Report of Geotechnical Engineering Investigation

ENGINEERING SERVICES FOR PERMITTING AND DESIGN OF CELLS 10-12 - SOUTHERN LANDFILL EXPANSION

Orange County Solid Waste Management

Orange County, Florida

Amendment No. 3 - Orange County Contract Y5-805

GEC Project No. 2560G

Geotechnical and Environmental Consultants, Inc.
At the very foundation of our community

December 3, 2007

CH2M/WCG The Joint Venture
3011 SW Williston Road
Gainesville, Florida 32608-3928

Attention: Mr. Bo Bruner, P.E.

Subject: Report of Geotechnical Engineering Investigation
ENGINEERING SERVICES FOR PERMITTING AND DESIGN OF CELLS 10-12 - SOUTHERN LANDFILL EXPANSION
Orange County Solid Waste Management
Orange County, Florida
Amendment No. 3 - Orange County Contract Y5-805
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Dear Mr. Bruner:

Geotechnical and Environmental Consultants, Inc. (GEC) is pleased to present this Report of Geotechnical Engineering Investigation for the above-referenced project. This study was performed in general accordance with our Proposal No. 4591G dated March 1, 2007 and was authorized through our Sub-Consultant Agreement with CH2M/WCG The Joint Venture.

The site is located at the Orange County Solid Waste Management Facility at the terminus of Young Pine Road in southeast Orange County, Florida. A portion of the existing landfill property, that is located south and west of the existing solid waste management facility, is called the Southern Expansion Site (SES). Cells 9-12 are planned for the western portion of the SES. Cell 9 has already been permitted and is currently in use. Cells 10-12, which directly abut Cell 9 toward the south, are the subject of this report. Our draft report concerning borrow soils for the closure of Cell 9 and expansion of Cell 10 was submitted on June 19, 2007. A study of the hydrogeological aspects of this project was also undertaken and a report has been submitted under separate cover.

GEC trusts that the information submitted in this report will meet your current needs. If you should have any questions regarding this report, or if we may be of further assistance, please contact us.

Very truly yours,

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.

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1.0 SITE AND PROJECT DESCRIPTION

...the site is located at the existing Orange County Solid Waste Management Facility...

The project site is located in Sections 21 and 28, Township 23 South, Range 31 East in Orange County, Florida. More specifically, the area of interest is located at the existing Orange County Solid Waste Facility on Young Pine Road, southwest of the existing landfill. The general area was recently cleared, prior to our investigation. This study regards geotechnical engineering services to provide the basis for completing the permits for Cells 10-12. Preliminary borings were performed (in 2001) throughout the Cells 9-12 area during the Cell 9 geotechnical study by others. The data from these borings relating to the cell 10-12 area as well as the analysis performed for this area during the Cell 9 geotechnical study were used to the extent possible and are supplemented by our current Cells 10-12 scope.

The purposes of our geotechnical engineering services were to explore subsurface conditions at the site and to use the data obtained to provide geotechnical engineering analysis and recommendations to help meet the requirements for permit level design documents for Cells 10-12 roads, stormwater systems, leachate management systems and other design documents. This study will also help meet the requirements to renew current permits and obtain new permits including the FDEP construction permit for cells 10-12. Our scope of services is presented in Subtask 102 - "Supplemental Hydrogeological and Geotechnical Investigations" of the Amendment No. 3 Contract Y5-805 supplied for our use.

This report documents subsurface conditions at the boring locations, provides current and estimated seasonal high groundwater levels, and provides the results of our field and laboratory testing to date. In addition, analyses for settlement, slope stability, and bearing capacity for the proposed landfill cells 10-12 are performed, based on the compiled data. Sinkhole potential of the Cell 10-12 area is also discussed.

According to the United States Geological Survey (USGS) Narcoossee NW, the natural ground surface surrounding the subject site ranges from approximately +84 to +88 ft NGVD. An excerpt of the USGS Quadrangle map showing the approximate subject site location is provided on Figure 1 in the Appendix. Based on a topographic site plan provided by CH2M/WCG The Joint Venture, proposed grades at the top of the cells will vary between +200 at cells 11 and 12 and +244 ft NGVD at cell 10.

2.0 NRCS SOIL SURVEY REVIEW

The National Resource Conservation Service (NRCS) of Orange County, Florida was reviewed to obtain soils information in the project vicinity. The NRCS Soil Survey Map showing the subject site vicinity is located on Figure 1 in the Appendix. According to the map, surficial soils at the subject site are as follows:

Table 1
Orange County NRCS Soil Units

Soil Unit Map No.	Soil Name	Depth (in.) From - To	Description	Unified Soil Classification System Symbol	AASHTO Classification Symbol	Depth to Seasonal High Groundwater (ft)*
3	Basinger Fine Sand, Depressional	0 - 80	Fine sand to fine sand with silt	SP, SP-SM	A-3, A-2-4	+2.0 - 1.0
34	Pomello Fine Sand, 0 to 5 Percent Slopes	0 - 40	Fine sand to fine sand with silt	SP, SP-SM	A-3	2.0 - 3.5
		40 - 55	Fine sand to silty fine sand	SP, SP-SM, SM	A-3, A-2-4	
		55 - 80	Fine sand to fine sand with silt	SP, SP-SM	A-3	
44	Smyrna Fine Sand	0 - 17	Fine sand to fine sand with silt	SP, SP-SM	A-3, A-2-4	0 - 1.0
		17 - 27	Fine sand with silt to silty fine sand	SP-SM, SM	A-3, A-2-4	
		27 - 80	Fine sand to fine sand with silt	SP, SP-SM	A-3	

*The "+" sign indicates standing water depth (in feet).

Generally, the surficial soils within the project area are typically associated with broad flatwoods. Smyrna and Pomello fine sands make up a majority of the soils mapped within the study area. Smyrna and Pomello sands are typically described as poorly drained and nearly level to gently sloping.

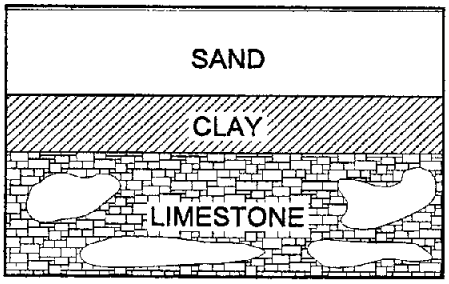
Basinger Fine Sand Depressional is mapped in isolated areas of the project site. These areas are also generally shown as intermittent wet areas on the Quadrangle Map. These soils are typical of shallow wet weather ponds and poorly defined drainage ways. These soils are also reported to have wet season groundwater levels as high as 2 feet above the existing ground surface.

The seasonal high water table varies with the amount of fill material and artificial drainage in any mapped area. Because this area has been cleared and somewhat disturbed, the NRCS data may not accurately reflect the current physical conditions at the site.

2.0 NRCS SOIL SURVEY REVIEW (Cont'd)

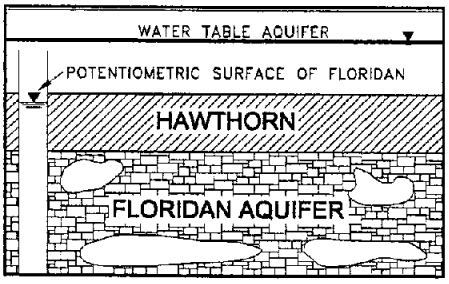
Information contained in the NRCS Soil Survey is very general and may be outdated. It may not therefore be reflective of actual soil and groundwater conditions, particularly if development in the site vicinity has modified soil conditions or surface/subsurface drainage.

3.0 CENTRAL FLORIDA GEOLOGY



Karst Geology of Central Florida

Due to its prevalent geology, referred to as karst, Central Florida is prone to the formation of sinkholes, or large, circular depressions created by local subsidence of the ground surface. The nature and relationship of the three sedimentary layers typical of Central Florida geology cause sinkholes. The deepest, or basement, layer is a massive cavernous limestone formation known as the Floridan aquifer. The Floridan aquifer limestone is overlain by a silty or clayey sand, clay, phosphate, and limestone aquitard (or flow-retarding layer) ranging in thickness from nearly absent to greater than 100 feet and locally referred to as the Hawthorn formation. The Hawthorn formation is in turn overlain by a 40 to 70-foot thick surficial layer of sand, bearing the water table aquifer. The likelihood of sinkhole occurrence at a given site within the region is determined by the relationship among these three layers, specifically by the water (and soil)-transmitting capacity of the Hawthorn formation at that location.



Central Florida Aquifer Systems

The water table aquifer is comprised of Recent and Pleistocene sands and is separated from the Eocene limestone of the Floridan aquifer by the Miocene sands, clays and limestone of the Hawthorn formation. Since the thickness and consistency of the Hawthorn layer is variable across Central Florida, the likelihood of groundwater flow from the upper to the lower aquifer (known as aquifer recharge) will also vary by geographical location. In areas where the Hawthorn formation is absent, water table groundwater (and associated sands) can flow downward to cavities within the limestone aquifer, like sand through an hourglass, recharging the Floridan aquifer, and sometimes causing the formation of surface sinkholes. This process of subsurface erosion associated with recharging the Floridan aquifer is known as raveling. Thus, in Central Florida, areas of effective groundwater recharge to the Floridan aquifer have a higher potential for the formation of surface sinkholes.

3.0 CENTRAL FLORIDA GEOLOGY (Cont'd)

No method of geological, geotechnical, or geophysical exploration is known that can accurately predict the occurrence of sinkholes. It is common geotechnical practice in Central Florida to make a qualitative prediction of sinkhole risk on the basis of local geological conditions in the vicinity of a particular site. Based on our review of the U.S. Geological Survey Map entitled "Recharge and Discharge Areas of the Floridan Aquifer in the St. Johns River Water Management District and Vicinity, Florida," 1984, the site lies in a known low to moderate recharge area and, therefore, we can conclude that it also lies in an area where the risk of sinkhole formation is low to moderate compared to the overall risk across Central Florida.

3.1 Sinkhole Risk Evaluation

A review of the USGS Quadrangle and NRCS maps did not reveal any obvious signs of relic or recent sinkholes. The cell 9 study report did not indicate an increased risk of sinkhole activity. In addition, the borings recently completed during the cells 10-12 evaluation encountered neither fluid losses nor extensive areas of raveled of very soft soils, which are generally precursors of sinkhole occurrences. As a result, we anticipate the sinkhole risk at this location is relatively low.

3.2 Potentiometric Map Review

Based on our review of the USGS map entitled "Potentiometric Surface of the Upper Floridan Aquifer in the St. Johns River Water Management District and Vicinity, Florida", May 2006, the potentiometric surface of the Floridan Aquifer in the site vicinity is approximately +40 ft NGVD. Since the ground surface elevation at the site is well above that elevation, artesian flow is not expected to occur. No artesian conditions were encountered in the borings drilled for this exploration.

4.0 SUBSURFACE EXPLORATION

In addition to consulting the sources of information previously discussed for regional and site-specific shallow subsurface condition data and the data obtained in the Cells 10-12 area during the Cell 9 study, GEC conducted a field investigation to supplement that data to further evaluate the subsurface conditions at the site.

GEC explored the subsurface conditions in the Cells 10-12 expansion area by performing a total of 14 Standard Penetration Test (SPT) borings (GB-1 through GB-14) to depths ranging from 50 to 150 feet below existing ground surface. The borings were grouted upon completion.

4.0 SUBSURFACE EXPLORATION (Cont'd)

The approximate locations of the borings completed for this study are shown on the Site Plan with Boring Locations sheet (Figure 2) in the Appendix. The boring locations were established in the field by using a hand-held Global Positioning Satellite (GPS) unit. Although the boring locations were not surveyed, we believed the methods used to locate the borings in the field are sufficiently accurate for the purposes of this study. The approximate ground surface elevations (GSE) were provided to us by CH2M/WCG The Joint Venture, based on their Digital Terrain Model (DTM). These elevations are shown on the Soil Profile sheets in the Appendix.

Please note that the borings previously performed for Cells 10-12 during the Cell 9 study are also shown on the plan view. Those borings are labeled "TB-#" on the plan view. Elevations and locations for these borings were obtained from the previous Solid Waste Permit Application for the Southern Landfill Site.

4.1 SPT Borings

The SPT borings were drilled in general accordance with ASTM Procedure D-1586. The borehole was advanced by the rotary wash method with bentonite-based mud used as the circulating fluid and to stabilize the borehole. GEC's field crew obtained SPT samples continuously in the boring to a depth of 10 feet and at 5-foot depth intervals thereafter. A GEC engineering technician supervised the drilling operation, and collected, examined and visually classified each sample. He then packaged representative portions of each sample for transport to our laboratory for further examination and limited laboratory testing.

During drilling operations, 2-foot long undisturbed "Shelby" tube samples were taken when a cohesive soil layer was encountered; typical depths of those samples vary between 35 and 42 feet. The locations and depths of the eight samples collected are shown on the boring logs included in the Appendix.

4.2 Groundwater Measurement

Since the SPT boreholes were grouted to the surface upon completion, a GEC engineering technician measured the approximate depth to groundwater in the boreholes at the time of drilling only.

5.0 LABORATORY TESTING

Selected soil samples retrieved from the borings were tested in accordance with Florida Standard Testing Methods (FM). Florida Standard Testing Methods are adaptations of recognized standard methods, e.g., ASTM and AASHTO, which have been modified to accommodate Florida's geological conditions. Our laboratory testing program is summarized on the following table:

5.0 LABORATORY TESTING (Cont'd)

Table 2
Laboratory Testing Program

Type of Test	Number of Tests
Percent fines (FM 1 - T88)	48
Atterberg limits (FM 1 - T89/90)	28
Natural moisture content (FM 1 - T265)	34
Organic content (FM 1 - T267)	2
Consolidation Test (FM 1-T216)	5

The test results except for the consolidation test results are shown on the Boring Results Sheets (Figures 3 and 4) in the Appendix. Individual test results are shown adjacent to the boring profiles at the approximate depth at which they were obtained. Results of the consolidation tests are attached in the Appendix.

In addition to the laboratory testing discussed above, each 6-inch section of the undisturbed "Shelby" tube samples was tested for unconfined compression strength using a pocket penetrometer and for undrained shear strength using a torvane apparatus. Results indicate unconfined compression strengths ranging from 0.5 to 1.75 tsf and undrained shear strengths between 0.25 to 0.55 tsf. Those readings are tabulated in the Appendix.

6.0 DESCRIPTION OF SUBSURFACE CONDITIONS

The borings performed within Cells 10 through 12 (including those completed during the Cell 9 study) are depicted on the Soil Profile sheets (Figures 3 through 6) in the Appendix. The boring logs describe the soil layers using the Unified Soil Classification System (USCS) symbol (e.g., SP, SP-SM) and ASTM soil descriptions (e.g., sand with silt). In addition, for purposes of our analyses and consistency with the borings previously performed, the encountered soils are grouped based on the following classifications:

Table 3
Soil Descriptions

Soil No.*	USCS Soil Legend	Soil Description
1	SP-SM	Light to dark gray slightly silty fine sand, trace roots, trace organics
2	SP-SM, SM	Light to brown and gray slightly silty to silty fine sand
3	SP-SM, SM	Brown slightly silty to silty fine sand, trace shell, phosphates and occasional cemented sands

Table 3 (Cont'd)
Soil Descriptions

Soil No.*	USCS Soil Legend	Soil Description
4	SP	Brown and gray fine sand
5	SC, CL	Green and gray clayey sand to sandy clay
6	CH	Greenish-gray clay, trace sand, trace shell
7	SP-SM	Reddish-brown slightly silty, lightly cemented fine sand (hardpan)
8	PT	Peat

* These soils groups are essentially the same as those used in the previous permit application for the Southern Expansion Site.

We based our soil classifications and descriptions on visual examination and laboratory test results shown adjacent to each soil profile. *The boring logs indicate subsurface conditions only at the specific boring and sounding locations at the time of our field exploration.*

Subsurface conditions, including groundwater levels, at other locations of the subject site may differ from conditions we encountered at our boring and sounding locations.

Subsurface conditions, including groundwater levels, at other locations of the subject site may differ from conditions we encountered at our boring and sounding locations. Moreover, conditions at the boring and sounding locations can change over time. Groundwater levels fluctuate seasonally and with changes in the operation of on-site water control systems, and soil conditions can be altered by earthmoving operations and solid waste stockpiling.

The depths and thicknesses of the subsurface strata indicated on the boring and sounding logs were interpolated between samples and data obtained at different depths in the borings and sounding. The actual transition between soil layers may be different than indicated. *These stratification lines were used for our analytical purposes. Earthwork quantity estimates based on the results of the borings will vary from the actual quantities measured during construction.*

6.1 Soil Strata

Using the boring data collected for cells 10-12, three subsurface profiles were drawn. The sections of interest are the eastern and western boundaries of the proposed cells 10-12 footprint and the line running north-south down the center of the proposed footprint. In addition, another profile was drafted using three shallow borings which did not align with either of the previously mentioned sections. These profiles are shown on Figures 3 through 6 in the Appendix.

6.1 Soil Strata (Cont'd)

Typically, the SPT borings encountered the following generalized soil profile:

Table 4
Generalized Subsurface Profile

Approximate Elevation (ft NGVD)		Soil Type	Relative Density
From	To		
+84 to +87	+63 to +45	Typically Soil 2, with some 1, 4, 5 and 7	Loose to medium dense
+63 to +45	+50 to +25	Soil 6, with pockets of Soil 5	Soft to stiff
+35 to +25	-5 to -15	Soil 3	Medium dense with pockets of very dense material
-10 to -20	-65	Soil 3, with intermittent Soil 5	Dense to very dense

For the specific subsurface profiles at each boring location, please refer to the Subsurface Profile sheets in the Appendix.

6.2 Groundwater

The depths to groundwater measured at our borehole locations were typically 2 to 3.5 feet. This translates into encountered groundwater elevations of generally ranging from +82 to +85 ft NGVD.

Groundwater levels can vary seasonally and with changes in subsurface conditions between boring locations. Alterations in surface and/or subsurface drainage brought about by site clearing and other disturbances can also affect groundwater levels. *Therefore, groundwater depths measured at different times or at different locations on the site can be expected to vary from the one measured by GEC during this investigation.*

For purposes of this report, the estimated seasonal high groundwater level is defined as the groundwater level that is anticipated at the end of the wet season during a "normal rainfall" year under pre-development site conditions. We define a "normal rainfall" year as a year in which rainfall quantity and distribution were at or near historical averages.

A seasonal high groundwater level estimate has not been provided based on this study since encountered water levels may have been significantly influenced by landfill operations. Seasonal high estimates for the site in its pre-developed condition can be obtained from the previous Solid Waste Permit Application for the Southern Expansion Site.

7.0 ANALYSIS AND DESIGN RECOMMENDATIONS

The analyses and recommendations contained in this report are based in part on the data obtained from a limited number of soil samples and groundwater measurements obtained from the SPT borings performed at the site. The sampling methods used indicate subsurface conditions only at the specific boring locations where the samples were obtained, only at the time they were obtained, and only to the depths penetrated. Borings cannot be relied upon to accurately reflect the variations that usually exist between boring locations and these variations may not become evident until construction. If variations from the subsurface conditions described in this report do become evident during construction or if the project characteristics described in this report change, GEC should be retained to reevaluate this report's conclusions and recommendations in light of such changes.

Borings cannot be relied upon to accurately reflect the variations that usually exist between boring locations...

7.1 Introduction

Based on design information provided to us by CH2M/WCG The Joint Venture, the approximate highest projected top grades will be +244 ft NGVD in cell 9 and in the northern portion of cell 10, then gradually decline to approximately +200 ft NGVD in cells 11 and 12; the side slopes will be 4H:1V with 15-foot wide benches at 20-foot height intervals. For the purposes of our analysis, the base of the landfill is assumed at about elevation +84 NGVD.

Upon review of the proposed completed landfill configuration, three critical cross-sections were selected for further review and analyses. The cross-sections of interest are shown on the Site Plan with SPT Boring Locations sheet in the Appendix and are as follows:

1) Cross-section No.1, located in the southern portion of cell 10, running east-west and including borings TB-59, GB-1, and TB-58,

2) Cross-section No.2, in the soutern portion of cell 11, also running east-west, and including borings TB-65, GB-3, and TB-64, and

3) Cross-section No.3, located in the southernmost portion of cell 12, running from north to south, perpendicularly to the southern boundary of cell 12, and including borings GB-4 and TB-69.

For each of the cross-sections described above, three stages of landfill construction were analyzed: the first models the landfill section after the initial 20-foot lift of waste has been placed, the second models the landfill after the second 20-foot lift of waste has been placed, and the third models the landfill section after the landfill section has been completed to the

7.1 Introduction (Cont'd)

maximum elevation. These three models are referred to as stages A, B, and C. Stage A includes a 300-psf traffic load on the first 15-foot wide side slope bench. Stage B includes 300-psf traffic loads on the first two 15-foot wide side slope benches. Stage C has no traffic loads imposed anywhere along the side slopes of the section. The general soil parameters used in our analyses (including the waste material) are tabulated below:

Table 5
Soil Parameters Used in Analysis

Soil Description	Total Unit Weight (pcf)	Saturated Unit Weight (pcf)	Cohesion (psf)	Friction Angle (degrees)
Waste	80	85	400	20
Shallow In-Situ Silty Sand (typically soil layer 2)	110	115	0	32
Upper Clay Layer (typically soil layer 6)	110	115	500	15
Lower Silty Sand (typically soil layer 3)	110	115	100	35

The waste parameters were provided for us by CH2M/WCG The Joint Venture and are based on recent studies they have performed on existing landfills. The in-situ soil parameters are based on the soils encountered in our exploration, our experience with similar sites and projects, and the testing performed for this and the earlier study. The parameters used for the in-situ soil are identical to those used for analyses during the cell 9 study except for the waste parameters which are based on newer data from existing landfills.

7.2 Foundation Bearing Capacity

GEC conducted a bearing capacity analysis at the base of the existing cell which is near elevation +84.0 ft NGVD. We used the cell geometry and soil parameters shown on the typical cross sections presented in the Appendix. We used the following Bearing Capacity equations:

- General Shear Equation: $q_{ult} = 1.3\ c\ N_c + qN_q + 0.4\gamma B\ N_\gamma$
- Local Shear Equation: $q_{ult} = 1.3\ c\ N'_c + qN'_q + 0.4\gamma B\ N'_\gamma$

The results of our calculations which are included in the Appendix, indicate that the Bearing Capacity factors of safety exceed the minimal required factor of safety of 2.5 for both the general and local shear conditions for the shallow soils at the site. The upper clay layer at the site is confined and based on an initial undrained shear strength of over 600 psf based on torvane testing, this soil is also expected to have a sufficient factor of safety for bearing failure during initial landfill lifts and at landfill completion.

7.3 Settlement Analysis

GEC conducted settlement analyses for the planned cell expansion. We used the settlement methods for cohesive and cohesionless soils presented in the Federal Highway Administration (FHWA) Soils and Foundations Workshop Manual. Soil parameters for the encountered clay soils were modeled based on the consolidation tests performed for this study and guidelines in the Foundation Workshop Manual. We also used the results of our field and laboratory investigation along with the typical cell cross sections shown in the Appendix.

Two settlement estimates were calculated for each boring performed for this study. One was based on the total load from the landfill at completion and another for an estimated reduced load at the toe of the landfill. This reduced load was estimated at about 35% of the total load. Appropriate adjustments for the varying maximum landfill height were also made. A composite waste density that includes annual cover, cap, and waste of 85 lbs/ft^3 was used to calculate the imposed load.

The results of our settlement analyses are presented in the Appendix. Each sheet indicates the total theoretical settlement estimate using the described method and two-thirds of that total estimate. Each estimate has been normalized to simulate a boring depth of 150 feet.

A summary of all the settlement estimates calculated is also presented in the Appendix. As shown on this table, the settlement estimated beneath the crest of the landfill varied from 1.73 feet to 3.33 feet. The settlement estimated at the toe of the landfill varied from about 0.80 feet to 1.53 feet. Similar numbers based on two-thirds of the theoretical settlement varied from 1.16 feet to 2.22 feet for the crest and 0.53 feet to 1.02 feet for the toe.

Using the extremes for theoretical settlement of 3.33 at the crest and 0.80 feet at the toe, a differential settlement of about 2.5 feet is expected. Similarly, using the two-thirds values, the expected differential settlement is estimated at about 1.7 feet.

The theoretical settlements numbers calculated from the boring for this study are similar to the numbers presented in the previous permit application. The estimated differential settlement of 2.5 feet is identical to the estimated differential settlement presented previously. Therefore, we recommend using the theoretical settlement estimates presented in the Appendix for final design of Cells 10-12. The liner system and leachate collection system should be designed based on these numbers and including an appropriate factor of safety.

7.4 Slope Stability Analysis

We conducted slope stability analyses for the proposed cell expansion using the computer program PCSTABL and the soil parameters presented in Section 7.1 above; our analyses were

run using Bishop's Circular Method to evaluate the circular arc type failure and the Janbu Method to evaluate non-circular failures. The minimum Factor of Safety (FOS) against these slope failure types is desired to be at least 1.5 for static conditions.

The minimum factors of safety for each typical cross section and stage combination in both the Bishop Circular Method and Janbu Method cases are presented in the following table.

Table 7
Slope Stability Analysis Results

Cross Section No.	Stage	Analysis Method Used	Minimum Factor of Safety
1 (E-W between cells 10 and 11)	A	Bishop Circular	2.45
		Janbu Non-Circular	2.67
	B	Bishop Circular	2.31
		Janbu Non-Circular	2.81
	C	Bishop Circular	2.23
		Janbu Non-Circular	3.02
2 (E-W between cells 11 and 12)	A	Bishop Circular	2.42
		Janbu Non-Circular	2.56
	B	Bishop Circular	2.24
		Janbu Non-Circular	2.60
	C	Bishop Circular	2.01
		Janbu Non-Circular	2.58
3 (N-S, top to bottom of slope, southern boundary cell 12)	A	Bishop Circular	2.04
		Janbu Non-Circular	2.25
	B	Bishop Circular	1.95
		Janbu Non-Circular	2.23
	C	Bishop Circular	1.99
		Janbu Non-Circular	2.37

Results of the slope stability analyses for each case shown in the table above are included in the Appendix.

For this analysis, geofabrics, liners, leachate collection systems or other design elements were not included in the model. These elements are generally oriented such that they help to resist rotational or slope failures, and not including them in the model is a conservative approach. In addition, these elements typically do not create a preferred slippage plane.

7.4 Slope Stability Analysis (Cont'd)

As shown, the lowest FOS calculated for the sections analyzed is 1.95. This is substantially greater that the minimum required FOS of 1.5.

7.5 Conclusions

Based on the results of our bearing capacity and slope stability analyses, the geotechnical engineering aspect of design of the proposed cell expansion appears to be suitable for construction. The results of the settlement analysis indicate a maximum anticipated settlement at the base of the new refuse of about 3.3 feet at the middle of the cell and about 1.53 feet at the toe of the side slopes. The majority of this settlement results from compression and consolidation of the upper in-situ soils, and is expected to occur during placement of the refuse materials. Some additional long-term settlement may be experienced from consolidation of the clay soils included in the subsurface profile. However, this long-term settlement after completion of the landfill is expected to be minimal. The existing soil conditions, considering the proposed cell expansion geometry and fill type, should provide suitable foundation for the future cells.

The analyses presented in this report are based on soil parameters estimated from the data obtained for this study. The analyses and recommendations included herein are also based on the assumption that the earthwork and other construction activities necessary to construct the landfill follow typical construction practices. Included in these typical practices are controlled placement of fill soils for berms and starter dikes, careful compaction control of placed fill to at least 95% of Modified Proctor densities, careful control of surface water during construction, proofrolling of in-situ soil to 95% of Modified Proctor values, and dewatering to allow for compaction without causing pumping of sub-grade soils. If these typical standard construction practices are not followed, the results of the analyses presented above may not be valid.

The analyses and conclusions submitted herein are also based on the data obtained from our field investigation, the provided information regarding the cell geometry and waste properties, our knowledge of the area and the literature we reviewed for this project.

8.0 USE OF THIS REPORT

GEC has prepared this report for the exclusive use of our client, CH2M/WCG The Joint Venture, and for specific application to our client's project. GEC will not be held responsible for any third party's interpretation or use of this report's subsurface data or engineering analysis without our written authorization.

8.0 USE OF THIS REPORT (Cont'd)

The sole purpose of the borings performed by GEC at this site was to obtain indications of subsurface conditions as part of a geotechnical exploration program. GEC has not evaluated the site for the potential presence of contaminated soil or groundwater, nor have we subjected any soil or groundwater samples to analysis for contaminants.

GEC has strived to provide the services described in this report in a manner consistent with that level of care and skill ordinarily exercised by members of our profession currently practicing in Central Florida. No other representation is made or implied in this document.

The conclusions or recommendations of this report should be disregarded if the nature, design, or location of the structures are changed. If such changes are contemplated, GEC should be retained to review the new plans to assess the applicability of this report in light of proposed changes.

Project Name: O.C. Landfill **Date:** 8-9-07
Project No.: 2560G **Engineer:** RFA/MJP

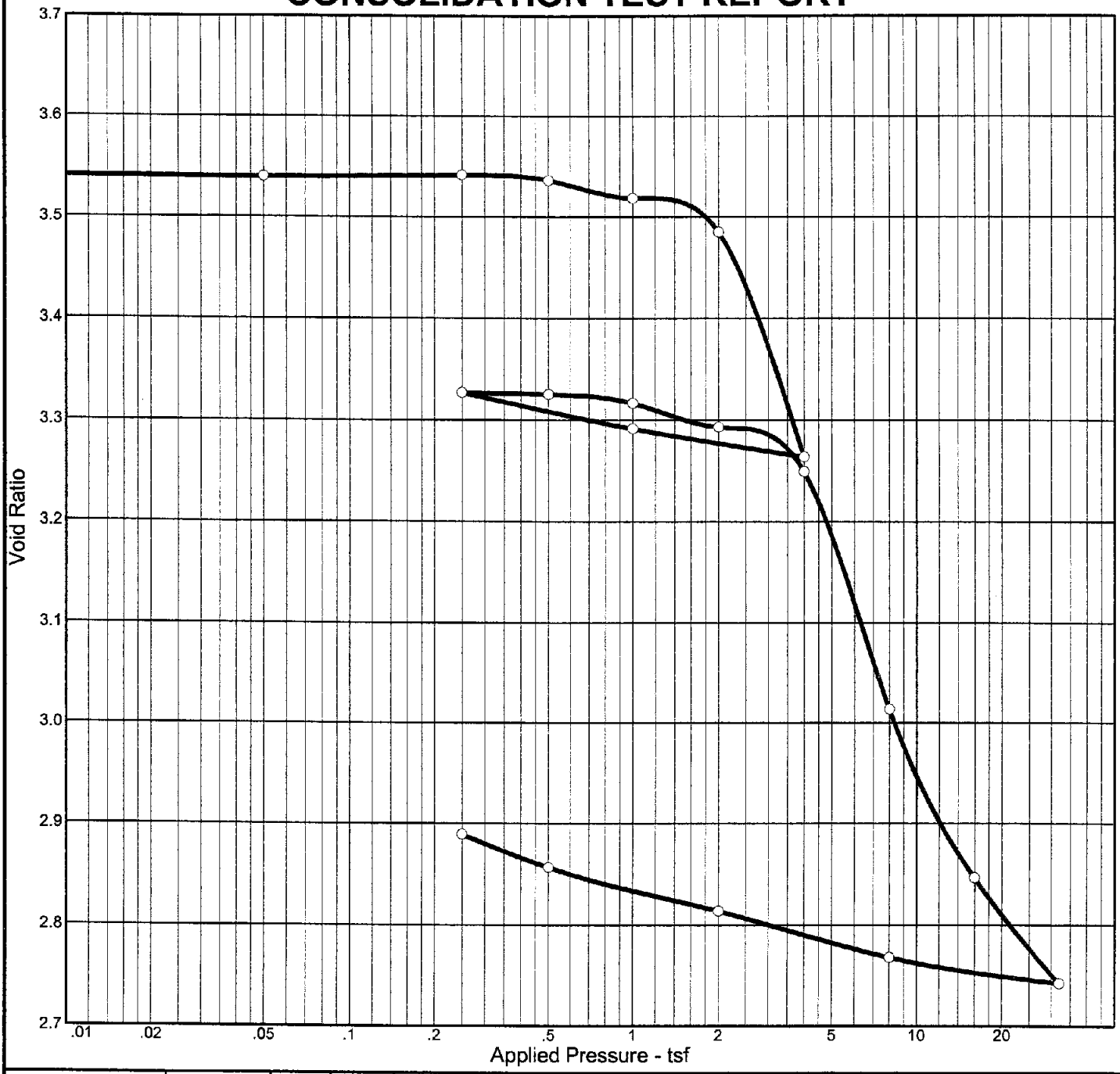
Boring No.	Shelby Tube Depth	Sample Depth Within Tube	Pocket Penetrometer Reading (tsf)	Torvane (tsf)
GB-1	36'-38'	0"-6"	1.0	0.45
GB-1	36'-38'	6"-12"	1.25	0.4
GB-1	36'-38'	12"-18"	1.25	0.5
GB-1	36'-38'	18"-24"	1.25	0.55
GB-4	41'-43'	0"-6"	1.75	0.4
GB-4	41'-43'	6"-12"	1.75	0.3
GB-4	41'-43'	12"-18"	1.25	0.5
GB-4	41'-43'	18"-24"	1.0	0.4
GB-8	55'-57'	0"-6"	0.5	0.35
GB-8	55'-57'	6"-12"	0.5	N.M.
GB-8	55'-57'	12"-18"	1.25	0.35
GB-8	55'-57'	18"-24"	0.75	0.3
GB-9	40'-42'	0"-6"	1.25	0.35
GB-9	40'-42'	6"-12"	1.25	0.55
GB-9	40'-42'	12"-18"	0.25	N.M.
GB-9	40'-42'	18"-24"	0.5	N.M.
GB-10	40'-42'	0"-6"	0.5	0.25
GB-10	40'-42'	6"-12"	0.75	0.35
GB-10	40'-42'	12"-18"	1.25	0.35
GB-10	40'-42'	18"-24"	1.0	0.3
GB-11	35'-37'	0"-6"	1.0	0.65
GB-11	35'-37'	6"-12"	1.0	0.35
GB-11	35'-37'	12"-18"	1.25	0.4
GB-11	35'-37'	18"-24"	1.25	0.4

Project Name: O.C. Landfill **Date:** 8-9-07
Project No.: 2560G **Engineer:** RFA/MJP

Boring No.	Shelby Tube Depth	Sample Depth Within Tube	Pocket Penetrometer. Reading (tsf)	Torvane (tsf)
GB-13	35'-37'	0"-6"	1.0	0.4
GB-13	35'-37'	6"-12"	1.25	0.6
GB-13	35'-37'	12"-18"	1.75	0.4
GB-13	35'-37'	18"-24"	0.75	0.3
GB-14	40'-42'	0"-6"	0.75	0.4
GB-14	40'-42'	6"-12"	1.0	0.55
GB-14	40'-42'	12"-18"	1.0	0.5
GB-14	40'-42'	18"-24"	1.0	0.55

"N.M." indicates "No Measurement Taken" - the sample broke prematurely due to shell and therefore, a reading was not taken.

