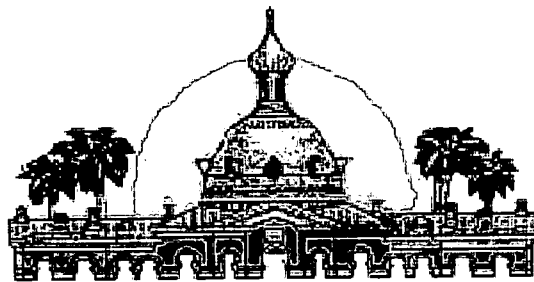


**Certification of  
Construction Completion Report  
Southeast County Landfill Capacity Expansion  
Section 7 Construction**

**Volume 1 of 3**

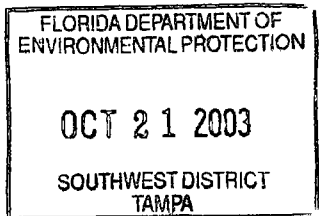


**Prepared for:**

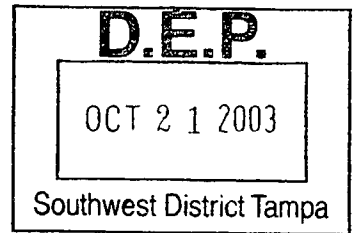
Hillsborough County Solid Waste Management Department  
P.O. Box 1110  
Tampa, Florida 33601

**Prepared by:**

SCS Engineers  
3012 U.S. Highway 301 North  
Suite 700  
Tampa, Florida 33619  
(813) 621-0080



October 21, 2003  
File No. 09200020.34

**SCS ENGINEERS**October 21, 2003  
File No. 09200020.34Mr. Kim B. Ford, P.E.  
Florida Department of Environmental Protection  
Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619Subject: Southeast County Landfill - Capacity Expansion Section 1  
Construction Permit No. 35435-004-SC

Dear Mr. Ford:

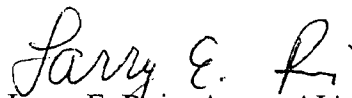
On behalf of the Hillsborough County Solid Waste Management Department (SWMD), SCS Engineers (SCS) is pleased to provide the attached Certification of Construction Completion Report for the Southeast County Landfill - Capacity Expansion Section 1. Please be advised that beginning with the Operations Permit Application dated September 13, 2002, the SWMD began referencing the Section 1 landfill cell as Section 7. Any references in this report and documentation, to Section 7 are referring to the same landfill cell as the former Section 1.

The construction was performed under Florida Department of Environmental Protection (FDEP) Construction Permit No. 35435-004-SC. As required by Specific Condition No. 7 of the subject Permit, a completed Certification of Construction Completion Form #62-701.900(2) and record drawings are included as part of the attached report.


Your prompt review of this Certification is requested. The SWMD is anticipating beginning landfilling in Section 7 in December 2003. The SWMD and SCS are ready to meet with you to promptly resolve any questions or provide additional information.

Please call if you have any questions.

Very truly yours,



Larry E. Ruiz, Assoc. AIA  
Project Manager  
SCS ENGINEERS

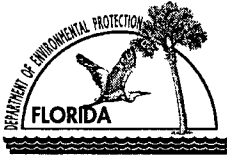


Raymond J. Dever, P.E., DEE  
Vice President  
SCS ENGINEERS

LER/RJD:lr

Enclosure

cc: Patricia V. Berry, SWMD  
Paul Schipfer, EPC



Florida Department of Environmental Protection  
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

DEP Form # 62-701.900(2)  
Form Title Certification of Construction Completion  
Effective date May 19, 1994

DEP Application No. \_\_\_\_\_  
(Filled by DEP)

## Certification of Construction Completion of a Solid Waste Management Facility

DEP Construction Permit No: 35435-004-SC County: Hillsborough

Name of Project: Southeast County Landfill Capacity Expansion – Section 1

Name of Owner: Hillsborough County Solid Waste Management Department

Name of Engineer: SCS Engineers

Type of Project: Approximate 12.5 Acre Double Lined Geomembrane Liner System

- with Leachate Detection and Leachate Collection.

Cost: Estimate \$ \$4,993,000 Actual \$ \$4,173,152.00

Site Design: Quantity: 2,100 ton/day Site Acreage: 12.5 Acres

Deviations from Plans and Application Approved by DEP: The leachate sump was moved -

from outside of the southwest corner of the section 1 cell and relocated within the -

- southwest corner of the lined limits of the section 1 cell.

Address and Telephone No. of Site: P.O. Box 1110, Tampa, FL 33601 (813) 671-7707

(8.8 miles east of US Hwy 301 on County Road 672)

Name(s) of Site Supervisor: Mr. Meredith M. Matthews

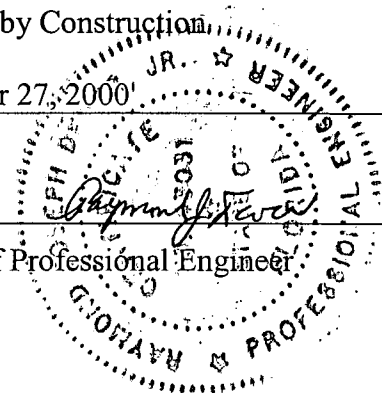
Date Site inspection is requested: November 5, 2003

This is to certify that, with the exception of any deviation noted above, the construction of the project has been completed in substantial accordance with the plans authorized by Construction

Permit No.: 35435-004-SC Dated: September 27, 2000

Date: October 21, 2003

Signature of Professional Engineer



**Certification of  
Construction Completion Report  
Southeast County Landfill Capacity Expansion  
Section 7 Construction**

**Prepared for:**

Hillsborough County Solid Waste Management Department  
P.O. Box 1110  
Tampa, Florida 33601

**Prepared by:**

SCS Engineers  
3012 U.S. Highway 301 North  
Suite 700  
Tampa, Florida 33619  
(813) 621-0080

October 21, 2003  
File No. 09200020.34



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- D Record Drawings
- E Manufacturer Geosynthetic Quality Control Test Reports
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**Volume 3 of 3**

- H Geomembrane Panel Placement Logs
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## SECTION 1

### INTRODUCTION

On behalf of the Hillsborough County Solid Waste Management Department (County), SCS Engineers (SCS) has prepared this Certification of Construction Completion Report for the construction of Section 7 of the Capacity Expansion at the Southeast County Landfill (SCLF), located in Hillsborough, County, Florida. Section 7 with a 12.5 acre footprint is the first cell of the capacity expansion permitted for construction.

#### 1.1 CONSTRUCTION PERMIT

The Florida Department of Environmental Protection (FDEP) in Tampa, Florida issued Construction Permit No. 35435-004-SC dated September 27, 2000 authorizing the County to construct the Southeast County Landfill Capacity Expansion – Section 7 at the SCLF. The liner construction included the installation and compaction of a 6-inch thick subbase, with a maximum hydraulic conductivity of  $1 \times 10^{-5}$  cm/sec, the installation of a primary and secondary double 60-mil geomembrane system with a geocomposite above each liner, and a leachate collection system.

Substantial completion was achieved on July 21, 2003 and final completion on October 15, 2003.

#### 1.2 PROJECT PERSONNEL

Responsible partners in the project were:

**Owner**

Hillsborough County Solid Waste Management Department (County)

**Engineering Consultant**

SCS Engineers - Engineering, Construction Quality Assurance (CQA)

**Contractors**

Handex Environmental Corporation (Handex) - General Contractor

**Subcontractors**

GSE Lining Technology, Inc. (GSE) - Liner Installer

Peninsula Design & Engineering (Peninsula) - Survey

**Soil Testing**

Burcaw Geotechnical Group, Inc. - Quality Control testing

### **Geomembrane Quality Assurance**

SCS Engineers - CQA

TRI Environmental, Inc. (TRI) - Quality Assurance Testing of Geosynthetic Materials

The County and SCS had personnel located on site at the SCLF for the project duration. Table 1-1 lists key project personnel, including those persons on site during the project for daily construction activities.

**TABLE 1-1. RESPONSIBLE PEOPLE ASSIGNED TO THE PROJECT**

<b>Name</b>	<b>Representing</b>	<b>Title</b>
Matt Mathews	Hillsborough County	Site Manager
Robert B. Gardner P.E.	SCS Engineers	Project Director, Engineer of Record
Larry E. Ruiz	SCS Engineers	Project Manager
Dennis W. Brown	SCS Engineers	Construction Manager
David Whalen	SCS Engineers	Quality Assurance Inspector
Dennis Dupont	SCS Engineers	Quality Assurance Inspector

### **1.3 CONSTRUCTION CHANGES**

The leachate sump was moved from outside of the southwest corner of Section 7 to within the lined limits of the Section 7 cell.

This change did not significantly impact the original permitted concept or design.

### **1.4 PREPARATION OF SECTION 7 CELL**

Prior to installation of the clay subbase, the Section 7 cell subgrade was prepared by excavating, backfilling, and compacting to the grade as shown on the drawings. The surface of the prepared subgrade was free of sticks, roots organic mater, and stones larger than 1-inch in any dimension. Suitable subgrade soil material included poorly graded sand (SP), silty sand (SM), or clayey sand (SC) as classified by the Unified Soil Classification System. Suitable soil materials were not excessively wet or dry and were within three percent of the optimum moisture content range to achieve 95 percent of maximum dry density as determined by the Standard Proctor test. The specifications required a minimum of two in-place density tests per acre per lift. The results are included in the geotechnical report presented in Attachment A.

### **1.5 INSTALLATION OF CLAY LINER SUBBASE**

Prior to installation of the 60-mil HDPE liner system, the Section 7 clay subbase was constructed. Material for the clay subbase was obtained from a borrow source on site. The

subbase was installed in six-inch lifts and compacted to the grades as shown on the drawings. The surface of the installed subbase was free of sticks, roots organic mater, and stones larger than 1-inch in any dimension. Suitable subbase soil material included poorly graded clayey sand (SP-SC), clayey sand (SC), fat clay (CH), or lean clay (CL) as classified by the Unified Soil Classification System. Suitable soil materials were not excessively wet or dry and were within three percent of the optimum moisture content range of 95 percent of maximum dry density as determined by the Standard Proctor test. The maximum hydraulic conductivity for the constructed subbase of  $1 \times 10^{-5}$  cm/sec was achieved as demonstrated in Attachment A. The specifications required a minimum of two in-place density tests per acre per lift.

## **1.6 DOCUMENTATION**

The test reports are included in the geotechnical report presented in Attachment A.

## SECTION 2

### GEOSYNTHETIC INSTALLATION

SCS Engineers' Construction Quality Assurance (CQA) Representative was on site full-time to observe construction activities during the geomembrane liner system installation, in accordance with Florida Department of Environmental Protection (FDEP) rules. This section compiles the daily activities related to construction of the geomembrane liner system of the Southeast County, Landfill Capacity Expansion - Section 7 (Section 7).

#### 2.1 REQUIREMENTS AND SPECIFICATIONS

As shown on the construction drawings, the double geomembrane liner system was comprised of (from the bottom up): a secondary 60-mil high density polyethylene (HDPE) liner, a secondary geocomposite (geonet with two geotextiles) serving as a leak detection layer; a primary 60-mil HDPE liner, and primary geocomposite (geonet with two geotextiles). The geomembrane and geocomposite manufacturer was Serrot, International, Inc., (Serrot). GSE purchased Serrot and their material. The geomembrane and geocomposite installer was GSE Lining Technology, Inc. (GSE).

#### 2.2 INSTALLATION SUMMARY

GSE mobilized on September 9, 2002 and began installation of the liner system. The first phase of the geomembrane liner system installation was completed on October 24, 2002. Geomembrane panels were deployed and numbered sequentially as placed, beginning at the corner of the northeast slope. The geomembrane liner system of the North Berm & Interior Separation Berm was completed on January 28, 2003. The progression of the work is shown on the as-built panel layout drawing, which is included as Attachment B.

The CQA Representative observed and documented weather, construction and installation techniques, nondestructive geomembrane testing, and geomembrane repairs. Materials conformance testing was conducted to verify compliance with project specifications. The CQA Representative recorded construction activities in daily field reports, and observed and documented the following:

- Subbase Acceptance
- Trial Welds
- Geomembrane Placement
- Geomembrane Seaming
- Geomembrane Non-Destructive Testing
- Geomembrane Repairs

In addition, the CQA Representative chose locations for geomembrane destructive testing, then prepared and sent destructive samples to an independent laboratory for testing.

### **2.2.1 Daily Field Reports**

Daily field reports were prepared for each day the CQA Representatives were on site. Daily field reports, which include activities for the geomembrane system, are included as Attachment C.

### **2.2.2 On Site Personnel**

The following SCS personnel performed the CQA duties:

- David Whalen
- Dennis Dupont

GSE installers included the following personnel:

- Joe Coletto, Site Manager
- Nelson Ardon, Quality Control
- Cristobal Pineda, Foreman/Master Technician
- Wosvaldo Baststa, Technician/Installer
- Reyes Garcia-Perez, Technician/Installer
- Rogelio Garcia, Technician/Installer
- Raymond Hendricks, Technician/Installer
- Leonel Reynaga, Technician/Installer

### **2.2.3 Record Drawings**

Record drawings from GSE and Handex, are included in Attachment B and D, respectively. The drawings depict the approximate installed location of each geomembrane panel, the location of destructive tests and as-built conditions.

## **2.3 GEOCOMPOSITE TESTING**

### **2.3.1 Manufacturer Quality Control**

The plans call for a geocomposite, which is a three-layer material comprised of an inner core of bi-planar high density polyethylene (HDPE) geonet between an upper and lower layer of geotextile. The textile is thermally fused to the geonet. Serrot, the geocomposite manufacturer, was purchased by GSE and performed testing on the material to verify compliance with the contract specifications prior to approval by SCS. Serrot performed manufacturer's quality control (MQC) tests on the geocomposite prior to delivery. The MQC tests were conducted in accordance with the manufacturer's quality control program. One test per every 100,000 square feet of geocomposite produced was performed. The quality control certificates, which contain the recorded results for each roll of geocomposite tests, are included in Attachment E. In addition, the results of MQC tests for the resin are included in Attachment E.

Table 2-1 presents the results of the MQC testing compared with the project specifications. The tests indicate that the geocomposite and components met or exceeded the project specifications.

**TABLE 2-1. COMPARISON OF GEOCOMPOSITE PROPERTIES**

Parameter	Specification	Range of MQC Test Results <sup>1</sup>
<b>Geonet</b>		
Polymer Density, g/cm <sup>3</sup>	0.930	0.957 – 0.964
Thickness, mils	220 ± 22	207.3 – 224.7 <sup>2</sup>
Mass per Unit Area, lbs/sf	0.160 ± 0.01	0.1625 – 0.1884
<b>Geotextile</b>		
Fabric Weight, oz/yd <sup>2</sup>	7.1	8.0 – 9
Puncture Resistance, lbs (minimum)	95	129.6 – 171
<b>Geocomposite</b>		
Peel Strength, lbs/in (average)	1.0	2.2 – 4.6
Hydraulic Transmissivity, m <sup>2</sup> /sec (minimum)	1 x 10 <sup>-4</sup>	0.223-0.7 x 10 <sup>-3</sup>

Notes:

1. Range of values.
2. Range of averages.

### **2.3.2 Conformance Testing**

The geocomposite was visually examined by the CQA Representative as it was placed. Roll numbers were verified as conforming to rolls tested by GSE under Manufacturer's Quality Control. The results of the conformance testing for the geocomposite are presented in Tables 2-2, 2-3, and 2-4 and laboratory results are included in Attachment F. The conformance tests were conducted by TRI Environmental, Inc. on material representative of the geocomposite used in this project. The test results further verify that the geocomposite met the project specifications.

**TABLE 2-2. COMPARISON OF GEONET PROPERTIES IN CONFORMANCE TESTING**

Parameter	Specification	Range of Test Results <sup>1</sup>	Average of Test Results
Polymer Density, g/cm <sup>3</sup>	0.930	0.946-.0954	0.951
Thickness, mils	220±22	207-233	216
Mass per Unit Area, lbs/sf	0.160±0.01	0.160-0.199	0.175

Notes:

1. Range of averages.



**TABLE 2-3. COMPARISON OF GEOTEXTILE PROPERTIES  
IN CONFORMANCE TESTING**

Parameter	Specification	Range of Test Results <sup>1</sup>	Average of Test Results
Fabric Weight, oz/yd <sup>2</sup>	7.1	7.5-9.5	8.60
Puncture Resistance, lbs (min)	95	128-253	153

Notes:

1. Range of averages.

**TABLE 2-4. COMPARISON OF DOUBLE SIDED GEOCOMPOSITE PROPERTIES  
IN CONFORMANCE TESTING**

Parameter	Specification	Range of Test Results <sup>1</sup>	Average of Test Results
Peel Strength, lbs/in (average)	1.0	1.6-6.7	3.9
Hydraulic Transmissivity, m <sup>2</sup> /sec (min)	1 x 10 <sup>-4</sup>	1.1 x 10 <sup>-4</sup> – 8.9 x 10 <sup>-4</sup>	2.98 x 10 <sup>-4</sup>

Notes:

1. Range of averages.

## **2.4 SUBBASE ACCEPTANCE**

Prior to deploying the geomembrane, the SCS CQA Representative, and GSE visually inspected the subbase to be sure it was smooth and free of rocks, sharp stones, sticks, roots, sharp objects, and debris. A Subbase Surface Acceptance form signed by the SCS CQA Representative and GSE Site Manager described the area on which geomembrane was to be deployed. Subbase Acceptance forms are included in Attachment G.

## **2.5 GEOMEMBRANE TESTING**

### **2.5.1 Manufacturer Quality Control**

Serrot performed testing on the smooth and textured geomembrane material to verify compliance with the contract specifications prior to approval by SCS. Serrot performed manufacturer's quality control (MQC) tests on the geomembrane prior to delivery. The MQC tests were conducted in accordance with the manufacturer's quality control program. One test per every 50,000 square feet of geomembrane produced was performed. The quality control certificates, which contain the results for geomembrane tests, are included in Attachment E. In addition, the results of MQC tests for geomembrane resins and welding rod are included in Attachment E.

Table 2-5 presents the results of the MQC testing compared with the project specifications of the materials. The tests indicate that the geomembrane met or exceeded the project specifications.

**TABLE 2-5. COMPARISON OF GEOMEMBRANE PROPERTIES**

Parameter	Specification	Range of MQC Test Results <sup>1</sup>
Smooth		
Thickness, mils	60	62-66 <sup>2</sup>
Carbon Content, %	2.0-3.0	2.35 - 2.63
Carbon Black Dispersion	1 or 2	1
Density, g/cm <sup>3</sup>	>0.932	0.943- 0.949
Tensile Strength at Break, (lb/in width)	126	MD 243 - 328 TD 233 - 330
Textured		
Thickness, mils	60	62-66 <sup>2</sup>
Carbon Content, %	2.0-3.0	2.43 - 2.67
Carbon Black Dispersion	1 or 2	1
Density, g/cm <sup>3</sup>	>0.932	0.943 - 0.947
Tensile Strength at Break, (lb/in width)	126	MD 168 - 221 TD 146 - 161

Notes:

1. Range of values.
2. Range of averages.
3. MD - Machine Direction.
4. TD - Transverse Direction.

**2.5.2 Conformance Testing**

The geomembrane was visually examined by the SCS CQA Representative as it was placed. Roll numbers were verified as conforming to rolls tested by GSE under Manufacturer's Quality Control. The results of the conformance testing for the geomembrane are presented in Table 2-6 and laboratory results are included in Attachment F. The conformance tests were conducted by TRI Environmental, Inc. on material representative of the geomembrane used in this project. The test results further verify that the geomembrane met the project specifications.

**TABLE 2-6. COMPARISON OF GEOMEMBRANE PROPERTIES  
IN CONFORMANCE TESTING**

Parameter	Specification	Range of Test Results <sup>1</sup>
Smooth Geomembrane		
Carbon Content, percent	2.3 - 3.0	2.48 - 2.65
Density, g/cm <sup>3</sup>	>0.932	0.944-0.949
Thickness, mils (average)	60	62-64
Tensile Strength at Yield, lb/in	126	MD 151-181 <sup>2</sup> TD 157-187 <sup>3</sup>

Parameter	Specification	Range of Test Results <sup>1</sup>
Tensile Strength at Break, lb/in	228	MD 249-312 TD 267-334
Textured Geomembrane		
Carbon Content, percent	2.0 – 3.0	2.47-2.66
Density, g/cm <sup>3</sup>	>0.932	0.944-0.948
Thickness, mils (min average)	60 ± 3	61-67
Tensile Strength at Yield, lb/in	126	MD 163-177 TD 162-182
Tensile Strength at Break, lb/in	90	MD 172-205 TD 137-190

Notes:

1. Range of averages.
2. MD - Machine direction.
3. TD - Transverse direction.

## 2.6 GEOSYNTHETIC LINER CONSTRUCTION

### 2.6.1 Panel Placement

Geomembrane panels were placed one at a time and temporarily secured along the edges with sandbags to prevent uplift by the wind. Adjacent panels were deployed and adjusted prior to seaming. Upon deployment, individual panels were assigned sequential panel numbers. Panel numbers, with the corresponding manufacturer's geomembrane roll number, were marked on the panels. These numbers were recorded by the CQA Representative and GSE's Quality Control Technician. SCS' Geomembrane Placement Logs are included in Attachment H. Also recorded on the placement logs are length, width, thickness, and orientation of the panels along with the date the panels were deployed. A space for comments about the panels may include a weather description, a shape description of a panel that is not rectangular, or a more detailed description of location.

### 2.6.2 Geomembrane Seaming

The primary technique for geomembrane seaming, as required by the specifications, was double wedge fusion welding. Extrusion welding was used for repairs. Geomembrane seaming logs are included in Attachment I. Each seaming crew was required to produce trial welds with each machine before beginning seaming work with that machine, once in the morning and then again after the lunch break if welding was to take place in the afternoon. The weld was completed on a segment of surplus geomembrane, approximately 10 feet long for fusion welders. The seamers adjusted equipment temperatures to compensate for varying weather and seaming conditions. Double wedge welding machines were generally set to perform at speed settings of 4.0 to 4.5 and a temperature setting of 800 to 840 degrees Fahrenheit. Extrusion welders generally were set at 450 degrees Fahrenheit. The trial welds were tested for compliance with the project specifications at the site using GSE's field tensiometer. Ten one-inch wide specimens were cut from each welded seam. The trial wedge-

welded seams were required to meet or exceed the requirements of 88 pounds per inch (ppi) for peel strength and 120 ppi for shear strength with a Film Tear Bond (FTB) before welding on the deployed panels. The trial extrusion-extrusion welded seams were also required to meet 88 ppi for peel strength and 120 ppi for shear strength also with a FTB. Each of the specimens tested in peel and in shear exceeded the specification requirements as shown in the Trial Weld Logs included in Attachment J.

### **2.6.3 Non-Destructive Seam Tests**

A non-destructive test was conducted on the entire length of each seam. The fusion welder used on this project formed an air channel between the two welds, which was tested for integrity by pressurizing. To begin the test, each end of the air channel was sealed. A dial gauge was inserted at one end and the air channel was pressurized to a minimum of 25 to 30 pounds per square inch (psi) with an air pump. Once the pressure in the air channel stabilized, the time was noted. The pressure could not drop by more than 4 psi in 5 minutes for the seam to pass. At the end of the five minutes, the air channel at the opposite end of the dial gauge on the seam was lanced. A smooth steady drop in pressure as noted on the gauge, indicated that the entire air channel in the seam had been tested. Non-destructive test logs were completed by the CQA Representative. The logs include seam number, an identification of the installer's technician performing the test, the pressure at the beginning and the end of the test, time and duration and pass/fail designation. Other comments on the logs may include a more detailed description of the seam. SCS non-destructive test logs are included in Attachment K.

### **2.6.4 Seam and Panel Repair**

The geomembrane was repaired by patching. Patches were cut with rounded corners from excess geomembrane and were large enough to cover 6 inches beyond the edges of the damage. The patches were temporarily fastened in place using a hot air gun. The edge of the patch was then textured using a grinding machine. When the patch edge was cleaned of grinding debris, a weld was formed with an extrusion welder to secure the patch to the panel. The extruded weld was tested for leaks using a vacuum box assembly and a soapy solution.

Repairs were observed and documented by the CQA Representative on the Geomembrane Repair Log. Included on the repair log was the repair date, repair number, size, location, type of repair, and identification of the technicians who performed and tested the repair, along with additional comments. Geomembrane Repair Logs are presented in Attachment L.

### **2.6.5 Destructive Tests**

As required in the specifications, a destructive test was performed for each 500 linear feet of geomembrane seam completed. A total of 56 destructive samples were tested on the secondary and primary liners and seven destructive samples were tested on the geomembrane material of the interior berms. All Destructive Samples met or exceeded the specifications.

Destructive sample locations were chosen and marked by the CQA Representative. The samples were cut by a GSE Quality Control Technician. Locations of each Destructive Sample

are shown on the GSE as-built panel layout drawing (Attachment B). Geomembrane material was removed for three sets of destructive sample specimens. One set was tested by GSE and one set was archived. The third set was sent to TRI/Environmental, Inc. (TRI) in Austin, Texas, for quality assurance testing. Identification markings placed on the samples by the CQA Representative included a sequential number, panels included in the sample, date seamed, seamer's initials, and machine number. The top outside track was indicated on the samples.

The size of destructive sample was approximately 12 inches by 48 inches with the seam centered lengthwise. The size allowed three sections, each approximately 12 inches by 18 inches for the respective testing. Defects in the geomembrane from the destructive test sampling were repaired as described previously.

Before the quality assurance sample was sent to TRI, GSE first cut one coupon for testing on site with the remainder of the sample sent to TRI for testing. GSE's test results were transmitted verbally to the CQA Representative on site when first known. TRI transmitted written reports to SCS when completed.

TRI performed shear tests to measure strength, and peel tests to measure adhesion of the seam. Testing was conducted in accordance with ASTM D 4433. A 1.0-inch wide sample was tested at a grip separation speed of 2.0 inches per minute. For this project, the minimum acceptable test values were 88 pounds per inch (ppi) for peel strength and 120 ppi for shear strength with a Film Tear Bond (FTB) for wedge welded or extruded seams. Ten specimens were cut from each destructive sample for conformance testing, five in peel and five in shear. Destructive Sample test results from TRI are included in Attachment M.

## **2.7 ELECTRICAL LINER SURVEY**

To provide additional assurance of the integrity of the liner above and beyond the construction quality assurance monitoring and testing, an electric leak location liner survey was performed by I-CORP INTERNATIONAL, Inc., of Ocean Ridge, Florida. The survey was performed by Dr. Ian Peggs on March 18-21 and April 4, 2003.

The electrical survey technique is based on the assumption that the geomembrane is an electrical insulator. After inundating the liner with water, the geonet between the primary and secondary geomembranes is filled with water. Electrical probes are inserted between the two liners and an electric potential is applied by a survey probe in the conductive medium above the liner. An electrical current will only flow through leaks in the primary liner to the survey probe since the geomembrane is an electrical insulator. The gradient is low and fairly uniform in most places, but through a hole in the primary geomembrane, the current flowing is relatively high.

After calibrating the equipment, Dr. Peggs walked a five-foot grid along the geomembrane and took readings of the gradient. Peak readings were marked as potential defects in the geomembrane and were investigated and repaired by the Contractor. The electrical leak location liner survey report prepared by Dr. Peggs and submitted through the Contractor is

presented in Attachment N. Two locations with defects were found and repaired. The location of the repairs are shown on Drawing No. 2 of Attachment B and identified as LI-1 and LI-3.

## **2.8 ANCHOR TRENCH**

The anchor trench was constructed according to the specifications and installed at the locations as shown on the Drawings.

## **2.9 CONSTRUCTION PHOTOGRAPHS**

Representative photographs of construction activities are presented in Attachment O.

## **SECTION 3**

### **LEACHATE SYSTEM**

#### **3.1 LEACHATE COLLECTION**

The leachate collection and header trenches and pump and control system were constructed as specified and as shown on the drawings. Installed as specified in the leachate collection sump was a submersible pump. The pump is a 2 horsepower, 460-volt, three-phase EPG WSD PT-27-1, set to turn off at 12 inches and on at 24 inches from the bottom of the sump. The high level alarm was set at 48 inches above the bottom of the sump. Pump telemetry was constructed as specified.

#### **3.2 LEAK DETECTION**

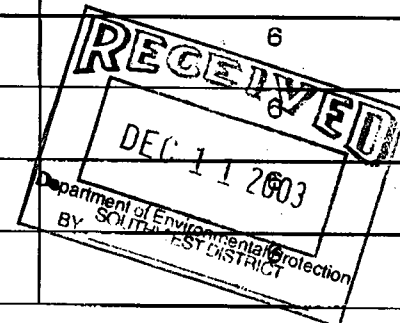
The leachate detection system was constructed as specified and as shown on the drawings. A Gorman Rupp, half horsepower, 460-volt, three-phase pump is used as needed to pump the detection system. Quantities removed will be recorded and included on the Leachate Balance Report submitted quarterly to the FDEP.

**ATTACHMENT A**  
**GEOTECHNICAL TEST REPORTS**

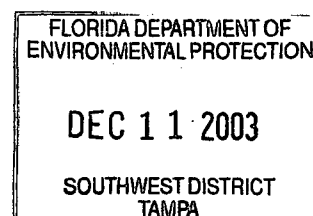


**BURCAW GEOTECHNICAL GROUP, INC.**6402 W. Linebaugh Avenue, Suite A  
Tampa, FL 33625813-818-4606 / 813-891-6686  
www.burcawinc.com**TESTED FOR:**Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118**PROJECT NAME:** Hillsborough County Landfill  
Hillsborough County**PROJECT NO.:** G01-080**DATE:** April 22, 2003**SUB-BASE THICKNESS CHECKS**

Test No.	Date	Sample Location	Depth (Inches)
1	9/3/02	N 1250965.00 E 599100.00	6
2	9/3/02	N 1250955.00 E 599220.00	6
3	9/3/02	N 1251045.00 E 599205.00	6
4	9/3/02	N 1251065.00 E 599295.00	6
5	9/3/02	N 1251180.00 E 599275.00	6
6	9/3/02	N 1251230.00 E 599375.00	6
7	9/3/02	N 1251375.00 E 599380.00	6
8	9/3/02	N 1251470.00 E 599440.00	6
9	9/3/02	N 1251040.00 E 599005.00	6
10	9/3/02	N 1251080.00 E 599135.00	6
11	9/3/02	N 1251145.00 E 599075.00	6
12	9/3/02	N 1251165.00 E 599165.00	6
13	9/3/02	N 1251250.00 E 599140.00	6
14	9/3/02	N 1251280.00 E 599260.00	6
15	9/3/02	N 1251385.00 E 599280.00	6
16	9/3/02	N 1251460.00 E 599360.00	6
17	9/3/02	N 1251025.00 E 598885.00	6
18	9/3/02	N 1251140.00 E 599035.00	6



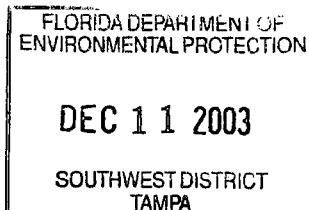
Page 1



**BURCAW GEOTECHNICAL GROUP, INC.**6402 W. Linebaugh Avenue, Suite A  
Tampa, FL 33625813-818-4606 / 813-891-6686  
www.burcawinc.com**TESTED FOR:**Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118**PROJECT NAME:** Hillsborough County Landfill  
Hillsborough County**PROJECT NO.:** G01-080**DATE:** April 22, 2003**SUB-BASE THICKNESS CHECKS**

Test No.	Date	Sample Location	Depth (Inches)
19	9/3/02	N 1251250.00 E 599060.00	6
20	9/3/02	N 1251365.00 E 599150.00	6
21	9/3/02	N 1251490.00 E 599250.00	6
22	9/3/02	N 1251145.00 E 598860.00	6
23	9/3/02	N 1251290.00 E 598955.00	6
24	9/3/02	N 1251380.00 E 599080.00	8
25	9/3/02	N 1251560.00 E 599175.00	6
26	9/3/02	N 1251250.00 E 598815.00	6
27	9/3/02	N 1251580.00 E 599065.00	6
28	9/9/03	N 1251240.00 E 598690.00	6
29	9/9/03	N 1251415.00 E 598810.00	6
30	9/9/03	N 1251465.00 E 598985.00	6
31	9/9/02	N 1251665.00 E 598985.00	5 1/2
32	9/17/02	N 1251320.00 E 598630.00	6
33	9/17/02	N 1251430.00 E 598720.00	6
34	9/17/02	N 1251575.00 E 598840.00	6
35	9/17/02	N 1251695.00 E 598885.00	6
36	9/17/03	N 1251480.00 E 598645.00	6
31A*	9/17/03	N 1251665.00 E 598985.00	6

\* Retest of #31



**REPORT OF  
CONSTRUCTION MATERIALS TESTING**

**HILLSBOROUGH COUNTY LANDFILL  
HILLSBOROUGH COUNTY, FLORIDA**

*prepared for*

**MR. BRIAN EHRLER  
HANDEX CONSTRUCTION SERVICES  
2306 GRAVEL DRIVE  
FORT WORTH, TX 76118.**

*prepared by*

**BURCAW GEOTECHNICAL GROUP, INC.  
6420 LINEBAUGH AVENUE, SUITE A  
TAMPA, FLORIDA 33625**

(813) 818-4606

**BGG JOB NO. G01-080**

**MARCH 12, 2003**



Geotechnical Group  
Incorporated



Geotechnical Group  
Incorporated

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---

April 23, 2003

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080 (Rev. 1)

Dear Mr. Ehrler:

**Burcaw Geotechnical Group, Inc. (BGG)** has completed the requested construction materials testing for the referenced project. The testing was done in general accordance with project and county specifications.

The attached reports indicate that the required testing performed has met or exceeded project specifications except as noted.

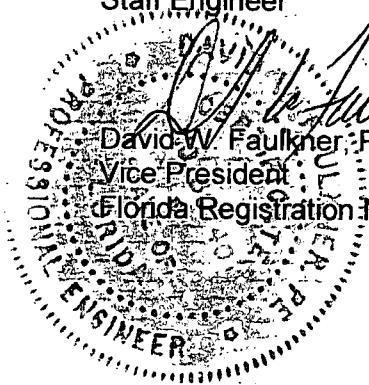
If you should have any questions or we can be of further service, please do not hesitate to contact us at our office.

Respectfully submitted,  
**Burcaw Geotechnical Group, Inc.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner* 4/23/03  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



Enclosures

g:\projects\2001 projects\g01-080-hillsborough county landfill cmt\final package letter.doc

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6402 E. Linebaugh Ave., Suite A  
Tampa, FL 33625

[www.burcawinc.com](http://www.burcawinc.com)

Phone: 1.813.818.4606  
Fax: 1.813.891.6686

---

**GENERAL FILL**



Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

November 27, 2001

Mr. Brian Ehrler  
Handex Construction Services  
Fort Worth, Texas 76118  
Fax: 817-589-0105

**RE: Laboratory Testing  
Hillsborough County Landfill  
BGG Job No. G01-080**

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested laboratory testing for the referenced project. The testing was performed on a soil sample delivered to our office by Mr. Larry Glassco, Handex Site Superintendent for the referenced project.


The testing was performed to determine the approximate swell percentage of the soil material proposed for the project. The results are as follows:

Sample	Density (Lb/Cu.Ft.)	Moisture Content (%)	Soil Description
In-Situ	107.9	8.3	Gray and Brown Slightly Silty Fine SAND
Loaded	78.0	25.0	Gray and Brown Slightly Silty Fine SAND
Compacted	104.7	8.0 to approx. 20	Gray and Brown Slightly Silty Fine SAND

We estimate the approximate swell percentage at 25%. If you have any questions or we can be of further service, please do not hesitate to contact us.

Sincerely,

Burcaw Geotechnical Group, Inc.

  
David W. Faulkner, P.E.  
Vice President

Attachments: Moisture-Density Relationship



10840 Sheldon Road  
Tampa, Florida 33626  
813-882-4815 / 813-882-3808  
www.burcawinc.com

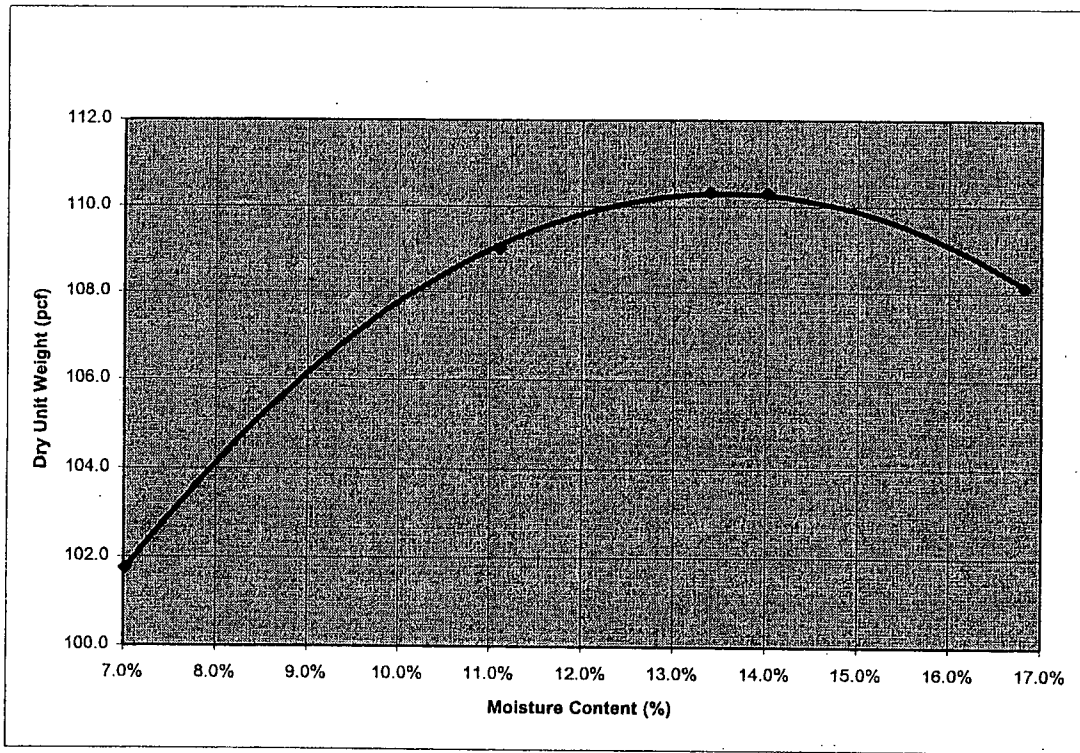
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 11/19/2001

**Project No.** G1-080  
**Report No.** P1

### MOISTURE-DENSITY RELATIONSHIP



Maximum Density: 110.2 PCF  
Optimum Moisture: 13.6 %  
Test Method: ASTM D-698, Standard  
Sampled by: Client

Description: Gray and Brown Slightly Silty Fine Sand with hard pan and trace organics  
Sample Location: N/A

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President



Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

December 11, 2001

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for general fill. The material was delivered to our office by SCS. The material was sampled from Hillsborough County Landfill and is designated as sample #3.

The following are the results of the sieve analysis, atterberg limits and soil classification. The standard proctor is attached.

1. Sieve Analysis

Sample #3 Light Brown Slightly Silty Fine Sand

Sieve No.	% passing
4	100
10	100
20	97
40	87
60	61
100	28
140	12
200	7

2. Atterberg Limits

Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic



3. The USCS Soil Classification is designated as SP-SM.

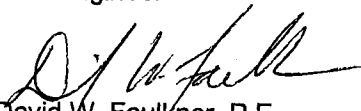
If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,

**Burcaw Geotechnical Group, Inc.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President

Attachment: Moisture-Density Relationship

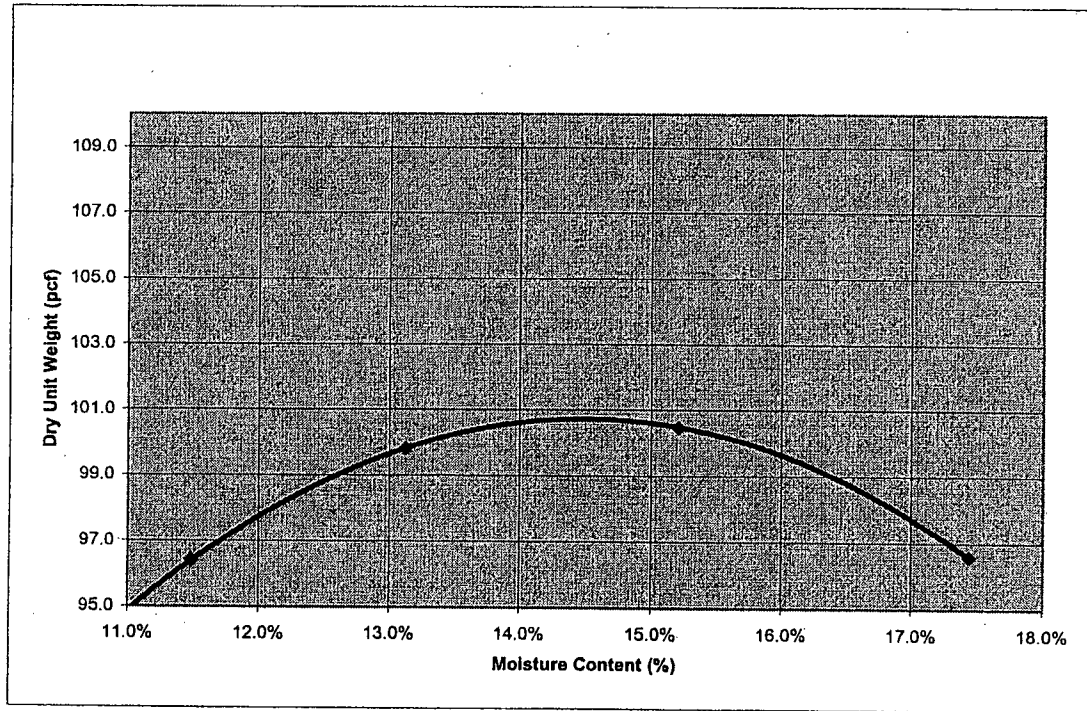
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 12/11/01

**Project No.** G1-080  
**Report No.** P2

### MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 100.6 PCF  
**Optimum Moisture:** 14.5 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Light Brown Slightly Silty Fine Sand  
**Sample Location:** Delivered to BGG Office (Hillsborough County Landfill)

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

December 11, 2001

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for general fill. The material was sampled by BGG at the Shelly Lakes Pit and is designated as sample #4.

The following are the results of the sieve analysis, atterberg limits and soil classification. The standard proctor test is attached.

1. Sieve Analysis

Sample #4 Brown Slightly Silty Fine Sand

Sieve No.	% passing
4	100
10	100
20	96
40	74
60	35
100	15
140	10
200	7

2. Atterberg Limits

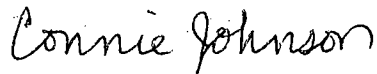
Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic

3. The USCS Soil Classification is designated as SP-SM.

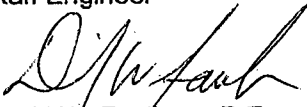
If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,

**Burcaw Geotechnical Group, Inc.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President

Attachment: Moisture-Density Relationship



Geotechnical Group  
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December 17, 2001

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-2 (revised)

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for general fill. The material was sampled by BGG at the Shelly Lakes Pit and is designated as sample #4.

The following are the results of the sieve analysis, atterberg limits and soil classification. The standard proctor test is attached.

1. Sieve Analysis

Sample #4 Brown Slightly Silty Fine Sand

Sieve No.	% passing
4	100
10	100
20	96
40	74
60	35
100	15
140	10
200	7

2. Atterberg Limits

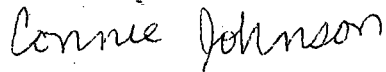
Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic

3. The USCS Soil Classification is designated as SP-SM.

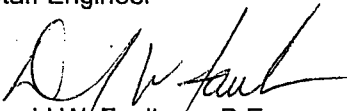
If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,

**Burcaw Geotechnical Group, Inc.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President

Attachment: Moisture-Density Relationship



10840 Sheldon Road  
Tampa, Florida 33626  
813-882-4815 / 813-882-3808  
www.burcawinc.com

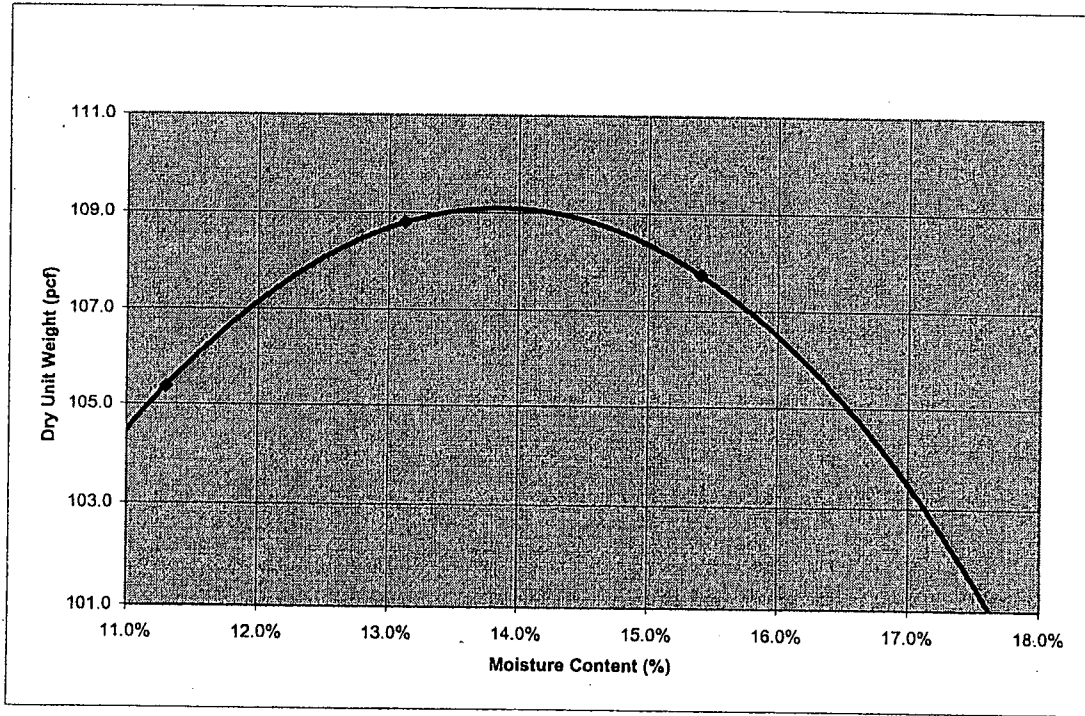
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 12/11/01

**Project No.** G1-080  
**Report No.** P3 (revised)

### MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 109.1 PCF  
**Optimum Moisture:** 13.7 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Brown Fine Sand  
**Sample Location:** Shelly Lakes

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

December 27, 2001

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-3

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for general fill. The material was sampled from Shelly Lakes and is designated as Dark Brown Fine Sand with Cemented Sands (hard pan).

The following are the results of the sieve analysis, atterberg limits and soil classification. The standard proctor is attached.

1. Sieve Analysis

Dark Brown Fine Sand with Cemented Sands (Hard Pan)

Sieve No.	% passing
4	100
10	99
20	90
40	48
60	17
100	7
140	4
200	3

2. Atterberg Limits

Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic



3. The USCS Soil Classification is designated as SP.

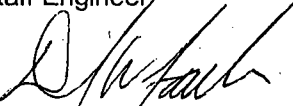
If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,

**Burcaw Geotechnical Group, Inc.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President

Attachment: Moisture-Density Relationship

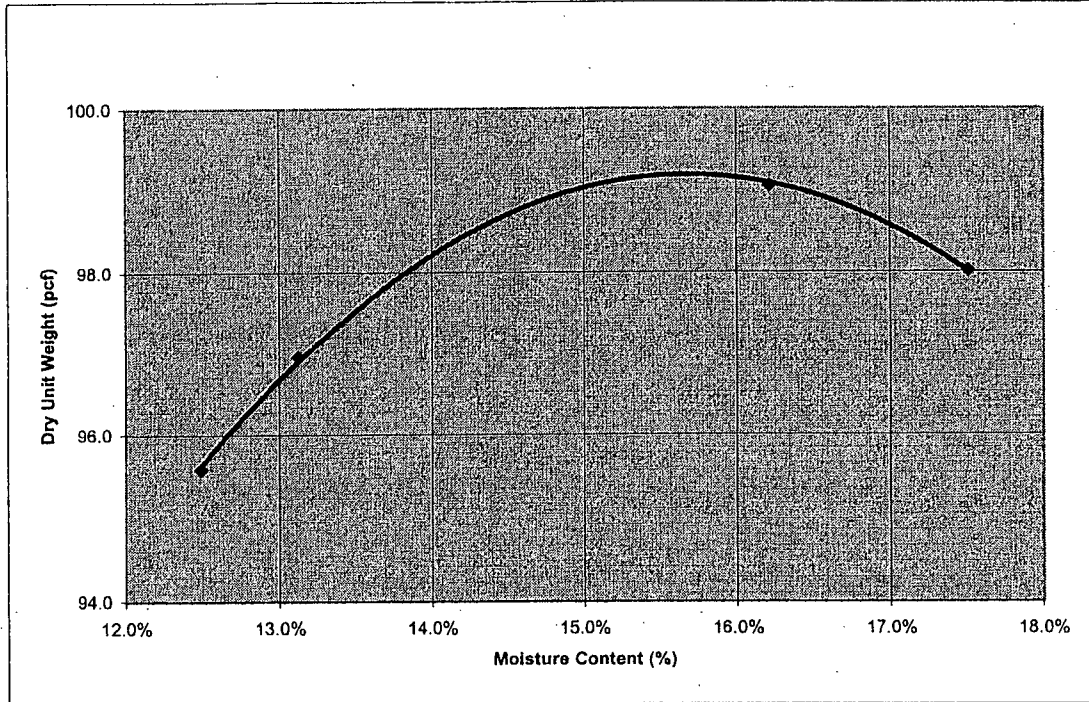
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 12/27/01

**Project No.** G1-080  
**Report No.** P4

### MOISTURE-DENSITY RELATIONSHIP



Maximum Density: 99.2 PCF  
Optimum Moisture: 15.5 %  
Test Method: ASTM D-698, Standard  
Sampled by: Jason Brenneman

Description: Dark Brown Fine Sand  
with Cemented Sands (Hard Pan)

Sample Location: Shelly Lakes

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

December 28, 2001

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-4

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for general fill. The material was sampled by BGG at the landfill access ramp on December 17, 2001 and is designated as sample #5.

The following are the results of the sieve analysis, atterberg limits and soil classification. The standard proctor test is attached.

Sample #5: Mottled Gray and Brown Slightly Silty Fine Sand

1. Sieve Analysis

Sieve No.	% passing
4	100
10	100
20	99
40	88
60	55
100	28
140	17
200	10

2. Atterberg Limits

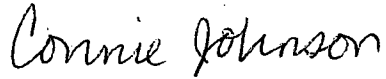
Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic

3. The USCS Soil Classification is designated as SP-SM.

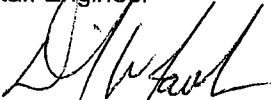
If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,

**Burcaw Geotechnical Group, Inc.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President

Attachment: Moisture-Density Relationship



Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

January 7, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-7

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for general fill. The material was sampled by BGG from imported fill from Shelly Lakes Mine on December 28, 2001 and is designated as sample #6.

The following are the results of the sieve analysis, atterberg limits and soil classification. The standard proctor test is attached.

Sample #6: Light Brown Fine Sand

1. Sieve Analysis

Sieve No.	% passing
4	100
10	100
20	99
40	91
60	59
100	29
140	16
200	8

2. Atterberg Limits

Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic

3. The USCS Soil Classification is designated as SP-SM.

If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,

**Burcaw Geotechnical Group, Inc.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President

Attachment: Moisture-Density Relationship

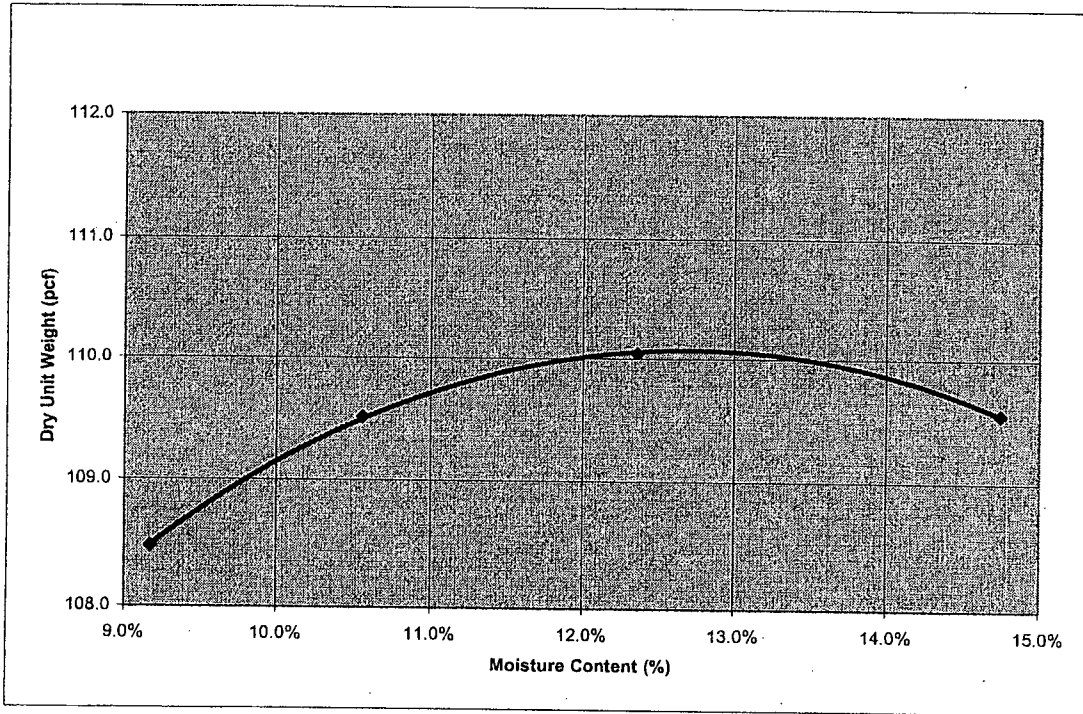
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 1/7/01

**Project No.** G1-080  
**Report No.** P6

### MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 110.1 PCF  
**Optimum Moisture:** 13.0 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Light Brown  
Fine Sand  
**Sample Location:** Imported from Shelly Lake Mine

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



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• Geotechnical Engineering • Construction Materials Testing •

January 10, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-8

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for general fill. The material was sampled by BGG from imported fill from Shelly Lakes Mine on January 5, 2002 and is designated as sample #7.

The following are the results of the sieve analysis, atterberg limits and soil classification. The standard proctor test is attached.

Sample #7: Mottled Gray and Reddish Brown, Slightly Silty Fine Sand with Hard Pan

1. Sieve Analysis

Sieve No.	% passing
4	100
10	100
20	98
40	82
60	51
100	22
140	14
200	9

2. Atterberg Limits

Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic



3. The USCS Soil Classification is designated as SP-SM.

If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,

**Burcaw Geotechnical Group, Inc.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President

Attachment: Moisture-Density Relationship

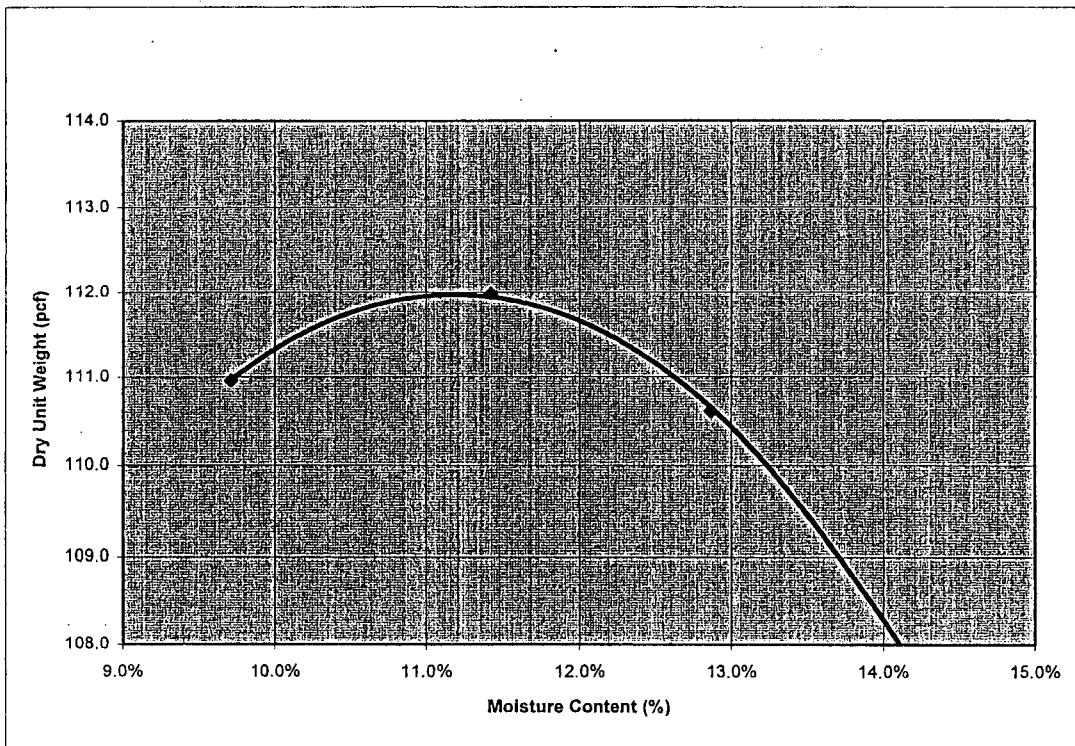
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 1/10/02

**Project No.** G1-080  
**Report No.** P8

### MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 112.0 PCF  
**Optimum Moisture:** 11.4 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Mottled Gray and Reddish Brown,  
Slightly Silty Fine Sand with Hard  
Pan  
**Sample Location:** Imported from Shelly Lake Mine

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*D. W. Faulkner*  
David W. Faulkner, P.E.  
Vice President



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January 15, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-9

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table O2220-2 for general fill. The material was sampled by BGG from imported fill from Shelly Lakes Mine on January 9, 2002 and is designated as sample #8.

The following are the results of the sieve analysis, atterberg limits and soil classification. The standard proctor test is attached.

