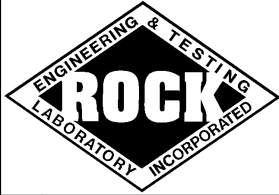


LOG OF BORING B-1

SHEET 1 of 2



Rock Engineering & Testing Lab, Inc.
10856 Vandale Street
San Antonio, Texas 78216
Telephone: (210) 495-8000
Fax: (210) 495-8015

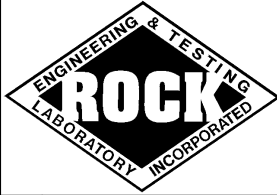
CLIENT: Kimley-Horn and Associates, Inc.
PROJECT: Sea World Ground Storage Tank
LOCATION: 10349 Military Drive; San Antonio, Texas
NUMBER: 220634

DATE(S) DRILLED: 11/10/2020

| FIELD DATA | | | | LABORATORY DATA | | | | | | | DRILLING METHOD(S): Ai Rotary/Rock Coring | |
|--|------------|---------------|---------------------|---|----------------------|------------------|---------------|------------------|-----------------------------|---|--|--|
| SOIL SYMBOL | DEPTH (FT) | SAMPLE NUMBER | SAMPLES | N: BLOWS/FT P: TONS/SQ FT T: TONS/SQ FT Qc: TONS/SQ FT | MOISTURE CONTENT (%) | ATTERBERG LIMITS | | | DRY DENSITY POUNDS/CU.FT | COMPRESSIVE STRENGTH (TONS/SQ.FT) | MINUS NO. 200 SIEVE (%) | GROUNDWATER INFORMATION: Groundwater was not encountered during drilling, nor observed upon the completion of the drilling. |
| | | | | | | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX | | | | |
| | | | | | | LL | PL | PI | | | | |
| SURFACE ELEVATION: N/A | | | | | | | | | | | | DESCRIPTION OF STRATUM |
| | | | | | | | | | | | | |
| | 5 | SPT S-1 | N= 10 | 6 | | | | | | | | SANDY LEAN CLAY , dark brown, dry, stiff. |
| | | SPT S-2 | N= 44 | 9 | 33 | 20 | 13 | | | | 90 | MARLY LEAN CLAY , light brown, dry, hard. (CL) |
| | | SPT S-3 | N= 47 | 6 | | | | | | | | Same as above. |
| | | SPT S-4 | N= 38 | 12 | 40 | 15 | 25 | | | | 93 | Same as above, moist. (CL) |
| | 10 | SPT S-5 | N= 37 | 12 | | | | | | | | MARLY LEAN CLAY , light brown, moist, hard. |
| | 15 | SPT S-6 | N= 19 | 23 | 59 | 15 | 44 | | | | 99 | FAT CLAY , light brown, moist, very stiff. (CH) |
| | 20 | SPT S-7 | N= 37-50/5" | 12 | | | | | | | | MARLY LEAN CLAY , light brown, moist, very hard. |
| | 25 | CORE S-8 | REC=83% RQD=58% | | | | | | | | | LIMESTONE , light brown, fairly continuous, fair quality. |
| | | CORE S-9 | REC=98% RQD=70% | | | | | 126 | 113.2 | | | Same as above, continuous. |
| | 30 | CORE S-10 | REC=98% RQD=70% | | | | | 130 | 108.9 | | | Same as above, with verticle fractures. |
| | 35 | CORE S-11 | REC=100% RQD=92% | | | | | 132 | 72.4 | | | LIMESTONE , light brown, continuous, excellent quality. |
| | 40 | CORE S-12 | REC=100% RQD=48% | | | | | 130 | 164.6 | | | Same as above, poor quality. |
| | 45 | CORE S-13 | REC=93% RQD=38% | | | | | 129 | 174.8 | | | Same as above, with clay seams. |
| | 50 | CORE S-14 | REC=98% RQD=73% | | | | | 121 | 28.7 | | | LIMESTONE , with clay seams, light brown, continuous, fair quality. |
| 55 | | | | | | | | | | | | |
| N - STANDARD PENETRATION TEST RESISTANCE Qc - STATIC CONE PENETROMETER TEST INDEX P - POCKET PENETROMETER RESISTANCE | | | | | | | | | | | | REMARKS: Boring location determined by RETL. Drilling operations performed by RETL. GPS Coordinates: N 29.45017°, W -98.69689° |

LOG OF BORING B-1

SHEET 2 of 2



Rock Engineering & Testing Lab, Inc.
10856 Vandale Street
San Antonio, Texas 78216
Telephone: (210) 495-8000
Fax: (210) 495-8015

CLIENT: Kimley-Horn and Associates, Inc.
PROJECT: Sea World Ground Storage Tank
LOCATION: 10349 Military Drive; San Antonio, Texas
NUMBER: 220634

