



Construction Materials Testing
Sewerline Installation—Backfill Compaction
Miralomas Garden Homes Unit 3
Kendall County, Texas

InTEC Project No. S242024-1

January 7, 2026

Miralomas Development Corp.

440 TX 46

Boerne, Texas

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

January 7, 2026

E.A. Palaniappan, Ph.D., P.E.
Murali Subramaniam, Ph.D., P.E.
Kausi Subramaniam, B.S.

Miralomas Development Corp.
440 TX 46
Boerne, Texas

Attention: Ms. Susan Wright

Re: Construction Materials Testing
Sewerline Installation – Backfill Compaction
Miralomas Garden Homes Unit 3
Kendall County, Texas

InTEC Project #: S242024-1

Ladies & Gentlemen:

Integrated Testing and Engineering Company of San Antonio, L.P. (InTEC) performed compaction evaluation at the above referenced project site between December 12, 2024 and January 10, 2025.

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)



Jinhu Song
1/7/2026



Moisture Density Relationship

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

Client:
V.K. Knowlton Construction & Utilities, Ltd.
18225 FM 2252
San Antonio, TX 78266

Project:
S242024
Miralomas Garden Homes Unit 3
29.763718, -98.809387
Kendall County, TX

SAMPLE DATA

Sample Number: 28464

Sample Date: 07/24/2024

Technician: Pereida, Gerald

Material Use: Utility Backfill

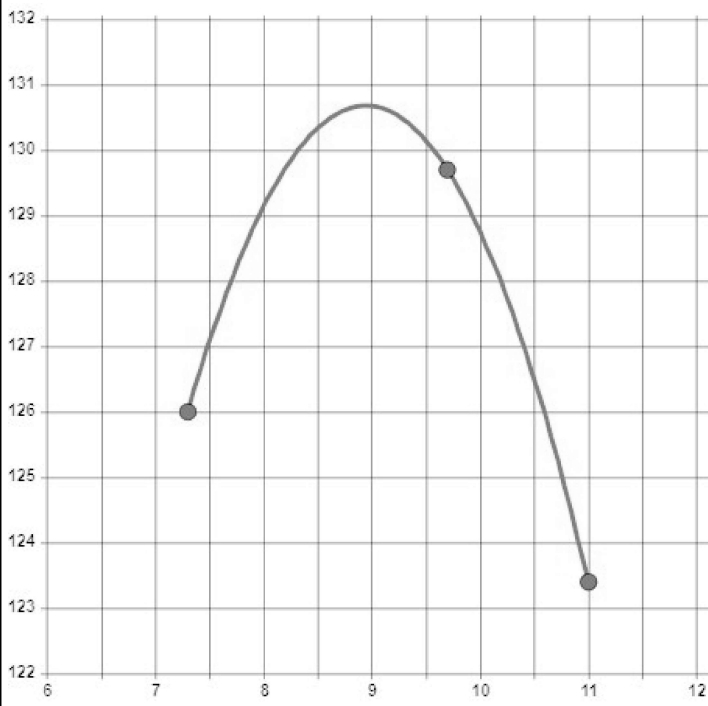
Sample Location: Utilities

Material Description: Tan Gravelly Clay

LAB DATA

Test Method: ASTM D1557 - Method C

Proctor Curve:



Maximum Dry Density (pcf): 130.7

Optimum Moisture (%): 8.9

Soil Classification: GC Gravelly Clay

Test Completed Date: 07/26/2024

Test Completed By: Efediyi, Eugene



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

Compaction Evaluation

Report Date: 01/07/2026
 Test Method: ASTM D6938, Tex 115E

Client:
 V.K. Knowlton Construction & Utilities, Ltd.
 18225 FM 2252
 San Antonio, TX 78266

Project:
 S242024
 Miralomas Garden Homes Unit 3
 29.763718, -98.809387
 Kendall 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
447		12/12/24	U28464		GC	8.9	130.7	9.2	131.2	143.3	8	100.4	95	-2 / 2	C
448		12/12/24	U28464		GC	8.9	130.7	8.1	129.7	140.2	8	99.2	95	-2 / 2	C
449		12/12/24	U28464		GC	8.9	130.7	8.7	130.4	141.7	8	99.8	95	-2 / 2	C
489		01/03/25	U28464		GC	8.9	130.7	9.1	132.4	144.4	6	101.3	95	-2 / 2	C
490		01/03/25	U28464		GC	8.9	130.7	7.9	128.7	138.9	6	98.5	95	-2 / 2	C
491		01/03/25	U28464		GC	8.9	130.7	8.0	131.4	141.9	6	100.5	95	-2 / 2	C
492		01/03/25	U28464		GC	8.9	130.7	8.3	128.6	139.3	6	98.4	95	-2 / 2	C
496		01/09/25	U28464		GC	8.9	130.7	8.9	132.4	144.2	8	101.3	95	-2 / 2	C

Test Information						
Test #	Test Location	Elevation	Reference	Gauge Specs Make / Model / SN / Calibrated	Gauge Standardization Density Standard/Moisture Standard	Field Technician
447	Sewer Main: Hibiscus, Lot 13		1st Lift	Troxler / 3430 / 38292 / 07/22/2024	2293 / 642	Pereida, Gerald
448	Sewer Main: Hibiscus, Lot 16		1st Lift	Troxler / 3430 / 38292 / 07/22/2024	2293 / 642	Pereida, Gerald
449	Sewer Main: Hibiscus, Lot 19		1st Lift	Troxler / 3430 / 38292 / 07/22/2024	2293 / 642	Pereida, Gerald
489	Sewer Main: Oriole Ln, Lot 4		1st Lift	Troxler / 3430 / 38292 / 07/22/2024	2292 / 643	Pereida, Gerald
490	Sewer Main: Oriole Ln, Lot 7		1st Lift	Troxler / 3430 / 38292 / 07/22/2024	2292 / 643	Pereida, Gerald
491	Sewer Main: Oriole Ln, Lot 9		1st Lift	Troxler / 3430 / 38292 / 07/22/2024	2292 / 643	Pereida, Gerald
492	Sewer Main: Oriole Ln, Lot 11		1st Lift	Troxler / 3430 / 38292 / 07/22/2024	2292 / 643	Pereida, Gerald
496	Sewer Main: Mockingbird Trail, Lot 20		1st Lift	Troxler / 3430 / 38292 / 07/22/2024	2292 / 644	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.



