

| DEPTH, FT | WATER LEVEL | SYMBOL | SAMPLES | BLOWS PER FOOT | LOCATION: See Plate 1 COORDINATES: Not Available | STRATUM DEPTH, FT | CLASSIFICATION | | | | | SHEAR STRENGTH | | | | | | | | |
|---------------------|-------------|--------|---------|----------------|---|-------------------|------------------|--------------------------|------------------|--------------|---------------|-----------------------|----------------|--|--|--|--|--|--|--|
| | | | | | SURFACE EL.: Not Available | | UNIT DRY WT. PCF | PASSING NO. 200 SIEVE, % | WATER CONTENT, % | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX (PI) | KIPS PER SQ FT | | | | | | | |
| STRATUM DESCRIPTION | | | | | □ Penetrometer Unconfined ▼ ◇ Torvane Triaxial ● △ Field Vane Miniature Vane ▲ | | | | | | | | | | | | | | | |
| | | | | | 0.5 1.0 1.5 2.0 2.5 | | | | | | | | | | | | | | | |
| | | | | | CLAY, gray, slickensided | | | | | | | | | | | | | | | |
| | | | | | - brown, with silty sand partings and ferrous nodules below 43' | | | | | | | | | | | | | | | |
| 45 | | | | | | | | | | | | | | | | | | | | |
| 50 | | | | | | | | | | | | | | | | | | | | |
| | | | | | - gray below 53' | | | | | | | | | | | | | | | |
| 55 | | | | | | 55.0 | | | | | | | | | | | | | | |
| 60 | | | | | | | | | | | | | | | | | | | | |
| 65 | | | | | | | | | | | | | | | | | | | | |
| 70 | | | | | | | | | | | | | | | | | | | | |
| 75 | | | | | | | | | | | | | | | | | | | | |

NOTES:

2. Terms and symbols defined on Plate ?.

DATE: January 19, 2004

TOTAL DEPTH: 55'

CAVED DEPTH: Not Applicable

DRY AUGER: Not Applicable

WET ROTARY: 0' to 55'

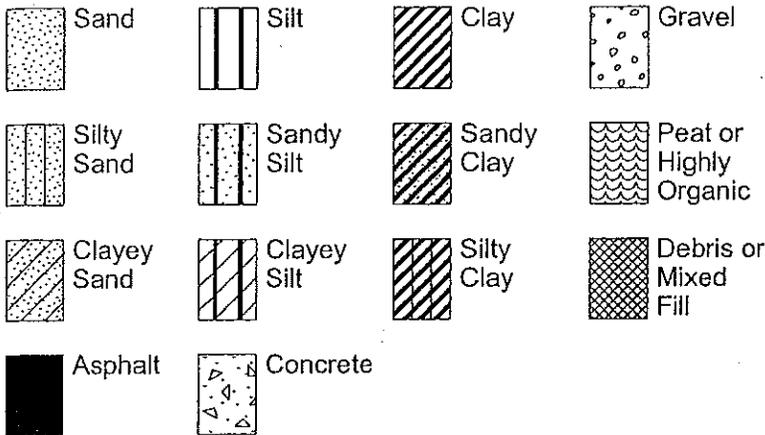
BACKFILL: Cement-Bentonite Grout

LOGGER: J. Phipps

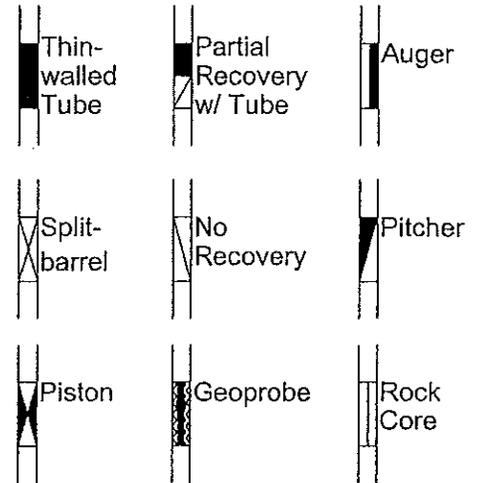
O:\EXXONMOBIL LNG PROJECTS\GOLDEN PASS\DRAWING\04150963_41_42_43.GPJ FUGRO_SQ (LAB DATA) 6/29/2004

LOG OF BORING NO. B-43
LNG PROCESS AREA, MARINE AREA, AND PERIMETER DIKES
EXXONMOBIL DEVELOPMENT COMPANY
GOLDEN PASS, SABINE, TEXAS

