77
15.65	0.13	0.32	0.42*	4.76	0.00	4.76
15.70	0.13	0.32	0.42*	4.75	0.00	4.75
15.75	0.14	0.32	0.42*	4.74	0.00	4.74
15.80	0.14	0.32	0.42*	4.73	0.00	4.73
15.85	0.14	0.32	0.43*	4.71	0.00	4.71
15.90	0.14	0.32	0.43*	4.70	0.00	4.70
15.95	0.14	0.32	0.43*	4.69	0.00	4.69
16.00	0.14	0.32	0.43*	4.68	0.00	4.68

16.05	0.14	0.32	0.43*	4.67	0.00	4.67
16.10	0.14	0.32	0.43*	4.66	0.00	4.66
16.15	0.14	0.32	0.43*	4.65	0.00	4.65
16.20	0.14	0.33	0.43*	4.63	0.00	4.63
16.25	0.14	0.33	0.42*	4.62	0.00	4.62
16.30	0.14	0.33	0.42*	4.61	0.00	4.61
16.35	0.14	0.33	0.42*	4.60	0.00	4.60
16.40	0.14	0.33	0.42*	4.59	0.00	4.59
16.45	0.14	0.33	0.41*	4.58	0.00	4.58
16.50	0.14	0.33	0.41*	4.57	0.00	4.57
16.55	0.14	0.33	0.41*	4.55	0.00	4.55
16.60	0.14	0.33	0.42*	4.54	0.00	4.54
16.65	0.14	0.33	0.42*	4.53	0.00	4.53
16.70	0.14	0.33	0.43*	4.52	0.00	4.52
16.75	0.14	0.33	0.44*	4.51	0.00	4.51
16.80	0.15	0.33	0.44*	4.50	0.00	4.50
16.85	0.15	0.33	0.45*	4.49	0.00	4.49
16.90	0.15	0.33	0.45*	4.47	0.00	4.47
16.95	0.15	0.33	0.45*	4.46	0.00	4.46
17.00	0.15	0.33	0.45*	4.45	0.00	4.45
17.05	0.15	0.33	0.45*	4.44	0.00	4.44
17.10	0.15	0.33	0.44*	4.43	0.00	4.43
17.15	0.14	0.33	0.41*	4.42	0.00	4.42
17.20	0.13	0.33	0.40*	4.41	0.00	4.41
17.25	0.13	0.33	0.40*	4.40	0.00	4.40
17.30	0.13	0.34	0.39*	4.38	0.00	4.38
17.35	0.13	0.34	0.39*	4.37	0.00	4.37
17.40	0.13	0.34	0.38*	4.36	0.00	4.36
17.45	0.13	0.34	0.37*	4.35	0.00	4.35
17.50	0.12	0.34	0.36*	4.33	0.00	4.33
17.55	0.12	0.34	0.35*	4.32	0.00	4.32
17.60	0.12	0.34	0.35*	4.31	0.00	4.31
17.65	0.12	0.34	0.35*	4.29	0.00	4.29
17.70	0.12	0.34	0.34*	4.28	0.00	4.28
17.75	0.12	0.34	0.34*	4.27	0.00	4.27
17.80	0.11	0.34	0.34*	4.25	0.00	4.25
17.85	0.11	0.34	0.34*	4.24	0.00	4.24
17.90	0.11	0.34	0.33*	4.23	0.00	4.23
17.95	0.11	0.34	0.33*	4.21	0.00	4.21
18.00	0.11	0.34	0.34*	4.20	0.00	4.20
18.05	0.12	0.34	0.34*	4.18	0.00	4.18
18.10	0.12	0.34	0.36*	4.17	0.00	4.17
18.15	0.15	0.34	0.43*	4.16	0.00	4.16
18.20	2.00	0.34	5.00	4.15	0.00	4.15
18.25	2.00	0.34	5.00	4.15	0.00	4.15
18.30	2.00	0.34	5.00	4.15	0.00	4.15
18.35	2.00	0.34	5.00	4.15	0.00	4.15
18.40	2.00	0.34	5.00	4.15	0.00	4.15
18.45	2.00	0.34	5.00	4.15	0.00	4.15
18.50	2.00	0.34	5.00	4.15	0.00	4.15

18.55	2.00	0.35	5.00	4.15	0.00	4.15
18.60	2.00	0.35	5.00	4.15	0.00	4.15
18.65	2.00	0.35	5.00	4.15	0.00	4.15
18.70	0.13	0.35	0.37*	4.15	0.00	4.15
18.75	0.11	0.35	0.33*	4.14	0.00	4.14
18.80	0.11	0.35	0.32*	4.13	0.00	4.13
18.85	0.11	0.35	0.32*	4.12	0.00	4.12
18.90	0.11	0.35	0.32*	4.10	0.00	4.10
18.95	0.11	0.35	0.32*	4.09	0.00	4.09
19.00	0.11	0.35	0.32*	4.07	0.00	4.07
19.05	0.11	0.35	0.32*	4.06	0.00	4.06
19.10	0.11	0.35	0.33*	4.04	0.00	4.04
19.15	0.12	0.35	0.34*	4.03	0.00	4.03
19.20	0.12	0.35	0.36*	4.01	0.00	4.01
19.25	0.13	0.35	0.38*	4.00	0.00	4.00
19.30	0.14	0.35	0.41*	3.99	0.00	3.99
19.35	0.16	0.35	0.44*	3.98	0.00	3.98
19.40	0.17	0.35	0.47*	3.97	0.00	3.97
19.45	0.18	0.35	0.50*	3.95	0.00	3.95
19.50	0.19	0.35	0.53*	3.94	0.00	3.94
19.55	0.20	0.35	0.55*	3.93	0.00	3.93
19.60	0.20	0.35	0.58*	3.93	0.00	3.93
19.65	0.21	0.35	0.60*	3.92	0.00	3.92
19.70	0.22	0.35	0.62*	3.91	0.00	3.91
19.75	0.23	0.35	0.65*	3.90	0.00	3.90
19.80	0.24	0.35	0.67*	3.89	0.00	3.89
19.85	0.24	0.36	0.68*	3.88	0.00	3.88
19.90	0.24	0.36	0.68*	3.87	0.00	3.87
19.95	0.25	0.36	0.69*	3.87	0.00	3.87
20.00	0.25	0.36	0.71*	3.86	0.00	3.86
20.05	0.26	0.36	0.73*	3.85	0.00	3.85
20.10	0.27	0.36	0.75*	3.84	0.00	3.84
20.15	0.27	0.36	0.75*	3.83	0.00	3.83
20.20	0.27	0.36	0.77*	3.83	0.00	3.83
20.25	0.27	0.36	0.76*	3.82	0.00	3.82
20.30	0.27	0.36	0.77*	3.81	0.00	3.81
20.35	0.28	0.36	0.78*	3.80	0.00	3.80
20.40	0.28	0.36	0.77*	3.80	0.00	3.80
20.45	0.28	0.36	0.79*	3.79	0.00	3.79
20.50	0.29	0.36	0.82*	3.78	0.00	3.78
20.55	0.30	0.36	0.83*	3.77	0.00	3.77
20.60	0.30	0.36	0.84*	3.77	0.00	3.77
20.65	0.30	0.36	0.84*	3.76	0.00	3.76
20.70	0.30	0.36	0.83*	3.75	0.00	3.75
20.75	0.29	0.36	0.81*	3.75	0.00	3.75
20.80	0.29	0.36	0.79*	3.74	0.00	3.74
20.85	0.28	0.36	0.76*	3.73	0.00	3.73
20.90	0.27	0.36	0.73*	3.73	0.00	3.73
20.95	0.25	0.36	0.70*	3.72	0.00	3.72
21.00	0.24	0.36	0.67*	3.71	0.00	3.71

21.05	0.24	0.36	0.65*	3.70	0.00	3.70
21.10	0.23	0.36	0.62*	3.70	0.00	3.70
21.15	0.22	0.36	0.60*	3.69	0.00	3.69
21.20	0.20	0.36	0.56*	3.68	0.00	3.68
21.25	0.19	0.36	0.53*	3.67	0.00	3.67
21.30	0.18	0.36	0.50*	3.66	0.00	3.66
21.35	0.18	0.37	0.48*	3.65	0.00	3.65
21.40	0.17	0.37	0.47*	3.65	0.00	3.65
21.45	0.17	0.37	0.46*	3.64	0.00	3.64
21.50	0.17	0.37	0.47*	3.63	0.00	3.63
21.55	0.18	0.37	0.49*	3.62	0.00	3.62
21.60	0.18	0.37	0.49*	3.61	0.00	3.61
21.65	0.17	0.37	0.48*	3.61	0.00	3.61
21.70	0.17	0.37	0.47*	3.60	0.00	3.60
21.75	0.17	0.37	0.46*	3.59	0.00	3.59
21.80	0.15	0.37	0.42*	3.58	0.00	3.58
21.85	0.15	0.37	0.40*	3.58	0.00	3.58
21.90	0.15	0.37	0.41*	3.57	0.00	3.57
21.95	0.17	0.37	0.47*	3.56	0.00	3.56
22.00	0.22	0.37	0.58*	3.55	0.00	3.55
22.05	2.00	0.37	5.00	3.55	0.00	3.55
22.10	2.00	0.37	5.00	3.55	0.00	3.55
22.15	2.00	0.37	5.00	3.55	0.00	3.55
22.20	2.00	0.37	5.00	3.55	0.00	3.55
22.25	2.00	0.37	5.00	3.55	0.00	3.55
22.30	2.00	0.37	5.00	3.55	0.00	3.55
22.35	2.00	0.37	5.00	3.55	0.00	3.55
22.40	2.00	0.37	5.00	3.55	0.00	3.55
22.45	2.00	0.37	5.00	3.55	0.00	3.55
22.50	2.00	0.37	5.00	3.55	0.00	3.55
22.55	2.00	0.37	5.00	3.55	0.00	3.55
22.60	2.00	0.37	5.00	3.55	0.00	3.55
22.65	2.00	0.37	5.00	3.55	0.00	3.55
22.70	2.00	0.37	5.00	3.55	0.00	3.55
22.75	2.00	0.37	5.00	3.55	0.00	3.55
22.80	2.00	0.37	5.00	3.55	0.00	3.55
22.85	2.00	0.37	5.00	3.55	0.00	3.55
22.90	2.00	0.37	5.00	3.55	0.00	3.55
22.95	2.00	0.38	5.00	3.55	0.00	3.55
23.00	2.00	0.38	5.00	3.55	0.00	3.55
23.05	2.00	0.38	5.00	3.55	0.00	3.55
23.10	2.00	0.38	5.00	3.55	0.00	3.55
23.15	2.00	0.38	5.00	3.55	0.00	3.55
23.20	2.00	0.38	5.00	3.55	0.00	3.55
23.25	2.00	0.38	5.00	3.55	0.00	3.55
23.30	2.00	0.38	5.00	3.55	0.00	3.55
23.35	2.00	0.38	5.00	3.55	0.00	3.55
23.40	2.00	0.38	5.00	3.55	0.00	3.55
23.45	2.00	0.38	5.00	3.55	0.00	3.55
23.50	2.00	0.38	5.00	3.55	0.00	3.55

23.55	2.00	0.38	5.00	3.55	0.00	3.55
23.60	0.13	0.38	0.35*	3.55	0.00	3.55
23.65	0.14	0.38	0.37*	3.54	0.00	3.54
23.70	0.14	0.38	0.38*	3.53	0.00	3.53
23.75	0.15	0.38	0.40*	3.52	0.00	3.52
23.80	0.16	0.38	0.43*	3.50	0.00	3.50
23.85	0.17	0.38	0.45*	3.49	0.00	3.49
23.90	0.18	0.38	0.48*	3.48	0.00	3.48
23.95	0.19	0.38	0.49*	3.47	0.00	3.47
24.00	0.19	0.38	0.49*	3.46	0.00	3.46
24.05	0.20	0.38	0.52*	3.45	0.00	3.45
24.10	0.23	0.38	0.59*	3.44	0.00	3.44
24.15	0.25	0.38	0.66*	3.44	0.00	3.44
24.20	0.28	0.38	0.73*	3.43	0.00	3.43
24.25	0.31	0.38	0.80*	3.42	0.00	3.42
24.30	0.33	0.38	0.86*	3.41	0.00	3.41
24.35	0.35	0.38	0.91*	3.41	0.00	3.41
24.40	0.37	0.38	0.96*	3.40	0.00	3.40
24.45	0.38	0.38	1.00*	3.39	0.00	3.39
24.50	0.40	0.38	1.03	3.39	0.00	3.39
24.55	0.40	0.38	1.05	3.38	0.00	3.38
24.60	0.41	0.38	1.07	3.38	0.00	3.38
24.65	0.42	0.38	1.08	3.38	0.00	3.38
24.70	0.42	0.38	1.09	3.37	0.00	3.37
24.75	0.42	0.39	1.09	3.37	0.00	3.37
24.80	0.42	0.39	1.10	3.36	0.00	3.36
24.85	0.43	0.39	1.12	3.36	0.00	3.36
24.90	0.45	0.39	1.16	3.36	0.00	3.36
24.95	0.46	0.39	1.20	3.35	0.00	3.35
25.00	0.48	0.39	1.23	3.35	0.00	3.35
25.05	0.49	0.39	1.26	3.35	0.00	3.35
25.10	0.50	0.39	1.29	3.35	0.00	3.35
25.15	0.50	0.39	1.30	3.34	0.00	3.34
25.20	0.51	0.39	1.31	3.34	0.00	3.34
25.25	0.51	0.39	1.32	3.34	0.00	3.34
25.30	0.52	0.39	1.33	3.34	0.00	3.34
25.35	0.52	0.39	1.33	3.34	0.00	3.34
25.40	0.52	0.39	1.34	3.34	0.00	3.34
25.45	0.52	0.39	1.35	3.34	0.00	3.34
25.50	0.53	0.39	1.36	3.34	0.00	3.34
25.55	0.54	0.39	1.38	3.34	0.00	3.34
25.60	0.55	0.39	1.40	3.33	0.00	3.33
25.65	0.55	0.39	1.41	3.33	0.00	3.33
25.70	0.55	0.39	1.40	3.33	0.00	3.33
25.75	0.55	0.39	1.40	3.33	0.00	3.33
25.80	0.54	0.39	1.39	3.33	0.00	3.33
25.85	0.54	0.39	1.39	3.33	0.00	3.33
25.90	0.55	0.39	1.41	3.33	0.00	3.33
25.95	0.56	0.39	1.44	3.33	0.00	3.33
26.00	0.58	0.39	1.47	3.33	0.00	3.33

26.05	0.59	0.39	1.51	3.33	0.00	3.33
26.10	0.60	0.39	1.53	3.33	0.00	3.33
26.15	0.61	0.39	1.55	3.32	0.00	3.32
26.20	0.61	0.39	1.56	3.32	0.00	3.32
26.25	0.61	0.39	1.55	3.32	0.00	3.32
26.30	0.60	0.39	1.54	3.32	0.00	3.32
26.35	0.60	0.39	1.52	3.32	0.00	3.32
26.40	0.59	0.39	1.51	3.32	0.00	3.32
26.45	0.60	0.39	1.52	3.32	0.00	3.32
26.50	0.59	0.39	1.51	3.32	0.00	3.32
26.55	0.59	0.39	1.50	3.32	0.00	3.32
26.60	0.59	0.39	1.49	3.32	0.00	3.32
26.65	0.59	0.39	1.49	3.32	0.00	3.32
26.70	0.58	0.39	1.48	3.32	0.00	3.32
26.75	0.51	0.39	1.30	3.32	0.00	3.32
26.80	0.49	0.40	1.23	3.31	0.00	3.31
26.85	0.49	0.40	1.23	3.31	0.00	3.31
26.90	0.48	0.40	1.20	3.31	0.00	3.31
26.95	0.48	0.40	1.21	3.31	0.00	3.31
27.00	0.47	0.40	1.19	3.31	0.00	3.31
27.05	0.46	0.40	1.17	3.30	0.00	3.30
27.10	0.47	0.40	1.19	3.30	0.00	3.30
27.15	0.47	0.40	1.19	3.30	0.00	3.30
27.20	0.47	0.40	1.19	3.29	0.00	3.29
27.25	0.47	0.40	1.19	3.29	0.00	3.29
27.30	0.46	0.40	1.16	3.29	0.00	3.29
27.35	0.45	0.40	1.14	3.28	0.00	3.28
27.40	0.44	0.40	1.11	3.28	0.00	3.28
27.45	0.43	0.40	1.08	3.27	0.00	3.27
27.50	0.42	0.40	1.06	3.27	0.00	3.27
27.55	0.41	0.40	1.03	3.26	0.00	3.26
27.60	0.40	0.40	0.99*	3.26	0.00	3.26
27.65	0.38	0.40	0.95*	3.25	0.00	3.25
27.70	0.37	0.40	0.93*	3.25	0.00	3.25
27.75	0.36	0.40	0.90*	3.24	0.00	3.24
27.80	0.34	0.40	0.86*	3.23	0.00	3.23
27.85	0.32	0.40	0.81*	3.23	0.00	3.23
27.90	0.30	0.40	0.76*	3.22	0.00	3.22
27.95	0.28	0.40	0.70*	3.21	0.00	3.21
28.00	0.26	0.40	0.66*	3.20	0.00	3.20
28.05	0.25	0.40	0.61*	3.20	0.00	3.20
28.10	0.23	0.40	0.56*	3.19	0.00	3.19
28.15	0.21	0.40	0.53*	3.18	0.00	3.18
28.20	0.19	0.40	0.49*	3.17	0.00	3.17
28.25	0.18	0.40	0.44*	3.16	0.00	3.16
28.30	0.16	0.40	0.41*	3.15	0.00	3.15
28.35	0.15	0.40	0.38*	3.14	0.00	3.14
28.40	0.14	0.40	0.34*	3.13	0.00	3.13
28.45	0.13	0.40	0.32*	3.12	0.00	3.12
28.50	0.12	0.40	0.30*	3.10	0.00	3.10

28.55	0.12	0.40	0.29*	3.09	0.00	3.09
28.60	0.12	0.40	0.29*	3.08	0.00	3.08
28.65	0.11	0.40	0.28*	3.07	0.00	3.07
28.70	0.11	0.40	0.27*	3.05	0.00	3.05
28.75	0.11	0.40	0.27*	3.04	0.00	3.04
28.80	0.11	0.40	0.27*	3.03	0.00	3.03
28.85	0.12	0.40	0.30*	3.01	0.00	3.01
28.90	2.00	0.40	5.00	3.00	0.00	3.00
28.95	2.00	0.40	5.00	3.00	0.00	3.00
29.00	2.00	0.40	5.00	3.00	0.00	3.00
29.05	2.00	0.40	5.00	3.00	0.00	3.00
29.10	2.00	0.40	5.00	3.00	0.00	3.00
29.15	2.00	0.41	5.00	3.00	0.00	3.00
29.20	2.00	0.41	5.00	3.00	0.00	3.00
29.25	2.00	0.41	5.00	3.00	0.00	3.00
29.30	2.00	0.41	5.00	3.00	0.00	3.00
29.35	2.00	0.41	5.00	3.00	0.00	3.00
29.40	2.00	0.41	5.00	3.00	0.00	3.00
29.45	2.00	0.41	5.00	3.00	0.00	3.00
29.50	2.00	0.41	5.00	3.00	0.00	3.00
29.55	2.00	0.41	5.00	3.00	0.00	3.00
29.60	2.00	0.41	5.00	3.00	0.00	3.00
29.65	2.00	0.41	5.00	3.00	0.00	3.00
29.70	2.00	0.41	5.00	3.00	0.00	3.00
29.75	2.00	0.41	5.00	3.00	0.00	3.00
29.80	2.00	0.41	5.00	3.00	0.00	3.00
29.85	2.00	0.41	5.00	3.00	0.00	3.00
29.90	2.00	0.41	5.00	3.00	0.00	3.00
29.95	2.00	0.41	5.00	3.00	0.00	3.00
30.00	2.00	0.41	5.00	3.00	0.00	3.00
30.05	2.00	0.41	5.00	3.00	0.00	3.00
30.10	2.00	0.41	5.00	3.00	0.00	3.00
30.15	2.00	0.41	5.00	3.00	0.00	3.00
30.20	0.12	0.41	0.29*	3.00	0.00	3.00
30.25	0.12	0.41	0.28*	2.99	0.00	2.99
30.30	0.12	0.41	0.29*	2.98	0.00	2.98
30.35	0.12	0.41	0.30*	2.96	0.00	2.96
30.40	0.13	0.41	0.31*	2.95	0.00	2.95
30.45	0.13	0.41	0.32*	2.94	0.00	2.94
30.50	0.13	0.41	0.32*	2.93	0.00	2.93
30.55	0.13	0.41	0.31*	2.92	0.00	2.92
30.60	0.12	0.41	0.30*	2.90	0.00	2.90
30.65	0.12	0.41	0.30*	2.89	0.00	2.89
30.70	0.13	0.41	0.31*	2.88	0.00	2.88
30.75	0.13	0.41	0.31*	2.87	0.00	2.87
30.80	0.13	0.41	0.31*	2.86	0.00	2.86
30.85	0.13	0.41	0.31*	2.84	0.00	2.84
30.90	0.12	0.41	0.30*	2.83	0.00	2.83
30.95	0.13	0.41	0.31*	2.82	0.00	2.82
31.00	0.13	0.41	0.31*	2.81	0.00	2.81

31.05	0.13	0.41	0.31*	2.80	0.00	2.80
31.10	0.13	0.41	0.31*	2.78	0.00	2.78
31.15	0.13	0.41	0.32*	2.77	0.00	2.77
31.20	0.14	0.41	0.33*	2.76	0.00	2.76
31.25	0.14	0.41	0.35*	2.75	0.00	2.75
31.30	0.16	0.41	0.38*	2.74	0.00	2.74
31.35	0.17	0.41	0.42*	2.73	0.00	2.73
31.40	0.19	0.41	0.46*	2.72	0.00	2.72
31.45	0.21	0.41	0.50*	2.71	0.00	2.71
31.50	0.22	0.41	0.54*	2.70	0.00	2.70
31.55	0.24	0.41	0.58*	2.69	0.00	2.69
31.60	0.25	0.41	0.61*	2.68	0.00	2.68
31.65	0.26	0.41	0.64*	2.67	0.00	2.67
31.70	0.28	0.41	0.68*	2.66	0.00	2.66
31.75	0.29	0.41	0.71*	2.66	0.00	2.66
31.80	0.31	0.41	0.75*	2.65	0.00	2.65
31.85	0.32	0.41	0.78*	2.64	0.00	2.64
31.90	0.33	0.41	0.81*	2.63	0.00	2.63
31.95	0.34	0.41	0.84*	2.63	0.00	2.63
32.00	0.35	0.41	0.86*	2.62	0.00	2.62
32.05	0.36	0.41	0.88*	2.61	0.00	2.61
32.10	0.37	0.41	0.90*	2.61	0.00	2.61
32.15	0.38	0.41	0.92*	2.60	0.00	2.60
32.20	0.38	0.41	0.93*	2.59	0.00	2.59
32.25	0.39	0.41	0.95*	2.59	0.00	2.59
32.30	0.40	0.41	0.97*	2.58	0.00	2.58
32.35	0.40	0.41	0.98*	2.57	0.00	2.57
32.40	0.41	0.41	1.00*	2.57	0.00	2.57
32.45	0.41	0.41	1.00	2.56	0.00	2.56
32.50	0.41	0.41	1.01	2.55	0.00	2.55
32.55	0.42	0.41	1.01	2.55	0.00	2.55
32.60	0.37	0.41	0.89*	2.54	0.00	2.54
32.65	0.39	0.41	0.94*	2.53	0.00	2.53
32.70	0.41	0.41	0.99*	2.53	0.00	2.53
32.75	0.39	0.41	0.96*	2.52	0.00	2.52
32.80	0.41	0.41	0.99*	2.51	0.00	2.51
32.85	0.41	0.41	0.99*	2.51	0.00	2.51
32.90	0.40	0.41	0.98*	2.50	0.00	2.50
32.95	0.40	0.41	0.98*	2.49	0.00	2.49
33.00	0.40	0.41	0.97*	2.49	0.00	2.49
33.05	0.39	0.41	0.95*	2.48	0.00	2.48
33.10	0.38	0.41	0.94*	2.47	0.00	2.47
33.15	0.38	0.41	0.93*	2.47	0.00	2.47
33.20	0.38	0.41	0.93*	2.46	0.00	2.46
33.25	0.39	0.41	0.94*	2.45	0.00	2.45
33.30	0.39	0.41	0.95*	2.45	0.00	2.45
33.35	0.38	0.41	0.93*	2.44	0.00	2.44
33.40	0.37	0.41	0.90*	2.43	0.00	2.43
33.45	0.36	0.41	0.88*	2.43	0.00	2.43
33.50	0.35	0.41	0.85*	2.42	0.00	2.42

33.55	0.33	0.41	0.81*	2.41	0.00	2.41
33.60	0.31	0.41	0.76*	2.41	0.00	2.41
33.65	0.30	0.41	0.73*	2.40	0.00	2.40
33.70	0.29	0.41	0.70*	2.39	0.00	2.39
33.75	0.28	0.41	0.68*	2.38	0.00	2.38
33.80	0.27	0.41	0.66*	2.37	0.00	2.37
33.85	0.26	0.41	0.62*	2.36	0.00	2.36
33.90	0.24	0.41	0.59*	2.36	0.00	2.36
33.95	0.22	0.41	0.55*	2.35	0.00	2.35
34.00	0.21	0.41	0.50*	2.34	0.00	2.34
34.05	0.20	0.41	0.48*	2.33	0.00	2.33
34.10	0.19	0.41	0.47*	2.32	0.00	2.32
34.15	0.18	0.41	0.45*	2.31	0.00	2.31
34.20	0.18	0.41	0.43*	2.30	0.00	2.30
34.25	0.17	0.41	0.42*	2.29	0.00	2.29
34.30	0.18	0.41	0.43*	2.28	0.00	2.28
34.35	0.17	0.41	0.42*	2.27	0.00	2.27
34.40	0.17	0.41	0.41*	2.26	0.00	2.26
34.45	0.15	0.41	0.37*	2.25	0.00	2.25
34.50	0.15	0.41	0.36*	2.25	0.00	2.25
34.55	0.15	0.41	0.37*	2.24	0.00	2.24
34.60	0.15	0.41	0.37*	2.23	0.00	2.23
34.65	0.16	0.41	0.38*	2.22	0.00	2.22
34.70	0.16	0.41	0.38*	2.21	0.00	2.21
34.75	0.15	0.41	0.37*	2.20	0.00	2.20
34.80	0.15	0.41	0.37*	2.19	0.00	2.19
34.85	0.16	0.41	0.39*	2.18	0.00	2.18
34.90	0.17	0.41	0.41*	2.17	0.00	2.17
34.95	0.18	0.41	0.43*	2.16	0.00	2.16
35.00	0.19	0.41	0.47*	2.15	0.00	2.15
35.05	0.21	0.41	0.50*	2.14	0.00	2.14
35.10	0.22	0.41	0.54*	2.13	0.00	2.13
35.15	0.24	0.41	0.59*	2.13	0.00	2.13
35.20	0.26	0.41	0.64*	2.12	0.00	2.12
35.25	0.28	0.41	0.69*	2.11	0.00	2.11
35.30	0.30	0.41	0.73*	2.10	0.00	2.10
35.35	0.32	0.41	0.78*	2.10	0.00	2.10
35.40	0.34	0.41	0.83*	2.09	0.00	2.09
35.45	0.36	0.41	0.87*	2.08	0.00	2.08
35.50	0.38	0.41	0.91*	2.08	0.00	2.08
35.55	0.40	0.41	0.96*	2.07	0.00	2.07
35.60	0.42	0.41	1.01	2.07	0.00	2.07
35.65	0.43	0.41	1.05	2.07	0.00	2.07
35.70	0.45	0.41	1.10	2.06	0.00	2.06
35.75	0.46	0.41	1.12	2.06	0.00	2.06
35.80	0.45	0.41	1.08	2.06	0.00	2.06
35.85	0.41	0.41	1.01	2.06	0.00	2.06
35.90	0.37	0.41	0.91*	2.05	0.00	2.05
35.95	0.36	0.41	0.88*	2.05	0.00	2.05
36.00	0.36	0.41	0.87*	2.04	0.00	2.04

36.05	0.36	0.41	0.87*	2.03	0.00	2.03
36.10	0.36	0.41	0.86*	2.03	0.00	2.03
36.15	0.36	0.41	0.87*	2.02	0.00	2.02
36.20	0.36	0.41	0.87*	2.01	0.00	2.01
36.25	0.36	0.41	0.87*	2.01	0.00	2.01
36.30	0.36	0.41	0.87*	2.00	0.00	2.00
36.35	0.36	0.41	0.88*	1.99	0.00	1.99
36.40	0.37	0.41	0.91*	1.99	0.00	1.99
36.45	0.40	0.41	0.96*	1.98	0.00	1.98
36.50	0.41	0.41	1.00	1.98	0.00	1.98
36.55	0.43	0.41	1.04	1.97	0.00	1.97
36.60	0.44	0.41	1.06	1.97	0.00	1.97
36.65	0.44	0.41	1.08	1.96	0.00	1.96
36.70	0.45	0.41	1.09	1.96	0.00	1.96
36.75	0.45	0.41	1.09	1.96	0.00	1.96
36.80	0.44	0.41	1.08	1.95	0.00	1.95
36.85	0.44	0.41	1.07	1.95	0.00	1.95
36.90	0.44	0.41	1.08	1.94	0.00	1.94
36.95	0.44	0.41	1.07	1.94	0.00	1.94
37.00	0.44	0.41	1.07	1.94	0.00	1.94
37.05	0.44	0.41	1.07	1.93	0.00	1.93
37.10	0.44	0.41	1.06	1.93	0.00	1.93
37.15	0.43	0.41	1.05	1.93	0.00	1.93
37.20	0.42	0.41	1.03	1.92	0.00	1.92
37.25	0.42	0.41	1.01	1.92	0.00	1.92
37.30	0.41	0.41	0.99*	1.92	0.00	1.92
37.35	0.40	0.41	0.97*	1.91	0.00	1.91
37.40	0.39	0.41	0.94*	1.91	0.00	1.91
37.45	0.38	0.41	0.92*	1.90	0.00	1.90
37.50	0.37	0.41	0.91*	1.90	0.00	1.90
37.55	0.37	0.41	0.90*	1.89	0.00	1.89
37.60	0.37	0.41	0.90*	1.88	0.00	1.88
37.65	0.36	0.41	0.89*	1.88	0.00	1.88
37.70	0.37	0.41	0.89*	1.87	0.00	1.87
37.75	0.37	0.41	0.91*	1.87	0.00	1.87
37.80	0.38	0.41	0.92*	1.86	0.00	1.86
37.85	0.38	0.41	0.93*	1.85	0.00	1.85
37.90	0.38	0.41	0.93*	1.85	0.00	1.85
37.95	0.38	0.41	0.92*	1.84	0.00	1.84
38.00	0.37	0.41	0.91*	1.84	0.00	1.84
38.05	0.36	0.41	0.89*	1.83	0.00	1.83
38.10	0.36	0.41	0.87*	1.83	0.00	1.83
38.15	0.35	0.41	0.86*	1.82	0.00	1.82
38.20	0.35	0.41	0.85*	1.81	0.00	1.81
38.25	0.34	0.41	0.84*	1.81	0.00	1.81
38.30	0.33	0.41	0.80*	1.80	0.00	1.80
38.35	0.31	0.41	0.76*	1.79	0.00	1.79
38.40	0.29	0.41	0.71*	1.79	0.00	1.79
38.45	0.29	0.41	0.70*	1.78	0.00	1.78
38.50	0.29	0.41	0.70*	1.77	0.00	1.77

38.55	0.29	0.41	0.70*	1.76	0.00	1.76
38.60	0.29	0.41	0.70*	1.76	0.00	1.76
38.65	0.29	0.41	0.71*	1.75	0.00	1.75
38.70	0.27	0.41	0.67*	1.74	0.00	1.74
38.75	0.27	0.41	0.65*	1.73	0.00	1.73
38.80	0.27	0.41	0.67*	1.73	0.00	1.73
38.85	0.28	0.41	0.68*	1.72	0.00	1.72
38.90	0.28	0.41	0.68*	1.71	0.00	1.71
38.95	0.28	0.41	0.68*	1.70	0.00	1.70
39.00	0.28	0.41	0.68*	1.70	0.00	1.70
39.05	0.28	0.41	0.68*	1.69	0.00	1.69
39.10	0.27	0.41	0.67*	1.68	0.00	1.68
39.15	0.27	0.41	0.65*	1.68	0.00	1.68
39.20	0.26	0.41	0.63*	1.67	0.00	1.67
39.25	0.25	0.41	0.60*	1.66	0.00	1.66
39.30	0.24	0.41	0.58*	1.65	0.00	1.65
39.35	0.23	0.41	0.55*	1.64	0.00	1.64
39.40	0.21	0.41	0.53*	1.64	0.00	1.64
39.45	0.20	0.41	0.50*	1.63	0.00	1.63
39.50	0.19	0.41	0.48*	1.62	0.00	1.62
39.55	0.19	0.41	0.46*	1.61	0.00	1.61
39.60	0.18	0.41	0.45*	1.60	0.00	1.60
39.65	0.18	0.41	0.44*	1.59	0.00	1.59
39.70	0.18	0.41	0.43*	1.58	0.00	1.58
39.75	0.18	0.41	0.43*	1.58	0.00	1.58
39.80	0.18	0.41	0.44*	1.57	0.00	1.57
39.85	0.18	0.41	0.45*	1.56	0.00	1.56
39.90	0.19	0.41	0.46*	1.55	0.00	1.55
39.95	0.19	0.41	0.48*	1.54	0.00	1.54
40.00	0.20	0.41	0.49*	1.54	0.00	1.54
40.05	0.21	0.41	0.51*	1.53	0.00	1.53
40.10	0.22	0.41	0.54*	1.52	0.00	1.52
40.15	0.24	0.41	0.58*	1.52	0.00	1.52
40.20	0.26	0.41	0.63*	1.51	0.00	1.51
40.25	0.28	0.41	0.68*	1.51	0.00	1.51
40.30	0.28	0.41	0.68*	1.51	0.00	1.51
40.35	0.29	0.41	0.72*	1.51	0.00	1.51
40.40	0.28	0.41	0.68*	1.51	0.00	1.51
40.45	0.22	0.41	0.54*	1.51	0.00	1.51
40.50	0.17	0.41	0.42*	1.50	0.00	1.50
40.55	0.13	0.41	0.32*	1.49	0.00	1.49
40.60	0.13	0.41	0.32*	1.48	0.00	1.48
40.65	0.13	0.41	0.33*	1.47	0.00	1.47
40.70	0.14	0.41	0.34*	1.46	0.00	1.46
40.75	0.15	0.41	0.36*	1.45	0.00	1.45
40.80	0.15	0.41	0.37*	1.44	0.00	1.44
40.85	0.16	0.41	0.39*	1.42	0.00	1.42
40.90	0.17	0.41	0.42*	1.41	0.00	1.41
40.95	0.18	0.41	0.44*	1.40	0.00	1.40
41.00	0.18	0.41	0.45*	1.39	0.00	1.39

41.05	0.19	0.41	0.46*	1.39	0.00	1.39
41.10	0.19	0.41	0.47*	1.38	0.00	1.38
41.15	0.20	0.41	0.48*	1.37	0.00	1.37
41.20	0.20	0.41	0.49*	1.36	0.00	1.36
41.25	0.20	0.41	0.50*	1.35	0.00	1.35
41.30	0.21	0.41	0.52*	1.34	0.00	1.34
41.35	0.23	0.41	0.57*	1.34	0.00	1.34
41.40	0.29	0.41	0.70*	1.33	0.00	1.33
41.45	2.00	0.41	5.00	1.33	0.00	1.33
41.50	2.00	0.41	5.00	1.33	0.00	1.33
41.55	2.00	0.41	5.00	1.33	0.00	1.33
41.60	2.00	0.41	5.00	1.33	0.00	1.33
41.65	2.00	0.41	5.00	1.33	0.00	1.33
41.70	2.00	0.41	5.00	1.33	0.00	1.33
41.75	2.00	0.41	5.00	1.33	0.00	1.33
41.80	2.00	0.41	5.00	1.33	0.00	1.33
41.85	2.00	0.41	5.00	1.33	0.00	1.33
41.90	2.00	0.41	5.00	1.33	0.00	1.33
41.95	0.22	0.41	0.55*	1.33	0.00	1.33
42.00	0.17	0.41	0.43*	1.33	0.00	1.33
42.05	0.18	0.41	0.44*	1.32	0.00	1.32
42.10	0.18	0.41	0.45*	1.31	0.00	1.31
42.15	0.18	0.41	0.44*	1.30	0.00	1.30
42.20	0.17	0.41	0.43*	1.29	0.00	1.29
42.25	0.17	0.41	0.42*	1.28	0.00	1.28
42.30	0.16	0.41	0.40*	1.27	0.00	1.27
42.35	0.15	0.41	0.38*	1.26	0.00	1.26
42.40	0.14	0.41	0.35*	1.26	0.00	1.26
42.45	0.15	0.41	0.37*	1.25	0.00	1.25
42.50	0.17	0.41	0.41*	1.24	0.00	1.24
42.55	0.19	0.41	0.48*	1.23	0.00	1.23
42.60	2.00	0.41	5.00	1.22	0.00	1.22
42.65	2.00	0.41	5.00	1.22	0.00	1.22
42.70	2.00	0.41	5.00	1.22	0.00	1.22
42.75	2.00	0.41	5.00	1.22	0.00	1.22
42.80	2.00	0.41	5.00	1.22	0.00	1.22
42.85	2.00	0.41	5.00	1.22	0.00	1.22
42.90	2.00	0.41	5.00	1.22	0.00	1.22
42.95	2.00	0.41	5.00	1.22	0.00	1.22
43.00	2.00	0.40	5.00	1.22	0.00	1.22
43.05	2.00	0.40	5.00	1.22	0.00	1.22
43.10	2.00	0.40	5.00	1.22	0.00	1.22
43.15	2.00	0.40	5.00	1.22	0.00	1.22
43.20	2.00	0.40	5.00	1.22	0.00	1.22
43.25	2.00	0.40	5.00	1.22	0.00	1.22
43.30	2.00	0.40	5.00	1.22	0.00	1.22
43.35	2.00	0.40	5.00	1.22	0.00	1.22
43.40	2.00	0.40	5.00	1.22	0.00	1.22
43.45	2.00	0.40	5.00	1.22	0.00	1.22
43.50	2.00	0.40	5.00	1.22	0.00	1.22

43.55	2.00	0.40	5.00	1.22	0.00	1.22
43.60	2.00	0.40	5.00	1.22	0.00	1.22
43.65	2.00	0.40	5.00	1.22	0.00	1.22
43.70	2.00	0.40	5.00	1.22	0.00	1.22
43.75	2.00	0.40	5.00	1.22	0.00	1.22
43.80	2.00	0.40	5.00	1.22	0.00	1.22
43.85	2.00	0.40	5.00	1.22	0.00	1.22
43.90	2.00	0.40	5.00	1.22	0.00	1.22
43.95	2.00	0.40	5.00	1.22	0.00	1.22
44.00	2.00	0.40	5.00	1.22	0.00	1.22
44.05	2.00	0.40	5.00	1.22	0.00	1.22
44.10	2.00	0.40	5.00	1.22	0.00	1.22
44.15	2.00	0.40	5.00	1.22	0.00	1.22
44.20	2.00	0.40	5.00	1.22	0.00	1.22
44.25	2.00	0.40	5.00	1.22	0.00	1.22
44.30	2.00	0.40	5.00	1.22	0.00	1.22
44.35	2.00	0.40	5.00	1.22	0.00	1.22
44.40	2.00	0.40	5.00	1.22	0.00	1.22
44.45	2.00	0.40	5.00	1.22	0.00	1.22
44.50	2.00	0.40	5.00	1.22	0.00	1.22
44.55	2.00	0.40	5.00	1.22	0.00	1.22
44.60	2.00	0.40	5.00	1.22	0.00	1.22
44.65	2.00	0.40	5.00	1.22	0.00	1.22
44.70	2.00	0.40	5.00	1.22	0.00	1.22
44.75	0.13	0.40	0.33*	1.22	0.00	1.22
44.80	0.13	0.40	0.33*	1.21	0.00	1.21
44.85	2.00	0.40	5.00	1.20	0.00	1.20
44.90	2.00	0.40	5.00	1.20	0.00	1.20
44.95	2.00	0.40	5.00	1.20	0.00	1.20
45.00	2.00	0.40	5.00	1.20	0.00	1.20
45.05	2.00	0.40	5.00	1.20	0.00	1.20
45.10	2.00	0.40	5.00	1.20	0.00	1.20
45.15	2.00	0.40	5.00	1.20	0.00	1.20
45.20	2.00	0.40	5.00	1.20	0.00	1.20
45.25	2.00	0.40	5.00	1.20	0.00	1.20
45.30	2.00	0.40	5.00	1.20	0.00	1.20
45.35	2.00	0.40	5.00	1.20	0.00	1.20
45.40	2.00	0.40	5.00	1.20	0.00	1.20
45.45	2.00	0.40	5.00	1.20	0.00	1.20
45.50	2.00	0.40	5.00	1.20	0.00	1.20
45.55	2.00	0.40	5.00	1.20	0.00	1.20
45.60	2.00	0.40	5.00	1.20	0.00	1.20
45.65	2.00	0.40	5.00	1.20	0.00	1.20
45.70	2.00	0.40	5.00	1.20	0.00	1.20
45.75	2.00	0.40	5.00	1.20	0.00	1.20
45.80	2.00	0.40	5.00	1.20	0.00	1.20
45.85	2.00	0.40	5.00	1.20	0.00	1.20
45.90	2.00	0.40	5.00	1.20	0.00	1.20
45.95	2.00	0.40	5.00	1.20	0.00	1.20
46.00	2.00	0.40	5.00	1.20	0.00	1.20

