Construction Materials Testing

Waterline Installation—Backfill Compaction
McCrary Tract Unit 14
San Antonio, Texas

InTEC Project No. S222064-2

December 28, 2023

Pulte Homes of Texas, LP
1718 Dry Creek Way, Suite 120
San Antonio, Texas 78259

Integrated Testing and Engineering Company of San Antonio, L.P.
12028 Radium, San Antonio, Texas 78216—Phone: (210) 525 9033—Fax: (210) 525 9032—www.InTEC-SA.com

Integrated Testing and Engineering Company of San Antonio, L.P.
Geotechnical & Environmental Engineering • Construction Services • Geologic Assessment

December 28, 2023

Pulte Homes of Texas, LP
1718 Dry Creek Way, Suite 120
San Antonio, Texas 78259

Attention: **Mr. Trey Rogers**

Re: Construction Materials Testing
Waterline Installation – Backfill Compaction
McCrary Tract Unit 14
San Antonio, Texas

InTEC Project #: S222064-2

Gentlemen:

Integrated Testing and Engineering Company of San Antonio, L.P. (InTEC) performed compaction evaluation at the above referenced project site between September 13, 2023 and September 22, 2023.

Field density tests were performed on an "on call" basis by the contractor. Full time observation of fill placement was not performed. The Laboratory Compaction and Field Density Tests results at the above referenced project site are presented for your review.

We appreciate and wish to thank you for the opportunity to be of service to you on this project. If we can be of additional assistance, or if you have any questions, please call us.

Sincerely,
InTEC of San Antonio

Murali Subramaniam, Ph. D., P.E.
Vice President

STATE OF TEXAS
MURALI SUBRAMANIAM
102417
LICENSED
PROFESSIONAL ENGINEER
InTEC of SAN ANTONIO
F-7623

12/29/2023

Moisture Density Relationship

06/28/2023

InTEC of San Antonio
12028 Radium
San Antonio, TX 78216
Phone: 210-525-9033

Client:

Pulte Homes of Texas, LP
1718 Dry Creek Way Suite 120
San Antonio, TX 78259

Project:

S222064
McCrary Unit 14
29.543449, -98.739618
San Antonio, TX

SAMPLE DATA

Sample Number: 23111

Sample Date: 06/23/2023

Technician: Olson, James

Material Use: Utility Backfill

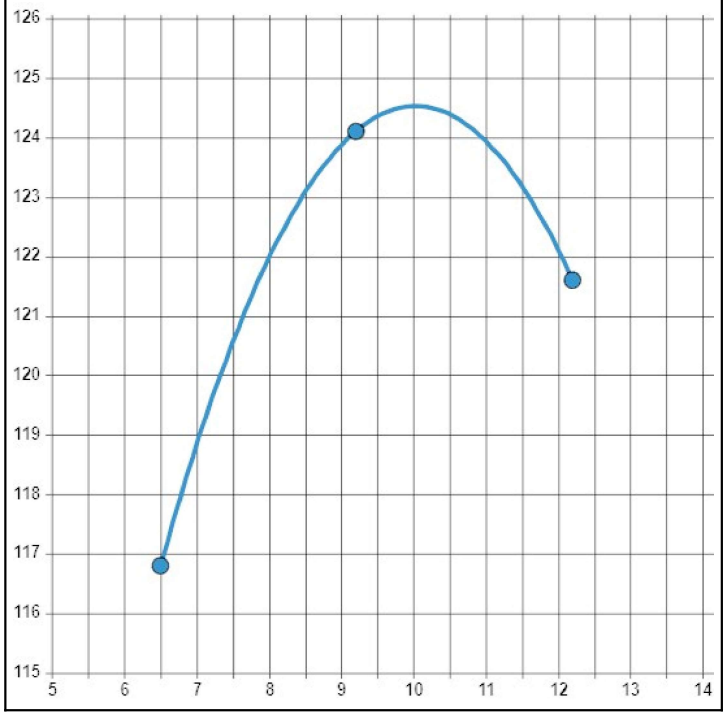
Sample Location: On site backfill

Material Description: Brown Gravelly Clay

LAB DATA

Test Method: Tex 113E

Proctor Curve:



Maximum Dry Density (pcf): 124.5

Optimum Moisture (%): 10.0

Soil Classification: GC Gravelly Clay

Test Completed Date: 06/27/2023

Test Completed By: Agare, Ovie

Moisture Density Relationship

06/28/2023

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Project:

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SAMPLE DATA

Sample Number: 23112

Sample Date: 06/23/2023

Technician: Olson, James

Material Use: Utility Backfill

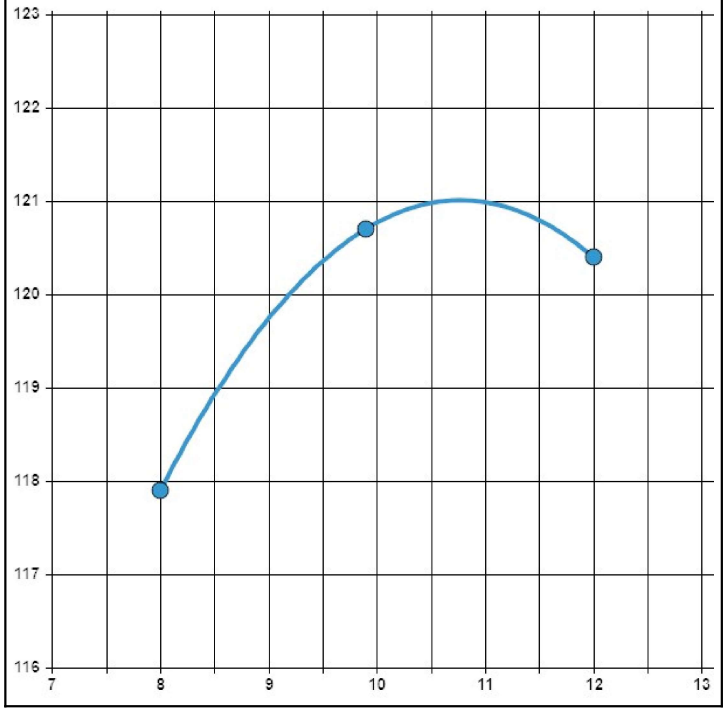
Sample Location: On site backfill

Material Description: Tan to Brown Gravelly Clay

LAB DATA

Test Method: Tex 113E

Proctor Curve:



Maximum Dry Density (pcf): 121.0

Optimum Moisture (%): 10.8

Soil Classification: GC Gravelly Clay

Test Completed Date: 06/27/2023

Test Completed By: Agare, Ovie

InTEC of San Antonio
12028 Radium
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Compaction Evaluation

Report Date: 12/29/2023
Test Method: ASTM D6938, Tex 115E

Client:
Pulte Homes of Texas, LP
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San Antonio, TX 78259

Project:
S222064
McCrary Unit 14
29.543449, -98.739618
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Test Results

Test #	Retest Of	Test Date	Proctor ID	Method	Soil Classification	Optimum Moisture (%)	Maximum Dry Density (pcf)	In Place Moisture (%)	In Place Dry Density (pcf)	In Place Wet Density (pcf)	Probe Depth (in)	Percent Compaction	Min Comp. (%)	Optimum Moisture Tolerance (%)	Remark
309		09/14/23	U23112		GC	10.8	121.0	10.9	120.7	133.9	6	99.8	98	-2 / 2	C
310		09/14/23	U23112		GC	10.8	121.0	10.4	119.5	131.9	6	98.8	98	-2 / 2	C
311		09/14/23	U23112		GC	10.8	121.0	10.1	119.6	131.7	6	98.8	98	-2 / 2	C
312		09/14/23	U23112		GC	10.8	121.0	10.7	119.9	132.7	6	99.1	98	-2 / 2	C
314		09/20/23	U23111		GC	10.0	124.5	9.5	122.6	134.2	6	98.5	98	-2 / 2	C
315		09/20/23	U23111		GC	10.0	124.5	8.9	123.5	134.5	6	99.2	98	-2 / 2	C
316		09/20/23	U23111		GC	10.0	124.5	10.2	124.3	137.0	6	99.8	98	-2 / 2	C
317		09/20/23	U23111		GC	10.0	124.5	9.4	123.5	135.1	6	99.2	98	-2 / 2	C

Test Information

Test #	Test Location	Elevation	Reference	Gauge Make / Model / SN / Calibrated	Field Technician
309	Water Main: Biznaga, Block 286 Lot 25		1st Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
310	Water Main: Biznaga, Block 286 Lot 34		1st Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
311	Water Main: Moo Cow Street, Block 285 Lot 28		1st Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
312	Water Main: Moo Cow Street, Block 285 Lot 21		1st Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
314	Water Main: Biznaga, Block 282 Lot 12		2nd Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
315	Water Main: Biznaga, Block 286 Lot 36		2nd Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
316	Water Main: Biznaga, Block 286 Lot 33		2nd Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
317	Water Main: Biznaga, Block 286 Lot 27		2nd Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald

Remarks	Comments
C: Compliant	Tests are "Direct Transmission" (Method A) unless probe depth is noted as "Backscatter". Gauge calibration data on file with the testing agency.