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (tsf)	P_c (tsf)	C_c	C_r	Swell Press. (tsf)	Heave %	e_o
Sat.	Moist.											
70.9 %	99.3 %	45.6	71	42	2.53	1.25	2.00	0.79	0.07			3.541

MATERIAL DESCRIPTION	USCS	AASHTO
GREENISH-GREY FAT CLAY	(CH)	

Project No. 2560G **Client:** CH2

Project: ORANGE COUNTY LANDFILL CELLS 10-12 EXPANSION

Location: GB-1 36'-38'

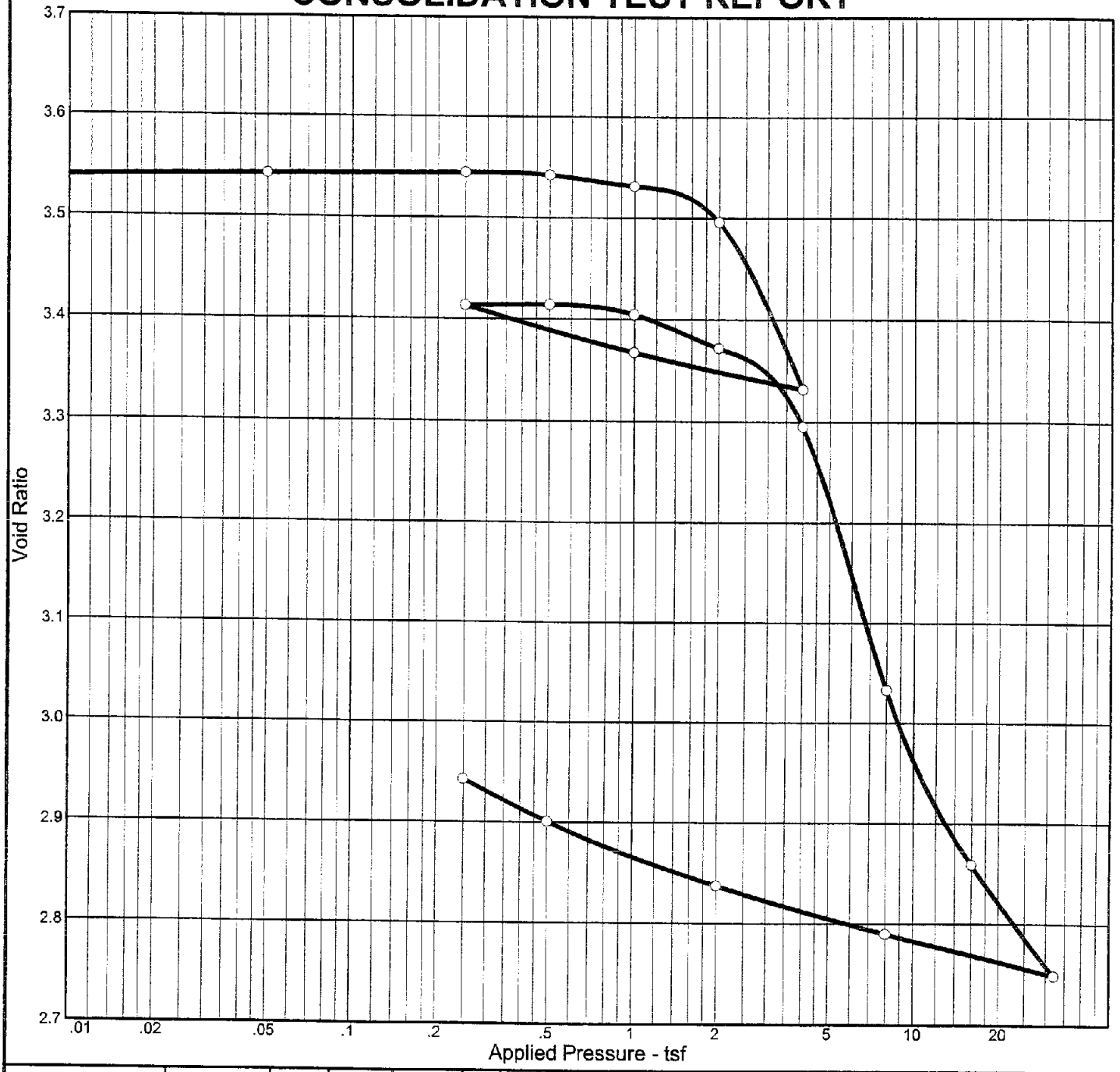
Remarks:
-200= 89%

CONSOLIDATION TEST REPORT

Geotechnical and Environmental Consultants, Inc.

Plate

CONSOLIDATION TEST REPORT



Natural		Dry Dens.	LL	PI	Sp.	Overburden	P_c	C_c	C_r	Swell Press.	Heave	e_o
Sat.	Moist.	(pcf)			Gr.	(tsf)	(tsf)			(tsf)	%	
58.9 %	78.4 %	52.4	48	27	2.66	1.34	2.67	0.92	0.12			3.539

MATERIAL DESCRIPTION	USCS	AASHTO
GREY SANDY LEAN CLAY	(CL)	

Project No. 2560G **Client:** CH2

Project: ORANGE COUNTY LANDFILL CELLS 10-12 EXPANSION

Location: GB-9 40'-42' 0"-6"

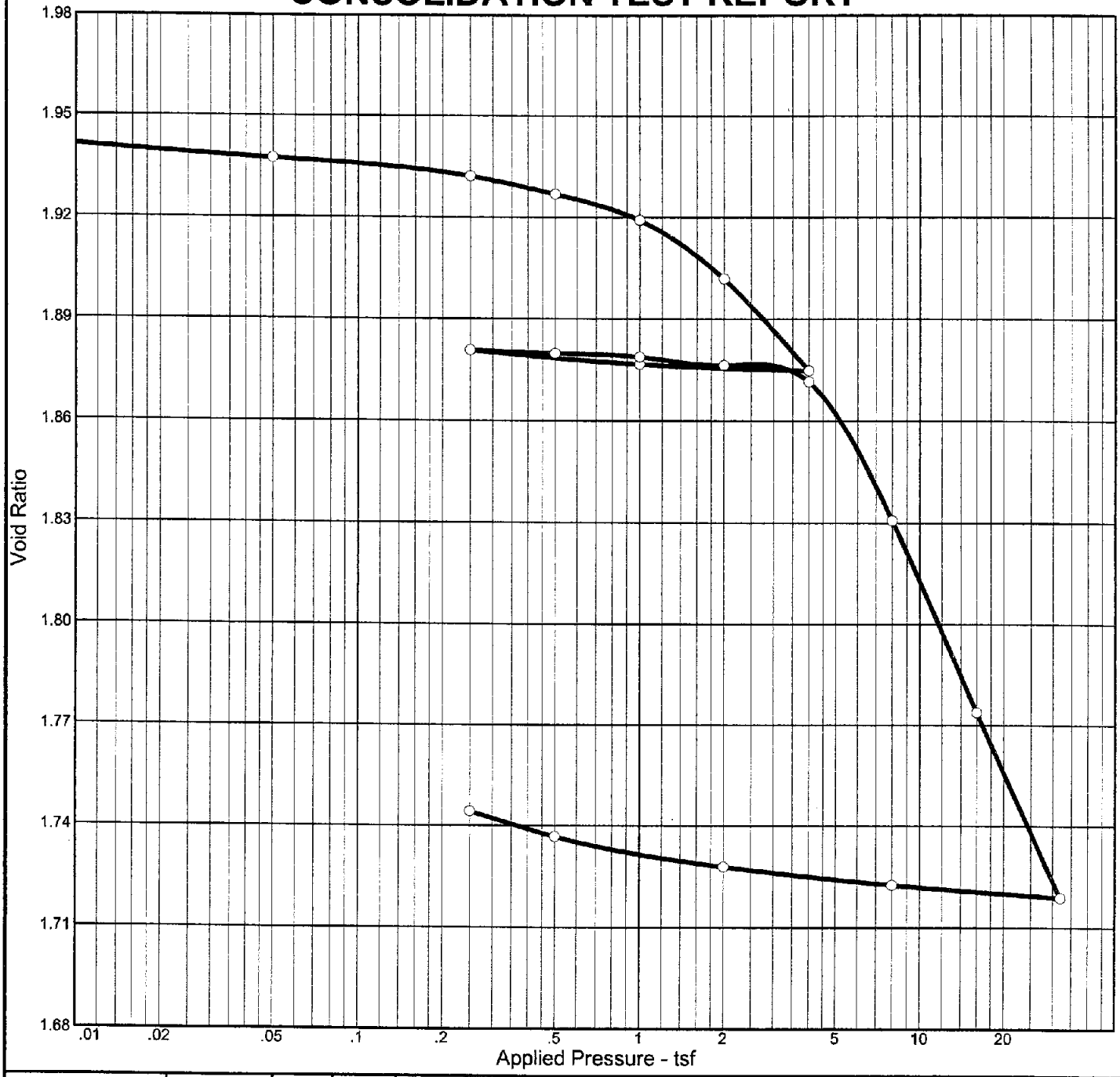
Remarks:
-200= 60%

CONSOLIDATION TEST REPORT

Geotechnical and Environmental Consultants, Inc.

Plate

CONSOLIDATION TEST REPORT



Natural Sat.	Natural Moist.	Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (tsf)	P_c (tsf)	C_c	C_r	Swell Press. (tsf)	Heave %	e_o
66.7 %	47.8 %	73.2	32	4	2.71	1.30	2.62	0.17	0.00			1.941

MATERIAL DESCRIPTION	USCS	AASHTO
GREY SILTY FINE SAND	(SM)	

Project No. 2560G **Client:** CH2

Project: ORANGE COUNTY LANDFILL CELLS 10-12 EXPANSION

Location: GB-10 40'-42' 6"-12"

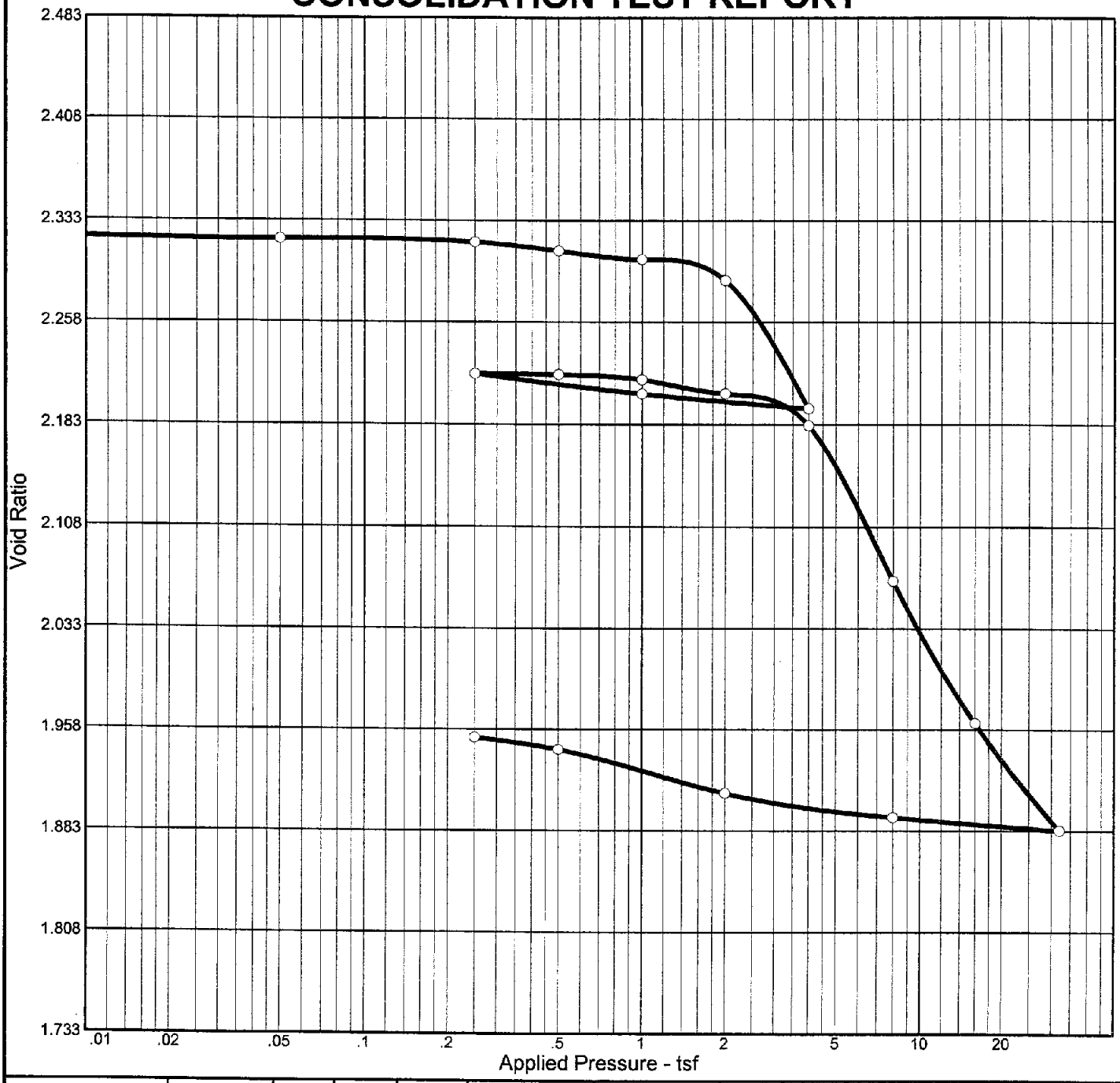
Remarks:
-200= 48%

CONSOLIDATION TEST REPORT

Geotechnical and Environmental Consultants, Inc.

Plate

CONSOLIDATION TEST REPORT



Natural		Dry Dens.	LL	PI	Sp.	Overburden	P_c	C_c	C_r	Swell Press.	Heave	e_o
Sat.	Moist.	(pcf)			Gr.	(tsf)	(tsf)			(tsf)	%	
64.0 %	56.3 %	65.1	46	27	2.64	1.33	2.22	0.38	0.03			2.321

MATERIAL DESCRIPTION	USCS	AASHTO
GREY SANDY LEAN CLAY TRACE SHELL	(CL)	

Project No. 2560G **Client:** CH2

Project: ORANGE COUNTY LANDFILL CELLS 10-12 EXPANSION

Location: GB-10 40'-42' 18"-24"

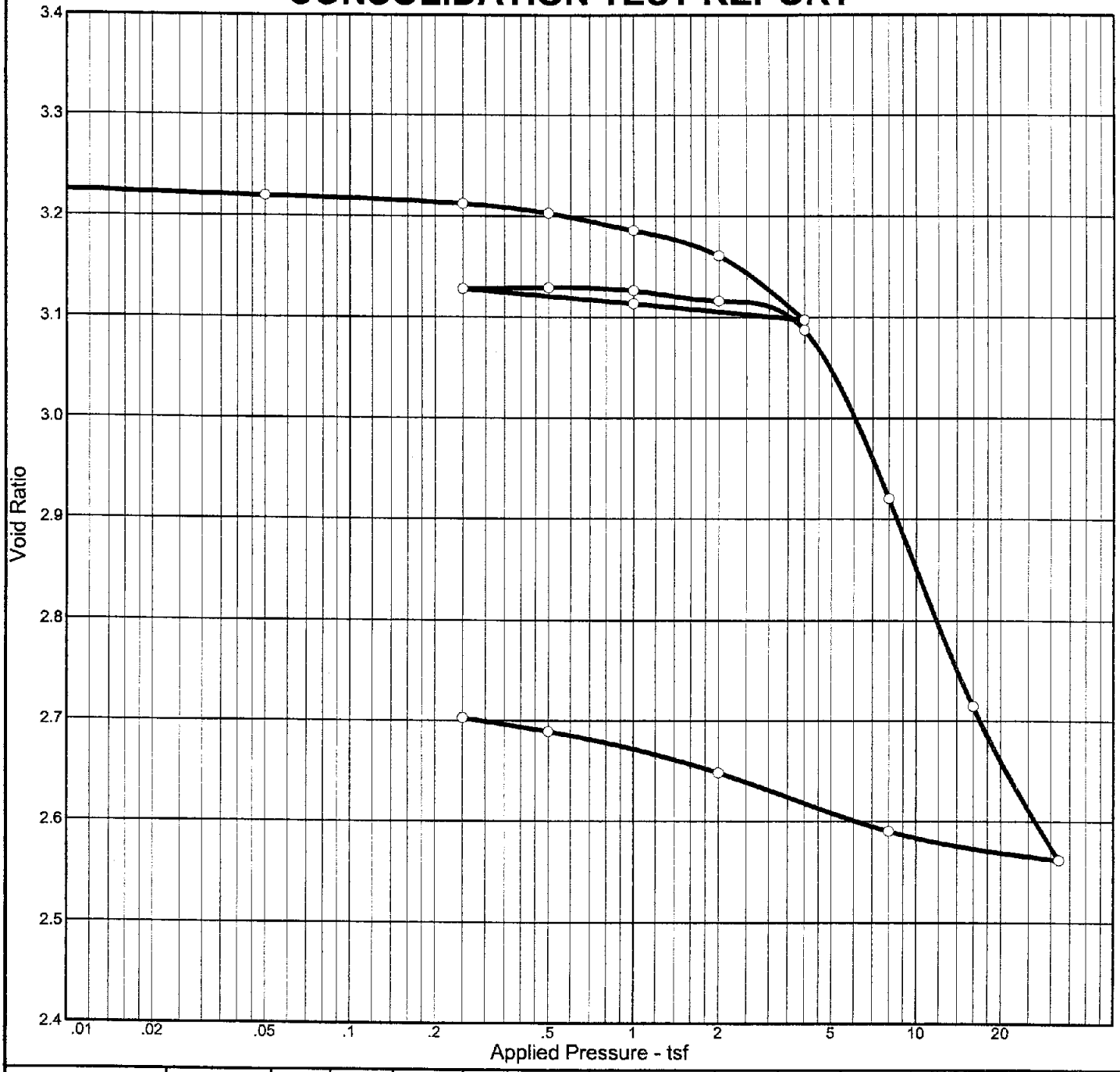
Remarks:
-200= 58%

CONSOLIDATION TEST REPORT

Geotechnical and Environmental Consultants, Inc.

Plate

CONSOLIDATION TEST REPORT



Natural Sat.	Natural Moist.	Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (tsf)	P_c (tsf)	C_c	C_r	Swell Press. (tsf)	Heave %	e_o
68.2 %	82.7 %	50.5	64	36	2.66	1.29	3.94	0.64	0.07			3.225

MATERIAL DESCRIPTION	USCS	AASHTO
GREY FAT CLAY	(CH)	

Project No. 2560G **Client:** CH2

Project: ORANGE COUNTY LANDFILL CELLS 10-12 EXPANSION

Location: GB-11 35'-37' 18"-24"

Remarks:

-200= 85%

CONSOLIDATION TEST REPORT

Geotechnical and Environmental Consultants, Inc.

Plate

GEC Geotechnical and Environmental Consultants, Inc.

JOB. NO. 2560 G
SHEET NO. 1 of 1
DATE 9-20-2007
COMPUTED BY MJP
CHECKED BY RFA

PROJECT NAME Orange County Landfill - Cell 10-12

SUBJECT Bearing Capacity Calculation.

Top of Cell 10 ±244.0 Unit Weight of Waste = 85 Lbs/ft²

Bearing Capacity Shear Equation @ Base of Landfill

General Shear Equation $q_{ult} = 1.3CN_c + qN_q + 0.4\gamma BN_\gamma$

Local Shear Equation $q_{ult} = 1.3CN_c' + qN_q' + 0.4\gamma BN_\gamma'$

Approximate Average Base Elevation of Waste ± 84.0

Soil from ± 84.0 to ± 40.0 is slightly silty fine SAND (SP-SM) to silty fine SAND (SM)

Soil Parameters $\bar{N} = 20$ $\phi = 32°$ $C = 0$ $\gamma_{sat} = 115$ PCF

Assume loaded area of 3'x3' for general shear
" " " " 1'x1' for local shear

For $\phi = 32°$ (General shear) $N_c = 35.5$ $N_q = 23.2$ $N_\gamma = 30.2$

$q_{ult} = 1.3(0)(35.5) + (244-84)(85)(23.2) + 0.4(115-62.4)(3)(30.2)$

$q_{ult} = 0 + 315,520 + 1906 = 317,426 = 317$ Kips/sf

Load imposed by Landfill Waste = $(244-84)(85) = 13.6$ Kips/sf

General Shear F.O.S. = $317/13.6 = 23$

For $\phi = 32°$ (Local Shear) $N_c' = 21.4$ $N_q = 10$ $N_\gamma' = 7.4$

$q_{ult} = 1.3(0)(21.4) + (244-84)(85)(10) + 0.4(115-62.4)(1)(7.4)$

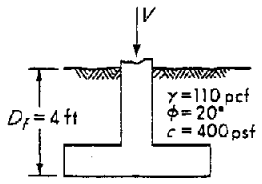
$q_{ult} = 0 + 136,000 + 156 = 136$ Kips/sf

F.O.S. for local shear = $136/13.6 = 10$

Table 2-2 Bearing-capacity factors for use in Eqs. (2-1) to (2-3) for general-shear conditions N_c, N_q, N_γ and local-shear conditions N_c', N_q', N_γ'

ϕ	N_c	N_q	N_γ	N_c'	N_q'	N_γ'
0	5.7	1.0	0.0	5.7	1.0	0.0
5	7.3	1.6	0.5	6.7	1.4	0.2
10	9.6	2.7	1.2	8.0	1.9	0.5
15	12.9	4.4	2.5	9.7	2.7	0.9
20	17.7	7.4	5.0	11.8	3.9	1.7
25	25.1	12.7	9.7	14.8	5.6	3.2
30	37.2	22.5	19.7	19.0	8.3	5.7
34	52.6	36.5	35.0	23.7	11.7	9.0
35	57.8	41.4	42.4	25.2	12.6	10.1
40	95.7	81.3	100.4	34.9	20.5	18.8
45	172.3	173.3	297.5	51.2	35.1	37.7
48	258.3	287.9	780.1	66.8	50.5	60.4
50	347.5	415.1	1,153.2	81.3	65.6	87.1

Example 2-1 Computation of the allowable soil bearing pressure based on the Terzaghi equations. A square footing is as shown in the accompanying figure. What is the allowable soil pressure based on Eq. (2-2) using a safety factor of 3.0?



Solution From Table 2-2 for $\phi = 20°$,

$N_c = 17.7 \qquad N_q = 7.4 \qquad N_\gamma = 5.0$

and

$$q_{ult} = 1.3cN_c + qN_q + 0.4\gamma BN_\gamma \qquad \text{Eq. (2-2)}$$
$$= 1.3(0.4)(17.7) + 4(0.110)(7.4) + 0.4(0.110)(5.0)B$$
$$= 12.5 + 0.22B$$

$$q_a = \frac{q_{ult}}{3} = 4.2 + 0.07B$$

For all practical purposes $q_a = 4.0$ ksf.*

Example 2-1a Redo Example 2-1 if the angle of internal friction is 22.5°.

Solution Applying a linear interpolation to values in Table 2-2,

$N_c = 21.4 \qquad N_q = 10.0 \qquad N_\gamma = 7.9$

$$q_{ult} = 1.3(0.4)(21.4) + 4(0.110)(10.0) + 0.4(0.110)(7.9)B$$
$$= 15.5 + 0.348B$$
$$q_a = 5.2 + 0.1B$$

* In this text q_a will be reported to the nearest 0.5 ksf (generally rounded down) for soil pressures above 1.5 ksf. For soil pressures below 1.5 ksf, the computed value should be rounded off to the nearest 0.1 ksf.

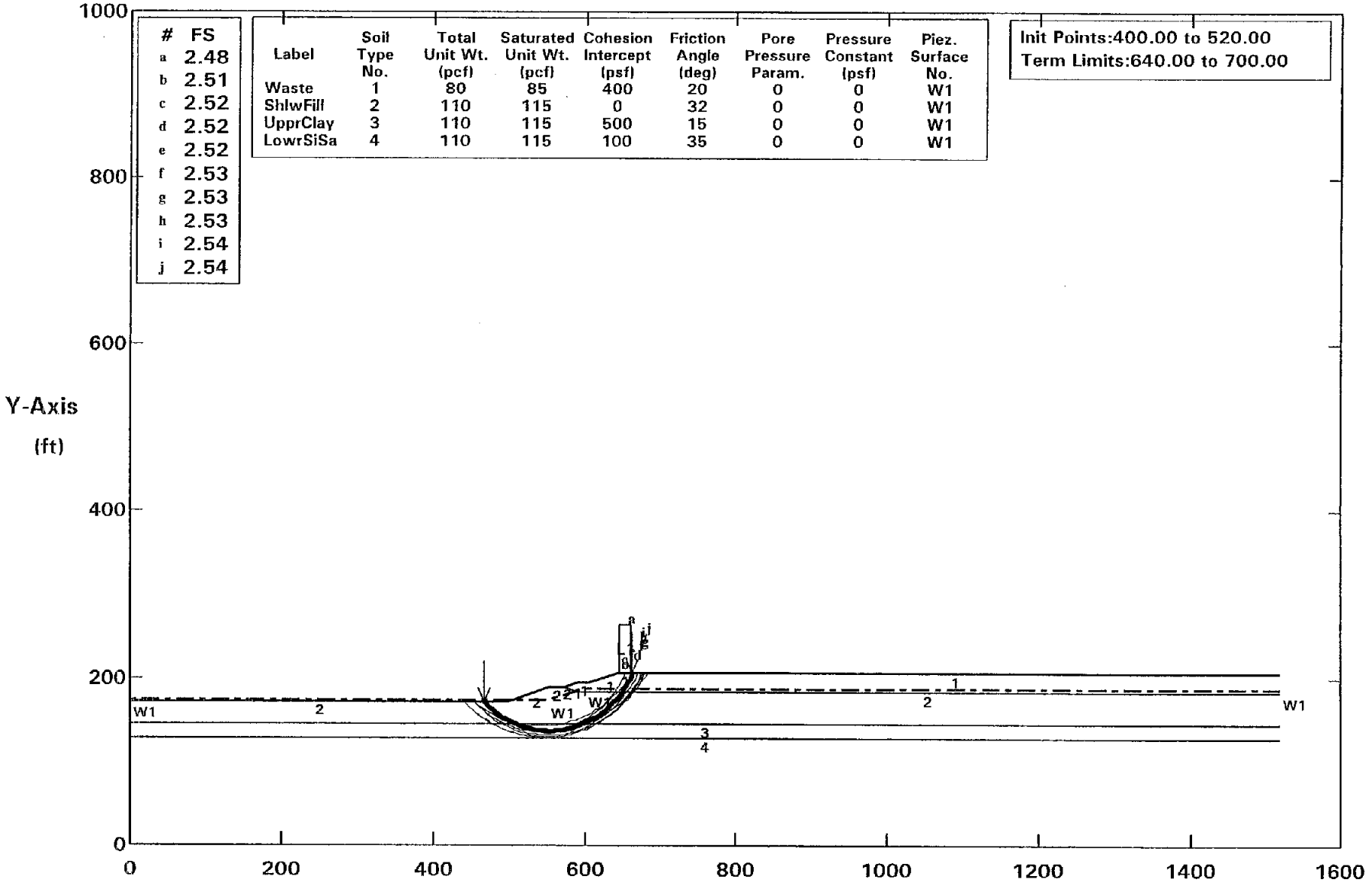
Orange County Landfill Cells 10-12 Cross Section 1-A

Ten Most Critical. C:OCL1A.PLT By: KJH 9/13/2007 5:08pm

#	FS
a	2.48
b	2.51
c	2.52
d	2.52
e	2.52
f	2.53
g	2.53
h	2.53
i	2.54
j	2.54

Label	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Waste	1	80	85	400	20	0	0	W1
ShlwFill	2	110	115	0	32	0	0	W1
UpprClay	3	110	115	500	15	0	0	W1
LowrSiSa	4	110	115	100	35	0	0	W1

Init Points:400.00 to 520.00
Term Limits:640.00 to 700.00



PCSTABL5M/SI FSmin = 2.48 X-Axis (ft)

Factors Of Safety Calculated By The Modified Bishop Method

** PCSTABL5M **

by
Purdue University

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date:	9/18/2007
Time of Run:	10:29am
Run By:	KJH
Input Data Filename:	C:OCL1A.IN
Output Filename:	C:OCL1A.OUT
Unit:	ENGLISH
Plotted Output Filename:	C:OCL1A.PLT

PROBLEM DESCRIPTION Orange County Landfill Cells 10-12
Cross Section 1-A

BOUNDARY COORDINATES

8 Top Boundaries
12 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	172.50	500.00	172.50	2
2	500.00	172.50	552.50	190.00	2
3	552.50	190.00	572.50	190.00	2
4	572.50	190.00	590.50	196.00	1
5	590.50	196.00	605.50	196.00	1
6	605.50	196.00	645.50	206.00	1
7	645.50	206.00	660.50	206.00	1
8	660.50	206.00	1518.50	206.00	1
9	572.50	190.00	587.50	185.00	2
10	587.50	185.00	1518.50	185.00	2
11	.00	146.00	1518.50	146.00	3
12	.00	130.00	1518.50	130.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	80.0	85.0	400.0	20.0	.00	.0	1
2	110.0	115.0	.0	32.0	.00	.0	1
3	110.0	115.0	500.0	15.0	.00	.0	1
4	110.0	115.0	100.0	35.0	.00	.0	1

---

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	175.00
2	550.00	175.00
3	600.00	188.00
4	1518.50	188.00

BOUNDARY LOAD(S)

1 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	645.50	660.50	300.0	.0

NOTE - Intensity Is Specified As A Uniformly Distributed Force Acting On A Horizontally Projected Surface.

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

200 Trial Surfaces Have Been Generated.

20 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 400.00 ft.
and X = 520.00 ft.

Each Surface Terminates Between X = 640.00 ft.
and X = 700.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = .00 ft.