46.05	0.14	0.40	0.36*	1.20	0.00	1.20
46.10	0.16	0.40	0.39*	1.19	0.00	1.19
46.15	0.17	0.40	0.43*	1.18	0.00	1.18
46.20	0.19	0.40	0.47*	1.17	0.00	1.17
46.25	0.20	0.40	0.51*	1.16	0.00	1.16
46.30	0.22	0.40	0.54*	1.16	0.00	1.16
46.35	0.23	0.40	0.57*	1.15	0.00	1.15
46.40	0.24	0.40	0.60*	1.14	0.00	1.14
46.45	0.25	0.40	0.62*	1.13	0.00	1.13
46.50	0.25	0.40	0.62*	1.12	0.00	1.12
46.55	0.24	0.40	0.61*	1.12	0.00	1.12
46.60	0.23	0.40	0.59*	1.11	0.00	1.11
46.65	0.22	0.40	0.56*	1.10	0.00	1.10
46.70	0.21	0.40	0.54*	1.09	0.00	1.09
46.75	0.20	0.40	0.51*	1.09	0.00	1.09
46.80	0.20	0.40	0.49*	1.08	0.00	1.08
46.85	0.19	0.40	0.48*	1.07	0.00	1.07
46.90	0.19	0.40	0.48*	1.06	0.00	1.06
46.95	0.19	0.40	0.48*	1.05	0.00	1.05
47.00	0.19	0.40	0.48*	1.05	0.00	1.05
47.05	0.18	0.40	0.45*	1.04	0.00	1.04
47.10	0.19	0.40	0.49*	1.03	0.00	1.03
47.15	2.00	0.40	5.00	1.02	0.00	1.02
47.20	2.00	0.40	5.00	1.02	0.00	1.02
47.25	2.00	0.40	5.00	1.02	0.00	1.02
47.30	2.00	0.40	5.00	1.02	0.00	1.02
47.35	2.00	0.40	5.00	1.02	0.00	1.02
47.40	2.00	0.40	5.00	1.02	0.00	1.02
47.45	2.00	0.40	5.00	1.02	0.00	1.02
47.50	2.00	0.40	5.00	1.02	0.00	1.02
47.55	2.00	0.40	5.00	1.02	0.00	1.02
47.60	2.00	0.40	5.00	1.02	0.00	1.02
47.65	2.00	0.40	5.00	1.02	0.00	1.02
47.70	2.00	0.40	5.00	1.02	0.00	1.02
47.75	0.22	0.40	0.56*	1.02	0.00	1.02
47.80	0.20	0.40	0.51*	1.02	0.00	1.02
47.85	0.19	0.40	0.48*	1.01	0.00	1.01
47.90	0.18	0.40	0.46*	1.01	0.00	1.01
47.95	0.18	0.40	0.44*	1.00	0.00	1.00
48.00	0.17	0.40	0.43*	0.99	0.00	0.99
48.05	0.17	0.40	0.43*	0.98	0.00	0.98
48.10	0.17	0.40	0.43*	0.98	0.00	0.98
48.15	0.17	0.40	0.43*	0.97	0.00	0.97
48.20	0.17	0.40	0.44*	0.96	0.00	0.96
48.25	0.18	0.40	0.44*	0.95	0.00	0.95
48.30	0.18	0.40	0.46*	0.94	0.00	0.94
48.35	0.19	0.40	0.47*	0.94	0.00	0.94
48.40	0.19	0.40	0.48*	0.93	0.00	0.93
48.45	0.19	0.40	0.49*	0.92	0.00	0.92
48.50	0.20	0.40	0.50*	0.92	0.00	0.92

48.55	0.19	0.40	0.49*	0.91	0.00	0.91
48.60	0.19	0.40	0.49*	0.90	0.00	0.90
48.65	0.19	0.39	0.49*	0.89	0.00	0.89
48.70	0.19	0.39	0.47*	0.89	0.00	0.89
48.75	0.18	0.39	0.46*	0.88	0.00	0.88
48.80	0.18	0.39	0.46*	0.87	0.00	0.87
48.85	0.19	0.39	0.49*	0.87	0.00	0.87
48.90	2.00	0.39	5.00	0.86	0.00	0.86
48.95	2.00	0.39	5.00	0.86	0.00	0.86
49.00	2.00	0.39	5.00	0.86	0.00	0.86
49.05	2.00	0.39	5.00	0.86	0.00	0.86
49.10	2.00	0.39	5.00	0.86	0.00	0.86
49.15	2.00	0.39	5.00	0.86	0.00	0.86
49.20	2.00	0.39	5.00	0.86	0.00	0.86
49.25	2.00	0.39	5.00	0.86	0.00	0.86
49.30	2.00	0.39	5.00	0.86	0.00	0.86
49.35	2.00	0.39	5.00	0.86	0.00	0.86
49.40	2.00	0.39	5.00	0.86	0.00	0.86
49.45	2.00	0.39	5.00	0.86	0.00	0.86
49.50	2.00	0.39	5.00	0.86	0.00	0.86
49.55	2.00	0.39	5.00	0.86	0.00	0.86
49.60	2.00	0.39	5.00	0.86	0.00	0.86
49.65	2.00	0.39	5.00	0.86	0.00	0.86
49.70	2.00	0.39	5.00	0.86	0.00	0.86
49.75	2.00	0.39	5.00	0.86	0.00	0.86
49.80	2.00	0.39	5.00	0.86	0.00	0.86
49.85	2.00	0.39	5.00	0.86	0.00	0.86
49.90	2.00	0.39	5.00	0.86	0.00	0.86
49.95	2.00	0.39	5.00	0.86	0.00	0.86
50.00	2.00	0.39	5.00	0.86	0.00	0.86
50.05	2.00	0.39	5.00	0.86	0.00	0.86
50.10	2.00	0.39	5.00	0.86	0.00	0.86
50.15	2.00	0.39	5.00	0.86	0.00	0.86
50.20	2.00	0.39	5.00	0.86	0.00	0.86
50.25	0.22	0.39	0.56*	0.86	0.00	0.86
50.30	0.18	0.39	0.46*	0.85	0.00	0.85
50.35	0.15	0.39	0.39*	0.85	0.00	0.85
50.40	0.14	0.39	0.37*	0.84	0.00	0.84
50.45	0.15	0.39	0.38*	0.83	0.00	0.83
50.50	0.17	0.39	0.42*	0.82	0.00	0.82
50.55	2.00	0.39	5.00	0.81	0.00	0.81
50.60	2.00	0.39	5.00	0.81	0.00	0.81
50.65	2.00	0.39	5.00	0.81	0.00	0.81
50.70	2.00	0.39	5.00	0.81	0.00	0.81
50.75	2.00	0.39	5.00	0.81	0.00	0.81
50.80	2.00	0.39	5.00	0.81	0.00	0.81
50.85	2.00	0.39	5.00	0.81	0.00	0.81
50.90	2.00	0.39	5.00	0.81	0.00	0.81
50.95	2.00	0.39	5.00	0.81	0.00	0.81
51.00	2.00	0.39	5.00	0.81	0.00	0.81

51.05	2.00	0.39	5.00	0.81	0.00	0.81
51.10	2.00	0.39	5.00	0.81	0.00	0.81
51.15	2.00	0.39	5.00	0.81	0.00	0.81
51.20	2.00	0.39	5.00	0.81	0.00	0.81
51.25	2.00	0.39	5.00	0.81	0.00	0.81
51.30	2.00	0.39	5.00	0.81	0.00	0.81
51.35	2.00	0.39	5.00	0.81	0.00	0.81
51.40	2.00	0.39	5.00	0.81	0.00	0.81
51.45	2.00	0.39	5.00	0.81	0.00	0.81
51.50	2.00	0.39	5.00	0.81	0.00	0.81
51.55	2.00	0.39	5.00	0.81	0.00	0.81
51.60	0.19	0.39	0.50*	0.81	0.00	0.81
51.65	0.16	0.39	0.41*	0.81	0.00	0.81
51.70	0.15	0.39	0.37*	0.80	0.00	0.80
51.75	0.14	0.39	0.35*	0.79	0.00	0.79
51.80	0.13	0.39	0.33*	0.78	0.00	0.78
51.85	0.13	0.39	0.32*	0.77	0.00	0.77
51.90	0.13	0.39	0.32*	0.75	0.00	0.75
51.95	0.13	0.39	0.33*	0.74	0.00	0.74
52.00	0.15	0.39	0.38*	0.73	0.00	0.73
52.05	2.00	0.39	5.00	0.72	0.00	0.72
52.10	2.00	0.39	5.00	0.72	0.00	0.72
52.15	2.00	0.39	5.00	0.72	0.00	0.72
52.20	2.00	0.39	5.00	0.72	0.00	0.72
52.25	2.00	0.39	5.00	0.72	0.00	0.72
52.30	2.00	0.39	5.00	0.72	0.00	0.72
52.35	2.00	0.39	5.00	0.72	0.00	0.72
52.40	2.00	0.39	5.00	0.72	0.00	0.72
52.45	0.19	0.39	0.48*	0.72	0.00	0.72
52.50	0.17	0.39	0.43*	0.72	0.00	0.72
52.55	0.16	0.39	0.42*	0.71	0.00	0.71
52.60	0.16	0.39	0.41*	0.70	0.00	0.70
52.65	0.16	0.39	0.40*	0.69	0.00	0.69
52.70	0.15	0.39	0.40*	0.68	0.00	0.68
52.75	0.15	0.39	0.40*	0.67	0.00	0.67
52.80	0.15	0.39	0.39*	0.66	0.00	0.66
52.85	0.15	0.39	0.39*	0.65	0.00	0.65
52.90	0.15	0.39	0.38*	0.64	0.00	0.64
52.95	0.14	0.38	0.37*	0.63	0.00	0.63
53.00	0.14	0.38	0.37*	0.62	0.00	0.62
53.05	0.14	0.38	0.36*	0.61	0.00	0.61
53.10	0.14	0.38	0.36*	0.60	0.00	0.60
53.15	0.14	0.38	0.36*	0.59	0.00	0.59
53.20	0.14	0.38	0.37*	0.58	0.00	0.58
53.25	0.15	0.38	0.38*	0.57	0.00	0.57
53.30	0.16	0.38	0.41*	0.56	0.00	0.56
53.35	0.18	0.38	0.48*	0.55	0.00	0.55
53.40	2.00	0.38	5.00	0.54	0.00	0.54
53.45	2.00	0.38	5.00	0.54	0.00	0.54
53.50	2.00	0.38	5.00	0.54	0.00	0.54

53.55	2.00	0.38	5.00	0.54	0.00	0.54
53.60	2.00	0.38	5.00	0.54	0.00	0.54
53.65	2.00	0.38	5.00	0.54	0.00	0.54
53.70	2.00	0.38	5.00	0.54	0.00	0.54
53.75	2.00	0.38	5.00	0.54	0.00	0.54
53.80	2.00	0.38	5.00	0.54	0.00	0.54
53.85	2.00	0.38	5.00	0.54	0.00	0.54
53.90	2.00	0.38	5.00	0.54	0.00	0.54
53.95	2.00	0.38	5.00	0.54	0.00	0.54
54.00	2.00	0.38	5.00	0.54	0.00	0.54
54.05	2.00	0.38	5.00	0.54	0.00	0.54
54.10	2.00	0.38	5.00	0.54	0.00	0.54
54.15	2.00	0.38	5.00	0.54	0.00	0.54
54.20	2.00	0.38	5.00	0.54	0.00	0.54
54.25	2.00	0.38	5.00	0.54	0.00	0.54
54.30	2.00	0.38	5.00	0.54	0.00	0.54
54.35	2.00	0.38	5.00	0.54	0.00	0.54
54.40	2.00	0.38	5.00	0.54	0.00	0.54
54.45	0.18	0.38	0.47*	0.54	0.00	0.54
54.50	0.19	0.38	0.49*	0.53	0.00	0.53
54.55	0.19	0.38	0.51*	0.53	0.00	0.53
54.60	0.20	0.38	0.53*	0.52	0.00	0.52
54.65	0.21	0.38	0.55*	0.51	0.00	0.51
54.70	0.22	0.38	0.57*	0.50	0.00	0.50
54.75	0.22	0.38	0.59*	0.49	0.00	0.49
54.80	0.23	0.38	0.60*	0.49	0.00	0.49
54.85	0.24	0.38	0.62*	0.48	0.00	0.48
54.90	0.24	0.38	0.63*	0.47	0.00	0.47
54.95	0.24	0.38	0.64*	0.46	0.00	0.46
55.00	0.24	0.38	0.64*	0.46	0.00	0.46
55.05	0.24	0.38	0.64*	0.45	0.00	0.45
55.10	0.24	0.38	0.64*	0.44	0.00	0.44
55.15	0.24	0.38	0.63*	0.44	0.00	0.44
55.20	0.24	0.38	0.62*	0.43	0.00	0.43
55.25	0.23	0.38	0.62*	0.42	0.00	0.42
55.30	0.23	0.38	0.62*	0.41	0.00	0.41
55.35	0.23	0.38	0.60*	0.41	0.00	0.41
55.40	0.22	0.38	0.59*	0.40	0.00	0.40
55.45	0.22	0.38	0.59*	0.39	0.00	0.39
55.50	0.23	0.38	0.60*	0.38	0.00	0.38
55.55	0.23	0.38	0.60*	0.38	0.00	0.38
55.60	0.23	0.38	0.60*	0.37	0.00	0.37
55.65	0.22	0.38	0.58*	0.36	0.00	0.36
55.70	0.23	0.38	0.60*	0.36	0.00	0.36
55.75	0.23	0.38	0.60*	0.35	0.00	0.35
55.80	0.22	0.38	0.59*	0.34	0.00	0.34
55.85	0.23	0.38	0.60*	0.33	0.00	0.33
55.90	0.23	0.38	0.60*	0.33	0.00	0.33
55.95	0.22	0.38	0.60*	0.32	0.00	0.32
56.00	0.22	0.38	0.59*	0.31	0.00	0.31

56.05	0.22	0.38	0.59*	0.30	0.00	0.30
56.10	0.22	0.38	0.58*	0.30	0.00	0.30
56.15	0.21	0.38	0.57*	0.29	0.00	0.29
56.20	0.21	0.38	0.56*	0.28	0.00	0.28
56.25	0.21	0.38	0.55*	0.27	0.00	0.27
56.30	0.22	0.38	0.59*	0.27	0.00	0.27
56.35	2.00	0.38	5.00	0.26	0.00	0.26
56.40	2.00	0.38	5.00	0.26	0.00	0.26
56.45	2.00	0.38	5.00	0.26	0.00	0.26
56.50	2.00	0.38	5.00	0.26	0.00	0.26
56.55	2.00	0.38	5.00	0.26	0.00	0.26
56.60	2.00	0.38	5.00	0.26	0.00	0.26
56.65	2.00	0.38	5.00	0.26	0.00	0.26
56.70	2.00	0.38	5.00	0.26	0.00	0.26
56.75	2.00	0.37	5.00	0.26	0.00	0.26
56.80	0.19	0.37	0.52*	0.26	0.00	0.26
56.85	0.18	0.37	0.47*	0.26	0.00	0.26
56.90	0.16	0.37	0.44*	0.25	0.00	0.25
56.95	0.15	0.37	0.41*	0.24	0.00	0.24
57.00	0.15	0.37	0.40*	0.23	0.00	0.23
57.05	0.14	0.37	0.39*	0.22	0.00	0.22
57.10	0.14	0.37	0.38*	0.21	0.00	0.21
57.15	0.14	0.37	0.38*	0.20	0.00	0.20
57.20	0.14	0.37	0.38*	0.19	0.00	0.19
57.25	0.14	0.37	0.38*	0.18	0.00	0.18
57.30	0.15	0.37	0.40*	0.17	0.00	0.17
57.35	0.16	0.37	0.43*	0.17	0.00	0.17
57.40	0.19	0.37	0.50*	0.16	0.00	0.16
57.45	2.00	0.37	5.00	0.15	0.00	0.15
57.50	2.00	0.37	5.00	0.15	0.00	0.15
57.55	2.00	0.37	5.00	0.15	0.00	0.15
57.60	2.00	0.37	5.00	0.15	0.00	0.15
57.65	2.00	0.37	5.00	0.15	0.00	0.15
57.70	2.00	0.37	5.00	0.15	0.00	0.15
57.75	2.00	0.37	5.00	0.15	0.00	0.15
57.80	2.00	0.37	5.00	0.15	0.00	0.15
57.85	2.00	0.37	5.00	0.15	0.00	0.15
57.90	2.00	0.37	5.00	0.15	0.00	0.15
57.95	2.00	0.37	5.00	0.15	0.00	0.15
58.00	2.00	0.37	5.00	0.15	0.00	0.15
58.05	2.00	0.37	5.00	0.15	0.00	0.15
58.10	2.00	0.37	5.00	0.15	0.00	0.15
58.15	2.00	0.37	5.00	0.15	0.00	0.15
58.20	2.00	0.37	5.00	0.15	0.00	0.15
58.25	2.00	0.37	5.00	0.15	0.00	0.15
58.30	2.00	0.37	5.00	0.15	0.00	0.15
58.35	2.00	0.37	5.00	0.15	0.00	0.15
58.40	2.00	0.37	5.00	0.15	0.00	0.15
58.45	2.00	0.37	5.00	0.15	0.00	0.15
58.50	2.00	0.37	5.00	0.15	0.00	0.15

58.55	2.00	0.37	5.00	0.15	0.00	0.15
58.60	2.00	0.37	5.00	0.15	0.00	0.15
58.65	2.00	0.37	5.00	0.15	0.00	0.15
58.70	2.00	0.37	5.00	0.15	0.00	0.15
58.75	2.00	0.37	5.00	0.15	0.00	0.15
58.80	2.00	0.37	5.00	0.15	0.00	0.15
58.85	2.00	0.37	5.00	0.15	0.00	0.15
58.90	2.00	0.37	5.00	0.15	0.00	0.15
58.95	2.00	0.37	5.00	0.15	0.00	0.15
59.00	2.00	0.37	5.00	0.15	0.00	0.15
59.05	2.00	0.37	5.00	0.15	0.00	0.15
59.10	2.00	0.37	5.00	0.15	0.00	0.15
59.15	2.00	0.37	5.00	0.15	0.00	0.15
59.20	2.00	0.37	5.00	0.15	0.00	0.15
59.25	0.12	0.37	0.33*	0.15	0.00	0.15
59.30	0.13	0.37	0.34*	0.14	0.00	0.14
59.35	0.13	0.37	0.35*	0.13	0.00	0.13
59.40	0.13	0.37	0.36*	0.12	0.00	0.12
59.45	0.14	0.37	0.37*	0.11	0.00	0.11
59.50	0.14	0.37	0.38*	0.10	0.00	0.10
59.55	0.14	0.37	0.39*	0.08	0.00	0.08
59.60	0.15	0.37	0.41*	0.07	0.00	0.07
59.65	0.15	0.37	0.42*	0.06	0.00	0.06
59.70	0.16	0.37	0.44*	0.05	0.00	0.05
59.75	0.16	0.37	0.45*	0.04	0.00	0.04
59.80	0.17	0.37	0.46*	0.04	0.00	0.04
59.85	0.17	0.37	0.47*	0.03	0.00	0.03
59.90	0.18	0.37	0.48*	0.02	0.00	0.02
59.95	0.18	0.37	0.49*	0.01	0.00	0.01
60.00	0.18	0.37	0.49*	0.00	0.00	0.00

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

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

—

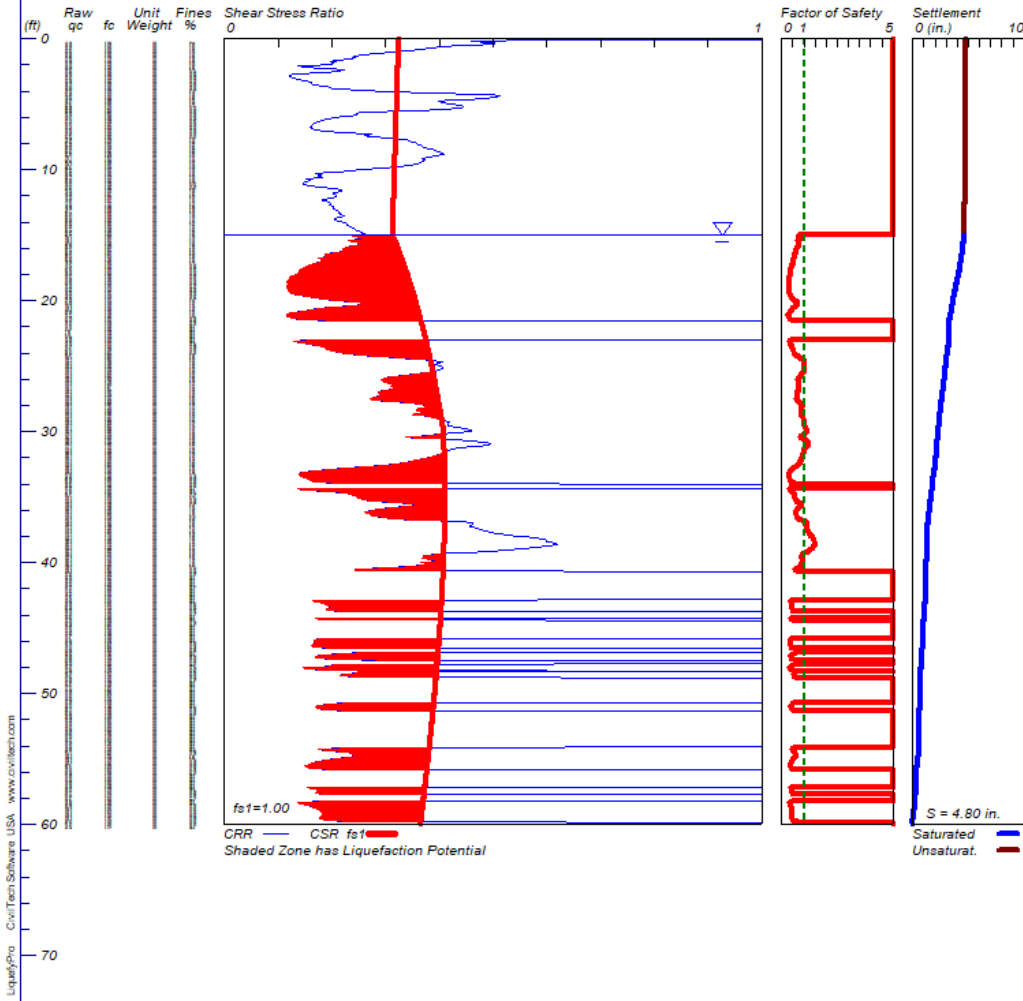
CRRm	Cyclic resistance ratio from soils
CSRsf	Cyclic stress ratio induced by a given earthquake (with user request factor of safety)
F.S.	Factor of Safety against liquefaction, F.S.=CRRm/CSRsf
S_sat	Settlement from saturated sands
S_dry	Settlement from Unsaturated Sands
S_all	Total Settlement from Saturated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

LIQUEFACTION ANALYSIS

MBGPF Expansion

Hole No.=CPT-3 Water Depth=15 ft Surface Elev.=46

Magnitude=7
Acceleration=0.5g



LiquifyPro - CivilTech Software USA www.civiltch.com

LIQUEFACTION ANALYSIS CALCULATION SHEET

Copyright by CivilTech Software
www.civiltech.com
(425) 453-6488 Fax (425) 453-5848

Licensed to , 8/1/2022 12:18:14 PM

Input File Name: G:\File Share\CTF temp\Projects\109182001 GHD MBGPF Well
Expansion - CTF\Liquefaction\CPT-3.liq
Title: MBGPF Expansion
Subtitle: 109182001

Surface Elev.=46
Hole No.=CPT-3
Depth of Hole= 60.0 ft
Water Table during Earthquake= 15.0 ft
Water Table during In-Situ Testing= 15.0 ft
Max. Acceleration= 0.5 g
Earthquake Magnitude= 7.0

Input Data:

Surface Elev.=46
Hole No.=CPT-3
Depth of Hole=60.0 ft
Water Table during Earthquake= 15.0 ft
Water Table during In-Situ Testing= 15.0 ft
Max. Acceleration=0.5 g
Earthquake Magnitude=7.0

1. CPT Calculation Method: Modify Robertson*
 2. Settlement Analysis Method: Tokimatsu, M-correction
 3. Fines Correction for Liquefaction: Idriss/Seed (SPT only)
 4. Fine Correction for Settlement: During Liquefaction*
 5. Settlement Calculation in: All zones*
 6. Hammer Energy Ratio, Ce = 1.25
 7. Borehole Diameter, Cb= 1
 8. Sampling Method, Cs= 1
 9. User request factor of safety (apply to CSR) , User= 1
Plot one CSR curve (fs1=User)
 10. Use Curve Smoothing: Yes*
- * Recommended Options

In-Situ Test Data:

Depth ft	qc tsf	fs tsf	gamma pcf	Fines %	D50 mm
0.0	-0.1	0.1	120.0	NoLiq	0.5
0.1	12.1	0.1	120.0	4.9	0.5
0.1	14.3	0.1	120.0	4.1	0.5
0.2	16.4	0.1	120.0	3.9	0.5
0.3	19.4	0.1	120.0	3.0	0.5
0.3	21.8	0.1	120.0	2.4	0.5
0.4	23.8	0.1	120.0	2.0	0.5
0.5	24.9	0.1	120.0	1.8	0.5
0.5	25.8	0.1	120.0	1.7	0.5
0.6	27.1	0.1	120.0	1.6	0.5
0.7	27.9	0.1	120.0	1.8	0.5
0.7	28.8	0.1	120.0	2.0	0.5
0.8	29.6	0.1	120.0	2.4	0.5
0.9	30.3	0.1	120.0	2.7	0.5
0.9	30.9	0.1	120.0	2.9	0.5
1.0	30.8	0.1	120.0	3.2	0.5
1.1	31.5	0.1	120.0	3.8	0.5
1.1	30.6	0.1	120.0	4.3	0.5
1.2	31.0	0.1	120.0	4.7	0.5
1.2	31.0	0.1	120.0	4.9	0.5
1.3	31.0	0.1	120.0	4.9	0.5
1.4	31.5	0.1	120.0	4.8	0.5
1.4	32.4	0.1	120.0	4.6	0.5
1.5	32.4	0.1	120.0	4.5	0.5
1.6	32.1	0.1	120.0	4.4	0.5
1.7	31.5	0.1	120.0	4.6	0.5
1.7	30.5	0.1	120.0	5.7	0.5
1.8	30.7	0.2	120.0	7.7	0.5
1.8	29.9	0.2	120.0	8.5	0.5
1.9	29.7	0.2	120.0	9.0	0.5
2.0	30.0	0.2	120.0	9.0	0.5
2.0	28.4	0.1	120.0	8.0	0.5
2.1	22.5	0.1	120.0	9.0	0.5
2.2	22.8	0.2	120.0	13.3	0.5
2.2	22.9	0.2	120.0	15.6	0.5
2.3	22.8	0.4	120.0	19.0	0.5
2.4	22.8	0.4	120.0	20.5	0.5
2.5	26.0	0.4	120.0	17.4	0.5
2.5	27.1	0.3	120.0	15.6	0.5
2.6	32.1	0.3	120.0	11.7	0.5
2.6	26.1	0.2	120.0	12.3	0.5
2.7	18.0	0.1	120.0	16.6	0.5
2.8	18.6	0.1	120.0	15.0	0.5
2.8	20.4	0.1	120.0	12.5	0.5
2.9	22.1	0.1	120.0	10.7	0.5
3.0	23.8	0.1	120.0	10.2	0.5
3.0	24.1	0.1	120.0	10.1	0.5

3.1	26.8	0.1	120.0	10.6	0.5
3.2	24.1	0.2	120.0	13.3	0.5
3.2	26.8	0.2	120.0	14.5	0.5
3.3	24.1	0.3	120.0	16.5	0.5
3.4	26.8	0.3	120.0	16.0	0.5
3.4	28.6	0.3	120.0	14.6	0.5
3.5	28.8	0.3	120.0	14.3	0.5
3.6	31.5	0.3	120.0	13.3	0.5
3.6	36.4	0.3	120.0	11.5	0.5
3.7	38.8	0.3	120.0	10.4	0.5
3.8	40.1	0.3	120.0	9.7	0.5
3.8	42.3	0.3	120.0	9.3	0.5
3.9	47.6	0.3	120.0	8.3	0.5
4.0	53.5	0.3	120.0	7.2	0.5
4.0	59.8	0.3	120.0	6.1	0.5
4.1	63.7	0.4	120.0	5.6	0.5
4.1	70.4	0.4	120.0	4.9	0.5
4.2	75.3	0.4	120.0	4.6	0.5
4.3	78.1	0.5	120.0	4.6	0.5
4.3	78.8	0.5	120.0	4.7	0.5
4.4	79.9	0.5	120.0	4.6	0.5
4.5	80.2	0.5	120.0	4.7	0.5
4.6	79.2	0.5	120.0	5.2	0.5
4.6	78.2	0.5	120.0	5.6	0.5
4.7	74.8	0.6	120.0	6.7	0.5
4.7	68.0	0.6	120.0	8.0	0.5
4.8	67.9	0.7	120.0	8.7	0.5
4.9	66.7	0.7	120.0	9.5	0.5
4.9	66.6	0.8	120.0	10.1	0.5
5.0	66.8	0.8	120.0	10.7	0.5
5.1	66.6	0.9	120.0	11.3	0.5
5.1	66.7	0.9	120.0	11.6	0.5
5.2	66.9	1.0	120.0	11.8	0.5
5.3	66.7	1.0	120.0	12.1	0.5
5.3	64.9	1.0	120.0	12.6	0.5
5.4	62.7	1.0	120.0	13.0	0.5
5.5	59.6	0.9	120.0	13.5	0.5
5.5	57.5	0.8	120.0	13.4	0.5
5.6	56.1	0.7	120.0	12.6	0.5
5.7	56.1	0.5	120.0	10.4	0.5
5.7	55.8	0.5	120.0	10.2	0.5
5.8	56.2	0.5	120.0	10.4	0.5
5.8	55.3	0.5	120.0	10.7	0.5
5.9	53.5	0.5	120.0	11.6	0.5
6.0	47.0	0.5	120.0	12.6	0.5
6.0	47.4	0.5	120.0	12.9	0.5
6.1	46.0	0.5	120.0	13.2	0.5
6.2	43.1	0.5	120.0	14.3	0.5
6.2	40.5	0.5	120.0	15.4	0.5
6.3	38.2	0.5	120.0	16.6	0.5

6.4	35.0	0.5	120.0	18.4	0.5
6.5	31.7	0.5	120.0	20.3	0.5
6.5	30.4	0.5	120.0	21.1	0.5
6.6	30.4	0.4	120.0	21.1	0.5
6.6	30.9	0.4	120.0	20.5	0.5
6.7	33.8	0.4	120.0	18.6	0.5
6.8	36.1	0.4	120.0	17.2	0.5
6.8	39.1	0.4	120.0	15.3	0.5
6.9	40.3	0.4	120.0	15.0	0.5
7.0	41.7	0.4	120.0	14.8	0.5
7.0	43.9	0.5	120.0	14.4	0.5
7.1	47.9	0.5	120.0	13.5	0.5
7.2	57.2	0.5	120.0	11.6	0.5
7.2	63.3	0.6	120.0	10.4	0.5
7.3	68.1	0.6	120.0	9.6	0.5
7.4	72.0	0.4	120.0	7.3	0.5
7.4	75.1	0.3	120.0	5.8	0.5
7.5	79.3	0.4	120.0	5.4	0.5
7.6	82.2	0.4	120.0	5.5	0.5
7.6	84.9	0.4	120.0	5.5	0.5
7.7	87.4	0.5	120.0	5.5	0.5
7.7	87.5	0.5	120.0	5.6	0.5
7.8	87.5	0.5	120.0	5.8	0.5
7.9	88.9	0.5	120.0	5.8	0.5
7.9	89.6	0.5	120.0	5.9	0.5
8.0	89.9	0.6	120.0	6.0	0.5
8.1	90.4	0.6	120.0	6.0	0.5
8.1	91.6	0.6	120.0	5.9	0.5
8.2	92.2	0.6	120.0	5.9	0.5
8.3	92.8	0.6	120.0	5.9	0.5
8.3	93.8	0.6	120.0	5.9	0.5
8.4	94.9	0.6	120.0	5.8	0.5
8.5	97.0	0.6	120.0	5.7	0.5
8.5	97.6	0.6	120.0	5.6	0.5
8.6	98.8	0.6	120.0	5.6	0.5
8.7	99.8	0.6	120.0	5.5	0.5
8.7	100.7	0.6	120.0	5.5	0.5
8.8	101.7	0.6	120.0	5.4	0.5
8.9	101.2	0.6	120.0	5.4	0.5
8.9	100.3	0.6	120.0	5.5	0.5
9.0	99.8	0.6	120.0	5.5	0.5
9.1	98.9	0.6	120.0	5.5	0.5
9.1	98.5	0.6	120.0	5.5	0.5
9.2	99.5	0.6	120.0	5.4	0.5
9.3	100.5	0.6	120.0	5.3	0.5
9.3	100.6	0.6	120.0	5.4	0.5
9.4	100.0	0.6	120.0	5.5	0.5
9.5	99.8	0.6	120.0	5.6	0.5
9.5	99.8	0.6	120.0	5.6	0.5
9.6	99.4	0.6	120.0	5.6	0.5

9.7	98.1	0.6	120.0	5.7	0.5
9.7	97.0	0.6	120.0	5.7	0.5
9.8	95.3	0.5	120.0	5.8	0.5
9.9	93.0	0.3	120.0	4.0	0.5
9.9	91.2	0.2	120.0	3.6	0.5
10.0	87.0	0.3	120.0	4.1	0.5
10.1	84.3	0.3	120.0	4.7	0.5
10.1	79.9	0.3	120.0	5.6	0.5
10.2	78.1	0.3	120.0	6.4	0.5
10.2	60.3	0.3	120.0	9.0	0.5
10.3	69.0	0.3	120.0	7.0	0.5
10.4	69.2	0.2	120.0	5.8	0.5
10.4	69.4	0.2	120.0	5.9	0.5
10.5	69.8	0.3	120.0	6.4	0.5
10.6	70.1	0.3	120.0	6.6	0.5
10.7	69.4	0.3	120.0	7.7	0.5
10.7	54.7	0.3	120.0	10.2	0.5
10.8	61.0	0.3	120.0	9.2	0.5
10.8	59.2	0.3	120.0	9.4	0.5
10.9	56.8	0.3	120.0	10.1	0.5
11.0	54.7	0.3	120.0	10.4	0.5
11.0	53.7	0.3	120.0	10.5	0.5
11.1	53.8	0.3	120.0	10.5	0.5
11.1	55.8	0.3	120.0	10.0	0.5
11.2	60.6	0.3	120.0	9.1	0.5
11.3	65.5	0.3	120.0	8.4	0.5
11.4	72.6	0.3	120.0	7.7	0.5
11.4	76.6	0.4	120.0	7.4	0.5
11.5	79.4	0.4	120.0	7.4	0.5
11.6	80.0	0.4	120.0	7.7	0.5
11.6	79.4	0.5	120.0	7.9	0.5
11.7	77.9	0.5	120.0	8.1	0.5
11.8	76.3	0.4	120.0	8.3	0.5
11.8	75.7	0.4	120.0	8.3	0.5
11.9	77.1	0.4	120.0	8.0	0.5
12.0	78.8	0.4	120.0	7.8	0.5
12.0	79.3	0.4	120.0	7.8	0.5
12.1	78.6	0.4	120.0	7.9	0.5
12.1	77.7	0.4	120.0	8.1	0.5
12.2	75.9	0.4	120.0	7.4	0.5
12.3	77.8	0.2	120.0	6.4	0.5
12.4	76.0	0.3	120.0	6.5	0.5
12.4	78.0	0.3	120.0	7.0	0.5
12.5	78.8	0.4	120.0	7.2	0.5
12.6	78.5	0.4	120.0	7.6	0.5
12.6	78.8	0.4	120.0	7.8	0.5
12.7	76.4	0.4	120.0	8.1	0.5
12.7	79.0	0.4	120.0	8.0	0.5
12.8	79.9	0.4	120.0	8.0	0.5
12.9	80.0	0.5	120.0	8.1	0.5

12.9	80.0	0.5	120.0	8.1	0.5
13.0	80.0	0.4	120.0	8.0	0.5
13.1	81.8	0.4	120.0	7.8	0.5
13.1	84.3	0.4	120.0	7.5	0.5
13.2	84.6	0.4	120.0	7.4	0.5
13.3	85.1	0.4	120.0	7.4	0.5
13.3	85.6	0.5	120.0	7.4	0.5
13.4	86.4	0.5	120.0	7.4	0.5
13.4	87.3	0.5	120.0	7.3	0.5
13.5	88.9	0.5	120.0	7.3	0.5
13.6	87.6	0.5	120.0	7.5	0.5
13.7	84.4	0.5	120.0	7.9	0.5
13.7	83.5	0.5	120.0	8.1	0.5
13.8	82.8	0.5	120.0	8.2	0.5
13.9	83.4	0.5	120.0	8.2	0.5
13.9	85.7	0.5	120.0	8.0	0.5
14.0	87.4	0.5	120.0	7.9	0.5
14.1	90.1	0.5	120.0	7.7	0.5
14.1	90.8	0.5	120.0	7.8	0.5
14.2	90.8	0.5	120.0	7.8	0.5
14.3	91.0	0.6	120.0	7.9	0.5
14.3	91.7	0.6	120.0	7.9	0.5
14.4	93.1	0.6	120.0	7.8	0.5
14.5	94.0	0.6	120.0	7.8	0.5
14.5	94.7	0.6	120.0	7.8	0.5
14.6	95.3	0.6	120.0	7.8	0.5
14.6	95.7	0.6	120.0	7.9	0.5
14.7	97.2	0.6	120.0	7.8	0.5
14.8	99.1	0.6	120.0	7.7	0.5
14.8	99.7	0.6	120.0	7.7	0.5
14.9	100.9	0.6	120.0	7.4	0.5
15.0	102.2	0.5	120.0	5.8	0.5
15.0	103.2	0.4	120.0	5.1	0.5
15.1	104.4	0.4	120.0	5.1	0.5
15.2	105.1	0.5	120.0	5.5	0.5
15.3	106.5	0.5	120.0	5.8	0.5
15.3	106.8	0.5	120.0	5.9	0.5
15.4	93.6	0.5	120.0	7.3	0.5
15.4	96.3	0.6	120.0	7.6	0.5
15.5	96.4	0.6	120.0	7.7	0.5
15.6	97.6	0.6	120.0	7.9	0.5
15.6	99.1	0.7	120.0	7.9	0.5
15.7	99.5	0.7	120.0	8.0	0.5
15.8	98.0	0.7	120.0	8.3	0.5
15.8	95.3	0.7	120.0	8.6	0.5
15.9	92.6	0.7	120.0	8.9	0.5
15.9	90.3	0.6	120.0	9.1	0.5
16.0	89.6	0.6	120.0	9.1	0.5
16.1	89.7	0.6	120.0	9.0	0.5
16.1	89.5	0.6	120.0	9.1	0.5

16.2	89.5	0.6	120.0	9.0	0.5
16.3	89.3	0.6	120.0	8.9	0.5
16.4	88.3	0.5	120.0	7.9	0.5
16.4	87.4	0.3	120.0	6.9	0.5
16.5	86.4	0.4	120.0	6.9	0.5
16.5	84.9	0.4	120.0	7.5	0.5
16.6	84.6	0.4	120.0	7.8	0.5
16.7	84.4	0.4	120.0	8.4	0.5
16.7	76.0	0.5	120.0	9.3	0.5
16.8	78.4	0.5	120.0	9.4	0.5
16.9	78.3	0.5	120.0	9.7	0.5
16.9	77.7	0.5	120.0	10.0	0.5
17.0	76.7	0.5	120.0	10.3	0.5
17.1	75.1	0.5	120.0	10.6	0.5
17.1	72.7	0.5	120.0	10.9	0.5
17.2	70.2	0.5	120.0	11.3	0.5
17.3	67.5	0.5	120.0	11.6	0.5
17.3	65.9	0.4	120.0	11.8	0.5
17.4	63.9	0.4	120.0	12.1	0.5
17.5	61.5	0.4	120.0	12.5	0.5
17.5	59.7	0.4	120.0	12.8	0.5
17.6	58.0	0.4	120.0	13.1	0.5
17.7	57.3	0.4	120.0	13.3	0.5
17.7	56.4	0.4	120.0	13.4	0.5
17.8	55.8	0.4	120.0	13.5	0.5
17.9	55.1	0.4	120.0	13.6	0.5
17.9	54.2	0.4	120.0	13.8	0.5
18.0	53.0	0.4	120.0	14.1	0.5
18.0	52.3	0.4	120.0	14.1	0.5
18.1	51.7	0.3	120.0	12.9	0.5
18.2	51.5	0.2	120.0	11.1	0.5
18.3	50.7	0.2	120.0	11.7	0.5
18.3	49.2	0.2	120.0	12.6	0.5
18.4	47.6	0.2	120.0	13.5	0.5
18.4	45.5	0.2	120.0	14.5	0.5
18.5	37.7	0.3	120.0	17.2	0.5
18.6	38.8	0.3	120.0	17.7	0.5
18.6	37.9	0.3	120.0	18.2	0.5
18.7	36.8	0.3	120.0	19.0	0.5
18.8	35.9	0.3	120.0	19.6	0.5
18.8	35.6	0.3	120.0	19.8	0.5
18.9	35.9	0.3	120.0	19.5	0.5
19.0	35.7	0.3	120.0	19.5	0.5
19.0	35.9	0.3	120.0	19.5	0.5
19.1	36.3	0.3	120.0	19.4	0.5
19.2	36.5	0.3	120.0	19.7	0.5
19.2	36.9	0.3	120.0	20.1	0.5
19.3	38.0	0.3	120.0	19.5	0.5
19.4	39.4	0.3	120.0	18.7	0.5
19.4	42.4	0.3	120.0	17.3	0.5

19.5	48.2	0.3	120.0	15.0	0.5
19.6	58.0	0.3	120.0	12.3	0.5
19.6	66.3	0.3	120.0	10.4	0.5
19.7	75.4	0.3	120.0	8.6	0.5
19.8	82.7	0.3	120.0	7.3	0.5
19.8	87.2	0.3	120.0	6.6	0.5
19.9	93.1	0.3	120.0	5.6	0.5
20.0	100.0	0.3	120.0	4.5	0.5
20.0	107.6	0.2	120.0	3.6	0.5
20.1	113.8	0.2	120.0	3.0	0.5
20.1	115.5	0.2	120.0	3.0	0.5
20.2	115.9	0.3	120.0	3.3	0.5
20.3	115.6	0.3	120.0	3.5	0.5
20.4	112.7	0.3	120.0	4.0	0.5
20.4	107.4	0.3	120.0	4.4	0.5
20.5	101.6	0.3	120.0	4.8	0.5
20.5	97.0	0.3	120.0	5.4	0.5
20.6	92.6	0.2	120.0	5.2	0.5
20.7	87.3	0.2	120.0	5.0	0.5
20.7	84.6	0.2	120.0	5.2	0.5
20.8	77.7	0.2	120.0	5.9	0.5
20.9	70.5	0.2	120.0	7.1	0.5
20.9	57.5	0.2	120.0	8.9	0.5
21.0	52.4	0.2	120.0	10.7	0.5
21.1	47.7	0.2	120.0	12.5	0.5
21.1	43.7	0.2	120.0	14.4	0.5
21.2	41.6	0.2	120.0	16.4	0.5
21.3	40.3	0.3	120.0	18.6	0.5
21.3	39.2	0.4	120.0	20.9	0.5
21.4	36.4	0.4	120.0	24.0	0.5
21.5	31.2	0.5	120.0	29.4	0.5
21.5	27.2	0.6	120.0	88.5	0.5
21.6	23.9	0.6	120.0	NoLiq	0.5
21.7	20.4	0.5	120.0	NoLiq	0.5
21.7	17.0	0.5	120.0	NoLiq	0.5
21.8	14.7	0.5	120.0	NoLiq	0.5
21.9	12.3	0.4	120.0	NoLiq	0.5
21.9	10.7	0.3	120.0	NoLiq	0.5
22.0	8.6	0.3	120.0	NoLiq	0.5
22.1	7.4	0.3	120.0	NoLiq	0.5
22.1	7.2	0.2	120.0	NoLiq	0.5
22.2	7.5	0.2	120.0	NoLiq	0.5
22.3	8.1	0.2	120.0	NoLiq	0.5
22.3	8.7	0.2	120.0	NoLiq	0.5
22.4	9.8	0.2	120.0	NoLiq	0.5
22.5	12.0	0.2	120.0	NoLiq	0.5
22.5	17.5	0.3	120.0	NoLiq	0.5
22.6	20.7	0.3	120.0	NoLiq	0.5
22.6	20.3	0.4	120.0	NoLiq	0.5
22.7	21.1	0.4	120.0	NoLiq	0.5