Sample #8: Reddish Brown to Brown, Slightly Silty, Cemented Fine Sand (Hard Pan)

1. Sieve Analysis

Sieve No.	% passing
4	100
10	99
20	93
40	57
60	23
100	12
140	8
200	5

2. Atterberg Limits

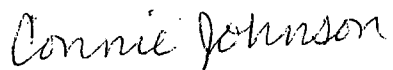
Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic

3. The USCS Soil Classification is designated as SP-SM.

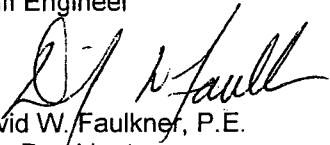
If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,

**Burcaw Geotechnical Group, Inc.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President

Attachment: Moisture-Density Relationship

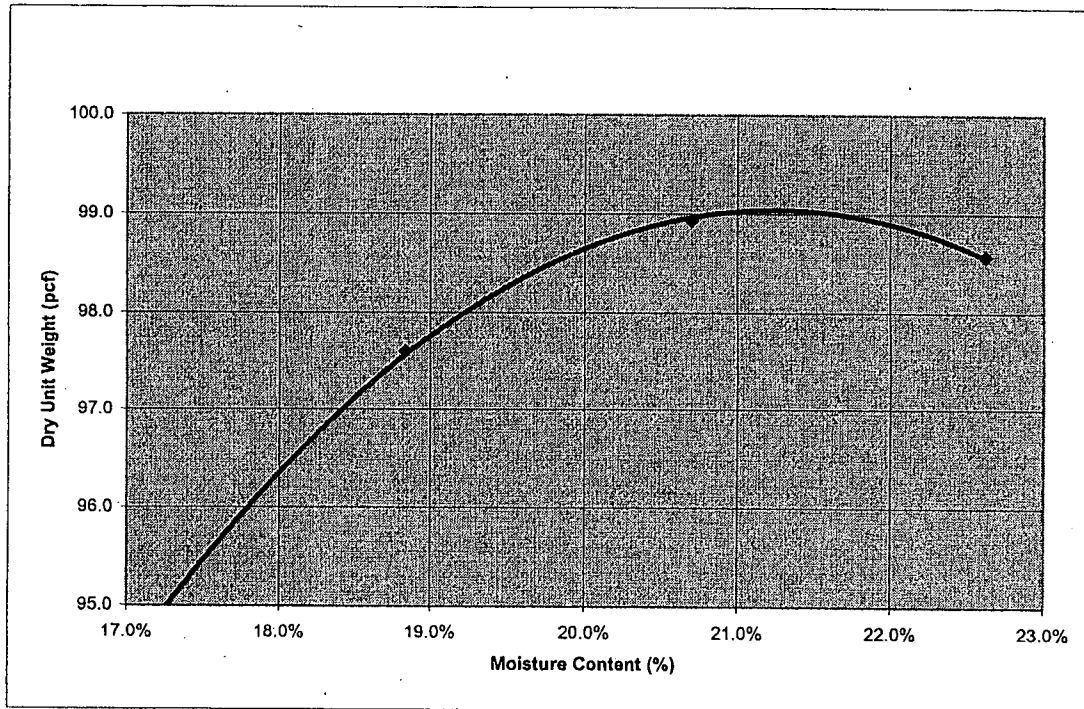
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 1/15/02

**Project No.** G1-080  
**Report No.** P9

### MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 99.0 PCF  
**Optimum Moisture:** 21.5 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Mottled Reddish Brown to Brown,  
Slightly Silty, Cemented Fine Sand  
(Hard Pan)  
**Sample Location:** Imported from Shelly Lake Mine

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



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January 18, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-11

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for general fill. The material was sampled by BGG from a stockpile located at American Aggregate site on January 17, 2002 and is designated as sample #10.

The following are the results of the sieve analysis, atterberg limits and soil classification. The standard proctor test is attached.

Sample #10: Light Brown, Slightly Silty Fine Sand with traces of clay

1. Sieve Analysis

Sieve No.	% passing
4	97
10	95
20	93
40	88
60	59
100	24
140	16
200	12

2. Atterberg Limits

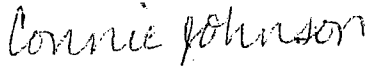
Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic

3. The USCS Soil Classification is designated as SP-SM.

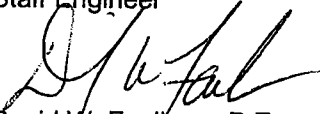
If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,

**Burcaw Geotechnical Group, Inc.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President

Attachment: Moisture-Density Relationship



10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

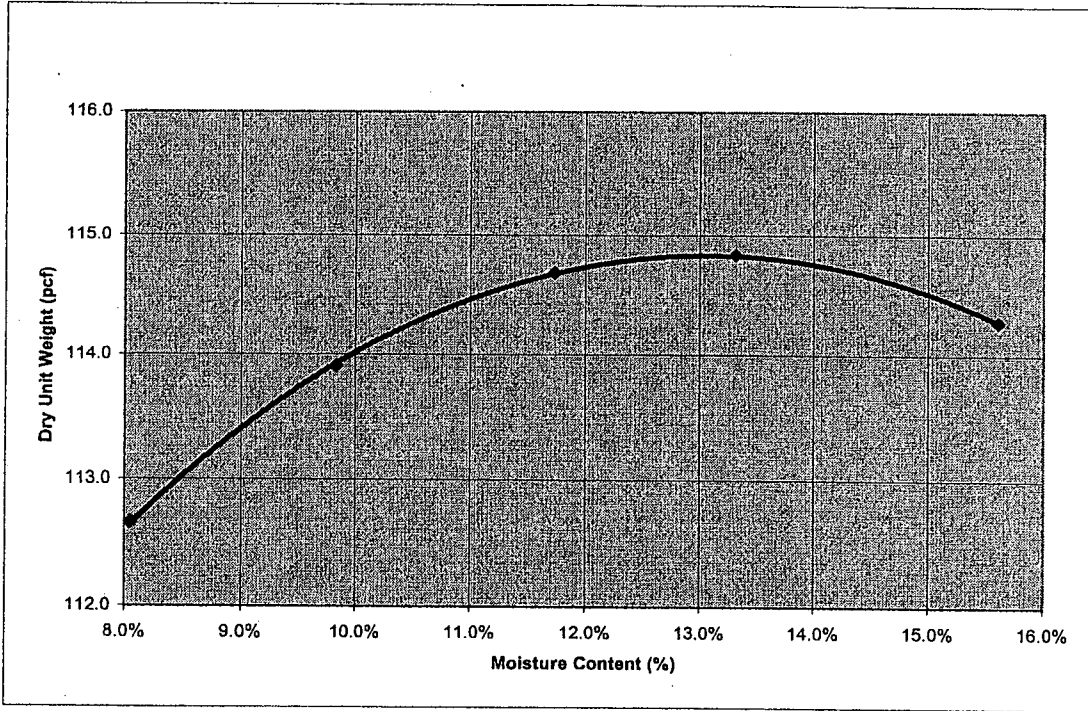
**Tested For:** Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 1/18/02

**Project No.** G1-080  
**Report No.** P10

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 114.9 PCF  
**Optimum Moisture:** 13.3 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Light Brown, Slightly Silty  
 Fine sand with traces of clay  
**Sample Location:** A Stockpile located at American  
 Aggregate Site

Respectfully Submitted,  
 Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
 Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*  
 David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740





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January 24, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Hand Auger Borings  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-12

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested hand auger borings for the referenced project. The hand auger borings were performed with a bucket auger that consists of a bucket and two curved cutting blades that retain the soil as the auger is advanced. The bucket auger is advanced into the soil approximately six inches at a time and withdrawn to remove and record soil samples. SCS Engineering requested the borings where approximately five (5) loads of fill were placed with traces of sandy clay.

Attached are the details of the hand auger borings performed on January 19, 2002. There were no clayey materials encountered at any of the boring locations.

If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,  
**Burcaw Geotechnical Group, Inc.**

Connie Johnson, E.I.  
Staff Engineer

David W. Faulkner, P.E.  
Vice President

Attachment: Auger Boring Records

**AUGER BORING RECORDS**  
**Hillsborough County Landfill**  
**BGG Job No. G01-080-12**

**HA-1**

**N 1251000.00 x E 599200.00**

<u>Depth (Ft.)</u>	<u>Soil Description</u>
0.0 – 1.0	Light Brown, Slightly Silty, fine SAND (SP-SM)
1.0 – 2.0	Dark Brown, Slightly Silty, fine SAND (SP-SM)
2.0 – 3.0	Mottled Dark Brown and Gray, Slightly Silty, fine SAND (SP-SM)

**HA-2**

**N 1251005.00 x E 599170.00**

<u>Depth (Ft.)</u>	<u>Soil Description</u>
0.0 – 1.0	Mottled Light Brown and Dark Brown, Slightly Silty, fine SAND with cemented fragments (SP-SM)
1.0 – 3.0	Mottled Dark Brown and Gray, Slightly Silty, fine SAND with cemented fragments (SP-SM)

**HA-3**

**N 1251010.00 x E 599145.00**

<u>Depth (Ft.)</u>	<u>Soil Description</u>
0.0 – 1.0	Mottled Light Brown and Yellow, Slightly Silty, fine SAND (SP-SM)
1.0 – 3.0	Mottled Dark Brown and Gray, Slightly Silty, fine SAND with cemented fragments (SP-SM)

**HA-4**

**N 1251040.00 x E 599150.00**

<u>Depth (Ft.)</u>	<u>Soil Description</u>
0.0 – 1.0	Mottled Yellow and Light Brown, Slightly Silty, fine SAND (SP-SM)
1.0 – 2.0	Mottled Dark Brown and Gray, Slightly Silty, fine SAND (SP-SM)
2.0 – 3.0	Mottled Dark Brown and Gray, Slightly Silty, fine SAND with cemented fragments (SP-SM)

**HA-5**

**N 1251050.00 x E 599175.00**

<u>Depth (Ft.)</u>	<u>Soil Description</u>
0.0 – 1.0	Light Brown, Slightly Silty, fine SAND with cemented fragments (SP-SM)
1.0 – 3.0	Dark Brown, fine SAND with cemented fragments (SP)

**HA-6**

**N 1251040.00 x 599205.00**

<u>Depth (Ft.)</u>	<u>Soil Description</u>
0.0 – 1.0	Mottled Yellow and Light Brown, Slightly Silty, fine SAND (SP-SM)
1.0 – 3.0	Mottled Dark Brown and Gray, Slightly Silty, fine SAND with cemented fragments (SP-SM)



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January 25, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-13

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for general fill. The material was sampled by BGG from Hillsborough County Landfill on January 18, 2002 and is designated as sample #11.

The following are the results of the sieve analysis, atterberg limits and soil classification. The standard proctor test is attached.

Sample #11: Mottled Light Brown and Gray Slightly Silty Fine Sand with Cemented Fragments

1. Sieve Analysis

Sieve No.	% passing
4	100
10	100
20	98
40	86
60	51
100	22
140	12
200	6

2. Atterberg Limits

Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic

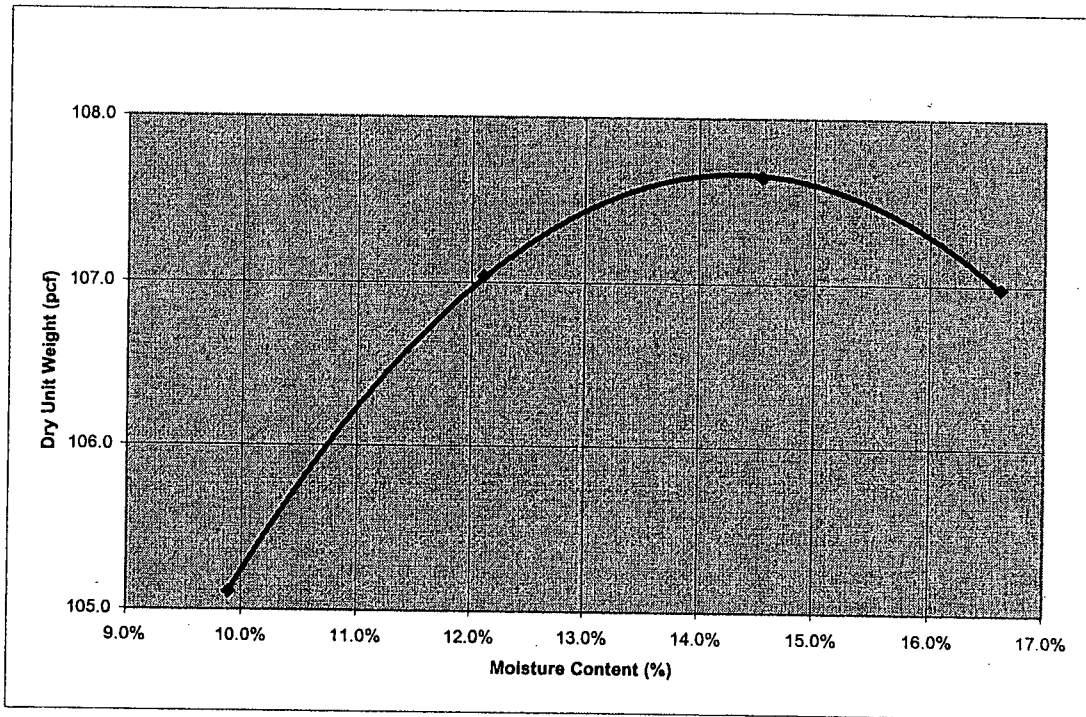
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 1/21/02

**Project No.** G1-080  
**Report No.** P11

### MOISTURE-DENSITY RELATIONSHIP



Maximum Density: 107.7 PCF  
Optimum Moisture: 14.5 %  
Test Method: ASTM D-698, Standard  
Sampled by: Jason Brenneman

Description: Mottled Light Brown and Gray  
Slightly Silty Fine Sand with  
Cemented Fragments  
Sample Location: Imported from Shelly Lakes Mine

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*D. W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

January 25, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-14

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for general fill. The material was sampled by BGG from Hillsborough County Landfill on January 18, 2002 and is designated as sample #12.

The following are the results of the sieve analysis, atterberg limits and soil classification. The standard proctor test is attached.

Sample #12: Reddish Brown Slightly Silty Fine Sand with Cemented Fragments

1. Sieve Analysis

Sieve No.	% passing
4	100
10	100
20	97
40	81
60	45
100	18
140	10
200	5

2. Atterberg Limits

Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic

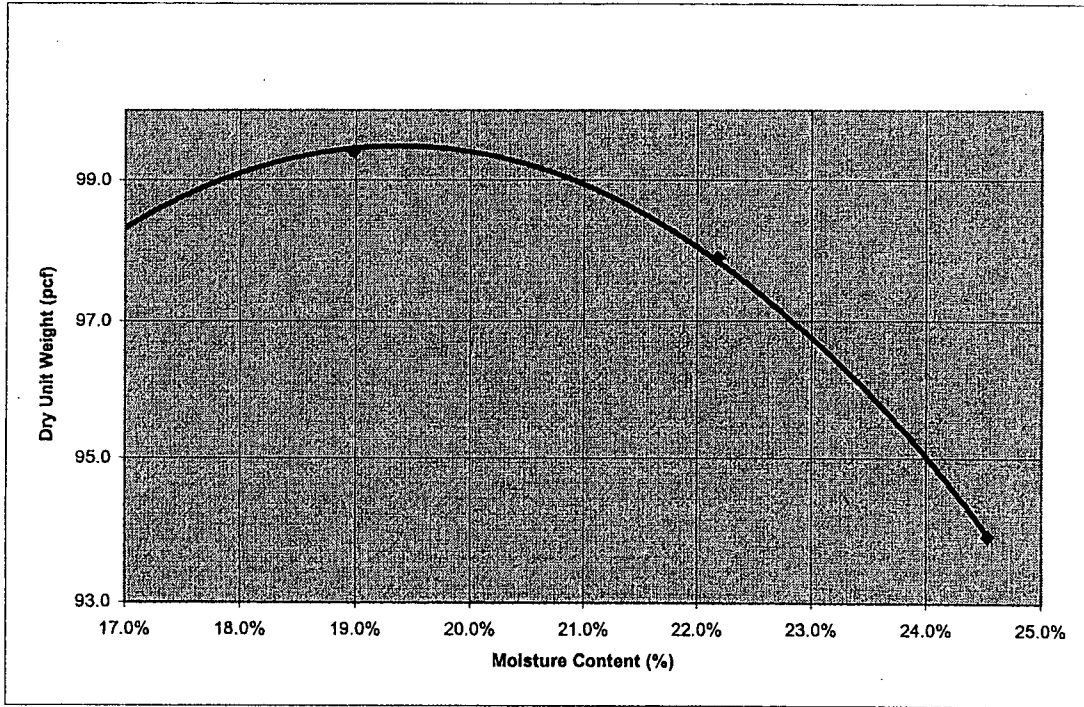
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 1/21/02

**Project No.** G1-080  
**Report No.** P12

### MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 99.5 PCF  
**Optimum Moisture:** 19.5 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Reddish Brown Slightly Silty Fine Sand with Cemented Sand  
**Sample Location:** Imported from Shelly Lakes Mine

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



Geotechnical Group  
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• Geotechnical Engineering • Construction Materials Testing •

February 7, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-15

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for general fill. The material was sampled by BGG from Hillsborough County Landfill on February 4, 2002 and is designated as sample #13.

The following are the results of the sieve analysis, atterberg limits and soil classification. The standard proctor test is attached.

Sample #13: Dark Brown Slightly Silty Fine Sand

1. Sieve Analysis

Sieve No.	% passing
4	100
10	100
20	98
40	80
60	38
100	12
140	7
200	6

2. Atterberg Limits

Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic



3. The USCS Soil Classification is designated as SP-SM.

This sample of material designated as Sample #13, meets project specifications for general fill.

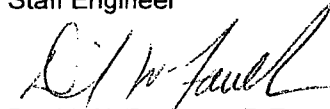
If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,

**Burcaw Geotechnical Group, Inc.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President

Attachment: Moisture-Density Relationship (P13)



10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

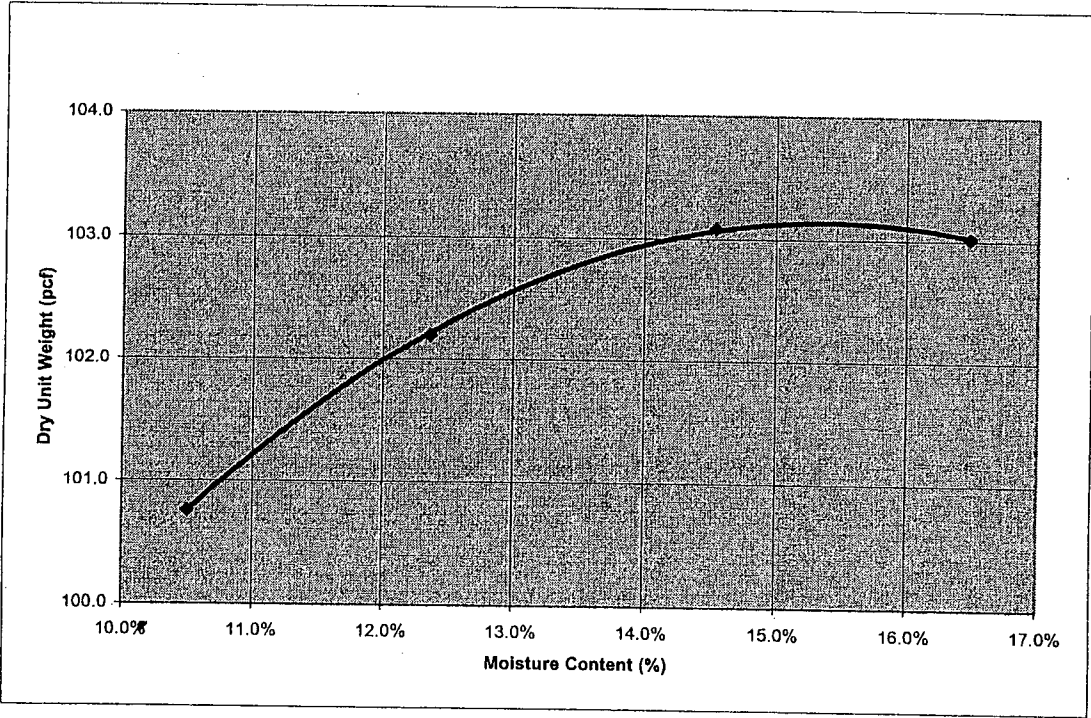
**Tested For:** Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 2/7/02

**Project No.** G1-080  
**Report No.** P13

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 103.3 PCF  
**Optimum Moisture:** 15.0 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Dark Brown Slightly Silty Fine Sand  
**Sample Location:** Imported from Shelly Lakes Mine

*Respectfully Submitted,*  
 Burcaw Geotechnical Group, Inc.  
*Connie Johnson*  
 Connie Johnson, E.I.  
 Staff Engineer  
*David W. Faulkner*  
 David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



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February 7, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-16

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for general fill. The material was sampled by BGG from Hillsborough County Landfill on February 4, 2002 and is designated as sample #14.

The following are the results of the sieve analysis, atterberg limits and soil classification. The standard proctor test is attached.

Sample #14: Light Brown Slightly Silty Fine Sand with Cemented Fine Sands (Hard Pan)

1. Sieve Analysis

Sieve No.	% passing
4	100
10	99
20	92
40	60
60	30
100	15
140	11
200	9

2. Atterberg Limits

Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic

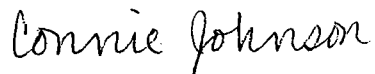
3. The USCS Soil Classification is designated as SP-SM.

This sample of material designated as Sample #14 meets project specification for general fill.

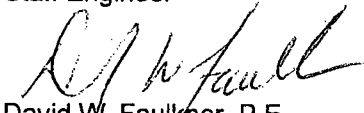
If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,

**Burcaw Geotechnical Group, Inc.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President

Attachment: Moisture-Density Relationship (P14)



10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

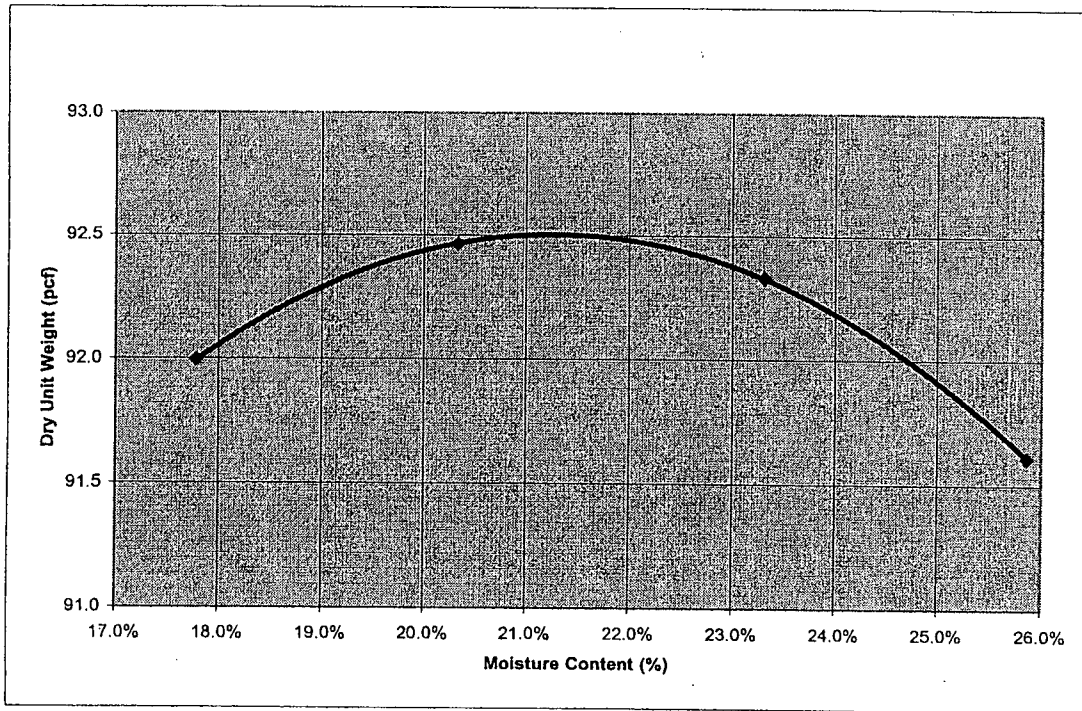
**Tested For:** Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 2/7/02

**Project No.** G1-080  
**Report No.** P14

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 92.5 PCF  
**Optimum Moisture:** 21.7 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Light Brown Slightly Silty Fine Sand with Cemented Fine Sands (Hard Pan)  
**Sample Location:** Imported from Shelly Lakes Mine

Respectfully Submitted,  
 Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
 Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*  
 David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



Geotechnical Group  
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• Geotechnical Engineering • Construction Materials Testing •

March 1, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-17

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 and at the request of Handex Construction Services for both general fill and drainage sand. The material was sampled by BGG from Shelly Lakes Mine on February 21, 2002 and is designated as sample #15.

The following are the results of the sieve analysis, atterberg limits, soil classification, and hydraulic conductivity. The standard proctor test is attached.

Sample #15: Light Brown Coarse Sand

1. Sieve Analysis

Sieve No.	% passing
10	98
30	67
50	30
70	10
100	4
200	0

2. Atterberg Limits

Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic

3. The USCS Soil Classification is designated as SP.
4. Hydraulic Conductivity (ASTM D-5084)

k average =  $5.42 \times 10^{-3}$  cm/sec

This sample of material designated as Sample #15 meets project specifications for both general fill and drainage sand.

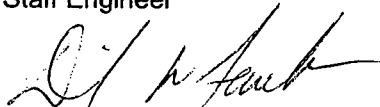
If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,

**Burcaw Geotechnical Group, Inc.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President

Attachment: Moisture-Density Relationship (P15)

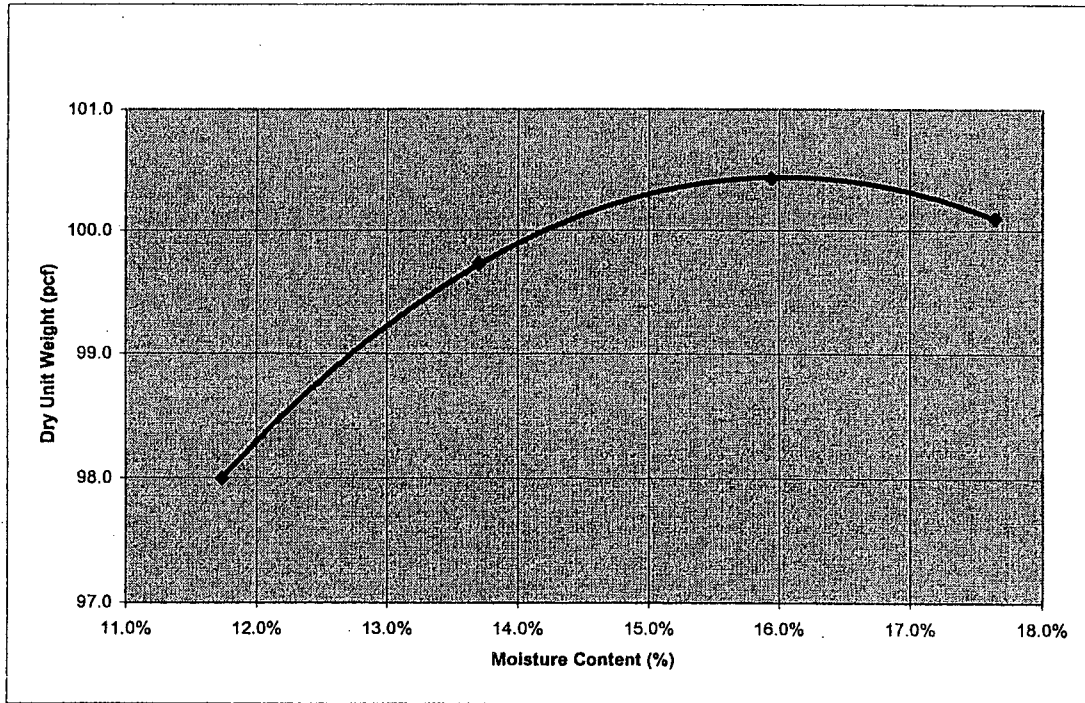
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 3/1/02

**Project No.** G1-080  
**Report No.** P15

### MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 100.5 PCF  
**Optimum Moisture:** 16.2 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brennehan

**Description:** Light Brown Coarse Sand  
**Sample Location:** Imported from Shelly Lakes Mine

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740





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Incorporated

March 1, 2002 • Geotechnical Engineering • Construction Materials Testing •

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-18

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for general fill. The material was sampled by BGG from Hillsborough County Landfill on February 13, 2002 and is designated as sample #16.

The following are the results of the sieve analysis, atterberg limits and soil classification. The standard proctor test is attached.

Sample #16: Dark Gray to Brown Slightly Silty Fine Sand with Cemented Fine Sands (Hard Pan)

1. Sieve Analysis

Sieve No.	% passing
4	100
10	100
20	99
40	93
60	71
100	35
140	21
200	12

2. Atterberg Limits

Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic

3. The USCS Soil Classification is designated as SP-SM.

This sample of material designated as Sample #16 meets project specification for general fill.

If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,

**Burcaw Geotechnical Group, Inc.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

Attachment: Moisture-Density Relationship (P16)

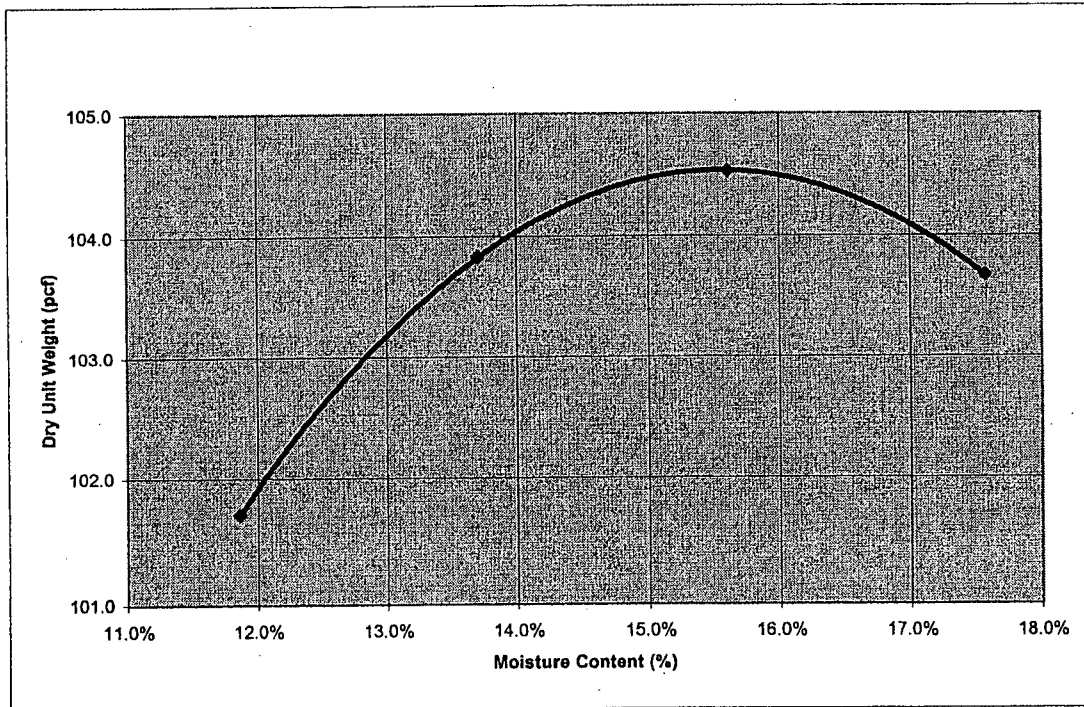
Tested For: Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

Project: Hillsborough County Landfill

Date: 3/1/02

Project No. G1-080  
Report No. P16

### MOISTURE-DENSITY RELATIONSHIP



Maximum Density: 104.5 PCF  
Optimum Moisture: 15.6 %  
Test Method: ASTM D-698, Standard  
Sampled by: Jason Brenneman

Description: Dark Gray to Brown Slightly Silty  
Fine Sand with traces of Cemented  
Sands (Hard Pan)  
Sample Location: Imported from Shelly Lakes Mine

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



Geotechnical Group  
Incorporated

---

March 1, 2002 • Geotechnical Engineering • Construction Materials Testing •

---

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-19

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for general fill. The material was sampled by BGG from Hillsborough County Landfill on February 18, 2002 and is designated as sample #17.

The following are the results of the sieve analysis, atterberg limits and soil classification. The standard proctor test is attached.

Sample #17: Light Brown Fine Sand with Cemented Fine Sands (Hard Pan)

1. Sieve Analysis

Sieve No.	% passing
4	100
10	99
20	92
40	51
60	21
100	10
140	7
200	5

2. Atterberg Limits

Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic

3. The USCS Soil Classification is designated as SP.

This sample of material designated as Sample #17 meets project specification for general fill.

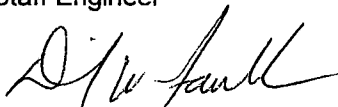
If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,

**Burcaw Geotechnical Group, Inc.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

Attachment: Moisture-Density Relationship (P17)

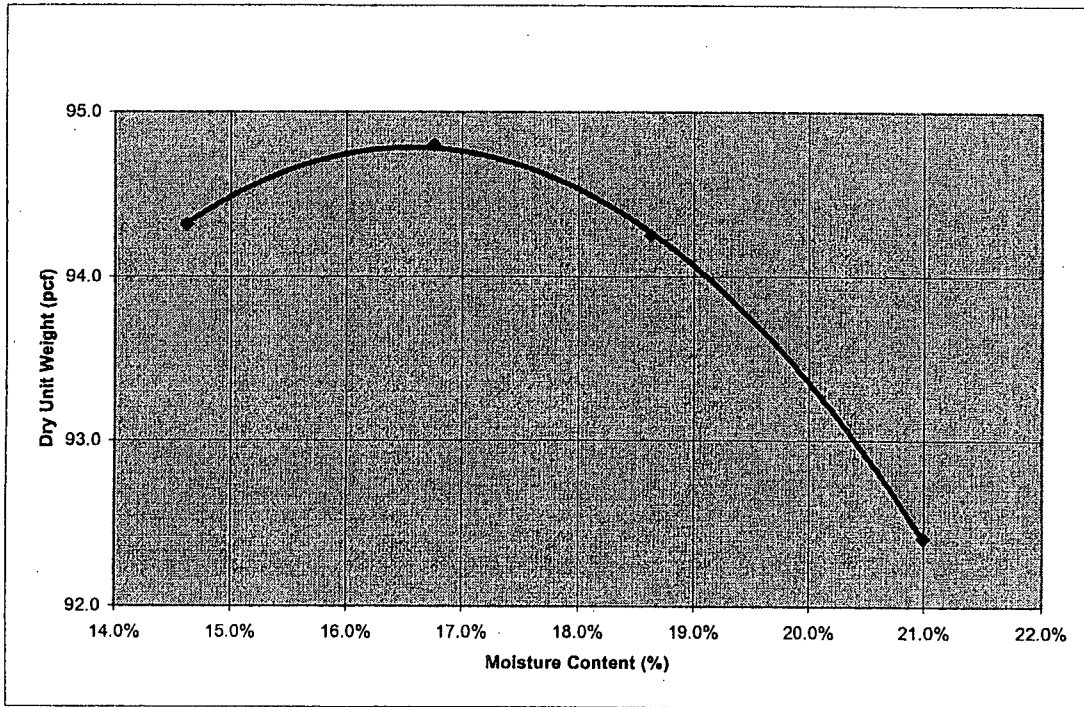
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 3/1/02

**Project No.** G1-080  
**Report No.** P17

## MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 94.8 PCF  
**Optimum Moisture:** 16.8 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Light Brown Slightly Silty Fine Sand with traces of Cemented Fine Sands (Hard Pan)  
**Sample Location:** Imported from Shelly Lakes Mine

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



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March 15, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-20

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for general fill. The material was sampled by BGG from Hillsborough County Landfill on March 6, 2002 and is designated as sample #18.

The following are the results of the sieve analysis, atterberg limits and soil classification. The standard proctor test is attached.

Sample #18: Light Brown to Yellow Fine Sand with Cemented Fine Sands (Hard Pan)

1. Sieve Analysis

Sieve No.	% passing
4	100
10	99
20	96
40	56
60	28
100	13
140	6
200	4

2. Atterberg Limits

Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic

3. The USCS Soil Classification is designated as SP.

This sample of material designated as Sample #18 meets project specification for general fill.

If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,

**Burcaw Geotechnical Group, Inc.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

Attachment: Moisture-Density Relationship (P18)





10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

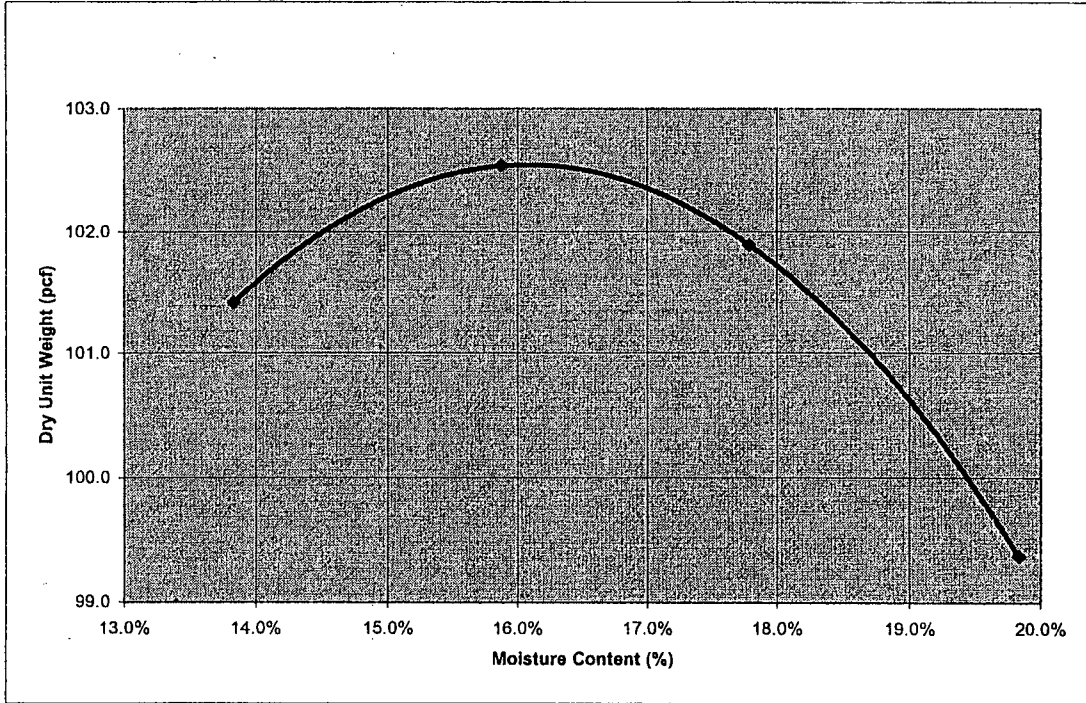
**Tested For:** Mr. Brian Ehler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 3/8/02

**Project No.** G1-080  
**Report No.** P18

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 102.6 PCF  
**Optimum Moisture:** 16.0 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Light Brown to Yellow Fine Sand with Cemented Fine Sands (Hard Pan)  
**Sample Location:** Imported from Shelly Lakes Mine

Respectfully Submitted,  
 Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
 Connie Johnson, E.I.  
 Staff Engineer

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

December 20, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-43**

Dear Mr. Ehrler:

**Burcaw Geotechnical Group, Inc. (BGG)** has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-1 for general fill. The material was sampled by BGG from Hillsborough County Landfill on December 17, 2002 and is designated as sample #1.

The following are the results of the sieve analysis, atterberg limits, wash 200 and soil classification. The standard proctor test is attached.

Sample #1: Mottled Gray Brown Clayey Sand with Trace of Hard Pan

1. Sieve Analysis (ASTM D-422)

Sieve No.	% passing
8	99.7
16	99.0
30	96.4
50	81.3
100	40.3
200	25.2

2. Atterberg Limits (ASTM D-4318)

Liquid Limit (LL) = 29  
Plastic Limit (PL) = 21  
Plasticity Index (PI) = 8

3. Wash 200

Percent Fines = 22.4%

4. The USCS Soil Classification is designated as SC.

If you have any questions or if we can be of further service, please contact us at (813) 818-4606.

Sincerely,

**Burcaw Geotechnical Group, Inc.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President

Attachment: Moisture-Density Relationship (P80)

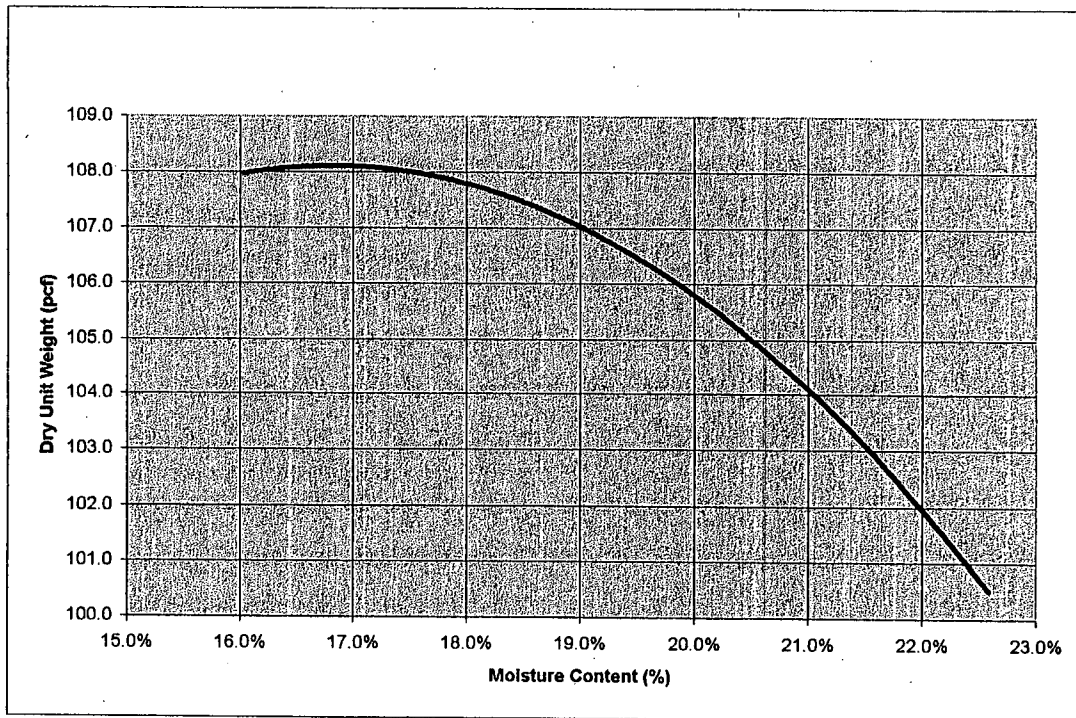
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
1702 Minters Chapel Road, Suite 214  
Grapevine, TX 76051

**Project:** Hillsborough County Landfill

**Report Date:** 12/18/02

**Project No.:** G1-080  
**Report No.:** P80

### MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 108.1 PCF  
**Optimum Moisture:** 16.9 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 12/17/02

**Description:** Mottled Gray Brown Clayey Sand with trace of Hard Pan  
**Sample Location:** On-Site Borrow Pit General Fill

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



Geotechnical Group  
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January 10, 2003

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-45**

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for general fill. The material was sampled by BGG from Hillsborough County Landfill on January 7, 2003 and is designated as samples #1 and #2.

The following are the results of the sieve analysis, atterburg limits, wash 200 and soil classification. The standard proctor tests are attached.

Sample #1: Light Gray Fine Sand With Trace of Clay  
Sample Location: North Containment Berm and West Side of West Containment Berm, General Fill

1. Sieve Analysis

Sieve No.	% passing
8	99.7
16	98.8
30	94.6
50	77.2
100	36.3
200	8.8

2. Atterberg Limits

Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic

3. Percent Fines: 8.8%

4. The USCS Soil Classification is designated as SP-SM.

Sample #2: Brown Fine Sand With Hard Pan  
Sample Location: Interior Separation Berm

1. Sieve Analysis

Sieve No.	% passing
8	99.4
16	97.8
30	90.8
50	51.2
100	11.6
200	4.9

2. Atterberg Limits

Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic

3. Percent Fines: 4.9%

3. The USCS Soil Classification is designated as SP.

These samples meet project specifications for general fill. If you have any questions or if we can be of further service, please contact us at (813) 818-4606.

Sincerely,

**Burcaw Geotechnical Group, Inc.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President

Attachment: Moisture-Density Relationship (P83)  
Moisture-Density Relationship (P84)

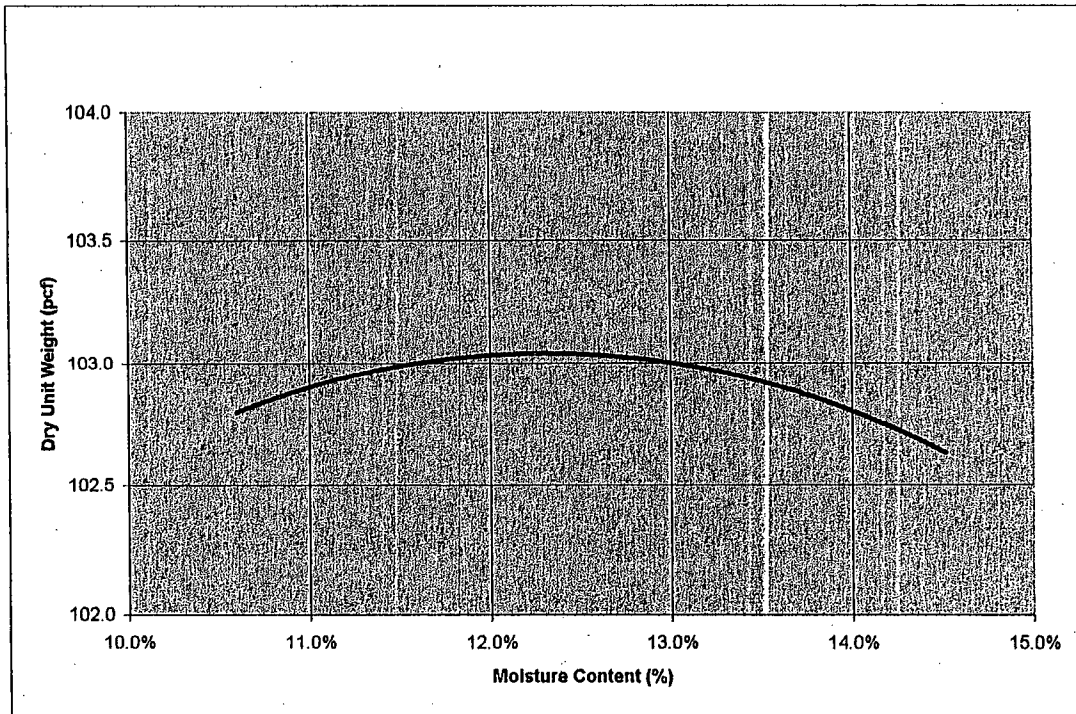
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
1702 Minters Chapel Road, Suite 214  
Grapevine, TX 76051

**Project:** Hillsborough County Landfill

**Report Date:** 1/8/03

**Project No.:** G1-080  
**Report No.:** P83

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 103.1 PCF  
**Optimum Moisture:** 12.3 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 1/7/03

**Description:** Light Gray Fine Sand With Trace of Clay  
**Sample Location:** North Containment Berm, West Side of West Containment Berm General Fill

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President

Florida Registration No. 50740

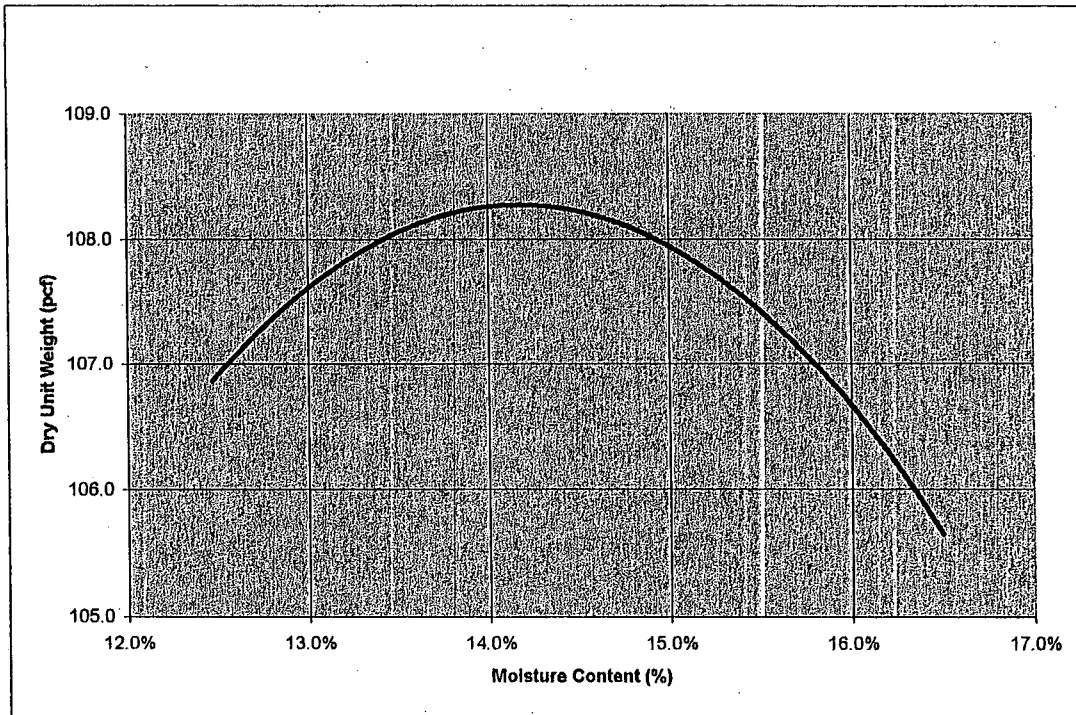
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
1702 Minters Chapel Road, Suite 214  
Grapevine, TX 76051

**Project:** Hillsborough County Landfill

**Report Date:** 1/8/03

**Project No.:** G1-080  
**Report No.:** P84

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 108.3 PCF  
**Optimum Moisture:** 14.3 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 1/7/03

**Description:** Brown Fine Sand With Hard Pan  
**Sample Location:** Interior Separation Berm

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740





Geotechnical Group  
Incorporated

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January 17, 2003

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-46**

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for general fill. The material was sampled by BGG from Hillsborough County Landfill on December 24, 2002.

The following are the results of the sieve analysis, atterburg limits, wash 200 and soil classification. The standard proctor test is attached.

Sample #10: Brown Fine Sand With Trace of Hard Pan  
Sample Location: General Fill, West Side of West Containment Berm

1. Sieve Analysis

Sieve No.	% passing
8	99.5
16	98.2
30	89.4
50	53.2
100	22.0
200	10.2

2. Atterberg Limits

Liquid Limit (LL) = non-plastic  
Plastic Limit (PL) = non-plastic  
Plasticity Index (PI) = non-plastic

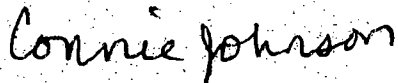
3. Percent Fines: 9.4%

3. The USCS Soil Classification is designated as SP-SM.

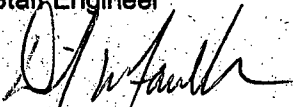
This sample meets project requirements for general fill. If you have any questions or if we can be of further service, please contact us at (813) 818-4606.

Sincerely,

**Burcaw Geotechnical Group, Inc.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President

Attachment: Moisture-Density Relationship (P82)

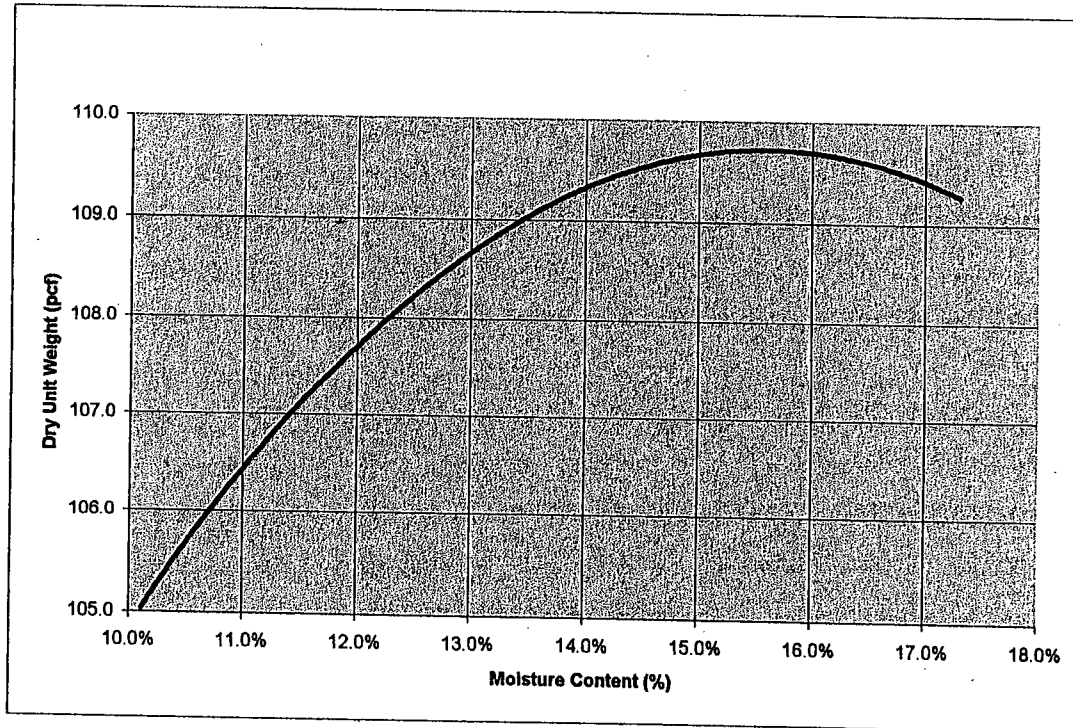
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
1702 Minters Chapel Road, Suite 214  
Grapevine, TX 76051

**Project:** Hillsborough County Landfill

**Report Date:** 1/2/03

**Project No.:** G1-080  
**Report No.:** P82

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 109.7 PCF  
**Optimum Moisture:** 15.9 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brennehan  
**Sample Date:** 12/24/02

**Description:** Brown Fine Sand with traces of hard pan  
**Sample Location:** West Side of West Containment Berm  
General Fill

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

# **DRAINAGE**



Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

January 3, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-5

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for drainage sand. The material, from American Aggregate was obtained by a representative of BGG on December 4, 2001 at the Hillsborough County Landfill and is designated as sample #1.

The following are the results of the sieve analysis and hydraulic conductivity.

1. Sieve Analysis

Sample #1 Light Brown Fine Sand

Sieve No.	% passing
4	100
10	99.9
20	98.8
40	81.5
60	38.2
100	16.6
140	1.8
200	0.2

2. Hydraulic Conductivity (ASTM D-5084)

k average =  $1.21 \times 10^{-2}$  cm/sec

If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,  
**Burcaw Geotechnical Group, Inc.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President



Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

January 4, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-6

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for drainage sand. The material was delivered to BGG on December 5, 2001. The material was sampled from Shelly Lakes and is designated as sample #2.

The following are the results of the sieve analysis and hydraulic conductivity.

1. Sieve Analysis

Sample #2 Light Brown Fine Sand

Sieve No.	% passing
4	100
10	100
20	98
40	77
60	21
100	3
140	1
200	0

2. Hydraulic Conductivity (ASTM D-5084)

k average =  $8.17 \times 10^{-3}$  cm/sec

If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President



Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

January 18, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-10

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for drainage sand. The material was sampled from Hillsborough County Landfill on January 14, 2002 and is designated as sample #9.

The following are the results of the sieve analysis and hydraulic conductivity.

- Sieve Analysis  
Sample #9: Mottled Yellow and Brown Slightly Silty Fine Sand

Sieve No.	% passing
4	100
10	100
20	99
40	90
60	60
100	30
140	18
200	9

- Hydraulic Conductivity (ASTM D-5084)

k average =  $7.03 \times 10^{-3}$  cm/sec

If you have any questions or if we can be of further service, please contact us at (813) 882-4815.

Sincerely,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President



Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

May 17, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-32

Dear Mr. Ehrler:

BurcaW Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with page 02220-6 for rock. The material was sampled by Handex Construction and delivered onsite to a representative of BGG on April 26, 2002. The sample is designated as sample #37.

The results of the sieve analysis are as follows.

Sample #37: Rock

1. Sieve Analysis (ASTM D-422)

Sieve No.	% passing	FDOT, Sec. 901
3.0"	-	-
2.5"	-	-
2.0"	99.3	100
1.5"	54.4	90-100
1.0"	1.2	20-55
0.75"	0.2	0-15
0.5"	-	-
3/8"	0.1	0-5
4	-	-
8	-	-
16	-	-

This sample does not meet project specifications for drainage rock. The material passing one and a half inch (1-1/2) and one (1) inch sieves do not meet required specifications.

If you have any questions or if we can be of further service, please contact us at (813) 818-4606.

Sincerely,  
BurcaW Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President





Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

October 29, 2002

Mr. Brian Ehrler  
Handex Construction Services  
1702 Minters Chapel Road, Suite 214  
Grapevine, TX 76051

RE: Laboratory Testing  
Hillsborough County Landfill, Tampa, Florida  
BGG Job No. G01-080-40

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for drainage sand. The material was sampled from a Hillsborough County stockpile on the north side of the project by a representative of BGG on October 17, 2002 and is designated sample #142.

The following are the results of the sieve analysis and hydraulic conductivity. The standard proctor is attached.

1. Sieve Analysis

Sample #1 Light Gray Fine Sand

Sieve No.	% passing
4	100
10	100
30	94.3
50	61.8
70	14.7
200	2.0

2. Hydraulic Conductivity (ASTM D-5084)

k average =  $2.23 \times 10^{-2}$  cm/sec

This material meets project specifications for drainage sand.

If you have any questions or if we can be of any further assistance, please contact us at (813) 818-4606.

Sincerely,  
Burcaw Geotechnical Group, Inc.

  
David W. Faulkner, P.E.  
Vice President

Enclosures

g:\projects\g01-080-hillsborough county landfill cmt\samplesletter102902-40.doc

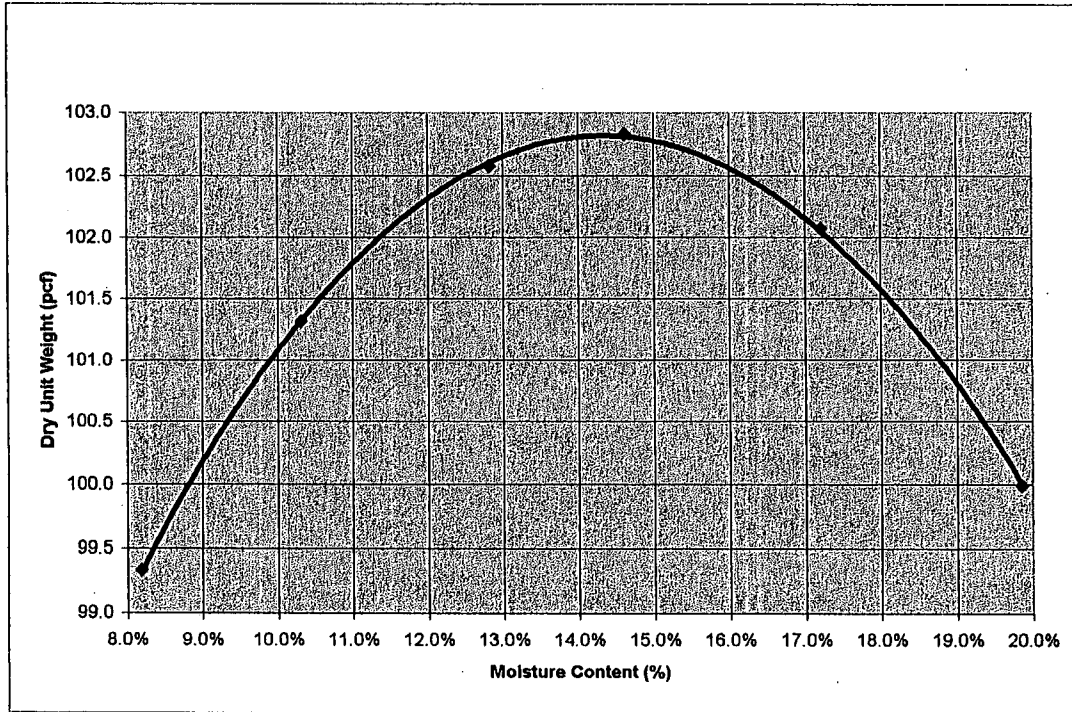
**Tested For:** Mr. Brian Ehler  
Handex Construction Services  
1702 Minters Chapel Road, Suite 214  
Grapevine, TX 76051

**Project:** Hillsborough County Landfill

**Report Date:** 10/17/02

**Project No.:** G1-080  
**Report No.:** P77

MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 102.8 PCF  
**Optimum Moisture:** 14.5 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brennehan  
**Sample Date:** 10/17/02

**Description:** Light Gray Fine Sand  
**Sample Location:** Hillsborough County's Material,  
North Side Of Project  
General Fill Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

October 14, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**RE: Laboratory Testing Services  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080**

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested Coefficient of Interface Friction with Soil testing for the referenced project. The testing was performed in general accordance with ASTM D5321.

