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PAVEMENT DESIGN REPORT
RETREAT AT PRAIRIE RIDGE, FILING NO. 2
PHASE 1, INTERNAL ROADWAYS
EL PASO COUNTY, COLORADO

PCD File No. PAV 267

Prepared for:
Classic SRJ
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Attn: Austin Lenz

October 23, 2026

Respectfully Submitted,

ENTECH ENGINEERING, INC.

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Entech Job No. 241932

F:\AA Projects\2024\241932-Classic SRJ Land-Retreat at PrairieRidge F2-SGS\Pavement\F2 Internal Phase 1\09-Reports

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1 Introduction

Entech Engineering, Inc. (Entech) completed this pavement design report for the internal roadways within Retreat at Prairie Ridge, Filing No. 2, Phase 1, in El Paso County, Colorado. This report describes the subsurface investigation conducted for the proposed roadway improvements and provides pavement section alternatives and construction recommendations. Entech participated in this project as a consultant to Classic SRJ. The contents of this report, including the pavement design recommendations, are subject to the limitations and assumptions presented in Section 7.

2 Project Description

This project includes the final grading and paving of Sandstone Mesa Way, Sunlit Prairie Drive, Bluebell Meadow Way, and Skyline Prairie Drive within Filing No. 2, Phase 1, of Retreat at Prairie Ridge. The site is located east of Black Forest Road and northwest of Volmer Road in El Paso County, Colorado (Figure 1). The proposed improvements include the paving of Bluebell Meadow Way from approximately STA 2+75 to STA 7+17.69, Sunlit Prairie Drive from approximately STA 17+50 to STA 36+69.40, Autumn Sky Lane from STA 0+17.20 to STA 1+90, Foxglove Field Loop from STA 0+16.26 to approximately STA 17+50, Skyline Prairie Drive from STA 0+17 to approximately STA 10+50, and Sandstone Mesa Way from STA 0+17 to approximately STA 4+90. The pavement project constitutes approximately 4,840 linear feet of pavement altogether. The extent of our investigation is shown in Figure 2.

At the time of our subsurface exploration program, the existing roadway alignments were rough-graded, the site was vacant with vegetation consisting of sparse weeds, and utilities had been installed. The site is bordered by a residential development to the southeast and rural residential neighborhoods to the north and west. Based on construction site plans by Classic Consulting, the roadways are designated as public urban local.

3 Subsurface Explorations and Laboratory Testing

3.1 Subsurface Exploration Program

Subsurface conditions at the project site were explored by 27 test borings, designated TB-1 through TB-27, drilled on September 17 and 18, 2026. The locations of the test borings are shown on the Site and Exploration Plan (Figure 2). The borings were drilled to depths of 5 to 10 feet

below the existing ground surface (bgs). The drilling was performed using a truck-mounted, continuous flight auger drill rig supplied and operated by Entech. Descriptive boring logs providing the lithologies of the subsurface conditions encountered during drilling are presented in Appendix A. Groundwater levels were measured in each of the open boreholes at the conclusion of, and subsequent to, drilling.

Soil samples were obtained from the borings utilizing the Standard Penetration Test (ASTM D1586) using a 2-inch outside diameter split spoon or a 2½-inch modified California sampler. Results of the Standard Penetration Test (SPT) are included on the boring logs in terms of N-values expressed in blows per foot (bpf). Soil samples recovered from the borings were visually classified and recorded on the boring logs. The soil classifications were later verified utilizing laboratory testing and grouped by soil type. The soil type numbers are included on the boring logs. It should be understood that the soil descriptions shown on the boring logs may vary between boring locations and sample depths.

3.2 Geotechnical Index and Engineering Property Testing

Water content testing (ASTM D2216) was performed on the samples recovered from the borings, and the results are shown on the boring logs. Grain-size analysis (ASTM D6913) and Atterberg limits testing (ASTM D4318) were performed on selected samples to assist in classifying the materials encountered in the borings. Volume change testing was performed on selected samples using the One-dimensional Swell or Collapse Test (ASTM D4546) in order to evaluate the potential expansion characteristics of the soil.

For pavement design, a Modified Proctor (ASTM D1557), a Standard Proctor (ASTM D698), and a California Bearing Ratio (CBR) test (ASTM D1883) were completed. Soluble sulfate testing was performed on select soil samples to evaluate the potential for below-grade degradation of concrete due to sulfate attack. The laboratory testing results are presented in Appendix B and summarized in Table B-1.

4 Subgrade Conditions

Three soil types and one bedrock type were encountered in the test borings drilled for the subsurface exploration program. The soil and bedrock types were classified in accordance with the Unified Soil Classification System (USCS) and the American Association of State Highway

and Transportation Officials (AASHTO) soil classification system using the laboratory testing results and the observations made during drilling.

4.1 Subsurface Conditions

Subsurface conditions along the proposed roadways consisted of loose to medium dense silty sand to sandy silt fill (Soil Type 1, 1A, 2, AASHTO A-2-4, A-4), which was encountered in the majority of test borings from the existing ground surface to depths of 5 to 10 feet bgs, or in some cases to the termination depths of the borings, 5 to 10 feet bgs. In borings TB-10, TB-18, TB-21, TB-22, TB-24, TB-25, and TB-27, extremely weak sandstone, or very dense sand with silt when classified as a soil, was encountered from the existing ground surface to the termination depths of the borings, 5 to 10 feet bgs (Soil Type 3, AASHTO A-1-b, A-2-4, A-4). In borings where the silty sand fill did not extend to the termination depths, such as in borings TB-1, TB-4, TB-8, TB-9, and TB-20, sandstone bedrock was encountered underlying the controlled fill and extended to the termination depths of the borings, 5 to 10 feet bgs.

Laboratory test results are presented in Appendix B and are summarized in Table B-1.

4.2 Groundwater

Groundwater was not encountered in the test borings. Groundwater fluctuations are likely and will depend on seasonal variations, local precipitation, runoff, and other factors. We do not anticipate that groundwater will affect the proposed roadway construction.

5 Pavement Design Recommendations

Pavement design recommendations were made in accordance with the *El Paso County Engineering Criteria Manual*.

5.1 Subgrade Conditions

California Bearing Ratio (CBR) testing was performed on a representative sample of the pavement subgrade, clayey-silty sand fill (Soil Type 1) from boring TB-14 and clayey sand fill (Soil Type 1A) from boring TB-27, to determine the support characteristics of the subgrade soils for the roadway section. The results of the CBR testing are presented in Appendix B and summarized in Exhibit 1.

Exhibit 1: Subsurface Laboratory Testing Summary

Design Parameter	Values	
Soil Type	1 – Clayey-Silty Sand Fill	1A – Clayey Sand Fill
CBR at 95%	9.9	3.8
Design CBR	9.9	3.8
Liquid Limit	26	30
Plasticity Index	5	9
Percent Passing 200	33.0	46.1
AASHTO Classification	A-2-4	A-4
Group Index	0	1
Unified Soils Classification	SC-SM	SC

Although the majority of the roadway subgrade consisted of Soil Type 1 (AASHTO A-2-4), the roadways were designed for Soil Type 1A to avoid the need to field-determine changes in soil type.

5.2 Swell Mitigation

El Paso County requires swell mitigation for cohesive soils with swell testing results 2.0% or greater under a surcharge of 100 to 150 pounds per square foot (psf). Expansive soil was encountered in boring TB-23 at a depth of 5 feet. Based on swell testing results, mitigation for swell throughout the entire site is not required. Where isolated areas of expansive soils within the sandstone are encountered during subgrade preparation, we recommend removing and replacing with site granular fill (see Section 6.1.3) or moisture conditioning.

5.3 Cement-Treated Subgrade Design

Strength testing for the site subgrade soils was performed on sets of soil-cement samples from borings TB-14 and TB-27 (Soil Type 1 and 1A). Testing was performed on soil-cement samples prepared with 2% and 4% Portland Cement Type 1L obtained from the GCC Concrete Plant in Pueblo, Colorado. A compressive strength of 125 pounds per square inch (psi) is recommended for cement-stabilized subgrade. The results of the strength testing, as well as the Modified Proctor (ASTM D1557) and Standard Proctor (ASTM D698) maximum dry densities, are presented in Appendix B and summarized in Exhibit 2. To account for waste and construction variability, we recommend that the design mix be increased by 1% in the field. A **3% mix is recommended** for Soil Type 1 and 1A based on the laboratory test results. As discussed in Section 5.1, the pavement design section was based on Soil Type 1A.

Exhibit 2: Subsurface Laboratory Testing Summary

Design Parameter	Value	Value
Test Boring	TB-14	TB-27
Soil Type	1 – Clayey-Silty Sand Fill	1A – Clayey Sand Fill
Design CBR	9.9	3.8
Average Compressive Strength for 2% Mix (psi)	322	306
Average Compressive Strength for 4% Mix (psi)	426	369
Optimum Moisture Content (%)	7.4	11.3
Maximum Dry Density (pcf)	130.8	117.7

The amount of cement applied shall be a minimum of 3% (by weight) of the subgrade's maximum dry density as determined by the Modified Proctor (ASTM D1557) for Soil Type 1 and 1A.

5.4 Traffic Loading

Traffic data is not available for the roadways; however, the roadways are considered urban local roadways based on the current development plans. The *El Paso County Engineering Criteria Manual* provides a default 18-kip equivalent single axle loading (ESAL) for local roadways. For design, a default ESAL value of 292,000 was used for the urban local roadways.

5.5 Pavement Design

The recommended pavement sections were determined utilizing the *El Paso County Engineering Criteria Manual,* the CBR testing, and the default ESAL. Design parameters used in the pavement analysis are presented in Exhibit 3.

Exhibit 3: Pavement Design Parameters

Design Parameter	Values
Reliability	80%
Standard Deviation	0.45
Serviceability Loss (Δ psi)	2.5
Design CBR	3.8
Resilient Modulus - Soil Type 1A	5,700 psi
Structural Coefficients	
Hot Mix Asphalt	0.44
Aggregate Base Course	0.11
Recycled Concrete Base	0.11
Cement-Treated Subgrade	0.11

Pavement sections recommended for the roadway are summarized in Exhibit 4. The pavement design calculations are presented in Appendix C.

Exhibit 4: Recommended Pavement Sections

Pavement Area	Roadway Designation	Design ESAL	Alternative [1]
Bluebell Meadow Way, Sunlit Prairie Drive, Autumn Sky Lane, Foxglove Field Loop, Skyline Prairie Drive, and Sandstone Mesa Way	Local	292,000	1. 4.0 inches HMA over 10.0 inches ABC/RCB
			2. 4.0 inches HMA over 10.0 inches CTS [2]

ABC = Aggregate Base Course; RCB = Recycled Concrete Base; CTS = Cement-Treated Subgrade; ESAL = Equivalent Single Axle Loads; HMA = Hot Mix Asphalt

Notes:
1. All pavement alternatives meet the minimum sections required per *the El Paso County Engineering Criteria Manual* for local (low volume) roadways.
2. The use of CTS will require a deviation request approval.

6 Construction Recommendations

Pavement design recommendations provided herein are contingent on good construction practices, and poor construction techniques may result in poor performance. Our analyses assumed that this project would be constructed according to the *El Paso County Engineering Criteria Manual* and the *Pikes Peak Region Asphalt Paving Specifications.*

6.1 Earthwork Recommendations for Pavement Subgrade

Proper subgrade preparation is required for adequate pavement performance. Surface vegetation should be removed by stripping, with the depth to be field-determined. Where loose soils are encountered, they should be removed to a minimum depth of 2 feet below aggregate base course materials or to underlying dense and unyielding subgrade, whichever occurs first. Once suitable materials are encountered, the overexcavated material should be moisture conditioned and recompacted in accordance with Section 6.1.3. Where isolated areas of expansive materials are encountered, they should be overexcavated to a depth of 2 feet and replaced with nonexpansive granular fill or moisture conditioned and recompacted in accordance with Section 6.1.3.

We do not anticipate issues with the subgrade in regard to shallow water, frost-susceptible soils, groundwater or drainage conditions, or cold weather construction.

6.1.1 Subgrade Preparation – Unbound Base Alternatives

If pavement section alternatives are selected utilizing aggregate base course (ABC) or recycled concrete base (RCB), the final subgrade surface should be scarified to a depth of 8 inches, moisture conditioned within +/-2% of the optimum water content, and recompacted to 95% of the Modified Proctor (ASTM D1557) maximum dry density.

The compacted surface below pavements should be proof rolled with a fully loaded, tandem-axle, 10-yard dump truck or equivalent. Any areas delineated as soft, loose, or yielding during proof rolling should be removed and reconditioned, or replaced.

6.1.2 Subgrade Preparation – Cement-Treated Subgrade

If pavement section alternatives utilizing CTS are selected, a preliminary proof roll should be completed with a fully loaded, tandem-axle, 10-yard dump truck or equivalent prior to placement of cement stabilization. Any areas delineated as soft, loose, or yielding during proof rolling should be removed and reconditioned, or replaced.

Following the preliminary proof roll, the subgrade shall be stabilized by the addition of cement. The amount of cement applied shall be a minimum of 3% (by weight) of the subgrade's maximum dry density as determined by the Modified Proctor (ASTM D1557) for granular soils or by the Standard Proctor (ASTM D698) for cohesive soils. The cement should be spread evenly on the subgrade surface and thoroughly mixed into the subgrade such that a uniform blend of soil and cement is achieved to the CTS design depth. Compaction of the cement-stabilized subgrade should be completed to obtain at least 95% of the subgrade's maximum dry density as determined by the Modified Proctor (ASTM D1557) or by the Standard Proctor (ASTM D698). Satisfactory compaction of the subgrade shall occur within 90 minutes from the time of mixing the cement into the subgrade.

The following conditions shall be observed as part of the subgrade stabilization:

- Type 1L cement as supplied; a local supplier shall be used. All cement used for stabilization should come from the same source. If cement sources are changed, a new laboratory mix design should be completed.
- Moisture conditioning of the subgrade and/or mixing of the cement into the subgrade shall not occur when soil temperatures are below 40 degrees F. Cement-treated subgrades should be maintained at a temperature of 40 degrees F or greater until the subgrade has been compacted as required.

- Cement placement, cement mixing, and compaction of the cement-treated subgrade should be observed by Entech Engineering. Testing should include in-situ compaction tests and representative compacted specimens of the treated subgrade material for subsequent laboratory quality assurance testing.
- A minimum 7-day CTS compressive strength of 125 psi must be achieved.
- Soil strengths in excess of 275 psi will require microfracturing. Microfracturing will be performed with the same (or equivalent tonnage) steel drum vibratory roller used for compaction of the CTS. A roller with a minimum capacity of 12 tons shall be used. Three full passes with the roller operating at maximum amplitude and traveling at 2 to 3 miles per hour shall be applied. If the treated material breaks up excessively at the surface, the vibration amplitude shall be decreased or eliminated.

6.1.3 Fill Placement and Compaction

Granular fill placed as part of the pavement subgrade shall consist of nonexpansive, granular soil, free of organic matter, unsuitable materials, debris, and cobbles greater than 3 inches in diameter. granular fill should have no more than 35% fines passing the No. 200 sieve, and the fines should have a plastic index of 10 or less. Additionally, any granular fill placed as part of the roadway subgrade should have a minimum CBR of 4. All granular fill placed within the pavement subgrade should be compacted to a minimum of 95% of the Modified Proctor (ASTM D1557) maximum dry density at +/-2% of optimum moisture content. For moisture-conditioned soils, we recommend moisture conditioning to 0% to 3% of the optimum moisture content and recompacting to 95% of the Standard Proctor (ASTM D698) maximum dry density. Fill material should be placed in horizontal lifts such that each finished lift has a compacted thickness of 6 inches or less. Entech should approve any imported fill to be used within the pavement subgrade area prior to delivery to the site.

6.1.4 Aggregate Base Course and Recycled Concrete Base

ABC or RCB materials shall conform to the *El Paso County Standard Specifications Manual*, Appendix D, Table D-6. ABC or RCB materials should be compacted to a minimum of 95% of the Modified Proctor (ASTM D1557) maximum dry density within +/-2% of optimum moisture content.

6.2 Concrete Placement

Type 1L cement is recommended for concrete on the site. To further avoid concrete degradation during construction, it is recommended that concrete not be placed on frozen or wet ground. Care

should be taken to prevent the accumulation or ponding of water prior to the placement of concrete. If standing water is present, it should be removed prior to concrete placement. If concrete is placed during periods of cold temperatures, the concrete must be kept from freezing. This may require covering the concrete with insulated blankets and adding heat to prohibit freezing.

6.3 Concrete Degradation Due to Sulfate Attack

Sulfate solubility testing was conducted on several samples recovered from the test borings to evaluate the potential for sulfate attack on concrete placed below surface grade. The test results indicated less than 0.01% soluble sulfate (by weight). The test results indicate the sulfate component of the in-place soils presents a negligible exposure threat to concrete placed below the site grade.

6.4 Construction Observation

Subgrade preparation for pavement structures should be observed by Entech in order to verify that (1) no anomalies are present, (2) materials similar to those described in this report have been encountered or placed, and (3) no soft spots, expansive or organic soil, or debris are present in the pavement subgrade prior to paving.

7 Closure

The subsurface investigation, geotechnical evaluation, and recommendations presented in this report are intended for use by Classic SRJ with application to the paving of the internal roadways, Bluebell Meadow Way, Sunlit Prairie Drive, Autumn Sky Lane, Foxglove Field Loop, Skyline Prairie Drive, and Sandstone Mesa Way within Retreat at Prairie Ridge, Filing No. 2, Phase 1, in El Paso County, Colorado. In conducting the subsurface investigation, laboratory testing, engineering evaluation, and reporting, Entech Engineering, Inc. endeavored to work in accordance with generally accepted professional geotechnical and geologic practices and principles consistent with the level of care and skill ordinarily exercised by members of the geotechnical profession currently practicing in the same locality and under similar conditions. No other warranty, express or implied, is made. During final design and/or construction, if conditions are encountered that appear different from those described in this report, Entech Engineering, Inc. requests to be notified so that the evaluation and recommendations presented herein can be reviewed and modified as appropriate.

If there are any questions regarding the information provided herein, or if Entech Engineering, Inc. can be of further assistance, please do not hesitate to contact us.



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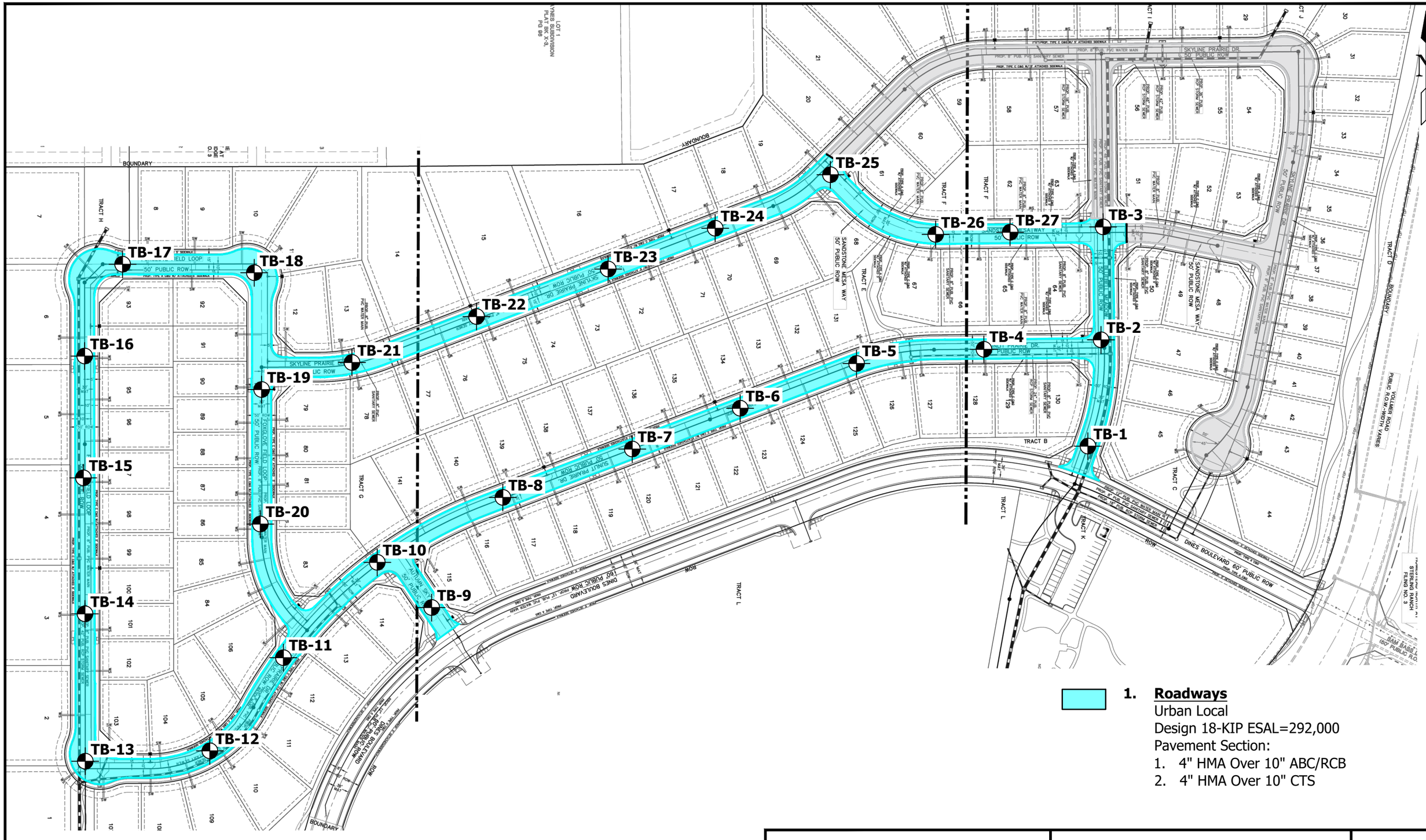
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VICINITY MAP

RETREAT AT PRAIRIE RIDGE, FILING NO. 2
CLASSIC SRJ

JOB NO.
241932

FIG. 1



1. **Roadways**
   Urban Local
   Design 18-KIP ESAL=292,000
   Pavement Section:
   1. 4" HMA Over 10" ABC/RCB
   2. 4" HMA Over 10" CTS

TB- APPROXIMATE TEST BORING LOCATION AND NUMBER

SCALE: 0 50 100

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SITE AND EXPLORATION PLAN

RETREAT AT PRAIRIE RIDGE F2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. 2

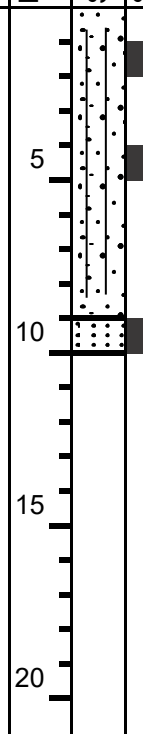
APPENDIX A: Test Boring Logs

TEST BORING 1
DATE DRILLED 9/17/2026

REMARKS

DRY TO 5', 9/17/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
FILL 0-9', SAND, SILTY, TAN to BROWN, MEDIUM DENSE to LOOSE, MOIST			14	7.1	1
5			6	6.8	1
SANDSTONE, EXTREMELY WEAK, TAN, HIGHLY WEATHERED (SAND, WITH SILT, VERY DENSE, MOIST) 10			50/11"	10.3	3
15					
20					

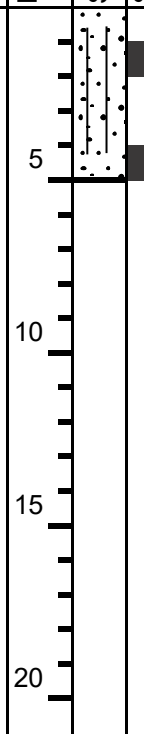


TEST BORING 2
DATE DRILLED 9/17/2026

REMARKS

DRY TO 5', 9/17/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
FILL 0-5', SAND, SILTY, TAN to BROWN, MEDIUM DENSE, MOIST			14	6.8	1
5			25	5.9	1
10					
15					
20					



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TEST BORING LOGS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. A-1

TEST BORING 3
DATE DRILLED 9/17/2026

REMARKS

DRY TO 5', 9/17/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
FILL 0-5', SAND, SILTY, TAN to BROWN, MEDIUM DENSE, MOIST					
			18	7.1	1
5			19	8.5	1
10					
15					
20					

TEST BORING 4
DATE DRILLED 9/17/2026

REMARKS

DRY TO 5', 9/17/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
FILL 0-8', SAND, SILTY, TAN to BROWN, LOOSE to MEDIUM DENSE, MOIST					
			9	6.5	1
5			11	6.8	1
SANDSTONE, EXTREMELY WEAK, TAN, HIGHLY WEATHERED (SAND, SILTY, VERY DENSE, MOIST)					
10			50/8"	7.7	3
15					
20					

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TEST BORING LOGS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. A-2

TEST BORING 5
DATE DRILLED 9/17/2026

REMARKS

DRY TO 5', 9/17/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
FILL 0-5', SAND, SILTY, TAN to BROWN, MEDIUM DENSE, MOIST			20	8.6	1
5			17	8.4	1
10					
15					
20					

TEST BORING 6
DATE DRILLED 9/18/2026

REMARKS

DRY TO 5', 9/18/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
FILL 0-5', SAND, SILTY, TAN to BROWN, MEDIUM DENSE, MOIST			16	7.0	1
5			13	6.4	1
10					
15					
20					

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TEST BORING LOGS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
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FIG. A-3

TEST BORING 7
DATE DRILLED 9/18/2026

REMARKS

DRY TO 5', 9/18/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			21	9.6	1
5			17	9.5	2
10					
15					
20					

FILL 0-3', SAND, SILTY, TAN, MEDIUM DENSE, MOIST

SAND, SILTY, OLIVE, MEDIUM DENSE, MOIST

TEST BORING 8
DATE DRILLED 9/18/2026

REMARKS

DRY TO 10', 9/18/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			13	7.5	1
5			18	7.3	2
10			50/10"	9.0	3
15					
20					

FILL 0-3', SAND, WITH SILT, TAN to BROWN, MEDIUM DENSE, MOIST

SAND, SILTY, TAN, MEDIUM DENSE, MOIST

SANDSTONE, EXTREMELY WEAK, TAN, HIGHLY WEATHERED (SAND, SILTY, VERY DENSE, MOIST)

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TEST BORING LOGS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

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FIG. A-4

TEST BORING 9
DATE DRILLED 9/18/2026

REMARKS

DRY TO 5', 9/18/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			23	8.3	1
5			50	12.3	3
10					
15					
20					

FILL 0-3', SAND, SILTY, TAN to BROWN, MEDIUM DENSE, MOIST

SANDSTONE, EXTREMELY WEAK, TAN, HIGHLY WEATHERED (SAND, SILTY, VERY DENSE, MOIST)

TEST BORING 10
DATE DRILLED 9/18/2026

REMARKS

DRY TO 5', 9/18/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			50/11"	10.0	3
5			50/9"	9.2	3
10					
15					
20					

SANDSTONE, EXTREMELY WEAK, TAN, HIGHLY WEATHERED (SAND, SILTY, VERY DENSE, MOIST)

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TEST BORING LOGS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
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FIG. A-5

TEST BORING 11
DATE DRILLED 9/18/2026

REMARKS

DRY TO 5', 9/18/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
	FILL 0-5', SAND, SILTY, TAN to BROWN, MEDIUM DENSE, MOIST		18	12.2	1
5			18	6.7	1
10					
15					
20					

TEST BORING 12
DATE DRILLED 9/18/2026

REMARKS

DRY TO 10', 9/18/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
	FILL 0-10', SAND, SILTY, TAN to BROWN, MEDIUM DENSE to DENSE, MOIST		18	6.6	1
5			20	6.6	1
10			32	6.6	1
15					
20					

ENTECH ENGINEERING, INC.