22.8	19.8	0.5	120.0	NoLiq	0.5
22.8	18.4	0.5	120.0	NoLiq	0.5
22.9	17.3	0.4	120.0	NoLiq	0.5
23.0	16.9	0.4	120.0	NoLiq	0.5
23.0	23.2	0.4	120.0	52.2	0.5
23.1	39.5	0.4	120.0	22.0	0.5
23.2	51.6	0.4	120.0	16.9	0.5
23.2	61.8	0.4	120.0	13.7	0.5
23.3	70.4	0.4	120.0	11.6	0.5
23.4	76.7	0.5	120.0	10.6	0.5
23.4	80.6	0.5	120.0	10.4	0.5
23.5	83.1	0.6	120.0	10.5	0.5
23.6	85.8	0.6	120.0	10.3	0.5
23.6	86.6	0.6	120.0	10.3	0.5
23.7	87.3	0.6	120.0	10.3	0.5
23.8	89.3	0.6	120.0	10.0	0.5
23.8	92.9	0.6	120.0	9.6	0.5
23.9	96.4	0.6	120.0	9.2	0.5
24.0	99.8	0.7	120.0	8.8	0.5
24.0	103.6	0.7	120.0	8.3	0.5
24.1	110.2	0.7	120.0	7.6	0.5
24.1	116.5	0.7	120.0	6.9	0.5
24.2	121.3	0.7	120.0	6.5	0.5
24.3	127.3	0.7	120.0	6.1	0.5
24.4	135.4	0.8	120.0	5.5	0.5
24.4	139.4	0.6	120.0	4.7	0.5
24.5	146.0	0.4	120.0	2.6	0.5
24.5	148.1	0.4	120.0	2.6	0.5
24.6	150.8	0.5	120.0	2.9	0.5
24.7	153.1	0.5	120.0	3.2	0.5
24.7	151.8	0.6	120.0	3.4	0.5
24.8	152.5	0.6	120.0	3.7	0.5
24.9	150.4	0.6	120.0	4.1	0.5
24.9	151.9	0.7	120.0	4.3	0.5
25.0	153.0	0.8	120.0	4.5	0.5
25.1	153.7	0.8	120.0	4.7	0.5
25.1	153.9	0.8	120.0	4.8	0.5
25.2	153.9	0.8	120.0	4.9	0.5
25.3	153.3	0.8	120.0	4.9	0.5
25.3	152.4	0.8	120.0	5.0	0.5
25.4	151.6	0.8	120.0	5.1	0.5
25.5	149.2	0.8	120.0	5.3	0.5
25.5	146.7	0.8	120.0	5.5	0.5
25.6	144.6	0.8	120.0	5.6	0.5
25.7	141.4	0.8	120.0	5.8	0.5
25.7	138.4	0.8	120.0	6.0	0.5
25.8	135.1	0.8	120.0	6.1	0.5
25.9	131.5	0.8	120.0	6.2	0.5
25.9	130.6	0.7	120.0	6.2	0.5
26.0	129.9	0.7	120.0	6.1	0.5

26.1	131.1	0.7	120.0	5.7	0.5
26.1	132.8	0.7	120.0	5.5	0.5
26.2	133.2	0.7	120.0	5.4	0.5
26.3	135.2	0.7	120.0	5.3	0.5
26.3	137.1	0.6	120.0	5.1	0.5
26.4	138.3	0.6	120.0	5.1	0.5
26.5	138.1	0.6	120.0	5.1	0.5
26.5	138.0	0.7	120.0	5.0	0.5
26.6	139.4	0.6	120.0	4.6	0.5
26.7	140.0	0.5	120.0	4.1	0.5
26.7	139.6	0.5	120.0	4.0	0.5
26.8	138.5	0.5	120.0	4.2	0.5
26.9	137.8	0.5	120.0	4.3	0.5
26.9	134.1	0.6	120.0	4.7	0.5
27.0	134.0	0.6	120.0	4.8	0.5
27.0	134.0	0.6	120.0	4.9	0.5
27.1	133.9	0.6	120.0	4.9	0.5
27.2	135.8	0.6	120.0	4.9	0.5
27.2	135.9	0.6	120.0	4.9	0.5
27.3	133.6	0.6	120.0	5.1	0.5
27.4	131.1	0.6	120.0	5.4	0.5
27.5	128.9	0.6	120.0	5.8	0.5
27.5	127.5	0.6	120.0	6.0	0.5
27.6	128.1	0.7	120.0	6.0	0.5
27.6	133.9	0.7	120.0	5.7	0.5
27.7	139.7	0.7	120.0	5.3	0.5
27.8	144.9	0.7	120.0	5.1	0.5
27.8	149.5	0.8	120.0	5.1	0.5
27.9	150.9	0.8	120.0	5.1	0.5
28.0	153.5	0.8	120.0	5.1	0.5
28.0	153.3	0.8	120.0	5.2	0.5
28.1	152.6	0.8	120.0	5.3	0.5
28.2	152.1	0.8	120.0	5.3	0.5
28.2	151.1	0.9	120.0	5.2	0.5
28.3	151.1	0.6	120.0	4.1	0.5
28.4	151.1	0.5	120.0	3.7	0.5
28.4	151.1	0.6	120.0	3.8	0.5
28.5	152.2	0.6	120.0	4.2	0.5
28.5	153.8	0.7	120.0	4.6	0.5
28.6	154.4	0.8	120.0	5.1	0.5
28.7	145.2	0.8	120.0	5.6	0.5
28.7	149.7	0.9	120.0	5.8	0.5
28.8	151.5	0.9	120.0	5.8	0.5
28.9	153.2	1.0	120.0	5.8	0.5
28.9	154.6	1.0	120.0	5.8	0.5
29.0	156.3	1.0	120.0	5.7	0.5
29.1	159.0	1.0	120.0	5.5	0.5
29.1	158.9	1.0	120.0	5.5	0.5
29.2	161.5	1.0	120.0	5.3	0.5
29.3	162.7	0.9	120.0	5.2	0.5

29.4	162.2	1.0	120.0	5.3	0.5
29.4	161.7	1.0	120.0	5.3	0.5
29.5	161.7	1.0	120.0	5.4	0.5
29.6	161.6	1.0	120.0	5.5	0.5
29.6	162.9	1.0	120.0	5.4	0.5
29.7	165.8	1.0	120.0	5.2	0.5
29.8	168.5	1.0	120.0	5.0	0.5
29.8	169.5	1.0	120.0	5.0	0.5
29.9	171.1	1.0	120.0	5.0	0.5
30.0	171.1	1.0	120.0	5.1	0.5
30.0	170.2	1.0	120.0	5.1	0.5
30.1	167.3	0.9	120.0	4.7	0.5
30.2	163.1	0.6	120.0	3.6	0.5
30.2	161.0	0.6	120.0	3.7	0.5
30.3	158.2	0.7	120.0	4.2	0.5
30.3	158.0	0.7	120.0	4.4	0.5
30.4	149.4	0.7	120.0	5.1	0.5
30.5	155.1	0.8	120.0	4.8	0.5
30.5	161.0	0.8	120.0	4.7	0.5
30.6	166.3	0.9	120.0	4.7	0.5
30.6	168.7	0.9	120.0	4.7	0.5
30.7	172.4	1.0	120.0	4.9	0.5
30.8	174.7	1.0	120.0	4.9	0.5
30.9	177.3	1.1	120.0	5.1	0.5
30.9	177.3	1.2	120.0	5.3	0.5
31.0	176.5	1.2	120.0	5.4	0.5
31.1	174.4	1.2	120.0	5.6	0.5
31.1	171.8	1.2	120.0	5.8	0.5
31.2	166.8	1.2	120.0	6.0	0.5
31.2	165.1	1.1	120.0	6.0	0.5
31.3	164.1	1.1	120.0	5.9	0.5
31.4	164.2	1.1	120.0	5.8	0.5
31.5	163.8	1.0	120.0	5.7	0.5
31.5	163.1	1.0	120.0	5.8	0.5
31.6	161.7	1.1	120.0	5.9	0.5
31.6	160.7	1.1	120.0	6.0	0.5
31.7	161.1	1.1	120.0	6.0	0.5
31.8	160.7	1.1	120.0	6.0	0.5
31.8	158.7	1.1	120.0	6.2	0.5
31.9	157.6	1.0	120.0	6.2	0.5
32.0	157.5	1.0	120.0	6.0	0.5
32.0	156.9	1.0	120.0	5.9	0.5
32.1	155.7	1.0	120.0	5.9	0.5
32.2	152.6	0.9	120.0	6.0	0.5
32.2	152.0	0.9	120.0	5.9	0.5
32.3	151.5	0.9	120.0	5.9	0.5
32.4	149.6	0.9	120.0	5.8	0.5
32.4	148.0	0.8	120.0	5.8	0.5
32.5	145.1	0.8	120.0	5.9	0.5
32.6	140.6	0.8	120.0	6.1	0.5

32.6	136.8	0.8	120.0	6.3	0.5
32.7	128.0	0.7	120.0	6.7	0.5
32.8	119.2	0.6	120.0	7.1	0.5
32.8	109.9	0.6	120.0	7.7	0.5
32.9	104.4	0.6	120.0	8.2	0.5
33.0	93.4	0.5	120.0	9.6	0.5
33.0	82.3	0.6	120.0	12.2	0.5
33.1	76.6	0.6	120.0	12.8	0.5
33.2	68.3	0.5	120.0	13.7	0.5
33.2	65.8	0.5	120.0	14.4	0.5
33.3	63.8	0.5	120.0	15.4	0.5
33.3	63.2	0.5	120.0	15.8	0.5
33.4	62.5	0.6	120.0	16.4	0.5
33.5	61.2	0.6	120.0	17.2	0.5
33.5	61.9	0.7	120.0	17.8	0.5
33.6	60.9	0.7	120.0	18.9	0.5
33.7	59.8	0.8	120.0	19.9	0.5
33.7	58.6	0.8	120.0	20.5	0.5
33.8	56.2	0.8	120.0	21.9	0.5
33.9	53.4	0.9	120.0	24.7	0.5
33.9	49.6	1.1	120.0	28.0	0.5
34.0	45.7	1.2	120.0	31.4	0.5
34.1	37.2	1.2	120.0	NoLiq	0.5
34.1	31.9	1.1	120.0	NoLiq	0.5
34.2	27.6	1.0	120.0	NoLiq	0.5
34.3	27.6	0.8	120.0	NoLiq	0.5
34.3	27.6	0.5	120.0	NoLiq	0.5
34.4	42.2	0.5	120.0	26.8	0.5
34.5	67.2	0.6	120.0	15.7	0.5
34.5	84.1	0.6	120.0	12.4	0.5
34.6	99.8	0.7	120.0	10.2	0.5
34.7	111.0	0.8	120.0	9.1	0.5
34.7	114.4	0.8	120.0	9.3	0.5
34.8	113.0	0.9	120.0	10.1	0.5
34.8	111.5	1.0	120.0	10.8	0.5
34.9	111.4	1.1	120.0	11.2	0.5
35.0	111.4	1.1	120.0	11.4	0.5
35.0	111.3	1.1	120.0	11.6	0.5
35.1	112.9	1.1	120.0	11.4	0.5
35.2	115.2	1.2	120.0	11.2	0.5
35.2	119.3	1.1	120.0	10.6	0.5
35.3	126.9	1.2	120.0	9.8	0.5
35.4	134.9	1.2	120.0	9.1	0.5
35.5	145.6	1.2	120.0	8.1	0.5
35.5	152.6	1.2	120.0	7.6	0.5
35.6	155.0	1.2	120.0	7.3	0.5
35.6	152.7	1.1	120.0	7.3	0.5
35.7	149.1	1.1	120.0	7.5	0.5
35.8	145.5	1.1	120.0	7.6	0.5
35.8	141.3	1.0	120.0	7.7	0.5

35.9	138.1	1.0	120.0	7.7	0.5
36.0	134.9	0.9	120.0	7.9	0.5
36.0	130.2	1.0	120.0	8.4	0.5
36.1	124.7	1.0	120.0	9.4	0.5
36.2	122.6	1.1	120.0	9.7	0.5
36.2	121.6	1.1	120.0	10.2	0.5
36.3	125.4	1.1	120.0	9.8	0.5
36.4	127.9	1.1	120.0	9.3	0.5
36.5	132.0	1.0	120.0	8.4	0.5
36.5	133.0	1.1	120.0	8.9	0.5
36.6	136.8	1.1	120.0	8.6	0.5
36.6	140.5	1.1	120.0	8.4	0.5
36.7	148.9	1.2	120.0	7.8	0.5
36.8	149.9	1.2	120.0	7.6	0.5
36.8	168.1	1.2	120.0	6.6	0.5
36.9	173.4	1.2	120.0	6.3	0.5
37.0	177.7	1.3	120.0	6.3	0.5
37.0	177.0	1.4	120.0	6.5	0.5
37.1	176.3	1.4	120.0	6.7	0.5
37.2	174.6	1.4	120.0	7.0	0.5
37.2	171.6	1.5	120.0	7.4	0.5
37.3	170.0	1.6	120.0	7.8	0.5
37.3	170.4	1.6	120.0	8.0	0.5
37.4	170.2	1.7	120.0	8.2	0.5
37.5	171.0	1.7	120.0	8.3	0.5
37.5	171.7	1.7	120.0	8.3	0.5
37.6	173.2	1.7	120.0	8.2	0.5
37.7	175.1	1.7	120.0	8.1	0.5
37.7	176.8	1.7	120.0	8.0	0.5
37.8	179.0	1.7	120.0	7.9	0.5
37.9	181.5	1.7	120.0	7.7	0.5
37.9	183.6	1.8	120.0	7.6	0.5
38.0	186.5	1.8	120.0	7.5	0.5
38.1	189.0	1.8	120.0	7.4	0.5
38.1	190.9	1.8	120.0	7.3	0.5
38.2	193.6	1.8	120.0	7.1	0.5
38.3	196.2	1.8	120.0	6.9	0.5
38.3	197.5	1.8	120.0	6.8	0.5
38.4	198.1	1.7	120.0	6.7	0.5
38.5	201.1	1.7	120.0	6.4	0.5
38.5	203.0	1.7	120.0	6.3	0.5
38.6	204.2	1.7	120.0	6.2	0.5
38.7	203.4	1.7	120.0	6.2	0.5
38.7	202.1	1.7	120.0	6.3	0.5
38.8	198.9	1.7	120.0	6.4	0.5
38.8	197.1	1.7	120.0	6.5	0.5
38.9	194.5	1.6	120.0	6.5	0.5
39.0	192.0	1.6	120.0	6.5	0.5
39.0	189.5	1.5	120.0	6.5	0.5
39.1	185.6	1.5	120.0	6.5	0.5

39.2	182.2	1.4	120.0	6.6	0.5
39.3	176.2	1.3	120.0	6.6	0.5
39.3	171.9	1.3	120.0	6.7	0.5
39.4	167.9	1.3	120.0	6.9	0.5
39.5	162.7	1.3	120.0	7.2	0.5
39.5	160.3	1.3	120.0	7.4	0.5
39.6	160.9	1.2	120.0	7.3	0.5
39.7	161.7	1.2	120.0	7.2	0.5
39.7	161.9	1.2	120.0	7.3	0.5
39.8	161.3	1.4	120.0	7.9	0.5
39.9	161.0	1.5	120.0	8.4	0.5
39.9	160.5	1.5	120.0	8.8	0.5
40.0	146.6	1.6	120.0	9.8	0.5
40.0	151.5	1.6	120.0	9.9	0.5
40.1	149.7	1.6	120.0	10.1	0.5
40.2	147.9	1.7	120.0	10.4	0.5
40.2	142.9	1.7	120.0	10.9	0.5
40.3	136.4	1.6	120.0	11.5	0.5
40.4	126.4	1.5	120.0	12.2	0.5
40.4	119.2	1.5	120.0	13.0	0.5
40.5	101.7	1.5	120.0	16.0	0.5
40.6	92.5	1.5	120.0	18.0	0.5
40.7	71.5	1.6	120.0	24.6	0.5
40.7	52.9	1.6	120.0	75.4	0.5
40.8	43.9	1.6	120.0	NoLiq	0.5
40.8	35.1	1.5	120.0	NoLiq	0.5
40.9	29.0	1.4	120.0	NoLiq	0.5
41.0	26.0	1.3	120.0	NoLiq	0.5
41.0	24.4	1.3	120.0	NoLiq	0.5
41.1	23.2	1.3	120.0	NoLiq	0.5
41.1	24.3	1.3	120.0	NoLiq	0.5
41.2	26.9	1.3	120.0	NoLiq	0.5
41.3	28.9	1.2	120.0	NoLiq	0.5
41.3	29.8	1.1	120.0	NoLiq	0.5
41.4	31.3	1.0	120.0	NoLiq	0.5
41.5	34.0	0.9	120.0	NoLiq	0.5
41.5	39.0	0.8	120.0	NoLiq	0.5
41.6	42.2	0.8	120.0	33.2	0.5
41.7	41.1	0.9	120.0	NoLiq	0.5
41.7	37.5	1.0	120.0	NoLiq	0.5
41.8	32.4	1.0	120.0	NoLiq	0.5
41.9	27.8	1.0	120.0	NoLiq	0.5
41.9	24.8	0.9	120.0	NoLiq	0.5
42.0	21.8	0.8	120.0	NoLiq	0.5
42.1	18.7	0.7	120.0	NoLiq	0.5
42.1	16.2	0.6	120.0	NoLiq	0.5
42.2	15.0	0.6	120.0	NoLiq	0.5
42.3	13.7	0.5	120.0	NoLiq	0.5
42.3	13.7	0.5	120.0	NoLiq	0.5
42.4	13.7	0.5	120.0	NoLiq	0.5

42.5	14.3	0.5	120.0	NoLiq	0.5
42.5	14.8	0.5	120.0	NoLiq	0.5
42.6	15.9	0.5	120.0	NoLiq	0.5
42.7	19.3	0.6	120.0	NoLiq	0.5
42.7	25.9	0.7	120.0	NoLiq	0.5
42.8	35.3	0.8	120.0	NoLiq	0.5
42.8	50.1	0.8	120.0	26.9	0.5
42.9	56.9	0.9	120.0	23.8	0.5
43.0	60.4	1.0	120.0	22.9	0.5
43.0	62.7	1.0	120.0	22.6	0.5
43.1	63.4	1.1	120.0	22.9	0.5
43.2	63.2	1.1	120.0	23.3	0.5
43.2	62.6	1.1	120.0	23.7	0.5
43.3	61.9	1.1	120.0	24.1	0.5
43.4	60.8	1.1	120.0	24.7	0.5
43.4	59.2	1.1	120.0	25.2	0.5
43.5	57.8	1.1	120.0	25.4	0.5
43.6	56.2	1.0	120.0	25.7	0.5
43.6	53.5	1.0	120.0	26.8	0.5
43.7	49.4	1.0	120.0	45.0	0.5
43.8	43.8	1.0	120.0	NoLiq	0.5
43.8	38.8	1.1	120.0	NoLiq	0.5
43.9	33.8	1.1	120.0	NoLiq	0.5
44.0	28.6	1.0	120.0	NoLiq	0.5
44.0	33.5	0.9	120.0	NoLiq	0.5
44.1	27.1	0.8	120.0	NoLiq	0.5
44.2	33.2	0.8	120.0	NoLiq	0.5
44.2	45.0	0.8	120.0	42.2	0.5
44.3	46.8	0.8	120.0	27.8	0.5
44.4	45.6	0.8	120.0	28.6	0.5
44.4	43.2	0.9	120.0	70.1	0.5
44.5	38.8	0.9	120.0	NoLiq	0.5
44.6	34.9	0.9	120.0	NoLiq	0.5
44.6	31.5	0.9	120.0	NoLiq	0.5
44.7	27.6	0.9	120.0	NoLiq	0.5
44.8	23.5	0.9	120.0	NoLiq	0.5
44.8	20.8	0.8	120.0	NoLiq	0.5
44.9	17.9	0.7	120.0	NoLiq	0.5
45.0	16.5	0.7	120.0	NoLiq	0.5
45.0	14.4	0.6	120.0	NoLiq	0.5
45.1	12.9	0.5	120.0	NoLiq	0.5
45.2	12.6	0.4	120.0	NoLiq	0.5
45.2	12.6	0.3	120.0	NoLiq	0.5
45.3	12.7	0.3	120.0	NoLiq	0.5
45.3	12.2	0.3	120.0	NoLiq	0.5
45.4	11.8	0.3	120.0	NoLiq	0.5
45.5	11.8	0.4	120.0	NoLiq	0.5
45.5	13.2	0.6	120.0	NoLiq	0.5
45.6	15.9	0.6	120.0	NoLiq	0.5
45.7	21.5	0.7	120.0	NoLiq	0.5

45.7	28.4	0.8	120.0	NoLiq	0.5
45.8	42.9	0.9	120.0	88.5	0.5
45.9	57.3	1.0	120.0	24.7	0.5
45.9	66.3	1.0	120.0	21.4	0.5
46.0	74.7	1.0	120.0	18.8	0.5
46.1	79.6	1.0	120.0	17.5	0.5
46.1	80.3	1.0	120.0	17.3	0.5
46.2	75.3	0.9	120.0	18.4	0.5
46.3	70.1	0.9	120.0	19.8	0.5
46.3	63.7	1.0	120.0	22.0	0.5
46.4	57.3	0.9	120.0	24.2	0.5
46.5	53.8	0.9	120.0	25.8	0.5
46.5	48.1	1.0	120.0	43.0	0.5
46.6	46.1	1.1	120.0	NoLiq	0.5
46.7	45.9	1.1	120.0	NoLiq	0.5
46.7	48.7	1.2	120.0	NoLiq	0.5
46.8	49.7	1.2	120.0	NoLiq	0.5
46.8	50.7	1.2	120.0	96.1	0.5
46.9	51.7	1.2	120.0	29.5	0.5
47.0	53.6	1.1	120.0	28.0	0.5
47.0	56.0	1.1	120.0	26.5	0.5
47.1	60.4	1.0	120.0	24.2	0.5
47.2	63.9	1.0	120.0	22.8	0.5
47.2	65.5	1.0	120.0	22.2	0.5
47.3	64.9	1.1	120.0	23.4	0.5
47.4	61.2	1.2	120.0	25.9	0.5
47.4	56.1	1.4	120.0	29.3	0.5
47.5	50.3	1.5	120.0	NoLiq	0.5
47.6	55.1	1.5	120.0	NoLiq	0.5
47.6	47.4	1.5	120.0	NoLiq	0.5
47.7	54.1	1.4	120.0	75.3	0.5
47.8	67.5	1.3	120.0	24.2	0.5
47.8	74.9	1.3	120.0	21.7	0.5
47.9	75.6	1.3	120.0	20.9	0.5
48.0	74.2	1.0	120.0	19.4	0.5
48.0	72.0	0.7	120.0	18.0	0.5
48.1	68.4	0.8	120.0	19.3	0.5
48.2	63.8	1.0	120.0	22.3	0.5
48.2	58.8	1.1	120.0	25.9	0.5
48.3	50.4	1.2	120.0	94.6	0.5
48.4	55.8	1.3	120.0	29.0	0.5
48.4	56.9	1.3	120.0	28.5	0.5
48.5	57.1	1.3	120.0	28.2	0.5
48.6	57.9	1.2	120.0	27.5	0.5
48.6	57.5	1.2	120.0	27.6	0.5
48.7	55.8	1.3	120.0	28.5	0.5
48.8	53.7	1.2	120.0	37.2	0.5
48.8	50.9	1.3	120.0	NoLiq	0.5
48.9	47.6	1.3	120.0	NoLiq	0.5
49.0	43.8	1.2	120.0	NoLiq	0.5

49.0	41.1	1.2	120.0	NoLiq	0.5
49.1	38.0	1.2	120.0	NoLiq	0.5
49.2	33.8	1.2	120.0	NoLiq	0.5
49.2	30.4	1.1	120.0	NoLiq	0.5
49.3	27.7	1.0	120.0	NoLiq	0.5
49.3	25.8	0.9	120.0	NoLiq	0.5
49.4	24.1	0.9	120.0	NoLiq	0.5
49.5	23.3	0.9	120.0	NoLiq	0.5
49.5	22.7	0.9	120.0	NoLiq	0.5
49.6	22.2	0.9	120.0	NoLiq	0.5
49.7	21.8	0.9	120.0	NoLiq	0.5
49.8	22.2	0.9	120.0	NoLiq	0.5
49.8	22.5	0.9	120.0	NoLiq	0.5
49.9	22.5	0.9	120.0	NoLiq	0.5
50.0	22.5	0.8	120.0	NoLiq	0.5
50.0	22.7	0.8	120.0	NoLiq	0.5
50.1	24.3	0.7	120.0	NoLiq	0.5
50.2	25.6	0.7	120.0	NoLiq	0.5
50.2	26.5	0.7	120.0	NoLiq	0.5
50.3	27.3	0.6	120.0	NoLiq	0.5
50.3	27.1	0.8	120.0	NoLiq	0.5
50.4	26.7	0.9	120.0	NoLiq	0.5
50.5	24.3	1.0	120.0	NoLiq	0.5
50.5	33.4	1.1	120.0	NoLiq	0.5
50.6	38.1	1.1	120.0	NoLiq	0.5
50.7	44.8	1.2	120.0	NoLiq	0.5
50.7	51.8	1.2	120.0	64.2	0.5
50.8	59.7	1.2	120.0	26.4	0.5
50.9	64.0	1.2	120.0	24.5	0.5
50.9	65.7	1.1	120.0	23.4	0.5
51.0	66.7	1.1	120.0	22.5	0.5
51.0	66.0	1.1	120.0	22.7	0.5
51.1	63.9	1.1	120.0	23.6	0.5
51.2	60.4	1.1	120.0	25.2	0.5
51.2	57.2	1.1	120.0	27.0	0.5
51.3	52.6	1.2	120.0	58.3	0.5
51.4	48.5	1.1	120.0	NoLiq	0.5
51.4	46.1	1.1	120.0	NoLiq	0.5
51.5	43.3	1.0	120.0	NoLiq	0.5
51.6	41.4	0.9	120.0	NoLiq	0.5
51.6	40.2	0.9	120.0	NoLiq	0.5
51.7	38.3	0.8	120.0	NoLiq	0.5
51.8	35.8	0.7	120.0	NoLiq	0.5
51.8	33.4	0.6	120.0	NoLiq	0.5
51.9	29.9	0.5	120.0	NoLiq	0.5
52.0	25.7	0.5	120.0	NoLiq	0.5
52.0	22.5	0.5	120.0	NoLiq	0.5
52.1	19.4	0.5	120.0	NoLiq	0.5
52.2	16.7	0.5	120.0	NoLiq	0.5
52.2	14.7	0.5	120.0	NoLiq	0.5

52.3	14.0	0.6	120.0	NoLiq	0.5
52.4	14.9	0.7	120.0	NoLiq	0.5
52.4	17.5	0.8	120.0	NoLiq	0.5
52.5	19.4	0.8	120.0	NoLiq	0.5
52.6	32.6	0.9	120.0	NoLiq	0.5
52.6	34.8	0.9	120.0	NoLiq	0.5
52.7	36.0	1.0	120.0	NoLiq	0.5
52.8	36.0	1.1	120.0	NoLiq	0.5
52.8	35.0	1.1	120.0	NoLiq	0.5
52.9	35.0	1.1	120.0	NoLiq	0.5
53.0	35.0	1.2	120.0	NoLiq	0.5
53.0	35.0	1.2	120.0	NoLiq	0.5
53.1	36.0	1.1	120.0	NoLiq	0.5
53.2	36.1	1.0	120.0	NoLiq	0.5
53.2	34.7	0.9	120.0	NoLiq	0.5
53.3	32.2	0.9	120.0	NoLiq	0.5
53.4	29.1	0.8	120.0	NoLiq	0.5
53.4	27.1	0.8	120.0	NoLiq	0.5
53.5	26.1	0.8	120.0	NoLiq	0.5
53.5	25.6	0.8	120.0	NoLiq	0.5
53.6	25.4	0.9	120.0	NoLiq	0.5
53.7	25.6	1.0	120.0	NoLiq	0.5
53.7	26.3	1.1	120.0	NoLiq	0.5
53.8	28.5	1.1	120.0	NoLiq	0.5
53.9	31.6	1.2	120.0	NoLiq	0.5
53.9	36.9	1.4	120.0	NoLiq	0.5
54.0	46.7	1.5	120.0	NoLiq	0.5
54.1	55.9	1.5	120.0	68.6	0.5
54.1	69.0	1.5	120.0	25.6	0.5
54.2	80.2	1.3	120.0	20.4	0.5
54.3	95.8	1.0	120.0	15.1	0.5
54.3	107.6	1.0	120.0	12.7	0.5
54.4	118.3	1.0	120.0	11.3	0.5
54.5	131.5	1.0	120.0	10.0	0.5
54.5	139.8	1.1	120.0	9.4	0.5
54.6	140.2	1.1	120.0	9.5	0.5
54.7	138.4	1.2	120.0	9.9	0.5
54.7	140.6	1.2	120.0	10.0	0.5
54.8	138.5	1.2	120.0	10.2	0.5
54.9	134.8	1.2	120.0	10.4	0.5
54.9	129.3	1.1	120.0	10.7	0.5
55.0	121.6	1.1	120.0	11.5	0.5
55.0	112.7	1.1	120.0	12.5	0.5
55.1	104.7	1.0	120.0	13.4	0.5
55.2	99.8	1.0	120.0	14.3	0.5
55.3	92.3	1.0	120.0	15.5	0.5
55.3	86.6	1.0	120.0	16.5	0.5
55.4	82.6	1.0	120.0	17.3	0.5
55.4	79.0	0.9	120.0	18.0	0.5
55.5	74.3	0.9	120.0	19.1	0.5

55.6	70.3	0.9	120.0	20.3	0.5
55.7	65.6	0.9	120.0	22.1	0.5
55.7	62.3	1.0	120.0	23.7	0.5
55.8	57.5	1.1	120.0	26.7	0.5
55.8	52.4	1.2	120.0	94.5	0.5
55.9	45.7	1.2	120.0	NoLiq	0.5
56.0	37.3	1.2	120.0	NoLiq	0.5
56.0	31.5	1.2	120.0	NoLiq	0.5
56.1	27.7	1.1	120.0	NoLiq	0.5
56.2	24.8	0.8	120.0	NoLiq	0.5
56.2	23.3	0.7	120.0	NoLiq	0.5
56.3	21.5	0.5	120.0	NoLiq	0.5
56.4	21.3	0.5	120.0	NoLiq	0.5
56.4	20.9	0.5	120.0	NoLiq	0.5
56.5	19.7	0.6	120.0	NoLiq	0.5
56.6	18.5	0.6	120.0	NoLiq	0.5
56.6	18.0	0.7	120.0	NoLiq	0.5
56.7	18.3	0.7	120.0	NoLiq	0.5
56.8	21.2	0.8	120.0	NoLiq	0.5
56.8	26.6	0.8	120.0	NoLiq	0.5
56.9	34.5	0.8	120.0	NoLiq	0.5
57.0	41.1	0.7	120.0	NoLiq	0.5
57.0	44.3	0.7	120.0	NoLiq	0.5
57.1	46.4	0.8	120.0	NoLiq	0.5
57.2	48.5	0.7	120.0	27.2	0.5
57.2	51.3	0.8	120.0	27.0	0.5
57.3	54.8	1.0	120.0	26.9	0.5
57.3	57.6	1.0	120.0	26.3	0.5
57.4	60.1	1.1	120.0	25.8	0.5
57.5	60.5	1.1	120.0	25.7	0.5
57.6	57.8	1.0	120.0	26.3	0.5
57.6	54.7	1.0	120.0	27.4	0.5
57.7	50.3	1.0	120.0	75.6	0.5
57.8	42.6	1.1	120.0	NoLiq	0.5
57.8	38.2	1.3	120.0	NoLiq	0.5
57.9	34.7	1.4	120.0	NoLiq	0.5
58.0	34.6	1.4	120.0	NoLiq	0.5
58.0	34.6	1.4	120.0	NoLiq	0.5
58.1	34.5	1.5	120.0	NoLiq	0.5
58.2	52.0	1.5	120.0	NoLiq	0.5
58.2	63.3	1.4	120.0	84.6	0.5
58.3	75.0	1.2	120.0	21.4	0.5
58.3	88.3	0.6	120.0	13.1	0.5
58.4	94.7	0.6	120.0	11.6	0.5
58.5	100.6	0.6	120.0	10.9	0.5
58.5	106.6	0.7	120.0	10.6	0.5
58.6	109.5	0.7	120.0	10.9	0.5
58.7	103.2	0.8	120.0	12.1	0.5
58.7	107.4	0.9	120.0	12.4	0.5
58.8	107.7	1.0	120.0	13.0	0.5

58.8	106.9	1.0	120.0	13.5	0.5
58.9	104.6	1.1	120.0	14.3	0.5
59.0	102.8	1.2	120.0	14.9	0.5
59.1	102.2	1.2	120.0	15.2	0.5
59.1	102.1	1.2	120.0	15.3	0.5
59.2	102.3	1.2	120.0	15.3	0.5
59.3	102.4	1.2	120.0	15.3	0.5
59.3	101.8	1.2	120.0	15.4	0.5
59.4	101.0	1.2	120.0	15.5	0.5
59.5	98.7	1.2	120.0	16.0	0.5
59.5	95.2	1.2	120.0	16.9	0.5
59.6	93.2	1.2	120.0	17.5	0.5
59.7	87.3	1.4	120.0	19.9	0.5
59.7	77.8	1.6	120.0	23.9	0.5
59.8	71.2	1.7	120.0	26.7	0.5
59.9	56.7	1.7	120.0	NoLiq	0.5
59.9	44.6	1.8	120.0	NoLiq	0.5
60.0	40.2	0.0	120.0	NoLiq	0.5

Output Results:

Settlement of Saturated Sands=4.65 in.
Settlement of Unsaturated Sands=0.15 in.
Total Settlement of Saturated and Unsaturated Sands=4.80 in.
Differential Settlement=2.400 to 3.168 in.

Depth ft	CRRm	CSRsf	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	2.00	0.32	5.00	4.65	0.15	4.80
0.05	2.00	0.32	5.00	4.65	0.15	4.80
0.10	0.54	0.32	5.00	4.65	0.15	4.80
0.15	0.51	0.32	5.00	4.65	0.15	4.80
0.20	0.46	0.32	5.00	4.65	0.15	4.80
0.25	0.49	0.32	5.00	4.65	0.15	4.80
0.30	0.50	0.32	5.00	4.65	0.15	4.80
0.35	0.50	0.32	5.00	4.65	0.15	4.80
0.40	0.49	0.32	5.00	4.65	0.15	4.80
0.45	0.47	0.32	5.00	4.65	0.15	4.80
0.50	0.45	0.32	5.00	4.65	0.15	4.80
0.55	0.43	0.32	5.00	4.65	0.15	4.80
0.60	0.42	0.32	5.00	4.65	0.15	4.80
0.65	0.40	0.32	5.00	4.65	0.15	4.80
0.70	0.39	0.32	5.00	4.65	0.15	4.80
0.75	0.38	0.32	5.00	4.65	0.15	4.80
0.80	0.37	0.32	5.00	4.65	0.15	4.80
0.85	0.36	0.32	5.00	4.65	0.15	4.80
0.90	0.35	0.32	5.00	4.65	0.15	4.80
0.95	0.33	0.32	5.00	4.65	0.15	4.80
1.00	0.32	0.32	5.00	4.65	0.15	4.80

1.05	0.31	0.32	5.00	4.65	0.15	4.80
1.10	0.29	0.32	5.00	4.65	0.15	4.80
1.15	0.27	0.32	5.00	4.65	0.15	4.80
1.20	0.27	0.32	5.00	4.65	0.15	4.80
1.25	0.26	0.32	5.00	4.65	0.15	4.80
1.30	0.25	0.32	5.00	4.65	0.15	4.80
1.35	0.24	0.32	5.00	4.65	0.15	4.80
1.40	0.24	0.32	5.00	4.65	0.15	4.80
1.45	0.24	0.32	5.00	4.65	0.15	4.80
1.50	0.24	0.32	5.00	4.65	0.15	4.80
1.55	0.23	0.32	5.00	4.65	0.15	4.80
1.60	0.22	0.32	5.00	4.65	0.15	4.80
1.65	0.21	0.32	5.00	4.65	0.15	4.80
1.70	0.20	0.32	5.00	4.65	0.15	4.80
1.75	0.20	0.32	5.00	4.65	0.15	4.80
1.80	0.21	0.32	5.00	4.65	0.15	4.80
1.85	0.20	0.32	5.00	4.65	0.15	4.80
1.90	0.20	0.32	5.00	4.65	0.15	4.80
1.95	0.20	0.32	5.00	4.65	0.15	4.79
2.00	0.19	0.32	5.00	4.65	0.15	4.79
2.05	0.17	0.32	5.00	4.65	0.15	4.79
2.10	0.14	0.32	5.00	4.65	0.14	4.79
2.15	0.15	0.32	5.00	4.65	0.14	4.79
2.20	0.16	0.32	5.00	4.65	0.14	4.79
2.25	0.17	0.32	5.00	4.65	0.14	4.79
2.30	0.19	0.32	5.00	4.65	0.14	4.79
2.35	0.22	0.32	5.00	4.65	0.14	4.79
2.40	0.22	0.32	5.00	4.65	0.14	4.79
2.45	0.21	0.32	5.00	4.65	0.14	4.79
2.50	0.20	0.32	5.00	4.65	0.14	4.79
2.55	0.20	0.32	5.00	4.65	0.14	4.79
2.60	0.17	0.32	5.00	4.65	0.14	4.79
2.65	0.14	0.32	5.00	4.65	0.14	4.79
2.70	0.13	0.32	5.00	4.65	0.14	4.79
2.75	0.12	0.32	5.00	4.65	0.14	4.79
2.80	0.12	0.32	5.00	4.65	0.14	4.79
2.85	0.12	0.32	5.00	4.65	0.14	4.79
2.90	0.12	0.32	5.00	4.65	0.14	4.79
2.95	0.13	0.32	5.00	4.65	0.14	4.79
3.00	0.13	0.32	5.00	4.65	0.14	4.79
3.05	0.13	0.32	5.00	4.65	0.14	4.79
3.10	0.14	0.32	5.00	4.65	0.14	4.79
3.15	0.14	0.32	5.00	4.65	0.14	4.78
3.20	0.15	0.32	5.00	4.65	0.14	4.78
3.25	0.15	0.32	5.00	4.65	0.14	4.78
3.30	0.16	0.32	5.00	4.65	0.13	4.78
3.35	0.16	0.32	5.00	4.65	0.13	4.78
3.40	0.16	0.32	5.00	4.65	0.13	4.78
3.45	0.16	0.32	5.00	4.65	0.13	4.78
3.50	0.16	0.32	5.00	4.65	0.13	4.78

3.55	0.17	0.32	5.00	4.65	0.13	4.78
3.60	0.18	0.32	5.00	4.65	0.13	4.78
3.65	0.19	0.32	5.00	4.65	0.13	4.78
3.70	0.19	0.32	5.00	4.65	0.13	4.78
3.75	0.20	0.32	5.00	4.65	0.13	4.78
3.80	0.20	0.32	5.00	4.65	0.13	4.78
3.85	0.22	0.32	5.00	4.65	0.13	4.78
3.90	0.24	0.32	5.00	4.65	0.13	4.78
3.95	0.27	0.32	5.00	4.65	0.13	4.78
4.00	0.29	0.32	5.00	4.65	0.13	4.78
4.05	0.33	0.32	5.00	4.65	0.13	4.78
4.10	0.37	0.32	5.00	4.65	0.13	4.78
4.15	0.41	0.32	5.00	4.65	0.13	4.78
4.20	0.45	0.32	5.00	4.65	0.13	4.78
4.25	0.48	0.32	5.00	4.65	0.13	4.78
4.30	0.50	0.32	5.00	4.65	0.13	4.78
4.35	0.51	0.32	5.00	4.65	0.13	4.78
4.40	0.51	0.32	5.00	4.65	0.13	4.78
4.45	0.51	0.32	5.00	4.65	0.13	4.78
4.50	0.50	0.32	5.00	4.65	0.13	4.78
4.55	0.49	0.32	5.00	4.65	0.13	4.78
4.60	0.48	0.32	5.00	4.65	0.13	4.78
4.65	0.46	0.32	5.00	4.65	0.13	4.78
4.70	0.42	0.32	5.00	4.65	0.13	4.78
4.75	0.40	0.32	5.00	4.65	0.13	4.78
4.80	0.40	0.32	5.00	4.65	0.13	4.78
4.85	0.40	0.32	5.00	4.65	0.13	4.78
4.90	0.41	0.32	5.00	4.65	0.13	4.77
4.95	0.42	0.32	5.00	4.65	0.13	4.77
5.00	0.43	0.32	5.00	4.65	0.13	4.77
5.05	0.43	0.32	5.00	4.65	0.13	4.77
5.10	0.44	0.32	5.00	4.65	0.13	4.77
5.15	0.44	0.32	5.00	4.65	0.13	4.77
5.20	0.45	0.32	5.00	4.65	0.12	4.77
5.25	0.44	0.32	5.00	4.65	0.12	4.77
5.30	0.43	0.32	5.00	4.65	0.12	4.77
5.35	0.42	0.32	5.00	4.65	0.12	4.77
5.40	0.39	0.32	5.00	4.65	0.12	4.77
5.45	0.37	0.32	5.00	4.65	0.12	4.77
5.50	0.35	0.32	5.00	4.65	0.12	4.77
5.55	0.32	0.32	5.00	4.65	0.12	4.77
5.60	0.29	0.32	5.00	4.65	0.12	4.77
5.65	0.25	0.32	5.00	4.65	0.12	4.77
5.70	0.25	0.32	5.00	4.65	0.12	4.77
5.75	0.25	0.32	5.00	4.65	0.12	4.77
5.80	0.25	0.32	5.00	4.65	0.12	4.77
5.85	0.24	0.32	5.00	4.65	0.12	4.77
5.90	0.24	0.32	5.00	4.65	0.12	4.77
5.95	0.22	0.32	5.00	4.65	0.12	4.77
6.00	0.21	0.32	5.00	4.65	0.12	4.77