8.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure Surface Specified By 31 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	466.67	172.50
2	472.49	167.01
3	478.65	161.91
4	485.14	157.24
5	491.92	152.99
6	498.97	149.20
7	506.25	145.89
8	513.73	143.06
9	521.38	140.72
10	529.17	138.89
11	537.07	137.58
12	545.03	136.79
13	553.02	136.53
14	561.02	136.79
15	568.98	137.58
16	576.87	138.88
17	584.66	140.71
18	592.31	143.04
19	599.80	145.87
20	607.08	149.18
21	614.13	152.96
22	620.91	157.20
23	627.40	161.88
24	633.57	166.97
25	639.39	172.46
26	644.84	178.32
27	649.89	184.52
28	654.53	191.04

29	658.72	197.85
30	662.46	204.93
31	662.94	206.00

Circle Center At X = 553.0 ; Y = 258.2 and Radius, 121.7

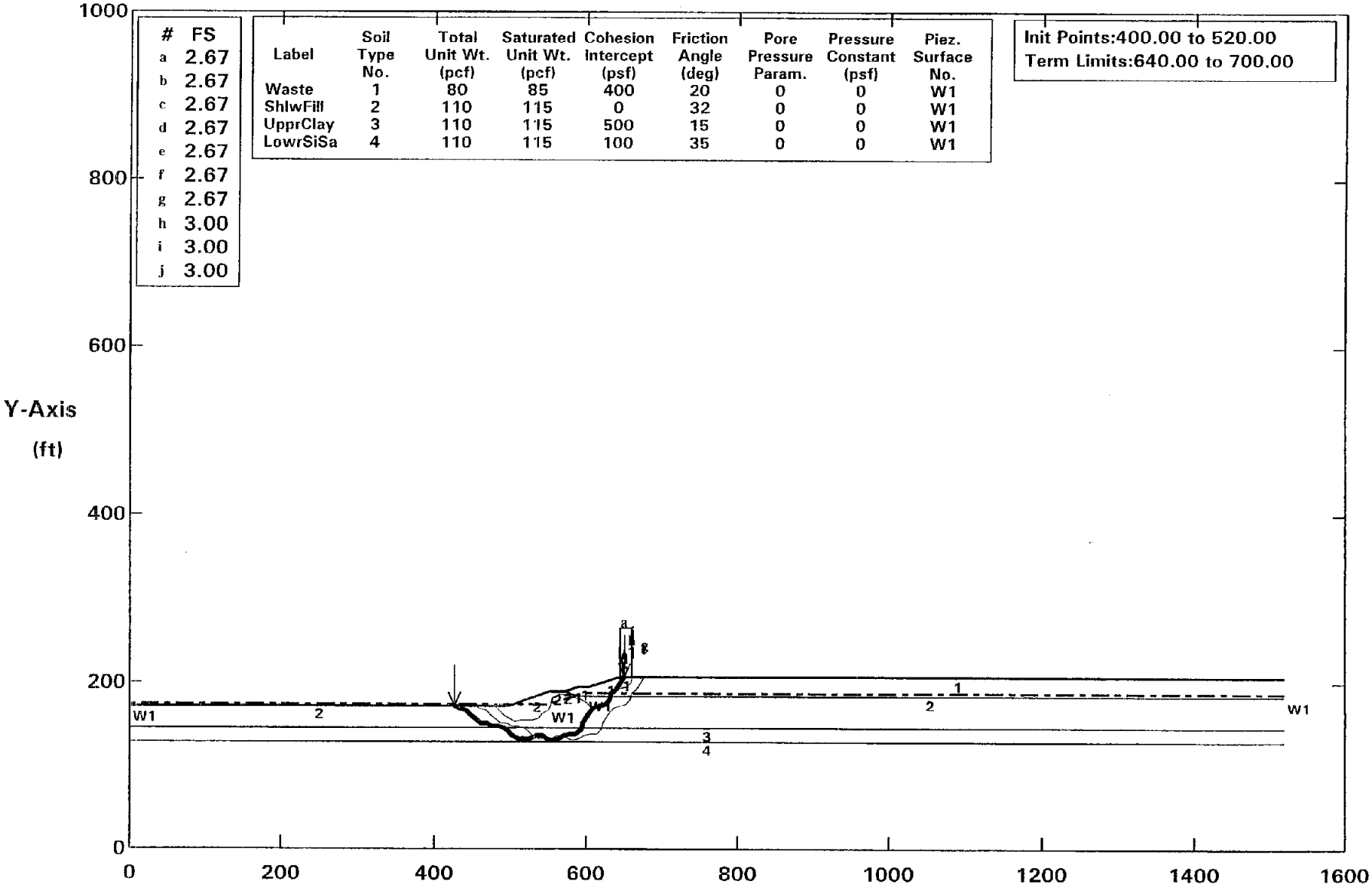
*** 2.485 ***

Individual data on the 45 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	5.8	1836.9	907.8	2618.2	.0	.0	.0	.0	.0
2	6.2	5700.4	962.1	5260.3	.0	.0	.0	.0	.0
3	6.5	9644.6	1012.2	7700.1	.0	.0	.0	.0	.0
4	6.8	13560.2	1058.0	9927.1	.0	.0	.0	.0	.0
5	7.0	17342.0	1099.2	11931.7	.0	.0	.0	.0	.0
6	1.0	2784.9	160.6	1837.0	.0	.0	.0	.0	.0
7	6.0	18040.4	592.1	11374.4	.0	.0	.0	.0	.0
8	.2	815.0	7.5	493.7	.0	.0	.0	.0	.0
9	7.5	26951.8	.0	15240.0	.0	.0	.0	.0	.0
10	7.7	31959.5	.0	16529.3	.0	.0	.0	.0	.0
11	7.8	36599.2	.0	17567.9	.0	.0	.0	.0	.0
12	7.9	40776.2	.0	18350.9	.0	.0	.0	.0	.0
13	8.0	44408.0	.0	18875.0	.0	.0	.0	.0	.0
14	5.0	29196.7	.0	11889.4	.0	.0	.0	.0	.0
15	2.5	15042.4	.0	5854.8	.0	.0	.0	.0	.0
16	.5	3168.2	.0	1236.2	.0	.0	.0	.0	.0
17	8.0	48468.6	.0	19415.4	.0	.0	.0	.0	.0
18	8.0	47861.3	.0	20165.1	.0	.0	.0	.0	.0
19	3.5	20916.4	.0	9170.5	.0	.0	.0	.0	.0
20	4.4	25820.9	.0	11485.1	.0	.0	.0	.0	.0
21	7.8	45720.5	.0	20884.5	.0	.0	.0	.0	.0
22	2.8	16495.7	.0	7754.2	.0	.0	.0	.0	.0
23	1.0	5560.5	.0	2621.2	.0	.0	.0	.0	.0
24	2.0	11766.5	.0	5548.2	.0	.0	.0	.0	.0
25	1.8	10402.5	.0	4927.5	.0	.0	.0	.0	.0
26	7.5	41504.2	.0	20555.4	.0	.0	.0	.0	.0
27	.2	1090.9	.0	565.8	.0	.0	.0	.0	.0
28	.1	498.0	.0	266.6	.0	.0	.0	.0	.0
29	5.4	28327.0	.0	15114.4	.0	.0	.0	.0	.0
30	1.6	8006.5	.0	4240.6	.0	.0	.0	.0	.0
31	7.0	34526.4	.0	18434.5	.0	.0	.0	.0	.0
32	6.8	31041.6	.0	16431.4	.0	.0	.0	.0	.0
33	6.5	27234.1	.0	14206.0	.0	.0	.0	.0	.0
34	6.2	23201.6	.0	11767.6	.0	.0	.0	.0	.0
35	5.8	19050.0	.0	9126.9	.0	.0	.0	.0	.0
36	5.4	14889.1	.0	6295.3	.0	.0	.0	.0	.0
37	.7	1586.5	.0	603.4	.0	.0	.0	.0	.0
38	4.4	9052.8	.0	2681.6	.0	.0	.0	.0	1318.2
39	.3	586.2	.0	118.8	.0	.0	.0	.0	102.1

Orange County Landfill Cells 10-12 Cross Section 1-A

Ten Most Critical. C:OCL1A.PLT By: KJH 9/13/2007 5:09pm



#	FS
a	2.67
b	2.67
c	2.67
d	2.67
e	2.67
f	2.67
g	2.67
h	3.00
i	3.00
j	3.00

Label	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Waste	1	80	85	400	20	0	0	W1
ShlwFill	2	110	115	0	32	0	0	W1
UpprClay	3	110	115	500	15	0	0	W1
LowrSiSa	4	110	115	100	35	0	0	W1

Init Points:400.00 to 520.00
Term Limits:640.00 to 700.00

PCSTABL5M/SI FSmin = 2.67 X-Axis (ft)

Factors Of Safety Calculated By The Modified Janbu Method

** PCSTABL5M **

by
Purdue University

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date:	9/18/2007
Time of Run:	10:30am
Run By:	KJH
Input Data Filename:	C:OCL1A.IN
Output Filename:	C:OCL1A.OUT
Unit:	ENGLISH
Plotted Output Filename:	C:OCL1A.PLT

PROBLEM DESCRIPTION Orange County Landfill Cells 10-12
Cross Section 1-A

BOUNDARY COORDINATES

8 Top Boundaries
12 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	172.50	500.00	172.50	2
2	500.00	172.50	552.50	190.00	2
3	552.50	190.00	572.50	190.00	2
4	572.50	190.00	590.50	196.00	1
5	590.50	196.00	605.50	196.00	1
6	605.50	196.00	645.50	206.00	1
7	645.50	206.00	660.50	206.00	1
8	660.50	206.00	1518.50	206.00	1
9	572.50	190.00	587.50	185.00	2
10	587.50	185.00	1518.50	185.00	2
11	.00	146.00	1518.50	146.00	3
12	.00	130.00	1518.50	130.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	80.0	85.0	400.0	20.0	.00	.0	1
2	110.0	115.0	.0	32.0	.00	.0	1
3	110.0	115.0	500.0	15.0	.00	.0	1
4	110.0	115.0	100.0	35.0	.00	.0	1

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1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	175.00
2	550.00	175.00
3	600.00	188.00
4	1518.50	188.00

BOUNDARY LOAD(S)

1 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	645.50	660.50	300.0	.0

NOTE - Intensity Is Specified As A Uniformly Distributed Force Acting On A Horizontally Projected Surface.

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Irregular Surfaces, Has Been Specified.

200 Trial Surfaces Have Been Generated.

20 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 400.00 ft.
and X = 520.00 ft.

Each Surface Terminates Between X = 640.00 ft.
and X = 700.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = .00 ft.

8.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Janbu Method * *

Failure Surface Specified By 36 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	426.67	172.50
2	433.92	169.12
3	441.59	166.85
4	447.26	161.21
5	453.98	156.87
6	460.55	152.30
7	468.52	151.57
8	475.50	147.66
9	483.49	148.05
10	491.43	147.09
11	497.50	141.87
12	503.45	136.53
13	510.95	133.74
14	518.82	132.30
15	526.73	133.50
16	534.33	135.98
17	542.26	137.05
18	549.46	133.57
19	556.82	130.43
20	564.48	132.74
21	571.76	136.07
22	579.46	138.21
23	587.43	139.00
24	593.77	143.88
25	595.83	151.61
26	600.43	158.16
27	605.27	164.53
28	610.90	170.21

29	618.42	172.95
30	626.37	173.79
31	631.51	179.92
32	633.50	187.67
33	640.16	192.10
34	644.70	198.69
35	649.71	204.92
36	650.15	206.00

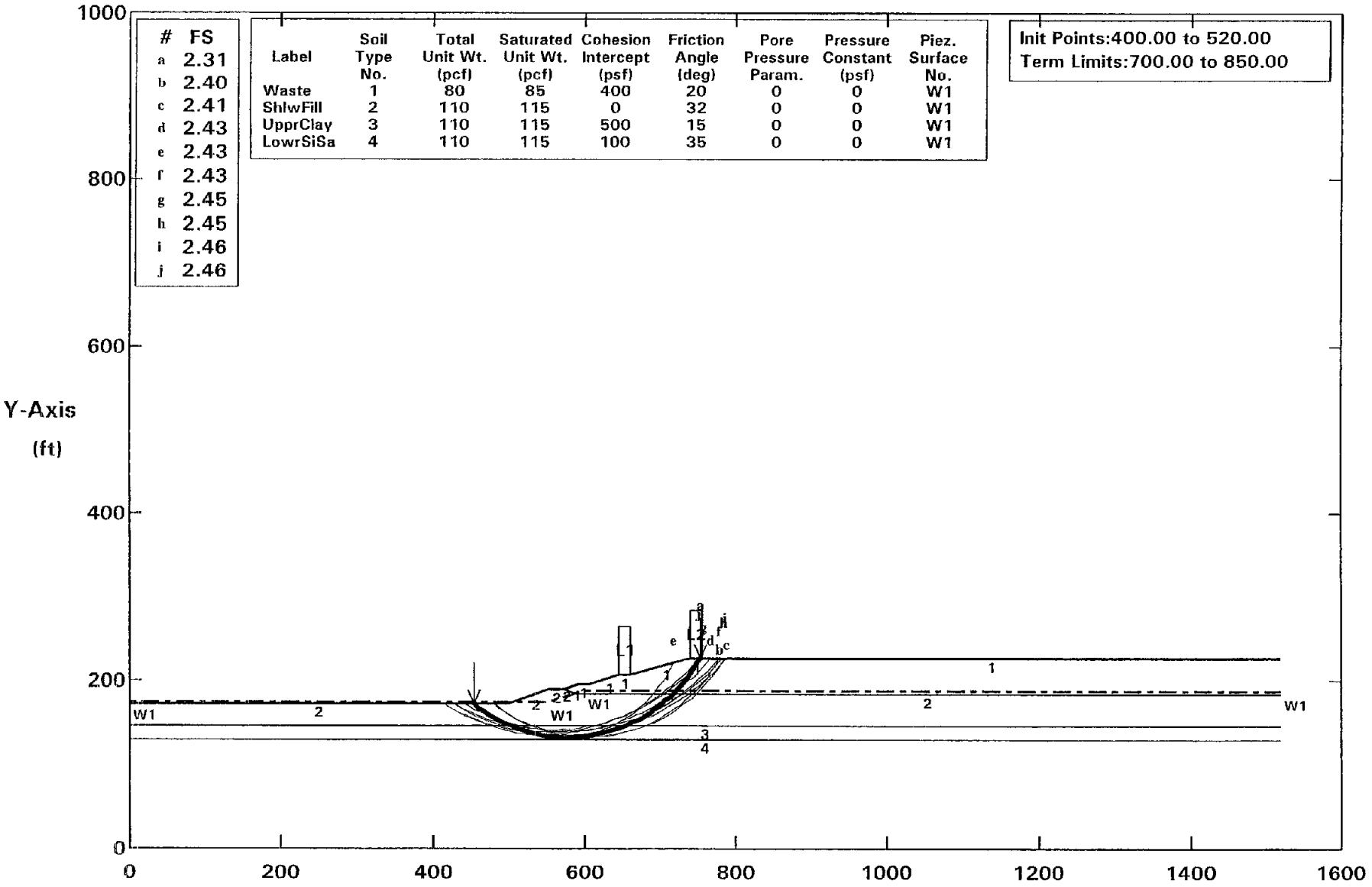
*** 2.671 ***

Individual data on the 49 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	7.2	1410.4	1130.9	2092.6	.0	.0	.0	.0	.0
2	7.7	3985.1	1196.9	3502.7	.0	.0	.0	.0	.0
3	5.7	5525.8	885.0	5476.1	.0	.0	.0	.0	.0
4	6.7	10402.1	1048.3	7967.5	.0	.0	.0	.0	.0
5	6.6	13532.2	1024.7	10190.7	.0	.0	.0	.0	.0
6	8.0	18839.8	1242.7	11514.2	.0	.0	.0	.0	.0
7	7.0	18373.9	1089.0	12673.3	.0	.0	.0	.0	.0
8	8.0	22644.1	1246.5	13549.9	.0	.0	.0	.0	.0
9	7.9	22766.8	1238.8	13693.1	.0	.0	.0	.0	.0
10	1.3	3775.0	197.3	2959.5	.0	.0	.0	.0	.0
11	4.8	15785.3	749.7	12276.0	.0	.0	.0	.0	.0
12	2.5	9130.8	390.1	7187.2	.0	.0	.0	.0	.0
13	3.4	13878.4	436.7	10683.9	.0	.0	.0	.0	.0
14	7.5	34292.6	49.7	19902.0	.0	.0	.0	.0	.0
15	7.9	40122.4	.0	20957.2	.0	.0	.0	.0	.0
16	7.9	42724.7	.0	21017.1	.0	.0	.0	.0	.0
17	7.6	41632.3	.0	20098.1	.0	.0	.0	.0	.0
18	7.9	44042.4	.0	19211.9	.0	.0	.0	.0	.0
19	7.2	43011.1	.0	19814.1	.0	.0	.0	.0	.0
20	.5	3400.6	.0	1514.6	.0	.0	.0	.0	.0
21	2.5	16128.2	.0	6980.7	.0	.0	.0	.0	.0
22	4.3	28827.5	.0	12735.6	.0	.0	.0	.0	.0
23	7.7	50938.6	.0	22325.0	.0	.0	.0	.0	.0
24	7.3	46061.6	.0	21900.1	.0	.0	.0	.0	.0
25	.7	4568.9	.0	2081.0	.0	.0	.0	.0	.0
26	7.0	42322.5	.0	19437.9	.0	.0	.0	.0	.0
27	8.0	48192.8	.0	21795.6	.0	.0	.0	.0	.0
28	.1	452.9	.0	259.7	.0	.0	.0	.0	.0
29	1.0	5813.0	.0	3331.7	.0	.0	.0	.0	.0
30	2.0	12138.5	.0	6944.3	.0	.0	.0	.0	.0
31	3.3	18778.8	.0	10787.6	.0	.0	.0	.0	.0
32	.6	3110.4	.0	5497.5	.0	.0	.0	.0	.0
33	1.5	7578.3	.0	13307.1	.0	.0	.0	.0	.0
34	4.2	18267.8	.0	14412.6	.0	.0	.0	.0	.0
35	.4	1718.8	.0	1401.8	.0	.0	.0	.0	.0
36	4.8	17515.2	.0	13306.9	.0	.0	.0	.0	.0

Orange County Landfill Cells 10-12 Cross Section 1-B

Ten Most Critical. C:OCL1B.PLT By: KJH 9/14/2007 9:09am



#	FS
a	2.31
b	2.40
c	2.41
d	2.43
e	2.43
f	2.43
g	2.45
h	2.45
i	2.46
j	2.46

Label	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Waste	1	80	85	400	20	0	0	W1
ShlwFill	2	110	115	0	32	0	0	W1
UpprClay	3	110	115	500	15	0	0	W1
LowrSiSa	4	110	115	100	35	0	0	W1

Init Points:400.00 to 520.00
Term Limits:700.00 to 850.00

PCSTABL5M/SI FSmin = 2.31 X-Axis (ft)

Factors Of Safety Calculated By The Modified Bishop Method

** PCSTABL5M **

by
Purdue University

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date:	9/18/2007
Time of Run:	10:34am
Run By:	KJH
Input Data Filename:	C:OCL1B.IN
Output Filename:	C:OCL1B.OUT
Unit:	ENGLISH
Plotted Output Filename:	C:OCL1B.PLT

PROBLEM DESCRIPTION Orange County Landfill Cells 10-12
Cross Section 1-B

BOUNDARY COORDINATES

10 Top Boundaries
14 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	172.50	500.00	172.50	2
2	500.00	172.50	552.50	190.00	2
3	552.50	190.00	572.50	190.00	2
4	572.50	190.00	590.50	196.00	1
5	590.50	196.00	605.50	196.00	1
6	605.50	196.00	645.50	206.00	1
7	645.50	206.00	660.50	206.00	1
8	660.50	206.00	740.50	226.00	1
9	740.50	226.00	755.50	226.00	1
10	755.50	226.00	1518.50	226.00	1
11	572.50	190.00	587.50	185.00	2
12	587.50	185.00	1518.50	185.00	2
13	.00	146.00	1518.50	146.00	3
14	.00	130.00	1518.50	130.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	80.0	85.0	400.0	20.0	.00	.0	1
2	110.0	115.0	.0	32.0	.00	.0	1
3	110.0	115.0	500.0	15.0	.00	.0	1
4	110.0	115.0	100.0	35.0	.00	.0	1

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1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	175.00
2	550.00	175.00
3	600.00	188.00
4	1518.50	188.00

BOUNDARY LOAD(S)

2 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	645.50	660.50	300.0	.0
2	740.50	755.50	300.0	.0

NOTE - Intensity Is Specified As A Uniformly Distributed Force Acting On A Horizontally Projected Surface.

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

200 Trial Surfaces Have Been Generated.

20 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 400.00 ft.
and X = 520.00 ft.

Each Surface Terminates Between X = 700.00 ft.
and X = 850.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = .00 ft.

8.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure Surface Specified By 44 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	453.33	172.50
2	459.87	167.88
3	466.57	163.51
4	473.43	159.41
5	480.45	155.56
6	487.61	151.99
7	494.90	148.69
8	502.31	145.68
9	509.82	142.94
10	517.44	140.50
11	525.15	138.35
12	532.93	136.49
13	540.77	134.93
14	548.68	133.67
15	556.62	132.71
16	564.59	132.06
17	572.58	131.71
18	580.58	131.66
19	588.58	131.92
20	596.56	132.49
21	604.51	133.36
22	612.43	134.53
23	620.29	136.00
24	628.09	137.77
25	635.82	139.84

26	643.46	142.20
27	651.01	144.85
28	658.45	147.78
29	665.78	151.00
30	672.98	154.49
31	680.04	158.25
32	686.95	162.28
33	693.70	166.58
34	700.28	171.12
35	706.69	175.91
36	712.90	180.95
37	718.92	186.22
38	724.74	191.71
39	730.34	197.42
40	735.72	203.34
41	740.88	209.46
42	745.79	215.77
43	750.46	222.27
44	752.94	226.00

Circle Center At X = 577.7 ; Y = 341.5 and Radius, 209.8

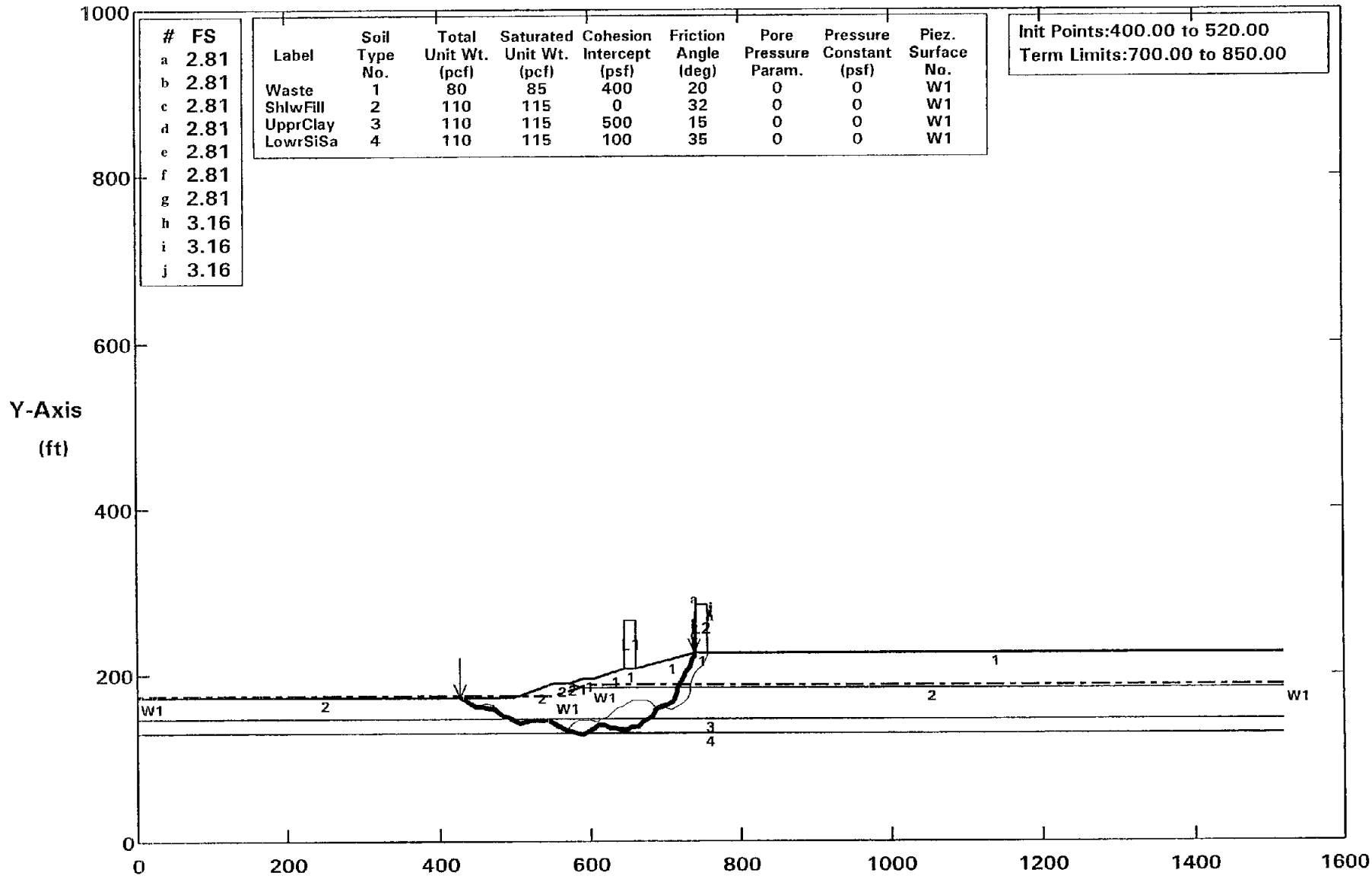
*** 2.313 ***

Individual data on the 59 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	6.5	1734.7	1019.0	2400.8	.0	.0	.0	.0	.0
2	6.7	5243.5	1045.7	4643.6	.0	.0	.0	.0	.0
3	6.9	8714.9	1070.9	6758.8	.0	.0	.0	.0	.0
4	7.0	12115.2	1094.6	8743.4	.0	.0	.0	.0	.0
5	7.2	15411.6	1116.6	10594.5	.0	.0	.0	.0	.0
6	7.3	18573.2	1137.0	12309.5	.0	.0	.0	.0	.0
7	5.1	14582.1	796.1	9403.1	.0	.0	.0	.0	.0
8	1.5	4586.0	223.0	2915.3	.0	.0	.0	.0	.0
9	.8	2504.2	97.8	1567.4	.0	.0	.0	.0	.0
10	7.5	26123.7	236.5	15321.1	.0	.0	.0	.0	.0
11	7.6	30866.5	.0	16613.5	.0	.0	.0	.0	.0
12	7.7	35422.5	.0	17760.9	.0	.0	.0	.0	.0
13	7.8	39777.2	.0	18761.7	.0	.0	.0	.0	.0
14	7.8	43899.7	.0	19614.5	.0	.0	.0	.0	.0
15	7.9	47761.3	.0	20317.9	.0	.0	.0	.0	.0
16	1.3	8342.2	.0	3448.5	.0	.0	.0	.0	.0
17	2.5	15969.7	.0	6385.3	.0	.0	.0	.0	.0
18	4.1	26696.8	.0	10832.2	.0	.0	.0	.0	.0
19	8.0	52283.1	.0	21932.6	.0	.0	.0	.0	.0
20	7.9	52395.9	.0	22931.1	.0	.0	.0	.0	.0
21	.1	553.3	.0	247.3	.0	.0	.0	.0	.0
22	8.0	53804.8	.0	24278.6	.0	.0	.0	.0	.0
23	6.9	47374.3	.0	21775.9	.0	.0	.0	.0	.0

Orange County Landfill Cells 10-12 Cross Section 1-B

Ten Most Critical. C:OCL1B.PLT By: KJH 9/18/2007 3:57pm



#	FS
a	2.81
b	2.81
c	2.81
d	2.81
e	2.81
f	2.81
g	2.81
h	3.16
i	3.16
j	3.16

Label	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Waste	1	80	85	400	20	0	0	W1
ShlwFill	2	110	115	0	32	0	0	W1
UpprClay	3	110	115	500	15	0	0	W1
LowrSiSa	4	110	115	100	35	0	0	W1

Init Points:400.00 to 520.00
Term Limits:700.00 to 850.00

PCSTABL5M/SI FSmin = 2.81 X-Axis (ft)

Factors Of Safety Calculated By The Modified Janbu Method

** PCSTABL5M **

by
Purdue University

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date:	9/18/2007
Time of Run:	3:57pm
Run By:	KJH
Input Data Filename:	C:OCL1B.IN
Output Filename:	C:OCL1B.OUT
Unit:	ENGLISH
Plotted Output Filename:	C:OCL1B.PLT

PROBLEM DESCRIPTION Orange County Landfill Cells 10-12
Cross Section 1-B

BOUNDARY COORDINATES

10 Top Boundaries
14 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	172.50	500.00	172.50	2
2	500.00	172.50	552.50	190.00	2
3	552.50	190.00	572.50	190.00	2
4	572.50	190.00	590.50	196.00	1
5	590.50	196.00	605.50	196.00	1
6	605.50	196.00	645.50	206.00	1
7	645.50	206.00	660.50	206.00	1
8	660.50	206.00	740.50	226.00	1
9	740.50	226.00	755.50	226.00	1
10	755.50	226.00	1518.50	226.00	1
11	572.50	190.00	587.50	185.00	2
12	587.50	185.00	1518.50	185.00	2
13	.00	146.00	1518.50	146.00	3
14	.00	130.00	1518.50	130.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	80.0	85.0	400.0	20.0	.00	.0	1
2	110.0	115.0	.0	32.0	.00	.0	1
3	110.0	115.0	500.0	15.0	.00	.0	1
4	110.0	115.0	100.0	35.0	.00	.0	1

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1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	175.00
2	550.00	175.00
3	600.00	188.00
4	1518.50	188.00

BOUNDARY LOAD(S)

2 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	645.50	660.50	300.0	.0
2	740.50	755.50	300.0	.0

NOTE - Intensity Is Specified As A Uniformly Distributed Force Acting On A Horizontally Projected Surface.

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Irregular Surfaces, Has Been Specified.

150 Trial Surfaces Have Been Generated.

15 Surfaces Initiate From Each Of 10 Points Equally Spaced
Along The Ground Surface Between X = 400.00 ft.
and X = 520.00 ft.

Each Surface Terminates Between X = 700.00 ft.
and X = 850.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is Y = .00 ft.

8.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Janbu Method * *

Failure Surface Specified By 49 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	426.67	172.50
2	433.89	169.07
3	440.39	164.40
4	447.35	160.45
5	455.16	162.15
6	462.92	160.18
7	470.90	159.73
8	477.30	154.93
9	484.14	150.77
10	491.83	148.56
11	498.64	144.37
12	506.05	141.36
13	513.94	142.73
14	521.55	145.18
15	529.51	144.40
16	537.51	144.30
17	545.46	143.40
18	553.06	140.89
19	560.20	137.28
20	567.36	133.72
21	574.62	130.37
22	582.56	129.36
23	590.43	127.94
24	597.58	131.53
25	605.24	133.85

26	611.31	139.05
27	619.30	139.43
28	626.19	135.37
29	634.19	135.08
30	642.02	133.44
31	649.96	132.46
32	656.99	136.27
33	664.99	136.36
34	670.62	142.04
35	676.87	147.04
36	684.05	150.55
37	687.91	157.56
38	695.13	161.00
39	702.80	163.29
40	709.54	167.60
41	714.41	173.95
42	715.51	181.87
43	719.15	189.00
44	724.02	195.35
45	727.78	202.41
46	733.09	208.39
47	733.95	216.34
48	738.83	222.69
49	739.10	225.65

*** 2.810 ***

Individual data on the 65 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	7.2	1426.1	1127.3	2104.7	.0	.0	.0	.0	.0
2	6.5	4308.7	1014.1	4125.2	.0	.0	.0	.0	.0
3	7.0	8055.0	1084.8	6276.3	.0	.0	.0	.0	.0
4	7.8	10066.5	1219.4	6838.4	.0	.0	.0	.0	.0
5	7.8	10105.1	1209.3	6906.5	.0	.0	.0	.0	.0
6	8.0	11523.8	1246.1	7510.6	.0	.0	.0	.0	.0
7	6.4	11162.6	998.4	8819.3	.0	.0	.0	.0	.0
8	6.8	15438.3	1065.9	11056.0	.0	.0	.0	.0	.0
9	7.7	20189.5	1199.5	12645.7	.0	.0	.0	.0	.0
10	4.2	12091.5	650.4	8466.0	.0	.0	.0	.0	.0
11	2.6	8308.2	412.6	5776.8	.0	.0	.0	.0	.0
12	1.4	4440.5	212.1	2829.6	.0	.0	.0	.0	.0
13	6.1	21518.5	593.7	13210.8	.0	.0	.0	.0	.0
14	7.9	30596.5	.0	16451.6	.0	.0	.0	.0	.0
15	7.6	30043.1	.0	15498.3	.0	.0	.0	.0	.0
16	8.0	32922.8	.0	15079.5	.0	.0	.0	.0	.0
17	8.0	35821.7	.0	15298.7	.0	.0	.0	.0	.0
18	7.9	38378.0	.0	15549.0	.0	.0	.0	.0	.0
19	4.5	23589.6	.0	9651.4	.0	.0	.0	.0	.0
20	2.5	13635.1	.0	5382.0	.0	.0	.0	.0	.0

22	1398.50	344.00	1518.50	338.00	1
23	572.50	190.00	587.50	185.00	2
24	587.50	185.00	1518.50	185.00	2
25	.00	146.00	1518.50	146.00	3
26	.00	130.00	1518.50	130.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	80.0	85.0	400.0	20.0	.00	.0	1
2	110.0	115.0	.0	32.0	.00	.0	1
3	110.0	115.0	500.0	15.0	.00	.0	1
4	110.0	115.0	100.0	35.0	.00	.0	1

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	175.00
2	550.00	175.00
3	600.00	188.00
4	1294.00	188.00

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

200 Trial Surfaces Have Been Generated.

20 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 400.00 ft.
and X = 520.00 ft.

Each Surface Terminates Between X =1270.00 ft.

and X =1500.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = .00 ft.