TEST BORING LOGS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. A-6

TEST BORING 13
DATE DRILLED 9/18/2026

REMARKS

DRY TO 5', 9/18/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
FILL 0-5', SAND, SILTY, TAN to BROWN, MEDIUM DENSE, MOIST			24	7.8	1
5			20	14.9	1
10					
15					
20					

TEST BORING 14
DATE DRILLED 9/18/2026

REMARKS

DRY TO 5', 9/18/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
FILL 0-5', SAND, SILTY, TAN to BROWN, MEDIUM DENSE, MOIST			21	6.5	1
5			14	11.1	1
10					
15					
20					

ENTECH ENGINEERING, INC.

TEST BORING LOGS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. A-7

TEST BORING 15
DATE DRILLED 9/18/2026

REMARKS

DRY TO 5', 9/18/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
	FILL 0-5', SAND, SILTY, TAN to BROWN, MEDIUM DENSE to LOOSE, MOIST		22	5.9	1
5			9	7.2	1
10					
15					
20					

TEST BORING 16
DATE DRILLED 9/18/2026

REMARKS

DRY TO 10', 9/18/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
	FILL 0-10', SAND, SILTY, TAN to BROWN, MEDIUM DENSE to LOOSE, MOIST		22	7.1	1
5			13	7.1	1
10			6	6.1	1
15					
20					

ENTECH ENGINEERING, INC.

TEST BORING LOGS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. A-8

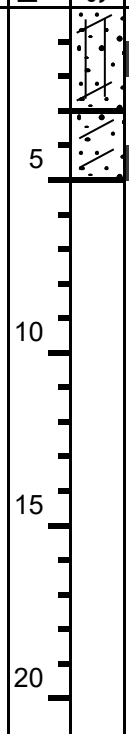
TEST BORING 17
DATE DRILLED 9/18/2026

REMARKS

DRY TO 5', 9/18/26

FILL 0-3', SAND, CLAYEY-SILTY, OLIVE, MEDIUM DENSE, MOIST

SAND, CLAYEY, TAN, DENSE, MOIST



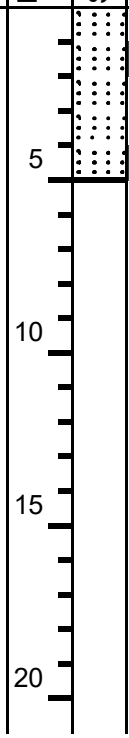
Symbol	Samples	Blows per foot	Watercontent %	Soil Type
		16	15.3	1A
		46	13.7	2

TEST BORING 18
DATE DRILLED 9/18/2026

REMARKS

DRY TO 5', 9/18/26

SANDSTONE, EXTREMELY WEAK, TAN, HIGHLY WEATHERED (SAND, WITH SILT, VERY DENSE, MOIST)



Symbol	Samples	Blows per foot	Watercontent %	Soil Type
		50/9"	9.4	3
		50/7"	6.4	3

ENTECH ENGINEERING, INC.

TEST BORING LOGS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. A-9

TEST BORING 19
DATE DRILLED 9/18/2026

REMARKS

DRY TO 5', 9/18/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
	SAND, SILTY, TAN, MEDIUM DENSE, MOIST		12	9.3	2
5			27	8.2	2
10					
15					
20					

TEST BORING 20
DATE DRILLED 9/18/2026

REMARKS

DRY TO 10', 9/18/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
	FILL 0-8', SAND, SILTY, TAN to BROWN, MEDIUM DENSE, MOIST		19	5.2	1
5			12	8.6	1
10	SANDSTONE, EXTREMELY WEAK, TAN, HIGHLY WEATHERED (SAND, WITH SILT, VERY DENSE, MOIST)		50/11"	7.4	3
15					
20					

ENTECH ENGINEERING, INC.

TEST BORING LOGS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. A-10

TEST BORING 21
DATE DRILLED 9/18/2026

REMARKS

DRY TO 5', 9/18/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
SANDSTONE, EXTREMELY WEAK, TAN, HIGHLY WEATHERED (SAND, WITH SILT, VERY DENSE, MOIST)			50/9"	7.9	3
5			50/7"	9.3	3
10					
15					
20					

TEST BORING 22
DATE DRILLED 9/18/2026

REMARKS

DRY TO 5', 9/18/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
SANDSTONE, EXTREMELY WEAK, TAN, HIGHLY WEATHERED (SAND, WITH SILT, VERY DENSE, MOIST)			50/9"	7.9	3
5			50/7"	9.3	3
10					
15					
20					

ENTECH ENGINEERING, INC.

TEST BORING LOGS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. A-11

TEST BORING 23
DATE DRILLED 9/18/2026

REMARKS

DRY TO 5', 9/17/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			9	13.3	1
			*	13.2	
5			41	10.5	2
10					
15					
20					

FILL 0-4', SAND, SILTY, TAN to BROWN, MEDIUM DENSE, MOIST

SAND, SILTY, GREEN-GRAY, DENSE, MOIST

* - BULK SAMPLE TAKEN

TEST BORING 24
DATE DRILLED 9/18/2026

REMARKS

DRY TO 10', 9/18/26

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			50/10"	8.4	3
5			50/10"	10.2	3
10			50/6"	9.1	3
15					
20					

SANDSTONE, EXTREMELY WEAK, TAN, HIGHLY WEATHERED (SAND, WITH SILT, VERY DENSE, MOIST)

ENTECH ENGINEERING, INC.

TEST BORING LOGS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. A-12

TEST BORING 25
DATE DRILLED 9/18/2026

REMARKS

DRY TO 5', 9/18/26

SANDSTONE, EXTREMELY WEAK, TAN, HIGHLY WEATHERED (SAND, WITH SILT, VERY DENSE, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			50/7"	6.0	3
5			50/6"	5.7	3
10					
15					
20					

TEST BORING 26
DATE DRILLED 9/18/2026

REMARKS

DRY TO 5', 9/18/26

FILL 0-5', SAND, SILTY, TAN to BROWN, LOOSE to MEDIUM DENSE, MOIST

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			6	7.4	1
5			13	9.8	1
10					
15					
20					

ENTECH ENGINEERING, INC.

TEST BORING LOGS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

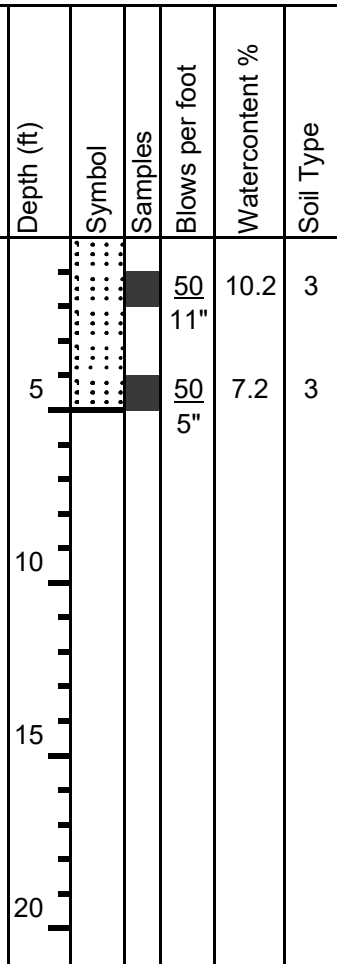
JOB NO. 241932

FIG. A-13

TEST BORING 27
DATE DRILLED 9/18/2026

REMARKS

DRY TO 5', 9/18/26



ENTECH ENGINEERING, INC.

TEST BORING LOGS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. A-14

APPENDIX B: Laboratory Test Results

TABLE B-1
SUMMARY OF LABORATORY TEST RESULTS

ENTECH ENGINEERING, INC.

SOIL TYPE	TEST BORING NO.	DEPTH (FT)	WATER (%)	DRY DENSITY (PCF)	PASSING NO. 200 SIEVE (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTIC INDEX	SULFATE (WT %)	SWELL/ COLLAPSE (%)	AASHTO CLASS. (GROUP INDEX)	USCS	SOIL DESCRIPTION
1, CBR	14	0-3	3.7		33.0	26	21	5			A-2-4 (0)	SC-SM	FILL, SAND, CLAYEY-SILTY
1	1	1-2	7.0		14.9	31	25	6			A-2-4 (0)	SM	FILL, SAND, SILTY
1	2	1-2	6.2		20.3	31	25	6	<0.01		A-2-4 (0)	SM	FILL, SAND, SILTY
1	3	1-2	7.4		17.2	33	24	9			A-2-4 (0)	SM	FILL, SAND, SILTY
1	4	1-2	7.0		20.0	33	26	7			A-2-4 (0)	SM	FILL, SAND, SILTY
1	5	1-2	7.8		18.1	32	24	8			A-2-4 (0)	SM	FILL, SAND, SILTY
1	6	1-2	6.9		18.8	36	26	10			A-1-b (0)	SM	FILL, SAND, SILTY
1	7	1-2	7.7		31.7	34	24	10			A-2-4 (0)	SM	FILL, SAND, SILTY
1	8	1-2	6.8		8.7	NV	NP	NP			A-1-b (0)	SW-SM	FILL, SAND, WITH SILT
1	9	1-2	7.4		17.3	NV	NP	NP	<0.01		A-2-4 (0)	SM	FILL, SAND, SI LTY
1	11	1-2	5.2		19.5	30	26	4			A-2-4 (0)	SM	FILL, SAND, SILTY
1	12	1-2	6.0		22.0	29	23	6			A-2-4 (0)	SM	FILL, SAND, SILTY
1	13	1-2	8.6		24.6	32	25	7			A-2-4 (0)	SM	FILL, SAND, SILTY
1	14	1-2	22.7	105.2	23.0	33	24	9		0.3	A-2-4 (0)	SM	FILL, SAND, SILTY
1	15	1-2	7.6	111.1	22.0	27	22	5		-0.4	A-2-4 (0)	SM	FILL, SAND, SILTY
1	16	1-2	10.6		30.3	36	27	9			A-2-4 (0)	SM	FILL, SAND, SILTY
1	20	1-2	11.7	116.2	23.1	32	23	9		0.0	A-2-4 (0)	SM	FILL, SAND, SILTY
1	23	1-2	14.2		12.0	NV	NP	NP			A-2-4 (0)	SM	FILL, SAND, SILTY
1	26	1-2	8.7		28.4	29	24	5			A-2-4 (0)	SM	FILL, SAND, SILTY
1	14	5	11.0	108.1	23.1	36	30	6		0.0	A-2-4 (0)	SM	FILL, SAND, SILTY
1	1	0-3	6.2		29.3	28	20	8			A-2-4 (0)	SC	FILL, SAND, CLAYEY
1	8	0-3	2.4		22.7	30	21	9			A-2-4 (0)	SC	FILL, SAND, CLAYEY
1	13	0-3	2.0		27.1	27	20	7			A-2-4 (0)	SC	FILL, SAND, CLAYEY
1A, CBR	27	0-3	4.4		46.1	30	21	9			A-4 (1)	SC	FILL, SAND, CLAYEY
1A	13	5	9.8	110.9	49.1	29	25	4		0.1	A-4 (0)	SM	FILL, SAND, SILTY
1A	17	1-2	17.7	106.7	44.4	30	25	5		0.2	A-4 (0)	SM	FILL, SAND, SILTY
1A	17	0-3	4.5		25.0	30	21	9			A-2-4 (0)	SC	FILL, SAND, CLAYEY
2	19	1-2	8.8		22.8	39	30	9			A-2-4 (0)	SM	SAND, SILTY
2	7	5	10.8		29.3	34	28	6			A-2-4 (0)	SM	SAND, SILTY
3	10	1-2	10.1		12.2	NV	NP	NP	<0.01		A-1-b (0)	SM	SANDSTONE (SAND, SILTY)
3	21	1-2	7.8		10.2	NV	NP	NP			A-2-4 (0)	SM	SANDSTONE (SAND, WITH SILT)
3	22	1-2	9.2		6.1	NV	NP	NP			A-1-b (0)	SW-SM	SANDSTONE (SAND, WITH SILT)
3	24	1-2	9.6		6.3	NV	NP	NP			A-1-b (0)	SW-SM	SANDSTONE (SAND, WITH SILT)
3	25	1-2	7.7		6.1	NV	NP	NP			A-1-b (0)	SW-SM	SANDSTONE (SAND, WITH SILT)
3	27	1-2	10.1		45.4	28	22	6			A-4 (0)	SM	SANDSTONE (SAND, SILTY)
3	1	10	10.2		10.0	NV	NP	NP	<0.01		A-1-b (0)	SW-SM	SANDSTONE (SAND, WITH SILT)

Project: Retreat at Prairie Ridge, Filing No. 2, Phase 1
Client: Classic SRJ
Job No: 241932

TABLE B-1
SUMMARY OF LABORATORY TEST RESULTS

SOIL TYPE	TEST BORING NO.	DEPTH (FT)	WATER (%)	DRY DENSITY (PCF)	PASSING NO. 200 SIEVE (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTIC INDEX	SULFATE (WT %)	SWELL/ COLLAPSE (%)	AASHTO CLASS. (GROUP INDEX)	USCS	SOIL DESCRIPTION
3	4	10	7.4		13.6	NV	NP	NP			A-1-b (0)	SM	SANDSTONE (SAND, SILTY)
3	8	10	10.0		18.3	NV	NP	NP			A-2-4 (0)	SM	SANDSTONE (SAND, SILTY)
3	9	5	14.2		35.6	NV	NP	NP			A-4 (0)	SM	SANDSTONE (SAND, SILTY)
3	23	5	20.0	100.5	23.4	NV	NP	NP		3.2	A-2-4 (0)	SM	SANDSTONE (SAND, SILTY)
3	21	0-3	5.0		34.3	28	21	7			A-2-4 (0)	SC	SANDSTONE (SAND, CLAYEY)

Project: Retreat at Prairie Ridge, Filing No. 2, Phase 1
Client: Classic SRJ
Job No: 241932

ENTECH ENGINEERING, INC.

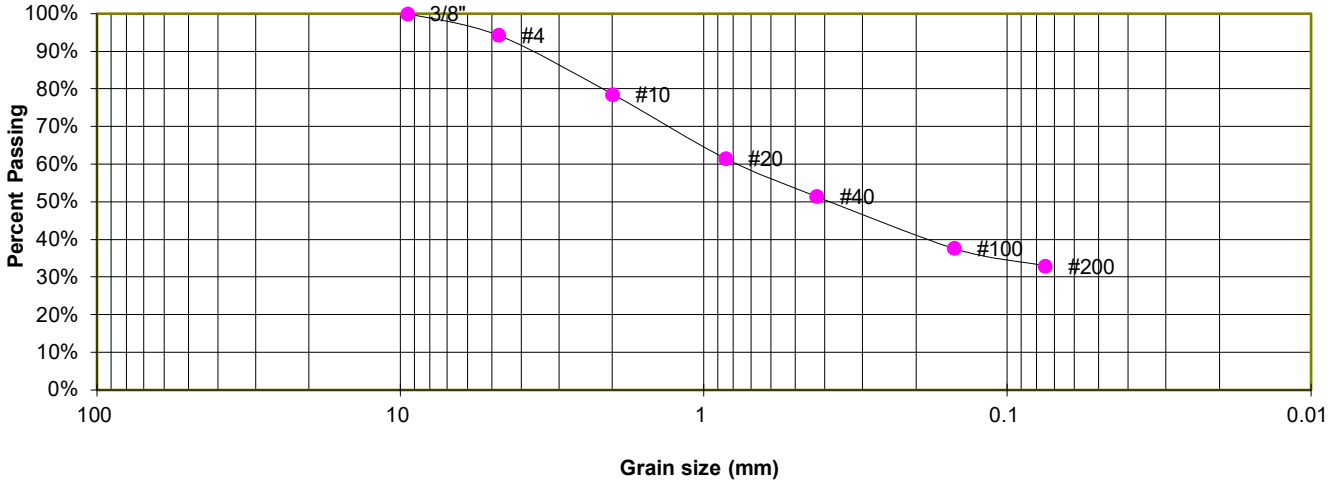
TABLE B-2
SUMMARY OF CTS TEST RESULTS

FIELD SAMPLE ID	SOIL ADDITIVE	ADDITIVE PERCENTAGE (%)	WATER CONTENT (%)	DENSITY (dry)	AGE (days)	STRENGTH (psi)
TB-14 @ 0-3'	TYPE IL CEMENT	2	7.4	124.0	7	232
				123.8		368
				123.7		365
					AVERAGE:	**322**
TB-14 @ 0-3'	TYPE IL CEMENT	4	7.4	123.7	7	430
				123.7		418
				123.7		430
					AVERAGE:	**426**
TB-27 @ 0-3'	TYPE IL CEMENT	2	11.3	111.5	7	342
				111.5		267
				111.2		309
					AVERAGE:	**306**
TB-27 @ 0-3'	TYPE IL CEMENT	4	11.3	111.5	7	290
				111.5		398
				111.5		419
					AVERAGE:	**369**

Notes:

1. CURING METHOD: Ambient Temperature Oven

TEST BORING	14	SOIL DESCRIPTION	FILL, SAND, CLAYEY-SILTY
DEPTH (FT)	0-3	SOIL TYPE	1, CBR



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	94.3%
10	78.6%
20	61.6%
40	51.5%
100	37.7%
200	33.0%

ATTERBERG LIMITS

Plastic Limit	21
Liquid Limit	26
Plastic Index	5

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SC-SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

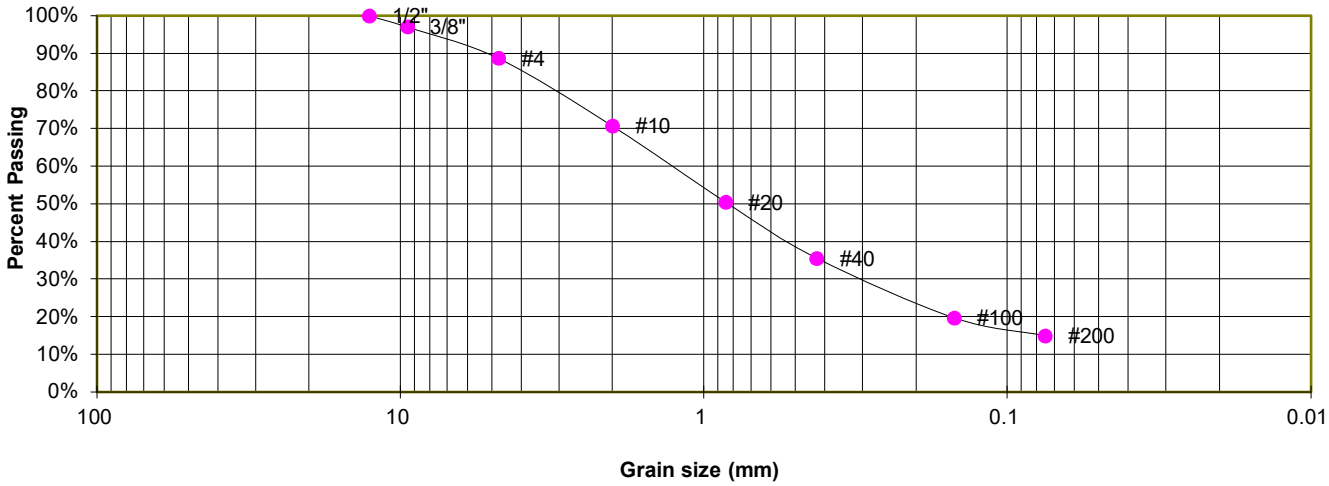
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-1

TEST BORING	1	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	97.1%
4	88.7%
10	70.7%
20	50.5%
40	35.6%
100	19.8%
200	14.9%

ATTERBERG LIMITS

Plastic Limit	25
Liquid Limit	31
Plastic Index	6

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

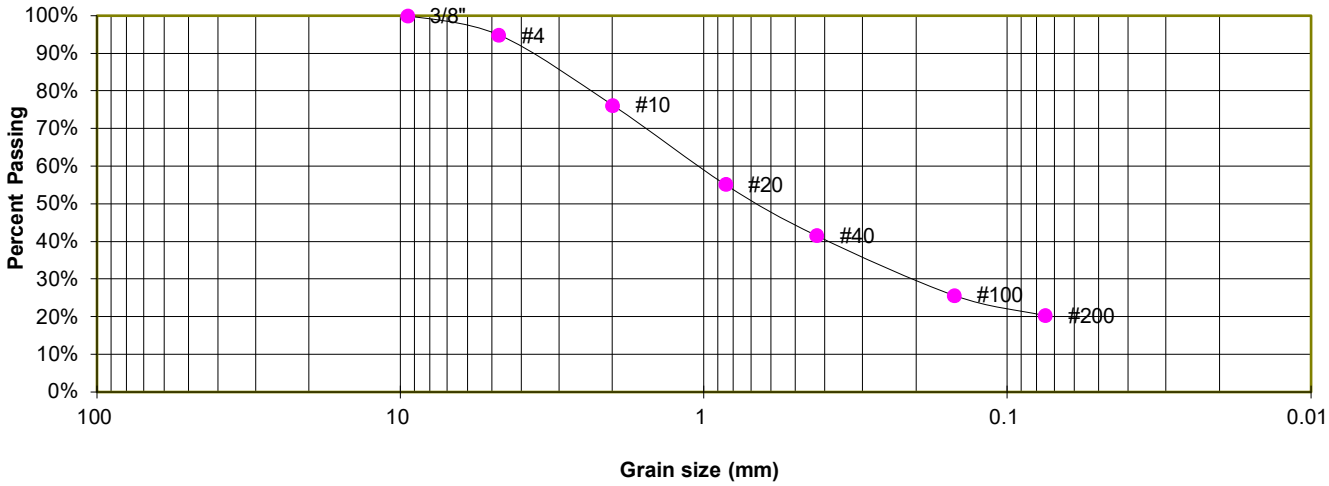
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-2

TEST BORING	2	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	94.9%
10	76.2%
20	55.2%
40	41.6%
100	25.7%
200	20.3%