6.05	0.20	0.32	5.00	4.65	0.12	4.77
6.10	0.20	0.32	5.00	4.65	0.12	4.77
6.15	0.19	0.32	5.00	4.65	0.12	4.77
6.20	0.19	0.32	5.00	4.65	0.12	4.77
6.25	0.18	0.32	5.00	4.65	0.12	4.77
6.30	0.18	0.32	5.00	4.65	0.12	4.77
6.35	0.17	0.32	5.00	4.65	0.12	4.77
6.40	0.17	0.32	5.00	4.65	0.12	4.77
6.45	0.17	0.32	5.00	4.65	0.12	4.77
6.50	0.17	0.32	5.00	4.65	0.12	4.77
6.55	0.16	0.32	5.00	4.65	0.12	4.76
6.60	0.16	0.32	5.00	4.65	0.12	4.76
6.65	0.16	0.32	5.00	4.65	0.11	4.76
6.70	0.16	0.32	5.00	4.65	0.11	4.76
6.75	0.16	0.32	5.00	4.65	0.11	4.76
6.80	0.16	0.32	5.00	4.65	0.11	4.76
6.85	0.16	0.32	5.00	4.65	0.11	4.76
6.90	0.16	0.32	5.00	4.65	0.11	4.76
6.95	0.17	0.32	5.00	4.65	0.11	4.76
7.00	0.17	0.32	5.00	4.65	0.11	4.76
7.05	0.18	0.32	5.00	4.65	0.11	4.76
7.10	0.19	0.32	5.00	4.65	0.11	4.76
7.15	0.21	0.32	5.00	4.65	0.11	4.76
7.20	0.23	0.32	5.00	4.65	0.11	4.76
7.25	0.26	0.32	5.00	4.65	0.11	4.76
7.30	0.27	0.32	5.00	4.65	0.11	4.76
7.35	0.27	0.32	5.00	4.65	0.11	4.76
7.40	0.26	0.32	5.00	4.65	0.11	4.76
7.45	0.27	0.32	5.00	4.65	0.11	4.76
7.50	0.28	0.32	5.00	4.65	0.11	4.76
7.55	0.30	0.32	5.00	4.65	0.11	4.76
7.60	0.32	0.32	5.00	4.65	0.11	4.75
7.65	0.33	0.32	5.00	4.65	0.11	4.75
7.70	0.34	0.32	5.00	4.65	0.11	4.75
7.75	0.34	0.32	5.00	4.65	0.10	4.75
7.80	0.34	0.32	5.00	4.65	0.10	4.75
7.85	0.35	0.32	5.00	4.65	0.10	4.75
7.90	0.35	0.32	5.00	4.65	0.10	4.75
7.95	0.36	0.32	5.00	4.65	0.10	4.75
8.00	0.36	0.32	5.00	4.65	0.10	4.75
8.05	0.36	0.32	5.00	4.65	0.10	4.75
8.10	0.36	0.32	5.00	4.65	0.10	4.75
8.15	0.36	0.32	5.00	4.65	0.10	4.75
8.20	0.37	0.32	5.00	4.65	0.10	4.75
8.25	0.37	0.32	5.00	4.65	0.10	4.75
8.30	0.37	0.32	5.00	4.65	0.10	4.75
8.35	0.37	0.32	5.00	4.65	0.10	4.75
8.40	0.38	0.32	5.00	4.65	0.10	4.75
8.45	0.39	0.32	5.00	4.65	0.10	4.75
8.50	0.39	0.32	5.00	4.65	0.10	4.75

8.55	0.39	0.32	5.00	4.65	0.10	4.75
8.60	0.40	0.32	5.00	4.65	0.10	4.75
8.65	0.40	0.32	5.00	4.65	0.10	4.75
8.70	0.40	0.32	5.00	4.65	0.10	4.75
8.75	0.41	0.32	5.00	4.65	0.10	4.75
8.80	0.41	0.32	5.00	4.65	0.10	4.75
8.85	0.40	0.32	5.00	4.65	0.10	4.75
8.90	0.40	0.32	5.00	4.65	0.10	4.75
8.95	0.39	0.32	5.00	4.65	0.10	4.75
9.00	0.38	0.32	5.00	4.65	0.10	4.75
9.05	0.38	0.32	5.00	4.65	0.10	4.74
9.10	0.37	0.32	5.00	4.65	0.10	4.74
9.15	0.37	0.32	5.00	4.65	0.10	4.74
9.20	0.37	0.32	5.00	4.65	0.09	4.74
9.25	0.37	0.32	5.00	4.65	0.09	4.74
9.30	0.37	0.32	5.00	4.65	0.09	4.74
9.35	0.37	0.32	5.00	4.65	0.09	4.74
9.40	0.37	0.32	5.00	4.65	0.09	4.74
9.45	0.37	0.32	5.00	4.65	0.09	4.74
9.50	0.36	0.32	5.00	4.65	0.09	4.74
9.55	0.36	0.32	5.00	4.65	0.09	4.74
9.60	0.36	0.32	5.00	4.65	0.09	4.74
9.65	0.35	0.32	5.00	4.65	0.09	4.74
9.70	0.34	0.32	5.00	4.65	0.09	4.74
9.75	0.33	0.32	5.00	4.65	0.09	4.74
9.80	0.32	0.32	5.00	4.65	0.09	4.74
9.85	0.30	0.32	5.00	4.65	0.09	4.74
9.90	0.28	0.32	5.00	4.65	0.09	4.74
9.95	0.27	0.32	5.00	4.65	0.09	4.74
10.00	0.25	0.32	5.00	4.65	0.09	4.74
10.05	0.24	0.32	5.00	4.65	0.09	4.74
10.10	0.23	0.32	5.00	4.65	0.09	4.74
10.15	0.22	0.32	5.00	4.65	0.09	4.74
10.20	0.20	0.32	5.00	4.65	0.09	4.73
10.25	0.17	0.32	5.00	4.65	0.09	4.73
10.30	0.18	0.32	5.00	4.65	0.08	4.73
10.35	0.18	0.32	5.00	4.65	0.08	4.73
10.40	0.17	0.32	5.00	4.65	0.08	4.73
10.45	0.18	0.32	5.00	4.65	0.08	4.73
10.50	0.18	0.32	5.00	4.65	0.08	4.73
10.55	0.18	0.32	5.00	4.65	0.08	4.73
10.60	0.18	0.32	5.00	4.65	0.08	4.73
10.65	0.18	0.32	5.00	4.65	0.08	4.73
10.70	0.15	0.32	5.00	4.65	0.08	4.73
10.75	0.16	0.32	5.00	4.65	0.08	4.73
10.80	0.16	0.32	5.00	4.65	0.08	4.72
10.85	0.16	0.32	5.00	4.65	0.07	4.72
10.90	0.15	0.32	5.00	4.65	0.07	4.72
10.95	0.15	0.32	5.00	4.65	0.07	4.72
11.00	0.15	0.32	5.00	4.65	0.07	4.72

11.05	0.15	0.32	5.00	4.65	0.07	4.72
11.10	0.15	0.32	5.00	4.65	0.07	4.72
11.15	0.15	0.32	5.00	4.65	0.07	4.72
11.20	0.15	0.32	5.00	4.65	0.07	4.72
11.25	0.16	0.32	5.00	4.65	0.07	4.71
11.30	0.17	0.32	5.00	4.65	0.06	4.71
11.35	0.19	0.32	5.00	4.65	0.06	4.71
11.40	0.20	0.32	5.00	4.65	0.06	4.71
11.45	0.21	0.32	5.00	4.65	0.06	4.71
11.50	0.21	0.32	5.00	4.65	0.06	4.71
11.55	0.22	0.32	5.00	4.65	0.06	4.71
11.60	0.22	0.32	5.00	4.65	0.06	4.71
11.65	0.21	0.32	5.00	4.65	0.06	4.71
11.70	0.21	0.32	5.00	4.65	0.06	4.71
11.75	0.21	0.32	5.00	4.65	0.06	4.71
11.80	0.20	0.32	5.00	4.65	0.06	4.71
11.85	0.20	0.32	5.00	4.65	0.06	4.70
11.90	0.20	0.32	5.00	4.65	0.06	4.70
11.95	0.21	0.32	5.00	4.65	0.05	4.70
12.00	0.21	0.32	5.00	4.65	0.05	4.70
12.05	0.21	0.32	5.00	4.65	0.05	4.70
12.10	0.21	0.32	5.00	4.65	0.05	4.70
12.15	0.20	0.32	5.00	4.65	0.05	4.70
12.20	0.20	0.32	5.00	4.65	0.05	4.70
12.25	0.19	0.32	5.00	4.65	0.05	4.70
12.30	0.18	0.32	5.00	4.65	0.05	4.70
12.35	0.18	0.32	5.00	4.65	0.05	4.70
12.40	0.19	0.32	5.00	4.65	0.05	4.70
12.45	0.19	0.32	5.00	4.65	0.05	4.69
12.50	0.20	0.32	5.00	4.65	0.04	4.69
12.55	0.20	0.32	5.00	4.65	0.04	4.69
12.60	0.20	0.32	5.00	4.65	0.04	4.69
12.65	0.20	0.32	5.00	4.65	0.04	4.69
12.70	0.20	0.32	5.00	4.65	0.04	4.69
12.75	0.20	0.32	5.00	4.65	0.04	4.69
12.80	0.20	0.32	5.00	4.65	0.04	4.69
12.85	0.20	0.32	5.00	4.65	0.04	4.69
12.90	0.20	0.32	5.00	4.65	0.04	4.69
12.95	0.20	0.32	5.00	4.65	0.04	4.69
13.00	0.20	0.32	5.00	4.65	0.04	4.68
13.05	0.21	0.32	5.00	4.65	0.03	4.68
13.10	0.21	0.32	5.00	4.65	0.03	4.68
13.15	0.21	0.32	5.00	4.65	0.03	4.68
13.20	0.21	0.31	5.00	4.65	0.03	4.68
13.25	0.21	0.31	5.00	4.65	0.03	4.68
13.30	0.21	0.31	5.00	4.65	0.03	4.68
13.35	0.21	0.31	5.00	4.65	0.03	4.68
13.40	0.22	0.31	5.00	4.65	0.03	4.68
13.45	0.22	0.31	5.00	4.65	0.03	4.68
13.50	0.22	0.31	5.00	4.65	0.03	4.68

13.55	0.22	0.31	5.00	4.65	0.03	4.67
13.60	0.22	0.31	5.00	4.65	0.02	4.67
13.65	0.21	0.31	5.00	4.65	0.02	4.67
13.70	0.21	0.31	5.00	4.65	0.02	4.67
13.75	0.21	0.31	5.00	4.65	0.02	4.67
13.80	0.21	0.31	5.00	4.65	0.02	4.67
13.85	0.21	0.31	5.00	4.65	0.02	4.67
13.90	0.21	0.31	5.00	4.65	0.02	4.67
13.95	0.21	0.31	5.00	4.65	0.02	4.67
14.00	0.22	0.31	5.00	4.65	0.02	4.67
14.05	0.22	0.31	5.00	4.65	0.02	4.67
14.10	0.23	0.31	5.00	4.65	0.02	4.66
14.15	0.23	0.31	5.00	4.65	0.01	4.66
14.20	0.23	0.31	5.00	4.65	0.01	4.66
14.25	0.23	0.31	5.00	4.65	0.01	4.66
14.30	0.23	0.31	5.00	4.65	0.01	4.66
14.35	0.23	0.31	5.00	4.65	0.01	4.66
14.40	0.24	0.31	5.00	4.65	0.01	4.66
14.45	0.24	0.31	5.00	4.65	0.01	4.66
14.50	0.24	0.31	5.00	4.65	0.01	4.66
14.55	0.24	0.31	5.00	4.65	0.01	4.66
14.60	0.24	0.31	5.00	4.65	0.01	4.66
14.65	0.25	0.31	5.00	4.65	0.01	4.65
14.70	0.25	0.31	5.00	4.65	0.00	4.65
14.75	0.25	0.31	5.00	4.65	0.00	4.65
14.80	0.26	0.31	5.00	4.65	0.00	4.65
14.85	0.26	0.31	5.00	4.65	0.00	4.65
14.90	0.26	0.31	5.00	4.65	0.00	4.65
14.95	0.25	0.31	5.00	4.65	0.00	4.65
15.00	0.24	0.31	0.77*	4.65	0.00	4.65
15.05	0.24	0.31	0.76*	4.64	0.00	4.64
15.10	0.24	0.31	0.77*	4.63	0.00	4.63
15.15	0.25	0.32	0.79*	4.63	0.00	4.63
15.20	0.25	0.32	0.81*	4.62	0.00	4.62
15.25	0.26	0.32	0.82*	4.61	0.00	4.61
15.30	0.26	0.32	0.81*	4.60	0.00	4.60
15.35	0.23	0.32	0.73*	4.60	0.00	4.60
15.40	0.23	0.32	0.73*	4.59	0.00	4.59
15.45	0.24	0.32	0.74*	4.58	0.00	4.58
15.50	0.24	0.32	0.75*	4.58	0.00	4.58
15.55	0.24	0.32	0.77*	4.57	0.00	4.57
15.60	0.25	0.32	0.78*	4.56	0.00	4.56
15.65	0.25	0.32	0.79*	4.55	0.00	4.55
15.70	0.25	0.32	0.79*	4.55	0.00	4.55
15.75	0.25	0.32	0.78*	4.54	0.00	4.54
15.80	0.24	0.32	0.76*	4.53	0.00	4.53
15.85	0.24	0.32	0.74*	4.53	0.00	4.53
15.90	0.23	0.32	0.72*	4.52	0.00	4.52
15.95	0.23	0.32	0.70*	4.51	0.00	4.51
16.00	0.22	0.32	0.69*	4.51	0.00	4.51

16.05	0.22	0.32	0.68*	4.50	0.00	4.50
16.10	0.22	0.32	0.68*	4.49	0.00	4.49
16.15	0.22	0.32	0.68*	4.48	0.00	4.48
16.20	0.22	0.33	0.67*	4.48	0.00	4.48
16.25	0.22	0.33	0.67*	4.47	0.00	4.47
16.30	0.21	0.33	0.65*	4.46	0.00	4.46
16.35	0.20	0.33	0.62*	4.45	0.00	4.45
16.40	0.19	0.33	0.59*	4.44	0.00	4.44
16.45	0.19	0.33	0.57*	4.44	0.00	4.44
16.50	0.19	0.33	0.57*	4.43	0.00	4.43
16.55	0.19	0.33	0.57*	4.42	0.00	4.42
16.60	0.19	0.33	0.57*	4.41	0.00	4.41
16.65	0.19	0.33	0.57*	4.40	0.00	4.40
16.70	0.18	0.33	0.55*	4.39	0.00	4.39
16.75	0.18	0.33	0.53*	4.38	0.00	4.38
16.80	0.18	0.33	0.54*	4.37	0.00	4.37
16.85	0.18	0.33	0.54*	4.36	0.00	4.36
16.90	0.18	0.33	0.55*	4.35	0.00	4.35
16.95	0.18	0.33	0.54*	4.34	0.00	4.34
17.00	0.18	0.33	0.54*	4.33	0.00	4.33
17.05	0.18	0.33	0.53*	4.33	0.00	4.33
17.10	0.17	0.33	0.52*	4.32	0.00	4.32
17.15	0.17	0.33	0.51*	4.31	0.00	4.31
17.20	0.17	0.33	0.50*	4.30	0.00	4.30
17.25	0.16	0.33	0.48*	4.29	0.00	4.29
17.30	0.16	0.34	0.47*	4.28	0.00	4.28
17.35	0.15	0.34	0.46*	4.27	0.00	4.27
17.40	0.15	0.34	0.45*	4.26	0.00	4.26
17.45	0.15	0.34	0.44*	4.25	0.00	4.25
17.50	0.15	0.34	0.43*	4.24	0.00	4.24
17.55	0.14	0.34	0.43*	4.23	0.00	4.23
17.60	0.14	0.34	0.42*	4.21	0.00	4.21
17.65	0.14	0.34	0.42*	4.20	0.00	4.20
17.70	0.14	0.34	0.41*	4.19	0.00	4.19
17.75	0.14	0.34	0.41*	4.18	0.00	4.18
17.80	0.14	0.34	0.41*	4.17	0.00	4.17
17.85	0.14	0.34	0.40*	4.16	0.00	4.16
17.90	0.14	0.34	0.40*	4.15	0.00	4.15
17.95	0.14	0.34	0.40*	4.14	0.00	4.14
18.00	0.13	0.34	0.39*	4.12	0.00	4.12
18.05	0.13	0.34	0.39*	4.11	0.00	4.11
18.10	0.13	0.34	0.38*	4.10	0.00	4.10
18.15	0.13	0.34	0.37*	4.09	0.00	4.09
18.20	0.12	0.34	0.35*	4.08	0.00	4.08
18.25	0.12	0.34	0.35*	4.06	0.00	4.06
18.30	0.12	0.34	0.35*	4.05	0.00	4.05
18.35	0.12	0.34	0.35*	4.04	0.00	4.04
18.40	0.12	0.34	0.35*	4.02	0.00	4.02
18.45	0.12	0.34	0.35*	4.01	0.00	4.01
18.50	0.12	0.34	0.34*	4.00	0.00	4.00

18.55	0.12	0.35	0.34*	3.98	0.00	3.98
18.60	0.12	0.35	0.34*	3.97	0.00	3.97
18.65	0.12	0.35	0.34*	3.96	0.00	3.96
18.70	0.12	0.35	0.34*	3.94	0.00	3.94
18.75	0.12	0.35	0.34*	3.93	0.00	3.93
18.80	0.12	0.35	0.34*	3.92	0.00	3.92
18.85	0.12	0.35	0.34*	3.90	0.00	3.90
18.90	0.12	0.35	0.34*	3.89	0.00	3.89
18.95	0.12	0.35	0.34*	3.88	0.00	3.88
19.00	0.12	0.35	0.34*	3.87	0.00	3.87
19.05	0.12	0.35	0.34*	3.85	0.00	3.85
19.10	0.12	0.35	0.34*	3.84	0.00	3.84
19.15	0.12	0.35	0.34*	3.83	0.00	3.83
19.20	0.12	0.35	0.34*	3.81	0.00	3.81
19.25	0.12	0.35	0.35*	3.80	0.00	3.80
19.30	0.12	0.35	0.35*	3.79	0.00	3.79
19.35	0.12	0.35	0.34*	3.78	0.00	3.78
19.40	0.12	0.35	0.35*	3.76	0.00	3.76
19.45	0.12	0.35	0.35*	3.75	0.00	3.75
19.50	0.13	0.35	0.36*	3.74	0.00	3.74
19.55	0.13	0.35	0.38*	3.73	0.00	3.73
19.60	0.14	0.35	0.40*	3.72	0.00	3.72
19.65	0.15	0.35	0.42*	3.70	0.00	3.70
19.70	0.16	0.35	0.44*	3.69	0.00	3.69
19.75	0.16	0.35	0.46*	3.68	0.00	3.68
19.80	0.17	0.35	0.49*	3.67	0.00	3.67
19.85	0.18	0.36	0.51*	3.66	0.00	3.66
19.90	0.19	0.36	0.52*	3.65	0.00	3.65
19.95	0.20	0.36	0.55*	3.64	0.00	3.64
20.00	0.21	0.36	0.60*	3.63	0.00	3.63
20.05	0.23	0.36	0.65*	3.62	0.00	3.62
20.10	0.25	0.36	0.70*	3.61	0.00	3.61
20.15	0.25	0.36	0.71*	3.60	0.00	3.60
20.20	0.26	0.36	0.71*	3.60	0.00	3.60
20.25	0.26	0.36	0.71*	3.59	0.00	3.59
20.30	0.25	0.36	0.70*	3.58	0.00	3.58
20.35	0.24	0.36	0.68*	3.57	0.00	3.57
20.40	0.23	0.36	0.64*	3.56	0.00	3.56
20.45	0.21	0.36	0.59*	3.55	0.00	3.55
20.50	0.20	0.36	0.55*	3.54	0.00	3.54
20.55	0.19	0.36	0.53*	3.53	0.00	3.53
20.60	0.18	0.36	0.50*	3.52	0.00	3.52
20.65	0.17	0.36	0.48*	3.51	0.00	3.51
20.70	0.16	0.36	0.45*	3.50	0.00	3.50
20.75	0.16	0.36	0.43*	3.49	0.00	3.49
20.80	0.15	0.36	0.41*	3.48	0.00	3.48
20.85	0.14	0.36	0.39*	3.47	0.00	3.47
20.90	0.13	0.36	0.37*	3.46	0.00	3.46
20.95	0.12	0.36	0.33*	3.44	0.00	3.44
21.00	0.12	0.36	0.33*	3.43	0.00	3.43

21.05	0.12	0.36	0.32*	3.42	0.00	3.42
21.10	0.12	0.36	0.32*	3.40	0.00	3.40
21.15	0.12	0.36	0.32*	3.39	0.00	3.39
21.20	0.12	0.36	0.32*	3.37	0.00	3.37
21.25	0.12	0.36	0.33*	3.36	0.00	3.36
21.30	0.12	0.36	0.34*	3.35	0.00	3.35
21.35	0.13	0.37	0.35*	3.34	0.00	3.34
21.40	0.14	0.37	0.37*	3.33	0.00	3.33
21.45	0.15	0.37	0.42*	3.32	0.00	3.32
21.50	0.19	0.37	0.52*	3.31	0.00	3.31
21.55	2.00	0.37	5.00	3.30	0.00	3.30
21.60	2.00	0.37	5.00	3.30	0.00	3.30
21.65	2.00	0.37	5.00	3.30	0.00	3.30
21.70	2.00	0.37	5.00	3.30	0.00	3.30
21.75	2.00	0.37	5.00	3.30	0.00	3.30
21.80	2.00	0.37	5.00	3.30	0.00	3.30
21.85	2.00	0.37	5.00	3.30	0.00	3.30
21.90	2.00	0.37	5.00	3.30	0.00	3.30
21.95	2.00	0.37	5.00	3.30	0.00	3.30
22.00	2.00	0.37	5.00	3.30	0.00	3.30
22.05	2.00	0.37	5.00	3.30	0.00	3.30
22.10	2.00	0.37	5.00	3.30	0.00	3.30
22.15	2.00	0.37	5.00	3.30	0.00	3.30
22.20	2.00	0.37	5.00	3.30	0.00	3.30
22.25	2.00	0.37	5.00	3.30	0.00	3.30
22.30	2.00	0.37	5.00	3.30	0.00	3.30
22.35	2.00	0.37	5.00	3.30	0.00	3.30
22.40	2.00	0.37	5.00	3.30	0.00	3.30
22.45	2.00	0.37	5.00	3.30	0.00	3.30
22.50	2.00	0.37	5.00	3.30	0.00	3.30
22.55	2.00	0.37	5.00	3.30	0.00	3.30
22.60	2.00	0.37	5.00	3.30	0.00	3.30
22.65	2.00	0.37	5.00	3.30	0.00	3.30
22.70	2.00	0.37	5.00	3.30	0.00	3.30
22.75	2.00	0.37	5.00	3.30	0.00	3.30
22.80	2.00	0.37	5.00	3.30	0.00	3.30
22.85	2.00	0.37	5.00	3.30	0.00	3.30
22.90	2.00	0.37	5.00	3.30	0.00	3.30
22.95	2.00	0.38	5.00	3.30	0.00	3.30
23.00	2.00	0.38	5.00	3.30	0.00	3.30
23.05	0.16	0.38	0.41*	3.30	0.00	3.30
23.10	0.13	0.38	0.34*	3.29	0.00	3.29
23.15	0.13	0.38	0.35*	3.28	0.00	3.28
23.20	0.14	0.38	0.37*	3.27	0.00	3.27
23.25	0.15	0.38	0.39*	3.26	0.00	3.26
23.30	0.15	0.38	0.41*	3.25	0.00	3.25
23.35	0.16	0.38	0.42*	3.24	0.00	3.24
23.40	0.17	0.38	0.44*	3.23	0.00	3.23
23.45	0.17	0.38	0.46*	3.22	0.00	3.22
23.50	0.18	0.38	0.48*	3.21	0.00	3.21

23.55	0.18	0.38	0.49*	3.20	0.00	3.20
23.60	0.19	0.38	0.49*	3.19	0.00	3.19
23.65	0.19	0.38	0.50*	3.18	0.00	3.18
23.70	0.19	0.38	0.50*	3.17	0.00	3.17
23.75	0.19	0.38	0.51*	3.16	0.00	3.16
23.80	0.20	0.38	0.52*	3.15	0.00	3.15
23.85	0.20	0.38	0.54*	3.14	0.00	3.14
23.90	0.21	0.38	0.55*	3.13	0.00	3.13
23.95	0.22	0.38	0.57*	3.13	0.00	3.13
24.00	0.22	0.38	0.58*	3.12	0.00	3.12
24.05	0.23	0.38	0.61*	3.11	0.00	3.11
24.10	0.24	0.38	0.64*	3.10	0.00	3.10
24.15	0.26	0.38	0.68*	3.09	0.00	3.09
24.20	0.27	0.38	0.71*	3.08	0.00	3.08
24.25	0.28	0.38	0.74*	3.08	0.00	3.08
24.30	0.29	0.38	0.76*	3.07	0.00	3.07
24.35	0.32	0.38	0.82*	3.06	0.00	3.06
24.40	0.33	0.38	0.85*	3.06	0.00	3.06
24.45	0.35	0.38	0.91*	3.05	0.00	3.05
24.50	0.37	0.38	0.96*	3.04	0.00	3.04
24.55	0.38	0.38	0.99*	3.03	0.00	3.03
24.60	0.39	0.38	1.02	3.03	0.00	3.03
24.65	0.40	0.38	1.04	3.02	0.00	3.02
24.70	0.41	0.38	1.06	3.01	0.00	3.01
24.75	0.40	0.39	1.03	3.01	0.00	3.01
24.80	0.40	0.39	1.04	3.00	0.00	3.00
24.85	0.39	0.39	1.02	3.00	0.00	3.00
24.90	0.39	0.39	1.02	2.99	0.00	2.99
24.95	0.40	0.39	1.03	2.98	0.00	2.98
25.00	0.40	0.39	1.04	2.98	0.00	2.98
25.05	0.41	0.39	1.05	2.97	0.00	2.97
25.10	0.41	0.39	1.05	2.97	0.00	2.97
25.15	0.41	0.39	1.05	2.96	0.00	2.96
25.20	0.41	0.39	1.05	2.95	0.00	2.95
25.25	0.40	0.39	1.04	2.95	0.00	2.95
25.30	0.40	0.39	1.02	2.94	0.00	2.94
25.35	0.39	0.39	1.02	2.94	0.00	2.94
25.40	0.39	0.39	1.01	2.93	0.00	2.93
25.45	0.38	0.39	0.99*	2.93	0.00	2.93
25.50	0.38	0.39	0.97*	2.92	0.00	2.92
25.55	0.37	0.39	0.95*	2.91	0.00	2.91
25.60	0.36	0.39	0.92*	2.91	0.00	2.91
25.65	0.35	0.39	0.90*	2.90	0.00	2.90
25.70	0.34	0.39	0.87*	2.89	0.00	2.89
25.75	0.33	0.39	0.84*	2.89	0.00	2.89
25.80	0.32	0.39	0.82*	2.88	0.00	2.88
25.85	0.31	0.39	0.79*	2.87	0.00	2.87
25.90	0.30	0.39	0.77*	2.87	0.00	2.87
25.95	0.30	0.39	0.76*	2.86	0.00	2.86
26.00	0.29	0.39	0.75*	2.85	0.00	2.85

26.05	0.29	0.39	0.75*	2.84	0.00	2.84
26.10	0.29	0.39	0.75*	2.84	0.00	2.84
26.15	0.30	0.39	0.76*	2.83	0.00	2.83
26.20	0.30	0.39	0.76*	2.82	0.00	2.82
26.25	0.30	0.39	0.77*	2.81	0.00	2.81
26.30	0.31	0.39	0.78*	2.81	0.00	2.81
26.35	0.31	0.39	0.79*	2.80	0.00	2.80
26.40	0.31	0.39	0.79*	2.79	0.00	2.79
26.45	0.31	0.39	0.79*	2.79	0.00	2.79
26.50	0.31	0.39	0.79*	2.78	0.00	2.78
26.55	0.31	0.39	0.79*	2.77	0.00	2.77
26.60	0.31	0.39	0.80*	2.76	0.00	2.76
26.65	0.32	0.39	0.80*	2.76	0.00	2.76
26.70	0.32	0.39	0.80*	2.75	0.00	2.75
26.75	0.31	0.39	0.79*	2.74	0.00	2.74
26.80	0.31	0.40	0.78*	2.73	0.00	2.73
26.85	0.31	0.40	0.77*	2.73	0.00	2.73
26.90	0.29	0.40	0.74*	2.72	0.00	2.72
26.95	0.29	0.40	0.73*	2.71	0.00	2.71
27.00	0.29	0.40	0.73*	2.70	0.00	2.70
27.05	0.29	0.40	0.72*	2.70	0.00	2.70
27.10	0.29	0.40	0.72*	2.69	0.00	2.69
27.15	0.29	0.40	0.73*	2.68	0.00	2.68
27.20	0.29	0.40	0.74*	2.67	0.00	2.67
27.25	0.29	0.40	0.74*	2.66	0.00	2.66
27.30	0.29	0.40	0.72*	2.66	0.00	2.66
27.35	0.28	0.40	0.71*	2.65	0.00	2.65
27.40	0.28	0.40	0.70*	2.64	0.00	2.64
27.45	0.27	0.40	0.69*	2.63	0.00	2.63
27.50	0.27	0.40	0.68*	2.63	0.00	2.63
27.55	0.27	0.40	0.69*	2.62	0.00	2.62
27.60	0.28	0.40	0.71*	2.61	0.00	2.61
27.65	0.30	0.40	0.74*	2.60	0.00	2.60
27.70	0.31	0.40	0.79*	2.59	0.00	2.59
27.75	0.33	0.40	0.84*	2.59	0.00	2.59
27.80	0.35	0.40	0.87*	2.58	0.00	2.58
27.85	0.36	0.40	0.89*	2.57	0.00	2.57
27.90	0.36	0.40	0.91*	2.57	0.00	2.57
27.95	0.37	0.40	0.93*	2.56	0.00	2.56
28.00	0.38	0.40	0.94*	2.55	0.00	2.55
28.05	0.38	0.40	0.94*	2.55	0.00	2.55
28.10	0.37	0.40	0.93*	2.54	0.00	2.54
28.15	0.37	0.40	0.93*	2.53	0.00	2.53
28.20	0.37	0.40	0.92*	2.53	0.00	2.53
28.25	0.36	0.40	0.90*	2.52	0.00	2.52
28.30	0.36	0.40	0.89*	2.52	0.00	2.52
28.35	0.36	0.40	0.89*	2.51	0.00	2.51
28.40	0.36	0.40	0.89*	2.50	0.00	2.50
28.45	0.36	0.40	0.90*	2.49	0.00	2.49
28.50	0.37	0.40	0.91*	2.49	0.00	2.49

28.55	0.37	0.40	0.92*	2.48	0.00	2.48
28.60	0.37	0.40	0.92*	2.47	0.00	2.47
28.65	0.35	0.40	0.88*	2.47	0.00	2.47
28.70	0.35	0.40	0.87*	2.46	0.00	2.46
28.75	0.37	0.40	0.91*	2.45	0.00	2.45
28.80	0.38	0.40	0.93*	2.45	0.00	2.45
28.85	0.38	0.40	0.94*	2.44	0.00	2.44
28.90	0.39	0.40	0.96*	2.44	0.00	2.44
28.95	0.39	0.40	0.97*	2.43	0.00	2.43
29.00	0.40	0.40	0.98*	2.42	0.00	2.42
29.05	0.40	0.40	1.00*	2.42	0.00	2.42
29.10	0.41	0.40	1.00	2.41	0.00	2.41
29.15	0.41	0.41	1.01	2.41	0.00	2.41
29.20	0.41	0.41	1.02	2.40	0.00	2.40
29.25	0.42	0.41	1.03	2.39	0.00	2.39
29.30	0.42	0.41	1.03	2.39	0.00	2.39
29.35	0.42	0.41	1.03	2.38	0.00	2.38
29.40	0.42	0.41	1.02	2.38	0.00	2.38
29.45	0.42	0.41	1.02	2.37	0.00	2.37
29.50	0.42	0.41	1.03	2.37	0.00	2.37
29.55	0.42	0.41	1.03	2.36	0.00	2.36
29.60	0.42	0.41	1.04	2.35	0.00	2.35
29.65	0.43	0.41	1.06	2.35	0.00	2.35
29.70	0.44	0.41	1.07	2.34	0.00	2.34
29.75	0.44	0.41	1.09	2.34	0.00	2.34
29.80	0.45	0.41	1.10	2.33	0.00	2.33
29.85	0.46	0.41	1.12	2.33	0.00	2.33
29.90	0.46	0.41	1.12	2.33	0.00	2.33
29.95	0.46	0.41	1.12	2.32	0.00	2.32
30.00	0.45	0.41	1.11	2.32	0.00	2.32
30.05	0.44	0.41	1.07	2.31	0.00	2.31
30.10	0.42	0.41	1.04	2.31	0.00	2.31
30.15	0.41	0.41	1.00	2.30	0.00	2.30
30.20	0.39	0.41	0.97*	2.29	0.00	2.29
30.25	0.38	0.41	0.94*	2.29	0.00	2.29
30.30	0.38	0.41	0.92*	2.28	0.00	2.28
30.35	0.36	0.41	0.88*	2.27	0.00	2.27
30.40	0.34	0.41	0.83*	2.27	0.00	2.27
30.45	0.35	0.41	0.86*	2.26	0.00	2.26
30.50	0.38	0.41	0.94*	2.25	0.00	2.25
30.55	0.40	0.41	0.99*	2.25	0.00	2.25
30.60	0.42	0.41	1.03	2.24	0.00	2.24
30.65	0.44	0.41	1.07	2.24	0.00	2.24
30.70	0.45	0.41	1.10	2.23	0.00	2.23
30.75	0.46	0.41	1.13	2.22	0.00	2.22
30.80	0.48	0.41	1.16	2.22	0.00	2.22
30.85	0.49	0.41	1.19	2.22	0.00	2.22
30.90	0.49	0.41	1.20	2.21	0.00	2.21
30.95	0.49	0.41	1.21	2.21	0.00	2.21
31.00	0.49	0.41	1.20	2.21	0.00	2.21

31.05	0.49	0.41	1.19	2.20	0.00	2.20
31.10	0.47	0.41	1.16	2.20	0.00	2.20
31.15	0.46	0.41	1.12	2.20	0.00	2.20
31.20	0.44	0.41	1.08	2.19	0.00	2.19
31.25	0.43	0.41	1.06	2.19	0.00	2.19
31.30	0.43	0.41	1.04	2.18	0.00	2.18
31.35	0.42	0.41	1.03	2.18	0.00	2.18
31.40	0.42	0.41	1.02	2.17	0.00	2.17
31.45	0.42	0.41	1.02	2.17	0.00	2.17
31.50	0.41	0.41	1.01	2.16	0.00	2.16
31.55	0.41	0.41	1.00*	2.16	0.00	2.16
31.60	0.41	0.41	0.99*	2.15	0.00	2.15
31.65	0.40	0.41	0.99*	2.15	0.00	2.15
31.70	0.41	0.41	0.99*	2.14	0.00	2.14
31.75	0.40	0.41	0.98*	2.14	0.00	2.14
31.80	0.40	0.41	0.97*	2.13	0.00	2.13
31.85	0.39	0.41	0.96*	2.12	0.00	2.12
31.90	0.39	0.41	0.95*	2.12	0.00	2.12
31.95	0.38	0.41	0.94*	2.11	0.00	2.11
32.00	0.38	0.41	0.93*	2.11	0.00	2.11
32.05	0.37	0.41	0.91*	2.10	0.00	2.10
32.10	0.37	0.41	0.90*	2.09	0.00	2.09
32.15	0.36	0.41	0.88*	2.09	0.00	2.09
32.20	0.35	0.41	0.86*	2.08	0.00	2.08
32.25	0.35	0.41	0.85*	2.07	0.00	2.07
32.30	0.34	0.41	0.84*	2.07	0.00	2.07
32.35	0.34	0.41	0.82*	2.06	0.00	2.06
32.40	0.33	0.41	0.80*	2.05	0.00	2.05
32.45	0.32	0.41	0.78*	2.05	0.00	2.05
32.50	0.31	0.41	0.76*	2.04	0.00	2.04
32.55	0.30	0.41	0.73*	2.03	0.00	2.03
32.60	0.29	0.41	0.70*	2.02	0.00	2.02
32.65	0.27	0.41	0.66*	2.02	0.00	2.02
32.70	0.25	0.41	0.61*	2.01	0.00	2.01
32.75	0.23	0.41	0.57*	2.00	0.00	2.00
32.80	0.22	0.41	0.53*	1.99	0.00	1.99
32.85	0.20	0.41	0.49*	1.98	0.00	1.98
32.90	0.19	0.41	0.46*	1.97	0.00	1.97
32.95	0.18	0.41	0.43*	1.96	0.00	1.96
33.00	0.17	0.41	0.41*	1.95	0.00	1.95
33.05	0.16	0.41	0.40*	1.94	0.00	1.94
33.10	0.15	0.41	0.37*	1.93	0.00	1.93
33.15	0.14	0.41	0.35*	1.92	0.00	1.92
33.20	0.14	0.41	0.34*	1.91	0.00	1.91
33.25	0.14	0.41	0.34*	1.90	0.00	1.90
33.30	0.14	0.41	0.34*	1.89	0.00	1.89
33.35	0.14	0.41	0.34*	1.88	0.00	1.88
33.40	0.14	0.41	0.35*	1.87	0.00	1.87
33.45	0.14	0.41	0.35*	1.86	0.00	1.86
33.50	0.15	0.41	0.36*	1.85	0.00	1.85

33.55	0.15	0.41	0.36*	1.84	0.00	1.84
33.60	0.15	0.41	0.37*	1.83	0.00	1.83
33.65	0.16	0.41	0.38*	1.82	0.00	1.82
33.70	0.16	0.41	0.39*	1.81	0.00	1.81
33.75	0.16	0.41	0.39*	1.80	0.00	1.80
33.80	0.16	0.41	0.40*	1.79	0.00	1.79
33.85	0.18	0.41	0.43*	1.78	0.00	1.78
33.90	0.20	0.41	0.48*	1.77	0.00	1.77
33.95	0.24	0.41	0.59*	1.76	0.00	1.76
34.00	2.00	0.41	5.00	1.76	0.00	1.76
34.05	2.00	0.41	5.00	1.76	0.00	1.76
34.10	2.00	0.41	5.00	1.76	0.00	1.76
34.15	2.00	0.41	5.00	1.76	0.00	1.76
34.20	2.00	0.41	5.00	1.76	0.00	1.76
34.25	2.00	0.41	5.00	1.76	0.00	1.76
34.30	2.00	0.41	5.00	1.76	0.00	1.76
34.35	2.00	0.41	5.00	1.76	0.00	1.76
34.40	0.14	0.41	0.33*	1.76	0.00	1.76
34.45	0.14	0.41	0.35*	1.75	0.00	1.75
34.50	0.16	0.41	0.39*	1.74	0.00	1.74
34.55	0.18	0.41	0.44*	1.73	0.00	1.73
34.60	0.20	0.41	0.48*	1.72	0.00	1.72
34.65	0.22	0.41	0.53*	1.71	0.00	1.71
34.70	0.23	0.41	0.55*	1.70	0.00	1.70
34.75	0.23	0.41	0.56*	1.69	0.00	1.69
34.80	0.24	0.41	0.57*	1.69	0.00	1.69
34.85	0.24	0.41	0.58*	1.68	0.00	1.68
34.90	0.24	0.41	0.59*	1.67	0.00	1.67
34.95	0.25	0.41	0.60*	1.66	0.00	1.66
35.00	0.25	0.41	0.60*	1.65	0.00	1.65
35.05	0.25	0.41	0.60*	1.65	0.00	1.65
35.10	0.25	0.41	0.61*	1.64	0.00	1.64
35.15	0.26	0.41	0.62*	1.63	0.00	1.63
35.20	0.26	0.41	0.64*	1.62	0.00	1.62
35.25	0.27	0.41	0.65*	1.62	0.00	1.62
35.30	0.28	0.41	0.69*	1.61	0.00	1.61
35.35	0.30	0.41	0.74*	1.60	0.00	1.60
35.40	0.32	0.41	0.78*	1.60	0.00	1.60
35.45	0.34	0.41	0.83*	1.59	0.00	1.59
35.50	0.36	0.41	0.86*	1.58	0.00	1.58
35.55	0.37	0.41	0.89*	1.58	0.00	1.58
35.60	0.36	0.41	0.88*	1.57	0.00	1.57
35.65	0.35	0.41	0.86*	1.56	0.00	1.56
35.70	0.34	0.41	0.83*	1.56	0.00	1.56
35.75	0.33	0.41	0.80*	1.55	0.00	1.55
35.80	0.32	0.41	0.77*	1.54	0.00	1.54
35.85	0.30	0.41	0.74*	1.54	0.00	1.54
35.90	0.29	0.41	0.71*	1.53	0.00	1.53
35.95	0.28	0.41	0.69*	1.52	0.00	1.52
36.00	0.28	0.41	0.68*	1.52	0.00	1.52

36.05	0.27	0.41	0.66*	1.51	0.00	1.51
36.10	0.27	0.41	0.65*	1.50	0.00	1.50
36.15	0.26	0.41	0.64*	1.49	0.00	1.49
36.20	0.26	0.41	0.64*	1.49	0.00	1.49
36.25	0.27	0.41	0.65*	1.48	0.00	1.48
36.30	0.27	0.41	0.66*	1.47	0.00	1.47
36.35	0.27	0.41	0.67*	1.46	0.00	1.46
36.40	0.28	0.41	0.67*	1.46	0.00	1.46
36.45	0.28	0.41	0.67*	1.45	0.00	1.45
36.50	0.29	0.41	0.71*	1.44	0.00	1.44
36.55	0.30	0.41	0.72*	1.43	0.00	1.43
36.60	0.31	0.41	0.75*	1.43	0.00	1.43
36.65	0.32	0.41	0.79*	1.42	0.00	1.42
36.70	0.34	0.41	0.83*	1.41	0.00	1.41
36.75	0.34	0.41	0.84*	1.41	0.00	1.41
36.80	0.38	0.41	0.93*	1.40	0.00	1.40
36.85	0.42	0.41	1.02	1.40	0.00	1.40
36.90	0.44	0.41	1.07	1.39	0.00	1.39
36.95	0.46	0.41	1.11	1.39	0.00	1.39
37.00	0.46	0.41	1.12	1.38	0.00	1.38
37.05	0.46	0.41	1.13	1.38	0.00	1.38
37.10	0.46	0.41	1.12	1.38	0.00	1.38
37.15	0.46	0.41	1.12	1.37	0.00	1.37
37.20	0.46	0.41	1.12	1.37	0.00	1.37
37.25	0.46	0.41	1.12	1.37	0.00	1.37
37.30	0.46	0.41	1.12	1.36	0.00	1.36
37.35	0.47	0.41	1.14	1.36	0.00	1.36
37.40	0.47	0.41	1.15	1.36	0.00	1.36
37.45	0.48	0.41	1.16	1.36	0.00	1.36
37.50	0.48	0.41	1.17	1.36	0.00	1.36
37.55	0.48	0.41	1.17	1.36	0.00	1.36
37.60	0.49	0.41	1.19	1.36	0.00	1.36
37.65	0.49	0.41	1.20	1.35	0.00	1.35
37.70	0.50	0.41	1.22	1.35	0.00	1.35
37.75	0.51	0.41	1.23	1.35	0.00	1.35
37.80	0.51	0.41	1.25	1.35	0.00	1.35
37.85	0.52	0.41	1.27	1.35	0.00	1.35
37.90	0.53	0.41	1.30	1.35	0.00	1.35
37.95	0.54	0.41	1.32	1.35	0.00	1.35
38.00	0.55	0.41	1.35	1.35	0.00	1.35
38.05	0.56	0.41	1.38	1.35	0.00	1.35
38.10	0.57	0.41	1.39	1.35	0.00	1.35
38.15	0.58	0.41	1.41	1.35	0.00	1.35
38.20	0.59	0.41	1.43	1.34	0.00	1.34
38.25	0.59	0.41	1.45	1.34	0.00	1.34
38.30	0.60	0.41	1.46	1.34	0.00	1.34
38.35	0.60	0.41	1.46	1.34	0.00	1.34
38.40	0.60	0.41	1.46	1.34	0.00	1.34
38.45	0.61	0.41	1.48	1.34	0.00	1.34
38.50	0.61	0.41	1.50	1.34	0.00	1.34