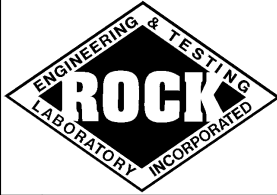
DATE(S) DRILLED: 11/10/2020

| FIELD DATA | | | | LABORATORY DATA | | | | | | | DRILLING METHOD(S): Ai Rotary/Rock Coring |
|---|------------|---------------|---------|---|----------------------|------------------|----|----|-----------------------------|---|---|
| SOIL SYMBOL | DEPTH (FT) | SAMPLE NUMBER | SAMPLES | N: BLOWS/FT P: TONS/SQ FT T: TONS/SQ FT Qc: TONS/SQ FT | MOISTURE CONTENT (%) | ATTERBERG LIMITS | | | DRY DENSITY POUNDS/CU.FT | COMPRESSIVE STRENGTH (TONS/SQ FT) | |
| | | | | | | LL | PL | PI | | | |
| | 60 | CORE S-15 | | REC=98% RQD=45% | | | | | 138 | 220.6 | GROUNDWATER INFORMATION: Groundwater was not encountered during drilling, nor observed upon the completion of the drilling. DESCRIPTION OF STRATUM Same as above, sans clay seams, white and light brown, with fractures, poor quality. Same as above, with fossils, fair quality. <u>LIMESTONE</u> , white and light brown, with fossils, continuous, poor quality. Same as above, sans fossils, fair quality. Same as above. |
| | 65 | CORE S-16 | | REC=100% RQD=65% | | | | | 139 | 243.6 | |
| | 70 | CORE S-17 | | REC=95% RQD=45% | | | | | 133 | 74.3 | |
| | 75 | CORE S-18 | | REC=97% RQD=52% | | | | | 133 | 167.6 | |
| | 80 | CORE S-19 | | REC=95% RQD=58% | | | | | 128 | 152.7 | |
| | | | | | | | | | | | Boring terminated at a depth of 80-feet. |
| REMARKS: Boring location determined by RETL. Drilling operations performed by RETL. GPS Coordinates: N 29.45017°, W -98.69689° | | | | | | | | | | | |

N - STANDARD PENETRATION TEST RESISTANCE
Qc - STATIC CONE PENETROMETER TEST INDEX
P - POCKET PENETROMETER RESISTANCE

LOG OF BORING B-2


SHEET 1 of 1



Rock Engineering & Testing Lab, Inc.
10856 Vandale Street
San Antonio, Texas 78216
Telephone: (210) 495-8000
Fax: (210) 495-8015

CLIENT: Kimley-Horn and Associates, Inc.
PROJECT: Sea World Ground Storage Tank
LOCATION: 10349 Military Drive; San Antonio, Texas
NUMBER: 220634

DATE(S) DRILLED: 11/11/2020

| FIELD DATA | | | | LABORATORY DATA | | | | | | | DRILLING METHOD(S): | |
|--|------------|---------------|-------------|---|----------------------|------------------|---------------|------------------|-----------------------------|---|-------------------------|--|
| SOIL SYMBOL | DEPTH (FT) | SAMPLE NUMBER | SAMPLES | N: BLOWS/FT P: TONS/SQ FT T: TONS/SQ FT Qc: TONS/SQ FT | MOISTURE CONTENT (%) | ATTERBERG LIMITS | | | DRY DENSITY POUNDS/CU.FT | COMPRESSIVE STRENGTH (TONS/SQ FT) | MINUS NO. 200 SIEVE (%) | Air Rotary |
| | | | | | | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX | | | | GROUNDWATER INFORMATION: Groundwater was not encountered during drilling, nor observed upon the completion of the drilling. |
| | | | | | | | | | | | | |
| DESCRIPTION OF STRATUM | | | | | | | | | | | | |
|  | 5 | SPT S-1 | N= 20 | 7 | 40 | 28 | 12 | | | | 69 | SANDY SILT , dark brown, dry, very stiff. (ML) |
| | | SPT S-2 | N= 21 | 6 | | | | | | | | CHALK , white, dry, very stiff. |
| | | SPT S-3 | N= 23 | 13 | | | | | | | | MARLY LEAN CLAY , light brown, moist, very stiff. |
| | | SPT S-4 | N= 33-50/3" | 14 | 41 | 15 | 26 | | | | 98 | Same as above, very hard. (CL) |
| | 10 | SPT S-5 | N= 35 | 14 | | | | | | | | Same as above, hard. |
| | 15 | SH S-6 | P= 3.5 | 20 | | | | | 104 | 2.8 | | FAT CLAY , light brown, moist, very stiff. |
| | 20 | SPT S-7 | N= 38-50/3" | 12 | | | | | | | | MARLY LEAN CLAY , light brown, moist, very hard. |
| | 25 | SPT S-8 | N= 50/4" | 10 | | | | | | | | LIMESTONE , light brown, dry, very hard. |
| | 30 | SPT S-9 | N= 50/0" | 10 | | | | | | | | Same as above. |
| | 35 | SPT S-10 | N= 50/1" | 8 | | | | | | | | Same as above, dry. |
| | 40 | SPT S-11 | N= 50/0" | 8 | | | | | | | | LIMESTONE , light brown, dry, hard. |
| | 45 | SPT S-12 | N= 50/0" | 7 | | | | | | | | Same as above. |
| | 50 | SPT S-13 | N= 62 | 20 | | | | | | | | FAT CLAY , light brown, moist, hard. |
| Boring terminated at a depth of 50-feet. | | | | | | | | | | | | |
| REMARKS: Boring location determined by RETL. Drilling operations performed by RETL. GPS Coordinates: N 29.45036°, W -98.69679° | | | | | | | | | | | | |
| N - STANDARD PENETRATION TEST RESISTANCE Qc - STATIC CONE PENETROMETER TEST INDEX P - POCKET PENETROMETER RESISTANCE | | | | | | | | | | | | |