ATTERBERG LIMITS

Plastic Limit	25
Liquid Limit	31
Plastic Index	6

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

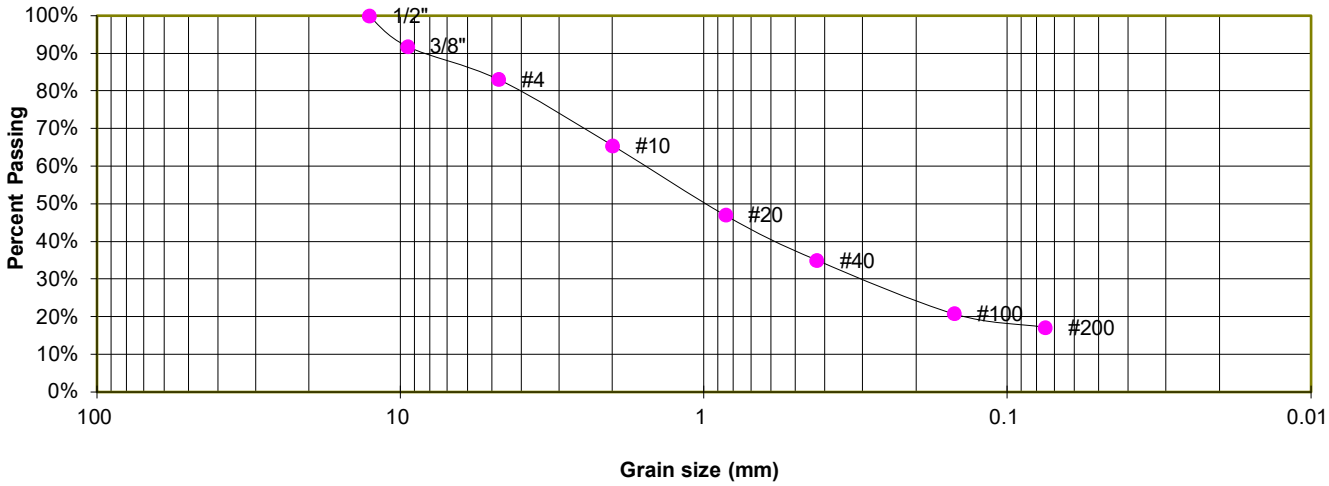
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-3

TEST BORING	3	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	91.9%
4	83.1%
10	65.5%
20	47.0%
40	35.1%
100	20.8%
200	17.2%

ATTERBERG LIMITS

Plastic Limit	24
Liquid Limit	33
Plastic Index	9

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

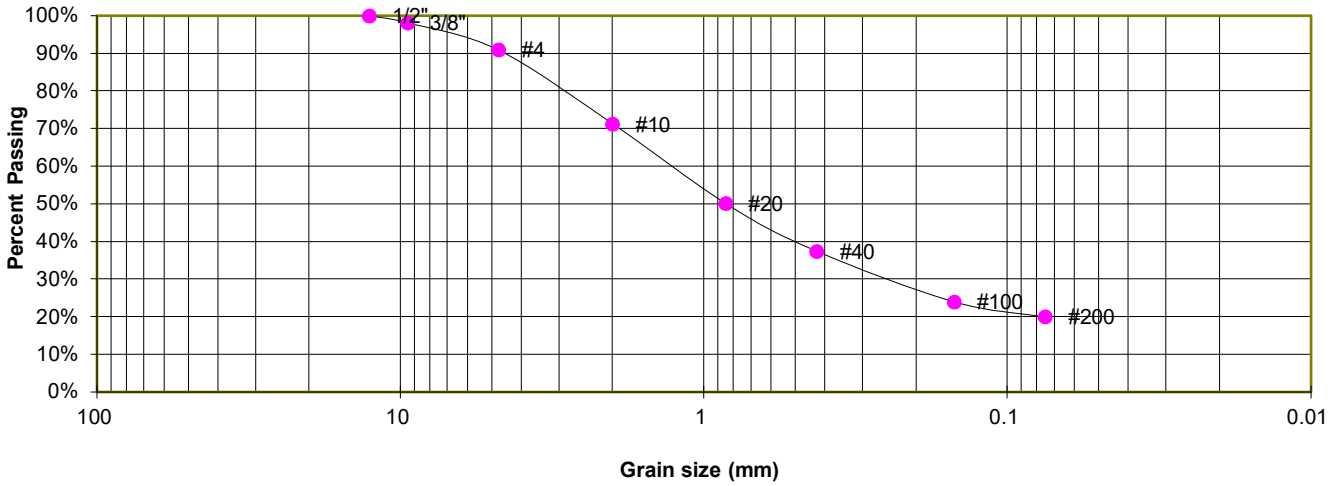
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-4

TEST BORING	4	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	98.2%
4	91.0%
10	71.3%
20	50.1%
40	37.4%
100	24.0%
200	20.0%

ATTERBERG LIMITS

Plastic Limit	26
Liquid Limit	33
Plastic Index	7

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

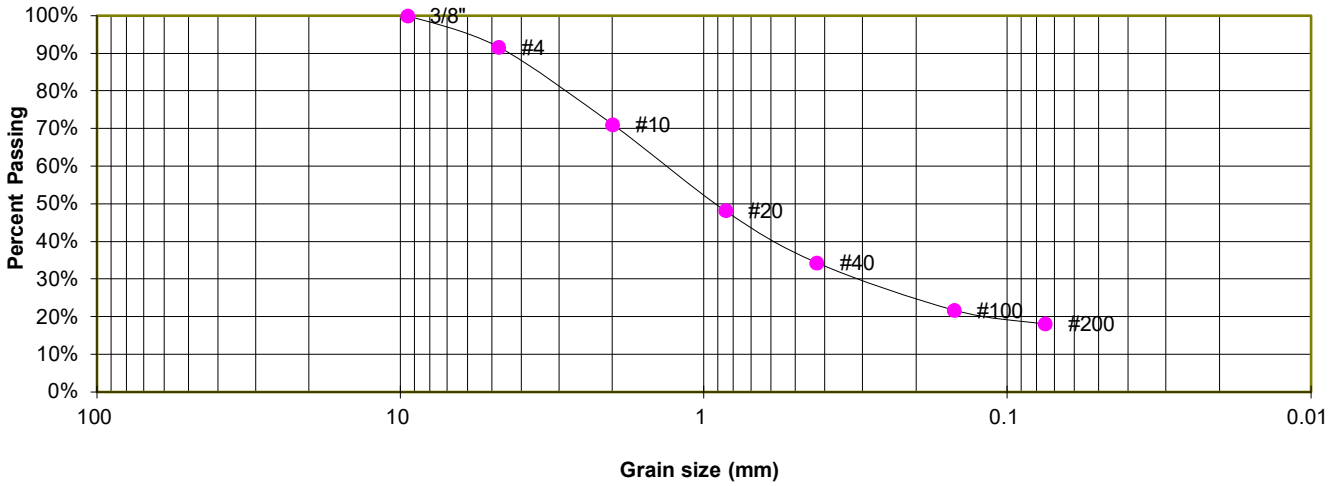
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-5

TEST BORING	5	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	91.7%
10	71.1%
20	48.2%
40	34.4%
100	21.8%
200	18.1%

ATTERBERG LIMITS

Plastic Limit	24
Liquid Limit	32
Plastic Index	8

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

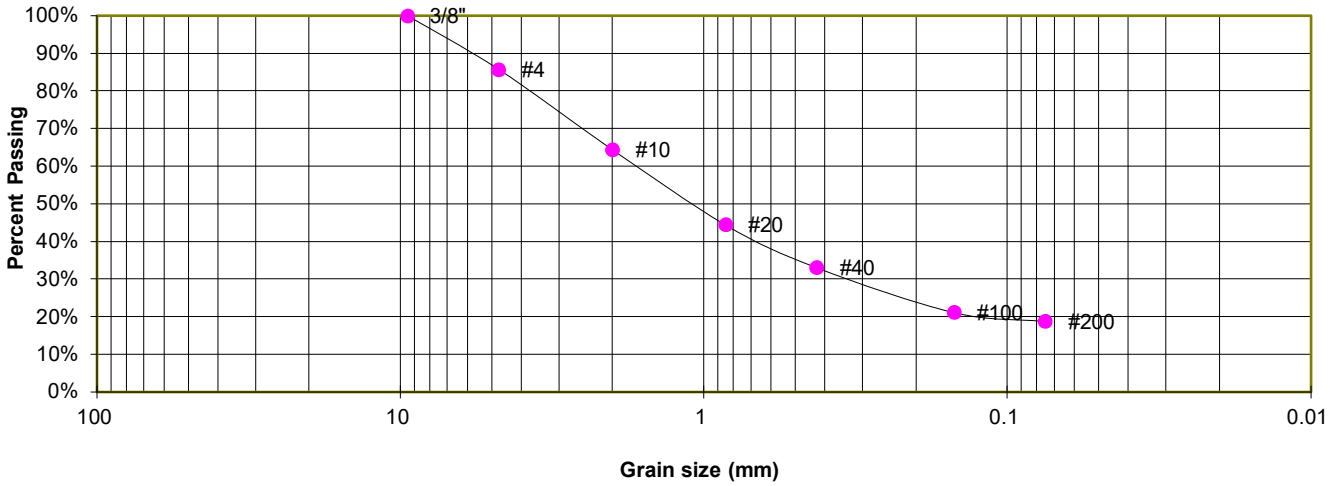
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-6

TEST BORING	6	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	85.8%
10	64.4%
20	44.5%
40	33.1%
100	21.2%
200	18.8%

ATTERBERG LIMITS

Plastic Limit	26
Liquid Limit	36
Plastic Index	10

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-1-b
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

LABORATORY TEST RESULTS

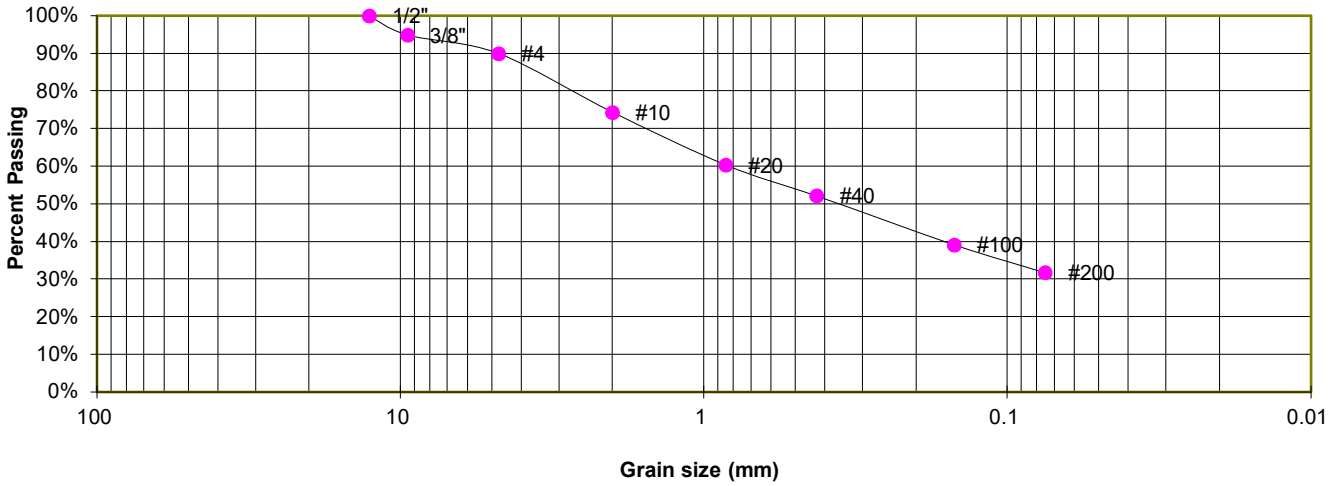
PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-7

TEST BORING	7	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1

Sieve Analysis
Grain Size Distribution



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	94.9%
4	90.0%
10	74.3%
20	60.4%
40	52.2%
100	39.2%
200	31.7%

ATTERBERG LIMITS

Plastic Limit	24
Liquid Limit	34
Plastic Index	10

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

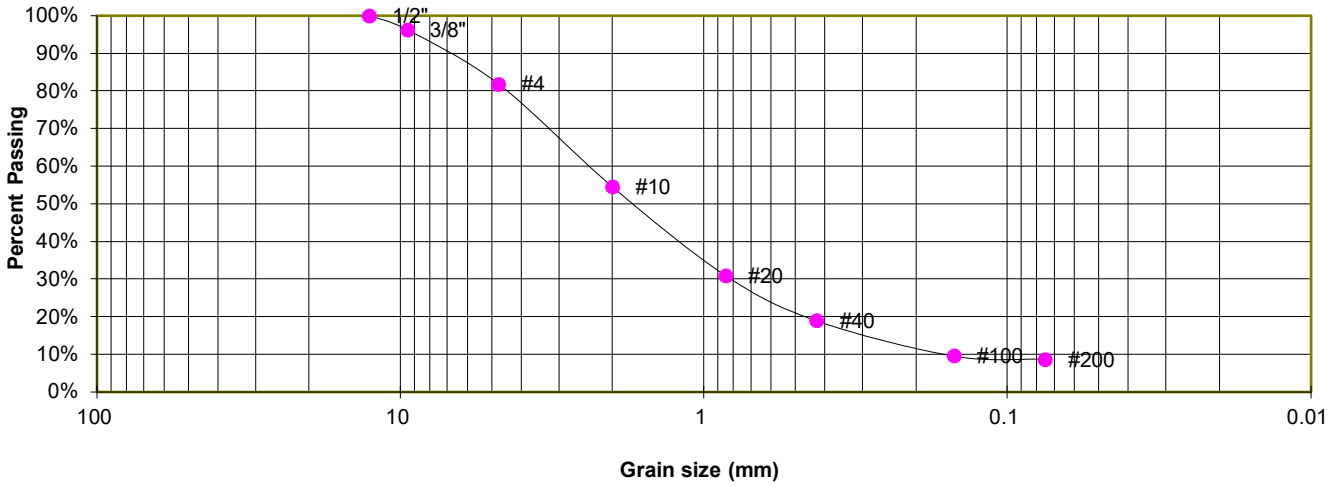
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-8

TEST BORING	8	SOIL DESCRIPTION	FILL, SAND, WITH SILT
DEPTH (FT)	1-2	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	96.3%
4	81.9%
10	54.5%
20	31.0%
40	19.0%
100	9.6%
200	8.7%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION: SW-SM
AASHTO CLASSIFICATION: A-1-b
AASHTO GROUP INDEX: 0

ENTECH ENGINEERING, INC.

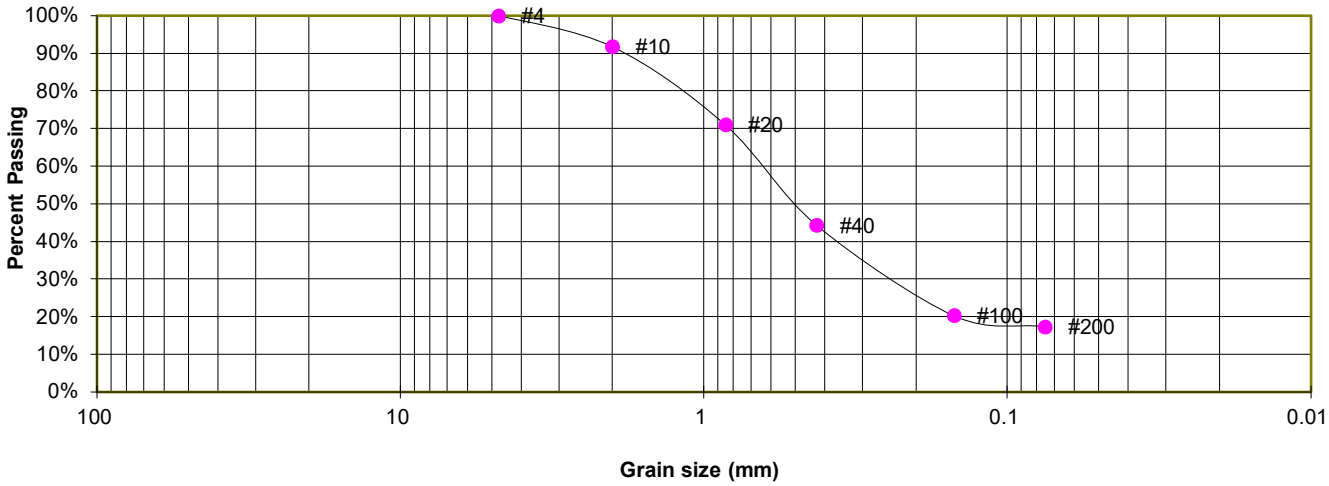
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-9

TEST BORING	9	SOIL DESCRIPTION	FILL, SAND, SI LTY
DEPTH (FT)	1-2	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	91.7%
20	71.0%
40	44.3%
100	20.4%
200	17.3%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

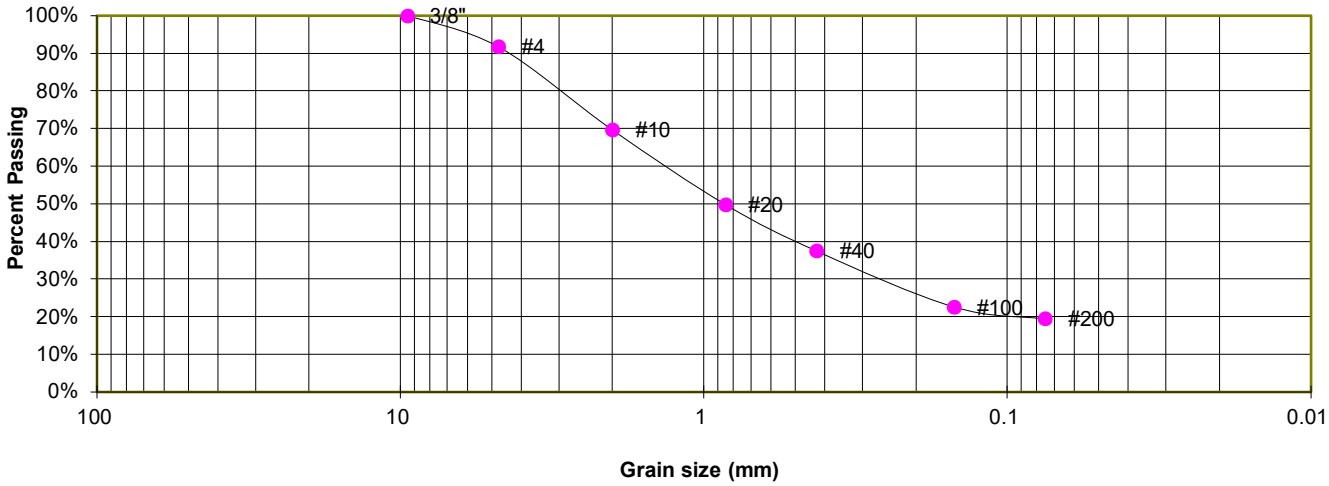
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-10

TEST BORING	11	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	91.8%
10	69.7%
20	49.8%
40	37.5%
100	22.6%
200	19.5%

ATTERBERG LIMITS

Plastic Limit	26
Liquid Limit	30
Plastic Index	4

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

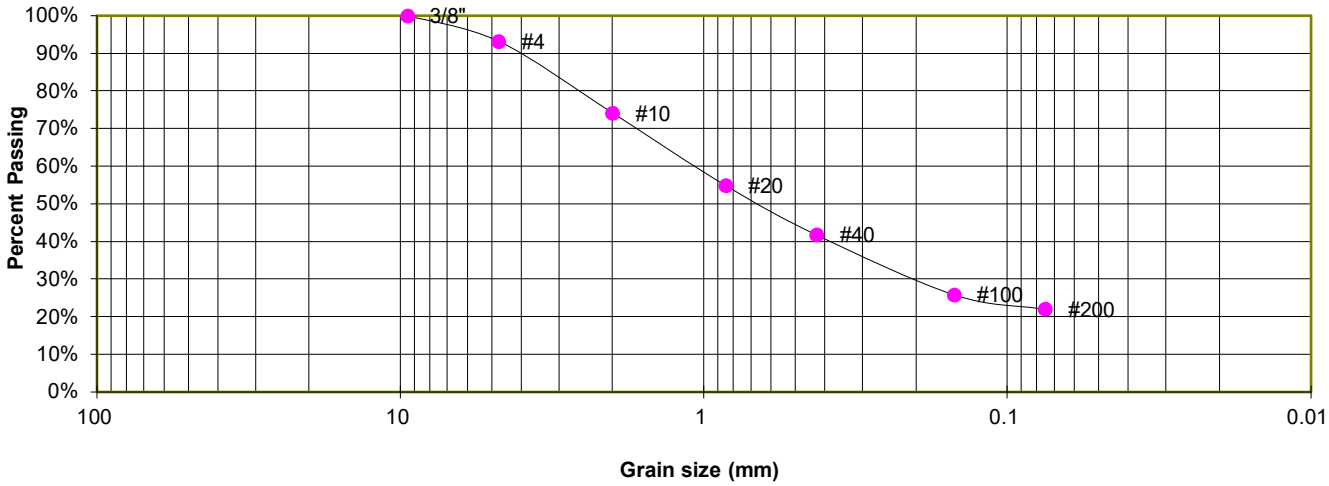
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-11

TEST BORING	12	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	93.2%
10	74.2%
20	54.9%
40	41.7%
100	25.8%
200	22.0%

ATTERBERG LIMITS

Plastic Limit	23
Liquid Limit	29
Plastic Index	6

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

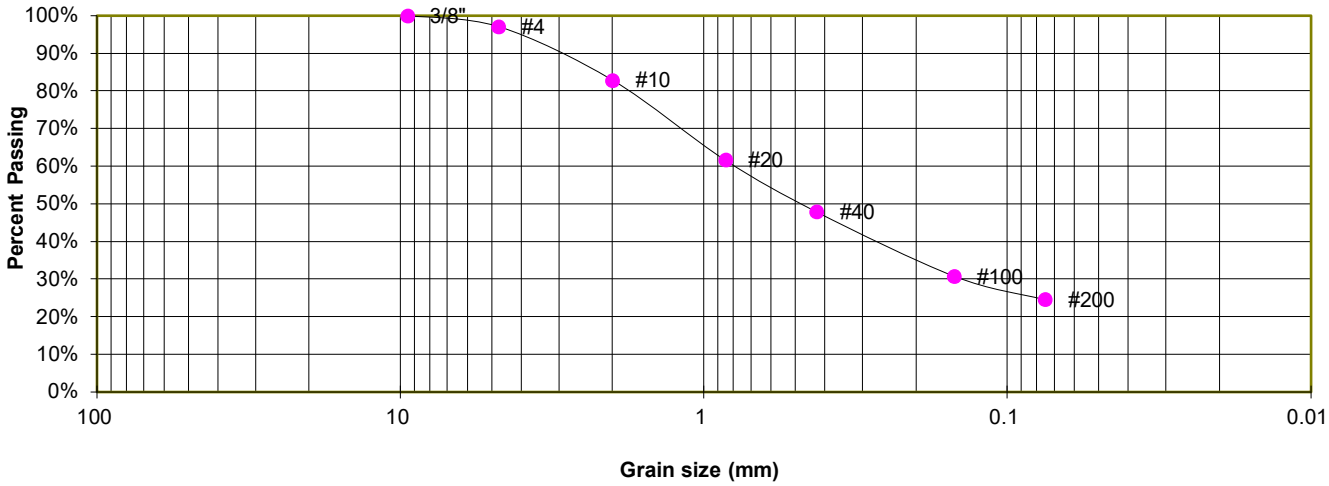
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-12

TEST BORING	13	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	97.1%
10	82.9%
20	61.6%
40	47.9%
100	30.8%
200	24.6%

ATTERBERG LIMITS

Plastic Limit	25
Liquid Limit	32
Plastic Index	7

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

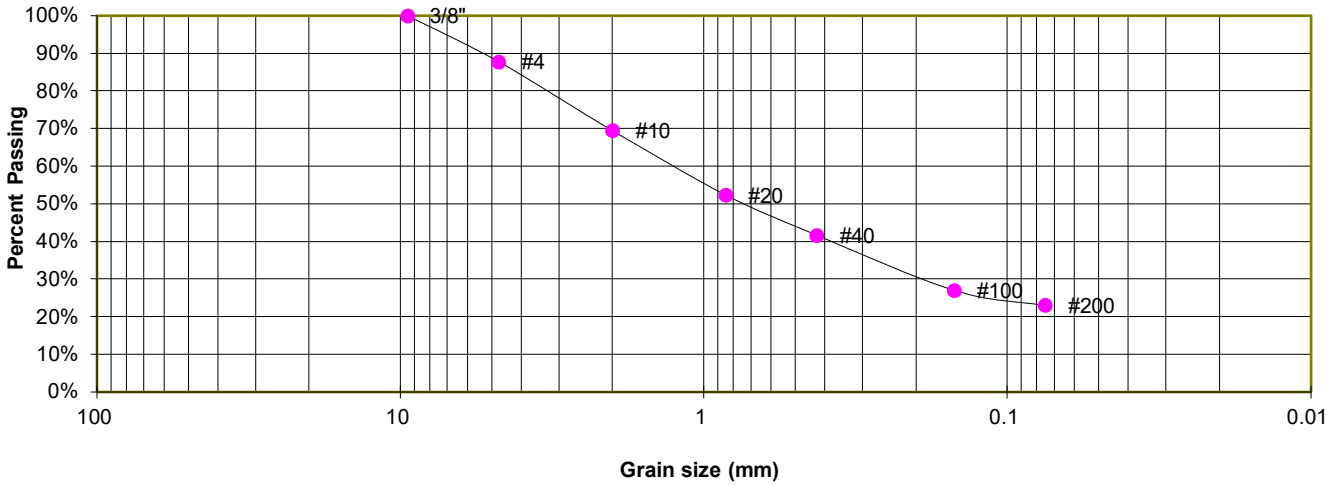
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-13

