

November 15, 2001

Fromherz Engineers, Inc.
2740 Indiana Street
Suite 200
Kenner, Louisiana 70062-5620

Attention: Mr. Chuck Fromherz

Re: Geotechnical Engineering Report
Proposed Fire Station

[REDACTED]
Gramercy, Louisiana
PSI File Number: 254-15143-1


Dear Mr. Fromherz:


Professional Service Industries, Inc. is pleased to transmit our Geotechnical Engineering Report for the referenced project. This report includes the results of field and laboratory testing, recommendations for foundation design, as well as general site development.

We appreciate the opportunity to perform this Geotechnical Study and look forward to continued participation during the design and construction phases of this project. If you have any questions pertaining to this report, or if we may be of further service, please contact our office.

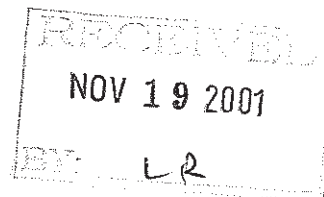
Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.


Mohammad Tavassoli, Ph.D., P.E.
Regional Geotechnical Engineer


Chris Humphreys, P.E.
Executive Vice President

MT/CH:gsm



GEOTECHNICAL ENGINEERING REPORT

PROPOSED FIRE STATION

GRAMERCY, LOUISIANA

PSI FILE NUMBER 254-15143-1

PREPARED FOR

**FROMHERZ ENGINEERS, INC.
2740 INDIANA STREET
SUITE 200
KENNER, LOUISIANA 70062-5620**

BY

**PROFESSIONAL SERVICE INDUSTRIES, INC.
724 CENTRAL AVENUE
JEFFERSON, LOUISIANA 70121**

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EXECUTIVE SUMMARY

An exploration and evaluation of the subsurface conditions have been completed for the proposed Fire Station that will be constructed on North Airline Avenue and East 14 Street in Gramercy, Louisiana. Two (2) soil borings (B-1 and B-2) were drilled to depths of 20 and 50 feet in the proposed building area and selected soil samples tested in the laboratory. In general, reference to the logs of borings shows that underlying about 1½ feet of medium dense clayey sands (fill) in boring B-2 and beginning at the ground surface in boring B-1, there is firm to stiff gray or gray and tan clays to 6 to 8 feet. This is generally followed by soft to firm clays or silty clays to 27 feet and then by firm to stiff clays to at least the 50 feet depth, the maximum depth explored. Groundwater was encountered at a depth of about 5 feet in the boring during drilling.

The results of this exploration indicate that the near surface firm clays encountered in the borings are fair in bearing quality. These soils are believed to be suitable for support of the proposed building on a shallow foundation system, assuming some settlements can be tolerated. If the estimated settlements for a shallow foundation are considered excessive, pile foundations should be used for support of the proposed building, including the floor slab. Details related to site development, foundation design, and construction considerations are included in subsequent sections of this report.

The owner/designer should not rely solely on this Executive Summary and must read and evaluate the entire contents of this report prior to utilizing our engineering recommendations in preparation of design/construction documents.

PROJECT INFORMATION

Project Authorization

Professional Service Industries, Inc. (PSI) has completed a geotechnical exploration for the proposed Fire Station building on [REDACTED] in Gramercy, Louisiana. Our services were authorized by Mr. Churck Fromherz, President of Fromherz Engineers, Inc., Consulting Engineers for the Project. This exploration was accomplished in general accordance with PSI Proposal Number 254-1161 dated October 10, 2001.

Project Description

It is understood that the proposed construction will consist of a [REDACTED] building with a footprint of about 5,000 square feet and an eave height of 22 feet. Design structural loads are not known at this time, but are anticipated to be nominal and not unusual for this type of structure. It is further understood that about 2 feet of fill may be needed to raise the site grade.

The geotechnical recommendations presented in this report are based on the available project information, building location, and the subsurface materials described in this report. If any of the noted information is incorrect, please inform PSI in writing so that we may amend the recommendations presented in this report if appropriate and if desired by the client. PSI will not be responsible for the implementation of its recommendations when it is not notified of changes in the project.

Purpose and Scope of Services

The purpose of this study was to explore the subsurface conditions at the site to enable an evaluation of acceptable foundation systems for the proposed construction. Our scope of services included drilling two (2) soil test borings (B-1 and B-2) to depths of 50 and 20 feet in the building area, select laboratory testing and preparation of this geotechnical report. This report briefly outlines the testing procedures, presents available project information, describes the site and subsurface conditions, and presents recommendations regarding the following:

- Foundation types, depths, allowable bearing capacities, pile capacities, and estimate of settlements.
- Comments regarding factors that will impact construction and performance of the proposed construction.

