



J. Soils and Geology Report

For

Williams Creek Generating Station



ENTECH
ENGINEERING, INC.

505 ELKTON DRIVE
COLORADO SPRINGS, CO 80907
PHONE (719) 531-5599

**SOILS AND GEOLOGY STUDY
CSU – WILLIAMS CREEK PLANT
EL PASO COUNTY, COLORADO**



Prepared for:
Vertex Consulting Services
5825 Delmonico Drive, Suite 320
Colorado Springs, Colorado 80919

Attn: Craig Dossey

September 23, 2026

Entech Job No. 261095

PCD No. _____

Table of Contents

1	SUMMARY.....	1
2	GENERAL SITE CONDITIONS AND PROJECT DESCRIPTION	2
3	SCOPE OF THE REPORT	3
4	FIELD INVESTIGATION	3
5	SOIL, GEOLOGY, AND ENGINEERING GEOLOGY.....	4
5.1	General Geology.....	4
5.2	Soil Conservation Survey.....	4
5.3	Site Stratigraphy	6
5.4	Soil Conditions.....	7
5.5	Groundwater.....	8
6	ENGINEERING GEOLOGY – IDENTIFICATION AND MITIGATION OF GEOLOGIC HAZARDS	9
6.1	Geologic Hazards.....	9
6.1.1	Artificial Fill – Constraint.....	9
6.1.2	Collapsible Soils – Constraint.....	9
6.1.3	Potentially Expansive Soils – Constraint	10
6.1.4	Slope Stability and Landslide Susceptibility – Hazard	10
6.1.5	Areas of Erosion – Constraint	10
6.1.6	Shallow Bedrock – Constraint	11
6.1.7	Groundwater and Floodplain Areas – Constraint.....	11
6.1.8	Radon – Hazard.....	14
6.2	Relevance of Geologic Conditions to Land Use Planning	14
7	ECONOMIC MINERAL RESOURCES	15
8	EROSION CONTROL	16
9	ROADWAY AND EMBANKMENT CONSTRUCTION RECOMMENDATIONS.....	17
10	CLOSURE.....	17
11	REFERENCES.....	19

FIGURES

Figure 1: Vicinity Map

Figure 2: Site and Exploration Map

Figure 3: Geology/Engineering Geology Map

APPENDIX A: Site Photographs

APPENDIX B: Preliminary Geotechnical Report, Entech Job No. 261095

APPENDIX C: OWTS Site Evaluation, Entech Job No. 261095

APPENDIX D: Infiltration Letter, Entech Job No. 261095

APPENDIX E: Soil Survey Descriptions

1 SUMMARY

Project Location and Project Description

The site is located approximately 3 miles southeast of the town of Fountain, Colorado. The project site is located northwest of Irradiance Road and Williams Creek Road, as shown on the Vicinity Map (Figure 1). The project will consist of the construction of the new Williams Creek Plant in El Paso County, Colorado. The site is generally surrounded by undeveloped land, existing solar fields, and Calhan Reservoir to the west. We understand that the power plant infrastructure will include multiple structures and ponds as listed below:

- Individual Exhaust Tanks
- GCU Transfers
- Dead End Towers
- Water Storage Tanks
- Wastewater Treatment Facility
- Ponds
- Related Structures
- Control Building
- OWTS

Scope of Report

This report presents the results of our geologic evaluation and treatment of engineering geologic hazard study.

Land Use and Engineering Geology

This site was found to be suitable for the proposed construction. Areas were encountered where the geologic conditions will impose some minor constraints on development and land use. These include artificial fill, expansive soils, potentially seasonal shallow groundwater areas, shallow bedrock, and the potential for elevated radon levels. Based on the proposed development plan, it appears that these conditions will have some impact on the development. These conditions will be discussed in greater detail in the report.