TEST BORING	14	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	87.8%
10	69.5%
20	52.4%
40	41.7%
100	27.0%
200	23.0%

ATTERBERG LIMITS

Plastic Limit	24
Liquid Limit	33
Plastic Index	9

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

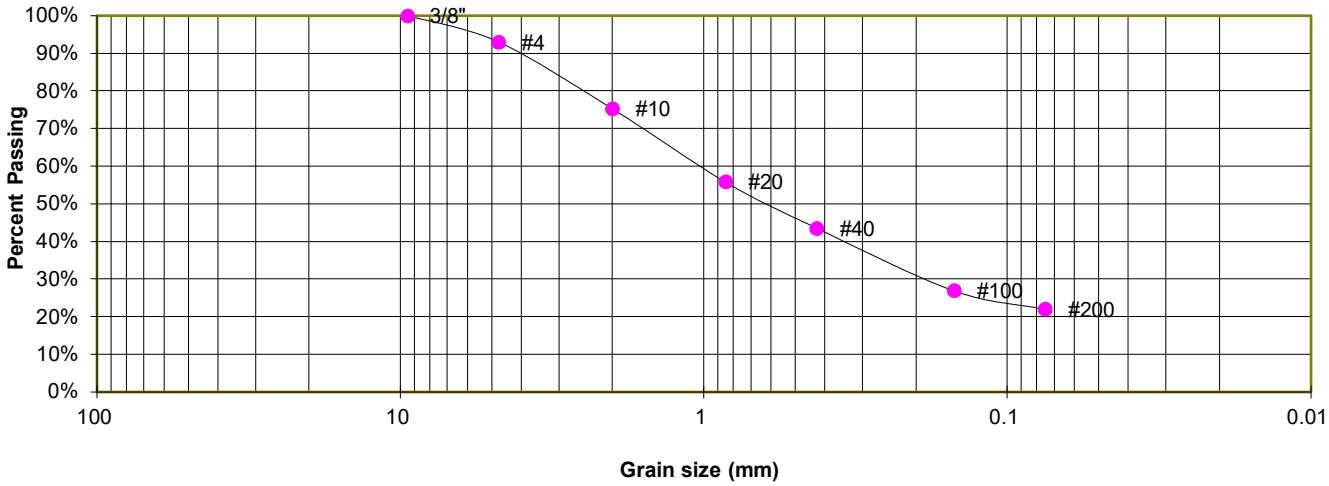
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-14

TEST BORING	15	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	93.0%
10	75.3%
20	55.9%
40	43.6%
100	26.9%
200	22.0%

ATTERBERG LIMITS

Plastic Limit	22
Liquid Limit	27
Plastic Index	5

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

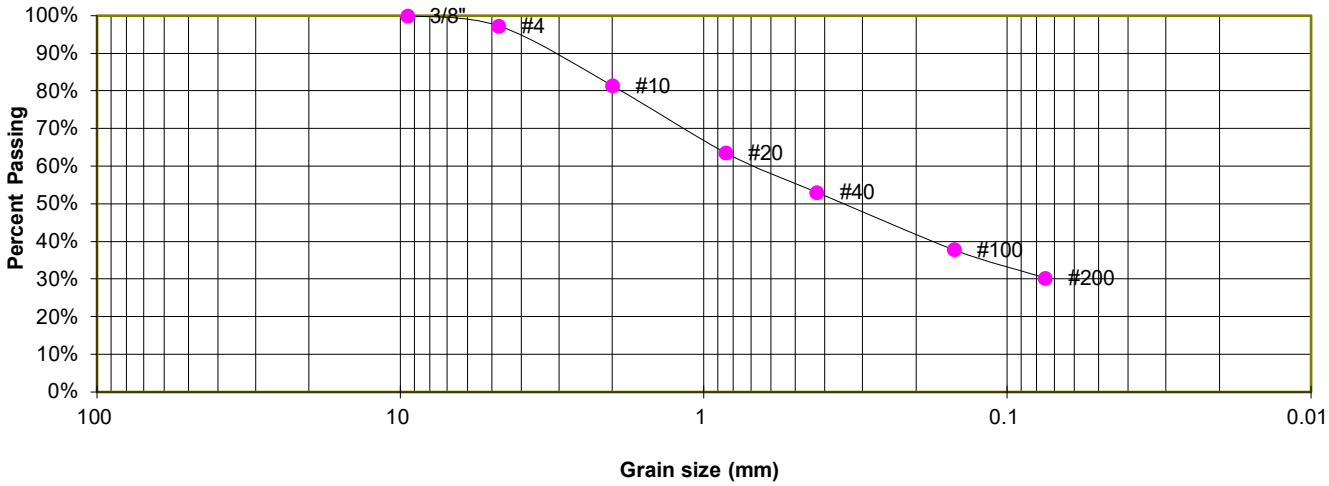
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-15

TEST BORING	16	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	97.3%
10	81.4%
20	63.6%
40	53.1%
100	37.9%
200	30.3%

ATTERBERG LIMITS

Plastic Limit	27
Liquid Limit	36
Plastic Index	9

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

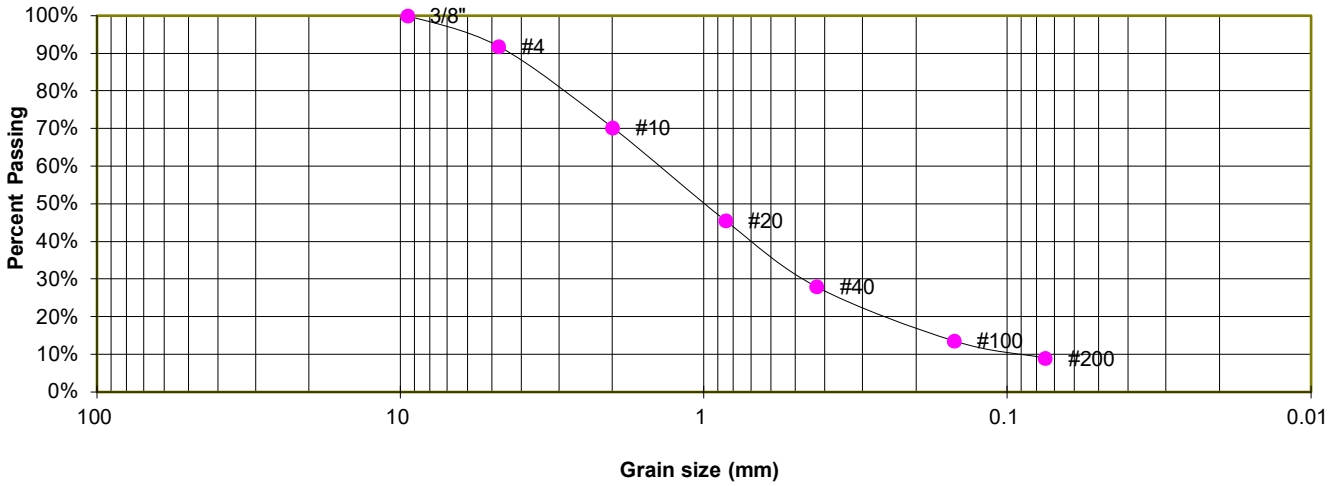
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-16

TEST BORING	18	SOIL DESCRIPTION	SANDSTONE (SAND, WITH SILT)
DEPTH (FT)	1-2	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	91.8%
10	70.2%
20	45.6%
40	28.0%
100	13.6%
200	9.0%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SW-SM
AASHTO CLASSIFICATION:	A-1-b
AASHTO GROUP INDEX:	0

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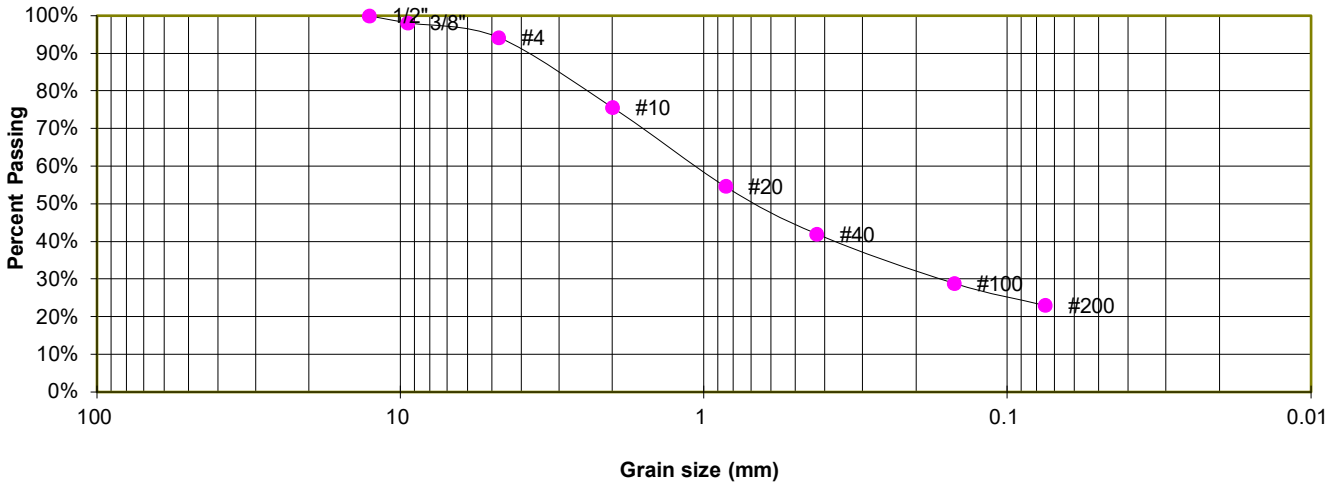
LABORATORY TEST RESULTS

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CLASSIC SRJ

JOB NO. 241932

FIG. B-17

TEST BORING	20	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	98.1%
4	94.2%
10	75.6%
20	54.7%
40	42.0%
100	28.9%
200	23.1%

ATTERBERG LIMITS

Plastic Limit	23
Liquid Limit	32
Plastic Index	9

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

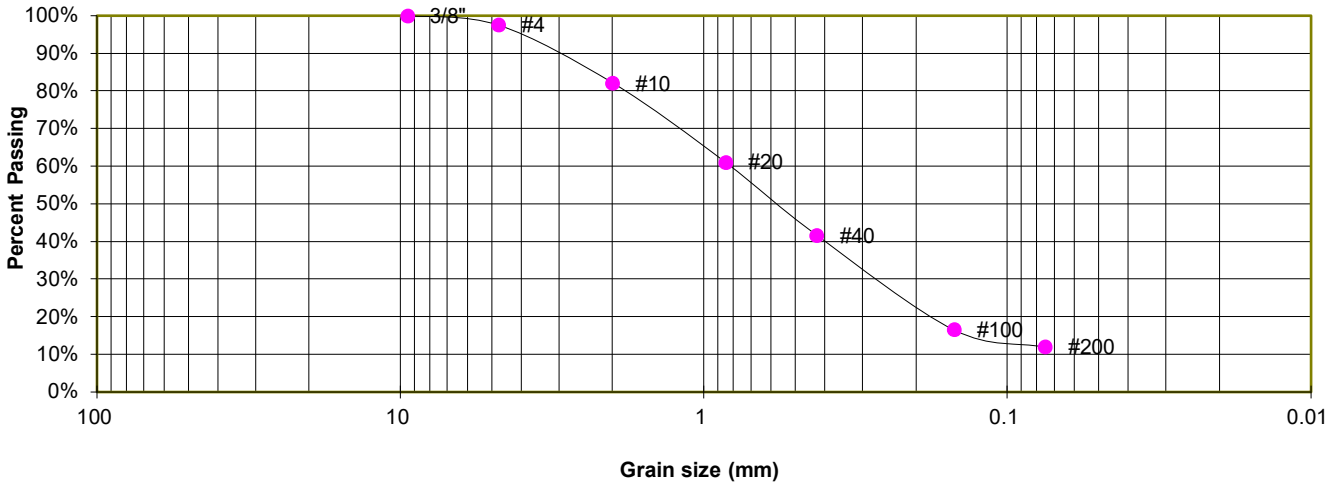
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-18

TEST BORING	23	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	97.6%
10	82.1%
20	61.1%
40	41.6%
100	16.6%
200	12.0%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

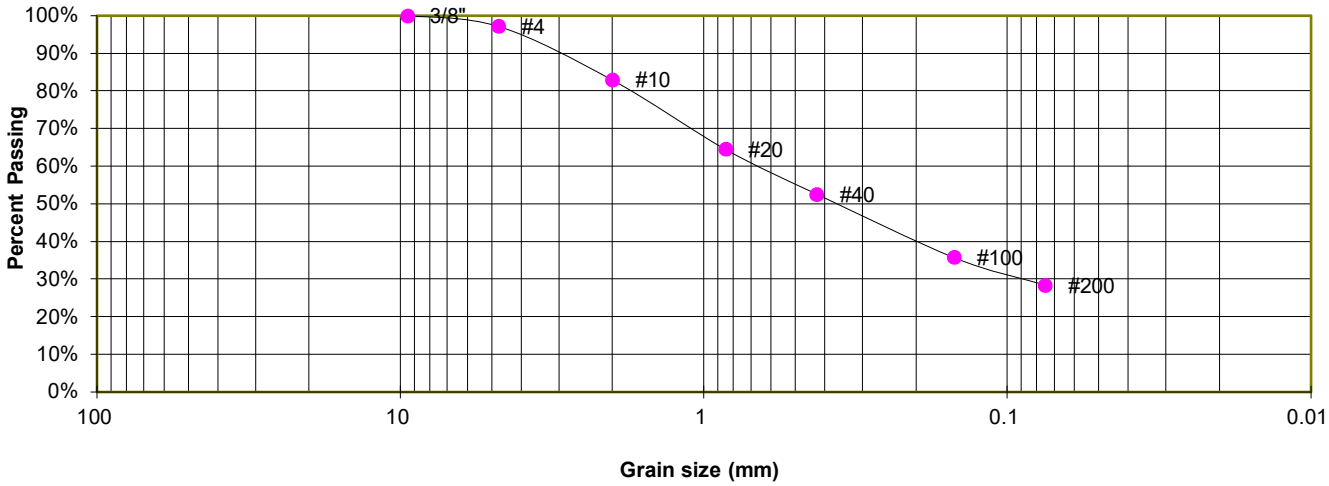
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-19

TEST BORING	26	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	97.2%
10	82.9%
20	64.6%
40	52.6%
100	35.8%
200	28.4%

ATTERBERG LIMITS

Plastic Limit	24
Liquid Limit	29
Plastic Index	5

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

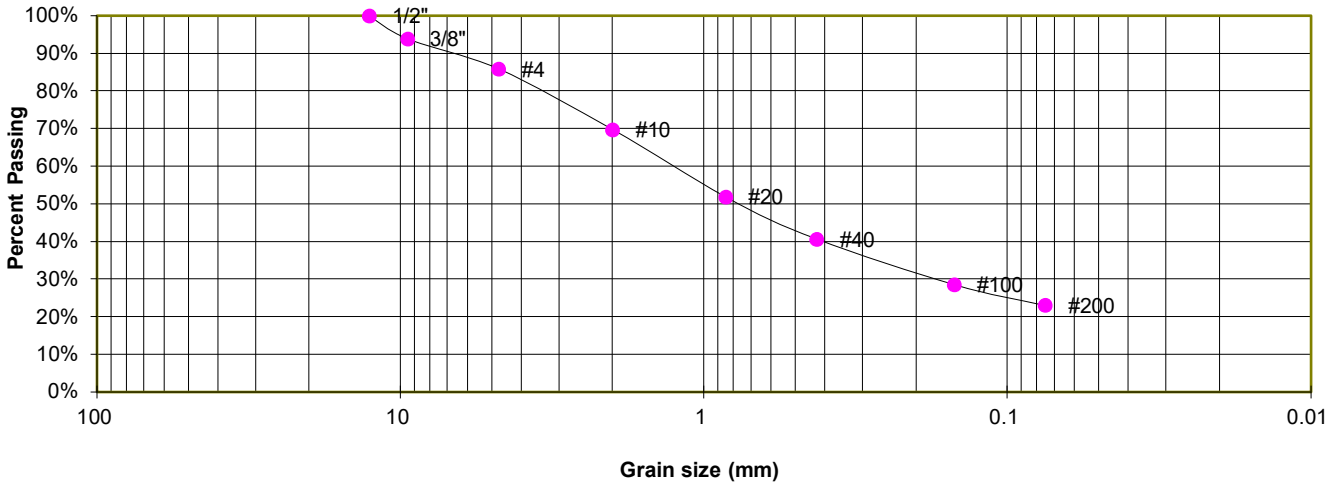
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-20

TEST BORING	14	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	5	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	93.9%
4	85.9%
10	69.8%
20	51.9%
40	40.6%
100	28.6%
200	23.1%

ATTERBERG LIMITS

Plastic Limit	30
Liquid Limit	36
Plastic Index	6

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

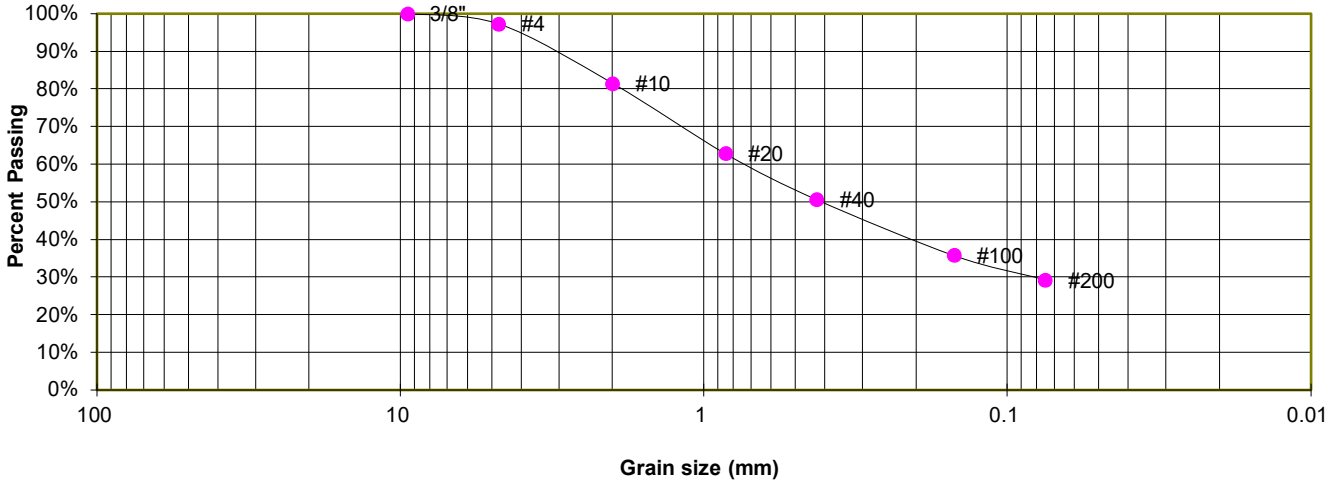
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-21

TEST BORING	1	SOIL DESCRIPTION	FILL, SAND, CLAYEY
DEPTH (FT)	0-3	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	97.3%
10	81.5%
20	62.9%
40	50.6%
100	35.8%
200	29.3%

ATTERBERG LIMITS

Plastic Limit	20
Liquid Limit	28
Plastic Index	8

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SC
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

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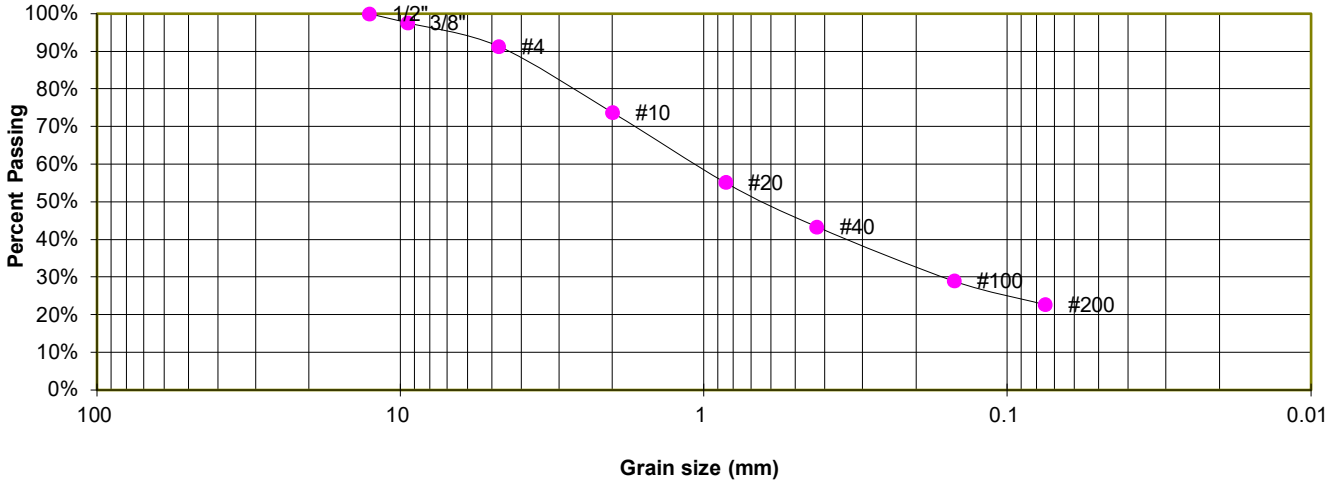
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-22

TEST BORING	8	SOIL DESCRIPTION	FILL, SAND, CLAYEY
DEPTH (FT)	0-3	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	97.7%
4	91.4%
10	73.7%
20	55.2%
40	43.4%
100	29.0%
200	22.7%

ATTERBERG LIMITS

Plastic Limit	21
Liquid Limit	30
Plastic Index	9

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SC
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

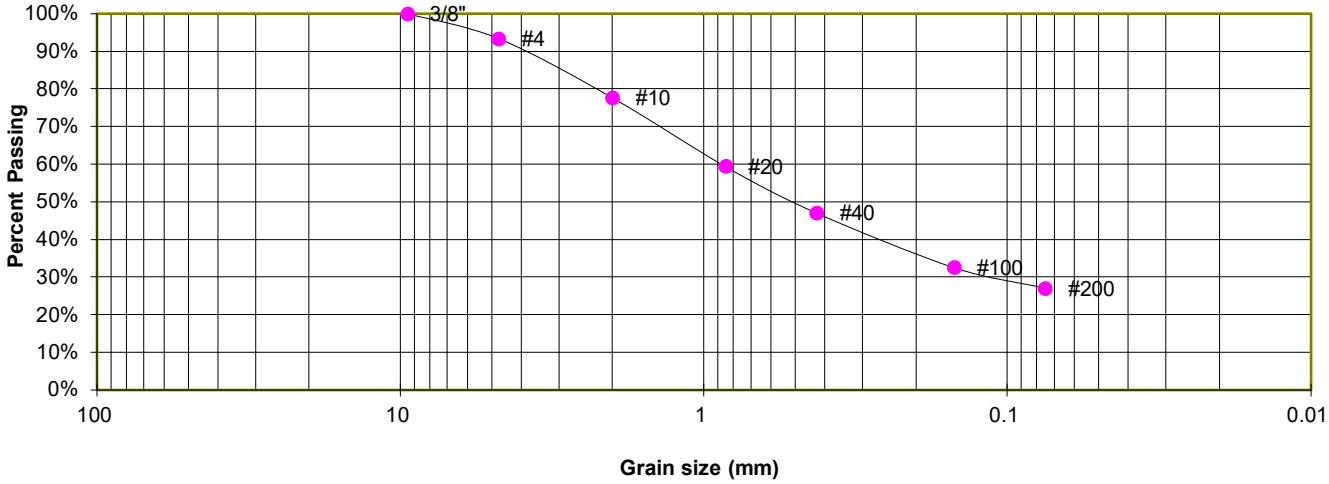
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-23

TEST BORING	13	SOIL DESCRIPTION	FILL, SAND, CLAYEY
DEPTH (FT)	0-3	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	93.4%
10	77.7%
20	59.5%
40	47.0%
100	32.6%
200	27.1%

ATTERBERG LIMITS

Plastic Limit	20
Liquid Limit	27
Plastic Index	7

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SC
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