11.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure Surface Specified By 82 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	520.00	179.17
2	530.41	175.60
3	540.86	172.17
4	551.35	168.88
5	561.89	165.72
6	572.47	162.71
7	583.09	159.83
8	593.74	157.09
9	604.43	154.50
10	615.15	152.04
11	625.91	149.73
12	636.69	147.55
13	647.50	145.52
14	658.34	143.63
15	669.20	141.88
16	680.08	140.28
17	690.98	138.81
18	701.90	137.49
19	712.84	136.32
20	723.79	135.29
21	734.75	134.40
22	745.73	133.66
23	756.71	133.06
24	767.70	132.60
25	778.70	132.29
26	789.70	132.12
27	800.70	132.10
28	811.70	132.22
29	822.69	132.49
30	833.69	132.90
31	844.67	133.45

32	855.65	134.15
33	866.62	134.99
34	877.57	135.98
35	888.52	137.11
36	899.44	138.38
37	910.35	139.80
38	921.24	141.36
39	932.11	143.06
40	942.95	144.91
41	953.77	146.90
42	964.56	149.03
43	975.32	151.30
44	986.06	153.71
45	996.76	156.26
46	1007.42	158.96
47	1018.05	161.79
48	1028.64	164.76
49	1039.19	167.87
50	1049.70	171.12
51	1060.17	174.51
52	1070.59	178.03
53	1080.96	181.69
54	1091.28	185.49
55	1101.56	189.42
56	1111.78	193.48
57	1121.95	197.68
58	1132.06	202.02
59	1142.11	206.48
60	1152.10	211.08
61	1162.04	215.81
62	1171.90	220.66
63	1181.71	225.65
64	1191.45	230.76
65	1201.12	236.01
66	1210.72	241.37
67	1220.25	246.87
68	1229.71	252.49
69	1239.09	258.23
70	1248.39	264.10
71	1257.62	270.08
72	1266.77	276.19
73	1275.84	282.42
74	1284.82	288.76
75	1293.73	295.22
76	1302.54	301.80
77	1311.27	308.50
78	1319.91	315.31
79	1328.46	322.23
80	1336.92	329.26
81	1345.28	336.40
82	1351.26	341.64

Circle Center At X = 796.9 ; Y = 970.1 and Radius, 838.0

*** 2.234 ***

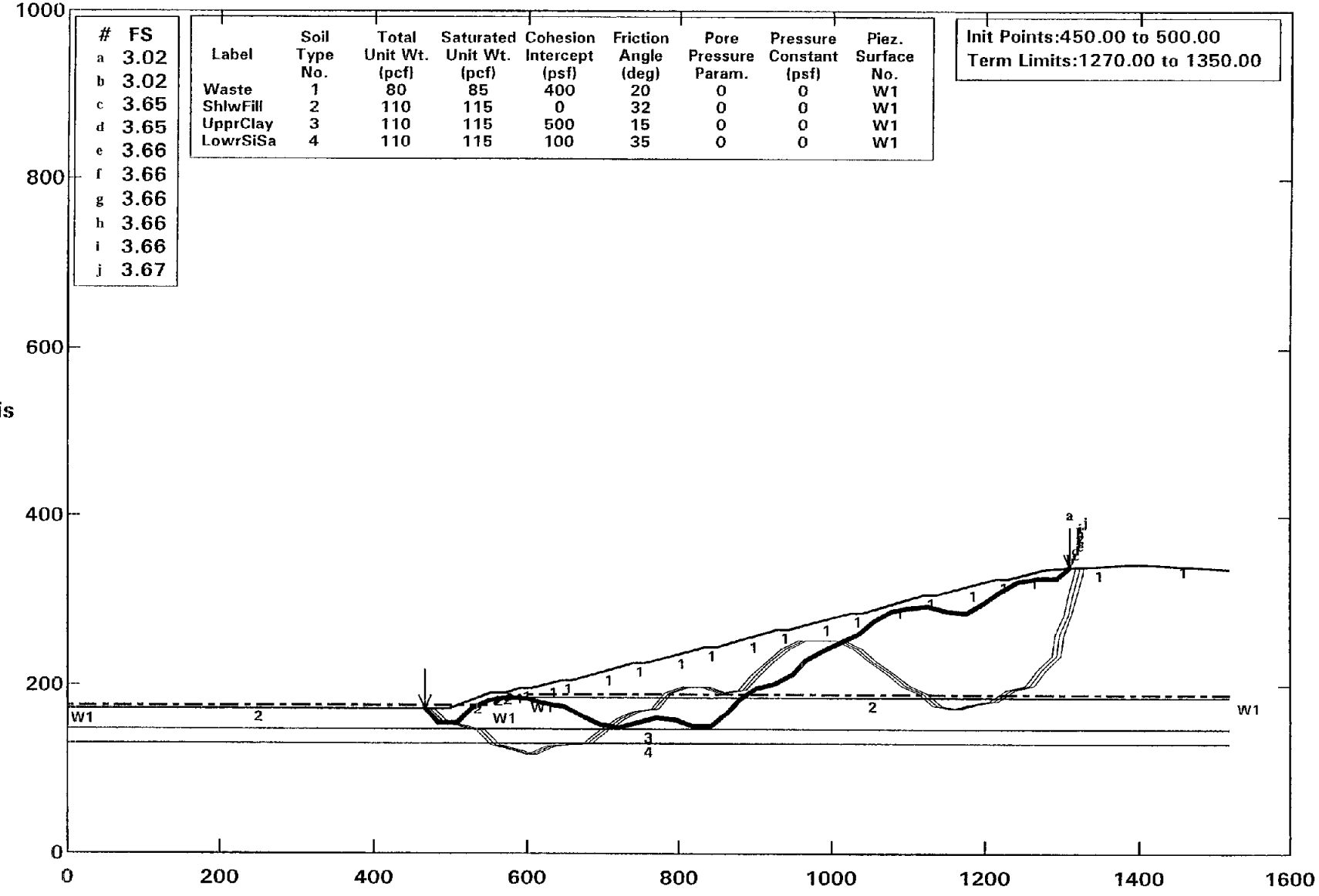
Orange County Landfill Cells 10-12 Cross Section 1-C

Ten Most Critical. C:OCL1C.PLT By: KJH 9/18/2007 4:10pm

#	FS
a	3.02
b	3.02
c	3.65
d	3.65
e	3.66
f	3.66
g	3.66
h	3.66
i	3.66
j	3.67

Label	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Waste	1	80	85	400	20	0	0	W1
ShlwFill	2	110	115	0	32	0	0	W1
UpprClay	3	110	115	500	15	0	0	W1
LowrSiSa	4	110	115	100	35	0	0	W1

Init Points:450.00 to 500.00
Term Limits:1270.00 to 1350.00



PCSTABL5M/SI FSmin = 3.02 X-Axis (ft)

Factors Of Safety Calculated By The Modified Janbu Method

** PCSTABL5M **

by
Purdue University

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date:	9/18/2007
Time of Run:	4:10pm
Run By:	KJH
Input Data Filename:	C:OCL1C.IN
Output Filename:	C:OCL1C.OUT
Unit:	ENGLISH
Plotted Output Filename:	C:OCL1C.PLT

PROBLEM DESCRIPTION Orange County Landfill Cells 10-12
Cross Section 1-C

BOUNDARY COORDINATES

22 Top Boundaries
26 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	172.50	500.00	172.50	2
2	500.00	172.50	552.50	190.00	2
3	552.50	190.00	572.50	190.00	2
4	572.50	190.00	590.50	196.00	1
5	590.50	196.00	605.50	196.00	1
6	605.50	196.00	645.50	206.00	1
7	645.50	206.00	660.50	206.00	1
8	660.50	206.00	740.50	226.00	1
9	740.50	226.00	755.50	226.00	1
10	755.50	226.00	835.50	246.00	1
11	835.50	246.00	850.50	246.00	1
12	850.50	246.00	930.50	266.00	1
13	930.50	266.00	945.50	266.00	1
14	945.50	266.00	1025.50	286.00	1
15	1025.50	286.00	1040.50	286.00	1
16	1040.50	286.00	1120.50	306.00	1
17	1120.50	306.00	1135.50	306.00	1
18	1135.50	306.00	1215.50	326.00	1
19	1215.50	326.00	1230.50	326.00	1
20	1230.50	326.00	1278.50	338.00	1
21	1278.50	338.00	1398.50	344.00	1

22	1398.50	344.00	1518.50	338.00	1
23	572.50	190.00	587.50	185.00	2
24	587.50	185.00	1518.50	185.00	2
25	.00	146.00	1518.50	146.00	3
26	.00	130.00	1518.50	130.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	80.0	85.0	400.0	20.0	.00	.0	1
2	110.0	115.0	.0	32.0	.00	.0	1
3	110.0	115.0	500.0	15.0	.00	.0	1
4	110.0	115.0	100.0	35.0	.00	.0	1

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	175.00
2	550.00	175.00
3	600.00	188.00
4	1525.00	188.00

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Irregular Surfaces, Has Been Specified.

100 Trial Surfaces Have Been Generated.

10 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 450.00 ft.
and X = 500.00 ft.

Each Surface Terminates Between X =1270.00 ft.

and X =1350.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = .00 ft.

25.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Janbu Method * *

Failure Surface Specified By 38 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	466.67	172.50
2	484.65	155.13
3	509.65	154.91
4	528.56	171.26
5	551.43	181.36
6	576.25	184.33
7	601.24	183.48
8	625.30	176.70
9	650.04	173.11
10	672.85	162.87
11	695.72	152.78
12	720.37	148.62
13	744.75	154.17
14	769.22	159.31
15	794.16	157.65
16	818.26	151.01
17	843.26	151.45
18	864.19	165.12
19	881.06	183.57
20	902.50	196.42
21	926.73	202.57
22	949.49	212.92
23	967.36	230.40
24	989.59	241.85
25	1012.52	251.80
26	1035.61	261.37
27	1055.24	276.87
28	1078.03	287.14
29	1102.60	291.74
30	1127.53	293.58
31	1152.00	288.45

32	1176.89	286.05
33	1199.36	297.01
34	1220.05	311.04
35	1242.85	321.30
36	1267.22	326.87
37	1292.17	325.36
38	1309.99	339.57

*** 3.017 ***

Individual data on the 64 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	18.0	17958.0	2805.0	17448.1	.0	.0	.0	.0	.0
2	15.4	30784.2	2394.9	19099.4	.0	.0	.0	.0	.0
3	9.6	21249.6	566.1	12067.8	.0	.0	.0	.0	.0
4	18.9	33964.6	.0	18587.3	.0	.0	.0	.0	.0
5	8.5	9675.8	.0	1080.6	.0	.0	.0	.0	.0
6	14.4	14354.6	.0	.0	.0	.0	.0	.0	.0
7	1.1	988.9	.0	.0	.0	.0	.0	.0	.0
8	20.0	16096.3	.0	.0	.0	.0	.0	.0	.0
9	3.8	2552.2	.0	.0	.0	.0	.0	.0	.0
10	8.5	6576.8	.0	.0	.0	.0	.0	.0	.0
11	2.7	2442.9	.0	66.9	.0	.0	.0	.0	.0
12	1.0	899.5	.0	55.1	.0	.0	.0	.0	.0
13	2.0	2004.3	.0	171.2	.0	.0	.0	.0	.0
14	9.5	9882.0	.0	1772.3	.0	.0	.0	.0	.0
15	1.2	1322.5	.0	348.2	.0	.0	.0	.0	.0
16	4.3	4855.2	.0	1415.6	.0	.0	.0	.0	.0
17	19.8	34196.7	.0	10926.3	.0	.0	.0	.0	.0
18	20.2	52831.9	.0	16254.2	.0	.0	.0	.0	.0
19	4.5	13742.5	.0	4171.3	.0	.0	.0	.0	.0
20	10.5	34839.4	.0	12326.3	.0	.0	.0	.0	.0
21	12.4	49952.0	.0	18885.7	.0	.0	.0	.0	.0
22	22.9	121123.0	.0	47071.6	.0	.0	.0	.0	.0
23	24.7	162467.0	.0	58187.4	.0	.0	.0	.0	.0
24	20.1	141157.8	.0	47766.6	.0	.0	.0	.0	.0
25	4.3	29325.0	.0	9338.1	.0	.0	.0	.0	.0
26	10.7	72126.5	.0	22412.5	.0	.0	.0	.0	.0
27	13.7	89872.9	.0	26353.0	.0	.0	.0	.0	.0
28	24.9	171330.5	.0	46049.6	.0	.0	.0	.0	.0
29	24.1	188872.0	.0	52529.5	.0	.0	.0	.0	.0
30	17.2	148490.5	.0	39633.6	.0	.0	.0	.0	.0
31	7.8	67975.4	.0	17731.8	.0	.0	.0	.0	.0
32	7.2	61417.8	.0	18449.6	.0	.0	.0	.0	.0
33	13.7	107233.8	.0	27908.5	.0	.0	.0	.0	.0
34	16.9	110688.5	.0	21302.5	.0	.0	.0	.0	.0
35	2.4	13382.9	.0	644.3	.0	.0	.0	.0	.0
36	5.0	27425.5	.0	546.4	.0	.0	.0	.0	.0
37	14.1	73118.2	.0	.0	.0	.0	.0	.0	.0

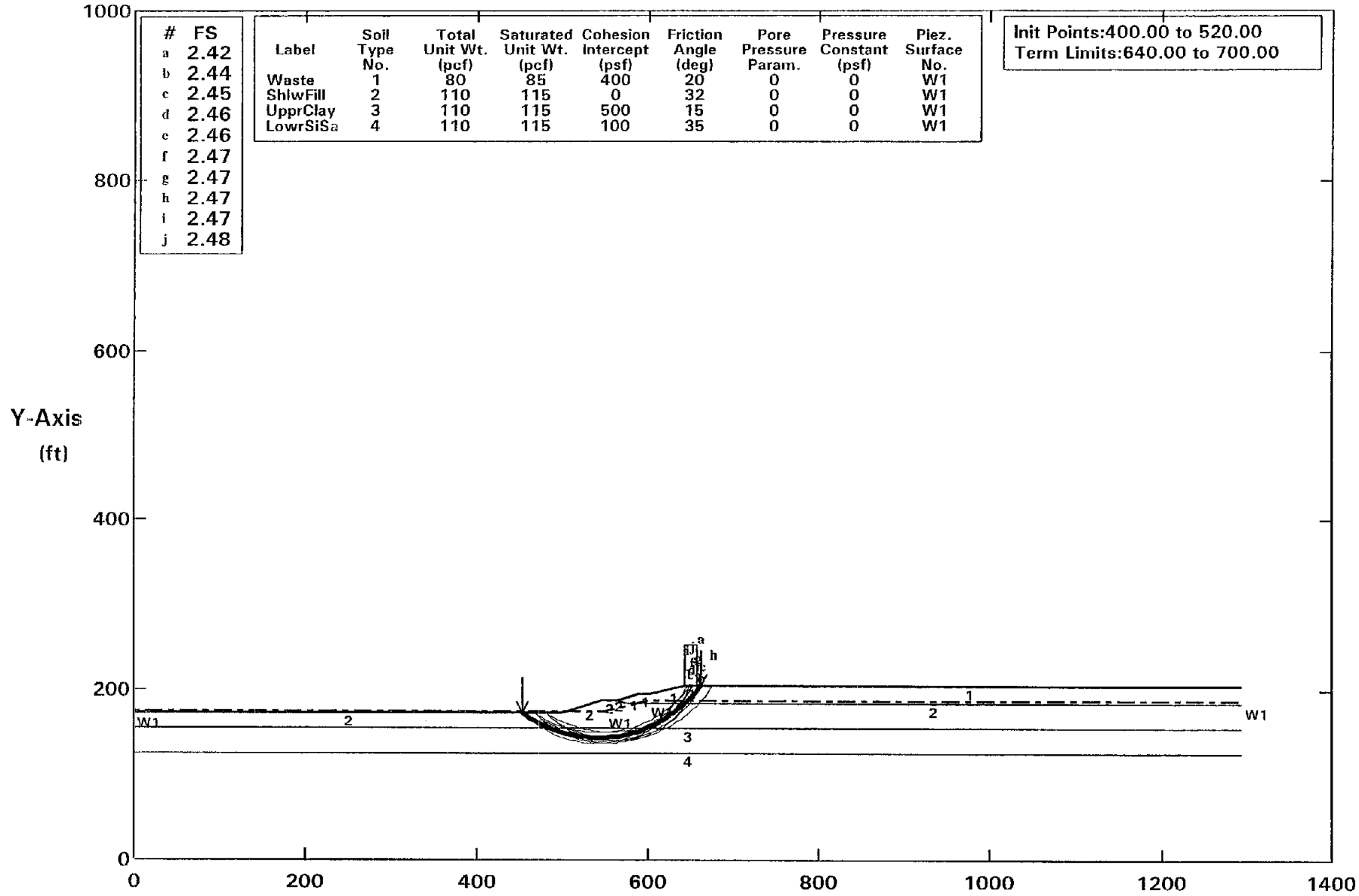
Orange County Landfill Cells 10-12 Cross Section 2-A

Ten Most Critical. C:OCL2A.PLT By: KJH 9/18/2007 3:53pm

#	FS
a	2.42
b	2.44
c	2.45
d	2.46
e	2.46
f	2.47
g	2.47
h	2.47
i	2.47
j	2.48

Label	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Waste	1	80	85	400	20	0	0	W1
ShlwFill	2	110	115	0	32	0	0	W1
UpprClay	3	110	115	500	15	0	0	W1
LowrSiSa	4	110	115	100	35	0	0	W1

Init Points:400.00 to 520.00
Term Limits:640.00 to 700.00



PCSTABL5M/SI FSmin = 2.42 X-Axis (ft)

Factors Of Safety Calculated By The Modified Bishop Method

** PCSTABL5M **

by
Purdue University

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date:	9/18/2007
Time of Run:	3:53pm
Run By:	KJH
Input Data Filename:	C:OCL2A.IN
Output Filename:	C:OCL2A.OUT
Unit:	ENGLISH
Plotted Output Filename:	C:OCL2A.PLT

PROBLEM DESCRIPTION Orange County Landfill Cells 10-12
Cross Section 2-A

BOUNDARY COORDINATES

8 Top Boundaries
12 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	173.00	500.00	173.00	2
2	500.00	173.00	545.00	188.00	2
3	545.00	188.00	565.00	188.00	2
4	565.00	188.00	589.00	196.00	1
5	589.00	196.00	604.00	196.00	1
6	604.00	196.00	644.00	206.00	1
7	644.00	206.00	659.00	206.00	1
8	659.00	206.00	1294.00	206.00	1
9	565.00	188.00	574.00	185.00	2
10	574.00	185.00	1294.00	185.00	2
11	.00	156.00	1294.00	156.00	3
12	.00	126.00	1294.00	126.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	80.0	85.0	400.0	20.0	.00	.0	1
2	110.0	115.0	.0	32.0	.00	.0	1
3	110.0	115.0	500.0	15.0	.00	.0	1
4	110.0	115.0	100.0	35.0	.00	.0	1

---

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	175.00
2	550.00	175.00
3	600.00	188.00
4	1294.00	188.00

BOUNDARY LOAD(S)

1 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	644.00	659.00	300.0	.0

NOTE - Intensity Is Specified As A Uniformly Distributed Force Acting On A Horizontally Projected Surface.

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

200 Trial Surfaces Have Been Generated.

20 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 400.00 ft.
and X = 520.00 ft.

Each Surface Terminates Between X = 640.00 ft.
and X = 700.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is Y = .00 ft.

5.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure Surface Specified By 49 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	453.33	173.00
2	457.42	170.11
3	461.59	167.36
4	465.86	164.76
5	470.21	162.30
6	474.64	159.98
7	479.15	157.81
8	483.73	155.80
9	488.37	153.94
10	493.07	152.24
11	497.82	150.69
12	502.63	149.31
13	507.48	148.09
14	512.36	147.03
15	517.28	146.13
16	522.23	145.40
17	527.20	144.84
18	532.18	144.44
19	537.18	144.21
20	542.18	144.15
21	547.17	144.25
22	552.17	144.53
23	557.15	144.97
24	562.11	145.57
25	567.05	146.34
26	571.96	147.28
27	576.84	148.38
28	581.68	149.65

29	586.47	151.07
30	591.21	152.66
31	595.90	154.40
32	600.52	156.30
33	605.08	158.35
34	609.57	160.55
35	613.98	162.91
36	618.31	165.40
37	622.56	168.05
38	626.71	170.83
39	630.77	173.75
40	634.73	176.81
41	638.58	179.99
42	642.32	183.31
43	645.96	186.75
44	649.47	190.30
45	652.86	193.98
46	656.13	197.76
47	659.27	201.65
48	662.28	205.65
49	662.53	206.00

Circle Center At X = 541.5 ; Y = 293.4 and Radius, 149.3

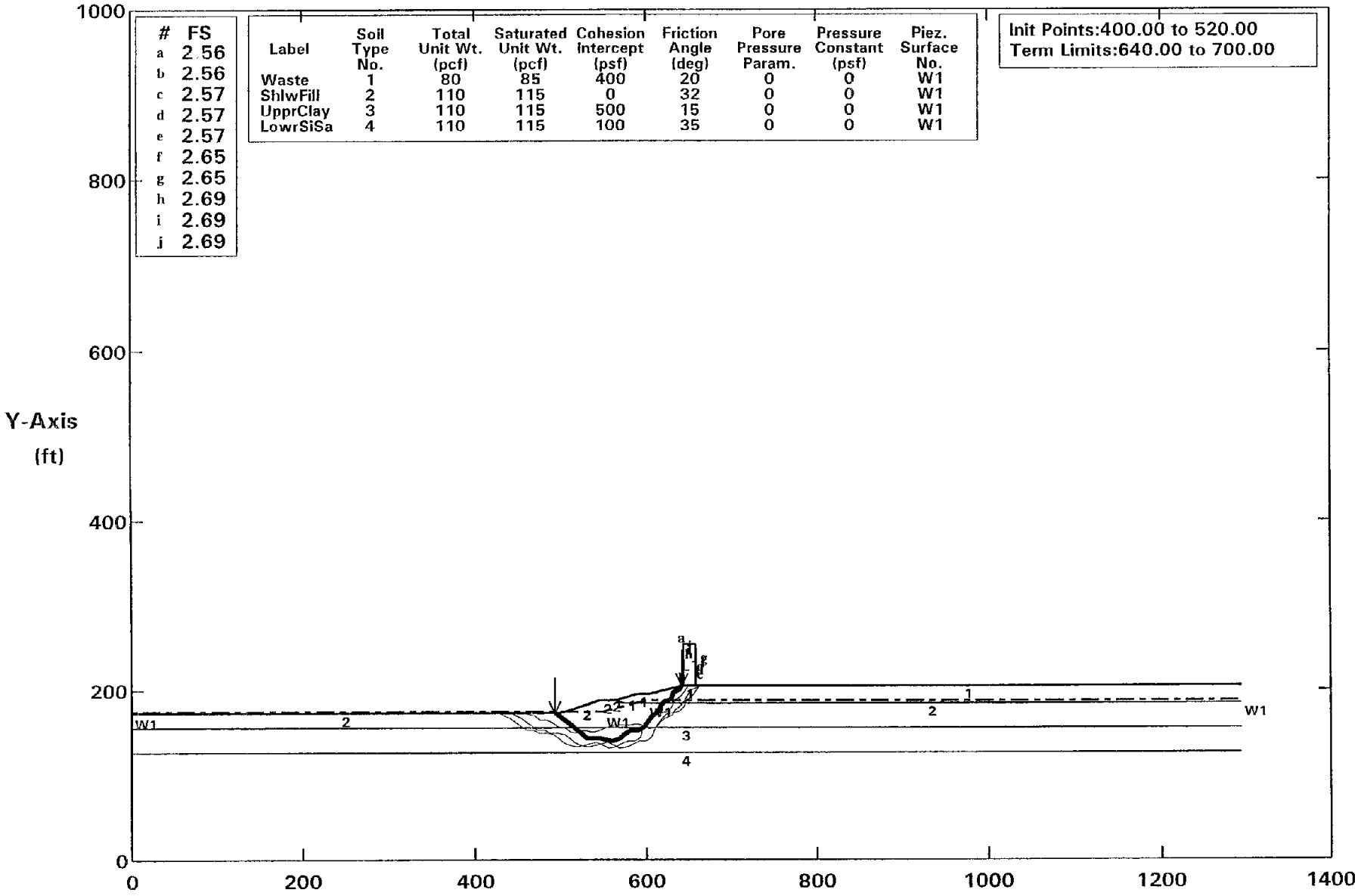
*** 2.415 ***

Individual data on the 63 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	4.1	677.6	509.5	1074.3	.0	.0	.0	.0	.0
2	4.2	2046.7	521.3	1953.4	.0	.0	.0	.0	.0
3	4.3	3404.5	532.5	2788.8	.0	.0	.0	.0	.0
4	4.4	4740.7	543.1	3579.7	.0	.0	.0	.0	.0
5	4.4	6045.4	553.1	4325.1	.0	.0	.0	.0	.0
6	4.5	7309.0	562.4	5024.1	.0	.0	.0	.0	.0
7	4.1	7630.5	514.6	5085.6	.0	.0	.0	.0	.0
8	.5	891.9	56.6	590.6	.0	.0	.0	.0	.0
9	4.6	9676.8	579.3	6280.3	.0	.0	.0	.0	.0
10	4.7	10764.0	586.7	6835.9	.0	.0	.0	.0	.0
11	4.8	11776.5	593.5	7342.5	.0	.0	.0	.0	.0
12	2.2	5659.6	271.5	3478.5	.0	.0	.0	.0	.0
13	2.6	7179.8	270.1	4320.9	.0	.0	.0	.0	.0
14	4.8	14488.2	100.7	8206.0	.0	.0	.0	.0	.0
15	4.9	16123.4	.0	8562.0	.0	.0	.0	.0	.0
16	4.9	17668.4	.0	8866.8	.0	.0	.0	.0	.0
17	4.9	19123.1	.0	9120.3	.0	.0	.0	.0	.0
18	5.0	20479.7	.0	9322.2	.0	.0	.0	.0	.0
19	5.0	21730.6	.0	9472.0	.0	.0	.0	.0	.0
20	5.0	22870.2	.0	9569.8	.0	.0	.0	.0	.0
21	5.0	23893.0	.0	9615.5	.0	.0	.0	.0	.0

Orange County Landfill Cells 10-12 Cross Section 2-A

Ten Most Critical. C:OCL2A.PLT By: KJH 9/18/2007 3:55pm



#	FS
a	2.56
b	2.56
c	2.57
d	2.57
e	2.57
f	2.65
g	2.65
h	2.69
i	2.69
j	2.69

Label	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Waste	1	80	85	400	20	0	0	W1
ShlwFill	2	110	115	0	32	0	0	W1
UpprClay	3	110	115	500	15	0	0	W1
LowrSiSa	4	110	115	100	35	0	0	W1

Init Points:400.00 to 520.00
Term Limits:640.00 to 700.00

PCSTABL5M/SI FSmin = 2.56 X-Axis (ft)

Factors Of Safety Calculated By The Modified Janbu Method

** PCSTABL5M **

by
Purdue University

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date:	9/18/2007
Time of Run:	3:55pm
Run By:	KJH
Input Data Filename:	C:OCL2A.IN
Output Filename:	C:OCL2A.OUT
Unit:	ENGLISH
Plotted Output Filename:	C:OCL2A.PLT

PROBLEM DESCRIPTION Orange County Landfill Cells 10-12
Cross Section 2-A

BOUNDARY COORDINATES

8 Top Boundaries
12 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	173.00	500.00	173.00	2
2	500.00	173.00	545.00	188.00	2
3	545.00	188.00	565.00	188.00	2
4	565.00	188.00	589.00	196.00	1
5	589.00	196.00	604.00	196.00	1
6	604.00	196.00	644.00	206.00	1
7	644.00	206.00	659.00	206.00	1
8	659.00	206.00	1294.00	206.00	1
9	565.00	188.00	574.00	185.00	2
10	574.00	185.00	1294.00	185.00	2
11	.00	156.00	1294.00	156.00	3
12	.00	126.00	1294.00	126.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	80.0	85.0	400.0	20.0	.00	.0	1
2	110.0	115.0	.0	32.0	.00	.0	1
3	110.0	115.0	500.0	15.0	.00	.0	1
4	110.0	115.0	100.0	35.0	.00	.0	1

---

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	175.00
2	550.00	175.00
3	600.00	188.00
4	1294.00	188.00

BOUNDARY LOAD(S)

1 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	644.00	659.00	300.0	.0

NOTE - Intensity Is Specified As A Uniformly Distributed Force Acting On A Horizontally Projected Surface.

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Irregular Surfaces, Has Been Specified.

200 Trial Surfaces Have Been Generated.

20 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 400.00 ft.
and X = 520.00 ft.

Each Surface Terminates Between X = 640.00 ft.
and X = 700.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is Y = .00 ft.

8.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Janbu Method * *

Failure Surface Specified By 25 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	493.33	173.00
2	500.11	168.74
3	505.79	163.11
4	512.39	158.59
5	518.10	152.98
6	524.39	148.04
7	530.11	142.45
8	538.11	142.52
9	546.09	143.07
10	553.64	140.43
11	561.60	139.66
12	569.37	141.58
13	574.87	147.39
14	581.61	151.69
15	589.59	152.32
16	596.85	155.66
17	601.93	161.85
18	606.45	168.45
19	613.21	172.72
20	616.62	179.96
21	621.68	186.16
22	628.69	190.00
23	632.92	196.79
24	639.64	201.13
25	642.76	205.69

*** 2.556 ***

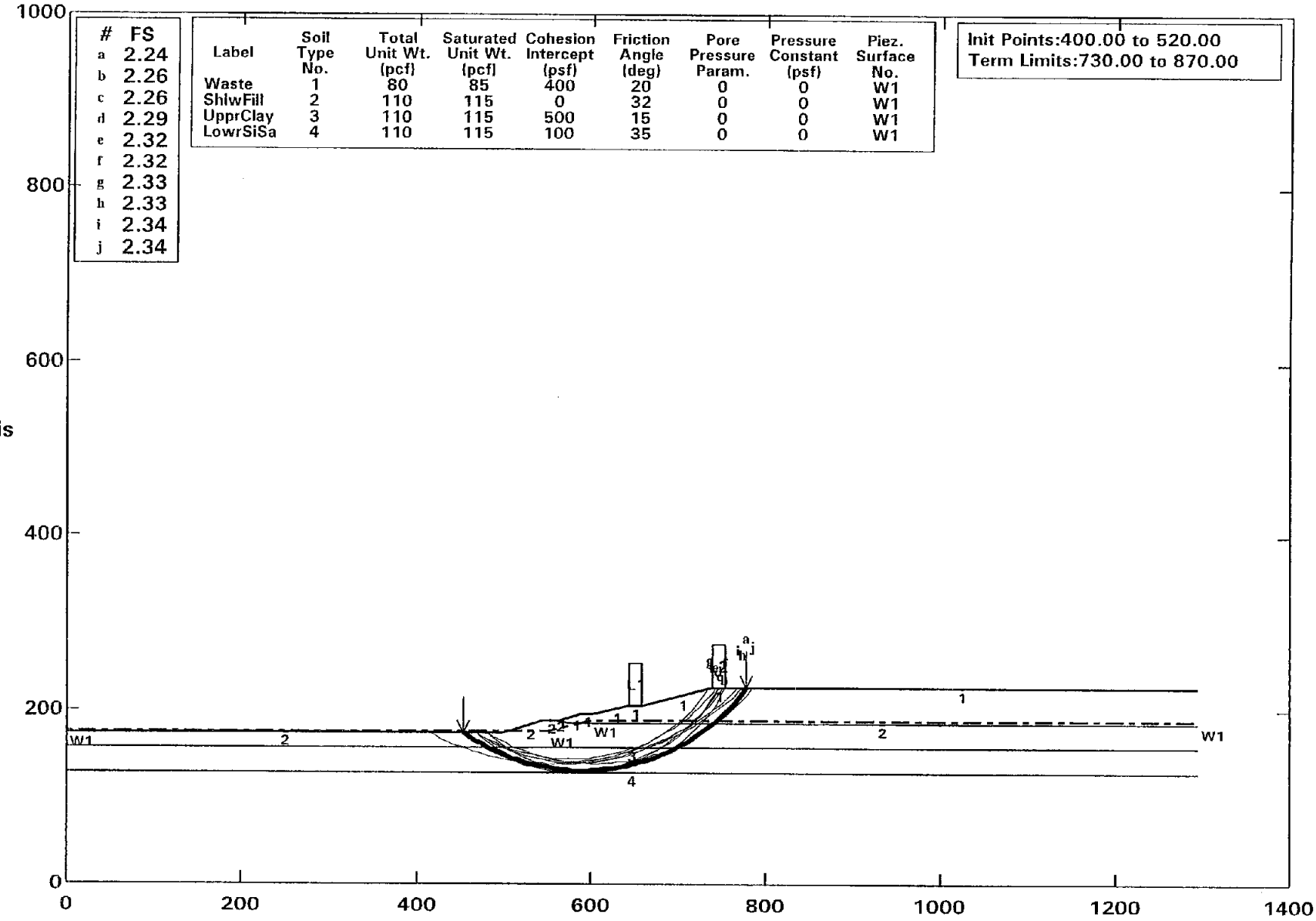
Orange County Landfill Cells 10-12 Cross Section 2-B

Ten Most Critical. C:OCL2B.PLT By: KJH 9/18/2007 8:51am

#	FS
a	2.24
b	2.26
c	2.26
d	2.29
e	2.32
f	2.32
g	2.33
h	2.33
i	2.34
j	2.34

Label	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Waste	1	80	85	400	20	0	0	W1
ShlwFill	2	110	115	0	32	0	0	W1
UpprClay	3	110	115	500	15	0	0	W1
LowrSiSa	4	110	115	100	35	0	0	W1

Init Points:400.00 to 520.00
Term Limits:730.00 to 870.00



PCSTABL5M/SI FSmin = 2.24 X-Axis (ft)

Factors Of Safety Calculated By The Modified Bishop Method

** PCSTABL5M **

by
Purdue University

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date:	9/18/2007
Time of Run:	10:40am
Run By:	KJH
Input Data Filename:	C:OCL2B.IN
Output Filename:	C:OCL2B.OUT
Unit:	ENGLISH
Plotted Output Filename:	C:OCL2B.PLT

PROBLEM DESCRIPTION Orange County Landfill Cells 10-12
Cross Section 2-B

BOUNDARY COORDINATES

10 Top Boundaries
14 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	173.00	500.00	173.00	2
2	500.00	173.00	545.00	188.00	2
3	545.00	188.00	565.00	188.00	2
4	565.00	188.00	589.00	196.00	1
5	589.00	196.00	604.00	196.00	1
6	604.00	196.00	644.00	206.00	1
7	644.00	206.00	659.00	206.00	1
8	659.00	206.00	739.00	226.00	1
9	739.00	226.00	754.00	226.00	1
10	754.00	226.00	1294.00	226.00	1
11	565.00	188.00	574.00	185.00	2
12	574.00	185.00	1294.00	185.00	2
13	.00	156.00	1294.00	156.00	3
14	.00	126.00	1294.00	126.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	80.0	85.0	400.0	20.0	.00	.0	1
2	110.0	115.0	.0	32.0	.00	.0	1
3	110.0	115.0	500.0	15.0	.00	.0	1
4	110.0	115.0	100.0	35.0	.00	.0	1

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1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	175.00
2	550.00	175.00
3	600.00	188.00
4	1294.00	188.00

BOUNDARY LOAD(S)

2 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	644.00	659.00	300.0	.0
2	739.00	754.00	300.0	.0

NOTE - Intensity Is Specified As A Uniformly Distributed Force Acting On A Horizontally Projected Surface.

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

200 Trial Surfaces Have Been Generated.

20 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 400.00 ft.
and X = 520.00 ft.

Each Surface Terminates Between X = 730.00 ft.
and X = 870.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = .00 ft.

