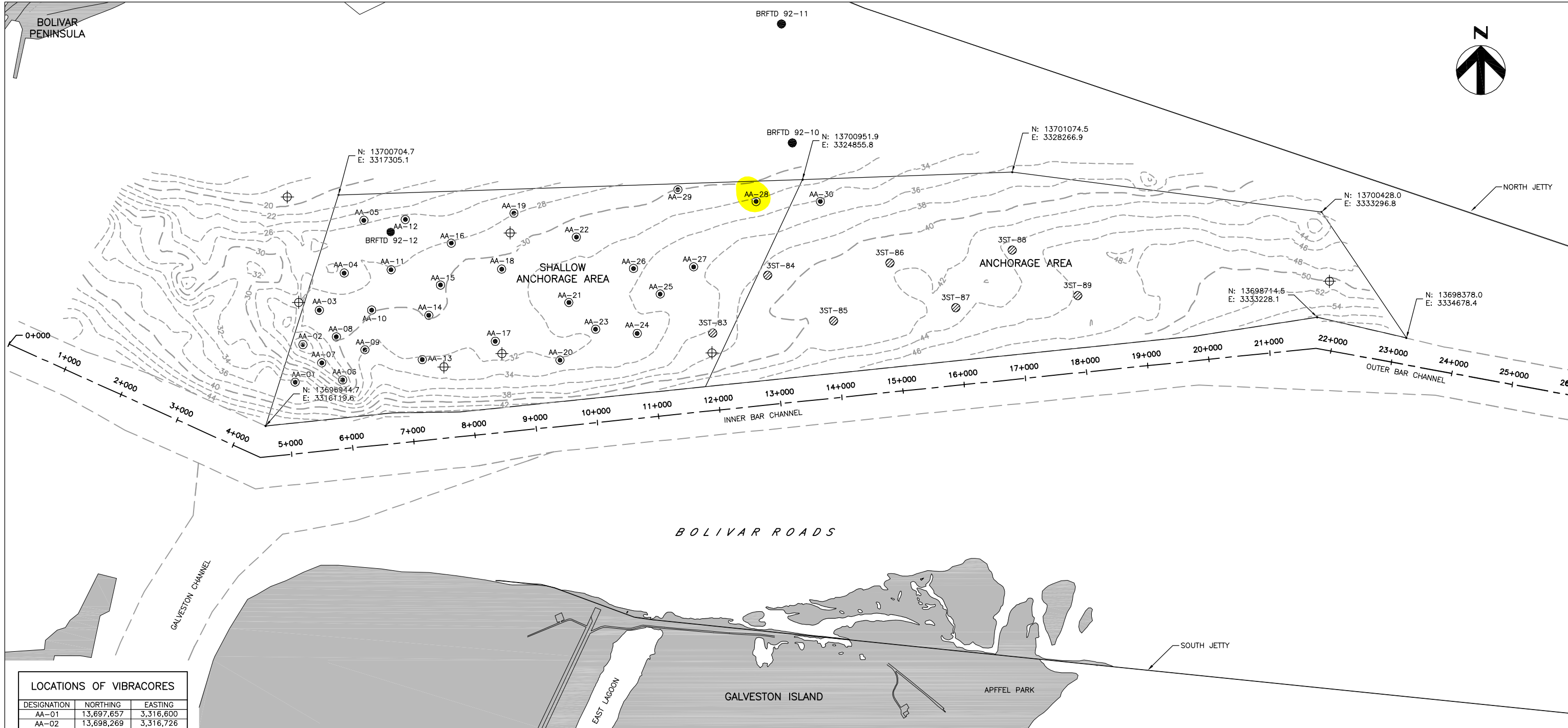
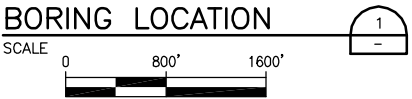