38.55	0.62	0.41	1.51	1.34	0.00	1.34
38.60	0.62	0.41	1.51	1.34	0.00	1.34
38.65	0.61	0.41	1.50	1.34	0.00	1.34
38.70	0.61	0.41	1.48	1.34	0.00	1.34
38.75	0.60	0.41	1.45	1.34	0.00	1.34
38.80	0.58	0.41	1.43	1.34	0.00	1.34
38.85	0.57	0.41	1.40	1.34	0.00	1.34
38.90	0.56	0.41	1.37	1.33	0.00	1.33
38.95	0.55	0.41	1.34	1.33	0.00	1.33
39.00	0.53	0.41	1.30	1.33	0.00	1.33
39.05	0.52	0.41	1.26	1.33	0.00	1.33
39.10	0.50	0.41	1.22	1.33	0.00	1.33
39.15	0.48	0.41	1.18	1.33	0.00	1.33
39.20	0.46	0.41	1.12	1.33	0.00	1.33
39.25	0.44	0.41	1.07	1.32	0.00	1.32
39.30	0.42	0.41	1.02	1.32	0.00	1.32
39.35	0.40	0.41	0.98*	1.31	0.00	1.31
39.40	0.39	0.41	0.95*	1.31	0.00	1.31
39.45	0.38	0.41	0.93*	1.30	0.00	1.30
39.50	0.37	0.41	0.91*	1.30	0.00	1.30
39.55	0.37	0.41	0.91*	1.29	0.00	1.29
39.60	0.37	0.41	0.90*	1.29	0.00	1.29
39.65	0.37	0.41	0.90*	1.28	0.00	1.28
39.70	0.37	0.41	0.91*	1.27	0.00	1.27
39.75	0.38	0.41	0.93*	1.27	0.00	1.27
39.80	0.39	0.41	0.94*	1.26	0.00	1.26
39.85	0.39	0.41	0.96*	1.26	0.00	1.26
39.90	0.40	0.41	0.98*	1.25	0.00	1.25
39.95	0.37	0.41	0.91*	1.25	0.00	1.25
40.00	0.37	0.41	0.89*	1.24	0.00	1.24
40.05	0.38	0.41	0.92*	1.24	0.00	1.24
40.10	0.37	0.41	0.92*	1.23	0.00	1.23
40.15	0.37	0.41	0.91*	1.23	0.00	1.23
40.20	0.36	0.41	0.89*	1.23	0.00	1.23
40.25	0.35	0.41	0.87*	1.22	0.00	1.22
40.30	0.34	0.41	0.83*	1.22	0.00	1.22
40.35	0.31	0.41	0.77*	1.21	0.00	1.21
40.40	0.29	0.41	0.70*	1.20	0.00	1.20
40.45	0.27	0.41	0.66*	1.20	0.00	1.20
40.50	0.25	0.41	0.62*	1.19	0.00	1.19
40.55	0.24	0.41	0.60*	1.18	0.00	1.18
40.60	0.24	0.41	0.60*	1.18	0.00	1.18
40.65	0.26	0.41	0.64*	1.17	0.00	1.17
40.70	2.00	0.41	5.00	1.17	0.00	1.17
40.75	2.00	0.41	5.00	1.17	0.00	1.17
40.80	2.00	0.41	5.00	1.17	0.00	1.17
40.85	2.00	0.41	5.00	1.17	0.00	1.17
40.90	2.00	0.41	5.00	1.17	0.00	1.17
40.95	2.00	0.41	5.00	1.17	0.00	1.17
41.00	2.00	0.41	5.00	1.17	0.00	1.17

41.05	2.00	0.41	5.00	1.17	0.00	1.17
41.10	2.00	0.41	5.00	1.17	0.00	1.17
41.15	2.00	0.41	5.00	1.17	0.00	1.17
41.20	2.00	0.41	5.00	1.17	0.00	1.17
41.25	2.00	0.41	5.00	1.17	0.00	1.17
41.30	2.00	0.41	5.00	1.17	0.00	1.17
41.35	2.00	0.41	5.00	1.17	0.00	1.17
41.40	2.00	0.41	5.00	1.17	0.00	1.17
41.45	2.00	0.41	5.00	1.17	0.00	1.17
41.50	2.00	0.41	5.00	1.17	0.00	1.17
41.55	2.00	0.41	5.00	1.17	0.00	1.17
41.60	2.00	0.41	5.00	1.17	0.00	1.17
41.65	2.00	0.41	5.00	1.17	0.00	1.17
41.70	2.00	0.41	5.00	1.17	0.00	1.17
41.75	2.00	0.41	5.00	1.17	0.00	1.17
41.80	2.00	0.41	5.00	1.17	0.00	1.17
41.85	2.00	0.41	5.00	1.17	0.00	1.17
41.90	2.00	0.41	5.00	1.17	0.00	1.17
41.95	2.00	0.41	5.00	1.17	0.00	1.17
42.00	2.00	0.41	5.00	1.17	0.00	1.17
42.05	2.00	0.41	5.00	1.17	0.00	1.17
42.10	2.00	0.41	5.00	1.17	0.00	1.17
42.15	2.00	0.41	5.00	1.17	0.00	1.17
42.20	2.00	0.41	5.00	1.17	0.00	1.17
42.25	2.00	0.41	5.00	1.17	0.00	1.17
42.30	2.00	0.41	5.00	1.17	0.00	1.17
42.35	2.00	0.41	5.00	1.17	0.00	1.17
42.40	2.00	0.41	5.00	1.17	0.00	1.17
42.45	2.00	0.41	5.00	1.17	0.00	1.17
42.50	2.00	0.41	5.00	1.17	0.00	1.17
42.55	2.00	0.41	5.00	1.17	0.00	1.17
42.60	2.00	0.41	5.00	1.17	0.00	1.17
42.65	2.00	0.41	5.00	1.17	0.00	1.17
42.70	2.00	0.41	5.00	1.17	0.00	1.17
42.75	2.00	0.41	5.00	1.17	0.00	1.17
42.80	2.00	0.41	5.00	1.17	0.00	1.17
42.85	0.17	0.41	0.41*	1.17	0.00	1.17
42.90	0.17	0.41	0.41*	1.16	0.00	1.16
42.95	0.17	0.41	0.41*	1.15	0.00	1.15
43.00	0.17	0.40	0.42*	1.14	0.00	1.14
43.05	0.18	0.40	0.43*	1.13	0.00	1.13
43.10	0.18	0.40	0.44*	1.13	0.00	1.13
43.15	0.18	0.40	0.45*	1.12	0.00	1.12
43.20	0.19	0.40	0.46*	1.11	0.00	1.11
43.25	0.19	0.40	0.47*	1.10	0.00	1.10
43.30	0.19	0.40	0.48*	1.10	0.00	1.10
43.35	0.20	0.40	0.48*	1.09	0.00	1.09
43.40	0.20	0.40	0.49*	1.08	0.00	1.08
43.45	0.20	0.40	0.49*	1.07	0.00	1.07
43.50	0.19	0.40	0.48*	1.07	0.00	1.07

43.55	0.19	0.40	0.47*	1.06	0.00	1.06
43.60	0.19	0.40	0.47*	1.05	0.00	1.05
43.65	0.20	0.40	0.48*	1.05	0.00	1.05
43.70	0.21	0.40	0.52*	1.04	0.00	1.04
43.75	2.00	0.40	5.00	1.03	0.00	1.03
43.80	2.00	0.40	5.00	1.03	0.00	1.03
43.85	2.00	0.40	5.00	1.03	0.00	1.03
43.90	2.00	0.40	5.00	1.03	0.00	1.03
43.95	2.00	0.40	5.00	1.03	0.00	1.03
44.00	2.00	0.40	5.00	1.03	0.00	1.03
44.05	2.00	0.40	5.00	1.03	0.00	1.03
44.10	2.00	0.40	5.00	1.03	0.00	1.03
44.15	2.00	0.40	5.00	1.03	0.00	1.03
44.20	2.00	0.40	5.00	1.03	0.00	1.03
44.25	0.17	0.40	0.43*	1.03	0.00	1.03
44.30	0.17	0.40	0.42*	1.03	0.00	1.03
44.35	0.18	0.40	0.44*	1.02	0.00	1.02
44.40	0.19	0.40	0.48*	1.01	0.00	1.01
44.45	2.00	0.40	5.00	1.00	0.00	1.00
44.50	2.00	0.40	5.00	1.00	0.00	1.00
44.55	2.00	0.40	5.00	1.00	0.00	1.00
44.60	2.00	0.40	5.00	1.00	0.00	1.00
44.65	2.00	0.40	5.00	1.00	0.00	1.00
44.70	2.00	0.40	5.00	1.00	0.00	1.00
44.75	2.00	0.40	5.00	1.00	0.00	1.00
44.80	2.00	0.40	5.00	1.00	0.00	1.00
44.85	2.00	0.40	5.00	1.00	0.00	1.00
44.90	2.00	0.40	5.00	1.00	0.00	1.00
44.95	2.00	0.40	5.00	1.00	0.00	1.00
45.00	2.00	0.40	5.00	1.00	0.00	1.00
45.05	2.00	0.40	5.00	1.00	0.00	1.00
45.10	2.00	0.40	5.00	1.00	0.00	1.00
45.15	2.00	0.40	5.00	1.00	0.00	1.00
45.20	2.00	0.40	5.00	1.00	0.00	1.00
45.25	2.00	0.40	5.00	1.00	0.00	1.00
45.30	2.00	0.40	5.00	1.00	0.00	1.00
45.35	2.00	0.40	5.00	1.00	0.00	1.00
45.40	2.00	0.40	5.00	1.00	0.00	1.00
45.45	2.00	0.40	5.00	1.00	0.00	1.00
45.50	2.00	0.40	5.00	1.00	0.00	1.00
45.55	2.00	0.40	5.00	1.00	0.00	1.00
45.60	2.00	0.40	5.00	1.00	0.00	1.00
45.65	2.00	0.40	5.00	1.00	0.00	1.00
45.70	2.00	0.40	5.00	1.00	0.00	1.00
45.75	2.00	0.40	5.00	1.00	0.00	1.00
45.80	2.00	0.40	5.00	1.00	0.00	1.00
45.85	0.17	0.40	0.44*	1.00	0.00	1.00
45.90	0.17	0.40	0.42*	1.00	0.00	1.00
45.95	0.17	0.40	0.42*	0.99	0.00	0.99
46.00	0.17	0.40	0.42*	0.98	0.00	0.98

46.05	0.17	0.40	0.42*	0.97	0.00	0.97
46.10	0.17	0.40	0.42*	0.96	0.00	0.96
46.15	0.17	0.40	0.42*	0.95	0.00	0.95
46.20	0.17	0.40	0.41*	0.94	0.00	0.94
46.25	0.16	0.40	0.41*	0.93	0.00	0.93
46.30	0.16	0.40	0.41*	0.93	0.00	0.93
46.35	0.16	0.40	0.41*	0.92	0.00	0.92
46.40	0.16	0.40	0.41*	0.91	0.00	0.91
46.45	0.17	0.40	0.43*	0.90	0.00	0.90
46.50	0.19	0.40	0.48*	0.89	0.00	0.89
46.55	2.00	0.40	5.00	0.89	0.00	0.89
46.60	2.00	0.40	5.00	0.89	0.00	0.89
46.65	2.00	0.40	5.00	0.89	0.00	0.89
46.70	2.00	0.40	5.00	0.89	0.00	0.89
46.75	2.00	0.40	5.00	0.89	0.00	0.89
46.80	2.00	0.40	5.00	0.89	0.00	0.89
46.85	2.00	0.40	5.00	0.89	0.00	0.89
46.90	0.25	0.40	0.62*	0.89	0.00	0.89
46.95	0.23	0.40	0.57*	0.88	0.00	0.88
47.00	0.21	0.40	0.53*	0.88	0.00	0.88
47.05	0.19	0.40	0.48*	0.87	0.00	0.87
47.10	0.18	0.40	0.44*	0.87	0.00	0.87
47.15	0.17	0.40	0.43*	0.86	0.00	0.86
47.20	0.17	0.40	0.43*	0.85	0.00	0.85
47.25	0.17	0.40	0.43*	0.84	0.00	0.84
47.30	0.18	0.40	0.44*	0.83	0.00	0.83
47.35	0.19	0.40	0.48*	0.83	0.00	0.83
47.40	0.22	0.40	0.56*	0.82	0.00	0.82
47.45	0.28	0.40	0.72*	0.81	0.00	0.81
47.50	2.00	0.40	5.00	0.81	0.00	0.81
47.55	2.00	0.40	5.00	0.81	0.00	0.81
47.60	2.00	0.40	5.00	0.81	0.00	0.81
47.65	2.00	0.40	5.00	0.81	0.00	0.81
47.70	2.00	0.40	5.00	0.81	0.00	0.81
47.75	0.23	0.40	0.57*	0.81	0.00	0.81
47.80	0.20	0.40	0.51*	0.81	0.00	0.81
47.85	0.20	0.40	0.50*	0.80	0.00	0.80
47.90	0.20	0.40	0.49*	0.80	0.00	0.80
47.95	0.18	0.40	0.45*	0.79	0.00	0.79
48.00	0.16	0.40	0.40*	0.78	0.00	0.78
48.05	0.15	0.40	0.37*	0.77	0.00	0.77
48.10	0.15	0.40	0.38*	0.76	0.00	0.76
48.15	0.16	0.40	0.41*	0.75	0.00	0.75
48.20	0.17	0.40	0.44*	0.74	0.00	0.74
48.25	0.20	0.40	0.50*	0.73	0.00	0.73
48.30	2.00	0.40	5.00	0.73	0.00	0.73
48.35	0.25	0.40	0.63*	0.73	0.00	0.73
48.40	0.24	0.40	0.62*	0.73	0.00	0.73
48.45	0.24	0.40	0.61*	0.72	0.00	0.72
48.50	0.23	0.40	0.59*	0.72	0.00	0.72

48.55	0.22	0.40	0.56*	0.72	0.00	0.72
48.60	0.22	0.40	0.55*	0.71	0.00	0.71
48.65	0.22	0.39	0.56*	0.71	0.00	0.71
48.70	0.24	0.39	0.60*	0.70	0.00	0.70
48.75	0.25	0.39	0.63*	0.70	0.00	0.70
48.80	2.00	0.39	5.00	0.70	0.00	0.70
48.85	2.00	0.39	5.00	0.70	0.00	0.70
48.90	2.00	0.39	5.00	0.70	0.00	0.70
48.95	2.00	0.39	5.00	0.70	0.00	0.70
49.00	2.00	0.39	5.00	0.70	0.00	0.70
49.05	2.00	0.39	5.00	0.70	0.00	0.70
49.10	2.00	0.39	5.00	0.70	0.00	0.70
49.15	2.00	0.39	5.00	0.70	0.00	0.70
49.20	2.00	0.39	5.00	0.70	0.00	0.70
49.25	2.00	0.39	5.00	0.70	0.00	0.70
49.30	2.00	0.39	5.00	0.70	0.00	0.70
49.35	2.00	0.39	5.00	0.70	0.00	0.70
49.40	2.00	0.39	5.00	0.70	0.00	0.70
49.45	2.00	0.39	5.00	0.70	0.00	0.70
49.50	2.00	0.39	5.00	0.70	0.00	0.70
49.55	2.00	0.39	5.00	0.70	0.00	0.70
49.60	2.00	0.39	5.00	0.70	0.00	0.70
49.65	2.00	0.39	5.00	0.70	0.00	0.70
49.70	2.00	0.39	5.00	0.70	0.00	0.70
49.75	2.00	0.39	5.00	0.70	0.00	0.70
49.80	2.00	0.39	5.00	0.70	0.00	0.70
49.85	2.00	0.39	5.00	0.70	0.00	0.70
49.90	2.00	0.39	5.00	0.70	0.00	0.70
49.95	2.00	0.39	5.00	0.70	0.00	0.70
50.00	2.00	0.39	5.00	0.70	0.00	0.70
50.05	2.00	0.39	5.00	0.70	0.00	0.70
50.10	2.00	0.39	5.00	0.70	0.00	0.70
50.15	2.00	0.39	5.00	0.70	0.00	0.70
50.20	2.00	0.39	5.00	0.70	0.00	0.70
50.25	2.00	0.39	5.00	0.70	0.00	0.70
50.30	2.00	0.39	5.00	0.70	0.00	0.70
50.35	2.00	0.39	5.00	0.70	0.00	0.70
50.40	2.00	0.39	5.00	0.70	0.00	0.70
50.45	2.00	0.39	5.00	0.70	0.00	0.70
50.50	2.00	0.39	5.00	0.70	0.00	0.70
50.55	2.00	0.39	5.00	0.70	0.00	0.70
50.60	2.00	0.39	5.00	0.70	0.00	0.70
50.65	2.00	0.39	5.00	0.70	0.00	0.70
50.70	2.00	0.39	5.00	0.70	0.00	0.70
50.75	0.22	0.39	0.56*	0.70	0.00	0.70
50.80	0.20	0.39	0.51*	0.70	0.00	0.70
50.85	0.19	0.39	0.48*	0.69	0.00	0.69
50.90	0.18	0.39	0.46*	0.68	0.00	0.68
50.95	0.17	0.39	0.44*	0.68	0.00	0.68
51.00	0.17	0.39	0.44*	0.67	0.00	0.67

51.05	0.17	0.39	0.44*	0.66	0.00	0.66
51.10	0.17	0.39	0.44*	0.65	0.00	0.65
51.15	0.18	0.39	0.45*	0.64	0.00	0.64
51.20	0.18	0.39	0.47*	0.64	0.00	0.64
51.25	0.20	0.39	0.51*	0.63	0.00	0.63
51.30	0.22	0.39	0.56*	0.62	0.00	0.62
51.35	2.00	0.39	5.00	0.62	0.00	0.62
51.40	2.00	0.39	5.00	0.62	0.00	0.62
51.45	2.00	0.39	5.00	0.62	0.00	0.62
51.50	2.00	0.39	5.00	0.62	0.00	0.62
51.55	2.00	0.39	5.00	0.62	0.00	0.62
51.60	2.00	0.39	5.00	0.62	0.00	0.62
51.65	2.00	0.39	5.00	0.62	0.00	0.62
51.70	2.00	0.39	5.00	0.62	0.00	0.62
51.75	2.00	0.39	5.00	0.62	0.00	0.62
51.80	2.00	0.39	5.00	0.62	0.00	0.62
51.85	2.00	0.39	5.00	0.62	0.00	0.62
51.90	2.00	0.39	5.00	0.62	0.00	0.62
51.95	2.00	0.39	5.00	0.62	0.00	0.62
52.00	2.00	0.39	5.00	0.62	0.00	0.62
52.05	2.00	0.39	5.00	0.62	0.00	0.62
52.10	2.00	0.39	5.00	0.62	0.00	0.62
52.15	2.00	0.39	5.00	0.62	0.00	0.62
52.20	2.00	0.39	5.00	0.62	0.00	0.62
52.25	2.00	0.39	5.00	0.62	0.00	0.62
52.30	2.00	0.39	5.00	0.62	0.00	0.62
52.35	2.00	0.39	5.00	0.62	0.00	0.62
52.40	2.00	0.39	5.00	0.62	0.00	0.62
52.45	2.00	0.39	5.00	0.62	0.00	0.62
52.50	2.00	0.39	5.00	0.62	0.00	0.62
52.55	2.00	0.39	5.00	0.62	0.00	0.62
52.60	2.00	0.39	5.00	0.62	0.00	0.62
52.65	2.00	0.39	5.00	0.62	0.00	0.62
52.70	2.00	0.39	5.00	0.62	0.00	0.62
52.75	2.00	0.39	5.00	0.62	0.00	0.62
52.80	2.00	0.39	5.00	0.62	0.00	0.62
52.85	2.00	0.39	5.00	0.62	0.00	0.62
52.90	2.00	0.39	5.00	0.62	0.00	0.62
52.95	2.00	0.38	5.00	0.62	0.00	0.62
53.00	2.00	0.38	5.00	0.62	0.00	0.62
53.05	2.00	0.38	5.00	0.62	0.00	0.62
53.10	2.00	0.38	5.00	0.62	0.00	0.62
53.15	2.00	0.38	5.00	0.62	0.00	0.62
53.20	2.00	0.38	5.00	0.62	0.00	0.62
53.25	2.00	0.38	5.00	0.62	0.00	0.62
53.30	2.00	0.38	5.00	0.62	0.00	0.62
53.35	2.00	0.38	5.00	0.62	0.00	0.62
53.40	2.00	0.38	5.00	0.62	0.00	0.62
53.45	2.00	0.38	5.00	0.62	0.00	0.62
53.50	2.00	0.38	5.00	0.62	0.00	0.62

53.55	2.00	0.38	5.00	0.62	0.00	0.62
53.60	2.00	0.38	5.00	0.62	0.00	0.62
53.65	2.00	0.38	5.00	0.62	0.00	0.62
53.70	2.00	0.38	5.00	0.62	0.00	0.62
53.75	2.00	0.38	5.00	0.62	0.00	0.62
53.80	2.00	0.38	5.00	0.62	0.00	0.62
53.85	2.00	0.38	5.00	0.62	0.00	0.62
53.90	2.00	0.38	5.00	0.62	0.00	0.62
53.95	2.00	0.38	5.00	0.62	0.00	0.62
54.00	2.00	0.38	5.00	0.62	0.00	0.62
54.05	2.00	0.38	5.00	0.62	0.00	0.62
54.10	0.27	0.38	0.70*	0.62	0.00	0.62
54.15	0.22	0.38	0.57*	0.62	0.00	0.62
54.20	0.18	0.38	0.48*	0.61	0.00	0.61
54.25	0.17	0.38	0.46*	0.60	0.00	0.60
54.30	0.17	0.38	0.46*	0.60	0.00	0.60
54.35	0.18	0.38	0.48*	0.59	0.00	0.59
54.40	0.20	0.38	0.52*	0.58	0.00	0.58
54.45	0.21	0.38	0.56*	0.57	0.00	0.57
54.50	0.23	0.38	0.59*	0.56	0.00	0.56
54.55	0.24	0.38	0.62*	0.55	0.00	0.55
54.60	0.24	0.38	0.63*	0.55	0.00	0.55
54.65	0.24	0.38	0.63*	0.54	0.00	0.54
54.70	0.24	0.38	0.64*	0.53	0.00	0.53
54.75	0.24	0.38	0.64*	0.52	0.00	0.52
54.80	0.24	0.38	0.63*	0.52	0.00	0.52
54.85	0.23	0.38	0.62*	0.51	0.00	0.51
54.90	0.22	0.38	0.59*	0.50	0.00	0.50
54.95	0.21	0.38	0.56*	0.49	0.00	0.49
55.00	0.20	0.38	0.54*	0.49	0.00	0.49
55.05	0.19	0.38	0.51*	0.48	0.00	0.48
55.10	0.18	0.38	0.49*	0.47	0.00	0.47
55.15	0.18	0.38	0.47*	0.46	0.00	0.46
55.20	0.17	0.38	0.46*	0.45	0.00	0.45
55.25	0.17	0.38	0.44*	0.44	0.00	0.44
55.30	0.16	0.38	0.43*	0.43	0.00	0.43
55.35	0.16	0.38	0.42*	0.43	0.00	0.43
55.40	0.16	0.38	0.41*	0.42	0.00	0.42
55.45	0.15	0.38	0.41*	0.41	0.00	0.41
55.50	0.15	0.38	0.40*	0.40	0.00	0.40
55.55	0.15	0.38	0.40*	0.39	0.00	0.39
55.60	0.15	0.38	0.40*	0.38	0.00	0.38
55.65	0.15	0.38	0.41*	0.37	0.00	0.37
55.70	0.16	0.38	0.42*	0.36	0.00	0.36
55.75	0.17	0.38	0.45*	0.35	0.00	0.35
55.80	0.19	0.38	0.50*	0.35	0.00	0.35
55.85	2.00	0.38	5.00	0.34	0.00	0.34
55.90	2.00	0.38	5.00	0.34	0.00	0.34
55.95	2.00	0.38	5.00	0.34	0.00	0.34
56.00	2.00	0.38	5.00	0.34	0.00	0.34

56.05	2.00	0.38	5.00	0.34	0.00	0.34
56.10	2.00	0.38	5.00	0.34	0.00	0.34
56.15	2.00	0.38	5.00	0.34	0.00	0.34
56.20	2.00	0.38	5.00	0.34	0.00	0.34
56.25	2.00	0.38	5.00	0.34	0.00	0.34
56.30	2.00	0.38	5.00	0.34	0.00	0.34
56.35	2.00	0.38	5.00	0.34	0.00	0.34
56.40	2.00	0.38	5.00	0.34	0.00	0.34
56.45	2.00	0.38	5.00	0.34	0.00	0.34
56.50	2.00	0.38	5.00	0.34	0.00	0.34
56.55	2.00	0.38	5.00	0.34	0.00	0.34
56.60	2.00	0.38	5.00	0.34	0.00	0.34
56.65	2.00	0.38	5.00	0.34	0.00	0.34
56.70	2.00	0.38	5.00	0.34	0.00	0.34
56.75	2.00	0.37	5.00	0.34	0.00	0.34
56.80	2.00	0.37	5.00	0.34	0.00	0.34
56.85	2.00	0.37	5.00	0.34	0.00	0.34
56.90	2.00	0.37	5.00	0.34	0.00	0.34
56.95	2.00	0.37	5.00	0.34	0.00	0.34
57.00	2.00	0.37	5.00	0.34	0.00	0.34
57.05	2.00	0.37	5.00	0.34	0.00	0.34
57.10	2.00	0.37	5.00	0.34	0.00	0.34
57.15	2.00	0.37	5.00	0.34	0.00	0.34
57.20	0.15	0.37	0.41*	0.34	0.00	0.34
57.25	0.16	0.37	0.43*	0.33	0.00	0.33
57.30	0.17	0.37	0.45*	0.32	0.00	0.32
57.35	0.17	0.37	0.46*	0.32	0.00	0.32
57.40	0.17	0.37	0.47*	0.31	0.00	0.31
57.45	0.17	0.37	0.46*	0.30	0.00	0.30
57.50	0.17	0.37	0.46*	0.29	0.00	0.29
57.55	0.17	0.37	0.46*	0.29	0.00	0.29
57.60	0.17	0.37	0.46*	0.28	0.00	0.28
57.65	0.18	0.37	0.48*	0.27	0.00	0.27
57.70	2.00	0.37	5.00	0.27	0.00	0.27
57.75	2.00	0.37	5.00	0.27	0.00	0.27
57.80	2.00	0.37	5.00	0.27	0.00	0.27
57.85	2.00	0.37	5.00	0.27	0.00	0.27
57.90	2.00	0.37	5.00	0.27	0.00	0.27
57.95	2.00	0.37	5.00	0.27	0.00	0.27
58.00	2.00	0.37	5.00	0.27	0.00	0.27
58.05	2.00	0.37	5.00	0.27	0.00	0.27
58.10	2.00	0.37	5.00	0.27	0.00	0.27
58.15	2.00	0.37	5.00	0.27	0.00	0.27
58.20	2.00	0.37	5.00	0.27	0.00	0.27
58.25	0.18	0.37	0.48*	0.27	0.00	0.27
58.30	0.15	0.37	0.41*	0.26	0.00	0.26
58.35	0.14	0.37	0.37*	0.25	0.00	0.25
58.40	0.14	0.37	0.38*	0.24	0.00	0.24
58.45	0.14	0.37	0.39*	0.23	0.00	0.23
58.50	0.15	0.37	0.40*	0.22	0.00	0.22

58.55	0.16	0.37	0.42*	0.21	0.00	0.21
58.60	0.16	0.37	0.44*	0.20	0.00	0.20
58.65	0.16	0.37	0.44*	0.19	0.00	0.19
58.70	0.16	0.37	0.44*	0.18	0.00	0.18
58.75	0.17	0.37	0.46*	0.17	0.00	0.17
58.80	0.17	0.37	0.47*	0.16	0.00	0.16
58.85	0.18	0.37	0.48*	0.15	0.00	0.15
58.90	0.18	0.37	0.48*	0.14	0.00	0.14
58.95	0.18	0.37	0.49*	0.13	0.00	0.13
59.00	0.18	0.37	0.49*	0.12	0.00	0.12
59.05	0.18	0.37	0.49*	0.12	0.00	0.12
59.10	0.18	0.37	0.49*	0.11	0.00	0.11
59.15	0.18	0.37	0.49*	0.10	0.00	0.10
59.20	0.18	0.37	0.49*	0.09	0.00	0.09
59.25	0.18	0.37	0.49*	0.08	0.00	0.08
59.30	0.18	0.37	0.49*	0.07	0.00	0.07
59.35	0.18	0.37	0.49*	0.07	0.00	0.07
59.40	0.18	0.37	0.49*	0.06	0.00	0.06
59.45	0.18	0.37	0.49*	0.05	0.00	0.05
59.50	0.18	0.37	0.49*	0.04	0.00	0.04
59.55	0.18	0.37	0.48*	0.03	0.00	0.03
59.60	0.18	0.37	0.49*	0.03	0.00	0.03
59.65	0.18	0.37	0.50*	0.02	0.00	0.02
59.70	0.20	0.37	0.54*	0.01	0.00	0.01
59.75	0.22	0.37	0.60*	0.00	0.00	0.00
59.80	0.27	0.37	0.73*	0.00	0.00	0.00
59.85	2.00	0.37	5.00	0.00	0.00	0.00
59.90	2.00	0.37	5.00	0.00	0.00	0.00
59.95	2.00	0.37	5.00	0.00	0.00	0.00
60.00	2.00	0.37	5.00	0.00	0.00	0.00

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

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

—

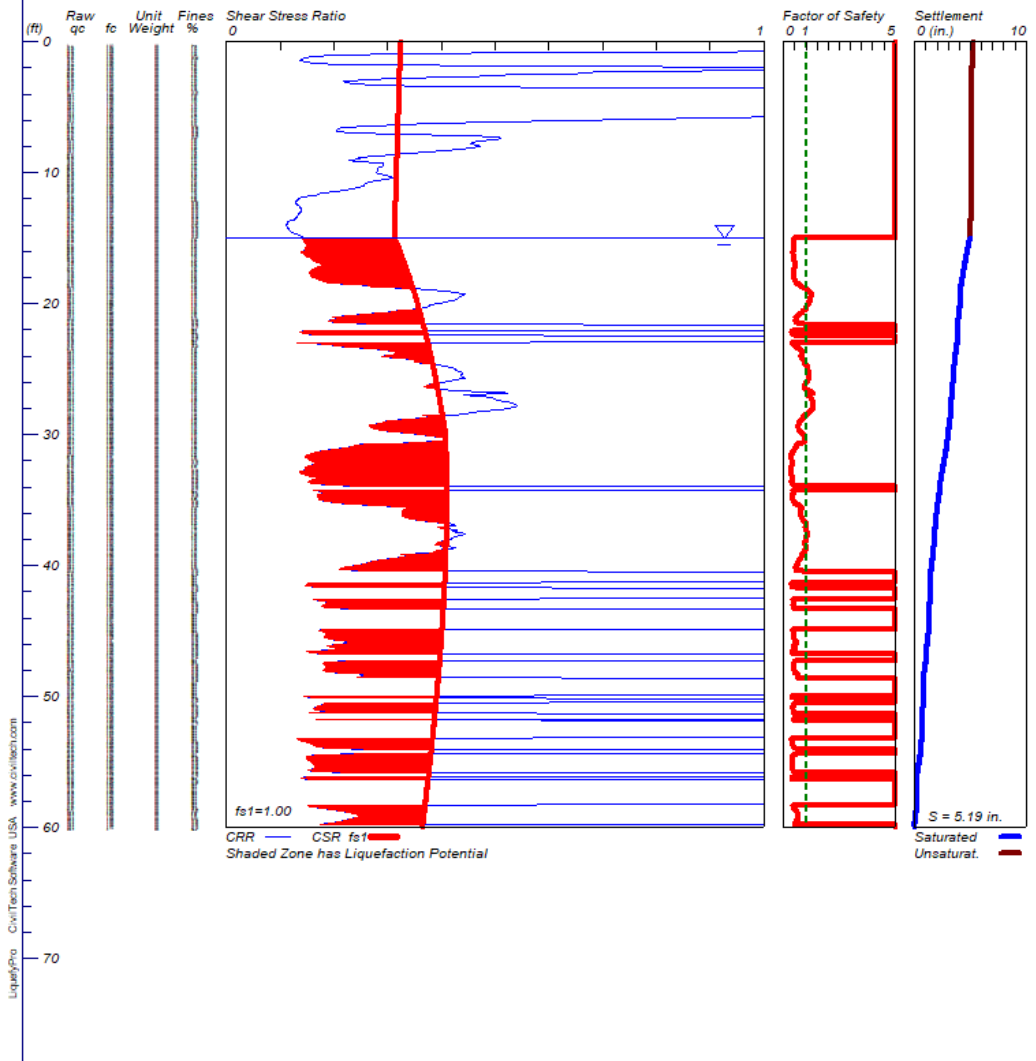
CRRm	Cyclic resistance ratio from soils
CSRsf	Cyclic stress ratio induced by a given earthquake (with user request factor of safety)
F.S.	Factor of Safety against liquefaction, F.S.=CRRm/CSRsf
S_sat	Settlement from saturated sands
S_dry	Settlement from Unsaturated Sands
S_all	Total Settlement from Saturated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

LIQUEFACTION ANALYSIS

MBGPF Expansion

Hole No.=CPT-4 Water Depth=15 ft Surface Elev.=46

Magnitude=7
Acceleration=0.5g



LiquifyPro - CivilTech Software USA www.civiltect.com

LIQUEFACTION ANALYSIS CALCULATION SHEET

Copyright by CivilTech Software
www.civiltech.com
(425) 453-6488 Fax (425) 453-5848

Licensed to , 8/1/2022 12:18:43 PM

Input File Name: G:\File Share\CTF temp\Projects\109182001 GHD MBGPF Well
Expansion - CTF\Liquefaction\CPT-4.liq
Title: MBGPF Expansion
Subtitle: 109182001

Surface Elev.=46
Hole No.=CPT-4
Depth of Hole= 60.0 ft
Water Table during Earthquake= 15.0 ft
Water Table during In-Situ Testing= 15.0 ft
Max. Acceleration= 0.5 g
Earthquake Magnitude= 7.0

Input Data:

Surface Elev.=46
Hole No.=CPT-4
Depth of Hole=60.0 ft
Water Table during Earthquake= 15.0 ft
Water Table during In-Situ Testing= 15.0 ft
Max. Acceleration=0.5 g
Earthquake Magnitude=7.0

1. CPT Calculation Method: Modify Robertson*
 2. Settlement Analysis Method: Tokimatsu, M-correction
 3. Fines Correction for Liquefaction: Idriss/Seed (SPT only)
 4. Fine Correction for Settlement: During Liquefaction*
 5. Settlement Calculation in: All zones*
 6. Hammer Energy Ratio, Ce = 1.25
 7. Borehole Diameter, Cb= 1
 8. Sampling Method, Cs= 1
 9. User request factor of safety (apply to CSR) , User= 1
Plot one CSR curve (fs1=User)
 10. Use Curve Smoothing: Yes*
- * Recommended Options

In-Situ Test Data:

Depth ft	qc tsf	fs tsf	gamma pcf	Fines %	D50 mm
0.0	0.0	0.1	120.0	NoLiq	0.5
0.1	11.8	0.1	120.0	6.8	0.5
0.1	23.7	0.2	120.0	2.4	0.5
0.2	50.1	0.2	120.0	0.0	0.5
0.3	50.2	0.3	120.0	0.3	0.5
0.3	50.7	0.3	120.0	0.7	0.5
0.4	50.4	0.3	120.0	1.8	0.5
0.5	50.0	0.5	120.0	3.3	0.5
0.6	49.1	0.5	120.0	4.6	0.5
0.6	44.1	0.5	120.0	5.8	0.5
0.7	43.7	0.5	120.0	6.0	0.5
0.7	44.6	0.4	120.0	5.7	0.5
0.8	40.2	0.4	120.0	6.9	0.5
0.9	26.4	0.3	120.0	10.6	0.5
0.9	24.1	0.3	120.0	11.8	0.5
1.0	23.2	0.2	120.0	11.1	0.5
1.1	20.9	0.1	120.0	9.3	0.5
1.1	19.1	0.1	120.0	8.8	0.5
1.2	19.4	0.1	120.0	8.5	0.5
1.3	19.4	0.1	120.0	8.3	0.5
1.3	19.0	0.1	120.0	8.3	0.5
1.4	18.8	0.1	120.0	8.6	0.5
1.5	20.3	0.1	120.0	8.0	0.5
1.5	21.8	0.1	120.0	7.8	0.5
1.6	23.6	0.1	120.0	7.8	0.5
1.7	26.8	0.1	120.0	8.1	0.5
1.7	30.0	0.2	120.0	7.6	0.5
1.8	39.1	0.2	120.0	6.1	0.5
1.8	48.7	0.3	120.0	4.9	0.5
1.9	59.7	0.4	120.0	4.0	0.5
2.0	73.4	0.4	120.0	3.0	0.5
2.0	88.1	0.5	120.0	1.9	0.5
2.1	99.1	0.5	120.0	1.3	0.5
2.2	88.7	0.5	120.0	2.2	0.5
2.2	67.3	0.5	120.0	4.3	0.5
2.3	65.0	0.5	120.0	5.0	0.5
2.4	64.3	0.5	120.0	5.4	0.5
2.4	64.7	0.6	120.0	6.1	0.5
2.5	57.2	0.5	120.0	7.3	0.5
2.6	57.4	0.5	120.0	7.1	0.5
2.6	56.9	0.5	120.0	6.9	0.5
2.7	53.6	0.4	120.0	7.2	0.5
2.8	45.2	0.4	120.0	8.6	0.5
2.8	44.8	0.4	120.0	8.8	0.5
2.9	43.3	0.3	120.0	7.5	0.5
3.0	43.3	0.2	120.0	6.4	0.5
3.0	42.3	0.2	120.0	6.0	0.5

3.1	44.4	0.2	120.0	5.6	0.5
3.2	44.8	0.2	120.0	5.6	0.5
3.2	48.1	0.2	120.0	5.4	0.5
3.3	50.7	0.2	120.0	5.2	0.5
3.4	55.5	0.2	120.0	4.8	0.5
3.4	63.0	0.3	120.0	4.3	0.5
3.5	70.4	0.4	120.0	6.0	0.5
3.6	82.6	1.9	120.0	12.9	0.5
3.6	92.3	3.3	120.0	15.4	0.5
3.7	111.7	3.2	120.0	12.9	0.5
3.8	142.7	2.5	120.0	8.2	0.5
3.8	148.2	2.6	120.0	7.0	0.5
3.9	199.6	2.7	120.0	4.7	0.5
3.9	201.2	2.6	120.0	4.0	0.5
4.0	228.2	3.0	120.0	3.6	0.5
4.1	253.9	3.0	120.0	2.9	0.5
4.1	272.1	3.3	120.0	3.0	0.5
4.2	201.0	3.5	120.0	5.9	0.5
4.3	184.7	3.5	120.0	7.0	0.5
4.3	186.8	3.5	120.0	7.1	0.5
4.4	185.4	3.5	120.0	7.1	0.5
4.5	178.2	2.4	120.0	5.4	0.5
4.5	170.8	2.1	120.0	4.7	0.5
4.6	160.9	1.8	120.0	4.3	0.5
4.7	155.0	1.2	120.0	3.2	0.5
4.7	152.3	1.3	120.0	3.3	0.5
4.8	146.9	1.4	120.0	4.0	0.5
4.9	143.2	1.5	120.0	4.6	0.5
4.9	140.2	1.5	120.0	5.2	0.5
5.0	123.0	1.5	120.0	6.5	0.5
5.1	123.7	1.6	120.0	6.8	0.5
5.1	121.8	1.6	120.0	7.0	0.5
5.2	121.9	1.6	120.0	7.2	0.5
5.3	121.9	1.6	120.0	7.2	0.5
5.3	125.9	1.6	120.0	6.9	0.5
5.4	129.6	1.6	120.0	6.5	0.5
5.5	131.8	1.6	120.0	6.4	0.5
5.5	128.9	1.6	120.0	6.8	0.5
5.6	123.5	1.6	120.0	7.2	0.5
5.7	115.3	1.6	120.0	7.8	0.5
5.7	111.5	1.5	120.0	8.1	0.5
5.8	107.9	1.4	120.0	8.1	0.5
5.8	105.1	1.3	120.0	8.1	0.5
5.9	97.9	1.2	120.0	8.6	0.5
6.0	95.3	1.2	120.0	8.7	0.5
6.0	90.2	1.1	120.0	9.0	0.5
6.1	80.7	1.0	120.0	10.0	0.5
6.2	73.7	0.9	120.0	10.8	0.5
6.2	69.7	0.9	120.0	11.4	0.5
6.3	62.3	0.8	120.0	12.8	0.5

6.4	56.5	0.8	120.0	14.2	0.5
6.4	54.1	0.8	120.0	14.2	0.5
6.5	50.8	0.5	120.0	13.2	0.5
6.6	49.8	0.5	120.0	13.2	0.5
6.7	48.2	0.5	120.0	14.0	0.5
6.7	47.6	0.5	120.0	14.3	0.5
6.8	47.2	0.6	120.0	14.6	0.5
6.8	47.2	0.6	120.0	14.8	0.5
6.9	46.9	0.6	120.0	14.9	0.5
7.0	53.5	0.6	120.0	13.2	0.5
7.0	65.0	0.6	120.0	10.5	0.5
7.1	79.2	0.6	120.0	7.9	0.5
7.2	93.2	0.6	120.0	6.1	0.5
7.2	98.9	0.6	120.0	5.4	0.5
7.3	102.3	0.6	120.0	4.9	0.5
7.4	103.2	0.6	120.0	4.7	0.5
7.4	103.5	0.6	120.0	4.5	0.5
7.5	102.6	0.6	120.0	4.5	0.5
7.6	101.4	0.6	120.0	4.6	0.5
7.6	100.9	0.6	120.0	4.7	0.5
7.7	100.9	0.6	120.0	4.7	0.5
7.8	100.9	0.6	120.0	4.8	0.5
7.8	101.4	0.6	120.0	4.8	0.5
7.9	102.7	0.6	120.0	4.8	0.5
8.0	103.8	0.6	120.0	4.9	0.5
8.0	104.2	0.6	120.0	5.0	0.5
8.1	103.7	0.6	120.0	5.1	0.5
8.2	102.3	0.6	120.0	5.3	0.5
8.2	100.9	0.6	120.0	5.4	0.5
8.3	99.4	0.6	120.0	5.4	0.5
8.3	98.2	0.6	120.0	5.5	0.5
8.4	95.2	0.6	120.0	5.6	0.5
8.5	91.8	0.5	120.0	5.8	0.5
8.5	90.0	0.5	120.0	6.0	0.5
8.6	86.2	0.5	120.0	6.4	0.5
8.7	84.2	0.5	120.0	6.6	0.5
8.8	79.0	0.5	120.0	7.3	0.5
8.8	76.2	0.5	120.0	7.6	0.5
8.9	72.9	0.5	120.0	8.0	0.5
8.9	76.5	0.5	120.0	7.7	0.5
9.0	74.5	0.4	120.0	6.5	0.5
9.1	76.8	0.3	120.0	5.8	0.5
9.1	82.3	0.4	120.0	5.6	0.5
9.2	84.9	0.4	120.0	5.5	0.5
9.3	89.4	0.4	120.0	5.4	0.5
9.3	89.4	0.4	120.0	5.4	0.5
9.4	89.4	0.4	120.0	5.5	0.5
9.5	89.3	0.5	120.0	5.7	0.5
9.5	89.4	0.5	120.0	5.9	0.5
9.6	88.1	0.5	120.0	6.2	0.5