8.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure Surface Specified By 47 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	453.33	173.00
2	459.87	168.38
3	466.55	163.99
4	473.39	159.84
5	480.37	155.92
6	487.48	152.25
7	494.71	148.83
8	502.05	145.66
9	509.50	142.75
10	517.05	140.10
11	524.69	137.71
12	532.40	135.59
13	540.18	133.74
14	548.03	132.16
15	555.92	130.85
16	563.85	129.81
17	571.81	129.06
18	579.80	128.58
19	587.80	128.37
20	595.80	128.45
21	603.79	128.80
22	611.76	129.43
23	619.71	130.33
24	627.63	131.51
25	635.49	132.97

26	643.30	134.69
27	651.05	136.69
28	658.72	138.95
29	666.31	141.48
30	673.81	144.27
31	681.21	147.32
32	688.49	150.63
33	695.66	154.18
34	702.70	157.98
35	709.60	162.03
36	716.36	166.31
37	722.97	170.82
38	729.41	175.56
39	735.69	180.52
40	741.79	185.69
41	747.71	191.08
42	753.43	196.66
43	758.96	202.44
44	764.29	208.41
45	769.41	214.56
46	774.31	220.89
47	777.99	226.00

Circle Center At X = 589.7 ; Y = 358.9 and Radius, 230.5

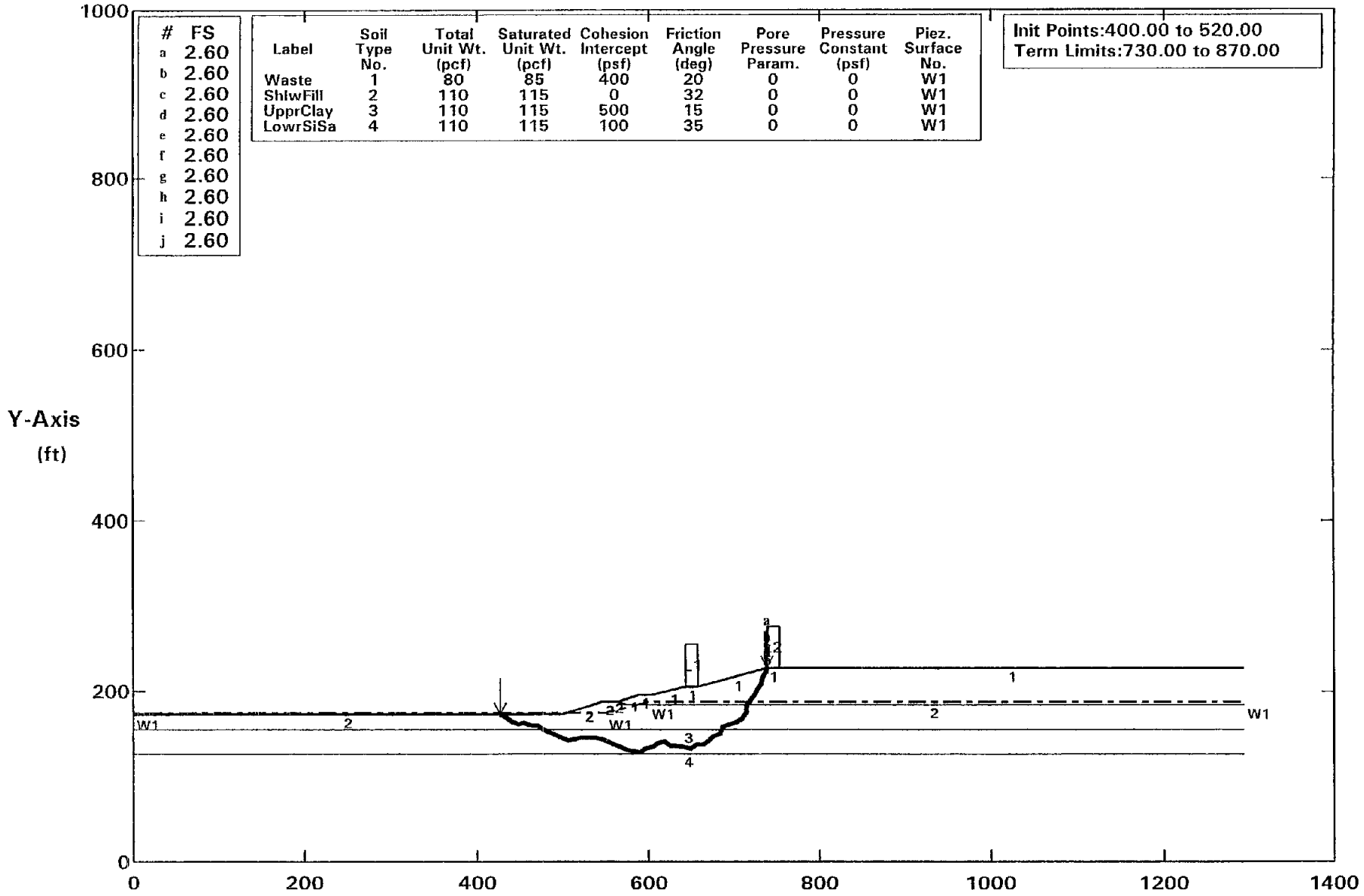
*** 2.244 ***

Individual data on the 63 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	6.5	1734.7	815.2	2151.2	.0	.0	.0	.0	.0
2	6.7	5240.6	834.7	4399.7	.0	.0	.0	.0	.0
3	6.8	8715.5	853.2	6532.2	.0	.0	.0	.0	.0
4	6.8	11860.1	853.4	8357.9	.0	.0	.0	.0	.0
5	.1	271.1	17.3	188.5	.0	.0	.0	.0	.0
6	7.1	15460.4	887.1	10439.7	.0	.0	.0	.0	.0
7	7.2	18676.9	902.5	12209.8	.0	.0	.0	.0	.0
8	5.3	15406.4	660.6	9823.5	.0	.0	.0	.0	.0
9	2.1	6430.3	223.9	4031.2	.0	.0	.0	.0	.0
10	7.5	26324.0	36.2	15372.3	.0	.0	.0	.0	.0
11	7.5	31158.0	.0	16760.9	.0	.0	.0	.0	.0
12	7.6	35856.7	.0	18018.7	.0	.0	.0	.0	.0
13	7.7	40394.8	.0	19144.2	.0	.0	.0	.0	.0
14	7.8	44745.3	.0	20136.1	.0	.0	.0	.0	.0
15	4.8	29586.9	.0	12800.2	.0	.0	.0	.0	.0
16	3.0	19128.1	.0	8193.1	.0	.0	.0	.0	.0
17	2.0	12588.4	.0	5370.9	.0	.0	.0	.0	.0
18	5.9	38158.4	.0	16104.9	.0	.0	.0	.0	.0
19	7.9	52138.0	.0	22835.2	.0	.0	.0	.0	.0
20	1.1	7634.7	.0	3417.2	.0	.0	.0	.0	.0

Orange County Landfill Cells 10-12 Cross Section 2-B

Ten Most Critical. C:OCL2B.PLT By: KJH 9/18/2007 8:52am



#	FS
a	2.60
b	2.60
c	2.60
d	2.60
e	2.60
f	2.60
g	2.60
h	2.60
i	2.60
j	2.60

Label	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Waste	1	80	85	400	20	0	0	W1
ShlwFill	2	110	115	0	32	0	0	W1
UpprClay	3	110	115	500	15	0	0	W1
LowrSiSa	4	110	115	100	35	0	0	W1

Init Points:400.00 to 520.00
Term Limits:730.00 to 870.00

PCSTABL5M/SI FSmin = 2.60 X-Axis (ft)

Factors Of Safety Calculated By The Modified Janbu Method

** PCSTABL5M **

by
Purdue University

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date:	9/18/2007
Time of Run:	10:41am
Run By:	KJH
Input Data Filename:	C:OCL2B.IN
Output Filename:	C:OCL2B.OUT
Unit:	ENGLISH
Plotted Output Filename:	C:OCL2B.PLT

PROBLEM DESCRIPTION Orange County Landfill Cells 10-12
Cross Section 2-B

BOUNDARY COORDINATES

10 Top Boundaries
14 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	173.00	500.00	173.00	2
2	500.00	173.00	545.00	188.00	2
3	545.00	188.00	565.00	188.00	2
4	565.00	188.00	589.00	196.00	1
5	589.00	196.00	604.00	196.00	1
6	604.00	196.00	644.00	206.00	1
7	644.00	206.00	659.00	206.00	1
8	659.00	206.00	739.00	226.00	1
9	739.00	226.00	754.00	226.00	1
10	754.00	226.00	1294.00	226.00	1
11	565.00	188.00	574.00	185.00	2
12	574.00	185.00	1294.00	185.00	2
13	.00	156.00	1294.00	156.00	3
14	.00	126.00	1294.00	126.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	80.0	85.0	400.0	20.0	.00	.0	1
2	110.0	115.0	.0	32.0	.00	.0	1
3	110.0	115.0	500.0	15.0	.00	.0	1
4	110.0	115.0	100.0	35.0	.00	.0	1

---

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	175.00
2	550.00	175.00
3	600.00	188.00
4	1294.00	188.00

BOUNDARY LOAD(S)

2 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	644.00	659.00	300.0	.0
2	739.00	754.00	300.0	.0

NOTE - Intensity Is Specified As A Uniformly Distributed Force Acting On A Horizontally Projected Surface.

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Irregular Surfaces, Has Been Specified.

200 Trial Surfaces Have Been Generated.

20 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 400.00 ft.
and X = 520.00 ft.

Each Surface Terminates Between X = 730.00 ft.
and X = 870.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = .00 ft.

8.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Janbu Method * *

Failure Surface Specified By 49 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	426.67	173.00
2	433.89	169.57
3	440.39	164.90
4	447.35	160.95
5	455.16	162.65
6	462.92	160.68
7	470.90	160.23
8	477.30	155.43
9	484.14	151.27
10	491.83	149.06
11	498.64	144.87
12	506.05	141.86
13	513.94	143.23
14	521.55	145.68
15	529.51	144.90
16	537.51	144.80
17	545.46	143.90
18	553.06	141.39
19	560.20	137.78
20	567.36	134.22
21	574.62	130.87
22	582.56	129.86
23	590.43	128.44
24	597.58	132.03
25	605.24	134.35

26	611.31	139.55
27	619.30	139.93
28	626.19	135.87
29	634.19	135.58
30	642.02	133.94
31	649.96	132.96
32	656.99	136.77
33	664.99	136.86
34	670.62	142.54
35	676.87	147.54
36	684.05	151.05
37	687.91	158.06
38	695.13	161.50
39	702.80	163.79
40	709.54	168.10
41	714.41	174.45
42	715.51	182.37
43	719.15	189.50
44	724.02	195.85
45	727.78	202.91
46	733.09	208.89
47	733.95	216.84
48	738.83	223.19
49	739.08	226.00

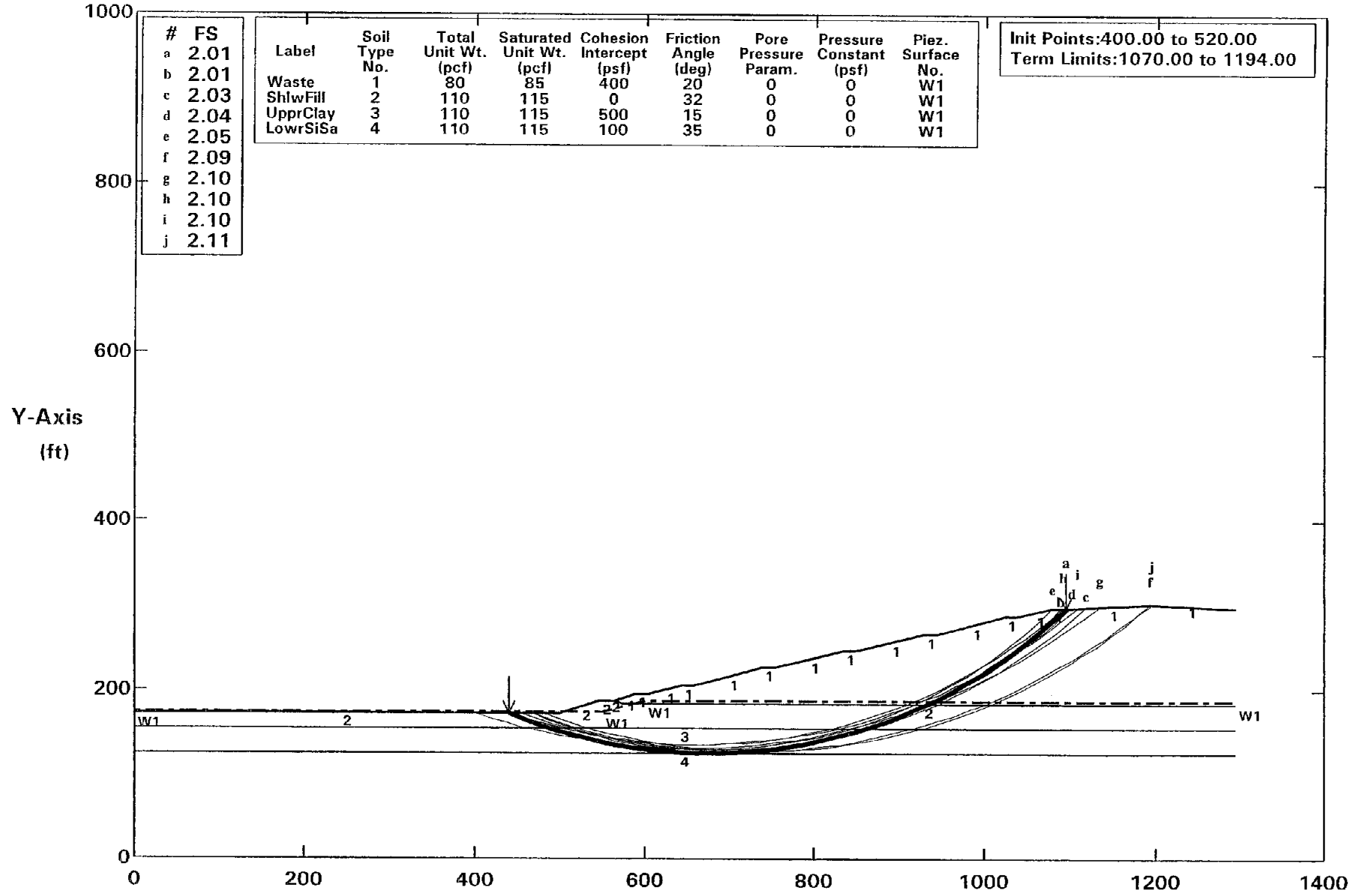
*** 2.597 ***

Individual data on the 64 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	7.2	1426.1	901.8	1855.1	.0	.0	.0	.0	.0
2	6.5	4308.7	811.3	3875.6	.0	.0	.0	.0	.0
3	7.0	8055.0	867.8	6026.7	.0	.0	.0	.0	.0
4	7.8	10066.5	975.5	6588.8	.0	.0	.0	.0	.0
5	7.8	10105.1	967.4	6650.9	.0	.0	.0	.0	.0
6	8.0	11523.8	996.9	7261.0	.0	.0	.0	.0	.0
7	5.6	9660.2	704.4	7432.7	.0	.0	.0	.0	.0
8	.8	1502.5	94.3	1137.0	.0	.0	.0	.0	.0
9	6.8	15438.3	852.7	10806.4	.0	.0	.0	.0	.0
10	7.7	20189.5	959.6	12396.1	.0	.0	.0	.0	.0
11	6.8	20399.7	850.4	13993.2	.0	.0	.0	.0	.0
12	1.4	4440.5	169.7	2783.8	.0	.0	.0	.0	.0
13	6.1	21518.5	394.6	13007.0	.0	.0	.0	.0	.0
14	7.9	30576.8	.0	16202.0	.0	.0	.0	.0	.0
15	7.6	30024.1	.0	15248.7	.0	.0	.0	.0	.0
16	8.0	32902.9	.0	14829.9	.0	.0	.0	.0	.0
17	8.0	35801.7	.0	15049.1	.0	.0	.0	.0	.0
18	7.5	36056.3	.0	14403.1	.0	.0	.0	.0	.0
19	.5	2298.0	.0	896.3	.0	.0	.0	.0	.0
20	4.5	23123.8	.0	9502.2	.0	.0	.0	.0	.0

Orange County Landfill Cells 10-12 Cross Section 2-C

Ten Most Critical. C:OCL2C.PLT By: KJH 9/18/2007 8:53am



PCSTABL5M/SI FSmin = 2.01 X-Axis (ft)

Factors Of Safety Calculated By The Modified Bishop Method

** PCSTABL5M **

by
Purdue University

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date:	9/18/2007
Time of Run:	10:41am
Run By:	KJH
Input Data Filename:	C:OCL2C.IN
Output Filename:	C:OCL2C.OUT
Unit:	ENGLISH
Plotted Output Filename:	C:OCL2C.PLT

PROBLEM DESCRIPTION Orange County Landfill Cells 10-12
Cross Section 2-C

BOUNDARY COORDINATES

19 Top Boundaries
23 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	173.00	500.00	173.00	2
2	500.00	173.00	545.00	188.00	2
3	545.00	188.00	565.00	188.00	2
4	565.00	188.00	589.00	196.00	1
5	589.00	196.00	604.00	196.00	1
6	604.00	196.00	644.00	206.00	1
7	644.00	206.00	659.00	206.00	1
8	659.00	206.00	739.00	226.00	1
9	739.00	226.00	754.00	226.00	1
10	754.00	226.00	834.00	246.00	1
11	834.00	246.00	849.00	246.00	1
12	849.00	246.00	929.00	266.00	1
13	929.00	266.00	944.00	266.00	1
14	944.00	266.00	1024.00	286.00	1
15	1024.00	286.00	1039.00	286.00	1
16	1039.00	286.00	1079.00	296.00	1
17	1079.00	296.00	1094.00	296.00	1
18	1094.00	296.00	1194.00	300.50	1
19	1194.00	300.50	1294.00	296.00	1
20	565.00	188.00	574.00	185.00	2
21	574.00	185.00	1294.00	185.00	2

22	.00	156.00	1294.00	156.00	3
23	.00	126.00	1294.00	126.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	80.0	85.0	400.0	20.0	.00	.0	1
2	110.0	115.0	.0	32.0	.00	.0	1
3	110.0	115.0	500.0	15.0	.00	.0	1
4	110.0	115.0	100.0	35.0	.00	.0	1

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	175.00
2	550.00	175.00
3	600.00	188.00
4	1294.00	188.00

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

200 Trial Surfaces Have Been Generated.

20 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 400.00 ft.
and X = 520.00 ft.

Each Surface Terminates Between X =1070.00 ft.
and X =1194.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = .00 ft.

20.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure Surface Specified By 37 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	440.00	173.00
2	458.58	165.60
3	477.39	158.81
4	496.42	152.65
5	515.64	147.12
6	535.03	142.22
7	554.57	137.96
8	574.24	134.35
9	594.02	131.39
10	613.89	129.08
11	633.82	127.43
12	653.80	126.43
13	673.79	126.09
14	693.79	126.41
15	713.77	127.39
16	733.70	129.03
17	753.57	131.32
18	773.35	134.26
19	793.03	137.86
20	812.57	142.10
21	831.97	146.98
22	851.19	152.49
23	870.22	158.64
24	889.04	165.41
25	907.63	172.79
26	925.96	180.79
27	944.02	189.38
28	961.79	198.56
29	979.25	208.32
30	996.37	218.65
31	1013.15	229.54
32	1029.55	240.98
33	1045.58	252.95
34	1061.20	265.44

35	1076.40	278.44
36	1091.16	291.93
37	1095.39	296.06

Circle Center At X = 674.1 ; Y = 733.5 and Radius, 607.4

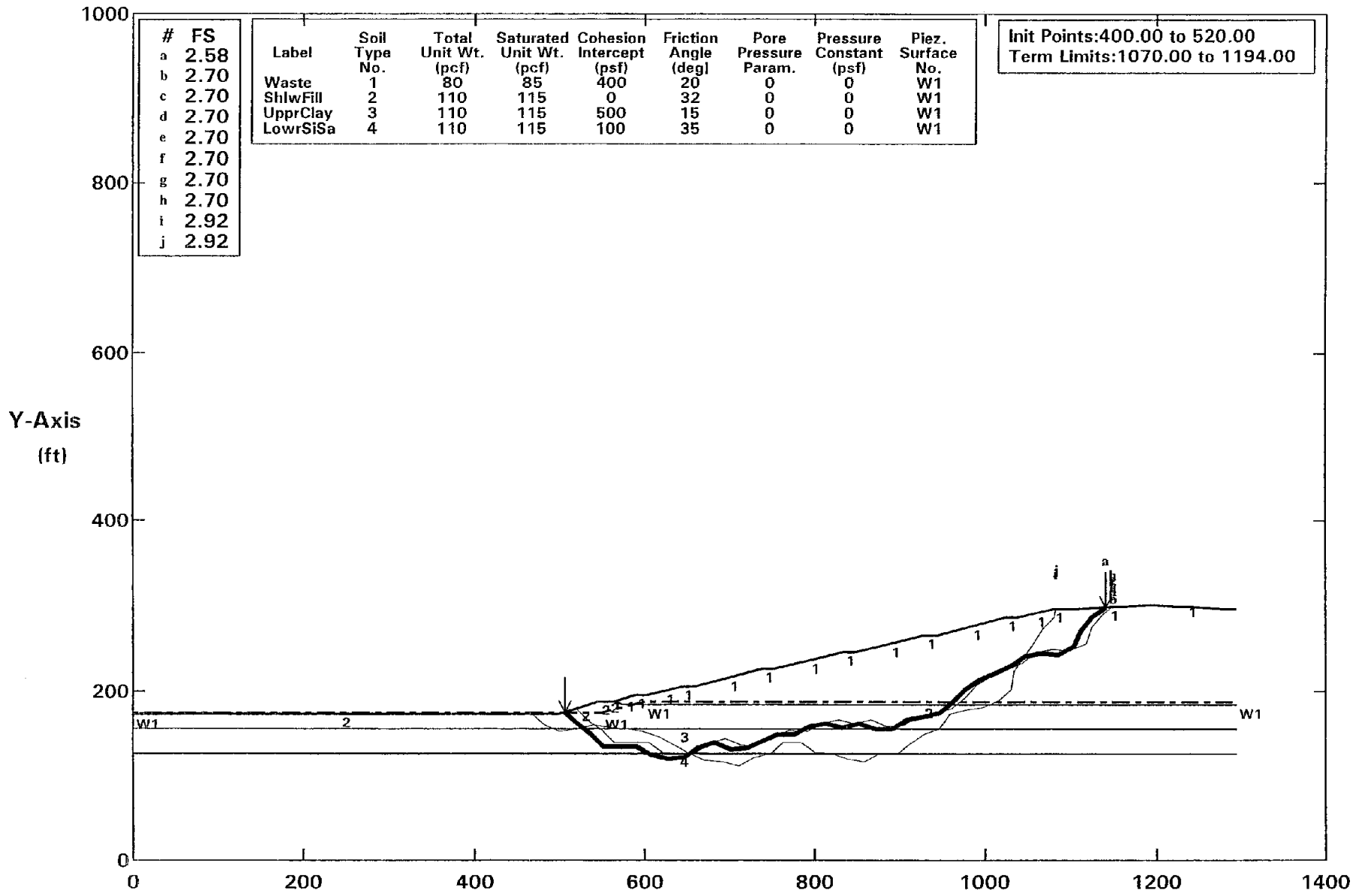
*** 2.007 ***

Individual data on the 61 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	18.6	7907.6	2318.8	7114.6	.0	.0	.0	.0	.0
2	18.8	23354.9	2347.9	15967.7	.0	.0	.0	.0	.0
3	8.7	15570.6	1083.6	10019.9	.0	.0	.0	.0	.0
4	10.3	22215.5	1290.9	14027.9	.0	.0	.0	.0	.0
5	3.6	8588.4	446.7	5314.2	.0	.0	.0	.0	.0
6	15.6	47146.8	.0	26032.0	.0	.0	.0	.0	.0
7	19.4	81388.7	.0	37855.0	.0	.0	.0	.0	.0
8	10.0	51258.4	.0	21560.7	.0	.0	.0	.0	.0
9	5.0	27560.9	.0	11334.8	.0	.0	.0	.0	.0
10	4.6	25742.8	.0	10501.8	.0	.0	.0	.0	.0
11	10.4	60535.3	.0	25968.0	.0	.0	.0	.0	.0
12	9.0	54879.2	.0	24796.6	.0	.0	.0	.0	.0
13	.2	1534.9	.0	704.3	.0	.0	.0	.0	.0
14	14.2	93917.1	.0	43314.2	.0	.0	.0	.0	.0
15	.5	3736.2	.0	1739.9	.0	.0	.0	.0	.0
16	5.0	35154.3	.0	16583.8	.0	.0	.0	.0	.0
17	6.0	42353.7	.0	20423.0	.0	.0	.0	.0	.0
18	4.0	28666.9	.0	14457.8	.0	.0	.0	.0	.0
19	9.9	72777.3	.0	36249.5	.0	.0	.0	.0	.0
20	19.9	155821.1	.0	74561.9	.0	.0	.0	.0	.0
21	10.2	83899.6	.0	38679.1	.0	.0	.0	.0	.0
22	9.8	82317.0	.0	37535.9	.0	.0	.0	.0	.0
23	5.2	43888.7	.0	20006.0	.0	.0	.0	.0	.0
24	14.8	127270.7	.0	57041.7	.0	.0	.0	.0	.0
25	20.0	178909.5	.0	77058.7	.0	.0	.0	.0	.0
26	20.0	185211.5	.0	76248.3	.0	.0	.0	.0	.0
27	19.9	189770.7	.0	74616.8	.0	.0	.0	.0	.0
28	5.3	51104.3	.0	19528.0	.0	.0	.0	.0	.0
29	14.6	139350.3	.0	52638.6	.0	.0	.0	.0	.0
30	.4	4078.9	.0	1540.2	.0	.0	.0	.0	.0
31	19.4	183619.5	.0	67359.9	.0	.0	.0	.0	.0
32	19.7	187042.4	.0	64820.8	.0	.0	.0	.0	.0
33	19.5	184679.8	.0	59933.3	.0	.0	.0	.0	.0
34	19.4	180642.8	.0	54242.6	.0	.0	.0	.0	.0
35	2.0	18734.7	.0	5376.6	.0	.0	.0	.0	.0
36	15.0	134296.7	.0	37283.7	.0	.0	.0	.0	.0
37	2.2	19042.1	.0	5094.9	.0	.0	.0	.0	.0
38	10.9	93228.3	.0	24038.0	.0	.0	.0	.0	.0
39	8.2	68813.4	.0	16439.8	.0	.0	.0	.0	.0

Orange County Landfill Cells 10-12 Cross Section 2-C

Ten Most Critical. C:OCL2C.PLT By: KJH 9/18/2007 8:54am



#	FS
a	2.58
b	2.70
c	2.70
d	2.70
e	2.70
f	2.70
g	2.70
h	2.70
i	2.92
j	2.92

Label	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Waste	1	80	85	400	20	0	0	W1
ShlwFill	2	110	115	0	32	0	0	W1
UpprClay	3	110	115	500	15	0	0	W1
LowrSiSa	4	110	115	100	35	0	0	W1

Init Points:400.00 to 520.00
Term Limits:1070.00 to 1194.00

PCSTABL5M/SI FSmin = 2.58 X-Axis (ft)

Factors Of Safety Calculated By The Modified Janbu Method

** PCSTABL5M **

by
Purdue University

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date:	9/18/2007
Time of Run:	10:41am
Run By:	KJH
Input Data Filename:	C:OCL2C.IN
Output Filename:	C:OCL2C.OUT
Unit:	ENGLISH
Plotted Output Filename:	C:OCL2C.PLT

PROBLEM DESCRIPTION Orange County Landfill Cells 10-12
Cross Section 2-C

BOUNDARY COORDINATES

19 Top Boundaries
23 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	173.00	500.00	173.00	2
2	500.00	173.00	545.00	188.00	2
3	545.00	188.00	565.00	188.00	2
4	565.00	188.00	589.00	196.00	1
5	589.00	196.00	604.00	196.00	1
6	604.00	196.00	644.00	206.00	1
7	644.00	206.00	659.00	206.00	1
8	659.00	206.00	739.00	226.00	1
9	739.00	226.00	754.00	226.00	1
10	754.00	226.00	834.00	246.00	1
11	834.00	246.00	849.00	246.00	1
12	849.00	246.00	929.00	266.00	1
13	929.00	266.00	944.00	266.00	1
14	944.00	266.00	1024.00	286.00	1
15	1024.00	286.00	1039.00	286.00	1
16	1039.00	286.00	1079.00	296.00	1
17	1079.00	296.00	1094.00	296.00	1
18	1094.00	296.00	1194.00	300.50	1
19	1194.00	300.50	1294.00	296.00	1
20	565.00	188.00	574.00	185.00	2
21	574.00	185.00	1294.00	185.00	2

22	.00	156.00	1294.00	156.00	3
23	.00	126.00	1294.00	126.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	80.0	85.0	400.0	20.0	.00	.0	1
2	110.0	115.0	.0	32.0	.00	.0	1
3	110.0	115.0	500.0	15.0	.00	.0	1
4	110.0	115.0	100.0	35.0	.00	.0	1

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	175.00
2	550.00	175.00
3	600.00	188.00
4	1294.00	188.00

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Irregular Surfaces, Has Been Specified.

200 Trial Surfaces Have Been Generated.

20 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 400.00 ft.
and X = 520.00 ft.

Each Surface Terminates Between X =1070.00 ft.
and X =1194.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = .00 ft.

20.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Janbu Method * *

Failure Surface Specified By 38 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	506.67	175.22
2	520.92	161.19
3	536.65	148.83
4	550.95	134.85
5	570.95	135.02
6	590.94	134.70
7	607.84	123.99
8	627.34	119.57
9	647.26	121.38
10	663.34	133.27
11	682.58	138.71
12	701.26	131.56
13	721.26	131.83
14	739.48	140.07
15	757.19	149.37
16	777.17	148.41
17	794.78	157.89
18	814.25	162.44
19	833.45	156.84
20	852.93	161.37
21	871.74	154.57
22	891.69	155.94
23	908.78	166.35
24	928.57	169.23
25	947.74	174.93
26	962.97	187.89
27	976.53	202.59
28	993.55	213.09
29	1011.95	220.92
30	1030.23	229.04
31	1045.88	241.50
32	1065.63	244.63
33	1085.58	243.18
34	1103.71	251.63

35	1111.59	270.01
36	1124.18	285.55
37	1140.30	297.39
38	1140.47	298.09

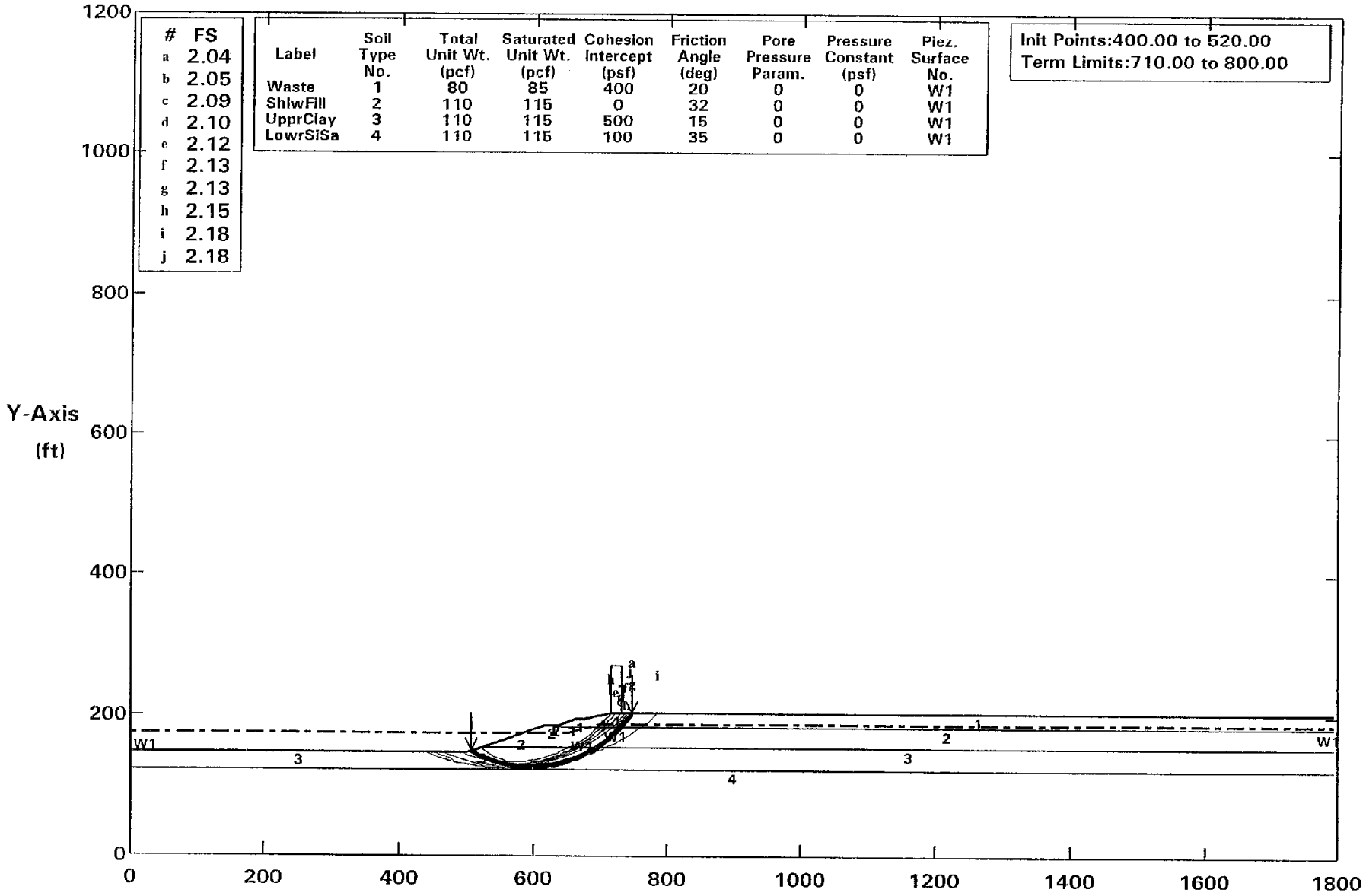
*** 2.578 ***

Individual data on the 66 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	.2	3.7	.0	.0	.0	.0	.0	.0	.0
2	14.0	15204.5	.0	8478.5	.0	.0	.0	.0	.0
3	6.6	16881.2	.0	8602.8	.0	.0	.0	.0	.0
4	9.1	32395.1	.0	16339.3	.0	.0	.0	.0	.0
5	8.4	39725.9	.0	22052.1	.0	.0	.0	.0	.0
6	5.0	28296.8	.0	16047.5	.0	.0	.0	.0	.0
7	.9	5670.0	.0	3185.3	.0	.0	.0	.0	.0
8	14.1	84937.2	.0	35803.9	.0	.0	.0	.0	.0
9	5.9	36252.9	.0	16054.4	.0	.0	.0	.0	.0
10	3.1	18864.6	.0	8461.7	.0	.0	.0	.0	.0
11	14.5	92884.3	.0	42183.8	.0	.0	.0	.0	.0
12	.5	3578.6	.0	1638.0	.0	.0	.0	.0	.0
13	1.9	12939.1	.0	5953.0	.0	.0	.0	.0	.0
14	9.1	63351.1	.0	35625.4	.0	.0	.0	.0	.0
15	4.0	29941.7	.0	17819.3	.0	.0	.0	.0	.0
16	.7	5140.1	.0	3061.8	.0	.0	.0	.0	.0
17	3.2	24837.5	.0	14743.0	.0	.0	.0	.0	.0
18	19.5	164562.5	.0	82639.0	.0	.0	.0	.0	.0
19	16.7	149336.6	.0	70623.2	.0	.0	.0	.0	.0
20	3.3	29457.2	.0	13649.4	.0	.0	.0	.0	.0
21	6.2	54654.6	.0	31199.4	.0	.0	.0	.0	.0
22	5.5	45258.8	.0	25550.2	.0	.0	.0	.0	.0
23	4.3	34153.5	.0	18974.1	.0	.0	.0	.0	.0
24	19.2	146459.5	.0	64904.3	.0	.0	.0	.0	.0
25	18.7	151060.5	.0	65970.9	.0	.0	.0	.0	.0
26	20.0	177386.4	.0	70266.4	.0	.0	.0	.0	.0
27	17.7	155583.6	.0	63367.9	.0	.0	.0	.0	.0
28	.5	4090.1	.0	1587.9	.0	.0	.0	.0	.0
29	14.5	116479.3	.0	45132.3	.0	.0	.0	.0	.0
30	3.2	24012.9	.0	8880.4	.0	.0	.0	.0	.0
31	20.0	154053.6	.0	48812.0	.0	.0	.0	.0	.0
32	14.1	108115.5	.0	35757.7	.0	.0	.0	.0	.0
33	3.5	25658.1	.0	7734.2	.0	.0	.0	.0	.0
34	19.5	139462.4	.0	34734.1	.0	.0	.0	.0	.0
35	19.2	146072.3	.0	35389.5	.0	.0	.0	.0	.0
36	.5	4441.3	.0	1089.6	.0	.0	.0	.0	.0
37	15.0	118767.7	.0	28143.5	.0	.0	.0	.0	.0
38	3.9	30297.9	.0	6823.9	.0	.0	.0	.0	.0
39	14.9	121136.3	.0	28914.9	.0	.0	.0	.0	.0
40	3.9	34405.5	.0	8556.9	.0	.0	.0	.0	.0

Orange County Landfill Cells 10-12 Cross Section 3-A

Ten Most Critical. C:OCL3A.PLT By: KJH 9/18/2007 8:57am



#	FS
a	2.04
b	2.05
c	2.09
d	2.10
e	2.12
f	2.13
g	2.13
h	2.15
i	2.18
j	2.18

Label	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Waste	1	80	85	400	20	0	0	W1
ShlwFill	2	110	115	0	32	0	0	W1
UpprClay	3	110	115	500	15	0	0	W1
LowrSiSa	4	110	115	100	35	0	0	W1

Init Points:400.00 to 520.00
Term Limits:710.00 to 800.00

PCSTABL5M/SI FSmin = 2.04 X-Axis (ft)

Factors Of Safety Calculated By The Modified Bishop Method

** PCSTABL5M **

by
Purdue University

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date:	9/18/2007
Time of Run:	10:42am
Run By:	KJH
Input Data Filename:	C:OCL3A.IN
Output Filename:	C:OCL3A.OUT
Unit:	ENGLISH
Plotted Output Filename:	C:OCL3A.PLT

PROBLEM DESCRIPTION Orange County Landfill Cells 10-12
Cross Section 3-A

BOUNDARY COORDINATES

9 Top Boundaries
13 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	147.00	500.00	147.00	3
2	500.00	147.00	524.00	155.00	3
3	524.00	155.00	617.00	186.00	2
4	617.00	186.00	637.00	186.00	2
5	637.00	186.00	661.00	194.00	1
6	661.00	194.00	676.00	194.00	1
7	676.00	194.00	716.00	204.00	1
8	716.00	204.00	731.00	204.00	1
9	731.00	204.00	1794.00	204.00	1
10	637.00	186.00	640.00	185.00	2
11	640.00	185.00	1794.00	185.00	2
12	524.00	155.00	1794.00	155.00	3
13	.00	123.00	1794.00	123.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	80.0	85.0	400.0	20.0	.00	.0	1
2	110.0	115.0	.0	32.0	.00	.0	1
3	110.0	115.0	500.0	15.0	.00	.0	1
4	110.0	115.0	100.0	35.0	.00	.0	1

---

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	175.00
2	650.00	175.00
3	700.00	188.00
4	1794.00	188.00

BOUNDARY LOAD(S)

1 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	716.00	731.00	300.0	.0

NOTE - Intensity Is Specified As A Uniformly Distributed Force Acting On A Horizontally Projected Surface.