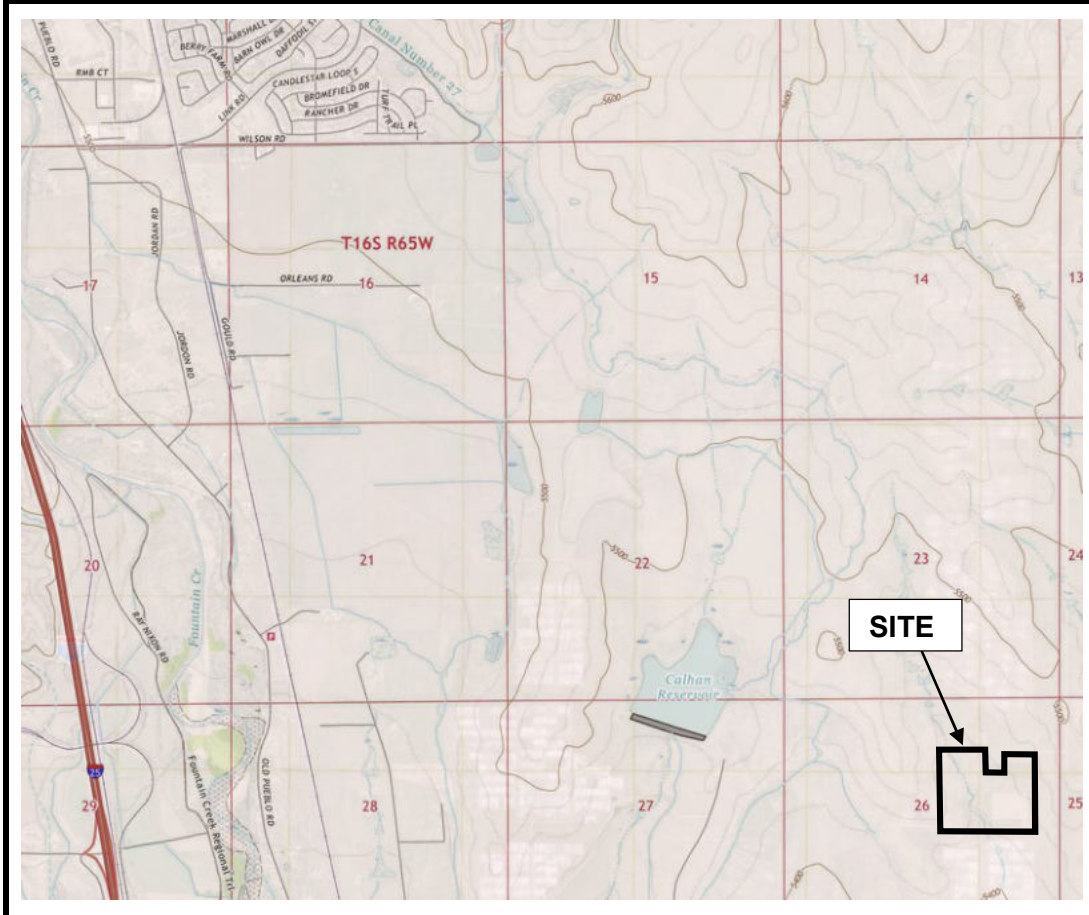
Based on the results of our investigation, it is our opinion that the site development can be achieved if the observed geologic conditions on-site are properly mitigated. All recommendations are subject to the limitations discussed in the report.

2 GENERAL SITE CONDITIONS AND PROJECT DESCRIPTION

The site is located in portions of the NE¼ of Section 26, Township 16 South, Range 65 West of the 6th Principal Meridian in El Paso County, Colorado. The site is located approximately 3 miles southeast of the town of Fountain, Colorado. The site boundaries are indicated on the USGS Map, Exhibit 1.

Exhibit 1: USGS Topographic Map

Fountain Quadrangle – 2022



The site was mostly undeveloped and vegetated with field grasses, weeds, cacti, and sagebrush. An existing substation was located in the southeast corner of the site, as well as overhead electrical lines associated with the existing substation and adjacent solar fields. The existing topography generally slopes towards a drainage running north-to-south through the center of the site. The drainage is a tributary of Williams Creek and was dry at the time of our site observations. The site was generally surrounded by undeveloped land, existing solar fields to the north and

south, Calhan Reservoir to the northwest, and Williams Creek to the east of the site. The proposed plant pad site was previously used as a laydown area for previous construction. Site photographs, taken September 10, 2026, are included in Appendix A. Proposed grading is shown on the Site and Exploration Map, Figure 2.

