JVIATION®

May 22, 2020

To: Plan Holders for Improvements to the
Monett Regional Airport
Pierce City, Missouri
Project No. 20-098B-1

Transmitted herewith is Addendum **No. 1** to the Issued for Bid Contract Documents, Specifications and Plans dated May 18, 2020 for Improvements to the Monett Regional Airport.

Schedule I – Earthwork and Grading for Relocation of Runway 18/36

Sincerely,

Jviation, Inc.

Mark J. Lovato, P.E.
Project Manager

Mark J. Lovato

ENGINEERING & PLANNING

Main 573.636.3200 **Fax** 573.636.3201
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ADDENDUM NO. 1
TO
CONTRACT DOCUMENTS, SPECIFICATIONS AND PLANS
FOR IMPROVEMENTS TO THE
MONETT REGIONAL AIRPORT
PIERCE CITY, MISSOURI
PROJECT NO. 20-098B-1

To All Bidders: You are requested to make all changes and/or additions contained in this addendum to the Bidding Documents. Failure to acknowledge this Addendum in Proposal shall result in rejection of bid. Bidders are informed that the above referenced Contract Documents, Specifications and Plans are modified as follows as of May 22, 2020:

1. CONTRACT DOCUMENTS/SPECIFICATIONS

Contract Documents: Appendix APP-C

Section: APP-C

Line: All

Revision: This section is revised to include the final Geotechnical Report

Justification: *This change was to revise the draft Geotechnical Report with the Final Geotechnical Report.*

2. QUESTIONS

1. Will a Winter shutdown be anticipated?
    a. Yes, the funding for this project is anticipated for later in the summer and therefore the contractor shall assume a Winter Shutdown period to be requested when work is no longer practical.
2. I was wondering if the cad file is available for use in our earthwork takeoff's for the grading of the monett airport?
    a. Sorry, we do not give out models or CADD files for the bid. A model can be requested by the Contractor that wins the Award, with a signed disclaimer that the model is for reference only and that the plans dictate.
3. Will the Final Geotech Report be included with the documents as opposed to the Draft Report.?
    a. Yes, see attached Final Geotechnical Report.
4. Also, who would I talk with about digging test holes next week?
    a. This question is being evaluated and will be answered in the next Addendum.
5. Is there an engineer's estimate or range available for this project?
    a. No, we do not provide an engineer's estimate or range before the bid.

Questions will be accepted via written email format only to Jviation, Inc. (Mark.Lovato@jviation.com) until Thursday June 4, 2020 at 5:00 p.m. (CST).

**** END OF ADDENDUM NO. 1 ****

REPORT OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION

MONETT REGIONAL AIRPORT RUNWAY 18/36
RELOCATION AND RECONSTRUCTION
MONETT, MISSOURI
TSI PROJECT NUMBER 20202013

JVIATION
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Jefferson City, Missouri 65109

TSi geotechnical, inc.

8248 NW 101st Terrace, #5
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May 19, 2020

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PROFESSIONAL SERVICES SINCE 1989

May 19, 2020

Mr. Jeffery Hogan, PE
JVIATION
931 Wildwood Drive, Suite 101
Jefferson City, Missouri 65109

Re: Report of Subsurface Exploration and Geotechnical Engineering Evaluation
Monett Regional Airport Runway 18/36
Relocation and Reconstruction
Monett, Missouri
TSi Project No. 20202013

Dear Mr. Hogan:

TSi Geotechnical, Inc. (TSi) has completed the authorized subsurface exploration and geotechnical engineering evaluation for the referenced project and is pleased to submit this report of our findings to Jviation. The purpose of our work was to determine subsurface conditions at specific exploration locations and to gather data on which to prepare geotechnical recommendations for the design and construction of the proposed additions to Monett Regional Airport in Monett, Missouri. This report describes the exploration procedures used, documents the data obtained, and presents our evaluations and recommendations relative to the geotechnical engineering aspects of the project.

We appreciate the opportunity to assist you with this project. If you have any questions, or if we may be of further service to you, please call us.

Respectfully submitted,
TSI GEOTECHNICAL, INC.

Fred H. Held III
Project Manager

Denise B. Hervey, PE
Principal

STATE OF MISSOURI
MORRIS M. DIRNBERGER
NUMBER PE-2004004208
5/19/20
PROFESSIONAL ENGINEER

Morris M Dirnberger, PE
Senior Geotechnical Engineer

CONTENTS

SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION MONETT REGIONAL RUNWAY 18/36 RELOCATION AND RECONSTRUCTION MONETT, MISSOURI

1.0 SCOPE OF SERVICES

This report summarizes the results of a geotechnical study performed for the proposed relocation and reconstruction of runway 18/36 at the Monett Regional Airport in Monett, Missouri. The study was performed in general accordance with TSi's proposal to Jviation dated March 11, 2020, which identified the following items for inclusion in this study report:

- Subsurface conditions at the boring locations;
- Laboratory test results;
- Influence of groundwater on the project;
- Pavement recommendations;
- Anticipated Settlement;
- Slope stability analysis;
- Subgrade improvement recommendations;
- Subgrade reaction modulus;
- General construction considerations; and
- Recommendations for fill and backfill materials, placement, and compaction.

2.0 SITE AND PROJECT DESCRIPTIONS

The project is planned to include the relocation and reconstruction of Runway 18/36 along with a parallel taxiway and associated connector taxiways at the Monett Regional Airport in Monett, Missouri. The project will also include the construction of fills ranging in depth to approximately 35 feet and 500 feet in width to establish the new Runway Safety Area and a 6,000 foot long by 100 foot wide Portland Cement Concrete runway. The existing runway 18/36 will be analyzed for repurposing into a parallel taxiway. Borrow source material is planned to be obtained near the site and will be analyzed for use as fill material.

The general location of the project site is shown in Figure 1 in Appendix A . The Site and Boring Location Plan, Figures 2A and 2B in Appendix A, provides a more detailed plan of the project area.

3.0 FIELD EXPLORATION AND LABORATORY TESTING

3.1 FIELD EXPLORATION

TSi conducted an exploration program between April 1 and April 10, 2020. The exploration consisted of 55 borings designated as borings B-1 to B-55, and 10 pavement cores designated as C-1 to C-10. Forty five (45) borings were drilled to planned depths of 10 feet; 3 borings to planned depths of 20 feet; 3 borings to planned depths of 30 feet; and 4 borings to planned depths of 60 feet or auger refusal. Bulk samples were obtained from selected surficial boring locations to depths of approximately 5 feet. The boring logs from this exploration are included in Appendix B. The boring locations were selected and staked in the field by Jviation.

All borings were drilled using a CME-550 ATV-mounted drill rig to advance continuous flight auger drilling tools to the requested depth. A geotechnical specialist from TSi directed the exploration procedures in the field, maintained a field log of the conditions encountered in the borings, and collected and classified the samples recovered. Split-spoon samples were recovered from the borings using a 2-inch outside-diameter, split-barrel sampler, driven by an automatic hammer in accordance with ASTM D 1586. Three-inch Shelby tube samples were obtained in accordance with ASTM D 1587 from limited borings. The Shelby tube samples were preserved by sealing the entire sample in the tube. Borings were backfilled with auger cuttings, compacted with the drill auger and the pavement replaced with a cold asphalt patch.

The results of the field tests and measurements were recorded on field logs and appropriate data sheets by TSi's geotechnical specialist. Those data sheets and logs contain information concerning the exploration methods, samples attempted and recovered, indications of the presence of various subsurface materials, and the observation of groundwater. The field logs and data sheets contain the engineer's interpretations of the conditions between samples, based on the performance of the exploration equipment and the cuttings brought to the surface. The final logs included in this report were based on the field logs, modified as appropriate based on the results of laboratory testing of soil samples.

3.2 LABORATORY TESTING

A laboratory testing program was conducted by TSi to determine selected engineering properties of the obtained soil samples. The following laboratory tests were performed on the samples recovered from the borings:

- Visual description by color and texture of each sample (ASTM 2488);
- Natural moisture content of each sample (ASTM D 2216);
- Unconfined compressive strength of selected cohesive samples (ASTM D 2166);
- Unit weight of selected cohesive samples (ASTM D 7263);
- Atterberg limits on selected cohesive samples (ASTM D 4318);
- Grain size of selected samples (ASTM D 422);
- Consolidation tests on selected samples (ASTM D2435)
- Free Swell Test
- Modified Proctor compaction of selected samples (ASTM D 1157); and,
- California Bearing Ratio (CBR) (ASTM D 1883).

The results of most of the laboratory tests are summarized on the boring logs. Results of the standard Proctors, CBRs, unconfined tests, and consolidation tests are included in Appendix C. The analyses and conclusions contained in this report are based on field and laboratory test results and on the interpretations of the subsurface conditions as reported on the logs. Only data pertinent to the objectives of this report have been included on the logs; therefore, these logs should not be used for other purposes.

4.0 SUBSURFACE CONDITIONS

Details of the subsurface conditions encountered at the boring locations are shown on the logs in Appendix B. The general subsurface conditions encountered and their pertinent engineering characteristics are described in the following paragraphs. Conditions represented by the borings should be considered applicable only at these locations on the dates shown; the reported conditions may be different at other locations or at other times.

4.1 GENERALIZED SUBSURFACE PROFILE

Sixty Five (65) borings were drilled. Ten (10) borings were drilled in the existing Runway 18/36 and in the footprint of the proposed Taxiway A relocation at the airport site, designated as C-1 to C-10. The pavements consisted of 8.5 to 6.5 inches of Portland Cement Concrete (PCC) generally underlain by 3.5 to 5.5 inches of crushed limestone gravel base. In all borings, the pavement section was underlain by lean and fat clay fill at depths ranging from approximately 3.0 to 10.0 feet, where these borings were terminated. Blow counts ranged from 7 blows per foot (bpf) to 50/2.5" bpf. Moisture contents in this fill ranged from 12% to 46%. Liquid Limits (LL) ranged from 40 to 82, and Plastic Indexes (PI) ranged from 22 to 48.

The surficial material at most borings (B-1 to B-55) consisted of approximately 6 inches of topsoil. Borings B-1, B-2, and Borings B-8 through B-11 encountered approximately 3.0 feet to 8.0 feet of fill underlying the surficial topsoil. Standard Penetration Test (N-values) in the fill ranged from 8 to 48 blows per foot (bpf). Moisture contents ranged from 15% - 28%; liquid limits (LL) from 42 to 66; and plasticity indexes (PI) of 19 to 38.

The surficial pavement and fill materials were underlain by native topsoil at the boring locations. The native soils primarily consisted of lean clays, fat clays (CL and CH, respectively, in accordance with Unified Soil Classification System (USCS), silts and elastic silts (MLand MH, respectively, in accordance to the USCS), and clayey gravels clays (GC according to the USCS). Standard penetration tests (N-values) in the native soils varied significantly across the site ranging from 1 blow per foot (bpf) to 50/0" bpf. Higher blow counts may be attributed to the sampler being driven on chert or rock fragments. Moisture contents ranged from 8% to 54%. Atterberg Limit tests performed within the native soils resulted in Liquid Limits (LL) of 28 to 86 and Plasticity Indexes (PI) of 9 to 57. Dry unit weight values in the lean and fat clays ranged from 56 to 110 pounds per cubic foot (pcf) and twelve (12) undrained shear strength values ranged from 0.18 to 1.58 tons per square foot. The native soils continued to the termination depth of 10.0 ft. in thel borings except in Borings B-22, -24, -32, and -35 which were terminated at 30 feet; Borings B-49 and 51, terminated at 20 feet; Borings B-26, 27, and 28, terminated at 60 feet; and Boring B-29 terminated at 42.7 feet.

4.2 GROUNDWATER

Groundwater was observed in Borings B-27, B-28, and C-06 during drilling at a depths of 1.0 and 33.5 feet, respectively, below ground surface. The presence or absence of groundwater at a particular location does not necessarily mean that groundwater will be present or absent at that

location at other times. Seasonal variations and other unknown considerations will cause fluctuations in water levels and the presence of water in the soils.

5.0 Engineering Assessments and Recommendations

5.1 Global Stability Analyses

Global stability analyses were performed for the proposed side slopes of the 500 foot runway and safety area. Analyses were performed for both the long term (drained) and after construction (undrained) conditions. The slope analyses were based on borings located near the deepest fill areas. The global stability analyses figures are located in Appendix D of this report. Based on preliminary design figures, we understand the side slopes will be on the order of 5.5 Horizontal to 1.0 Vertical (5.5 H:1.0V) and transition to approximately 33.5 Horizontal to 1.0 Vertical (33.5H:1.0V). The analyses were completed at locations of the deepest fill areas of 20 feet and 35 feet. The results produced minimum factors of safety of 1.3 or greater at each side slope. The analyses were performed with SLOPE/W where a factor of safety (FS) greater than 1.5 is generally accepted for the short term condition, and 1.3 for the long term.

5.2 Foundation Settlement

The amount of settlement caused by consolidation of native soils below the newly placed embankment fill along the runway and safe area at the deep fills of 20 and 35 feet are estimated to be between 1 and 2 feet. Additionally, the settlement of the new embankment fill under its own weight will be on the order of 4 to 12 inches. To help mitigate compression of the new embankment, the embankment fill should be compacted to 90% of modified Proctor maximum dry density in areas of fill less than 15 feet; 92% of modified Proctor in fill areas more than 15 feet. The elastic component of embankment settlement should occur as the fill is placed, but consolidation settlement of foundation soils could continue for weeks or months. This self-weight settlement is material and time-dependent and would be additive to the foundation consolidation settlements discussed previously; unless construction can be staged so that the pavements that will be supported by the new fill are built after the fill-induced settlements are essentially complete. Due to the variability of the soils encountered on this site, including sand and gravel content, plasticity, and depth to bedrock (not ecountered), consolidation settlement estimates could be higher and take longer to occur. Based on some of the fat clays encountered in the borings with a smaller amounts of sand and gravel, settlements of foundation soils could exceed 2 feet and take over two years to occur for fills as high as 35 feet. Lower fill heights would be less than these maximum estimates.

The embankment areas should be monitored for settlement and construction delayed until the settlement is mostly. Consolidation testing provides only general guidance for calculating the magnitude and rate of settlements. These settlements provide only general guidance for calculating the estimated quantities and potential delays after the fill has been placed prior to pavement construction. Therefore, TSi recommends that ground surface settlement monuments be installed at locations approaching and within deeper fill areas after fill placement is complete, and that settlements be monitored periodically by surveying methods. We suggest using monuments such as screwed elements bearing below a depth of 2.5 feet, such as screw anchors, so that seasonal changes in moisture and frost effects do not skew the surveyed elevations. Based on the monitoring survey data, TSi would assess the magnitude and rate of settlements. If the data reveals unanticipated magnitudes or rates, TSi will confer with Jviation to decide upon an

appropriate course of action. If requested, TSi can provide guidance for a settlement monitoring program.

Monitoring could also consist of below grade plates to track settlement of the native clay soils, and stakes to track the settlement of both the proposed embankment fill and native soils as outlined in the Missouri Department of Transportation (MoDOT) standard specifications. The settlement plates should be measured weekly after fill placement is complete. Settlement of the embankment should be monitored until weekly settlement is less than 1/8 inch between consecutive readings at all locations

This settlement could be accelerated by the installation of wick drains with a sand blanket. Wick drains accelerate the settlement process by providing a shorter drainage path for water to escape. The degree of acceleration is based on the wick drain spacing and the preload. Recommendations regarding the installation of wick drains and preload would be a design/build contractor's responsibility.

Wick drains are mandrel-pushed or vibrated into the soil, having a central plastic core surrounded by a filter jacket, and pushed to the bottom of the consolidating layer. As the mandrel is withdrawn, the undamaged wick drain is left in place within the soill mass.

These methods are typically designed and installed by a specialty contractor, who should be capable of verifying the improvement in settlement characteristics, along with providing preliminary construction costs, early in the design phase. Because of the specialty nature of these technologies, the design/builder should accept responsibility for the performance of their methods and products. TSi can provide contact information for several contractors upon request. Based on our experience with similar projects in the same geologic setting, this approach is likely to be feasible for this project.

5.3 Swelling Clay Considerations

Fat clays (CH) were encountered at several of the boring locations at shallow depths of just below the pavement at the proposed taxiway, to approximately 10 feet in the area of the proposed new runway and safe area, and could be encountered in the subgrade. Fat clays tend to swell when water is absorbed and shrink as the material dries. Potential detrimental effects include heaving, settlement, and differential movements. This concern applies to this material whether it is in its natural condition or used as fill material.

If encountered, we recommend that fat clay soils be overexcavated to a depth of at least 2 feet below pavement areas for shrink and swell considerations. The overexcavated fat clay soils should be replaced with a volume-stable material, such as a low-plasticity silty or lean clay or a well-graded crushed limestone. The new material should be placed and compacted in accordance with the recommendations provided later in this memorandum. TSi suggests that unit rates for removal and replacement of fat clay in this manner be included in the bid documents so that a comparison of such rates can be part of the selection process.

In addition to the recommendations discussed above, some relatively basic design and construction considerations are recommended that will aid in maintaining the moisture content of the fat clays and reducing the potential for swell. Avoiding conditions that could result in excessive wetting or drying of the subgrade will reduce the potential for volume instability and associated distress. The following design and construction precautions are recommended:

1. Positive surface drainage should be provided during and after construction to prevent ponding of water around the structures and on or adjacent to pavements.
2. Stormwater runoff from the building roofs should be collected by a gutter system, or other means, and carried away from the structures to avoid saturating the subgrade under and adjacent to the structures.
3. Deep-rooted trees or shrubs planted for landscaping purposes should be kept a distance of one mature height away from the buildings to prevent their roots from withdrawing excessive moisture from the underlying clay soils.
4. Excessive watering of grass or shrubs adjacent to the buildings or pavements should be avoided.
5. Foundation drains should be used for below grade areas and either daylighted or drained to a sump pit and removed by a pump.

5.4 PAVEMENT DESIGN

TSi recommends a well-graded aggregate base, such as MoDOT Type 5 or equivalent, directly underlying the pavements with a minimum thickness of 6 inches. Fill material below the pavements should consist of a minimum of 18 inches of low volume change (LVC) material consistent with requirements outlined in Section 6.3 of this report.

Four California Bearing Ratio (CBR) tests were conducted from bulk samples in selected borings on the native soils with composite samples of subgrade soil from 1 to 5 feet. Modified Proctor tests yielded maximum dry densities ranging from 103.3 to 106.1 pounds per cubic foot (pcf) and optimum moisture contents ranging from 16.2 to 20.8%. The CBR's ranged from 1.4 to 7.1 (see Table 1 below). The CBR test results are included in Appendix C of this report. Based on the laboratory results, TSi recommends a CBR of 4 for use in designing the flexible pavement sections for this site. In accordance with the Federal Aviation Administration (FAA) Advisor Circular 150/5320-6F, a CBR value of 4 equates to a modulus-of-subgrade reaction, k_S, for the soil of approximately 69 pounds per cubic inch (pci). A subgrade modulus value can be estimated by using the CBR value with the following equation, as taken from the FAA design guide:

Subgrade modulus (psi) = 1500 x (CBR)

Rigid pavement design can be based on a modulus-of-subgrade reaction (k) of 69 pounds per cubic inch (pci) for the soil subgrade. These values for rigid and flexible pavement design are based on the requirement that the pavement subgrade is prepared in accordance with the recommendations provided in this report.

Asphaltic concrete pavements should have a minimum thickness of 6.0 inches with a 6.0-inch thick crushed aggregate base. If the crushed aggregate base is increased to 9.0 inches, the asphalt thickness could be reduced to 4.0 inches. The asphaltic concrete pavement section should include a minimum surface course thickness of 2.0 inches. The crushed aggregate base for asphaltic pavements should consist of MoDOT Type 5, or equivalent. Fill material below the pavements should consist of a minimum of 12 inches of low volume change (LVC) material consistent with requirements outlined in Section 6.3 of this report.

For areas where heavy wheel loads will be concentrated pavements should be constructed with a minimum thickness of 8.0 inches of Portland cement concrete. We recommend that a 6.0-inch base course of well-graded crushed limestone, such as MoDOT Type 5, be placed below all concrete pavements.

Stabilization of the subgrade will provide a stiffer, more durable subgrade, which will improve the durability of the pavements. It will also provide a subgrade that is less prone to disturbance under construction traffic, especially during rainy weather. If the design team desires to increase the CBR value of the subgrade, subgrade stabilization with fly ash or lime is recommended. Our experience indicates that higher CBR values can be achieved with fly ash-treated subgrade. The CBR value for lime treated soils will be greater than the CBR values measured in the clays. The stabilized soils should be compacted as recommended in Section 6.4 of this report. The CBR value used in design for treated soils should be verified during construction using dynamic cone penetrometer (DCP) tests.

A lime- or fly ash-treated Proctor and CBR testing was not included in the scope of this exploration. The exact amount of lime or fly ash application should be determined in the laboratory before construction begins. If requested, TSi can perform additional services to determine the optimal percentage of fly ash or lime application in the laboratory using additional soil samples from the site to perform standard Proctor and CBR tests at varying fly ash or lime percentages. The recommended pavement sections are minimum design thicknesses; periodic maintenance should be anticipated. The recommended pavement sections are not intended to support construction traffic.

TABLE 1. SUMMARY OF PROCTOR AND CBR TESTS

Sample	Sample Depth (Feet)	USCS	Optimum Moisture Content (%)	Maximum Dry Density (pcf)	Dry Density at 90% Compaction (pcf)	CBR Value
Bulk B-49	1-5	CH LL=56 PI=36	16.2	106.1	95.5	7.1
Bulk B-53	1-5	CH LL=87 PI=63	20.8	104.0	93.6	4.3
Bulk C-3	1-5	CH LL=66 PI=45	17.3	103.3	93.0	5.3
Bulk C-7	1-5	CH LL=96 PI=70	17.2	105.8	95.2	1.4

USCS = Unified Soil Classification System
Maximum dry density as determined by ASTM D 1157
pcf = pounds per cubic foot

6.0 Site Preparation and Excavation Considerations

6.1 Subgrade Preparation

Construction areas should be stripped of existing pavement, organic soil, and any deleterious materials prior to site excavation and grading. Care should be taken during stripping to prevent excessive disturbance of the underlying soil. After the removal of these materials, and where further excavation is not required, the exposed subgrade should be proofrolled. Proofrolling is accomplished by passing over the subgrade with proper equipment, such as a loaded tandem-axle dump truck or scraper, and observing the subgrade for pockets of excessively soft, wet, disturbed, or otherwise unsuitable soils. Any unacceptable materials thus found should be excavated and either recompacted or replaced with new structural fill.

Prior to placing fill in any area, the subgrade should be scarified to a depth of about 6 inches, the moisture content adjusted to near its optimum moisture content, and the subgrade recompacted in accordance with recommendations made in subsequent sections of this report. The recommended proofrolling and/or scarification and recompaction may be waived if, in the opinion of a geotechnical engineer, this procedure would be detrimental or unnecessary. Following satisfactory preparation of the subgrade, controlled fill material may be placed.

6.2 Subgrade Protection

Construction areas should be properly drained in order to reduce or prevent surface runoff from collecting on the exposed subgrade. Any ponded water on the exposed subgrade should be removed immediately. Temporary stormwater swales and collection areas may be required to control surface water flow into low areas of the site.

To prevent unnecessary disturbance of the subgrade soils, heavy construction vehicles should be restricted from traveling through the finished subgrade. If areas of disturbed subgrade develop, they should be properly repaired in accordance with the recommendations in this report.

Immediately prior to construction of the pavement, it is recommended that the exposed subgrade be evaluated to determine whether moisture contents are within the recommended range and to identify areas disturbed by construction operations. Moisture conditioning of wet or dry areas is recommended prior to construction of the pavement section. Areas disturbed by construction traffic should be reworked.

6.3 Fill and Backfill Materials

In general, fills should consist of clay or well-graded granular materials with a maximum particle size of 2 inches. The soils encountered in the borings are suitable for use as fill. Low volume change (LVC) fill should consist of approved, well-graded granular materials or low to moderate plasticity cohesive soil. Low to moderate plasticity cohesive materials used as LVC fill should consist of inorganic clay with a liquid limit less than 45 and a plasticity index of less than 25. Fill materials from off-site sources should be approved prior to their use. Soil with decayable material such as wood, trash, metal, or vegetation is typically not acceptable.

Some of the fill material may require the addition of moisture prior to compaction. This should be performed in a controlled manner using a tank truck with a spray bar, and the moistened soil should be thoroughly blended with a disk or pulverizer to produce a uniform moisture content. Repeated passages of the equipment may be required to achieve a uniform moisture content. If fill is placed during the winter season, fill materials should be carefully observed to see that no ice or frozen soils are placed as fill or remain in the base materials upon which fill is placed.

Some of the fill material may require moisture reduction prior to compaction. During warm weather, moisture reduction can generally be accomplished by disking, or otherwise aerating the soil. When air-drying is not possible, a moisture-reducing chemical additive, such as lime or Class C fly ash, may be used as a drying agent.

6.4 Fill and Backfill Placement

Cohesive fill should be compacted to a dry density of at least 90% of the modified Proctor maximum dry density (ASTM D 1157) of the soil. Fill depths of 15 feet or more should be compacted to at least 92% of this criteria. Granular material, such as crushed limestone, placed for structure or pavement support, should be compacted to at least 95% of the modified Proctor maximum dry density. The moisture content of lean clay or granular fill at the time of compaction should be within ±3% of the optimum moisture content of the material as determined by the modified Proctor compaction test. Fill should be placed in loose lifts not in excess of 8 inches thick, and compacted to the aforementioned criterion. However, it may be necessary to place fill in thinner lifts to achieve the recommended compaction when using small hand-operated equipment.

7.0 CONSTRUCTION OBSERVATION AND TESTING

It is recommended that TSi be retained during construction to perform testing and observation services for the following items:

- Observation and documentation of the exposed soil after stripping topsoil and/or pavement, during scarification, compaction, and proofrolling;
- Testing of asphalt and/or concrete materials used for paving; and
- Placement and compaction of fill materials.

These Quality Assurance services should help verify the design assumptions and maintain construction procedures in accordance with the project plans, specifications, and good engineering practice.

8.0 REPORT LIMITATIONS

This geotechnical report has been prepared for the exclusive use of **JVIATION** for the specific application to the subject project. The information and recommendations contained in this report have been made in accordance with generally accepted geotechnical and foundation engineering practices; no other warranties are implied or expressed.

The assessments and recommendations submitted in this report are based in part upon the data obtained from the borings. The nature and extent of variations between the borings may not be evident at this time. If variations appear evident at a later date, it may be necessary to re-evaluate the recommendations of this report.

We emphasize that this report was prepared for design purposes only and may not be sufficient to prepare an accurate construction bid. Contractors reviewing this report should acknowledge that the information and recommendations contained herein are for design purposes.

If conditions at the site have changed due to natural causes or other operations, this report should be reviewed by TSi to determine the applicability of the analyses and recommendations considering the changed conditions. The report should also be reviewed by TSi if changes occur in the project location, size, and type, in the planned loads, elevations, grading and site development plans or the project concepts.

TSi requests the opportunity to review the final plans and specifications for the project prior to construction to verify that the recommendations in this report are properly interpreted and incorporated in the design and construction documents. If TSi is not accorded the opportunity to make this recommended review, we can assume no responsibility for the misinterpretation of our recommendations.

APPENDIX A

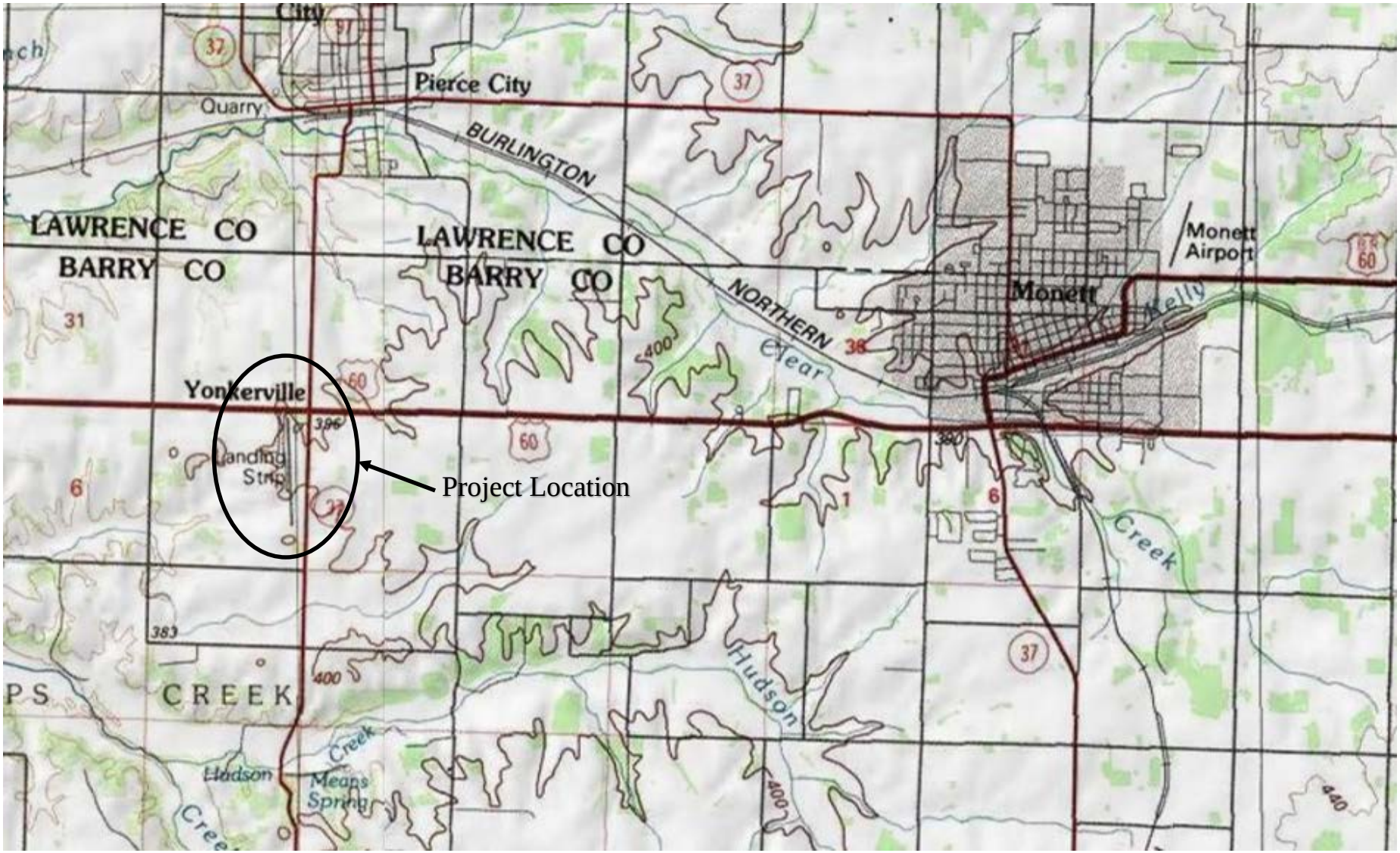
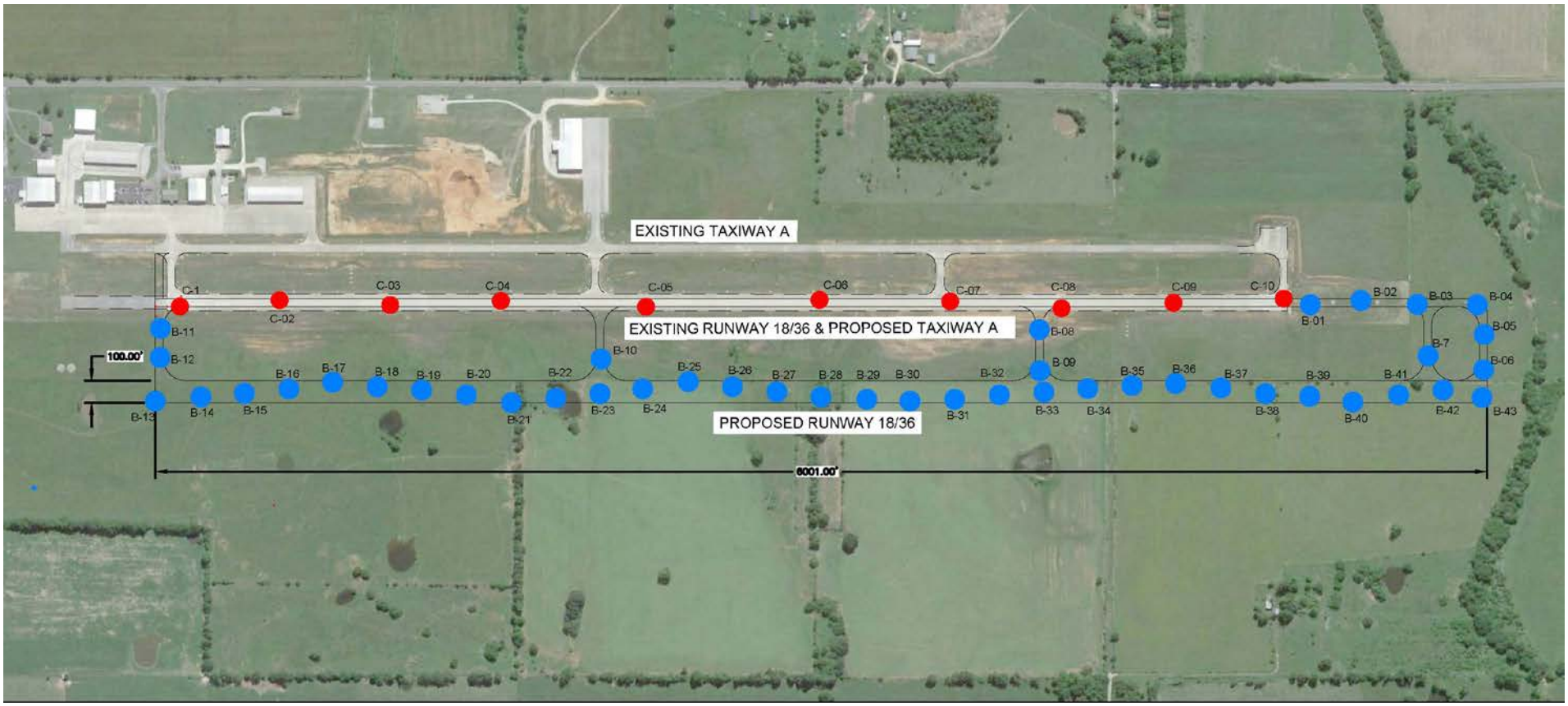


Figure 1, Vicinity Map		Project No. 20202013
Monett Regional Airport - Runway 18-36 Relocation Monett, Missouri		
Not to scale	Approved by: MD	



Legend

C-1 **Approximate Boring Location - Core**

B-11 **Approximate Boring Location - Bore**

Figure 2A, Boring Location Plan - Airfield		Project No. 20202013
Monett Regional Airport - Runway 18-36 Relocation Monett, Missouri		TSI geotechnical, inc.
Not to scale	Approved by: MD	

Legend

B-44

Approximate Boring Location – Borrow Area

Figure 2B, Boring Location Plan – Borrow Area		Project No. 20202013
Monett Regional Airport - Runway 18-36 Relocation Monett, Missouri		TSi geotechnical, inc.
Not to scale	Approved by: MD	

APPENDIX B

LOG OF BORING NO. B-01

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:

Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown and gray, lean CLAY (FILL), with gravel and sand	72		6 5 6				18			
		SS-2		Reddish brown and gray, lean CLAY (CL), with gravel and sand	67		4 8 8				22	39	21	18
5		SS-3		Reddish brown and gray, clayey GRAVEL with sand (GC) (35% passing No. 200 sieve)	56		8 19 20				16			
		SS-4			100		12 20 21				28			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/1/20
Date Boring Completed:	4/1/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-02