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

200 Trial Surfaces Have Been Generated.

20 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 400.00 ft.

and X = 520.00 ft.

Each Surface Terminates Between X = 710.00 ft.
and X = 800.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = .00 ft.

8.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure Surface Specified By 35 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	506.67	149.22
2	513.80	145.60
3	521.08	142.29
4	528.50	139.29
5	536.04	136.61
6	543.68	134.25
7	551.42	132.22
8	559.24	130.52
9	567.12	129.16
10	575.05	128.14
11	583.03	127.45
12	591.02	127.11
13	599.02	127.11
14	607.01	127.44
15	614.98	128.12
16	622.92	129.14
17	630.80	130.50
18	638.62	132.19
19	646.36	134.21
20	654.01	136.56
21	661.55	139.24
22	668.97	142.23
23	676.25	145.54
24	683.39	149.15
25	690.36	153.07
26	697.16	157.28
27	703.78	161.78

28	710.20	166.55
29	716.41	171.60
30	722.40	176.90
31	728.15	182.46
32	733.67	188.26
33	738.93	194.28
34	743.93	200.53
35	746.47	204.00

Circle Center At X = 595.1 ; Y = 314.6 and Radius, 187.5

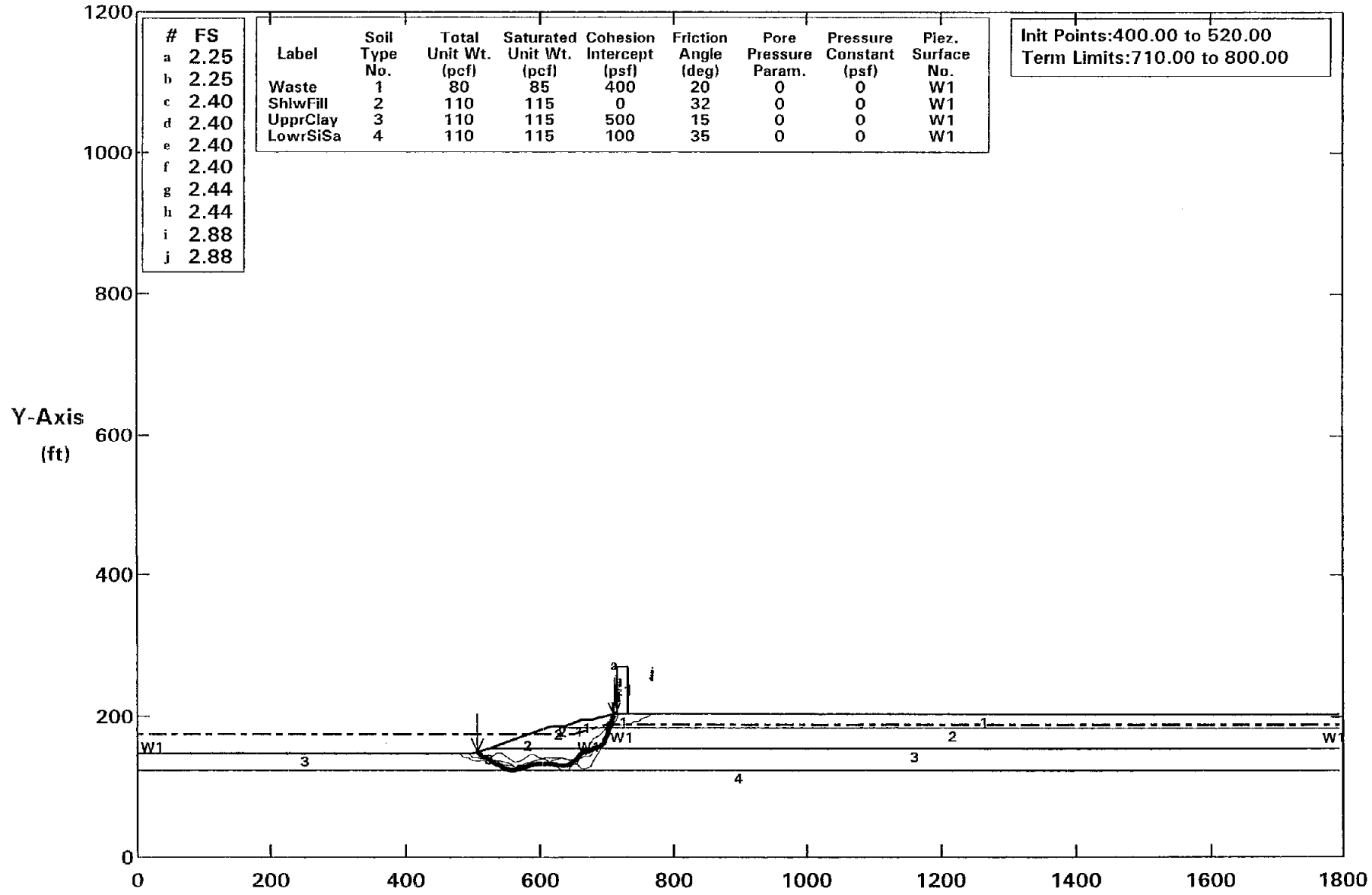
*** 2.040 ***

Individual data on the 48 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	7.1	2460.7	11537.2	13772.0	.0	.0	.0	.0	.0
2	7.3	7427.0	10625.9	15503.0	.0	.0	.0	.0	.0
3	2.9	4300.4	3931.7	6540.7	.0	.0	.0	.0	.0
4	4.5	8045.5	5695.9	10538.1	.0	.0	.0	.0	.0
5	7.5	17170.2	8549.3	18496.8	.0	.0	.0	.0	.0
6	7.6	21854.2	7398.8	19754.3	.0	.0	.0	.0	.0
7	7.7	26354.8	6184.4	20848.9	.0	.0	.0	.0	.0
8	7.8	30631.5	4914.6	21778.9	.0	.0	.0	.0	.0
9	7.9	34646.0	3598.7	22542.3	.0	.0	.0	.0	.0
10	7.9	38363.6	2246.2	23137.8	.0	.0	.0	.0	.0
11	8.0	41753.3	866.8	23564.5	.0	.0	.0	.0	.0
12	8.0	44746.6	.0	23821.5	.0	.0	.0	.0	.0
13	8.0	47293.3	.0	23908.1	.0	.0	.0	.0	.0
14	8.0	49440.6	.0	23824.5	.0	.0	.0	.0	.0
15	8.0	51173.0	.0	23570.6	.0	.0	.0	.0	.0
16	2.0	13217.1	.0	5935.5	.0	.0	.0	.0	.0
17	5.9	38621.4	.0	17211.6	.0	.0	.0	.0	.0
18	7.9	50505.6	.0	22554.5	.0	.0	.0	.0	.0
19	6.2	38748.7	.0	17347.3	.0	.0	.0	.0	.0
20	1.6	9992.6	.0	4446.8	.0	.0	.0	.0	.0
21	1.4	8486.8	.0	3793.6	.0	.0	.0	.0	.0
22	6.4	38996.7	.0	17073.6	.0	.0	.0	.0	.0
23	3.6	22218.7	.0	9559.0	.0	.0	.0	.0	.0
24	4.0	24313.9	.0	10025.0	.0	.0	.0	.0	.0
25	7.0	42014.2	.0	17552.6	.0	.0	.0	.0	.0
26	.5	3253.4	.0	1359.4	.0	.0	.0	.0	.0
27	7.4	42837.7	.0	18481.7	.0	.0	.0	.0	.0
28	7.0	38186.5	.0	17282.1	.0	.0	.0	.0	.0
29	.2	1306.5	.0	600.2	.0	.0	.0	.0	.0
30	7.1	36464.0	.0	17115.1	.0	.0	.0	.0	.0
31	5.1	24711.7	.0	11876.0	.0	.0	.0	.0	.0
32	1.9	8960.3	.0	4305.4	.0	.0	.0	.0	.0
33	3.1	14328.7	.0	7055.3	.0	.0	.0	.0	.0
34	3.7	16327.7	.0	8027.3	.0	.0	.0	.0	.0

Orange County Landfill Cells 10-12 Cross Section 3-A

Ten Most Critical. C:OCL3A.PLT By: KJH 9/18/2007 9:02am



#	FS
a	2.25
b	2.25
c	2.40
d	2.40
e	2.40
f	2.40
g	2.44
h	2.44
i	2.88
j	2.88

Label	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Plez. Surface No.
Waste	1	80	85	400	20	0	0	W1
ShlwFill	2	110	115	0	32	0	0	W1
UpprClay	3	110	115	500	15	0	0	W1
LowrSiSa	4	110	115	100	35	0	0	W1

Init Points:400.00 to 520.00
Term Limits:710.00 to 800.00

PCSTABL5M/SI FSmin = 2.25 X-Axis (ft)

Factors Of Safety Calculated By The Modified Janbu Method

** PCSTABL5M **

by
Purdue University

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date:	9/18/2007
Time of Run:	10:42am
Run By:	KJH
Input Data Filename:	C:OCL3A.IN
Output Filename:	C:OCL3A.OUT
Unit:	ENGLISH
Plotted Output Filename:	C:OCL3A.PLT

PROBLEM DESCRIPTION Orange County Landfill Cells 10-12
Cross Section 3-A

BOUNDARY COORDINATES

9 Top Boundaries
13 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	147.00	500.00	147.00	3
2	500.00	147.00	524.00	155.00	3
3	524.00	155.00	617.00	186.00	2
4	617.00	186.00	637.00	186.00	2
5	637.00	186.00	661.00	194.00	1
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7	676.00	194.00	716.00	204.00	1
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9	731.00	204.00	1794.00	204.00	1
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11	640.00	185.00	1794.00	185.00	2
12	524.00	155.00	1794.00	155.00	3
13	.00	123.00	1794.00	123.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	80.0	85.0	400.0	20.0	.00	.0	1
2	110.0	115.0	.0	32.0	.00	.0	1
3	110.0	115.0	500.0	15.0	.00	.0	1
4	110.0	115.0	100.0	35.0	.00	.0	1

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1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	175.00
2	650.00	175.00
3	700.00	188.00
4	1794.00	188.00

BOUNDARY LOAD(S)

1 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	716.00	731.00	300.0	.0

NOTE - Intensity Is Specified As A Uniformly Distributed Force Acting On A Horizontally Projected Surface.

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Irregular Surfaces, Has Been Specified.

200 Trial Surfaces Have Been Generated.

20 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 400.00 ft.

and X = 520.00 ft.

Each Surface Terminates Between X = 710.00 ft.
and X = 800.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = .00 ft.

8.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Janbu Method * *

Failure Surface Specified By 33 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	506.67	149.22
2	512.92	144.23
3	520.59	141.94
4	526.59	136.66
5	533.34	132.36
6	541.01	130.08
7	547.81	125.88
8	555.22	122.86
9	563.11	124.22
10	570.54	127.18
11	578.51	127.93
12	586.25	129.92
13	594.02	131.84
14	601.94	132.97
15	609.93	132.64
16	617.82	131.28
17	625.53	129.17
18	633.53	128.95
19	641.53	129.00
20	647.84	133.91
21	654.50	138.35
22	658.54	145.26
23	665.43	149.32
24	673.40	150.06
25	680.34	154.03
26	687.55	157.50
27	694.30	161.80

28	697.17	169.26
29	702.74	175.00
30	702.79	183.00
31	705.32	190.59
32	709.69	197.29
33	710.38	202.60

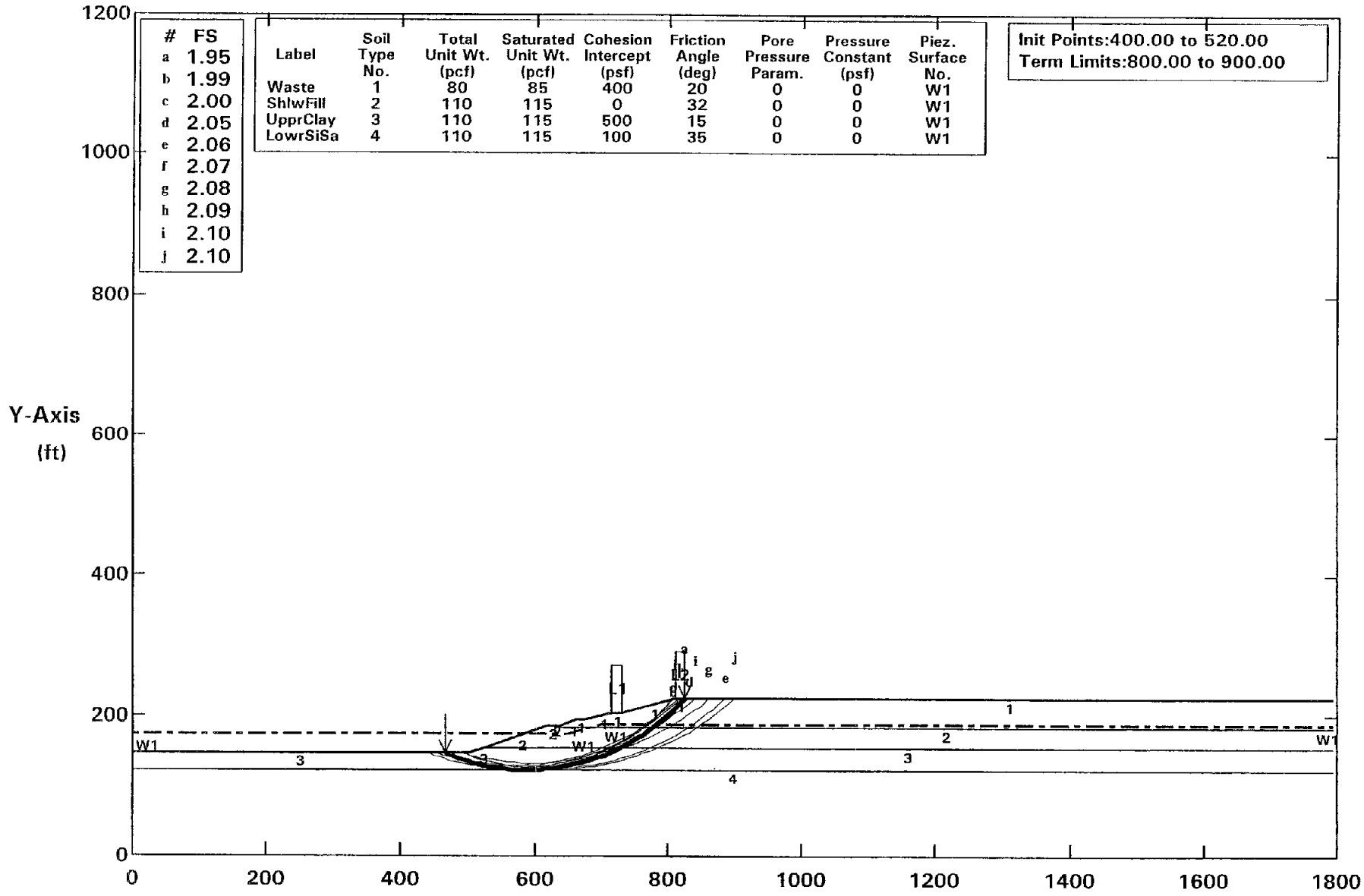
*** 2.252 ***

Individual data on the 46 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	6.3	2543.4	10171.2	14114.1	.0	.0	.0	.0	.0
2	7.7	8372.5	11303.5	15930.7	.0	.0	.0	.0	.0
3	3.4	5493.3	4620.1	9806.5	.0	.0	.0	.0	.0
4	2.6	5256.1	3336.6	8013.6	.0	.0	.0	.0	.0
5	6.7	17442.3	7994.4	20211.3	.0	.0	.0	.0	.0
6	7.7	24837.0	7871.5	21853.8	.0	.0	.0	.0	.0
7	6.8	26478.1	5908.4	23473.0	.0	.0	.0	.0	.0
8	7.1	32250.1	5059.8	24076.3	.0	.0	.0	.0	.0
9	.3	1666.8	216.8	1198.6	.0	.0	.0	.0	.0
10	.8	3952.5	501.8	2659.4	.0	.0	.0	.0	.0
11	7.1	35196.6	3790.8	23029.2	.0	.0	.0	.0	.0
12	7.4	37251.3	2799.3	24611.2	.0	.0	.0	.0	.0
13	8.0	40567.9	1654.9	23686.4	.0	.0	.0	.0	.0
14	7.7	40577.7	275.2	23002.6	.0	.0	.0	.0	.0
15	7.8	41142.8	.0	22024.8	.0	.0	.0	.0	.0
16	7.9	42858.4	.0	21263.3	.0	.0	.0	.0	.0
17	8.0	45217.6	.0	21064.5	.0	.0	.0	.0	.0
18	7.1	42557.5	.0	19229.2	.0	.0	.0	.0	.0
19	.8	5085.6	.0	2256.4	.0	.0	.0	.0	.0
20	7.7	49075.3	.0	22351.3	.0	.0	.0	.0	.0
21	8.0	51923.6	.0	22932.5	.0	.0	.0	.0	.0
22	3.5	22565.9	.0	9966.8	.0	.0	.0	.0	.0
23	3.0	19581.6	.0	8615.0	.0	.0	.0	.0	.0
24	1.5	10057.5	.0	4394.0	.0	.0	.0	.0	.0
25	6.3	40362.9	.0	21737.5	.0	.0	.0	.0	.0
26	2.2	13235.3	.0	6528.6	.0	.0	.0	.0	.0
27	4.5	26854.2	.0	12657.4	.0	.0	.0	.0	.0
28	4.0	22295.8	.0	16864.6	.0	.0	.0	.0	.0
29	2.5	12641.8	.0	5450.2	.0	.0	.0	.0	.0
30	4.4	21871.8	.0	9451.7	.0	.0	.0	.0	.0
31	8.0	37841.8	.0	14674.4	.0	.0	.0	.0	.0
32	2.6	12053.9	.0	5545.3	.0	.0	.0	.0	.0
33	4.3	19333.5	.0	8927.5	.0	.0	.0	.0	.0
34	2.0	8716.1	.0	3875.4	.0	.0	.0	.0	.0
35	5.2	21781.9	.0	9690.2	.0	.0	.0	.0	.0
36	.9	3709.5	.0	1762.6	.0	.0	.0	.0	.0
37	5.8	22832.9	.0	10803.0	.0	.0	.0	.0	.0
38	2.9	9631.2	.0	10326.1	.0	.0	.0	.0	.0

Orange County Landfill Cells 10-12 Cross Section 3-B

Ten Most Critical. C:OCL3B.PLT By: KJH 9/18/2007 9:03am



#	FS
a	1.95
b	1.99
c	2.00
d	2.05
e	2.06
f	2.07
g	2.08
h	2.09
i	2.10
j	2.10

Label	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Waste	1	80	85	400	20	0	0	W1
ShlwFill	2	110	115	0	32	0	0	W1
UpprClay	3	110	115	500	15	0	0	W1
LowrSiSa	4	110	115	100	35	0	0	W1

Init Points:400.00 to 520.00
Term Limits:800.00 to 900.00

PCSTABL5M/SI FSmin = 1.95 X-Axis (ft)

Factors Of Safety Calculated By The Modified Bishop Method

** PCSTABL5M **

by
Purdue University

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date:	9/18/2007
Time of Run:	10:43am
Run By:	KJH
Input Data Filename:	C:OCL3B.IN
Output Filename:	C:OCL3B.OUT
Unit:	ENGLISH
Plotted Output Filename:	C:OCL3B.PLT

PROBLEM DESCRIPTION Orange County Landfill Cells 10-12
Cross Section 3-B

BOUNDARY COORDINATES

11 Top Boundaries
15 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	147.00	500.00	147.00	3
2	500.00	147.00	524.00	155.00	3
3	524.00	155.00	617.00	186.00	2
4	617.00	186.00	637.00	186.00	2
5	637.00	186.00	661.00	194.00	1
6	661.00	194.00	676.00	194.00	1
7	676.00	194.00	716.00	204.00	1
8	716.00	204.00	731.00	204.00	1
9	731.00	204.00	811.00	224.00	1
10	811.00	224.00	826.00	224.00	1
11	826.00	224.00	1794.00	224.00	1
12	637.00	186.00	640.00	185.00	2
13	640.00	185.00	1794.00	185.00	2
14	524.00	155.00	1794.00	155.00	3
15	.00	123.00	1794.00	123.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	80.0	85.0	400.0	20.0	.00	.0	1
2	110.0	115.0	.0	32.0	.00	.0	1
3	110.0	115.0	500.0	15.0	.00	.0	1
4	110.0	115.0	100.0	35.0	.00	.0	1

---

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	175.00
2	650.00	175.00
3	700.00	188.00
4	1794.00	188.00

BOUNDARY LOAD(S)

2 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	716.00	731.00	300.0	.0
2	811.00	826.00	300.0	.0

NOTE - Intensity Is Specified As A Uniformly Distributed Force Acting On A Horizontally Projected Surface.

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

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and X = 520.00 ft.

Each Surface Terminates Between X = 800.00 ft.
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Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

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Failure Surface Specified By 37 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	466.67	147.00
2	476.94	143.07
3	487.34	139.50
4	497.86	136.27
5	508.48	133.40
6	519.19	130.88
7	529.97	128.73
8	540.83	126.94
9	551.74	125.51
10	562.68	124.46
11	573.66	123.77
12	584.66	123.44
13	595.66	123.49
14	606.65	123.91
15	617.62	124.70
16	628.56	125.85
17	639.46	127.37
18	650.29	129.26
19	661.06	131.51
20	671.75	134.12
21	682.34	137.08
22	692.83	140.40
23	703.20	144.07
24	713.44	148.09

25	723.54	152.45
26	733.48	157.14
27	743.27	162.17
28	752.88	167.52
29	762.30	173.19
30	771.53	179.18
31	780.56	185.47
32	789.36	192.06
33	797.95	198.94
34	806.29	206.11
35	814.39	213.55
36	822.24	221.26
37	824.84	224.00

Circle Center At X = 588.7 ; Y = 451.0 and Radius, 327.6

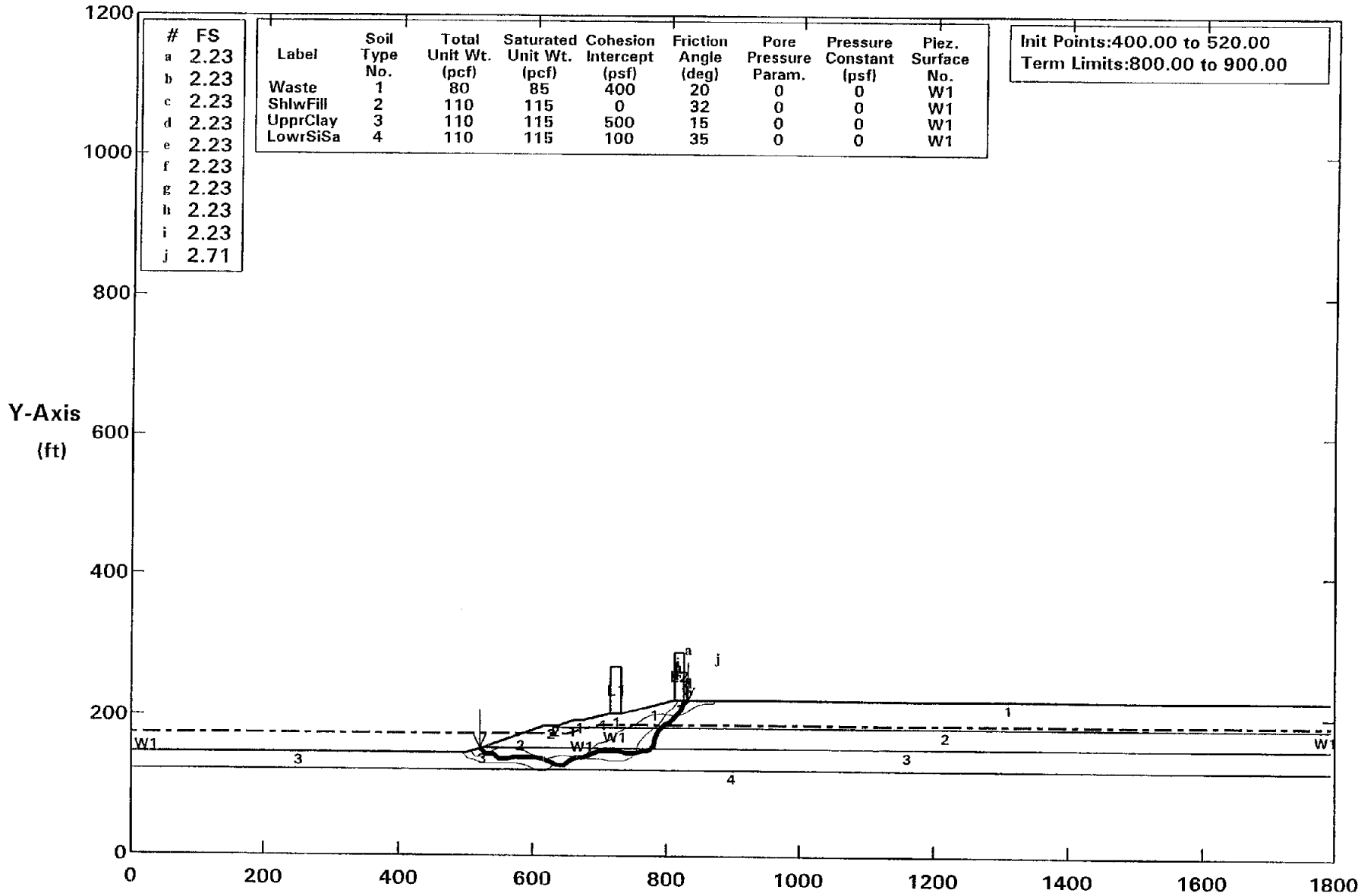
*** 1.945 ***

Individual data on the 52 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	10.3	2319.5	17953.6	20566.5	.0	.0	.0	.0	.0
2	10.4	6836.2	18173.7	23142.0	.0	.0	.0	.0	.0
3	10.5	11026.6	18373.4	25477.8	.0	.0	.0	.0	.0
4	2.1	2711.8	3738.4	5397.1	.0	.0	.0	.0	.0
5	8.5	13524.3	14827.2	22174.1	.0	.0	.0	.0	.0
6	10.7	23980.5	16474.6	29420.1	.0	.0	.0	.0	.0
7	4.8	13170.3	6584.9	13657.5	.0	.0	.0	.0	.0
8	6.0	18325.5	7468.3	17364.6	.0	.0	.0	.0	.0
9	10.9	38651.7	11564.6	32375.5	.0	.0	.0	.0	.0
10	10.9	45409.6	9020.2	33478.9	.0	.0	.0	.0	.0
11	10.9	51732.8	6431.2	34331.0	.0	.0	.0	.0	.0
12	11.0	57588.2	3809.5	34930.6	.0	.0	.0	.0	.0
13	11.0	62946.8	1166.7	35277.3	.0	.0	.0	.0	.0
14	11.0	67669.4	.0	35370.7	.0	.0	.0	.0	.0
15	11.0	71758.4	.0	35210.7	.0	.0	.0	.0	.0
16	10.4	70926.9	.0	32839.9	.0	.0	.0	.0	.0
17	.6	4350.7	.0	1957.5	.0	.0	.0	.0	.0
18	10.9	75791.0	.0	34131.1	.0	.0	.0	.0	.0
19	8.4	57336.0	.0	25818.4	.0	.0	.0	.0	.0
20	2.5	16517.4	.0	7394.2	.0	.0	.0	.0	.0
21	.5	3664.1	.0	1641.4	.0	.0	.0	.0	.0
22	10.0	67593.9	.0	29554.3	.0	.0	.0	.0	.0
23	.3	1984.5	.0	821.5	.0	.0	.0	.0	.0
24	10.7	72906.0	.0	30463.7	.0	.0	.0	.0	.0
25	.1	410.6	.0	172.1	.0	.0	.0	.0	.0
26	10.7	71441.6	.0	30875.0	.0	.0	.0	.0	.0
27	4.3	27550.3	.0	12410.2	.0	.0	.0	.0	.0
28	6.3	40418.4	.0	18450.7	.0	.0	.0	.0	.0
29	6.1	38546.8	.0	17909.7	.0	.0	.0	.0	.0

Orange County Landfill Cells 10-12 Cross Section 3-B

Ten Most Critical. C:OCL3B.PLT By: KJH 9/18/2007 9:04am



PCSTABL5M/SI FSmin = 2.23 X-Axis (ft)

Factors Of Safety Calculated By The Modified Janbu Method

** PCSTABL5M **

by
Purdue University

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date:	9/18/2007
Time of Run:	10:44am
Run By:	KJH
Input Data Filename:	C:OCL3B.IN
Output Filename:	C:OCL3B.OUT
Unit:	ENGLISH
Plotted Output Filename:	C:OCL3B.PLT

PROBLEM DESCRIPTION Orange County Landfill Cells 10-12
Cross Section 3-B

BOUNDARY COORDINATES

11 Top Boundaries
15 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	147.00	500.00	147.00	3
2	500.00	147.00	524.00	155.00	3
3	524.00	155.00	617.00	186.00	2
4	617.00	186.00	637.00	186.00	2
5	637.00	186.00	661.00	194.00	1
6	661.00	194.00	676.00	194.00	1
7	676.00	194.00	716.00	204.00	1
8	716.00	204.00	731.00	204.00	1
9	731.00	204.00	811.00	224.00	1
10	811.00	224.00	826.00	224.00	1
11	826.00	224.00	1794.00	224.00	1
12	637.00	186.00	640.00	185.00	2
13	640.00	185.00	1794.00	185.00	2
14	524.00	155.00	1794.00	155.00	3
15	.00	123.00	1794.00	123.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	80.0	85.0	400.0	20.0	.00	.0	1
2	110.0	115.0	.0	32.0	.00	.0	1
3	110.0	115.0	500.0	15.0	.00	.0	1
4	110.0	115.0	100.0	35.0	.00	.0	1

---

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	175.00
2	650.00	175.00
3	700.00	188.00
4	1794.00	188.00

BOUNDARY LOAD(S)

2 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	716.00	731.00	300.0	.0
2	811.00	826.00	300.0	.0

NOTE - Intensity Is Specified As A Uniformly Distributed Force Acting On A Horizontally Projected Surface.

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Irregular Surfaces, Has Been Specified.

200 Trial Surfaces Have Been Generated.

20 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 400.00 ft.
and X = 520.00 ft.

Each Surface Terminates Between X = 800.00 ft.
and X = 900.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = .00 ft.