The materials were sampled by a representative of BGG and transported to our laboratory for testing. The interface tested was a Geocomposite Lot No. F3095 and protective cover sand. The shear rate of the test was 1mm/min. The soil specimen was remolded to 90% of maximum dry density at approximately optimum moisture content. The test was ran at a normal stress of 100, 200 and 500 psf. The results of testing is a follows:

ASTM D5321

Soil Description:	Light brown Fine SAND	
Test Condition:	Hydrated and consolidated under the normal stress prior to shear.	
Shear Rate:	1mm/min.	
Results:	<u>Peak</u> 28.5 degrees	<u>Residual at 3" Travel</u> 28.0 degrees

The test results meet the project specifications outlined in Table 02930-3 Geocomposite Properties of 25 degrees.

If you have any questions or if we can be of further service, please contact us at (813) 818-4606.

Sincerely,

**Burcaw Geotechnical Group, Inc.**

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

Enclosure  
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Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

December 5, 2002

Mr. Brian Ehrler  
Handex Construction Services  
1702 Minters Chapel Road, Suite 214  
Grapevine, TX 76051  
Fax: 642-9958

RE: Laboratory Testing  
Hillsborough County Landfill, Tampa, Florida  
BGG Job No. G01-080-41

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for drainage sand. The material was sampled onsite from placed drainage sand.

The following are the results of the sieve analysis and hydraulic conductivities.

Sample #1: Brown Fine Sand  
Location: N1251430.00  
E599420.00

a. Sieve Analysis

Sieve No.	% passing
4	100
10	100
30	90.9
50	60.5
70	18.5
200	3.6

b. Hydraulic Conductivity (ASTM D-5084)

k average =  $3.6 \times 10^{-3}$  cm/sec

This material meets project specifications for drainage sand.

Sample #2: Brown Fine Sand  
Location: N1251090.00  
E599280.00

a. Sieve Analysis

<u>Sieve No.</u>	<u>% passing</u>
4	100
10	100
30	90.5
50	49.2
70	10.6
200	2.8

b. Hydraulic Conductivity (ASTM D-5084)

$$k \text{ average} = 2.5 \times 10^{-3} \text{ cm/sec}$$

This material meets project specifications for drainage sand.

Sample #3: Brown Fine Sand  
Location: N1251035.00  
E599030.00

a. Sieve Analysis

<u>Sieve No.</u>	<u>% passing</u>
4	100
10	100
30	90.1
50	44.7
70	12.0
200	2.7

b. Hydraulic Conductivity (ASTM D-5084)

$$k \text{ average} = 2.4 \times 10^{-3} \text{ cm/sec}$$

This material meets project specifications for drainage sand.

Sample #4: Brown Fine Sand  
Location: N1251380.00  
E599240.00

a. Sieve Analysis

<u>Sieve No.</u>	<u>% passing</u>
4	100
10	100
30	87.8
50	42.2
70	10.7
200	3.6

b. Hydraulic Conductivity (ASTM D-5084)

$$k \text{ average} = 2.23 \times 10^{-2} \text{ cm/sec}$$

This material meets project specifications for drainage sand.

Sample #5: Brown Fine Sand  
Location: N1251380.00  
E599120.00

a. Sieve Analysis

<u>Sieve No.</u>	<u>% passing</u>
4	100
10	100
30	91.5
50	53.5
70	17.5
200	3.7

b. Hydraulic Conductivity (ASTM D-5084)

$$k \text{ average} = 2.3 \times 10^{-3} \text{ cm/sec}$$

This material meets project specifications for drainage sand.

**Sample #6:** Brown Fine Sand  
**Location:** N1251325.00  
E598815.00

a. Sieve Analysis

<b>Sieve No.</b>	<b>% passing</b>
4	100
10	100
30	85.2
50	37.4
70	15.0
200	3.9

b. Hydraulic Conductivity (ASTM D-5084)

$$k \text{ average} = 2.8 \times 10^{-3} \text{ cm/sec}$$

This material meets project specifications for drainage sand.

**Sample #7:** Brown Fine Sand  
**Location:** N1251590.00  
E599020.00

a. Sieve Analysis

<b>Sieve No.</b>	<b>% passing</b>
4	100
10	100
30	92.5
50	53.3
70	16.8
200	3.1

b. Hydraulic Conductivity (ASTM D-5084)

$$k \text{ average} = 2.4 \times 10^{-3} \text{ cm/sec}$$

This material meets project specifications for drainage sand.

Sample #8: Brown Fine Sand  
Location: N1251325.00  
E598690.00

a. Sieve Analysis

<u>Sieve No.</u>	<u>% passing</u>
4	100
10	100
30	88.4
50	44.9
70	16.0
200	4.4

b. Hydraulic Conductivity (ASTM D-5084)

$$k \text{ average} = 4.8 \times 10^{-3} \text{ cm/sec}$$

This material meets project specifications for drainage sand.

Sample #9: Brown Fine Sand  
Location: N1251580.00  
E598880.00

a. Sieve Analysis

<u>Sieve No.</u>	<u>% passing</u>
4	100
10	100
30	93.7
50	54.7
70	17.7
200	2.9


b. Hydraulic Conductivity (ASTM D-5084)

$$k \text{ average} = 3.1 \times 10^{-3} \text{ cm/sec}$$

This material meets project specifications for drainage sand.

If you have any questions or if we can be of any further assistance, please contact us at (813) 818-4606.

Sincerely,  
Burcat Geotechnical Group, Inc.

  
David W. Faulkner, P.E.  
Vice President





Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

December 10, 2002

Mr. Brian Ehrlér  
Handex Construction Services  
1702 Minters Chapel Road, Suite 214  
Grapevine, TX 76051  
Fax: 642-9958

RE: Laboratory Testing  
Hillsborough County Landfill, Tampa, Florida  
BGG Job No. G01-080-42

Dear Mr. Ehrlér:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for drainage sand. The material was sampled onsite from placed drainage sand.

The following are the results of the sieve analysis and hydraulic conductivities.

Sample #1: Light Gray Fine Sand

Location: Randomly Sampled – North Portion of Hillsborough County Landfill Property

a. Sieve Analysis

Sieve No.	% passing
4	100
10	100
30	94.4
50	64.2
70	15.7
200	1.9

b. Hydraulic Conductivity (ASTM D-5084)

$$k \text{ average} = 2.8 \times 10^{-3} \text{ cm/sec}$$

This material meets project specifications for drainage sand.

**Sample #2:** Light Gray Fine Sand  
**Location:** Randomly Sampled – North Portion of Hillsborough County Landfill Property

a. Sieve Analysis

<b>Sieve No.</b>	<b>% passing</b>
4	100
10	100
30	93.7
50	61.3
70	17.8
200	1.3

b. Hydraulic Conductivity (ASTM D-5084)

$$k \text{ average} = 4.4 \times 10^{-3} \text{ cm/sec}$$

This material meets project specifications for drainage sand.

**Sample #3:** Light Gray Fine Sand  
**Location:** Randomly Sampled – North Portion of Hillsborough County Landfill Property

a. Sieve Analysis

<b>Sieve No.</b>	<b>% passing</b>
4	100
10	100
30	90.7
50	61.1
70	18.6
200	1.7

b. Hydraulic Conductivity (ASTM D-5084)

$$k \text{ average} = 2.4 \times 10^{-3} \text{ cm/sec}$$

This material meets project specifications for drainage sand.

**Sample #4:** Light Gray Fine Sand  
**Location:** Randomly Sampled – North Portion of Hillsborough County Landfill Property

a. Sieve Analysis

Sieve No.	% passing
4	100
10	100
30	92.7
50	62.7
70	19.8
200	1.8

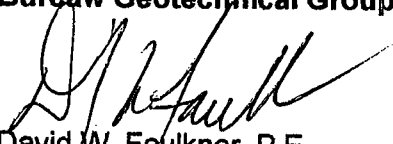
b. Hydraulic Conductivity (ASTM D-5084)

k average =  $2.5 \times 10^{-3}$  cm/sec

This material meets project specifications for drainage sand.

If you have any questions or if we can be of any further assistance, please contact us at (813) 818-4606.

Sincerely,  
**Burcaw Geotechnical Group, Inc.**



David W. Faulkner, P.E.  
Vice President



Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

December 23, 2002

Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-44**

Dear Mr. Ehler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with Table 02220-2 for drainage sand. The material was sampled by BGG from Hillsborough County Landfill on December 17, 2002 and is designated as samples 10, 11, 12 and 13.

The following are the results of the sieve analysis, atterburg limits, hydraulic conductivity and soil classification. The standard proctor test is attached.

Sample #10: Light Gray Fine Sand  
Sample Location: N1251500.00 X E599130.00

1. Sieve Analysis

Sieve No.	% passing
10	99.8
30	93.2
50	53.9
100	8.7
200	0.5

2. Hydraulic Conductivity (ASTM D-5084)

$$k \text{ average} = 7.8 \times 10^{-3} \text{ cm/sec}$$

3. The USCS Soil Classification is designated as SP.

Sample #11: Light Gray Fine Sand  
Sample Location: N1251280.00 X E598950.00

1. Sieve Analysis

Sieve No.	% passing
10	99.97
30	94.1
50	55.8
100	9.8
200	0.6

2. Hydraulic Conductivity (ASTM D-5084)

$$k \text{ average} = 4.4 \times 10^{-3} \text{ cm/sec}$$

3. The USCS Soil Classification is designated as SP.

Sample #12: Light Gray Fine Sand  
Sample Location: N1251700.00 X E598825.00

1. Sieve Analysis

Sieve No.	% passing
10	99.9
30	93.3
50	54.9
100	8.8
200	0.3

2. Hydraulic Conductivity (ASTM D-5084)

$$k \text{ average} = 6.6 \times 10^{-2} \text{ cm/sec}$$

3. The USCS Soil Classification is designated as SP.

Sample #13: Light Gray Fine Sand  
Sample Location: N1251490.00 X E598640.00

1. Sieve Analysis

Sieve No.	% passing
10	99.9
30	93.3
50	54.1
100	8.7
200	0.5

2. Hydraulic Conductivity (ASTM D-5084)

$$k \text{ average} = 5.4 \times 10^{-3} \text{ cm/sec}$$

3. The USCS Soil Classification is designated as SP.

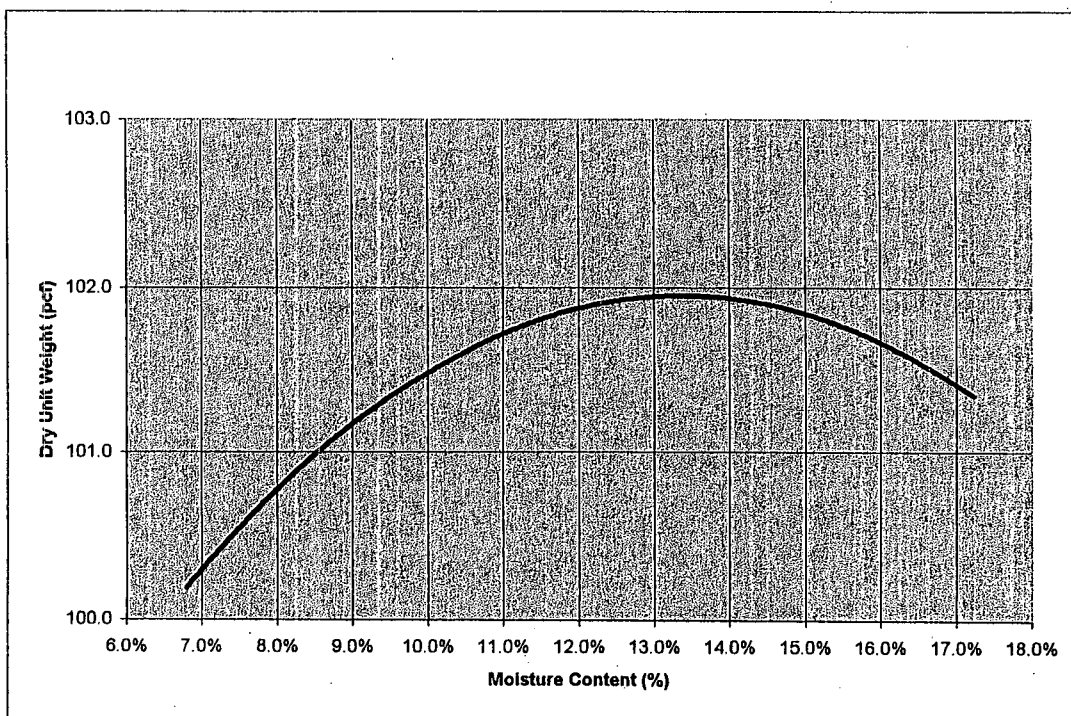
**Tested For:** Mr. Brian Ehrlar  
Handex Construction Services  
1702 Minters Chapel Road, Suite 214  
Grapevine, TX 76051

**Project:** Hillsborough County Landfill

**Report Date:** 12/18/02

**Project No.:** G1-080  
**Report No.:** P81

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 101.9 PCF  
**Optimum Moisture:** 13.6 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 12/17/02

**Description:** Light Gray Fine Sand  
**Sample Location:** Drainage Sand

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

Sample #11: Light Gray Fine Sand  
Sample Location: N1251280.00 X E598950.00

1. Sieve Analysis

Sieve No.	% passing
10	99.97
30	94.1
50	55.8
100	9.8
200	0.6

2. Hydraulic Conductivity (ASTM D-5084)

$$k \text{ average} = 4.4 \times 10^{-3} \text{ cm/sec}$$

3. The USCS Soil Classification is designated as SP.

Sample #12: Light Gray Fine Sand  
Sample Location: N1251700.00 X E598825.00

1. Sieve Analysis

Sieve No.	% passing
10	99.9
30	93.3
50	54.9
100	8.8
200	0.3

2. Hydraulic Conductivity (ASTM D-5084)

$$k \text{ average} = 6.6 \times 10^{-2} \text{ cm/sec}$$

3. The USCS Soil Classification is designated as SP.

Sample #13: Light Gray Fine Sand  
Sample Location: N1251490.00 X E598640.00

1. Sieve Analysis

Sieve No.	% passing
10	99.9
30	93.3
50	54.1
100	8.7
200	0.5

2. Hydraulic Conductivity (ASTM D-5084)

$$k \text{ average} = 5.4 \times 10^{-3} \text{ cm/sec}$$

3. The USCS Soil Classification is designated as SP.

**SUBBASE**





Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

May 9, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-30

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with page 02221-2 for sub-base. A representative of BGG sampled one (1) sample of Brown Fine Sand and one (1) sample of Blueish Green Sandy Clay from onsite on May 2, 2002. The materials were transported to the BGG laboratory where it was mixed by weight and tested for project specifications. The sample is designated as sample #33.

A 25% sand, 75% clay mix was tested and the results of the sieve analysis, Atterberg Limits, Hydraulic Conductivity, and soil classification are as follows:

Sample #33: Blueish Green Sandy Clay mixed with light Brown Fine Sand

1. Sieve Analysis (ASTM D-422)

Sieve No.	% passing
4	99.0
8	98.0
16	96.1
30	90.8
50	61.6
100	26.8
200	26.2

2. Atterberg Limits (ASTM D-4318)

Liquid Limit (LL) = 53  
Plastic Limit (PL) = 31  
Plasticity Index (PI) = 22

3. Hydraulic Conductivity (Test Method 9100)

k average =  $1.93 \times 10^{-6}$  cm/sec

4. The USCS Soil Classification is designated as SC.

This sample does meet project specifications for sub-base. BGG recommends mixing 2 inches of sand with 8 inches of clay in the field to achieve laboratory results.

If you have any questions or if we can be of further service, please contact us at (813) 818-4606.

Sincerely,  
**Burcaw Geotechnical Group, Inc.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President



Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

May 23, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-31

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with page 02221-2 for sub-base. A representative of BGG sampled the stockpiled material from onsite on May 15, 2002. The samples are designated as samples #34, #35, #36.

The results of the sieve analysis, Atterberg Limits, Hydraulic Conductivity, and soil classification are as follows.

Sample #34: Light Brown Clayey Sand

1. Sieve Analysis (ASTM D-422)

Sieve No.	% passing
4	100
8	99.8
16	98.0
30	93.4
50	76.2
100	38.8
200	28.1

2. Atterberg Limits (ASTM D-4318)

Liquid Limit (LL) = 30  
Plastic Limit (PL) = 15  
Plasticity Index (PI) = 15

3. Hydraulic Conductivity (Test Method 9100)

k average =  $1.0 \times 10^{-5}$  cm/sec

4. The USCS Soil Classification is designated as SC.

Sample #35: Light Brown Clayey Sand

1. Sieve Analysis (ASTM D-422)

Sieve No.	% passing
4	100
8	99.5
16	97.9
30	92.3
50	74.2
100	36.9
200	29.6

2. Atterberg Limits (ASTM D-4318)

Liquid Limit (LL) = 34  
Plastic Limit (PL) = 23  
Plasticity Index (PI) = 11

3. Hydraulic Conductivity (Test Method 9100)

k average =  $1.0 \times 10^{-5}$  cm/sec

4. The USCS Soil Classification is designated as SC.

Sample #36: Light Brown Clayey Sand

1. Sieve Analysis (ASTM D-422)

Sieve No.	% passing
4	100
8	99.9
16	99.0
30	94.3
50	79.1
100	41.3
200	33.7

2. Atterberg Limits (ASTM D-4318)

Liquid Limit (LL) = 37  
Plastic Limit (PL) = 26  
Plasticity Index (PI) = 11

3. Hydraulic Conductivity (Test Method 9100)

k average =  $0.5 \times 10^{-5}$  cm/sec

4. The USCS Soil Classification is designated as SC.

These samples do meet project specifications for sub-base material.

If you have any questions or if we can be of further service, please contact us at (813) 818-4606.

Sincerely,

**Burcaw Geotechnical Group, Inc.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President

Attachments: Moisture-Density Relationship (P30)  
Moisture-Density Relationship (P31)  
Moisture-Density Relationship (P32)

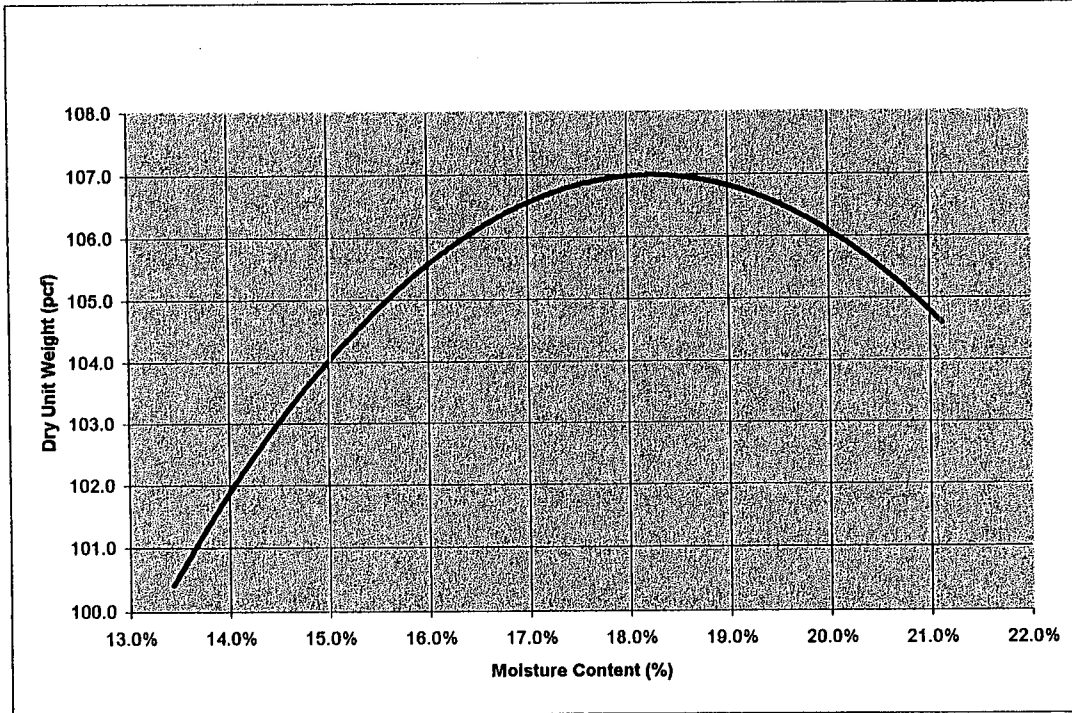
**Tested For:** Mr. Brian Ehler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 5/20/02

**Project No.:** G1-080  
**Report No.:** P30

**MOISTURE-DENSITY RELATIONSHIP**



<b>Maximum Density:</b>	107.0	PCF	<b>Description:</b>	Light Brown Clayey Sand
<b>Optimum Moisture:</b>	18.3	%		
<b>Test Method:</b>	ASTM D-698, Standard			
<b>Sampled by:</b>	Jason Brenneman		<b>Sample Location:</b>	Stockpiled onsite

Respectfully Submitted,  
 Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
 Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*  
 David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

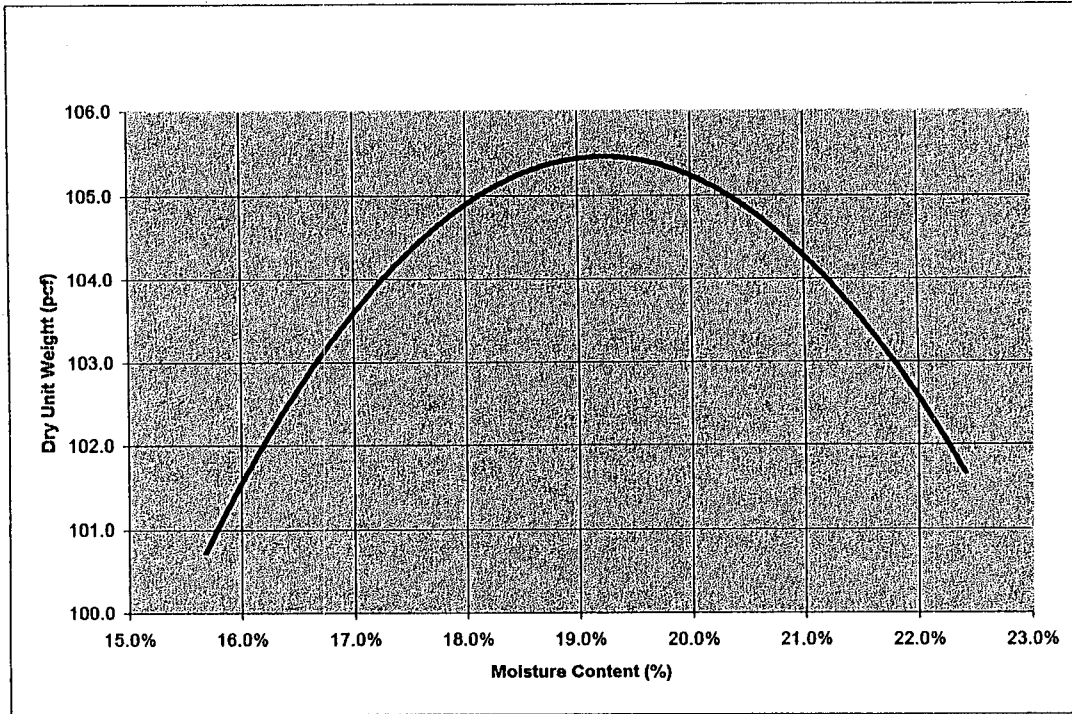
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 5/20/02

**Project No.:** G1-080  
**Report No.:** P31

**MOISTURE-DENSITY RELATIONSHIP**



<b>Maximum Density:</b>	105.5	PCF	<b>Description:</b>	Light Brown Clayey Sand
<b>Optimum Moisture:</b>	19.2	%	<b>Sample Location:</b>	Stockpiled onsite
<b>Test Method:</b>	ASTM D-698, Standard			
<b>Sampled by:</b>	Jason Brenneman			

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

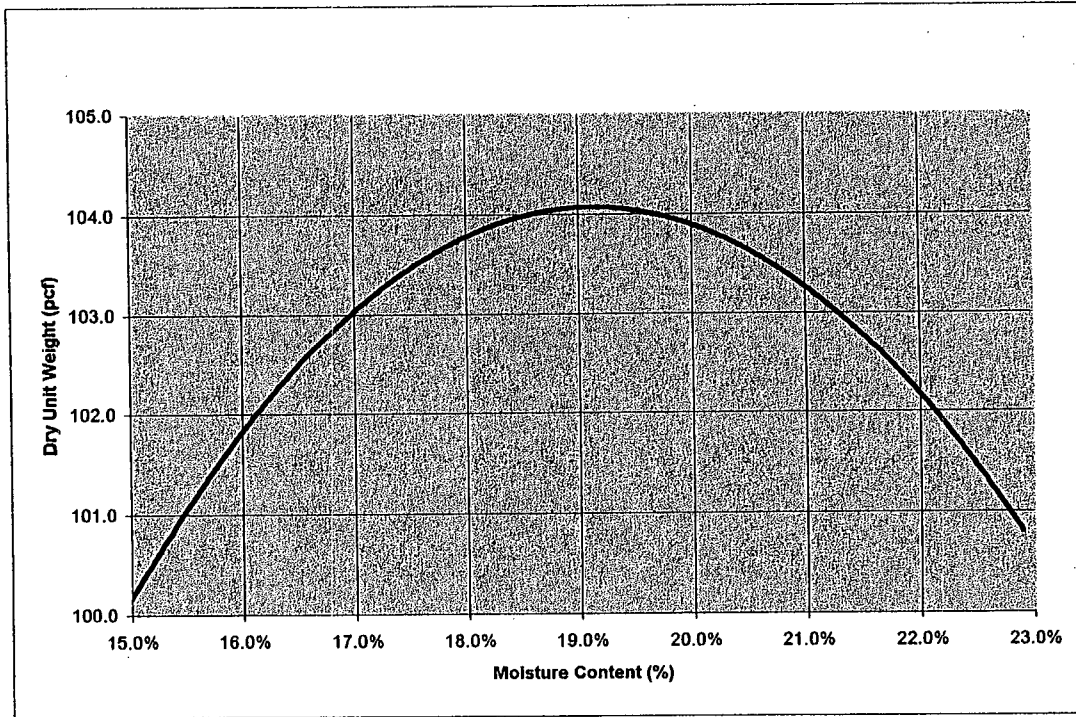
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 5/20/02

**Project No.:** G1-080  
**Report No.:** P32

**MOISTURE-DENSITY RELATIONSHIP**



Maximum Density:	104.2	PCF	Description:	Light Brown Clayey Sand
Optimum Moisture:	19.1	%		
Test Method:	ASTM D-698, Standard			
Sampled by:	Jason Brenneman		Sample Location:	Stockpiled onsite

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740





Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

June 18, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-37

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested testing for the referenced project. The testing was performed in general accordance with page 02221-7 – 02221-8 for sub-base test section. A representative of BGG sampled the material on June 13, 2002 from the test strip onsite using stockpiled materials. The samples are designated as samples #58, #59, #60, #61, and #62.

The results of the Atterberg Limits, percent (%) fines, and Hydraulic Conductivities are as follows.

Sample #58: Gray Clayey Sand  
Sample Location: 18' S x 30' E of NW corner of test section

1. Atterberg Limits (ASTM D-4318)  
Plastic Limit (PL) = 19  
Liquid Limit (LL) = 32  
Plastic Index (PI) = 13
2. Percent (%) fines (ASTM D-1140) = 25.2 %
3. Hydraulic Conductivity (ASTM D-5084)  
  
k average =  $2.3 \times 10^{-6}$  cm/sec

Sample #59: Gray Clayey Sand  
Sample Location: 51' S x 38' E of NW corner of test section

1. Atterberg Limits (ASTM D-4318)  
Plastic Limit (PL) = 12  
Liquid Limit (LL) = 29  
Plastic Index (PI) = 17
2. Percent (%) fines (ASTM D-1140) = 24.9 %
3. Hydraulic Conductivity (ASTM D-5084)  
  
k average =  $4.0 \times 10^{-6}$  cm/sec

Sample #60: Gray Clayey Sand  
Sample Location: 90' S x 15' E of NW corner of test section

1. Atterberg Limits (ASTM D-4318)  
Plastic Limit (PL) = 25  
Liquid Limit (LL) = 38  
Plastic Index (PI) = 15
2. Percent (%) fines (ASTM D-1140) = 24.0 %
3. Hydraulic Conductivity (ASTM D-5084)  
k average =  $9.0 \times 10^{-6}$  cm/sec

Sample #61: Gray Clayey Sand  
Sample Location: 145' S x 25' E of NW corner of test section

1. Atterberg Limits (ASTM D-4318)  
Plastic Limit (PL) = 24  
Liquid Limit (LL) = 44  
Plastic Index (PI) = 20
2. Percent (%) fines (ASTM D-1140) = 26.5 %
3. Hydraulic Conductivity (ASTM D-5084)  
k average =  $2.6 \times 10^{-6}$  cm/sec

Sample #62: Gray Clayey Sand  
Sample Location: 185' E x 40' E of NW corner of test section

1. Atterberg Limits (ASTM D-4318)  
Plastic Limit (PL) = 30  
Liquid Limit (LL) = 51  
Plastic Index (PI) = 21
2. Percent (%) fines (ASTM D-1140) = 32.3 %
3. Hydraulic Conductivity (ASTM D-5084)  
k average =  $5.0 \times 10^{-7}$  cm/sec

These samples meet project specifications for sub-base material.

If you have any questions or if we can be of further service, please contact us at (813) 818-4606.

Sincerely,  
**Burcaw Geotechnical Group, Inc.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*D. W. Faulkner 7/10/02*  
David W. Faulkner, P.E.  
Vice President



Geotechnical Group  
Incorporated

• Geotechnical Engineering • Construction Materials Testing •

September 5, 2002

Mr. Carl Aspirinio  
Handex Construction Services  
111 Kelsey Lane, Suite E  
Tampa, FL 33619

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-38 (Revised)

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) is currently performing the requested testing for the referenced project. The testing performed is done in general accordance with pages 02221-8 through 02221-10 for sub-base construction. A representative of BGG is sampling the material after it has been properly placed and compacted.

As of this date approximately 9 acres of sub-base has been constructed. The sub-base was sampled and tested in general accordance with Table 02221-1.

Hydraulic Conductivity laboratory testing was performed on the sampled material. The results of the testing to date is attached. Based on the data obtained from our laboratory testing the samples meet or exceed project specifications for sub-base material. The exception to this was sample #'s 68, 72, 81 and 83 which did not meet required permeability rates. The areas of these samples were retested and met or exceeded project specifications.

We will report the remaining Hydraulic Conductivity laboratory testing results after they have been sample tested.

If you have any questions, please contact us at (813) 818-4606.

Sincerely,  
**Burcaw Geotechnical Group, Inc.**

David W. Faulkner, P.E.  
Vice President

**Enclosures**

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**BURCAW GEOTECHNICAL GROUP, INC.**

13620 Wright Circle  
Tampa, FL 33626

813-818-4606 / 813-891-6686  
www.burcawinc.com

**TESTED FOR:**

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**PROJECT NAME:**

Hillsborough County Landfill  
Hillsborough County

**PROJECT NO.:**

G01-080 (Revised-3)

**SAMPLE DESCRIPTION:**

Gray Clayey Sand (SC)

Sample No.	Date	Sample Location	Hydraulic Conductivity (cm/sec)
63	8/16/02	N 1250985.00 E 599055.00	$3 \times 10^{-6}$
64	8/16/02	N 1250980.00 E 599190.00	$3 \times 10^{-6}$
65	8/16/02	N 1251025.00 E 599285.00	$8 \times 10^{-6}$
66	8/16/02	N 1251150.00 E 599260.00	$2 \times 10^{-6}$
67	8/16/02	N 1251090.00 E 599330.00	$2 \times 10^{-6}$
68	8/16/02	N 1251075.00 E 599215.00	$5 \times 10^{-5}$
69	8/16/02	N 1251020.00 E 599150.00	$1.5 \times 10^{-6}$
70	8/16/02	N 1250930.00 E 599120.00	$5 \times 10^{-6}$
71	8/17/02	N 1251255.00 E 599355.00	$5 \times 10^{-6}$
72	8/17/02	N 1251295.00 E 599380.00	$1.6 \times 10^{-5}$
73	8/17/02	N 1251355.00 E 599365.00	$1 \times 10^{-5}$
74	8/17/02	N 1251385.00 E 599430.00	$4.5 \times 10^{-6}$
75	8/17/02	N 1251430.00 E 599430.00	$4 \times 10^{-6}$
76	8/17/02	N 1251500.00 E 599430.00	$6.5 \times 10^{-7}$
77	8/17/02	N 1251295.00 E 599325.00	$9.5 \times 10^{-6}$
78	8/17/02	N 1251265.00 E 599410.00	$3 \times 10^{-6}$
79	8/17/02	N 1251075.00 E 599050.00	$9 \times 10^{-6}$
80	8/17/02	N 1251035.00 E 598985.00	$3 \times 10^{-6}$

**BURCAW GEOTECHNICAL GROUP, INC.**13620 Wright Circle  
Tampa, FL 33626813-818-4606 / 813-891-6686  
www.burcawinc.com**TESTED FOR:**Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118**PROJECT NAME:**Hillsborough County Landfill  
Hillsborough County**PROJECT NO.:**

G01-080 (Revised-3)

**SAMPLE DESCRIPTION:**

Gray Clayey Sand (SC)

Sample No.	Date	Sample Location	Hydraulic Conductivity (cm/sec)
81	8/17/02	N 1251075.00 E 599115.00	$1.2 \times 10^{-5}$
82	8/17/02	N 1251105.00 E 599175.00	$7 \times 10^{-6}$
83	8/17/02	N 1251155.00 E 599145.00	$3 \times 10^{-5}$
84	8/17/02	N 1251185.00 E 599105.00	$4.5 \times 10^{-6}$
85	8/17/02	N 1251250.00 E 599170.00	$3 \times 10^{-6}$
86	8/17/02	N 1251265.00 E 599280.00	$3 \times 10^{-6}$
87	8/17/02	N 1251310.00 E 599250.00	$2 \times 10^{-6}$
88	8/17/02	N 1251370.00 E 599240.00	$2 \times 10^{-6}$
89	8/17/02	N 1251385.00 E 599300.00	$1.2 \times 10^{-6}$
90	8/17/02	N 1251415.00 E 599340.00	$6 \times 10^{-6}$
91	8/17/02	N 1251455.00 E 599335.00	$3 \times 10^{-6}$
92	8/17/02	N 1251485.00 E 599330.00	$3 \times 10^{-6}$
93	8/19/02	N 1251490.00 E 599370.00	$2.1 \times 10^{-6}$
94	8/19/02	N 1251515.00 E 599410.00	$2.2 \times 10^{-6}$
95	8/21/02	N 1251025.00 E 598915.00	$2.1 \times 10^{-6}$
96	8/21/02	N 1251050.00 E 598935.00	$1.3 \times 10^{-6}$
97	8/21/02	N 1251110.00 E 598985.00	$2.8 \times 10^{-6}$
98	8/21/02	N 1251195.00 E 599015.00	$3.5 \times 10^{-6}$

**BURCAW GEOTECHNICAL GROUP, INC.**13620 Wright Circle  
Tampa, FL 33626813-818-4606 / 813-891-6686  
www.burcawinc.com**TESTED FOR:**Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118**PROJECT NAME:**Hillsborough County Landfill  
Hillsborough County**PROJECT NO.:**

G01-080 (Revised-3)

**SAMPLE DESCRIPTION:**

Gray Clayey Sand (SC)

Sample No.	Date	Sample Location	Hydraulic Conductivity (cm/sec)
99	8/21/02	N 1251215.00 E 599065.00	$8 \times 10^{-7}$
100	8/21/02	N 1251280.00 E 599075.00	$1.3 \times 10^{-6}$
101	8/21/02	N 1251345.00 E 599160.00	$1.2 \times 10^{-6}$
102	8/21/02	N 1251445.00 E 599210.00	$2.2 \times 10^{-6}$
103	8/22/02	N 1251530.00 E 599285.00	$4.7 \times 10^{-7}$
104	8/22/02	N 1251120.00 E 598845.00	$3.3 \times 10^{-6}$
105	8/22/02	N 1251215.00 E 598885.00	$4.5 \times 10^{-6}$
106	8/22/02	N 1251240.00 E 598990.00	$7.9 \times 10^{-6}$
107	8/22/02	N 1251325.00 E 598945.00	$2.5 \times 10^{-6}$
108	8/22/02	N 1251330.00 E 599040.00	$4 \times 10^{-7}$
109	8/22/02	N 1251420.00 E 599025.00	$2.5 \times 10^{-7}$
110	8/22/02	N 1251445.00 E 599130.00	$1.4 \times 10^{-6}$
111	8/22/02	N 1251540.00 E 599125.00	$2 \times 10^{-7}$
112	8/22/02	N 1251560.00 E 599220.00	$5 \times 10^{-6}$
113	8/23/02	N 1251175.00 E 598780.00	$1.3 \times 10^{-6}$
114	8/23/02	N 1251300.00 E 598835.00	$1 \times 10^{-7}$
115	8/23/02	N 1251360.00 E 598925.00	$3 \times 10^{-7}$

**BURCAW GEOTECHNICAL GROUP, INC.**

13620 Wright Circle  
Tampa, FL 33626

813-818-4606 / 813-891-6686  
www.burcawinc.com

**TESTED FOR:**

Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**PROJECT NAME:**

Hillsborough County Landfill  
Hillsborough County

**PROJECT NO.:**

G01-080 (Revised-3)

**SAMPLE DESCRIPTION:**

Gray Clayey Sand (SC)

Sample No.	Date	Sample Location	Hydraulic Conductivity (cm/sec)
116	8/23/02	N 1251495.00 E 598980.00	$1.6 \times 10^{-6}$
* 117	8/29/02	N 1251075.00 E 599215.00	$7.5 \times 10^{-6}$
** 118	8/29/02	N 1251295.00 E 599380.00	$8 \times 10^{-8}$
*** 119	8/29/02	N 1251075.00 E 599115.00	$1.7 \times 10^{-7}$
**** 120	8/29/02	N 1251155.00 E 599145.00	$1 \times 10^{-5}$

- \* Retest - Test # 68
- \*\* Retest - Test # 72
- \*\*\* Retest - Test # 81
- \*\*\*\* Retest - Test # 83



Geotechnical Group  
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• Geotechnical Engineering • Construction Materials Testing •

September 30, 2002

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

RE: Laboratory Testing  
Hillsborough County Landfill  
Tampa, Florida  
BGG Job No. G01-080-39

Dear Mr. Ehrler:

Burcaw Geotechnical Group, Inc. (BGG) has completed the requested sub-base hydraulic conductivity testing for the referenced project. The testing performed was done in general accordance with pages 02221-8 through 02221-10 for sub-base construction.

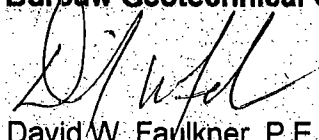
As of this date the entire clay liner has been constructed. The sub-base was sampled and tested in general accordance with Table 02221-1.

Hydraulic Conductivity laboratory testing was performed on the sampled material. The results of the testing to date is attached. Previous results were reported in our report dated September 5, 2002 and test section report dated June 18, 2002. Based on the data obtained from our laboratory testing the samples meet or exceed project specifications for sub-base material. The exception to this was sample #137 which did not meet required permeability rates. The area of this sample was retested and met or exceeded project specifications.

A final certification of completion for the sub-base will follow.

If you have any questions, please contact us at (813) 818-4606.

Sincerely,  
**Burcaw Geotechnical Group, Inc.**



David W. Faulkner, P.E.  
Vice President

**Enclosures**

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**BURCAW GEOTECHNICAL GROUP, INC.**13620 Wright Circle  
Tampa, FL 33626813-818-4606 / 813-891-6686  
www.burcawinc.com**TESTED FOR:**  
Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118**PROJECT NAME:** Hillsborough County Landfill  
Hillsborough County**PROJECT NO.:** G01-080**DATE:** September 27, 2002**SAMPLE DESCRIPTION:** Gray Clayey Sand (SC)

Sample No.	Date	Sample Location	Hydraulic Conductivity (cm/sec)
121	9/9/2002	N 1251240.00 E 598690.00	$9.3 \times 10^{-6}$
122	9/9/2002	N 1251295.00 E 598780.00	$2 \times 10^{-6}$
123	9/9/2002	N 1251370.00 E 598730.00	$9 \times 10^{-7}$
124	9/9/2002	N 1251415.00 E 598810.00	$2 \times 10^{-6}$
125	9/9/2002	N 1251465.00 E 598905.00	$1 \times 10^{-6}$
126	9/9/2002	N 1251545.00 E 598870.00	$4 \times 10^{-6}$ Revised
127	9/9/2002	N 1251590.00 E 598935.00	$1 \times 10^{-6}$
128	9/9/2002	N 1251665.00 E 598985.00	$3 \times 10^{-7}$
129	9/17/2002	N 1251320.00 E 598630.00	$6 \times 10^{-7}$
130	9/17/2002	N 1251430.00 E 598720.00	$9 \times 10^{-9}$
131	9/17/2002	N 1251505.00 E 598740.00	$2 \times 10^{-7}$
132	9/17/2002	N 1251575.00 E 598840.00	$5 \times 10^{-7}$
133	9/17/2002	N 1251695.00 E 598885.00	$3 \times 10^{-8}$
134	9/17/2002	N 1251480.00 E 598645.00	$6 \times 10^{-8}$
135	9/17/2002	N 1251625.00 E 598760.00	$1 \times 10^{-6}$
136	9/17/2002	N 1251740.00 E 598865.00	$3 \times 10^{-7}$
137	9/17/2002	N 1251330.00 E 598575.00	$1.6 \times 10^{-5}$

**TESTED FOR:**  
Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**PROJECT NAME:** Hillsborough County Landfill  
Hillsborough County

**PROJECT NO.:** G01-080

**DATE:** September 27, 2002

**SAMPLE DESCRIPTION:** Gray Clayey Sand (SC)

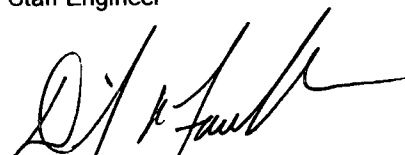
Sample No.	Date	Sample Location	Hydraulic Conductivity (cm/sec)
138	9/17/2002	N 1251480.00 E 598685.00	$3 \times 10^{-6}$
139	9/17/2002	N 1251600.00 E 598785.00	$1 \times 10^{-6}$
140	9/17/2002	N 1251710.00 E 598860.00	$4 \times 10^{-6}$
141*	9/24/2002	N 1251295.00 E 598605.00	$4 \times 10^{-6}$

\* Retest - Test # 137

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

**REPORT OF FIELD COMPACTION TESTS**

**DATE:** 12-17-01

**PROJECT NAME:** Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**PROJECT NO:** G1-080

**REPORT NO:** 1

Project Specification: (1) 95% of ASTM D1557 (Modified Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max	Moisture %	Dry	Compaction %	Meets Spec ?
				Density lbs/ft <sup>3</sup>		Density lbs/ft <sup>3</sup>		
<b>LANDFILL ACCESS RAMP - Test Referenced from Subgrade (SPEC 1)</b>								
1	12-17-01	-1' *	15' North of Edge of Pavement	109.1	14.4	110.9	102	Yes

\* Below Existing Road

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

**REPORT OF FIELD COMPACTION TESTS**

DATE: 12-27-01

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 2

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
1	12-27-01	Elev 118	Coordinates, North 1251310.00 x East 599160.00	109.1	17.5	107.1	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

Connie Johnson, E.I.  
 Staff Engineer

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

**REPORT OF FIELD COMPACTION TESTS**

DATE: 12-28-01

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrlar  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 3

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
1	12-28-01	Elev 118	Coordinates, North 1251030.00 x East 599015.00	110.6	11.6	111.3	101	Yes
2	12-28-01	Elev 118	Coordinates, North 1251125.00 x East 599060.00	110.6	10.9	109.8	99	Yes
3	12-28-01	Elev 118	Coordinates, North 1251225.00 x East 599180.00	110.6	9.8	110.4	100	Yes
	12-28-01	Elev 118	Coordinates, North 1251105.00 x East 599230.00	110.6	10.2	112.6	102	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

**REPORT OF FIELD COMPACTION TESTS**

DATE: 12-29-01

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 4

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
1	12-29-01	Elev 119	Coordinates, North 1250980.00 x East 599190.00	110.6	9.2	105.9	96	Yes
2	12-29-01	Elev 119	Coordinates, North 1250990.00 x East 599250.00	110.6	10.9	109.6	99	Yes
3	12-29-01	Elev 119	Coordinates, North 1251030.00 x East 599220.00	110.6	10.8	111.1	100	Yes
	12-29-01	Elev 118	Coordinates, North 1251030.00 x East 599110.00	110.6	9.5	112.0	101	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*  
 David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

**REPORT OF FIELD COMPACTION TESTS**

DATE: 12-31-01

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 5

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
1	12-31-01	Elev 119	Coordinates, North 1251120.00 x East 599280.00	110.6	10.4	109.4	99	Yes
2	12-31-01	Elev 119	Coordinates, North 1251060.00 x East 599040.00	110.6	10.8	110.0	99	Yes
3	12-31-01	Elev 119	Coordinates, North 1251090.00 x East 599150.00	110.6	10.2	109.6	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

**REPORT OF FIELD COMPACTION TESTS**

DATE: 1-2-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 6

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
13	1-2-02	Elev 120	Coordinates, North 1251080.00 x East 599265.00	110.6	12.0	112.5	102	Yes
14	1-2-02	Elev 120	Coordinates, North 1251010.00 x East 599230.00	110.6	13.5	113.6	103	Yes
15	1-2-02	Elev 120	Coordinates, North 1251020.00 x East 599140.00	110.6	13.8	110.7	100	Yes
	1-2-02	Elev 120	Coordinates, North 1251150.00 x East 599160.00	110.6	11.5	110.3	100	Yes
17	1-2-02	Elev 120	Coordinates, North 1251080.00 x East 599075.00	110.6	13.8	110.7	100	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740





10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

**REPORT OF FIELD COMPACTION TESTS**

DATE: 1-3-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 7

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL --LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
18	1-3-02	Elev 121	Coordinates, North 1251005.00 x East 599195.00	110.6	9.6	106.4	96	Yes
19	1-3-02	Elev 121	Coordinates, North 1251130.00 x East 599250.00	110.6	9.2	107.6	97	Yes
20	1-3-02	Elev 121	Coordinates, North 1251040.00 x East 599065.00	110.6	10.4	111.5	101	Yes
21	1-3-02	Elev 121	Coordinates, North 1251160.00 x East 599115.00	110.6	8.6	108.7	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

**REPORT OF FIELD COMPACTION TESTS**

DATE: 1-4-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX. 76118

PROJECT NO: G1-080

REPORT NO: 8

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
22	1-4-02	Elev 122	Coordinates, North 1250855.00 x East 599190.00	110.6	9.4	110.1	100	Yes
23	1-4-02	Elev 122	Coordinates, North 1251145.00 x East 599230.00	110.6	8.2	110.6	100	Yes
24	1-4-02	Elev 122	Coordinates, North 1251060.00 x East 599015.00	110.6	12.6	109.3	99	Yes
	1-4-02	Elev 122	Coordinates, North 1251205.00 x East 599125.00	99.2	16.2	94.8	96	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

**REPORT OF FIELD COMPACTION TESTS**

DATE: 1-5-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 9

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
26	1-5-02	Elev 123	Coordinates, North 1250930.00 x East 599210.00	110.6	10.1	110.2	100	Yes
27	1-5-02	Elev 123	Coordinates, North 1251070.00 x East 599210.00	110.6	10.8	108.6	98	Yes
28	1-5-02	Elev 123	Coordinates, North 1251015.00 x East 599060.00	110.6	10.4	109.4	99	Yes
29	1-5-02	Elev 123	Coordinates, North 1251125.00 x East 599135.00	110.2	12.4	107.4	97	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

**REPORT OF FIELD COMPACTION TESTS**

DATE: 1-7-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 10

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
30	1-7-02	Elev 124	Coordinates, North 1250965.00 x East 599225.00	110.6	9.4	108.9	98	Yes
31	1-7-02	Elev 124	Coordinates, North 1251075.00 x East 599245.00	109.1	14.4	104.6	96	Yes
32	1-7-02	Elev 124	Coordinates, North 1251070.00 x East 599160.00	110.2	10.4	108.7	99	Yes
33	1-7-02	Elev 124	Coordinates, North 1251095.00 x East 599035.00	110.6	11.9	111.2	101	Yes
34	1-7-02	Elev 124	Coordinates, North 1251155.00 x East 599135.00	110.2	10.8	108.4	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

**REPORT OF FIELD COMPACTION TESTS**

DATE: 1-8-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 11

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
35	1-8-02	Elev 125	Coordinates, North 1250925.00 x East 599165.00	110.2	9.6	106.8	97	Yes
36	1-8-02	Elev 125	Coordinates, North 1251055.00 x East 599140.00	99.2	13.9	97.3	98	Yes
37	1-8-02	Elev 125	Coordinates, North 125117.00 x East 599245.00	110.2	11.6	105.6	96	Yes
	1-8-02	Elev 125	Coordinates, North 1250995.00 x East 599040.00	110.6	9.4	109.8	99	Yes
39	1-8-02	Elev 125	Coordinates, North 1251130.00 x East 599110.00	110.1	9.8	107.9	98	Yes
40	1-8-02	Elev 126	Coordinates, North 1250955.00 x East 599170.00	110.1	10.1	108.6	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*D/W Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

### REPORT OF FIELD COMPACTION TESTS

DATE: 1-9-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 12

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
41	1-9-02	Elev 118	Coordinates, North 1251245.00 x East 599335.00	99.2	18.0	101.8	103	Yes
42	1-9-02	Elev 118	Coordinates, North 1251340.00 x East 599375.00	99.2	17.6	100.5	101	Yes
43	1-9-02	Elev 126	Coordinates, North 1251045.00 x East 598985.00	110.1	12.3	108.0	98	Yes
44	1-9-02	Elev 118	Coordinates, North 1251355.00 x East 599280.00	110.2	15.1	110.1	100	Yes
45	1-9-02	Elev 118	Coordinates, North 1251310.00 x East 599195.00	99.2	16.5	100.9	102	Yes
46	1-9-02	Elev 126	Coordinates, North 1251195.00 x East 599170.00	110.2	13.7	108.7	99	Yes
47	1-9-02	Elev 126	Coordinates, North 1251115.00 x East 599160.00	110.2	13.8	106.3	96	Yes
48	1-9-02	Elev 126	Coordinates, North 1251185.00 x East 599285.00	110.2	15.8	105.1	95	Yes
49	1-9-02	Elev 119	Coordinates, North 1251410.00 x East 599260.00	110.2	14.9	105.5	96	Yes
50	1-9-02	Elev 119	Coordinates, North 1251370.00 x East 599330.00	109.1	10.6	104.4	96	Yes
<b>HORIZONTAL SLOPE LIFTS - Test Referenced from Subgrade (SPEC 1)</b>								
51	1-9-02	Elev 127	Coordinates, North 1250875.00 x East 599135.00	110.6	10.4	109.2	99	Yes
52	1-9-02	Elev 128	Coordinates, North 1251010.00 x East 599330.00	110.1	10.8	107.9	98	Yes
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
53	1-9-02	Elev 119	Coordinates, North 1251250.00 x East 599370.00	110.2	15.6	105.6	96	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

### REPORT OF FIELD COMPACTION TESTS

DATE: 1-10-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 13

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
54	1-10-02	Elev 120	Coordinates, North 1251290.00 x East 599175.00	110.6	11.1	108.5	98	Yes
55	1-10-02	Elev 120	Coordinates, North 1251405.00 x East 599295.00	110.2	14.3	106.6	97	Yes
56	1-10-02	Elev 120	Coordinates, North 1251340.00 x East 599310.00	110.2	13.2	107.4	97	Yes
57	1-10-02	Elev 121	Coordinates, North 1251230.00 x East 599325.00	110.6	11.1	111.8	101	Yes
58	1-10-02	Elev 121	Coordinates, North 1251405.00 x East 599180.00	110.6	10.7	108.3	98	Yes
59	1-10-02	Elev 121	Coordinates, North 1251305.00 x East 599250.00	110.6	10.7	106.9	97	Yes
	1-10-02	Elev 121	Coordinates, North 1251315.00 x East 599365.00	110.6	11.4	107.1	97	Yes
61	1-10-02	Elev 122	Coordinates, North 1251245.00 x East 599135.00	110.6	9.6	108.2	98	Yes
62	1-10-02	Elev 122	Coordinates, North 1251380.00 x East 599310.00	110.1	11.2	107.8	98	Yes
63	1-10-02	Elev 122	Coordinates, North 1251230.00 x East 599360.00	110.6	10.8	109.4	99	Yes
<b>HORIZONTAL SLOPE LIFTS - Test Referenced from Subgrade (SPEC 1)</b>								
64	1-10-02	Elev 129	Coordinates, North 1250895.00 x East 599080.00	110.6	10.9	106.4	96	Yes
65	1-10-02	Elev 130	Coordinates, North 1250865.00 x East 599220.00	100.6	15.8	101.3	101	Yes
66	1-10-02	Elev 131	Coordinates, North 1250945.00 x East 599315.00	110.6	11.0	106.8	97	Yes
67	1-10-02	Elev 132	Coordinates, North 1250850.00 x East 599160.00	110.1	12.0	107.1	97	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*  
 David W. Faulkner, P.E.

Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 1-11-02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

PROJECT NO: G1-080

REPORT NO: 14

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
68	1-11-02	Elev 123	Coordinates, North 1251370.00 x East 599220.00	110.6	9.9	108.2	98	Yes
69	1-11-02	Elev 123	Coordinates, North 1251350.00 x East 599340.00	110.2	14.8	104.4	95	Yes
70	1-11-02	Elev 123	Coordinates, North 125280.00 x East 599330.00	110.1	14.2	108.1	98	Yes
71	1-11-02	Elev 124	Coordinates, North 1251370.00 x East 599175.00	110.6	9.8	107.4	97	Yes
72	1-11-02	Elev 124	Coordinates, North 1251335.00 x East 599280.00	110.6	10.0	108.0	98	Yes
73	1-11-02	Elev 118	Coordinates, North 1251405.00 x East 599405.00	110.1	9.6	105.7	96	Yes
74	1-11-02	Elev 118	Coordinates, North 1251520.00 x East 599440.00	110.1	9.8	106.3	97	Yes
75	1-11-02	Elev 119	Coordinates, North 1251450.00 x East 599385.00	110.2	10.9	106.0	96	Yes
76	1-11-02	Elev 124	Coordinates, North 1251420.00 x East 599235.00	110.6	10.4	107.8	97	Yes
77	1-11-02	Elev 124	Coordinates, North 1251330.00 x East 599340.00	110.6	10.6	108.2	98	Yes
78	1-11-02	Elev 119	Coordinates, North 1251545.00 x East 599405.00	110.6	12.1	106.6	96	Yes
79	1-11-02	Elev 119	Coordinates, North 1251465.00 x East 599285.00	109.1	10.8	105.4	97	Yes
80	1-11-02	Elev 125	Coordinates, North 1251405.00 x East 599210.00	110.1	9.9	106.7	97	Yes
81	1-11-02	Elev 125	Coordinates, North 1251320.00 x East 599325.00	109.8	9.0	106.4	97	Yes
<b>HORIZONTAL SLOPE LIFTS - Test Referenced from Subgrade (SPEC 1)</b>								
82	1-11-02	Elev 133	Coordinates, North 1250950.00 x East 598965.00	110.6	10.4	110.1	100	Yes
83	1-11-02	Elev 134	Coordinates, North 1250875.00 x East 599270.00	110.6	9.8	109.8	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President

Florida Registration No. 50740



**REPORT OF FIELD COMPACTION TESTS**

**DATE:** 1-14-02

**PROJECT NAME:** Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

**PROJECT NO:** G1-080

**REPORT NO:** 15

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
84	1-14-02	Elev 125	Coordinates, North 1251280.00 x East 599205.00	110.2	10.7	108.6	99	Yes
85	1-14-02	Elev 125	Coordinates, North 1251255.00 x East 599295.00	110.2	11.5	109.8	100	Yes
86	1-14-02	Elev 119	Coordinates, North 1251560.00 x East 599340.00	110.6	9.5	108.3	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

**DATE:** 1-16-02

**PROJECT NAME:** Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

**PROJECT NO:** G1-080

**REPORT NO:** 16

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
87	1-16-02	Elev 120	Coordinates, North 1251620.00 x East 599455.00	110.6	12.1	111.0	100	Yes
88	1-16-02	Elev 120	Coordinates, North 1251485.00 x East 599380.00	110.6	12.9	111.8	101	Yes
89	1-16-02	Elev 120	Coordinates, North 1251660.00 x East 599360.00	110.1	11.8	110.2	100	Yes
90	1-16-02	Elev 120	Coordinates, North 1251545.00 x East 599265.00	110.1	12.2	109.4	99	Yes
91	1-16-02	Elev 121	Coordinates, North 1251655.00 x East 599320.00	110.2	12.4	107.1	97	Yes
92	1-16-02	Elev 121	Coordinates, North 1251585.00 x East 599480.00	110.1	10.1	106.8	97	Yes
	1-16-02	Elev 121	Coordinates, North 1251445.00 x East 599410.00	110.6	12.1	111.1	100	Yes
94	1-16-02	Elev 121	Coordinates, North 1251450.00 x East 599300.00	110.6	10.9	109.4	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

**DATE:** 1-17-02

**PROJECT NAME:** Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

**PROJECT NO:** G1-080

**REPORT NO:** 17

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
95	1-17-02	Elev 122	Coordinates, North 1251645.00 x East 599325.00	100.6	14.2	102.1	101	Yes
96	1-17-02	Elev 122	Coordinates, North 1251585.00 x East 599450.00	110.6	10.8	112.8	102	Yes
97	1-17-02	Elev 122	Coordinates, North 1251465.00 x East 599355.00	100.6	14.6	100.2	100	Yes
98	1-17-02	Elev 122	Coordinates, North 1251560.00 x East 599280.00	100.6	12.0	101.5	101	Yes
99	1-17-02	Elev 123	Coordinates, North 1251625.00 x East 599295.00	109.8	10.0	104.9	96	Yes
100	1-17-02	Elev 123	Coordinates, North 1251560.00 x East 599460.00	99.2	13.3	98.8	100	Yes
	1-17-02	Elev 119	Coordinates, North 1251345.00 x East 599080.00	99.2	18.5	94.2	95	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

**DATE:** 1-18-02

**PROJECT NAME:** Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

**PROJECT NO:** G1-080

**REPORT NO:** 18

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
102	1-18-02	Elev 119	Coordinates, North 1251250.00 x East 599025.00	112.0	9.4	111.4	99	Yes
103	1-18-02	Elev 119	Coordinates, North 1251145.00 x East 598960.00	99.2	18.9	99.5	100	Yes
104	1-18-02	Elev 120	Coordinates, North 1251360.00 x East 599025.00	99.2	15.9	98.9	100	Yes
105	1-18-02	Elev 120	Coordinates, North 1251225.00 x East 599050.00	110.2	14.0	108.7	99	Yes
106	1-18-02	Elev 123	Coordinates, North 1251535.00 x East 599295.00	99.2	17.7	99.7	101	Yes
107	1-18-02	Elev 123	Coordinates, North 1251495.00 x East 599415.00	100.6	11.9	102.4	102	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*  
 Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*  
 David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

**DATE:** 1-19-02

**PROJECT NAME:** Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

**PROJECT NO:** G1-080

**REPORT NO:** 19

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
108	1-19-02	Elev 124	Coordinates, North 1251630.00 x East 599340.00	109.8	9.1	105.2	96	Yes
109	1-19-02	Elev 124	Coordinates, North 1251550.00 x East 599470.00	109.8	9.6	105.9	96	Yes
110	1-19-02	Elev 123	Coordinates, North 1251205.00 x East 599350.00	110.6	10.4	108.6	98	Yes
111	1-19-02	Elev 124	Coordinates, North 1251525.00 x East 599265.00	110.1	9.0	107.4	98	Yes
112	1-19-02	Elev 124	Coordinates, North 1251430.00 x East 599395.00	99.2	14.2	97.7	98	Yes
113	1-19-02	Elev 124	Coordinates, North 1251275.00 x East 599380.00	99.2	16.2	98.8	100	Yes
114	1-19-02	Elev 125	Coordinates, North 1251635.00 x East 599370.00	110.1	9.2	106.3	97	Yes
115	1-19-02	Elev 125	Coordinates, North 1251615.00 x East 599500.00	110.1	9.8	107.4	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 1-22-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

PROJECT NO: G1-080

REPORT NO: 20

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
116	1-22-02	Elev 125	Coordinates, North 1251580.00 x East 599255.00	110.1	8.2	105.4	96	Yes
117	1-22-02	Elev 125	Coordinates, North 1251515.00 x East 599395.00	110.1	9.0	106.2	96	Yes
118	1-22-02	Elev 125	Coordinates, North 1251375.00 x East 599375.00	110.1	8.6	105.9	96	Yes
119	1-22-02	Elev 119	Coordinates, North 1251075.00 x East 598910.00	99.2	15.7	97.7	98	Yes
120	1-22-02	Elev 126	Coordinates, North 1251685.00 x East 599345.00	99.0	21.0	97.1	98	Yes
121	1-22-02	Elev 126	Coordinates, North 1251610.00 x East 599425.00	99.2	17.9	98.7	99	Yes
122	1-22-02	Elev 126	Coordinates, North 1251555.00 x East 599305.00	99.2	16.9	98.0	99	Yes
	1-22-02	Elev 126	Coordinates, North 1251510.00 x East 599450.00	99.2	15.6	99.1	100	Yes
124	1-22-02	Elev 120	Coordinates, North 1251065.00 x East 598930.00	99.0	20.7	94.0	95	Yes
125	1-22-02	Elev 121	Coordinates, North 1251375.00 x East 599100.00	110.2	10.7	105.7	96	Yes
126	1-22-02	Elev 121	Coordinates, North 1251250.00 x East 598995.00	99.2	16.4	98.5	99	Yes
127	1-22-02	Elev 126	Coordinates, North 1251215.00 x East 599310.00	99.2	16.1	99.0	100	Yes
128	1-22-02	Elev 121	Coordinates, North 1251120.00 x East 598905.00	99.0	22.1	95.2	96	Yes
129	1-22-02	Elev 127	Coordinates, North 1251655.00 x East 599300.00	110.2	14.3	108.1	98	Yes
130	1-22-02	Elev 127	Coordinates, North 1251605.00 x East 599470.00	100.6	11.6	101.2	101	Yes
131	1-22-02	Elev 127	Coordinates, North 1251480.00 x East 599400.00	100.6	11.9	101.5	101	Yes
132	1-22-02	Elev 127	Coordinates, North 1251550.00 x East 599245.00	99.2	17.0	97.2	98	Yes
133	1-22-02	Elev 122	Coordinates, North 1251405.00 x East 599035.00	100.6	14.2	100.7	100	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 1-24-02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

PROJECT NO: G1-080

REPORT NO: 21

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
134	1-24-02	Elev 127	Coordinates, North 1251335.00 x East 599395.00	110.6	9.2	106.5	96	Yes
135	1-24-02	Elev 127	Coordinates, North 1251430.00 x East 599220.00	109.8	10.4	106.1	97	Yes
136	1-24-02	Elev 128	Coordinates, North 1251635.00 x East 599440.00	109.8	13.1	107.4	98	Yes
137	1-24-02	Elev 128	Coordinates, North 1251690.00 x East 599315.00	109.8	13.6	107.6	98	Yes
138	1-24-02	Elev 128	Coordinates, North 1251525.00 x East 599305.00	99.0	18.2	100.5	102	Yes
139	1-24-02	Elev 128	Coordinates, North 1251460.00 x East 599440.00	99.0	20.2	99.1	100	Yes
140	1-24-02	Elev 128	Coordinates, North 1251405.00 x East 599245.00	109.8	13.6	104.9	96	Yes
141	1-24-02	Elev 128	Coordinates, North 1251335.00 x East 599395.00	99.0	21.4	96.1	97	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 1-25-02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

PROJECT NO: G1-080

REPORT NO: 22

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
142	1-25-02	Elev 122	Coordinates, North 1251280.00 x East 599060.00	110.6	13.4	109.7	99	Yes
143	1-25-02	Elev 122	Coordinates, North 1251115.00 x East 598950.00	110.6	12.4	108.6	98	Yes
144	1-25-02	Elev 127	Coordinates, North 1251270.00 x East 599160.00	110.6	9.6	107.3	97	Yes
145	1-25-02	Elev 127	Coordinates, North 1251160.00 x East 599265.00	100.6	16.0	100.8	100	Yes
146	1-25-02	Elev 129	Coordinates, North 1251645.00 x East 599300.00	112.0	9.6	109.4	98	Yes
147	1-25-02	Elev 129	Coordinates, North 1251855.00 x East 599470.00	107.7	14.2	103.5	96	Yes
9	1-25-02	Elev 123	Coordinates, North 1251090.00 x East 598875.00	107.7	12.6	103.0	96	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*  
 David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



**REPORT OF FIELD COMPACTION TESTS**

DATE: 1-26-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

PROJECT NO: G1-080

REPORT NO: 23

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
149	1-26-02	Elev 129	Coordinates, North 1251625.00 x East 599390.00	112.0	8.0	110.1	98	Yes
150	1-26-02	Elev 129	Coordinates, North 1251490.00 x East 599460.00	112.0	10.2	110.4	99	Yes
151	1-26-02	Elev 123	Coordinates, North 1251110.00 x East 598920.00	110.6	11.3	107.2	97	Yes
152	1-26-02	Elev 123	Coordinates, North 1251260.00 x East 598970.00	99.5	14.6	100.3	101	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 1-28-02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

PROJECT NO: G1-080

REPORT NO: 24

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
153	1-28-02	Elev 120	Coordinates, North 1251675.00 x East 599500.00	99.2	13.8	96.3	97	Yes
154	1-28-02	Elev 129	Coordinates, North 1251630.00 x East 599310.00	100.6	13.0	100.1	100	Yes
155	1-28-02	Elev 129	Coordinates, North 1251535.00 x East 599460.00	99.0	20.3	94.9	96	Yes
156	1-28-02	Elev 120	Coordinates, North 1251730.00 x East 599375.00	100.6	17.5	98.6	98	Yes
157	1-28-02	Elev 124	Coordinates, North 1251070.00 x East 598880.00	107.7	13.9	103.3	96	Yes
158	1-28-02	Elev 124	Coordinates, North 1251200.00 x East 599050.00	99.0	21.2	95.6	97	Yes
159	1-28-02	Elev 124	Coordinates, North 1251390.00 x East 599050.00	99.2	17.4	98.5	99	Yes
0	1-28-02	Elev 129	Coordinates, North 1251495.00 x East 599220.00	107.7	17.0	104.8	97	Yes
161	1-28-02	Elev 129	Coordinates, North 1251415.00 x East 599375.00	99.0	18.9	97.4	98	Yes
162	1-28-02	Elev 125	Coordinates, North 1251050.00 x East 598905.00	99.0	19.0	96.6	98	Yes
163	1-28-02	Elev 125	Coordinates, North 1251220.00 x East 598985.00	107.7	16.5	101.8	95	Yes
164	1-28-02	Elev 119	Coordinates, North 1251660.00 x East 599500.00	107.7	14.6	105.0	97	Yes
165	1-28-02	Elev 119	Coordinates, North 1251715.00 x East 599375.00	99.2	15.4	97.1	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President

Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 1-29-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 25

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
166	1-29-02	Elev 125	Coordinates, North 1251380.00 x East 599070.00	99.2	15.9	96.2	97	Yes
167	1-29-02	Elev 126	Coordinates, North 1251090.00 x East 598955.00	99.2	12.5	98.9	100	Yes
168	1-29-02	Elev 119	Coordinates, North 1251780.00 x East 599255.00	107.7	15.0	103.8	96	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 1-30-02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

PROJECT NO: G1-080

REPORT NO: 26

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
169	1-30-02	Elev 126	Coordinates, North 1251235.00 x East 598925.00	107.7	15.0	104.1	97	Yes
170	1-30-02	Elev 126	Coordinates, North 1251260.00 x East 599085.00	99.2	17.0	95.7	96	Yes
171	1-30-02	Elev 126	Coordinates, North 1251365.00 x East 599040.00	99.2	15.6	96.6	97	Yes
172	1-30-02	Elev 119	Coordinates, North 1251660.00 x East 599220.00	107.7	15.7	103.8	96	Yes
173	1-30-02	Elev 129	Coordinates, North 1251245.00 x East 599245.00	109.1	22.8	99.8	91	<b>NO</b>
174	1-30-02	Elev 129	Coordinates, North 1251260.00 x East 599255.00	99.2	17.4	98.6	99	Yes
175	1-30-02	Elev 130	Coordinates, North 1251670.00 x East 599345.00	99.2	14.6	99.5	100	Yes
176	1-30-02	Elev 130	Coordinates, North 1251575.00 x East 599425.00	99.2	15.9	96.0	97	Yes
177	1-30-02	Elev 119	Coordinates, North 1251610.00 x East 599085.00	99.2	15.8	96.2	97	Yes
178	1-30-02	Elev 119	Coordinates, North 1251445.00 x East 599115.00	99.2	15.5	95.3	96	Yes
179	1-30-02	Elev 120	Coordinates, North 1251510.00 x East 599165.00	99.2	17.8	94.8	96	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 1-31-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 27

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
180	1-31-02	Elev 120	Coordinates, North 1251690.00 x East 599135.00	99.2	16.0	99.5	100	Yes
181	1-31-02	Elev 120	Coordinates, North 1251760.00 x East 599285.00	99.2	15.8	97.9	99	Yes
182	1-31-02	Elev 121	Coordinates, North 1251715.00 x East 599345.00	99.2	17.0	94.8	96	Yes
183	1-31-02	Elev 121	Coordinates, North 1251680.00 x East 599530.00	99.2	16.0	99.1	100	Yes
184	1-31-02	Elev 120	Coordinates, North 1251495.00 x East 599045.00	99.2	16.4	97.4	98	Yes
185	1-31-02	Elev 122	Coordinates, North 1251735.00 x East 599390.00	99.2	18.0	94.1	95	Yes
186	1-31-02	Elev 122	Coordinates, North 1251645.00 x East 599495.00	99.2	18.0	99.2	100	Yes
187	1-31-02	Elev 121	Coordinates, North 1251755.00 x East 599260.00	99.5	19.2	99.2	100	Yes
188	1-31-02	Elev 121	Coordinates, North 1251700.00 x East 599110.00	99.2	17.8	95.4	96	Yes
189	1-31-02	Elev 121	Coordinates, North 1251555.00 x East 599190.00	99.2	15.7	97.8	99	Yes
190	1-31-02	Elev 121	Coordinates, North 1251510.00 x East 599080.00	99.5	16.2	97.3	98	Yes
(173A)	1-31-02	Elev 129	Coordinates, North 1251245.00 x East 599245.00	109.1	15.8	106.8	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President

Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 2-1-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 28

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
191	2-1-02	Elev 122	Coordinates, North 1251740.00 x East 599265.00	99.0	18.0	94.1	95	Yes
192	2-1-02	Elev 122	Coordinates, North 1251680.00 x East 599100.00	99.0	17.3	97.3	98	Yes
193	2-1-02	Elev 122	Coordinates, North 1251560.00 x East 599165.00	99.0	21.1	96.8	98	Yes
194	2-1-02	Elev 122	Coordinates, North 1251500.00 x East 599020.00	99.0	17.1	93.6	95	Yes
	2-1-02	Elev 123	Coordinates, North 1251650.00 x East 599120.00	99.2	17.7	98.2	99	Yes
196	2-1-02	Elev 123	Coordinates, North 1251750.00 x East 599345.00	99.2	15.3	98.3	99	Yes
197	2-1-02	Elev 123	Coordinates, North 1251535.00 x East 599060.00	99.0	17.4	97.1	98	Yes
198	2-1-02	Elev 123	Coordinates, North 1251735.00 x East 599135.00	99.2	16.8	94.4	95	Yes
199	2-1-02	Elev 125	Coordinates, North 1251695.00 x East 599430.00	99.0	19.5	97.2	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

**DATE:** 2-2-02

**PROJECT NAME:** Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**PROJECT NO:** G1-080

**REPORT NO:** 29

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
200	2-2-02	Elev 119	Coordinates, North 1251855.00 x East 599055.00	99.0	18.7	96.8	98	Yes
201	2-2-02	Elev 119	Coordinates, North 1251750.00 x East 599070.00	99.0	22.6	94.1	95	Yes
202	2-2-02	Elev 119	Coordinates, North 1251745.00 x East 598950.00	99.0	20.7	94.6	96	Yes
203	2-2-02	Elev 119	Coordinates, North 1251620.00 x East 598980.00	99.2	17.6	97.3	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 2-4-02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

PROJECT NO: G1-080

REPORT NO: 30

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
204	2-4-02	Elev 124	Coordinates, North 1251635.00 x East 599520.00	99.2	14.0	94.2	95	Yes
205	2-4-02	Elev 124	Coordinates, North 1251695.00 x East 599370.00	99.2	15.0	97.4	98	Yes
206	2-4-02	Elev 120	Coordinates, North 1251580.00 x East 599015.00	99.0	19.8	96.2	97	Yes
207	2-4-02	Elev 120	Coordinates, North 1251720.00 x East 598900.00	100.6	12.9	100.2	100	Yes
208	2-4-02	Elev 120	Coordinates, North 1251805.00 x East 599120.00	100.6	16.0	99.8	99	Yes
209	2-4-02	Elev 123	Coordinates, North 1251740.00 x East 599285.00	99.0	18.8	97.2	98	Yes
210	2-4-02	Elev 120	Coordinates, North 1251860.00 x East 599015.00	99.2	16.6	96.0	97	Yes
211	2-4-02	Elev 123	Coordinates, North 1251535.00 x East 599180.00	99.2	18.3	94.8	96	Yes
212	2-4-02	Elev 125	Coordinates, North 1251700.00 x East 599490.00	99.0	19.4	95.7	97	Yes
213	2-4-02	Elev 125	Coordinates, North 1251695.00 x East 599325.00	99.0	20.0	96.9	98	Yes
214	2-4-02	Elev 121	Coordinates, North 1251615.00 x East 599040.00	99.2	17.0	98.1	99	Yes
215	2-4-02	Elev 121	Coordinates, North 1251745.00 x East 598915.00	99.0	19.3	97.1	98	Yes
216	2-4-02	Elev 124	Coordinates, North 1251745.00 x East 599235.00	99.0	17.1	94.4	95	Yes
217	2-4-02	Elev 124	Coordinates, North 1251480.00 x East 599165.00	99.2	13.1	95.6	96	Yes
218	2-4-02	Elev 121	Coordinates, North 1251845.00 x East 599025.00	100.6	13.5	99.5	99	Yes
219	2-4-02	Elev 124	Coordinates, North 1251720.00 x East 599250.00	100.6	16.0	99.5	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



**REPORT OF FIELD COMPACTION TESTS**

DATE: 2-5-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

PROJECT NO: G1-080

REPORT NO: 31

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
220	2-5-02	Elev 121	Coordinates, North 1251785.00 x East 599165.00	99.2	16.9	94.8	96	Yes
221	2-5-02	Elev 124	Coordinates, North 1251520.00 x East 599020.00	100.6	17.5	100.5	100	Yes
222	2-5-02	Elev 122	Coordinates, North 1251820.00 x East 599185.00	99.5	20.4	99.5	100	Yes
223	2-5-02	Elev 122	Coordinates, North 1251880.00 x East 599035.00	99.5	19.0	95.7	96	Yes
224	2-5-02	Elev 126	Coordinates, North 1251660.00 x East 599480.00	99.0	20.4	96.0	97	Yes
225	2-5-02	Elev 126	Coordinates, North 1251710.00 x East 599330.00	99.0	18.3	95.2	96	Yes
226	2-5-02	Elev 122	Coordinates, North 1251685.00 x East 598870.00	99.2	16.6	95.1	96	Yes
227	2-5-02	Elev 122	Coordinates, North 1251605.00 x East 598985.00	99.5	20.5	97.2	98	Yes
228	2-5-02	Elev 125	Coordinates, North 1251760.00 x East 599300.00	99.5	18.6	95.8	96	Yes
229	2-5-02	Elev 125	Coordinates, North 1251520.00 x East 599195.00	99.2	16.3	95.6	96	Yes
230	2-5-02	Elev 125	Coordinates, North 1251805.00 x East 599195.00	99.0	19.2	95.1	96	Yes
231	2-5-02	Elev 123	Coordinates, North 1251825.00 x East 599150.00	99.0	18.4	94.5	95	Yes
232	2-5-02	Elev 123	Coordinates, North 1251845.00 x East 598995.00	99.2	16.0	98.2	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

**DATE:** 2-6-02

**PROJECT NAME:** Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

**PROJECT NO:** G1-080

**REPORT NO:** 32

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND-FILL - Test Referenced from Subgrade (SPEC 1)</b>								
233	2-6-02	Elev 125	Coordinates, North 1251565.00 x East 599035.00	99.2	19.6	94.4	95	Yes
234	2-6-02	Elev 123	Coordinates, North 1251700.00 x East 598910.00	99.0	21.7	94.7	96	Yes
235	2-6-02	Elev 123	Coordinates, North 1251645.00 x East 599015.00	99.0	22.5	94.6	96	Yes
236	2-6-02	Elev 127	Coordinates, North 1251615.00 x East 599515.00	99.0	20.0	95.8	97	Yes
237	2-6-02	Elev 127	Coordinates, North 1251700.00 x East 599340.00	99.2	18.0	98.0	99	Yes
238	2-6-02	Elev 124	Coordinates, North 1251880.00 x East 599055.00	99.0	18.4	94.7	96	Yes
239	2-6-02	Elev 124	Coordinates, North 1251790.00 x East 599140.00	99.0	19.7	95.8	97	Yes
240	2-6-02	Elev 124	Coordinates, North 1251730.00 x East 598950.00	92.5	19.8	91.8	99	Yes
241	2-6-02	Elev 126	Coordinates, North 1251780.00 x East 599185.00	92.5	19.4	93.0	101	Yes
242	2-6-02	Elev 126	Coordinates, North 1251780.00 x East 599300.00	99.2	17.9	96.2	97	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**



Connie Johnson, E.I.  
 Staff Engineer



David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 2-7-02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

PROJECT NO: G1-080

REPORT NO: 33

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
243	2-7-02	Elev 124	Coordinates, North 1251650.00 x East 598880.00	92.5	22.4	93.8	101	Yes
244	2-7-02	Elev 126	Coordinates, North 1251610.00 x East 599055.00	99.0	18.7	95.0	96	Yes
245	2-7-02	Elev 126	Coordinates, North 1251500.00 x East 599115.00	99.0	19.4	96.4	97	Yes
246	2-7-02	Elev 125	Coordinates, North 1251835.00 x East 599170.00	107.7	12.8	106.8	99	Yes
247	2-7-02	Elev 125	Coordinates, North 1251825.00 x East 599020.00	99.0	20.1	95.0	96	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 2-9-02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

PROJECT NO: G1-080

REPORT NO: 34

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
248	2-9-02	Elev 125	Coordinates, North 1251670.00 x East 598895.00	99.2	17.8	98.0	99	Yes
249	2-9-02	Elev 125	Coordinates, North 1251680.00 x East 599020.00	99.2	16.4	96.8	98	Yes
250	2-9-02	Elev 128	Coordinates, North 1251650.00 x East 599535.00	92.5	23.2	92.6	100	Yes
251	2-9-02	Elev 128	Coordinates, North 1251720.00 x East 599385.00	92.5	20.7	91.8	99	Yes
252	2-9-02	Elev 126	Coordinates, North 1251815.00 x East 599155.00	107.7	14.5	104.5	97	Yes
253	2-9-02	Elev 126	Coordinates, North 1251840.00 x East 599040.00	103.3	13.5	102.6	99	Yes
254	2-9-02	Elev 127	Coordinates, North 1251730.00 x East 599300.00	99.2	16.8	97.8	99	Yes
255	2-9-02	Elev 127	Coordinates, North 1251815.00 x East 599210.00	99.2	17.7	97.5	98	Yes
256	2-9-02	Elev 126	Coordinates, North 1251700.00 x East 598925.00	103.3	17.1	102.2	99	Yes
257	2-9-02	Elev 127	Coordinates, North 1251580.00 x East 599080.00	92.5	19.1	90.2	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*D W Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 2-11-02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 35

Project Specification: (1) 95% of ASTM D698 (Standard Proctor).  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
258	2-11-02	Elev 126	Coordinates, North 1251570.00 x East 598965.00	92.5	19.8	91.4	99	Yes
259	2-11-02	Elev 127	Coordinates, North 1251450.00 x East 599145.00	99.2	17.3	96.4	97	Yes
260	2-11-02	Elev 129	Coordinates, North 1251630.00 x East 599485.00	92.5	19.9	92.6	100	Yes
261	2-11-02	Elev 129	Coordinates, North 1251705.00 x East 599355.00	99.5	18.2	98.3	99	Yes
262	2-11-02	Elev 127	Coordinates, North 1251845.00 x East 599140.00	92.5	21.3	91.8	99	Yes
263	2-11-02	Elev 127	Coordinates, North 1251815.00 x East 599030.00	107.7	12.4	104.8	97	Yes
264	2-11-02	Elev 128	Coordinates, North 1251765.00 x East 599320.00	92.5	20.2	92.8	100	Yes
265	2-11-02	Elev 128	Coordinates, North 1251760.00 x East 599185.00	99.2	15.4	96.6	97	Yes
266	2-11-02	Elev 127	Coordinates, North 1251655.00 x East 598865.00	99.2	15.4	94.4	95	Yes
267	2-11-02	Elev 127	Coordinates, North 1251550.00 x East 598985.00	107.7	12.8	105.6	98	Yes
268	2-11-02	Elev 128	Coordinates, North 1251580.00 x East 599100.00	92.5	23.1	91.8	99	Yes
269	2-11-02	Elev 128	Coordinates, North 1251495.00 x East 599175.00	92.5	20.4	92.0	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President

Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 2-12-02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrlie  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 36

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation OF Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
270	2-12-02	Elev 128	Coordinates, North 1251770.00 x East 599140.00	103.3	18.4	98.9	96	Yes
271	2-12-02	Elev 128	Coordinates, North 1251875.00 x East 599070.00	103.3	17.9	100.9	98	Yes
272	2-12-02	Elev 130	Coordinates, North 1251680.00 x East 599440.00	99.5	21.6	95.4	96	Yes
273	2-12-02	Elev 129	Coordinates, North 1251710.00 x East 599285.00	92.5	22.8	88.5	96	Yes
274	2-12-02	Elev 128	Coordinates, North 1251680.00 x East 598920.00	103.3	16.1	100.4	97	Yes
275	2-12-02	Elev 128	Coordinates, North 1251545.00 x East 598995.00	99.5	20.3	96.6	97	Yes
276	2-12-02	Elev 129	Coordinates, North 1251750.00 x East 599165.00	103.3	14.1	100.7	97	Yes
277	2-12-02	Elev 129	Coordinates, North 1251625.00 x East 599075.00	99.2	13.5	97.4	98	Yes
278	2-12-02	Elev 129	Coordinates, North 1251825.00 x East 599130.00	92.5	19.9	90.5	98	Yes
279	2-12-02	Elev 129	Coordinates, North 1251820.00 x East 598990.00	103.3	16.6	102.1	99	Yes
280	2-12-02	Elev 129	Coordinates, North 1251490.00 x East 599135.00	99.2	15.3	96.9	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 2-13-02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 37

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
281	2-13-02	Elev 129	Coordinates, North 1251655.00 x East 598905.00	92.5	19.8	92.6	100	Yes
282	2-13-02	Elev 131	Coordinates, North 1251625.00 x East 599430.00	99.2	17.8	97.9	99	Yes
283	2-13-02	Elev 131	Coordinates, North 1251700.00 x East 599385.00	99.5	18.4	95.8	96	Yes
284	2-13-02	Elev 129	Coordinates, North 1251675.00 x East 599050.00	103.3	15.1	100.6	97	Yes
285	2-13-02	Elev 130	Coordinates, North 1251430.00 x East 599415.00	103.3	16.3	100.4	97	Yes
286	2-13-02	Elev 128	Coordinates, North 1251225.00 x East 599280.00	110.6	9.0	108.2	98	Yes
287	2-13-02	Elev 128	Coordinates, North 1251330.00 x East 599165.00	110.6	11.1	106.9	97	Yes
3	2-13-02	Elev 127	Coordinates, North 1251170.00 x East 599040.00	107.7	13.9	103.9	96	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 2-14-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 38

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
289	2-14-02	Elev 131	Coordinates, North 1251635.00 x East 599410.00	110.6	10.9	107.4	97	Yes
290	2-14-02	Elev 130	Coordinates, North 1251690.00 x East 599255.00	107.7	10.6	105.1	98	Yes
291	2-14-02	Elev 130	Coordinates, North 1251785.00 x East 599090.00	110.6	11.0	108.2	98	Yes
292	2-14-02	Elev 130	Coordinates, North 1251500.00 x East 599350.00	110.6	14.7	107.1	97	Yes
293	2-14-02	Elev 130	Coordinates, North 1251550.00 x East 599205.00	112.0	10.1	108.9	97	Yes
294	2-14-02	Elev 130	Coordinates, North 1251695.00 x East 598990.00	107.7	14.4	106.3	99	Yes
295	2-14-02	Elev 129	Coordinates, North 1251365.00 x East 599310.00	107.7	13.2	105.6	98	Yes
296	2-14-02	Elev 129	Coordinates, North 1251410.00 x East 599150.00	110.6	11.4	108.3	98	Yes
297	2-14-02	Elev 127	Coordinates, North 1251310.00 x East 599050.00	107.7	12.9	105.8	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



**REPORT OF FIELD COMPACTION TESTS**

**DATE:** 2-15-02

**PROJECT NAME:** Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**PROJECT NO:** G1-080

**REPORT NO:** 39

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
298	2-15-02	Elev 132	Coordinates, North 1251615.00 x East 599400.00	99.2	14.9	95.8	97	Yes
299	2-15-02	Elev 132	Coordinates, North 1251680.00 x East 599245.00	92.5	23.8	92.0	99	Yes
300	2-15-02	Elev 131	Coordinates, North 1251730.00 x East 599140.00	110.6	10.8	107.6	97	Yes
301	2-15-02	Elev 131	Coordinates, North 1251780.00 x East 599020.00	110.6	11.2	108.3	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

**DATE:** 2-18-02

**PROJECT NAME:** Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

**PROJECT NO:** G1-080

**REPORT NO:** 40

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
302	2-18-02	Elev 119	Coordinates, North 1251900.00 x East 598960.00	99.5	19.9	97.4	98	Yes
303	2-18-02	Elev 119	Coordinates, North 1251845.00 x East 598810.00	99.5	18.3	100.6	101	Yes
304	2-18-02	Elev 119	Coordinates, North 1251725.00 x East 598845.00	99.2	15.1	99.0	100	Yes
305	2-18-02	Elev 119	Coordinates, North 1251695.00 x East 598670.00	99.2	12.6	98.3	99	Yes
306	2-18-02	Elev 133	Coordinates, North 1251610.00 x East 599440.00	99.2	12.2	96.6	97	Yes
307	2-18-02	Elev 132	Coordinates, North 1251700.00 x East 599235.00	92.5	17.9	89.0	96	Yes
J8	2-18-02	Elev 120	Coordinates, North 1251740.00 x East 598760.00	99.2	17.6	96.1	97	Yes
309	2-18-02	Elev 120	Coordinates, North 1251810.00 x East 598915.00	99.2	14.7	96.4	97	Yes
310	2-18-02	Elev 120	Coordinates, North 1251925.00 x East 598890.00	110.6	9.8	107.7	97	Yes
311	2-18-02	Elev 132	Coordinates, North 1251540.00 x East 599360.00	92.5	17.0	91.8	99	Yes
312	2-18-02	Elev 132	Coordinates, North 1251775.00 x East 599100.00	103.3	14.6	98.1	95	Yes
313	2-18-02	Elev 121	Coordinates, North 1251760.00 x East 598735.00	103.3	13.8	98.8	96	Yes
314	2-18-02	Elev 121	Coordinates, North 1251830.00 x East 598890.00	103.3	12.4	100.3	97	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

**DATE:** 2-19-02

**PROJECT NAME:** Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

**PROJECT NO:** G1-080

**REPORT NO:** 41

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
315	2-19-02	Elev 122	Coordinates, North 1251910.00 x East 598915.00	104.5	16.0	101.1	97	Yes
316	2-19-02	Elev 122	Coordinates, North 1251825.00 x East 598840.00	104.5	12.6	101.2	97	Yes
317	2-19-02	Elev 122	Coordinates, North 1251730.00 x East 598735.00	104.5	13.2	101.8	97	Yes
318	2-19-02	Elev 119	Coordinates, North 1251490.00 x East 598945.00	107.7	14.4	105.7	98	Yes
319	2-19-02	Elev 119	Coordinates, North 1251585.00 x East 598790.00	107.7	14.4	106.6	99	Yes
320	2-19-02	Elev 119	Coordinates, North 1251430.00 x East 598700.00	107.7	15.7	105.9	98	Yes
21	2-19-02	Elev 119	Coordinates, North 1251300.00 x East 598895.00	107.7	16.3	104.0	97	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 2-20-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

PROJECT NO: G1-080

REPORT NO: 42

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
322	2-20-02	Elev 123	Coordinates, North 1251685.00 x East 598710.00	104.5	19.6	101.7	97	Yes
323	2-20-02	Elev 123	Coordinates, North 1251780.00 x East 598875.00	104.5	15.6	104.9	100	Yes
324	2-20-02	Elev 120	Coordinates, North 1251590.00 x East 598830.00	103.3	20.9	98.6	95	Yes
325	2-20-02	Elev 120	Coordinates, North 1251490.00 x East 598965.00	99.2	12.7	98.6	99	Yes
326	2-20-02	Elev 120	Coordinates, North 1251365.00 x East 598935.00	104.5	17.2	102.4	98	Yes
327	2-20-02	Elev 123	Coordinates, North 1251920.00 x East 598865.00	104.5	14.9	100.1	96	Yes
	2-20-02	Elev 120	Coordinates, North 1251255.00 x East 598870.00	104.5	14.6	103.1	99	Yes
329	2-20-02	Elev 120	Coordinates, North 1251480.00 x East 598760.00	104.5	13.8	101.2	97	Yes
330	2-20-02	Elev 120	Coordinates, North 1251355.00 x East 598655.00	104.5	12.9	102.2	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 2-21-02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 43

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
		or Depth						
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
331	2-21-02	Elev 119	Coordinates, North 1251515.00 x East 598625.00	104.5	14.4	102.1	98	Yes
332	2-21-02	Elev 120	Coordinates, North 1251620.00 x East 598695.00	104.5	16.3	101.8	97	Yes
333	2-21-02	Elev 121	Coordinates, North 1251550.00 x East 598780.00	107.7	11.1	105.9	98	Yes
334	2-21-02	Elev 121	Coordinates, North 1251520.00 x East 598955.00	104.5	16.6	103.2	99	Yes
335	2-21-02	Elev 121	Coordinates, North 1251410.00 x East 598710.00	104.5	15.9	104.9	100	Yes
336	2-21-02	Elev 121	Coordinates, North 1251280.00 x East 598850.00	104.5	13.8	102.3	98	Yes
337	2-21-02	Elev 122	Coordinates, North 1251560.00 x East 598835.00	107.7	12.6	104.9	97	Yes
338	2-21-02	Elev 122	Coordinates, North 1251455.00 x East 598940.00	107.7	13.3	105.4	98	Yes
339	2-21-02	Elev 122	Coordinates, North 1251350.00 x East 598715.00	104.5	13.0	102.6	98	Yes
340	2-21-02	Elev 122	Coordinates, North 1251260.00 x East 598825.00	104.5	14.2	103.8	99	Yes
341	2-21-02	Elev 123	Coordinates, North 1251580.00 x East 598895.00	107.7	14.2	105.7	98	Yes
342	2-21-02	Elev 123	Coordinates, North 1251450.00 x East 598825.00	104.5	13.4	102.4	98	Yes
343	2-21-02	Elev 123	Coordinates, North 1251330.00 x East 598690.00	104.5	19.3	100.0	96	Yes
344	2-21-02	Elev 124	Coordinates, North 1251715.00 x East 598775.00	103.3	16.6	99.4	96	Yes
345	2-21-02	Elev 123	Coordinates, North 1251310.00 x East 598865.00	103.3	19.4	99.2	96	Yes
346	2-21-02	Elev 124	Coordinates, North 1251825.00 x East 598850.00	100.6	16.6	98.7	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 2-22-02

**PROJECT NAME:** Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

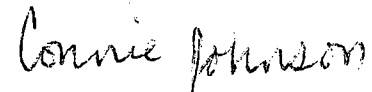
**PROJECT NO:** G1-080

**REPORT NO:** 44

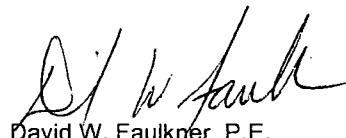
Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
347	2-22-02	Elev 124	Coordinates, North 1251585.00 x East 598850.00	104.5	16.6	102.3	98	Yes
348	2-22-02	Elev 124	Coordinates, North 1251465.00 x East 598905.00	107.7	17.4	105.1	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**



Connie Johnson, E.I.  
 Staff Engineer



David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

E: 2-25-02

**PROJECT NAME:** Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**PROJECT NO:** G1-080

**REPORT NO:** 45

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor).  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
349	2-25-02	Elev 124	Coordinates, North 1251275.00 x East 598890.00	107.7	18.0	103.8	96	Yes
350	2-25-02	Elev 124	Coordinates, North 1251410.00 x East 598740.00	103.3	18.6	99.8	97	Yes
351	2-25-02	Elev 125	Coordinates, North 1251625.00 x East 598815.00	103.3	18.8	100.0	97	Yes
352	2-25-02	Elev 125	Coordinates, North 1251510.00 x East 598920.00	103.3	19.2	98.7	96	Yes
353	2-25-02	Elev 125	Coordinates, North 1251390.00 x East 598685.00	92.5	19.6	91.1	98	Yes
354	2-25-02	Elev 125	Coordinates, North 1251290.00 x East 598790.00	92.5	17.9	92.8	100	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

E: 2-26-02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 7611

PROJECT NO: G1-080

REPORT NO: 46

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
355	2-26-02	Elev 125	Coordinates, North 1251875.00 x East 598885.00	107.7	17.1	103.2	96	Yes
356	2-26-02	Elev 125	Coordinates, North 1251695.00 x East 598790.00	107.7	18.5	104.1	97	Yes
357	2-26-02	Elev 126	Coordinates, North 1251565.00 x East 598855.00	110.6	14.2	108.4	98	Yes
358	2-26-02	Elev 123	Coordinates, North 1251610.00 x East 598725.00	107.7	10.6	104.0	97	Yes
359	2-26-02	Elev 122	Coordinates, North 1251590.00 x East 598605.00	107.7	16.0	105.2	98	Yes
360	2-26-02	Elev 121	Coordinates, North 1251510.00 x East 598695.00	103.3	13.2	101.8	99	Yes
361	2-26-02	Elev 120	Coordinates, North 1251520.00 x East 598575.00	107.7	17.1	103.8	96	Yes
362	2-26-02	Elev 126	Coordinates, North 1251465.00 x East 598980.00	107.7	13.4	107.2	100	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



**REPORT OF FIELD COMPACTION TESTS**

TE: 2-27-02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 761

PROJECT NO: G1-080

REPORT NO: 47

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
363	2-27-02	Elev 126	Coordinates, North 1251325.00 x East 598715.00	107.7	17.1	103.5	96	Yes
364	2-27-02	Elev 126	Coordinates, North 1251220.00 x East 598875.00	107.7	17.8	103.7	96	Yes
365	2-27-02	Elev 127	Coordinates, North 1251515.00 x East 598755.00	107.7	15.2	105.8	98	Yes
366	2-27-02	Elev 127	Coordinates, North 1251430.00 x East 598885.00	107.7	17.6	104.2	97	Yes
367	2-27-02	Elev 126	Coordinates, North 1251885.00 x East 598910.00	107.7	18.8	104.4	97	Yes
368	2-27-02	Elev 126	Coordinates, North 1251690.00 x East 598815.00	107.7	16.2	104.8	97	Yes
<b>HORIZONTAL SLOPE LIFTS - Test Referenced from Subgrade (SPEC 1)</b>								
9	2-27-02	Elev 130	Coordinates, North 1251255.00 x East 599430.00	110.6	8.5	106.0	96	Yes
370	2-27-02	Elev 133	Coordinates, North 1251545.00 x East 599550.00	110.6	9.6	109.8	99	Yes
371	2-27-02	Elev 131	Coordinates, North 1251215.00 x East 599420.00	110.6	12.4	107.7	97	Yes
372	2-27-02	Elev 134	Coordinates, North 1251500.00 x East 599535.00	107.7	18.2	102.9	96	Yes
373	2-27-02	Elev 132	Coordinates, North 1251320.00 x East 599465.00	107.7	12.1	103.7	96	Yes
374	2-27-02	Elev 133	Coordinates, North 1251175.00 x East 599415.00	107.7	14.4	104.2	97	Yes
375	2-27-02	Elev 134	Coordinates, North 1251360.00 x East 599480.00	107.7	12.9	104.5	97	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

E: 2-28-02

**PROJECT NAME:** Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**PROJECT NO:** G1-080

**REPORT NO:** 48

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
376	2-28-02	Elev 128	Coordinates, North 1251865.00 x East 598945.00	103.3	19.6	98.4	95	Yes
377	2-28-02	Elev 128	Coordinates, North 1251755.00 x East 598790.00	107.7	18.4	103.7	96	Yes
378	2-28-02	Elev 124	Coordinates, North 1251470.00 x East 598640.00	107.7	14.6	107.3	100	Yes
379	2-28-02	Elev 125	Coordinates, North 1251640.00 x East 598705.00	107.7	16.8	105.4	98	Yes
380	2-28-02	Elev 129	Coordinates, North 1251895.00 x East 598850.00	107.7	10.6	102.3	95	Yes
381	2-28-02	Elev 129	Coordinates, North 1251730.00 x East 598860.00	92.5	20.8	93.3	101	Yes
382	2-28-02	Elev 126	Coordinates, North 1251635.00 x East 598745.00	110.6	7.8	104.8	95	Yes
383	2-28-02	Elev 125	Coordinates, North 1251555.00 x East 598615.00	103.3	16.3	102.2	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 3-1-02

**PROJECT NAME:** Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**PROJECT NO:** G1-080

**REPORT NO:** 49

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
384	3-1-02	Elev 130	Coordinates, North 1251865.00 x East 598860.00	107.7	15.7	104.8	97	Yes
385	3-1-02	Elev 130	Coordinates, North 1251775.00 x East 598995.00	107.7	13.4	105.7	98	Yes
386	3-1-02	Elev 119	Coordinates, North 1251440.00 x East 598530.00	103.3	17.4	103.8	100	Yes
387	3-1-02	Elev 120	Coordinates, North 1251405.00 x East 598580.00	107.7	16.2	105.8	98	Yes
388	3-1-02	Elev 130	Coordinates, North 1251705.00 x East 598740.00	107.7	16.3	105.4	98	Yes
389	3-1-02	Elev 126	Coordinates, North 1251590.00 x East 598645.00	107.7	19.9	102.1	95	Yes
390	3-1-02	Elev 121	Coordinates, North 1251485.00 x East 598525.00	107.7	18.2	104.3	97	Yes
391	3-1-02	Elev 130	Coordinates, North 1251640.00 x East 598925.00	107.7	13.6	105.9	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

FE: 3-2-02

**PROJECT NAME:** Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**PROJECT NO:** G1-080

**REPORT NO:** 50

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
392	3-2-02	Elev 122	Coordinates, North 1251420.00 x East 598550.00	99.2	14.9	100.6	101	Yes
393	3-2-02	Elev 119	Coordinates, North 1251165.00 x East 598785.00	107.7	15.6	107.6	100	Yes
394	3-2-02	Elev 119	Coordinates, North 1251865.00 x East 598780.00	99.2	14.9	100.5	101	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 3/4/02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 51

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
395	3/4/02	Elev 119	Coordinates, North 1251570.00 x East 598520.00	104.5	18.8	101.6	97	Yes
396	3/4/02	Elev 120	Coordinates, North 1251120.00 x East 598815.00	99.2	14.9	98.9	100	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*D. W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 3/5/02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 52

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec.?
<b>GENERAL FILL - FINISH GRADE - Test Referenced from Subgrade (SPEC 1)</b>								
397	3/5/02	FG	Coordinates, North 1250950.00 x East 599150.00	112.0	9.4	113.9	102	Yes
398	3/5/02	FG	Coordinates, North 1251150.00 x East 599290.00	100.6	13.6	95.2	95	Yes
399	3/5/02	FG	Coordinates, North 1251030.00 x East 599040.00	112.0	10.1	113.5	101	Yes
400	3/5/02	FG	Coordinates, North 1251215.00 x East 599140.00	110.2	9.8	108.5	98	Yes
<b>GENERAL FILL - LANDFILL - Test Referenced from Subgrade (SPEC 1)</b>								
401	3/5/02	Elev 119	Coordinates, North 1251430.00 x East 598410.00	100.6	11.6	99.7	99	Yes
402	3/5/02	Elev 120	Coordinates, North 1251440.00 x East 598455.00	100.6	12.4	98.4	98	Yes
403	3/5/02	Elev 121	Coordinates, North 1251215.00 x East 598775.00	104.5	12.4	102.1	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

E: 3/6/02

**PROJECT NAME:** Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**PROJECT NO:** G1-080

**REPORT NO:** 53

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
404	3/6/02	Elev 122	Coordinates, North 1251225.00 x East 598705.00	99.2	14.2	97.2	98	Yes
405	3/6/02	Elev 120	Coordinates, North 1251815.00 x East 598735.00	107.7	12.6	106.4	99	Yes
406	3/6/02	Elev 121	Coordinates, North 1251600.00 x East 598560.00	92.5	17.8	91.9	99	Yes
407	3/6/02	Elev 121	Coordinates, North 1251910.00 x East 598810.00	92.5	19.7	90.6	98	Yes
408	3/6/02	Elev 122	Coordinates, North 1251775.00 x East 598700.00	107.7	10.6	104.2	97	Yes
409	3/6/02	Elev 123	Coordinates, North 1251165.00 x East 598825.00	99.2	13.1	99.3	100	Yes
410	3/6/02	Elev 123	Coordinates, North 1251885.00 x East 598805.00	99.2	17.2	95.0	96	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 3/7/02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 54

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec.?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
411	3/7/02	Elev 124	Coordinates, North 1251840.00 x East 598760.00	104.5	12.0	101.7	97	Yes
412	3/7/02	Elev 122	Coordinates, North 1251480.00 x East 598455.00	99.2	14.2	96.9	98	Yes
<b>GENERAL FILL AT RIDGE LINE - Test Referenced from Subgrade (SPEC 1)</b>								
413	3/7/02	Elev 132	Coordinates, North 1251310.00 x East 599325.00	104.5	12.6	100.9	97	Yes
414	3/7/02	Elev 133	Coordinates, North 1251325.00 x East 599330.00	104.5	14.4	99.3	95	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



**REPORT OF FIELD COMPACTION TESTS**

DATE: 3/8/02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 55

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>GENERAL FILL - LANDFILL - Test Referenced from Subgrade (SPEC 1)</b>								
415	3/8/02	Elev 123	Coordinates, North 1251405.00 x East 598470.00	104.5	11.8	101.5	97	Yes
416	3/8/02	Elev 125	Coordinates, North 1251750.00 x East 598685.00	99.2	12.7	94.8	96	Yes
<b>GENERAL FILL AT RIDGE LINE - Test Referenced from Subgrade (SPEC 1)</b>								
417	3/8/02	Elev 134	Coordinates, North 1251295.00 x East 599315.00	99.2	13.0	96.4	97	Yes
418	3/8/02	Elev 131	Coordinates, North 1251440.00 x East 599165.00	100.6	11.9	96.1	96	Yes
419	3/8/02	Elev 129	Coordinates, North 1251475.00 x East 598950.00	99.2	12.6	96.2	97	Yes
420	3/8/02	Elev 129	Coordinates, North 1251275.00 x East 599040.00	99.2	13.1	97.6	98	Yes
421	3/8/02	Elev 130	Coordinates, North 1251560.00 x East 599015.00	110.6	8.7	107.6	97	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 3/9/02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 56

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>GENERAL FILL LANDFILL - Test Referenced from Subgrade (SPEC 1)</b>								
422	3/9/02	Elev 132	Coordinates, North 1251695.00 x East 599480.00	104.5	14.5	102.4	98	Yes
423	3/9/02	Elev 131	Coordinates, North 1251880.00 x East 599105.00	94.8	14.6	91.3	96	Yes
<b>WEST CONTAINMENT BERM - Test Referenced from Subgrade (SPEC 1)</b>								
424	3/9/02	Elev 133	Coordinates, North 1251740.00 x East 598890.00	100.6	15.3	100.0	99	Yes
425	3/9/02	Elev 125	Coordinates, North 1251445.00 x East 598620.00	94.8	19.1	93.9	99	Yes
<b>GENERAL FILL AT RIDGE LINE - Test Referenced from Subgrade (SPEC 1)</b>								
426	3/9/02	Elev 132	Coordinates, North 1251255.00 x East 599100.00	94.8	17.6	94.4	99	Yes
427	3/9/02	Elev 129	Coordinates, North 1251210.00 x East 598820.00	94.8	20.0	92.7	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 3-11-02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 57

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
428	3-11-02	Elev 132	Coordinates, North 1251835.00 x East 599185.00	100.5	11.8	98.2	98	Yes
429	3-11-02	Elev 126	Coordinates, North 1251840.00 x East 598780.00	100.5	12.6	100.0	100	Yes
430	3-11-02	Elev 127	Coordinates, North 1251750.00 x East 598700.00	104.5	11.6	101.9	98	Yes
431	3-11-02	Elev 133	Coordinates, North 1251885.00 x East 599040.00	94.8	13.2	93.6	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

TEST DATE: 3-12-02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 58

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
432	3-12-02	Elev 128	Coordinates, North 1251805.00 x East 598750.00	99.5	17.6	96.3	97	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 3/13/02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 59

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>HORIZONTAL SLOPE LIFTS - Test Referenced from Subgrade (SPEC 1)</b>								
433	3/13/02	Elev 135	Coordinates, North 1250920.00 x East 599000.00	99.2	13.9	98.4	99	Yes
434	3/13/02	Elev 135	Coordinates, North 1251425.00 x East 599105.00	94.8	13.8	93.7	99	Yes
435	3/13/02	Elev 136	Coordinates, North 1250915.00 x East 599310.00	99.2	14.2	98.2	99	Yes
436	3/13/02	Elev 136	Coordinates, North 1251300.00 x East 599465.00	99.2	12.6	96.4	97	Yes
<b>GENERAL FILL - Test Referenced from Subgrade (SPEC 1)</b>								
437	3/13/02	Elev 129	Coordinates, North 1251810.00 x East 598780.00	100.6	11.6	97.7	97	Yes
138	3/13/02	Elev 124	Coordinates, North 1251480.00 x East 598475.00	103.3	18.4	102.2	99	Yes
439	3/13/02	Elev 125	Coordinates, North 1251560.00 x East 598560.00	104.5	16.6	100.9	97	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

TE: 3/14/02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 60

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>GENERAL FILL - Test Referenced from Subgrade (SPEC 1)</b>								
440	3/14/02	Elev 133	Coordinates, North 1251935.00 x East 599020.00	103.3	18.2	101.3	98	Yes
441	3/14/02	Elev 126	Coordinates, North 1251505.00 x East 598500.00	107.7	17.1	103.0	96	Yes
442	3/14/02	Elev 130	Coordinates, North 1251820.00 x East 598790.00	99.5	18.8	99.9	100	Yes
<b>VERTICAL SLOPE LIFTS - Test Referenced from Subgrade (SPEC 1)</b>								
443	3/14/02	1st Lift	Coordinates, North 1251170.00 x East 598690.00	103.3	12.6	98.8	96	Yes
444	3/14/02	2nd Lift	Coordinates, North 1251260.00 x East 598545.00	107.7	17.1	104.0	97	Yes
445	3/14/02	3rd Lift	Coordinates, North 1251310.00 x East 598445.00	92.5	21.7	92.9	100	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

TE: 3/15/02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 61

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
446	3/15/02	Elev 131	Coordinates, North 1251790.00 x East 598760.00	94.8	14.2	92.3	97	Yes
447	3/15/02	Elev 134	Coordinates, North 1251915.00 x East 599075.00	100.5	11.9	98.9	98	Yes
448	3/15/02	Elev 127	Coordinates, North 1251515.00 x East 598525.00	102.6	12.4	101.4	99	Yes
449	3/15/02	Elev 132	Coordinates, North 1251725.00 x East 598695.00	94.8	16.8	95.8	101	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 3-18-02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 62

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max		Dry		Meets Spec?
				Density lbs/ft <sup>3</sup>	Moisture %	Density lbs/ft <sup>3</sup>	Compaction %	
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
450	3-18-02	Elev 128	Coordinates, North 1251435.00 x East 598490.00	92.5	21.1	89.1	96	Yes
451	3-18-02	Elev 129	Coordinates, North 1251530.00 x East 598550.00	102.6	14.2	100.4	98	Yes
452	3-18-02	Elev 133	Coordinates, North 1251805.00 x East 598805.00	102.6	13.8	100.0	97	Yes
453	3-18-02	Elev 135	Coordinates, North 1251935.00 x East 599050.00	94.8	13.2	93.8	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



**REPORT OF FIELD COMPACTION TESTS**

DATE: 3-19-02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 63

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
454	3-19-02	Elev 130	Coordinates, North 1251490.00 x East 598540.00	94.8	13.0	93.2	98	Yes
455	3-19-02	Elev 134	Coordinates, North 1251810.00 x East 598820.00	94.8	16.0	95.1	100	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President

Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 3-20-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 64

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
456	3-20-02	Elev 131	Coordinates, North 1251475.00 x East 598490.00	99.5	23.2	95.2	96	Yes
<b>WEST CONTAINMENT BERM - Test Referenced from Subgrade (SPEC 1)</b>								
457	3-20-02	Elev 126	Coordinates, North 1251365.00 x East 598555.00	102.6	13.8	101.4	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 3-21-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 65

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
458	3-21-02	Elev 135	Coordinates, North 1251775.00 x East 598770.00	102.6	13.2	100.8	98	Yes
459	3-21-02	Elev 136	Coordinates, North 1251905.00 x East 599015.00	94.8	14.2	92.6	98	Yes
460	3-21-02	Elev 132	Coordinates, North 1251465.00 x East 598500.00	94.8	13.8	93.2	98	Yes
<b>WEST CONTAINMENT BERM - Test Referenced from Subgrade (SPEC 1)</b>								
461	3-21-02	Elev 127	Coordinates, North 1251345.00 x East 598575.00	107.7	15.2	107.9	100	Yes
462	3-21-02	Elev 135	Coordinates, North 1251645.00 x East 598810.00	102.6	17.4	101.8	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 3-22-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 66

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
463	3-22-02	Elev 137	Coordinates, North 1251875.00 x East 598990.00	102.6	17.1	102.3	100	Yes
464	3-22-02	Elev 136	Coordinates, North 1251785.00 x East 598720.00	102.6	17.4	101.8	99	Yes
<b>WEST CONTAINMENT BERM - Test Referenced from Subgrade (SPEC 1)</b>								
465	3-22-02	Elev 136	Coordinates, North 1251535.00 x East 598730.00	103.3	19.4	98.8	96	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President

Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 3-23-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

PROJECT NO: G1-080

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

REPORT NO: 67

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>STORM - DOUBLE 36" RCP - Test Referenced from Subgrade (SPEC 1)</b>								
466	3-23-02	Bedding	Coordinates, North 1251178.00 x East 599445.00	112.8	9.6	109.0	97	Yes
467	3-23-02	TOP	Coordinates, North 1251178.00 x East 599445.00	112.8	8.4	107.8	96	Yes
468	3-23-02	+1'	Coordinates, North 1251178.00 x East 599445.00	112.8	10.2	109.8	97	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 3/26/02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 68

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>GENERAL FILL AT FINISH GRADE - Test Referenced from Subgrade (SPEC 1)</b>								
469	3/26/02	F.G.	Coordinates, North 1250970.00 x East 599220.00	94.8	17.8	95.3	101	Yes
470	3/26/02	F.G.	Coordinates, North 1251135.00 x East 599290.00	102.6	13.3	99.7	97	Yes
471	3/26/02	F.G.	Coordinates, North 1251315.00 x East 599365.00	102.6	13.6	101.7	99	Yes
472	3/26/02	F.G.	Coordinates, North 1251500.00 x East 599445.00	102.6	12.8	100.6	98	Yes
473	3/26/02	F.G.	Coordinates, North 1251465.00 x East 599325.00	102.6	15.8	100.7	98	Yes
474	3/26/02	F.G.	Coordinates, North 1251335.00 x East 599240.00	102.6	15.4	102.1	100	Yes
475	3/26/02	F.G.	Coordinates, North 1251190.00 x East 599140.00	112.0	10.8	113.3	101	Yes
476	3/26/02	F.G.	Coordinates, North 1251045.00 x East 599015.00	112.0	10.9	109.3	98	Yes
477	3/26/02	F.G.	Coordinates, North 1251580.00 x East 599175.00	92.5	15.8	91.8	99	Yes
478	3/26/02	F.G.	Coordinates, North 1251450.00 x East 599060.00	99.2	12.9	98.1	99	Yes
479	3/26/02	F.G.	Coordinates, North 1251330.00 x East 598970.00	99.2	14.7	98.5	99	Yes
480	3/26/02	F.G.	Coordinates, North 1251175.00 x East 598850.00	104.5	14.1	104.0	100	Yes
481	3/26/02	F.G.	Coordinates, North 1251710.00 x East 599030.00	107.7	13.4	106.3	99	Yes
482	3/26/02	F.G.	Coordinates, North 1251580.00 x East 598935.00	107.7	18.1	108.1	100	Yes
483	3/26/02	F.G.	Coordinates, North 1251465.00 x East 598815.00	102.6	14.2	100.7	98	Yes
<b>GENERAL FILL - TEST PIT AT ACCESS RAMP - Test Referenced from Subgrade (SPEC 1)</b>								
484	3/26/02	F.G.	Coordinates, North 1251075.00 x East 598960.00	102.6	16.4	99.4	97	Yes
485	3/26/02	1' Below F.G.	Coordinates, North 1251075.00 x East 598960.00	102.6	14.8	99.9	97	Yes
486	3/26/02	2' Below F.G.	Coordinates, North 1251075.00 x East 598960.00	102.6	15.2	101.2	99	Yes
487	3/26/02	3' Below F.G.	Coordinates, North 1251075.00 x East 598960.00	107.7	11.3	105.3	98	Yes
488	3/26/02	4' Below F.G.	Coordinates, North 1251075.00 x East 598960.00	99.2	13.0	98.0	99	Yes
489	3/26/02	5' Below F.G.	Coordinates, North 1251075.00 x East 598960.00	104.5	14.5	101.1	97	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 3-27-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

PROJECT NO: G1-080

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

REPORT NO: 69

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>WEST CONTAINMENT BERM - Test Referenced from Subgrade (SPEC 1)</b>								
490	3-27-02	Elev 137	Coordinates, North 1251610.00 x East 598780.00	94.8	17.1	94.8	100	Yes
491	3-27-02	Elev 137	Coordinates, North 1251370.00 x East 598595.00	94.8	13.6	93.4	99	Yes
492	3-27-02	Elev 138	Coordinates, North 1251410.00 x East 598625.00	94.8	16.3	94.3	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 3-29-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

PROJECT NO: G1-080

REPORT NO: 70

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
 (2) 98% of ASTM D1557 (Modified Proctor)  
 (3) 100% of ASTM D698 (Standard Proctor)

No	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>GENERAL FILL - TEST PIT AT ACCESS RAMP - Test Referenced from Subgrade (SPEC 1)</b>								
493	3-29-02	1' Below F.G.	Coordinates, North 1251020.00 x East 598985.00	110.6	6.2	106.7	96	Yes
494	3-29-02	2' Below F.G.	Coordinates, North 1251020.00 x East 598985.00	110.6	10.6	109.0	99	Yes
495	3-29-02	3' Below F.G.	Coordinates, North 1251020.00 x East 598985.00	110.6	7.5	107.2	97	Yes
496	3-29-02	4' Below F.G.	Coordinates, North 1251020.00 x East 598985.00	109.1	8.0	105.8	97	Yes
497	3-29-02	5' Below F.G.	Coordinates, North 1251020.00 x East 598985.00	109.1	9.2	105.3	97	Yes
<b>WEST CONTAINMENT BERM - Test Referenced from Subgrade (SPEC 1)</b>								
38	3-29-02	Elev 138	Coordinates, North 1251680.00 x East 598830.00	102.6	13.1	100.8	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