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown, reddish brown and gray, lean CLAY (FILL), with gravel and sand	94		4 4 5				19	42	23	19
		SS-2		Reddish brown and gray, lean CLAY (CL), with gravel and sand	100		4 4 6				16			
5		SS-3			100		5 6 8				23			
		SS-4		Reddish brown and gray, clayey GRAVEL (GC)	100		8 19 20				20			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/1/20
Date Boring Completed:	4/1/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-03

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, lean CLAY (CL), trace gravel	100		4 6 9				21			
5		SS-2		- reddish brown and gray below 3.5 ft.	100		8 9 10				19	31	18	13
		SS-3			100		4 8 13				23			
		SS-4		- with chert gravel and sand below 8.5 ft.	100		9 12 13				21			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/10/20
Date Boring Completed:	4/10/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-04

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, lean CLAY (CL), with chert gravel, sand, and chert fragments	83		50/6"				24			
				Reddish brown, clayey GRAVEL (GC)										
5		SS-2			56		24 24 27				16			
				Reddish brown, fat CLAY (CH), with sand and gravel										
		SS-3			100		9 13 12				16	51	27	24
		SS-4			100		4 12 20				39			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/10/20
Date Boring Completed: 4/10/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-05

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, lean CLAY (CL), trace gravel and sand	100		3 3 6				21	35	19	16
		SS-2		- with chert gravel below 3.5 ft.	100		7 12 13				19			
5		SS-3			100		8 9 9				25			
		SS-4			100		7 6 5				37			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/10/20
Date Boring Completed: 4/10/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-06

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown, lean CLAY (CL), with chert gravel and sand	61		9 11 9				20			
		SS-2		Reddish brown, elastic SILT (MH), with chert gravel and sand	100		3 6 9				33	55	30	25
5		SS-3		Reddish brown, fat CLAY (CH), with chert gravel and sand	100		8 8 7				24			
		SS-4			67		9 8 8				30			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/10/20
Date Boring Completed:	4/10/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-07

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, silty lean CLAY (CL), trace gravel	100		3 5 9				26	42	22	20
		SS-2		- reddish brown and gray from 3.5 to 6.0 ft.	100		4 7 13				21			
5		SS-3		- reddish brown with chert gravel and sand below 6.0 ft.	100		5 10 12				23			
		SS-4			89		6 12 15				21			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/10/20
Date Boring Completed:	4/10/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-08

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		FILL: Brown, fat CLAY (CH), with gravel and sand	100		11 11 11				23	66	28	38
		SS-2		- clayey GRAVEL (GC) below 3.5 ft.	67		8 28 20				28			
5		SS-3			72		6 22 12				24			
		SS-4		Reddish brown, lean CLAY (CL), with gravel and sand	100		8 12 10				23			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/2/20
Date Boring Completed:	4/2/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-09

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		FILL: Brown, lean CLAY (CL), with gravel and sand	100		3 8 11				21			
		SS-2		Reddish brown, fat CLAY (CH), with gravel and sand	100		4 7 9				33	52	27	25
5		SS-3			100		7 10 9				38			
		SS-4			89		27 12 18				46			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/1/20
Date Boring Completed:	4/1/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-10

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:

Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown, lean CLAY (FILL), with coarse gravel and sand	50		6 5 3				15			
5		SS-2			50		5 11 8				25			
		SS-3		Reddish brown, fat CLAY (CH), with gravel and sand	78		4 12 13				33			
		SS-4			100		5 7 6				38			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/2/20
Date Boring Completed:	4/2/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-11

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown, lean CLAY (FILL), with gravel and sand	89		7 6 11				16			
		SS-2		Reddish brown, lean CLAY (CL), with gravel and sand	94		5 12 21				24	48	25	23
5		SS-3			100		4 7 7				40			
		SS-4		- with coarse chert gravel below 8.5 ft.	89		12 15 11				34			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/2/20
Date Boring Completed: 4/2/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-12

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, lean CLAY (CL), trace gravel	100		5 5 7				20	39	21	18
		SS-2		- silty below 3.5 ft.	100		4 6 6				20			
5		SS-3		Reddish brown, clayey GRAVEL with sand (GC)	100		4 13 33				19			
		SS-4			78		8 21 23				18			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/2/20
Date Boring Completed:	4/2/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-13

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, lean CLAY (CL), trace gravel	100		4 7 8				22	38	23	15
5		SS-2		- reddish brown and gray below 3.5 ft.	100		4 7 9				25			
		SS-3			100		4 7 11				20			
		SS-4		Reddish brown and gray, clayey GRAVEL (GC)	100		14 24 26				16			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/8/20
Date Boring Completed:	4/8/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-14

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown and gray, lean CLAY (CL), trace gravel	94		3 4 5				24			
		SS-2		Reddish brown and gray, clayey GRAVEL (GC)	80		20 50/4"				12			
5		SS-3		Reddish brown and gray, lean CLAY (CL), trace gravel - with chert gravel and sand below 6.0 ft.	100		8 10 12				32			
		SS-4			83		8 27 14				22			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/8/20
Date Boring Completed: 4/8/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-15

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown and gray, lean CLAY (CL), trace gravel	100		3 4 8				22	33	19	14
		SS-2		-sandy from 3.5 to 5.0 ft. (66% passing No. 200 sieve)	100		4 7 10				22			
5		SS-3		- with gravel and sand below 6.0 ft.	100		7 14 14				40			
		SS-4		- with chert gravel below 8.5 ft.	100		9 17 15				29			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/8/20
Date Boring Completed:	4/8/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-16

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown, lean CLAY (CL), with chert gravel and sand	100		3 5 15				23			
5		SS-2		- reddish brown below 3.5 ft.	100		4 8 10				29			
		SS-3			100		5 7 8				36			
		SS-4			100		6 6 9				37			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/8/20
Date Boring Completed: 4/8/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-17

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown, lean CLAY (CL), with chert gravel and sand	78		4 5 5				25			
		SS-2		Reddish brown, fat CLAY (CH), with chert gravel and sand	72		4 7 8				41	61	29	32
5		SS-3			89		12 14 17				40			
		SS-4			100		4 9 9				33			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/8/20
Date Boring Completed: 4/8/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-18

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown, lean CLAY (CL), with chert gravel and sand	83		4 6 14				18			
		SS-2			56		16 16 13				17			
5		SS-3		- reddish brown below 6.0 ft.	94		4 8 11				19			
		SS-4		- trace gravel and sand below 8.5 ft.	94		3 5 7				40			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/8/20
Date Boring Completed:	4/8/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-19

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown, lean CLAY (CL), with chert gravel and sand	50		5 6 8				19			
5		SS-2		- reddish brown, trace gravel and sand below 3.5 ft.	100		4 5 9				31			
		SS-3		- with chert gravel and sand below 6.0 ft.	72		4 18 16				38			
		SS-4			100		4 6 12				47			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/8/20
Date Boring Completed: 4/8/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-20

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown, lean CLAY (CL), with chert fragments and sand	67		3 6 12				18			
		SS-2		Reddish brown, fat CLAY (CH), with chert gravel	67		4 7 7				33	67	32	35
5		SS-3			28		14 11 11				38			
		SS-4			89		4 6 12				40			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/8/20
Date Boring Completed:	4/8/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-21

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown and gray, lean CLAY (CL), trace gravel	72		3 3 5				23			
5		SS-2		- brown, with chert gravel and sand below 3.5 ft.	56		8 11 22				30			
		SS-3		- brown and orange brown, trace gravel and sand below 6.0 ft.	28		8 11 12				24			
		SS-4		- with chert gravel and sand below 8.5 ft.	78		8 10 10				44			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/8/20
Date Boring Completed:	4/8/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-22

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown and gray, clayey SILT (ML), trace gravel	100		6 6 9				24			
		SS-2		Brown, lean CLAY (CL), with chert gravel and sand	100		15 17 11				18			
5		ST-3			100					56	42	47	24	23
		SS-4			100		5 7 11				40			
10		ST-5			83					74	34			
15				Reddish brown, fat CLAY (CH), with chert gravel and sand										
		SS-6			72		5 5 9				39	59	30	29
20		SS-7			83		4 4 6				39			
25														

Completion Depth:	30.0
Date Boring Started:	4/8/20
Date Boring Completed:	4/8/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

Continued Next Page

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-22

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Reddish brown, fat CLAY (CH), with chert gravel and sand										
		SS-8			61		14 4 8				50			
30				Boring terminated at 30.0 ft.										
35														
40														
45														
50														

Completion Depth:	30.0
Date Boring Started:	4/8/20
Date Boring Completed:	4/8/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-23

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:

Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown and gray, lean CLAY (CL), with gravel and sand	100		6 15 21				18			
5		SS-2		- brown, gray and orange brown, with coarse chert gravel and sand from 3.5 to 8.5 ft.	100		10 12 15				19			
		SS-3			61		9 13 13				41			
		SS-4		- reddish brown and orange brown, with sand, trace gravel below 8.5 ft.	89		5 9 9				39			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/7/20
Date Boring Completed:	4/7/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-24

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown, lean CLAY (CL), with gravel	89		3 5 18				21			
		SS-2		Brown, clayey GRAVEL (GC)	83		50/6"				19			
5		SS-3		Reddish brown, gravelly elastic SILT (MH), with sand	100		6 13 38				38	75	37	38
		SS-4		Reddish brown, fat CLAY (CH), with chert fragments and sand	89		10 13 6				34			
10		ST-5			83						35			
15		SS-6		- trace gravel, sand and lignite, no chert fragments below 18.5 ft.	100		3 4 4				43			
20		ST-7		- with gravel and sand, no lignite and chert fragments below 23.0 ft.	88					65	52			
25														

Completion Depth:	30.0
Date Boring Started:	4/7/20
Date Boring Completed:	4/7/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

Continued Next Page

LOG OF BORING NO. B-24

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Reddish brown, fat CLAY (CH), with gravel and sand										
		SS-8			28		2 3 3				53			
30				Boring terminated at 30.0 ft.										
35														
40														
45														
50														

Completion Depth:	30.0
Date Boring Started:	4/7/20
Date Boring Completed:	4/7/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-25

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, lean CLAY (CL), trace gravel	100		3 6 8				19	32	19	13
		SS-2		- with chert fragments below 3.5 ft.	100		5 9 20				19			
5		SS-3		Reddish brown, clayey GRAVEL (GC)	100		16 34 26				24			
		SS-4		Reddish brown, lean CLAY (CL), with gravel	100		9 12 15				29			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/7/20
Date Boring Completed:	4/7/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-26

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
				Brown, lean CLAY (CL), with gravel										
		SS-1			100		4 6 8				30			
		SS-2		- reddish brown and gray below 3.5 ft.	100		8 5 7				26			
5														
				Gray, lean CLAY (CL), trace gravel										
		ST-3		(consolidation test)	100				2.70	109	19			
		SS-4			100		4 5 5				25	46	20	26
10														
		ST-5		- with fine to coarse gravel below 13.0 ft.	100				0.43	104	23			
15														
		SS-6		- orange brown and gray, with gravel and sand from 18.5 to 28.5 ft.	100		3 4 6				22			
20														
		ST-7		- reddish brown below 23.0 ft.	100				0.62	110	22			
25														

Completion Depth: 60.0
Date Boring Started: 4/7/20
Date Boring Completed: 4/7/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

Continued Next Page

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-26

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Reddish brown, lean CLAY (CL), trace gravel										
30		SS-8		- gray and brown from 28.5 to 38.5 ft.	100		3 4 4				26			
35		SS-9			100		3 4 4				22			
40		SS-10		- reddish brown, silty below 38.5 ft.	100		3 4 5				25			
45		SS-11			100		3 4 4				23			
50		SS-12		- brown, with gravel, trace lignite below 48.5 ft.	100		5 7 7				24			

Completion Depth: 60.0
Date Boring Started: 4/7/20
Date Boring Completed: 4/7/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

Continued Next Page

LOG OF BORING NO. B-26

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, fat CLAY (CH), with gravel, trace lignite										
55		SS-13		- brown and orange brown, with sand, no lignite below 53.5 ft.	100		5 6 7				29	53	20	33
		SS-14			100		5 5 8				22			
60				Boring terminated at 60.0 ft.										
65														
70														
75														

Completion Depth: 60.0
Date Boring Started: 4/7/20
Date Boring Completed: 4/7/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-27

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:

Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		▽ Brown and gray, lean CLAY (CL), with sand and gravel	78		2 3 4				23			
		SS-2		- reddish brown from 3.5 to 6.0 ft.	100		8 6 5				24	35	18	17
5		ST-3		- reddish brown and gray, silty, no sand and gravel below 6.0 ft.	96				0.37	102	23			
		SS-4			100		3 5 6				21			
10		ST-5		- gray from 13.0 to 18.5 ft. (consolidaton test)	100				1.12	111	18			
15		SS-6		- brown, gray and orange brown, with gravel and sand below 18.5 ft.	100		3 4 4				24			
20		ST-7		- reddish brown with coarse sand and fine gravel below 23.0 ft.	104				0.18	106	21			
25														

Completion Depth:	60.0
Date Boring Started:	4/6/20
Date Boring Completed:	4/6/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was encountered during drilling at 1.0 ft.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

Continued Next Page

LOG OF BORING NO. B-27

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Reddish brown, lean CLAY (CL), with sand and gravel										
				- brown from 28.5 to 30.0 ft.			4							
		SS-8			100		7				29			
30				- trace gravel from 28.5 to 45.0 ft.			7							
							3							
		SS-9		- brown, gray and orange brown from 33.5 to 38.5 ft.	100		3				25	38	17	21
35							5							
							4							
		SS-10		- gray from 38.5 to 43.5 ft.	100		3				24			
40							4							
				- brown and gray below 43.5 ft.			3							
		SS-11			100		4				22			
45							5							
							4							
		SS-12		- with gravel and sand below 48.5 ft.	100		4				19			
50							6							

Completion Depth:	60.0
Date Boring Started:	4/6/20
Date Boring Completed:	4/6/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was encountered during drilling at 1.0 ft.

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

Continued Next Page

LOG OF BORING NO. B-27

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
55		SS-13		Reddish brown, lean CLAY (CL), with sand and gravel	100		7 8 9				20			
		SS-14		- brown, silty below 58.5 ft.	100		4 4 10				23			
60				Boring terminated at 60.0 ft.										
65														
70														
75														

Completion Depth: 60.0
Date Boring Started: 4/6/20
Date Boring Completed: 4/6/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was encountered during drilling at 1.0 ft.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

LOG OF BORING NO. B-28

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown, lean CLAY (CL), trace gravel	50		2 1 2				26			
		SS-2		- with sand below 3.5 ft.	50		2 1 2				27			
5		ST-3		- reddish brown, silty, no gravel below 6.0 ft.	98				0.84	101	23			
		SS-4			100		4 4 4				24			
10		ST-5			100				0.69	103	23	38	21	17
15		SS-6			100		3 3 4				23			
20		ST-7		(consolidation test)	100				0.75	102	23			
25														

Completion Depth:	60.0
Date Boring Started:	4/2/20
Date Boring Completed:	4/2/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was encountered during drilling at 33.5 ft.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

Continued Next Page

LOG OF BORING NO. B-28

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Reddish brown, lean CLAY (CL), trace gravel										
30		SS-8			100		2 3 3				24			
				Reddish brown, fat CLAY (CH), with chert gravel										
				▽										
				- with chert gravel below 33.5 ft.										
		SS-9			94		8 8 15				17			
35														
		SS-10			72		4 10 9				32			
40														
		SS-11			100		5 7 12				26	58	27	31
45														
		SS-12			72		5 10 9				38			
50														

Completion Depth: 60.0
Date Boring Started: 4/2/20
Date Boring Completed: 4/2/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was encountered during drilling at 33.5 ft.

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

Continued Next Page

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-28

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
55		SS-13		Red, fat CLAY (CH), with chert	67		4 7 11				43			
		SS-14			100		5 7 9				45			
60				Boring terminated at 60.0 ft.										
65														
70														
75														

Completion Depth: 60.0
Date Boring Started: 4/2/20
Date Boring Completed: 4/2/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was encountered during drilling at 33.5 ft.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-29

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, lean CLAY (CL), with gravel and sand	100		3 2 4				25			
		SS-2		- with coarse gravel below 3.5 ft.	50		2 4 5				25			
5		ST-3			100						20			
		SS-4		Reddish brown, SILT (ML), with sand and coarse gravel	89		5 3 5				41	48	28	20
		ST-5		Reddish brown, lean CLAY (CL), with sand and coarse gravel	95						27			
15		SS-6		Reddish brown, clayey GRAVEL (GC), with limestone fragments	83		25 50/0"				37			
20		ST-7		- with sand below 23.0 ft. (43% passing No. 200 sieve)	92				0.07	77	32			
25														

Completion Depth:	42.7
Date Boring Started:	4/2/20
Date Boring Completed:	4/2/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling. Auger refusal encountered at 42.7 ft.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

Continued Next Page

LOG OF BORING NO. B-29

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Reddish brown, lean CLAY (CL), with gravel, sand, and limestone fragments										
30		SS-8			17		2 2 2				19			
		SS-9		- brown below 33.5 ft.	0		3 1 WH							
35														
		SS-10			28		WR WR 1				43			
40														
				Boring terminated at 42.7 ft.										
45														
50														

Completion Depth:	42.7
Date Boring Started:	4/2/20
Date Boring Completed:	4/2/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling. Auger refusal encountered at 42.7 ft.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-30

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, lean CLAY (CL), trace gravel	94		3 3 4				21			
		SS-2		- with gravel and sand below 3.5 ft.	100		5 10 15				20			
5		SS-3		- reddish brown below 6.0 ft.	100		11 10 8				33			
		SS-4		- with chert gravel below 8.5 ft.	78		6 12 11				34			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/8/20
Date Boring Completed: 4/8/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-31

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		FILL: Reddish brown, lean CLAY (CL), with chert gravel and sand	83		3 10 21				24			
5		SS-2			33		16 10 10				24			
		SS-3			83		7 7 8				31	86	29	57
		SS-4			83		3 10 12				30			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/8/20
Date Boring Completed:	4/8/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-32

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
				Brown and gray, lean CLAY (CL), with gravel and sand										
		SS-1			100		5 37 25				26			
		SS-2		- brown, with chert fragments below 3.5 ft.	67		15 50/3"				10			
5														
				Brown, fat CLAY (CH), with chert gravel										
		SS-3			100		4 14 23				17	58	26	32
		SS-4			28		10 13 17				25			
10														
		SS-5		- brown and reddish brown below 13.5 ft.	100		12 19 12				45			
15														
				Brown and reddish brown, clayey GRAVEL (GC)										
		SS-6			68		50/4.5"				21			
20														
				Brown and reddish brown, fat CLAY (CH), with chert gravel										
		ST-7			100					56	51			
25														

Completion Depth: 30.0
Date Boring Started: 4/9/20
Date Boring Completed: 4/9/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

Continued Next Page

LOG OF BORING NO. B-32

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown and reddish brown, fat CLAY (CH), with chert gravel										
		SS-8			56		7 8 8				29			
30				Boring terminated at 30.0 ft.										
35														
40														
45														
50														

Completion Depth:	30.0
Date Boring Started:	4/9/20
Date Boring Completed:	4/9/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-33

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown, lean CLAY (CL), with gravel and sand	67		5 10 7				19	34	18	16
		SS-2			56		5 6 10				29			
5		SS-3		- reddish brown below 6.0 ft.	17		7 11 16				25			
		SS-4		- red, brown and gray below 8.5 ft.	100		6 8 13				21			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/9/20
Date Boring Completed: 4/9/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-34

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, lean CLAY (CL), trace gravel and sand	100		4 4 5				21			
		SS-2		- reddish brown and gray from 3.5 to 6.0 ft.	22		4 5 6				18			
5		SS-3		- reddish brown, no gravel and sand below 6.0 ft.	67		4 7 8				27			
		SS-4		- brown and gray below 8.0 ft.	83		4 9 10				18			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/9/20
Date Boring Completed: 4/9/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-35

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:

Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, silty lean CLAY (CL)	100		3 5 5				21	31	19	12
		ST-2		- reddish brown and gray, trace gravel below 3.0 ft.	54				1.19	95	28			
5														
		SS-3		Reddish brown, fat CLAY (CH), with chert gravel and sand	67		5 11 8				16			
		ST-4			92				1.58	89	37			
10														
		SS-5			100		3 4 6				35	68	26	42
15														
		SS-6			100		3 13 7				26			
20														
		SS-7			78		4 3 4				14			
25														

Completion Depth: 30.0
Date Boring Started: 4/9/20
Date Boring Completed: 4/9/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

Continued Next Page

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-35

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Reddish brown, fat CLAY (CH), with chert gravel and sand										
		SS-8		- reddish brown and orange, trace gravel, no sand below 28.5 ft.	100		1 2 2				26			
30				Boring terminated at 30.0 ft.										
35														
40														
45														
50														

Completion Depth:	30.0
Date Boring Started:	4/9/20
Date Boring Completed:	4/9/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-36

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:

Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, silty lean CLAY (CL), trace gravel	100		2 2 4				21			
5		SS-2			100		5 6 9				24	38	21	17
		SS-3			100		5 8 10				22			
		SS-4			100		7 9 23				19			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/9/20
Date Boring Completed:	4/9/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-37

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, silty lean CLAY (CL), trace gravel			3 4 10				20			
		SS-2					5 8 10				22			
5		SS-3		- with chert gravel and sand, no silt below 6.0 ft.			11 20 18				26			
		SS-4		Reddish brown, clayey GRAVEL with sand (GC)			50/5"				19			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/9/20
Date Boring Completed:	4/9/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-38

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:

Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, silty lean CLAY (CL), trace gravel	100		4 5 6				25	34	18	16
		SS-2			100		5 7 6				22			
5		SS-3		- with chert gravel and sand below 6.0 ft.	100		5 8 10				18			
		SS-4		Reddish brown, clayey GRAVEL (GC)	17		17 24 49				14			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/9/20
Date Boring Completed: 4/9/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-39

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, lean CLAY (CL), with chert gravel and sand	78		5 8 30				14			
		SS-2		Orange brown, clayey GRAVEL (GC)	92		35 50/5"				18			
5		SS-3		Reddish brown, lean CLAY (CL), with chert gravel and sand	61		6 11 9				25			
		SS-4			61		18 15 10				36			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/9/20
Date Boring Completed: 4/9/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-40

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, lean CLAY (CL), with gravel and sand	89		4 5 8				25	32	20	12
		SS-2			61		10 13 21				37			
5		SS-3			100		4 11 15				40			
		SS-4			50		10 15 20				43			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/9/20
Date Boring Completed:	4/9/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-41

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, lean CLAY (CL), with gravel and sand	100		3 5 6				21			
5		SS-2		- trace gravel and sand, silty below 3.5 ft.	100		3 7 9				24	45	25	20
		SS-3			100		3 7 12				25			
		SS-4		Reddish brown, clayey GRAVEL (GC)	89		5 16 19				18			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/9/20
Date Boring Completed: 4/9/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-42

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown, lean CLAY (CL), with gravel and sand	6		5 8 12				10			
		SS-2		- reddish brown below 3.5 ft.	94		10 10 10				33			
5		SS-3			100		5 13 9				41			
		SS-4			89		11 14 30				32			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/9/20
Date Boring Completed: 4/9/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-43

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, lean CLAY (CL), with gravel and sand			5 7 12				21	29	20	9
		SS-2		- with chert gravel below 3.5 ft.			6 12 16				28			
5		SS-3					8 10 19				29			
		SS-4					7 11 22							
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/9/20
Date Boring Completed: 4/9/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-44

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown and reddish brown, lean CLAY (CL), with gravel	50		7 20 8				30	37	20	17
5		SS-2		- with chert and limestone gravel below 3.5 ft.	83		3 16 12				24			
		SS-3			100		5 12 12				33			
		SS-4			100		2 11 17				35			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/1/20
Date Boring Completed: 4/1/20
Engineer/Geologist: DD
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-45

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown and reddish brown, lean CLAY (CL), with gravel	72		4 24 21				21	32	19	13
		SS-2		Brown and reddish brown, clayey GRAVEL (GC)	83		4 24 21				46			
5		SS-3		Brown and reddish brown, lean CLAY (CL), with gravel - with chert and limestone gravel below 6.0 ft.	39		6 18 15				39			
		SS-4			72		7 8 21				27			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/2/20
Date Boring Completed: 4/2/20
Engineer/Geologist: DD
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-46

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown and reddish brown, lean CLAY (CL), trace gravel	39		4 11 8				8			
5		SS-2		Brown and reddish brown, clayey GRAVEL with sand (GC) - with chert gravel below 3.5 ft. (39% passing No. 200 sieve)	50		6 14 19				19			
		SS-3		Brown and reddish brown, lean CLAY (CL), with chert gravel	72		3 5 7				20	39	19	20
		SS-4			56		4 6 9				28			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/2/20
Date Boring Completed: 4/2/20
Engineer/Geologist: DD
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-47

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown and reddish brown, lean CLAY (CL)	56		3 10 10				17			
		SS-2		- with chert gravel below 3.5 ft.	83		3 5 5				33			
		SS-3		- with chert and limestone gravel below 6.0 ft.	83		5 15 15				35			
		SS-4			83		7 19 15				37			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/2/20
Date Boring Completed:	4/2/20
Engineer/Geologist:	DD
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling. Offset 41.0 ft. towards east.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-48

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown, lean CLAY (CL), trace gravel	72		4 13 13				21			
5		SS-2		Reddish brown, fat CLAY (CH), with limestone and chert gravel	100		6 5 5				44	51	26	25
		SS-3			100		5 10 15				44			
		SS-4			100		5 10 12				43			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/1/20
Date Boring Completed:	4/1/20
Engineer/Geologist:	DD
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-49

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Reddish brown, lean CLAY (CL), trace gravel	17		4 7 8				27			
		SS-2		Reddish brown, fat CLAY (CH), with chert and limestone gravel	100		3 4 7				40			
5		SS-3		- brown and reddish brown below 6.0 ft.	100		3 13 16				36			
		SS-4		- with chert gravel, no limestone gravel below 8.5 ft.	83		7 13 13				40			
10														
		SS-5		Reddish brown, elastic SILT (MH), with chert gravel	100		6 12 9				41	59	31	28
15														
		SS-6		Reddish brown, fat CLAY (CH), with chert	56		2 7 9				37			
20				Boring terminated at 20.0 ft.										
25														

Completion Depth:	20.0
Date Boring Started:	4/2/20
Date Boring Completed:	4/2/20
Engineer/Geologist:	DD
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-50

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:

Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown, lean CLAY (CL), trace gravel	56		2 7 7				26	32	18	14
		SS-2		- reddish brown, with chert gravel below 3.5 ft.	56		3 6 8				27			
5		SS-3		- reddish brown and gray below 6.0 ft.	72		3 5 7				23			
		SS-4			100		3 5 6				40			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/1/20
Date Boring Completed:	4/1/20
Engineer/Geologist:	DD
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-51

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown and reddish brown, lean CLAY (CL), trace gravel	83		3 3 5				36			
		SS-2		Reddish brown, fat CLAY (CH), with chert gravel	56		5 5 6				40			
5		SS-3			56		4 9 15				29	53	25	28
		SS-4		- with chert and limestone gravel below 8.5 ft.	56		8 16 18				33			
10														
		SS-5			72		4 9 14				38			
15														
		SS-6			33		3 4 4				19			
20				Boring terminated at 20.0 ft.										
25														

Completion Depth:	20.0
Date Boring Started:	4/2/20
Date Boring Completed:	4/2/20
Engineer/Geologist:	DD
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-52

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown and reddish brown, lean CLAY (CL)	72		1 2 6				21	28	18	10
5		SS-2		- brown, trace limestone gravel below 3.5 ft.	72		5 9 8				41			
		SS-3		- reddish brown and brown, with chert gravel below 6.0 ft.	100		3 3 5				29			
		SS-4			100		3 5 10				44			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/2/20
Date Boring Completed: 4/2/20
Engineer/Geologist: DD
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. B-53

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown and reddish brown, lean CLAY (CL), trace gravel	22		2 4 4				24			
		SS-2		Reddish brown, fat CLAY (CH), with chert gravel, trace limestone	56		2 7 12				45			
5		SS-3		- reddish brown and gray below 6.0 ft.	83		2 6 9				40			
		SS-4			33		3 7 7				46			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/1/20
Date Boring Completed: 4/1/20
Engineer/Geologist: DD
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-54

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown and reddish brown, lean CLAY (CL), with gravel	22		2 15 9				26			
5		SS-2		- with chert and limestone gravel below 3.5 ft.	72		3 9 13				34	44	24	20
		SS-3			56		6 10 10				39			
		SS-4			83		4 9 4				40			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/2/20
Date Boring Completed:	4/2/20
Engineer/Geologist:	DD
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. B-55

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				Brown, lean CLAY, with organics										
		SS-1		Brown and reddish brown, lean CLAY (CL), with gravel	39		3 12 7				54			
5		SS-2		Brown and reddish brown, gravelly fat CLAY (CH) (61% passing No. 200 sieve)	100		4 5 8				47			
		SS-3		Brown and reddish brown, elastic SILT (MH), with chert and limestone gravel	100		5 5 8				37	52	31	21
		SS-4		Brown and reddish brown, fat CLAY (CH), with chert gravel and limestone	100		13 18 11				42			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/2/20
Date Boring Completed:	4/2/20
Engineer/Geologist:	DD
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using HSA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. C-01

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				CONCRETE 7.5"										
				BASE GRAVEL 4.5"										
		SS-1		Brown, lean CLAY (FILL), with gravel and sand	78		6 4 6				21	41	19	22
5		SS-2			100		6 7 16				20			
		SS-3		- clayey GRAVEL (GC) from 6.0 to 7.5 ft.	100		20 22 35				24			
		SS-4			100		14 11 14				22			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/1/20
Date Boring Completed: 4/1/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using FA and auto SPT. Groundwater was not encountered during drilling.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

LOG OF BORING NO. C-02

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				CONCRETE 7.0"										
				BASE GRAVEL 5.0"										
		SS-1		Brown, fat CLAY (FILL), with gravel and sand	78		6 10 10				27			
		SS-2			83		5 17 15				28			
5		SS-3			100		8 4 8				46	82	34	48
		SS-4			94		12 10 11				28			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/1/20
Date Boring Completed:	4/1/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using FA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. C-03

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				CONCRETE 7.0"										
				BASE GRAVEL 5.0"										
		SS-1		Brown, lean CLAY (FILL), with gravel and sand	44		9 16 15				12			
		SS-2		Reddish brown, clayey GRAVEL with sand (GC)	83		50/2.5"				7			
5		SS-3		Reddish brown, fat CLAY (CH), with sand and gravel	100		6 8 15				48			
		SS-4		Reddish brown, sandy lean CLAY (CL), with gravel	92		31 50/5"				13			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/1/20
Date Boring Completed: 4/1/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using FA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. C-04

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				CONCRETE 7.0"										
				BASE GRAVEL 4.5"										
		SS-1		Brown, lean CLAY (FILL), with gravel and sand	72		5 5 6				32			
		SS-2		Reddish brown, fat CLAY (CH), with gravel and sand	83		6 3 4				35	51	26	25
5		SS-3		- brown and gray below 6.0 ft.	100		7 3 5				17			
		SS-4			100		7 9 11				18			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/1/20
Date Boring Completed: 4/1/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using FA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. C-05

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				CONCRETE 7.0"										
				BASE GRAVEL 3.5"										
		SS-1		Brown, lean CLAY (FILL), with gravel and sand	72		5 10 7				27	40	13	27
5		SS-2		Reddish brown, lean CLAY (CL), with gravel and sand	78		5 4 5				31			
		SS-3			100		6 4 5				32			
		SS-4		- reddish brown and gray below 8.5 ft.	67		6 6 9				17			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/1/20
Date Boring Completed: 4/1/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using FA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. C-06

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				CONCRETE 6.5"										
				▽ BASE GRAVEL 5.5"										
		SS-1		Brown, lean CLAY (FILL), with gravel and sand	72		5 4 5				21			
		SS-2			78		7 5 5				16			
5				Reddish brown, lean CLAY (CL), with gravel and sand										
		SS-3			100		4 7 3				28			
		SS-4		- reddish brown and gray below 8.5 ft.	83		9 9 7				18			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/1/20
Date Boring Completed:	4/1/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using FA and auto SPT. Groundwater was encountered at 1.0 ft. during drilling.

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. C-07

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				CONCRETE 6.5"										
				BASE GRAVEL 5.0"										
		SS-1		Brown, fat CLAY (FILL), with gravel and sand	100		6 6 14				35			
5		SS-2			67		7 10 10				22			
		SS-3			56		9 14 13				28			
		SS-4		Reddish brown, lean CLAY (CL), with chert gravel and sand	100		5 5 6				34			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/1/20
Date Boring Completed:	4/1/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using FA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. C-08

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				CONCRETE 7.0"										
				BASE GRAVEL 5.0"										
		SS-1		Reddish brown, elastic SILT (FILL), with gravel and sand	100		4 5 5				36	54	30	24
		SS-2		Reddish brown, fat CLAY (CH), with gravel and sand	50		11 18 13				30			
5		SS-3		- no sand below 6.0 ft.	100		10 15 13				33			
		SS-4			94		5 11 15				45			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/1/20
Date Boring Completed:	4/1/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using FA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. C-09

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				CONCRETE 8.0"										
				BASE GRAVEL 3.5"										
		SS-1		Brown and gray, lean CLAY (FILL), with gravel and sand	56		6 7 13				18			
5		SS-2			72		3 3 4				34			
		SS-3			50		8 8 6				18			
		SS-4		Reddish brown, lean CLAY (CL), with chert gravel and sand	44		4 5 5				22			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth:	10.0
Date Boring Started:	4/1/20
Date Boring Completed:	4/1/20
Engineer/Geologist:	AB
Project No.:	20202013.00

Remarks: Boring drilled with CME-550 using FA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

LOG OF BORING NO. C-10

Project Description: **Monett Regional Airport Relocation of Runway 18-36**
Monett, Missouri

TSi Geotechnical Inc.
8248 NW 101 Terrace #5
Kansas City, Missouri 64153
(816) 599-7965 (816) 283-3938 FAX

Surface El.:
Location: **See Site and Boring Location Plan**

Depth, feet	Samples	Sample #	Graphic Log	MATERIAL DESCRIPTION	Recovery %	RQD	Penetration Blows Per 6 inches	Hand Penetrometer, Qu TSF	Undrained Shear Strength, TSF	Unit Dry Weight, lb/cu ft.	Water Content, %	Liquid Limit	Plastic Limit	Plasticity Index
				CONCRETE 8.5"										
				BASE GRAVEL 3.5"										
		SS-1		Brown, and gray, lean CLAY (FILL), with gravel and sand	39		6 7 9				21			
5		SS-2		Reddish brown, lean CLAY (CL), with gravel and sand	100		6 4 5				33	42	21	21
		SS-3			50		8 12 10				21			
		SS-4		- with coarse chert gravel below 8.5 ft.	100		9 15 15				35			
10				Boring terminated at 10.0 ft.										
15														
20														
25														

Completion Depth: 10.0
Date Boring Started: 4/1/20
Date Boring Completed: 4/1/20
Engineer/Geologist: AB
Project No.: 20202013.00

Remarks: Boring drilled with CME-550 using FA and auto SPT. Groundwater was not encountered during drilling.

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

KC LOG WITH LAB BORINGS.GPJ 5/15/20

GENERAL NOTES

The number of borings is based on: topographic and geologic factors; the magnitude of structure loading; the size, shape, and value of the structure; consequences of failure; and other factors. The type and sequence of sampling are selected to reduce the possibility of undiscovered anomalies and maintain drilling efficiency. Attempts are made to detect and/or identify occurrences during drilling and sampling such as the presence of water, boulders, gas, zones of lost circulation, relative ease or resistance to drilling progress, unusual sample recovery, variation in resistance to driving split-spoon samplers, unusual odors, etc. However, lack of notation regarding these occurrences does not preclude their presence.