Testing performed when called in.
InTEC did not observe the installation of the material.
Testing directed by the City Inspector when present.
Test results apply only to the specific locations and materials noted and may not represent any other locations or elevations.

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318		09/20/23	U23111		GC	10.0	124.5	10.3	123.3	136.0	6	99.0	98	-2 / 2	C
325		09/20/23	U23111		GC	10.0	124.5	9.7	124.2	136.2	6	99.8	98	-2 / 2	C
326		09/20/23	U23111		GC	10.0	124.5	10.6	124.9	138.1	6	100.3	98	-2 / 2	C
327		09/20/23	U23111		GC	10.0	124.5	10.4	124.3	137.2	6	99.8	98	-2 / 2	C
328		09/20/23	U23111		GC	10.0	124.5	11.0	123.6	137.2	6	99.3	98	-2 / 2	C
329		09/20/23	U23111		GC	10.0	124.5	9.9	122.8	135.0	6	98.6	98	-2 / 2	C
336		09/21/23	U23111		GC	10.0	124.5	9.5	123.9	135.7	6	99.5	98	-2 / 2	C
337		09/21/23	U23111		GC	10.0	124.5	8.8	122.7	133.5	6	98.6	98	-2 / 2	C

Test Information

Test #	Test Location	Elevation	Reference	Gauge Make / Model / SN / Calibrated	Field Technician
318	Water Main: Biznaga, Block 286 Lot 24		2nd Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
325	Water Main: Remuda Canyon, Block 281 Lot 17		1st Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
326	Water Main: Remuda Canyon, Block 281 Lot 20		1st Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
327	Water Main: Remuda Canyon, Block 281 Lot 23		1st Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
328	Water Main: Remuda Canyon, Block 281 Lot 28		1st Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
329	Water Main: Remuda Canyon, Block 281 Lot 31		1st Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
336	Water Main: Big Iron, Block 280 Lot 3		1st Lift	Troxler / 3430 / 62183 / 09/06/2023	Cisneros, Ramiro
337	Water Main: Big Iron, Block 280 Lot 9		1st Lift	Troxler / 3430 / 62183 / 09/06/2023	Cisneros, Ramiro

Remarks	Comments
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298		09/13/23	U23112		GC	10.8	121.0	11.4	120.8	134.6	6	99.8	98	-2 / 2	C
299		09/13/23	U23112		GC	10.8	121.0	11.3	120.1	133.7	6	99.3	98	-2 / 2	C
300		09/13/23	U23112		GC	10.8	121.0	11.8	119.4	133.5	6	98.7	98	-2 / 2	C
301		09/13/23	U23112		GC	10.8	121.0	11.9	119.7	133.9	6	98.9	98	-2 / 2	C
302		09/13/23	U23112		GC	10.8	121.0	11.6	120.0	133.9	6	99.2	98	-2 / 2	C
303		09/13/23	U23111		GC	10.0	124.5	9.7	123.9	135.9	6	99.5	98	-2 / 2	C
304		09/13/23	U23111		GC	10.0	124.5	10.4	124.0	136.9	6	99.6	98	-2 / 2	C
305		09/13/23	U23111		GC	10.0	124.5	10.6	123.7	136.8	6	99.4	98	-2 / 2	C

Test Information

Test #	Test Location	Elevation	Reference	Gauge Make / Model / SN / Calibrated	Field Technician
298	Water Services: Biznaga, Block 285 Lot 1/2		1st Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
299	Water Services: Biznaga, Block 285 Lot 3/4		1st Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
300	Water Services: Biznaga, Block 285 Lot 5/6		1st Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
301	Water Services: Biznaga, Block 285 Lot 7/8		1st Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
302	Water Services: Biznaga, Block 285 Lot 9/10		1st Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
303	Water Services: Moo Cow Street, Block 283 Lot 1/2		1st Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
304	Water Services: Moo Cow Street, Block 283 Lot 3/4		1st Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
305	Water Services: Moo Cow Street, Block 283 Lot 5/6		1st Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick

Remarks	Comments
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307		09/14/23	U23112		GC	10.8	121.0	10.1	123.2	135.6	6	101.8	98	-2 / 2	C
308		09/14/23	U23112		GC	10.8	121.0	9.6	124.2	136.1	6	102.6	98	-2 / 2	C
319		09/20/23	U23111		GC	10.0	124.5	10.7	124.7	138.0	6	100.2	98	-2 / 2	C
320		09/20/23	U23111		GC	10.0	124.5	10.3	123.6	136.3	6	99.3	98	-2 / 2	C
321		09/20/23	U23111		GC	10.0	124.5	11.3	124.7	138.8	6	100.2	98	-2 / 2	C
322		09/20/23	U23111		GC	10.0	124.5	10.6	125.7	139.0	6	101.0	98	-2 / 2	C
323		09/20/23	U23111		GC	10.0	124.5	10.6	122.2	135.2	6	98.2	98	-2 / 2	C
324		09/20/23	U23111		GC	10.0	124.5	9.4	123.8	135.4	6	99.4	98	-2 / 2	C