11.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Janbu Method * *

Failure Surface Specified By 34 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	520.00	153.67
2	528.58	146.78
3	539.41	144.89
4	549.26	139.98
5	560.26	139.98
6	571.26	140.19
7	582.26	140.22
8	593.21	141.19
9	604.20	140.74
10	615.04	138.87
11	625.22	134.69
12	635.13	129.92
13	646.12	129.50
14	654.45	136.69
15	664.51	141.13
16	675.45	142.28
17	685.73	146.19
18	696.31	149.22
19	707.24	150.48
20	718.23	150.04
21	729.23	150.01
22	740.13	148.55
23	751.13	148.40
24	762.10	149.24

25	772.63	152.42
26	781.05	159.49
27	782.94	170.33
28	787.68	180.26
29	795.21	188.27
30	804.69	193.85
31	813.07	200.99
32	819.91	209.60
33	825.92	218.81
34	831.82	224.00

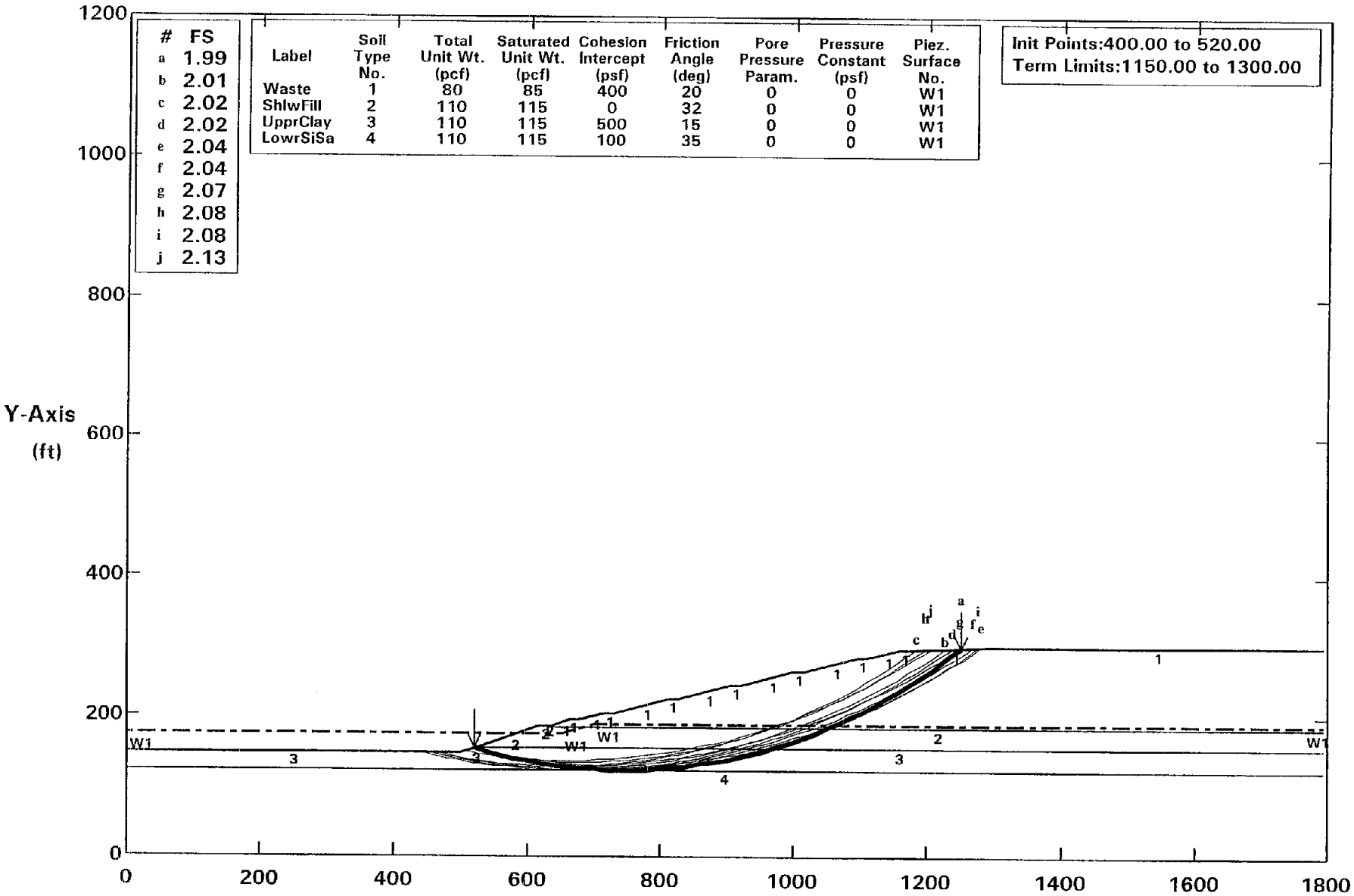
*** 2.225 ***

Individual data on the 49 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	4.0	1044.9	5436.7	7341.2	.0	.0	.0	.0	.0
2	4.6	3761.8	5793.1	9665.3	.0	.0	.0	.0	.0
3	10.8	15573.2	11880.3	20018.5	.0	.0	.0	.0	.0
4	9.8	21896.8	8560.3	22352.1	.0	.0	.0	.0	.0
5	11.0	31972.0	7052.4	24038.8	.0	.0	.0	.0	.0
6	11.0	36470.5	4398.9	23966.9	.0	.0	.0	.0	.0
7	11.0	40962.6	1747.0	23884.1	.0	.0	.0	.0	.0
8	11.0	44713.8	.0	23540.6	.0	.0	.0	.0	.0
9	11.0	48942.7	.0	23359.7	.0	.0	.0	.0	.0
10	10.8	54053.0	.0	24155.1	.0	.0	.0	.0	.0
11	2.0	10514.7	.0	4822.1	.0	.0	.0	.0	.0
12	8.2	46431.2	.0	21411.9	.0	.0	.0	.0	.0
13	9.9	60677.3	.0	29306.2	.0	.0	.0	.0	.0
14	1.9	11962.7	.0	5267.3	.0	.0	.0	.0	.0
15	3.0	19301.1	.0	8468.7	.0	.0	.0	.0	.0
16	6.1	40164.0	.0	17349.0	.0	.0	.0	.0	.0
17	3.9	25261.7	.0	14009.7	.0	.0	.0	.0	.0
18	4.4	27615.9	.0	14490.1	.0	.0	.0	.0	.0
19	6.6	39153.5	.0	16818.6	.0	.0	.0	.0	.0
20	3.5	20428.1	.0	8806.9	.0	.0	.0	.0	.0
21	10.9	62021.3	.0	25585.2	.0	.0	.0	.0	.0
22	.5	3060.0	.0	1389.3	.0	.0	.0	.0	.0
23	9.7	53312.4	.0	24347.5	.0	.0	.0	.0	.0
24	2.7	14604.9	.0	6527.7	.0	.0	.0	.0	.0
25	7.8	41520.5	.0	18704.7	.0	.0	.0	.0	.0
26	3.7	19416.5	.0	8552.5	.0	.0	.0	.0	.0
27	7.2	38386.0	.0	17243.5	.0	.0	.0	.0	.0
28	8.8	47655.2	.0	20632.8	.0	.0	.0	.0	.0
29	2.2	12359.1	.0	5272.8	.0	.0	.0	.0	668.0
30	11.0	61133.4	.0	26068.9	.0	.0	.0	.0	3300.0
31	1.8	9883.5	.0	4255.1	.0	.0	.0	.0	532.0
32	9.1	52476.8	.0	22323.0	.0	.0	.0	.0	.0
33	11.0	66302.5	.0	27130.8	.0	.0	.0	.0	.0
34	11.0	68085.6	.0	26893.6	.0	.0	.0	.0	.0

Orange County Landfill Cells 10-12 Cross Section 3-C

Ten Most Critical. C:OCL3C.PLT By: KJH 9/18/2007 9:05am



#	FS
a	1.99
b	2.01
c	2.02
d	2.02
e	2.04
f	2.04
g	2.07
h	2.08
i	2.08
j	2.13

Label	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Waste	1	80	85	400	20	0	0	W1
ShlwFill	2	110	115	0	32	0	0	W1
UpprClay	3	110	115	500	15	0	0	W1
LowrSiSa	4	110	115	100	35	0	0	W1

Init Points:400.00 to 520.00
Term Limits:1150.00 to 1300.00

PCSTABL5M/SI FSmin = 1.99 X-Axis (ft)

Factors Of Safety Calculated By The Modified Bishop Method

** PCSTABL5M **

by
Purdue University

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date:	9/18/2007
Time of Run:	10:44am
Run By:	KJH
Input Data Filename:	C:OCL3C.IN
Output Filename:	C:OCL3C.OUT
Unit:	ENGLISH
Plotted Output Filename:	C:OCL3C.PLT

PROBLEM DESCRIPTION Orange County Landfill Cells 10-12
Cross Section 3-C

BOUNDARY COORDINATES

20 Top Boundaries
24 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	147.00	500.00	147.00	3
2	500.00	147.00	524.00	155.00	3
3	524.00	155.00	617.00	186.00	2
4	617.00	186.00	637.00	186.00	2
5	637.00	186.00	661.00	194.00	1
6	661.00	194.00	676.00	194.00	1
7	676.00	194.00	716.00	204.00	1
8	716.00	204.00	731.00	204.00	1
9	731.00	204.00	811.00	224.00	1
10	811.00	224.00	826.00	224.00	1
11	826.00	224.00	906.00	244.00	1
12	906.00	244.00	921.00	244.00	1
13	921.00	244.00	1001.00	264.00	1
14	1001.00	264.00	1016.00	264.00	1
15	1016.00	264.00	1096.00	284.00	1
16	1096.00	284.00	1111.00	284.00	1
17	1111.00	284.00	1159.00	296.00	1
18	1159.00	296.00	1174.00	296.00	1
19	1174.00	296.00	1294.00	300.50	1
20	1294.00	300.50	1794.00	300.50	1
21	637.00	186.00	640.00	185.00	2

22	640.00	185.00	1794.00	185.00	2
23	524.00	155.00	1794.00	155.00	3
24	.00	123.00	1794.00	123.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	80.0	85.0	400.0	20.0	.00	.0	1
2	110.0	115.0	.0	32.0	.00	.0	1
3	110.0	115.0	500.0	15.0	.00	.0	1
4	110.0	115.0	100.0	35.0	.00	.0	1

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	175.00
2	650.00	175.00
3	700.00	188.00
4	1794.00	188.00

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

200 Trial Surfaces Have Been Generated.

20 Surfaces Initiate From Each Of 10 Points Equally Spaced Along The Ground Surface Between X = 400.00 ft.
and X = 520.00 ft.

Each Surface Terminates Between X =1150.00 ft.
and X =1300.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = .00 ft.

20.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure Surface Specified By 40 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	520.00	153.67
2	539.33	148.52
3	558.77	143.84
4	578.33	139.64
5	597.98	135.91
6	617.71	132.66
7	637.52	129.89
8	657.39	127.60
9	677.30	125.80
10	697.26	124.48
11	717.24	123.64
12	737.24	123.28
13	757.24	123.42
14	777.23	124.04
15	797.20	125.14
16	817.14	126.72
17	837.03	128.79
18	856.86	131.35
19	876.63	134.38
20	896.32	137.89
21	915.92	141.88
22	935.42	146.34
23	954.80	151.27
24	974.06	156.68
25	993.18	162.54
26	1012.15	168.88
27	1030.96	175.66
28	1049.60	182.91
29	1068.06	190.60
30	1086.33	198.74
31	1104.40	207.32
32	1122.25	216.34
33	1139.88	225.78

34	1157.27	235.65
35	1174.42	245.94
36	1191.32	256.65
37	1207.95	267.76
38	1224.31	279.27
39	1240.38	291.17
40	1250.25	298.86

Circle Center At X = 741.8 ; Y = 947.3 and Radius, 824.0

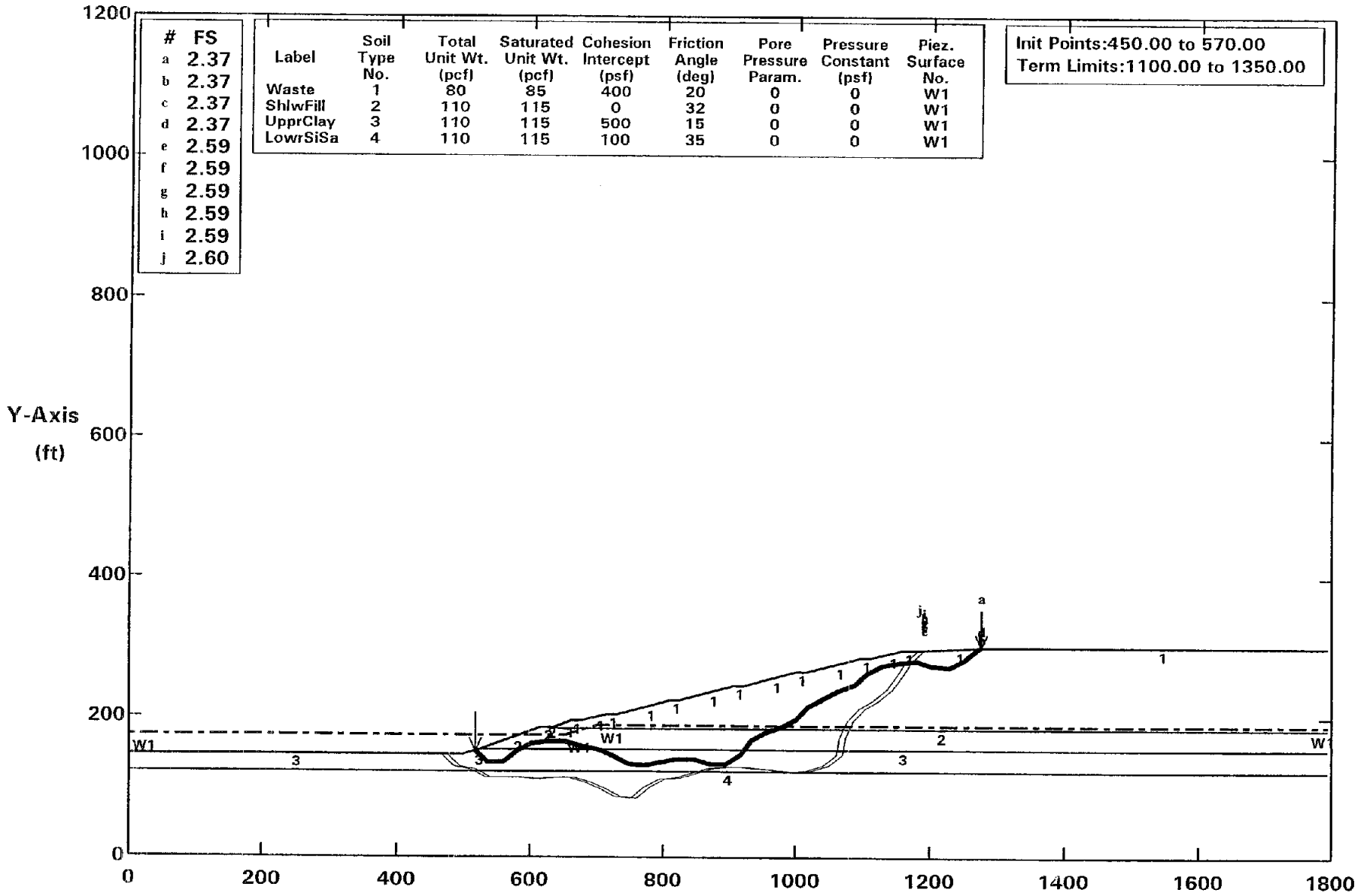
*** 1.991 ***

Individual data on the 63 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	4.0	551.5	5436.7	5647.1	.0	.0	.0	.0	.0
2	15.3	12327.0	17587.5	24188.3	.0	.0	.0	.0	.0
3	19.4	38392.2	14900.9	35965.2	.0	.0	.0	.0	.0
4	19.6	63204.2	6623.9	41506.1	.0	.0	.0	.0	.0
5	19.6	87104.7	.0	46455.1	.0	.0	.0	.0	.0
6	19.0	105328.7	.0	48912.0	.0	.0	.0	.0	.0
7	.7	4308.3	.0	1897.1	.0	.0	.0	.0	.0
8	19.3	120255.4	.0	53098.1	.0	.0	.0	.0	.0
9	.5	3306.1	.0	1467.6	.0	.0	.0	.0	.0
10	2.5	15999.7	.0	7058.1	.0	.0	.0	.0	.0
11	10.0	66798.3	.0	28874.7	.0	.0	.0	.0	.0
12	7.4	51874.9	.0	21531.0	.0	.0	.0	.0	.0
13	3.6	26188.9	.0	10954.5	.0	.0	.0	.0	.0
14	15.0	111031.5	.0	48429.4	.0	.0	.0	.0	.0
15	1.3	9790.8	.0	4435.1	.0	.0	.0	.0	.0
16	11.2	85826.3	.0	39272.0	.0	.0	.0	.0	.0
17	8.8	70211.0	.0	32701.7	.0	.0	.0	.0	.0
18	2.7	22312.1	.0	10477.5	.0	.0	.0	.0	.0
19	16.0	134193.9	.0	63928.7	.0	.0	.0	.0	.0
20	1.2	10669.8	.0	4991.7	.0	.0	.0	.0	.0
21	13.8	118393.6	.0	55366.6	.0	.0	.0	.0	.0
22	6.2	54208.0	.0	25177.8	.0	.0	.0	.0	.0
23	20.0	178984.0	.0	80681.7	.0	.0	.0	.0	.0
24	20.0	186034.3	.0	80213.6	.0	.0	.0	.0	.0
25	20.0	191844.6	.0	79140.1	.0	.0	.0	.0	.0
26	13.8	135499.4	.0	53833.1	.0	.0	.0	.0	.0
27	6.1	60528.2	.0	23628.8	.0	.0	.0	.0	.0
28	8.9	86724.1	.0	33819.6	.0	.0	.0	.0	.0
29	11.0	107801.3	.0	41360.5	.0	.0	.0	.0	.0
30	19.8	195803.1	.0	72296.1	.0	.0	.0	.0	.0
31	19.8	196615.4	.0	68811.2	.0	.0	.0	.0	.0
32	19.7	196186.9	.0	64728.1	.0	.0	.0	.0	.0
33	9.7	96214.3	.0	30271.8	.0	.0	.0	.0	.0
34	9.9	97330.5	.0	29776.9	.0	.0	.0	.0	.0
35	5.1	48892.2	.0	14805.1	.0	.0	.0	.0	.0

Orange County Landfill Cells 10-12 Cross Section 3-C

Ten Most Critical. W:6MISCE.PLT By: rfa 9/19/2007 10:57am



PCSTABL5M/SI FSmin = 2.37 X-Axis (ft)

Factors Of Safety Calculated By The Modified Janbu Method

** PCSTABL5M **

by
Purdue University

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date:	9/19/2007
Time of Run:	10:57am
Run By:	rfa
Input Data Filename:	W:6MISCE
Output Filename:	W:6MISCE.OUT
Unit:	ENGLISH
Plotted Output Filename:	W:6MISCE.PLT

PROBLEM DESCRIPTION Orange County Landfill Cells 10-12
Cross Section 3-C

BOUNDARY COORDINATES

20 Top Boundaries
24 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	147.00	500.00	147.00	3
2	500.00	147.00	524.00	155.00	3
3	524.00	155.00	617.00	186.00	2
4	617.00	186.00	637.00	186.00	2
5	637.00	186.00	661.00	194.00	1
6	661.00	194.00	676.00	194.00	1
7	676.00	194.00	716.00	204.00	1
8	716.00	204.00	731.00	204.00	1
9	731.00	204.00	811.00	224.00	1
10	811.00	224.00	826.00	224.00	1
11	826.00	224.00	906.00	244.00	1
12	906.00	244.00	921.00	244.00	1
13	921.00	244.00	1001.00	264.00	1
14	1001.00	264.00	1016.00	264.00	1
15	1016.00	264.00	1096.00	284.00	1
16	1096.00	284.00	1111.00	284.00	1
17	1111.00	284.00	1159.00	296.00	1
18	1159.00	296.00	1174.00	296.00	1
19	1174.00	296.00	1294.00	300.50	1
20	1294.00	300.50	1794.00	300.50	1
21	637.00	186.00	640.00	185.00	2

22	640.00	185.00	1794.00	185.00	2
23	524.00	155.00	1794.00	155.00	3
24	.00	123.00	1794.00	123.00	4

ISOTROPIC SOIL PARAMETERS

4 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	80.0	85.0	400.0	20.0	.00	.0	1
2	110.0	115.0	.0	32.0	.00	.0	1
3	110.0	115.0	500.0	15.0	.00	.0	1
4	110.0	115.0	100.0	35.0	.00	.0	1

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	175.00
2	650.00	175.00
3	700.00	188.00
4	1794.00	188.00

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Irregular Surfaces, Has Been Specified.

300 Trial Surfaces Have Been Generated.

20 Surfaces Initiate From Each Of 15 Points Equally Spaced Along The Ground Surface Between X = 450.00 ft.
and X = 570.00 ft.

Each Surface Terminates Between X =1100.00 ft.
and X =1350.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = .00 ft.

25.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Janbu Method * *

Failure Surface Specified By 35 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	518.57	153.19
2	536.69	135.97
3	561.69	135.94
4	580.48	152.43
5	603.27	162.71
6	628.07	165.87
7	653.06	165.21
8	677.18	158.62
9	701.94	155.22
10	724.83	145.16
11	747.78	135.24
12	772.46	131.27
13	796.79	137.01
14	821.22	142.34
15	846.18	140.87
16	870.33	134.41
17	895.32	135.05
18	916.15	148.88
19	932.87	167.46
20	954.22	180.47
21	978.40	186.81
22	1001.08	197.32
23	1018.82	214.94
24	1040.95	226.56
25	1063.82	236.68
26	1086.83	246.43
27	1106.34	262.07
28	1129.05	272.51
29	1153.59	277.30
30	1178.51	279.33
31	1203.01	274.39
32	1227.92	272.17
33	1250.30	283.30

34	1270.89	297.49
35	1275.97	299.82

*** 2.374 ***

Individual data on the 60 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	5.4	2175.3	7463.5	11398.2	.0	.0	.0	.0	.0
2	12.7	22062.6	14929.2	36060.0	.0	.0	.0	.0	.0
3	25.0	78904.1	19079.9	60914.9	.0	.0	.0	.0	.0
4	18.8	57276.4	5320.1	48071.1	.0	.0	.0	.0	.0
5	5.7	13790.4	84.2	8296.3	.0	.0	.0	.0	.0
6	17.1	38459.4	.0	18892.9	.0	.0	.0	.0	.0
7	13.7	31187.0	.0	9861.1	.0	.0	.0	.0	.0
8	11.1	25913.8	.0	6849.2	.0	.0	.0	.0	.0
9	8.9	20311.1	.0	5158.2	.0	.0	.0	.0	.0
10	3.0	6950.9	.0	1761.9	.0	.0	.0	.0	.0
11	10.0	24949.6	.0	5979.6	.0	.0	.0	.0	.0
12	3.1	8226.6	.0	1876.6	.0	.0	.0	.0	.0
13	7.9	23600.4	.0	6319.0	.0	.0	.0	.0	.0
14	15.0	51782.7	.0	17682.6	.0	.0	.0	.0	.0
15	1.2	4381.5	.0	1703.0	.0	.0	.0	.0	.0
16	11.3	44780.0	.0	17681.6	.0	.0	.0	.0	.0
17	11.5	50655.4	.0	21267.0	.0	.0	.0	.0	.0
18	1.9	9023.6	.0	3995.6	.0	.0	.0	.0	.0
19	.5	2367.0	.0	1130.0	.0	.0	.0	.0	.0
20	13.6	70367.5	.0	33239.2	.0	.0	.0	.0	.0
21	8.8	52031.6	.0	24614.2	.0	.0	.0	.0	.0
22	6.2	38695.1	.0	18531.9	.0	.0	.0	.0	.0
23	16.8	117578.1	.0	56035.7	.0	.0	.0	.0	.0
24	24.7	199136.9	.0	85397.1	.0	.0	.0	.0	.0
25	24.3	205774.7	.0	84019.7	.0	.0	.0	.0	.0
26	14.2	118382.7	.0	44858.5	.0	.0	.0	.0	.0
27	10.2	83476.4	.0	30528.3	.0	.0	.0	.0	.0
28	4.8	38521.7	.0	13687.7	.0	.0	.0	.0	.0
29	20.2	168327.2	.0	58685.9	.0	.0	.0	.0	.0
30	24.2	222828.2	.0	78558.2	.0	.0	.0	.0	.0
31	25.0	251226.5	.0	83098.6	.0	.0	.0	.0	.0
32	10.7	106432.7	.0	39526.4	.0	.0	.0	.0	.0
33	10.1	94109.9	.0	32288.9	.0	.0	.0	.0	.0
34	4.9	41647.1	.0	16495.0	.0	.0	.0	.0	.0
35	.7	5376.9	.0	2032.5	.0	.0	.0	.0	.0
36	11.2	85164.3	.0	28005.5	.0	.0	.0	.0	.0
37	21.3	137797.1	.0	21891.0	.0	.0	.0	.0	.0
38	17.3	100819.6	.0	5869.5	.0	.0	.0	.0	.0
39	6.9	39577.3	.0	932.9	.0	.0	.0	.0	.0
40	2.6	14673.7	.0	105.5	.0	.0	.0	.0	.0
41	20.0	110311.8	.0	.0	.0	.0	.0	.0	.0
42	.1	430.8	.0	.0	.0	.0	.0	.0	.0

MASSIVE FILL SETTLEMENT SUMMARY
ORANGE COUNTY LANDFILL SOUTHERN EXPANSION SITE CELLS 10-12

PROJECT NUMBER P2560G
September 18, 2007

Boring Number	Depth(ft)	MID Settlement	"2/3" Mid Settlement	Toe Toe Settlement	"2/3" Toe Settlement
GB-1	150	3.33	2.22	1.53	1.02
GB-2	150	2.03	1.35	1.09	0.72
GB-3	150	2.74	1.83	1.07	0.71
GB-4	150	3.00	2.00	1.15	0.77
GB-5	120	2.91	1.94	1.46	0.97
GB-6	120	2.88	1.92	1.40	0.93
GB-7	110	2.77	1.85	1.22	0.81
GB-8	100	2.51	1.67	1.08	0.72
GB-9	100	1.93	1.29	0.86	0.57
GB-10	100	2.52	1.68	1.53	1.02
GB-11	50	1.73	1.16	0.80	0.53
GB-12	55	2.64	1.76	1.27	0.84
GB-13	60	2.62	1.74	1.01	0.67
GB-14	60	2.43	1.62	1.07	0.71

MASSIVE FILL SETTLEMENT EVALUATION - Cell 10 South Perimeter Crest

PROJECT NUMBER: P2560G PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10

BORING NUMBER: GB-1 to 150'

Soil Unit Weight for Calculating Po 110.00 lbs/ cu ft
Delta P from Fill Load 13600.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity Index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	18.0	9.00	18.0	428.4	13600					36	76	250	0.1091	0.0000
18.0	28.0	23.00	10.0	1094.8	13600					18	23	78	0.1446	0.0000
28.0	33.0	30.50	5.0	1451.8	13600					4	4	35	0.1451	0.0000
33.0	55.0	44.00	22.0	2094.4	13600	4220.0	3.54	0.76	0.07	4	4		0.0000	2.2040
55.0	73.0	64.00	18.0	3046.4	13600					38	31	100	0.1328	0.0000
73.0	93.0	83.00	20.0	3950.8	13600					18	14	56	0.2313	0.0000
93.0	103.0	98.00	10.0	4664.8	13600					13	9	39	0.1520	0.0000
103.0	133.0	118.00	30.0	5616.8	13600					81	53	170	0.0943	0.0000
133.0	143.0	138.00	10.0	6568.8	13600					100	60	142	0.0343	0.0000
143.0	150.0	146.50	7.0	6973.4	13600					18	11	42	0.0783	0.0000
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!

Cell 16
Total Theoretical Settlement (ft)
3.33

Cell 17
2/3 Theoretical Settlement (ft)
2.22

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2/3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 10 South Perimeter Crest

PROJECT NUMBER: P2560G PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10

BORING NUMBER: GB-1 to 150'

Soil Unit Weight for Calculating Po 110.00 lbs/ cu ft
Delta P from Fill Load 4800.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity Index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	18.0	9.00	18.0	428.4	4800					36	76	250	0.0782	0.0000
18.0	28.0	23.00	10.0	1094.8	4800					18	23	78	0.0937	0.0000
28.0	33.0	30.50	5.0	1451.8	4800					4	4	35	0.0906	0.0000
33.0	55.0	44.00	22.0	2094.4	4800	4220.0	3.54	0.76	0.07	4	4		0.0000	0.8883
55.0	73.0	64.00	18.0	3046.4	4800					38	31	100	0.0740	0.0000
73.0	93.0	83.00	20.0	3950.8	4800					18	14	56	0.1233	0.0000
93.0	103.0	98.00	10.0	4664.8	4800					13	9	39	0.0788	0.0000
103.0	133.0	118.00	30.0	5616.8	4800					61	53	170	0.0473	0.0000
133.0	143.0	138.00	10.0	6568.8	4800					100	60	142	0.0168	0.0000
143.0	150.0	146.50	7.0	6973.4	4800					18	11	42	0.0379	0.0000
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!

Cell 16
Total Theoretical Settlement (ft)
1.53

Cell 17
2/3 Theoretical Settlement (ft)
1.02

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 10 East Perimeter

PROJECT NUMBER: P2560G PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10

BORING NUMBER: GB-2 to 150'

Soil Unit Weight for Calculating Po	110.00	lbs/ cu ft
Delta P from Fill Load	13600.00	lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	12.0	6.00	12.0	285.6	13600					31	87	180	0.1125	0.0000
12.0	28.0	20.00	16.0	952.0	13600					7	9	45	0.4211	0.0000
28.0	44.0	36.00	16.0	1713.6	13600					20	20	70	0.2174	0.0000
44.0	49.0	46.50	5.0	2213.4	13600	4000.0	3.54	0.76	0.07				0.0000	0.5195
49.0	83.0	66.00	34.0	3141.6	13600					58	47	143	0.1728	0.0000
83.0	107.0	95.00	24.0	4522.0	13600					10	7	40	0.3617	0.0000
107.0	123.0	115.00	16.0	5474.0	13600					60	40	126	0.0688	0.0000
123.0	148.0	135.50	25.0	6449.8	13600					87	48	150	0.0821	0.0000
148.0	150.0	149.00	2.0	7092.4	13600	14184.0	1.04	0.40	0.04	36	19		0.0000	0.0761
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!

Cell 16

Total Theoretical Settlement (ft)
2.03

Cell 17

2/3 Theoretical Settlement (ft)
1.35

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 10 East Perimeter

PROJECT NUMBER: P2560G   PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-2 to 150'

Soil Unit Weight for Calculating Po: 110.00 lbs/ cu ft
Delta P from Fill Load: 4800.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	12.0	6.00	12.0	285.6	4800					31	87	180	0.0834	0.0000
12.0	28.0	20.00	16.0	952.0	4800					7	9	45	0.2778	0.0000
28.0	44.0	36.00	16.0	1713.6	4800					20	20	70	0.1326	0.0000
44.0	49.0	46.50	5.0	2213.4	4800	4000.0	3.54	0.76	0.07				0.0000	0.2239
49.0	83.0	66.00	34.0	3141.6	4800					58	47	143	0.0958	0.0000
83.0	107.0	95.00	24.0	4522.0	4800					10	7	40	0.1885	0.0000
107.0	123.0	115.00	16.0	5474.0	4800					60	40	126	0.0347	0.0000
123.0	148.0	135.50	25.0	6449.8	4800					87	48	150	0.0403	0.0000
148.0	150.0	149.00	2.0	7092.4	4800	14184.0	1.04	0.40	0.04	35	19		0.0000	0.0088
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!

Cell 16 Total Theoretical Settlement (ft)	Cell 17 2/3 Theoretical Settlement (ft)
1.09	0.72

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 11 South Side - Crest

PROJECT NUMBER: P2560G   PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10

BORING NUMBER: GB-3 to 150'   Soil Unit Weight for Calculating Po 110.00 lbs/ cu ft
Delta P from Fill Load 9860.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	13.0	6.50	13.0	309.4	9860					11	27	90	0.2191	0.0000
13.0	18.0	15.50	5.0	737.8	9860					56	90	350	0.0165	0.0000
18.0	28.0	23.00	10.0	1094.8	9860					29	36	114	0.0877	0.0000
28.0	33.0	30.50	5.0	1451.8	9860	3904.0	3.54	0.76	0.07	11	11		0.0000	0.4198
33.0	38.0	35.50	5.0	1689.8	9860					12	12	50	0.0835	0.0000
38.0	55.0	46.50	17.0	2213.4	9860	4426.0	3.54	0.76	0.07	5	5		0.0000	1.3191
55.0	73.0	64.00	18.0	3046.4	9860					66	54	170	0.0664	0.0000
73.0	93.0	83.00	20.0	3950.8	9860					21	16	70	0.1553	0.0000
93.0	108.0	100.50	15.0	4783.8	9860					9	6	32	0.2278	0.0000
108.0	133.0	120.50	25.0	5735.8	9860					51	33	106	0.1025	0.0000
133.0	150.0	141.50	17.0	6735.4	9860					80	48	150	0.0444	0.0000
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!

Cell 16
Total Theoretical Settlement (ft)
2.74

Cell 17
2/3 Theoretical Settlement (ft)
1.83

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avacrage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

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14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 11 South Side - Crest

PROJECT NUMBER: P2560G   PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10

BORING NUMBER: GB-3 to 150'   Soil Unit Weight for Calculating Po   110.00 lbs/ cu ft
Delta P from Fill Load   3460.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	13.0	6.50	13.0	309.4	3460					11	27	90	0.1568	0.0000
13.0	18.0	15.50	5.0	737.8	3460					56	90	350	0.0106	0.0000
18.0	28.0	23.00	10.0	1094.8	3460					29	36	114	0.0543	0.0000
28.0	33.0	30.50	5.0	1451.8	3460	3904.0	3.54	0.76	0.07	11	11		0.0000	0.1166
33.0	38.0	35.50	5.0	1689.8	3460					12	12	50	0.0484	0.0000
38.0	55.0	46.50	17.0	2213.4	3460	4426.0	3.54	0.76	0.07	5	5		0.0000	0.3858
55.0	73.0	64.00	18.0	3046.4	3460					66	54	170	0.0349	0.0000
73.0	93.0	83.00	20.0	3950.8	3460					21	16	70	0.0781	0.0000
93.0	108.0	100.50	15.0	4783.8	3460					9	6	32	0.1108	0.0000
108.0	133.0	120.50	25.0	5735.8	3460					51	33	106	0.0483	0.0000
133.0	150.0	141.50	17.0	6735.4	3460					80	48	150	0.0204	0.0000
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!