**BURCAW GEOTECHNICAL GROUP, INC.**

13620 Wright Circle  
Tampa, Florida 33626

813-818-4606 / 813-891-6686  
www.burcawinc.com

**REPORT OF FIELD COMPACTION TESTS**

DATE: 4-5-02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

PROJECT NO: G1-080

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

REPORT NO: 71

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

No	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>GENERAL FILL - LAND FILL - Test Referenced from Subgrade (SPEC 1)</b>								
499	4-5-02	Elev 137	Coordinates, North 1251920.00 x East 599035.00	102.6	15.6	99.8	97	Yes
500	4-5-02	Elev 138	Coordinates, North 1251960.00 x East 598920.00	102.6	13.6	102.6	100	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

**DATE:** 5/15/02

**PROJECT NAME:** Hillsborough County Landfill

**TESTED FOR:**

**PROJECT NO:** G1-080

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**REPORT NO:** 72

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lb/ft <sup>3</sup>	Moisture %	Dry Density lb/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>SUBBASE TEST SECTION - Test Referenced from Subgrade (SPEC 1)</b>								
1	5/15/02	+6 1/4"	30' W X 30' S of Northeast Corner of Test Section	111.2	13.6	110.6	99	Yes
2	5/15/02	+7 1/2"	20' W X 68' S of Northeast Corner of Test Section	110.8	22.0	99.7	90	NO
3	5/15/02	+8"	35' W X 110' S of Northeast Corner of Test Section	112.5	17.2	107.2	95	Yes
4	5/15/02	+7 3/4"	25' W X 150' S of Northeast Corner of Test Section	112.2	18.4	104.3	93	NO
5	5/15/02	+8"	40' W X 185' S of Northeast Corner of Test Section	112.0	20.4	101.8	91	NO

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 5/24/02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

PROJECT NO: G1-080

Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

REPORT NO: 73

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

No	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>SUBBASE TEST SECTION - Test Referenced from Subgrade (SPEC 1)</b>								
1	5/24/02	+8 3/4"	12' S x 20' E of Northwest Corner of Test Section	111.2	17.2	106.1	95	Yes
2	5/24/02	+7"	56' S x 30' E of Northwest Corner of Test Section	111.2	17.2	107.3	96	Yes
3	5/24/02	+6"	96' S x 35' E of Northwest Corner of Test Section	111.2	18.8	104.0	94	NO
4	5/24/02	+6 1/2"	125' S x 35' E of Northwest Corner of Test Section	111.2	14.8	108.0	97	Yes
5	5/24/02	+6 3/4"	180' S x 15' E of Northwest Corner of Test Section	111.2	13.6	104.4	94	NO

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 6/1/02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

PROJECT NO: G1-080

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

REPORT NO: 74

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lb/cft	Moisture %	Dry Density lb/cft	Compaction %	Meets Spec?
<b>SUBBASE TEST SECTION - Test Referenced from Subgrade (SPEC 1)</b>								
1	6/1/02	N/A	Retest #1 from May 24, 2002	111.2	14.5	107.8	97	Yes
2	6/1/02	N/A	Retest #2 from May 24, 2002	111.2	15.5	109.0	98	Yes
3	6/1/02	N/A	Retest #3 from May 24, 2002	111.2	14.3	109.2	98	Yes
4	6/1/02	N/A	Retest #4 from May 24, 2002	111.2	14.8	108.4	97	Yes
5	6/1/02	N/A	Retest #5 from May 24, 2002	111.2	16.2	106.6	96	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

Date: 6/3/02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

PROJECT NO: G1-080

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

REPORT NO: 75

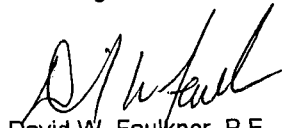
Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

No	Date	Elevation of Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec ?
<b>SUBBASE TEST SECTION - Test Referenced from Subgrade (SPEC 1)</b>								
1	6/3/02	N/A	25' E x 15' S of Northwest Corner of Test Section	111.2	13.9	111.8	101	Yes
2	6/3/02	N/A	20' E x 60' S of Northwest Corner of Test Section	111.2	18.0	110.6	99	Yes
3	6/3/02	N/A	30' E x 110' S of Northwest Corner of Test Section	111.2	14.6	111.4	100	Yes
4	6/3/02	N/A	25' E x 155' S of Northwest Corner of Test Section	111.2	16.7	110.6	99	Yes
5	6/3/02	N/A	18' E x 190' S of Northwest Corner of Test Section	111.2	16.9	108.2	97	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 6/13/02

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

PROJECT NO: G1-080

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

REPORT NO: 76

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

No	Date	Elevation or Depth	Location	Max Density lbs/ft <sup>3</sup>	Moisture %	Dry Density lbs/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>SUBBASE TEST SECTION - Test Referenced from Subgrade (SPEC 1)</b>								
1	6/13/02	+7 3/4"	18' S x 30' E of Northwest Corner of Test Section	108.8	20.4	102.9	95	Yes
2	6/13/02	+7"	51' S x 38' E of Northwest Corner of Test Section	108.8	18.4	104.9	96	Yes
3	6/13/02	+7 1/4"	90' S x 15' E of Northwest Corner of Test Section	108.8	20.4	105.1	97	Yes
4	6/13/02	+8 1/2"	145' S x 25' E of Northwest Corner of Test Section	108.8	20.0	106.0	97	Yes
5	6/13/02	+8 1/4"	185' S x 40' E of Northwest Corner of Test Section	108.8	19.2	107.3	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

TE: 8/17/02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

PROJECT NO: G01-080

REPORT NO: 78

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lb/ft <sup>3</sup>	Moisture %	Dry Density lb/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>SUB-BASE - Test Referenced from Subgrade (SPEC 1)</b>								
10	8/17/02	Finish Grade	Coordinates, North 1251255.00 x East 599355.00	109.8	16.6	109.8	100	Yes
11	8/17/02	Finish Grade	Coordinates, North 1251355.00 x East 599365.00	110.5	18.4	108.2	98	Yes
12	8/17/02	Finish Grade	Coordinates, North 1251430.00 x East 599430.00	108.9	17.9	106.8	98	Yes
13	8/17/02	Finish Grade	Coordinates, North 1251500.00 x East 599430.00	108.8	18.3	104.0	96	Yes
14	8/17/02	Finish Grade	Coordinates, North 1251075.00 x East 599050.00	107.5	18.1	103.9	97	Yes
15	8/17/02	Finish Grade	Coordinates, North 1251105.00 x East 599175.00	110.6	17.0	109.8	99	Yes
16	8/17/02	Finish Grade	Coordinates, North 1251250.00 x East 599170.00	109.6	17.7	107.4	98	Yes
7	8/17/02	Finish Grade	Coordinates, North 1251265.00 x East 599280.00	109.0	18.8	103.8	95	Yes
<b>SUB-BASE (CLAY) - Test Referenced from Subgrade (SPEC 1)</b>								
18	8/17/02	Finish Grade	Coordinates, North 1251370.00 x East 599240.00	110.1	18.8	107.1	97	Yes
19	8/17/02	Finish Grade	Coordinates, North 1251415.00 x East 599340.00	107.6	18.8	105.6	98	Yes
20	8/17/02	Finish Grade	Coordinates, North 1251485.00 x East 599330.00	108.2	19.9	104.3	96	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

E: 8/19/02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

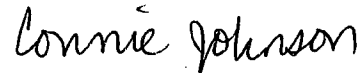
PROJECT NO: G01-080

REPORT NO: 79

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lb/ft <sup>3</sup>	Moisture %	Dry Density lb/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>SUB-BASE - Test Referenced from Subgrade (SPEC 1)</b>								
21	8/19/02	Finish Grade	Coordinates, North 1251515.00 x East 599410.00	107.9	21.2	104.4	97	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



**REPORT OF FIELD COMPACTION TESTS**

E: 8/21/02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

PROJECT NO: G01-080

REPORT NO: 80

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lb/ft <sup>3</sup>	Moisture %	Dry Density lb/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>SUB-BASE - Test Referenced from Subgrade (SPEC 1)</b>								
22	8/21/02	Finish Grade	Coordinates, North 1251050.00 x East 598935.00	107.2	18.0	107.7	100	Yes
23	8/21/02	Finish Grade	Coordinates, North 1251110.00 x East 598985.00	108.2	19.6	105.7	98	Yes
24	8/21/02	Finish Grade	Coordinates, North 1251215.00 x East 599065.00	108.8	19.2	107.4	99	Yes
25	8/21/02	Finish Grade	Coordinates, North 1251345.00 x East 599160.00	107.7	18.4	106.2	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

E: 8/22/02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

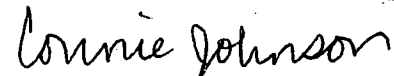
PROJECT NO: G01-080

REPORT NO: 81

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lb/ft	Moisture %	Dry Density lb/ft	Compaction %	Meets Spec?
<b>SUB-BASE - Test Referenced from Subgrade (SPEC 1)</b>								
26	8/22/02	Finish Grade	Coordinates, North 1251530.00 x East 599285.00	106.9	20.4	103.5	97	Yes
27	8/22/02	Finish Grade	Coordinates, North 1251120.00 x East 598845.00	108.6	17.2	107.9	99	Yes
28	8/22/02	Finish Grade	Coordinates, North 1251215.00 x East 598885.00	108.7	19.2	105.6	97	Yes
29	8/22/02	Finish Grade	Coordinates, North 1251330.00 x East 599040.00	110.6	16.2	108.8	98	Yes
30	8/22/02	Finish Grade	Coordinates, North 1251420.00 x East 599025.00	107.2	20.2	103.3	96	Yes
31	8/22/02	Finish Grade	Coordinates, North 1251560.00 x East 599220.00	109.1	17.6	108.2	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

TE: 8/23/02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

PROJECT NO: G01-080

REPORT NO: 82

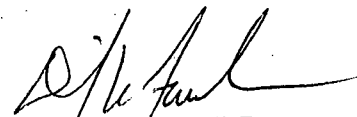
Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lb/ft <sup>3</sup>	Moisture %	Dry Density lb/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>SUB-BASE - Test Referenced from Subgrade (SPEC 1)</b>								
32	8/23/02	Finish Grade	Coordinates, North 1251175.00 x East 598780.00	109.2	18.8	107.7	99	Yes
33	8/23/02	Finish Grade	Coordinates, North 1251495.00 x East 598980.00	106.5	20.0	105.8	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

E: 9/9/02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

PROJECT NO: G01-080

REPORT NO: 83

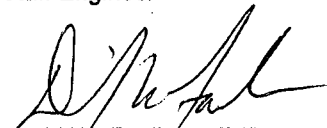
Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lb/ft <sup>3</sup>	Moisture %	Dry Density lb/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>SUB-BASE - Test Referenced from Subgrade (SPEC 1)</b>								
34	9/9/02	Finish Grade	Coordinates, North 1251240.00 x East 598690.00	108.8	20.2	106.4	98	Yes
35	9/9/02	Finish Grade	Coordinates, North 1251415.00 x East 598810.00	109.7	18.7	109.1	99	Yes
36	9/9/02	Finish Grade	Coordinates, North 1251465.00 x East 598905.00	110.3	18.4	109.3	99	Yes
37	9/9/02	Finish Grade	Coordinates, North 1251665.00 x East 598985.00	110.4	18.4	108.0	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

E: 9/17/02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

PROJECT NO: G01-080

REPORT NO: 84

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max Density lb/ft <sup>3</sup>	Moisture %	Dry Density lb/ft <sup>3</sup>	Compaction %	Meets Spec?
<b>SUB-BASE - Test Referenced from Subgrade (SPEC 1)</b>								
38	9/17/02	Finish Grade	Coordinates, North 1251320.00 x East 598630.00	108.9	18.0	107.4	99	Yes
39	9/17/02	Finish Grade	Coordinates, North 1251430.00 x East 598720.00	109.8	18.4	108.9	99	Yes
40	9/17/02	Finish Grade	Coordinates, North 1251575.00 x East 598840.00	110.6	14.8	109.8	99	Yes
41	9/17/02	Finish Grade	Coordinates, North 1251695.00 x East 598885.00	109.4	17.6	109.6	100	Yes
42	9/17/02	Finish Grade	Coordinates, North 1251480.00 x East 598645.00	109.5	18.8	106.8	98	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

**BURCAW GEOTECHNICAL GROUP, INC.**

6402 W. Linebaugh Avenue, Suite A  
Tampa, FL 33625

813-818-4606 / 813-891-6686  
www.burcawinc.com

**REPORT OF FIELD COMPACTION TESTS**

12/24/02

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

Mr. Carl Aspirinio  
Handex Construction Services  
111 Kelsey Lane, Suite E  
Tampa, FL 33619

PROJECT NO: G01-080

REPORT NO: 85 (Revised)

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation or Depth	Location	Max.		Dry		Meets Spec?
				Density lb/ft <sup>3</sup>	Moisture %	Density lb/ft <sup>3</sup>	Compaction %	
<b>GENERAL FILL - Test Referenced from Subgrade (SPEC 1)</b>								
501	12/24/02	128	Coordinates, North 1251510.00 x East 598555.00	109.7	12.8	104.4	95	Yes
502	12/24/02	132	Coordinates, North 1251760.00 x East 598790.00	109.7	13.6	105.6	96	Yes
503	12/24/02	134	Coordinates, North 1251790.00 x East 599045.00	109.7	13.4	105.2	96	Yes
504	12/24/02	131	Coordinates, North 1251670.00 x East 599335.00	108.1	18.4	102.9	95	Yes

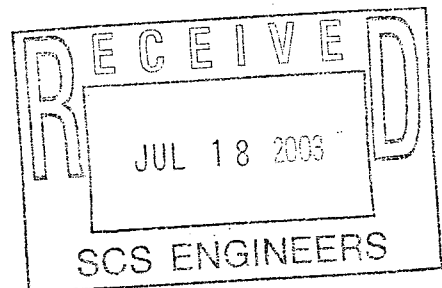
Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



**REPORT OF FIELD COMPACTION TESTS**

Date: 1/13/03

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

PROJECT NO: G1-080

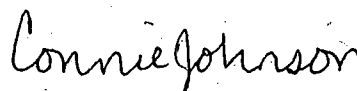
Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

REPORT NO: 86

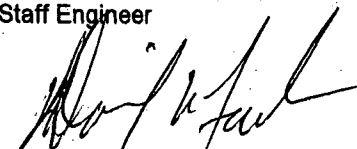
Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation	Coordinates	Moisture (%)	Maximum Dry Density (pcf)	Optimum Moisture (%)	Relative Compaction (%)	Remarks
<b>GENERAL FILL - Test Referenced from Subgrade (SPEC 1)</b>								
518	1/13/03	Elev 131	Coordinates, North 1251445.00 x East 598550.00	108.1	18.3	105.8	98	Yes
519	1/13/03	Elev 132	Coordinates, North 1251525.00 x East 598575.00	108.1	18.8	104.7	97	Yes
520	1/13/03	Elev 133	Coordinates, North 1251480.00 x East 598570.00	108.1	18.0	103.8	96	Yes
521	1/13/03	Elev 134	Coordinates, North 1251460.00 x East 598515.00	108.1	17.8	106.2	98	Yes
522	1/13/03	Elev 134	Coordinates, North 1251705.00 x East 598745.00	108.1	17.3	106.6	99	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

FE: 1/15/03

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

PROJECT NO: G1-080

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

REPORT NO: 87

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

Lab. No.	Date	Elevation	Coordinates	Moisture (%)	Density (pcf)	Compaction (%)	Pass/Fail
<b>GENERAL FILL - Test Referenced from Subgrade (SPEC 1)</b>							
523	1/15/03	Elev 135	Coordinates, North 1251410.00 x East 598500.00	108.1	16.4	105.3	97 Yes
524	1/15/03	Elev 136	Coordinates, North 1251550.00 x East 598630.00	108.1	17.2	105.6	98 Yes
525	1/15/03	Elev 135	Coordinates, North 1251780.00 x East 598815.00	108.1	14.0	105.6	98 Yes
526	1/15/03	Elev 136	Coordinates, North 1251865.00 x East 598880.00	108.1	16.2	105.1	97 Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



**REPORT OF FIELD COMPACTION TESTS**

DATE: 1/20/03

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

PROJECT NO: G1-080

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

REPORT NO: 88

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

GENERAL FILL - Test Referenced from Subgrade (SPEC 1)								
527	1/20/03	Elev 137	Coordinates, North 1251380.00 x East 598495.00	108.1	15.6	106.2	98	Yes
528	1/20/03	Elev 138	Coordinates, North 1251410.00 x East 598525.00	108.1	16.2	106.6	99	Yes
529	1/20/03	Elev 137	Coordinates, North 1251795.00 x East 598850.00	108.1	16.0	105.8	98	Yes
530	1/20/03	Elev 138	Coordinates, North 1251695.00 x East 598765.00	108.1	17.4	103.8	96	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

**BURCAW GEOTECHNICAL GROUP, INC.**6402 Linebaugh Avenue, Suite A  
Tampa, FL 33625813-818-4606 / 813-891-6686  
www.burcawinc.com**REPORT OF FIELD COMPACTION TESTS**

DATE: 1/7/03

PROJECT NAME: Hillsborough County Landfill

TESTED FOR:

PROJECT NO: G1-080

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

REPORT NO: 89

Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elevation on Depth	Location	Max Density (lbs/ft <sup>3</sup> )	Moisture (%)	Dry Density (lbs/ft <sup>3</sup> )	Compaction (%)	Meets Spec.
<b>GENERAL FILL - Test Referenced from Subgrade (SPEC 1)</b>								
505	1/7/03	Elev 133	Coordinates, North 1251815.00 x East 598835.00	108.1	21.7	103.0	95	Yes
506	1/7/03	Elev 132	Coordinates, North 1251710.00 x East 599230.00	108.1	20.8	103.2	95	Yes
507	1/7/03	Elev 136	North Containment Berm Coordinates, N 1251635.00 x E 599030.00	103.1	17.1	98.0	95	Yes
508	1/7/03	Elev 137	North Containment Berm Coordinates, N 1251700.00 x E 599110.00	103.1	17.1	97.8	95	Yes
509	1/7/03	Elev 138	North Containment Berm Coordinates, N 1251645.00 x E 599210.00	103.1	10.6	100.2	97	Yes
	1/7/03	Elev 139	North Containment Berm Coordinates, N 1251585.00 x E 599335.00	103.1	14.4	101.8	99	Yes
511	1/7/03	Elev 140	North Containment Berm Coordinates, N 1251665.00 x E 599135.00	103.1	13.6	97.8	95	Yes
512	1/7/03	+1'	Interior Separation Berm Coordinates, N 1251515.00 x E 599210.00	108.2	8.5	102.6	95	Yes
513	1/7/03	+2'	Interior Separation Berm Coordinates, N 1251475.00 x E 599180.00	108.2	9.2	102.9	95	Yes
514	1/7/03	+3'	Interior Separation Berm Coordinates, N 1251430.00 x E 599155.00	108.2	9.0	102.4	95	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.***Connie Johnson*Connie Johnson, E.I.  
Staff EngineerDavid W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

**REPORT OF FIELD COMPACTION TESTS**

DATE: 1/9/03

PROJECT NAME: Hillsborough County Landfill

**TESTED FOR:**

PROJECT NO: G1-080

Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

REPORT NO: 90

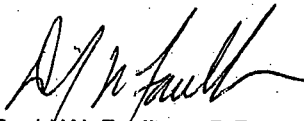
Project Specification: (1) 95% of ASTM D698 (Standard Proctor)  
(2) 98% of ASTM D1557 (Modified Proctor)  
(3) 100% of ASTM D698 (Standard Proctor)

No.	Date	Elev	Coordinates	Density (pcf)	Moisture (%)	Specific Gravity	Compaction (%)	Pass/Fail
<b>GENERAL FILL - Test Referenced from Subgrade (SPEC 1)</b>								
515	1/9/03	Elev 129	Coordinates, North 1251485.00 x East 598560.00	103.1	16.4	100.8	98	Yes
516	1/9/03	Elev 130	Coordinates, North 1251555.00 x East 598610.00	103.1	17.0	101.3	98	Yes
517	1/9/03	Elev 133	Coordinates, North 1251815.00 x East 598860.00	103.1	15.8	100.4	97	Yes

Respectfully Submitted,  
**BURCAW GEOTECHNICAL GROUP, INC.**



Connie Johnson, E.I.  
Staff Engineer



David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

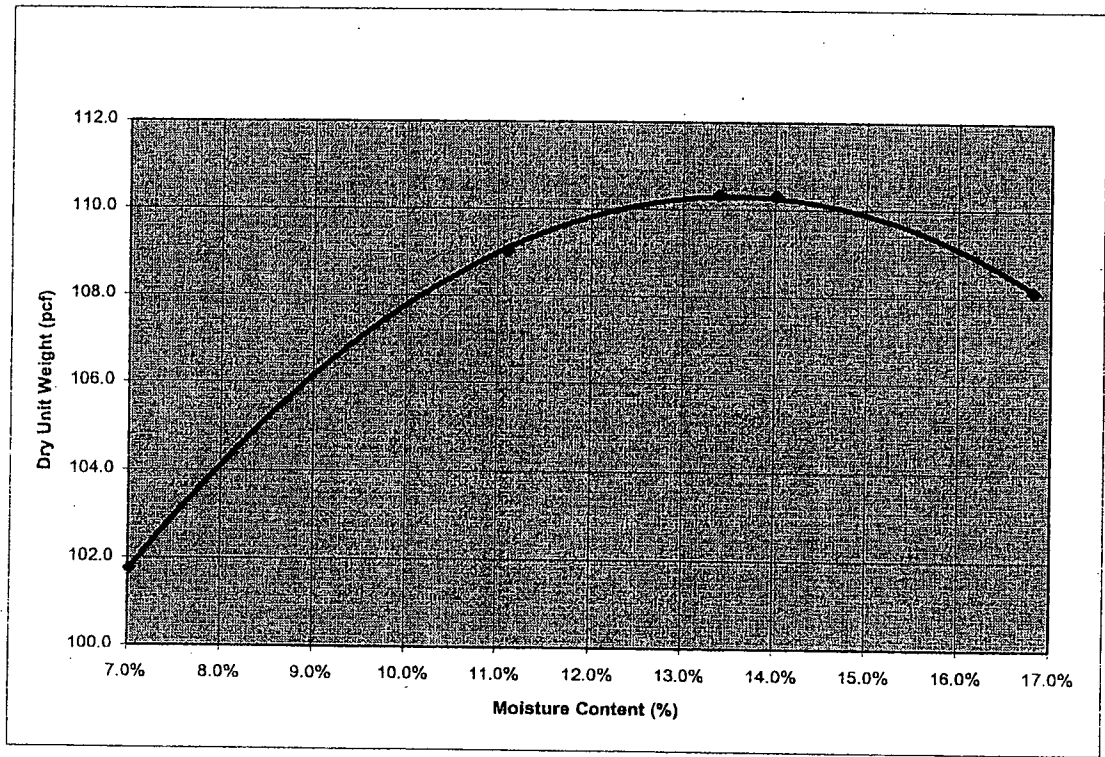
**Tested For:** Mr. Brian Ehler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 11/19/2001

**Project No.** G1-080  
**Report No.** P1

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 110.2 PCF  
**Optimum Moisture:** 13.6 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Client

**Description:** Gray and Brown Slightly Silty Fine Sand with hard pan and trace organics  
**Sample Location:** N/A

Respectfully Submitted,  
 Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
 Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*  
 David W. Faulkner, P.E.  
 Vice President

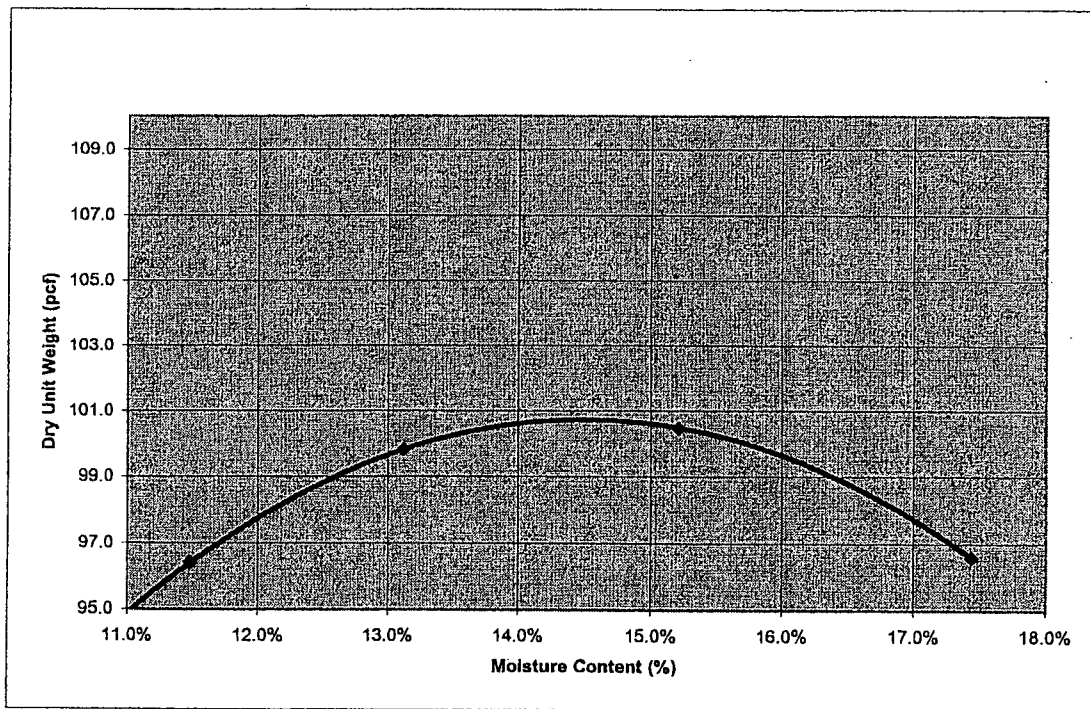
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 12/11/01

**Project No.** G1-080  
**Report No.** P2

## MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 100.6 PCF  
**Optimum Moisture:** 14.5 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Light Brown Slightly Silty  
Fine Sand  
**Sample Location:** Delivered to BGG Office  
(Hillsborough County Landfill)

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

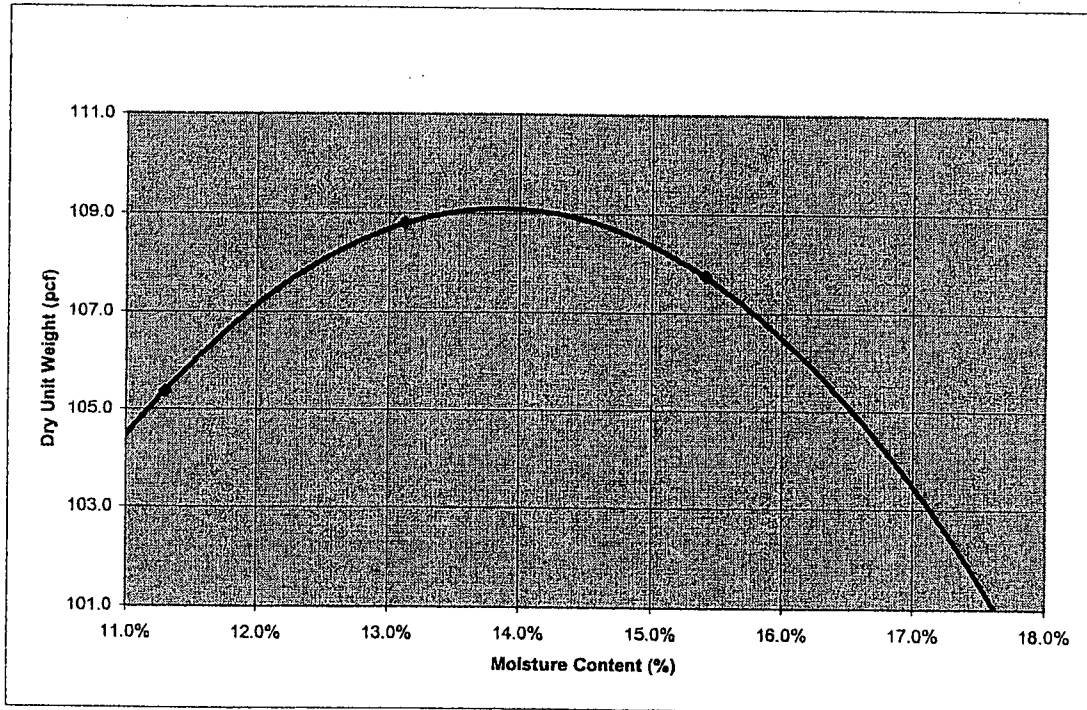
**Tested For:** Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 12/11/01

**Project No.** G1-080  
**Report No.** P3

### MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 109.1 PCF  
**Optimum Moisture:** 13.7 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Breneman

**Description:** Brown Fine Sand  
with trace of organics  
**Sample Location:** Shelly Lakes

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

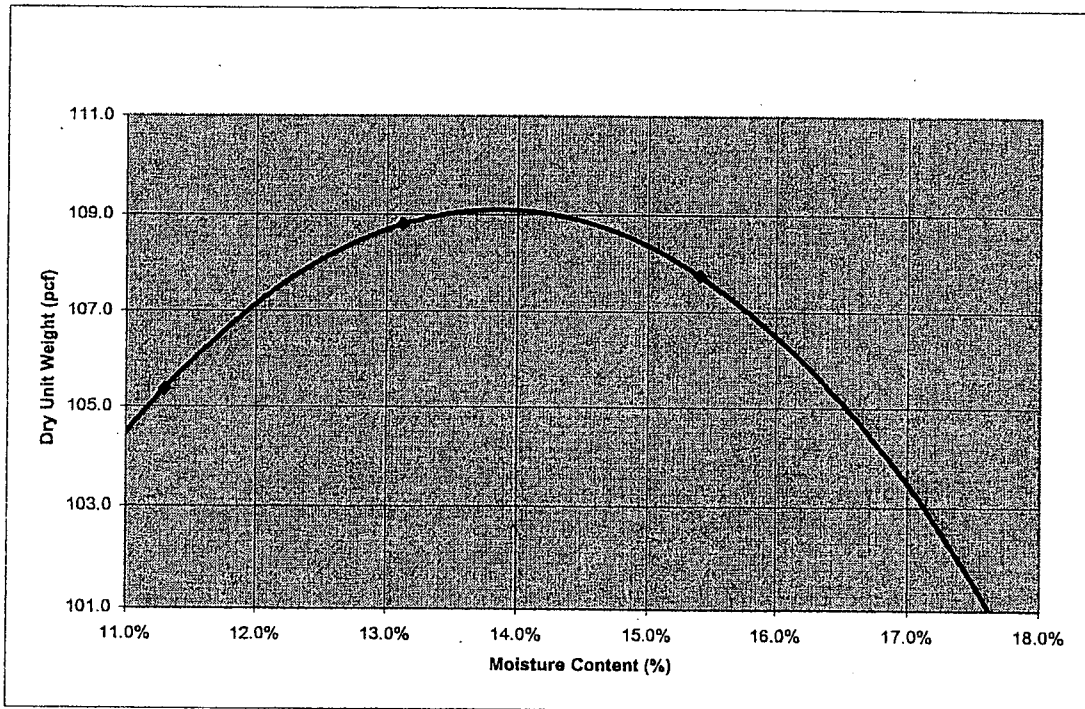
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 12/11/01

**Project No.** G1-080  
**Report No.** P3 (revised)

### MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 109.1 PCF  
**Optimum Moisture:** 13.7 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Brown Fine Sand  
**Sample Location:** Shelly Lakes

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



10840 Sheldon Road  
Tampa, Florida 33626  
813-882-4815 / 813-882-3808  
www.burcawinc.com

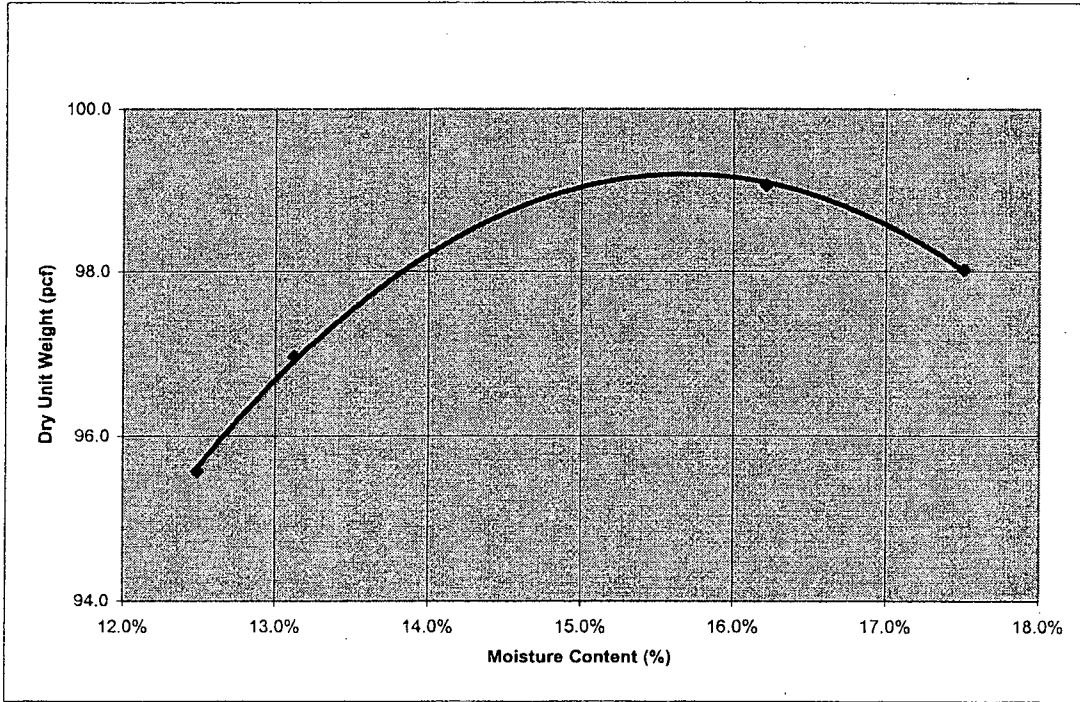
**Tested For:** Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 12/27/01

**Project No.** G1-080  
**Report No.** P4

### MOISTURE-DENSITY RELATIONSHIP



Maximum Density: 99.2 PCF  
Optimum Moisture: 15.5 %  
Test Method: ASTM D-698, Standard  
Sampled by: Jason Brenneman

Description: Dark Brown Fine Sand with Cemented Sands (Hard Pan)  
Sample Location: Shelly Lakes

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.  
*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer  
*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740





10840 Sheldon Road  
Tampa, Florida 33626  
813-882-4815 / 813-882-3808  
www.burcawinc.com

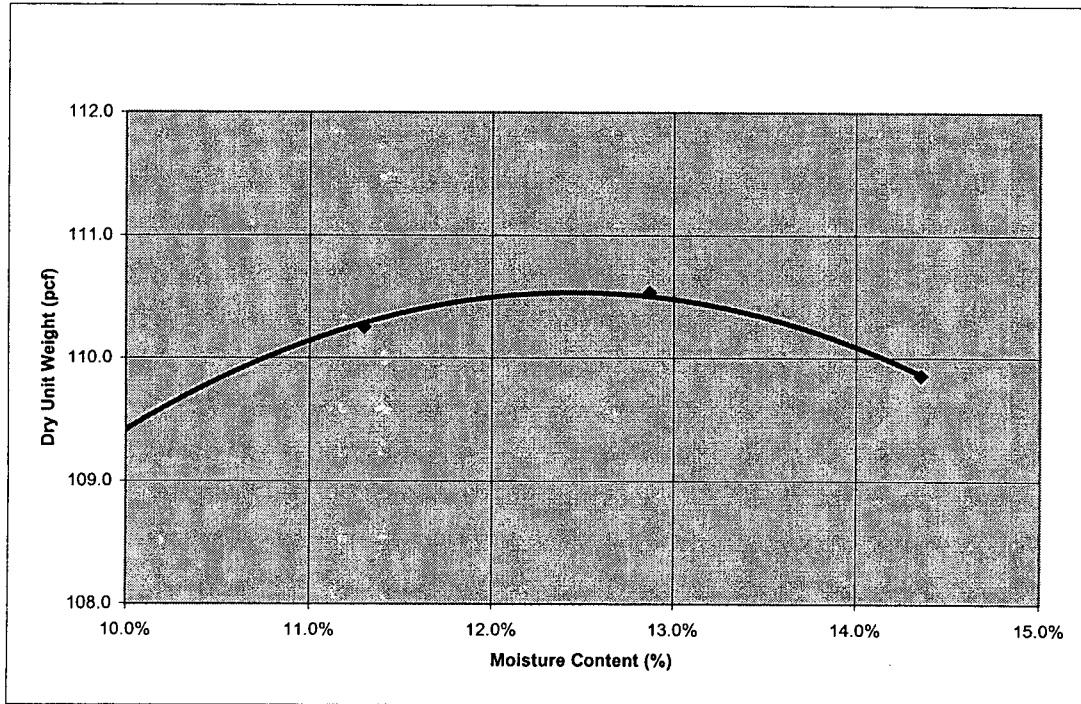
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 12/28/01

**Project No.** G1-080  
**Report No.** P5

### MOISTURE-DENSITY RELATIONSHIP



Maximum Density: 110.6 PCF  
Optimum Moisture: 12.5 %  
Test Method: ASTM D-698, Standard  
Sampled by: Jason Brenneman

Description: Mottled Gray and Brown  
Slightly Silty Fine Sand  
Sample Location: Landfill Access Ramp

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

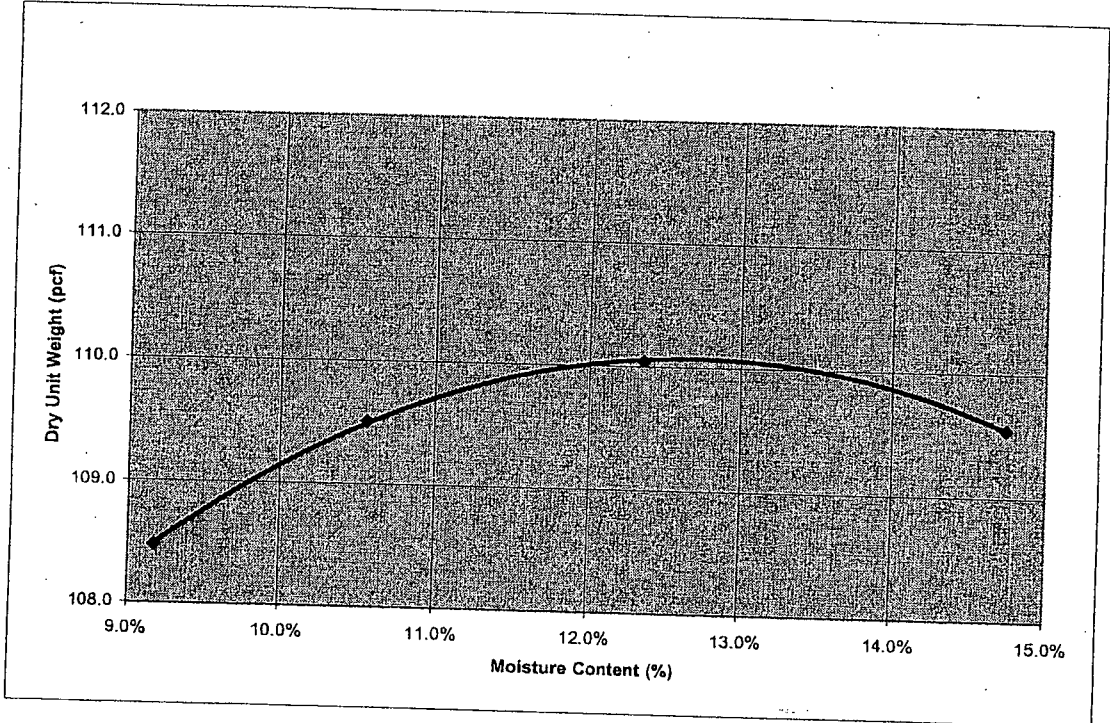
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 1/7/01

**Project No.** G1-080  
**Report No.** P6

### MOISTURE-DENSITY RELATIONSHIP



<b>Maximum Density:</b> 110.1 PCF	<b>Description:</b> Light Brown Fine Sand
<b>Optimum Moisture:</b> 13.0 %	<b>Sample Location:</b> Imported from Shelly Lake Mine
<b>Test Method:</b> ASTM D-698, Standard	
<b>Sampled by:</b> Jason Brenneman	

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.  
*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer  
*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

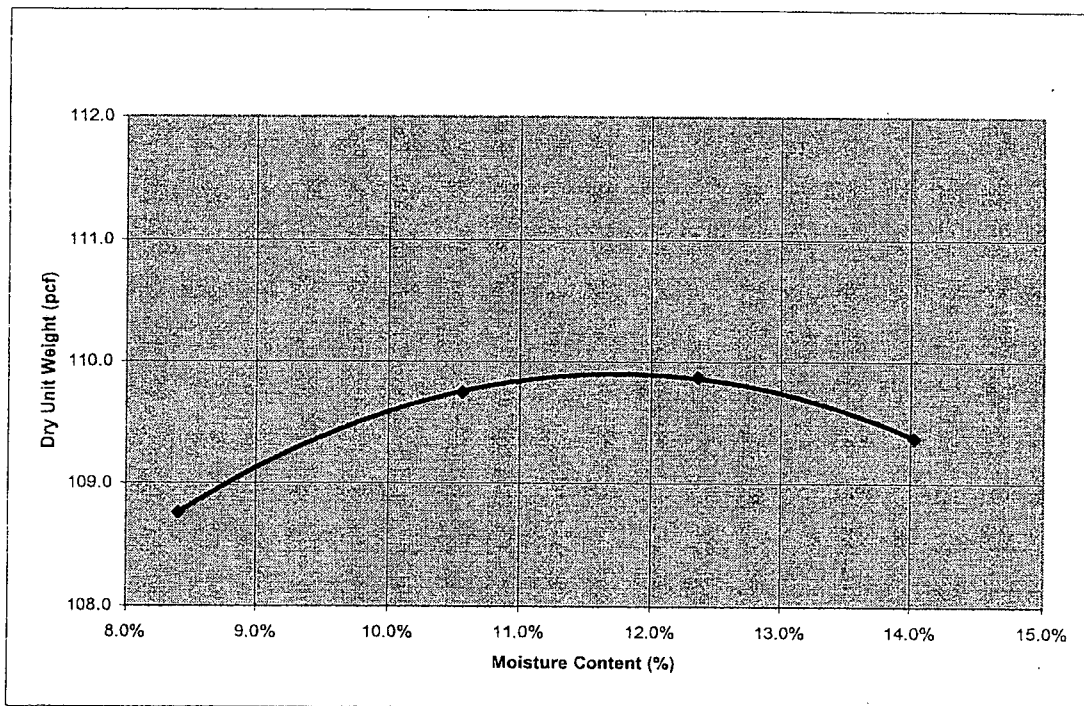
Tested For: Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

Project: Hillsborough County Landfill

Date: 1/7/01

Project No. G1-080  
Report No. P7

### MOISTURE-DENSITY RELATIONSHIP



Maximum Density: 109.8 PCF  
Optimum Moisture: 12.0 %  
Test Method: ASTM D-698, Standard  
Sampled by: Jason Brenneman

Description: Brown Slightly Silty Fine Sand  
Sample Location: Imported from Shelly Lake Mine

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

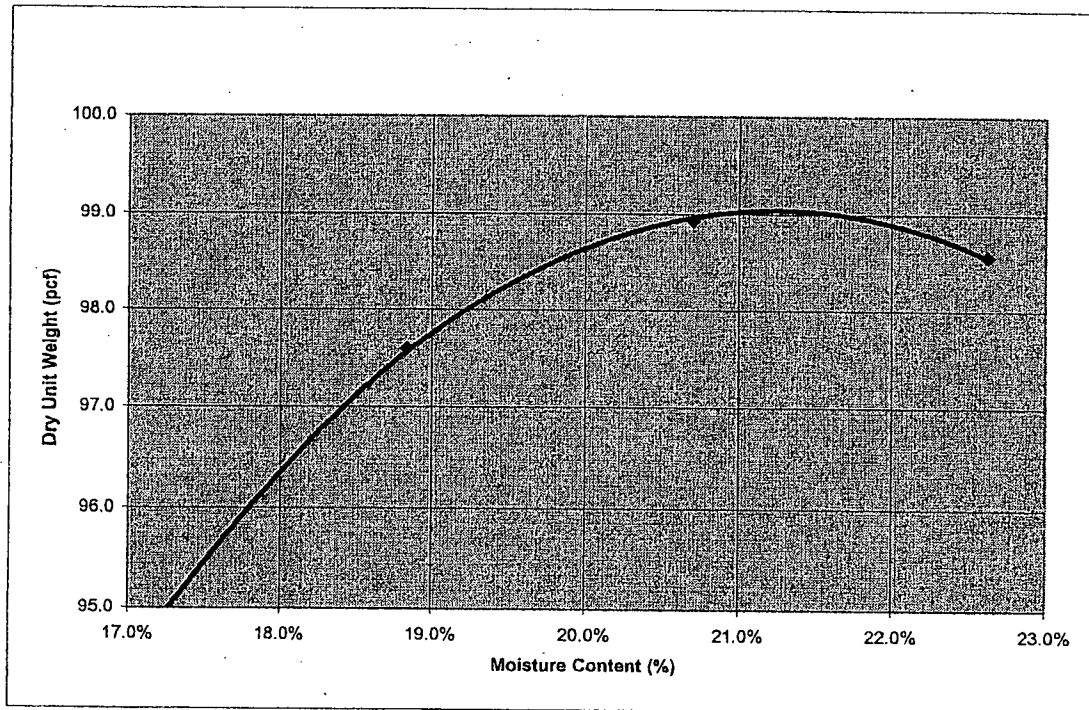
Tested For: Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

Project: Hillsborough County Landfill

Date: 1/15/02

Project No. G1-080  
Report No. P9

### MOISTURE-DENSITY RELATIONSHIP



Maximum Density: 99.0 PCF  
Optimum Moisture: 21.5 %  
Test Method: ASTM D-698, Standard  
Sampled by: Jason Brenneman

Description: Mottled Reddish Brown to Brown,  
Slightly Silty, Cemented Fine Sand  
(Hard Pan)  
Sample Location: Imported from Shelly Lake Mine

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

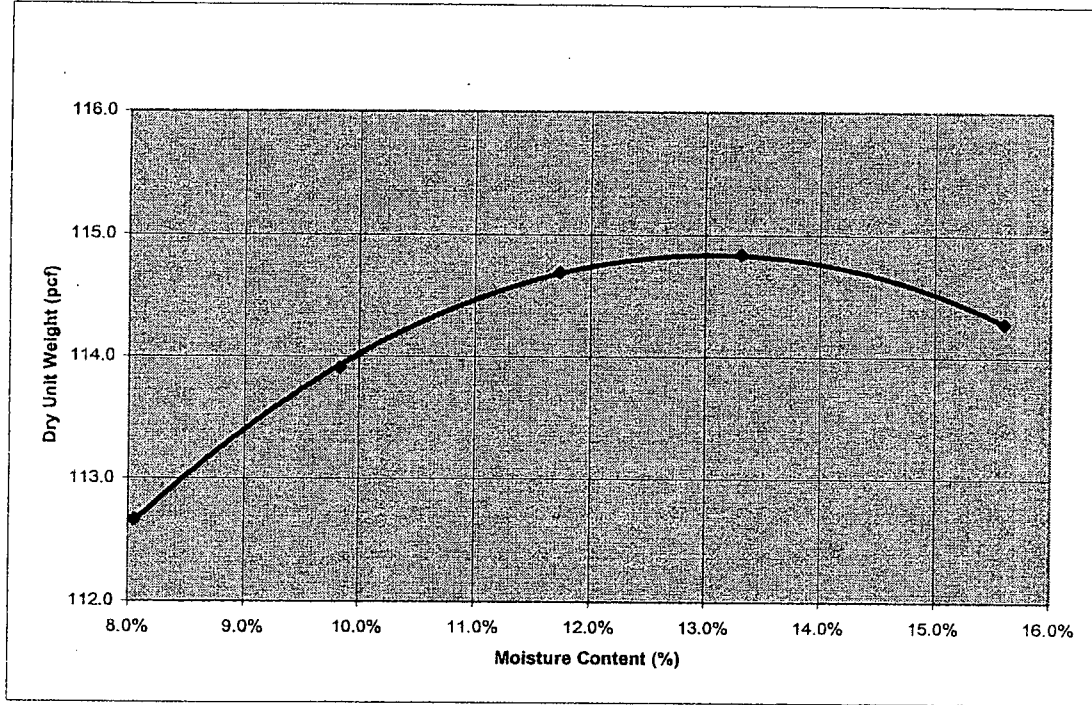
**Tested For:** Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 1/18/02

**Project No.** G1-080  
**Report No.** P10

## MOISTURE-DENSITY RELATIONSHIP



Maximum Density: 114.9 PCF  
Optimum Moisture: 13.3 %  
Test Method: ASTM D-698, Standard  
Sampled by: Jason Brenneman

Description: Light Brown, Slightly Silty  
Fine sand with traces of clay  
Sample Location: A Stockpile located at American  
Aggregate Site

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

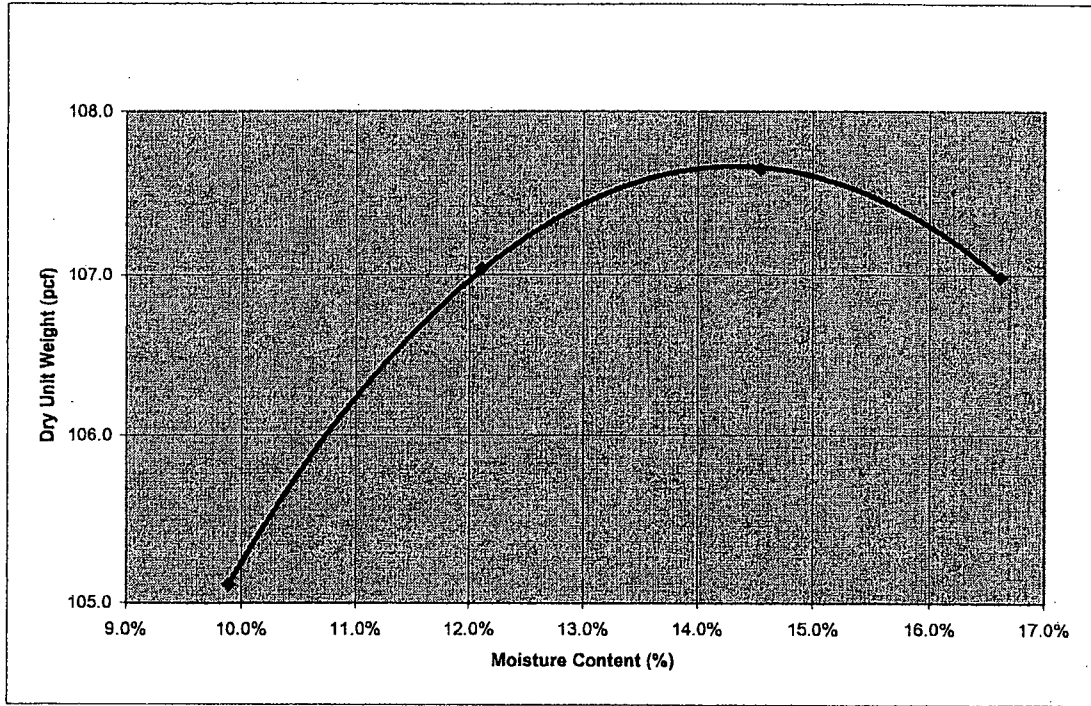
**Tested For:** Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 1/21/02

**Project No.** G1-080  
**Report No.** P11

### MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 107.7 PCF  
**Optimum Moisture:** 14.5 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Mottled Light Brown and Gray Slightly Silty Fine Sand with Cemented Fragments  
**Sample Location:** Imported from Shelly Lakes Mine

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

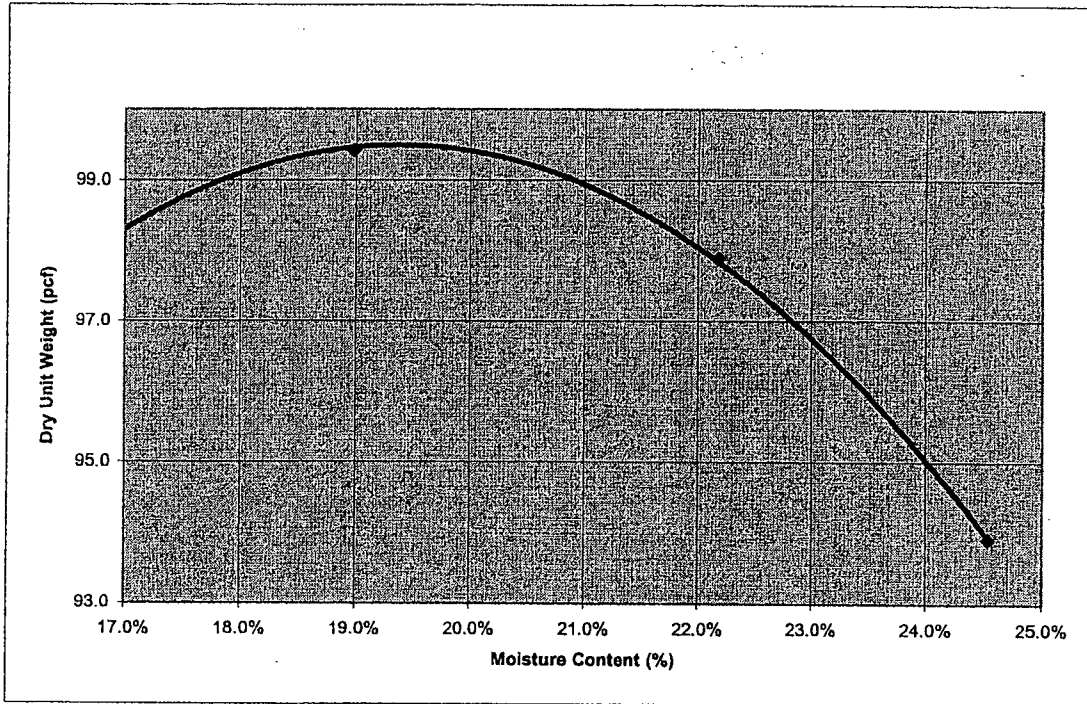
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 1/21/02

**Project No.** G1-080  
**Report No.** P12

## MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 99.5 PCF  
**Optimum Moisture:** 19.5 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Reddish Brown Slightly Silty Fine Sand with Cemented Sand

**Sample Location:** Imported from Shelly Lakes Mine

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740





10840 Sheldon Road  
 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

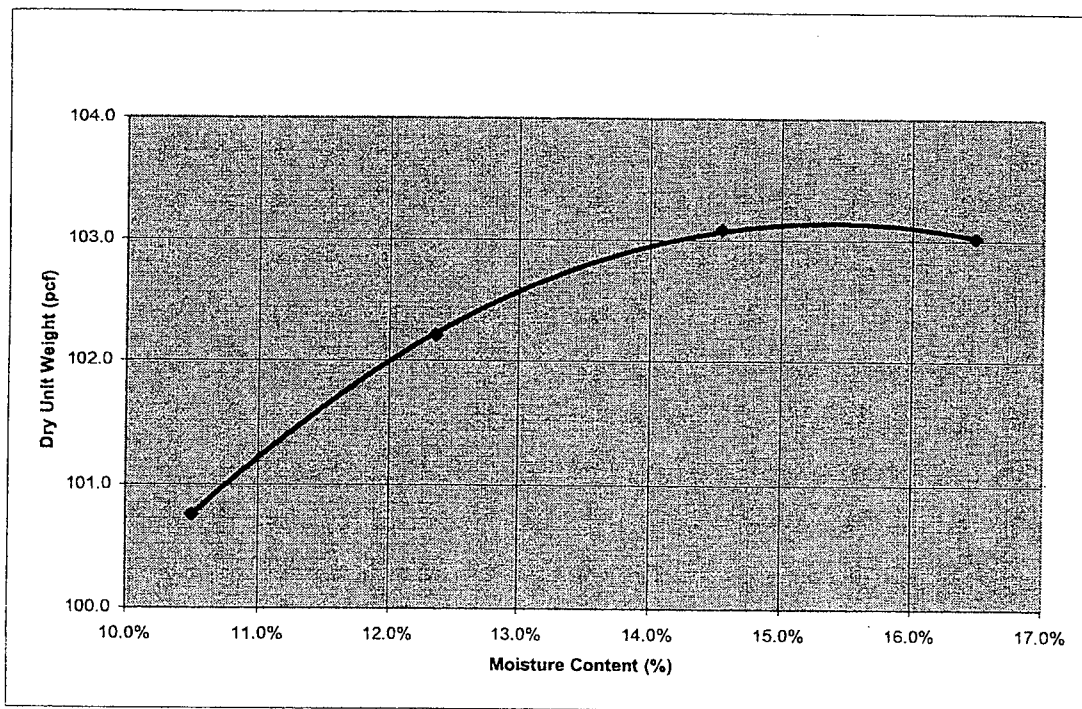
**Tested For:** Mr. Brian Ehler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 2/7/02

**Project No.** G1-080  
**Report No.** P13

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 103.3 PCF  
**Optimum Moisture:** 15.0 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Dark Brown Slightly Silty Fine Sand  
**Sample Location:** Imported from Shelly Lakes Mine

*Respectfully Submitted,*  
 Burcaw Geotechnical Group, Inc.  
*Connie Johnson*  
 Connie Johnson, E.I.  
 Staff Engineer  
*David W. Faulkner*  
 David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740





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Tampa, Florida 33626  
813-882-4815 / 813-882-3808  
www.burcawinc.com

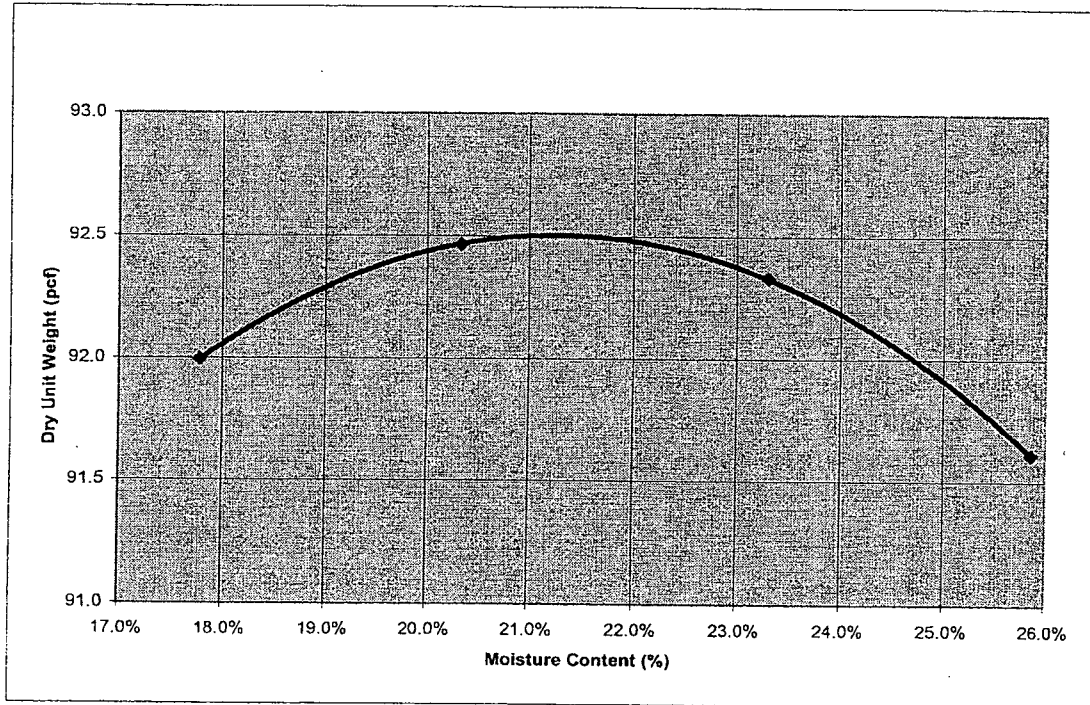
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 2/7/02