9.7	87.2	0.5	120.0	6.3	0.5
9.7	87.6	0.5	120.0	6.3	0.5
9.8	88.6	0.5	120.0	6.1	0.5
9.9	88.8	0.5	120.0	6.1	0.5
9.9	88.6	0.5	120.0	6.2	0.5
10.0	88.4	0.5	120.0	6.2	0.5
10.0	89.1	0.5	120.0	6.2	0.5
10.1	91.1	0.5	120.0	6.0	0.5
10.2	92.6	0.5	120.0	6.0	0.5
10.3	94.1	0.5	120.0	6.0	0.5
10.3	95.0	0.5	120.0	6.0	0.5
10.4	95.3	0.5	120.0	6.1	0.5
10.4	94.1	0.5	120.0	6.3	0.5
10.5	93.1	0.6	120.0	6.5	0.5
10.6	91.4	0.5	120.0	6.7	0.5
10.6	90.6	0.5	120.0	6.7	0.5
10.7	88.3	0.5	120.0	6.9	0.5
10.8	87.0	0.5	120.0	6.9	0.5
10.8	88.2	0.5	120.0	6.7	0.5
10.9	87.3	0.5	120.0	6.7	0.5
11.0	88.2	0.5	120.0	6.5	0.5
11.1	88.2	0.5	120.0	6.5	0.5
11.1	87.0	0.5	120.0	6.6	0.5
11.2	85.4	0.5	120.0	6.8	0.5
11.3	82.7	0.4	120.0	7.1	0.5
11.3	81.1	0.4	120.0	7.3	0.5
11.4	77.7	0.4	120.0	7.8	0.5
11.4	76.3	0.4	120.0	7.7	0.5
11.5	73.8	0.3	120.0	6.5	0.5
11.6	72.7	0.2	120.0	5.9	0.5
11.6	70.5	0.2	120.0	6.5	0.5
11.7	69.2	0.2	120.0	6.8	0.5
11.8	65.3	0.3	120.0	7.7	0.5
11.8	62.6	0.3	120.0	8.4	0.5
11.9	52.7	0.2	120.0	10.0	0.5
11.9	52.5	0.2	120.0	10.3	0.5
12.0	50.8	0.2	120.0	10.6	0.5
12.1	49.4	0.2	120.0	11.0	0.5
12.1	49.0	0.2	120.0	11.0	0.5
12.2	48.4	0.2	120.0	11.0	0.5
12.3	48.6	0.2	120.0	10.9	0.5
12.4	48.8	0.2	120.0	10.9	0.5
12.4	50.0	0.2	120.0	10.7	0.5
12.5	52.2	0.2	120.0	10.3	0.5
12.5	53.6	0.2	120.0	10.0	0.5
12.6	54.5	0.2	120.0	10.0	0.5
12.7	54.9	0.2	120.0	10.0	0.5
12.7	55.1	0.2	120.0	10.1	0.5
12.8	55.2	0.3	120.0	10.1	0.5
12.9	55.3	0.3	120.0	10.1	0.5

12.9	55.2	0.3	120.0	10.2	0.5
13.0	55.0	0.3	120.0	10.3	0.5
13.1	54.8	0.2	120.0	10.3	0.5
13.1	54.2	0.2	120.0	10.4	0.5
13.2	53.8	0.2	120.0	10.4	0.5
13.3	53.0	0.2	120.0	10.6	0.5
13.3	52.3	0.2	120.0	10.7	0.5
13.4	51.8	0.2	120.0	10.8	0.5
13.5	50.7	0.2	120.0	11.1	0.5
13.5	49.7	0.2	120.0	11.4	0.5
13.6	48.4	0.2	120.0	11.6	0.5
13.7	46.8	0.1	120.0	10.5	0.5
13.7	45.0	0.1	120.0	9.8	0.5
13.8	43.9	0.1	120.0	10.1	0.5
13.9	42.8	0.1	120.0	10.6	0.5
13.9	42.4	0.1	120.0	11.4	0.5
14.0	36.7	0.1	120.0	12.3	0.5
14.0	39.4	0.1	120.0	12.1	0.5
14.1	40.4	0.1	120.0	12.0	0.5
14.2	40.9	0.1	120.0	12.1	0.5
14.2	41.4	0.1	120.0	12.2	0.5
14.3	41.8	0.2	120.0	12.5	0.5
14.4	43.0	0.2	120.0	12.4	0.5
14.5	44.5	0.2	120.0	12.2	0.5
14.5	45.9	0.2	120.0	11.9	0.5
14.6	48.7	0.2	120.0	11.4	0.5
14.6	50.8	0.2	120.0	11.0	0.5
14.7	54.6	0.2	120.0	10.5	0.5
14.8	58.3	0.2	120.0	9.9	0.5
14.8	60.7	0.2	120.0	9.5	0.5
14.9	62.2	0.3	120.0	9.3	0.5
15.0	62.4	0.3	120.0	9.3	0.5
15.0	62.4	0.3	120.0	9.5	0.5
15.1	63.0	0.3	120.0	9.4	0.5
15.1	63.5	0.3	120.0	9.3	0.5
15.2	64.5	0.3	120.0	9.2	0.5
15.3	65.5	0.3	120.0	9.1	0.5
15.4	66.8	0.3	120.0	8.9	0.5
15.4	67.0	0.3	120.0	8.9	0.5
15.5	66.8	0.3	120.0	9.0	0.5
15.6	66.8	0.3	120.0	9.0	0.5
15.6	66.8	0.3	120.0	9.1	0.5
15.7	66.8	0.3	120.0	9.1	0.5
15.8	66.6	0.3	120.0	9.1	0.5
15.8	66.8	0.3	120.0	9.1	0.5
15.9	66.8	0.3	120.0	9.1	0.5
15.9	67.1	0.3	120.0	8.7	0.5
16.0	67.3	0.1	120.0	6.9	0.5
16.1	67.5	0.2	120.0	6.8	0.5
16.1	68.1	0.2	120.0	7.1	0.5

16.2	68.5	0.2	120.0	7.5	0.5
16.3	69.3	0.2	120.0	7.7	0.5
16.3	69.2	0.2	120.0	7.9	0.5
16.4	69.2	0.3	120.0	8.2	0.5
16.5	72.2	0.3	120.0	8.2	0.5
16.5	73.7	0.3	120.0	8.4	0.5
16.6	73.5	0.3	120.0	8.7	0.5
16.7	74.1	0.3	120.0	8.7	0.5
16.7	74.4	0.4	120.0	8.7	0.5
16.8	76.1	0.4	120.0	8.5	0.5
16.9	77.7	0.4	120.0	8.3	0.5
16.9	79.9	0.4	120.0	7.9	0.5
17.0	82.9	0.4	120.0	7.6	0.5
17.1	83.4	0.4	120.0	7.6	0.5
17.1	81.1	0.4	120.0	7.9	0.5
17.2	79.2	0.4	120.0	8.2	0.5
17.3	76.4	0.4	120.0	8.6	0.5
17.3	74.5	0.4	120.0	8.8	0.5
17.4	73.6	0.4	120.0	8.9	0.5
17.5	72.7	0.3	120.0	9.0	0.5
17.5	71.6	0.3	120.0	9.1	0.5
17.6	72.0	0.3	120.0	9.0	0.5
17.7	72.1	0.3	120.0	8.9	0.5
17.7	72.6	0.3	120.0	8.9	0.5
17.8	72.7	0.3	120.0	8.9	0.5
17.9	73.4	0.3	120.0	8.8	0.5
17.9	74.1	0.3	120.0	8.7	0.5
18.0	75.6	0.4	120.0	8.6	0.5
18.0	76.7	0.4	120.0	8.6	0.5
18.1	78.4	0.4	120.0	8.3	0.5
18.2	81.3	0.4	120.0	7.8	0.5
18.2	83.8	0.3	120.0	7.3	0.5
18.3	86.2	0.3	120.0	6.9	0.5
18.4	90.3	0.3	120.0	6.3	0.5
18.5	98.1	0.3	120.0	5.4	0.5
18.5	107.2	0.3	120.0	4.3	0.5
18.6	112.1	0.3	120.0	4.0	0.5
18.6	119.5	0.4	120.0	3.9	0.5
18.7	116.5	0.4	120.0	4.5	0.5
18.8	126.2	0.5	120.0	4.4	0.5
18.8	132.0	0.6	120.0	4.4	0.5
18.9	136.4	0.6	120.0	4.5	0.5
19.0	139.8	0.7	120.0	4.5	0.5
19.0	142.4	0.7	120.0	4.6	0.5
19.1	144.1	0.7	120.0	4.5	0.5
19.2	146.0	0.7	120.0	4.4	0.5
19.2	147.6	0.7	120.0	4.2	0.5
19.3	148.2	0.7	120.0	4.2	0.5
19.4	147.9	0.7	120.0	4.2	0.5
19.4	147.6	0.7	120.0	4.1	0.5

19.5	147.2	0.7	120.0	4.1	0.5
19.6	146.8	0.7	120.0	4.1	0.5
19.6	146.9	0.7	120.0	4.1	0.5
19.7	147.0	0.7	120.0	4.1	0.5
19.8	145.7	0.7	120.0	4.2	0.5
19.8	144.7	0.7	120.0	4.3	0.5
19.9	143.5	0.7	120.0	4.4	0.5
20.0	143.2	0.7	120.0	4.4	0.5
20.0	140.8	0.7	120.0	4.6	0.5
20.1	140.0	0.7	120.0	4.6	0.5
20.2	139.6	0.7	120.0	4.7	0.5
20.2	139.4	0.7	120.0	4.7	0.5
20.3	138.9	0.7	120.0	4.8	0.5
20.4	136.8	0.7	120.0	5.0	0.5
20.4	135.2	0.7	120.0	5.1	0.5
20.5	131.5	0.7	120.0	5.3	0.5
20.6	127.9	0.7	120.0	5.7	0.5
20.6	126.2	0.7	120.0	5.9	0.5
20.7	122.2	0.7	120.0	6.3	0.5
20.8	117.2	0.6	120.0	6.3	0.5
20.8	113.5	0.6	120.0	6.7	0.5
20.9	100.5	0.7	120.0	9.1	0.5
20.9	92.6	0.8	120.0	10.8	0.5
21.0	75.7	0.9	120.0	16.2	0.5
21.1	53.3	1.0	120.0	21.0	0.5
21.1	50.5	1.0	120.0	24.5	0.5
21.2	44.1	0.9	120.0	26.6	0.5
21.3	45.5	0.9	120.0	25.4	0.5
21.3	47.6	0.9	120.0	24.7	0.5
21.4	43.9	0.9	120.0	26.3	0.5
21.5	38.6	0.9	120.0	29.5	0.5
21.5	34.3	0.8	120.0	32.4	0.5
21.6	30.9	0.8	120.0	NoLiq	0.5
21.7	29.2	0.7	120.0	NoLiq	0.5
21.7	25.7	0.7	120.0	NoLiq	0.5
21.8	23.0	0.7	120.0	NoLiq	0.5
21.9	20.8	0.7	120.0	NoLiq	0.5
21.9	19.5	0.6	120.0	NoLiq	0.5
22.0	21.2	0.4	120.0	NoLiq	0.5
22.1	24.3	0.3	120.0	31.8	0.5
22.1	25.7	0.3	120.0	30.1	0.5
22.2	26.7	0.3	120.0	29.2	0.5
22.3	26.8	0.4	120.0	29.6	0.5
22.3	27.9	0.4	120.0	29.9	0.5
22.4	27.0	0.4	120.0	31.7	0.5
22.4	25.1	0.4	120.0	98.3	0.5
22.5	23.3	0.4	120.0	NoLiq	0.5
22.6	21.3	0.5	120.0	NoLiq	0.5
22.6	19.4	0.5	120.0	NoLiq	0.5
22.7	16.3	0.4	120.0	NoLiq	0.5

22.8	13.8	0.4	120.0	NoLiq	0.5
22.8	15.8	0.4	120.0	NoLiq	0.5
22.9	28.8	0.4	120.0	29.7	0.5
23.0	52.8	0.4	120.0	17.0	0.5
23.0	71.3	0.5	120.0	11.8	0.5
23.1	87.3	0.5	120.0	9.2	0.5
23.2	93.2	0.5	120.0	8.6	0.5
23.2	97.1	0.6	120.0	8.4	0.5
23.3	101.9	0.6	120.0	8.1	0.5
23.4	111.7	0.7	120.0	7.3	0.5
23.4	118.8	0.7	120.0	6.7	0.5
23.5	124.0	0.7	120.0	6.3	0.5
23.6	127.5	0.7	120.0	6.1	0.5
23.6	129.8	0.7	120.0	6.0	0.5
23.7	131.2	0.7	120.0	6.0	0.5
23.8	130.9	0.8	120.0	6.1	0.5
23.8	129.8	0.8	120.0	6.2	0.5
23.9	130.8	0.8	120.0	6.1	0.5
24.0	128.6	0.7	120.0	5.7	0.5
24.0	130.6	0.4	120.0	4.0	0.5
24.1	135.5	0.5	120.0	3.9	0.5
24.2	138.3	0.5	120.0	3.9	0.5
24.2	142.4	0.6	120.0	4.0	0.5
24.3	143.7	0.6	120.0	4.1	0.5
24.4	142.7	0.6	120.0	4.5	0.5
24.4	144.0	0.7	120.0	4.7	0.5
24.5	141.7	0.7	120.0	5.1	0.5
24.5	144.3	0.8	120.0	5.3	0.5
24.6	147.2	0.8	120.0	5.4	0.5
24.7	148.7	0.9	120.0	5.4	0.5
24.7	150.5	0.9	120.0	5.4	0.5
24.8	152.3	0.9	120.0	5.3	0.5
24.9	154.4	0.9	120.0	5.2	0.5
25.0	155.5	0.9	120.0	5.2	0.5
25.0	156.3	0.9	120.0	5.1	0.5
25.1	157.0	0.9	120.0	5.1	0.5
25.1	157.4	0.9	120.0	5.0	0.5
25.2	158.9	0.9	120.0	5.0	0.5
25.3	159.7	0.9	120.0	5.0	0.5
25.3	159.4	0.9	120.0	5.0	0.5
25.4	159.0	0.9	120.0	5.1	0.5
25.5	159.3	0.9	120.0	5.0	0.5
25.5	159.3	0.9	120.0	4.9	0.5
25.6	160.1	0.9	120.0	4.8	0.5
25.7	160.7	0.9	120.0	4.7	0.5
25.7	161.0	0.9	120.0	4.8	0.5
25.8	158.9	0.9	120.0	4.9	0.5
25.9	157.0	0.9	120.0	5.2	0.5
25.9	155.4	0.9	120.0	5.3	0.5
26.0	153.3	0.9	120.0	5.6	0.5

26.0	151.1	0.9	120.0	5.7	0.5
26.1	147.8	0.9	120.0	6.0	0.5
26.2	145.6	0.9	120.0	6.1	0.5
26.3	147.6	0.9	120.0	6.0	0.5
26.3	145.3	0.9	120.0	5.9	0.5
26.4	147.4	0.9	120.0	5.7	0.5
26.5	151.1	0.9	120.0	5.3	0.5
26.5	153.6	0.9	120.0	5.0	0.5
26.6	158.4	0.7	120.0	4.1	0.5
26.7	164.5	0.6	120.0	3.2	0.5
26.7	167.8	0.6	120.0	3.1	0.5
26.8	173.2	0.7	120.0	3.2	0.5
26.8	175.1	0.7	120.0	3.3	0.5
26.9	172.3	0.8	120.0	3.9	0.5
27.0	160.6	0.8	120.0	4.3	0.5
27.0	165.8	0.9	120.0	4.4	0.5
27.1	169.4	0.9	120.0	4.3	0.5
27.2	170.9	0.9	120.0	4.2	0.5
27.2	171.6	0.9	120.0	4.1	0.5
27.3	172.4	0.8	120.0	4.0	0.5
27.4	172.9	0.8	120.0	3.8	0.5
27.4	174.1	0.8	120.0	3.6	0.5
27.5	175.7	0.8	120.0	3.4	0.5
27.6	177.2	0.7	120.0	3.2	0.5
27.6	177.6	0.7	120.0	3.0	0.5
27.7	178.5	0.7	120.0	2.9	0.5
27.8	178.9	0.7	120.0	2.9	0.5
27.8	179.0	0.7	120.0	2.9	0.5
27.9	177.5	0.7	120.0	3.0	0.5
28.0	177.6	0.7	120.0	3.0	0.5
28.0	177.3	0.7	120.0	3.0	0.5
28.1	176.1	0.7	120.0	3.1	0.5
28.2	173.3	0.6	120.0	3.0	0.5
28.3	170.0	0.6	120.0	2.9	0.5
28.3	168.6	0.6	120.0	3.0	0.5
28.4	167.1	0.6	120.0	3.2	0.5
28.4	166.6	0.6	120.0	3.3	0.5
28.5	163.3	0.7	120.0	3.8	0.5
28.5	152.6	0.7	120.0	4.7	0.5
28.6	155.4	0.8	120.0	4.7	0.5
28.7	154.1	0.8	120.0	4.7	0.5
28.7	152.8	0.7	120.0	4.7	0.5
28.8	148.7	0.7	120.0	5.0	0.5
28.9	143.0	0.7	120.0	5.3	0.5
29.0	137.6	0.7	120.0	5.5	0.5
29.0	137.1	0.7	120.0	5.4	0.5
29.1	137.4	0.6	120.0	5.3	0.5
29.1	136.0	0.6	120.0	5.1	0.5
29.2	133.6	0.6	120.0	5.2	0.5
29.3	130.6	0.6	120.0	5.4	0.5

29.3	130.6	0.6	120.0	5.5	0.5
29.4	130.6	0.6	120.0	5.5	0.5
29.5	130.7	0.6	120.0	5.6	0.5
29.5	132.5	0.6	120.0	5.5	0.5
29.6	135.0	0.6	120.0	5.3	0.5
29.7	137.8	0.6	120.0	5.1	0.5
29.7	140.8	0.6	120.0	4.8	0.5
29.8	144.3	0.6	120.0	4.6	0.5
29.9	149.7	0.6	120.0	4.4	0.5
29.9	152.9	0.7	120.0	4.3	0.5
30.0	155.8	0.7	120.0	4.2	0.5
30.1	157.1	0.7	120.0	4.1	0.5
30.1	159.6	0.7	120.0	4.0	0.5
30.2	161.5	0.7	120.0	4.0	0.5
30.3	162.9	0.7	120.0	3.9	0.5
30.3	163.4	0.7	120.0	3.8	0.5
30.4	163.9	0.6	120.0	3.3	0.5
30.5	163.0	0.5	120.0	2.8	0.5
30.5	160.0	0.5	120.0	2.8	0.5
30.6	157.1	0.5	120.0	3.0	0.5
30.7	149.7	0.5	120.0	3.4	0.5
30.7	146.4	0.5	120.0	3.7	0.5
30.8	124.3	0.4	120.0	4.6	0.5
30.8	129.1	0.4	120.0	4.6	0.5
30.9	127.0	0.4	120.0	4.8	0.5
31.0	123.0	0.4	120.0	5.1	0.5
31.0	119.0	0.4	120.0	5.3	0.5
31.1	113.2	0.4	120.0	5.7	0.5
31.2	108.0	0.4	120.0	6.0	0.5
31.2	103.4	0.4	120.0	6.2	0.5
31.3	97.6	0.3	120.0	6.7	0.5
31.4	94.5	0.3	120.0	7.0	0.5
31.5	90.3	0.3	120.0	7.5	0.5
31.5	87.3	0.3	120.0	7.9	0.5
31.6	83.9	0.3	120.0	8.6	0.5
31.6	79.6	0.4	120.0	9.8	0.5
31.7	75.8	0.4	120.0	11.1	0.5
31.8	73.9	0.5	120.0	12.2	0.5
31.8	74.4	0.5	120.0	12.7	0.5
31.9	77.5	0.5	120.0	12.1	0.5
32.0	82.5	0.5	120.0	10.4	0.5
32.0	87.5	0.4	120.0	8.8	0.5
32.1	90.7	0.4	120.0	8.5	0.5
32.2	91.5	0.4	120.0	8.5	0.5
32.2	90.9	0.5	120.0	9.0	0.5
32.3	87.2	0.5	120.0	9.8	0.5
32.4	80.3	0.5	120.0	11.3	0.5
32.4	73.0	0.5	120.0	13.1	0.5
32.5	70.4	0.6	120.0	14.0	0.5
32.5	64.7	0.6	120.0	16.0	0.5

32.6	60.9	0.6	120.0	17.5	0.5
32.7	59.1	0.6	120.0	18.4	0.5
32.8	58.1	0.5	120.0	17.2	0.5
32.8	57.9	0.5	120.0	17.0	0.5
32.9	56.5	0.5	120.0	17.7	0.5
33.0	55.2	0.6	120.0	18.9	0.5
33.0	54.5	0.6	120.0	19.5	0.5
33.1	52.1	0.6	120.0	21.0	0.5
33.1	50.1	0.7	120.0	22.3	0.5
33.2	50.2	0.7	120.0	23.3	0.5
33.3	49.3	0.8	120.0	24.2	0.5
33.3	50.3	0.8	120.0	24.4	0.5
33.4	48.9	0.8	120.0	24.8	0.5
33.5	50.4	0.7	120.0	23.4	0.5
33.5	52.6	0.7	120.0	22.3	0.5
33.6	53.8	0.7	120.0	21.8	0.5
33.7	54.0	0.7	120.0	21.6	0.5
33.7	53.0	0.8	120.0	23.0	0.5
33.8	49.6	0.9	120.0	25.8	0.5
33.9	45.1	0.9	120.0	28.3	0.5
33.9	38.4	0.9	120.0	94.2	0.5
34.0	34.3	0.8	120.0	NoLiq	0.5
34.1	33.4	0.8	120.0	NoLiq	0.5
34.1	35.7	0.8	120.0	NoLiq	0.5
34.2	46.7	0.8	120.0	26.3	0.5
34.3	61.1	0.8	120.0	20.1	0.5
34.3	77.4	0.8	120.0	15.4	0.5
34.4	88.4	0.7	120.0	12.5	0.5
34.5	95.3	0.7	120.0	10.6	0.5
34.5	97.5	0.5	120.0	9.0	0.5
34.6	95.4	0.5	120.0	8.7	0.5
34.7	94.3	0.5	120.0	8.9	0.5
34.7	91.8	0.5	120.0	9.9	0.5
34.8	90.6	0.6	120.0	10.6	0.5
34.8	90.4	0.6	120.0	10.9	0.5
34.9	89.8	0.6	120.0	11.4	0.5
35.0	86.7	0.7	120.0	12.2	0.5
35.0	89.2	0.8	120.0	12.4	0.5
35.1	92.3	0.8	120.0	12.4	0.5
35.2	99.3	0.9	120.0	11.5	0.5
35.2	107.1	0.9	120.0	10.6	0.5
35.3	117.4	0.9	120.0	9.5	0.5
35.4	127.6	1.0	120.0	9.0	0.5
35.4	135.1	1.1	120.0	8.7	0.5
35.5	139.4	1.2	120.0	8.8	0.5
35.6	140.7	1.3	120.0	8.9	0.5
35.7	141.7	1.3	120.0	8.9	0.5
35.7	139.1	1.3	120.0	9.2	0.5
35.8	138.8	1.3	120.0	9.3	0.5
35.8	138.8	1.3	120.0	9.3	0.5

35.9	138.7	1.3	120.0	9.3	0.5
36.0	139.4	1.3	120.0	9.3	0.5
36.0	138.7	1.3	120.0	9.4	0.5
36.1	138.2	1.3	120.0	9.4	0.5
36.2	138.0	1.3	120.0	9.5	0.5
36.2	138.5	1.3	120.0	9.5	0.5
36.3	140.0	1.3	120.0	9.4	0.5
36.3	140.9	1.3	120.0	9.3	0.5
36.4	143.7	1.3	120.0	9.0	0.5
36.5	147.8	1.3	120.0	8.7	0.5
36.5	150.3	1.3	120.0	8.4	0.5
36.6	156.1	1.3	120.0	8.0	0.5
36.7	158.9	1.3	120.0	7.8	0.5
36.8	163.1	1.4	120.0	7.5	0.5
36.8	164.4	1.4	120.0	7.6	0.5
36.9	164.5	1.4	120.0	7.6	0.5
37.0	164.5	1.5	120.0	7.8	0.5
37.0	164.6	1.3	120.0	7.4	0.5
37.1	164.7	1.2	120.0	6.7	0.5
37.2	165.3	1.2	120.0	6.8	0.5
37.2	167.5	1.3	120.0	7.1	0.5
37.3	168.7	1.4	120.0	7.2	0.5
37.3	166.5	1.4	120.0	7.6	0.5
37.4	162.9	1.5	120.0	8.0	0.5
37.5	165.6	1.5	120.0	8.0	0.5
37.5	167.1	1.5	120.0	8.0	0.5
37.6	167.0	1.6	120.0	8.1	0.5
37.7	166.2	1.5	120.0	8.1	0.5
37.7	165.8	1.5	120.0	7.9	0.5
37.8	165.8	1.5	120.0	7.8	0.5
37.9	166.0	1.4	120.0	7.5	0.5
37.9	166.7	1.4	120.0	7.4	0.5
38.0	167.3	1.3	120.0	7.2	0.5
38.1	167.4	1.3	120.0	7.1	0.5
38.1	166.7	1.3	120.0	7.1	0.5
38.2	164.5	1.3	120.0	7.1	0.5
38.3	163.7	1.3	120.0	7.1	0.5
38.3	164.7	1.3	120.0	7.1	0.5
38.4	162.9	1.3	120.0	7.2	0.5
38.5	164.9	1.3	120.0	7.0	0.5
38.5	167.2	1.3	120.0	6.9	0.5
38.6	170.6	1.3	120.0	6.8	0.5
38.7	173.5	1.3	120.0	6.5	0.5
38.7	173.8	1.1	120.0	5.8	0.5
38.8	173.5	1.0	120.0	5.4	0.5
38.8	172.5	1.0	120.0	5.5	0.5
38.9	170.3	1.1	120.0	5.8	0.5
39.0	168.8	1.1	120.0	6.0	0.5
39.1	166.4	1.1	120.0	6.5	0.5
39.1	149.4	1.1	120.0	7.4	0.5

39.2	153.4	1.1	120.0	7.5	0.5
39.2	152.2	1.2	120.0	7.7	0.5
39.3	149.8	1.2	120.0	8.0	0.5
39.4	148.0	1.2	120.0	8.2	0.5
39.4	145.2	1.2	120.0	8.3	0.5
39.5	140.8	1.1	120.0	8.6	0.5
39.6	135.7	1.1	120.0	9.1	0.5
39.6	131.4	1.2	120.0	9.6	0.5
39.7	128.8	1.1	120.0	9.8	0.5
39.8	129.1	1.1	120.0	9.5	0.5
39.8	129.4	1.0	120.0	9.1	0.5
39.9	126.8	1.0	120.0	9.2	0.5
40.0	123.7	1.0	120.0	9.5	0.5
40.0	117.4	1.0	120.0	10.3	0.5
40.1	111.5	1.0	120.0	11.2	0.5
40.2	101.8	1.1	120.0	13.5	0.5
40.2	88.1	1.3	120.0	17.0	0.5
40.3	77.5	1.3	120.0	20.4	0.5
40.4	61.6	1.5	120.0	26.6	0.5
40.4	46.8	1.5	120.0	90.1	0.5
40.5	39.6	1.5	120.0	NoLiq	0.5
40.6	33.6	1.5	120.0	NoLiq	0.5
40.6	30.7	1.4	120.0	NoLiq	0.5
40.7	29.7	1.3	120.0	NoLiq	0.5
40.8	26.0	1.2	120.0	NoLiq	0.5
40.8	24.1	1.1	120.0	NoLiq	0.5
40.9	20.4	1.0	120.0	NoLiq	0.5
41.0	19.3	1.0	120.0	NoLiq	0.5
41.0	19.0	0.9	120.0	NoLiq	0.5
41.1	20.7	0.9	120.0	NoLiq	0.5
41.1	22.4	0.8	120.0	NoLiq	0.5
41.2	28.5	0.7	120.0	NoLiq	0.5
41.3	38.8	0.7	120.0	51.8	0.5
41.3	47.0	0.7	120.0	25.5	0.5
41.4	50.8	0.7	120.0	24.0	0.5
41.5	50.5	0.7	120.0	23.8	0.5
41.5	49.5	0.7	120.0	24.4	0.5
41.6	45.9	0.8	120.0	27.3	0.5
41.7	41.1	0.9	120.0	81.6	0.5
41.8	34.7	1.0	120.0	NoLiq	0.5
41.8	25.7	1.1	120.0	NoLiq	0.5
41.9	25.0	1.0	120.0	NoLiq	0.5
41.9	21.3	0.9	120.0	NoLiq	0.5
42.0	19.8	0.8	120.0	NoLiq	0.5
42.1	17.9	0.7	120.0	NoLiq	0.5
42.1	15.7	0.6	120.0	NoLiq	0.5
42.2	15.8	0.6	120.0	NoLiq	0.5
42.3	16.0	0.6	120.0	NoLiq	0.5
42.3	16.1	0.6	120.0	NoLiq	0.5
42.4	16.8	0.6	120.0	NoLiq	0.5

42.5	23.6	0.7	120.0	NoLiq	0.5
42.5	39.1	0.8	120.0	63.3	0.5
42.6	63.6	0.9	120.0	20.9	0.5
42.7	78.4	0.9	120.0	17.2	0.5
42.7	90.0	1.0	120.0	15.1	0.5
42.8	93.8	1.0	120.0	14.2	0.5
42.8	92.5	1.0	120.0	14.3	0.5
42.9	89.6	1.0	120.0	15.2	0.5
43.0	84.3	1.0	120.0	16.4	0.5
43.0	77.6	1.0	120.0	18.2	0.5
43.1	71.1	1.0	120.0	20.1	0.5
43.2	63.1	1.1	120.0	22.9	0.5
43.3	56.1	1.1	120.0	26.3	0.5
43.3	50.9	1.2	120.0	49.2	0.5
43.4	43.1	1.2	120.0	NoLiq	0.5
43.5	35.6	1.3	120.0	NoLiq	0.5
43.5	31.6	1.2	120.0	NoLiq	0.5
43.6	27.4	1.1	120.0	NoLiq	0.5
43.6	26.0	1.0	120.0	NoLiq	0.5
43.7	25.6	0.8	120.0	NoLiq	0.5
43.8	30.1	0.7	120.0	NoLiq	0.5
43.8	35.0	0.7	120.0	NoLiq	0.5
43.9	38.4	0.7	120.0	NoLiq	0.5
44.0	34.5	0.7	120.0	NoLiq	0.5
44.0	29.1	0.8	120.0	NoLiq	0.5
44.1	24.6	0.8	120.0	NoLiq	0.5
44.2	20.3	0.7	120.0	NoLiq	0.5
44.2	16.6	0.7	120.0	NoLiq	0.5
44.3	15.8	0.6	120.0	NoLiq	0.5
44.3	14.6	0.5	120.0	NoLiq	0.5
44.4	13.9	0.5	120.0	NoLiq	0.5
44.5	13.9	0.5	120.0	NoLiq	0.5
44.5	13.7	0.5	120.0	NoLiq	0.5
44.6	13.6	0.6	120.0	NoLiq	0.5
44.7	14.9	0.6	120.0	NoLiq	0.5
44.8	21.5	0.7	120.0	NoLiq	0.5
44.8	31.0	0.8	120.0	NoLiq	0.5
44.9	48.5	0.9	120.0	34.1	0.5
45.0	60.7	1.0	120.0	23.5	0.5
45.0	69.0	1.1	120.0	21.4	0.5
45.1	72.6	1.1	120.0	20.7	0.5
45.1	73.0	1.2	120.0	20.7	0.5
45.2	73.0	1.2	120.0	20.8	0.5
45.3	72.7	1.2	120.0	21.0	0.5
45.3	71.0	1.1	120.0	21.3	0.5
45.4	69.4	1.1	120.0	21.7	0.5
45.5	67.6	1.1	120.0	22.2	0.5
45.5	64.6	1.1	120.0	23.3	0.5
45.6	61.5	1.1	120.0	24.5	0.5
45.7	59.7	1.2	120.0	25.4	0.5

45.8	57.3	1.2	120.0	26.9	0.5
45.8	56.4	1.2	120.0	27.6	0.5
45.9	55.8	1.2	120.0	28.0	0.5
45.9	55.8	1.2	120.0	27.9	0.5
46.0	56.6	1.2	120.0	26.9	0.5
46.1	56.5	1.1	120.0	26.2	0.5
46.2	56.2	1.1	120.0	26.1	0.5
46.2	55.5	1.1	120.0	26.5	0.5
46.3	54.3	1.1	120.0	27.2	0.5
46.3	52.8	1.1	120.0	28.0	0.5
46.4	51.7	1.1	120.0	28.4	0.5
46.5	50.8	0.9	120.0	27.0	0.5
46.5	50.1	0.7	120.0	25.4	0.5
46.6	49.4	0.8	120.0	25.9	0.5
46.7	49.9	0.8	120.0	26.6	0.5
46.7	49.9	0.9	120.0	27.6	0.5
46.8	47.7	1.0	120.0	37.3	0.5
46.8	48.4	1.1	120.0	NoLiq	0.5
46.9	48.5	1.1	120.0	NoLiq	0.5
47.0	47.7	1.2	120.0	NoLiq	0.5
47.0	46.5	1.2	120.0	NoLiq	0.5
47.1	45.7	1.3	120.0	NoLiq	0.5
47.2	45.8	1.3	120.0	NoLiq	0.5
47.3	51.2	1.3	120.0	64.1	0.5
47.3	61.3	1.2	120.0	25.3	0.5
47.4	74.2	1.1	120.0	20.5	0.5
47.5	86.1	1.1	120.0	17.0	0.5
47.5	95.0	1.0	120.0	14.4	0.5
47.6	101.2	0.9	120.0	12.6	0.5
47.7	104.3	0.9	120.0	12.1	0.5
47.7	105.1	0.9	120.0	12.1	0.5
47.8	103.6	0.9	120.0	12.3	0.5
47.8	100.0	0.9	120.0	13.2	0.5
47.9	95.1	1.0	120.0	14.5	0.5
48.0	88.4	1.1	120.0	16.3	0.5
48.0	83.6	1.1	120.0	17.8	0.5
48.1	73.7	1.2	120.0	21.5	0.5
48.2	69.3	1.3	120.0	23.4	0.5
48.3	62.0	1.4	120.0	26.9	0.5
48.3	59.9	1.4	120.0	28.1	0.5
48.4	59.1	1.5	120.0	28.7	0.5
48.4	56.7	1.4	120.0	29.0	0.5
48.5	55.5	1.3	120.0	29.0	0.5
48.6	52.0	1.2	120.0	71.6	0.5
48.6	49.2	1.2	120.0	NoLiq	0.5
48.7	41.3	1.2	120.0	NoLiq	0.5
48.8	37.3	1.2	120.0	NoLiq	0.5
48.8	30.5	0.9	120.0	NoLiq	0.5
48.9	28.5	0.9	120.0	NoLiq	0.5
49.0	31.3	0.8	120.0	NoLiq	0.5

49.0	35.4	0.9	120.0	NoLiq	0.5
49.1	34.9	1.0	120.0	NoLiq	0.5
49.2	31.9	1.1	120.0	NoLiq	0.5
49.2	35.0	1.2	120.0	NoLiq	0.5
49.3	27.9	1.2	120.0	NoLiq	0.5
49.4	35.1	1.3	120.0	NoLiq	0.5
49.4	33.5	1.3	120.0	NoLiq	0.5
49.5	32.6	1.4	120.0	NoLiq	0.5
49.6	31.6	1.4	120.0	NoLiq	0.5
49.6	32.0	1.4	120.0	NoLiq	0.5
49.7	36.0	1.5	120.0	NoLiq	0.5
49.7	39.6	1.5	120.0	NoLiq	0.5
49.8	47.5	1.4	120.0	NoLiq	0.5
49.9	56.2	1.0	120.0	25.5	0.5
49.9	57.2	0.8	120.0	24.0	0.5
50.0	54.8	0.8	120.0	24.0	0.5
50.1	48.3	0.9	120.0	32.4	0.5
50.1	45.4	1.0	120.0	95.9	0.5
50.2	45.0	1.1	120.0	NoLiq	0.5
50.3	45.0	1.1	120.0	NoLiq	0.5
50.4	44.7	1.2	120.0	NoLiq	0.5
50.4	53.3	1.3	120.0	82.2	0.5
50.5	74.2	1.2	120.0	21.4	0.5
50.5	82.1	1.2	120.0	19.1	0.5
50.6	92.3	1.1	120.0	16.1	0.5
50.7	94.7	1.0	120.0	15.2	0.5
50.8	93.2	0.9	120.0	14.6	0.5
50.8	90.9	0.9	120.0	14.9	0.5
50.9	85.0	1.0	120.0	16.4	0.5
50.9	81.4	0.9	120.0	17.3	0.5
51.0	73.3	1.0	120.0	20.0	0.5
51.0	68.5	1.1	120.0	22.1	0.5
51.1	58.9	1.2	120.0	26.1	0.5
51.2	49.7	0.7	120.0	26.6	0.5
51.3	46.0	0.8	120.0	54.4	0.5
51.3	40.4	0.9	120.0	NoLiq	0.5
51.4	38.1	0.9	120.0	NoLiq	0.5
51.5	33.8	1.0	120.0	NoLiq	0.5
51.5	32.7	1.1	120.0	NoLiq	0.5
51.6	42.5	1.1	120.0	NoLiq	0.5
51.6	48.6	1.0	120.0	NoLiq	0.5
51.7	51.7	0.9	120.0	27.3	0.5
51.8	51.4	0.9	120.0	27.2	0.5
51.8	48.6	0.9	120.0	28.7	0.5
51.9	40.8	1.0	120.0	NoLiq	0.5
52.0	35.1	1.0	120.0	NoLiq	0.5
52.0	27.7	1.0	120.0	NoLiq	0.5
52.1	23.5	0.9	120.0	NoLiq	0.5
52.2	20.3	0.8	120.0	NoLiq	0.5
52.2	17.6	0.8	120.0	NoLiq	0.5

52.3	15.1	0.7	120.0	NoLiq	0.5
52.4	14.7	0.7	120.0	NoLiq	0.5
52.4	15.0	0.6	120.0	NoLiq	0.5
52.5	15.5	0.7	120.0	NoLiq	0.5
52.6	16.1	0.7	120.0	NoLiq	0.5
52.6	16.3	0.7	120.0	NoLiq	0.5
52.7	16.6	0.8	120.0	NoLiq	0.5
52.8	17.3	0.9	120.0	NoLiq	0.5
52.8	19.0	1.0	120.0	NoLiq	0.5
52.9	21.3	1.0	120.0	NoLiq	0.5
53.0	26.4	1.1	120.0	NoLiq	0.5
53.0	30.0	1.1	120.0	NoLiq	0.5
53.1	38.6	1.2	120.0	NoLiq	0.5
53.2	46.5	0.7	120.0	46.5	0.5
53.2	49.4	0.6	120.0	24.8	0.5
53.3	54.4	0.7	120.0	22.8	0.5
53.3	56.6	0.7	120.0	22.3	0.5
53.4	61.0	0.8	120.0	22.0	0.5
53.5	60.1	0.9	120.0	22.7	0.5
53.5	66.2	0.9	120.0	21.4	0.5
53.6	70.9	1.0	120.0	20.5	0.5
53.7	72.7	1.0	120.0	20.4	0.5
53.8	72.3	1.0	120.0	20.8	0.5
53.8	71.0	1.1	120.0	21.6	0.5
53.9	68.7	1.2	120.0	23.1	0.5
53.9	65.7	1.3	120.0	25.4	0.5
54.0	62.6	1.5	120.0	38.9	0.5
54.1	59.3	1.6	120.0	NoLiq	0.5
54.1	56.6	1.7	120.0	NoLiq	0.5
54.2	59.5	1.7	120.0	NoLiq	0.5
54.3	56.3	1.7	120.0	NoLiq	0.5
54.3	59.7	1.7	120.0	91.3	0.5
54.4	68.0	1.5	120.0	25.9	0.5
54.5	77.1	1.2	120.0	20.8	0.5
54.5	84.3	0.9	120.0	16.6	0.5
54.6	89.3	0.7	120.0	14.0	0.5
54.7	92.8	0.7	120.0	12.6	0.5
54.7	94.9	0.6	120.0	12.1	0.5
54.8	94.7	0.7	120.0	12.6	0.5
54.9	92.4	0.8	120.0	13.6	0.5
54.9	91.2	0.8	120.0	14.2	0.5
55.0	89.1	0.9	120.0	15.1	0.5
55.0	91.1	0.9	120.0	15.0	0.5
55.1	90.3	0.9	120.0	15.3	0.5
55.2	91.0	1.0	120.0	15.5	0.5
55.3	90.9	1.0	120.0	15.6	0.5
55.3	89.7	1.0	120.0	16.0	0.5
55.4	89.7	1.0	120.0	16.1	0.5
55.5	87.8	1.0	120.0	16.6	0.5
55.5	86.1	1.0	120.0	17.0	0.5

55.6	80.8	0.9	120.0	17.7	0.5
55.7	76.7	0.9	120.0	18.8	0.5
55.7	66.6	1.2	120.0	23.9	0.5
55.8	61.8	1.3	120.0	26.8	0.5
55.9	55.0	1.5	120.0	NoLiq	0.5
55.9	54.2	1.5	120.0	NoLiq	0.5
56.0	55.4	1.5	120.0	NoLiq	0.5
56.0	56.7	1.3	120.0	NoLiq	0.5
56.1	56.9	0.9	120.0	25.5	0.5
56.2	56.4	0.7	120.0	23.6	0.5
56.3	54.9	0.7	120.0	24.0	0.5
56.3	48.5	0.8	120.0	78.0	0.5
56.4	44.6	0.9	120.0	NoLiq	0.5
56.5	36.3	0.8	120.0	NoLiq	0.5
56.5	32.6	0.8	120.0	NoLiq	0.5
56.6	26.7	0.6	120.0	NoLiq	0.5
56.6	24.3	0.6	120.0	NoLiq	0.5
56.7	20.7	0.5	120.0	NoLiq	0.5
56.8	19.1	0.5	120.0	NoLiq	0.5
56.8	18.1	0.5	120.0	NoLiq	0.5
56.9	16.4	0.5	120.0	NoLiq	0.5
57.0	16.4	0.6	120.0	NoLiq	0.5
57.0	16.4	0.6	120.0	NoLiq	0.5
57.1	16.4	0.7	120.0	NoLiq	0.5
57.2	20.2	0.7	120.0	NoLiq	0.5
57.2	23.0	0.7	120.0	NoLiq	0.5
57.3	30.4	0.7	120.0	NoLiq	0.5
57.4	37.3	0.7	120.0	NoLiq	0.5
57.4	39.0	0.7	120.0	NoLiq	0.5
57.5	38.7	0.5	120.0	NoLiq	0.5
57.5	36.6	0.5	120.0	NoLiq	0.5
57.6	30.1	0.5	120.0	NoLiq	0.5
57.7	26.3	0.5	120.0	NoLiq	0.5
57.8	21.4	0.5	120.0	NoLiq	0.5
57.8	19.6	0.4	120.0	NoLiq	0.5
57.9	15.1	0.5	120.0	NoLiq	0.5
57.9	15.5	0.6	120.0	NoLiq	0.5
58.0	18.0	0.8	120.0	NoLiq	0.5
58.1	25.9	1.0	120.0	NoLiq	0.5
58.2	32.5	1.0	120.0	NoLiq	0.5
58.2	51.7	1.1	120.0	NoLiq	0.5
58.3	62.0	1.0	120.0	49.9	0.5
58.4	85.1	0.9	120.0	16.7	0.5
58.4	97.3	0.8	120.0	13.6	0.5
58.5	115.1	0.8	120.0	10.2	0.5
58.5	122.9	0.7	120.0	9.2	0.5
58.6	133.8	0.8	120.0	8.4	0.5
58.7	137.6	0.8	120.0	8.2	0.5
58.8	142.6	0.9	120.0	8.3	0.5
58.8	144.0	1.0	120.0	8.4	0.5

58.9	145.3	1.1	120.0	9.0	0.5
58.9	145.8	1.1	120.0	9.3	0.5
59.0	145.2	1.2	120.0	9.9	0.5
59.0	144.6	1.3	120.0	10.2	0.5
59.1	142.2	1.4	120.0	10.8	0.5
59.2	140.8	1.4	120.0	11.1	0.5
59.3	137.6	1.4	120.0	11.5	0.5
59.3	135.9	1.4	120.0	11.6	0.5
59.4	132.6	1.3	120.0	11.8	0.5
59.5	128.9	1.3	120.0	12.0	0.5
59.5	126.9	1.2	120.0	12.0	0.5
59.6	122.6	1.2	120.0	12.1	0.5
59.7	120.0	1.1	120.0	12.2	0.5
59.7	115.4	1.1	120.0	12.3	0.5
59.8	112.9	0.0	120.0	86.2	0.5
59.9	106.7	0.0	120.0	NoLiq	0.5
59.9	103.3	0.0	120.0	NoLiq	0.5

Output Results:

Settlement of Saturated Sands=4.96 in.
Settlement of Unsaturated Sands=0.22 in.
Total Settlement of Saturated and Unsaturated Sands=5.19 in.
Differential Settlement=2.595 to 3.425 in.