Cell 16 Total Theoretical Settlement (ft)
1.07

Cell 17 2/3 Theoretical Settlement (ft)
0.71

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression Index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 12 South Side - Crest

PROJECT NUMBER: P2560G   PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10

BORING NUMBER: GB-4 to 150'   Soil Unit Weight for Calculating Po 110.00 lbs/ cu ft
Delta P from Fill Load 9860.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	6.0	3.00	6.0	142.8	9860					15	54	173	0.0640	0.0000
6.0	18.0	12.00	12.0	571.2	9860					36	68	230	0.0658	0.0000
18.0	33.0	25.50	15.0	1213.8	9860					13	15	59	0.2441	0.0000
33.0	58.0	45.50	25.0	2165.8	9860	4332.0	3.54	0.76	0.07				0.0000	1.9718
58.0	83.0	70.50	25.0	3355.8	9860					44	35	110	0.1353	0.0000
83.0	98.0	90.50	15.0	4307.8	9860					13	9	45	0.1723	0.0000
98.0	113.0	105.50	15.0	5021.8	9860					39	27	90	0.0786	0.0000
113.0	128.0	120.50	15.0	5735.8	9860					73	47	120	0.0543	0.0000
128.0	143.0	135.50	15.0	6449.8	9860					16	10	40	0.1511	0.0000
143.0	150.0	146.50	7.0	6973.4	9860					14	8	43	0.0623	0.0000
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!

Cell 16
Total Theoretical Settlement (ft)
3.00

Cell 17
2/3 Theoretical Settlement (ft)
2.00

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2/3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 12 South Side - Crest

PROJECT NUMBER: P2560G PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10

BORING NUMBER: GB-4 to 150'

Soil Unit Weight for Calculating Po 110.00 lbs/ cu ft
Delta P from Fill Load 3460.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	6.0	3.00	6.0	142.8	3460					15	54	173	0.0486	0.0000
6.0	18.0	12.00	12.0	571.2	3460					36	68	230	0.0443	0.0000
18.0	33.0	25.50	15.0	1213.8	3460					13	15	59	0.1489	0.0000
33.0	58.0	45.50	25.0	2165.8	3460	4332.0	3.54	0.76	0.07				0.0000	0.5910
58.0	83.0	70.50	25.0	3355.8	3460					44	35	110	0.0699	0.0000
83.0	98.0	90.50	15.0	4307.8	3460					13	9	45	0.0853	0.0000
98.0	113.0	105.50	15.0	5021.8	3460					39	27	90	0.0379	0.0000
113.0	128.0	120.50	15.0	5735.8	3460					73	47	120	0.0258	0.0000
128.0	143.0	135.50	15.0	6449.8	3460					16	10	40	0.0699	0.0000
143.0	150.0	146.50	7.0	6973.4	3460					14	8	43	0.0285	0.0000
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!

Cell 16
Total Theoretical Settlement (ft)
1.15

Cell 17
2/3 Theoretical Settlement (ft)
0.77

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

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11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 10 Midpoint Crest

PROJECT NUMBER: P2560G PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-5 to 120'

Soil Unit Weight for Calculating Po	110.00	lbs/ cu ft
Delta P from Fill Load	13600.00	lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	13.0	6.50	13.0	309.4	13600					12	29	95	0.2262	0.0000
13.0	23.0	18.00	10.0	856.8	13600					29	43	136	0.0902	0.0000
23.0	38.0	30.50	15.0	1451.8	13600					6	6	38	0.4009	0.0000
38.0	53.0	45.50	15.0	2165.8	13600	4220	3.541	0.76	0.07	7	6		0.0000	1.5040
53.0	73.0	63.00	20.0	2998.8	13600					44	37	117	0.1270	0.0000
73.0	98.0	85.50	25.0	4069.8	13600					14	10	47	0.3392	0.0000
98.0	103.0	100.50	5.0	4783.8	13600					66	45	140	0.0209	0.0000
103.0	120.0	111.50	17.0	5307.4	13600					100	66	215	0.0436	0.0000
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!

Cell 16

Total Theoretical Settlement (ft)
2.75

Cell 17

Estimated Additional Settlement (ft)
0.162

Cell 18

Total Estimated Settlement (ft)
2.91

Cell 19

2/3 Theoretical Settlement (ft)
1.94

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 10 Midpoint Crest

PROJECT NUMBER: P2560G   PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-5 to 120'

Soil Unit Weight for Calculating Po 110.00 lbs/ cu ft
Delta P from Fill Load 4800.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	13.0	6.50	13.0	309.4	4800					12	29	95	0.1667	0.0000
13.0	23.0	18.00	10.0	856.8	4800					29	43	138	0.0603	0.0000
23.0	38.0	30.50	15.0	1451.8	4800					6	6	38	0.2503	0.0000
38.0	53.0	45.50	15.0	2165.8	4800	4220	3.541	0.76	0.07	7	6		0.0000	0.6134
53.0	73.0	63.00	20.0	2998.8	4800					44	37	117	0.0710	0.0000
73.0	98.0	85.50	25.0	4069.8	4800					14	10	47	0.1800	0.0000
98.0	103.0	100.50	5.0	4783.8	4800					66	45	140	0.0108	0.0000
103.0	120.0	111.50	17.0	5307.4	4800					100	68	215	0.0221	0.0000
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!

Cell 16
Total Theoretical Settlement (ft)
1.37

Cell 17
Estimated Additional Settlement (ft)
0.081

Cell 18
Total Estimated Settlement (ft)
1.46

Cell 19
2/3 Theoretical Settlement (ft)
0.97

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2/3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 11 Midpoint Crest

PROJECT NUMBER: P2560G PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-6 to 120'

Soil Unit Weight for Calculating Po 110.00 lbs/ cu ft
Delta P from Fill Load 13600.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity Index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	13.0	6.50	13.0	309.4	13600					27	65	210	0.1023	0.0000
13.0	28.0	20.50	15.0	975.8	13600					34	46	146	0.1206	0.0000
28.0	33.0	30.50	5.0	1451.8	13600					5	5	30	0.1693	0.0000
33.0	38.0	35.50	5.0	1689.8	13600					8	8	42	0.1139	0.0000
38.0	53.0	45.50	15.0	2165.8	13600	4220	3.541	0.76	0.07	6	6		0.0000	1.5040
53.0	73.0	63.00	20.0	2998.8	13600					51	42	130	0.1143	0.0000
73.0	88.0	80.50	15.0	3831.8	13600					17	13	55	0.1794	0.0000
88.0	108.0	98.00	20.0	4664.8	13600					8	6	32	0.3705	0.0000
108.0	120.0	114.00	12.0	5426.4	13600					68	45	140	0.0467	0.0000
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!

Cell 16
Total Theoretical Settlement (ft)
2.72

Cell 17
Estimated Additional Settlement (ft)
0.162

Cell 18
Total Estimated Settlement (ft)
2.88

Cell 19
2/3 Theoretical Settlement (ft)
1.92

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 11 Midpoint Crest

PROJECT NUMBER: P2560G PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-6 to 120' Soil Unit Weight for Calculating Po: 110.00 lbs/ cu ft
Delta P from Fill Load: 4800.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity Index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)	Cell 16 Total Theoretical Settlement (ft)
0.0	13.0	6.50	13.0	309.4	4800					27	65	210	0.0754	0.0000	1.32
13.0	28.0	20.50	15.0	975.8	4800					34	46	146	0.0793	0.0000	
28.0	33.0	30.50	5.0	1451.8	4800					5	5	30	0.1057	0.0000	
33.0	38.0	35.50	5.0	1689.8	4800					8	8	42	0.0696	0.0000	Cell 17
38.0	53.0	45.50	15.0	2165.8	4800	4220	3.541	0.76	0.07	6	6		0.0000	0.6134	
53.0	73.0	63.00	20.0	2998.8	4800					51	42	130	0.0639	0.0000	Estimated
73.0	88.0	80.50	15.0	3831.8	4800					17	13	55	0.0962	0.0000	Additional
88.0	108.0	98.00	20.0	4664.8	4800					8	6	32	0.1920	0.0000	Settlement (ft)
108.0	120.0	114.00	12.0	5426.4	4800					68	45	140	0.0236	0.0000	0.091
		0.00	0.0	0.0	4800								0.0000	#DIV/0!	
		0.00	0.0	0.0	4800								0.0000	#DIV/0!	Cell 18
		0.00	0.0	0.0	4800								0.0000	#DIV/0!	
		0.00	0.0	0.0	4800								0.0000	#DIV/0!	Total
		0.00	0.0	0.0	4800								0.0000	#DIV/0!	Estimated
		0.00	0.0	0.0	4800								0.0000	#DIV/0!	Settlement (ft)
		0.00	0.0	0.0	4800								0.0000	#DIV/0!	1.40
		0.00	0.0	0.0	4800								0.0000	#DIV/0!	

Cell 19

2/3 Theoretical Settlement (ft)
0.93

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical settlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 12 West Perimeter

PROJECT NUMBER: P2560G PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-7 to 110'

Soil Unit Weight for Calculating Po: 110.00 lbs/ cu ft
Delta P from Fill Load: 9860.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	6.0	3.00	6.0	142.8	9860					12	38	123	0.0900	0.0000
6.0	13.0	9.50	7.0	452.2	9860					31	65	162	0.0587	0.0000
13.0	23.0	18.00	10.0	856.8	9860					17	25	82	0.1338	0.0000
23.0	33.0	28.00	10.0	1332.8	9860					12	13	55	0.1680	0.0000
33.0	38.0	35.50	5.0	1689.8	9860	2660.0	2.32	0.38	0.03	7	7		0.0000	0.3737
38.0	53.0	45.50	15.0	2165.8	9860	4220.0	3.54	0.76	0.07	5	5		0.0000	1.2087
53.0	58.0	55.50	5.0	2641.8	9860					33	30	98	0.0344	0.0000
58.0	93.0	75.50	35.0	3593.8	9860					30	23	78	0.2572	0.0000
93.0	107.0	100.00	14.0	4760.0	9860					8	5	38	0.1895	0.0000
107.0	110.0	108.50	3.0	5164.6	9860					27	18	68	0.0205	0.0000
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!

Cell 16
Total Theoretical Settlement (ft)
2.53

Cell 17
Estimated Additional Settlement (ft)
0.234

Cell 18
Total Estimated Settlement (ft)
2.77

Cell 19
2/3 Theoretical Settlement (ft)
1.85

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 12 West Perimeter

PROJECT NUMBER: P2560G PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-7 to 110'

Soil Unit Weight for Calculating Po: 110.00 lbs/ cu ft
Delta P from Fill Load: 3460.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity Index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)	Cell 16 Total Theoretical Settlement (ft)
0.0	6.0	3.00	6.0	142.8	3460					12	38	123	0.0684	0.0000	1.10
6.0	13.0	9.50	7.0	452.2	3460					31	65	162	0.0405	0.0000	
13.0	23.0	18.00	10.0	856.8	3460					17	25	82	0.0858	0.0000	
23.0	33.0	28.00	10.0	1332.8	3460					12	13	55	0.1011	0.0000	Cell 17
33.0	38.0	35.50	5.0	1689.8	3460	2660.0	2.32	0.38	0.03	7	7		0.0000	0.1730	
38.0	53.0	45.50	15.0	2165.8	3460	4220.0	3.54	0.76	0.07	5	5		0.0000	0.3805	Estimated Additional Settlement (ft)
53.0	58.0	55.50	5.0	2641.8	3460					33	30	98	0.0185	0.0000	
58.0	93.0	75.50	35.0	3593.8	3460					30	23	78	0.1314	0.0000	0.12
93.0	107.0	100.00	14.0	4760.0	3460					8	5	36	0.0923	0.0000	
107.0	110.0	108.50	3.0	5164.6	3460					27	18	68	0.0098	0.0000	Cell 18
		0.00	0.0	0.0	3460								0.0000	#DIV/0!	
		0.00	0.0	0.0	3460								0.0000	#DIV/0!	Total Estimated Settlement (ft)
		0.00	0.0	0.0	3460								0.0000	#DIV/0!	
		0.00	0.0	0.0	3460								0.0000	#DIV/0!	1.22
		0.00	0.0	0.0	3460								0.0000	#DIV/0!	
		0.00	0.0	0.0	3460								0.0000	#DIV/0!	
		0.00	0.0	0.0	3460								0.0000	#DIV/0!	Cell 19
															2/3 Theoretical Settlement (ft)
															0.81

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the addad weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2/3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 11 Wast Perimeter

PROJECT NUMBER: P2560G PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-8 to 100'

Soil Unit Weight for Calculating Po 110.00 lbs/ cu ft
Delta P from Fill Load 9860.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	3.0	1.50	3.0	71.4	9860					22	73	250	0.0257	0.0000
3.0	6.0	4.50	3.0	214.2	9860					14	38	122	0.0411	0.0000
6.0	12.0	9.00	6.0	428.4	9860					62	124	300	0.0276	0.0000
12.0	38.0	25.00	26.0	1190.0	9860					28	33	105	0.2396	0.0000
38.0	53.0	45.50	15.0	2165.8	9860					10	9	45	0.2482	0.0000
53.0	68.0	60.50	15.0	2879.8	9860	4440.0	3.23	0.64	0.07	4	3		0.0000	1.0856
68.0	73.0	70.50	5.0	3355.8	9860	6712.0	3.23	0.64	0.07	11	9		0.0000	0.2475
73.0	100.0	86.50	27.0	4117.4	9860					15	11	50	0.2866	0.0000
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!

Cell 16
Total Theoretical Settlement (ft)
2.20

Cell 17
Estimated Additional Settlement (ft)
0.31

Cell 18
Total Estimated Settlement (ft)
2.51

Cell 19
2/3 Theoretical Settlement (ft)
1.67

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 11 West Perimeter

PROJECT NUMBER: P2560G   PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-8 to 100'

Soil Unit Weight for Calculating Po: 110.00 lbs/ cu ft
Delta P from Fill Load: 3460.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	3.0	1.50	3.0	71.4	3460					22	73	250	0.0203	0.0000
3.0	6.0	4.50	3.0	214.2	3460					14	38	122	0.0304	0.0000
6.0	12.0	9.00	6.0	428.4	3460					62	124	300	0.0192	0.0000
12.0	38.0	25.00	26.0	1190.0	3460					28	33	105	0.1466	0.0000
38.0	53.0	45.50	15.0	2165.8	3460					10	9	45	0.1382	0.0000
53.0	68.0	60.50	15.0	2879.8	3460	4440.0	3.23	0.64	0.07	4	3		0.0000	0.3977
68.0	73.0	70.50	5.0	3355.8	3460	6712.0	3.23	0.64	0.07	11	9		0.0000	0.0300
73.0	100.0	88.50	27.0	4117.4	3460					15	11	50	0.1430	0.0000
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!

Cell 16

Total Theoretical Settlement (ft)
0.93

Cell 17

Estimated Additional Settlement (ft)
0.15

Cell 18

Total Estimated Settlement (ft)
1.08

Cell 19

2/3 Theoretical Settlement (ft)
0.72

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

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14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

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16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 12 West & South Perimeter

PROJECT NUMBER: P2560G PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-9 to 100'

Soil Unit Weight for Calculating Po 110.00 lbs/ cu ft
Delta P from Fill Load 9860.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	8.0	4.00	8.0	190.4	9860					18	52	165	0.0835	0.0000
8.0	23.0	15.50	15.0	737.8	9860					52	83	292	0.0594	0.0000
23.0	38.0	30.50	15.0	1451.8	9860					9	9	45	0.2972	0.0000
38.0	53.0	45.50	15.0	2165.8	9860	4440.0	2.32	0.38	0.03	6	6		0.0000	0.7850
53.0	58.0	55.50	5.0	2641.8	9860					44	38	112	0.0301	0.0000
58.0	73.0	65.50	15.0	3117.8	9860					18	15	58	0.1602	0.0000
73.0	88.0	80.50	15.0	3831.8	9860					36	28	92	0.0902	0.0000
88.0	98.0	93.00	10.0	4426.8	9860					16	11	50	0.1018	0.0000
98.0	100.0	99.00	2.0	4712.4	9860					19	13	49	0.0200	0.0000
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!

Cell 16
Total Theoretical Settlement (ft)
1.63

Cell 17
Estimated Additional Settlement (ft)
0.31

Cell 18
Total Estimated Settlement (ft)
1.93

Cell 19
2/3 Theoretical Settlement (ft)
1.29

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

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16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 12 West & South Perimeter

PROJECT NUMBER: P2560G   PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-9 to 100'

Soil Unit Weight for Calculating Po 110.00 lbs/ cu ft
Delta P from Fill Load 3460.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	8.0	4.00	8.0	190.4	3460					18	52	165	0.0622	0.0000
8.0	23.0	15.50	15.0	737.8	3460					52	83	292	0.0388	0.0000
23.0	38.0	30.50	15.0	1451.8	3460					9	9	45	0.1764	0.0000
38.0	53.0	45.50	15.0	2165.8	3460	4440.0	2.32	0.38	0.03	6	6		0.0000	0.2187
53.0	58.0	55.50	5.0	2641.8	3460					44	38	112	0.0162	0.0000
58.0	73.0	65.50	15.0	3117.8	3460					18	15	58	0.0839	0.0000
73.0	88.0	80.50	15.0	3831.8	3460					35	28	92	0.0456	0.0000
88.0	98.0	93.00	10.0	4426.8	3460					16	11	50	0.0502	0.0000
98.0	100.0	99.00	2.0	4712.4	3460					19	13	45	0.0106	0.0000
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!

Cell 16
Total Theoretical Settlement (ft)
0.70

Cell 17
Estimated Additional Settlement (ft)
0.15

Cell 18
Total Estimated Settlement (ft)
0.86

Cell 19
2/3 Theoretical Settlement (ft)
0.57

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

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11 - Average N: The avaerage N value for that particular soil layer.

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14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

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16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2/3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 12 East & South Perimeter

PROJECT NUMBER: P2560G PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-10 to 100'

Soil Unit Weight for Calculating Po	110.00	lbs/ cu ft
Delta P from Fill Load	9860.00	lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	6.0	3.00	6.0	142.8	9860					11	33	108	0.1025	0.0000
6.0	12.0	9.00	6.0	428.4	9860					5	10	48	0.1726	0.0000
12.0	17.0	14.50	5.0	690.2	9860					28	48	150	0.0395	0.0000
17.0	37.0	27.00	20.0	1285.2	9860					13	14	58	0.3235	0.0000
37.0	53.0	45.00	16.0	2142.0	9860	4440.0	2.32	0.38	0.03	2	2		0.0000	0.8364
53.0	63.0	58.00	10.0	2760.8	9860	4440.0	2.32	0.38	0.03	6	5		0.0000	0.5379
63.0	73.0	68.00	10.0	3236.8	9860					100	81	278	0.0218	0.0000
73.0	87.0	80.00	14.0	3808.0	9860					49	37	118	0.0658	0.0000
87.0	98.0	92.50	11.0	4403.0	9860					19	14	58	0.0968	0.0000
98.0	100.0	99.00	2.0	4712.4	9860					21	14	48	0.0204	0.0000
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!

Cell 16
Total Theoretical Settlement (ft)
2.22

Cell 17
Estimated Additional Settlement (ft)
0.31

Cell 18
Total Estimated Settlement (ft)
2.52

Cell 19
2/3 Theoretical Settlement (ft)
1.68

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 12 East & South Perimeter

PROJECT NUMBER: P2560G   PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-10 to 100'

Soil Unit Weight for Calculating Po 110.00 lbs/ cu ft
Delta P from Fill Load 3460.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity Index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	6.0	3.00	6.0	142.8	3460					11	33	108	0.0779	0.0000
6.0	12.0	9.00	6.0	428.4	3460					5	10	48	0.1197	0.0000
12.0	17.0	14.50	5.0	690.2	3460					28	48	150	0.0260	0.0000
17.0	37.0	27.00	20.0	1285.2	3460					13	14	58	0.1956	0.0000
37.0	53.0	45.00	16.0	2142.0	3460	4440.0	2.32	0.76	0.07	2	2		0.0000	0.4764
53.0	63.0	58.00	10.0	2760.8	3460	4440.0	2.32	0.76	0.07	6	5		0.0000	0.3788
63.0	73.0	68.00	10.0	3236.8	3460					100	61	278	0.0114	0.0000
73.0	87.0	80.00	14.0	3808.0	3460					49	37	118	0.0333	0.0000
87.0	98.0	92.50	11.0	4403.0	3460					19	14	58	0.0478	0.0000
98.0	100.0	99.00	2.0	4712.4	3460					21	14	42	0.0114	0.0000
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!

Cell 16
Total Theoretical Settlement (ft)
1.38

Cell 17
Estimated Additional Settlement (ft)
0.15

Cell 18
Total Estimated Settlement (ft)
1.53

Cell 19
2/3 Theoretical Settlement (ft)
1.02

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 11 Mid-Slope

PROJECT NUMBER: P2560G PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-11 to 50' Soil Unit Weight for Calculating Po: 110.00 lbs/ cu ft
Delta P from Fill Load: 9860.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity Index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)	Cell 16 Total Theoretical Settlement (ft)
0.0	13.0	6.50	13.0	309.4	9860					6	14	58	0.3400	0.0000	1.09
13.0	28.0	20.50	15.0	975.8	9860					32	43	136	0.1153	0.0000	
28.0	33.0	30.50	5.0	1451.8	9860					17	17	63	0.0708	0.0000	
33.0	48.0	40.50	15.0	1927.8	9860	7880.0	3.23	0.64	0.07	6	6		0.0000	0.5494	Cell 17
48.0	50.0	49.00	2.0	2332.4	9860					31	28	93	0.0154	0.0000	
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	Estimated
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	Additional
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	Settlement (ft)
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	0.64
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	Cell 18
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	Total
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	Estimated
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	Settlement (ft)
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	1.73
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	

Cell 19

2/3 Theoretical Settlement (ft)
1.16

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The average N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical settlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 11 Mid-Slope

PROJECT NUMBER: P2560G PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-11 to 50'

Soil Unit Weight for Calculating Po: 110.00 lbs/ cu ft

Delta P from Fill Load: 9860.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index 'C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)	Cell 16 Total Theoretical Settlement (ft)
0.0	13.0	6.50	13.0	309.4	9860					6	14	58	0.3400	0.0000	1.09
13.0	28.0	20.50	15.0	975.8	9860					32	43	136	0.1153	0.0000	
28.0	33.0	30.50	5.0	1451.8	9860					17	17	63	0.0708	0.0000	
33.0	48.0	40.50	15.0	1927.8	9860	7880.0	3.23	0.64	0.07	6	6		0.0000	0.5494	Cell 17
48.0	50.0	49.00	2.0	2332.4	9860					31	28	93	0.0154	0.0000	
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	Estimated
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	Additional
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	Settlement (ft)
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	0.64
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	Cell 18
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	Total
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	Estimated
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	Settlement (ft)
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	1.73
		0.00	0.0	0.0	9860								0.0000	#DIV/0!	

Cell 19

2/3 Theoretical Settlement (ft)

1.16

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 11 Mid-Slope

PROJECT NUMBER: P2560G PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-11 to 50'

Soil Unit Weight for Calculating Po 110.00 lbs/ cu ft
Delta P from Fill Load 3460.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	13.0	6.50	13.0	309.4	3460					6	14	58	0.2434	0.0000
13.0	28.0	20.50	15.0	975.8	3460					32	43	136	0.0725	0.0000
28.0	33.0	30.50	5.0	1451.8	3460					17	17	63	0.0420	0.0000
33.0	48.0	40.50	15.0	1927.8	3460	7880.0	3.23	0.64	0.07	6	6		0.0000	0.1108
48.0	50.0	49.00	2.0	2332.4	3460					31	28	93	0.0085	0.0000
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!

Cell 16
Total Theoretical Settlement (ft)
0.48

Cell 17
Estimated Additional Settlement (ft)
0.32

Cell 18
Total Estimated Settlement (ft)
0.80

Cell 19
2/3 Theoretical Settlement (ft)
0.53

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2/3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 10 Mid-Slope East

PROJECT NUMBER: P2560G PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-12 to 55'

Soil Unit Weight for Calculating Po: 110.00 lbs/ cu ft
Delta P from Fill Load: 13600.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	13.0	6.50	13.0	309.4	13600					24	58	190	0.1131	0.0000
13.0	23.0	18.00	10.0	856.8	13600					7	10	48	0.2557	0.0000
23.0	38.0	30.50	15.0	1451.8	13600					49	49	154	0.0989	0.0000
38.0	53.0	45.50	15.0	2165.8	13600	4220	3.541	0.76	0.07	5	5		0.0000	1.5040
53.0	55.0	54.00	2.0	2570.4	13600					10	18	65	0.0246	0.0000
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!
		0.00	0.0	0.0	13600								0.0000	#DIV/0!

Cell 16

Total Theoretical Settlement (ft)
2.00

Cell 17

Estimated Additional Settlement (ft)
0.64

Cell 18

Total Estimated Settlement (ft)
2.64

Cell 19

2/3 Theoretical Settlement (ft)
1.76

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 10 Mid-Slope East

PROJECT NUMBER: P2560G   PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-12 to 55'

Soil Unit Weight for Calculating Po: 110.00 lbs/ cu ft
Delta P from Fill Load: 4800.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	13.0	6.50	13.0	309.4	4800					24	58	190	0.0833	0.0000
13.0	23.0	18.00	10.0	856.8	4800					7	10	48	0.1708	0.0000
23.0	38.0	30.50	15.0	1451.8	4800					49	49	154	0.0618	0.0000
38.0	53.0	45.50	15.0	2165.8	4800	4220	3.541	0.76	0.07	5	5		0.0000	0.6134
53.0	55.0	54.00	2.0	2570.4	4800					10	18	65	0.0141	0.0000
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!
		0.00	0.0	0.0	4800								0.0000	#DIV/0!

Cell 16

Total Theoretical Settlement (ft)
0.94

Cell 17

Estimated Additional Settlement (ft)
0.32

Cell 18

Total Estimated Settlement (ft)
1.27

Cell 19

2/3 Theoretical Settlement (ft)
0.84

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The evaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 12 Mid-Slope Southwest Corner

PROJECT NUMBER: P2560G   PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-13 to 60'

Soil Unit Weight for Calculating Po: 110.00 lbs/ cu ft

Delta P from Fill Load: 9860.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	8.0	4.00	8.0	190.4	9860					8	22	75	0.1837	0.0000
8.0	18.0	13.00	10.0	618.8	9860					28	49	154	0.0798	0.0000
18.0	23.0	20.50	5.0	975.8	9860					23	31	80	0.0653	0.0000
23.0	28.0	25.50	5.0	1213.8	9860					18	21	70	0.0686	0.0000
28.0	42.0	35.00	14.0	1666.0	9860	4440	2.32	0.38	0.03				0.0000	0.7177
42.0	58.0	50.00	16.0	2380.0	9860	4440	2.32	0.38	0.03				0.0000	0.8457
58.0	60.0	59.00	2.0	2808.4	9860					41	34	108	0.0121	0.0000
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!

Cell 16
Total Theoretical Settlement (ft)
1.97

Cell 17
Estimated Additional Settlement (ft)
0.64

Cell 18
Total Estimated Settlement (ft)
2.62

Cell 19
2/3 Theoretical Settlement (ft)
1.74

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 12 Mid-Slope Southwest Corner

PROJECT NUMBER: P2560G   PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-13 to 60'

Soil Unit Weight for Calculating Po: 110.00 lbs/ cu ft
Delta P from Fill Load: 3460.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	8.0	4.00	8.0	190.4	3460					8	22	75	0.1368	0.0000
8.0	18.0	13.00	10.0	618.8	3460					28	49	154	0.0532	0.0000
18.0	23.0	20.50	5.0	975.8	3460					23	31	80	0.0411	0.0000
23.0	28.0	25.50	5.0	1213.8	3460					18	21	70	0.0418	0.0000
28.0	42.0	35.00	14.0	1666.0	3460	4440	2.32	0.38	0.03				0.0000	0.1538
42.0	58.0	50.00	16.0	2380.0	3460	4440	2.32	0.38	0.03				0.0000	0.2571
58.0	60.0	59.00	2.0	2808.4	3460					41	34	108	0.0065	0.0000
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!

Cell	Description	Value
Cell 16	Total Theoretical Settlement (ft)	0.69
Cell 17	Estimated Additional Settlement (ft)	0.32
Cell 18	Total Estimated Settlement (ft)	1.01
Cell 19	2/3 Theoretical Settlement (ft)	0.67

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 12 Mid-Slope Southeast Corner

PROJECT NUMBER: P2560G   PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-14 to 60'

Soil Unit Weight for Calculating Po: 110.00 lbs/ cu ft
Delta P from Fill Load: 9860.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	4.0	2.00	4.0	95.2	9860					10	34	108	0.0748	0.0000
4.0	33.0	18.50	29.0	880.6	9860					38	53	170	0.1853	0.0000
33.0	43.0	38.00	10.0	1808.8	9860	4440	2.32	0.38	0.03	2	2		0.0000	0.5156
43.0	48.0	45.50	5.0	2165.8	9860	4440	2.32	0.38	0.03	11	10		0.0000	0.2617
48.0	58.0	53.00	10.0	2522.8	9860					7	6	33	0.2094	0.0000
58.0	60.0	59.00	2.0	2808.4	9860					26	22	75	0.0174	0.0000
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!
		0.00	0.0	0.0	9860								0.0000	#DIV/0!

Cell 16
Total Theoretical Settlement (ft)
1.26

Cell 17
Estimated Additional Settlement (ft)
0.64

Cell 18
Total Estimated Settlement (ft)
1.91

Cell 19
2/3 Theoretical Settlement (ft)
1.27

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression Index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression Index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2/3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]

MASSIVE FILL SETTLEMENT EVALUATION - Cell 12 Mid-Slope Southeast Corner

PROJECT NUMBER: P2560G   PROJECT NAME: Orange County Landfill Southern Expansion - Cell 10-12

BORING NUMBER: GB-14 to 60'

Soil Unit Weight for Calculating Po: 110.00 lbs/ cu ft
Delta P from Fill Load: 3460.00 lbs/ sq. ft

Cell 1 Top of Layer (ft)	Cell 2 Bottom of Layer (ft)	Cell 3 Midpoint Depth (ft)	Cell 4 Layer Thickness (ft)	Cell 5 Po lbs/sq ft	Cell 6 Delta P lbs/sq ft	Cell 7 Pc lbs/sq ft	Cell 8 Initial Void Ratio	Cell 9 Compression Index	Cell 10 Recompression Index	Cell 11 Ave N N	Cell 12 Corrected N N'	Cell 13 Bearing Capacity index C'	Cell 14 Cohesionless Calculated settlement (ft)	Cell 15 Consolidation Calculated Settlement (ft)
0.0	4.0	2.00	4.0	95.2	3460					10	34	108	0.0582	0.0000
4.0	33.0	18.50	29.0	880.6	3460					38	53	170	0.1182	0.0000
33.0	43.0	38.00	10.0	1808.8	3460	4440	2.32	0.38	0.03	2	2		0.0000	0.1203
43.0	48.0	45.50	5.0	2165.8	3460	4440	2.32	0.38	0.03	11	10		0.0000	0.0729
48.0	58.0	53.00	10.0	2522.8	3460					7	8	33	0.1136	0.0000
58.0	60.0	59.00	2.0	2808.4	3460					28	22	75	0.0093	0.0000
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!
		0.00	0.0	0.0	3460								0.0000	#DIV/0!

Cell 16
Total Theoretical Settlement (ft)
0.49

Cell 17
Estimated Additional Settlement (ft)
0.32

Cell 18
Total Estimated Settlement (ft)
0.81

Cell 19
2/3 Theoretical Settlement (ft)
0.54

Cell Descriptions

1 - Top of Layer: Depth from existing ground surface to top of soil layer.

2 - Bottom of Layer: Depth from existing ground surface to bottom of soil layer.

3 - Midpoint Depth: Depth from existing ground surface to midpoint of soil layer.

4 - Layer Thickness: The thickness of the soil layer, calculated by subtracting cell 1 from cell 2. (ft)

5 - Po: Existing effective vertical overburden pressure at center of layer. Calculated by multiplying cell 3 by the soil bouyant unit weight. (Groundwater assumed at the ground surface)

6 - Delta P: The change in pressure to the soil due to the added weight of the refuse. (psf)

7 - Pc: Preconsolidation pressure (Pc) is the maximum effective pressure the soil has encountered in the past. (2 * Po estimated from consolidation testing and past experience with similar soils or values from consolidation testing)(psf).

8 - Initial Void Ratio: The initial void ratio (eo) at the beginning of consolidation test calculated from (water content * specific gravity) / 100 or values from consolidation testing.

9 - Compression Index: The compression index (Cc) is a soil characteristic estimated from the (water content / 100) for primary compression or values from consolidation testing.

10 - Re-compression Index: The re-compression index (Cr) is a re-compression characteristic of the soil estimated from (water content / 1000) for recompression or values from consolidation testing.

11 - Average N: The avaerage N value for that particular soil layer.

12 - Corrected N value (N'): Correction of N value to reflect overburden pressure changes. (From figure 12 FHA "Soils and Foundations Workshop Manual")

13 - Bearing Capacity Index: Empirical number assigned to a soil layer based on N' and soil type. (From figure 13 FHA "Soils and Foundations workshop Manual")

14 - Cohesionless Settlement: Calculated settlement of granular, cohesionless soil. (Equation A below) (ft)

15 - Consolidation Settlement: Calculated settlement of cohesive soils. (Equation B below) (ft)

16 - Theoretical Settlement: Total of cohesionless and cohesive settlement. (ft)

17 - 2\3 Theoretical Settlement: Two thirds of theoretical setlement. (ft)

Equations

A) Non-Cohesive Settlement = Cell 4 * (1 / Cell 13) * log ((Cell 5 + Cell 6) / Cell 5)

B) Cohesive Settlement (for Cell 5 + Cell 6 > Cell 7) = [Cell 4 * (Cell 10 / 1 + Cell 8) * log (Cell 7/ Cell 5)] + [Cell 4 * (Cell 9 / 1 + Cell 8) * log (Cell 5 + Cell 6 / Cell 7)]