Although attempts are made to obtain stabilized groundwater levels, the levels shown on the Logs of Boring may not have stabilized, particularly in more impermeable cohesive soils. Consequently, the indicated groundwater levels may not represent present or future levels. Groundwater levels may vary significantly over time due to the effects of precipitation, infiltration, or other factors not evident at the time indicated.

Unless otherwise noted, soil classifications indicated on the Logs of Boring are based on visual observations and are not the result of classification tests. Although visual classifications are performed by experienced technicians or engineers, classifications so made may not be conclusive.

Generally, variations in texture less than one foot in thickness are described as layers within a stratum, while thicker zones are logged as individual strata. However, minor anomalies and changes of questionable lateral extent may appear only in the verbal description. The lines indicating changes in strata on the Logs of Boring are approximate boundaries only, as the actual material change may be between samples or may be a gradual transition.

Samples chosen for laboratory testing are selected in such a manner as to measure selected physical characteristics of each material encountered. However, as samples are recovered only intermittently and not all samples undergo a complete series of tests, the results of such tests may not conclusively represent the characteristics of all subsurface materials present.

NOTATION USED ON BORING LOGS

APPROXIMATE PROPORTIONS

TRACE	<15%
WITH	15-30%
MODIFIER	>30%

Clay or clayey may be used as major material or modifier, regardless of relative proportions, if the clay content is sufficient to dominate the soil properties.

PARTICLE SIZE

BOULDERS		>12 Inches
COBBLES		12 Inches – 3 Inches
GRAVEL		
	Coarse	3 Inches – ¾ Inch
	Fine	¾ Inch – No. 4 Sieve (4.750 mm)
SAND		
	Coarse	No. 4 – No. 10 Sieve (2.000 mm)
	Medium	No. 10 – No. 40 Sieve (0.420 mm)
	Fine	No. 40 – No. 200 Sieve (0.074 mm)
SILT		No. 200 Sieve - 0.002 mm
CLAY		< 0.002 mm

PENETRATION – BLOWS

Number of impacts of a 140-pound hammer falling a distance of 30 inches to cause a standard split-barrel sampler, 1 3/8 inches I.D., to penetrate a distance of 6 inches. The number of impacts for the first 6 inches of penetration is known as the seating drive. The sum of the impacts for the last 12 inches of penetration is the Standard Penetration Test Resistance or "N" value, blows per foot. For example, if blows = 6-8-9, "N" = 8+9 or 17.

OTHER NOTATIONS

Recovery % – length of recovered soil divided by length of sample attempted.

50/2"	Impacts of hammer to cause sampler to penetrate the indicated number of inches
WR	Sampler penetrated under the static loading of the weight of the drill rods
WH	Sampler penetrated under the static loading the weight of the hammer and drill rods
HSA	Hollow stem auger drilling method
FA	Flight auger drilling method
RW	Rotary wash drilling methods with drilling mud
AH	Automatic hammer used for Standard Penetration Test sample
SH	Safety hammer with rope and cathead used for Standard Penetration Test sample

GRAPHIC SYMBOLS


Depth at which groundwater was encountered during drilling


Depth at which groundwater was measured after drilling


Standard Penetration Test Sample, ASTM D1586

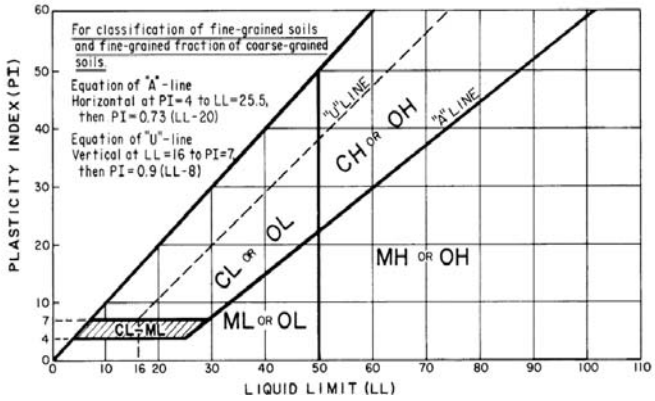

3-inch diameter Shelby Tube Sample, ASTM D1587

Sample grabbed from auger


NX Size rock core sample

UNIFIED SOIL CLASSIFICATION SYSTEM, (ASTM D-2487)

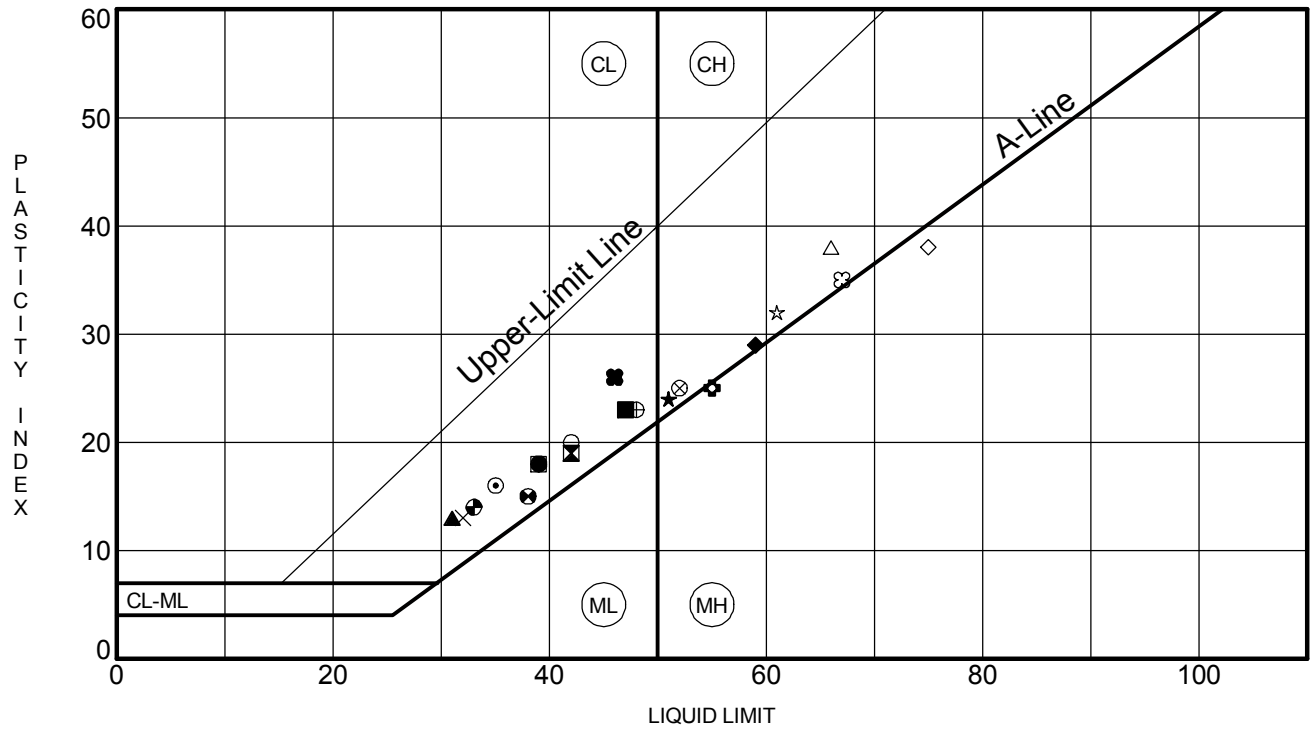
Major Divisions			*Group Symbols*		*Typical Names*	*Laboratory Classification Criteria*		
Coarse-grained soils (More than half of materials is larger than No. 200 sieve size)	Gravels (More than half of coarse fraction is larger than No. 4 sieve size)	Clean gravels (Little or no fines)	GW		Well-graded gravels, gravel-sand mixtures, little or no fines	Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-Grained soils are classified as follows: Less than 5 per cent GW, GP, SW, SP; More than 12 per cent GM, GC, SM, SC; 5 to 12 per cent Borderline cases requiring dual symbols[b]	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
			GP		Poorly graded gravels, gravel-sand mixtures, little or no fines		Not meeting all gradation requirements for GW	
		Gravels with fines (Appreciable amount of fines)	GM[a]	d	Silty gravels, gravel-sand-silt mixtures		Atterberg limits below "A" line or P.1. less than 4	Above "A" line with P.1. between 4 and 7 are *borderline* cases requiring use of dual symbols
				u				
			GC		Clayey gravels, gravel-sand-clay mixtures		Atterberg limits below "A" line with P.1. greater than 7	
	Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	Clean sands (Little or no fines)	SW		Well-graded sands, gravelly sands, little or no fines		$C_u = \frac{D_{60}}{D_{10}}$ greater than 6; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
			SP		Poorly graded sands, gravelly sands, little or no fines		Not meeting all gradation requirements for SW	
		Sands with fines (Appreciable amount of fines)	SM[a]	d	Silty sands, sand-mix mixtures		Atterberg limits about "A" line or P.I. less than 4	Limits plotting in hatched zone with P.I. between 4 and 7 are *borderline* cases requiring use of dual symbols
				u				
			SC		Clayey sands, sand-clay mixtures		Atterberg limits about "A" line with P.I. greater than 7	
Fine-grained soils (More than half of materials is smaller than No. 200 sieve size)	Silts and clays (Liquid limit less than 50)		ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity			
			CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays			
			OL		Organic silts and organic silty clays of low plasticity			
	Silts and clays (Liquid limit greater than 50)		MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts			
			CH		Inorganic clays of medium to high plasticity, organic silts			
			OH		Organic clays of medium to high plasticity, organic silts			
	Highly organic soils		Pt		Peat and other highly organic soils			



[a]Division of GM and SM groups into subdivisions of d and u are for roads and airfields only. Subdivision is based on Atterberg limits; suffix d used when L.L. is 26 or less and the P.1. is 6 or less; the suffix u used when L.L. is greater than 28.

[b]Borderline classifications, used for soils possessing characteristics of two groups, are designated by combinations of group symbols. For example: GW-GC, well-graded gravel-sand mixture with clay binder.

APPENDIX C

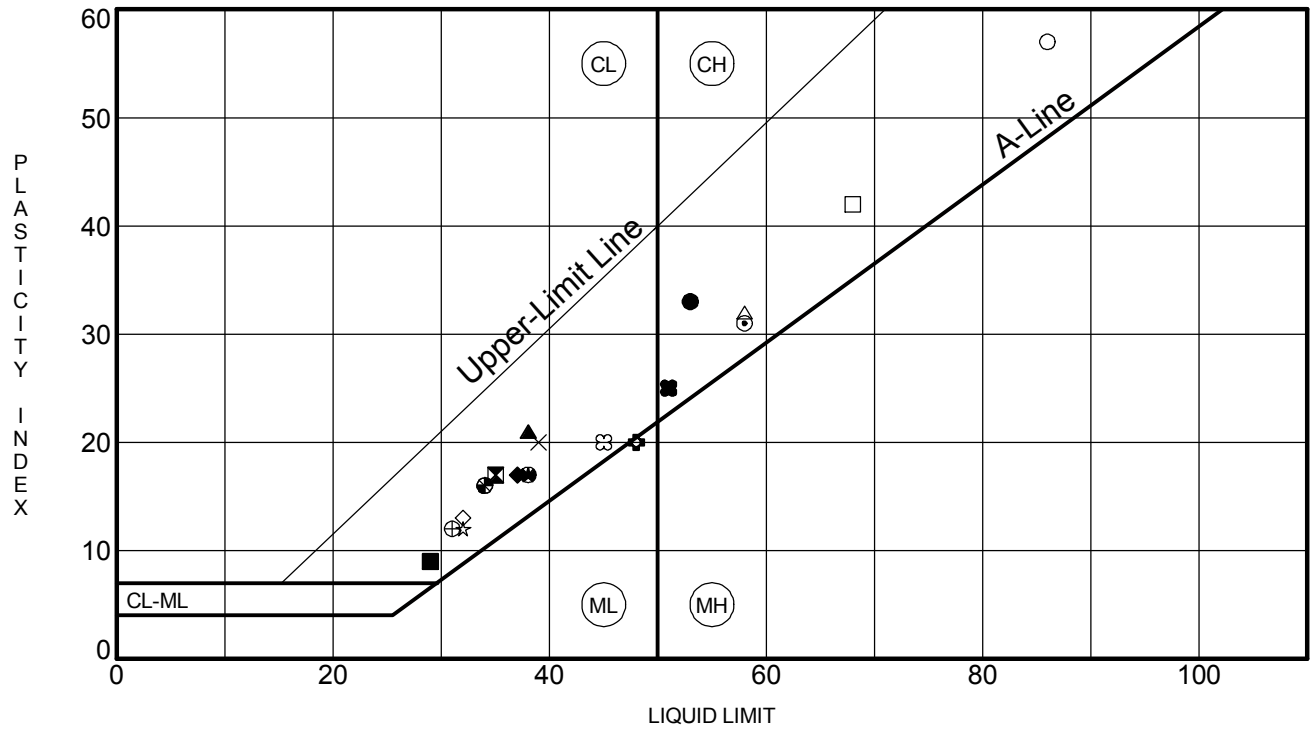


Specimen Identification			LL	PL	PI	Fines	Classification
●	**B-01**	**3.5**	**39**	**21**	**18**		
⊠	**B-02**	**1.0**	**42**	**23**	**19**		
▲	**B-03**	**3.5**	**31**	**18**	**13**		
★	**B-04**	**6.0**	**51**	**27**	**24**		
⊙	**B-05**	**1.0**	**35**	**19**	**16**		
✿	**B-06**	**3.5**	**55**	**30**	**25**		
○	**B-07**	**1.0**	**42**	**22**	**20**		
△	**B-08**	**1.0**	**66**	**28**	**38**		
⊗	**B-09**	**3.5**	**52**	**27**	**25**		
⊕	**B-11**	**3.5**	**48**	**25**	**23**		
□	**B-12**	**1.0**	**39**	**21**	**18**		
⊛	**B-13**	**1.0**	**38**	**23**	**15**		
◕	**B-15**	**1.0**	**33**	**19**	**14**		
☆	**B-17**	**3.5**	**61**	**29**	**32**		
✿	**B-20**	**3.5**	**67**	**32**	**35**		
■	**B-22**	**6.0**	**47**	**24**	**23**		
◆	**B-22**	**18.5**	**59**	**30**	**29**		
◇	**B-24**	**6.0**	**75**	**37**	**38**		
╳	**B-25**	**1.0**	**32**	**19**	**13**		
■	**B-26**	**8.5**	**46**	**20**	**26**		

TSI
geotechnical, inc.
1340 NORTH PRICE ROAD
ST. LOUIS, MISSOURI 63132

ATTERBERG LIMITS' RESULTS

PROJECT NAME: Monett Regional Airport Relocation of Runway 18-36	Tested by:
PROJECT LOCATION: Monett, Missouri	Calculated by:
PROJECT NUMBER: 20202013.00	Checked by:



	Specimen Identification		LL	PL	PI	Fines	Classification
●	**B-26**	**53.5**	**53**	**20**	**33**		
⊠	**B-27**	**3.5**	**35**	**18**	**17**		
▲	**B-27**	**33.5**	**38**	**17**	**21**		
★	**B-28**	**13.0**	**38**	**21**	**17**		
⊙	**B-28**	**43.5**	**58**	**27**	**31**		
✿	**B-29**	**8.5**	**48**	**28**	**20**		
○	**B-31**	**6.0**	**86**	**29**	**57**		
△	**B-32**	**6.0**	**58**	**26**	**32**		
⊗	**B-33**	**1.0**	**34**	**18**	**16**		
⊕	**B-35**	**1.0**	**31**	**19**	**12**		
□	**B-35**	**13.5**	**68**	**26**	**42**		
❁	**B-36**	**3.5**	**38**	**21**	**17**		
◕	**B-38**	**1.0**	**34**	**18**	**16**		
☆	**B-40**	**1.0**	**32**	**20**	**12**		
⊠	**B-41**	**3.5**	**45**	**25**	**20**		
■	**B-43**	**1.0**	**29**	**20**	**9**		
◆	**B-44**	**1.0**	**37**	**20**	**17**		
◇	**B-45**	**1.0**	**32**	**19**	**13**		
⨯	**B-46**	**6.0**	**39**	**19**	**20**		
✖	**B-48**	**3.5**	**51**	**26**	**25**		

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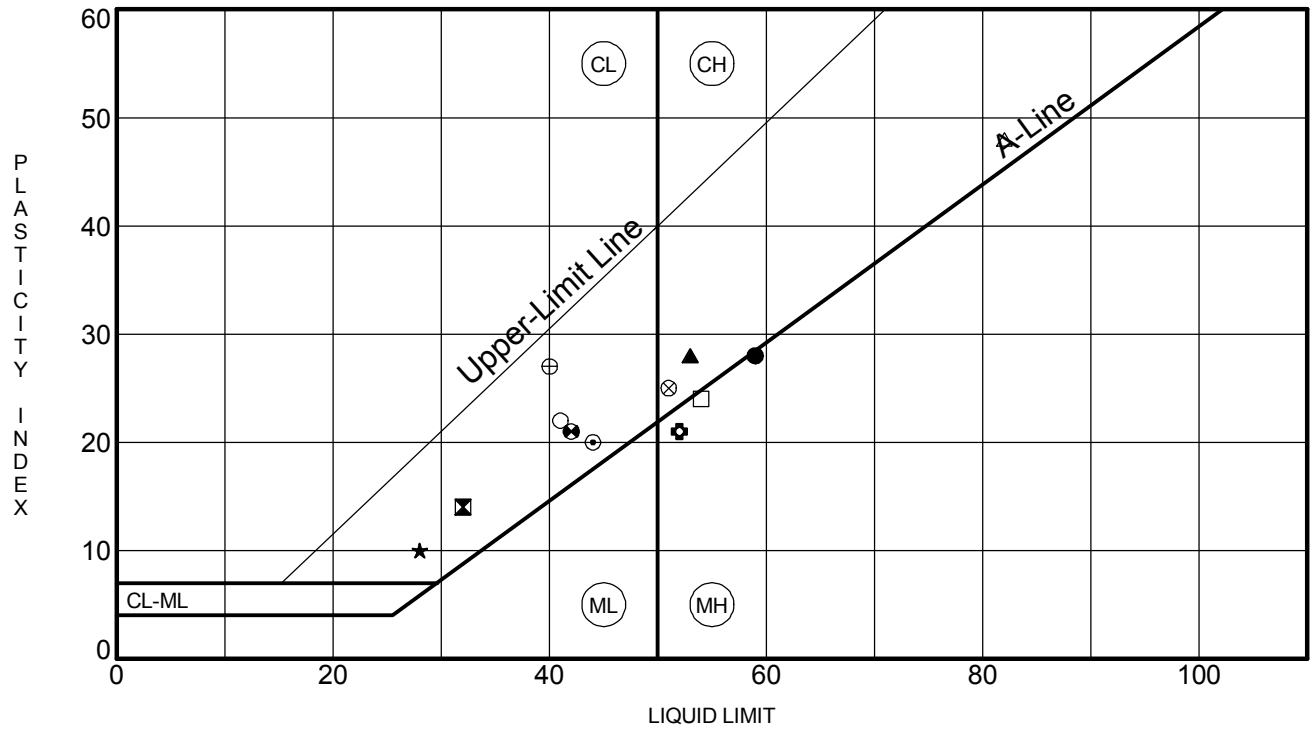
geotechnical, inc.
1340 NORTH PRICE ROAD
ST. LOUIS, MISSOURI 63132

ATTERBERG LIMITS' RESULTS

PROJECT NAME: Monett Regional Airport Relocation of Runway 18-36	Tested by:
PROJECT LOCATION: Monett, Missouri	Calculated by:
PROJECT NUMBER: 20202013.00	Checked by:



	Specimen Identification		LL	PL	PI	Fines	Classification
●	**B-49**	**13.5**	**59**	**31**	**28**		
⊠	**B-50**	**1.0**	**32**	**18**	**14**		
▲	**B-51**	**6.0**	**53**	**25**	**28**		
★	**B-52**	**1.0**	**28**	**18**	**10**		
⊙	**B-54**	**3.5**	**44**	**24**	**20**		
✿	**B-55**	**6.0**	**52**	**31**	**21**		
○	**C-01**	**1.0**	**41**	**19**	**22**		
△	**C-02**	**6.0**	**82**	**34**	**48**		
⊗	**C-04**	**3.5**	**51**	**26**	**25**		
⊕	**C-05**	**1.0**	**40**	**13**	**27**		
□	**C-08**	**1.0**	**54**	**30**	**24**		
⊛	**C-10**	**3.5**	**42**	**21**	**21**		

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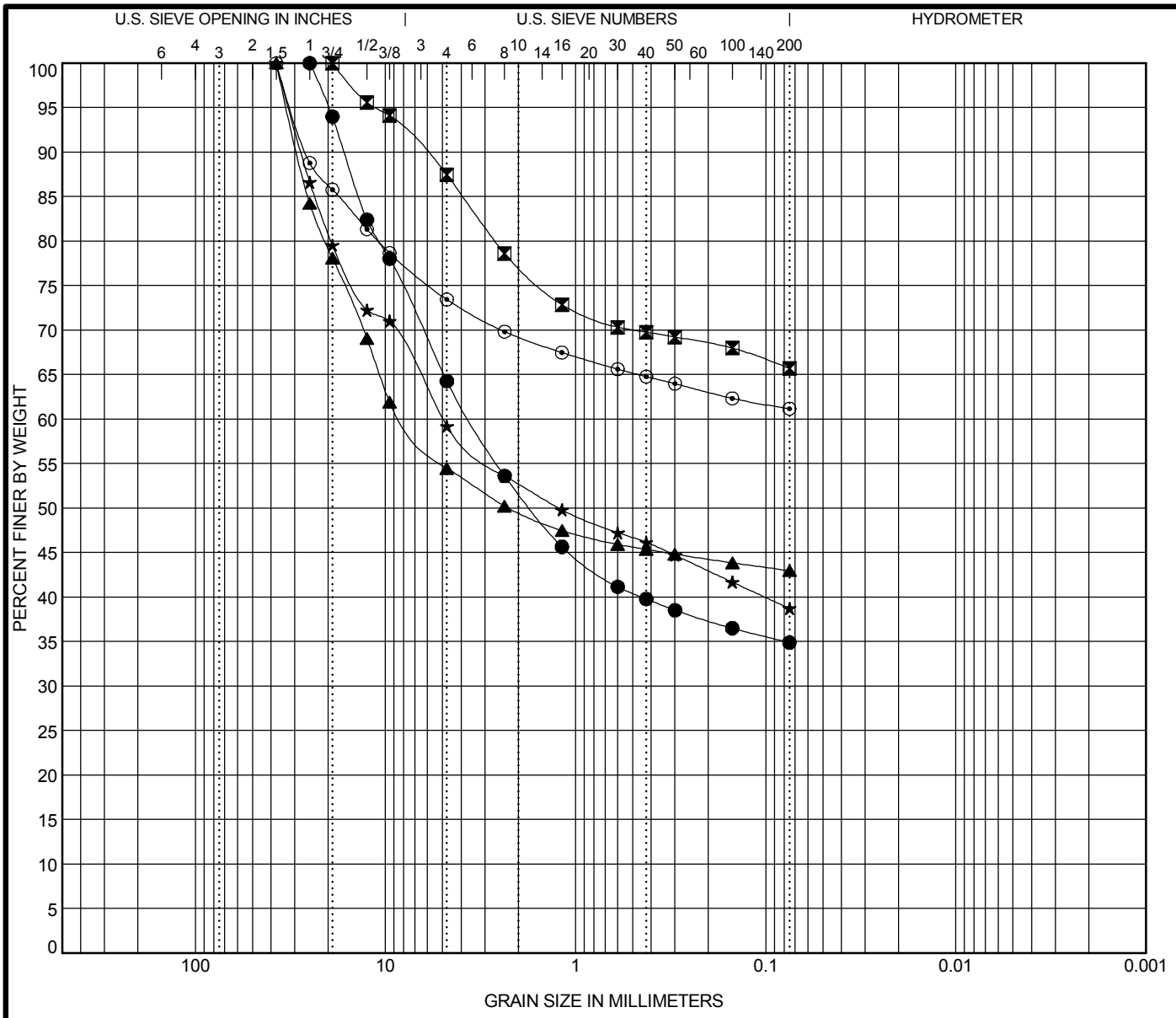
ATTERBERG LIMITS' RESULTS

PROJECT NAME: Monett Regional Airport Relocation of Runway 18-36 | Tested by:

PROJECT LOCATION: Monett, Missouri | Calculated by:

PROJECT NUMBER: 20202013.00 | Checked by:



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	B-01	SS-3	6.0	CLAYEY GRAVEL with SAND(GC)					
⊠	B-15	SS-2	3.5	SANDY LEAN CLAY(CL)					
▲	B-29	ST-7	23.0	CLAYEY GRAVEL(GC)					
★	B-46	SS-2	3.5	CLAYEY GRAVEL with SAND(GC)					
⊙	B-55	SS-2	3.5	GRAVELLY FAT CLAY(CH)					

	Specimen Identification			D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-01	SS-3	6.0	25	3.589			35.7	29.4	34.89	
⊠	B-15	SS-2	3.5	19				12.5	21.8	65.70	
▲	B-29	ST-7	23.0	37.5	7.961			45.5	11.5	42.97	
★	B-46	SS-2	3.5	37.5	4.976			40.8	20.5	38.73	
⊙	B-55	SS-2	3.5	37.5				26.6	12.3	61.17	

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GRAIN SIZE DISTRIBUTION

PROJECT NAME: Monett Regional Airport Relocation of Runway 18-36	Tested By:
PROJECT LOCATION: Monett, Missouri	Calculated By:
PROJECT NUMBER: 20202013.00	Checked By:

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UNCONFINED COMPRESSION TEST: BORING B-26 / ST-5

PROJECT NAME: Monett Regional Airport Relocation of Runway 18-36	Tested by:
PROJECT LOCATION: Monett, Missouri	Calculated by:
PROJECT NUMBER: 20202013.00	Checked by:

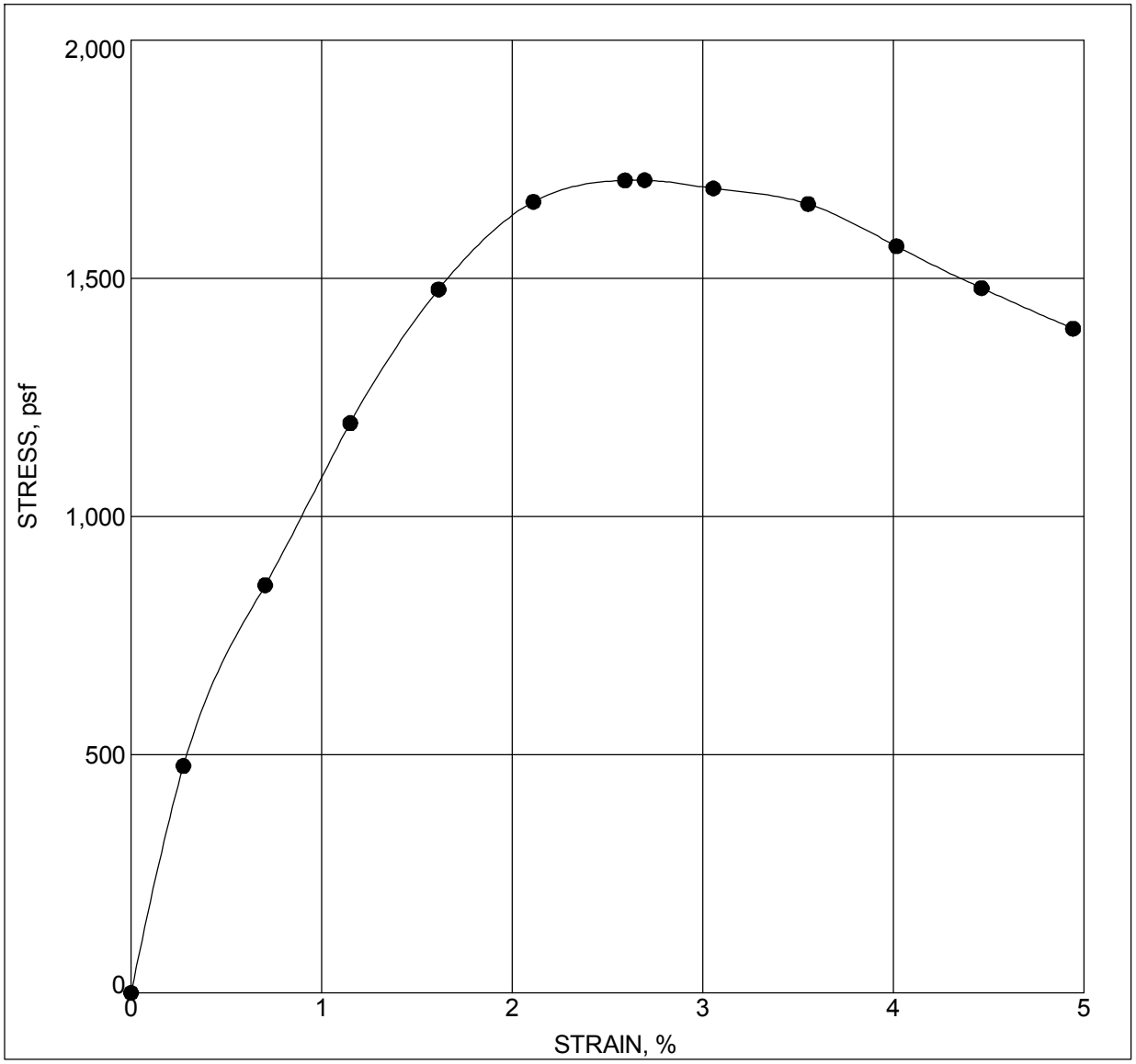
BORING NO.	**B-26**
Sample No.	ST-5
Sample Depth (ft)	14
Visual Classification (USCS)	CL

ASTM DESIGNATION	
Unconfined Compression	ASTM D2166
Atterberg Limits	ASTM D4318
Visual Classification (USCS)	ASTM D2488

ATTERBERG LIMITS	
Liquid Limit	
Plastic Limit	
Plasticity Index	
Classification (USCS)	

DENSITY & MOISTURE	
Wet Unit Weight (pcf)	128.1
Moisture Content (%)	22.9
Dry Unit Weight (pcf)	104.3

STRENGTH	
Undrained Shear Strength, S_u(tsf)	0.43
% Strain at q_u	2.7



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UNCONFINED COMPRESSION TEST: BORING B-26 / ST-7

PROJECT NAME: Monett Regional Airport Relocation of Runway 18-36	Tested by:
PROJECT LOCATION: Monett, Missouri	Calculated by:
PROJECT NUMBER: 20202013.00	Checked by:

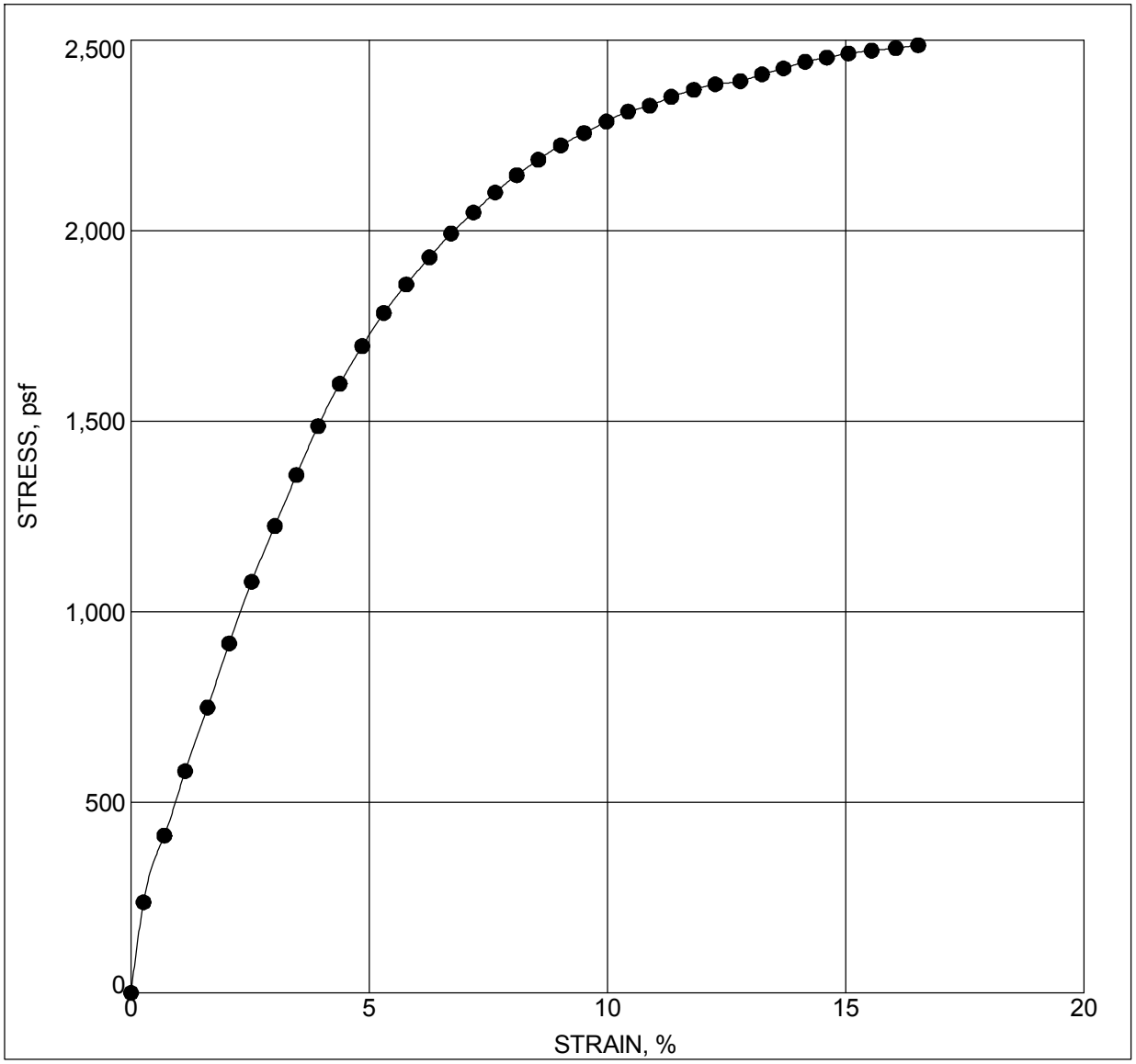
BORING NO.	**B-26**
Sample No.	ST-7
Sample Depth (ft)	24
Visual Classification (USCS)	CL

ASTM DESIGNATION	
Unconfined Compression	ASTM D2166
Atterberg Limits	ASTM D4318
Visual Classification (USCS)	ASTM D2488

ATTERBERG LIMITS	
Liquid Limit	
Plastic Limit	
Plasticity Index	
Classification (USCS)	

DENSITY & MOISTURE	
Wet Unit Weight (pcf)	134.5
Moisture Content (%)	22.2
Dry Unit Weight (pcf)	110.0

STRENGTH	
Undrained Shear Strength, S_u(tsf)	0.62
% Strain at q_u	15.0



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UNCONFINED COMPRESSION TEST: BORING B-27 / ST-3

PROJECT NAME: Monett Regional Airport Relocation of Runway 18-36	Tested by:
PROJECT LOCATION: Monett, Missouri	Calculated by:
PROJECT NUMBER: 20202013.00	Checked by:

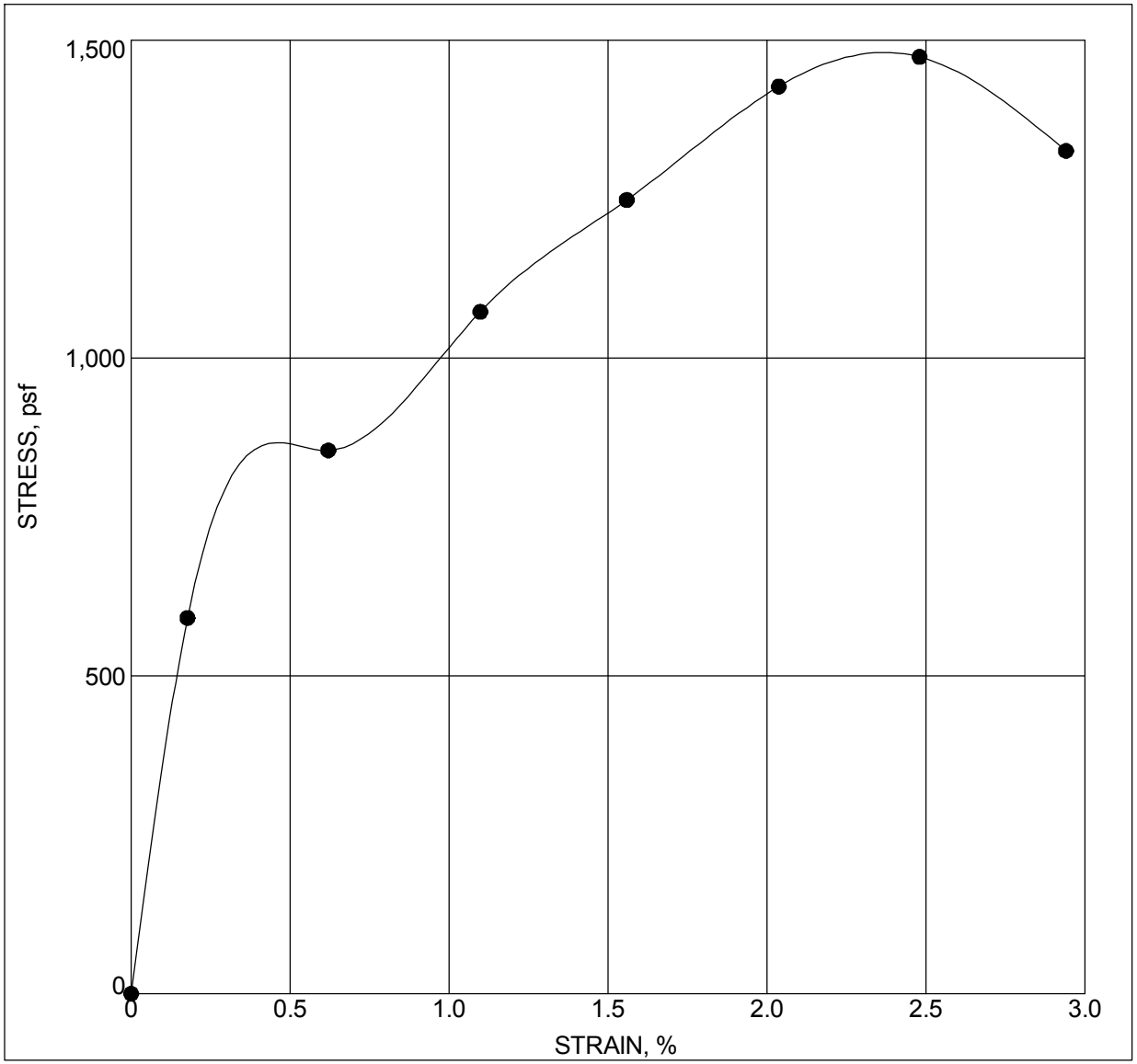
BORING NO.	**B-27**
Sample No.	ST-3
Sample Depth (ft)	7
Visual Classification (USCS)	CL

ASTM DESIGNATION	
Unconfined Compression	ASTM D2166
Atterberg Limits	ASTM D4318
Visual Classification (USCS)	ASTM D2488

ATTERBERG LIMITS	
Liquid Limit	
Plastic Limit	
Plasticity Index	
Classification (USCS)	

DENSITY & MOISTURE	
Wet Unit Weight (pcf)	125.7
Moisture Content (%)	23.3
Dry Unit Weight (pcf)	102.0

STRENGTH	
Undrained Shear Strength, S_u(tsf)	0.37
% Strain at q_u	2.5



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UNCONFINED COMPRESSION TEST: BORING B-27 / ST-7

PROJECT NAME: Monett Regional Airport Relocation of Runway 18-36	Tested by:
PROJECT LOCATION: Monett, Missouri	Calculated by:
PROJECT NUMBER: 20202013.00	Checked by:

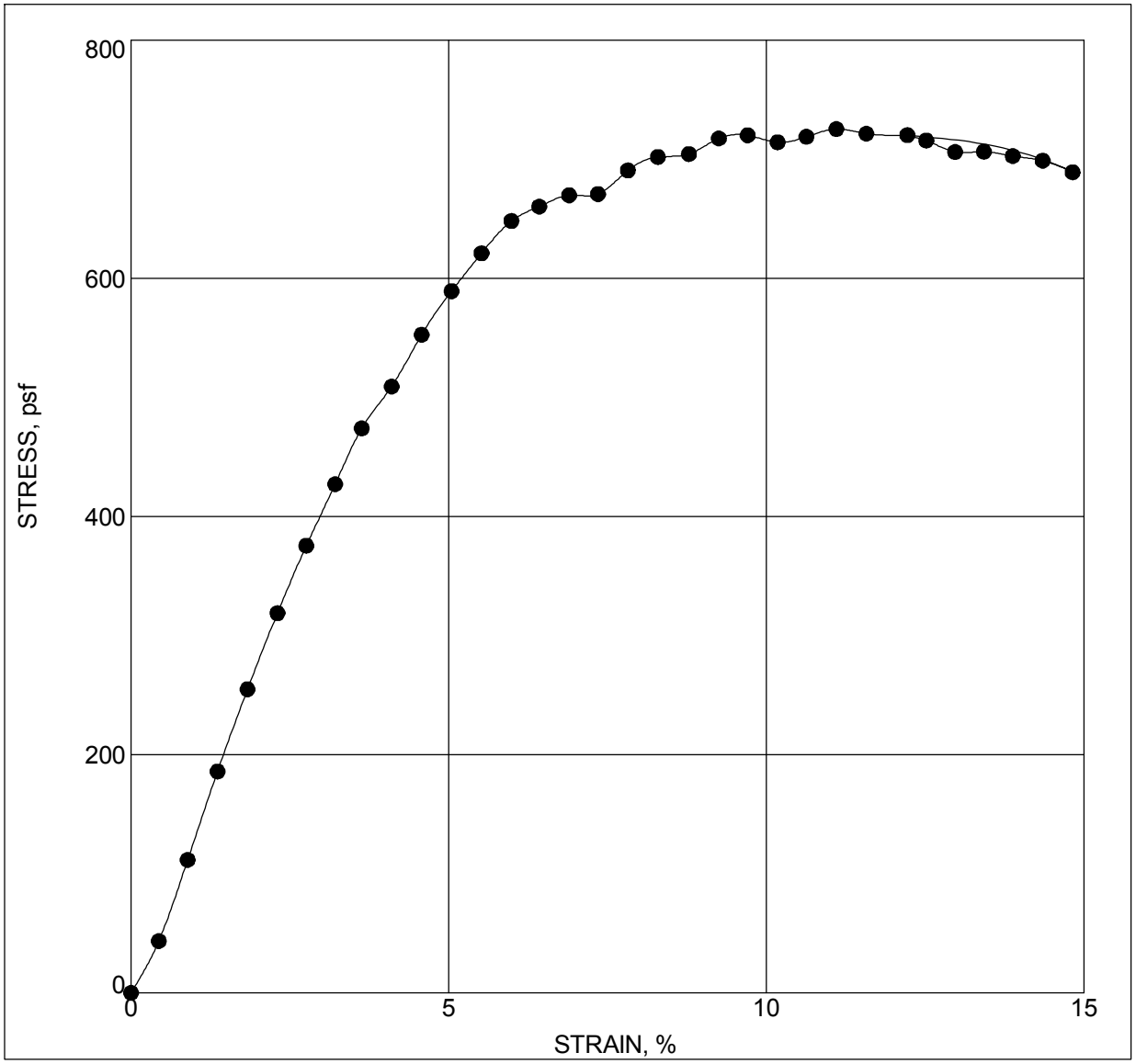
BORING NO.	**B-27**
Sample No.	ST-7
Sample Depth (ft)	23.5
Visual Classification (USCS)	CL

ASTM DESIGNATION	
Unconfined Compression	ASTM D2166
Atterberg Limits	ASTM D4318
Visual Classification (USCS)	ASTM D2488

ATTERBERG LIMITS	
Liquid Limit	
Plastic Limit	
Plasticity Index	
Classification (USCS)	

DENSITY & MOISTURE	
Wet Unit Weight (pcf)	128.7
Moisture Content (%)	21.2
Dry Unit Weight (pcf)	106.2

STRENGTH	
Undrained Shear Strength, S_u(tsf)	0.18
% Strain at q_u	11.1



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ST. LOUIS, MISSOURI 63132

UNCONFINED COMPRESSION TEST: BORING B-28 / ST-3

PROJECT NAME: Monett Regional Airport Relocation of Runway 18-36	Tested by:
PROJECT LOCATION: Monett, Missouri	Calculated by:
PROJECT NUMBER: 20202013.00	Checked by:

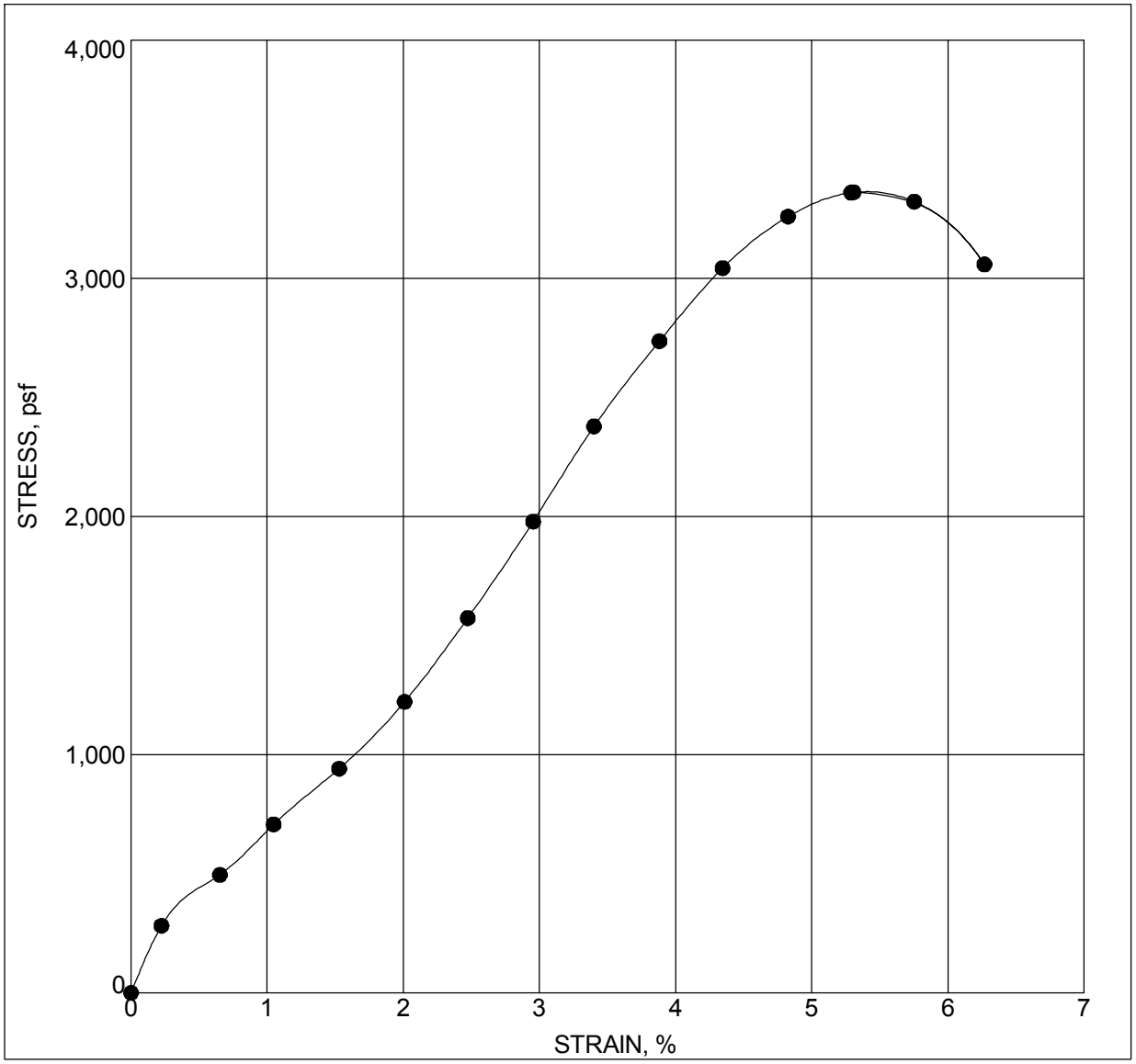
BORING NO.	**B-28**
Sample No.	ST-3
Sample Depth (ft)	7
Visual Classification (USCS)	CL

ASTM DESIGNATION	
Unconfined Compression	ASTM D2166
Atterberg Limits	ASTM D4318
Visual Classification (USCS)	ASTM D2488

ATTERBERG LIMITS	
Liquid Limit	
Plastic Limit	
Plasticity Index	
Classification (USCS)	

DENSITY & MOISTURE	
Wet Unit Weight (pcf)	124.7
Moisture Content (%)	23.1
Dry Unit Weight (pcf)	101.3

STRENGTH	
Undrained Shear Strength, S_u(tsf)	0.84
% Strain at q_u	5.3



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ST. LOUIS, MISSOURI 63132

UNCONFINED COMPRESSION TEST: BORING B-28 / ST-5

PROJECT NAME: Monett Regional Airport Relocation of Runway 18-36	Tested by:
PROJECT LOCATION: Monett, Missouri	Calculated by:
PROJECT NUMBER: 20202013.00	Checked by:

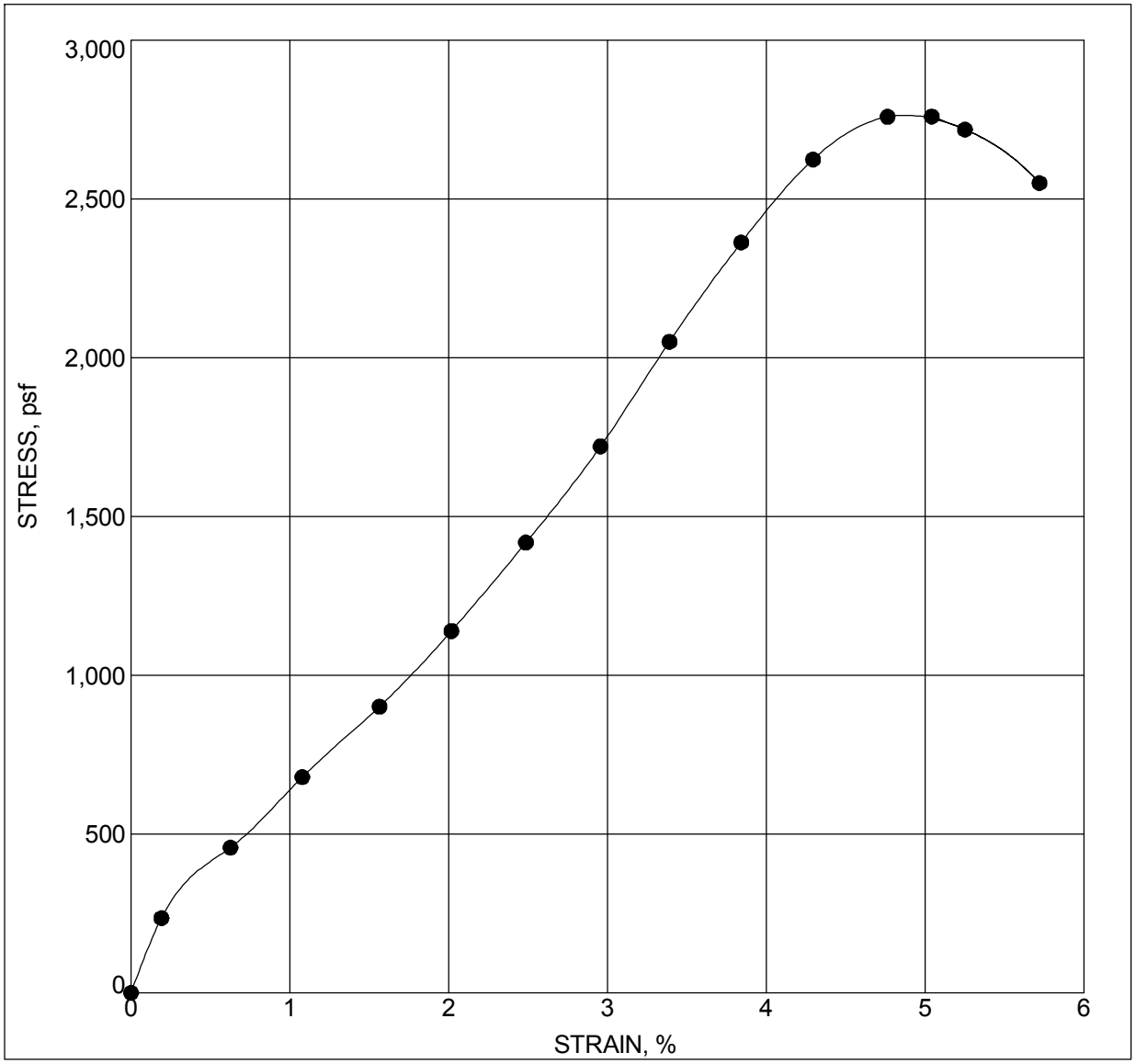
BORING NO.	**B-28**
Sample No.	ST-5
Sample Depth (ft)	14
Visual Classification (USCS)	CL

ASTM DESIGNATION	
Unconfined Compression	ASTM D2166
Atterberg Limits	ASTM D4318
Visual Classification (USCS)	ASTM D2488

ATTERBERG LIMITS	
Liquid Limit	38
Plastic Limit	21
Plasticity Index	17
Classification (USCS)	

DENSITY & MOISTURE	
Wet Unit Weight (pcf)	126.2
Moisture Content (%)	22.9
Dry Unit Weight (pcf)	102.7

STRENGTH	
Undrained Shear Strength, S_u(tsf)	0.69
% Strain at q_u	5.0



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ST. LOUIS, MISSOURI 63132

UNCONFINED COMPRESSION TEST: BORING B-35 / ST-2

PROJECT NAME: Monett Regional Airport Relocation of Runway 18-36	Tested by:
PROJECT LOCATION: Monett, Missouri	Calculated by:
PROJECT NUMBER: 20202013.00	Checked by:

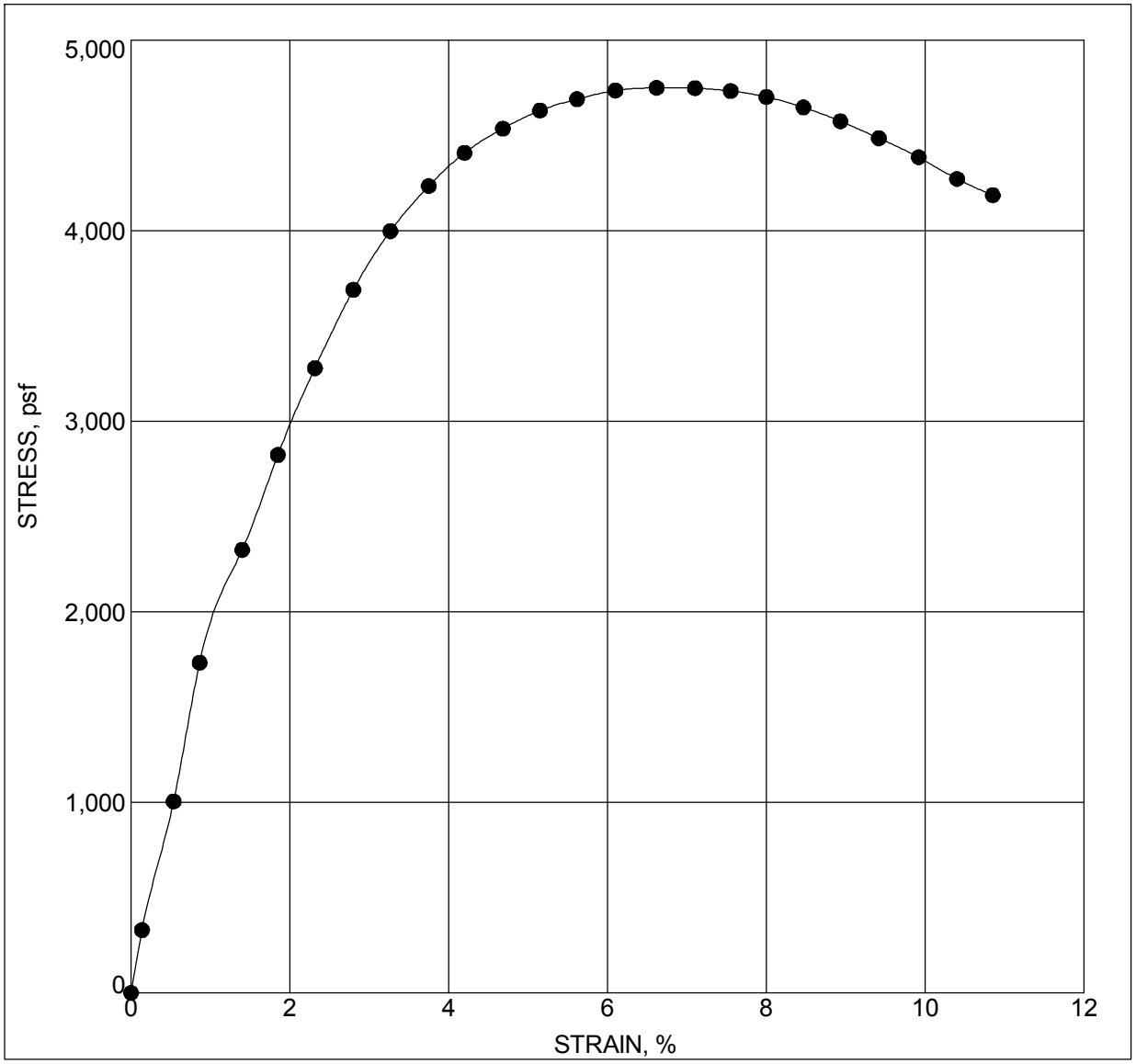
BORING NO.	**B-35**
Sample No.	ST-2
Sample Depth (ft)	4
Visual Classification (USCS)	CL

ASTM DESIGNATION	
Unconfined Compression	ASTM D2166
Atterberg Limits	ASTM D4318
Visual Classification (USCS)	ASTM D2488

ATTERBERG LIMITS	
Liquid Limit	
Plastic Limit	
Plasticity Index	
Classification (USCS)	

DENSITY & MOISTURE	
Wet Unit Weight (pcf)	121.5
Moisture Content (%)	28.5
Dry Unit Weight (pcf)	94.6

STRENGTH	
Undrained Shear Strength, S_u(tsf)	1.19
% Strain at q_u	6.6



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UNCONFINED COMPRESSION TEST: BORING B-35 / ST-4

PROJECT NAME: Monett Regional Airport Relocation of Runway 18-36	Tested by:
PROJECT LOCATION: Monett, Missouri	Calculated by:
PROJECT NUMBER: 20202013.00	Checked by:

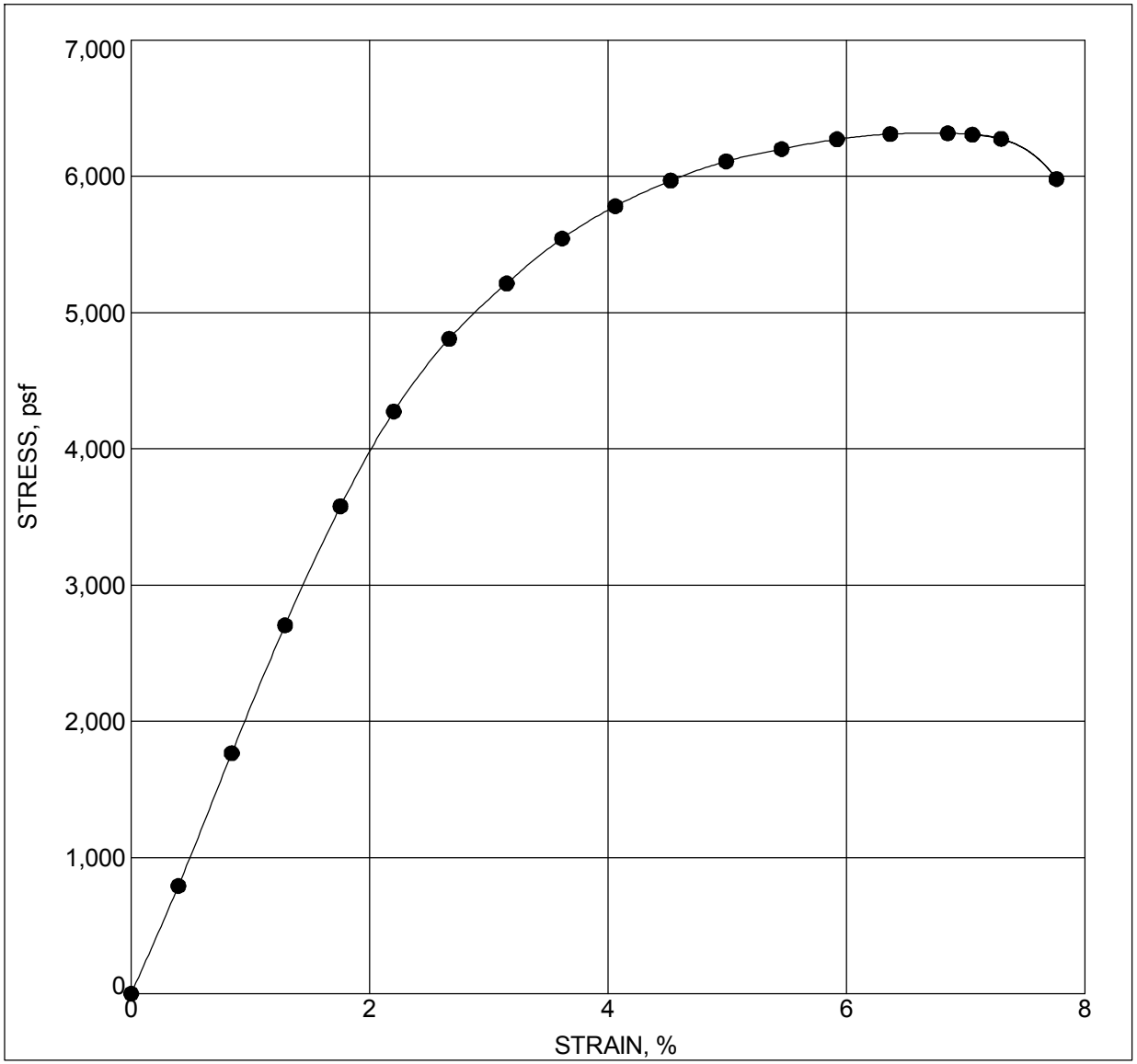
BORING NO.	**B-35**
Sample No.	ST-4
Sample Depth (ft)	9
Visual Classification (USCS)	CH

ASTM DESIGNATION	
Unconfined Compression	ASTM D2166
Atterberg Limits	ASTM D4318
Visual Classification (USCS)	ASTM D2488

ATTERBERG LIMITS	
Liquid Limit	
Plastic Limit	
Plasticity Index	
Classification (USCS)	

DENSITY & MOISTURE	
Wet Unit Weight (pcf)	121.5
Moisture Content (%)	36.5
Dry Unit Weight (pcf)	89.0

STRENGTH	
Undrained Shear Strength, S_u(tsf)	1.58
% Strain at q_u	6.9



Job Number: 20202013

Monett Regional Airport Runway

GEOTECHNOLOGY INC FROM THE GROUND UP

Summary of Test Results

Boring Number	Sample Number	Sample Depth	Moisture Content	Dry Density	Unconfined Compressive Strength	Visual Classification & Remarks
B-26	ST-3	6.0' - 8.0'	19.4	109	2.70tsf	CLAY- gray-brown and yellow
B-27	ST-5	13.0' - 15.0'	17.9	111	1.12tsf	CLAY - red-brown & gray-brown, trace rock rock fragments
B-28	ST-7	23.0' - 25.0'	22.6	102.4	0.75tsf	CLAY - red-brown , trace rock and rock fragments
B-29	ST-5	13.0' - 13.8'	27.4	N/A	N/A	CLAY - red-brown with rock fragments

* B-29, ST-3 was bent and 5" was cut off from the bottom of the shelby tube

Boring No.	B-26	Job No.	20202013
Sample No.	ST-3	Job Name	Monett Regional
Depth (ft)	6.0' - 8.0'	Sheet No.	1
Tested By	ADC/SRR	Test Date	4/17/2020
Computed By	ADC	Checked By	SDG

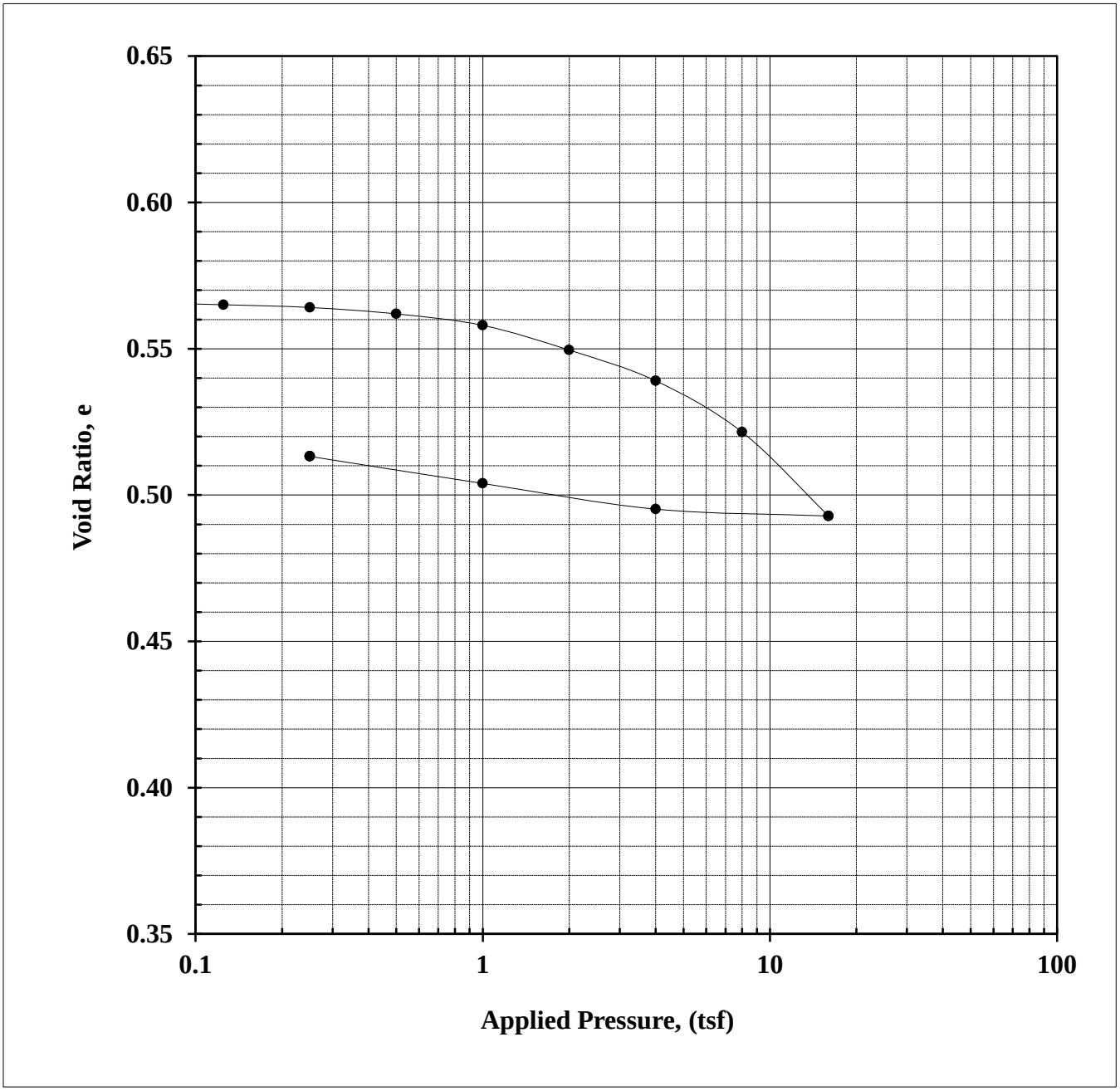
GEOTECHNOLOGY INC
FROM THE GROUND UP

One-Dimensional Consolidation Test

(ASTM D 2435)

Plot of Void Ratio versus Log of Pressure

Compression Index, C_c =	0.1	**Void Ratio, e_o =**	0.566
Recompression Index, C_r =	0.012	**Preconsolidation Pressure =**	4.2 **(tsf)**



Boring No.	B-27			Job No.	20202013
Sample No.	ST-5			Job Name	Monett Regional
Depth (ft)	13.0' - 15.0'			Sheet No.	1
Tested By	ADC/SRR			Test Date	4/17/2020
Computed By	ADC			Checked By	SDG

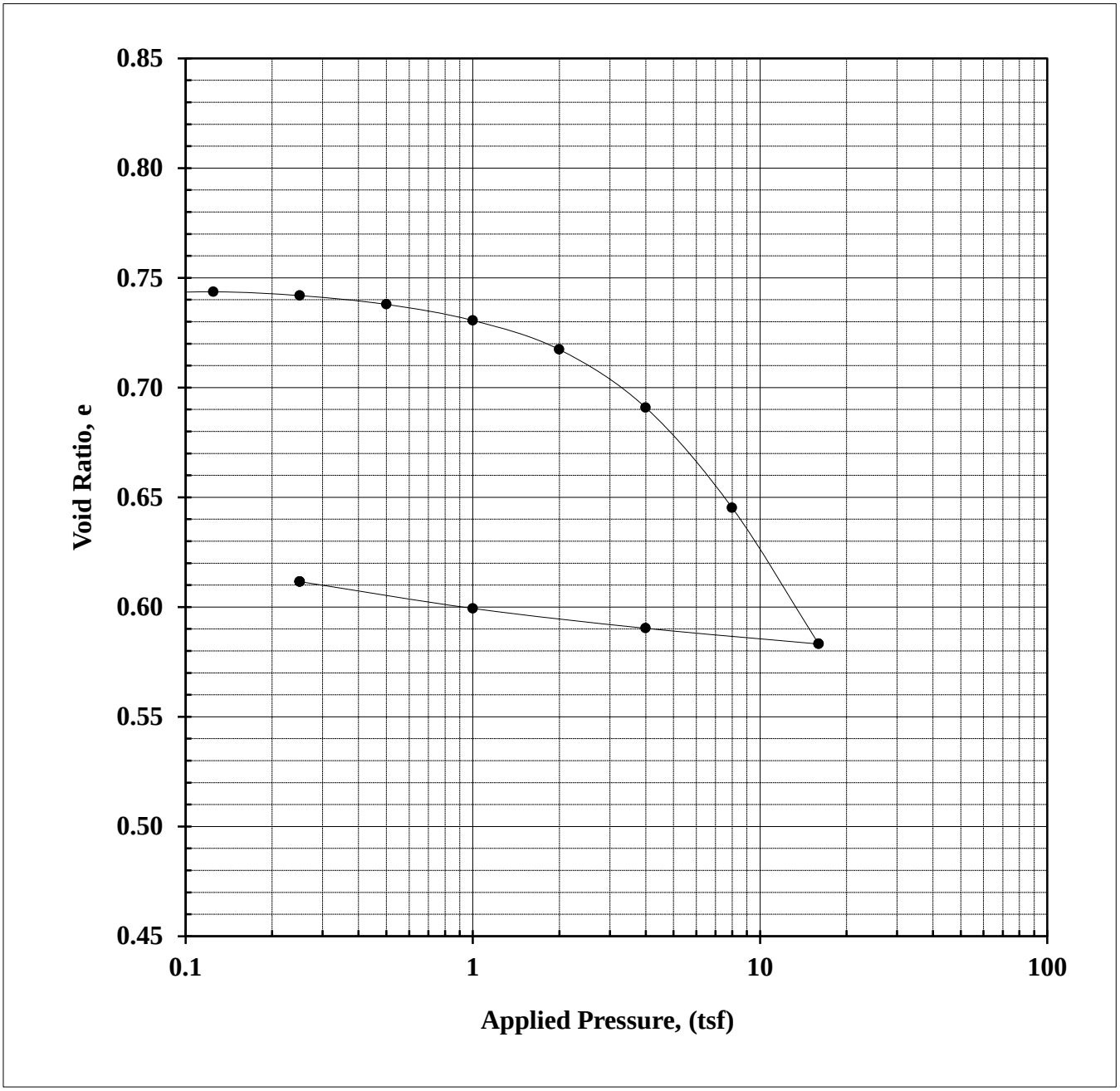
GEOTECHNOLOGY INC
FROM THE GROUND UP

One-Dimensional Consolidation Test

(ASTM D 2435)