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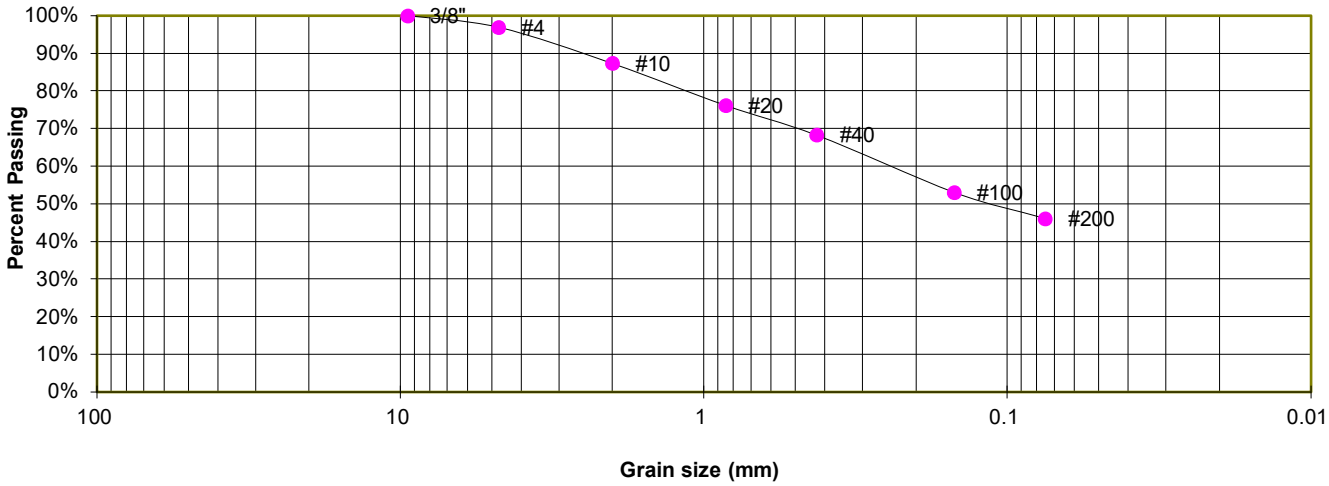
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-24

TEST BORING	27	SOIL DESCRIPTION	FILL, SAND, CLAYEY
DEPTH (FT)	0-3	SOIL TYPE	1A, CBR



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	96.9%
10	87.4%
20	76.2%
40	68.3%
100	53.1%
200	46.1%

ATTERBERG LIMITS

Plastic Limit	21
Liquid Limit	30
Plastic Index	9

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SC
AASHTO CLASSIFICATION:	A-4
AASHTO GROUP INDEX:	1

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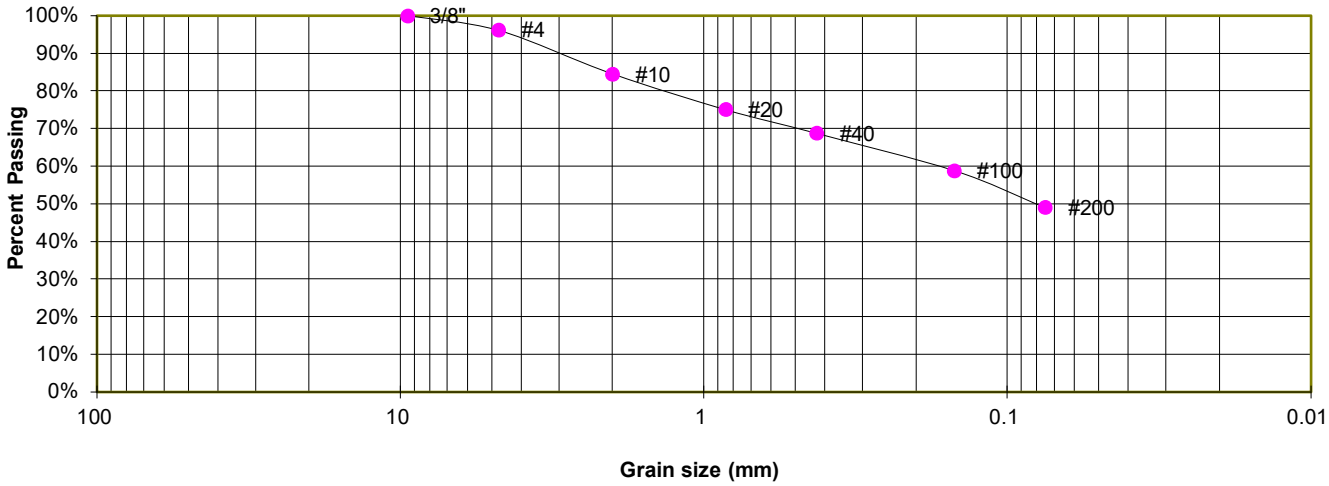
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-25

TEST BORING	13	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	5	SOIL TYPE	1A



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	96.2%
10	84.5%
20	75.1%
40	68.8%
100	58.9%
200	49.1%

ATTERBERG LIMITS

Plastic Limit	25
Liquid Limit	29
Plastic Index	4

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-4
AASHTO GROUP INDEX:	0

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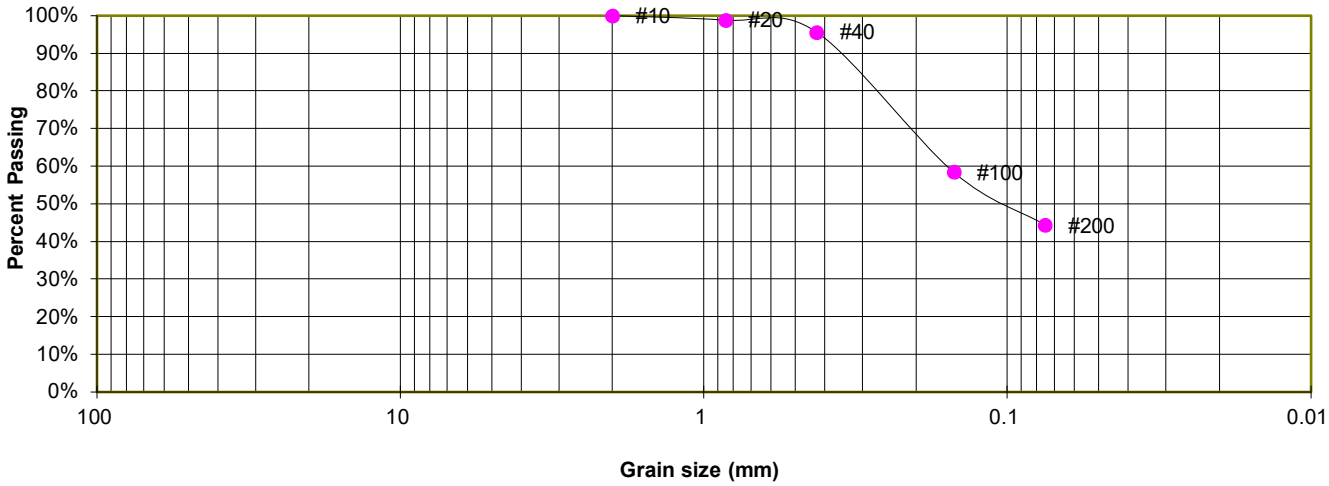
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-26

TEST BORING	17	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1A



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	
10	100.0%
20	98.9%
40	95.6%
100	58.4%
200	44.4%

ATTERBERG LIMITS

Plastic Limit	25
Liquid Limit	30
Plastic Index	5

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

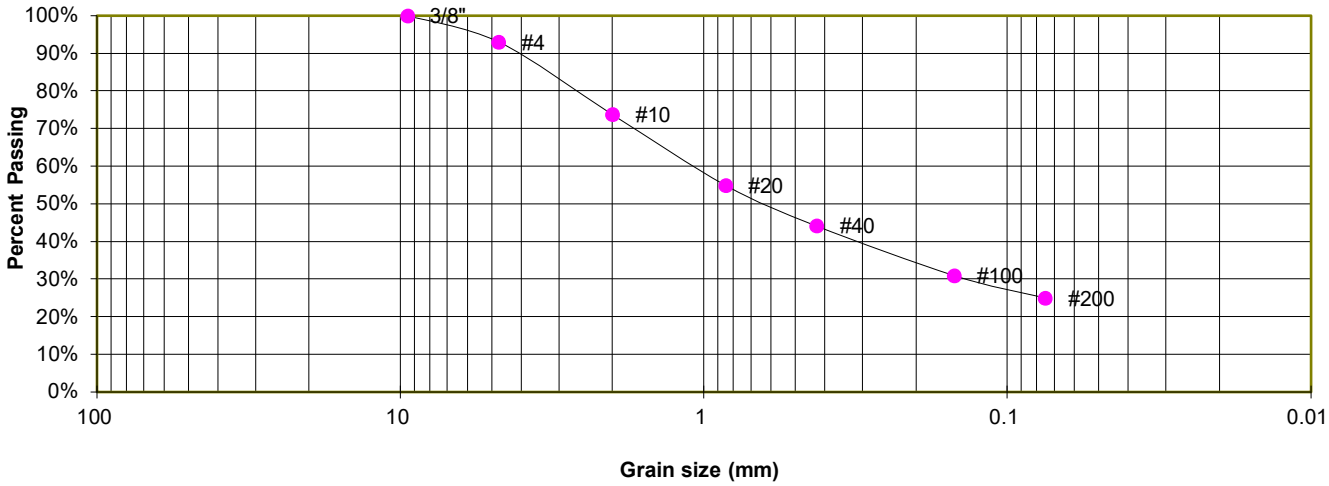
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-27

TEST BORING	17	SOIL DESCRIPTION	FILL, SAND, CLAYEY
DEPTH (FT)	0-3	SOIL TYPE	1A



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	93.0%
10	73.8%
20	54.9%
40	44.1%
100	31.0%
200	25.0%

ATTERBERG LIMITS

Plastic Limit	21
Liquid Limit	30
Plastic Index	9

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SC
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

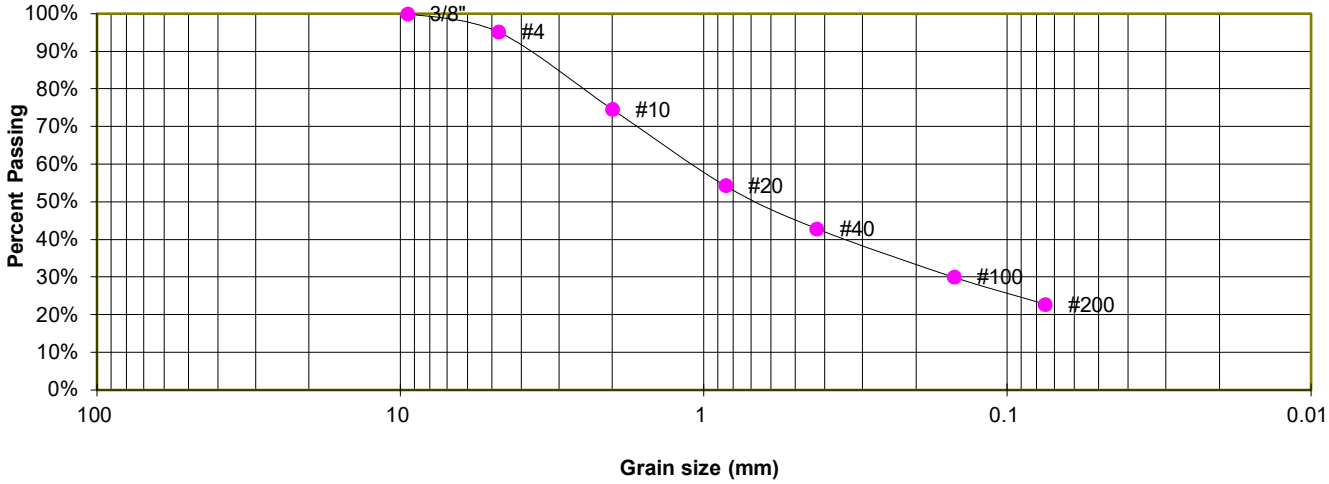
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-28

TEST BORING	19	SOIL DESCRIPTION	SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	95.1%
10	74.6%
20	54.4%
40	42.9%
100	30.0%
200	22.8%

ATTERBERG LIMITS

Plastic Limit	30
Liquid Limit	39
Plastic Index	9

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

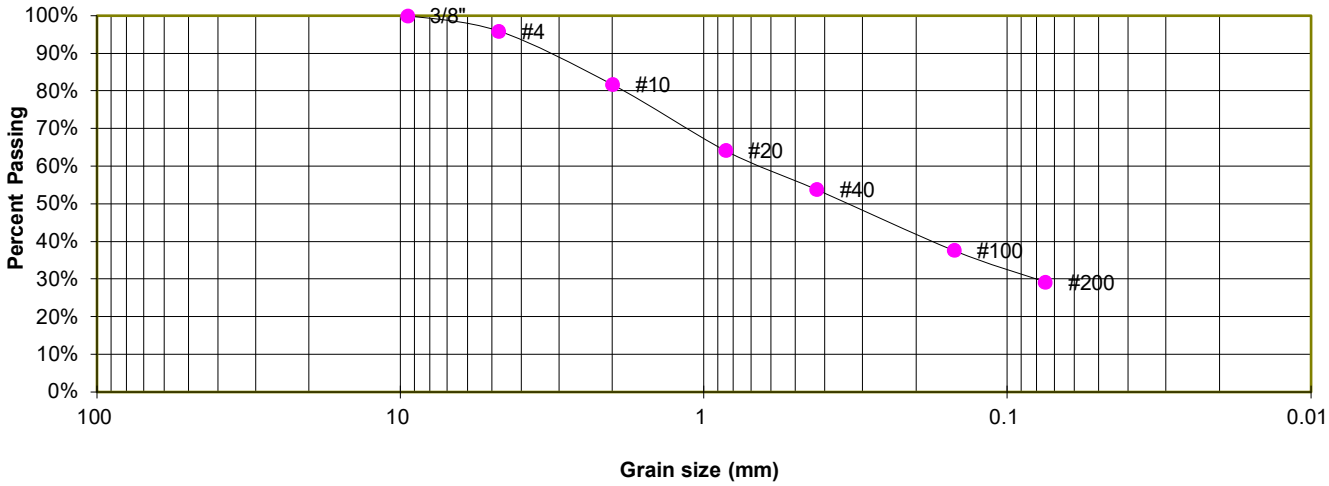
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-29

TEST BORING	7	SOIL DESCRIPTION	SAND, SILTY
DEPTH (FT)	5	SOIL TYPE	2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	95.9%
10	81.7%
20	64.2%
40	53.8%
100	37.7%
200	29.3%

ATTERBERG LIMITS

Plastic Limit	28
Liquid Limit	34
Plastic Index	6

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

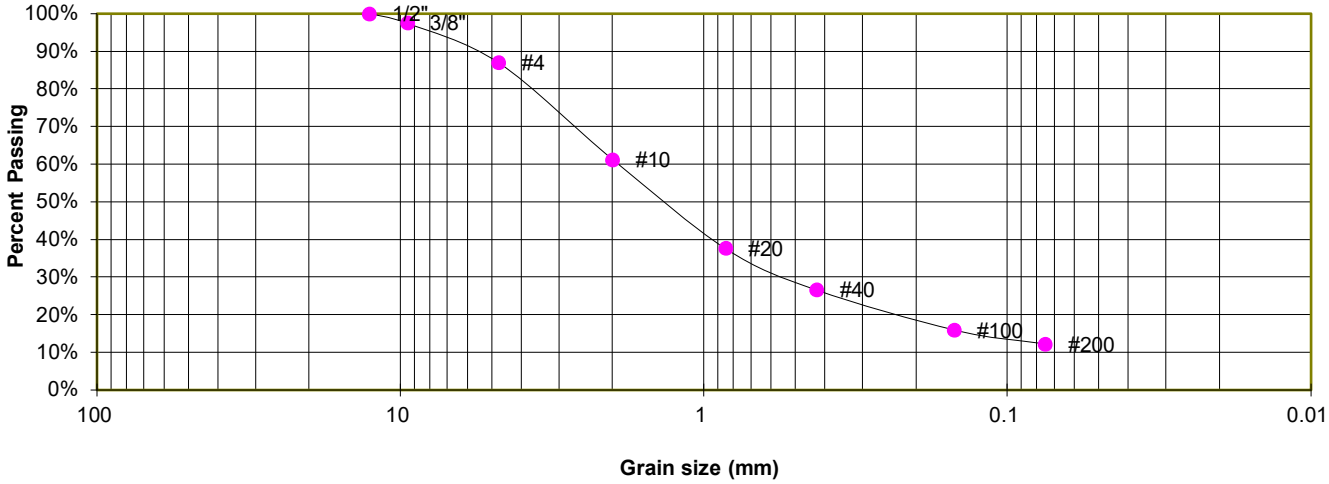
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-30

TEST BORING	10	SOIL DESCRIPTION	SANDSTONE (SAND, SILTY)
DEPTH (FT)	1-2	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	97.5%
4	87.0%
10	61.3%
20	37.7%
40	26.6%
100	16.0%
200	12.2%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-1-b
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

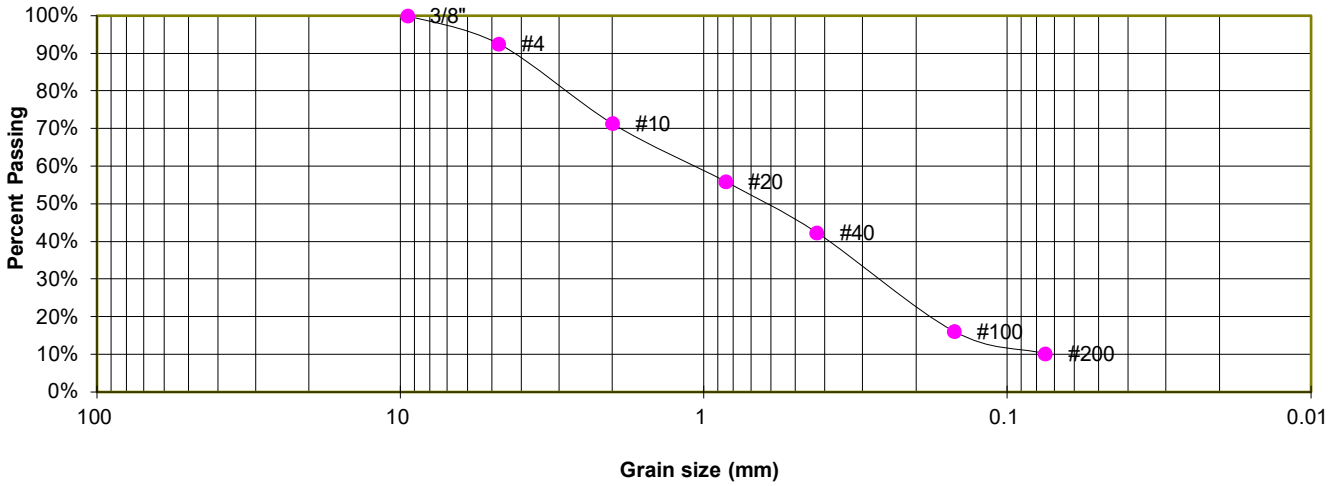
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-31

TEST BORING	21	SOIL DESCRIPTION	SANDSTONE (SAND, WITH SILT)
DEPTH (FT)	1-2	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	92.6%
10	71.3%
20	56.0%
40	42.4%
100	16.2%
200	10.2%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

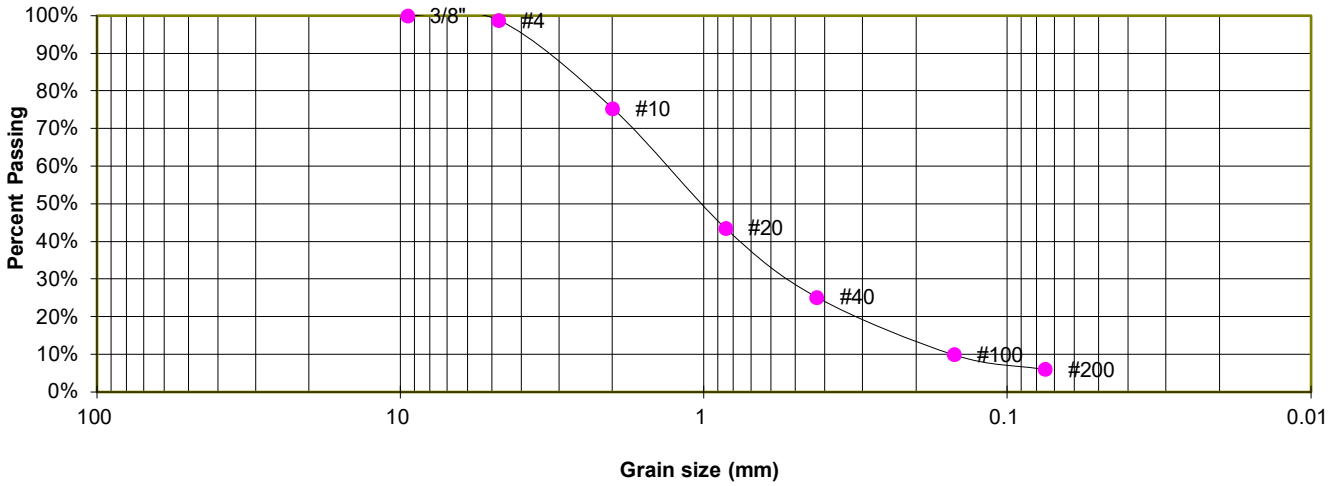
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-32

TEST BORING	22	SOIL DESCRIPTION	SANDSTONE (SAND, WITH SILT)
DEPTH (FT)	1-2	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	98.8%
10	75.4%
20	43.6%
40	25.2%
100	9.9%
200	6.1%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION: SW-SM
AASHTO CLASSIFICATION: A-1-b
AASHTO GROUP INDEX: 0

ENTECH ENGINEERING, INC.

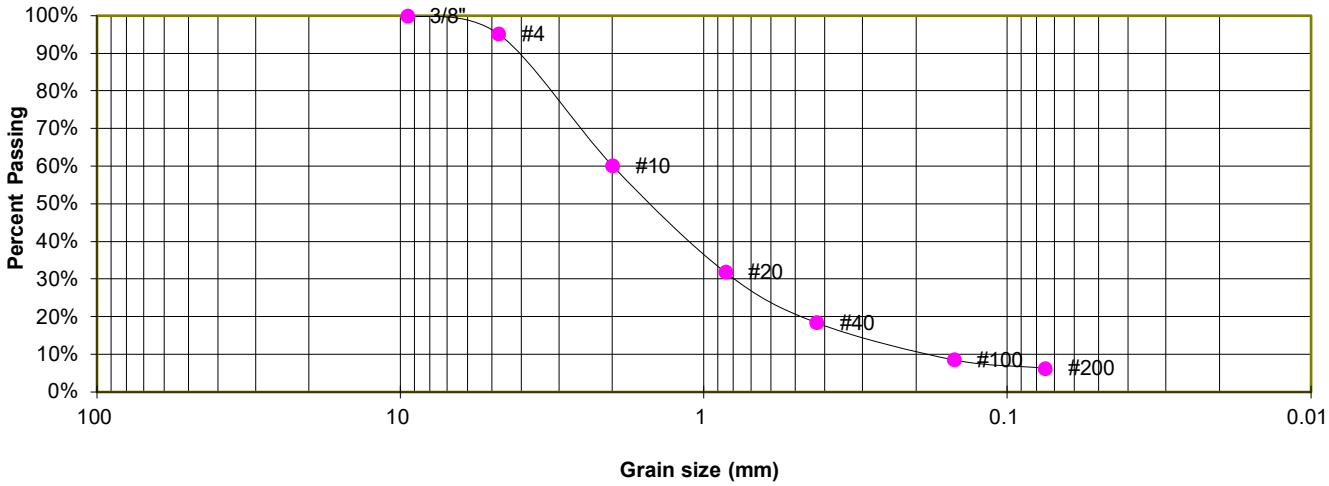
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-33

TEST BORING	24	SOIL DESCRIPTION	SANDSTONE (SAND, WITH SILT)
DEPTH (FT)	1-2	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	95.2%
10	60.1%
20	31.9%
40	18.5%
100	8.6%
200	6.3%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION: SW-SM
AASHTO CLASSIFICATION: A-1-b
AASHTO GROUP INDEX: 0

ENTECH ENGINEERING, INC.