| LOCATIONS OF VIBRACORES |            |           |
|-------------------------|------------|-----------|
| DESIGNATION             | NORTHING   | EASTING   |
| AA-01                   | 13,697,657 | 3,316,600 |
| AA-02                   | 13,698,269 | 3,316,726 |
| AA-03                   | 13,698,827 | 3,316,994 |
| AA-04                   | 13,699,433 | 3,317,399 |
| AA-05                   | 13,700,291 | 3,317,718 |
| AA-06                   | 13,697,693 | 3,317,373 |
| AA-07                   | 13,697,973 | 3,317,033 |
| AA-08                   | 13,698,395 | 3,317,271 |
| AA-09                   | 13,698,185 | 3,317,736 |
| AA-10                   | 13,698,831 | 3,317,845 |
| AA-11                   | 13,699,487 | 3,318,161 |
| AA-12                   | 13,700,304 | 3,318,392 |
| AA-13                   | 13,698,024 | 3,318,669 |
| AA-14                   | 13,698,746 | 3,318,774 |
| AA-15                   | 13,699,238 | 3,318,965 |
| AA-16                   | 13,699,919 | 3,319,140 |
| AA-17                   | 13,698,323 | 3,319,857 |
| AA-18                   | 13,699,497 | 3,319,959 |
| AA-19                   | 13,700,407 | 3,320,159 |
| AA-20                   | 13,698,016 | 3,320,908 |
| AA-21                   | 13,698,954 | 3,321,053 |
| AA-22                   | 13,700,018 | 3,321,176 |
| AA-23                   | 13,698,519 | 3,321,488 |
| AA-24                   | 13,698,450 | 3,322,165 |
| AA-25                   | 13,699,092 | 3,322,539 |
| AA-26                   | 13,699,507 | 3,322,105 |
| AA-27                   | 13,699,534 | 3,323,083 |
| AA-28                   | 13,700,598 | 3,324,099 |
| AA-29                   | 13,700,790 | 3,322,827 |
| AA-30                   | 13,700,598 | 3,325,145 |

- NOTES:
- NORTHINGS AND EASTINGS ARE STATE PLANE GRID, NAD'83, TEXAS SOUTH CENTRAL ZONE IN U.S. FEET. GEOGRAPHIC COORDINATES (LAT/LONG) ARE IN NAD'83.
  - ELEVATION CONTOURS ARE IN NAVD'88 DATUM.
  - ELEVATION CONTOURS BASED ON INFORMATION PROVIDED BY THE U.S. ARMY CORPS OF ENGINEERS, GALVESTON DISTRICT. SURVEY DATE WAS OCTOBER 2008. ELEVATIONS WERE CONVERTED FROM USACE MLT TO NAVD '88 USING THE FOLLOWING CORRELATION: 0 NAVD '88 = 1.42' MLT.
  - APPROXIMATE LOCATIONS OF POTENTIAL OBSTRUCTIONS BASED ON NOAA CHART 11324. HDR DOES NOT GUARANTEE ACCURACY OR COMPLETENESS OF THESE LOCATIONS. ADDITIONAL OBSTRUCTIONS ARE LIKELY TO EXIST.

- LEGEND:
- HISTORICAL BORING LOCATIONS FROM USACE (1966)
  - VIBRACORE LOCATIONS
  - APPROXIMATE LOCATION OF POTENTIAL OBSTRUCTION (SEE NOTE 4)
  - VIBRACORE LOCATION FROM RICE UNIVERSITY



TEXAS GENERAL LAND OFFICE  
WEST GALVESTON ISLAND  
END OF SEAWALL NOURISHMENT  
EXHIBIT A – GALVESTON ANCHORAGE AREA

|        |         |
|--------|---------|
| DATE   | 4/22/09 |
| FIGURE | EX A    |

April 20, 2009  
Attn.: Mr. Daniel Heilman, P.E.  
RETL Job No.: G109112

**ANCHORAGE BASIN SAND SOURCE INVESTIGATION**

Anchorage Basin  
Galveston Island, Texas

| BORING NO. | GPS COORDINATES |               |
|------------|-----------------|---------------|
|            | Northing (Ft.)  | Easting (Ft.) |
| AA-01      | 13,697,653      | 3,316,595     |
| AA-02      | 13,698,267      | 3,316,725     |
| AA-03      | 13,698,824      | 3,316,993     |
| AA-04      | 13,699,436      | 3,317,401     |
| AA-05      | 13,700,293      | 3,317,717     |
| AA-06      | 13,697,692      | 3,317,372     |
| AA-07      | 13,697,972      | 3,317,029     |
| AA-08      | 13,698,396      | 3,317,267     |
| AA-09      | 13,698,183      | 3,317,733     |
| AA-10      | 13,698,835      | 3,317,844     |
| AA-11      | 13,699,483      | 3,318,163     |
| AA-12      | 13,700,304      | 3,318,392     |
| AA-13      | 13,698,028      | 3,318,672     |
| AA-14      | 13,698,747      | 3,318,773     |
| AA-15      | 13,699,240      | 3,318,962     |
| AA-16      | 13,699,918      | 3,319,141     |
| AA-17      | 13,698,322      | 3,319,855     |
| AA-18      | 13,699,496      | 3,319,957     |
| AA-19      | 13,700,406      | 3,320,164     |
| AA-20      | 13,698,014      | 3,320,905     |
| AA-21      | 13,698,958      | 3,321,049     |
| AA-22      | 13,700,020      | 3,321,179     |
| AA-23      | 13,698,522      | 3,321,488     |
| AA-24      | 13,698,450      | 3,322,163     |
| AA-25      | 13,699,095      | 3,322,545     |
| AA-26      | 13,699,510      | 3,322,110     |
| AA-27      | 13,699,532      | 3,323,082     |
| AA-28      | 13,700,599      | 3,324,100     |
| AA-29      | 13,700,790      | 3,322,827     |
| AA-30      | 13,700,597      | 3,325,148     |

**LABORATORY TESTING PROGRAM**

In addition to the field investigation, a laboratory testing program was conducted to determine additional pertinent engineering characteristics of the subsurface materials necessary in analyzing the behavior of the subsurface soils for the proposed project.