Plot of Void Ratio versus Log of Pressure

Compression Index, C_c =	0.20	**Void Ratio, e_o =**	0.742
Recompression Index, C_r =	0.016	**Preconsolidation Pressure =**	3.5 **(tsf)**



Boring No.	B-28			Job No.	20202013
Sample No.	ST-7			Job Name	Monett Regional
Depth (ft)	23.0' - 25.0'			Sheet No.	1
Tested By	ADC/SRR			Test Date	4/17/2020
Computed By	ADC			Checked By	SDG

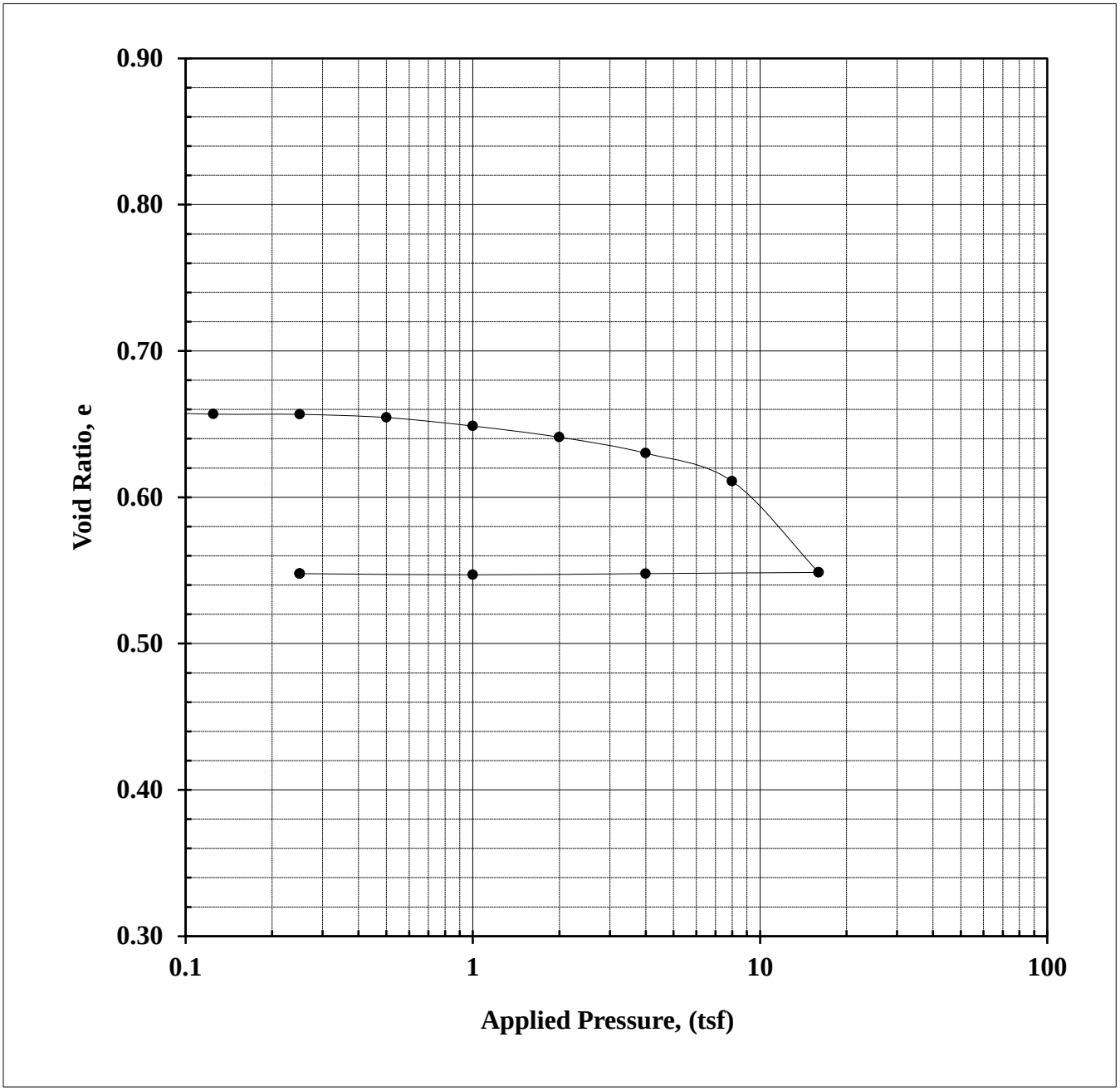
GEOTECHNOLOGY INC
FROM THE GROUND UP

One-Dimensional Consolidation Test

(ASTM D 2435)

Plot of Void Ratio versus Log of Pressure

Compression Index, C_c =	0.20	**Void Ratio, e_o =**	0.659
Recompression Index, C_r =	0.001	**Preconsolidation Pressure =**	5.8 **(tsf)**



Project Name: Monett Regional Airport

Project Number: 20202013

Boring	Sample	Depth	Original Height of Soil (mL)	Final Heigth of Soil (mL)	% Swell
B-49	Bulk 1	1.0-5.0	10	14.5	45%
B-53	Bulk 1	1.0-5.0	10	15	50%
C-3	Bulk 1	1.0-5.0	10	16	60%
C-7	Bulk 1	1.0-5.0	10	14.8	48%

TSi Geotechnical, Inc.
HYDROMETER ANALYSIS (ASTM D422)

Project Name:	Monett Regional Airport	**Project Number:**	20202013.00
Boring Number:	B-49	**Tested by:**	SLY 5/13/2020
Sample Number:	Bulk 1	**Calculated by:**	SLY 5/13/2020
Sample Depth:	1.0 - 5.0'	**Checked by:**	FHH 5/15/2020
Visual Description:	Brownish-red, fat CLAY (CH), with sand, trace gravel		

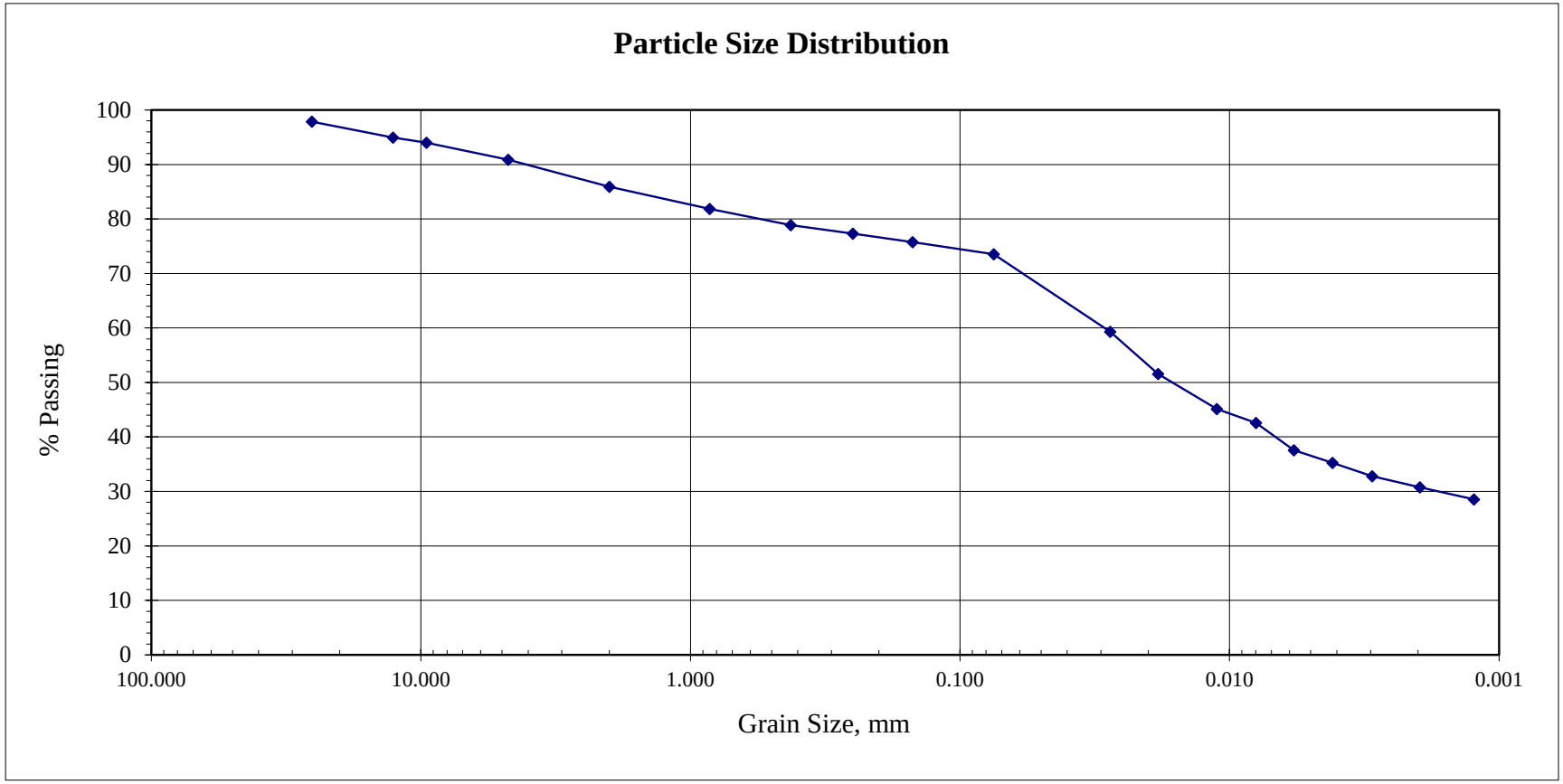
Sieve	Particle Size, mm	Percent Finer
1"	25.40	98
1/2"	12.70	95
3/8"	9.53	94
No.4	4.75	91
No.10	2.00	86
No.20	0.85	82
No.40	0.425	79
No.60	0.250	77
No.100	0.150	76
No.200	0.075	74
Hydrometer Analysis	0.0278	59
	0.0184	52
	0.0111	45
	0.0080	43
	0.0058	38
	0.0041	35
	0.0030	33
	0.0020	31
	0.0012	29

Particle Size Description
Soil Classification System

Particle	Size Range, mm	Percent of Specimen
Gravel	4.75 to 76.4	9
Coarse Sand	2.00 to 4.75	5
Medium Sand	0.43 to 2.00	7
Fine Sand	0.075 to 0.43	5
Silt	0.005 to 0.075	37
Clay	<0.005	36

TSi Geotechnical, Inc.
HYDROMETER ANALYSIS (ASTM D422)

Project Name:	Monett Regional Airport	**Project Number:**	20202013.00
Boring Number:	B-49	**Tested by:**	SLY 5/13/2020
Sample Number:	Bulk 1	**Calculated by:**	SLY 5/13/2020
Sample Depth:	1.0 - 5.0'	**Checked by:**	FHH 5/15/2020
Visual Description:	Brownish-red, fat CLAY (CH), with sand, trace gravel		



TSi Geotechnical, Inc.
HYDROMETER ANALYSIS (ASTM D422)

Project Name:	Monett Regional Airport	**Project Number:**	20202013.00
Boring Number:	B-53	**Tested by:**	SLY 5/13/2020
Sample Number:	Bulk 1	**Calculated by:**	SLY 5/13/2020
Sample Depth:	1.0 - 5.0'	**Checked by:**	FHH 5/15/2020
Visual Description:	Brownish-red, fat CLAY (CH), with gravel, trace sand		

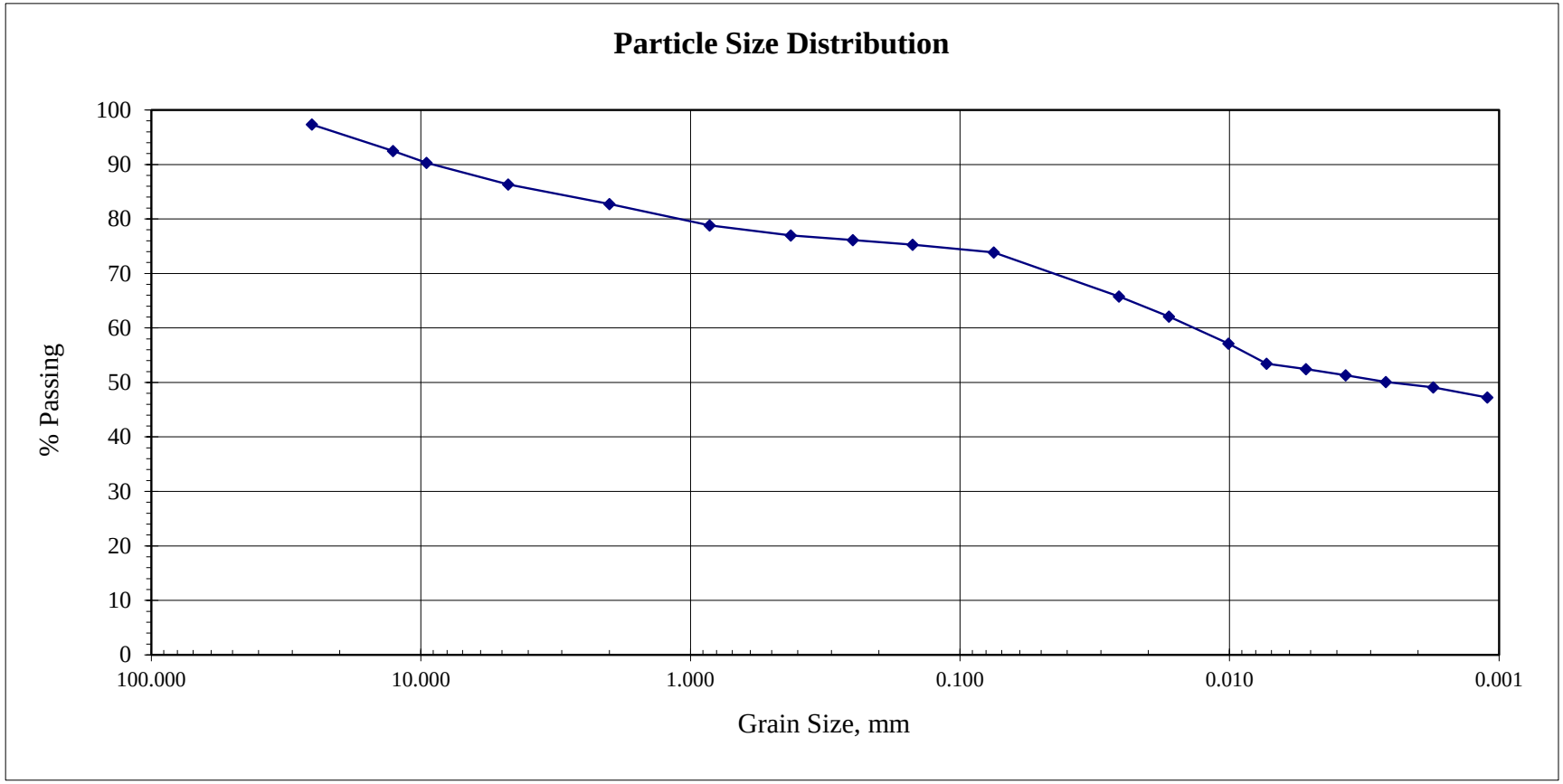
Sieve	Particle Size, mm	Percent Finer
1"	25.40	97
1/2"	12.70	93
3/8"	9.53	90
No.4	4.75	86
No.10	2.00	83
No.20	0.85	79
No.40	0.425	77
No.60	0.250	76
No.100	0.150	75
No.200	0.075	74
Hydrometer Analysis	0.0257	66
	0.0168	62
	0.0101	57
	0.0073	53
	0.0052	52
	0.0037	51
	0.0026	50
	0.0018	49
	0.0011	47

Particle Size Description
Soil Classification System

Particle	Size Range, mm	Percent of Specimen
Gravel	4.75 to 76.4	14
Coarse Sand	2.00 to 4.75	4
Medium Sand	0.43 to 2.00	6
Fine Sand	0.075 to 0.43	3
Silt	0.005 to 0.075	22
Clay	<0.005	52

TSi Geotechnical, Inc.
HYDROMETER ANALYSIS (ASTM D422)

Project Name:	Monett Regional Airport	**Project Number:**	20202013.00
Boring Number:	B-53	**Tested by:**	SLY 5/13/2020
Sample Number:	Bulk 1	**Calculated by:**	SLY 5/13/2020
Sample Depth:	1.0 - 5.0'	**Checked by:**	FHH 5/15/2020
Visual Description:	Brownish-red, fat CLAY (CH), with gravel, trace		



TSi Geotechnical, Inc.
HYDROMETER ANALYSIS (ASTM D422)

Project Name:	Monett Regional Airport	**Project Number:**	20202013.00
Boring Number:	C-3	**Tested by:**	SLY 5/13/2020
Sample Number:	Bulk 1	**Calculated by:**	SLY 5/13/2020
Sample Depth:	1.0 - 5.0'	**Checked by:**	FHH 5/15/2020
Visual Description:	Brownish-red, sandy fat CLAY (CH), with gravel		

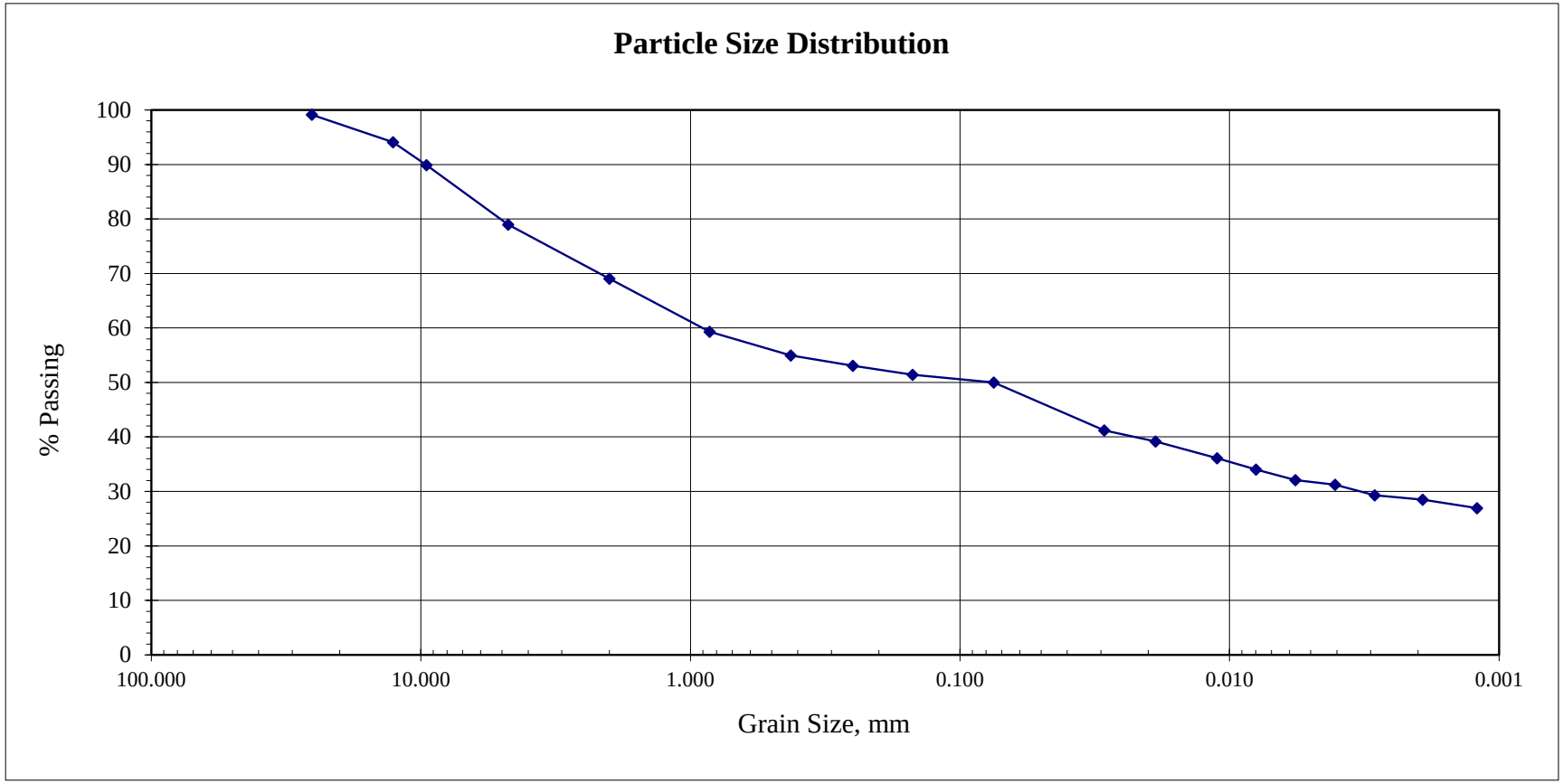
Sieve	Particle Size, mm	Percent Finer
1"	25.40	99
1/2"	12.70	94
3/8"	9.53	90
No.4	4.75	79
No.10	2.00	69
No.20	0.85	59
No.40	0.425	55
No.60	0.250	53
No.100	0.150	51
No.200	0.075	50
Hydrometer Analysis	0.0292	41
	0.0188	39
	0.0111	36
	0.0080	34
	0.0057	32
	0.0041	31
	0.0029	29
	0.0019	28
	0.0012	27

Particle Size Description
Soil Classification System

Particle	Size Range, mm	Percent of Specimen
Gravel	4.75 to 76.4	21
Coarse Sand	2.00 to 4.75	10
Medium Sand	0.43 to 2.00	14
Fine Sand	0.075 to 0.43	5
Silt	0.005 to 0.075	18
Clay	<0.005	32

TSi Geotechnical, Inc.
HYDROMETER ANALYSIS (ASTM D422)

Project Name:	Monett Regional Airport	**Project Number:**	20202013.00
Boring Number:	C-3	**Tested by:**	SLY 5/13/2020
Sample Number:	Bulk 1	**Calculated by:**	SLY 5/13/2020
Sample Depth:	1.0 - 5.0'	**Checked by:**	FHH 5/15/2020
Visual Description:	Brownish-red, sandy fat CLAY (CH), with gravel		



TSi Geotechnical, Inc.
HYDROMETER ANALYSIS (ASTM D422)

Project Name:	Monett Regional Airport	**Project Number:**	20202013.00
Boring Number:	C-7	**Tested by:**	SLY 5/13/2020
Sample Number:	Bulk 1	**Calculated by:**	SLY 5/13/2020
Sample Depth:	1.0 - 5.0'	**Checked by:**	FHH 5/15/2020
Visual Description:	Red, sandy fat CLAY (CH), with gravel		

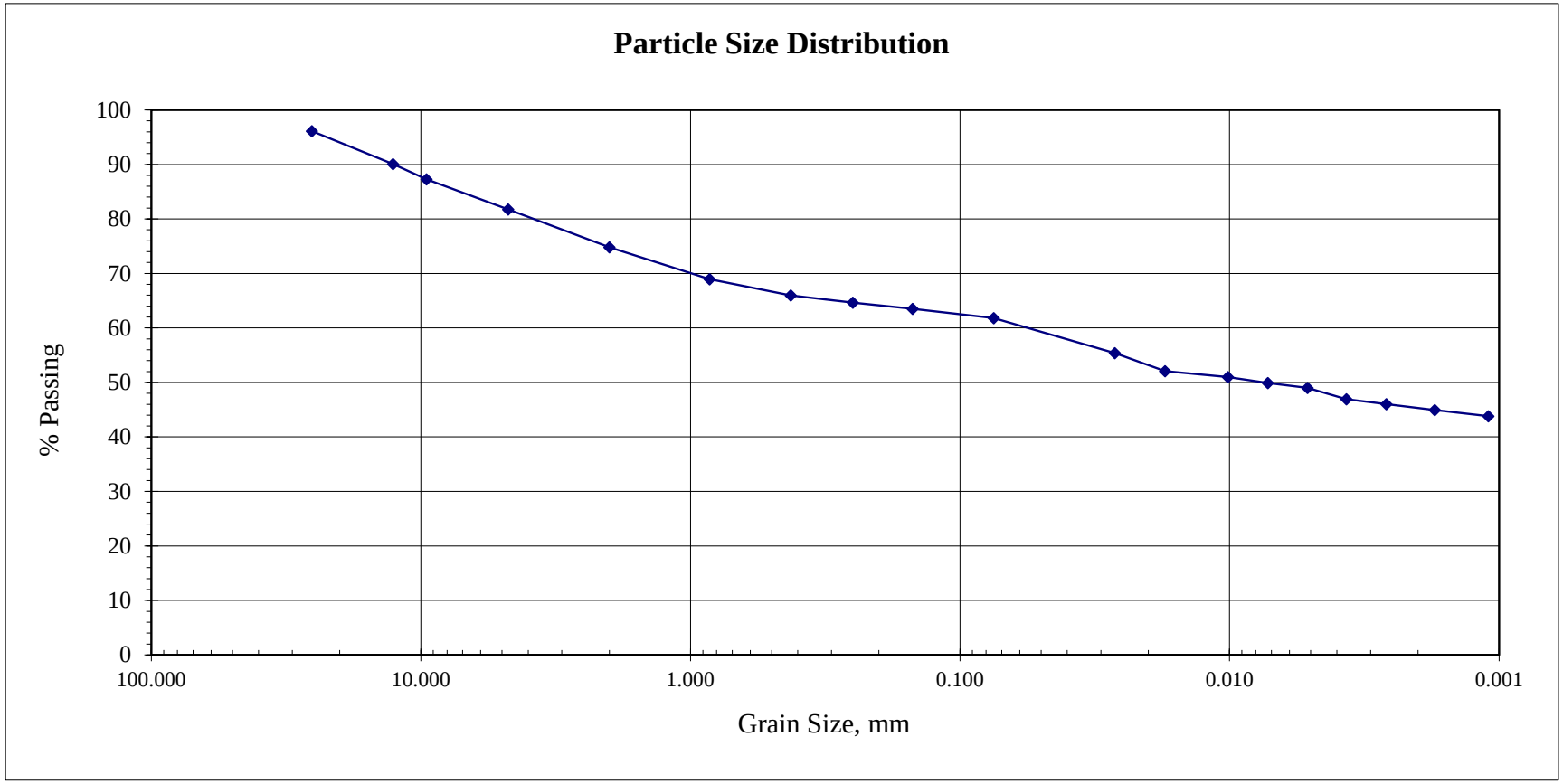
Sieve	Particle Size, mm	Percent Finer
1"	25.40	96
1/2"	12.70	90
3/8"	9.53	87
No.4	4.75	82
No.10	2.00	75
No.20	0.85	69
No.40	0.425	66
No.60	0.250	65
No.100	0.150	63
No.200	0.075	62
Hydrometer Analysis	0.0266	55
	0.0174	52
	0.0101	51
	0.0072	50
	0.0051	49
	0.0037	47
	0.0026	46
	0.0017	45
	0.0011	44

Particle Size Description
Soil Classification System

Particle	Size Range, mm	Percent of Specimen
Gravel	4.75 to 76.4	18
Coarse Sand	2.00 to 4.75	7
Medium Sand	0.43 to 2.00	9
Fine Sand	0.075 to 0.43	4
Silt	0.005 to 0.075	13
Clay	<0.005	49

TSi Geotechnical, Inc.
HYDROMETER ANALYSIS (ASTM D422)

Project Name:	Monett Regional Airport	**Project Number:**	20202013.00
Boring Number:	C-7	**Tested by:**	SLY 5/13/2020
Sample Number:	Bulk 1	**Calculated by:**	SLY 5/13/2020
Sample Depth:	1.0 - 5.0'	**Checked by:**	FHH 5/15/2020
Visual Description:	Red, sandy fat CLAY (CH), with gravel		



TSI geotechnical, inc.

COMPACTION TEST

PROJECT NAME: Monett Airport

PROJECT No.: 20202013

SAMPLE NUMBER: Bulk 1

SAMPLE LOCATION: B-49

DEPTH: 1-5 ft.

VISUAL CLASS. (USCS): Brownish-red, fat CLAY (CH), with sand, trace gravel

TYPE OF COMPACTION	MOD	D1557		
SIEVE ANALYSIS RESULTS	3/4	3/8	No. 4	PROCEDURE
% Retained(cumulative)	0.0	6.3	0.0	B

SOIL WEIGHT DATA						
Determination Number	1	2	3	4	5	6
Weight- Soil + Mold (wet),g	6049.7	6146.2	6149.3	6122.6		
Weight of Mold,g	4276.0	4279.3	4276.0	4279.3		
Weight Wet Soil,g	**1773.7**	**1866.9**	**1873.3**	**1843.3**		
Volume of Mold (ft^3)	0.0333	0.0333	0.0333	0.0333		
MOISTURE DATA						
Weight- Soil + Tare (wet),g	490.0	381.5	554.0	505.7		
Weight- Soil + Tare (dry),g	442.4	339.4	478.6	429.2		
Weight- Tare,g	89.1	85.3	84.2	84.3		
COMPUTED DATA						
Wet unit weight (pcf)	**117.4**	**123.6**	**124.0**	**122.1**		
Moisture content (%)	**13.5**	**16.6**	**19.1**	**22.2**		
Dry unit weight (pcf)	**103.5**	**106.0**	**104.1**	**99.9**		

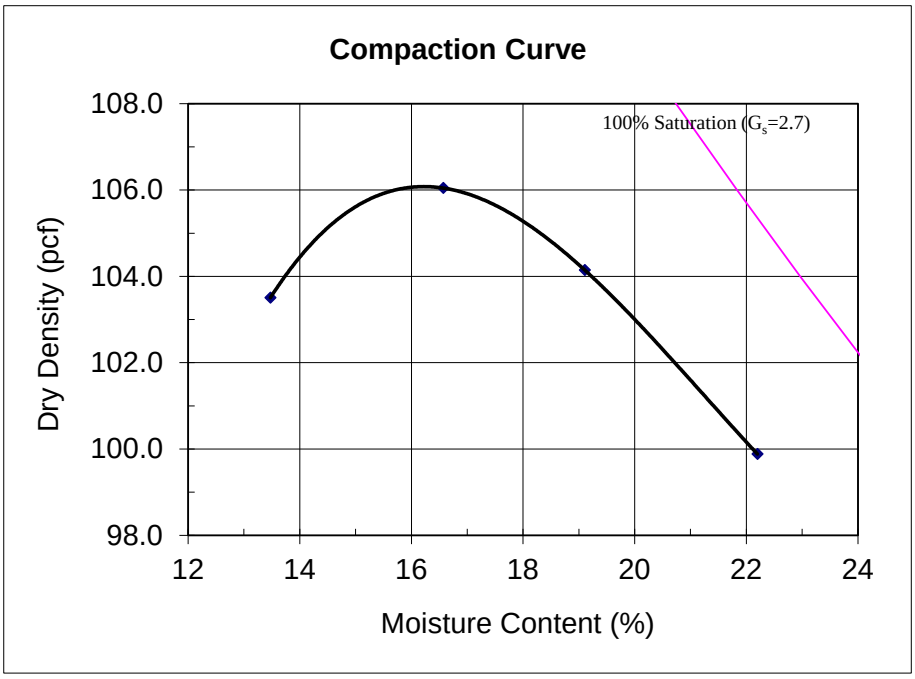
Maximum Dry Density (pcf)	**106.1**
Optimum Moisture Content (%)	**16.2**
Natural Moisture Content (%)	**29.8**

Corr. Max. Dry Density (pcf)	**108.6**
Corr. Optimum Moist. Cont. (%)	

Liquid Limit	**56**
Plastic Limit	20
Plasticity Index	**36**
CLASSIFICATION. (USCS)	**CH**

	Date
Tested by : SLY	5/11/2020
Calculated by: SLY	5/12/2020
Checked by: FHH	5/15/2020

NOTE:



TSI geotechnical, inc.

COMPACTION TEST

PROJECT NAME: Monett Airport

PROJECT No.: 20202013

SAMPLE NUMBER: Bulk 1

SAMPLE LOCATION: B-53

DEPTH: 1-5 ft.

VISUAL CLASS. (USCS): Brownish-red, fat CLAY (CH), with gravel, trace sand

TYPE OF COMPACTION	MOD	D1557		
SIEVE ANALYSIS RESULTS	3/4	3/8	No. 4	PROCEDURE
% Retained(cumulative)	0.0	9.9	0.0	B

SOIL WEIGHT DATA						
Determination Number	1	2	3	4	5	6
Weight- Soil + Mold (wet),g	6144.8	6178.6	6114.0	6068.2		
Weight of Mold,g	4276.0	4279.3	4276.0	4279.3		
Weight Wet Soil,g	**1868.8**	**1899.3**	**1838.0**	**1788.9**		
Volume of Mold (ft^3)	0.0333	0.0333	0.0333	0.0333		
MOISTURE DATA						
Weight- Soil + Tare (wet),g	391.7	575.7	494.1	336.6		
Weight- Soil + Tare (dry),g	341.3	485.3	410.9	280.5		
Weight- Tare,g	85.0	84.3	84.2	83.8		
COMPUTED DATA						
Wet unit weight (pcf)	**123.7**	**125.8**	**121.7**	**118.5**		
Moisture content (%)	**19.7**	**22.6**	**25.5**	**28.5**		
Dry unit weight (pcf)	**103.4**	**102.6**	**97.0**	**92.2**		

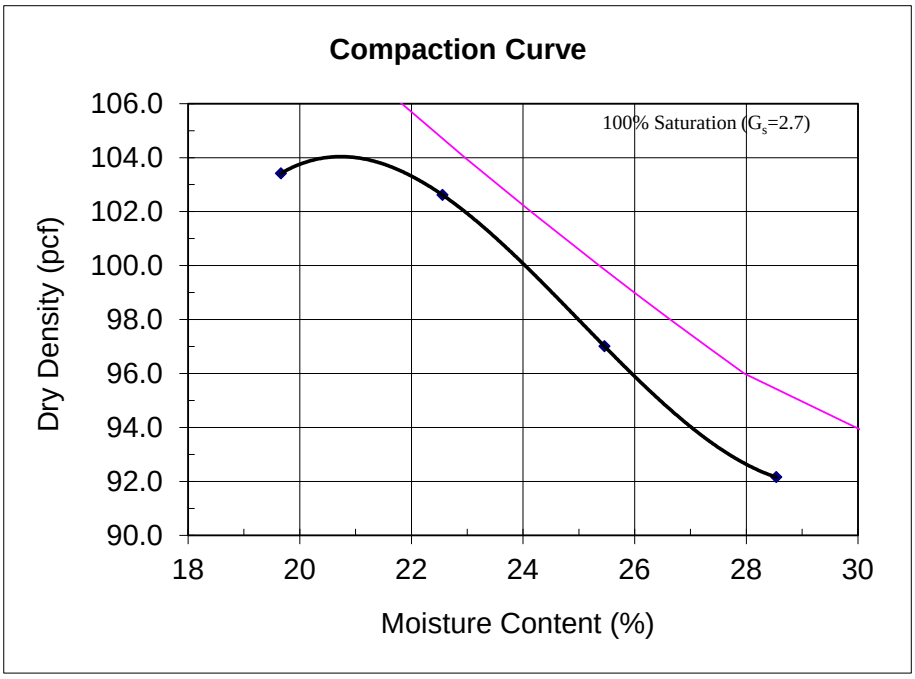
Maximum Dry Density (pcf)	**104.0**
Optimum Moisture Content (%)	**20.8**
Natural Moisture Content (%)	**26.9**

Corr. Max. Dry Density (pcf)	**108.1**
Corr. Optimum Moist. Cont. (%)	

Liquid Limit	**87**
Plastic Limit	24
Plasticity Index	**63**
CLASSIFICATION. (USCS)	**CH**

	Date
Tested by : SLY	5/8/2020
Calculated by: SLY	5/11/2020
Checked by: FHH	5/15/2020

NOTE:



TSI geotechnical, inc.

