



Construction Materials Testing
Waterline Installation—Backfill Compaction
Rancho Carlota Unit 4
San Antonio, Texas

InTEC Project No. S232048-2

January 15, 2024

V. K. Knowlton Construction & Utilities, Ltd.
18225 FM 2252
San Antonio, Texas 78266



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

January 15, 2024

V. K. Knowlton Construction & Utilities, Ltd.
18225 FM 2252
San Antonio, Texas 78266

Attention: Mr. Matt Anderson

Re: Construction Materials Testing
Waterline Installation – Backfill Compaction
Rancho Carlota Unit 4
San Antonio, Texas

InTEC Project #: S232048-2

Gentlemen:

Integrated Testing and Engineering Company of San Antonio, L.P. (InTEC) performed compaction evaluation at the above referenced project site between July 20, 2023 and July 25, 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



01/16/2024



Moisture Density Relationship

04/11/2023

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

Client:
Habitat for Humanity of San Antonio
311 Probandt
San Antonio, TX 78204

Project:
S232015
Rancho Carlota Unit 5
29.282096881646286, -98.59626795506253
San Antonio, TX

SAMPLE DATA

Sample Number: 22249

Sample Date: 04/05/2023

Technician: Johnson, Thomas

Material Use: Utility Backfill

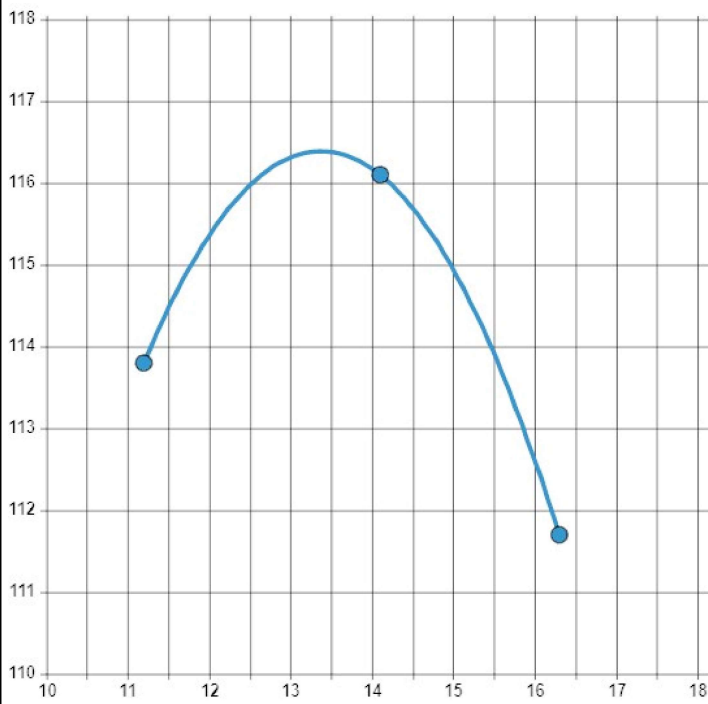
Sample Location: Stockpile

Material Description: Tan Clay with Gravel

LAB DATA

Test Method: Tex 113E

Proctor Curve:



Maximum Dry Density (pcf): 116.4

Optimum Moisture (%): 13.4

Soil Classification: CH Clay with gravel

Test Completed Date: 04/10/2023

Test Completed By: Agare, Ovie



Moisture Density Relationship

04/11/2023

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San Antonio, TX 78216
Phone: 210-525-9033

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S232015
Rancho Carlota Unit 5
29.282096881646286, -98.59626795506253
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SAMPLE DATA