SHEET 1 of 1

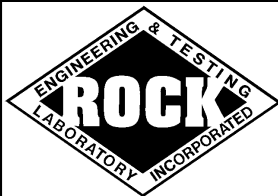


| | |
|-----------|--|
| CLIENT: | Kimley-Horn and Associates, Inc. |
| PROJECT: | Sea World Ground Storage Tank |
| LOCATION: | 10349 Military Drive; San Antonio, Texas |
| NUMBER: | 220634 |

DATE(S) DRILLED: 11/12/2020

OG OF BORING 220634 LOGS.GPJ ROCK ETI GDT 3/9/21

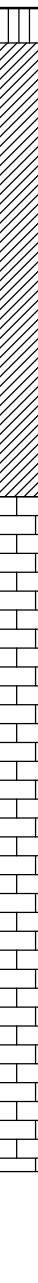
SHEET 1 of 1



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| | |
|-----------|--|
| CLIENT: | Kimley-Horn and Associates, Inc. |
| PROJECT: | Sea World Ground Storage Tank |
| LOCATION: | 10349 Military Drive; San Antonio, Texas |
| NUMBER: | 220634 |

DATE(S) DRILLED: 11/11/2020

| FIELD DATA | | | | | LABORATORY DATA | | | | | | DRILLING METHOD(S): | | |
|--|------------|---------------|-------------|---|----------------------|--------------------|---------------------|------------------------|-----------------------------|---|--|--|--|
| SOIL SYMBOL | DEPTH (FT) | SAMPLE NUMBER | SAMPLES | N: BLOWS/FT P: TONS/SQ FT T: TONS/SQ FT Qc: TONS/SQ FT | MOISTURE CONTENT (%) | ATTERBERG LIMITS | | | DRY DENSITY POUNDS/CU.FT | COMPRESSIVE STRENGTH (TONS/SQ FT) | MINUS NO. 200 SIEVE (%) | GROUNDWATER INFORMATION: | |
| | | | | | | LIQUID LIMIT LL | PLASTIC LIMIT PL | PLASTICITY INDEX PI | | | | SURFACE ELEVATION: N/A | |
| | | | | | | | | | | | | DESCRIPTION OF STRATUM | |
|  | 5 | SPT S-1 | N= 9 | 5 | 39 | 30 | 9 | | | 57 | SANDY SILT , dark brown, dry, stiff. (ML) | | |
| | 10 | SPT S-2 | N= 33 | 7 | | | | | | 96 | MARLY LEAN CLAY , pale brown, dry, hard. | | |
| | | SPT S-3 | N= 47 | 9 | | | | | | | Same as above, light brown. | | |
| | | SPT S-4 | N= 29 | 11 | | | | | | | Same as above, moist, very stiff. | | |
| | | SPT S-5 | N= 25 | 12 | | | | | | | MARLY LEAN CLAY , light brown, moist, very stiff. | | |
| | | SPT S-6 | N= 14-50/5" | 12 | | | | | | | Same as above, very hard. | | |
| | 20 | SPT S-7 | N= 37-50/4" | 11 | 34 | 14 | 20 | | | 88 | Same as above. (CL) | | |
| | 25 | SPT S-8 | N= 50/0" | 9 | | | | | | | LIMESTONE , light brown, dry, very hard. | | |
| | 30 | SPT S-9 | N= 50/3" | 8 | | | | | | | Same as above. | | |
| | 35 | SPT S-10 | N= 50/1" | 7 | | | | | | | Same as above. | | |
| | 40 | SPT S-11 | N= 50/2" | 8 | | | | | | | LIMESTONE , light brown, dry, very hard. | | |
| | 45 | SPT S-12 | N= 50/0" | 10 | | | | | | | Same as above. | | |
| | 50 | SPT S-13 | N= 50/3" | 13 | | | | | | | Same as above. | | |
| | | | | | | | | | | | | Boring terminated at a depth of 50-feet. | |
| N - STANDARD PENETRATION TEST RESISTANCE Qc - STATIC CONE PENETROMETER TEST INDEX P - POCKET PENETROMETER RESISTANCE | | | | | | | | | | | | REMARKS: Boring location determined by RETL. Drilling operations performed by RETL. GPS Coordinates: N 29.45006°, W -98.69658° | |

LOG OF BORING 220634 LOGS.GPJ ROCK ETLGDT 3/9/21