Depth ft	CRRm	CSRsf	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	2.00	0.32	5.00	4.96	0.22	5.19
0.05	2.00	0.32	5.00	4.96	0.22	5.19
0.10	1.28	0.32	5.00	4.96	0.22	5.19
0.15	2.48	0.32	5.00	4.96	0.22	5.19
0.20	2.48	0.32	5.00	4.96	0.22	5.19
0.25	2.48	0.32	5.00	4.96	0.22	5.19
0.30	2.48	0.32	5.00	4.96	0.22	5.19
0.35	2.48	0.32	5.00	4.96	0.22	5.19
0.40	2.48	0.32	5.00	4.96	0.22	5.19
0.45	2.48	0.32	5.00	4.96	0.22	5.19
0.50	2.48	0.32	5.00	4.96	0.22	5.19
0.55	2.28	0.32	5.00	4.96	0.22	5.19
0.60	1.66	0.32	5.00	4.96	0.22	5.19
0.65	1.41	0.32	5.00	4.96	0.22	5.19
0.70	1.28	0.32	5.00	4.96	0.22	5.19
0.75	1.16	0.32	5.00	4.96	0.22	5.19
0.80	0.90	0.32	5.00	4.96	0.22	5.19
0.85	0.56	0.32	5.00	4.96	0.22	5.19
0.90	0.36	0.32	5.00	4.96	0.22	5.19
0.95	0.29	0.32	5.00	4.96	0.22	5.19
1.00	0.24	0.32	5.00	4.96	0.22	5.19
1.05	0.20	0.32	5.00	4.96	0.22	5.19

1.10	0.17	0.32	5.00	4.96	0.22	5.19
1.15	0.15	0.32	5.00	4.96	0.22	5.19
1.20	0.15	0.32	5.00	4.96	0.22	5.19
1.25	0.15	0.32	5.00	4.96	0.22	5.19
1.30	0.14	0.32	5.00	4.96	0.22	5.19
1.35	0.14	0.32	5.00	4.96	0.22	5.19
1.40	0.14	0.32	5.00	4.96	0.22	5.19
1.45	0.14	0.32	5.00	4.96	0.22	5.19
1.50	0.14	0.32	5.00	4.96	0.22	5.19
1.55	0.15	0.32	5.00	4.96	0.22	5.19
1.60	0.16	0.32	5.00	4.96	0.22	5.19
1.65	0.18	0.32	5.00	4.96	0.22	5.18
1.70	0.20	0.32	5.00	4.96	0.22	5.18
1.75	0.24	0.32	5.00	4.96	0.22	5.18
1.80	0.32	0.32	5.00	4.96	0.22	5.18
1.85	0.47	0.32	5.00	4.96	0.22	5.18
1.90	0.67	0.32	5.00	4.96	0.22	5.18
1.95	0.95	0.32	5.00	4.96	0.22	5.18
2.00	1.35	0.32	5.00	4.96	0.22	5.18
2.05	1.90	0.32	5.00	4.96	0.22	5.18
2.10	2.39	0.32	5.00	4.96	0.22	5.18
2.15	1.99	0.32	5.00	4.96	0.22	5.18
2.20	1.29	0.32	5.00	4.96	0.22	5.18
2.25	0.77	0.32	5.00	4.96	0.22	5.18
2.30	0.70	0.32	5.00	4.96	0.22	5.18
2.35	0.67	0.32	5.00	4.96	0.22	5.18
2.40	0.67	0.32	5.00	4.96	0.22	5.18
2.45	0.64	0.32	5.00	4.96	0.22	5.18
2.50	0.53	0.32	5.00	4.96	0.22	5.18
2.55	0.51	0.32	5.00	4.96	0.22	5.18
2.60	0.49	0.32	5.00	4.96	0.22	5.18
2.65	0.45	0.32	5.00	4.96	0.22	5.18
2.70	0.41	0.32	5.00	4.96	0.22	5.18
2.75	0.34	0.32	5.00	4.96	0.22	5.18
2.80	0.30	0.32	5.00	4.96	0.22	5.18
2.85	0.28	0.32	5.00	4.96	0.22	5.18
2.90	0.26	0.32	5.00	4.96	0.22	5.18
2.95	0.24	0.32	5.00	4.96	0.22	5.18
3.00	0.22	0.32	5.00	4.96	0.22	5.18
3.05	0.22	0.32	5.00	4.96	0.22	5.18
3.10	0.22	0.32	5.00	4.96	0.22	5.18
3.15	0.22	0.32	5.00	4.96	0.21	5.18
3.20	0.23	0.32	5.00	4.96	0.21	5.18
3.25	0.25	0.32	5.00	4.96	0.21	5.18
3.30	0.27	0.32	5.00	4.96	0.21	5.18
3.35	0.30	0.32	5.00	4.96	0.21	5.18
3.40	0.36	0.32	5.00	4.96	0.21	5.18
3.45	0.45	0.32	5.00	4.96	0.21	5.18
3.50	0.65	0.32	5.00	4.96	0.21	5.18
3.55	1.22	0.32	5.00	4.96	0.21	5.18

3.60	2.22	0.32	5.00	4.96	0.21	5.18
3.65	2.48	0.32	5.00	4.96	0.21	5.18
3.70	2.48	0.32	5.00	4.96	0.21	5.18
3.75	2.48	0.32	5.00	4.96	0.21	5.18
3.80	2.48	0.32	5.00	4.96	0.21	5.18
3.85	2.48	0.32	5.00	4.96	0.21	5.18
3.90	2.48	0.32	5.00	4.96	0.21	5.18
3.95	2.48	0.32	5.00	4.96	0.21	5.18
4.00	2.48	0.32	5.00	4.96	0.21	5.18
4.05	2.48	0.32	5.00	4.96	0.21	5.18
4.10	2.48	0.32	5.00	4.96	0.21	5.18
4.15	2.48	0.32	5.00	4.96	0.21	5.18
4.20	2.48	0.32	5.00	4.96	0.21	5.18
4.25	2.48	0.32	5.00	4.96	0.21	5.18
4.30	2.48	0.32	5.00	4.96	0.21	5.18
4.35	2.48	0.32	5.00	4.96	0.21	5.18
4.40	2.48	0.32	5.00	4.96	0.21	5.18
4.45	2.48	0.32	5.00	4.96	0.21	5.18
4.50	2.48	0.32	5.00	4.96	0.21	5.18
4.55	2.48	0.32	5.00	4.96	0.21	5.18
4.60	2.48	0.32	5.00	4.96	0.21	5.18
4.65	2.48	0.32	5.00	4.96	0.21	5.18
4.70	2.48	0.32	5.00	4.96	0.21	5.18
4.75	2.48	0.32	5.00	4.96	0.21	5.18
4.80	2.42	0.32	5.00	4.96	0.21	5.18
4.85	2.24	0.32	5.00	4.96	0.21	5.18
4.90	2.09	0.32	5.00	4.96	0.21	5.18
4.95	1.87	0.32	5.00	4.96	0.21	5.18
5.00	1.53	0.32	5.00	4.96	0.21	5.18
5.05	1.54	0.32	5.00	4.96	0.21	5.18
5.10	1.51	0.32	5.00	4.96	0.21	5.18
5.15	1.48	0.32	5.00	4.96	0.21	5.18
5.20	1.48	0.32	5.00	4.96	0.21	5.18
5.25	1.46	0.32	5.00	4.96	0.21	5.18
5.30	1.49	0.32	5.00	4.96	0.21	5.18
5.35	1.54	0.32	5.00	4.96	0.21	5.18
5.40	1.58	0.32	5.00	4.96	0.21	5.17
5.45	1.61	0.32	5.00	4.96	0.21	5.17
5.50	1.56	0.32	5.00	4.96	0.21	5.17
5.55	1.47	0.32	5.00	4.96	0.21	5.17
5.60	1.34	0.32	5.00	4.96	0.21	5.17
5.65	1.22	0.32	5.00	4.96	0.21	5.17
5.70	1.11	0.32	5.00	4.96	0.21	5.17
5.75	1.03	0.32	5.00	4.96	0.21	5.17
5.80	0.95	0.32	5.00	4.96	0.21	5.17
5.85	0.89	0.32	5.00	4.96	0.21	5.17
5.90	0.78	0.32	5.00	4.96	0.21	5.17
5.95	0.73	0.32	5.00	4.96	0.21	5.17
6.00	0.67	0.32	5.00	4.96	0.21	5.17
6.05	0.60	0.32	5.00	4.96	0.21	5.17

6.10	0.53	0.32	5.00	4.96	0.21	5.17
6.15	0.47	0.32	5.00	4.96	0.21	5.17
6.20	0.42	0.32	5.00	4.96	0.21	5.17
6.25	0.37	0.32	5.00	4.96	0.21	5.17
6.30	0.34	0.32	5.00	4.96	0.21	5.17
6.35	0.31	0.32	5.00	4.96	0.21	5.17
6.40	0.29	0.32	5.00	4.96	0.21	5.17
6.45	0.26	0.32	5.00	4.96	0.21	5.17
6.50	0.23	0.32	5.00	4.96	0.21	5.17
6.55	0.21	0.32	5.00	4.96	0.21	5.17
6.60	0.21	0.32	5.00	4.96	0.21	5.17
6.65	0.21	0.32	5.00	4.96	0.21	5.17
6.70	0.21	0.32	5.00	4.96	0.20	5.17
6.75	0.21	0.32	5.00	4.96	0.20	5.17
6.80	0.21	0.32	5.00	4.96	0.20	5.17
6.85	0.21	0.32	5.00	4.96	0.20	5.17
6.90	0.21	0.32	5.00	4.96	0.20	5.17
6.95	0.23	0.32	5.00	4.96	0.20	5.17
7.00	0.26	0.32	5.00	4.96	0.20	5.17
7.05	0.30	0.32	5.00	4.96	0.20	5.17
7.10	0.35	0.32	5.00	4.96	0.20	5.17
7.15	0.41	0.32	5.00	4.96	0.20	5.17
7.20	0.46	0.32	5.00	4.96	0.20	5.17
7.25	0.49	0.32	5.00	4.96	0.20	5.17
7.30	0.51	0.32	5.00	4.96	0.20	5.17
7.35	0.51	0.32	5.00	4.96	0.20	5.17
7.40	0.51	0.32	5.00	4.96	0.20	5.17
7.45	0.50	0.32	5.00	4.96	0.20	5.16
7.50	0.49	0.32	5.00	4.96	0.20	5.16
7.55	0.48	0.32	5.00	4.96	0.20	5.16
7.60	0.47	0.32	5.00	4.96	0.20	5.16
7.65	0.46	0.32	5.00	4.96	0.20	5.16
7.70	0.46	0.32	5.00	4.96	0.20	5.16
7.75	0.45	0.32	5.00	4.96	0.20	5.16
7.80	0.46	0.32	5.00	4.96	0.20	5.16
7.85	0.46	0.32	5.00	4.96	0.20	5.16
7.90	0.47	0.32	5.00	4.96	0.20	5.16
7.95	0.47	0.32	5.00	4.96	0.20	5.16
8.00	0.47	0.32	5.00	4.96	0.20	5.16
8.05	0.47	0.32	5.00	4.96	0.20	5.16
8.10	0.46	0.32	5.00	4.96	0.20	5.16
8.15	0.45	0.32	5.00	4.96	0.20	5.16
8.20	0.44	0.32	5.00	4.96	0.20	5.16
8.25	0.43	0.32	5.00	4.96	0.20	5.16
8.30	0.42	0.32	5.00	4.96	0.19	5.16
8.35	0.40	0.32	5.00	4.96	0.19	5.16
8.40	0.38	0.32	5.00	4.96	0.19	5.16
8.45	0.36	0.32	5.00	4.96	0.19	5.16
8.50	0.35	0.32	5.00	4.96	0.19	5.16
8.55	0.33	0.32	5.00	4.96	0.19	5.16

8.60	0.32	0.32	5.00	4.96	0.19	5.16
8.65	0.30	0.32	5.00	4.96	0.19	5.16
8.70	0.29	0.32	5.00	4.96	0.19	5.16
8.75	0.27	0.32	5.00	4.96	0.19	5.16
8.80	0.26	0.32	5.00	4.96	0.19	5.16
8.85	0.25	0.32	5.00	4.96	0.19	5.16
8.90	0.24	0.32	5.00	4.96	0.19	5.15
8.95	0.25	0.32	5.00	4.96	0.19	5.15
9.00	0.23	0.32	5.00	4.96	0.19	5.15
9.05	0.23	0.32	5.00	4.96	0.19	5.15
9.10	0.24	0.32	5.00	4.96	0.19	5.15
9.15	0.26	0.32	5.00	4.96	0.19	5.15
9.20	0.27	0.32	5.00	4.96	0.19	5.15
9.25	0.28	0.32	5.00	4.96	0.19	5.15
9.30	0.29	0.32	5.00	4.96	0.19	5.15
9.35	0.29	0.32	5.00	4.96	0.19	5.15
9.40	0.29	0.32	5.00	4.96	0.18	5.15
9.45	0.29	0.32	5.00	4.96	0.18	5.15
9.50	0.29	0.32	5.00	4.96	0.18	5.15
9.55	0.29	0.32	5.00	4.96	0.18	5.15
9.60	0.29	0.32	5.00	4.96	0.18	5.15
9.65	0.28	0.32	5.00	4.96	0.18	5.15
9.70	0.28	0.32	5.00	4.96	0.18	5.15
9.75	0.28	0.32	5.00	4.96	0.18	5.15
9.80	0.28	0.32	5.00	4.96	0.18	5.15
9.85	0.28	0.32	5.00	4.96	0.18	5.15
9.90	0.28	0.32	5.00	4.96	0.18	5.15
9.95	0.28	0.32	5.00	4.96	0.18	5.14
10.00	0.28	0.32	5.00	4.96	0.18	5.14
10.05	0.28	0.32	5.00	4.96	0.18	5.14
10.10	0.29	0.32	5.00	4.96	0.18	5.14
10.15	0.29	0.32	5.00	4.96	0.18	5.14
10.20	0.30	0.32	5.00	4.96	0.18	5.14
10.25	0.30	0.32	5.00	4.96	0.18	5.14
10.30	0.31	0.32	5.00	4.96	0.18	5.14
10.35	0.31	0.32	5.00	4.96	0.18	5.14
10.40	0.31	0.32	5.00	4.96	0.18	5.14
10.45	0.30	0.32	5.00	4.96	0.18	5.14
10.50	0.30	0.32	5.00	4.96	0.17	5.14
10.55	0.29	0.32	5.00	4.96	0.17	5.14
10.60	0.29	0.32	5.00	4.96	0.17	5.14
10.65	0.28	0.32	5.00	4.96	0.17	5.14
10.70	0.27	0.32	5.00	4.96	0.17	5.14
10.75	0.26	0.32	5.00	4.96	0.17	5.14
10.80	0.26	0.32	5.00	4.96	0.17	5.14
10.85	0.26	0.32	5.00	4.96	0.17	5.14
10.90	0.26	0.32	5.00	4.96	0.17	5.14
10.95	0.26	0.32	5.00	4.96	0.17	5.14
11.00	0.26	0.32	5.00	4.96	0.17	5.13
11.05	0.25	0.32	5.00	4.96	0.17	5.13

11.10	0.25	0.32	5.00	4.96	0.17	5.13
11.15	0.24	0.32	5.00	4.96	0.17	5.13
11.20	0.24	0.32	5.00	4.96	0.17	5.13
11.25	0.23	0.32	5.00	4.96	0.17	5.13
11.30	0.22	0.32	5.00	4.96	0.17	5.13
11.35	0.22	0.32	5.00	4.96	0.17	5.13
11.40	0.21	0.32	5.00	4.96	0.16	5.13
11.45	0.20	0.32	5.00	4.96	0.16	5.13
11.50	0.19	0.32	5.00	4.96	0.16	5.13
11.55	0.17	0.32	5.00	4.96	0.16	5.13
11.60	0.17	0.32	5.00	4.96	0.16	5.13
11.65	0.17	0.32	5.00	4.96	0.16	5.12
11.70	0.17	0.32	5.00	4.96	0.16	5.12
11.75	0.16	0.32	5.00	4.96	0.16	5.12
11.80	0.16	0.32	5.00	4.96	0.16	5.12
11.85	0.15	0.32	5.00	4.96	0.16	5.12
11.90	0.14	0.32	5.00	4.96	0.15	5.12
11.95	0.14	0.32	5.00	4.96	0.15	5.12
12.00	0.14	0.32	5.00	4.96	0.15	5.12
12.05	0.13	0.32	5.00	4.96	0.15	5.11
12.10	0.13	0.32	5.00	4.96	0.15	5.11
12.15	0.13	0.32	5.00	4.96	0.15	5.11
12.20	0.13	0.32	5.00	4.96	0.14	5.11
12.25	0.13	0.32	5.00	4.96	0.14	5.11
12.30	0.13	0.32	5.00	4.96	0.14	5.11
12.35	0.13	0.32	5.00	4.96	0.14	5.10
12.40	0.13	0.32	5.00	4.96	0.14	5.10
12.45	0.13	0.32	5.00	4.96	0.13	5.10
12.50	0.13	0.32	5.00	4.96	0.13	5.10
12.55	0.14	0.32	5.00	4.96	0.13	5.10
12.60	0.14	0.32	5.00	4.96	0.13	5.09
12.65	0.14	0.32	5.00	4.96	0.13	5.09
12.70	0.14	0.32	5.00	4.96	0.13	5.09
12.75	0.14	0.32	5.00	4.96	0.12	5.09
12.80	0.14	0.32	5.00	4.96	0.12	5.09
12.85	0.14	0.32	5.00	4.96	0.12	5.09
12.90	0.14	0.32	5.00	4.96	0.12	5.08
12.95	0.14	0.32	5.00	4.96	0.12	5.08
13.00	0.14	0.32	5.00	4.96	0.12	5.08
13.05	0.14	0.32	5.00	4.96	0.11	5.08
13.10	0.14	0.32	5.00	4.96	0.11	5.08
13.15	0.14	0.32	5.00	4.96	0.11	5.08
13.20	0.13	0.31	5.00	4.96	0.11	5.07
13.25	0.13	0.31	5.00	4.96	0.11	5.07
13.30	0.13	0.31	5.00	4.96	0.10	5.07
13.35	0.13	0.31	5.00	4.96	0.10	5.07
13.40	0.13	0.31	5.00	4.96	0.10	5.07
13.45	0.13	0.31	5.00	4.96	0.10	5.06
13.50	0.13	0.31	5.00	4.96	0.10	5.06
13.55	0.13	0.31	5.00	4.96	0.09	5.06

13.60	0.13	0.31	5.00	4.96	0.09	5.06
13.65	0.12	0.31	5.00	4.96	0.09	5.05
13.70	0.12	0.31	5.00	4.96	0.09	5.05
13.75	0.12	0.31	5.00	4.96	0.08	5.05
13.80	0.11	0.31	5.00	4.96	0.08	5.04
13.85	0.11	0.31	5.00	4.96	0.08	5.04
13.90	0.11	0.31	5.00	4.96	0.07	5.04
13.95	0.11	0.31	5.00	4.96	0.07	5.03
14.00	0.11	0.31	5.00	4.96	0.06	5.03
14.05	0.11	0.31	5.00	4.96	0.06	5.02
14.10	0.11	0.31	5.00	4.96	0.06	5.02
14.15	0.11	0.31	5.00	4.96	0.05	5.02
14.20	0.11	0.31	5.00	4.96	0.05	5.01
14.25	0.11	0.31	5.00	4.96	0.04	5.01
14.30	0.12	0.31	5.00	4.96	0.04	5.00
14.35	0.12	0.31	5.00	4.96	0.04	5.00
14.40	0.12	0.31	5.00	4.96	0.03	5.00
14.45	0.12	0.31	5.00	4.96	0.03	4.99
14.50	0.12	0.31	5.00	4.96	0.03	4.99
14.55	0.12	0.31	5.00	4.96	0.02	4.99
14.60	0.12	0.31	5.00	4.96	0.02	4.98
14.65	0.13	0.31	5.00	4.96	0.02	4.98
14.70	0.13	0.31	5.00	4.96	0.01	4.98
14.75	0.13	0.31	5.00	4.96	0.01	4.98
14.80	0.14	0.31	5.00	4.96	0.01	4.97
14.85	0.14	0.31	5.00	4.96	0.01	4.97
14.90	0.14	0.31	5.00	4.96	0.00	4.97
14.95	0.14	0.31	5.00	4.96	0.00	4.97
15.00	0.14	0.31	0.45*	4.96	0.00	4.96
15.05	0.14	0.31	0.45*	4.95	0.00	4.95
15.10	0.14	0.31	0.45*	4.94	0.00	4.94
15.15	0.14	0.32	0.45*	4.93	0.00	4.93
15.20	0.14	0.32	0.46*	4.92	0.00	4.92
15.25	0.15	0.32	0.46*	4.91	0.00	4.91
15.30	0.15	0.32	0.46*	4.90	0.00	4.90
15.35	0.15	0.32	0.47*	4.88	0.00	4.88
15.40	0.15	0.32	0.47*	4.87	0.00	4.87
15.45	0.15	0.32	0.47*	4.86	0.00	4.86
15.50	0.15	0.32	0.47*	4.85	0.00	4.85
15.55	0.15	0.32	0.47*	4.84	0.00	4.84
15.60	0.15	0.32	0.46*	4.83	0.00	4.83
15.65	0.15	0.32	0.46*	4.82	0.00	4.82
15.70	0.15	0.32	0.46*	4.81	0.00	4.81
15.75	0.15	0.32	0.46*	4.79	0.00	4.79
15.80	0.15	0.32	0.46*	4.78	0.00	4.78
15.85	0.15	0.32	0.46*	4.77	0.00	4.77
15.90	0.15	0.32	0.46*	4.76	0.00	4.76
15.95	0.15	0.32	0.45*	4.75	0.00	4.75
16.00	0.14	0.32	0.44*	4.74	0.00	4.74
16.05	0.14	0.32	0.43*	4.73	0.00	4.73

16.10	0.14	0.32	0.43*	4.71	0.00	4.71
16.15	0.14	0.32	0.44*	4.70	0.00	4.70
16.20	0.14	0.33	0.44*	4.69	0.00	4.69
16.25	0.15	0.33	0.45*	4.68	0.00	4.68
16.30	0.15	0.33	0.45*	4.66	0.00	4.66
16.35	0.15	0.33	0.45*	4.65	0.00	4.65
16.40	0.15	0.33	0.45*	4.64	0.00	4.64
16.45	0.15	0.33	0.47*	4.63	0.00	4.63
16.50	0.16	0.33	0.48*	4.62	0.00	4.62
16.55	0.16	0.33	0.49*	4.61	0.00	4.61
16.60	0.16	0.33	0.49*	4.60	0.00	4.60
16.65	0.16	0.33	0.49*	4.59	0.00	4.59
16.70	0.16	0.33	0.49*	4.58	0.00	4.58
16.75	0.16	0.33	0.50*	4.57	0.00	4.57
16.80	0.17	0.33	0.50*	4.56	0.00	4.56
16.85	0.17	0.33	0.51*	4.55	0.00	4.55
16.90	0.17	0.33	0.52*	4.54	0.00	4.54
16.95	0.17	0.33	0.53*	4.53	0.00	4.53
17.00	0.18	0.33	0.54*	4.52	0.00	4.52
17.05	0.18	0.33	0.54*	4.51	0.00	4.51
17.10	0.18	0.33	0.53*	4.50	0.00	4.50
17.15	0.17	0.33	0.52*	4.49	0.00	4.49
17.20	0.17	0.33	0.51*	4.48	0.00	4.48
17.25	0.17	0.33	0.50*	4.47	0.00	4.47
17.30	0.16	0.34	0.49*	4.46	0.00	4.46
17.35	0.16	0.34	0.48*	4.45	0.00	4.45
17.40	0.16	0.34	0.48*	4.44	0.00	4.44
17.45	0.16	0.34	0.47*	4.42	0.00	4.42
17.50	0.16	0.34	0.46*	4.41	0.00	4.41
17.55	0.16	0.34	0.46*	4.40	0.00	4.40
17.60	0.16	0.34	0.46*	4.39	0.00	4.39
17.65	0.16	0.34	0.46*	4.38	0.00	4.38
17.70	0.16	0.34	0.46*	4.37	0.00	4.37
17.75	0.16	0.34	0.46*	4.36	0.00	4.36
17.80	0.16	0.34	0.46*	4.35	0.00	4.35
17.85	0.16	0.34	0.46*	4.34	0.00	4.34
17.90	0.16	0.34	0.47*	4.33	0.00	4.33
17.95	0.16	0.34	0.47*	4.32	0.00	4.32
18.00	0.16	0.34	0.48*	4.31	0.00	4.31
18.05	0.16	0.34	0.48*	4.30	0.00	4.30
18.10	0.17	0.34	0.49*	4.29	0.00	4.29
18.15	0.17	0.34	0.50*	4.28	0.00	4.28
18.20	0.17	0.34	0.50*	4.27	0.00	4.27
18.25	0.18	0.34	0.51*	4.26	0.00	4.26
18.30	0.18	0.34	0.52*	4.25	0.00	4.25
18.35	0.18	0.34	0.53*	4.24	0.00	4.24
18.40	0.19	0.34	0.55*	4.23	0.00	4.23
18.45	0.20	0.34	0.59*	4.22	0.00	4.22
18.50	0.22	0.34	0.63*	4.21	0.00	4.21
18.55	0.24	0.35	0.70*	4.20	0.00	4.20

18.60	0.26	0.35	0.76*	4.19	0.00	4.19
18.65	0.28	0.35	0.81*	4.18	0.00	4.18
18.70	0.27	0.35	0.78*	4.17	0.00	4.17
18.75	0.30	0.35	0.86*	4.17	0.00	4.17
18.80	0.33	0.35	0.94*	4.16	0.00	4.16
18.85	0.35	0.35	1.01	4.15	0.00	4.15
18.90	0.37	0.35	1.06	4.15	0.00	4.15
18.95	0.39	0.35	1.11	4.14	0.00	4.14
19.00	0.40	0.35	1.14	4.14	0.00	4.14
19.05	0.41	0.35	1.17	4.13	0.00	4.13
19.10	0.42	0.35	1.20	4.13	0.00	4.13
19.15	0.43	0.35	1.23	4.13	0.00	4.13
19.20	0.44	0.35	1.24	4.13	0.00	4.13
19.25	0.44	0.35	1.26	4.13	0.00	4.13
19.30	0.44	0.35	1.26	4.13	0.00	4.13
19.35	0.44	0.35	1.26	4.13	0.00	4.13
19.40	0.44	0.35	1.25	4.12	0.00	4.12
19.45	0.44	0.35	1.24	4.12	0.00	4.12
19.50	0.43	0.35	1.23	4.12	0.00	4.12
19.55	0.43	0.35	1.22	4.12	0.00	4.12
19.60	0.43	0.35	1.22	4.12	0.00	4.12
19.65	0.43	0.35	1.22	4.12	0.00	4.12
19.70	0.43	0.35	1.21	4.11	0.00	4.11
19.75	0.42	0.35	1.19	4.11	0.00	4.11
19.80	0.42	0.35	1.17	4.11	0.00	4.11
19.85	0.41	0.36	1.15	4.11	0.00	4.11
19.90	0.40	0.36	1.14	4.10	0.00	4.10
19.95	0.40	0.36	1.13	4.10	0.00	4.10
20.00	0.39	0.36	1.10	4.10	0.00	4.10
20.05	0.38	0.36	1.07	4.09	0.00	4.09
20.10	0.38	0.36	1.06	4.09	0.00	4.09
20.15	0.38	0.36	1.06	4.08	0.00	4.08
20.20	0.38	0.36	1.05	4.08	0.00	4.08
20.25	0.37	0.36	1.04	4.07	0.00	4.07
20.30	0.37	0.36	1.03	4.07	0.00	4.07
20.35	0.36	0.36	1.01	4.06	0.00	4.06
20.40	0.35	0.36	0.98*	4.05	0.00	4.05
20.45	0.34	0.36	0.95*	4.05	0.00	4.05
20.50	0.33	0.36	0.92*	4.04	0.00	4.04
20.55	0.32	0.36	0.89*	4.03	0.00	4.03
20.60	0.31	0.36	0.87*	4.03	0.00	4.03
20.65	0.31	0.36	0.85*	4.02	0.00	4.02
20.70	0.30	0.36	0.82*	4.01	0.00	4.01
20.75	0.28	0.36	0.77*	4.01	0.00	4.01
20.80	0.26	0.36	0.73*	4.00	0.00	4.00
20.85	0.25	0.36	0.69*	3.99	0.00	3.99
20.90	0.24	0.36	0.65*	3.99	0.00	3.99
20.95	0.22	0.36	0.61*	3.98	0.00	3.98
21.00	0.21	0.36	0.58*	3.97	0.00	3.97
21.05	0.20	0.36	0.54*	3.96	0.00	3.96

21.10	0.21	0.36	0.57*	3.96	0.00	3.96
21.15	0.21	0.36	0.58*	3.95	0.00	3.95
21.20	0.21	0.36	0.59*	3.94	0.00	3.94
21.25	0.19	0.36	0.53*	3.94	0.00	3.94
21.30	0.19	0.36	0.52*	3.93	0.00	3.93
21.35	0.19	0.37	0.52*	3.92	0.00	3.92
21.40	0.20	0.37	0.55*	3.92	0.00	3.92
21.45	0.22	0.37	0.60*	3.91	0.00	3.91
21.50	0.26	0.37	0.71*	3.91	0.00	3.91
21.55	0.32	0.37	0.88*	3.91	0.00	3.91
21.60	2.00	0.37	5.00	3.91	0.00	3.91
21.65	2.00	0.37	5.00	3.91	0.00	3.91
21.70	2.00	0.37	5.00	3.91	0.00	3.91
21.75	2.00	0.37	5.00	3.91	0.00	3.91
21.80	2.00	0.37	5.00	3.91	0.00	3.91
21.85	2.00	0.37	5.00	3.91	0.00	3.91
21.90	2.00	0.37	5.00	3.91	0.00	3.91
21.95	2.00	0.37	5.00	3.91	0.00	3.91
22.00	2.00	0.37	5.00	3.91	0.00	3.91
22.05	2.00	0.37	5.00	3.91	0.00	3.91
22.10	0.14	0.37	0.39*	3.91	0.00	3.91
22.15	0.14	0.37	0.37*	3.90	0.00	3.90
22.20	0.14	0.37	0.37*	3.89	0.00	3.89
22.25	0.14	0.37	0.38*	3.88	0.00	3.88
22.30	0.15	0.37	0.39*	3.87	0.00	3.87
22.35	0.16	0.37	0.43*	3.86	0.00	3.86
22.40	0.18	0.37	0.48*	3.86	0.00	3.86
22.45	2.00	0.37	5.00	3.85	0.00	3.85
22.50	2.00	0.37	5.00	3.85	0.00	3.85
22.55	2.00	0.37	5.00	3.85	0.00	3.85
22.60	2.00	0.37	5.00	3.85	0.00	3.85
22.65	2.00	0.37	5.00	3.85	0.00	3.85
22.70	2.00	0.37	5.00	3.85	0.00	3.85
22.75	2.00	0.37	5.00	3.85	0.00	3.85
22.80	2.00	0.37	5.00	3.85	0.00	3.85
22.85	2.00	0.37	5.00	3.85	0.00	3.85
22.90	2.00	0.37	5.00	3.85	0.00	3.85
22.95	0.13	0.38	0.35*	3.85	0.00	3.85
23.00	0.14	0.38	0.38*	3.84	0.00	3.84
23.05	0.16	0.38	0.42*	3.83	0.00	3.83
23.10	0.18	0.38	0.47*	3.82	0.00	3.82
23.15	0.19	0.38	0.51*	3.81	0.00	3.81
23.20	0.20	0.38	0.53*	3.80	0.00	3.80
23.25	0.21	0.38	0.55*	3.79	0.00	3.79
23.30	0.22	0.38	0.58*	3.78	0.00	3.78
23.35	0.24	0.38	0.63*	3.77	0.00	3.77
23.40	0.26	0.38	0.68*	3.76	0.00	3.76
23.45	0.27	0.38	0.72*	3.75	0.00	3.75
23.50	0.29	0.38	0.76*	3.75	0.00	3.75
23.55	0.30	0.38	0.78*	3.74	0.00	3.74

23.60	0.31	0.38	0.81*	3.73	0.00	3.73
23.65	0.31	0.38	0.82*	3.73	0.00	3.73
23.70	0.31	0.38	0.83*	3.72	0.00	3.72
23.75	0.32	0.38	0.83*	3.71	0.00	3.71
23.80	0.31	0.38	0.82*	3.70	0.00	3.70
23.85	0.31	0.38	0.82*	3.70	0.00	3.70
23.90	0.31	0.38	0.83*	3.69	0.00	3.69
23.95	0.30	0.38	0.78*	3.68	0.00	3.68
24.00	0.29	0.38	0.76*	3.68	0.00	3.68
24.05	0.30	0.38	0.78*	3.67	0.00	3.67
24.10	0.31	0.38	0.81*	3.66	0.00	3.66
24.15	0.33	0.38	0.85*	3.65	0.00	3.65
24.20	0.34	0.38	0.89*	3.65	0.00	3.65
24.25	0.35	0.38	0.92*	3.64	0.00	3.64
24.30	0.35	0.38	0.93*	3.63	0.00	3.63
24.35	0.35	0.38	0.91*	3.63	0.00	3.63
24.40	0.36	0.38	0.93*	3.62	0.00	3.62
24.45	0.35	0.38	0.91*	3.61	0.00	3.61
24.50	0.35	0.38	0.91*	3.61	0.00	3.61
24.55	0.37	0.38	0.95*	3.60	0.00	3.60
24.60	0.38	0.38	0.98*	3.59	0.00	3.59
24.65	0.39	0.38	1.00	3.59	0.00	3.59
24.70	0.40	0.38	1.03	3.58	0.00	3.58
24.75	0.40	0.39	1.05	3.58	0.00	3.58
24.80	0.41	0.39	1.06	3.57	0.00	3.57
24.85	0.42	0.39	1.08	3.57	0.00	3.57
24.90	0.42	0.39	1.09	3.56	0.00	3.56
24.95	0.42	0.39	1.09	3.56	0.00	3.56
25.00	0.43	0.39	1.10	3.55	0.00	3.55
25.05	0.43	0.39	1.10	3.55	0.00	3.55
25.10	0.43	0.39	1.11	3.54	0.00	3.54
25.15	0.43	0.39	1.11	3.54	0.00	3.54
25.20	0.44	0.39	1.13	3.54	0.00	3.54
25.25	0.44	0.39	1.13	3.53	0.00	3.53
25.30	0.44	0.39	1.13	3.53	0.00	3.53
25.35	0.44	0.39	1.13	3.52	0.00	3.52
25.40	0.44	0.39	1.12	3.52	0.00	3.52
25.45	0.44	0.39	1.12	3.52	0.00	3.52
25.50	0.44	0.39	1.12	3.51	0.00	3.51
25.55	0.44	0.39	1.12	3.51	0.00	3.51
25.60	0.44	0.39	1.13	3.50	0.00	3.50
25.65	0.44	0.39	1.13	3.50	0.00	3.50
25.70	0.44	0.39	1.14	3.49	0.00	3.49
25.75	0.44	0.39	1.13	3.49	0.00	3.49
25.80	0.43	0.39	1.10	3.49	0.00	3.49
25.85	0.42	0.39	1.08	3.48	0.00	3.48
25.90	0.42	0.39	1.07	3.48	0.00	3.48
25.95	0.41	0.39	1.05	3.47	0.00	3.47
26.00	0.41	0.39	1.04	3.47	0.00	3.47
26.05	0.40	0.39	1.01	3.46	0.00	3.46

26.10	0.39	0.39	0.99*	3.46	0.00	3.46
26.15	0.38	0.39	0.97*	3.45	0.00	3.45
26.20	0.37	0.39	0.95*	3.44	0.00	3.44
26.25	0.38	0.39	0.96*	3.44	0.00	3.44
26.30	0.37	0.39	0.95*	3.43	0.00	3.43
26.35	0.37	0.39	0.94*	3.43	0.00	3.43
26.40	0.37	0.39	0.95*	3.42	0.00	3.42
26.45	0.38	0.39	0.96*	3.41	0.00	3.41
26.50	0.39	0.39	0.99*	3.41	0.00	3.41
26.55	0.40	0.39	1.02	3.40	0.00	3.40
26.60	0.42	0.39	1.07	3.39	0.00	3.39
26.65	0.44	0.39	1.13	3.39	0.00	3.39
26.70	0.47	0.39	1.18	3.38	0.00	3.38
26.75	0.49	0.39	1.24	3.38	0.00	3.38
26.80	0.51	0.40	1.30	3.37	0.00	3.37
26.85	0.52	0.40	1.32	3.37	0.00	3.37
26.90	0.51	0.40	1.29	3.37	0.00	3.37
26.95	0.46	0.40	1.15	3.37	0.00	3.37
27.00	0.44	0.40	1.12	3.36	0.00	3.36
27.05	0.46	0.40	1.17	3.36	0.00	3.36
27.10	0.48	0.40	1.21	3.35	0.00	3.35
27.15	0.49	0.40	1.23	3.35	0.00	3.35
27.20	0.49	0.40	1.24	3.34	0.00	3.34
27.25	0.50	0.40	1.25	3.34	0.00	3.34
27.30	0.50	0.40	1.26	3.34	0.00	3.34
27.35	0.50	0.40	1.26	3.34	0.00	3.34
27.40	0.51	0.40	1.27	3.33	0.00	3.33
27.45	0.51	0.40	1.29	3.33	0.00	3.33
27.50	0.52	0.40	1.31	3.33	0.00	3.33
27.55	0.53	0.40	1.33	3.32	0.00	3.32
27.60	0.53	0.40	1.33	3.32	0.00	3.32
27.65	0.53	0.40	1.34	3.32	0.00	3.32
27.70	0.54	0.40	1.35	3.31	0.00	3.31
27.75	0.54	0.40	1.35	3.31	0.00	3.31
27.80	0.54	0.40	1.35	3.31	0.00	3.31
27.85	0.54	0.40	1.35	3.31	0.00	3.31
27.90	0.53	0.40	1.32	3.30	0.00	3.30
27.95	0.53	0.40	1.32	3.30	0.00	3.30
28.00	0.53	0.40	1.31	3.30	0.00	3.30
28.05	0.52	0.40	1.30	3.29	0.00	3.29
28.10	0.51	0.40	1.27	3.29	0.00	3.29
28.15	0.50	0.40	1.24	3.28	0.00	3.28
28.20	0.49	0.40	1.21	3.28	0.00	3.28
28.25	0.47	0.40	1.17	3.28	0.00	3.28
28.30	0.46	0.40	1.15	3.27	0.00	3.27
28.35	0.45	0.40	1.13	3.26	0.00	3.26
28.40	0.45	0.40	1.12	3.26	0.00	3.26
28.45	0.44	0.40	1.09	3.25	0.00	3.25
28.50	0.43	0.40	1.06	3.25	0.00	3.25
28.55	0.36	0.40	0.91*	3.24	0.00	3.24

28.60	0.37	0.40	0.93*	3.23	0.00	3.23
28.65	0.37	0.40	0.93*	3.23	0.00	3.23
28.70	0.37	0.40	0.91*	3.22	0.00	3.22
28.75	0.36	0.40	0.89*	3.21	0.00	3.21
28.80	0.35	0.40	0.85*	3.21	0.00	3.21
28.85	0.33	0.40	0.81*	3.20	0.00	3.20
28.90	0.31	0.40	0.77*	3.19	0.00	3.19
28.95	0.30	0.40	0.74*	3.19	0.00	3.19
29.00	0.29	0.40	0.73*	3.18	0.00	3.18
29.05	0.29	0.40	0.72*	3.17	0.00	3.17
29.10	0.29	0.40	0.71*	3.16	0.00	3.16
29.15	0.28	0.41	0.70*	3.16	0.00	3.16
29.20	0.28	0.41	0.68*	3.15	0.00	3.15
29.25	0.27	0.41	0.66*	3.14	0.00	3.14
29.30	0.27	0.41	0.66*	3.13	0.00	3.13
29.35	0.27	0.41	0.66*	3.12	0.00	3.12
29.40	0.27	0.41	0.66*	3.12	0.00	3.12
29.45	0.27	0.41	0.66*	3.11	0.00	3.11
29.50	0.27	0.41	0.66*	3.10	0.00	3.10
29.55	0.27	0.41	0.67*	3.09	0.00	3.09
29.60	0.28	0.41	0.69*	3.08	0.00	3.08
29.65	0.28	0.41	0.70*	3.08	0.00	3.08
29.70	0.29	0.41	0.72*	3.07	0.00	3.07
29.75	0.30	0.41	0.74*	3.06	0.00	3.06
29.80	0.31	0.41	0.77*	3.05	0.00	3.05
29.85	0.33	0.41	0.81*	3.05	0.00	3.05
29.90	0.34	0.41	0.84*	3.04	0.00	3.04
29.95	0.36	0.41	0.87*	3.03	0.00	3.03
30.00	0.36	0.41	0.89*	3.02	0.00	3.02
30.05	0.37	0.41	0.91*	3.02	0.00	3.02
30.10	0.38	0.41	0.93*	3.01	0.00	3.01
30.15	0.39	0.41	0.96*	3.00	0.00	3.00
30.20	0.40	0.41	0.97*	3.00	0.00	3.00
30.25	0.40	0.41	0.98*	2.99	0.00	2.99
30.30	0.41	0.41	0.99*	2.98	0.00	2.98
30.35	0.41	0.41	1.00*	2.98	0.00	2.98
30.40	0.41	0.41	1.00*	2.97	0.00	2.97
30.45	0.40	0.41	0.99*	2.96	0.00	2.96
30.50	0.39	0.41	0.96*	2.96	0.00	2.96
30.55	0.38	0.41	0.93*	2.95	0.00	2.95
30.60	0.36	0.41	0.88*	2.94	0.00	2.94
30.65	0.34	0.41	0.83*	2.94	0.00	2.94
30.70	0.32	0.41	0.78*	2.93	0.00	2.93
30.75	0.26	0.41	0.63*	2.92	0.00	2.92
30.80	0.24	0.41	0.58*	2.91	0.00	2.91
30.85	0.25	0.41	0.60*	2.90	0.00	2.90
30.90	0.24	0.41	0.59*	2.90	0.00	2.90
30.95	0.23	0.41	0.56*	2.89	0.00	2.89
31.00	0.22	0.41	0.54*	2.88	0.00	2.88
31.05	0.21	0.41	0.52*	2.87	0.00	2.87