The scope of services did not include an environmental assessment for determining the presence or absence of wetlands, or hazardous or toxic materials in the soil, surface water, groundwater, or air on or below, or around this site. Any statements in this report or on the boring log regarding odors, colors, and unusual or suspicious items or conditions are strictly for informational purposes. Prior to development of this site, an environmental assessment is advisable.

SITE AND SUBSURFACE CONDITIONS

Site Location and Description

The proposed site is located on [REDACTED] in Gramercy, Louisiana. The site is covered with tall vegetation and weeds and is bounded to the north by KCS railroad tracks, to the west by North Airline Avenue, to the south by East 14 Street and to the east by undeveloped property. The surficial soils were firm at the time of drilling and truck mounted drilling rig was used to access the boring locations.

Field Exploration

The field exploration, which was performed to evaluate the engineering characteristics of the foundation materials, included a reconnaissance of the project site, drilling the test borings and recovering undisturbed and representative disturbed soil samples.

As discussed previously, two (2) borings were drilled to a depth of 50 and 80 feet in the building area. The boring depth is in reference to the existing ground surface at the time of the field exploration. The number and depth of the boring was determined by PSI. The approximate location of the borings is indicated on the plan included in the Appendix.

Drilling and Sampling Procedures

The borings were drilled with a CME-75 drilling rig equipped with a rotary head. Hollow-stem auger and wet rotary techniques were used to advance the borehole. Samples were generally obtained contiguously from the ground surface to a depth of ten feet and at maximum five foot intervals thereafter.

Undisturbed samples of cohesive soils were generally obtained using thin-wall tube sampling procedures in general accordance with the procedures for "Thin-Walled Tube Geotechnical Sampling of Soils" (ASTM D1587). These samples were extruded in the field with a hydraulic ram. Undisturbed and disturbed samples were identified according to boring number and depth, were placed in polyethylene plastic wrapping to protect against moisture loss, and were transported to the laboratory in special containers to prevent disturbance.

For cohesionless soils, generally Standard Penetration Tests (SPT) were performed at intervals to obtain standard penetration values of the soil. The standard penetration value (N) is defined as the number of blows of a 140 pound hammer, falling 30 inches, required to advance the split-barrel sampler 1 foot into the soil. To perform the test and obtain a sample, the sampler is lowered to the bottom of the previously cleaned drill hole and advanced by blows from the hammer. The number of blows is recorded for each of three successive increments of six inches penetration. The "N" value is obtained by adding the second and third increments of six inches penetration. The results of the Standard Penetration Test indicate the relative density of cohesionless soils and thereby provide a basis for estimating the relative strength and compressibility of the soil profile components. Samples of granular soils were obtained utilizing a two inch O.D. split-barrel sampler in general accordance with procedures for "Penetration Test and Split-Barrel Sampling of Soils" (ASTM D 1586).

All of the samples recovered from the field exploration were identified and evaluated by experienced geotechnical personnel upon arrival at the laboratory.

Laboratory Testing Program

In addition to the field exploration, a supplemental laboratory testing program was conducted to evaluate additional pertinent engineering characteristics of the foundation materials necessary in analyzing the behavior of the foundation system for the proposed building.

The laboratory testing program included supplementary visual classification and water content tests on the soil samples. In addition, selected samples were subjected to

unconfined compression testing and Atterberg Limits determination. Additional estimates of undrained shear strength were also determined through the use of a hand torvane and a pocket penetrometer.

The laboratory testing program was conducted in general accordance with applicable ASTM Specifications. The results of these tests can be found on the accompanying boring logs located in the Appendix.

Subsurface Conditions

Reference to the logs of borings shows that underlying about 1½ feet of medium dense gray clayey sand (fill) in boring B-2 and beginning at the ground surface in boring B-1, there is firm to stiff gray and tan or gray clays to 6 to 8 feet. This is generally followed by soft to firm gray or gray and tan clays or silty clays. Boring B-2 was terminated in this stratum at 20 feet, however, it continues to 27 feet in boring B-1. Beginning at 27 feet in boring B-1 there is generally firm to stiff reddish tan and gray or light gray and tan clays to at least the 50 feet depth, the maximum depth explored.