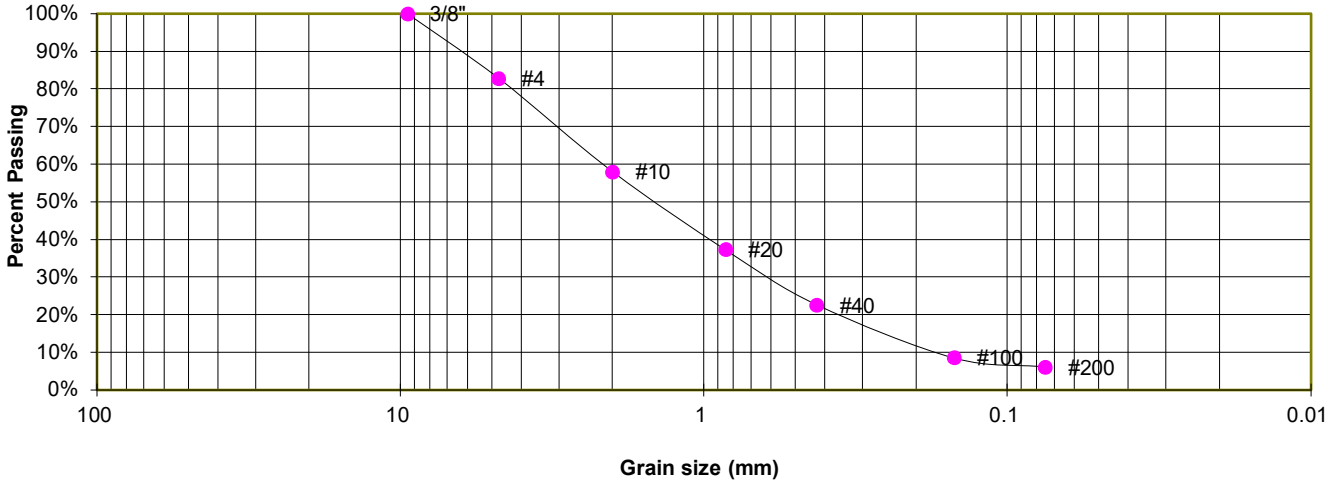
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-34

TEST BORING	25	SOIL DESCRIPTION	SANDSTONE (SAND, WITH SILT)
DEPTH (FT)	1-2	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	82.8%
10	58.0%
20	37.4%
40	22.6%
100	8.6%
200	6.1%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SW-SM
AASHTO CLASSIFICATION:	A-1-b
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

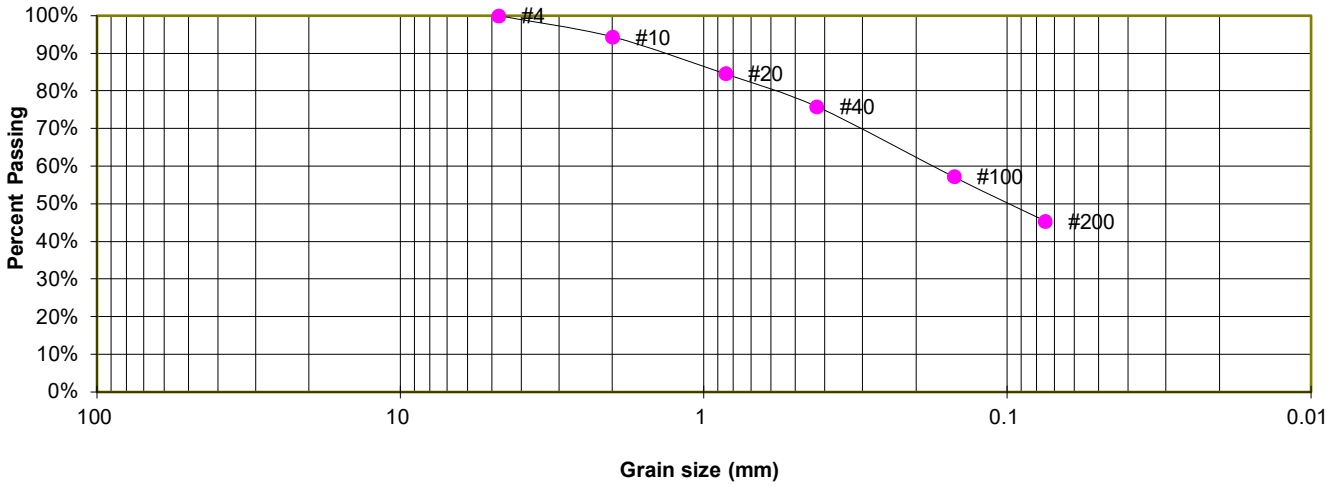
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-35

TEST BORING	27	SOIL DESCRIPTION	SANDSTONE (SAND, SILTY)
DEPTH (FT)	1-2	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	94.4%
20	84.6%
40	75.8%
100	57.2%
200	45.4%

ATTERBERG LIMITS

Plastic Limit	22
Liquid Limit	28
Plastic Index	6

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

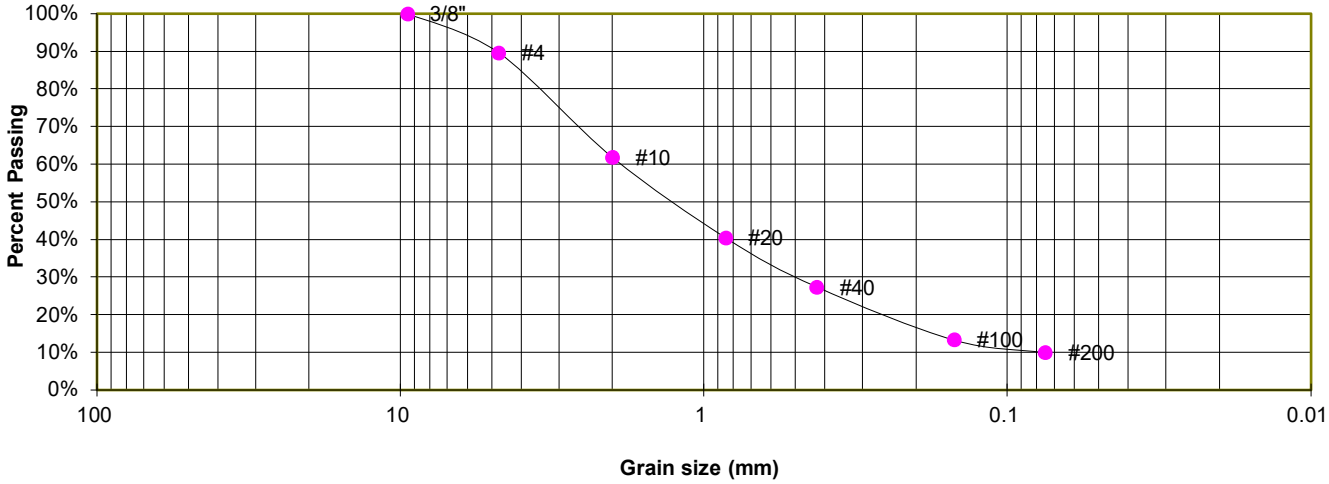
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-36

TEST BORING	1	SOIL DESCRIPTION	SANDSTONE (SAND, WITH SILT)
DEPTH (FT)	10	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	89.7%
10	61.8%
20	40.5%
40	27.4%
100	13.3%
200	10.0%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SW-SM
AASHTO CLASSIFICATION:	A-1-b
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

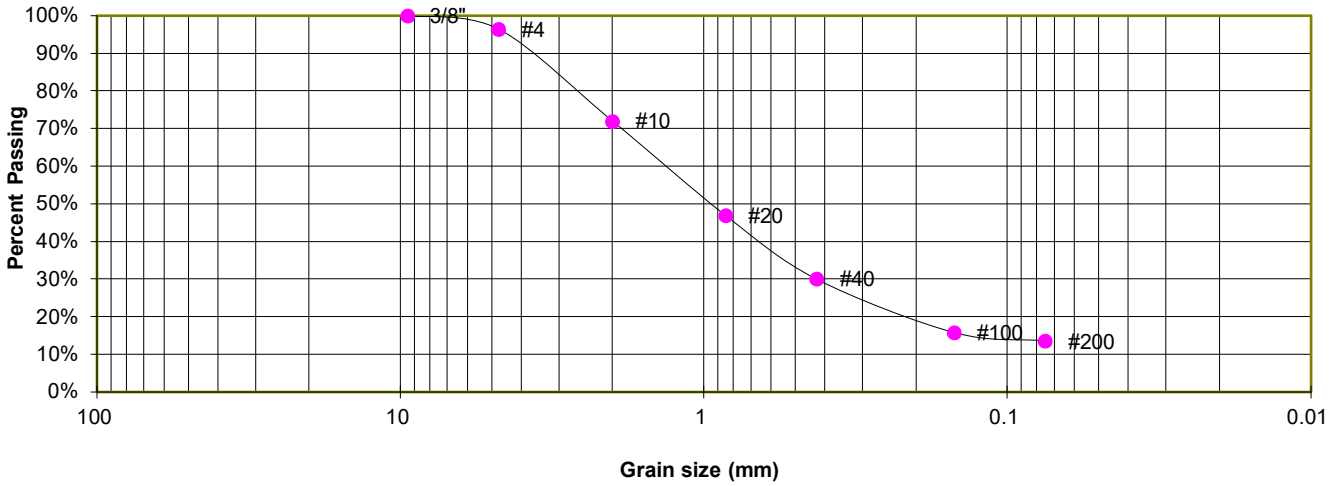
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-37

TEST BORING	4	SOIL DESCRIPTION	SANDSTONE (SAND, SILTY)
DEPTH (FT)	10	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	96.4%
10	72.0%
20	46.9%
40	30.0%
100	15.9%
200	13.6%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-1-b
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

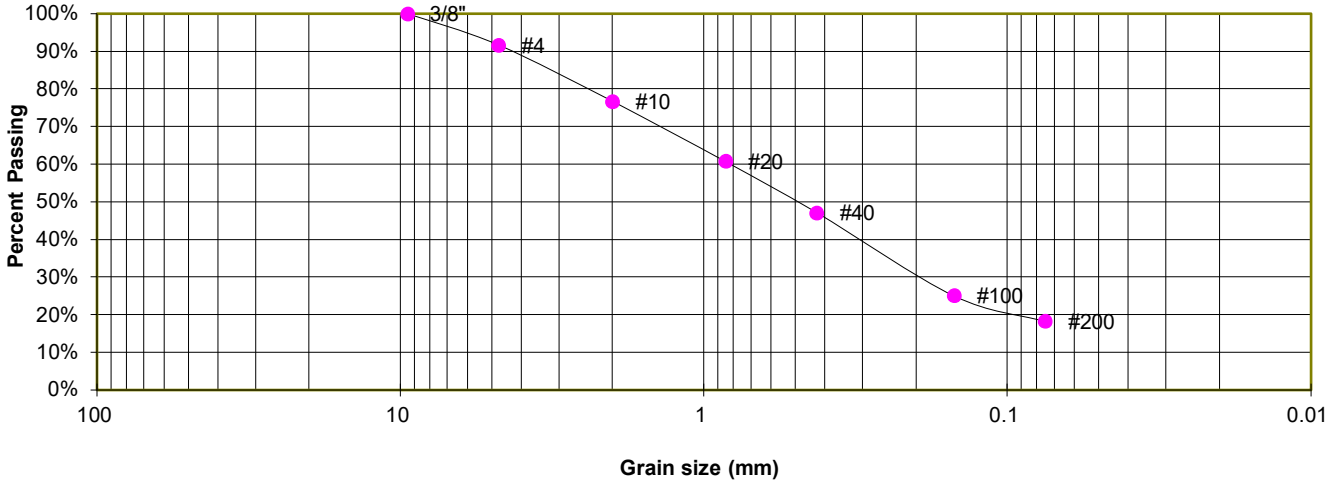
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-38

TEST BORING	8	SOIL DESCRIPTION	SANDSTONE (SAND, SILTY)
DEPTH (FT)	10	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	91.7%
10	76.7%
20	60.8%
40	47.1%
100	25.1%
200	18.3%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

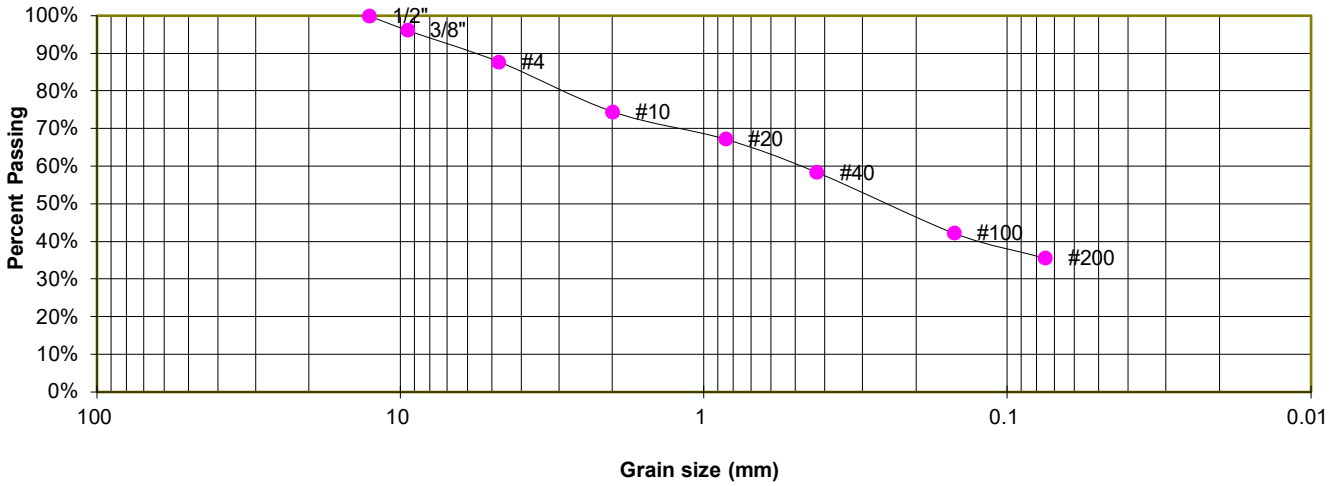
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-39

TEST BORING	9	SOIL DESCRIPTION	SANDSTONE (SAND, SILTY)
DEPTH (FT)	5	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	96.1%
4	87.8%
10	74.5%
20	67.2%
40	58.4%
100	42.3%
200	35.6%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

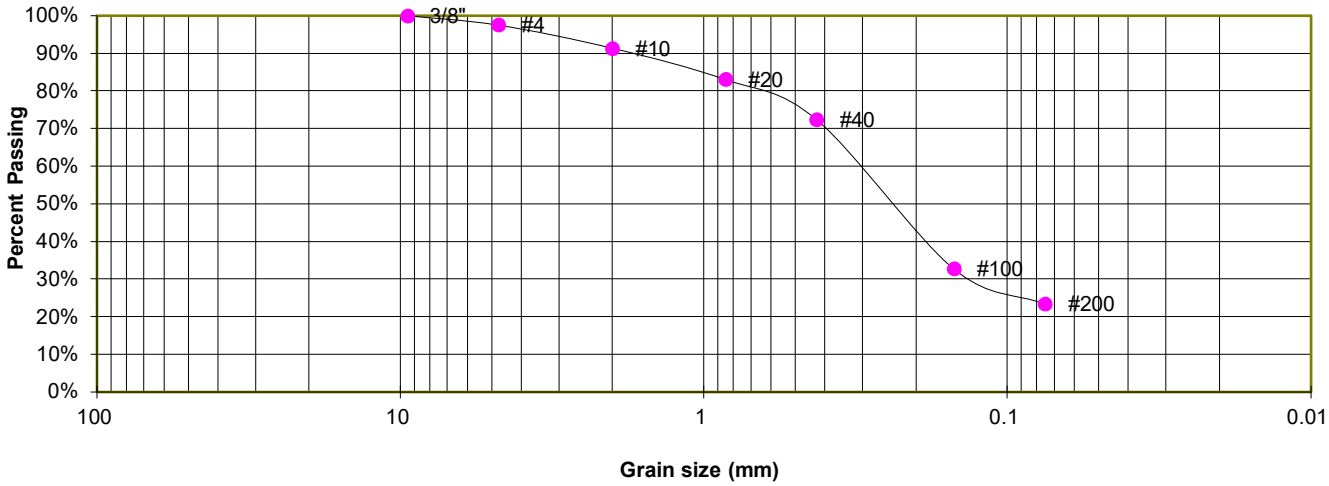
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-40

TEST BORING	23	SOIL DESCRIPTION	SANDSTONE (SAND, SILTY)
DEPTH (FT)	5	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	97.6%
10	91.4%
20	83.1%
40	72.4%
100	32.7%
200	23.4%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SM
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

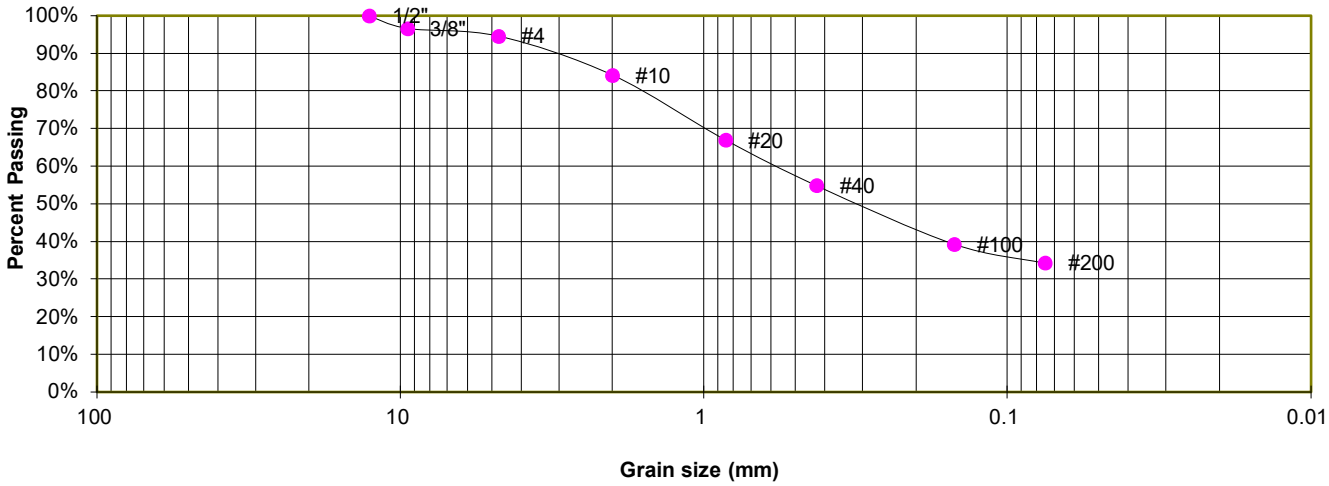
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-41

TEST BORING	21	SOIL DESCRIPTION	SANDSTONE (SAND, CLAYEY)
DEPTH (FT)	0-3	SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	96.6%
4	94.6%
10	84.2%
20	67.0%
40	54.9%
100	39.3%
200	34.3%

ATTERBERG LIMITS

Plastic Limit	21
Liquid Limit	28
Plastic Index	7

SOIL CLASSIFICATION

USCS CLASSIFICATION:	SC
AASHTO CLASSIFICATION:	A-2-4
AASHTO GROUP INDEX:	0

ENTECH ENGINEERING, INC.

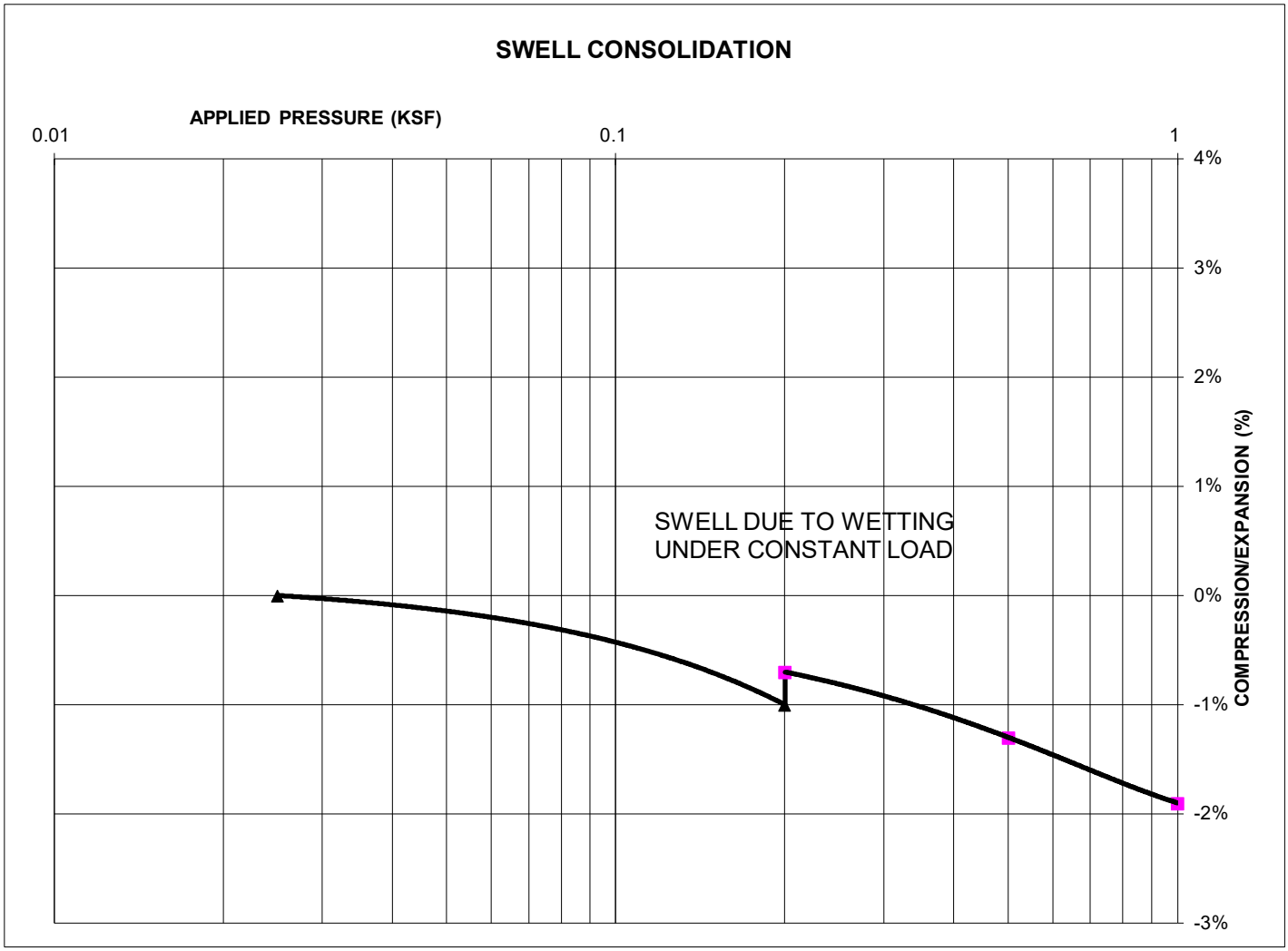
LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-42

TEST BORING	14	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 105
NATURAL MOISTURE CONTENT: 22.7%
SWELL/COLLAPSE (%): 0.3%

ENTECH ENGINEERING, INC.

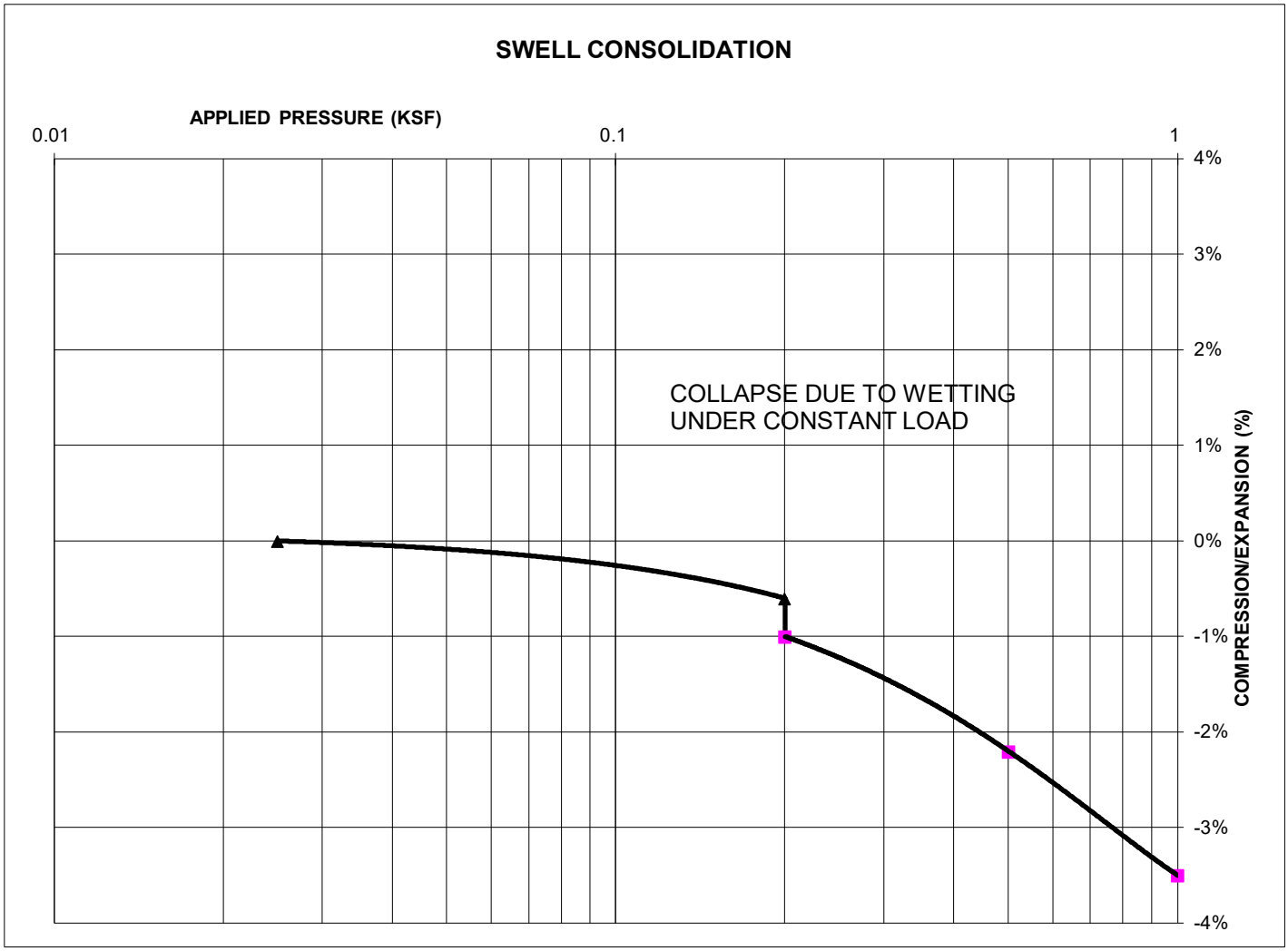
SWELL TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-43

TEST BORING	15	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 111
NATURAL MOISTURE CONTENT: 7.6%
SWELL/COLLAPSE (%): -0.4%

ENTECH ENGINEERING, INC.