Sample Number: 22250

Sample Date: 04/05/2023

Technician: Johnson, Thomas

Material Use: Utility Backfill

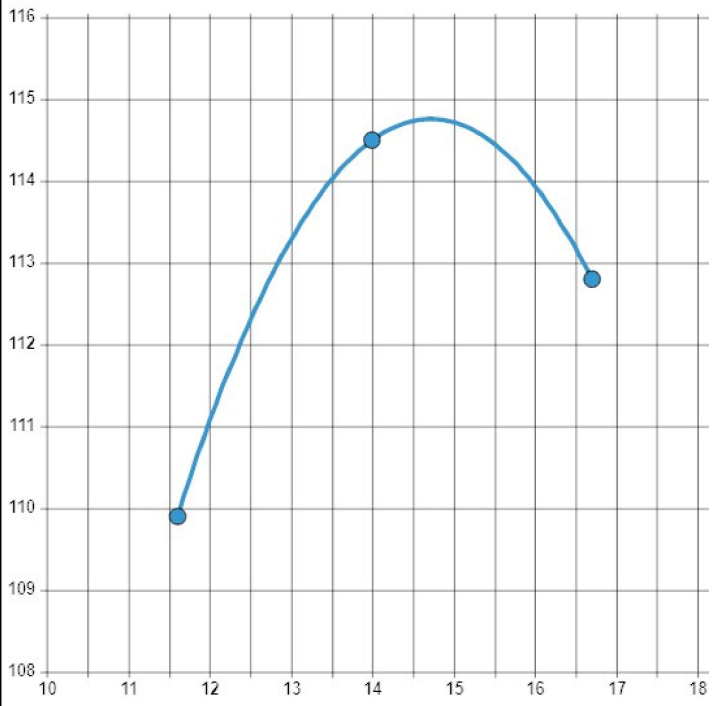
Sample Location: Stockpile

Material Description: Tan to Brown Clay with Gravel

LAB DATA

Test Method: Tex 113E

Proctor Curve:



Maximum Dry Density (pcf): 114.8

Optimum Moisture (%): 14.7

Soil Classification: CH Clay with gravel

Test Completed Date: 04/10/2023

Test Completed By: Agare, Ovie



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

Compaction Evaluation

Report Date: 01/16/2024
Test Method: ASTM D6938, Tex 115E

Client:

Habitat for Humanity of San Antonio
311 Probandt
San Antonio, TX 78204

Project:

S232048
Rancho Carlota Unit 4
29.282096881646286, -98.59626795506253
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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
141		07/20/23	U22249		CH	13.4	116.4	13.3	114.2	129.4	4	98.1	98	-2 / 2	C
142		07/20/23	U22249		CH	13.4	116.4	14.2	114.8	131.1	4	98.6	98	-2 / 2	C
143		07/21/23	U22250		CH	14.7	114.8	15.4	112.7	130.1	6	98.2	98	-2 / 2	C
144		07/21/23	U22250		CH	14.7	114.8	13.9	115.1	131.1	6	100.3	98	-2 / 2	C
147		07/21/23	U22250		CH	14.7	114.8	15.3	114.1	131.6	6	99.4	98	-2 / 2	C
148		07/21/23	U22250		CH	14.7	114.8	16.2	112.7	131.0	6	98.2	98	-2 / 2	C
149		07/21/23	U22250		CH	14.7	114.8	15.7	113.0	130.7	6	98.4	98	-2 / 2	C
150		07/21/23	U22250		CH	14.7	114.8	13.7	114.3	130.0	6	99.6	98	-2 / 2	C
Test Information															
Test #	Test Location							Elevation	Reference		Gauge Make / Model / SN / Calibrated			Field Technician	
141	Water Main: Mariana Way, Block 9 Lot 3								1st Lift		Troxler / 3430P / 74319 / 05/03/2023			Johnson, Thomas	
142	Water Main: Mariana Way, Block 9 Lot 7								1st Lift		Troxler / 3430P / 74319 / 05/03/2023			Johnson, Thomas	
143	Water Main: Mariana Way, Block 9 Lot 2								2nd Final		Troxler / 3430 / 35355 / 06/09/2023			Foley, Ryan	
144	Water Main: Mariana Way, Block 9 Lot 8								2nd Final		Troxler / 3430 / 35355 / 06/09/2023			Foley, Ryan	
147	Water Main: Bentleys Row, Block 9 Lot 12								1st Lift		Troxler / 3430 / 35355 / 06/09/2023			Foley, Ryan	
148	Water Main: Bentleys Row, Block 9 Lot 12								2nd Lift		Troxler / 3430 / 35355 / 06/09/2023			Foley, Ryan	
149	Water Main: Bentleys Row, Block 9 Lot 18								1st Lift		Troxler / 3430 / 35355 / 06/09/2023			Foley, Ryan	
150	Water Main: Bentleys Row, Block 9 Lot 18								2nd Lift		Troxler / 3430 / 35355 / 06/09/2023			Foley, Ryan	
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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151		07/21/23	U22250		CH	14.7	114.8	15.2	113.8	131.1	6	99.1	98	-2 / 2	C
154		07/25/23	U22249		CH	13.4	116.4	14.2	115.2	131.6	4	99.0	98	-2 / 2	C
155		07/25/23	U22249		CH	13.4	116.4	13.9	114.4	130.3	4	98.3	98	-2 / 2	C
159		07/25/23	U22249		CH	13.4	116.4	12.2	117.1	131.4	4	100.6	98	-2 / 2	C
Test Information															
Test #	Test Location							Elevation	Reference		Gauge Make / Model / SN / Calibrated			Field Technician	
151	Water Main: Rosie Stable, Block 9 Lot 25								1st Lift		Troxler / 3430 / 35355 / 06/09/2023			Foley, Ryan	
154	Water Main: Rosie Stable, Block 11 Lot 4								2nd Lift		Troxler / 3430P / 74319 / 05/03/2023			Johnson, Thomas	
155	Water Main: Baxters Plow, Block 10 Lot 4								1st Lift		Troxler / 3430P / 74319 / 05/03/2023			Johnson, Thomas	
159	Water Main: Baxters Plow, Block 10 Lot 3								2nd Lift		Troxler / 3430P / 74319 / 05/03/2023			Johnson, Thomas	
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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146		07/21/23	U22250		CH	14.7	114.8	14.5	112.9	129.3	6	98.3	98	-2 / 2	C
152		07/21/23	U22250		CH	14.7	114.8	14.2	116.5	133.0	6	101.5	98	-2 / 2	C
153		07/21/23	U22250		CH	14.7	114.8	12.9	115.7	130.6	6	100.8	98	-2 / 2	C
156		07/25/23	U22249		CH	13.4	116.4	14.2	115.6	132.0	4	99.3	98	-2 / 2	C
157		07/25/23	U22249		CH	13.4	116.4	14.2	115.8	132.2	4	99.5	98	-2 / 2	C
158		07/25/23	U22249		CH	13.4	116.4	13.9	115.7	131.8	4	99.4	98	-2 / 2	C
Test Information															
Test #	Test Location							Elevation	Reference		Gauge Make / Model / SN / Calibrated			Field Technician	
145	Water Services: Mariana Way, Block 10 Lot 10								1st Lift		Troxler / 3430 / 35355 / 06/09/2023			Foley, Ryan	
146	Water Services: Mariana Way, Block 10 Lot 14								1st Lift		Troxler / 3430 / 35355 / 06/09/2023			Foley, Ryan	
152	Water Services: Rosie Stable, Block 9 Lot 23								1st Lift		Troxler / 3430 / 35355 / 06/09/2023			Foley, Ryan	
153	Water Services: Rosie Stable, Block 9 Lot 27								1st Lift		Troxler / 3430 / 35355 / 06/09/2023			Foley, Ryan	
156	Water Services: Baxters Plow, Block 11 Lot 11								1st Lift		Troxler / 3430P / 74319 / 05/03/2023			Johnson, Thomas	
157	Water Services: Baxters Plow, Block 11 Lot 13								1st Lift		Troxler / 3430P / 74319 / 05/03/2023			Johnson, Thomas	
158	Water Services: Baxters Plow, Block 11 Lot 15								1st Lift		Troxler / 3430P / 74319 / 05/03/2023			Johnson, Thomas	
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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