**Project No.** G1-080  
**Report No.** P14

### MOISTURE-DENSITY RELATIONSHIP



Maximum Density: 92.5 PCF  
Optimum Moisture: 21.7 %  
Test Method: ASTM D-698, Standard  
Sampled by: Jason Brenneman

Description: Light Brown Slightly Silty Fine Sand with Cemented Fine Sands (Hard Pan)  
Sample Location: Imported from Shelly Lakes Mine

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

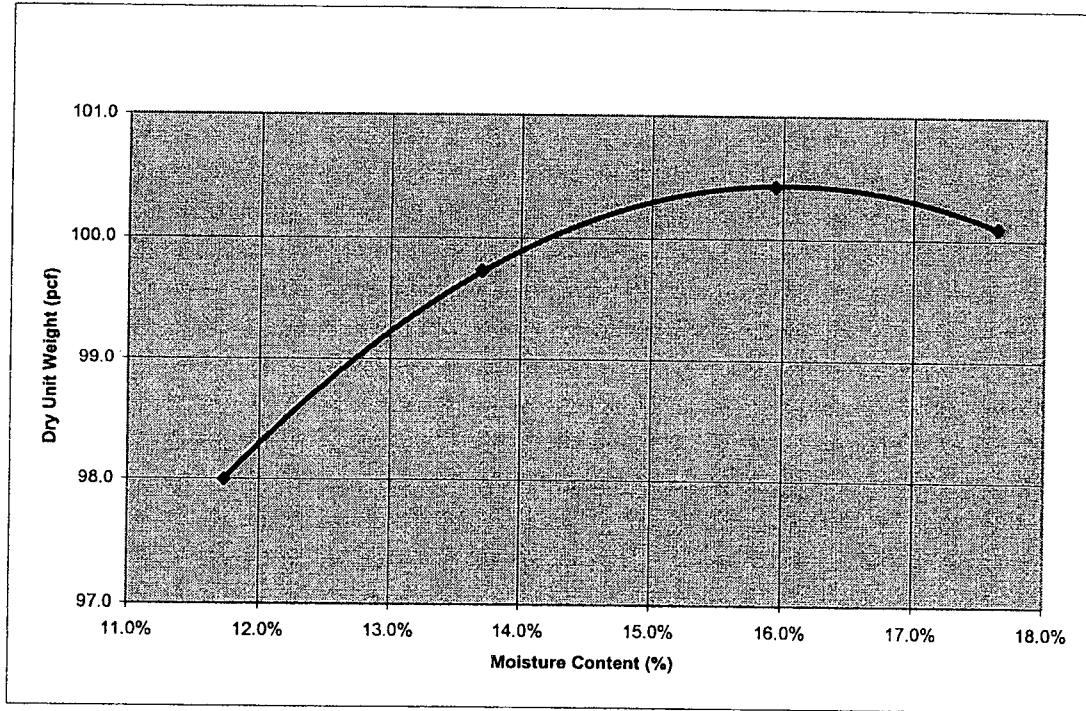
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 3/1/02

**Project No.** G1-080  
**Report No.** P15

### MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 100.5 PCF  
**Optimum Moisture:** 16.2 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Light Brown Coarse Sand  
**Sample Location:** Imported from Shelly Lakes Mine

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



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 Tampa, Florida 33626  
 813-882-4815 / 813-882-3808  
 www.burcawinc.com

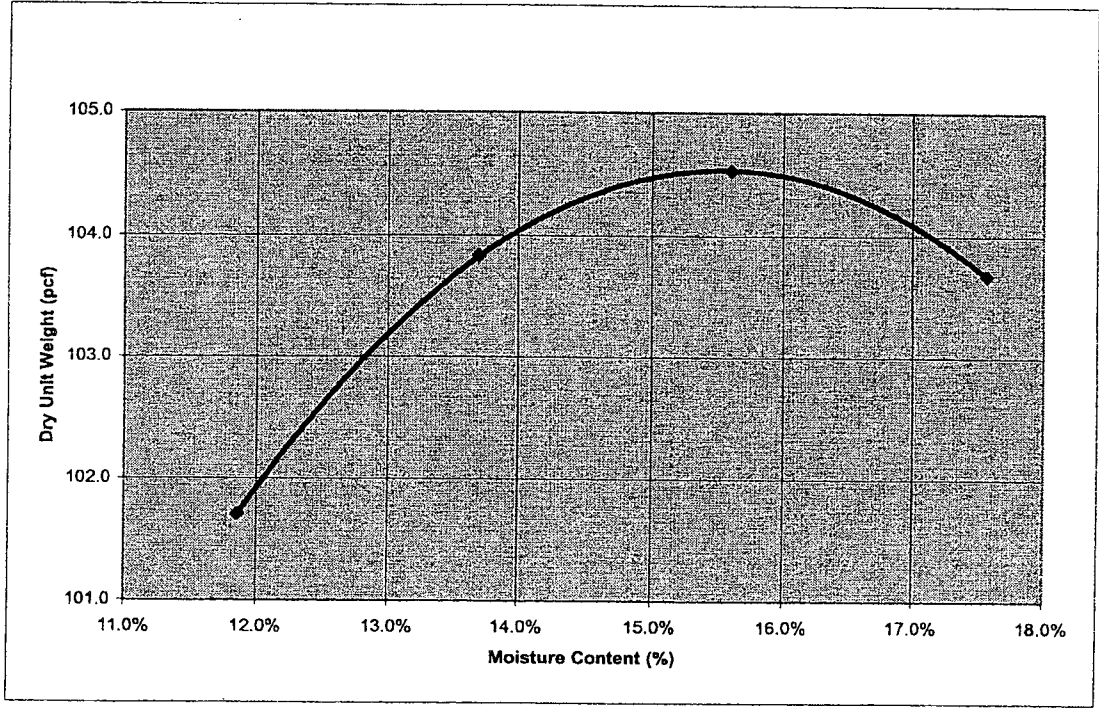
**Tested For:** Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 3/1/02

**Project No.** G1-080  
**Report No.** P16

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 104.5 PCF  
**Optimum Moisture:** 15.6 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Dark Gray to Brown Slightly Silty Fine Sand with traces of Cemented Sands (Hard Pan)  
**Sample Location:** Imported from Shelly Lakes Mine

*Respectfully Submitted,*  
 Burcaw Geotechnical Group, Inc.  
*Connie Johnson*  
 Connie Johnson, E.I.  
 Staff Engineer  
*David W. Faulkner*  
 David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



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 Tampa, Florida 33626  
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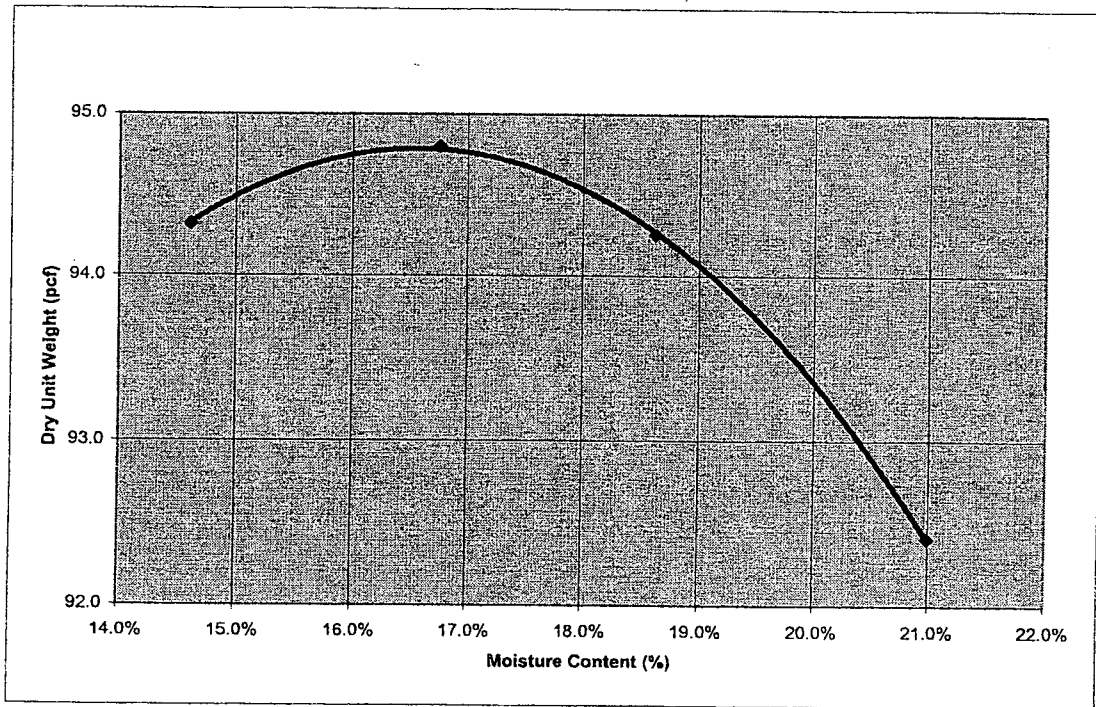
**Tested For:** Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 3/1/02

**Project No.** G1-080  
**Report No.** P17

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 94.8 PCF  
**Optimum Moisture:** 16.8 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Light Brown Slightly Silty Fine Sand with traces of Cemented Fine Sands (Hard Pan)  
**Sample Location:** Imported from Shelly Lakes Mine

Respectfully Submitted,  
 Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
 Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*  
 David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

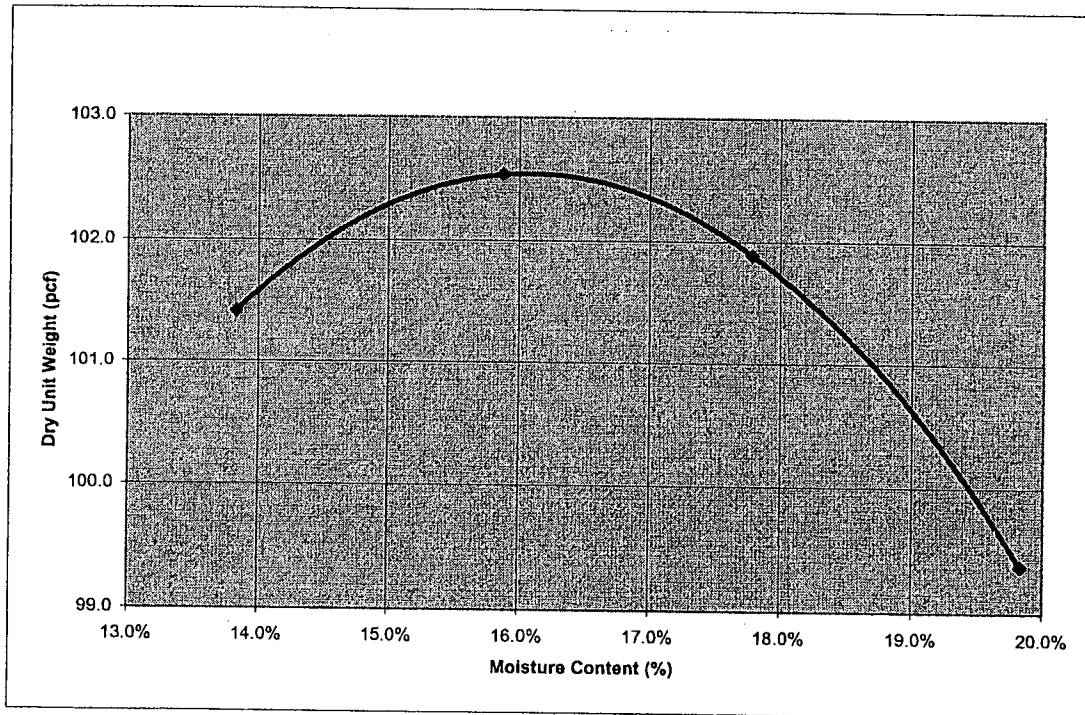
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 3/8/02

**Project No.** G1-080  
**Report No.** P18

### MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 102.6 PCF  
**Optimum Moisture:** 16.0 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Light Brown to Yellow Fine Sand  
with Cemented Fine Sands  
(Hard Pan)  
**Sample Location:** Imported from Shelly Lakes Mine

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

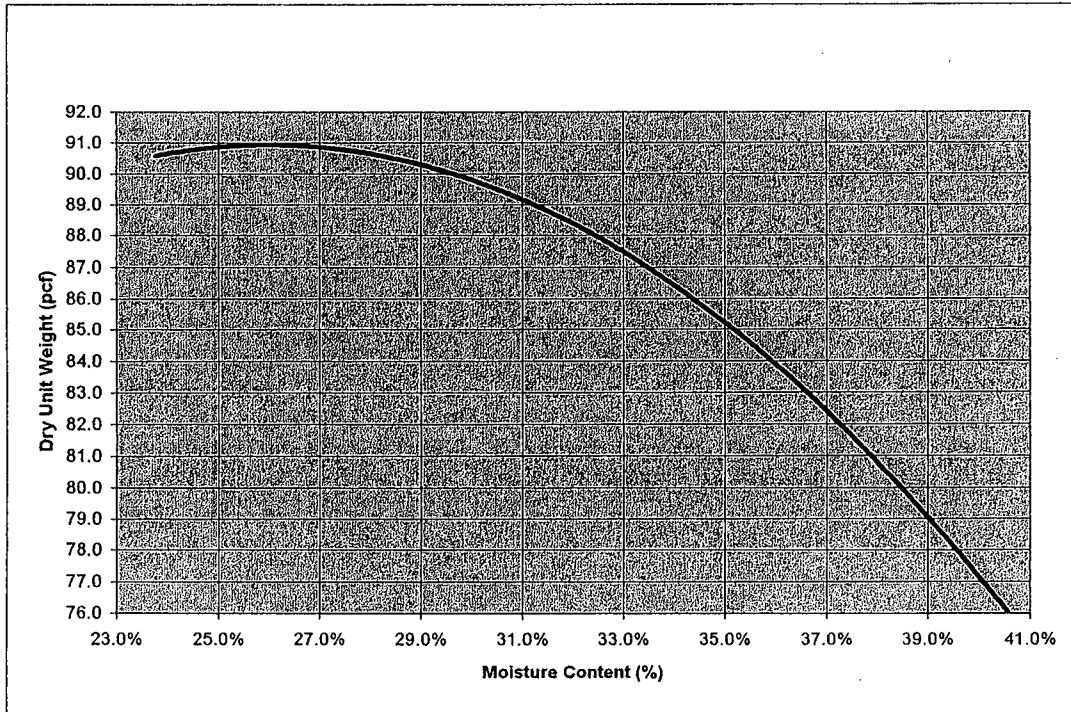
**Tested For:** Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 3/14/02

**Project No.:** G1-080  
**Report No.:** P20

**MOISTURE-DENSITY RELATIONSHIP**



Maximum Density:	91.0	PCF	Description:	Grayish Green Slightly Sandy Clay
Optimum Moisture:	26.0	%		
Test Method:	ASTM D-698, Standard			
Sampled by:	Jason Brenneman		Sample Location:	American Borrow Pit

*Respectfully Submitted,*  
 Burcaw Geotechnical Group, Inc.  
*Connie Johnson*  
 Connie Johnson, E.I.  
 Staff Engineer  
*D. W. Faulkner*  
 David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

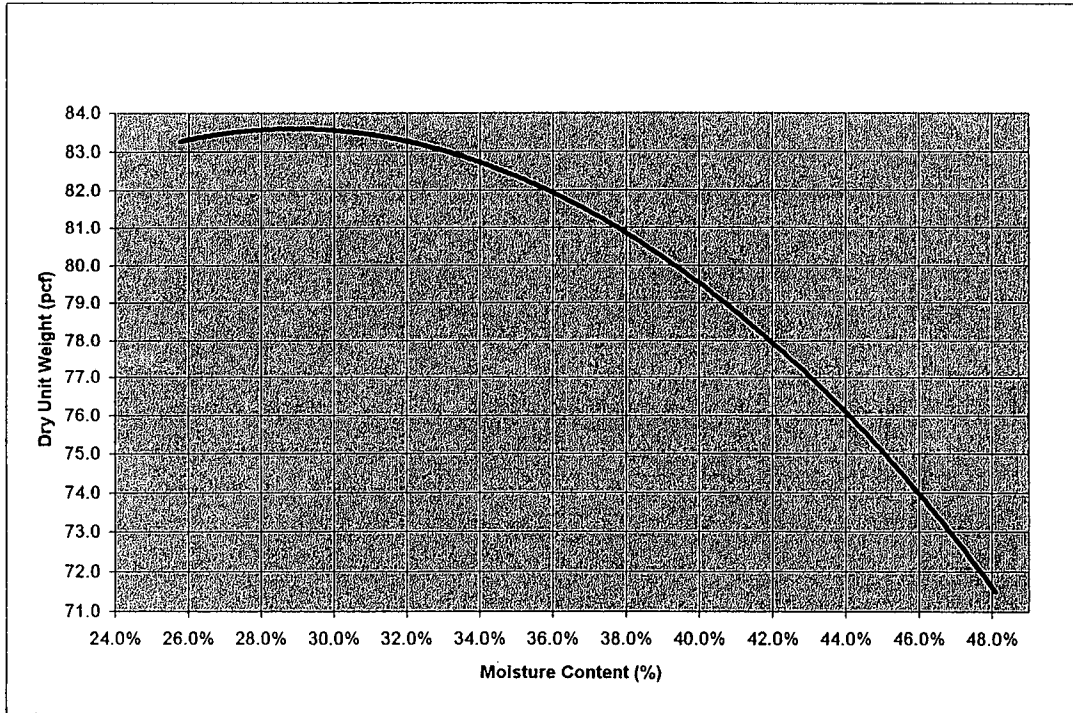
**Tested For:** Mr. Brian Ehler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 3/14/02

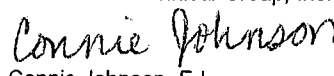
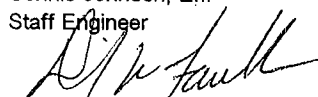
**Project No.:** G1-080  
**Report No.:** P21

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 83.6    PCF  
**Optimum Moisture:** 29.0    %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Mottled Grayish Green and Orange Slightly Sandy Clay  
**Sample Location:** American Borrow Pit

*Respectfully Submitted,*  
 Burcaw Geotechnical Group, Inc.  
  
 Connie Johnson, E.I.  
 Staff Engineer  
  
 David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740



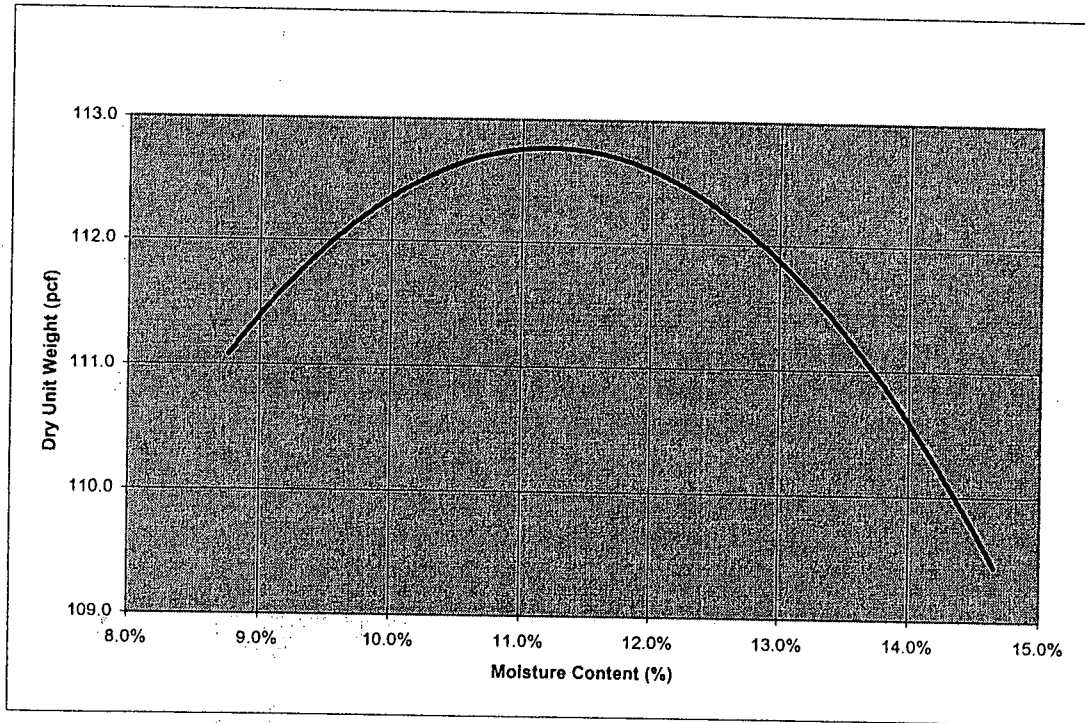
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 3/29/02

**Project No.:** G1-080  
**Report No.:** P22

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 112.8 PCF  
**Optimum Moisture:** 11.2 %  
**Test Method:** ASTM D-1557, Modified  
**Sampled by:** Jason Brenneman

**Description:** Dark Brown Fine Sand with Rock  
**Sample Location:** Existing

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



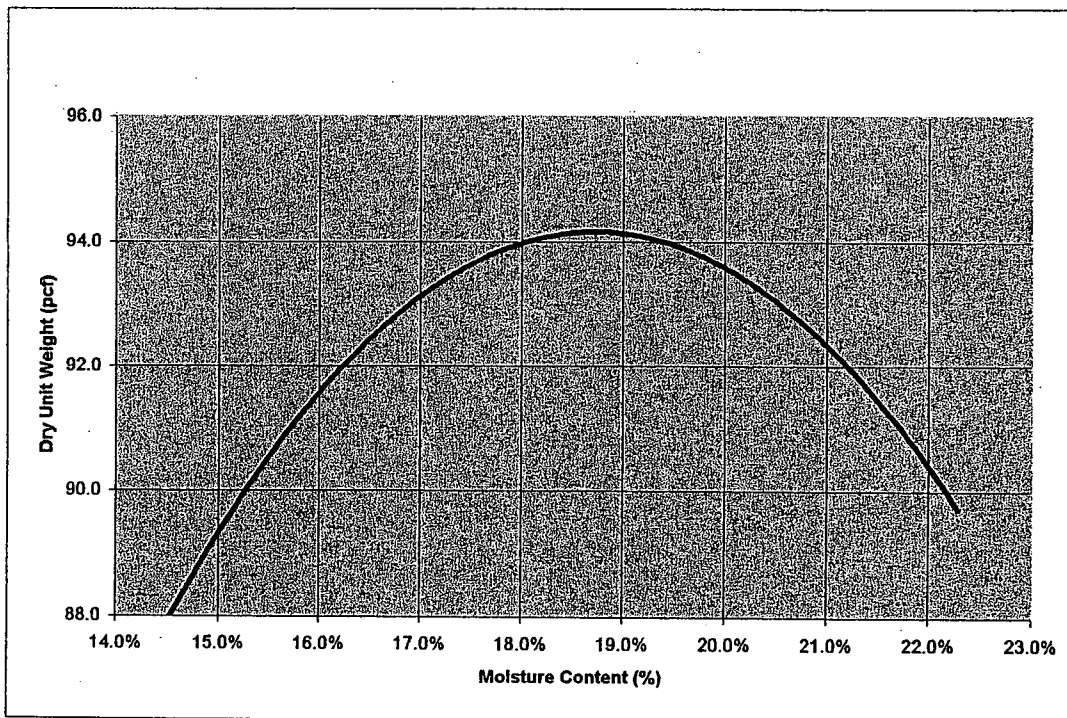
**Tested For:** Mr. Brian Ehrler  
 Handex Construction Services  
 2306 Gravel Drive  
 Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 5/9/02

**Project No.:** G1-080  
**Report No.:** P29

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 94.3 PCF  
**Optimum Moisture:** 18.6 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Blueish Green Sandy Clay mixed with Light Brown Fine Sand  
**Sample Location:** Onsite and mixed in lab

*Respectfully Submitted,*  
 Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
 Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
 Vice President  
 Florida Registration No. 50740

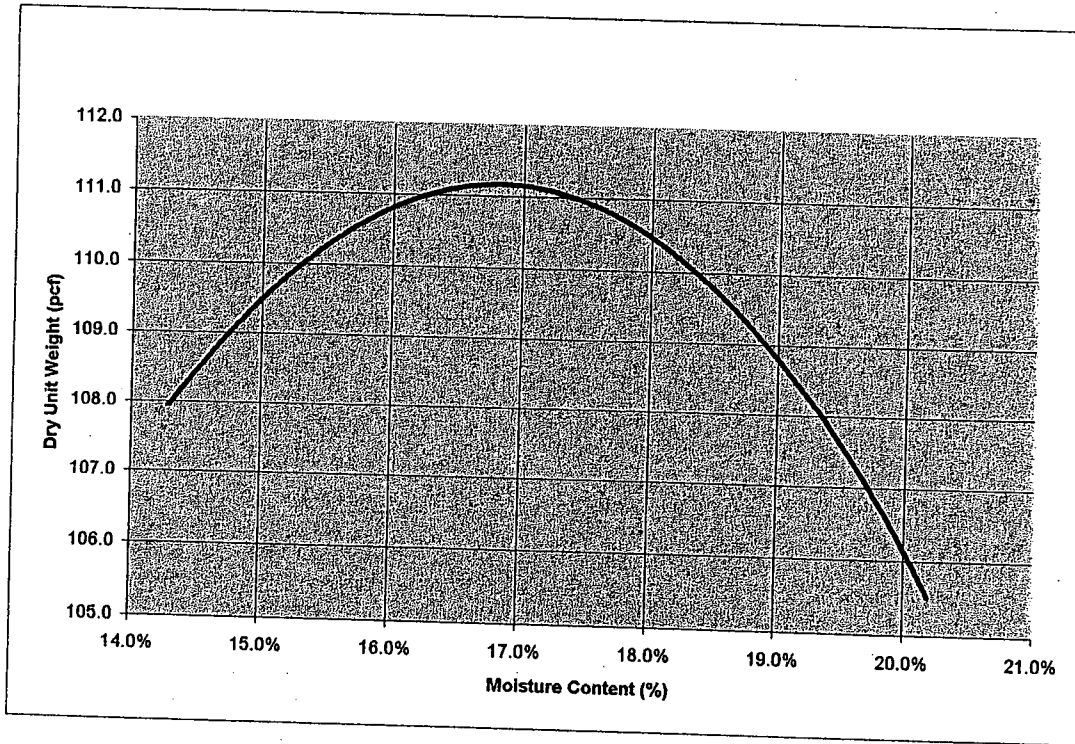
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 5/22/02

**Project No.:** G1-080  
**Report No.:** P33

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 111.2 PCF  
**Optimum Moisture:** 16.8 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Blueish Green Sandy Clay  
**Sample Location:** 30' W x 30'S of N.E. corner of test section

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.  
*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer  
*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

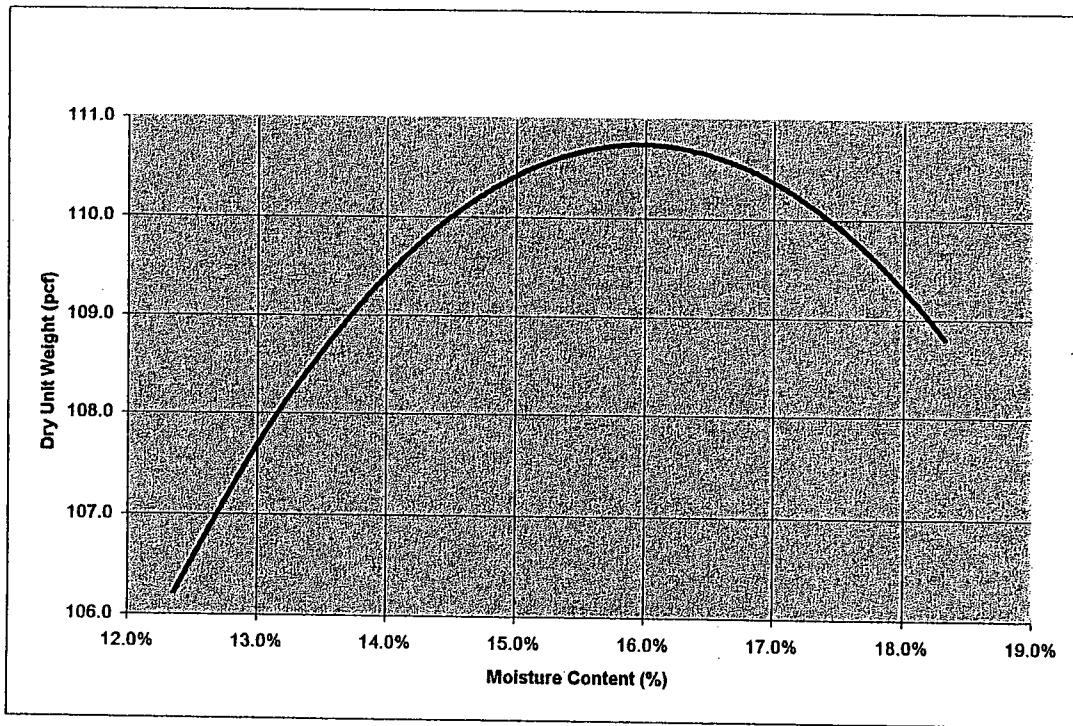
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 5/22/02

**Project No.:** G1-080  
**Report No.:** P34

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 110.8 PCF  
**Optimum Moisture:** 16.0 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Blueish Green Sandy Clay  
**Sample Location:** 20' W x 68' S of N.E. corner of test section

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.  
*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer  
*D. W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

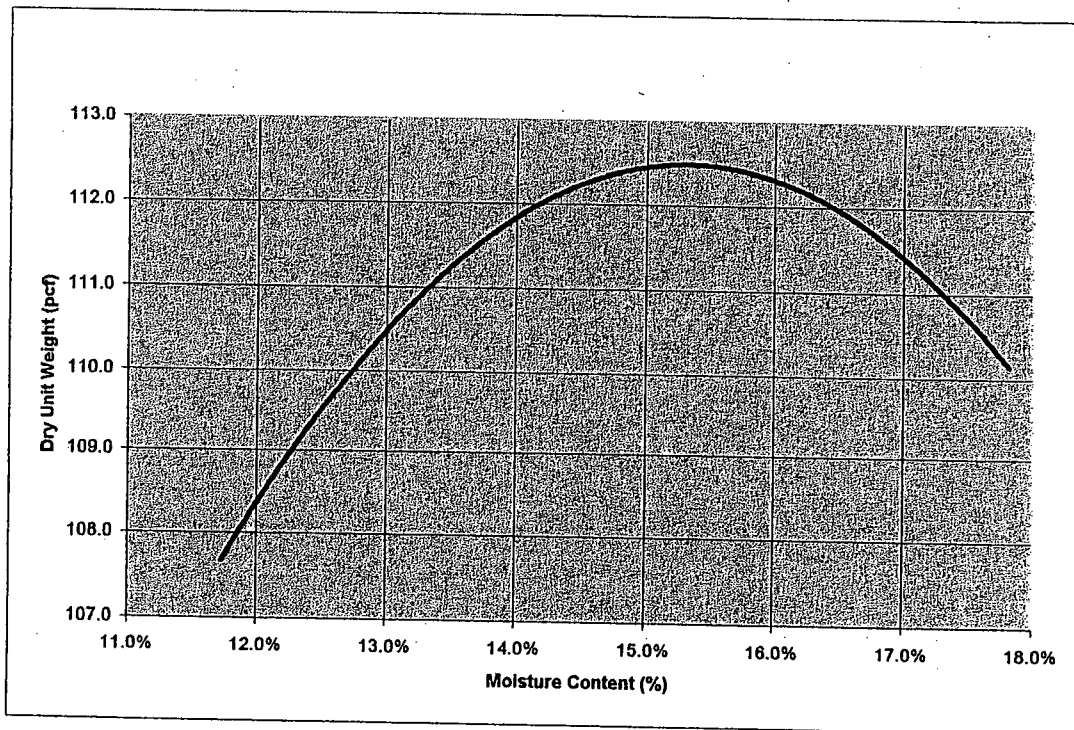
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 5/22/02

**Project No.:** G1-080  
**Report No.:** P35

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 112.5 PCF  
**Optimum Moisture:** 15.4 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brennehan

**Description:** Blueish Green Sandy Clay  
**Sample Location:** 35' W x 110' S of N.E. corner of test section

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

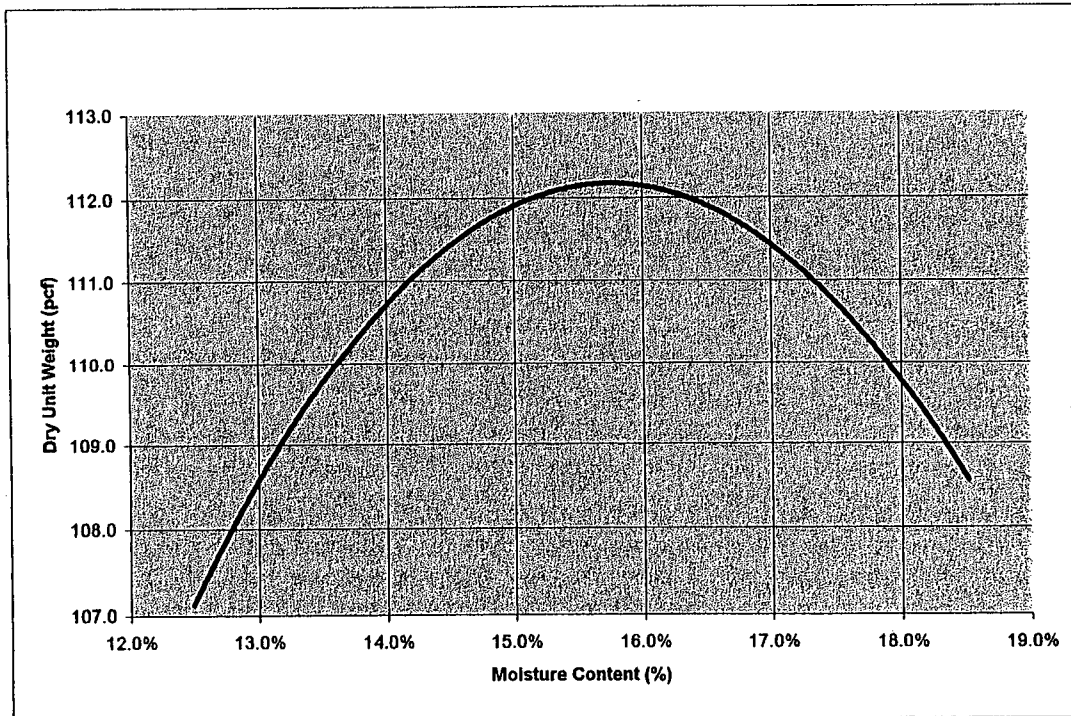
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 5/22/02

**Project No.:** G1-080  
**Report No.:** P36

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 112.2 PCF  
**Optimum Moisture:** 15.8 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Blueish Green Sandy Clay

**Sample Location:** 25' W x 150' S of N.E. corner of test section

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President

Florida Registration No. 50740

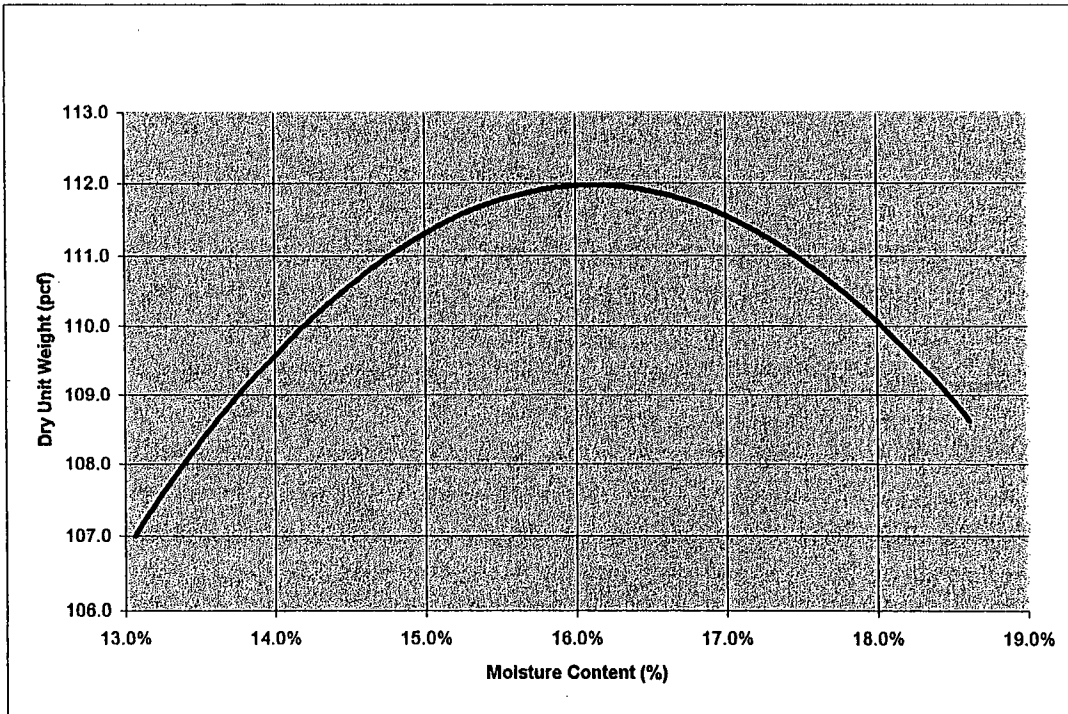
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 5/22/02

**Project No.:** G1-080  
**Report No.:** P37

**MOISTURE-DENSITY RELATIONSHIP**



<b>Maximum Density:</b>	112.0	PCF	<b>Description:</b>	Blueish Green Sandy Clay
<b>Optimum Moisture:</b>	16.1	%	<b>Sample Location:</b>	40' W x 185' S of N.E. corner of test section
<b>Test Method:</b>	ASTM D-698, Standard			
<b>Sampled by:</b>	Jason Brenneman			

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President

Florida Registration No. 50740

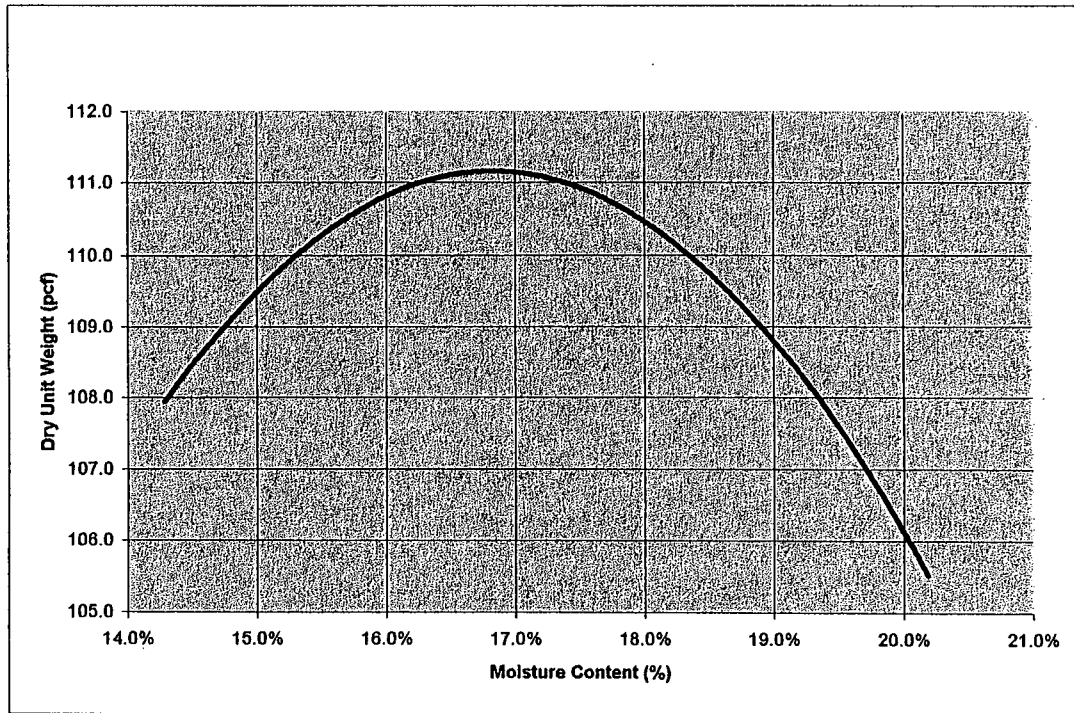
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 5/30/02

**Project No.:** G1-080  
**Report No.:** P38

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 111.2 PCF  
**Optimum Moisture:** 16.8 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman

**Description:** Gray Clayey Sand  
**Sample Location:** Composite Sample of Sub-base test section

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



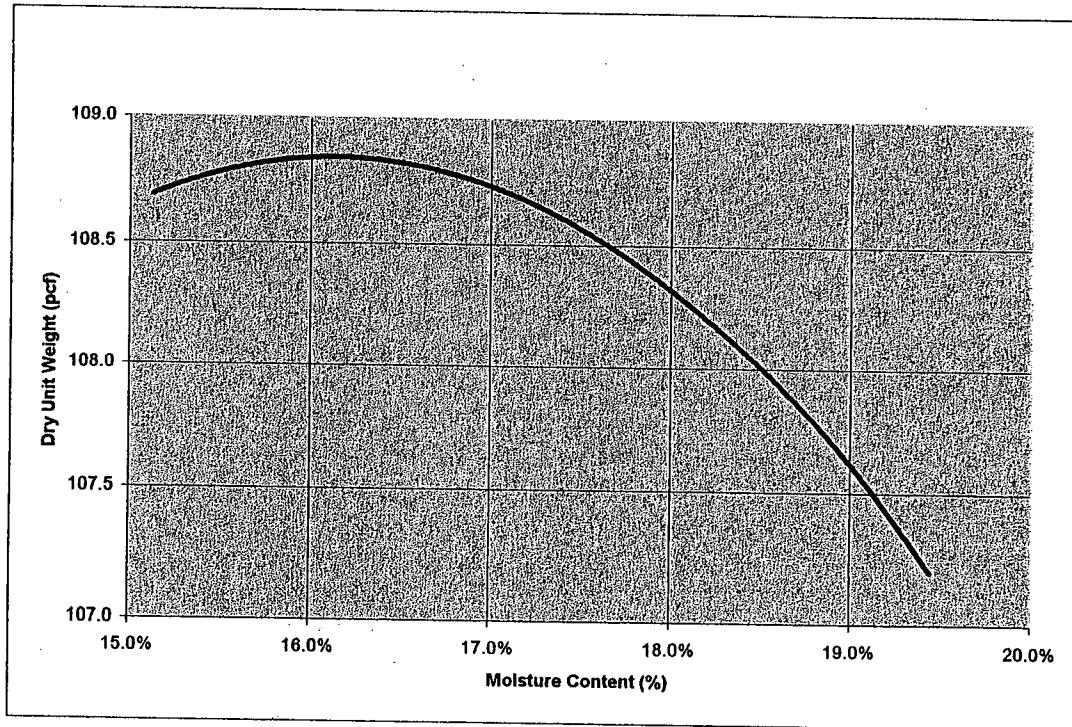
**Tested For:** Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Date:** 6/12/02

**Project No.:** G1-080  
**Report No.:** P39

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 108.8 PCF  
**Optimum Moisture:** 16.2 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Justin Stalker  
**Sample Date:** 6/7/02

**Description:** Gray Clayey Sand  
**Sample Location:** Stockpile

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



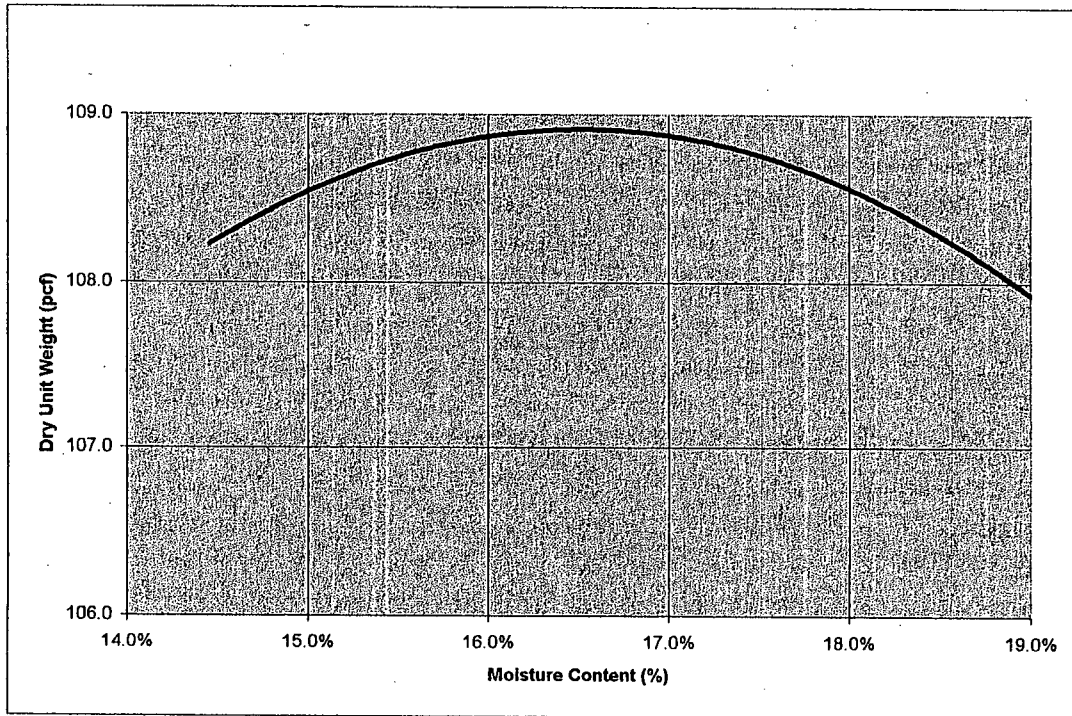
**Tested For:** Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 8/14/2002

**Project No.:** G1-080  
**Report No.:** P40

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 108.9 PCF  
**Optimum Moisture:** 16.5 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/12/02

**Description:** Gray Clayey Sand  
**Sample Location:** N1250985.00 x E599070.00  
Sub-base Material

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.J.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President

Florida Registration No. 50740

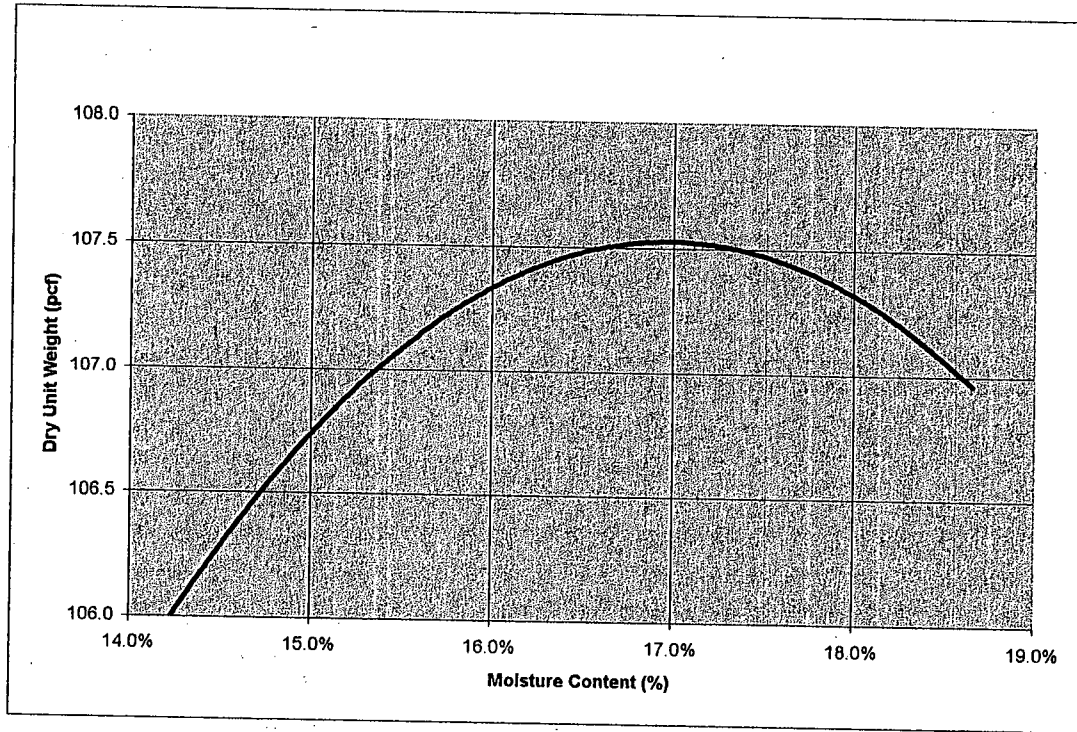
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 8/14/02

**Project No.:** G1-080  
**Report No.:** P41

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 107.6 PCF  
**Optimum Moisture:** 17.0 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/12/02

**Description:** Gray Clayey Sand  
**Sample Location:** N1250970.00 x E599195.00  
Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

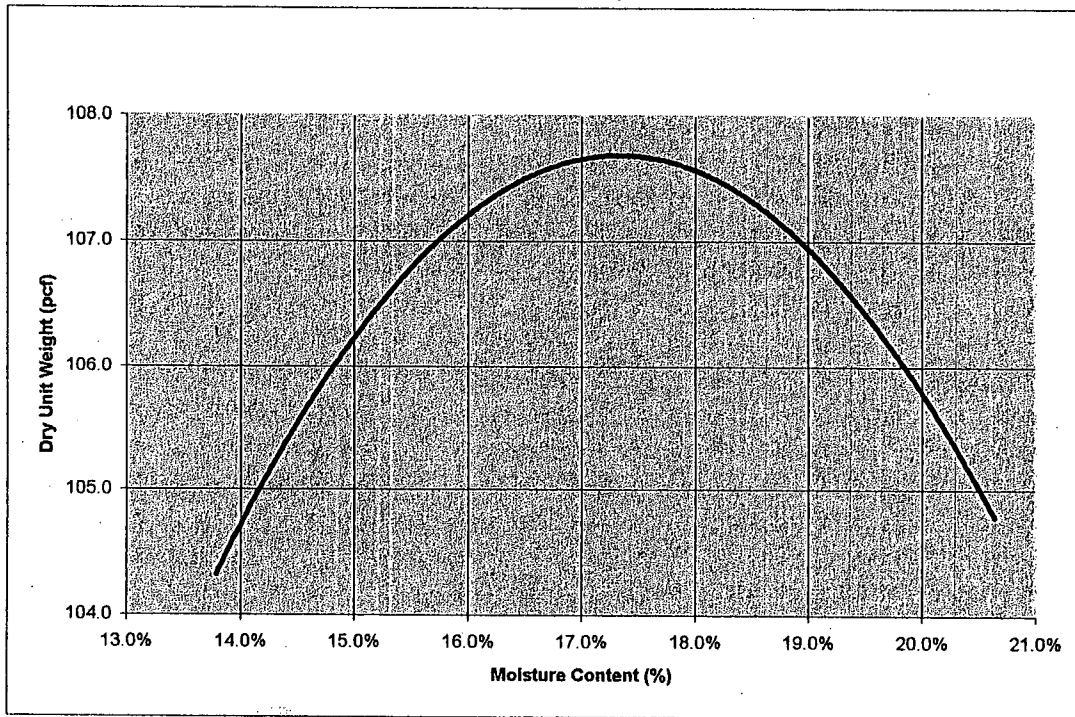
**Tested For:** Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 8/14/2002

**Project No.:** G1-080  
**Report No.:** P42

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 107.7 PCF  
**Optimum Moisture:** 17.4 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/12/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251035.00 x E599290.00  
Sub-base Material

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

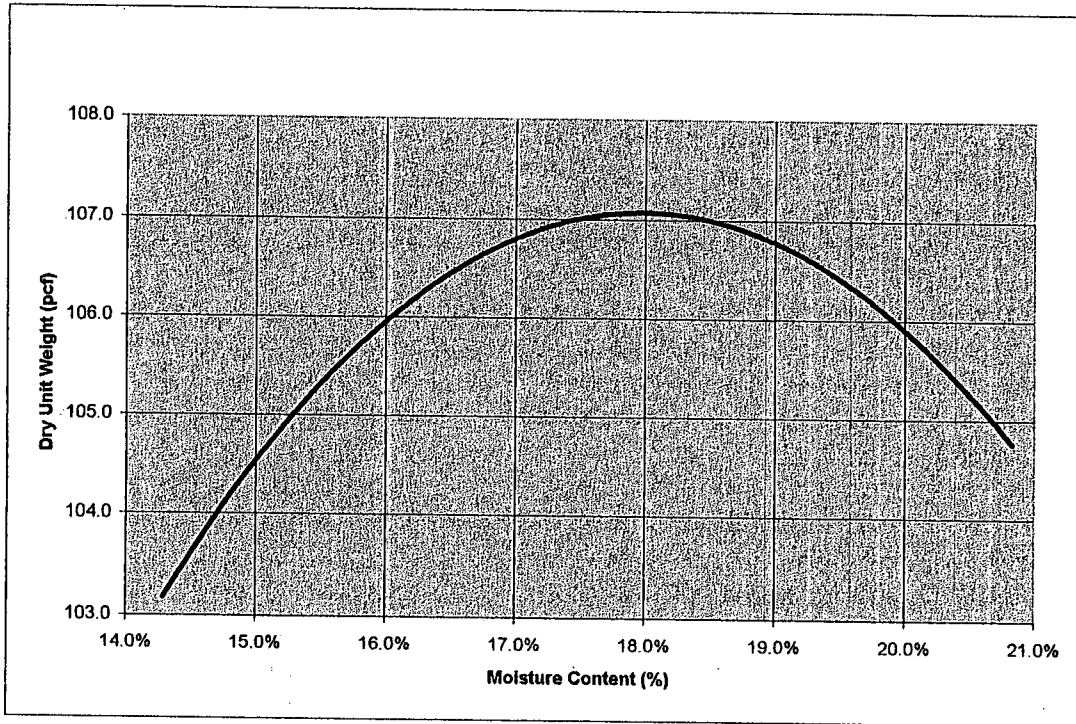
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 8/14/2002

**Project No.:** G1-080  
**Report No.:** P43

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 107.1 PCF  
**Optimum Moisture:** 18.0 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneeman  
**Sample Date:** 8/12/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251155.00 x E599255.00  
Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

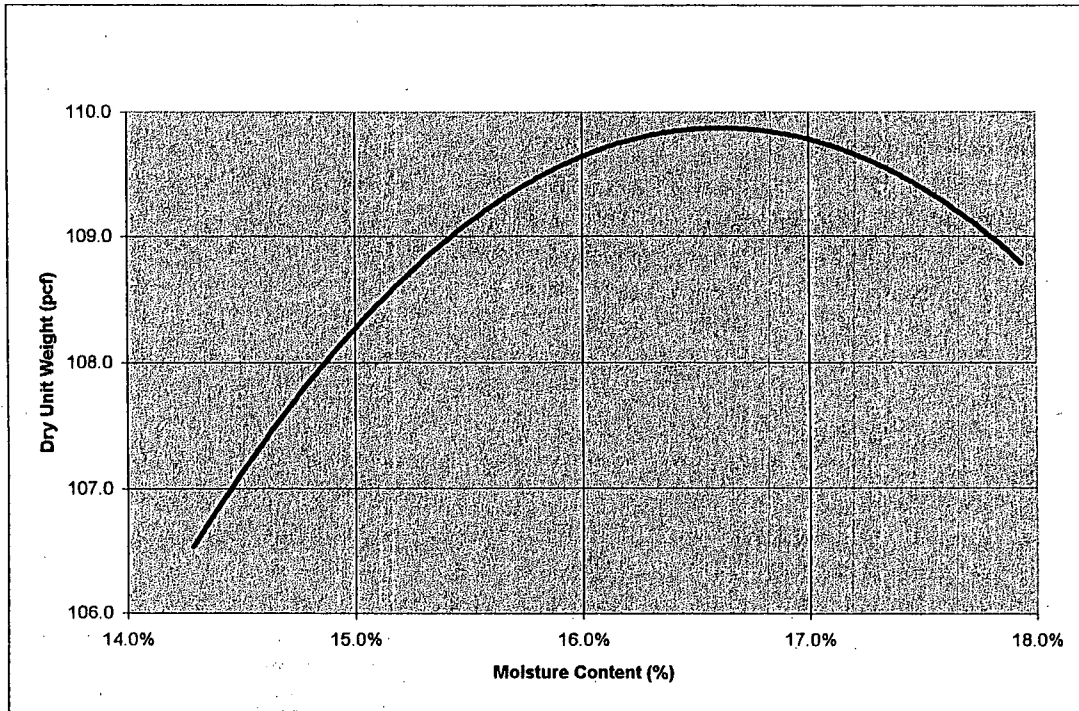
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 8/14/2002

**Project No.:** G1-080  
**Report No.:** P44

**MOISTURE-DENSITY RELATIONSHIP**



Maximum Density: 109.8 PCF  
Optimum Moisture: 16.7 %  
Test Method: ASTM D-698, Standard  
Sampled by: Jason Brenneman  
Sample Date: 8/12/2002

Description: Gray Clayey Sand  
Sample Location: N1251245.00 x E599360.00  
Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.  
*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer  
*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

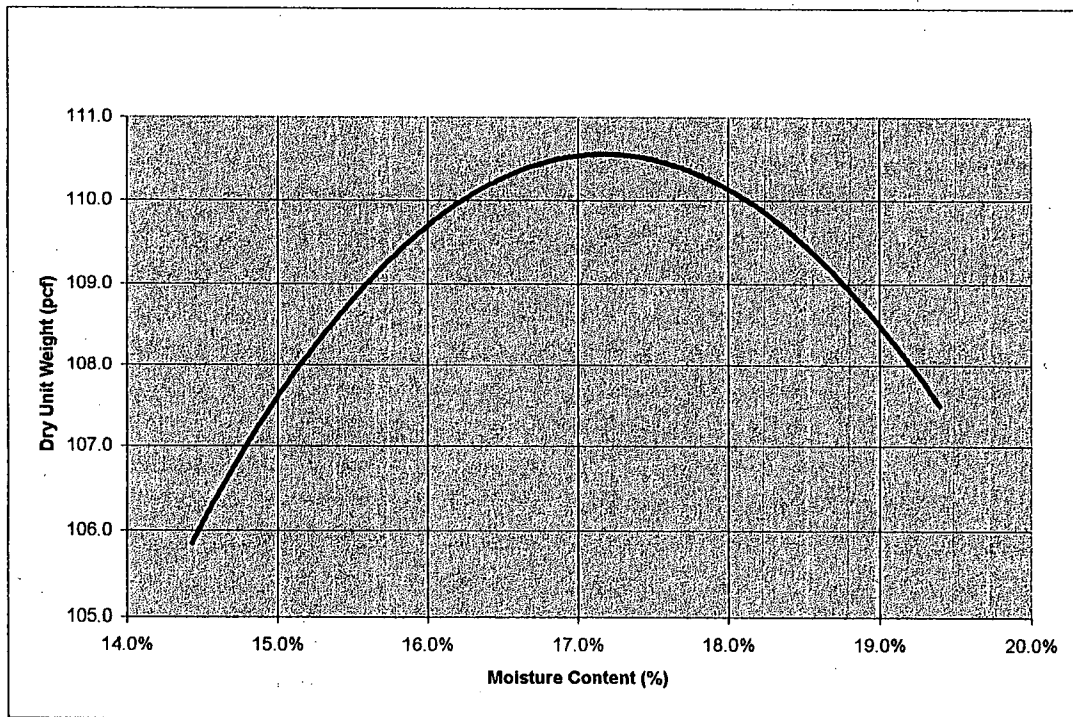
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2308 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 8/14/2002