## LOG OF BORING AA-28

SHEET 1 OF 2



Rock Engineering & Testing Lab., Inc.  
6817 Leopard St.  
Corpus Christi, TX 78409  
Telephone: (361) 883-4555  
Fax: (361) 883-4711

CLIENT: HDR Engineering, Inc.  
PROJECT: Anchorage Basin Sand Source Investigation  
LOCATION: Anchorage Basin; Galveston, Texas  
NUMBER: G109112

DATE(S) DRILLED: 03/10/09 - 03/10/09

| FIELD DATA                                                                                                                               |                       | LABORATORY DATA |         |                                                                                                |                      |                  |    |    |                                                                        | GROUNDWATER INFORMATION: |                                                                                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------|---------|------------------------------------------------------------------------------------------------|----------------------|------------------|----|----|------------------------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SOIL SYMBOL                                                                                                                              | Elevation, Ft. [NAVD] | SAMPLE NUMBER   | SAMPLES | N: BLOWS/FT<br>P: TONS/SQ FT<br>T: TONS/SQ FT<br>PERCENT RECOVERY/<br>ROCK QUALITY DESIGNATION | MOISTURE CONTENT (%) | ATTERBERG LIMITS |    |    | DRY DENSITY<br>POUNDS/CU FT<br>COMPRESSIVE<br>STRENGTH<br>(TONS/SQ FT) | MINUS NO. 200 SIEVE (%)  | SURFACE ELEVATION: -32' NAVD                                                                                                                                                            |
|                                                                                                                                          |                       |                 |         |                                                                                                |                      | LL               | PL | PI |                                                                        |                          |                                                                                                                                                                                         |
| DESCRIPTION OF STRATUM                                                                                                                   |                       |                 |         |                                                                                                |                      |                  |    |    |                                                                        |                          |                                                                                                                                                                                         |
|                                                                                                                                          | 19                    |                 |         |                                                                                                |                      |                  |    |    |                                                                        |                          |                                                                                                                                                                                         |
|                                                                                                                                          | 20                    |                 |         |                                                                                                |                      |                  |    |    |                                                                        |                          |                                                                                                                                                                                         |
|                                                                                                                                          | 21                    |                 |         |                                                                                                |                      |                  |    |    |                                                                        |                          |                                                                                                                                                                                         |
|                                                                                                                                          | 22                    |                 |         |                                                                                                |                      |                  |    |    |                                                                        |                          |                                                                                                                                                                                         |
|                                                                                                                                          | 23                    |                 |         |                                                                                                |                      |                  |    |    |                                                                        |                          |                                                                                                                                                                                         |
|                                                                                                                                          | 24                    |                 |         |                                                                                                |                      |                  |    |    |                                                                        |                          |                                                                                                                                                                                         |
|                                                                                                                                          | 25                    |                 |         |                                                                                                |                      |                  |    |    |                                                                        |                          |                                                                                                                                                                                         |
|                                                                                                                                          | 26                    |                 |         |                                                                                                |                      |                  |    |    |                                                                        |                          |                                                                                                                                                                                         |
|                                                                                                                                          | 27                    |                 |         |                                                                                                |                      |                  |    |    |                                                                        |                          |                                                                                                                                                                                         |
|                                                                                                                                          | 28                    |                 |         |                                                                                                |                      |                  |    |    |                                                                        |                          |                                                                                                                                                                                         |
|                                                                                                                                          | 29                    |                 |         |                                                                                                |                      |                  |    |    |                                                                        |                          |                                                                                                                                                                                         |
|                                                                                                                                          | 30                    |                 |         |                                                                                                |                      |                  |    |    |                                                                        |                          |                                                                                                                                                                                         |
|                                                                                                                                          | 31                    |                 |         |                                                                                                |                      |                  |    |    |                                                                        |                          |                                                                                                                                                                                         |
|                                                                                                                                          | 32                    | S-1             |         |                                                                                                |                      |                  |    |    |                                                                        |                          | <b>POORLY GRADED SAND</b> , with shell fragments, light brown.                                                                                                                          |
|                                                                                                                                          | 33                    | S-2             |         |                                                                                                |                      |                  |    |    |                                                                        |                          | <b>SANDY CLAY</b> , dark gray.                                                                                                                                                          |
|                                                                                                                                          | 34                    | S-3             |         |                                                                                                |                      |                  |    |    |                                                                        |                          | Same as above.                                                                                                                                                                          |
|                                                                                                                                          | 35                    | S-4             |         |                                                                                                |                      |                  |    |    |                                                                        |                          | Same as above.                                                                                                                                                                          |
|                                                                                                                                          | 36                    |                 |         |                                                                                                |                      |                  |    |    |                                                                        |                          |                                                                                                                                                                                         |
| <b>N - STANDARD PENETRATION TEST RESISTANCE</b><br><b>P - POCKET PENETROMETER RESISTANCE</b><br><b>T - POCKET TORVANE SHEAR STRENGTH</b> |                       |                 |         |                                                                                                |                      |                  |    |    |                                                                        |                          | <b>REMARKS:</b><br>Boring depth and location was determined by HDR Engineering, Inc. Boring operations were performed by Ocean Surveys, Inc.<br>GPS Coord. N. 13,700,599' E. 3,324,100' |