The above subsurface description is of a generalized nature to highlight the major subsurface stratification features and material characteristics. The boring logs included in the appendix should be reviewed for specific information. This record includes soil descriptions, stratifications, penetration resistances, locations of the samples and laboratory test data. The stratifications shown on the boring logs represents the conditions only at the actual boring location. Variations may occur and should be expected at other locations. The stratifications represent the approximate boundary between subsurface materials and the actual transition may be gradual. The samples which were not altered by laboratory testing will be retained for 60 days from the date of this report and then will be discarded.

Groundwater Information

Groundwater was encountered at a depth of about 5 feet during drilling. The groundwater level presented in this report is the level that was measured at the time of our field activities and may not have become fully static at the time of measurement. In addition, the groundwater level at this site may fluctuate due to seasonal precipitation, drought, etc. We recommend that the Contractor determine the actual groundwater levels at the site at the time of the construction activities.

RECOMMENDATIONS

General

It is understood that the proposed building will be a single story structure, approximately 5,000 square feet in plan with an eave height of 22 feet. The near surface naturally occurring firm to stiff clays are fair in bearing quality. These soils are believed to be suitable for support of the proposed building on shallow foundations, assuming

some settlements can be tolerated. In view of this, analyses were made with regard to a shallow foundation and the results are given below. Analyses were also made with regard to a pile foundation for support of the proposed building in the event that the estimated settlements for the recommended shallow foundation are considered excessive.

Site Preparation

We recommend that topsoil, vegetation, deleterious material and any soft or loose soil in the construction area be stripped from the site. The construction area should then be proofrolled with a tandem axle dump truck or similar rubber tired vehicle. Soils which are observed to rut or deflect excessively under the moving load should be undercut and replaced with properly controlled-compacted structural fill. This fill could consist of "pumped" river sand having less than 10 percent fines passing the No. 200 sieve. This fill should be controlled-compacted to at least 95 percent of maximum dry density with ± 3 percent of optimum moisture content according to ASTM D698. The proofrolling and undercutting activities, as discussed above, should be witnessed by a representative of the Geotechnical Engineer and should be performed during a period of dry weather.

Shallow Foundation

Based on available soil information at the boring location and laboratory test data, it [REDACTED]

[REDACTED]

[REDACTED]. The above allowable bearing capacities have a factor of safety of 3.0 against bearing failure, but do not preclude settlements, as will be discussed.

All footings excavations should be observed by the soils engineer prior to steel or concrete placement to verify that the foundation material are not loosened or otherwise disturbed by the excavation process, weather, etc. Soft or loose soils, debris or other deleterious materials encountered in the foundation excavations should be removed and replaced with an adequately controlled-compacted structural fill, as will be discussed.

Settlement Analyses were made with regard to settlements for the shallow foundation. It is estimated that long term settlements of [REDACTED] footings [REDACTED] will be on the order of $\frac{3}{4}$ to 1 inch. This further assumes that the sustained dead load is about 70 percent of the total load. This should be added to the long term settlement due to placement of 2 feet of fill and the floor load which is estimated to be on the order of 1 to 2 inches.

Adequate construction joints and reinforcement should be provided to reduce the potential for cracking of the floor slab due to differential movement. It is further

recommended that good rigidity of the structure foundation be assured. This could consist of stiffening grade beams and tying individual foundation elements together to minimize the detrimental effects of differential settlements.

Pile Foundation

Analyses were also made based on the deeper boring (B-1) and laboratory test data with regard to a pile foundation for support of the proposed building. Consideration is being given to small treated timber piles (6" tip - 8" butt). All piles should conform to ASTM D25 for treatment and quality and have minimum dimensions discussed herein. The piles will generally derive their support through "skin friction" along their embedded lengths since no stratum was encountered which would offer good additional "point" bearing support. It is our recommendation that the structure and floor slab be structurally supported on the driven piles. The recommended driven length and the estimated corresponding allowable compression capacities for various lengths of small treated timber piles are presented below.

The pile lengths given are as measured from the existing ground surface elevation at the boring location. However, a pile cutoff of up to 2 feet should be unimportant.

ESTIMATED SINGLE PILE LOAD CAPACITY IN TONS F.S. = 2.0 IN COMPRESSION	
Pile Length in Feet	Small Treated Timber 6" Tip - 8" Butt
●	●
●	●
●	●

The estimated pile capacities given in the above table are based on a factor of safety of two (2) in compression. Assuming no more than 2 feet of fill is needed to raise the site grade, dragload should be unimportant and no allowance need be made. If more than 2 feet of fill is needed, further consideration should be given to effect of drag load on piles by our office.