**Project No.:** G1-080  
**Report No.:** P45

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 110.5 PCF  
**Optimum Moisture:** 17.2 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/12/02

**Description:** Gray Clayey Sand  
**Sample Location:** N1251355.00 x E599350.00  
Sub-base Material

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.J.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

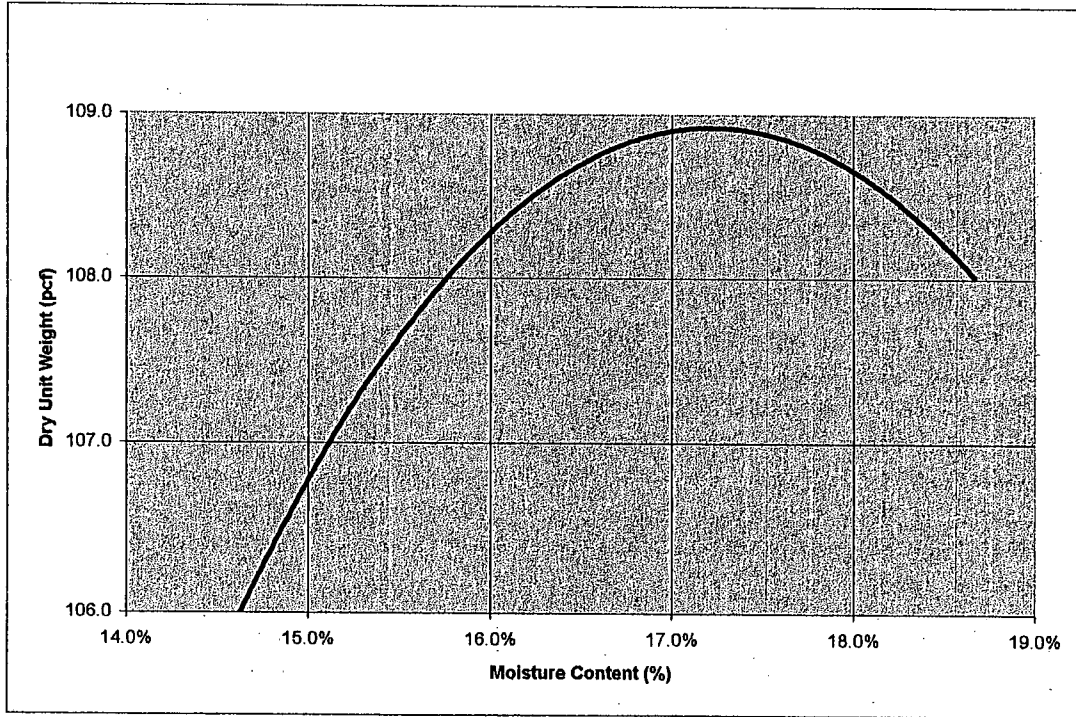
**Tested For:** Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 8/14/2002

**Project No.:** G1-080  
**Report No.:** P46

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 108.9 PCF  
**Optimum Moisture:** 17.3 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/12/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251430.00 x E599430.00  
Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



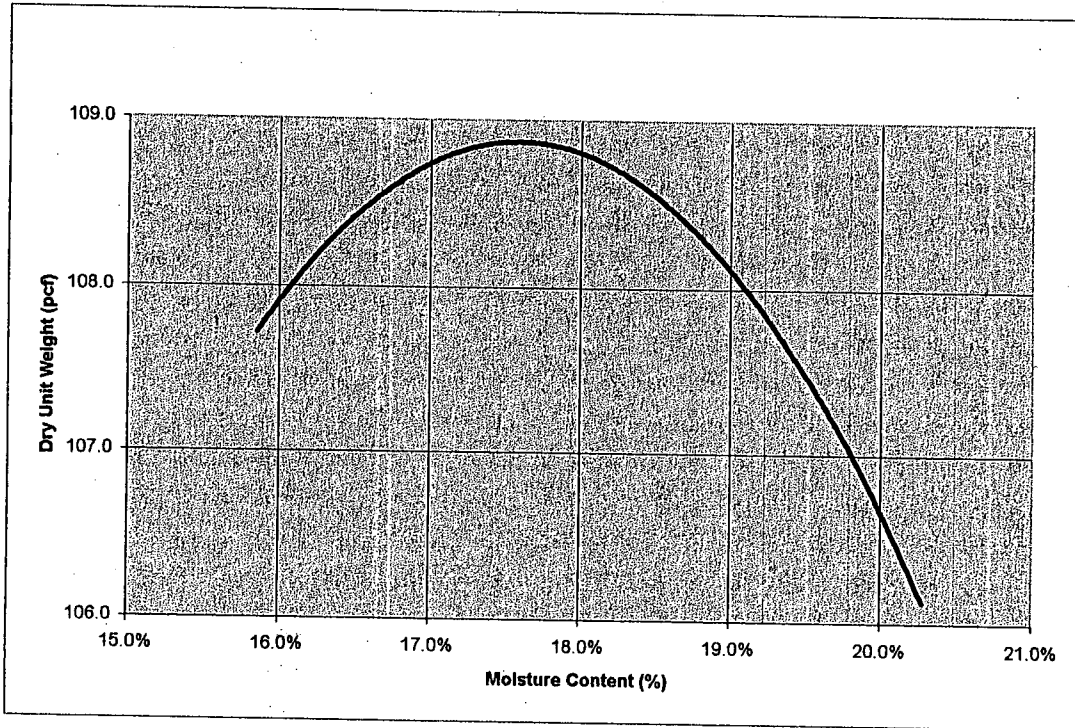
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 8/14/2002

**Project No.:** G1-080  
**Report No.:** P47

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 108.8 PCF  
**Optimum Moisture:** 17.6 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/12/02

**Description:** Gray Clayey Sand  
**Sample Location:** N1251515.00 x E5994250.00  
Sub-base Material

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President

Florida Registration No. 50740



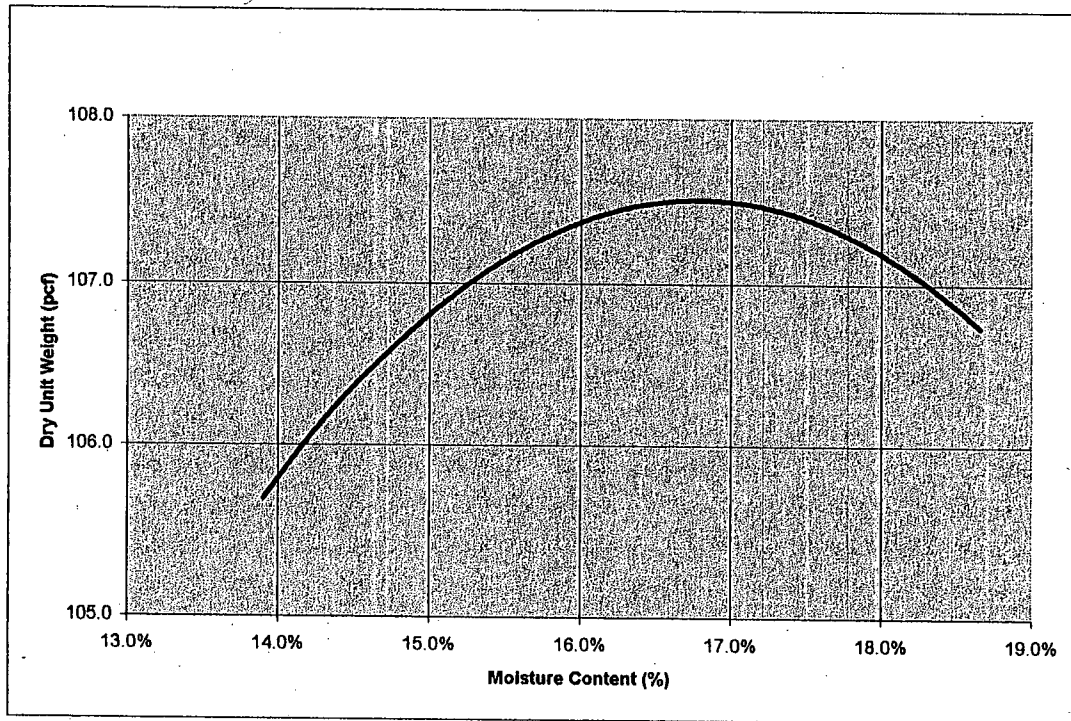
**Tested For:** Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 8/15/02

**Project No.:** G1-080  
**Report No.:** P48

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 107.5 PCF  
**Optimum Moisture:** 16.8 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/13/02

**Description:** Gray Clayey Sand  
**Sample Location:** N1251080.00 x E599045.00  
Sub-base Material

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.  
*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer  
*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

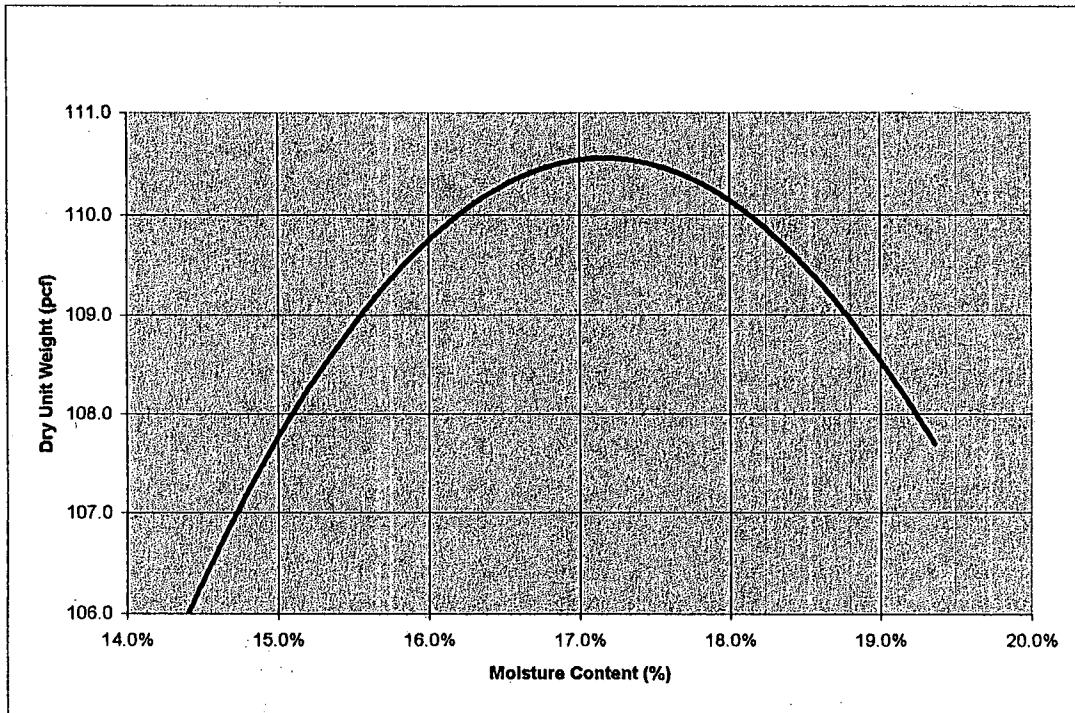
**Tested For:** Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 8/15/02

**Project No.:** G1-080  
**Report No.:** P49

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 110.6 PCF  
**Optimum Moisture:** 17.2 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/13/02

**Description:** Gray Clayey Sand  
**Sample Location:** N1251115.00 x E599185.00  
Sub-base Material

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.J.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

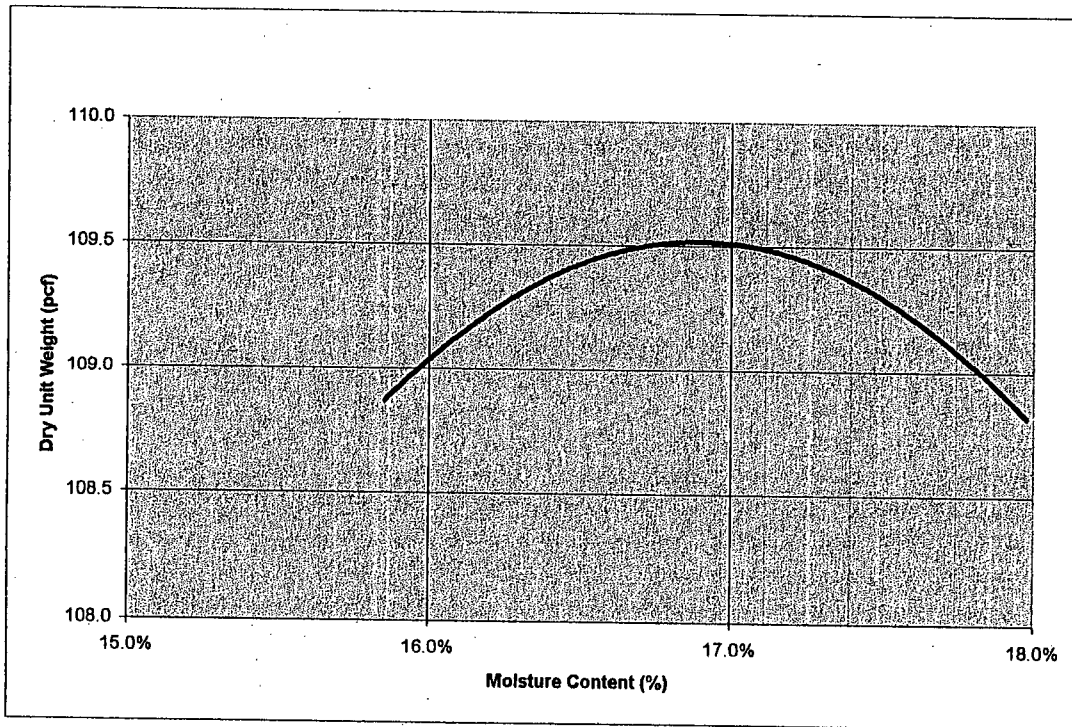
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 8/30/02

**Project No.:** G1-080  
**Report No.:** P50

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 109.6 PCF  
**Optimum Moisture:** 16.9 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/13/02

**Description:** Gray Clayey Sand  
**Sample Location:** N1251245.00 x E599160.00  
Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President

Florida Registration No. 50740

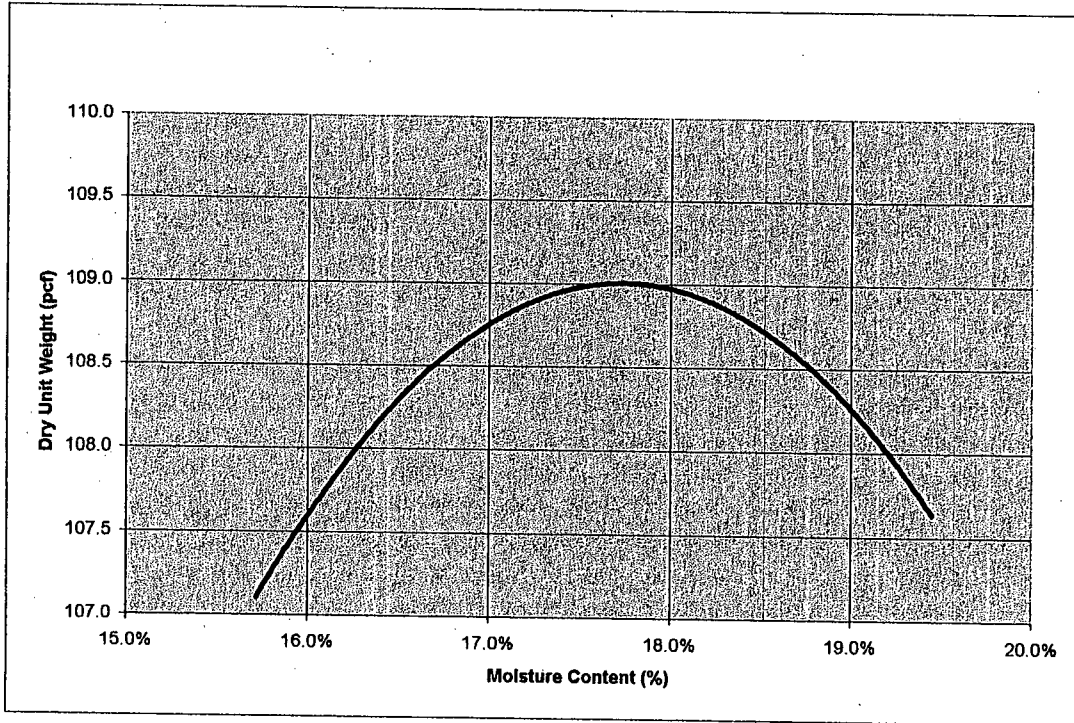
**Tested For:** Mr. Brian Ehler  
Handex Construction Services  
2308 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 8/30/02

**Project No.:** G1-080  
**Report No.:** P51

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 109.0 PCF  
**Optimum Moisture:** 17.7 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brønneman  
**Sample Date:** 8/13/02

**Description:** Gray Clayey Sand  
**Sample Location:** N1251265.00 x E599280.00  
Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

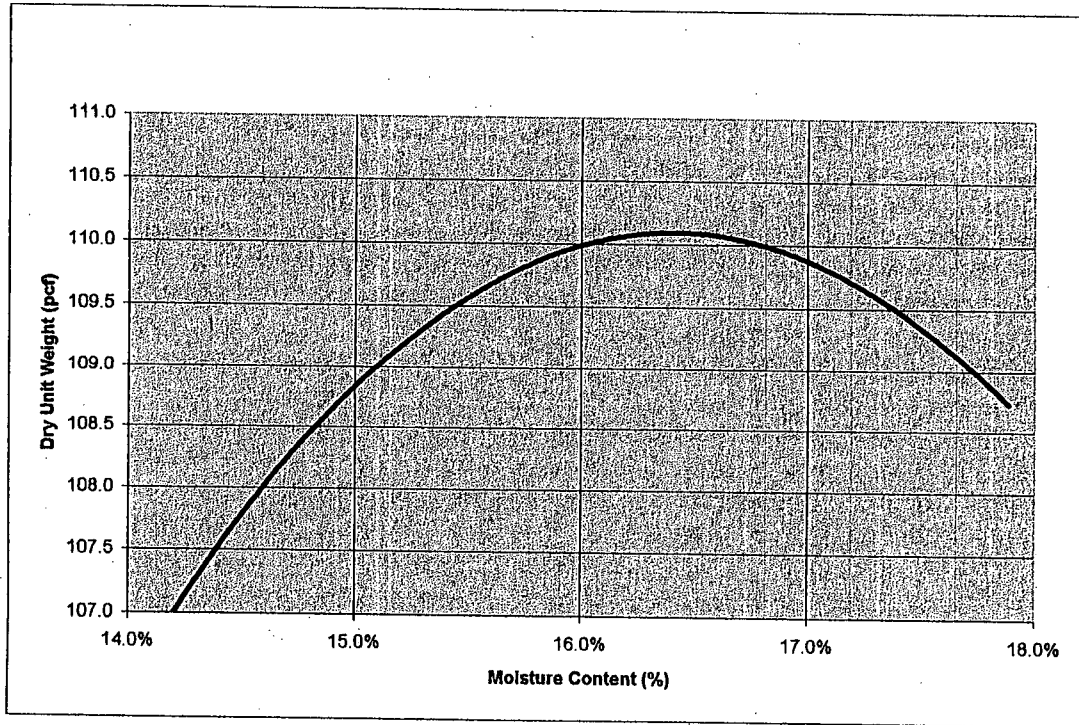
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 8/30/02

**Project No.:** G1-080  
**Report No.:** P52

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 110.1 PCF  
**Optimum Moisture:** 16.5 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/13/02

**Description:** Gray Clayey Sand  
**Sample Location:** N1251365.00 x E599235.00  
Sub-base Material

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

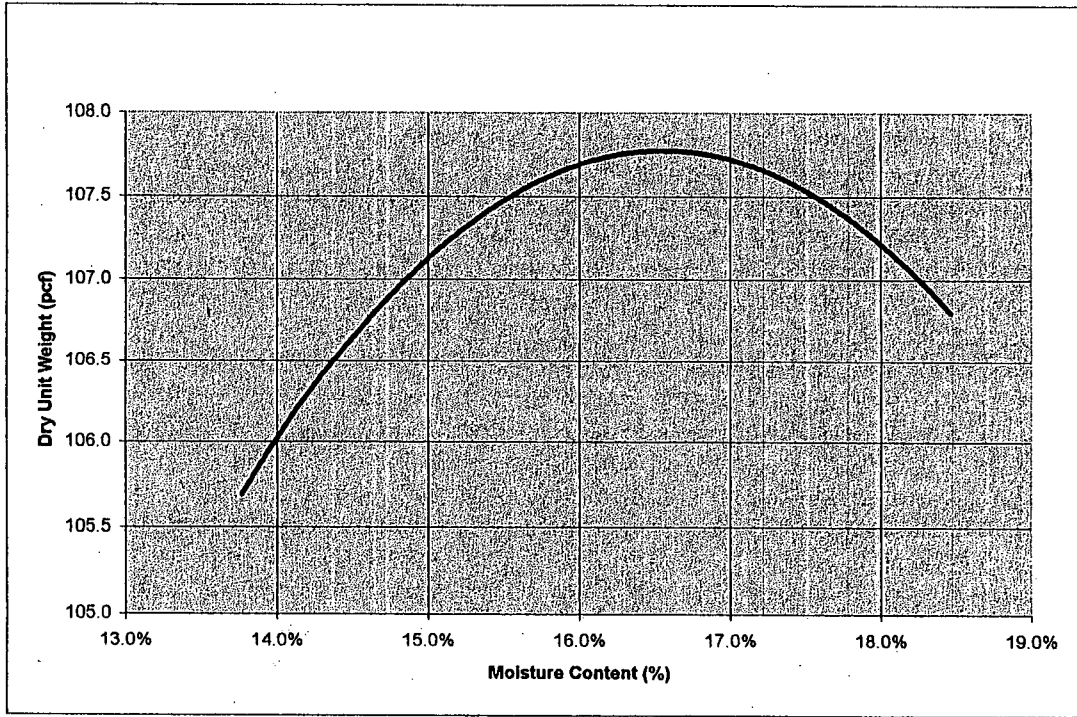
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 8/30/02

**Project No.:** G1-080  
**Report No.:** P53

MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 107.6 PCF  
**Optimum Moisture:** 16.6 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/13/02

**Description:** Gray Clayey Sand  
**Sample Location:** N1251405.00 x E599350.00  
Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

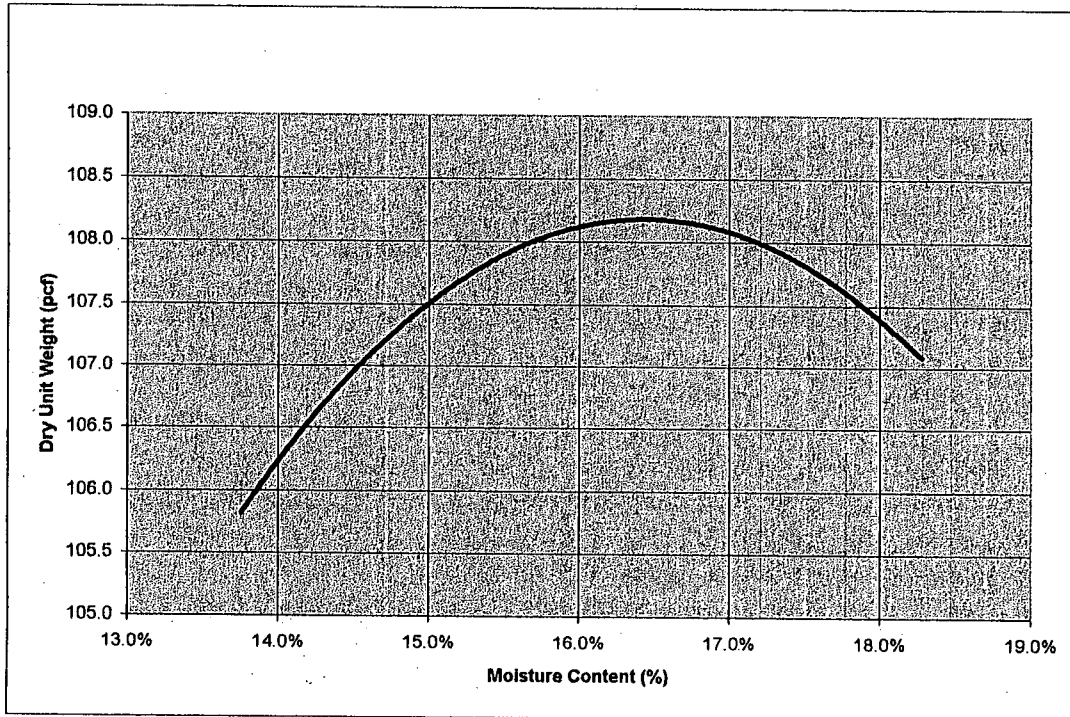
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 8/30/02

**Project No.:** G1-080  
**Report No.:** P54

MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 108.2 PCF  
**Optimum Moisture:** 16.5 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/13/02

**Description:** Gray Clayey Sand  
**Sample Location:** N1251480.00 x E599320.00  
Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



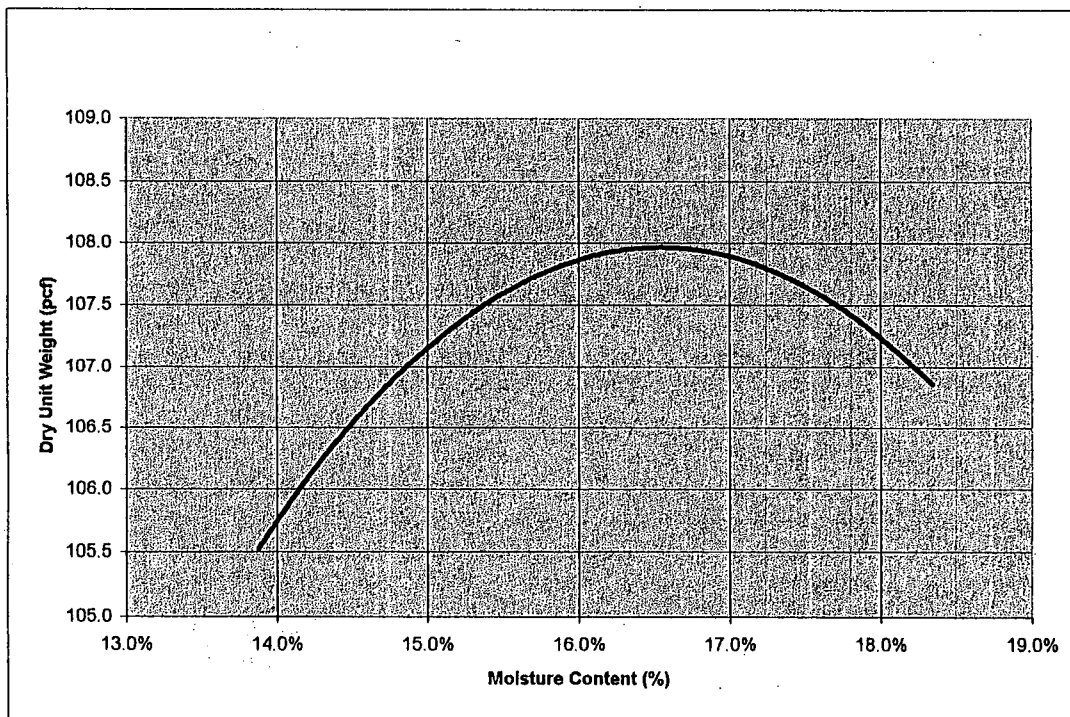
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 8/30/02

**Project No.:** G1-080  
**Report No.:** P55

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 107.9 PCF  
**Optimum Moisture:** 16.6 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/13/02

**Description:** Gray Clayey Sand  
**Sample Location:** N1251520.00 x E599405.00  
Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President

Florida Registration No. 50740



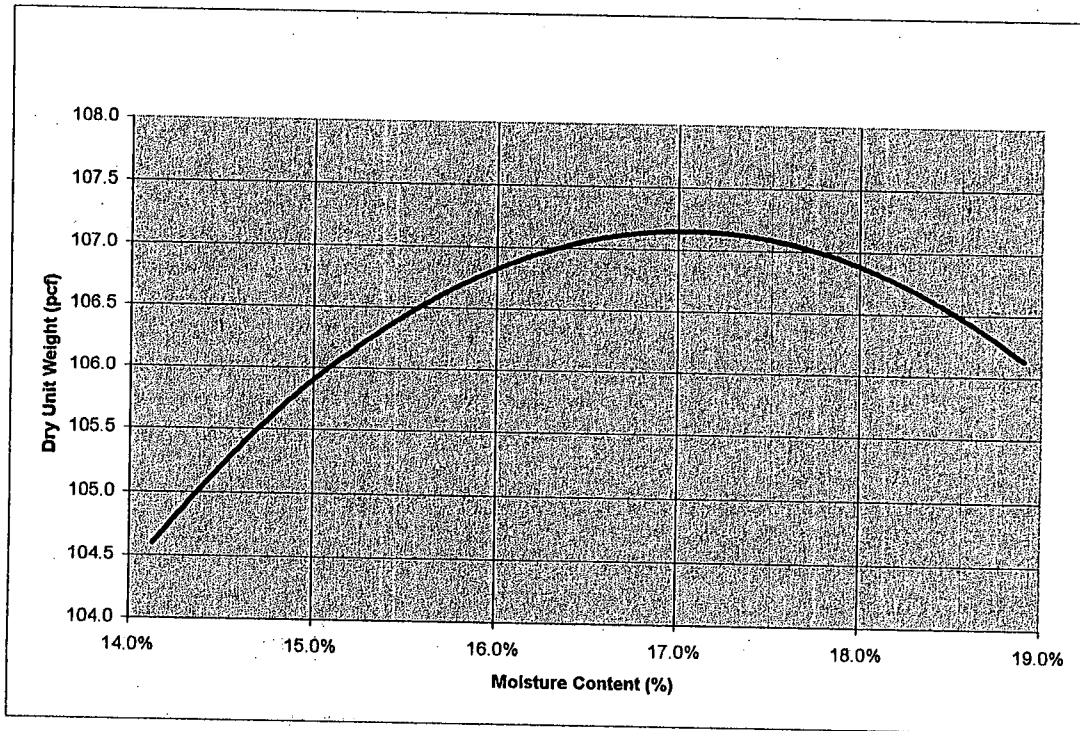
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/9/2002

**Project No.:** G1-080  
**Report No.:** P56

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 107.2 PCF  
**Optimum Moisture:** 17.1 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/21/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251050.00 x E598935.00  
Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President

Florida Registration No. 50740

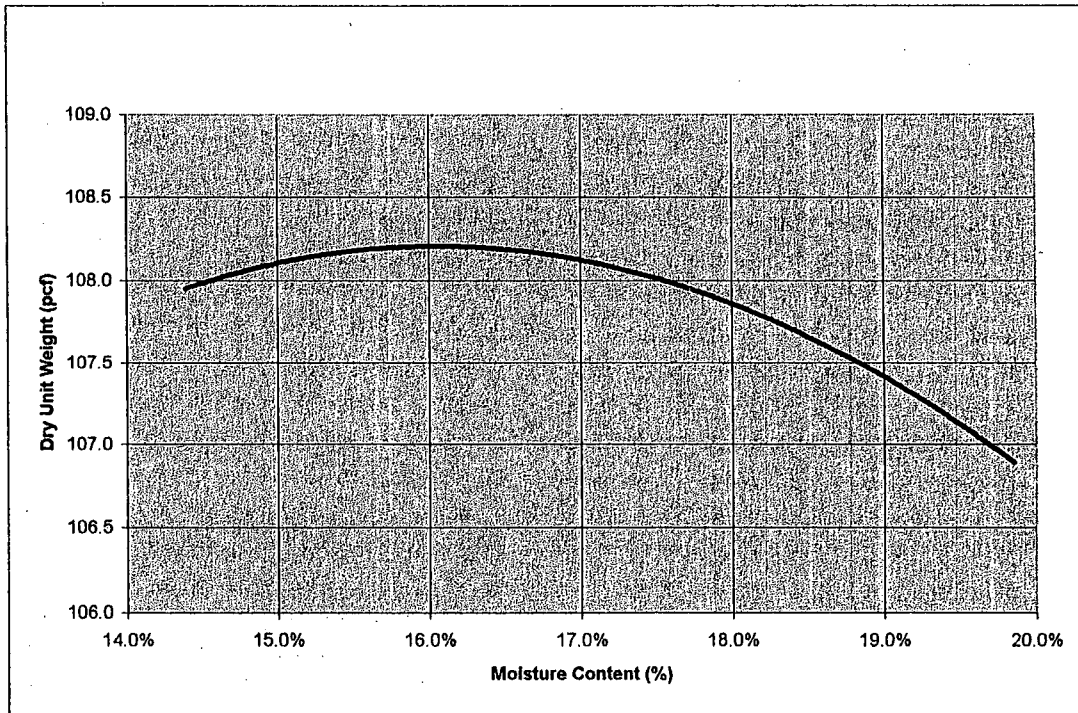
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2308 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/9/2002

**Project No.:** G1-080  
**Report No.:** P57

**MOISTURE-DENSITY RELATIONSHIP**



Maximum Density:	108.2	PCF	Description:	Gray Clayey Sand
Optimum Moisture:	16.1	%		
Test Method:	ASTM D-698, Standard			
Sampled by:	Jason Brennehan		Sample Location:	N1251110.00 x E598985.00
Sample Date:	8/21/2002			Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President

Florida Registration No. 50740

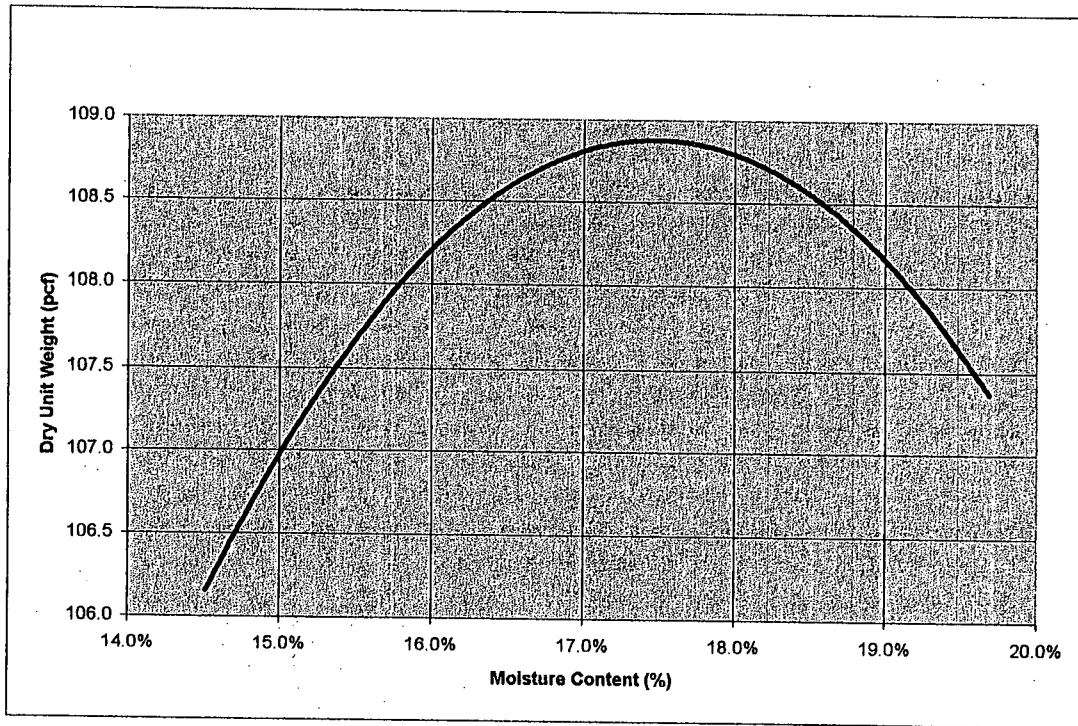
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2308 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/9/2002

**Project No.:** G1-080  
**Report No.:** P58

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 108.8 PCF  
**Optimum Moisture:** 17.5 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brennehan  
**Sample Date:** 8/21/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251215.00 x E599065.00  
Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

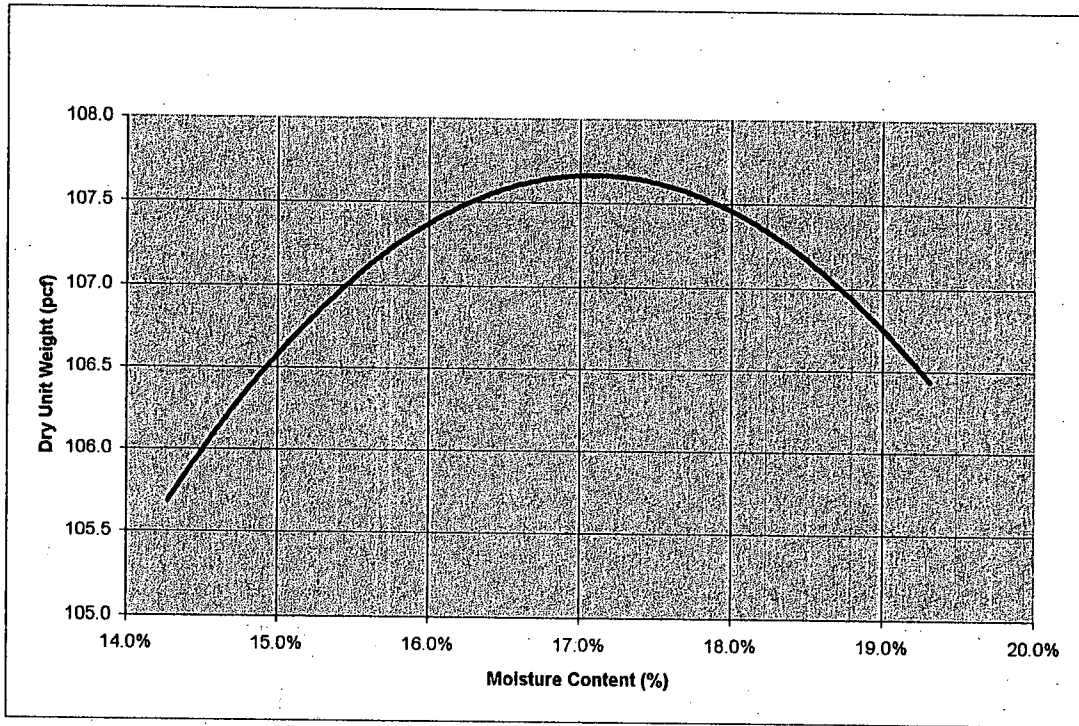
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/9/2002

**Project No.:** G1-080  
**Report No.:** P59

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 107.7 PCF  
**Optimum Moisture:** 17.2 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/21/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251345.00 x E599160.00  
Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.  
*Connie Johnson*  
Connie Johnson, E.J.  
Staff Engineer  
*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

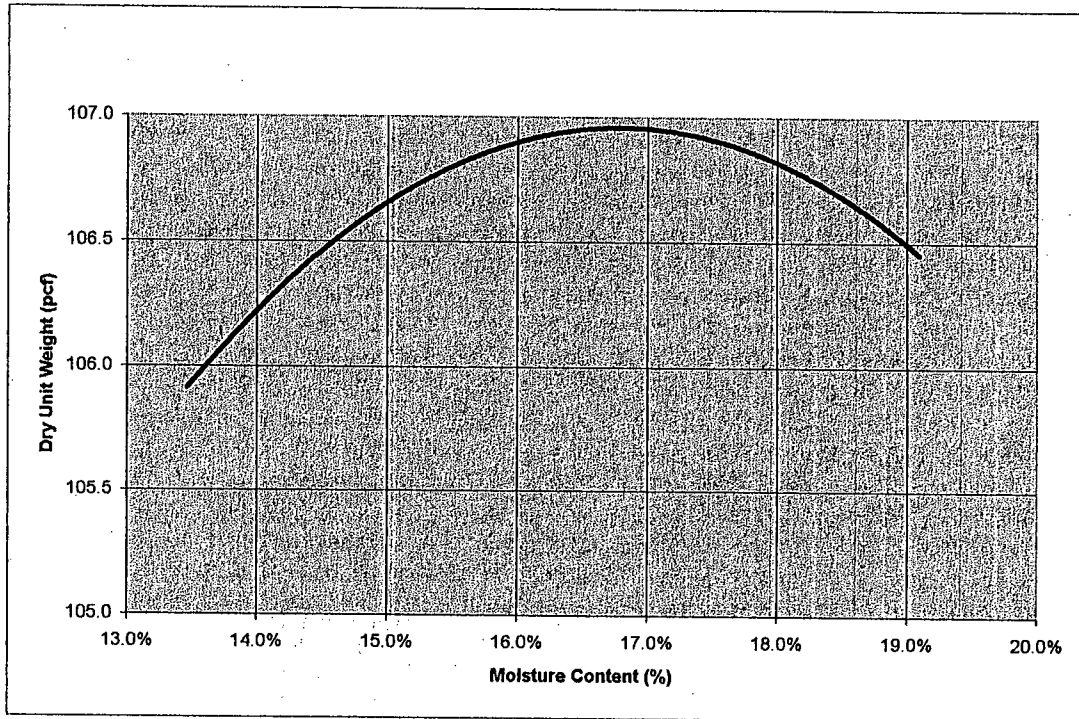
**Tested For:** Mr. Brian Ehrlar  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/10/2002

**Project No.:** G1-080  
**Report No.:** P60

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 106.9 PCF  
**Optimum Moisture:** 16.8 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/22/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251530.00 x E599285.00  
Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

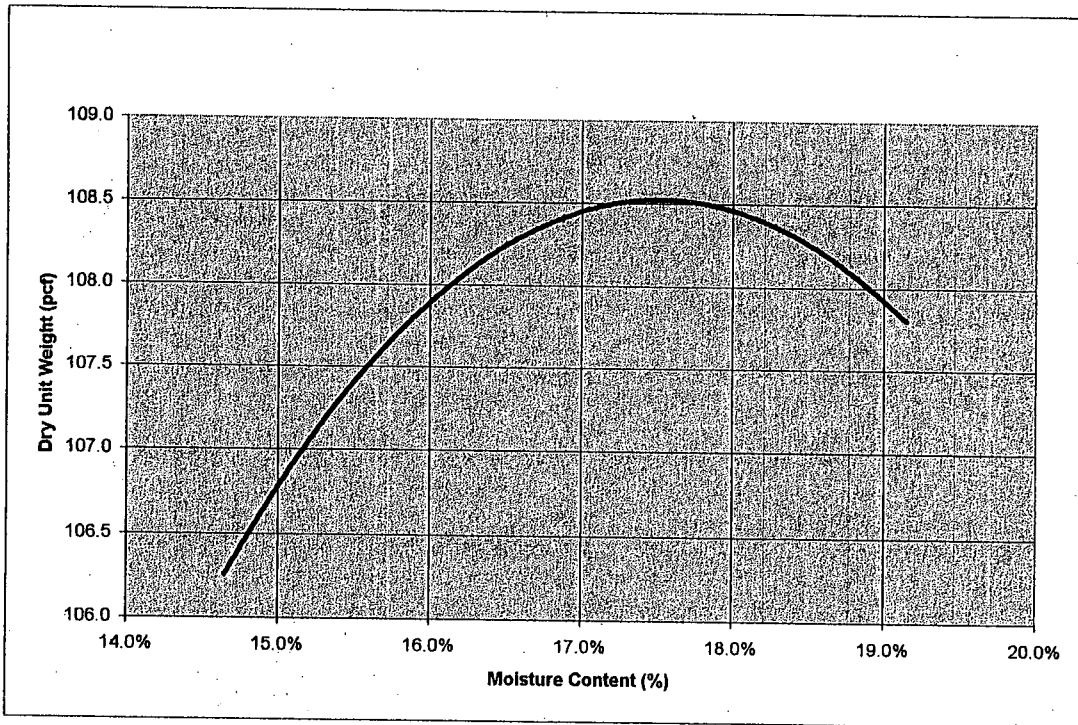
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/10/2002

**Project No.:** G1-080  
**Report No.:** P61

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 108.6 PCF  
**Optimum Moisture:** 17.5 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/22/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251120.00 x E598845.00  
Sub-base Material

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.  
*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer  
*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

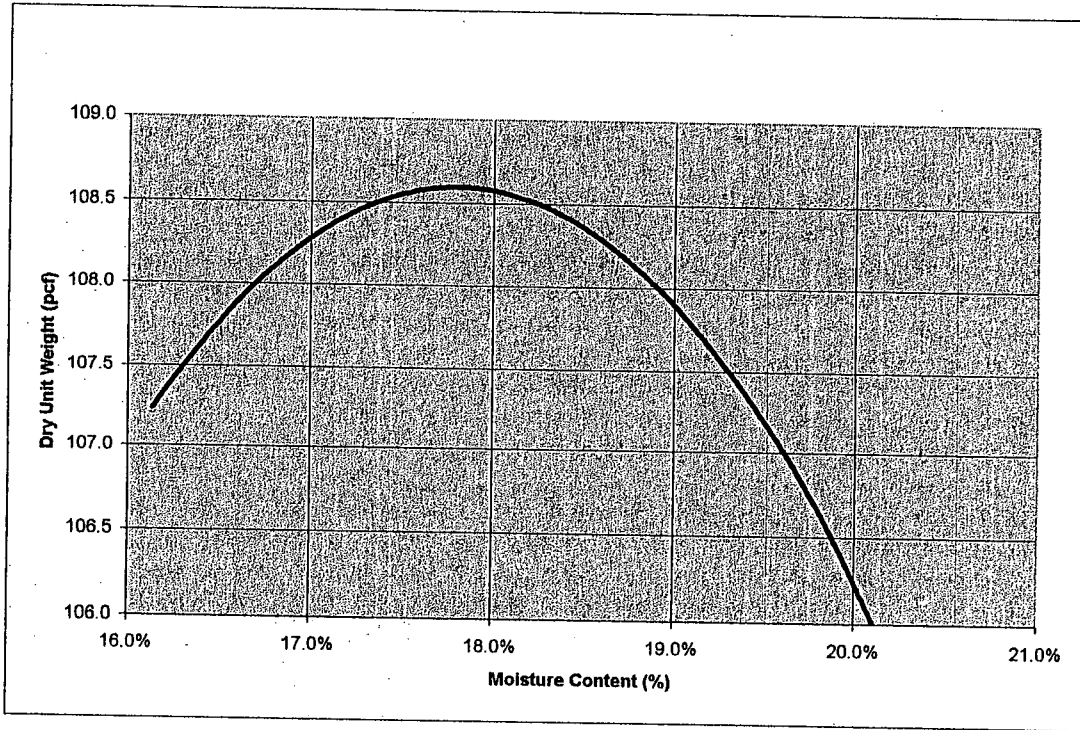
**Tested For:** Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/10/2002

**Project No.:** G1-080  
**Report No.:** P62

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 108.7 PCF  
**Optimum Moisture:** 17.8 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/22/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251215.00 x E598885.00  
Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



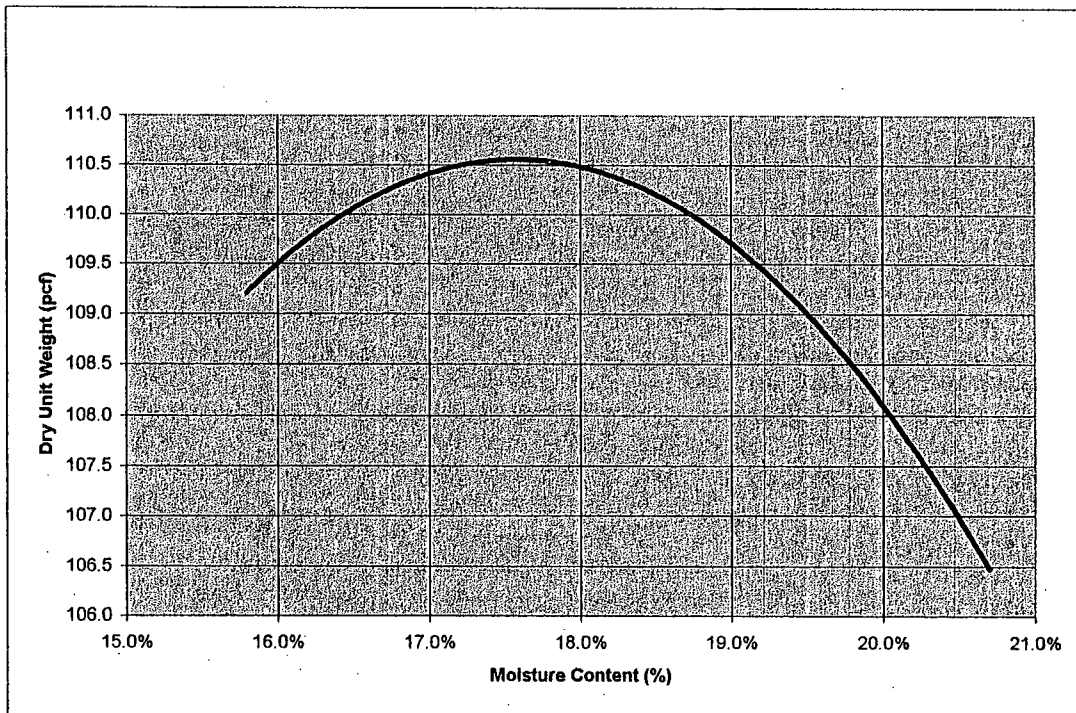
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/10/2002

**Project No.:** G1-080  
**Report No.:** P63

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 110.6 PCF  
**Optimum Moisture:** 17.6 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/22/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251330.00 x E599040.00  
Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



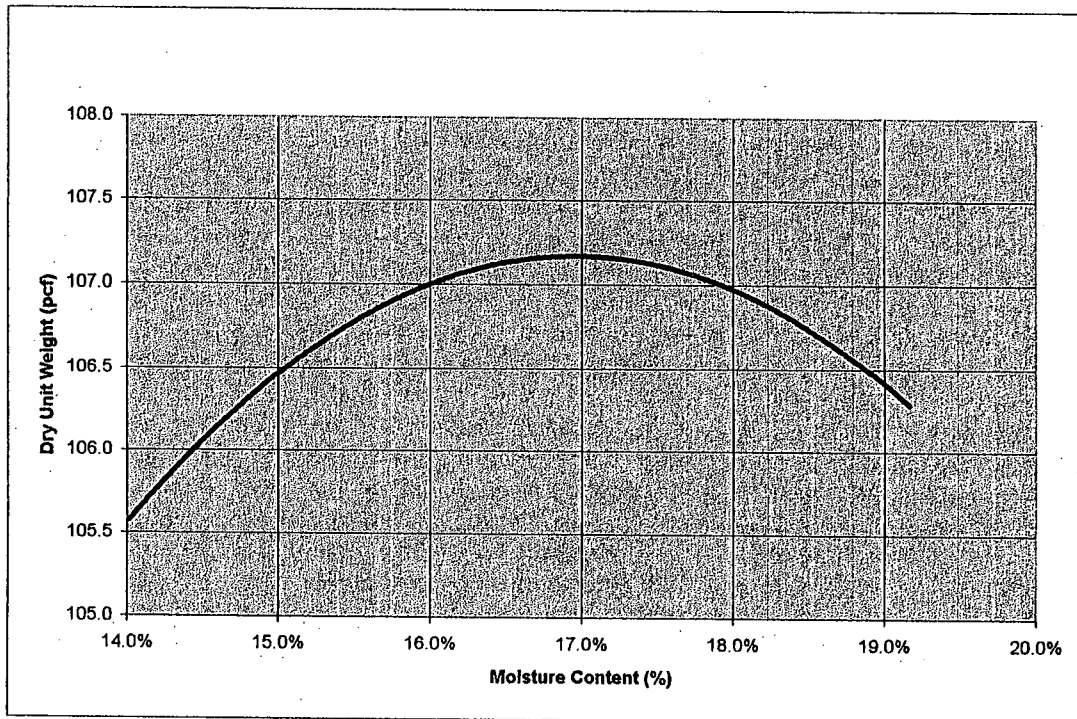
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/10/2002

**Project No.:** G1-080  
**Report No.:** P64

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 107.2 PCF  
**Optimum Moisture:** 17.0 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/22/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251420.00 x E599025.00  
Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

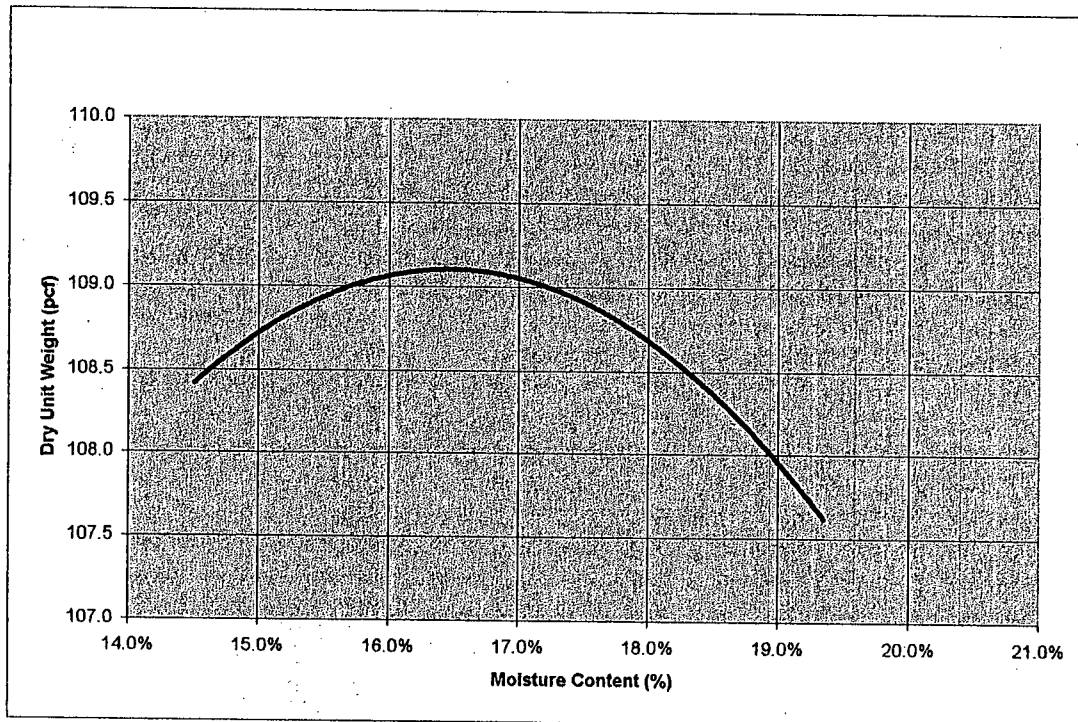
**Tested For:** Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/10/2002

**Project No.:** G1-080  
**Report No.:** P65

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 109.1 PCF  
**Optimum Moisture:** 16.6 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/22/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251560.00 x E599220.00  
Sub-base Material

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

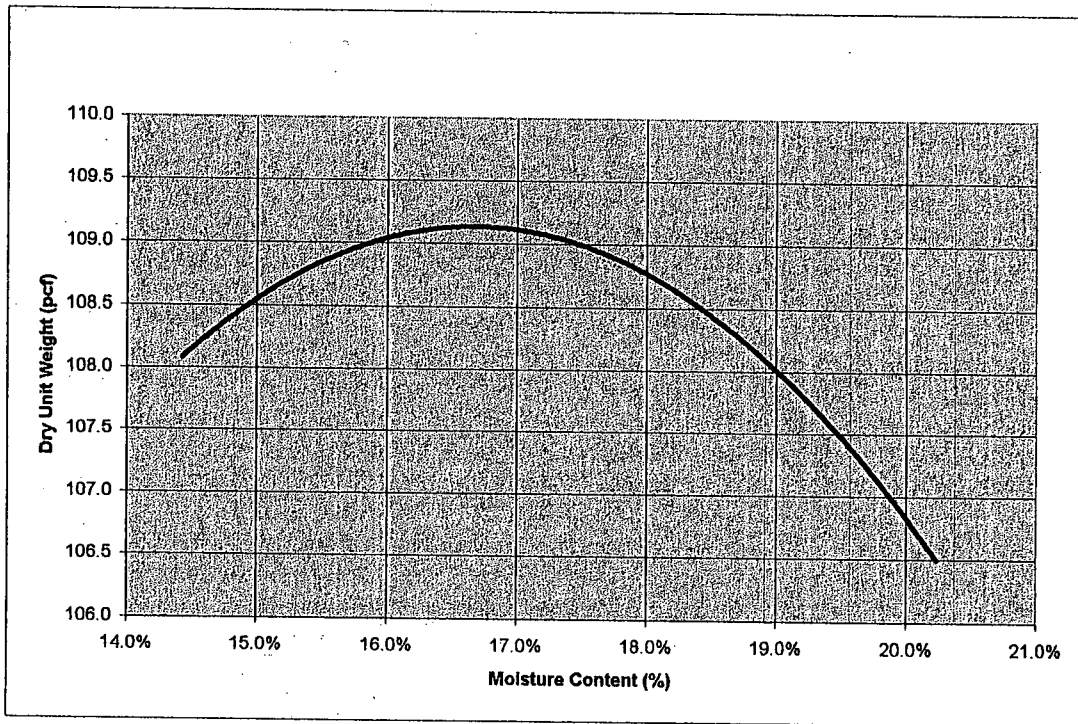
**Tested For:** Mr. Brian Ehler  
Handex Construction Services  
2308 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/11/2002

**Project No.:** G1-080  
**Report No.:** P66

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 109.2 PCF  
**Optimum Moisture:** 16.9 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/23/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251175.00 x E598780.00  
Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