31.10	0.21	0.41	0.50*	2.86	0.00	2.86
31.15	0.20	0.41	0.48*	2.85	0.00	2.85
31.20	0.19	0.41	0.45*	2.84	0.00	2.84
31.25	0.18	0.41	0.43*	2.83	0.00	2.83
31.30	0.17	0.41	0.42*	2.82	0.00	2.82
31.35	0.16	0.41	0.40*	2.81	0.00	2.81
31.40	0.16	0.41	0.39*	2.80	0.00	2.80
31.45	0.16	0.41	0.38*	2.79	0.00	2.79
31.50	0.15	0.41	0.38*	2.78	0.00	2.78
31.55	0.15	0.41	0.37*	2.77	0.00	2.77
31.60	0.15	0.41	0.36*	2.75	0.00	2.75
31.65	0.15	0.41	0.36*	2.74	0.00	2.74
31.70	0.15	0.41	0.36*	2.73	0.00	2.73
31.75	0.15	0.41	0.36*	2.72	0.00	2.72
31.80	0.15	0.41	0.37*	2.71	0.00	2.71
31.85	0.15	0.41	0.37*	2.70	0.00	2.70
31.90	0.16	0.41	0.38*	2.69	0.00	2.69
31.95	0.16	0.41	0.38*	2.68	0.00	2.68
32.00	0.16	0.41	0.38*	2.67	0.00	2.67
32.05	0.16	0.41	0.39*	2.66	0.00	2.66
32.10	0.16	0.41	0.39*	2.64	0.00	2.64
32.15	0.16	0.41	0.40*	2.63	0.00	2.63
32.20	0.17	0.41	0.40*	2.62	0.00	2.62
32.25	0.16	0.41	0.40*	2.61	0.00	2.61
32.30	0.16	0.41	0.39*	2.60	0.00	2.60
32.35	0.16	0.41	0.38*	2.59	0.00	2.59
32.40	0.15	0.41	0.37*	2.58	0.00	2.58
32.45	0.15	0.41	0.36*	2.57	0.00	2.57
32.50	0.15	0.41	0.36*	2.56	0.00	2.56
32.55	0.15	0.41	0.36*	2.55	0.00	2.55
32.60	0.15	0.41	0.36*	2.54	0.00	2.54
32.65	0.15	0.41	0.36*	2.53	0.00	2.53
32.70	0.15	0.41	0.36*	2.52	0.00	2.52
32.75	0.14	0.41	0.34*	2.51	0.00	2.51
32.80	0.14	0.41	0.33*	2.50	0.00	2.50
32.85	0.14	0.41	0.33*	2.49	0.00	2.49
32.90	0.14	0.41	0.33*	2.47	0.00	2.47
32.95	0.14	0.41	0.34*	2.46	0.00	2.46
33.00	0.14	0.41	0.34*	2.45	0.00	2.45
33.05	0.14	0.41	0.35*	2.44	0.00	2.44
33.10	0.15	0.41	0.36*	2.43	0.00	2.43
33.15	0.15	0.41	0.37*	2.42	0.00	2.42
33.20	0.16	0.41	0.38*	2.41	0.00	2.41
33.25	0.16	0.41	0.39*	2.40	0.00	2.40
33.30	0.17	0.41	0.41*	2.39	0.00	2.39
33.35	0.17	0.41	0.41*	2.39	0.00	2.39
33.40	0.17	0.41	0.41*	2.38	0.00	2.38
33.45	0.16	0.41	0.39*	2.37	0.00	2.37
33.50	0.16	0.41	0.38*	2.36	0.00	2.36
33.55	0.16	0.41	0.38*	2.35	0.00	2.35

33.60	0.16	0.41	0.38*	2.34	0.00	2.34
33.65	0.15	0.41	0.37*	2.33	0.00	2.33
33.70	0.16	0.41	0.38*	2.32	0.00	2.32
33.75	0.17	0.41	0.41*	2.31	0.00	2.31
33.80	0.18	0.41	0.45*	2.31	0.00	2.31
33.85	0.20	0.41	0.49*	2.30	0.00	2.30
33.90	0.23	0.41	0.56*	2.29	0.00	2.29
33.95	2.00	0.41	5.00	2.29	0.00	2.29
34.00	2.00	0.41	5.00	2.29	0.00	2.29
34.05	2.00	0.41	5.00	2.29	0.00	2.29
34.10	2.00	0.41	5.00	2.29	0.00	2.29
34.15	2.00	0.41	5.00	2.29	0.00	2.29
34.20	2.00	0.41	5.00	2.29	0.00	2.29
34.25	0.16	0.41	0.40*	2.29	0.00	2.29
34.30	0.17	0.41	0.41*	2.28	0.00	2.28
34.35	0.17	0.41	0.42*	2.27	0.00	2.27
34.40	0.18	0.41	0.44*	2.26	0.00	2.26
34.45	0.18	0.41	0.45*	2.25	0.00	2.25
34.50	0.18	0.41	0.44*	2.24	0.00	2.24
34.55	0.17	0.41	0.42*	2.23	0.00	2.23
34.60	0.17	0.41	0.41*	2.22	0.00	2.22
34.65	0.17	0.41	0.41*	2.21	0.00	2.21
34.70	0.17	0.41	0.41*	2.20	0.00	2.20
34.75	0.17	0.41	0.41*	2.19	0.00	2.19
34.80	0.17	0.41	0.41*	2.18	0.00	2.18
34.85	0.17	0.41	0.42*	2.17	0.00	2.17
34.90	0.17	0.41	0.42*	2.16	0.00	2.16
34.95	0.17	0.41	0.42*	2.15	0.00	2.15
35.00	0.18	0.41	0.43*	2.14	0.00	2.14
35.05	0.18	0.41	0.44*	2.13	0.00	2.13
35.10	0.19	0.41	0.46*	2.12	0.00	2.12
35.15	0.20	0.41	0.48*	2.11	0.00	2.11
35.20	0.21	0.41	0.51*	2.10	0.00	2.10
35.25	0.22	0.41	0.54*	2.10	0.00	2.10
35.30	0.24	0.41	0.59*	2.09	0.00	2.09
35.35	0.26	0.41	0.64*	2.08	0.00	2.08
35.40	0.29	0.41	0.70*	2.07	0.00	2.07
35.45	0.31	0.41	0.75*	2.06	0.00	2.06
35.50	0.32	0.41	0.78*	2.06	0.00	2.06
35.55	0.33	0.41	0.80*	2.05	0.00	2.05
35.60	0.33	0.41	0.81*	2.04	0.00	2.04
35.65	0.34	0.41	0.82*	2.04	0.00	2.04
35.70	0.33	0.41	0.80*	2.03	0.00	2.03
35.75	0.33	0.41	0.80*	2.03	0.00	2.03
35.80	0.33	0.41	0.80*	2.02	0.00	2.02
35.85	0.33	0.41	0.80*	2.01	0.00	2.01
35.90	0.33	0.41	0.80*	2.01	0.00	2.01
35.95	0.33	0.41	0.80*	2.00	0.00	2.00
36.00	0.33	0.41	0.80*	1.99	0.00	1.99
36.05	0.33	0.41	0.80*	1.99	0.00	1.99

36.10	0.33	0.41	0.79*	1.98	0.00	1.98
36.15	0.33	0.41	0.79*	1.97	0.00	1.97
36.20	0.33	0.41	0.80*	1.97	0.00	1.97
36.25	0.33	0.41	0.80*	1.96	0.00	1.96
36.30	0.33	0.41	0.81*	1.96	0.00	1.96
36.35	0.34	0.41	0.82*	1.95	0.00	1.95
36.40	0.34	0.41	0.83*	1.94	0.00	1.94
36.45	0.35	0.41	0.84*	1.94	0.00	1.94
36.50	0.35	0.41	0.86*	1.93	0.00	1.93
36.55	0.36	0.41	0.89*	1.92	0.00	1.92
36.60	0.38	0.41	0.91*	1.92	0.00	1.92
36.65	0.39	0.41	0.94*	1.91	0.00	1.91
36.70	0.40	0.41	0.97*	1.91	0.00	1.91
36.75	0.41	0.41	0.99*	1.90	0.00	1.90
36.80	0.41	0.41	1.01	1.90	0.00	1.90
36.85	0.42	0.41	1.02	1.89	0.00	1.89
36.90	0.42	0.41	1.03	1.89	0.00	1.89
36.95	0.43	0.41	1.04	1.89	0.00	1.89
37.00	0.42	0.41	1.02	1.88	0.00	1.88
37.05	0.40	0.41	0.98*	1.88	0.00	1.88
37.10	0.39	0.41	0.96*	1.87	0.00	1.87
37.15	0.40	0.41	0.97*	1.87	0.00	1.87
37.20	0.41	0.41	1.00	1.86	0.00	1.86
37.25	0.42	0.41	1.03	1.86	0.00	1.86
37.30	0.43	0.41	1.05	1.85	0.00	1.85
37.35	0.43	0.41	1.04	1.85	0.00	1.85
37.40	0.42	0.41	1.03	1.84	0.00	1.84
37.45	0.43	0.41	1.05	1.84	0.00	1.84
37.50	0.44	0.41	1.07	1.84	0.00	1.84
37.55	0.44	0.41	1.08	1.83	0.00	1.83
37.60	0.44	0.41	1.08	1.83	0.00	1.83
37.65	0.44	0.41	1.07	1.83	0.00	1.83
37.70	0.43	0.41	1.06	1.82	0.00	1.82
37.75	0.43	0.41	1.05	1.82	0.00	1.82
37.80	0.42	0.41	1.04	1.82	0.00	1.82
37.85	0.42	0.41	1.03	1.81	0.00	1.81
37.90	0.42	0.41	1.02	1.81	0.00	1.81
37.95	0.42	0.41	1.02	1.80	0.00	1.80
38.00	0.42	0.41	1.01	1.80	0.00	1.80
38.05	0.41	0.41	1.01	1.80	0.00	1.80
38.10	0.41	0.41	1.00	1.79	0.00	1.79
38.15	0.40	0.41	0.99*	1.79	0.00	1.79
38.20	0.40	0.41	0.97*	1.78	0.00	1.78
38.25	0.39	0.41	0.96*	1.78	0.00	1.78
38.30	0.39	0.41	0.96*	1.77	0.00	1.77
38.35	0.39	0.41	0.96*	1.76	0.00	1.76
38.40	0.39	0.41	0.95*	1.76	0.00	1.76
38.45	0.39	0.41	0.96*	1.75	0.00	1.75
38.50	0.40	0.41	0.98*	1.75	0.00	1.75
38.55	0.41	0.41	1.00	1.74	0.00	1.74

38.60	0.42	0.41	1.03	1.74	0.00	1.74
38.65	0.43	0.41	1.04	1.73	0.00	1.73
38.70	0.42	0.41	1.02	1.73	0.00	1.73
38.75	0.40	0.41	0.99*	1.72	0.00	1.72
38.80	0.39	0.41	0.96*	1.72	0.00	1.72
38.85	0.39	0.41	0.96*	1.71	0.00	1.71
38.90	0.39	0.41	0.95*	1.71	0.00	1.71
38.95	0.39	0.41	0.94*	1.70	0.00	1.70
39.00	0.38	0.41	0.93*	1.69	0.00	1.69
39.05	0.38	0.41	0.93*	1.69	0.00	1.69
39.10	0.33	0.41	0.80*	1.68	0.00	1.68
39.15	0.33	0.41	0.82*	1.67	0.00	1.67
39.20	0.34	0.41	0.83*	1.67	0.00	1.67
39.25	0.34	0.41	0.82*	1.66	0.00	1.66
39.30	0.33	0.41	0.82*	1.65	0.00	1.65
39.35	0.33	0.41	0.81*	1.65	0.00	1.65
39.40	0.32	0.41	0.79*	1.64	0.00	1.64
39.45	0.31	0.41	0.77*	1.63	0.00	1.63
39.50	0.30	0.41	0.74*	1.63	0.00	1.63
39.55	0.29	0.41	0.72*	1.62	0.00	1.62
39.60	0.28	0.41	0.69*	1.61	0.00	1.61
39.65	0.28	0.41	0.68*	1.61	0.00	1.61
39.70	0.27	0.41	0.66*	1.60	0.00	1.60
39.75	0.27	0.41	0.65*	1.59	0.00	1.59
39.80	0.26	0.41	0.65*	1.58	0.00	1.58
39.85	0.26	0.41	0.63*	1.58	0.00	1.58
39.90	0.25	0.41	0.62*	1.57	0.00	1.57
39.95	0.25	0.41	0.60*	1.56	0.00	1.56
40.00	0.24	0.41	0.58*	1.55	0.00	1.55
40.05	0.23	0.41	0.56*	1.55	0.00	1.55
40.10	0.22	0.41	0.54*	1.54	0.00	1.54
40.15	0.22	0.41	0.53*	1.53	0.00	1.53
40.20	0.21	0.41	0.52*	1.52	0.00	1.52
40.25	0.21	0.41	0.52*	1.51	0.00	1.51
40.30	0.22	0.41	0.53*	1.51	0.00	1.51
40.35	0.25	0.41	0.60*	1.50	0.00	1.50
40.40	0.34	0.41	0.83*	1.49	0.00	1.49
40.45	2.00	0.41	5.00	1.49	0.00	1.49
40.50	2.00	0.41	5.00	1.49	0.00	1.49
40.55	2.00	0.41	5.00	1.49	0.00	1.49
40.60	2.00	0.41	5.00	1.49	0.00	1.49
40.65	2.00	0.41	5.00	1.49	0.00	1.49
40.70	2.00	0.41	5.00	1.49	0.00	1.49
40.75	2.00	0.41	5.00	1.49	0.00	1.49
40.80	2.00	0.41	5.00	1.49	0.00	1.49
40.85	2.00	0.41	5.00	1.49	0.00	1.49
40.90	2.00	0.41	5.00	1.49	0.00	1.49
40.95	2.00	0.41	5.00	1.49	0.00	1.49
41.00	2.00	0.41	5.00	1.49	0.00	1.49
41.05	2.00	0.41	5.00	1.49	0.00	1.49

41.10	2.00	0.41	5.00	1.49	0.00	1.49
41.15	2.00	0.41	5.00	1.49	0.00	1.49
41.20	2.00	0.41	5.00	1.49	0.00	1.49
41.25	2.00	0.41	5.00	1.49	0.00	1.49
41.30	0.17	0.41	0.42*	1.49	0.00	1.49
41.35	0.15	0.41	0.37*	1.49	0.00	1.49
41.40	0.15	0.41	0.37*	1.48	0.00	1.48
41.45	0.15	0.41	0.37*	1.47	0.00	1.47
41.50	0.15	0.41	0.36*	1.46	0.00	1.46
41.55	0.15	0.41	0.37*	1.45	0.00	1.45
41.60	0.16	0.41	0.40*	1.44	0.00	1.44
41.65	0.21	0.41	0.51*	1.43	0.00	1.43
41.70	2.00	0.41	5.00	1.43	0.00	1.43
41.75	2.00	0.41	5.00	1.43	0.00	1.43
41.80	2.00	0.41	5.00	1.43	0.00	1.43
41.85	2.00	0.41	5.00	1.43	0.00	1.43
41.90	2.00	0.41	5.00	1.43	0.00	1.43
41.95	2.00	0.41	5.00	1.43	0.00	1.43
42.00	2.00	0.41	5.00	1.43	0.00	1.43
42.05	2.00	0.41	5.00	1.43	0.00	1.43
42.10	2.00	0.41	5.00	1.43	0.00	1.43
42.15	2.00	0.41	5.00	1.43	0.00	1.43
42.20	2.00	0.41	5.00	1.43	0.00	1.43
42.25	2.00	0.41	5.00	1.43	0.00	1.43
42.30	2.00	0.41	5.00	1.43	0.00	1.43
42.35	2.00	0.41	5.00	1.43	0.00	1.43
42.40	2.00	0.41	5.00	1.43	0.00	1.43
42.45	2.00	0.41	5.00	1.43	0.00	1.43
42.50	2.00	0.41	5.00	1.43	0.00	1.43
42.55	0.16	0.41	0.40*	1.43	0.00	1.43
42.60	0.16	0.41	0.40*	1.42	0.00	1.42
42.65	0.17	0.41	0.42*	1.41	0.00	1.41
42.70	0.18	0.41	0.45*	1.40	0.00	1.40
42.75	0.19	0.41	0.46*	1.39	0.00	1.39
42.80	0.19	0.41	0.46*	1.38	0.00	1.38
42.85	0.19	0.41	0.46*	1.37	0.00	1.37
42.90	0.19	0.41	0.46*	1.37	0.00	1.37
42.95	0.18	0.41	0.45*	1.36	0.00	1.36
43.00	0.18	0.40	0.45*	1.35	0.00	1.35
43.05	0.18	0.40	0.44*	1.34	0.00	1.34
43.10	0.18	0.40	0.44*	1.33	0.00	1.33
43.15	0.18	0.40	0.44*	1.32	0.00	1.32
43.20	0.18	0.40	0.45*	1.31	0.00	1.31
43.25	0.19	0.40	0.48*	1.31	0.00	1.31
43.30	0.23	0.40	0.56*	1.30	0.00	1.30
43.35	2.00	0.40	5.00	1.30	0.00	1.30
43.40	2.00	0.40	5.00	1.30	0.00	1.30
43.45	2.00	0.40	5.00	1.30	0.00	1.30
43.50	2.00	0.40	5.00	1.30	0.00	1.30
43.55	2.00	0.40	5.00	1.30	0.00	1.30

43.60	2.00	0.40	5.00	1.30	0.00	1.30
43.65	2.00	0.40	5.00	1.30	0.00	1.30
43.70	2.00	0.40	5.00	1.30	0.00	1.30
43.75	2.00	0.40	5.00	1.30	0.00	1.30
43.80	2.00	0.40	5.00	1.30	0.00	1.30
43.85	2.00	0.40	5.00	1.30	0.00	1.30
43.90	2.00	0.40	5.00	1.30	0.00	1.30
43.95	2.00	0.40	5.00	1.30	0.00	1.30
44.00	2.00	0.40	5.00	1.30	0.00	1.30
44.05	2.00	0.40	5.00	1.30	0.00	1.30
44.10	2.00	0.40	5.00	1.30	0.00	1.30
44.15	2.00	0.40	5.00	1.30	0.00	1.30
44.20	2.00	0.40	5.00	1.30	0.00	1.30
44.25	2.00	0.40	5.00	1.30	0.00	1.30
44.30	2.00	0.40	5.00	1.30	0.00	1.30
44.35	2.00	0.40	5.00	1.30	0.00	1.30
44.40	2.00	0.40	5.00	1.30	0.00	1.30
44.45	2.00	0.40	5.00	1.30	0.00	1.30
44.50	2.00	0.40	5.00	1.30	0.00	1.30
44.55	2.00	0.40	5.00	1.30	0.00	1.30
44.60	2.00	0.40	5.00	1.30	0.00	1.30
44.65	2.00	0.40	5.00	1.30	0.00	1.30
44.70	2.00	0.40	5.00	1.30	0.00	1.30
44.75	2.00	0.40	5.00	1.30	0.00	1.30
44.80	2.00	0.40	5.00	1.30	0.00	1.30
44.85	2.00	0.40	5.00	1.30	0.00	1.30
44.90	0.18	0.40	0.44*	1.30	0.00	1.30
44.95	0.17	0.40	0.43*	1.29	0.00	1.29
45.00	0.17	0.40	0.43*	1.28	0.00	1.28
45.05	0.18	0.40	0.45*	1.27	0.00	1.27
45.10	0.18	0.40	0.46*	1.26	0.00	1.26
45.15	0.19	0.40	0.46*	1.26	0.00	1.26
45.20	0.19	0.40	0.47*	1.25	0.00	1.25
45.25	0.19	0.40	0.47*	1.24	0.00	1.24
45.30	0.19	0.40	0.46*	1.23	0.00	1.23
45.35	0.18	0.40	0.46*	1.22	0.00	1.22
45.40	0.18	0.40	0.46*	1.22	0.00	1.22
45.45	0.18	0.40	0.46*	1.21	0.00	1.21
45.50	0.18	0.40	0.46*	1.20	0.00	1.20
45.55	0.19	0.40	0.46*	1.19	0.00	1.19
45.60	0.19	0.40	0.47*	1.19	0.00	1.19
45.65	0.19	0.40	0.49*	1.18	0.00	1.18
45.70	0.20	0.40	0.51*	1.17	0.00	1.17
45.75	0.21	0.40	0.53*	1.16	0.00	1.16
45.80	0.22	0.40	0.56*	1.16	0.00	1.16
45.85	0.23	0.40	0.58*	1.15	0.00	1.15
45.90	0.23	0.40	0.58*	1.15	0.00	1.15
45.95	0.23	0.40	0.56*	1.15	0.00	1.15
46.00	0.21	0.40	0.53*	1.14	0.00	1.14
46.05	0.20	0.40	0.50*	1.13	0.00	1.13

46.10	0.19	0.40	0.48*	1.13	0.00	1.13
46.15	0.19	0.40	0.47*	1.12	0.00	1.12
46.20	0.19	0.40	0.48*	1.11	0.00	1.11
46.25	0.20	0.40	0.49*	1.11	0.00	1.11
46.30	0.20	0.40	0.51*	1.10	0.00	1.10
46.35	0.21	0.40	0.52*	1.09	0.00	1.09
46.40	0.21	0.40	0.54*	1.09	0.00	1.09
46.45	0.19	0.40	0.48*	1.08	0.00	1.08
46.50	0.16	0.40	0.41*	1.08	0.00	1.08
46.55	0.15	0.40	0.38*	1.07	0.00	1.07
46.60	0.16	0.40	0.39*	1.06	0.00	1.06
46.65	0.16	0.40	0.41*	1.05	0.00	1.05
46.70	0.17	0.40	0.43*	1.04	0.00	1.04
46.75	0.19	0.40	0.47*	1.03	0.00	1.03
46.80	2.00	0.40	5.00	1.03	0.00	1.03
46.85	2.00	0.40	5.00	1.03	0.00	1.03
46.90	2.00	0.40	5.00	1.03	0.00	1.03
46.95	2.00	0.40	5.00	1.03	0.00	1.03
47.00	2.00	0.40	5.00	1.03	0.00	1.03
47.05	2.00	0.40	5.00	1.03	0.00	1.03
47.10	2.00	0.40	5.00	1.03	0.00	1.03
47.15	2.00	0.40	5.00	1.03	0.00	1.03
47.20	2.00	0.40	5.00	1.03	0.00	1.03
47.25	2.00	0.40	5.00	1.03	0.00	1.03
47.30	0.22	0.40	0.56*	1.03	0.00	1.03
47.35	0.19	0.40	0.48*	1.02	0.00	1.02
47.40	0.18	0.40	0.46*	1.02	0.00	1.02
47.45	0.18	0.40	0.45*	1.01	0.00	1.01
47.50	0.18	0.40	0.45*	1.00	0.00	1.00
47.55	0.18	0.40	0.46*	0.99	0.00	0.99
47.60	0.18	0.40	0.46*	0.98	0.00	0.98
47.65	0.18	0.40	0.46*	0.97	0.00	0.97
47.70	0.19	0.40	0.47*	0.96	0.00	0.96
47.75	0.19	0.40	0.47*	0.95	0.00	0.95
47.80	0.18	0.40	0.47*	0.95	0.00	0.95
47.85	0.18	0.40	0.46*	0.94	0.00	0.94
47.90	0.18	0.40	0.46*	0.93	0.00	0.93
47.95	0.18	0.40	0.46*	0.92	0.00	0.92
48.00	0.18	0.40	0.45*	0.91	0.00	0.91
48.05	0.18	0.40	0.46*	0.90	0.00	0.90
48.10	0.19	0.40	0.47*	0.89	0.00	0.89
48.15	0.19	0.40	0.49*	0.89	0.00	0.89
48.20	0.21	0.40	0.53*	0.88	0.00	0.88
48.25	0.23	0.40	0.59*	0.87	0.00	0.87
48.30	0.26	0.40	0.65*	0.87	0.00	0.87
48.35	0.27	0.40	0.68*	0.87	0.00	0.87
48.40	0.27	0.40	0.67*	0.87	0.00	0.87
48.45	0.26	0.40	0.65*	0.86	0.00	0.86
48.50	0.25	0.40	0.62*	0.86	0.00	0.86
48.55	0.24	0.40	0.62*	0.86	0.00	0.86

48.60	2.00	0.40	5.00	0.86	0.00	0.86
48.65	2.00	0.39	5.00	0.86	0.00	0.86
48.70	2.00	0.39	5.00	0.86	0.00	0.86
48.75	2.00	0.39	5.00	0.86	0.00	0.86
48.80	2.00	0.39	5.00	0.86	0.00	0.86
48.85	2.00	0.39	5.00	0.86	0.00	0.86
48.90	2.00	0.39	5.00	0.86	0.00	0.86
48.95	2.00	0.39	5.00	0.86	0.00	0.86
49.00	2.00	0.39	5.00	0.86	0.00	0.86
49.05	2.00	0.39	5.00	0.86	0.00	0.86
49.10	2.00	0.39	5.00	0.86	0.00	0.86
49.15	2.00	0.39	5.00	0.86	0.00	0.86
49.20	2.00	0.39	5.00	0.86	0.00	0.86
49.25	2.00	0.39	5.00	0.86	0.00	0.86
49.30	2.00	0.39	5.00	0.86	0.00	0.86
49.35	2.00	0.39	5.00	0.86	0.00	0.86
49.40	2.00	0.39	5.00	0.86	0.00	0.86
49.45	2.00	0.39	5.00	0.86	0.00	0.86
49.50	2.00	0.39	5.00	0.86	0.00	0.86
49.55	2.00	0.39	5.00	0.86	0.00	0.86
49.60	2.00	0.39	5.00	0.86	0.00	0.86
49.65	2.00	0.39	5.00	0.86	0.00	0.86
49.70	2.00	0.39	5.00	0.86	0.00	0.86
49.75	2.00	0.39	5.00	0.86	0.00	0.86
49.80	2.00	0.39	5.00	0.86	0.00	0.86
49.85	2.00	0.39	5.00	0.86	0.00	0.86
49.90	2.00	0.39	5.00	0.86	0.00	0.86
49.95	0.15	0.39	0.38*	0.86	0.00	0.86
50.00	0.15	0.39	0.37*	0.85	0.00	0.85
50.05	0.16	0.39	0.40*	0.84	0.00	0.84
50.10	0.19	0.39	0.48*	0.83	0.00	0.83
50.15	2.00	0.39	5.00	0.83	0.00	0.83
50.20	2.00	0.39	5.00	0.83	0.00	0.83
50.25	2.00	0.39	5.00	0.83	0.00	0.83
50.30	2.00	0.39	5.00	0.83	0.00	0.83
50.35	2.00	0.39	5.00	0.83	0.00	0.83
50.40	2.00	0.39	5.00	0.83	0.00	0.83
50.45	0.20	0.39	0.51*	0.83	0.00	0.83
50.50	0.18	0.39	0.47*	0.82	0.00	0.82
50.55	0.18	0.39	0.47*	0.81	0.00	0.81
50.60	0.18	0.39	0.46*	0.81	0.00	0.81
50.65	0.18	0.39	0.46*	0.80	0.00	0.80
50.70	0.18	0.39	0.45*	0.79	0.00	0.79
50.75	0.17	0.39	0.44*	0.78	0.00	0.78
50.80	0.17	0.39	0.43*	0.77	0.00	0.77
50.85	0.17	0.39	0.43*	0.76	0.00	0.76
50.90	0.16	0.39	0.42*	0.75	0.00	0.75
50.95	0.16	0.39	0.41*	0.74	0.00	0.74
51.00	0.16	0.39	0.42*	0.73	0.00	0.73
51.05	0.17	0.39	0.44*	0.73	0.00	0.73

51.10	0.19	0.39	0.48*	0.72	0.00	0.72
51.15	0.19	0.39	0.49*	0.71	0.00	0.71
51.20	0.16	0.39	0.41*	0.70	0.00	0.70
51.25	0.16	0.39	0.40*	0.70	0.00	0.70
51.30	2.00	0.39	5.00	0.69	0.00	0.69
51.35	2.00	0.39	5.00	0.69	0.00	0.69
51.40	2.00	0.39	5.00	0.69	0.00	0.69
51.45	2.00	0.39	5.00	0.69	0.00	0.69
51.50	2.00	0.39	5.00	0.69	0.00	0.69
51.55	2.00	0.39	5.00	0.69	0.00	0.69
51.60	2.00	0.39	5.00	0.69	0.00	0.69
51.65	2.00	0.39	5.00	0.69	0.00	0.69
51.70	2.00	0.39	5.00	0.69	0.00	0.69
51.75	0.17	0.39	0.43*	0.69	0.00	0.69
51.80	0.17	0.39	0.44*	0.68	0.00	0.68
51.85	2.00	0.39	5.00	0.67	0.00	0.67
51.90	2.00	0.39	5.00	0.67	0.00	0.67
51.95	2.00	0.39	5.00	0.67	0.00	0.67
52.00	2.00	0.39	5.00	0.67	0.00	0.67
52.05	2.00	0.39	5.00	0.67	0.00	0.67
52.10	2.00	0.39	5.00	0.67	0.00	0.67
52.15	2.00	0.39	5.00	0.67	0.00	0.67
52.20	2.00	0.39	5.00	0.67	0.00	0.67
52.25	2.00	0.39	5.00	0.67	0.00	0.67
52.30	2.00	0.39	5.00	0.67	0.00	0.67
52.35	2.00	0.39	5.00	0.67	0.00	0.67
52.40	2.00	0.39	5.00	0.67	0.00	0.67
52.45	2.00	0.39	5.00	0.67	0.00	0.67
52.50	2.00	0.39	5.00	0.67	0.00	0.67
52.55	2.00	0.39	5.00	0.67	0.00	0.67
52.60	2.00	0.39	5.00	0.67	0.00	0.67
52.65	2.00	0.39	5.00	0.67	0.00	0.67
52.70	2.00	0.39	5.00	0.67	0.00	0.67
52.75	2.00	0.39	5.00	0.67	0.00	0.67
52.80	2.00	0.39	5.00	0.67	0.00	0.67
52.85	2.00	0.39	5.00	0.67	0.00	0.67
52.90	2.00	0.39	5.00	0.67	0.00	0.67
52.95	2.00	0.38	5.00	0.67	0.00	0.67
53.00	2.00	0.38	5.00	0.67	0.00	0.67
53.05	2.00	0.38	5.00	0.67	0.00	0.67
53.10	2.00	0.38	5.00	0.67	0.00	0.67
53.15	2.00	0.38	5.00	0.67	0.00	0.67
53.20	0.14	0.38	0.37*	0.67	0.00	0.67
53.25	0.13	0.38	0.34*	0.66	0.00	0.66
53.30	0.13	0.38	0.35*	0.65	0.00	0.65
53.35	0.14	0.38	0.35*	0.64	0.00	0.64
53.40	0.14	0.38	0.36*	0.63	0.00	0.63
53.45	0.14	0.38	0.38*	0.62	0.00	0.62
53.50	0.15	0.38	0.39*	0.61	0.00	0.61
53.55	0.15	0.38	0.40*	0.60	0.00	0.60

53.60	0.16	0.38	0.41*	0.60	0.00	0.60
53.65	0.16	0.38	0.41*	0.59	0.00	0.59
53.70	0.16	0.38	0.42*	0.58	0.00	0.58
53.75	0.16	0.38	0.43*	0.57	0.00	0.57
53.80	0.17	0.38	0.44*	0.56	0.00	0.56
53.85	0.17	0.38	0.45*	0.55	0.00	0.55
53.90	0.18	0.38	0.48*	0.55	0.00	0.55
53.95	0.21	0.38	0.55*	0.54	0.00	0.54
54.00	0.26	0.38	0.67*	0.53	0.00	0.53
54.05	2.00	0.38	5.00	0.53	0.00	0.53
54.10	2.00	0.38	5.00	0.53	0.00	0.53
54.15	2.00	0.38	5.00	0.53	0.00	0.53
54.20	2.00	0.38	5.00	0.53	0.00	0.53
54.25	2.00	0.38	5.00	0.53	0.00	0.53
54.30	2.00	0.38	5.00	0.53	0.00	0.53
54.35	2.00	0.38	5.00	0.53	0.00	0.53
54.40	0.24	0.38	0.62*	0.53	0.00	0.53
54.45	0.19	0.38	0.49*	0.53	0.00	0.53
54.50	0.16	0.38	0.43*	0.52	0.00	0.52
54.55	0.15	0.38	0.40*	0.51	0.00	0.51
54.60	0.15	0.38	0.39*	0.50	0.00	0.50
54.65	0.15	0.38	0.39*	0.49	0.00	0.49
54.70	0.15	0.38	0.39*	0.48	0.00	0.48
54.75	0.15	0.38	0.39*	0.47	0.00	0.47
54.80	0.15	0.38	0.40*	0.46	0.00	0.46
54.85	0.15	0.38	0.40*	0.45	0.00	0.45
54.90	0.15	0.38	0.41*	0.44	0.00	0.44
54.95	0.16	0.38	0.41*	0.43	0.00	0.43
55.00	0.16	0.38	0.42*	0.42	0.00	0.42
55.05	0.16	0.38	0.42*	0.41	0.00	0.41
55.10	0.16	0.38	0.42*	0.40	0.00	0.40
55.15	0.16	0.38	0.43*	0.39	0.00	0.39
55.20	0.16	0.38	0.43*	0.38	0.00	0.38
55.25	0.16	0.38	0.43*	0.38	0.00	0.38
55.30	0.16	0.38	0.43*	0.37	0.00	0.37
55.35	0.16	0.38	0.43*	0.36	0.00	0.36
55.40	0.16	0.38	0.44*	0.35	0.00	0.35
55.45	0.16	0.38	0.44*	0.34	0.00	0.34
55.50	0.16	0.38	0.43*	0.33	0.00	0.33
55.55	0.16	0.38	0.43*	0.32	0.00	0.32
55.60	0.16	0.38	0.41*	0.31	0.00	0.31
55.65	0.15	0.38	0.40*	0.30	0.00	0.30
55.70	0.16	0.38	0.42*	0.29	0.00	0.29
55.75	0.18	0.38	0.48*	0.29	0.00	0.29
55.80	0.21	0.38	0.56*	0.28	0.00	0.28
55.85	2.00	0.38	5.00	0.27	0.00	0.27
55.90	2.00	0.38	5.00	0.27	0.00	0.27
55.95	2.00	0.38	5.00	0.27	0.00	0.27
56.00	2.00	0.38	5.00	0.27	0.00	0.27
56.05	2.00	0.38	5.00	0.27	0.00	0.27

56.10	2.00	0.38	5.00	0.27	0.00	0.27
56.15	0.15	0.38	0.39*	0.27	0.00	0.27
56.20	0.14	0.38	0.37*	0.27	0.00	0.27
56.25	0.14	0.38	0.37*	0.26	0.00	0.26
56.30	0.15	0.38	0.40*	0.25	0.00	0.25
56.35	2.00	0.38	5.00	0.24	0.00	0.24
56.40	2.00	0.38	5.00	0.24	0.00	0.24
56.45	2.00	0.38	5.00	0.24	0.00	0.24
56.50	2.00	0.38	5.00	0.24	0.00	0.24
56.55	2.00	0.38	5.00	0.24	0.00	0.24
56.60	2.00	0.38	5.00	0.24	0.00	0.24
56.65	2.00	0.38	5.00	0.24	0.00	0.24
56.70	2.00	0.38	5.00	0.24	0.00	0.24
56.75	2.00	0.37	5.00	0.24	0.00	0.24
56.80	2.00	0.37	5.00	0.24	0.00	0.24
56.85	2.00	0.37	5.00	0.24	0.00	0.24
56.90	2.00	0.37	5.00	0.24	0.00	0.24
56.95	2.00	0.37	5.00	0.24	0.00	0.24
57.00	2.00	0.37	5.00	0.24	0.00	0.24
57.05	2.00	0.37	5.00	0.24	0.00	0.24
57.10	2.00	0.37	5.00	0.24	0.00	0.24
57.15	2.00	0.37	5.00	0.24	0.00	0.24
57.20	2.00	0.37	5.00	0.24	0.00	0.24
57.25	2.00	0.37	5.00	0.24	0.00	0.24
57.30	2.00	0.37	5.00	0.24	0.00	0.24
57.35	2.00	0.37	5.00	0.24	0.00	0.24
57.40	2.00	0.37	5.00	0.24	0.00	0.24
57.45	2.00	0.37	5.00	0.24	0.00	0.24
57.50	2.00	0.37	5.00	0.24	0.00	0.24
57.55	2.00	0.37	5.00	0.24	0.00	0.24
57.60	2.00	0.37	5.00	0.24	0.00	0.24
57.65	2.00	0.37	5.00	0.24	0.00	0.24
57.70	2.00	0.37	5.00	0.24	0.00	0.24
57.75	2.00	0.37	5.00	0.24	0.00	0.24
57.80	2.00	0.37	5.00	0.24	0.00	0.24
57.85	2.00	0.37	5.00	0.24	0.00	0.24
57.90	2.00	0.37	5.00	0.24	0.00	0.24
57.95	2.00	0.37	5.00	0.24	0.00	0.24
58.00	2.00	0.37	5.00	0.24	0.00	0.24
58.05	2.00	0.37	5.00	0.24	0.00	0.24
58.10	2.00	0.37	5.00	0.24	0.00	0.24
58.15	2.00	0.37	5.00	0.24	0.00	0.24
58.20	2.00	0.37	5.00	0.24	0.00	0.24
58.25	2.00	0.37	5.00	0.24	0.00	0.24
58.30	0.16	0.37	0.42*	0.24	0.00	0.24
58.35	0.15	0.37	0.41*	0.23	0.00	0.23
58.40	0.16	0.37	0.42*	0.22	0.00	0.22
58.45	0.16	0.37	0.44*	0.21	0.00	0.21
58.50	0.17	0.37	0.46*	0.20	0.00	0.20
58.55	0.18	0.37	0.49*	0.19	0.00	0.19

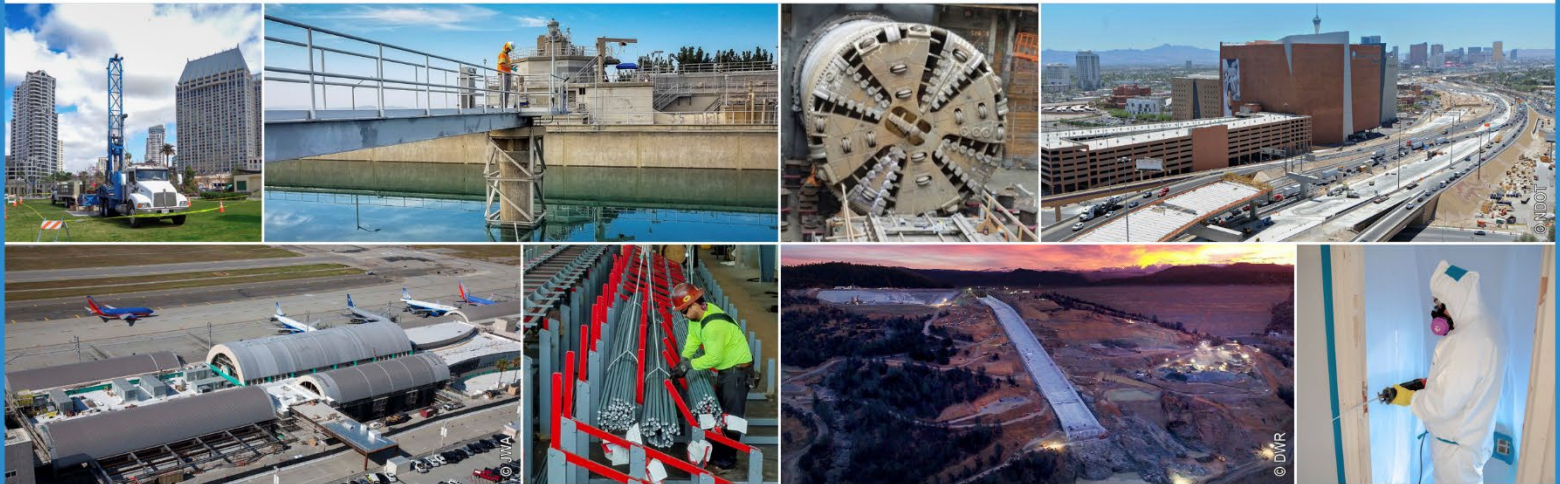
58.60	0.19	0.37	0.51*	0.18	0.00	0.18
58.65	0.20	0.37	0.54*	0.17	0.00	0.17
58.70	0.21	0.37	0.56*	0.17	0.00	0.17
58.75	0.22	0.37	0.59*	0.16	0.00	0.16
58.80	0.22	0.37	0.60*	0.15	0.00	0.15
58.85	0.23	0.37	0.62*	0.14	0.00	0.14
58.90	0.23	0.37	0.63*	0.13	0.00	0.13
58.95	0.24	0.37	0.65*	0.13	0.00	0.13
59.00	0.24	0.37	0.66*	0.12	0.00	0.12
59.05	0.25	0.37	0.67*	0.11	0.00	0.11
59.10	0.25	0.37	0.67*	0.10	0.00	0.10
59.15	0.25	0.37	0.67*	0.10	0.00	0.10
59.20	0.24	0.37	0.67*	0.09	0.00	0.09
59.25	0.24	0.37	0.66*	0.08	0.00	0.08
59.30	0.24	0.37	0.65*	0.08	0.00	0.08
59.35	0.23	0.37	0.64*	0.07	0.00	0.07
59.40	0.23	0.37	0.62*	0.06	0.00	0.06
59.45	0.22	0.37	0.61*	0.06	0.00	0.06
59.50	0.22	0.37	0.59*	0.05	0.00	0.05
59.55	0.21	0.37	0.58*	0.04	0.00	0.04
59.60	0.20	0.37	0.56*	0.03	0.00	0.03
59.65	0.20	0.37	0.54*	0.03	0.00	0.03
59.70	0.19	0.37	0.52*	0.02	0.00	0.02
59.75	0.17	0.37	0.47*	0.01	0.00	0.01
59.80	2.00	0.37	5.00	0.00	0.00	0.00
59.85	2.00	0.37	5.00	0.00	0.00	0.00
59.90	2.00	0.37	5.00	0.00	0.00	0.00
59.95	2.00	0.37	5.00	0.00	0.00	0.00
60.00	2.00	0.37	5.00	0.00	0.00	0.00

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

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

—

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_all	Total Settlement from Saturated and Unsaturated Sands
NoLiq	No-Liquefy Soils



5710 Ruffin Road | San Diego, California 92123 | p. 858.576.1000

ARIZONA | CALIFORNIA | COLORADO | NEVADA | TEXAS | UTAH

ninyoandmoore.com

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants