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GEOTECHNICAL ✶ MATERIALS ✶ ENVIRONMENTAL ✶ DRILLING ✶ LANDFILLS

June 3, 2024

Mike Schovanec
High Performance Homes
15910 Cedar Bay
Bullard, Texas 75757

SUBJECT: Anderson Residence
Bullard, TX
Geotechnical Sampling and Testing
ETTL Job No. G 6271-24

Dear Mr. Schovanec:

In the enclosed attachments, please find the boring logs with laboratory test results for the above-referenced project site. Three (3) boring locations were drilled to a depth of 35, 25, and 15 feet below the existing grade on May 7, 2024, at a location depicted on the Plan of Borings, directed by the client. Included on the boring log (if applicable) are field data such as groundwater readings, standard penetration test values, pocket pentameter readings, laboratory test results for Atterberg plasticity index, percent passing No. 200 sieve, and moisture content.

Per our proposal dated December 21, 2023, this letter does not include engineering recommendations and only summarizes the proposed contract drilling and laboratory testing. No warranties are expressed or implied regarding the suitability of the site for residential construction or whether or not the reported data represents all the conditions of the site.

If you have any questions concerning this letter, please contact us. Thank you for the opportunity to be of service.

Sincerely,
ETTL Engineers & Consultants Inc.

Cameron S. Bradbury
Project Manger

Distribution: (PDF) Mike Schovanec – build4you@gmail.com

ATTACHMENTS

Plan of Borings
Boring Logs
Boring Log Key
Test Report Sheets

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ANDERSON HOME
BULLARD, TEXAS

PLATE I - PLAN OF BORINGS

JOB NO.: G6271-24

DATE: MAY 2024 | **SCALE: AS SHOWN**

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LOG OF BORING B-1

PROJECT: Anderson Home
Bullard, Texas

PROJECT NO.: G6271-24

DRILL RIG: Track

BORING TYPE: Hollow Stem Auger

DATE 5/7/24

SURFACE ELEVATION 436.0

MAIN OFFICE
1717 East Erwin
Tyler, Texas 75702
(903) 595-4421

DEPTH (ft)	SAMPLES	USC	GEOLOGIC UNIT	WATER LEVEL	MATERIAL DESCRIPTION	FIELD STRENGTH DATA	DRY DENSITY (pcf)	COMPRESSIVE STRENGTH (tsf)	MOISTURE CONTENT (%)	MOISTURE CONTENT (%)	ATTERBERG LIMITS(%) LL	PL	PI	SIEVE ANALYSIS MINUS #200 SIEVE (%)	PLUS #40 SIEVE (%)	PLUS #4 SIEVE (%)	SWELL TEST DRY DENSITY (pcf)	FREE SWELL (%)	ZERO SWELL PRESSURE (ksf)	MOISTURE CONTENT (%)
0		SM			SILTY SAND(SM) loose; dark brown; moist; with organics and roots															
		SC			CLAYEY SAND(SC) medium dense; reddish brown, tan, brown and orangish brown; slightly moist	N=12				16	53	14	39	47	10	4				
5					--dense	P=3.75														
		CL			LEAN CLAY WITH SAND(CL) very stiff; gray and orangish brown; slightly moist	P=3.25				19	41	17	24	77	0	0				
10																				
					--stiff; gray and orangish brown with reddish brown; moist; with silty sand partings	P=2.25														
15			Es																	
					--hard	N=33														
20																				
		CL			SANDY LEAN CLAY(CL) medium stiff; light gray with orangish brown; slightly moist; with clay and silty sand partings	P=2.0				20	35	22	13	63	0	0				
25																				
					--hard; moist; with silt partings	N=36														

BLOW COUNT 20 40 60 80 ● | Qu (tsf) ▲ 1 2 3 4 | PPR (tsf) ■ 1.0 2.0 3.0 4.0 | Torvane (tsf) ◆ 1.0 2.0 3.0 4.0

COMPRESSIVE STRENGTH

Natural Moisture Content and Atterberg Limits — Plastic Limit | Moisture Content | Liquid Limit — 20 40 60 80

Water Level Est.: ▽ Measured: ▼ Perched: ▼

Water Observations: Seepage @ 30' while drilling. Water level @ 28' and caved to 30' upon completion.

Key to Abbrevations:
N - SPT Data (Blows/Ft)
P - Pocket Penetrometer (tsf)
T - Torvane (tsf)
L - Lab Vane Shear (tsf)

Notes:

GPS Coordinates: N32.125436°, W95.438326°

Driller: Alex Shephardson

Logger: Cameron Bradbury

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LOG OF BORING B-1 (cont.)

PROJECT: Anderson Home
Bullard, Texas

PROJECT NO.: G6271-24

DRILL RIG: Track

BORING TYPE: Hollow Stem Auger

DATE 5/7/24

SURFACE ELEVATION 436.0

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DEPTH (ft)	SAMPLES	USC	GEOLOGIC UNIT	WATER LEVEL	MATERIAL DESCRIPTION	FIELD STRENGTH DATA	BLOW COUNT / Qu (tsf) / PPR (tsf) / Torvane (tsf)	DRY DENSITY (pcf)	COMPRESSIVE STRENGTH (tsf)	MOISTURE CONTENT (%)	Natural Moisture Content and Atterberg Limits	MOISTURE CONTENT (%)	ATTERBERG LIMITS(%) LL	PL	PI	SIEVE ANALYSIS MINUS #200 SIEVE (%)	PLUS #40 SIEVE (%)	PLUS #4 SIEVE (%)	SWELL TEST DRY DENSITY (pcf)	FREE SWELL (%)	ZERO SWELL PRESSURE (ksf)	MOISTURE CONTENT (%)
30			Es		--light gray with orangish brown; saturated; with silt partings	N=40																
35					Bottom of Boring @ 35'																	

BLOW COUNT: 20 40 60 80
Qu (tsf): 1 2 3 4
PPR (tsf): 1.0 2.0 3.0 4.0
Torvane (tsf): 1.0 2.0 3.0 4.0
Plastic Limit / Moisture Content / Liquid Limit: 20 40 60 80

Water Level Est.: ▽ Measured: ▼ Perched: ▼

Water Observations: Seepage @ 30' while drilling. Water level @ 28' and caved to 30' upon completion.

Key to Abbrevations:
N - SPT Data (Blows/Ft)
P - Pocket Penetrometer (tsf)
T - Torvane (tsf)
L - Lab Vane Shear (tsf)

Notes:

GPS Coordinates: N32.125436°, W95.438326°

Driller: Alex Shephardson

Logger: Cameron Bradbury

LOG OF BORING B-2

PROJECT: Anderson Home
Bullard, Texas

PROJECT NO.: G6271-24

DRILL RIG: Track

BORING TYPE: Hollow Stem Auger

DATE 5/7/24

SURFACE ELEVATION 431.5

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Tyler, Texas 75702
(903) 595-4421

MATERIAL DESCRIPTION

DEPTH (ft)	SAMPLES	USC	GEOLOGIC UNIT	WATER LEVEL	MATERIAL DESCRIPTION	FIELD STRENGTH DATA	DRY DENSITY (pcf)	COMPRESSIVE STRENGTH (tsf)	MOISTURE CONTENT (%)	MOISTURE CONTENT (%)	ATTERBERG LIMITS(%) LL	PL	PI	SIEVE ANALYSIS MINUS #200 SIEVE (%)	PLUS #40 SIEVE (%)	PLUS #4 SIEVE (%)	SWELL TEST DRY DENSITY (pcf)	FREE SWELL (%)	ZERO SWELL PRESSURE (ksf)	MOISTURE CONTENT (%)
0		SM			SILTY SAND(SM) brown; moist; with organics	N=5														
		CL			SANDY LEAN CLAY(CL) medium stiff; reddish brown, light gray and brown; slightly moist	N=16														
5			Es		--very stiff	P=4.25				19	43	15	28	55	1	0				
					--hard; partially mottled; with minor iron ore partings															
		SM			SILTY SAND(SM) medium dense; orangish brown and brown; dry; with minor clayey sand seams	N=22														
10					--moist; with minor clay partings					24				56	1	0				
15					Bottom of Boring @ 15'															

BLOW COUNT 20 40 60 80
Qu (tsf) 1 2 3 4
PPR (tsf) 1.0 2.0 3.0 4.0
Torvane (tsf) 1.0 2.0 3.0 4.0

COMPRESSIVE STRENGTH

Natural Moisture Content and Atterberg Limits
Plastic Limit — Moisture Content — Liquid Limit
20 40 60 80

Water Level Est.: ▽ Measured: ▼ Perched: ⧩

Water Observations: Seepage @ 2' while drilling. Water level @ 11' and caved to 11' upon completion.

Key to Abbrevations:
N - SPT Data (Blows/Ft)
P - Pocket Penetrometer (tsf)
T - Torvane (tsf)
L - Lab Vane Shear (tsf)

Notes:

GPS Coordinates: N32.125360°, W95.438278°

Driller: Alex Shephardson

Logger: Cameron Bradbury

LOG OF BORING B-3

PROJECT: Anderson Home
Bullard, Texas

PROJECT NO.: G6271-24

DRILL RIG: Track

BORING TYPE: Hollow Stem Auger

DATE 5/7/24

SURFACE ELEVATION 430.0

ETTL Engineers & Consultants

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MATERIAL DESCRIPTION

DEPTH (ft)	USC	GEOLOGIC UNIT	MATERIAL DESCRIPTION	FIELD STRENGTH DATA
0	SM		SILTY SAND(SM) brown; wet; with organics	
	CH		FAT CLAY WITH SAND(CH) stiff; gray, brown and orangish brown; slightly moist	N=10
5			--very stiff; with silty sand and ferric partings	P=3.5
	SM		SILTY SAND(SM) dense; orangish brown; slightly moist	N=36
10		Es		
	CL		LEAN CLAY WITH SAND(CL) medium stiff; light gray, tan and orangish brown; moist; with fine-grained silty sand partings	P=1.5
15			--hard	N=34
20				N=38
25			Bottom of Boring @ 25'	

BLOW COUNT: 20 40 60 80
Qu (tsf): 1 2 3 4
PPR (tsf): 1.0 2.0 3.0 4.0
Torvane (tsf): 1.0 2.0 3.0 4.0

Natural Moisture Content and Atterberg Limits: Plastic Limit | Moisture Content | Liquid Limit; 20 40 60 80

	COMPRESSIVE STRENGTH			MOISTURE CONTENT (%)	ATTERBERG LIMITS(%)			SIEVE ANALYSIS			SWELL TEST			
	DRY DENSITY (pcf)	COMPRESSIVE STRENGTH (tsf)	MOISTURE CONTENT (%)		LIQUID LIMIT LL	PLASTIC LIMIT PL	PLASTICITY INDEX PI	MINUS #200 SIEVE (%)	PLUS #40 SIEVE (%)	PLUS #4 SIEVE (%)	DRY DENSITY (pcf)	FREE SWELL (%)	ZERO SWELL PRESSURE (ksf)	MOISTURE CONTENT (%)
				22	63	17	46	79	0	0				
				20				22	2	0				
				20	41	15	26	71	0	0				

Water Level Est.: ▽ Measured: ▼ Perched: ▼

Water Observations: Seepage @ 20' while drilling. Water level @ 6' and caved to 15' upon completion.

Key to Abbrevations:
N - SPT Data (Blows/Ft)
P - Pocket Penetrometer (tsf)
T - Torvane (tsf)
L - Lab Vane Shear (tsf)

Notes:

GPS Coordinates: N32.125301°, W95.438171°

Driller: Alex Shephardson

Logger: Cameron Bradbury

Boring Log Descriptive Terminology

Key to Soil Symbols and Terms

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS (MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE)	GRAVEL AND GRAVELLY SOILS (MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE)	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	Well-graded gravels, gravel sand mixtures, little or no fines.
				GP	Poorly graded gravels, gravel-sand mixtures, little or no fines.
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	Silty gravels, gravel-sand-silt mixtures.
				GC	Clayey gravels, gravel-sand-clay mixtures.
	SAND AND SANDY SOILS (MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE)	CLEAN SANDS (LITTLE OR NO FINES)		SW	Well-graded sands, gravelly sands, little or no fines.
				SP	Poorly graded sands, gravelly sands, little or no fines.
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	Silty sands, sand-silt mixtures.
				SC	Clayey sands, sand-clay mixures.
FINE GRAINED SOILS (MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE)	SILTS AND CLAYS (LIQUID LIMIT LESS THAN 50)			ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
				OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS (LIQUID LIMIT GREATER THAN 50)			MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
				CH	Inorganic clays of high plasticity, fat clays.
				OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS				PT	Peat and other highly organic soils.

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

Order of Descriptors

- Group Name
- Consistency or Relative Density
- Moisture Condition
- Color
- Particle size descriptor(s) (coarse grained soils only)
- Angularity of coarse grained soils
- Other relevant notes

Criteria For Descriptors

Consistency of Fine Grained Soils

Consistency	N-Value (uncorrected)
Very Soft	< 2
Soft	2 - 4
Medium Stiff	5 - 8
Stiff	9 - 15
Very Stiff	16 - 30
Hard	> 30

Apparent Density of Coarse Grained Soils

Relative Density	N-Value (uncorrected)
Very Loose	< 4
Loose	4 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

Moisture Condition

Dry	-Absence of moisture, dusty, dry to the touch.
Moist	-Damp, but no visible water.
Wet	-Visible free water.

Definition of Particle Size Ranges

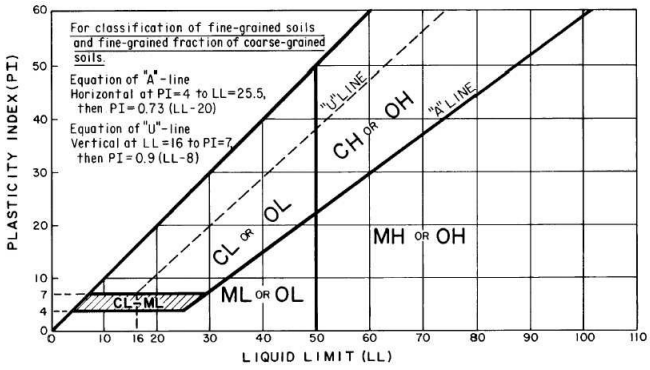
Soil Component	Size Range
Boulder	> 12 in (300 mm)
Cobble	3 in (75 mm) - 12 in (300 mm)
Gravel	No. 4 Sieve (4.75 mm) to 3 in (75 mm)
Sand	No. 200 (0.075 mm) to No. 4 Sieves (4.75 mm)
Silt	< No. 200 Sieve (0.075 mm)*
Clay	< No. 200 Sieve (0.075 mm)*

*Use Atterberg limits and chart below to differentiate between silt and clay.

Notes

SPT (Standard Penetration Test-ASTM D1586):
The number of blows of a 140 lb (63.6 kg) hammer falling 2.5 ft (750 mm) used to drive a 2 in (50 mm) O.D. Split Spoon sampler for a total of 1.5 ft (0.45 m) of penetration.
Written as follows:
first 0.5 ft (0.15 m) - second 0.5 ft (0.15 m) - third 0.5 ft (0.15 m) (ex: 1-3-9)
Note: if the number of blows exceeds 50 before 0.5 ft (0.15 m) of penetration is achieved, the actual penetration follows the number of blows in parentheses (ex: 12-24-50 (0.09 m), 34-50 (0.4 ft), or 100 (0.3 ft)).
WR denotes a zero blow count with the weight of the rods only.
WH denotes a zero blow count with the weight of the rods plus the weight of the hammer.

Soil Classifications are Based on the Unified Soil Classification System, ASTM D2487 and D2488. Also included are the AASHTO group classifications (M145). Descriptions are based on visual observation, except where they have been modified to reflect results of laboratory tests as deemed appropriate.



Angularity of Coarse-Grained Particles

Angular	-Particles have sharp edges and relative plane sides with unpolished surfaces.
Subangular	-Particles are similar to angular description, but have rounded edges.
Subrounded	-Particles have nearly plane sides, but have no edges.
Rounded	-Particles have smoothly curved sides and well-rounded corners and edges.

LABORATORY TEST DATA SUMMARY SHEET

PROJECT: Anderson Home
ETTL JOB NUMBER: G 6271-24
PROJECT LOCATION: Bullard, Texas
CLIENT: High Performance Homes
PROJECT MANAGER.: Cameron Bradbury
START DATE: 5/21/2024
FINISH DATE: 5/28/2024
TECHNICIAN(S): Hunter F
DATE SAMPLED: 5/7/2024

Boring No.	Depth (ft.) Top	Depth (ft.) Bott	Sample No.	Description of Sample	USCS Classification		Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Moisture Content (%)	(%) Passing No. 200 Sieve	(%) Retained No. 40 Sieve	(%) Retained No. 4 Sieve	Unit Weight / Compression Tests: Dry Unit Weight (pcf)	Unit Weight / Compression Tests: Moisture Content (%)	Unit Weight / Compression Tests: Compressive Strength (tsf)	Unit Weight / Compression Tests: Failure Strain (%)	Unit Weight / Compression Tests: Confining Pressure (psi)	Consol. / Swell Tests Results: Dry Unit Weight (pcf)	Consol. / Swell Tests Results: Moisture Content (%)	Consol. / Swell Tests Results: Free Swell (%)	Consol. / Swell Tests Results: Restraining Pressure (ksf)
B-1	3.0	5.0		Redd.Br, Tan, Br, Org.Br	SC	Clayey sand	53	14	39	16	47	10	4									
B-1	8.0	10.0		Gray & Org.Br	CL	Lean Clay with Sand	41	17	24	19	77	0	0									
B-1	23.0	25.0		Lt.Gray w/Org.Br	CL	Sandy Lean Clay	35	22	13	20	63	0	0									
B-2	5.0	7.0		Redd.Br, Lt.Gray & Br	CL	Sandy Lean Clay	43	15	28	19	55	1	0									
B-2	13.0	15.0		Org.Br & Br	ML	Sandy Silt	NT	NT	NT	24	56	1	0									
B-3	3.0	5.0		Gray, Br & Org.Br	CH	Fat Clay with Sand	63	17	46	22	79	0	0									
B-3	8.0	10.0		Org.Br	SM	Silty sand	NT	NT	NT	20	22	2	0									
B-3	13.0	15.0		Lt.Gray, Tan & Org.Br	CL	Lean Clay with Sand	41	15	26	20	71	0	0									

NT = Not Tested, Visual Classification
NP = Non Plastic, LL Attempted

Tyler, TX - Main Office 1717 East Erwin Street Tyler, Texas 75702 Phone: 903-595-4421

Longview, TX 903-758-0402 ✶ **Arlington, TX** 817-962-0048 ✶ **Austin, TX** 512-519-9312 ✶ **Texarkana, AR** 870-772-0013

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