LOG OF BORING G109112 PROP. ANCHORAGE BASIN SAND SOURCE GPJ ROCK ETL GDT 4/28/09

## LOG OF BORING AA-28

SHEET 2 OF 2



Rock Engineering & Testing Lab., Inc.  
 6817 Leopard St.  
 Corpus Christi, TX 78409  
 Telephone: (361) 883-4555  
 Fax: (361) 883-4711

CLIENT: HDR Engineering, Inc.  
 PROJECT: Anchorage Basin Sand Source Investigation  
 LOCATION: Anchorage Basin; Galveston, Texas  
 NUMBER: G109112

DATE(S) DRILLED: 03/10/09 - 03/10/09

| FIELD DATA                                                                                                          |                       |               |         |                                                                                                |                      |                  |               |                  |                             | LABORATORY DATA                         |                         |                                                                                                                                                                                  |                                                                                                                                                                                                                |  | DRILLING METHOD(S): |
|---------------------------------------------------------------------------------------------------------------------|-----------------------|---------------|---------|------------------------------------------------------------------------------------------------|----------------------|------------------|---------------|------------------|-----------------------------|-----------------------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------|
| SOIL SYMBOL                                                                                                         | Elevation, Ft. [NAVD] | SAMPLE NUMBER | SAMPLES | N: BLOWS/FT<br>P: TONS/SQ FT<br>T: TONS/SQ FT<br>PERCENT RECOVERY/<br>ROCK QUALITY DESIGNATION | MOISTURE CONTENT (%) | ATTERBERG LIMITS |               |                  | DRY DENSITY<br>POUNDS/CU.FT | COMPRESSIVE<br>STRENGTH<br>(TONS/SQ FT) | MINUS NO. 200 SIEVE (%) |                                                                                                                                                                                  |                                                                                                                                                                                                                |  |                     |
|                                                                                                                     |                       |               |         |                                                                                                |                      | LIQUID LIMIT     | PLASTIC LIMIT | PLASTICITY INDEX |                             |                                         |                         |                                                                                                                                                                                  |                                                                                                                                                                                                                |  |                     |
|                                                                                                                     |                       |               |         |                                                                                                |                      | LL               | PL            | PI               |                             |                                         |                         |                                                                                                                                                                                  |                                                                                                                                                                                                                |  |                     |
|                                                                                                                     | 37                    | S-5           |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         |                                                                                                                                                                                  | GROUNDWATER INFORMATION:<br><br>SURFACE ELEVATION: -32' NAVD<br><br>DESCRIPTION OF STRATUM<br><u>SANDY CLAY</u> , dark gray.<br><br>Same as above.<br><br>Same as above.<br><br><u>SANDY CLAY</u> , dark gray. |  |                     |
|                                                                                                                     | 38                    | S-6           |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         |                                                                                                                                                                                  |                                                                                                                                                                                                                |  |                     |
|                                                                                                                     | 39                    | S-7           |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         |                                                                                                                                                                                  |                                                                                                                                                                                                                |  |                     |
|                                                                                                                     | 40                    | S-8           |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         |                                                                                                                                                                                  |                                                                                                                                                                                                                |  |                     |
|                                                                                                                     |                       |               |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         |                                                                                                                                                                                  | Boring was extended to an elevation of -40-feet NAVD during the drilling operations.                                                                                                                           |  |                     |
| N - STANDARD PENETRATION TEST RESISTANCE<br>P - POCKET PENETROMETER RESISTANCE<br>T - POCKET TORVANE SHEAR STRENGTH |                       |               |         |                                                                                                |                      |                  |               |                  |                             |                                         |                         | REMARKS:<br>Boring depth and location was determined by HDR Engineering, Inc. Boring operations were performed by Ocean Surveys, Inc.<br>GPS Coord. N. 13,700,599' E. 3,324,100' |                                                                                                                                                                                                                |  |                     |