



Construction Materials Testing  
**Waterline Installation—Backfill Compaction**  
**Gates Subdivision Unit 1**  
**Bexar County, Texas**

**InTEC Project No. S232133-2**  
December 4, 2024

**MEH Holding Company LTD**  
5210 Thousand Oaks, Suite 1318  
San Antonio, Texas 78233



**Integrated Testing and Engineering Company of San Antonio, L.P.**

Geotechnical & Environmental Engineering • Construction Services • Geologic Assessment

December 4, 2024

E.A. Palaniappan, Ph.D., P.E.  
Murali Subramaniam, Ph.D., P.E.  
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MEH Holding Company LTD  
5210 Thousand Oaks, Suite 1318  
San Antonio, Texas 78233

**Attention: Ms. Jaime L. Johnson**

**Re:** Construction Materials Testing  
Waterline Installation – Backfill Compaction  
**Gates Subdivision Unit 1**  
Bexar County, Texas

**InTEC Project #: S232133-2**

Ladies and Gentlemen:

Integrated Testing and Engineering Company of San Antonio, L.P. (InTEC) performed compaction evaluation at the above referenced project site between February 9, 2024 and February 21, 2024.

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.

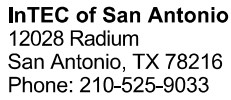
Respectfully Submitted,  
**InTEC of San Antonio, L.P.**

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

Copies Submitted: Above (1)



*[Signature]*  
01/15/2025



**Client:**

**Project:**

S232134  
Gates Subdivision Unit 2  
29.381265682887246, -98.32008373231879  
Bexar County, TX

**Sample Number:** 25977

**Sample Date:** 02/02/2024

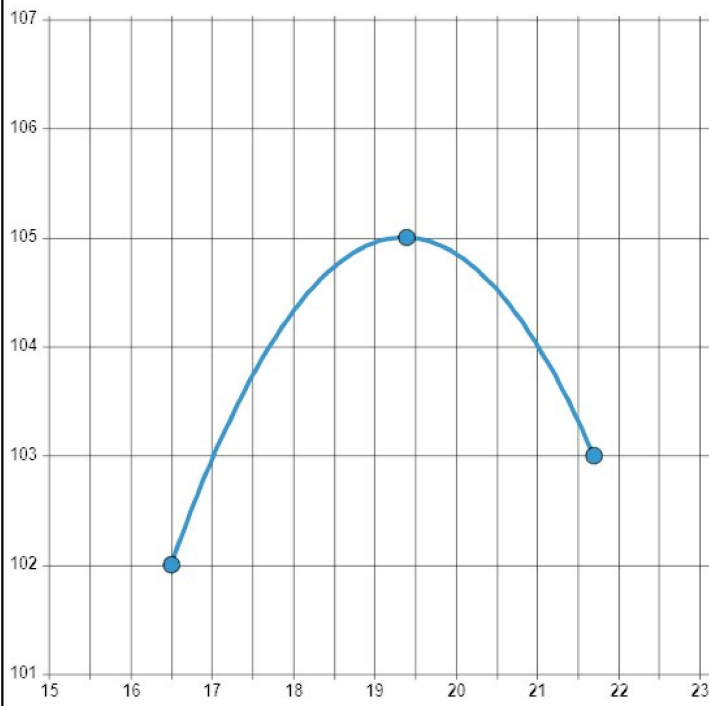
**Technician:** Johnson, Thomas

**Material Use:** Utility Backfill

**Sample Location:** Stockpile

**Material Description:** Tan to Brown Clay with Gravel

**Test Method:** Tex 113E



**Maximum Dry Density (pcf): 105.0**

**Optimum Moisture (%): 19.4**

**Soil Classification:** CH Clay with gravel

**Test Completed Date:** 02/06/2024

**Test Completed By:** Agare, Ovie



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

## Compaction Evaluation

**Report Date:** 01/28/2025  
**Test Method:** ASTM D6938, Tex 115E

### Client:

MEH Holding Company LTD  
5210 Thousand Oaks, Suite 1318  
San Antonio, TX 78233

### Project:

S232133  
Gates Subdivision Unit 1  
29.381265682887246, -98.32008373231879  
Bexar County, TX