COMPACTION TEST

PROJECT NAME: Monett Airport

PROJECT No.: 20202013

SAMPLE NUMBER: Bulk 1

SAMPLE LOCATION: C-3

DEPTH: 1-5 ft.

VISUAL CLASS. (USCS): Brownish-red, sandy fat CLAY (CH), with gravel

TYPE OF COMPACTION	MOD	D1557		
SIEVE ANALYSIS RESULTS	3/4	3/8	No. 4	PROCEDURE
% Retained(cumulative)	0.0	16.6	0.0	B

SOIL WEIGHT DATA						
Determination Number	1	2	3	4	5	6
Weight- Soil + Mold (wet),g	6068.8	6113.3	6111.7	6054.9		
Weight of Mold,g	4279.3	4276.0	4279.3	4276.0		
Weight Wet Soil,g	**1789.5**	**1837.3**	**1832.4**	**1778.9**		
Volume of Mold (ft^3)	0.0333	0.0333	0.0333	0.0333		
MOISTURE DATA						
Weight- Soil + Tare (wet),g	319.5	331.1	317.1	354.7		
Weight- Soil + Tare (dry),g	288.0	293.8	276.9	302.0		
Weight- Tare,g	85.9	84.0	85.0	83.3		
COMPUTED DATA						
Wet unit weight (pcf)	**118.5**	**121.7**	**121.3**	**117.8**		
Moisture content (%)	**15.6**	**17.8**	**21.0**	**24.1**		
Dry unit weight (pcf)	**102.5**	**103.3**	**100.3**	**94.9**		

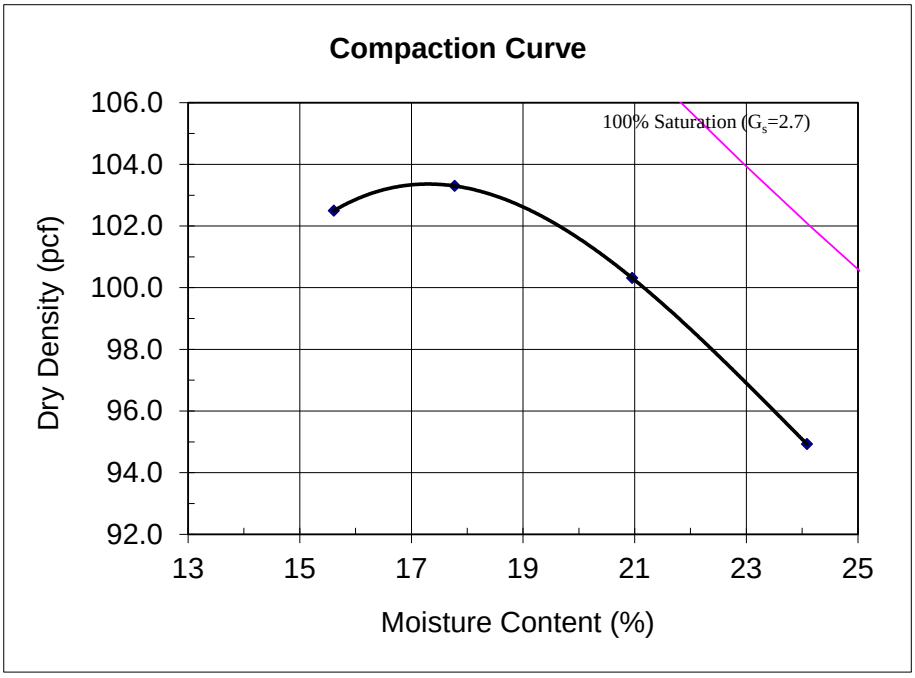
Maximum Dry Density (pcf)	**103.3**
Optimum Moisture Content (%)	**17.3**
Natural Moisture Content (%)	**32.1**

Corr. Max. Dry Density (pcf)	**110.4**
Corr. Optimum Moist. Cont. (%)	

Liquid Limit	**66**
Plastic Limit	21
Plasticity Index	**45**
CLASSIFICATION. (USCS)	**CH**

	Date
Tested by : SLY	5/8/2020
Calculated by: SLY	5/11/2020
Checked by: FHH	5/15/2020

NOTE:



TSI geotechnical, inc.

COMPACTION TEST

PROJECT NAME: Monett Airport

PROJECT No.: 20202013

SAMPLE NUMBER: Bulk 1

SAMPLE LOCATION: C-7

DEPTH: 1-5 ft.

VISUAL CLASS. (USCS): Red, sandy fat CLAY (CH), with gravel

TYPE OF COMPACTION	MOD	D1557		
SIEVE ANALYSIS RESULTS	3/4	3/8	No. 4	PROCEDURE
% Retained(cumulative)	0.0	16.1	0.0	B

SOIL WEIGHT DATA						
Determination Number	1	2	3	4	5	6
Weight- Soil + Mold (wet),g	6090.0	6161.8	6157.3	6119.0		
Weight of Mold,g	4276.0	4279.3	4276.0	4279.3		
Weight Wet Soil,g	**1814.0**	**1882.5**	**1881.3**	**1839.7**		
Volume of Mold (ft^3)	0.0333	0.0333	0.0333	0.0333		
MOISTURE DATA						
Weight- Soil + Tare (wet),g	433.1	561.7	273.0	366.8		
Weight- Soil + Tare (dry),g	387.3	488.7	240.9	312.6		
Weight- Tare,g	83.1	83.7	85.3	82.6		
COMPUTED DATA						
Wet unit weight (pcf)	**120.1**	**124.7**	**124.6**	**121.8**		
Moisture content (%)	**15.1**	**18.0**	**20.6**	**23.6**		
Dry unit weight (pcf)	**104.4**	**105.6**	**103.3**	**98.6**		

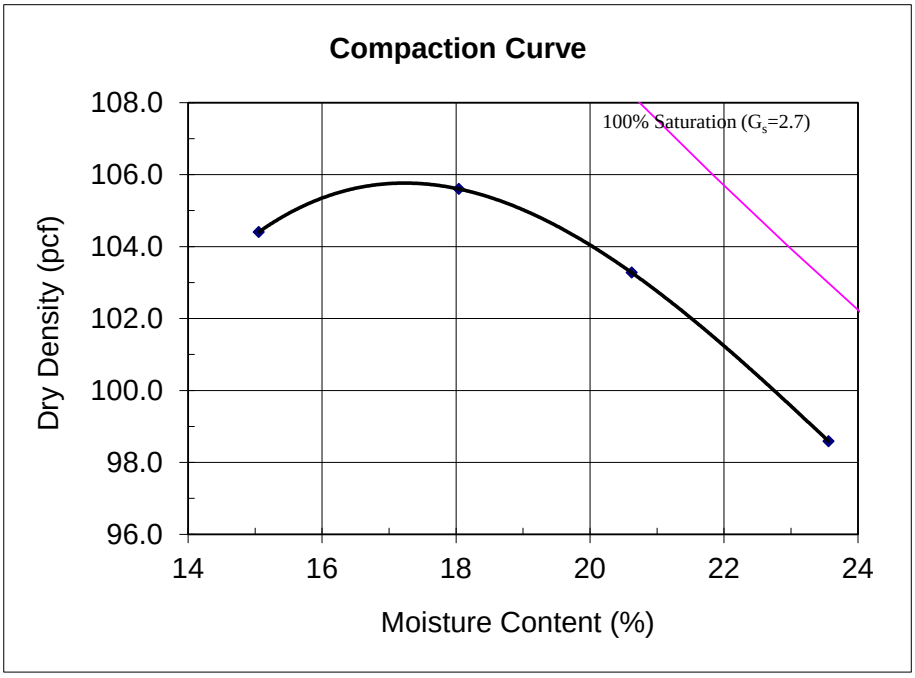
Maximum Dry Density (pcf)	**105.8**
Optimum Moisture Content (%)	**17.2**
Natural Moisture Content (%)	**22.1**

Corr. Max. Dry Density (pcf)	**112.0**
Corr. Optimum Moist. Cont. (%)	

Liquid Limit	**96**
Plastic Limit	26
Plasticity Index	**70**
CLASSIFICATION. (USCS)	**CH**

	Date
Tested by : SLY	5/12/2020
Calculated by: SLY	5/13/2020
Checked by: FHH	5/15/2020

NOTE:



CALIFORNIA BEARING RATIO

at Optimum Water Content

geotechnical, inc.

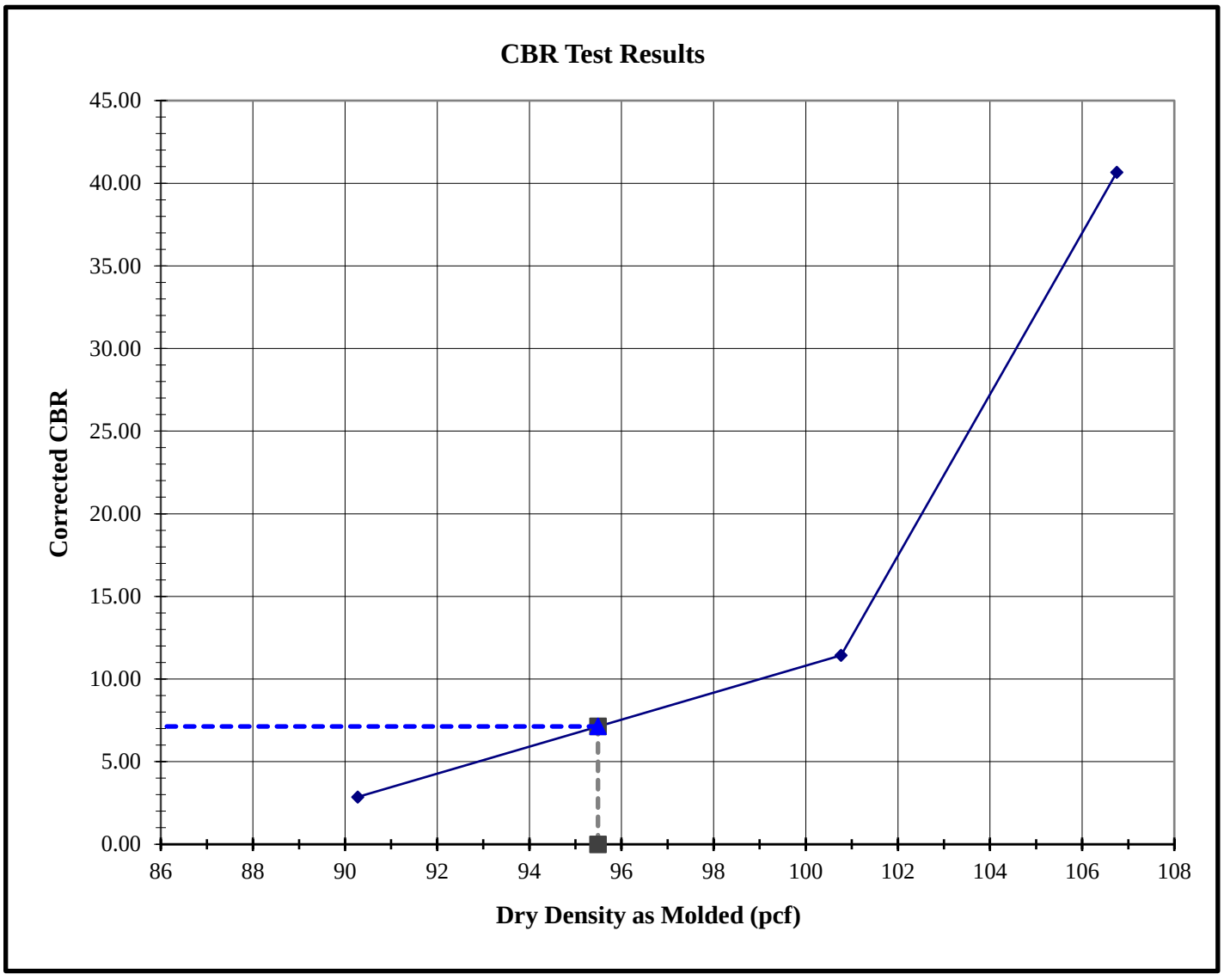
Project Name	Monett Regional Airport
Project Number	20202013.00
Sample Number	Bulk 1
Sample Location	B-49
Soil Description	Reddish-brown, fat CLAY (CH), with sand, trace gravel

Calc. by SLY 05/18/2020

Checked by MD 05/19/2020

Maximum Dry Density	**106.1**
Optimum Moisture Content	**16.2**
Method of Compaction	**ASTM D1557**
Density at 90% Compaction	**95.5**

CBR at 90% Compaction 7.1



CALIFORNIA BEARING RATIO

at Optimum Water Content

geotechnical, inc.

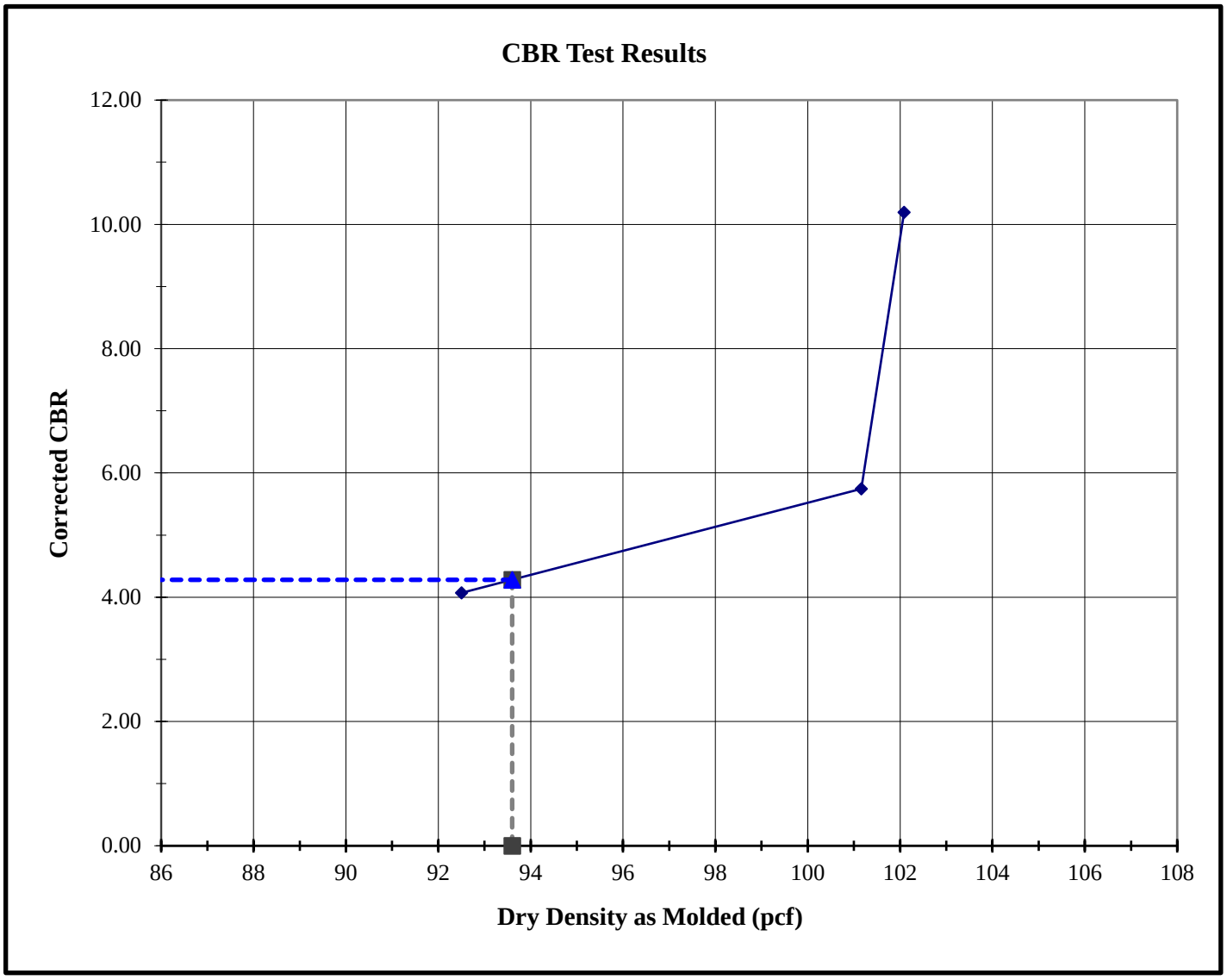
Project Name	Monett Regional Airport
Project Number	20202013.00
Sample Number	Bulk 1
Sample Location	B-53
Soil Description	Brownish-red, fat CLAY (CH), trace sand and gravel

Calc. by SLY 05/18/2020

Checked by MD 05/19/2020

Maximum Dry Density	**104**
Optimum Moisture Content	**20.8**
Method of Compaction	**ASTM D1557**
Density at 90% Compaction	**93.6**

CBR at 90% Compaction 4.3



CALIFORNIA BEARING RATIO

at Optimum Water Content

geotechnical, inc.

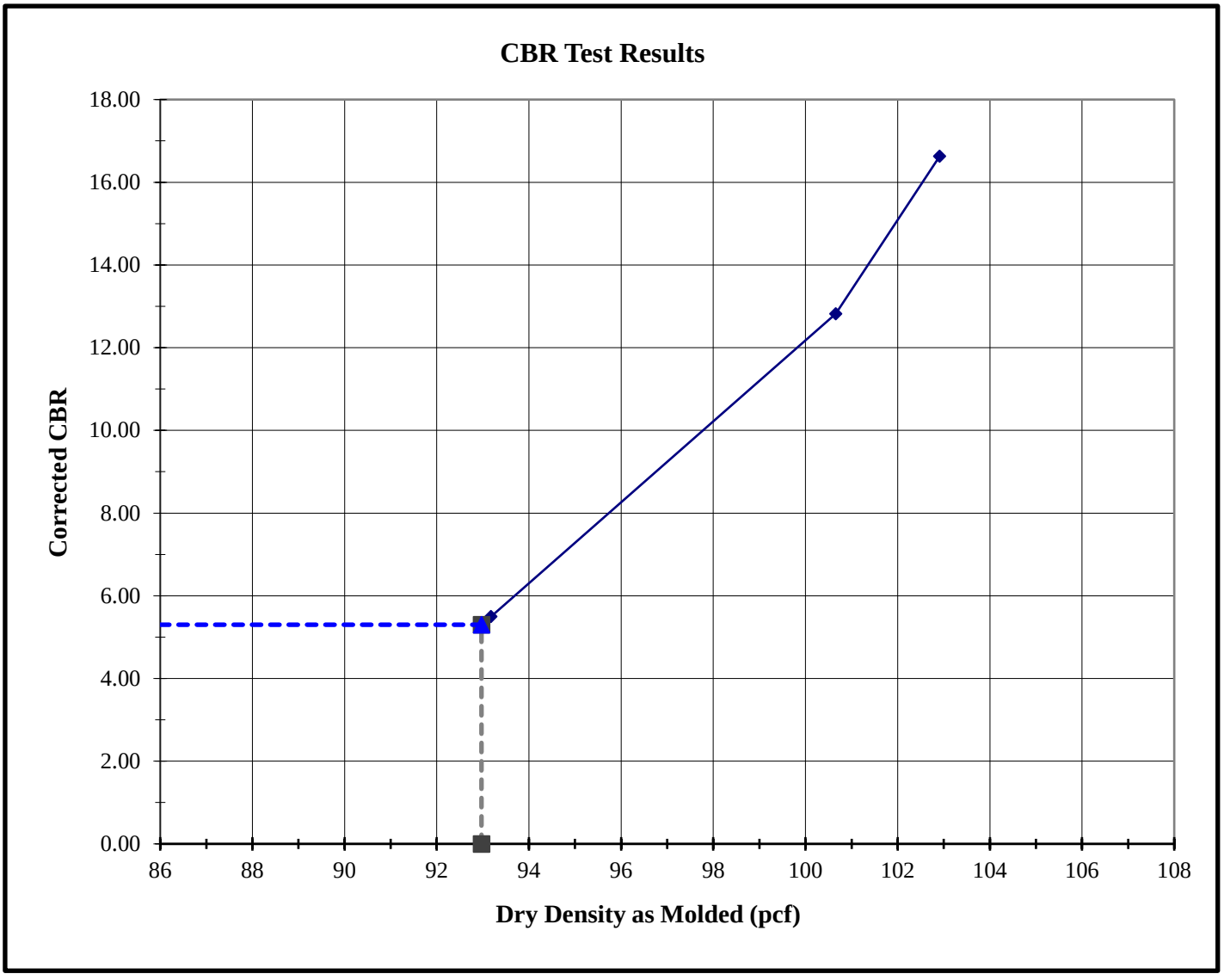
Project Name	Monett Regional Airport
Project Number	20202013.00
Sample Number	Bulk 1
Sample Location	C-3
Soil Description	Brownish-red, sandy fat CLAY (CH), with gravel

Calc. by SLY 05/18/2020

Checked by MD 05/19/2020

Maximum Dry Density	**103.3**
Optimum Moisture Content	**17.3**
Method of Compaction	**ASTM D1557**
Density at 90% Compaction	**93.0**

CBR at 90% Compaction 5.3



CALIFORNIA BEARING RATIO

at Optimum Water Content

geotechnical, inc.

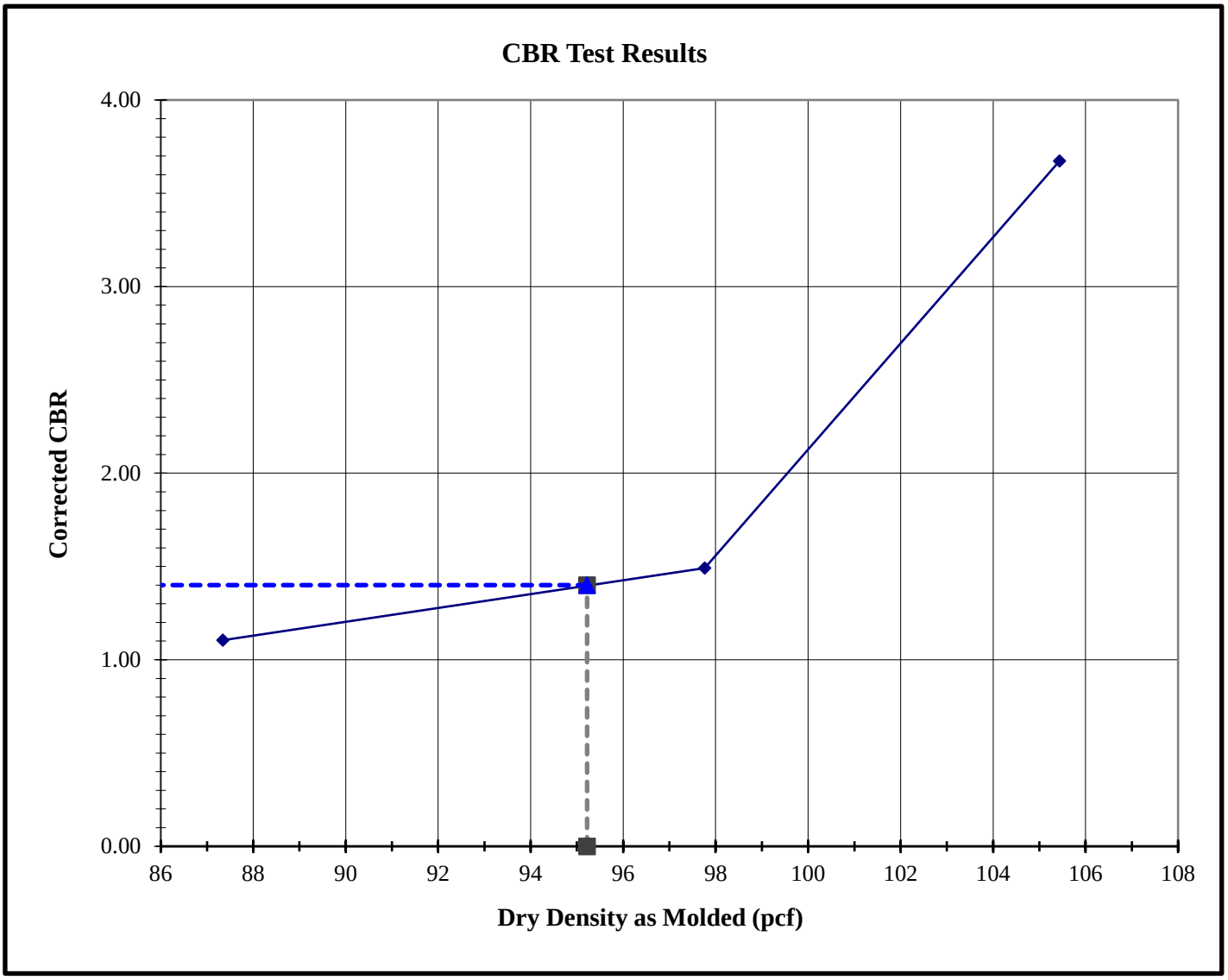
Project Name	Monett Regional Airport
Project Number	20202013.00
Sample Number	Bulk 1
Sample Location	C-7
Soil Description	Red, sandy fat CLAY (CH), with gravel

Calc. by SLY 05/18/2020

Checked by MD 05/19/2020

Maximum Dry Density	**105.8**
Optimum Moisture Content	**17.2**
Method of Compaction	**ASTM D1557**
Density at 90% Compaction	**95.2**

CBR at 90% Compaction 1.4

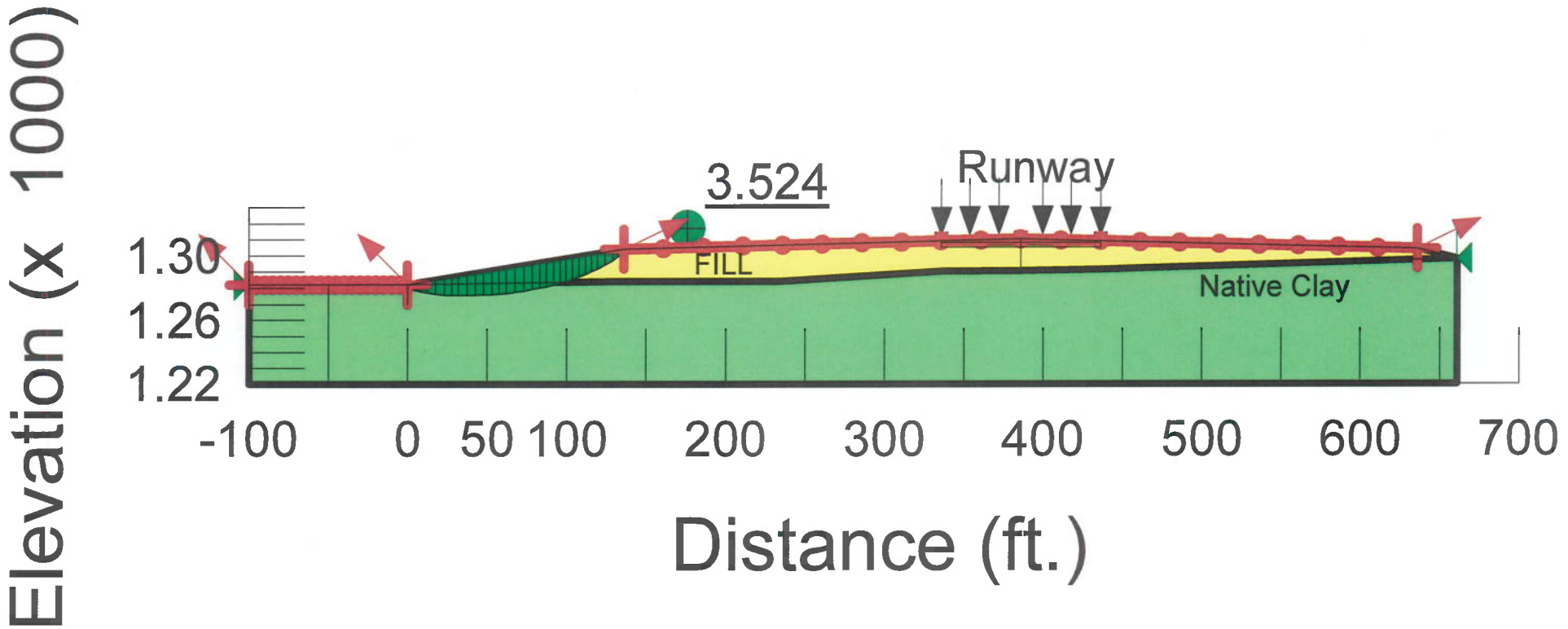


APPENDIX D

Monett Regional Airport Improvements
Slope Stability Analysis, Section C-C, Left Slope
Depth of FILL: 20 ft. Boring: B-26

Material Model: Mohr-Coulomb . Analysis Type: Drained

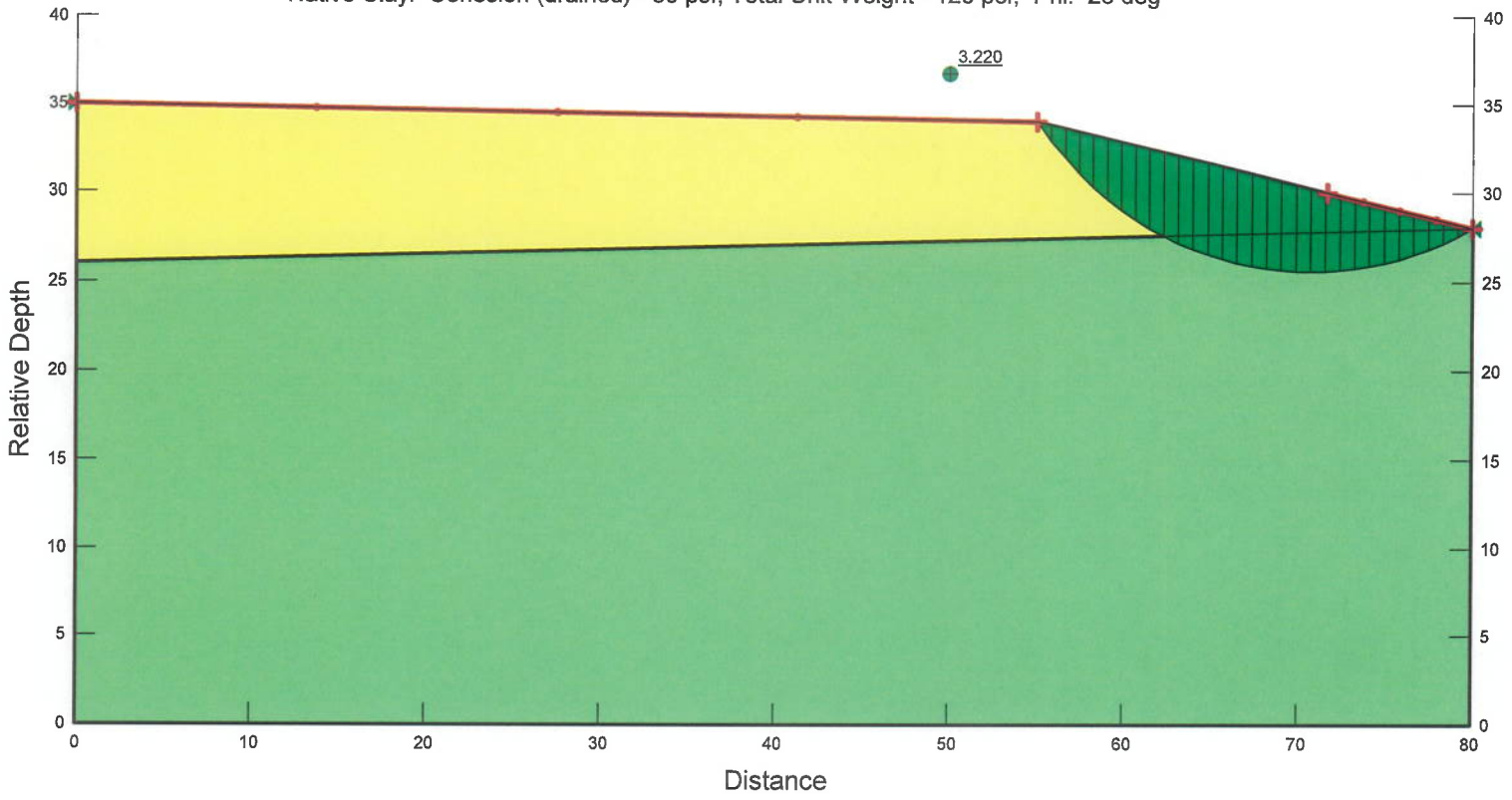
Material Properties Used:
FILL: Cohesion (drained)= 100 psf; Total Unit Wt.= 120 pcf; Phi: 28 deg.
Native Clay: Cohesion (drained)= 50 psf; Total Unit Weight= 120 pcf; Phi: 26 deg
Runway Pavement: C= 10000 psf, Unit Wt.= 150 pcf



Monett Regional Airport Improvements
Slope Stability Analysis, Section C-C, Right Slope
Depth of FILL: 20 ft. Boring: B-26

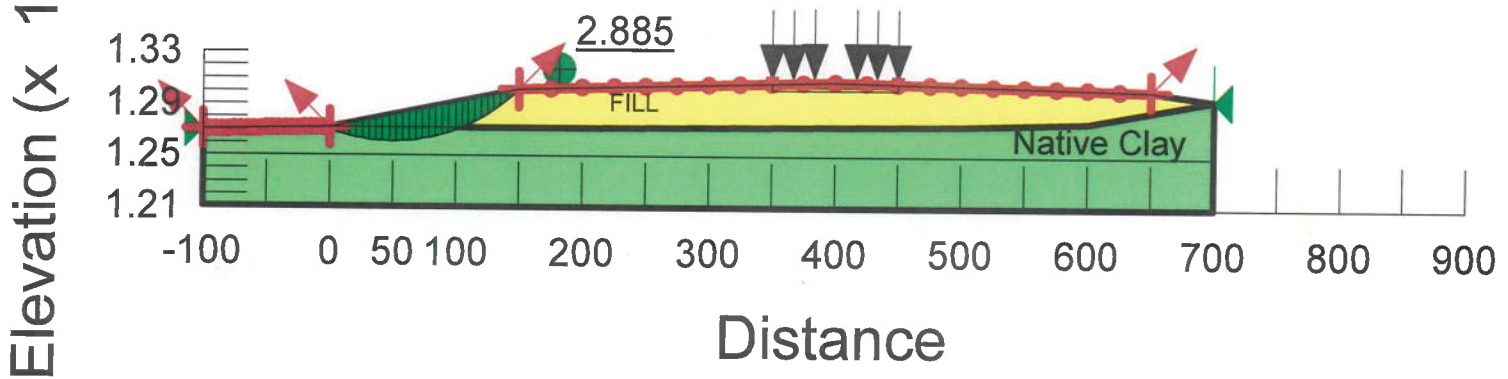
Material Model: Mohr-Coulomb . Analysis Type: Drained

Material Properties Used:
FILL: Cohesion (drained)= 100 psf; Total Unit Wt.= 120 pcf; Phi: 28 deg.
Native Clay: Cohesion (drained)= 50 psf; Total Unit Weight= 120 pcf; Phi: 26 deg