Settlement Using the estimated pile load capacities, it is estimated that settlement of the piles in single widely spaced rows or in clusters of up to 6 piles should be less than $\frac{3}{4}$ inch.

Group Effect For piles in clusters of up to 6 piles and with a minimum center to center spacing of 3 feet, group effect should be unimportant. For large clusters, group effect could reduce the pile capacities and should be evaluated according to the criteria given in the Appendix when actual pile length and layout are known.

Pile Installation

Pile driving hammers used to drive foundation piles should be selected according to pile type, length, size and weight of pile, as well as potential vibrations resulting from pile driving operations. Care should be taken to assure that the hammer selected is capable of achieving the desired penetration without causing damage to the piles or causing excessive vibrations which could damage existing, nearby structures. Hammers having a rated energy in the range of 8,000 to 12,000 foot-pounds are satisfactory for the treated small timber piles (6" tip - 8" butt). Accurate records of the final tip elevation and driving resistances should be obtained during the pile driving operations.

Pile Driving Monitoring We recommend that the pile driving be monitored by the geotechnical engineer or his representative. Sometimes, premature refusal occurs due to poor performance of the hammer rather than from soil resistance. Any changes in hammer blow counts should be carefully examined before making any decisions about the pile penetration.

Pile Load Test It is recommended that pile capacities be verified by field load tests. It is recommended that at least one test pile be driven in the proposed foundation area and tested in compression as outlined by ASTM D1143. The pile load test (s) should be performed under the guidance of the soils engineer so that the data may be interpreted and the recommended pile capacity adjusted, if necessary, according to the load test results.

CONSTRUCTION CONSIDERATIONS

It is recommended that PSI be retained to provide observation and testing of construction activities involved in the foundations, and related activities of this project. PSI cannot accept any responsibility for any conditions which deviated from those described in this report, nor for the performance of the foundations if not engaged to also provide construction observation and testing for this project.

Moisture Sensitive Soils/Weather Related Concerns

The upper soils encountered at this site are expected to be somewhat sensitive to disturbances caused by construction traffic and changes in moisture content. During wet weather periods, increases in the moisture content of the soil can cause significant reduction in the soil strength and support capabilities. In addition, soils which become wet may be slow to dry and thus significantly retard the progress of grading and compaction activities. It will, therefore, be advantageous to perform earthwork and foundation construction activities during dry weather.

Drainage and Groundwater Concerns

Water should not be allowed to collect in the foundation excavation either during or after construction. Undercut or excavated areas should be sloped toward one corner to

facilitate removal of any collected rainwater, groundwater, or surface runoff. Positive site surface drainage should be provided to reduce infiltration of surface water around the perimeter of the building. The grades should be sloped away from the building and surface drainage should be collected and discharged such that water is not permitted to infiltrate the areas of the building.

As discussed previously, groundwater was encountered at this site at a depth of about 5 feet below the existing grade. However, it is possible that seasonal variations will cause fluctuations, or a water table to be present in the upper soils at a later time. Additionally, perched water may be encountered in discontinuous zones within the overburden. Any water accumulation should be removed from excavations by pumping. Should excessive and uncontrolled amounts of seepage occur, the Geotechnical Engineer should be consulted.

REPORT LIMITATIONS

The recommendations submitted, in this report, are based on the available subsurface information obtained by PSI and design details furnished by Fromherz Engineers, Inc., Consulting Engineers for the Project. If there are any revisions to the plans for this project, or if deviations from the subsurface conditions noted in this report are encountered during construction, PSI should be notified immediately to determine if changes in the foundation recommendations are required. If PSI is not notified of such changes, PSI will not be responsible for the impact of those changes on the project.

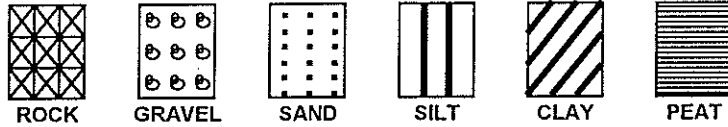
The Geotechnical Engineer warrants that the findings, recommendations, specifications, or professional advice contained herein have been made in accordance with generally accepted professional geotechnical engineering practices in the local area. No other warranties are implied or expressed.

After the plans and specifications are more complete, the Geotechnical Engineer should be retained and provided the opportunity to review the final design plans and specifications to check that our engineering recommendations have been properly incorporated into the design documents. At that time, it may be necessary to submit supplementary recommendations. If PSI is not retained to perform these functions, PSI will not be responsible for the impact of those conditions on the project. This report has been prepared for the exclusive use of Fromherz Engineers, Inc. for the specific application to the proposed Fire Station building on [REDACTED] in Gramercy, Louisiana.