Test Information

Test #	Test Location	Elevation	Reference	Gauge Make / Model / SN / Calibrated	Field Technician
307	Water Services: Moo Cow Street, Block 283 Lot 7/8		1st Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
308	Water Services: Moo Cow Street, Block 283 Lot 9/10		1st Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
319	Water Services: Biznaga, Block 285 Lot 1/2		2nd Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
320	Water Services: Biznaga, Block 285 Lot 3/4		2nd Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
321	Water Services: Biznaga, Block 285 Lot 5/6		2nd Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
322	Water Services: Biznaga, Block 285 Lot 7/8		2nd Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
323	Water Services: Biznaga, Block 285 Lot 9/10		2nd Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
324	Water Services: Biznaga, Block 285 Lot 11/12		2nd Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald

Remarks	Comments
C: Compliant	Tests are "Direct Transmission" (Method A) unless probe depth is noted as "Backscatter". Gauge calibration data on file with the testing agency.

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330		09/20/23	U23111		GC	10.0	124.5	9.7	123.8	135.8	6	99.4	98	-2 / 2	C
331		09/20/23	U23111		GC	10.0	124.5	9.2	123.2	134.5	6	99.0	98	-2 / 2	C
332		09/20/23	U23111		GC	10.0	124.5	10.4	123.4	136.2	6	99.1	98	-2 / 2	C
333		09/20/23	U23111		GC	10.0	124.5	10.6	124.4	137.6	6	99.9	98	-2 / 2	C
334		09/20/23	U23111		GC	10.0	124.5	10.8	122.9	136.2	6	98.7	98	-2 / 2	C
335		09/20/23	U23111		GC	10.0	124.5	10.4	123.9	136.8	6	99.5	98	-2 / 2	C
338		09/22/23	U23112		GC	10.8	121.0	10.6	120.4	133.2	6	99.5	98	-2 / 2	C
339		09/22/23	U23112		GC	10.8	121.0	10.9	120.1	133.2	6	99.3	98	-2 / 2	C

Test Information

Test #	Test Location	Elevation	Reference	Gauge Make / Model / SN / Calibrated	Field Technician
330	Water Services: Remuda Canyon, Block 283 Lot 26/27		1st Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
331	Water Services: Remuda Canyon, Block 283 Lot 28/29		1st Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
332	Water Services: Remuda Canyon, Block 283 Lot 30/31		1st Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
333	Water Services: Remuda Canyon, Block 283 Lot 32/33		1st Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
334	Water Services: Remuda Canyon, Block 283 Lot 32/33		1st Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
335	Water Services: Remuda Canyon, Block 283 Lot 34/35		1st Lift	Troxler / 3430 / 38292 / 07/26/2023	Pereida, Gerald
338	Water Services: Anselmo, Block 281 Lot 1/2		1st Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
339	Water Services: Anselmo, Block 281 Lot 5/6		1st Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick

Remarks	Comments
C: Compliant	Tests are "Direct Transmission" (Method A) unless probe depth is noted as "Backscatter". Gauge calibration data on file with the testing agency.

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342		09/22/23	U23112		GC	10.8	121.0	10.7	121.3	134.3	6	100.2	98	-2 / 2	C
343		09/22/23	U23112		GC	10.8	121.0	10.8	120.8	133.8	6	99.8	98	-2 / 2	C
344		09/22/23	U23112		GC	10.8	121.0	11.1	120.8	134.2	6	99.8	98	-2 / 2	C
345		09/22/23	U23112		GC	10.8	121.0	11.3	120.2	133.8	6	99.3	98	-2 / 2	C

Test Information

Test #	Test Location	Elevation	Reference	Gauge Make / Model / SN / Calibrated	Field Technician
340	Water Services: Anselmo, Block 281 Lot 9/10		1st Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
341	Water Services: Anselmo, Block 281 Lot 12		1st Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
342	Water Services: Anselmo, Block 281 Lot 3/4		2nd Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
343	Water Services: Anselmo, Block 281 Lot 7/8		2nd Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
344	Water Services: Anselmo, Block 281 Lot 11		2nd Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick
345	Water Services: Anselmo, Block 281 Lot 13/14		2nd Lift	Troxler / 3430P / 80148 / 11/02/2022	Kirkwood, Nick

Remarks	Comments
C: Compliant	Tests are "Direct Transmission" (Method A) unless probe depth is noted as "Backscatter". Gauge calibration data on file with the testing agency.

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