Monett Regional Airport Improvements
Slope Stability Analysis, Left Slope
Depth of FILL: 35 ft. Boring: B-26

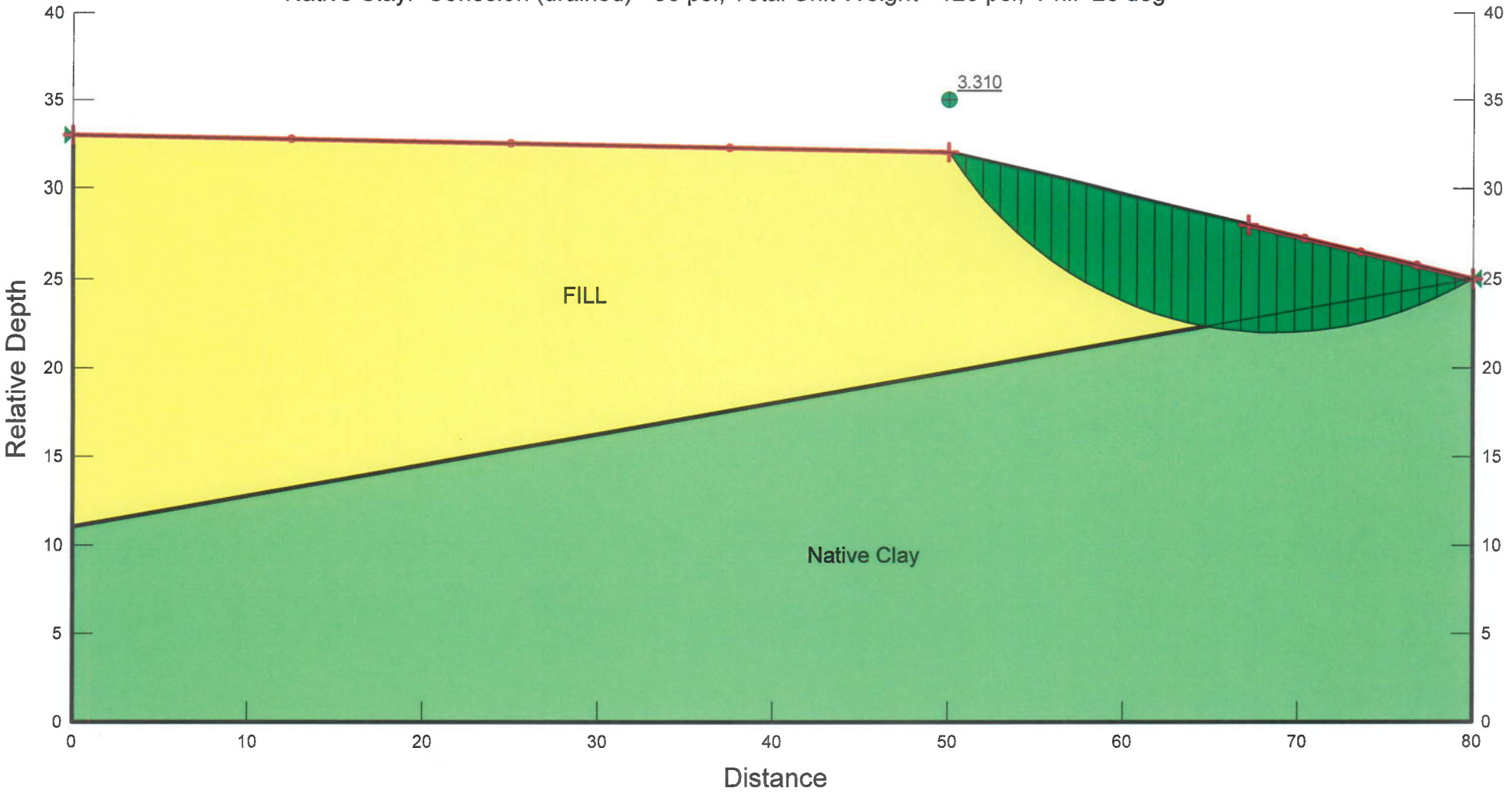
Material Model: Mohr-Coulomb . Analysis Type: Drained
Material Properties Used:
FILL: Cohesion (drained)= 100 psf; Total Unit Wt.= 120 pcf; Phi: 28 deg.
Native Clay: Cohesion (drained)= 50 psf; Total Unit Weight= 120 pcf; Phi: 26 deg
Runway Pavement: C= 10000 psf, Unit Wt.= 150 pcf



Monett Regional Airport Improvements
Slope Stability Analysis, Right Slope
Depth of FILL: 35 ft. Boring: B-26

Material Model: Mohr-Coulomb . Analysis Type: Drained

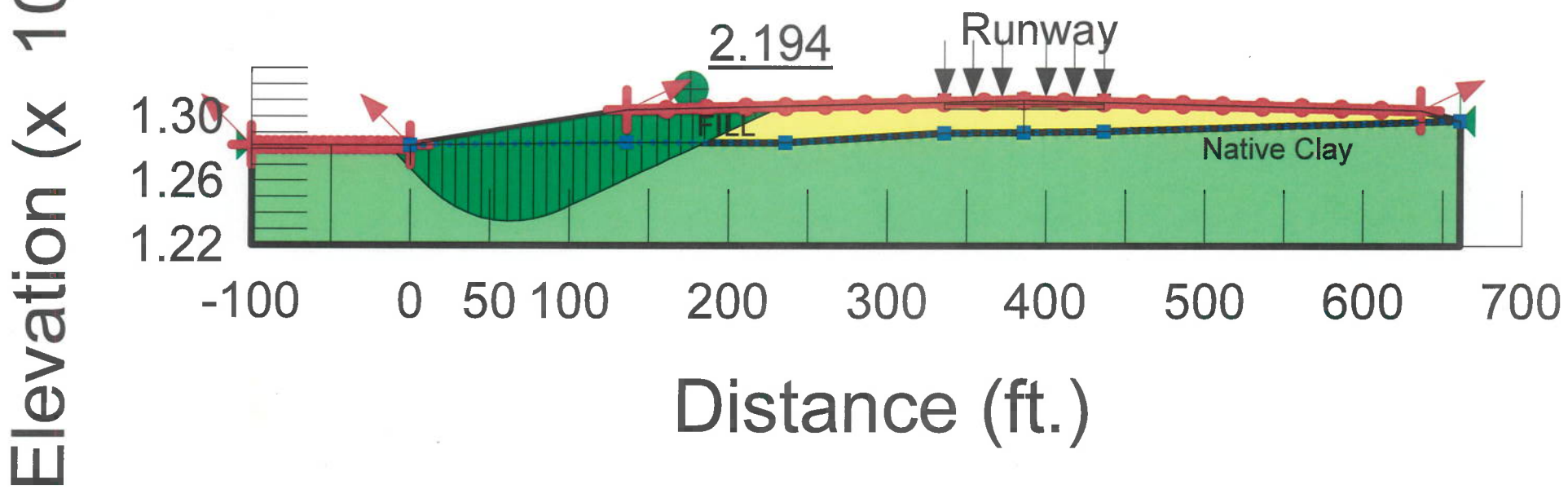
Material Properties Used:
FILL: Cohesion (drained)= 100 psf; Total Unit Wt.= 120 pcf; Phi: 28 deg.
Native Clay: Cohesion (drained)= 50 psf; Total Unit Weight= 120 pcf; Phi: 26 deg



Monett Regional Airport Improvements
Slope Stability Analysis, Section C-C, Left Slope
Depth of FILL: 20 ft. Boring: B-27

Material Model: Mohr-Coulomb . Analysis Type: Drained

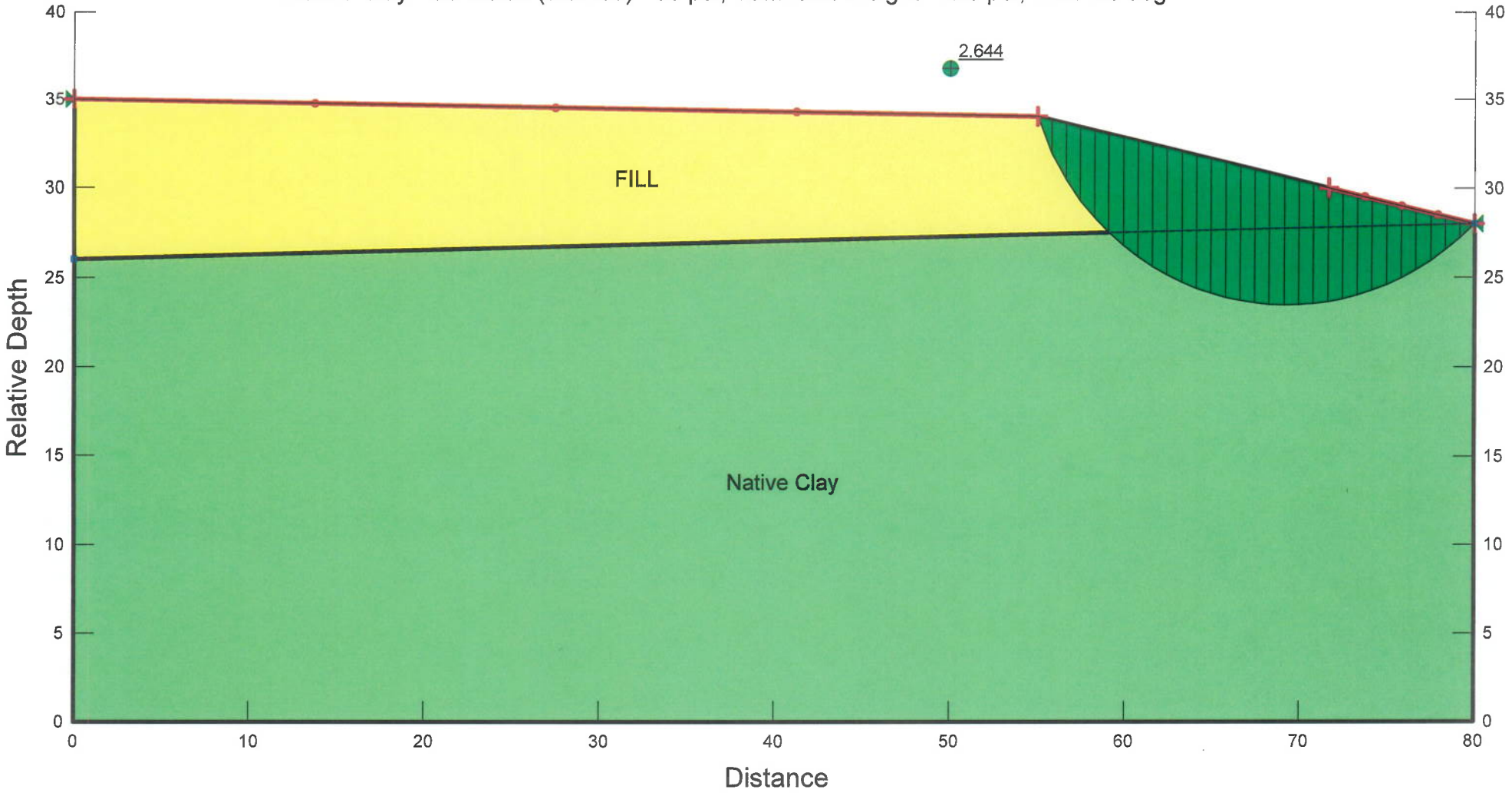
Material Properties Used:
FILL: Cohesion (drained)= 100 psf; Total Unit Wt.= 120 pcf; Phi: 28 deg.
Native Clay: Cohesion (drained)= 50 psf; Total Unit Weight= 120 pcf; Phi: 26 deg
Runway Pavement: C= 10000 psf, Unit Wt.= 150 pcf



Monett Regional Airport Improvements
Slope Stability Analysis, Section C-C, Right Slope
Depth of FILL: 20 ft. Boring: B-27

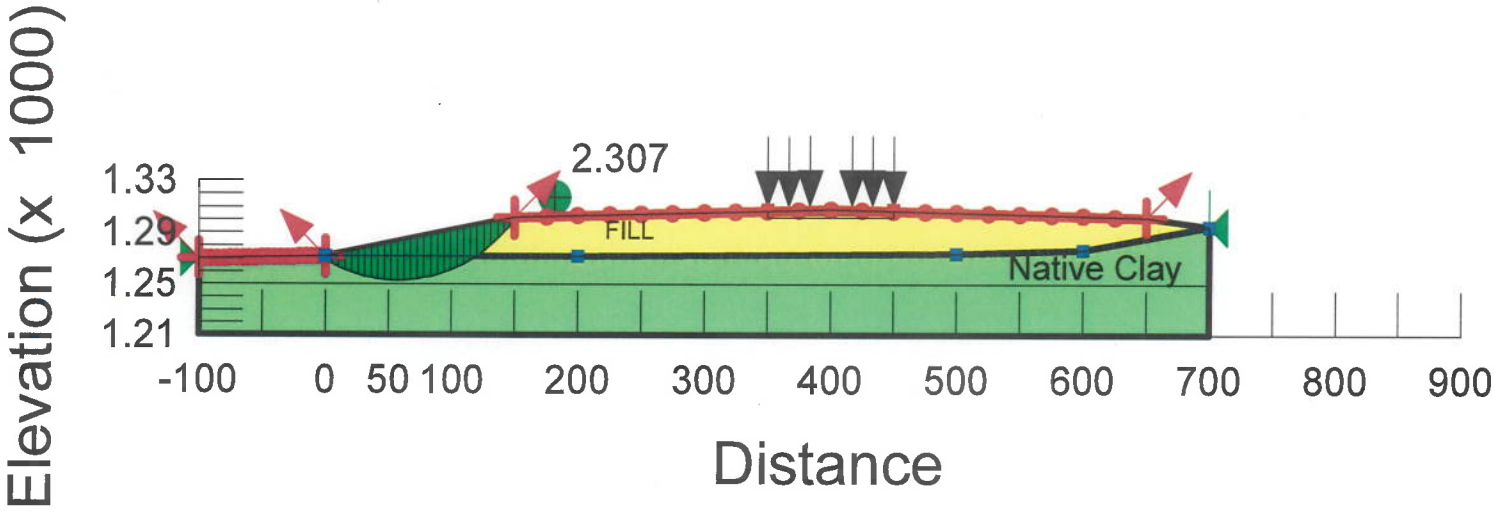
Material Model: Mohr-Coulomb . Analysis Type: Drained

Material Properties Used:
FILL: Cohesion (drained)= 100 psf; Total Unit Wt.= 120 pcf; Phi: 28 deg.
Native Clay: Cohesion (drained)= 50 psf; Total Unit Weight= 120 pcf; Phi: 26 deg



Monett Regional Airport Improvements
Slope Stability Analysis, Left Slope
Depth of FILL: 35 ft. Boring: B-27

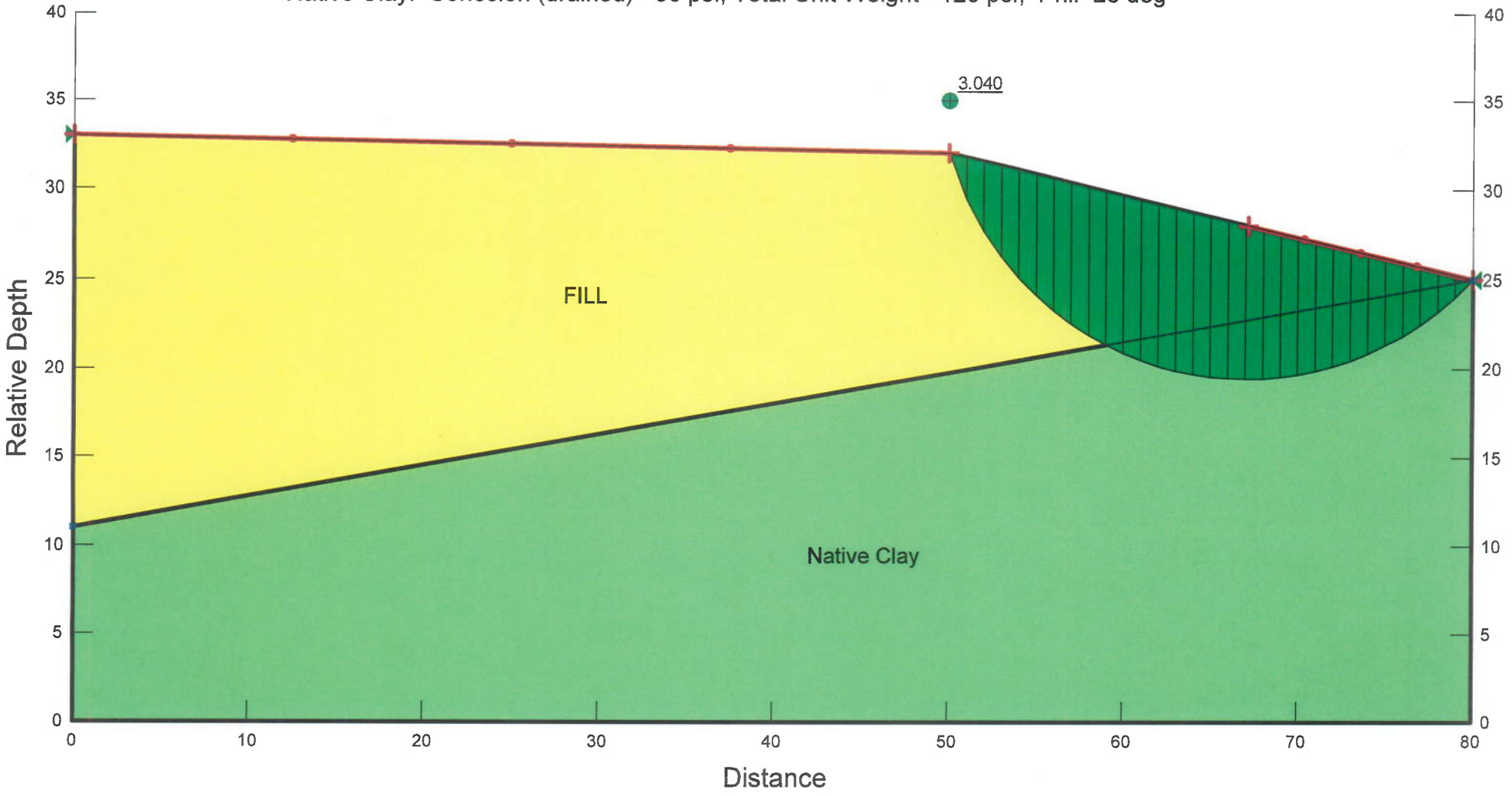
Material Model: Mohr-Coulomb . Analysis Type: Drained
Material Properties Used:
FILL: Cohesion (drained)= 100 psf; Total Unit Wt.= 120 pcf; Phi: 28 deg.
Native Clay: Cohesion (drained)= 50 psf; Total Unit Weight= 120 pcf; Phi: 26 deg
Runway Pavement: C= 10000 psf, Unit Wt.= 150 pcf



Monett Regional Airport Improvements
Slope Stability Analysis, Right Slope
Depth of FILL: 35 ft. Boring: B-27

Material Model: Mohr-Coulomb . Analysis Type: Drained

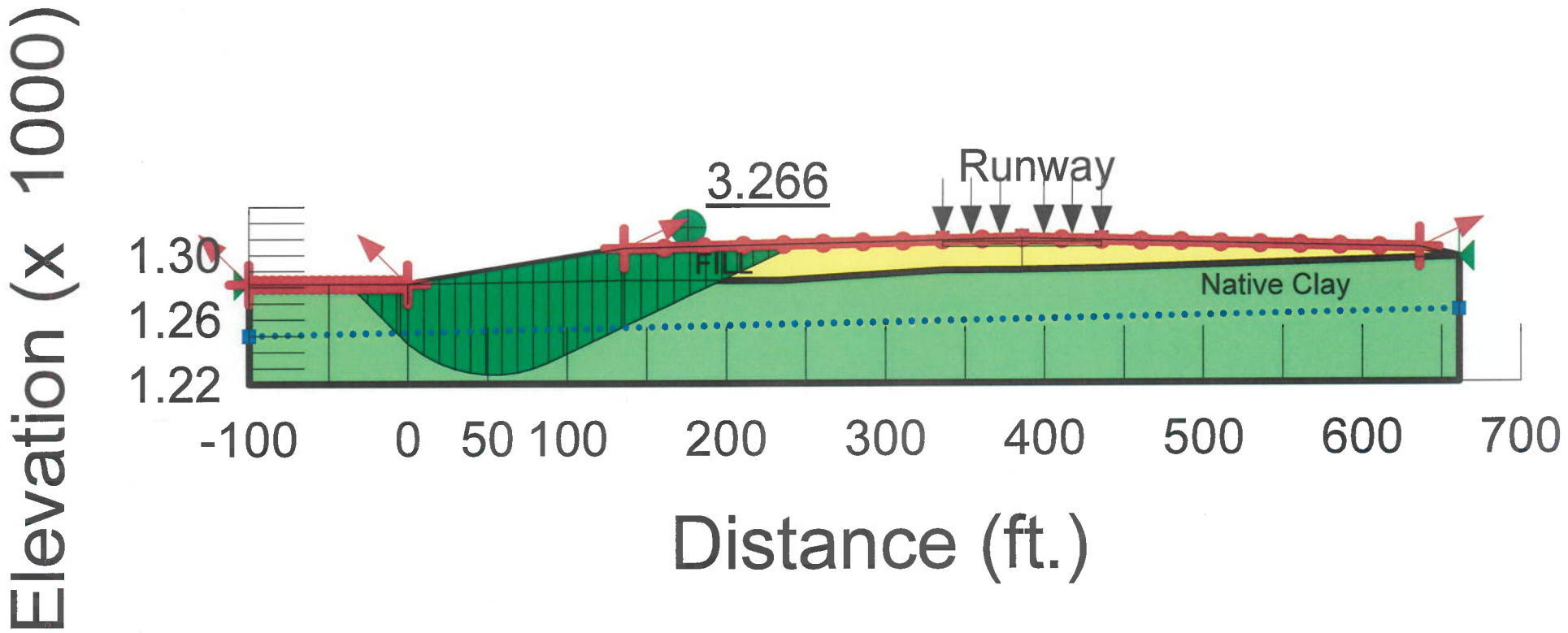
Material Properties Used:
FILL: Cohesion (drained)= 100 psf; Total Unit Wt.= 120 pcf; Phi: 28 deg.
Native Clay: Cohesion (drained)= 50 psf; Total Unit Weight= 120 pcf; Phi: 26 deg



Monett Regional Airport Improvements
Slope Stability Analysis, Section C-C, Left Slope
Depth of FILL: 20 ft. Boring: B-28

Material Model: Mohr-Coulomb . Analysis Type: Drained

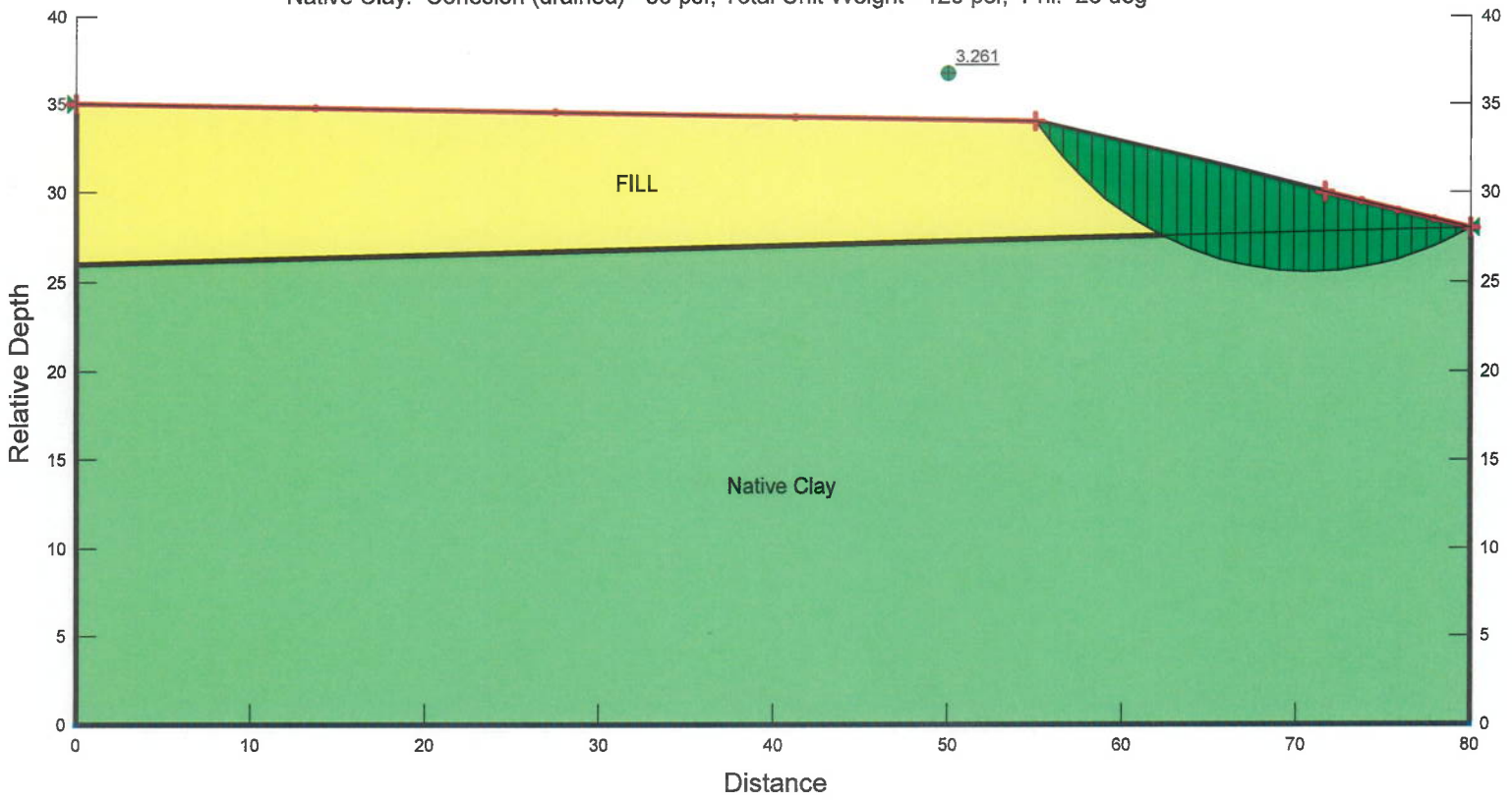
Material Properties Used:
FILL: Cohesion (drained)= 100 psf; Total Unit Wt.= 120 pcf; Phi: 28 deg.
Native Clay: Cohesion (drained)= 50 psf; Total Unit Weight= 120 pcf; Phi: 26 deg
Runway Pavement: C= 10000 psf, Unit Wt.= 150 pcf



Monett Regional Airport Improvements
Slope Stability Analysis, Section C-C, Right Slope
Depth of FILL: 20 ft. Boring: B-28

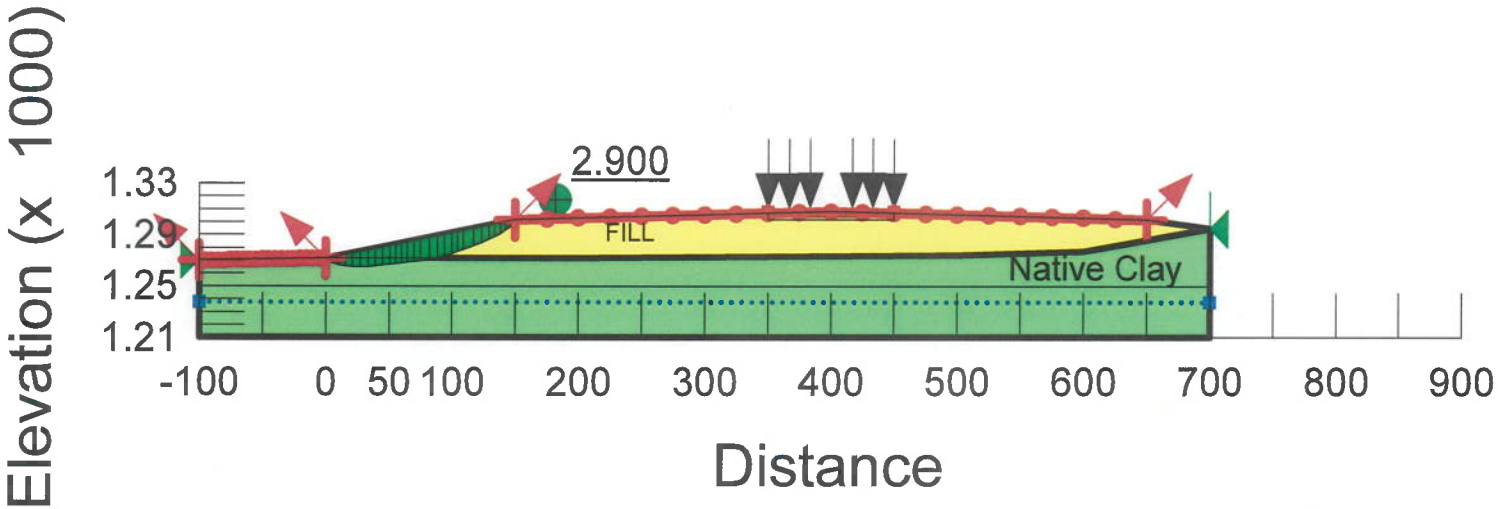
Material Model: Mohr-Coulomb . Analysis Type: Drained

Material Properties Used:
FILL: Cohesion (drained)= 100 psf; Total Unit Wt.= 120 pcf; Phi: 28 deg.
Native Clay: Cohesion (drained)= 50 psf; Total Unit Weight= 120 pcf; Phi: 26 deg



Monett Regional Airport Improvements
Slope Stability Analysis, Left Slope
Depth of FILL: 35 ft. Boring: B-28

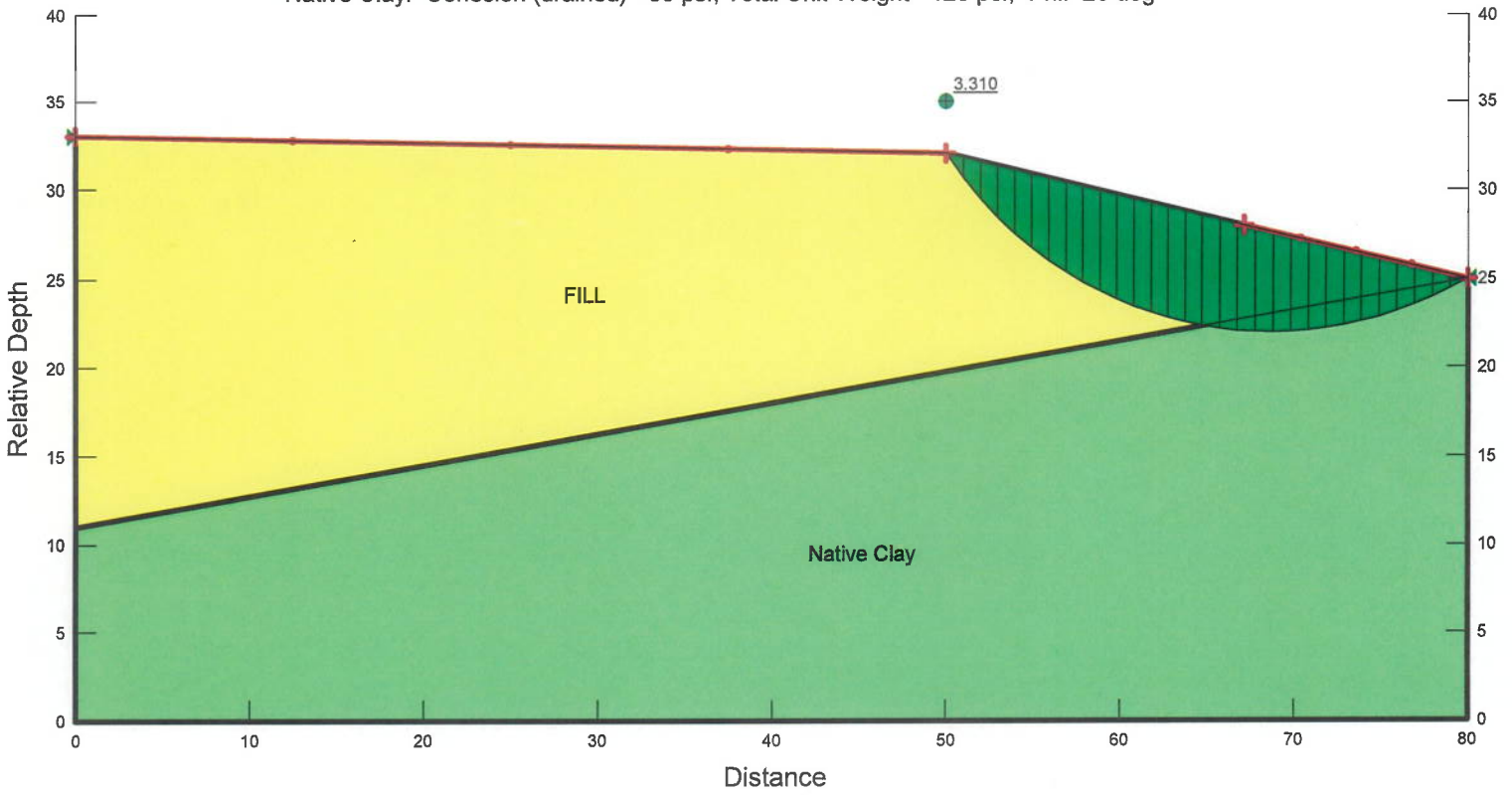
Material Model: Mohr-Coulomb . Analysis Type: Drained
Material Properties Used:
FILL: Cohesion (drained)= 100 psf; Total Unit Wt.= 120 pcf; Phi: 28 deg.
Native Clay: Cohesion (drained)= 50 psf; Total Unit Weight= 120 pcf; Phi: 26 deg
Runway Pavement: C= 10000 psf, Unit Wt.= 150 pcf



Monett Regional Airport Improvements
Slope Stability Analysis, Right Slope
Depth of FILL: 35 ft. Boring: B-28

Material Model: Mohr-Coulomb . Analysis Type: Drained

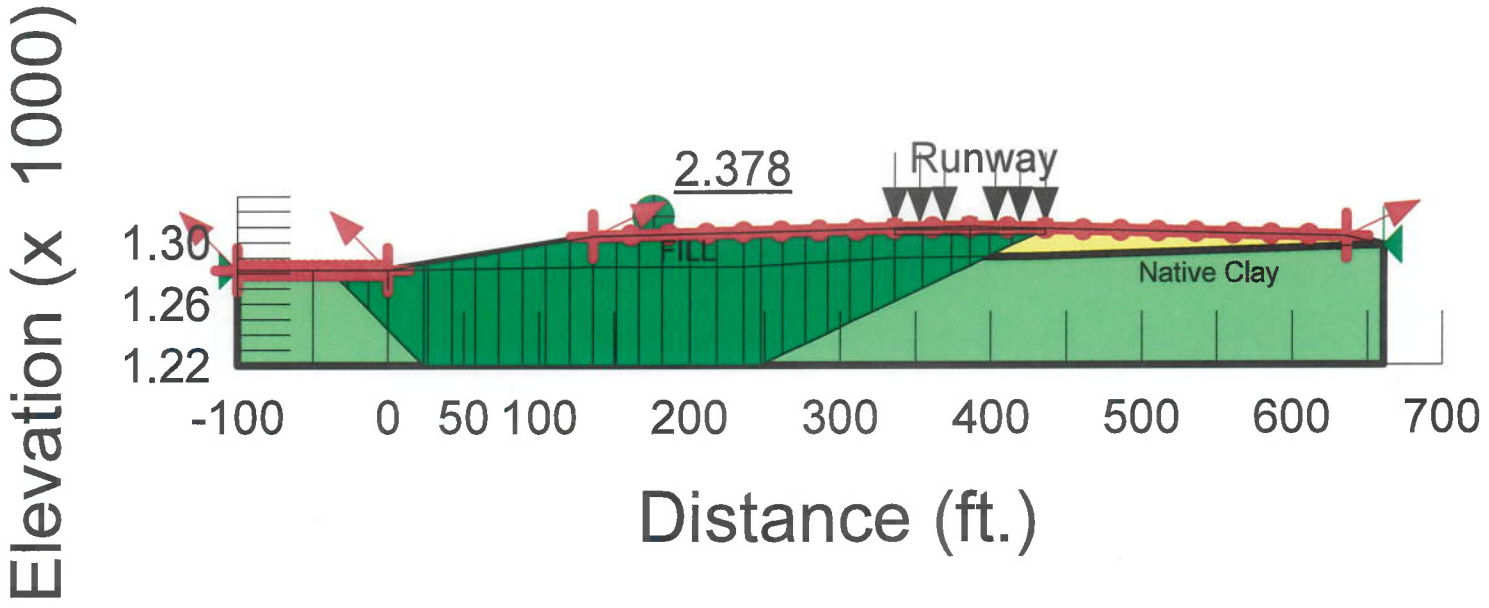
Material Properties Used:
FILL: Cohesion (drained)= 100 psf; Total Unit Wt.= 120 pcf; Phi: 28 deg.
Native Clay: Cohesion (drained)= 50 psf; Total Unit Weight= 120 pcf; Phi: 26 deg