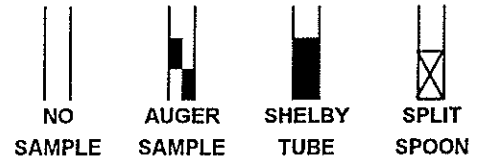
APPENDIX

KEY TO TERMS AND SYMBOLS USED ON LOGS

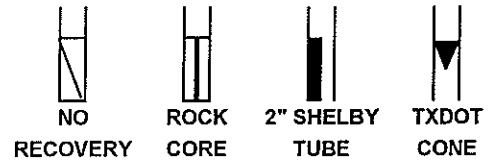
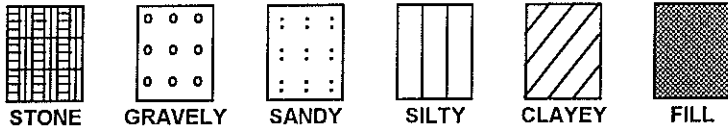
SOIL TYPE



SAMPLER TYPE



MODIFIERS



UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D 2487 (1980)

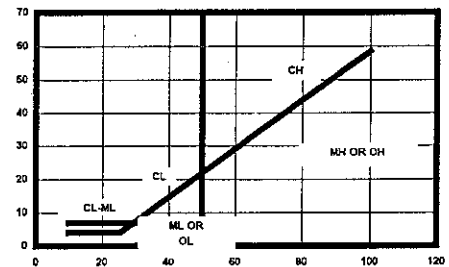
MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTIONS	
COARSE GRAINED SOILS LESS THAN 60% PASSING NO. 4 SIEVE	GRAVEL & GRAVELLY SOILS	CLEAN GRAVEL (LITTLE OR NO FINES)	GW	WELL GRADED GRAVEL GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES	
		GRAVELLY SOILS (LITTLE OR NO FINES)	GP	POORLY GRADED GRAVEL GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES	
	SANDS	CLEAN SANDS (LITTLE FINES)	GM	SILTY GRAVEL, GRAVEL-SAND-SILT MIXTURES	
		GRAVELLY SANDS (LITTLE FINES)	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES	
	SANDS WITH APPRECIABLE FINES	CLEAN SANDS (LITTLE FINES)	SW	WELL GRADED SAND, GRAVELLY SAND (LITTLE FINES)	
		GRAVELLY SANDS (LITTLE FINES)	SP	POORLY GRADED SANDS, GRAVELLY SAND (LITTLE FINES)	
	SANDS WITH APPRECIABLE FINES	SILTY SANDS, SAND-SILT MIXTURES	SM	SILTY SANDS, SAND-SILT MIXTURES	
		CLAYEY SANDS, SAND-CLAY MIXTURES	SC	CLAYEY SANDS, SAND-CLAY MIXTURES	
	FINE GRAINED SOILS MORE THAN 60% PASSING NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 60	INORGANIC SILTS & VERY FINE SANDS ROCK FLOUR SILTY OR CLAYEY FINE SANDS OR CLAYEY SILT W/LOW PI	ML	INORGANIC SILTS & VERY FINE SANDS ROCK FLOUR SILTY OR CLAYEY FINE SANDS OR CLAYEY SILT W/LOW PI
			INORGANIC CLAY OF LOW TO MEDIUM PI LEAN CLAY GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS	CL	INORGANIC CLAY OF LOW TO MEDIUM PI LEAN CLAY GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS
ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PI			OL	ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PI	
SILTS AND CLAYS LIQUID LIMIT GREATER THAN 60		INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS	
	INORGANIC CLAYS OF HIGH PLASTICITY FAT CLAYS	CH	INORGANIC CLAYS OF HIGH PLASTICITY FAT CLAYS		
	ORGANIC CLAYS OF MED TO HIGH PI, ORGANIC SILT	OH	ORGANIC CLAYS OF MED TO HIGH PI, ORGANIC SILT		
HIGHLY ORGANIC SOIL			PT	PEAT AND OTHER HIGHLY ORGANIC SOILS	
UNCLASSIFIED FILL MATERIALS				ARTIFICIALLY DEPOSITED AND OTHER UNCLASSIFIED SOILS AND MAN-MADE SOIL MIXTURES	

CONSISTENCY OF COHESIVE SOILS

CONSISTENCY	SHEAR STRENGTH IN TONS/FT ²
VERY SOFT	0.0 TO 0.125
SOFT	0.125 TO 0.25
FIRM	0.25 TO 0.5
STIFF	0.5 TO 1.0
VERY STIFF	1.0 TO 2.0
HARD	> 2.0 OR 2.0+

RELATIVE DENSITY - GRANULAR SOILS

CONSISTENCY	N-VALUE (BLOWS/FOOT)
VERY LOOSE	0-4
LOOSE	4-9
MEDIUM DENSE	10-29
DENSE	30-49
VERY DENSE	> 50 OR 50+



ABBREVIATIONS

- HP - HAND PENETROMETER
- TV - TORVANE
- MV - MINIATURE VANE
- UC - UNCONFINED COMPRESSION TEST
- UU - UNCONSOLIDATED UNDRAINED TRIAXIAL
- CU - CONSOLIDATED UNDRAINED

NOTE: PLOT INDICATES SHEAR STRENGTH AS OBTAINED BY ABOVE TESTS

- ▽ — HYDRO-STATIC WATER LEVEL
- ▽ — WATER LEVEL UNDER HYDRO-STATIC PRESSURE HEAD

CLASSIFICATION OF GRANULAR SOILS

U.S. STANDARD SIEVE SIZE(S)

		6"	3"	3/4"	4	10	40	200		
BOUL- -DERS	COBBLES	GRAVEL			SAND			SILT OR CLAY	CLAY	
		COARSE	FINE	COARSE	MEDIUM	FINE				
		152	76.2	19.1	4.76	2.0	0.42	0.074		0.002
GRAIN SIZE IN MM										



LOG OF BORING B-1

PROPOSED FIRE STATION

GRAMERCY, LOUISIANA

TYPE OF BORING:

LOCATION: SEE APPENDIX

PSI PROJECT NO. 254-15143

DEPTH, FT.	SOIL TYPE	SAMPLES	DESCRIPTION	N-BLOWS/FT.	UNCONFINED COMPRESSIVE STRENGTH tsf	HAND PENETROMETER tsf	TORVANE tsf	UNIT DRY WEIGHT pcf	MOISTURE CONTENT %	LIQUID LIMIT	PLASTICITY INDEX	% PASSING #200 SIEVE
			6" topsoil			2.25			26			
			Stiff gray and tan clay with sand and silt lenses		0.68	1.0		87	28	56	35	
			Firm gray and tan clays with silt lenses		0.50	0.75		84	35			
5												
			Soft gray silty clay		0.28		0.20	89	33	39	20	
							0.15		33			
10												
					0.20		0.20	76	48			
15												
			Soft dark gray organic clay				0.15		116	182	152	
20												
			Soft gray clay		1.46	2.50		87	33			
25												
			Stiff reddish tan and gray clay				0.10		53			
30												
			Firm light gray and tan clay		0.36	0.75		101	24	53	36	
35												
			Stiff light gray and reddish tan clay			1.50			29			
40												
			Soft dark gray clay with organics		0.46		0.20	46	93			
45												
			Stiff reddish tan and light gray clay			2.25			38			
50												

DEPTH OF BORING: 50 Feet
 DATE: October 23, 2001

GROUNDWATER: Encountered at 5 feet during drilling

LOG OF BORING B-2

PROPOSED FIRE STATION

GRAMERCY, LOUISIANA

TYPE OF BORING:

LOCATION: SEE APPENDIX

PSI PROJECT NO. 254-15143

DEPTH, FT.	SOIL TYPE	SAMPLES	DESCRIPTION	N-BLOWS/FT.	UNCONFINED COMPRESSIVE STRENGTH tsf	HAND PENTROMETER tsf	TORVANE tsf	UNIT DRY WEIGHT pcf	MOISTURE CONTENT %	LIQUID LIMIT	PLASTICITY INDEX	% PASSING #200 SIEVE
			Medium dense gray clayey sand	16					17			
			Firm gray clay	7	2.1			89	31	57	35	
5			Firm gray and tan clay		0.57	0.5		76	45			
					0.33			82	30			
10			Soft tan and gray silty clay		0.52		0.2	88	36			
			Firm gray and tan silty clay									
15			Soft gray clay with organics		0.38		0.15	46	78			
20			Very soft gray organic clay				0.1		193			
25												
30												
35												
40												
45												
50												

DEPTH OF BORING: 20 Feet

DATE: October 23, 2001



Geotechnical Consulting Services
Jefferson, Louisiana