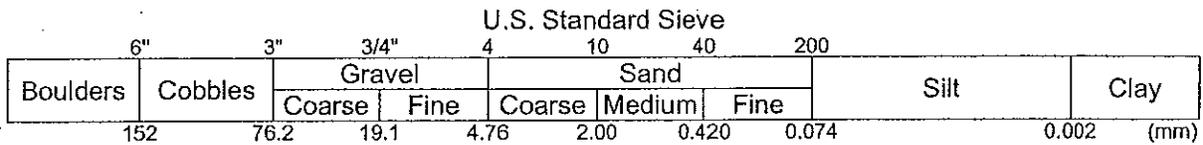
SOIL TYPES



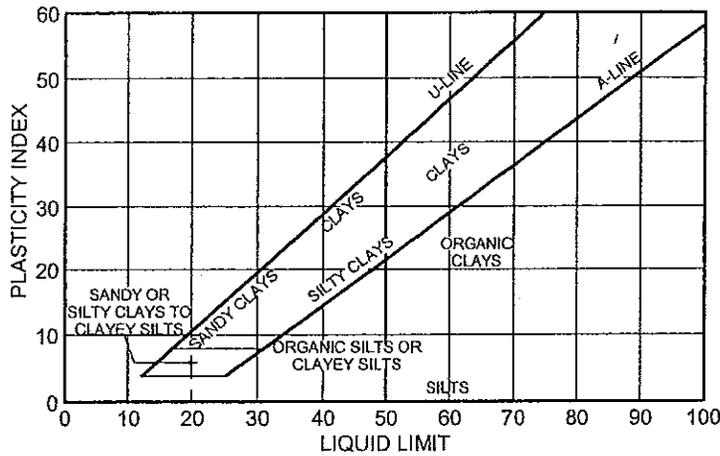
SAMPLER TYPES



SOIL GRAIN SIZE



PLASTICITY CHART



SOIL STRUCTURE

- Slickensided Having planes of weakness that appear slick and glossy.
- Fissured Containing shrinkage or relief cracks, often filled with fine sand or silt; usually more or less vertical.
- Pocket Inclusion of material of different texture that is smaller than the diameter of the sample.
- Parting Inclusion less than 1/8 inch thick extending through the sample.
- Seam Inclusion 1/8 inch to 3 inches thick extending through the sample.
- Layer Inclusion greater than 3 inches thick extending through the sample.
- Laminated Soil sample composed of alternating partings or seams of different soil type.
- Interlayered Soil sample composed of alternating layers of different soil type.
- Intermixed Soil sample composed of pockets of different soil type and layered or laminated structure is not evident.
- Calcareous Having appreciable quantities of carbonate.
- Carbonate Having more than 50% carbonate content.

TERMS AND SYMBOLS USED ON BORING LOGS
SOIL CLASSIFICATION (1 of 2)

STANDARD PENETRATION TEST (SPT)

A 2-in.-OD, 1-3/8-ID split spoon sampler is driven 1.5 ft into undisturbed soil with a 140-pound hammer free falling 30 in. After the sampler is seated 6 in. into undisturbed soil, the number of blows required to drive the sampler the last 12 in. is the Standard Penetration Resistance or "N" value, which is recorded as blows per foot as described below.

SPLIT-BARREL SAMPLER DRIVING RECORD

| Blows Per Foot | Description |
|----------------|---|
| 25 | 25 blows drove sampler 12 inches, after initial 6 inches of seating. |
| 50/7" | 50 blows drove sampler 7 inches, after initial 6 inches of seating. |
| Ref/3" | 50 blows drove sampler 3 inches during initial 6-inch seating interval. |
| WOH | Weight of Hammer drove sampler 12 inches, without driving spoon. |
| WOR | Weight of Rod drove sampler 12 inches, without attaching hammer. |

NOTE: To avoid damage to sampling tools, driving is limited to 50 blows during or after seating interval.

DENSITY OF GRANULAR SOILS

| Descriptive Term | *Relative Density, % | **Blows Per Foot (SPT) |
|------------------|----------------------|------------------------|
| Very Loose | < 15 | 0 to 4 |
| Loose | 15 to 35 | 5 to 10 |
| Medium Dense | 35 to 65 | 11 to 30 |
| Dense | 65 to 85 | 31 to 50 |
| Very Dense | > 85 | > 50 |

*Estimated from sampler driving record.

**Requires correction for depth, groundwater level, and grain size.

STRENGTH OF COHESIVE SOILS

| Term | Undrained Shear Strength, ksf | Blows Per Foot (SPT) (approximate) |
|------------|-------------------------------|------------------------------------|
| Very Soft | < 0.25 | 0 to 2 |
| Soft | 0.25 to 0.50 | 2 to 4 |
| Firm | 0.50 to 1.00 | 4 to 8 |
| Stiff | 1.00 to 2.00 | 8 to 16 |
| Very Stiff | 2.00 to 4.00 | 16 to 32 |
| Hard | > 4.00 | > 32 |

SHEAR STRENGTH TEST METHOD

U - Unconfined Q = Unconsolidated - Undrained Triaxial

P = Pocket Penetrometer T = Torvane V = Miniature Vane F = Field Vane

HAND PENETROMETER CORRECTION

Our experience has shown that the hand penetrometer generally overestimates the in-situ undrained shear strength of over consolidated Pleistocene Gulf Coast clays. These strengths are partially controlled by the presence of macroscopic soil defects such as slickensides, which generally do not influence smaller scale tests like the hand penetrometer. Based on our experience, we have adjusted these field estimates of the undrained shear strength of natural, overconsolidated Pleistocene Gulf Coast soils by multiplying the measured penetrometer reading by a factor of 0.6. These adjusted strength estimates are recorded in the "Shear Strength" column on the boring logs. Except as described in the text, we have not adjusted estimates of the undrained shear strength for projects located outside of the Pleistocene Gulf Coast formations.

Information on each boring log is a compilation of subsurface conditions and soil or rock classifications obtained from the field as well as from laboratory testing of samples. Strata have been interpreted by commonly accepted procedures. The stratum lines on the logs may be transitional and approximate in nature. Water level measurements refer only to those observed at the time and places indicated, and can vary with time, geologic condition, or construction activity.