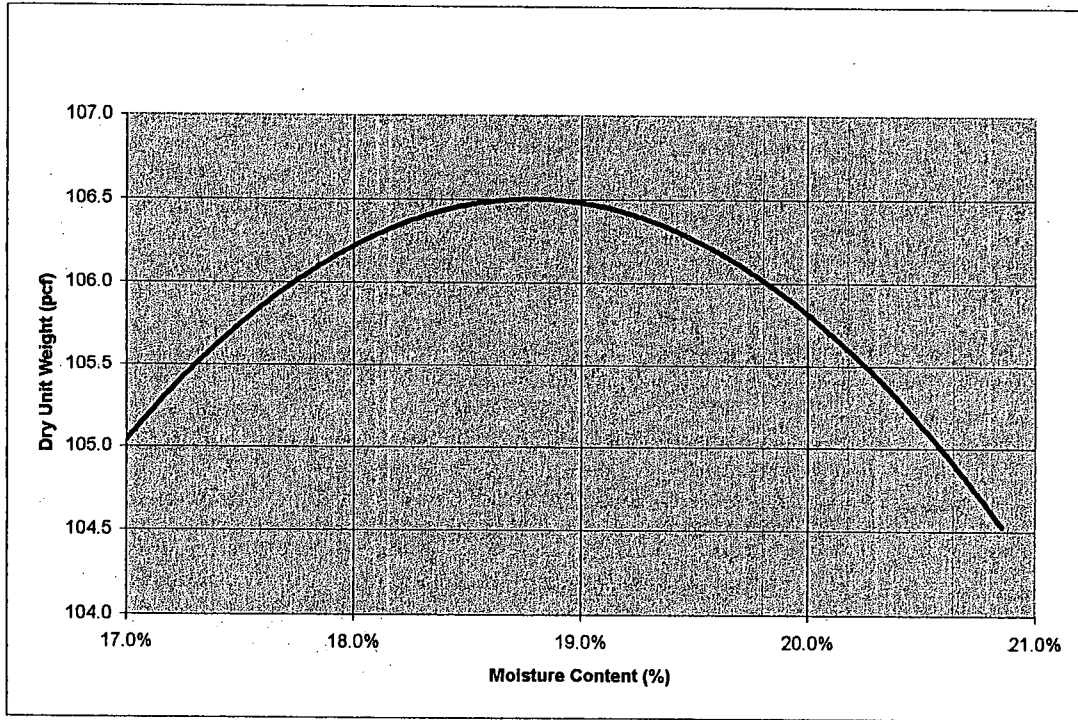
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/11/2002

**Project No.:** G1-080  
**Report No.:** P67

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 106.5 PCF  
**Optimum Moisture:** 18.8 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 8/23/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251495.00 x E598980.00  
Sub-base Material

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

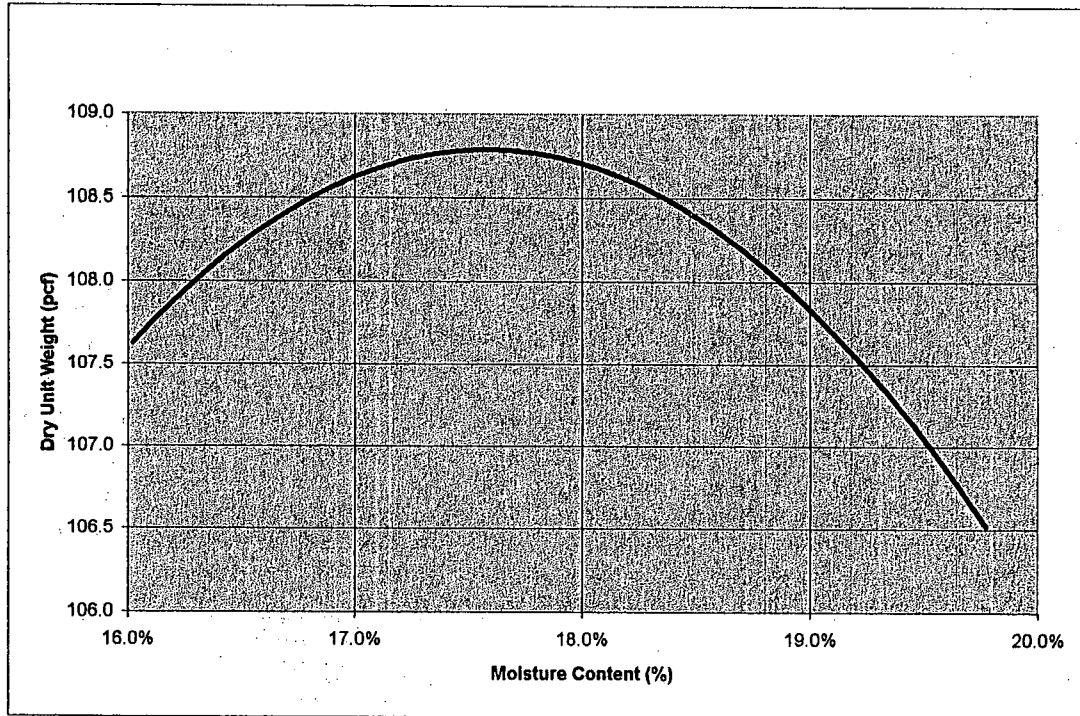
**Tested For:** Mr. Brian Ehrlar  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/18/2002

**Project No.:** G1-080  
**Report No.:** P68

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 108.8 PCF  
**Optimum Moisture:** 17.6 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 9/9/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251240.00 x E598690.00  
Sub-base Material

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

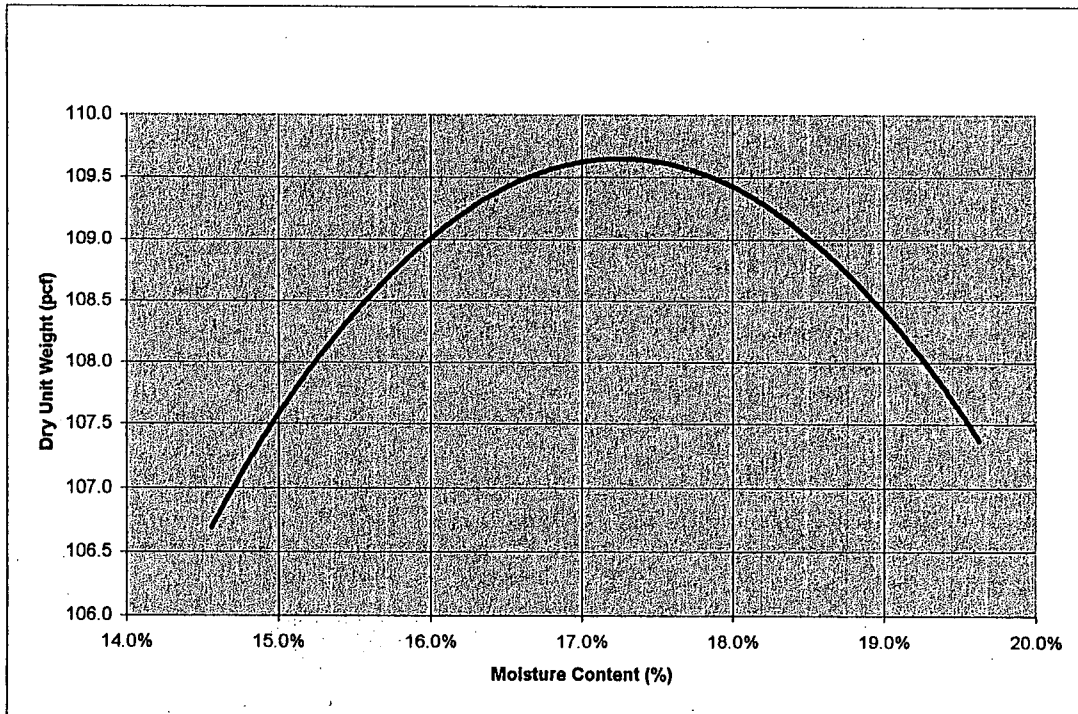
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/18/2002

**Project No.:** G1-080  
**Report No.:** P69

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 109.7 PCF  
**Optimum Moisture:** 17.3 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 9/9/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251415.00 x E598810.00  
Sub-base Material

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

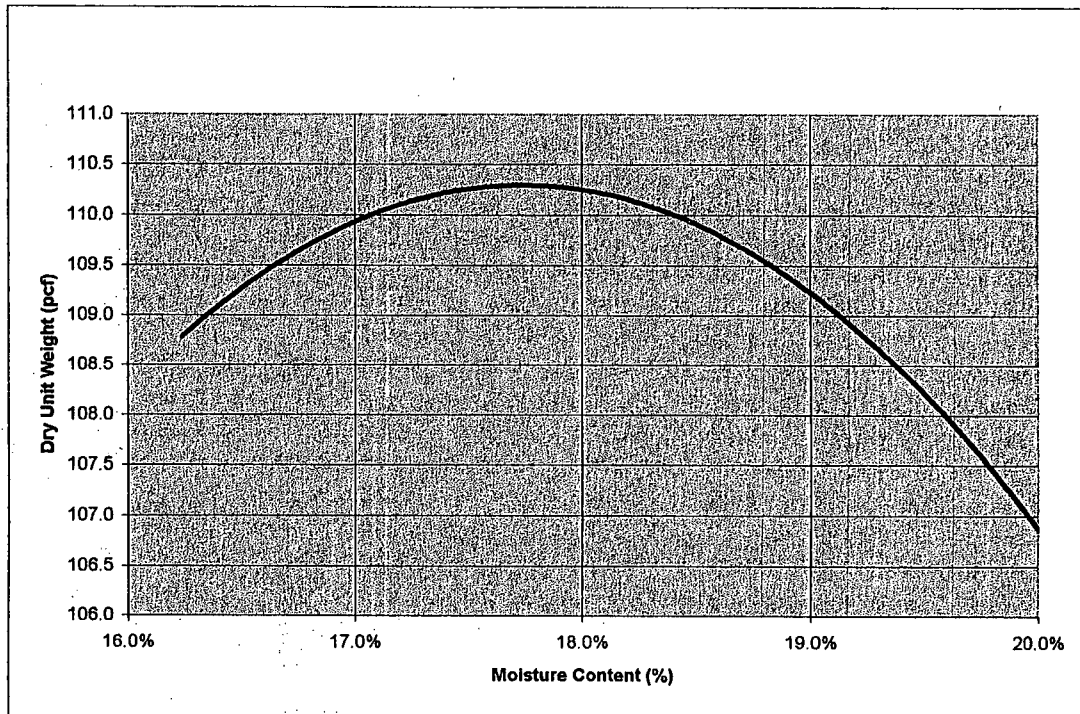
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/18/2002

**Project No.:** G1-080  
**Report No.:** P70

**MOISTURE-DENSITY RELATIONSHIP**



Maximum Density:	110.3	PCF	Description:	Gray Clayey Sand
Optimum Moisture:	17.8	%		
Test Method:	ASTM D-698, Standard			
Sampled by:	Jason Brenneman			
Sample Date:	9/9/2002		Sample Location:	N1251465.00 x E598905.00
				Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



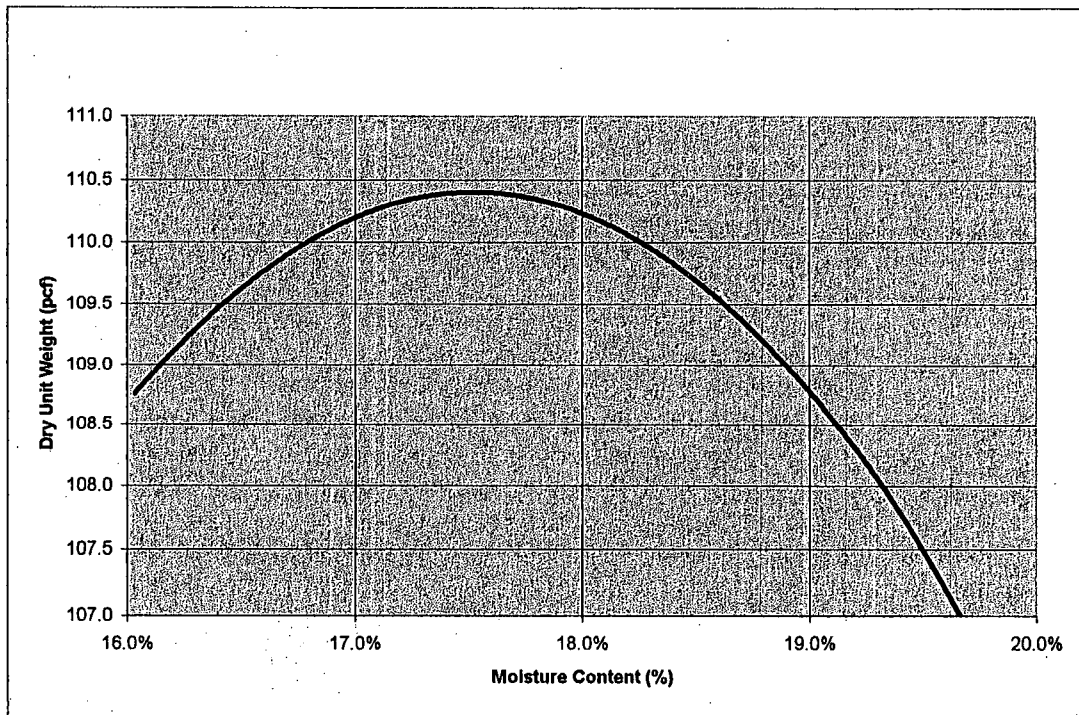
**Tested For:** Mr. Brian Ehler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/18/2002

**Project No.:** G1-080  
**Report No.:** P71

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 110.4 PCF  
**Optimum Moisture:** 17.5 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 9/9/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251665.00 x E598985.00  
Sub-base Material

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.

Vice President  
Florida Registration No. 50740



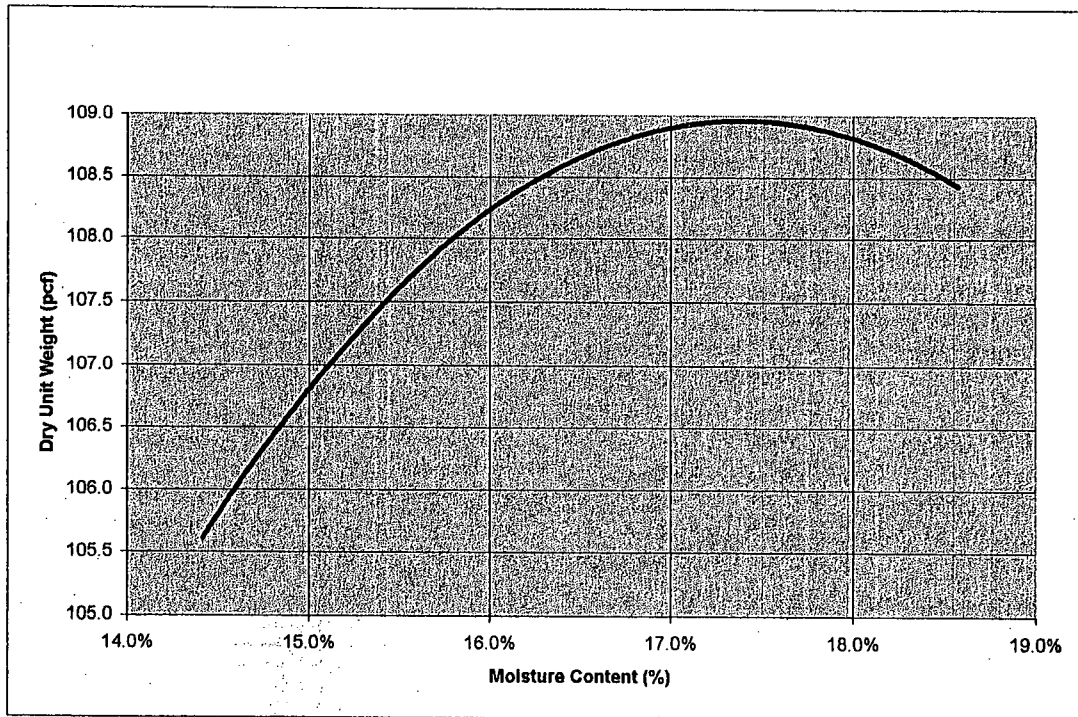
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/26/2002

**Project No.:** G1-080  
**Report No.:** P72

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 108.9 PCF  
**Optimum Moisture:** 17.4 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 9/17/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251320.00 x E598630.00  
Sub-base Material

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

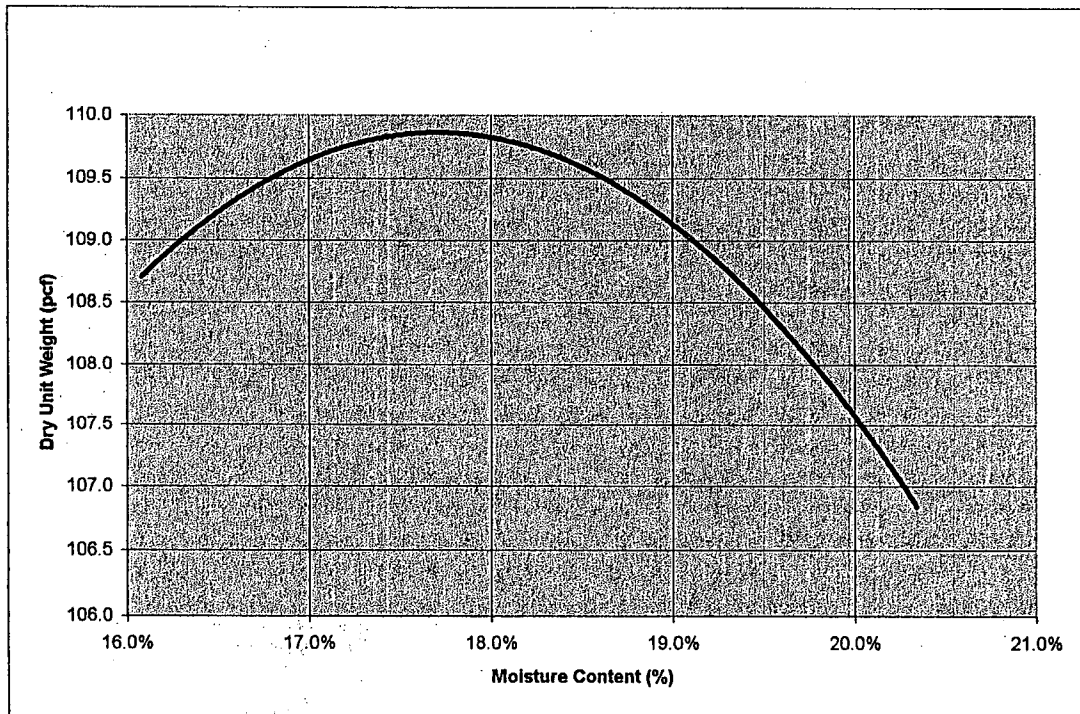
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/26/2002

**Project No.:** G1-080  
**Report No.:** P73

**MOISTURE-DENSITY RELATIONSHIP**



<b>Maximum Density:</b>	109.8	PCF	<b>Description:</b>	Gray Clayey Sand
<b>Optimum Moisture:</b>	17.7	%	<b>Sample Location:</b>	N1251430.00 x E598720.00
<b>Test Method:</b>	ASTM D-698, Standard			<b>Sub-base Material</b>
<b>Sampled by:</b>	Jason Brennehan			
<b>Sample Date:</b>	9/17/2002			

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*

David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

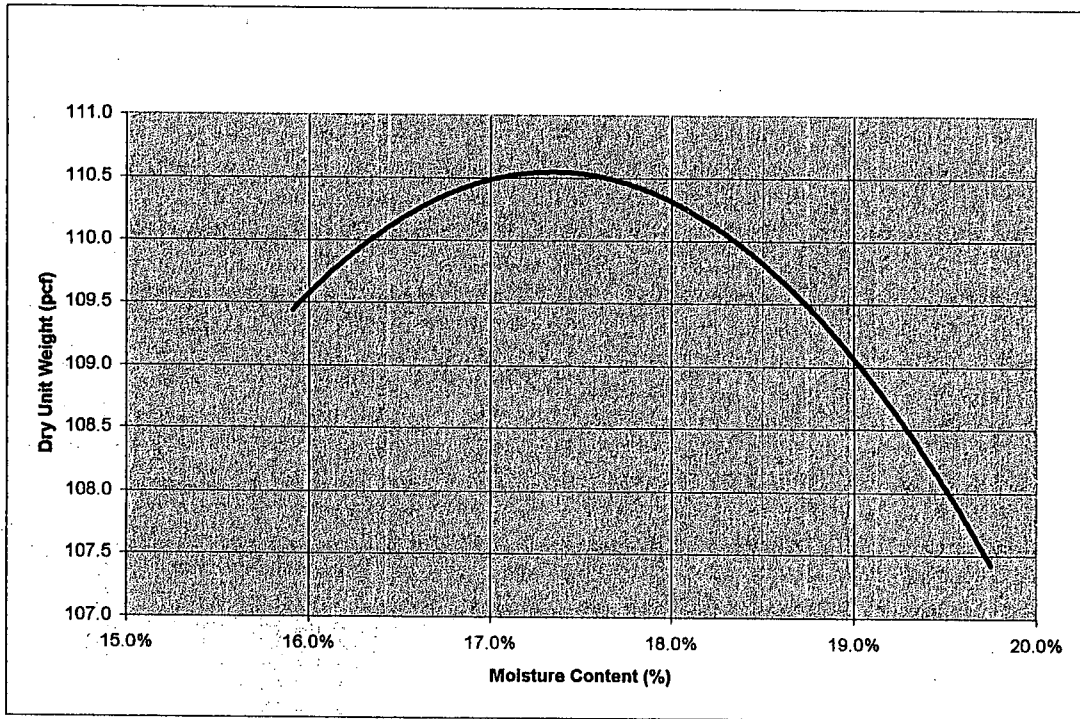
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/26/2002

**Project No.:** G1-080  
**Report No.:** P74

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 110.6 PCF  
**Optimum Moisture:** 17.4 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 9/17/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251575.00 x E598840.00  
Sub-base Material

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.  
*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer  
*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

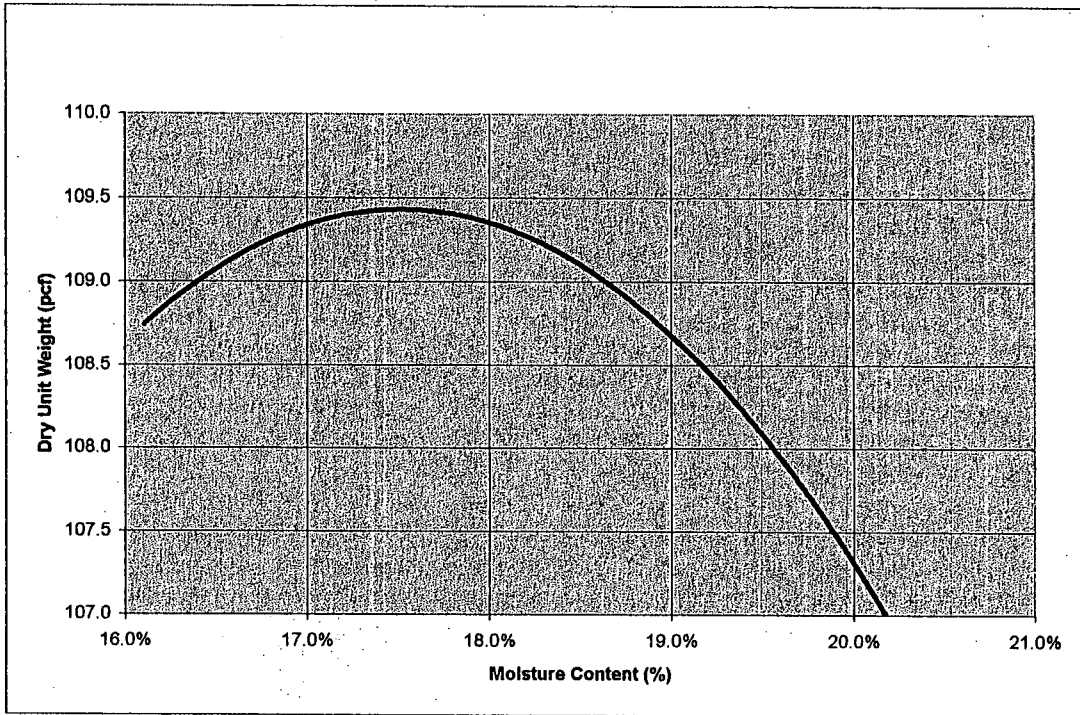
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/28/2002

**Project No.:** G1-080  
**Report No.:** P75

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 109.4 PCF  
**Optimum Moisture:** 17.6 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 9/17/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251695.00 x E598885.00  
Sub-base Material

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

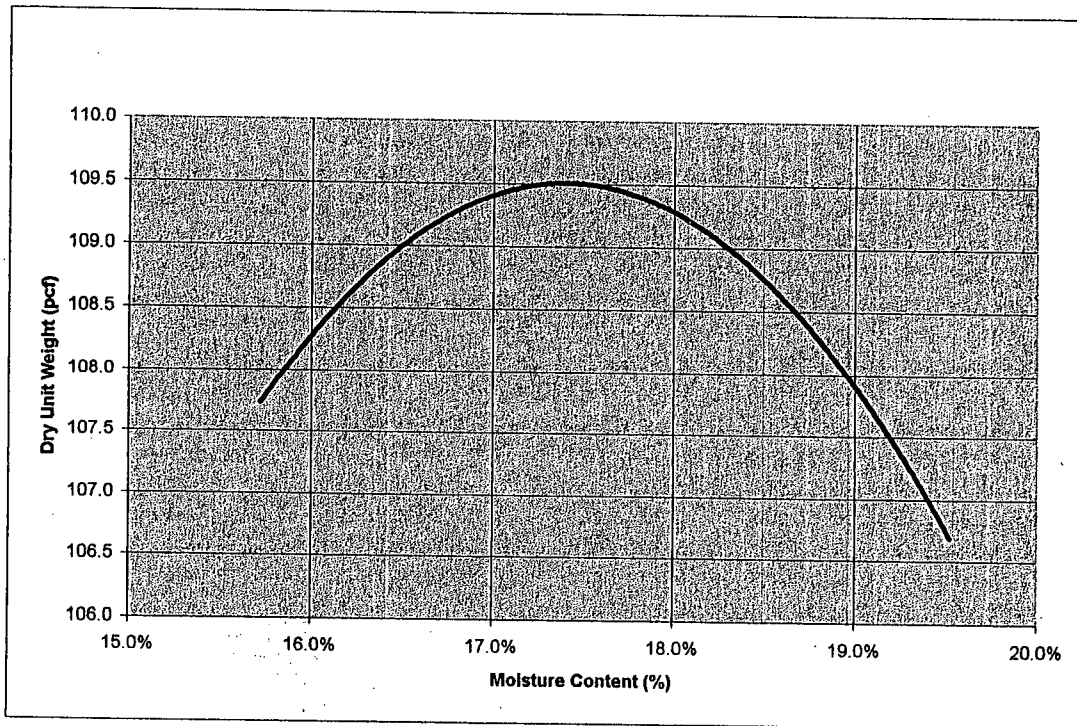
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
2306 Gravel Drive  
Fort Worth, TX 76118

**Project:** Hillsborough County Landfill

**Report Date:** 9/26/2002

**Project No.:** G1-080  
**Report No.:** P76

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 109.5 PCF  
**Optimum Moisture:** 17.4 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 9/17/2002

**Description:** Gray Clayey Sand  
**Sample Location:** N1251480.00 x E598645.00  
Sub-base Material

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*

Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President

Florida Registration No. 50740

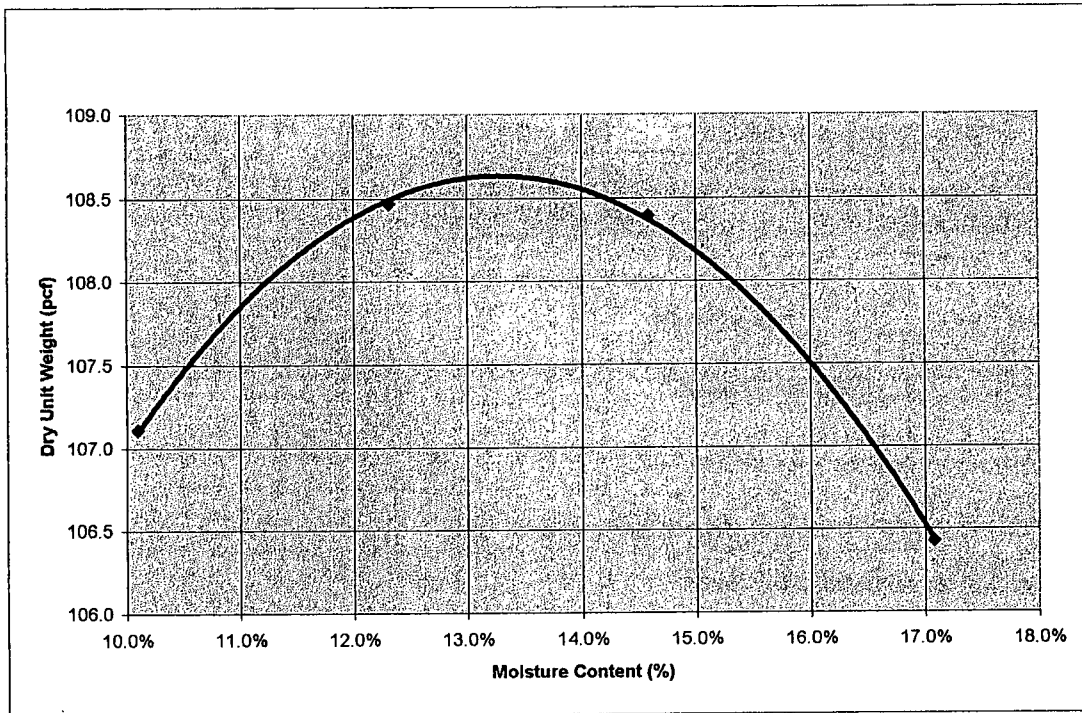
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
1702 Minters Chapel Road, Suite 214  
Grapevine, TX 76051

**Project:** Hillsborough County Landfill

**Report Date:** 11/7/02

**Project No.:** G1-080  
**Report No.:** P78

MOISTURE-DENSITY RELATIONSHIP



Maximum Density: 108.6 PCF  
Optimum Moisture: 13.4 %  
Test Method: ASTM D-698, Standard  
Sampled by: Jason Brenneman  
Sample Date: 11/4/02

Description: Brown Fine Sand  
Sample Location: Dainage Sand

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

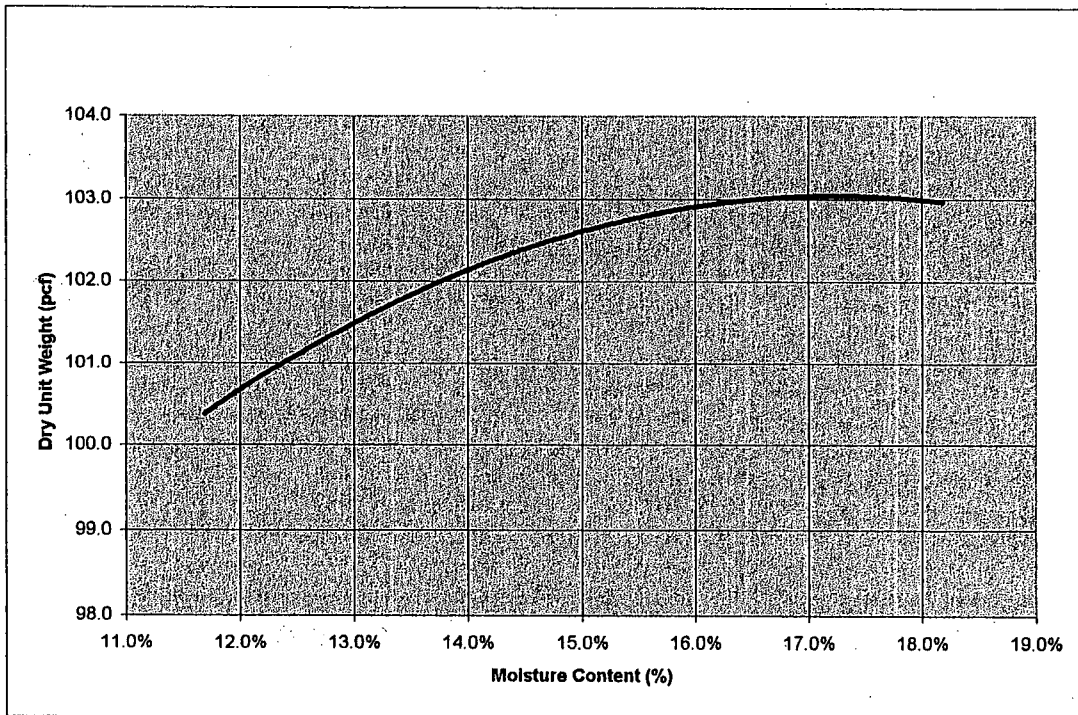
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
1702 Minters Chapel Road, Suite 214  
Grapevine, TX 76051

**Project:** Hillsborough County Landfill

**Report Date:** 12/9/02

**Project No.:** G1-080  
**Report No.:** P79

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 103.0 PCF  
**Optimum Moisture:** 17.4 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 11/18/02

**Description:** Gray Fine Sand  
**Sample Location:** Drainage Sand

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*D. W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



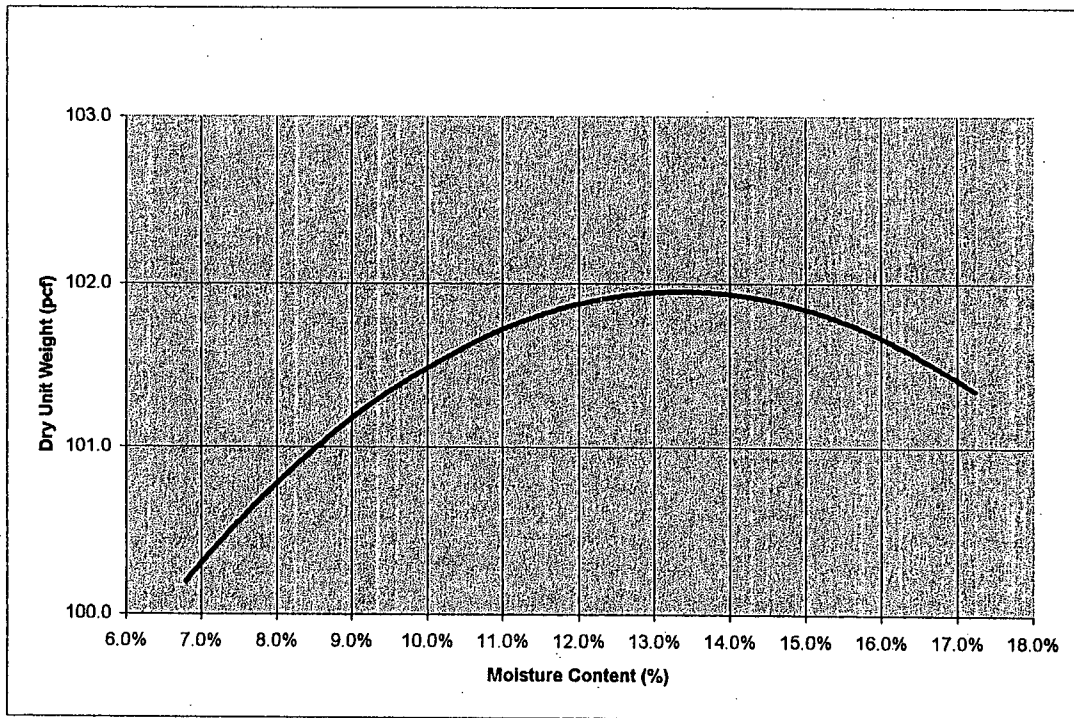
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
1702 Minters Chapel Road, Suite 214  
Grapevine, TX 76051

**Project:** Hillsborough County Landfill

**Report Date:** 12/18/02

**Project No.:** G1-080  
**Report No.:** P81

### MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 101.9 PCF  
**Optimum Moisture:** 13.6 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 12/17/02

**Description:** Light Gray Fine Sand  
**Sample Location:** Drainage Sand

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740



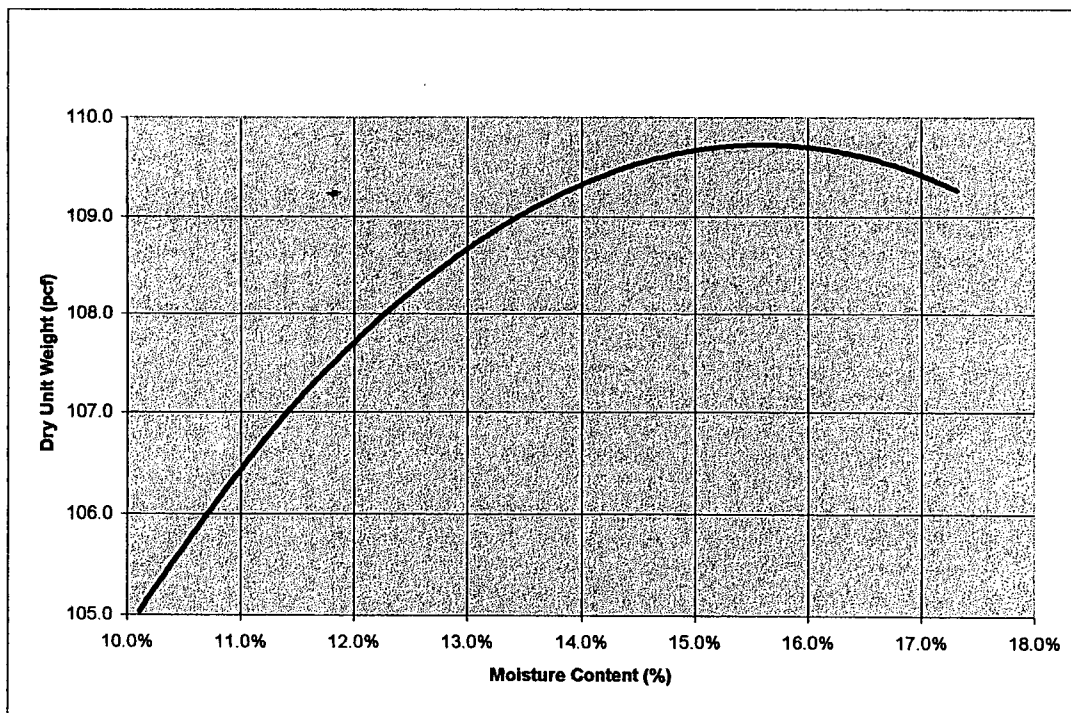
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
1702 Minters Chapel Road, Suite 214  
Grapevine, TX 76051

**Project:** Hillsborough County Landfill

**Report Date:** 1/2/03

**Project No.:** G1-080  
**Report No.:** P82

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 109.7 PCF  
**Optimum Moisture:** 15.9 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneeman  
**Sample Date:** 12/24/02

**Description:** Brown Fine Sand with traces of hard pan  
**Sample Location:** West Side of West Containment Berm  
General Fill

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.  
*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer  
*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

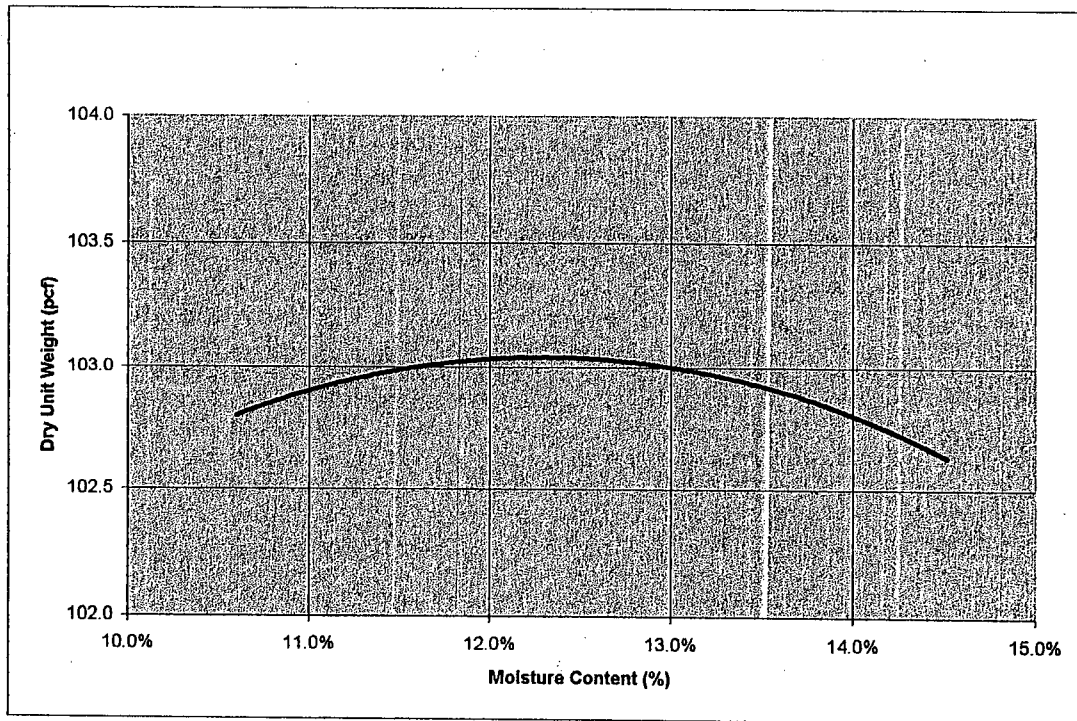
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
1702 Minters Chapel Road, Suite 214  
Grapevine, TX 76051

**Project:** Hillsborough County Landfill

**Report Date:** 1/8/03

**Project No.:** G1-080  
**Report No.:** P83

### MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 103.1 PCF  
**Optimum Moisture:** 12.3 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 1/7/03

**Description:** Light Gray Fine Sand With Trace of Clay  
**Sample Location:** North Containment Berm, West Side of West Containment Berm General Fill

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

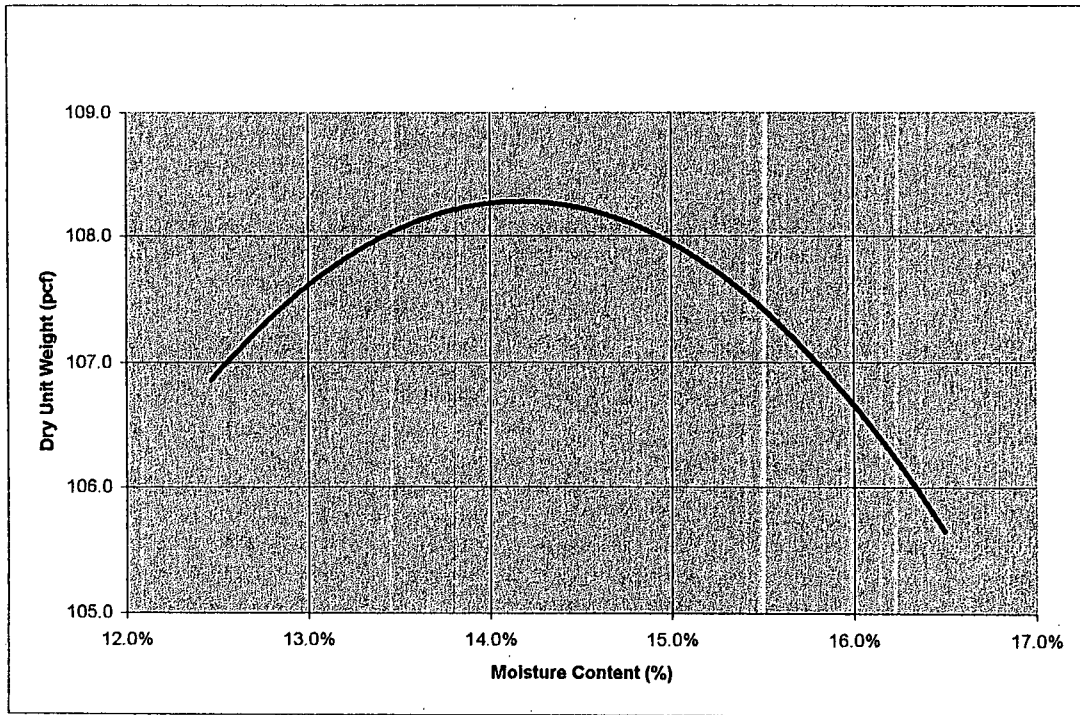
**Tested For:** Mr. Brian Ehler  
Handex Construction Services  
1702 Minters Chapel Road, Suite 214  
Grapevine, TX 76051

**Project:** Hillsborough County Landfill

**Report Date:** 1/8/03

**Project No.:** G1-080  
**Report No.:** P84

### MOISTURE-DENSITY RELATIONSHIP



**Maximum Density:** 108.3 PCF  
**Optimum Moisture:** 14.3 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Breneman  
**Sample Date:** 1/7/03

**Description:** Brown Fine Sand With Hard Pan  
**Sample Location:** Interior Separation Berm

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

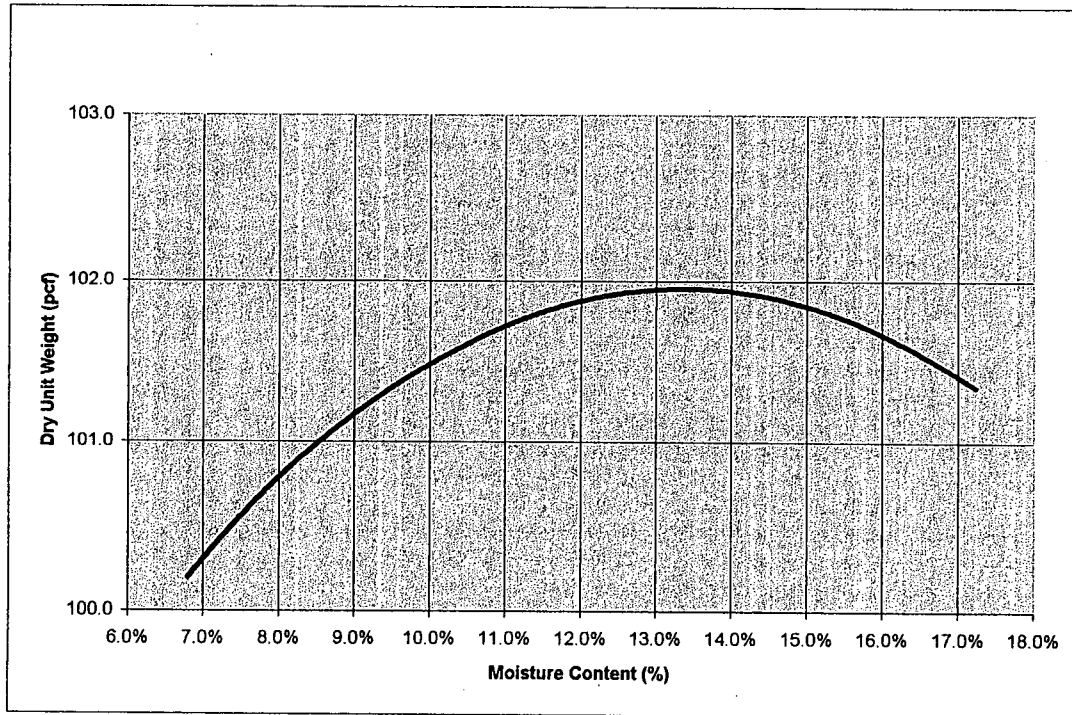
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
1702 Minters Chapel Road, Suite 214  
Grapevine, TX 76051

**Project:** Hillsborough County Landfill

**Report Date:** 12/18/02

**Project No.:** G1-080  
**Report No.:** P81

**MOISTURE-DENSITY RELATIONSHIP**



Maximum Density: 101.9 PCF  
Optimum Moisture: 13.6 %  
Test Method: ASTM D-698, Standard  
Sampled by: Jason Brenneman  
Sample Date: 12/17/02

Description: Light Gray Fine Sand  
Sample Location: Drainage Sand

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

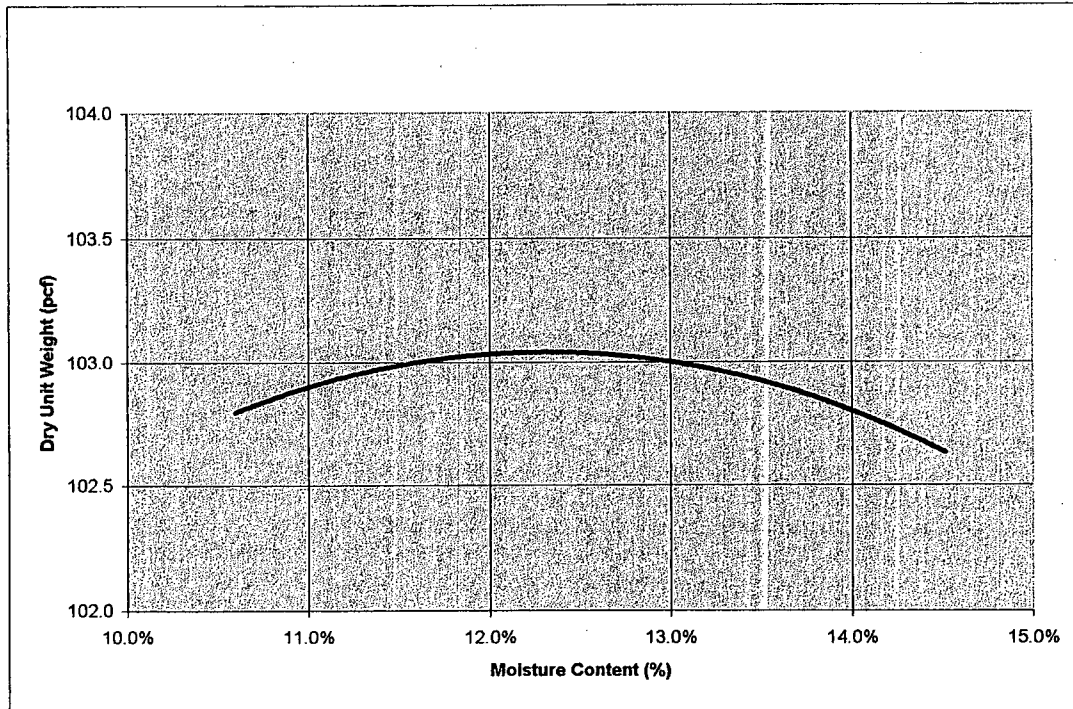
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
1702 Minters Chapel Road, Suite 214  
Grapevine, TX 76051

**Project:** Hillsborough County Landfill

**Report Date:** 1/8/03

**Project No.:** G1-080  
**Report No.:** P83

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 103.1 PCF  
**Optimum Moisture:** 12.3 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 1/7/03

**Description:** Light Gray Fine Sand With Trace of Clay  
**Sample Location:** North Containment Berm, West Side of West Containment Berm General Fill

*Respectfully Submitted,*  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740

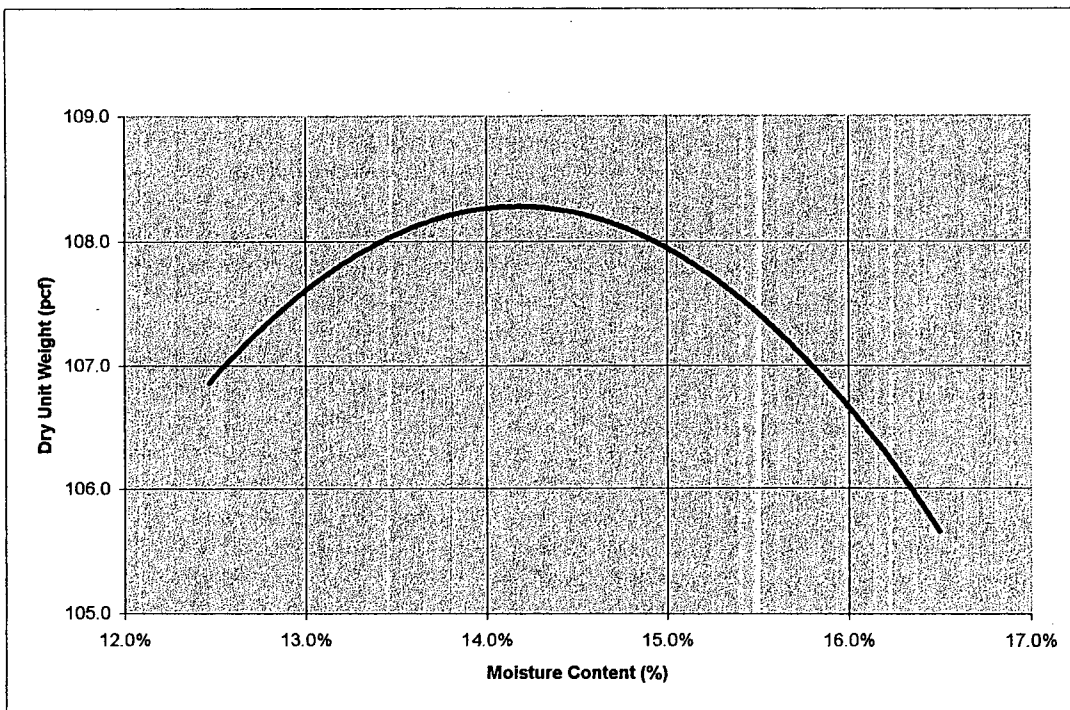
**Tested For:** Mr. Brian Ehrler  
Handex Construction Services  
1702 Minters Chapel Road, Suite 214  
Grapevine, TX 76051

**Project:** Hillsborough County Landfill

**Report Date:** 1/8/03

**Project No.:** G1-080  
**Report No.:** P84

**MOISTURE-DENSITY RELATIONSHIP**



**Maximum Density:** 108.3 PCF  
**Optimum Moisture:** 14.3 %  
**Test Method:** ASTM D-698, Standard  
**Sampled by:** Jason Brenneman  
**Sample Date:** 1/7/03

**Description:** Brown Fine Sand With Hard Pan  
**Sample Location:** Interior Separation Berm

Respectfully Submitted,  
Burcaw Geotechnical Group, Inc.

*Connie Johnson*  
Connie Johnson, E.I.  
Staff Engineer

*David W. Faulkner*  
David W. Faulkner, P.E.  
Vice President  
Florida Registration No. 50740





CK. BY	DESCRIPTION	DATE	REV.

DRAWING TITLE  
**EXCAVATION PLAN - SECTION 1**

PROJECT TITLE  
**SOUTHEAST COUNTY LANDFILL  
 CAPACITY EXPANSION  
 CONSTRUCTION SET**

CLIENT  
**HILLSBOROUGH COUNTY  
 SOLID WASTE MANAGEMENT  
 DEPARTMENT**

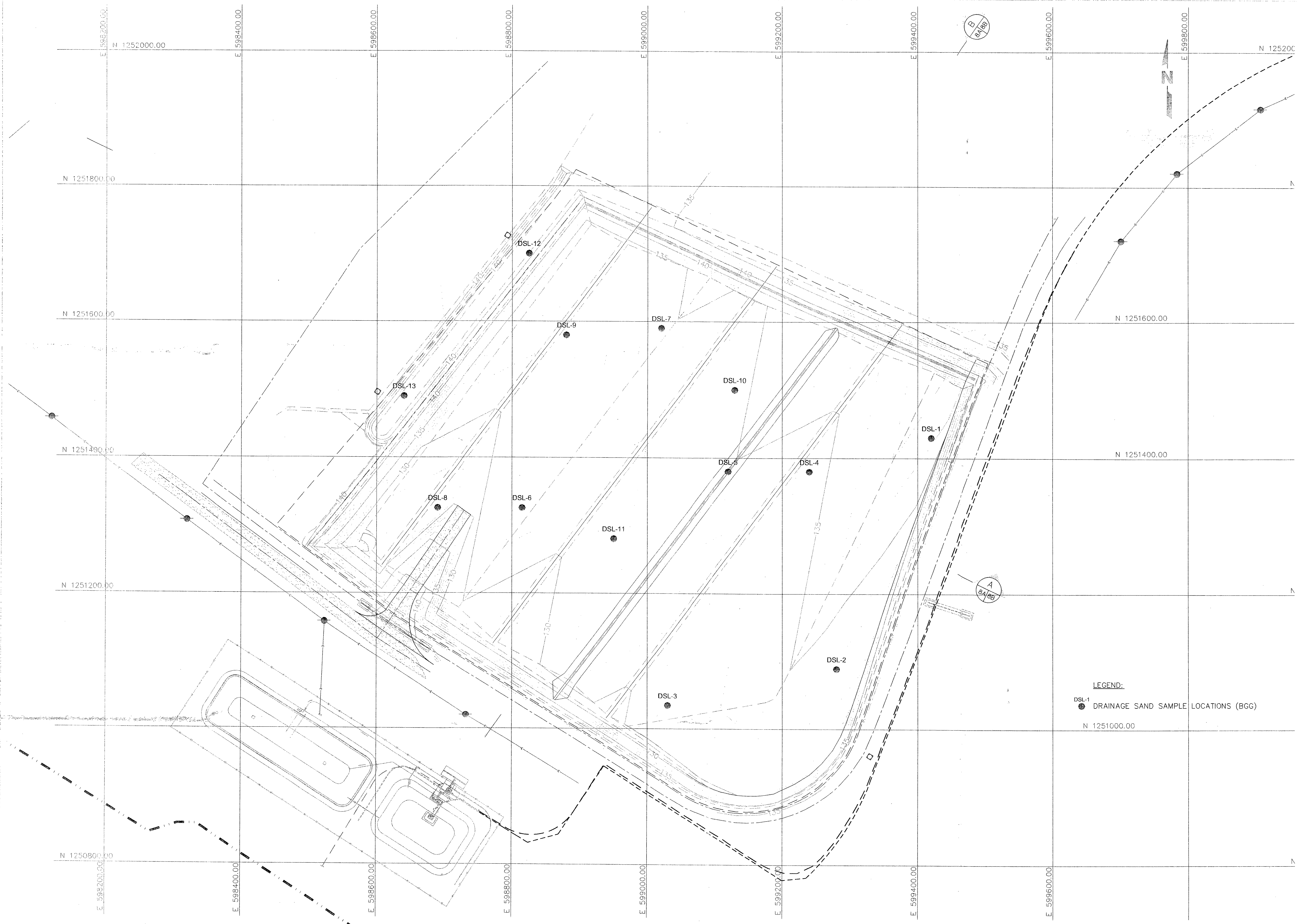
**SCS ENGINEERS**  
 STEARNS, CONRAD AND SCHMIDT  
 CONSULTING ENGINEERS  
 3402 U.S. HWY. 301 NORTH, SUITE 700, TAMPA, FL 33619  
 PH (813) 821-6888 FAX (813) 823-6787

PROJ. NO. \_\_\_\_\_  
 TASK NO. \_\_\_\_\_  
 DATE \_\_\_\_\_  
 DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_  
 O/A RW BY \_\_\_\_\_  
 APP. BY \_\_\_\_\_

CADD FILE: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 SCALE: \_\_\_\_\_  
 DRAWING NO. **6**

LEGEND:  
 ● D-1 GENERAL FILL DENSITY TEST (BGG)





N 1252000.00  
E 5982000.00  
E 5984000.00  
E 5986000.00  
E 5988000.00  
E 5990000.00  
E 5992000.00  
E 5994000.00  
E 5996000.00  
E 5998000.00  
E 5999000.00

N 1251800.00  
N 1251600.00  
N 1251400.00  
N 1251200.00  
N 1251000.00  
N 1250800.00

**LEGEND:**  
 ● DSL-1  
 ● DRAINAGE SAND SAMPLE LOCATIONS (BGG)

DRAWING TITLE <b>FINAL GRADING PLAN TOP OF DRAINAGE LAYER</b>	REV.	DATE	DESCRIPTION	CK. BY
PROJECT TITLE <b>SOUTHEAST COUNTY LANDFILL CAPACITY EXPANSION CONSTRUCTION SET</b>				
CLIENT <b>HILLSBOROUGH COUNTY SOLID WASTE MANAGEMENT DEPARTMENT</b>				
SCS ENGINEERS STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 3012 U.S. HWY. 301 NORTH, SUITE 700, TAMPA, FL 33619 PH (813) 821-1000 FAX NO. (813) 824-8757	PROJ. NO.	DATE	CHK. BY	APP. BY
CADD FILE:				
DATE:				
SCALE:				
DRAWING NO.				