3 SCOPE OF THE REPORT

The scope of the report includes a general geologic analysis utilizing published geologic data. Detailed site-specific mapping will be conducted to obtain general information with respect to major geographic and geologic features, geologic descriptions, and their effects on the development of the property.

4 FIELD INVESTIGATION

Our field investigation consisted of the preparation of a geologic map of any bedrock features and significant surficial deposits. The Natural Resource Conservation Service (NRCS), previously the Soil Conservation Service (SCS), survey was also reviewed to evaluate the site. The position of mappable units within the subject property is shown on the Geologic Map. Our mapping procedures involved both field reconnaissance and measurements and air photo reconnaissance and interpretation. The same mapping procedures have also been utilized to produce the Geology/Engineering Geology Map, which identifies pertinent geologic conditions affecting development. The field mapping was completed by personnel of Entech Engineering, Inc. on September 10, 2026.

Entech has prepared the following reports for the proposed site development: 1) Preliminary Geotechnical Report, dated August 7, 2026, (Reference 1), which is included in Appendix B; 2) OWTS Site Evaluation, dated July 29, 2026, (Reference 2), which is included in Appendix C; and 3) Preliminary Geotechnical Report – Infiltration Rate Testing, dated August 31, 2026, (Reference 3), which is included in Appendix D. These reports were used in preparing this Soils and Geology Study.

Subsurface conditions at the project site were explored by 11 test borings, designated TB-1 through TB-11, drilled on June 17, 2026, June 18, 2026, and July 28, 2026, at the approximate locations shown on the Site and Exploration Plan (Figure 2). Borings were drilled to depths of 20 feet. The drilling was performed using a truck-mounted, continuous flight auger drill rig supplied and operated by Entech. Descriptive boring logs providing the lithologies of the subsurface

conditions encountered during drilling are presented in Appendix B. Groundwater levels were measured in each of the open boreholes at the conclusion of, and subsequent to, drilling.

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

5 SOIL, GEOLOGY, AND ENGINEERING GEOLOGY

5.1 General Geology

The site lies in the western portion of the Great Plains Physiographic Province. A major structural feature known as the Ute Pass Fault lies approximately 12 miles to the northwest. This fault marks the boundary between the Great Plains Physiographic Province and the Southern Rocky Mountain Province. The site exists within the southern edge of a large structural feature known as the Denver Basin. Bedrock in the area tends to be very gently dipping in a northeasterly direction (Reference 4). The rocks in the area of the site are sedimentary in nature and typically Cretaceous in age. The bedrock underlying the site consists of the Pierre Shale Formation of Cretaceous Age. The Pierre Shale Formation typically consists of claystone and shale bedrock. Overlying this formation are variable layers of alluvial deposits, residual soil, and man-placed fill. The residual soils were derived from the in-situ weathering of the bedrock materials on-site. These soils consisted of clay. The fill is primarily associated with erosion berms along the drainage in the central portion of the site. The site's stratigraphy will be discussed in more detail in Section 5.3.