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
170		02/15/24	U25977		CH	19.4	105.0	17.4	102.9	120.8	6	98.0	98	-2 / 2	C
171		02/15/24	U25977		CH	19.4	105.0	17.9	103.2	121.7	6	98.3	98	-2 / 2	C
172		02/15/24	U25977		CH	19.4	105.0	18.1	103.1	121.8	6	98.2	98	-2 / 2	C
175		02/15/24	U25977		CH	19.4	105.0	19.2	103.6	123.5	6	98.7	98	-2 / 2	C
176		02/15/24	U25977		CH	19.4	105.0	18.6	103.5	122.8	6	98.6	98	-2 / 2	C
177		02/15/24	U25977		CH	19.4	105.0	18.2	103.4	122.2	6	98.5	98	-2 / 2	C
178		02/16/24	U25977		CH	19.4	105.0	20.3	103.6	124.6	6	98.7	98	-2 / 2	C
179		02/16/24	U25977		CH	19.4	105.0	20.1	103.8	124.7	6	98.9	98	-2 / 2	C
Test Information															
Test #	Test Location							Elevation	Reference		Gauge Make / Model / SN / Calibrated			Field Technician	
170	Water Main: Fieldstone Way, Block 4 Lot 1								1st Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
171	Water Main: Fieldstone Way, Block 3 Lot 30								1st Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
172	Water Main: Sunridge Hts, Block 3 Lot 30								1st Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
175	Water Main: Fieldstone Way, across from Drain A								1st Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
176	Water Main: Fieldstone Way, 150' out from Drain to main road								1st Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
177	Water Main: Kailors Cove, Block 3 Lot 1								1st Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
178	Water Main: Fieldstone Way, Block 4 Lot 1								2nd Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
179	Water Main: Fieldstone Way, Block 3 Lot 30								2nd Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
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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180		02/16/24	U25977		CH	19.4	105.0	21.0	103.5	125.2	6	98.6	98	-2 / 2	C
181		02/16/24	U25977		CH	19.4	105.0	21.1	103.5	125.3	6	98.6	98	-2 / 2	C
182		02/16/24	U25977		CH	19.4	105.0	19.6	103.7	124.0	6	98.8	98	-2 / 2	C
183		02/16/24	U25977		CH	19.4	105.0	20.5	103.3	124.5	6	98.4	98	-2 / 2	C
186		02/20/24	U25977		CH	19.4	105.0	18.1	103.7	122.5	6	98.8	98	-2 / 2	C
187		02/20/24	U25977		CH	19.4	105.0	18.4	103.3	122.3	6	98.4	98	-2 / 2	C
188		02/20/24	U25977		CH	19.4	105.0	19.2	103.1	122.9	6	98.2	98	-2 / 2	C
189		02/20/24	U25977		CH	19.4	105.0	19.3	103.5	123.5	6	98.6	98	-2 / 2	C
Test Information															
Test #	Test Location							Elevation	Reference		Gauge Make / Model / SN / Calibrated			Field Technician	
180	Water Main: Fieldstone Way, front of Drain A								2nd Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
181	Water Main: Fieldstone Way, 150' toward main road								2nd Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
182	Water Main: Sunridge Hts, Block 3 Lot 30								2nd Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
183	Water Main: Kailors Cove, Block 3 Lot 1								2nd Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
186	Water Main: Ingress Ave, Block 5 Lot 50								1st Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
187	Water Main: Ingress Ave, Block 5 Lot 50								2nd Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
188	Water Main: Ingress Ave, Block 5 Lot 40								1st Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
189	Water Main: Ingress Ave, Block 5 Lot 40								2nd Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
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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190		02/20/24	U25977		CH	19.4	105.0	17.9	103.7	122.3	6	98.8	98	-2 / 2	C
191		02/20/24	U25977		CH	19.4	105.0	17.6	103.4	121.6	6	98.5	98	-2 / 2	C
192		02/21/24	U25977		CH	19.4	105.0	17.9	103.6	122.1	6	98.7	98	-2 / 2	C
193		02/21/24	U25977		CH	19.4	105.0	17.4	103.4	121.4	6	98.5	98	-2 / 2	C
Test Information															
Test #	Test Location							Elevation	Reference		Gauge Make / Model / SN / Calibrated			Field Technician	
190	Water Main: Trojan Trail, Block 5 Lot 71								1st Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
191	Water Main: Trojan Trail, Block 5 Lot 60								1st Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
192	Water Main: Trojan Trail, Block 5 Lot 70								2nd Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
193	Water Main: Trojan Trail, Block 5 Lot 61								2nd Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert	
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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169		02/09/24	U25977		CH	19.4	105.0	17.8	103.8	122.3	6	98.9	98	-2 / 2	C
173		02/15/24	U25977		CH	19.4	105.0	18.2	104.3	123.3	6	99.3	98	-2 / 2	C
174		02/15/24	U25977		CH	19.4	105.0	17.9	103.6	122.1	6	98.7	98	-2 / 2	C
184		02/16/24	U25977		CH	19.4	105.0	20.2	103.6	124.5	6	98.7	98	-2 / 2	C
185		02/16/24	U25977		CH	19.4	105.0	20.8	103.5	125.0	6	98.6	98	-2 / 2	C
Test Information															
Test #	Test Location						Elevation	Reference		Gauge Make / Model / SN / Calibrated			Field Technician		
169	Water Services: Kestis Ln, Block 8 Lot 1							1st Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert		
173	Water Services: Sunridge Hts, Block 4 Lot 4/3							1st Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert		
174	Water Services: Sunridge Hts, Block 3 Lot 30							1st Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert		
184	Water Services: Sunridge Hts, Block 4 Lots 4/3							2nd Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert		
185	Water Services: Fieldstone Way, Block 3 Lot 30							1st Lift		Troxler / 3430 / 30173 / 07/26/2023			Villarreal Sr., Robert		
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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