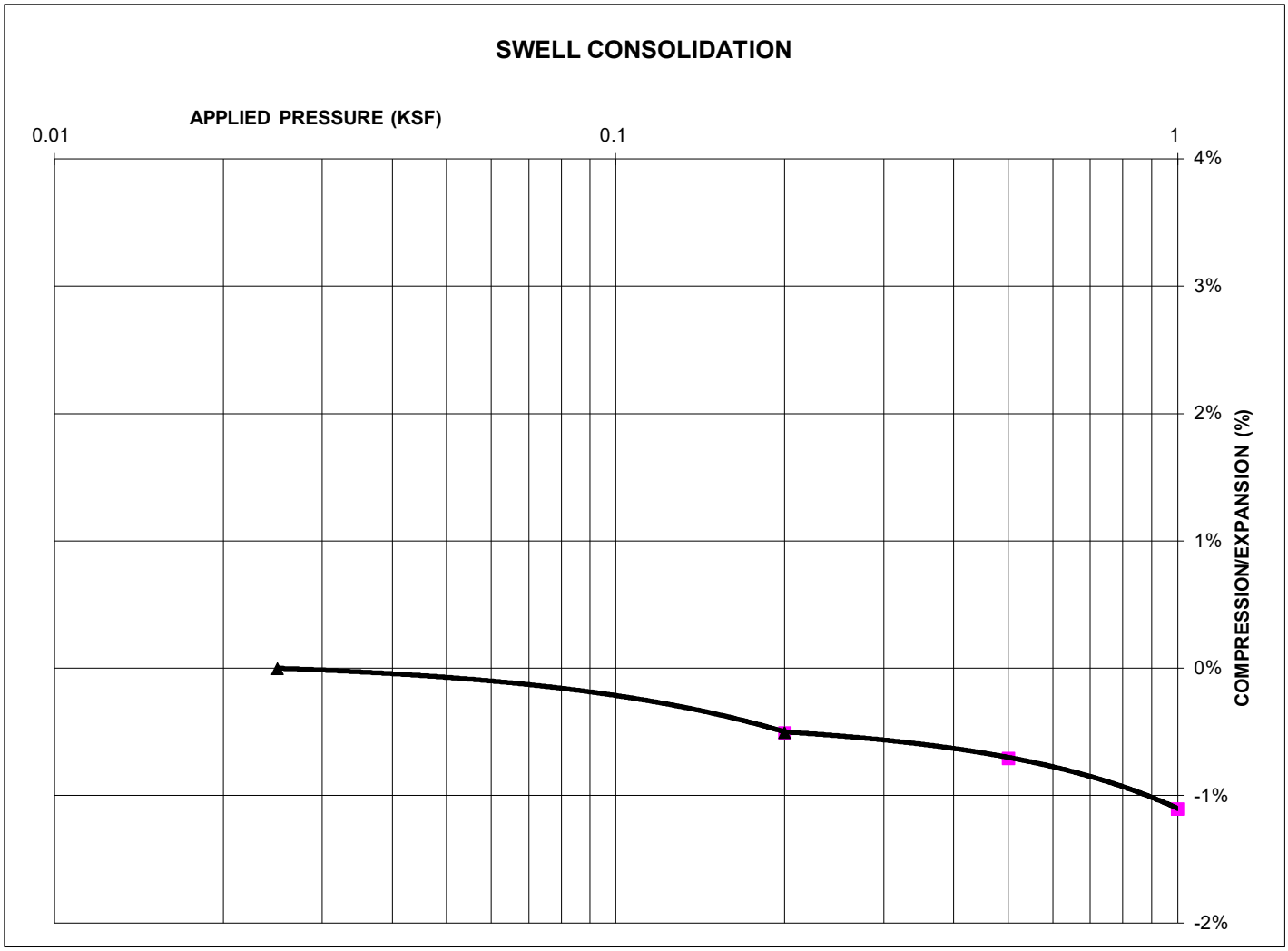
SWELL TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-44

TEST BORING	20	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 116
NATURAL MOISTURE CONTENT: 11.7%
SWELL/COLLAPSE (%): 0.0%

ENTECH ENGINEERING, INC.

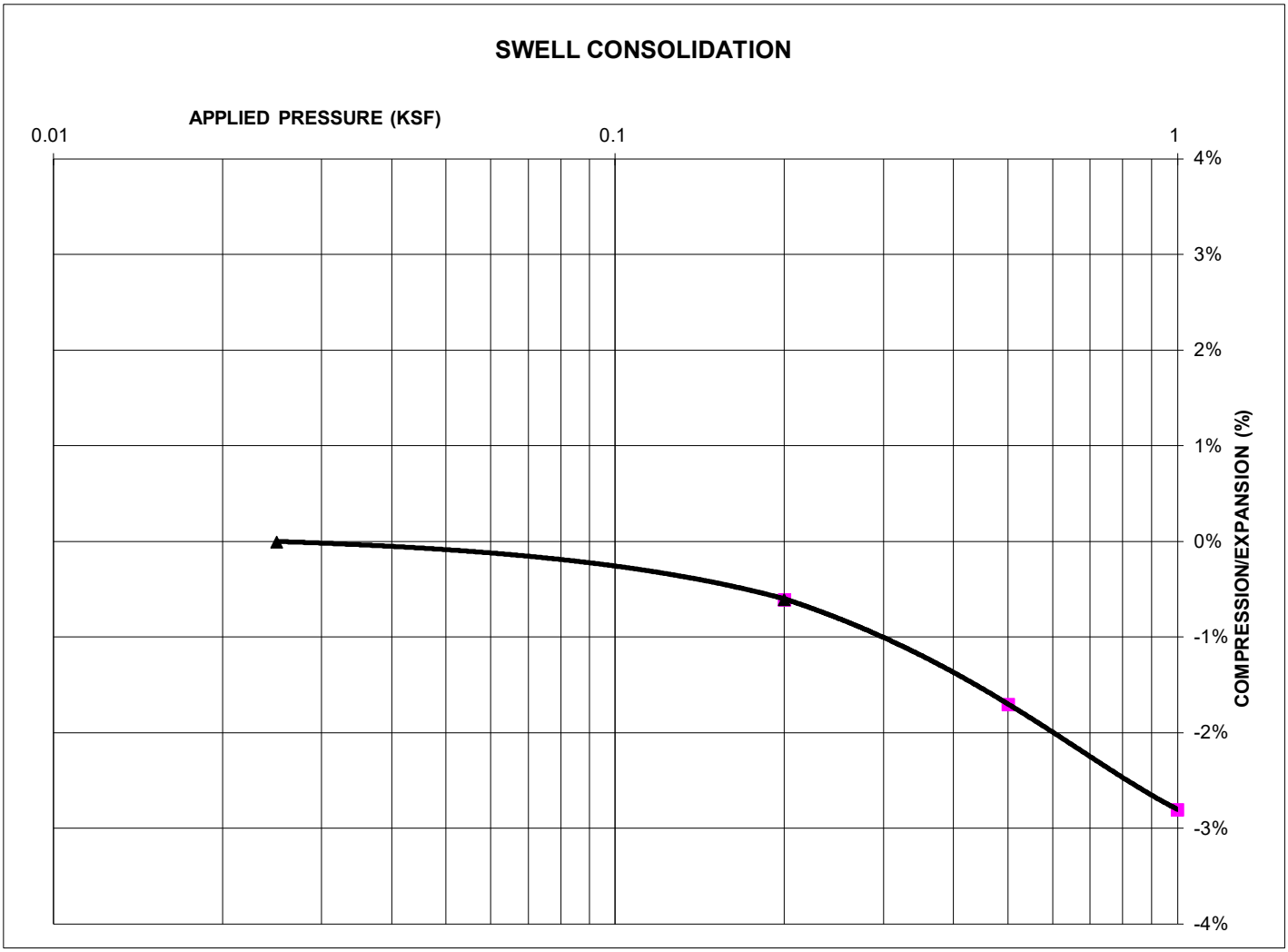
SWELL TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-45

TEST BORING	13	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	5	SOIL TYPE	1



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 108
NATURAL MOISTURE CONTENT: 11.0%
SWELL/COLLAPSE (%): 0.0%

ENTECH ENGINEERING, INC.

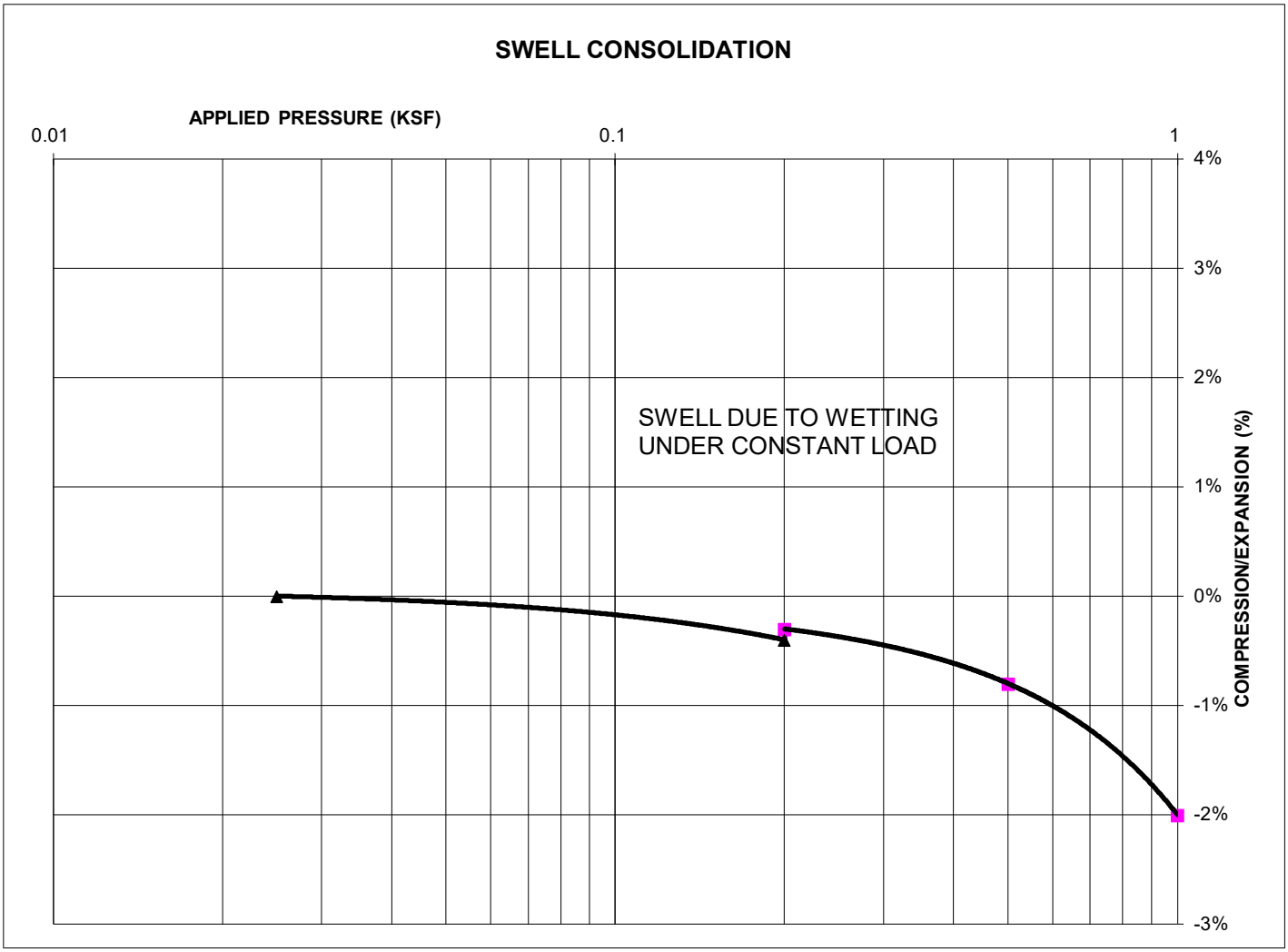
SWELL TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-46

TEST BORING	14	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	5	SOIL TYPE	1A



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF):	111
NATURAL MOISTURE CONTENT:	9.8%
SWELL/COLLAPSE (%):	0.1%

ENTECH ENGINEERING, INC.

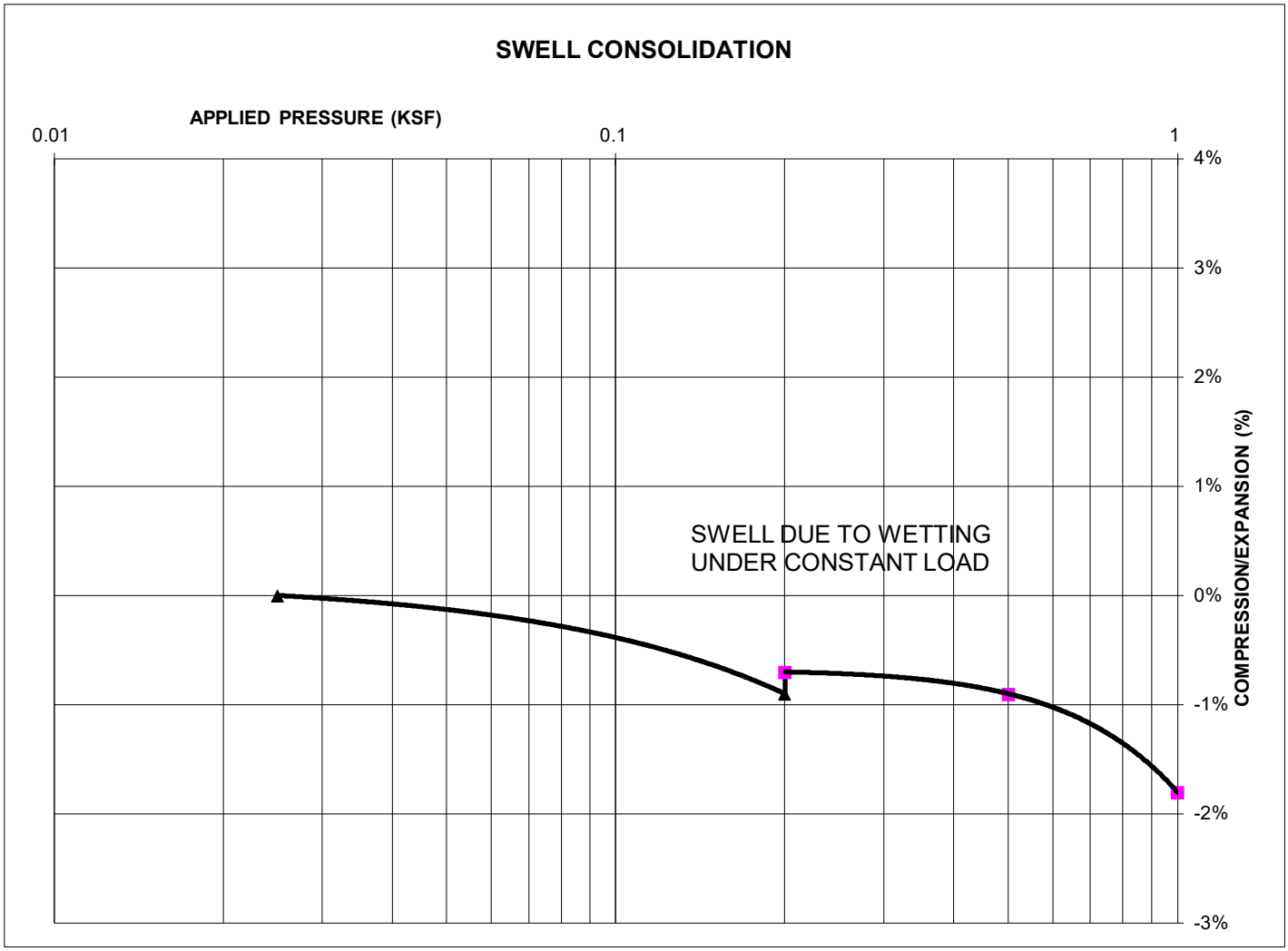
SWELL TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-47

TEST BORING	17	SOIL DESCRIPTION	FILL, SAND, SILTY
DEPTH (FT)	1-2	SOIL TYPE	1A



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 107
NATURAL MOISTURE CONTENT: 17.7%
SWELL/COLLAPSE (%): 0.2%

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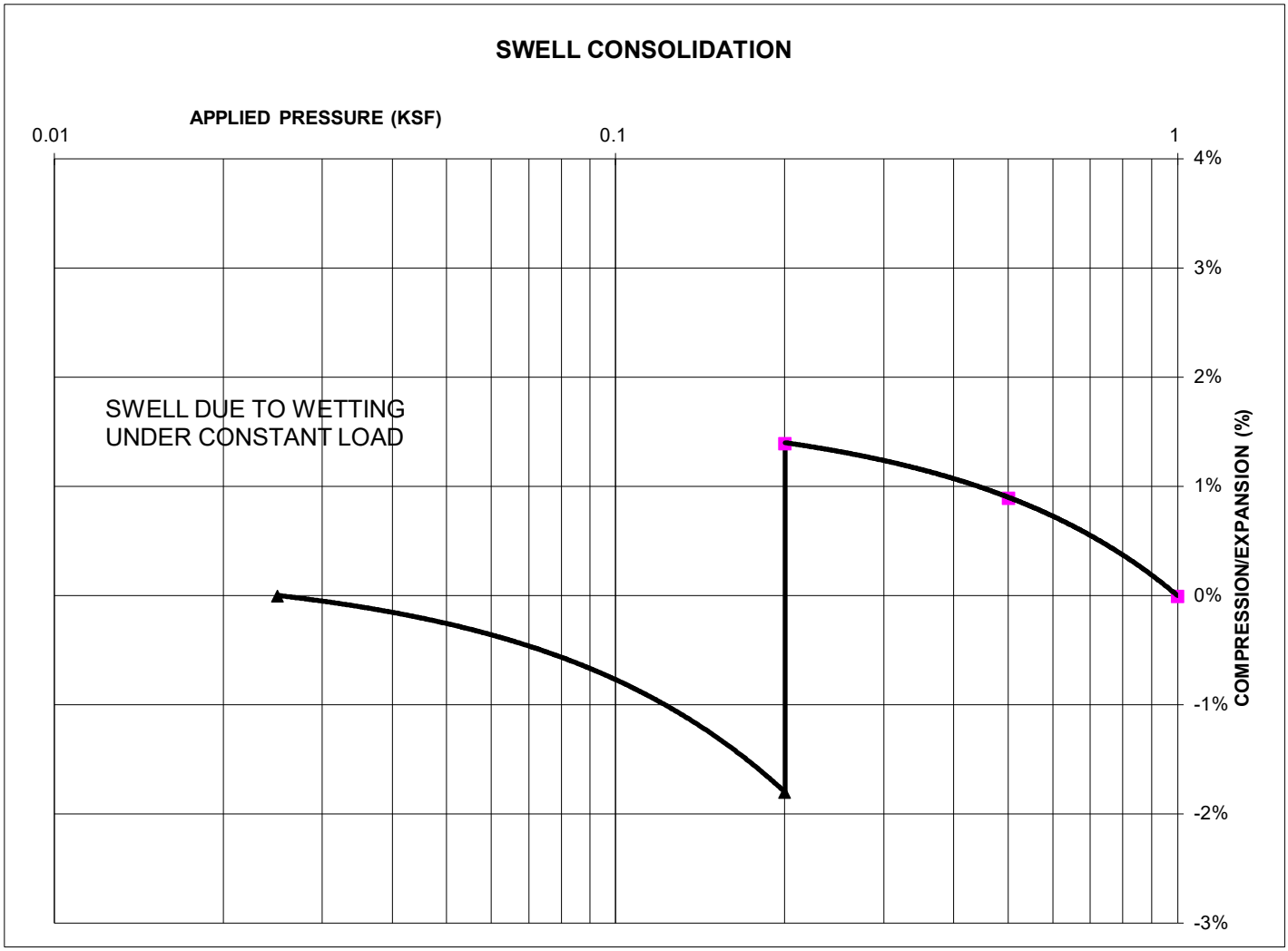
SWELL TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-48

TEST BORING	23	SOIL DESCRIPTION	SANDSTONE (SAND, SILTY)
DEPTH (FT)	5	SOIL TYPE	3



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 101
NATURAL MOISTURE CONTENT: 20.0%
SWELL/COLLAPSE (%): 3.2%

ENTECH ENGINEERING, INC.

SWELL TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

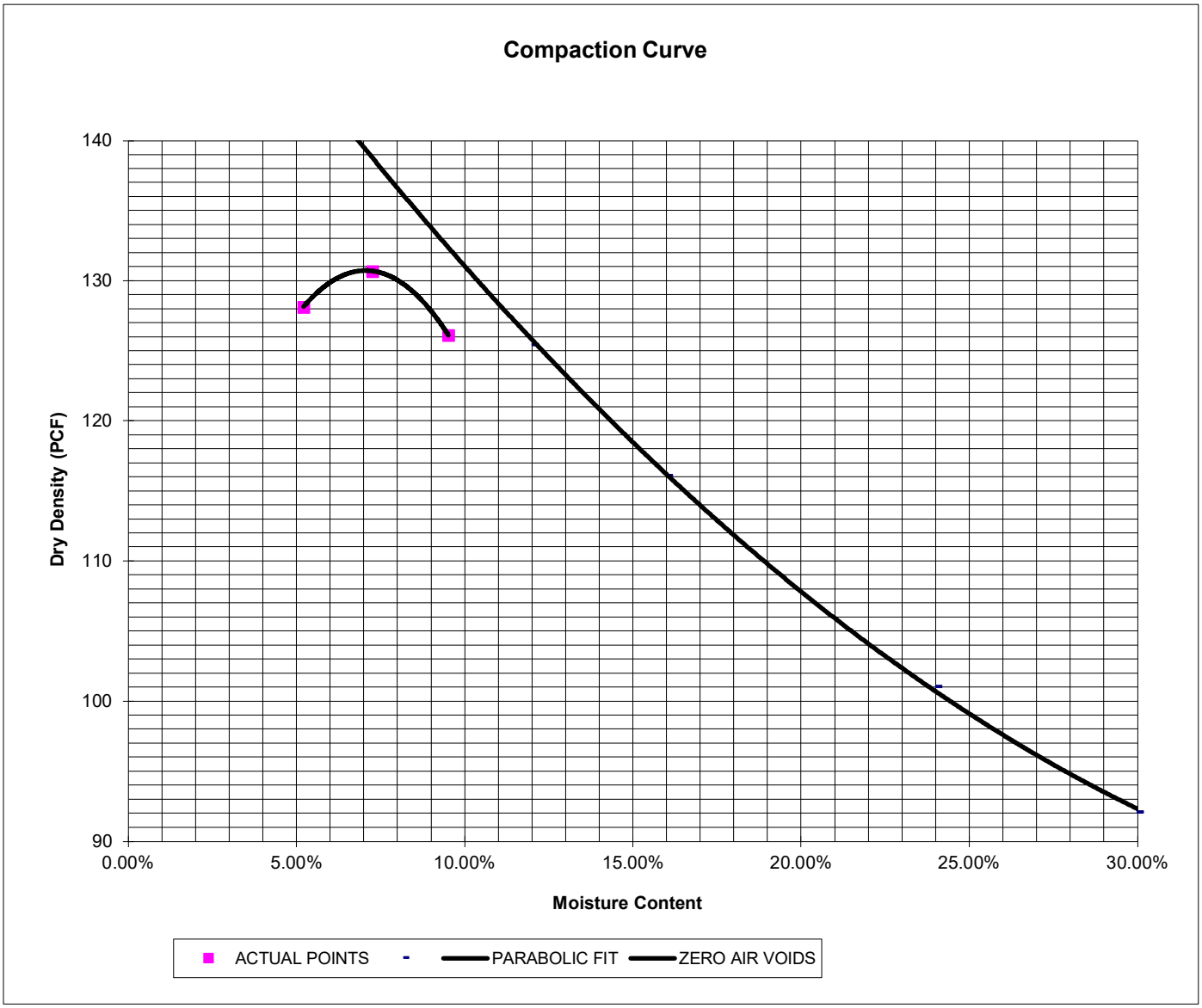
JOB NO. 241932

FIG. B-49

SAMPLE LOCATION TB-14 @ 0-3'	SOIL DESCRIPTION SAND, CLAYEY-SILTY, GRAY
	SOIL TYPE 1

PROCTOR DATA

IDENTIFICATION:	SC-SM
PROCTOR TEST #:	1
TEST BY:	DK
TEST DESIGNATION:	ASTM-1557-A
MAXIMUM DRY DENSITY (PCF):	130.8
OPTIMUM MOISTURE:	7.4



ENTECH ENGINEERING, INC.

LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-50

SAMPLE LOCATION TB-14 @ 0-3' SOIL DESCRIPTION SAND, CLAYEY-SILTY, GRAY

SOIL TYPE 1

CBR TEST LOAD DATA

Piston Diameter (cm): 4.958

Piston Area (in^2): 2.993

Penetration Depth (inches)	*10 BLOWS* Mold # 1 Load (lbs)	Stress (psi)	*25 BLOWS* Mold # 2 Load (lbs)	Stress (psi)	*56 BLOWS* Mold # 3 Load (lbs)	Stress (psi)
0.000	0	0.00	0	0.00	0	0.00
0.025	95	31.75	132	44.11	472	157.73
0.050	108	36.09	248	82.87	787	262.99
0.075	120	40.10	298	99.58	1034	345.53
0.100	130	43.44	329	109.94	1325	442.77
0.125	153	51.13	381	127.32	1477	493.57
0.150	163	54.47	457	152.71	1606	536.67
0.175	175	58.48	511	170.76	1707	570.42
0.200	180	60.15	529	176.77	1824	609.52
0.300	195	65.16	670	223.89	2540	848.79
0.400	223	74.52	793	265.00	2855	954.05
0.500	243	81.20	805	269.01	3304	1104.09

MOISTURE AND DENSITY DATA

	Mold # 1	Mold # 2	Mold # 3
Can #	503	504	505
Wt. Can	8.32	8.32	8.35
Wt. Can+Wet	208.39	213.38	241.23
Wt. Can+Dry	184.64	190.84	217.53
Wt. H20	23.75	22.54	23.7
Wt. Dry Soil	176.32	182.52	209.18
Moisture Content	13.47%	12.35%	11.33%
Wet Density (PCF)	126.6	134.8	140.2
Dry Density (PCF)	117.9	125.5	130.5
% Compaction	90%	96%	100%
CBR	4.34	10.99	44.28

PROCTOR DATA

Maximum Dry Density (pcf)	130.8
Optimum Moisture	7.4
90% of Max. Dry Density (pcf)	117.7
95% of Max. Dry Density (pcf)	124.3

CBR at 90% of Max. Density = 4.2 ~ R VALUE 10

CBR at 95% of Max. Density = 9.9 ~ R VALUE 26

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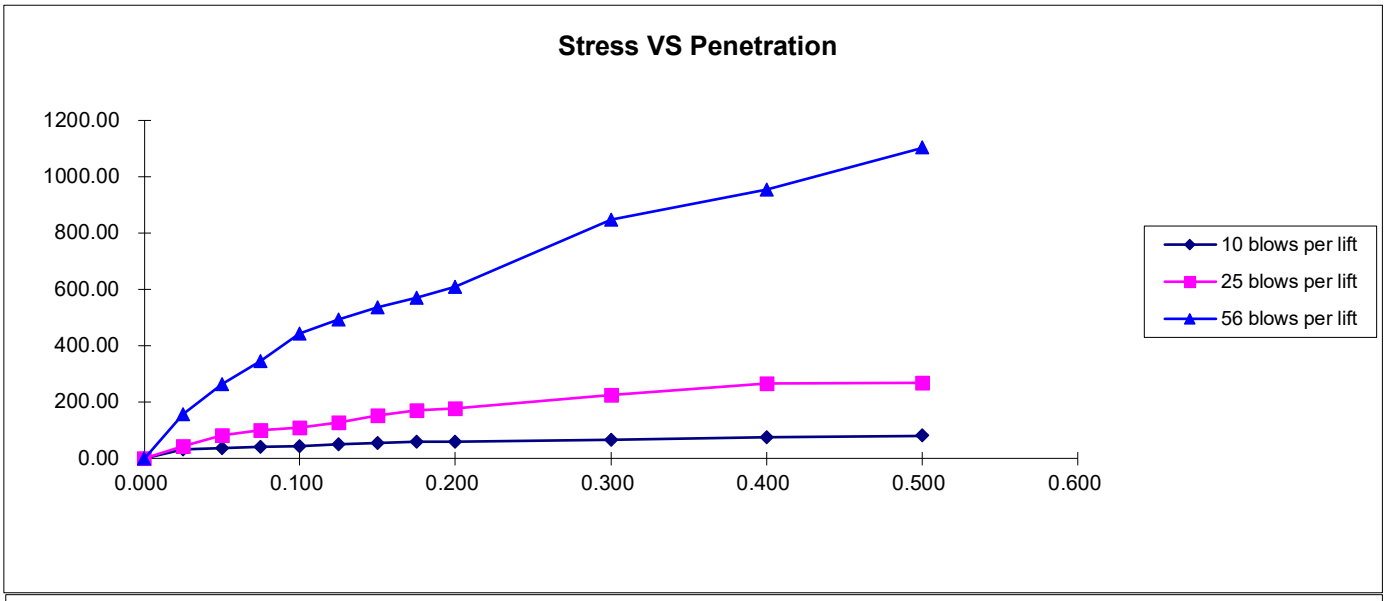
LABORATORY TEST RESULTS

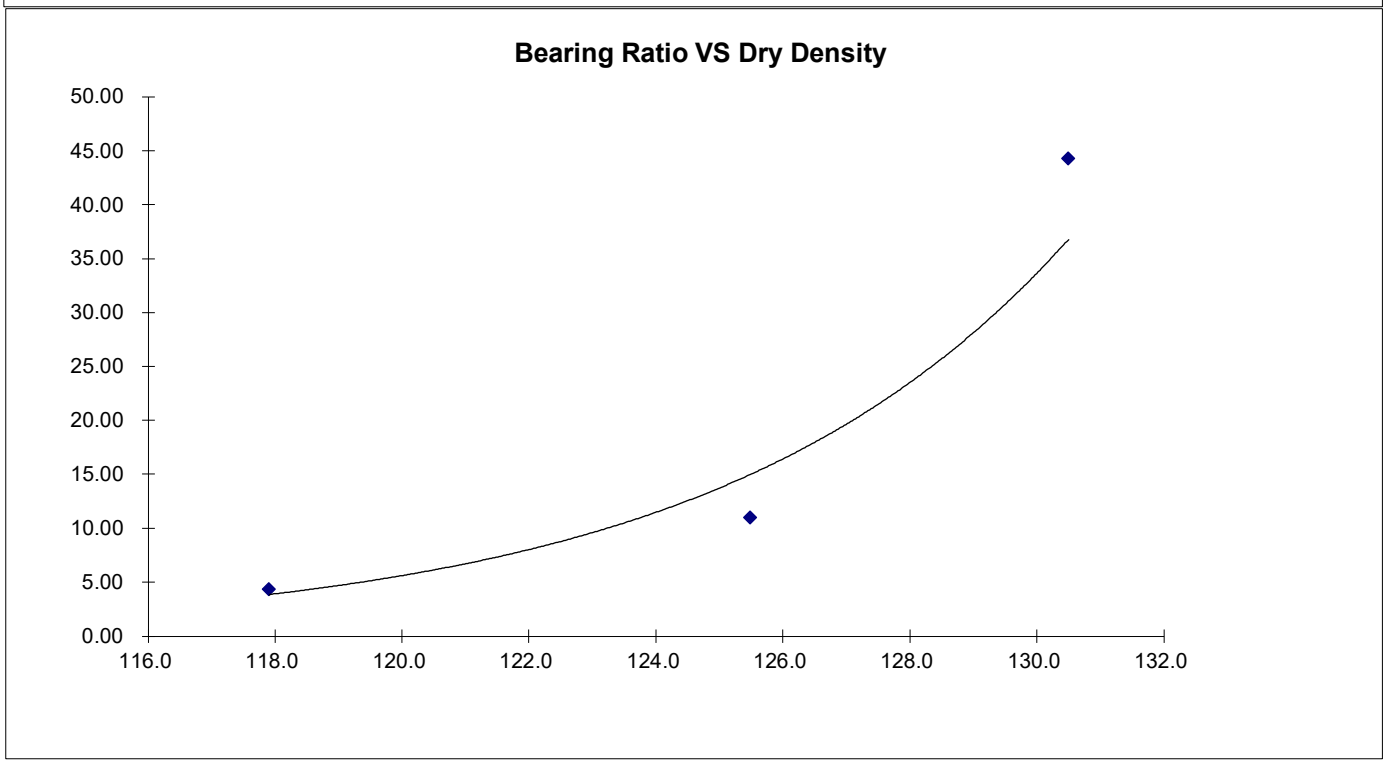
PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-51

SAMPLE LOCATION TB-14 @ 0-3'	SOIL DESCRIPTION SAND, CLAYEY-SILTY, GRAY
	SOIL TYPE 1





ENTECH ENGINEERING, INC.

LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

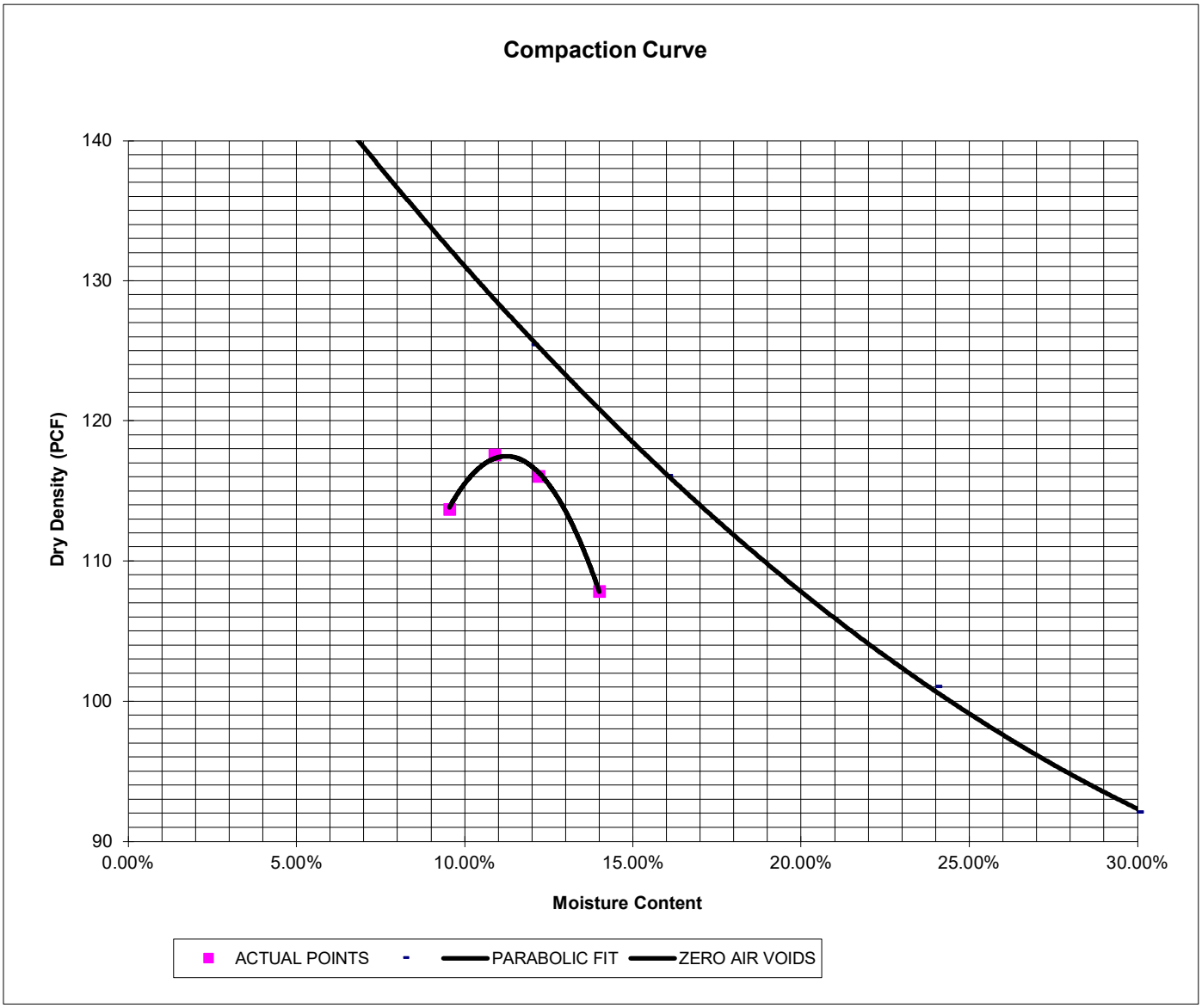
JOB NO. 241932

FIG. B-52

SAMPLE LOCATION TB-27 @ 0-3'	SOIL DESCRIPTION SAND, CLAYEY, BROWN
	SOIL TYPE 1

PROCTOR DATA

IDENTIFICATION:	SC
PROCTOR TEST #:	2
TEST BY:	DK
TEST DESIGNATION:	ASTM-698-A
MAXIMUM DRY DENSITY (PCF):	117.7
OPTIMUM MOISTURE:	11.3



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LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-53

SAMPLE LOCATION TB-27 @ 0-3' | SOIL DESCRIPTION SAND, CLAYEY, BROWN
SOIL TYPE 1A

CBR TEST LOAD DATA

Piston Diameter (cm): 4.958
Piston Area (in^2): 2.993

Penetration Depth (inches)	*10 BLOWS* Mold # 1 Load (lbs)	Stress (psi)	*25 BLOWS* Mold # 2 Load (lbs)	Stress (psi)	*56 BLOWS* Mold # 3 Load (lbs)	Stress (psi)
0.000	0	0.00	0	0.00	0	0.00
0.025	28	9.36	62	20.72	67	22.39
0.050	34	11.36	70	23.39	140	46.78
0.075	35	11.70	76	25.40	162	54.14
0.100	37	12.36	81	27.07	175	58.48
0.125	39	13.03	90	30.08	200	66.83
0.150	42	14.04	94	31.41	213	71.18
0.175	44	14.70	102	34.09	221	73.85
0.200	45	15.04	100	33.42	233	77.86
0.300	44	14.70	105	35.09	293	97.91
0.400	42	14.04	118	39.43	344	114.95
0.500	45	15.04	130	43.44	386	128.99

MOISTURE AND DENSITY DATA

	Mold # 1	Mold # 2	Mold # 3
Can #	506	507	508
Wt. Can	8.41	8.4	8.51
Wt. Can+Wet	267.34	209.94	243.56
Wt. Can+Dry	223	181.52	212.22
Wt. H20	44.34	28.42	31.34
Wt. Dry Soil	214.59	173.12	203.71
Moisture Content	20.66%	16.42%	15.38%
Wet Density (PCF)	116.1	122.0	128.9
Dry Density (PCF)	104.3	109.7	115.8
% Compaction	89%	93%	98%
CBR	1.24	2.71	5.85

PROCTOR DATA

Maximum Dry Density (pcf)	117.7
Optimum Moisture	11.3
90% of Max. Dry Density (pcf)	105.9
95% of Max. Dry Density (pcf)	111.8

CBR at 90% of Max. Density = 1.7 ~ R VALUE 1
CBR at 95% of Max. Density = 3.8 ~ R VALUE 7.5

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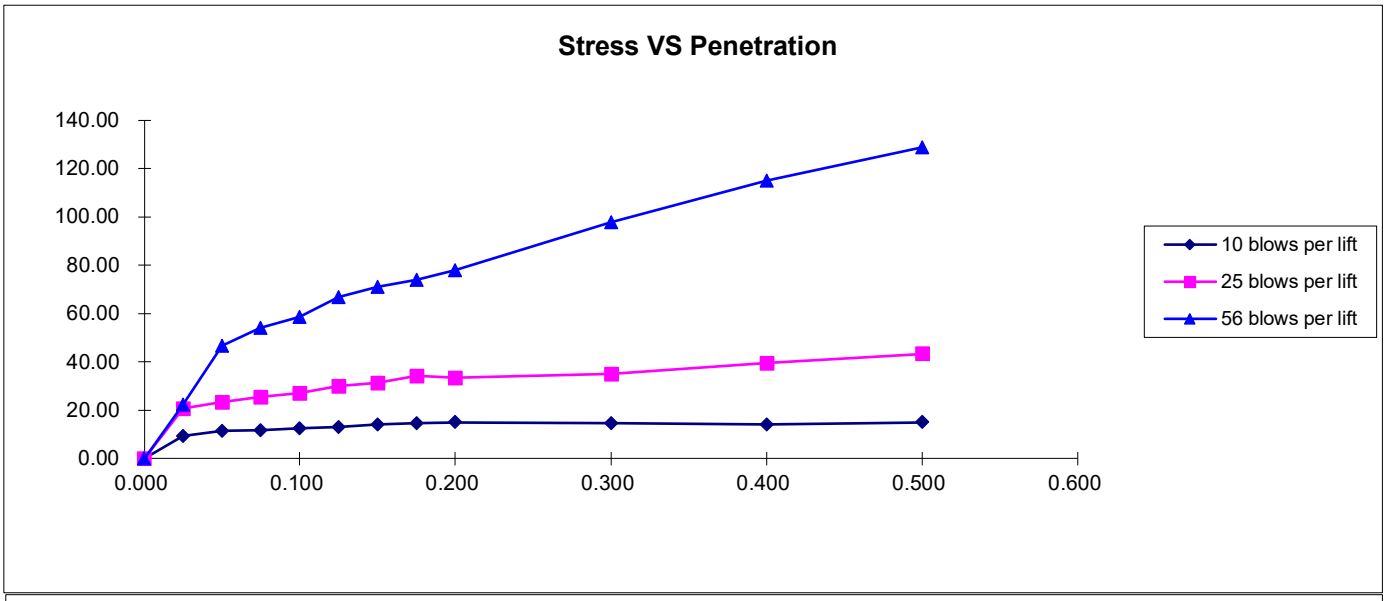
LABORATORY TEST RESULTS

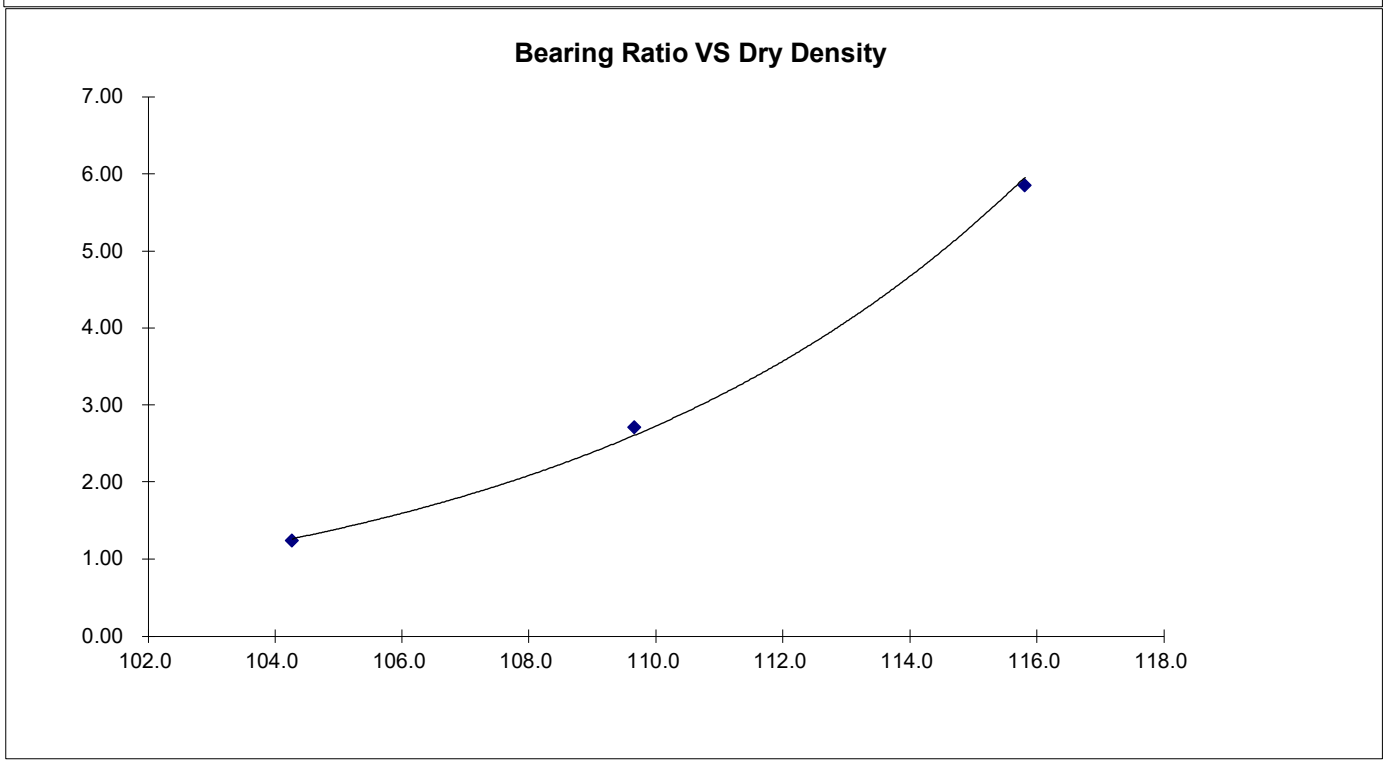
PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-54

SAMPLE LOCATION TB-27 @ 0-3' | SOIL DESCRIPTION SAND, CLAYEY, BROWN
SOIL TYPE 1A





ENTECH ENGINEERING, INC.

LABORATORY TEST RESULTS

PRAIRIE RIDGE, FILING NO. 2, PHASE 1
CLASSIC SRJ

JOB NO. 241932

FIG. B-55

APPENDIX C: Pavement Design Calculations

FLEXIBLE PAVEMENT DESIGN

PROJECT DATA

Project Location: Retreat at Prairie Ridge, Filing No. 2, Phase 1

Job Number: 241932

DESIGN DATA

Equivalent (18-kip) Single Axle Load Applications (ESAL):	ESAL (W_{18}) =	292,000
Design CBR	CBR =	3.8
Standard Deviation	S_o =	0.45
Loss in Serviceability	Δpsi =	2.5
Reliability	Reliability =	80
Reliability (z-statistic)	Z_R =	-0.84
Soil Resilient Modulus	M_R =	5,700 psi

Required Structural Number (SN): → SN = 2.80

DESIGN EQUATIONS

Resilient Modulus

If using CBR: $M_R = (CBR) \times 1{,}500$

If using R-Value: $M_R = 10^{[(S_1 + 18.72) / 6.24]}$ where: $S_1 = [(\text{R-value} - 5) / 11.29] + 3$

Required Structural Number

$$\log_{10}W_{18} = Z_R * S_O + 9.36*\log_{10}(SN+1) - 0.20 + \frac{\log_{10}\left[\frac{\Delta PSI}{4.2 - 1.5}\right]}{0.40 + \frac{1094}{(SN+1)^{5.19}}} + 2.32*\log_{10}M_R - 8.07$$

Pavement Section Thickness

$SN^* = C_1D_1 + C_2D_2$ where:

C_1 = Strength Coefficient - HMA

C_2 = Strength Coefficient - ABC/RCB

D_1 = Depth of HMA (inches)

D_2 = Depth of ABC/RCB (inches)

RECOMMENED THICKNESSES

Layer	Material	Coefficient	Thickness (D^*_i)	SN^*_i	SN
1	HMA	C_1 = 0.44	4.0 inches	1.760	-
2	ABC/RCB	C_2 = 0.11	10.0 inches	1.100	
			SN^* = 2.860		2.80

Pavement SN > Required SN, Design is Acceptable

FIG. C-1

FLEXIBLE PAVEMENT DESIGN

PROJECT DATA

Project Location: Retreat at Prairie Ridge, Filing No. 2, Phase 1

Job Number: 241932

DESIGN DATA

Equivalent (18-kip) Single Axle Load Applications (ESAL):	ESAL (W_{18}) =	292,000
Design CBR	CBR =	3.8
Standard Deviation	S_o =	0.45
Loss in Serviceability	Δpsi =	2.5
Reliability	Reliability =	80
Reliability (z-statistic)	Z_R =	-0.84
Soil Resilient Modulus	M_R =	5,700 psi

Required Structural Number (SN): → SN = 2.80

DESIGN EQUATIONS

Resilient Modulus

If using CBR: $M_R = (CBR) \times 1{,}500$

If using R-Value: $M_R = 10^{[(S_1 + 18.72) / 6.24]}$ where: $S_1 = [(\text{R-value} - 5) / 11.29] + 3$

Required Structural Number

$$\log_{10}W_{18} = Z_R * S_O + 9.36*\log_{10}(SN+1) - 0.20 + \frac{\log_{10}\left[\frac{\Delta PSI}{4.2 - 1.5}\right]}{0.40 + \frac{1094}{(SN+1)^{5.19}}} + 2.32*\log_{10}M_R - 8.07$$

Pavement Section Thickness

$SN^* = C_1D_1 + C_2D_2$ where:

C_1 = Strength Coefficient - HMA

C_2 = Strength Coefficient - CTS

D_1 = Depth of HMA (inches)

D_2 = Depth of CTS (inches)

RECOMMENED THICKNESSES

Layer	Material	Coefficient	Thickness (D^*_i)	SN^*_i	SN
1	HMA	C_1 = 0.44	4.0 inches	1.760	-
2	CTS	C_2 = 0.11	10.0 inches	1.100	
			SN* = 2.860		2.80

Pavement SN > Required SN, Design is Acceptable

FIG. C-2