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

Compaction Evaluation

Report Date: 01/07/2026
 Test Method: ASTM D6938, Tex 115E

Client:
 V.K. Knowlton Construction & Utilities, Ltd.
 18225 FM 2252
 San Antonio, TX 78266

Project:
 S242024
 Miralomas Garden Homes Unit 3
 29.763718, -98.809387
 Kendall 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
497		01/09/25	U28464		GC	8.9	130.7	8.0	128.4	138.7	8	98.2	95	-2 / 2	C
498		01/09/25	U28464		GC	8.9	130.7	7.8	130.7	140.9	8	100.0	95	-2 / 2	C
499		01/09/25	U28464		GC	8.9	130.7	7.7	131.6	141.7	8	100.7	95	-2 / 2	C
500		01/09/25	U28464		GC	8.9	130.7	7.6	130.7	140.6	8	100.0	95	-2 / 2	C
504		01/10/25	U28464		GC	8.9	130.7	9.2	128.4	140.2	8	98.2	95	-2 / 2	C
505		01/10/25	U28464		GC	8.9	130.7	8.4	129.5	140.4	8	99.1	95	-2 / 2	C
506		01/10/25	U28464		GC	8.9	130.7	9.6	132.8	145.5	8	101.6	95	-2 / 2	C
507		01/10/25	U28464		GC	8.9	130.7	8.8	130.5	142.0	8	99.8	95	-2 / 2	C

Test Information

Test #	Test Location	Elevation	Reference	Gauge Specs Make / Model / SN / Calibrated	Gauge Standardization Density Standard/Moisture Standard	Field Technician
497	Sewer Main: Mockingbird Trail, Lot 23		1st Lift	Troxler / 3430 / 38292 / 07/22/2024	2292 / 644	Pereida, Gerald
498	Sewer Main: Mockingbird Trail, Lot 26		1st Lift	Troxler / 3430 / 38292 / 07/22/2024	2292 / 644	Pereida, Gerald
499	Sewer Main: Mockingbird Trail, Lot 29		1st Lift	Troxler / 3430 / 38292 / 07/22/2024	2292 / 644	Pereida, Gerald
500	Sewer Main: Mockingbird Trail, Lot 32		1st Lift	Troxler / 3430 / 38292 / 07/22/2024	2292 / 644	Pereida, Gerald
504	Sewer Main: Mockingbird Trail, Lot 33		1st Lift	Troxler / 3430 / 38292 / 07/22/2024	2291 / 643	Pereida, Gerald
505	Sewer Main: Mockingbird Trail, Lot 36		1st Lift	Troxler / 3430 / 38292 / 07/22/2024	2291 / 643	Pereida, Gerald
506	Sewer Main: Mockingbird Trail, Lot 39		1st Lift	Troxler / 3430 / 38292 / 07/22/2024	2291 / 643	Pereida, Gerald
507	Sewer Main: Mockingbird Trail, Lot 42		1st Lift	Troxler / 3430 / 38292 / 07/22/2024	2291 / 643	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.



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

Compaction Evaluation

Report Date: 01/07/2026
Test Method: ASTM D6938, Tex 115E

Client:
 V.K. Knowlton Construction & Utilities, Ltd.
 18225 FM 2252
 San Antonio, TX 78266

Project:
 S242024
 Miralomas Garden Homes Unit 3
 29.763718, -98.809387
 Kendall 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
508		01/10/25	U28464		GC	8.9	130.7	9.7	127.8	140.2	8	97.8	95	-2 / 2	C
Test Information															
Test #	Test Location	Elevation	Reference	Gauge Specs Make / Model / SN / Calibrated	Gauge Standardization Density Standard/Moisture Standard	Field Technician									
508	Sewer Main: Mockingbird Trail, Lot 45		1st Lift	Troxler / 3430 / 38292 / 07/22/2024	2291 / 643	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.



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

Compaction Evaluation

Report Date: 01/07/2026
Test Method: ASTM D6938, Tex 115E

Client:
 V.K. Knowlton Construction & Utilities, Ltd.
 18225 FM 2252
 San Antonio, TX 78266

Project:
 S242024
 Miralomas Garden Homes Unit 3
 29.763718, -98.809387
 Kendall 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
450		12/12/24	U28464		GC	8.9	130.7	7.9	129.5	139.7	4	99.1	95	-2 / 2	C
451		12/12/24	U28464		GC	8.9	130.7	8.4	130.8	141.8	4	100.1	95	-2 / 2	C
Test Information															
Test #	Test Location	Elevation	Reference	Gauge Specs Make / Model / SN / Calibrated			Gauge Standardization Density Standard/Moisture Standard			Field Technician					
450	Sewer Laterals: Hibiscus, Lot 15		1st Lift	Troxler / 3430 / 38292 / 07/22/2024			2293 / 642			Pereida, Gerald					
451	Sewer Laterals: Hibiscus, Lot 16		1st Lift	Troxler / 3430 / 38292 / 07/22/2024			2293 / 642			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.