Monett Regional Airport Improvements
Slope Stability Analysis, Section C-C, Left Slope
Depth of FILL: 20 ft. Boring: B-26

Material Model: Mohr-Coulomb . Analysis Type: Undrained

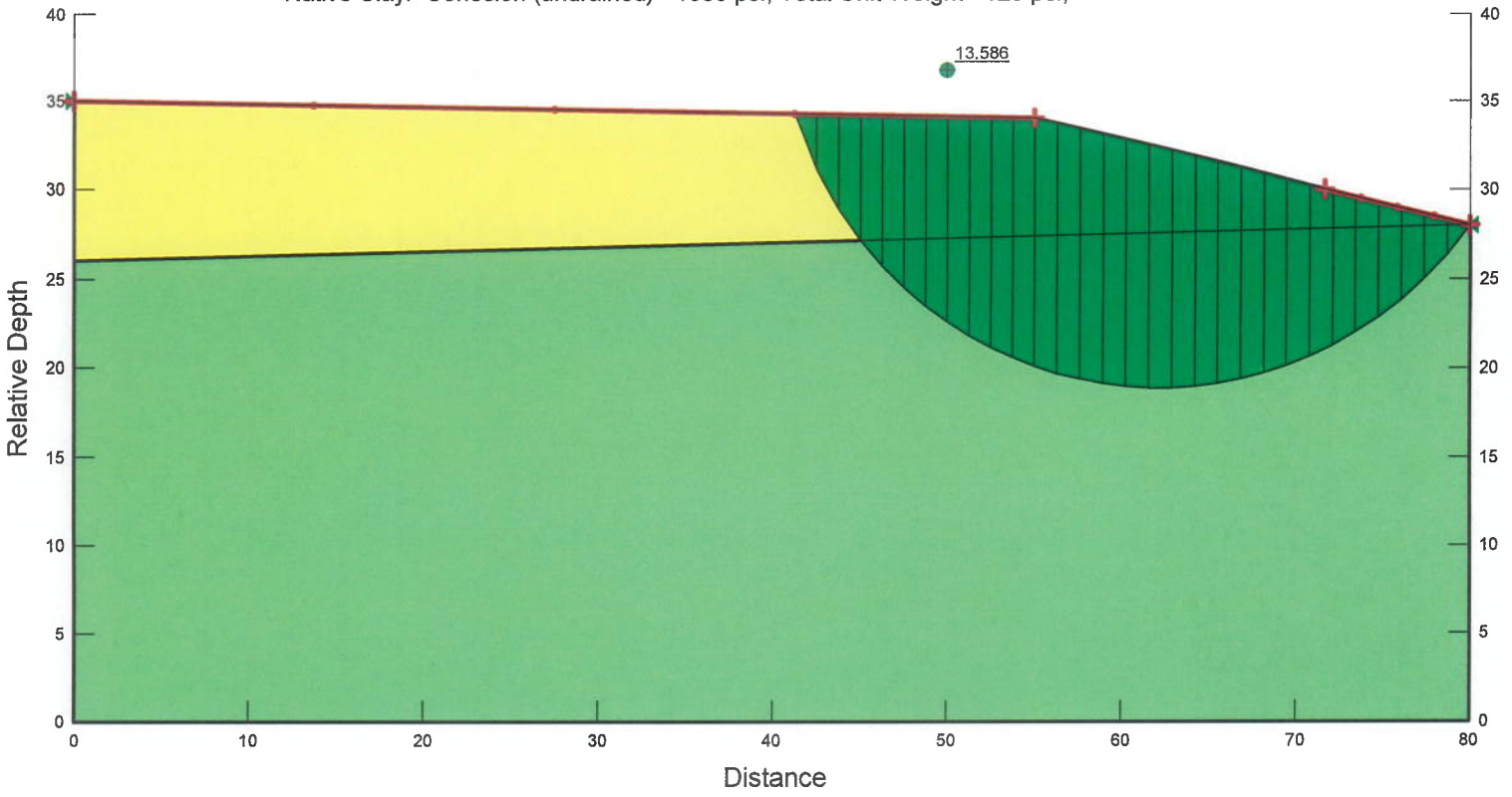
Material Properties Used:
FILL: Cohesion (undrained)= 1000 psf; Total Unit Wt.= 120 pcf
Native Clay: Cohesion (undrained)= 1500 psf; Total Unit Weight= 125 pcf;
Runway Pavement: C= 10000 psf, Unit Wt.= 150 pcf



Monett Regional Airport Improvements
Slope Stability Analysis, Section C-C, Right Slope
Depth of FILL: 20 ft. Boring: B-26

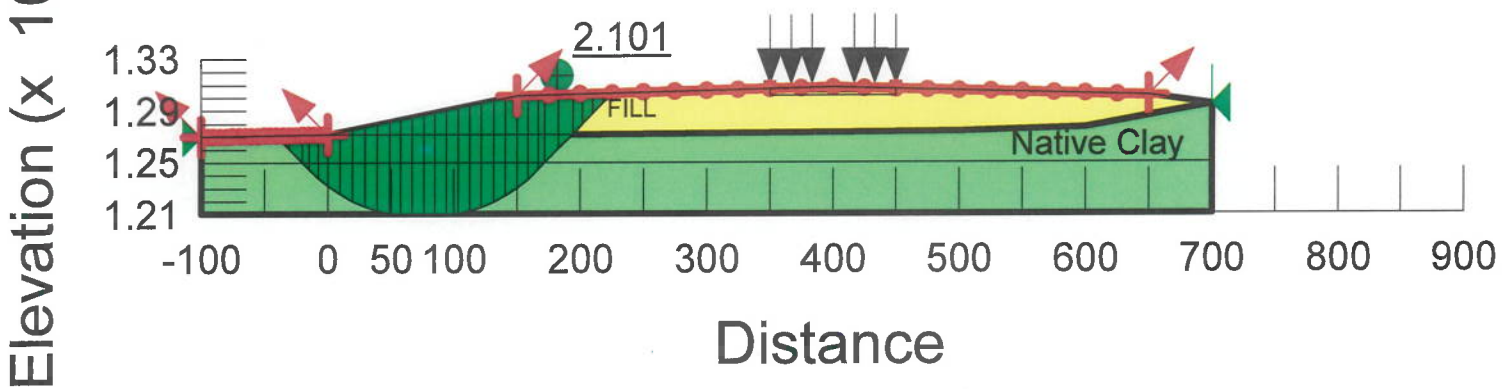
Material Model: Mohr-Coulomb . Analysis Type: Undrained

Material Properties Used:
FILL: Cohesion (undrained)= 1000 psf; Total Unit Wt.= 120 pcf;
Native Clay: Cohesion (undrained)= 1500 psf; Total Unit Weight= 125 pcf;



Monett Regional Airport Improvements
Slope Stability Analysis, Left Slope
Depth of FILL: 35 ft. Boring: B-26

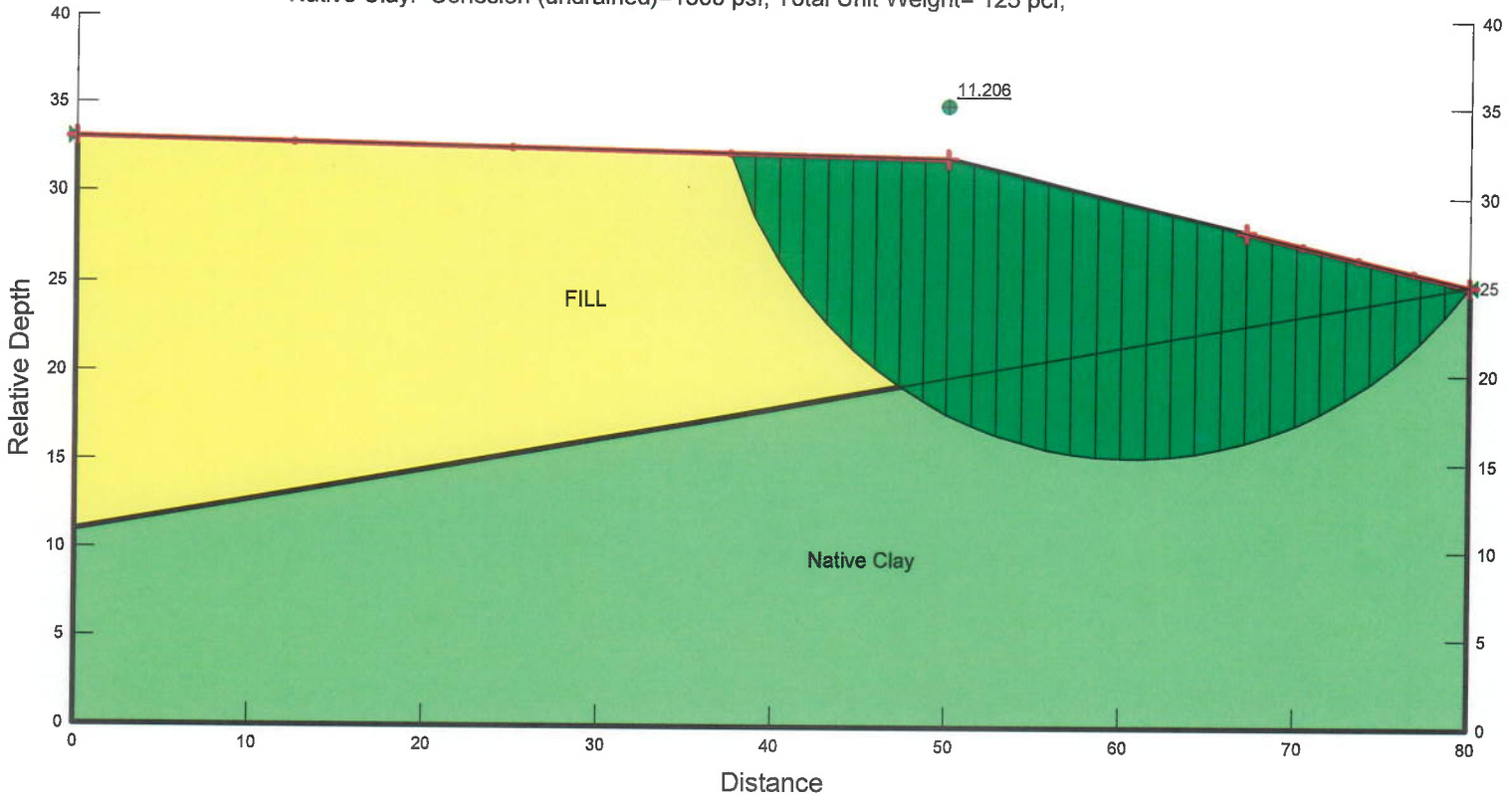
Material Model: Mohr-Coulomb . Analysis Type: Undrained
Material Properties Used:
FILL: Cohesion (undrained)= 1000 psf; Total Unit Wt.= 120 pcf;
Native Clay: Cohesion (undrained)= 1500 psf; Total Unit Weight= 120 pcf;
Runway Pavement: C= 10000 psf, Unit Wt.= 150 pcf



Monett Regional Airport Improvements
Slope Stability Analysis, Right Slope
Depth of FILL: 35 ft. Boring: B-26

Material Model: Mohr-Coulomb . Analysis Type: Undrained

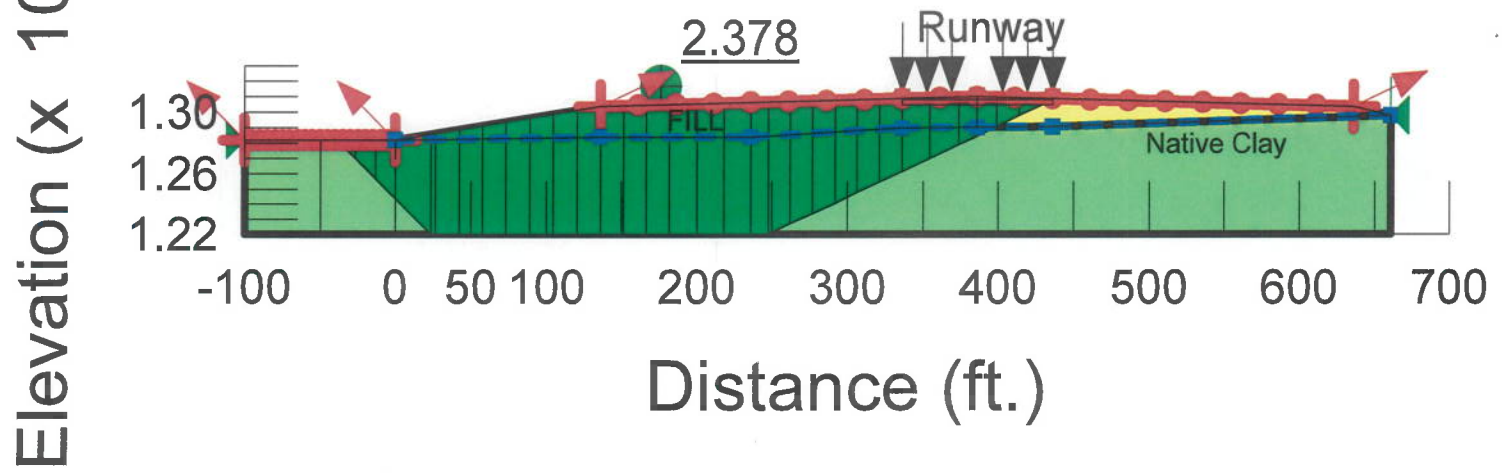
Material Properties Used:
FILL: Cohesion (undrained)= 1000 psf; Total Unit Wt.= 120 pcf
Native Clay: Cohesion (undrained)=1500 psf; Total Unit Weight= 125 pcf;



Monett Regional Airport Improvements
Slope Stability Analysis, Section C-C, Left Slope
Depth of FILL: 20 ft. Boring: B-27

Material Model: Mohr-Coulomb . Analysis Type: Undrained

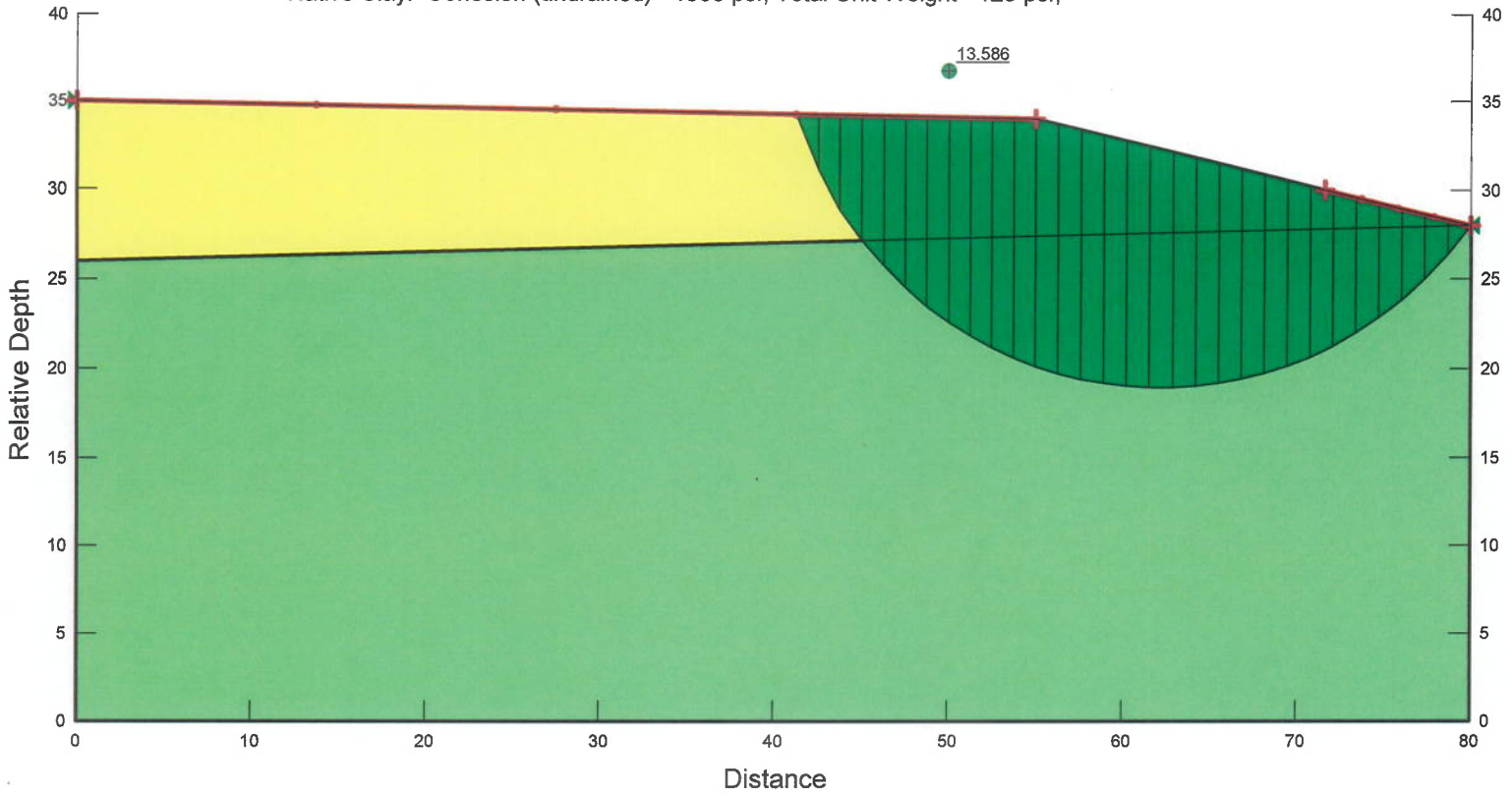
Material Properties Used:
FILL: Cohesion (undrained)= 1000 psf; Total Unit Wt.= 120 pcf
Native Clay: Cohesion (undrained)= 1500 psf; Total Unit Weight= 125 pcf;
Runway Pavement: C= 10000 psf, Unit Wt.= 150 pcf



Monett Regional Airport Improvements
Slope Stability Analysis, Section C-C, Right Slope
Depth of FILL: 20 ft. Boring: B-27

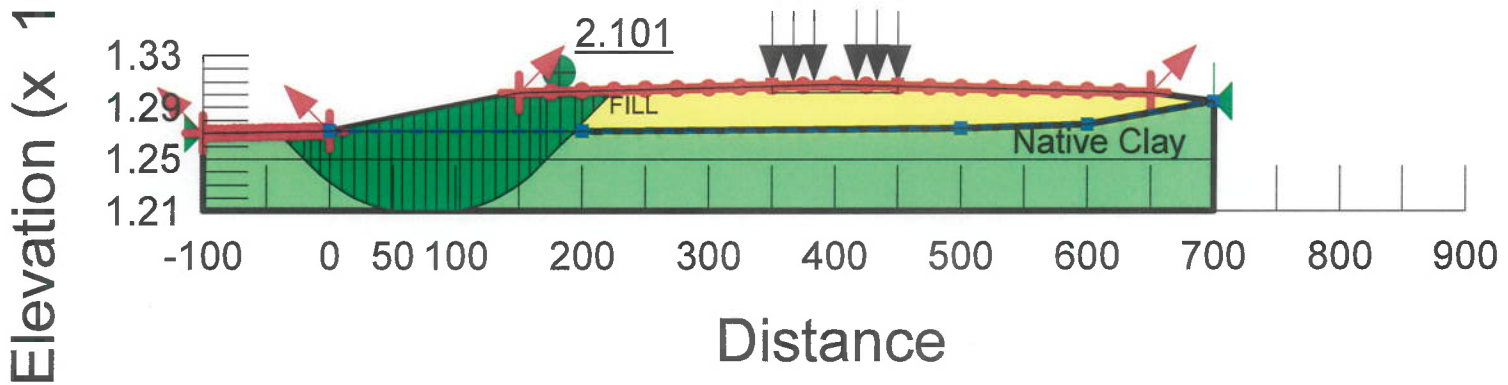
Material Model: Mohr-Coulomb . Analysis Type: Undrained

Material Properties Used:
FILL: Cohesion (undrained)= 1000 psf; Total Unit Wt.= 120 pcf;
Native Clay: Cohesion (undrained)= 1500 psf; Total Unit Weight= 125 pcf;



Monett Regional Airport Improvements
Slope Stability Analysis, Left Slope
Depth of FILL: 35 ft. Boring: B-27

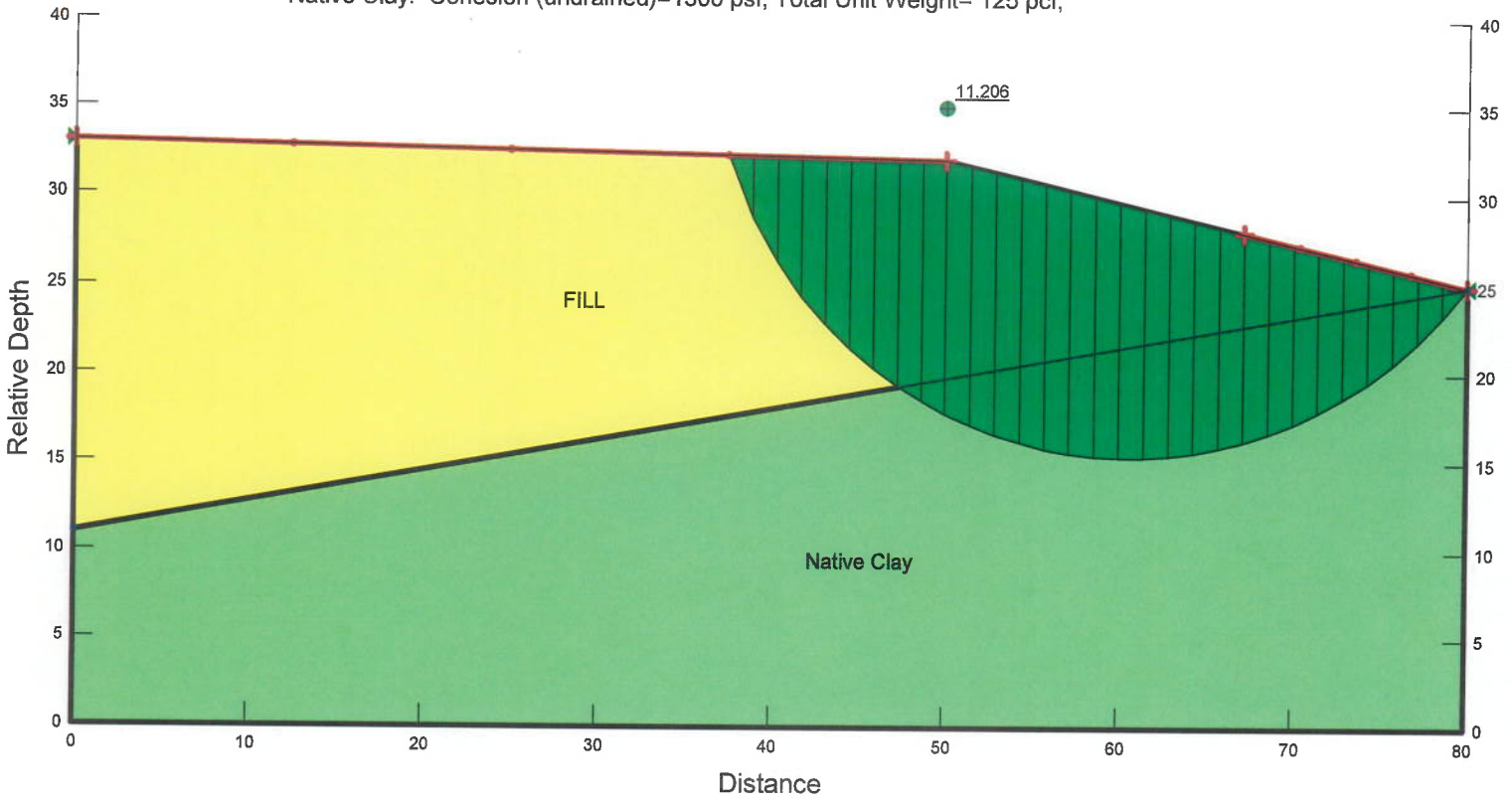
Material Model: Mohr-Coulomb . Analysis Type: Undrained
Material Properties Used:
FILL: Cohesion (undrained)= 1000 psf; Total Unit Wt.= 120 pcf;
Native Clay: Cohesion (undrained)= 1500 psf; Total Unit Weight= 120 pcf;
Runway Pavement: C= 10000 psf, Unit Wt.= 150 pcf



Monett Regional Airport Improvements
Slope Stability Analysis, Right Slope
Depth of FILL: 35 ft. Boring: B-27

Material Model: Mohr-Coulomb . Analysis Type: Undrained

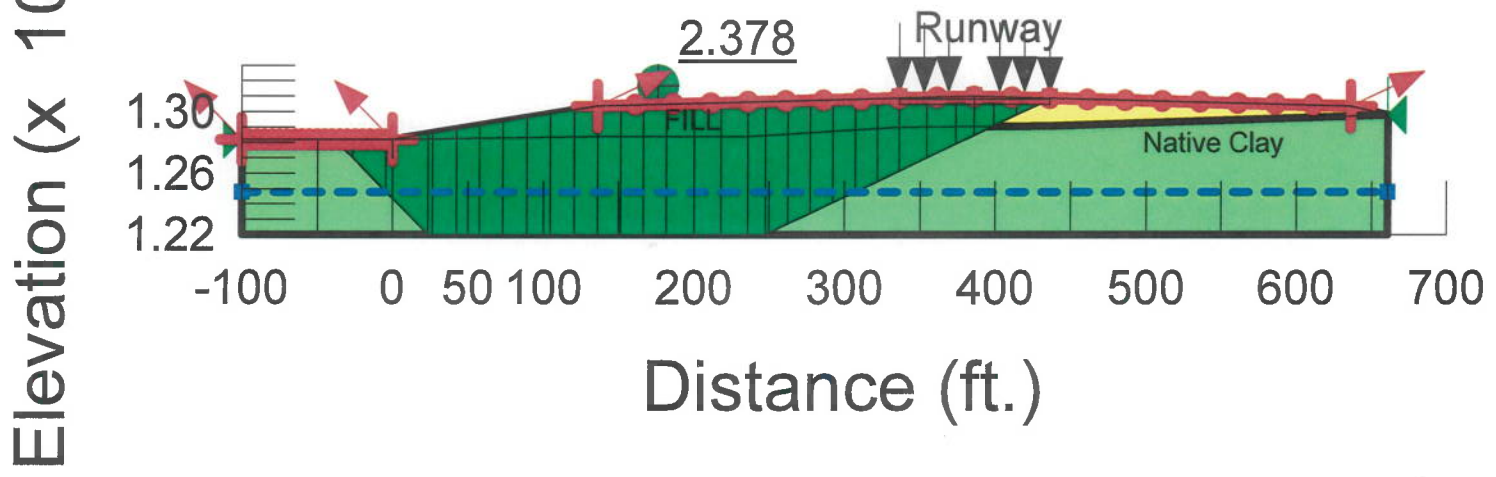
Material Properties Used:
FILL: Cohesion (undrained)= 1000 psf; Total Unit Wt.= 120 pcf
Native Clay: Cohesion (undrained)=1500 psf; Total Unit Weight= 125 pcf;



Monett Regional Airport Improvements
Slope Stability Analysis, Section C-C, Left Slope
Depth of FILL: 20 ft. Boring: B-28

Material Model: Mohr-Coulomb . Analysis Type: Undrained

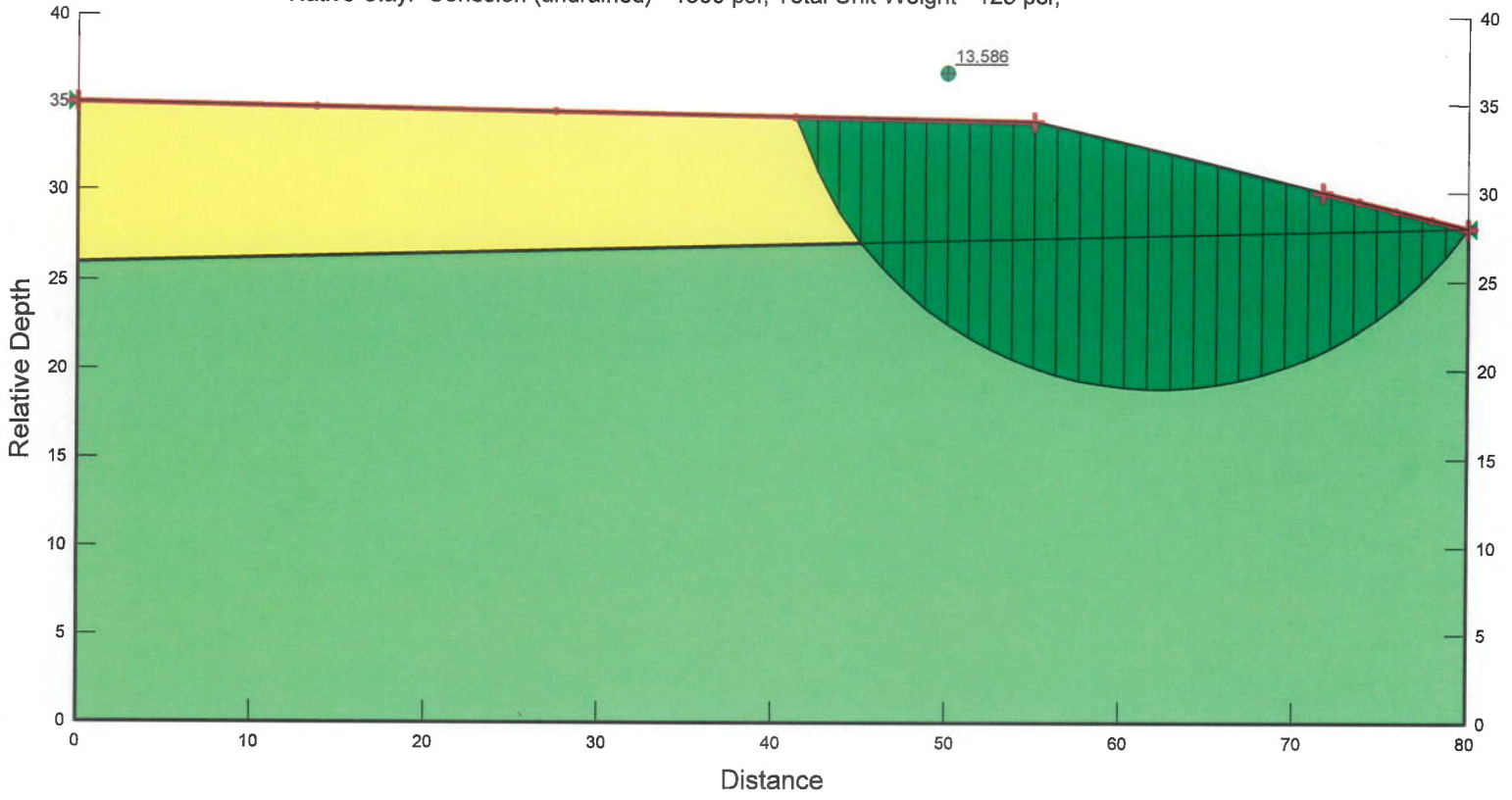
Material Properties Used:
FILL: Cohesion (undrained)= 1000 psf; Total Unit Wt.= 120 pcf
Native Clay: Cohesion (undrained)= 1500 psf; Total Unit Weight= 125 pcf;
Runway Pavement: C= 10000 psf, Unit Wt.= 150 pcf



Monett Regional Airport Improvements
Slope Stability Analysis, Section C-C, Right Slope
Depth of FILL: 20 ft. Boring: B-28

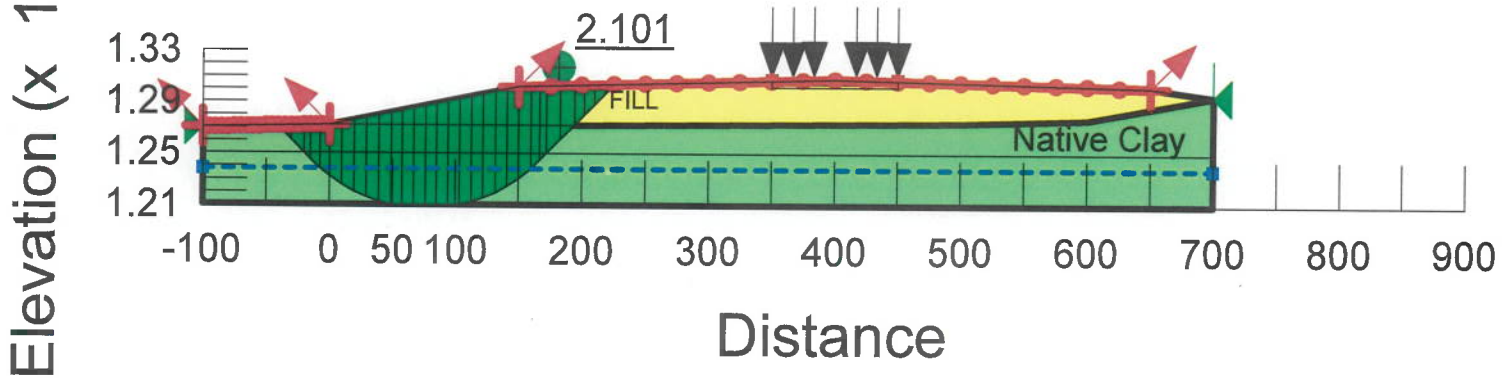
Material Model: Mohr-Coulomb . Analysis Type: Undrained

Material Properties Used:
FILL: Cohesion (undrained)= 1000 psf; Total Unit Wt.= 120 pcf;
Native Clay: Cohesion (undrained)= 1500 psf; Total Unit Weight= 125 pcf;



Monett Regional Airport Improvements
Slope Stability Analysis, Left Slope
Depth of FILL: 35 ft. Boring: B-28

Material Model: Mohr-Coulomb . Analysis Type: Undrained
Material Properties Used:
FILL: Cohesion (undrained)= 1000 psf; Total Unit Wt.= 120 pcf;
Native Clay: Cohesion (undrained)= 1500 psf; Total Unit Weight= 120 pcf;
Runway Pavement: C= 10000 psf, Unit Wt.= 150 pcf



Monett Regional Airport Improvements
Slope Stability Analysis, Right Slope
Depth of FILL: 35 ft. Boring: B-28

Material Model: Mohr-Coulomb . Analysis Type: Undrained

Material Properties Used:
FILL: Cohesion (undrained)= 1000 psf; Total Unit Wt.= 120 pcf
Native Clay: Cohesion (undrained)=1500 psf; Total Unit Weight= 125 pcf;