5.2 Soil Conservation Survey

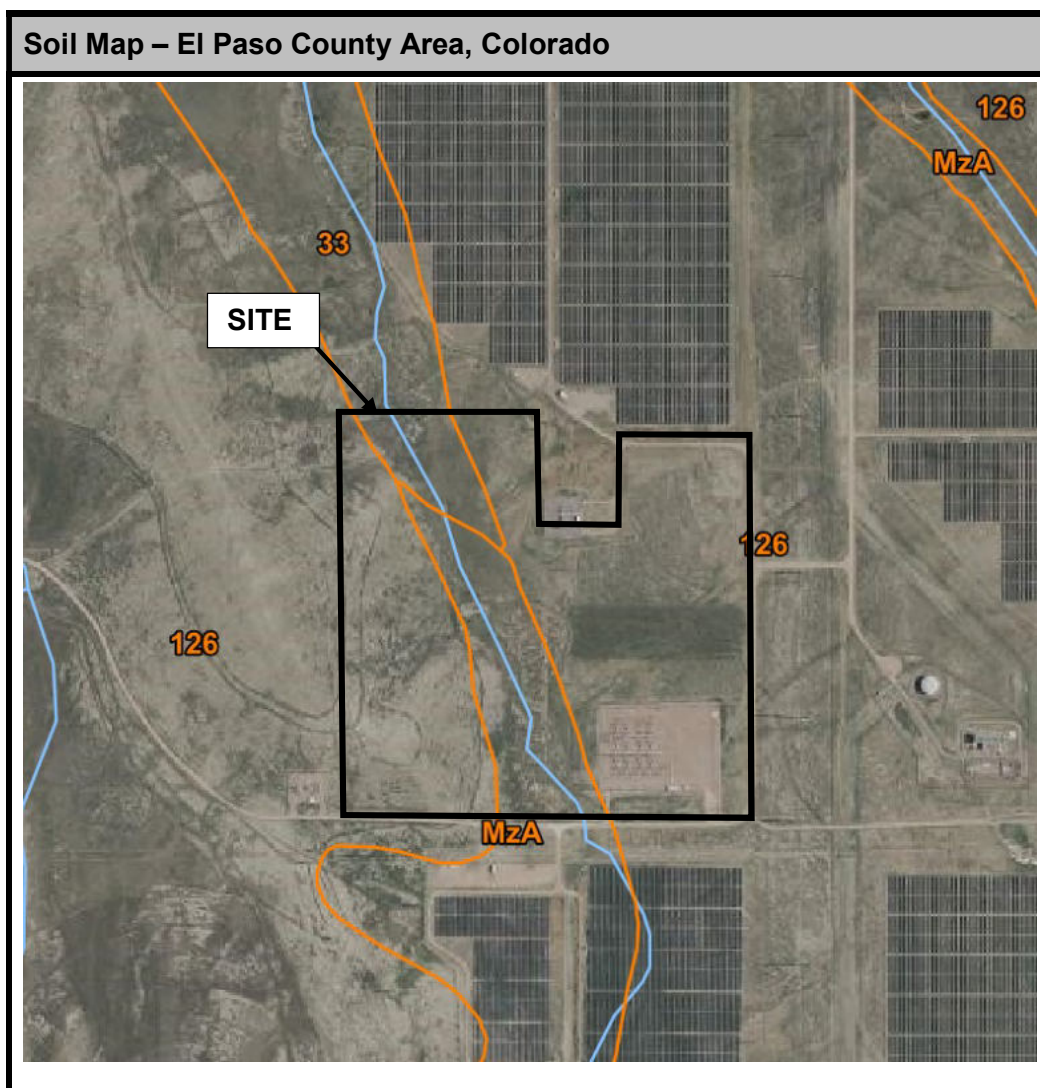
The Natural Resource Conservation Service, previously the Soil Conservation Service, has mapped three soil types on the site (References 5 and 6). In general, the soils classify as clay

loam and silty clay loam. The soils are described below in Exhibit 2, and the soil map is included in Exhibit 3.

Exhibit 2: Soil Survey Descriptions

Type	Description
33	Heldt clay loam, 0% to 3% slopes
126	Midway clay loam, 1% to 15% slopes
MzA	Manzanola silty clay loam, saline, 0% to 2% slopes

Exhibit 3: USDA – Web Soil Survey



Complete descriptions of each soil type are presented in Appendix E. The soils have generally been described as having moderately low to moderately high permeability. Possible hazards with soil erosion are present on the site. The erosion potential can be controlled with vegetation. The majority of the soils have been described to have moderate erosion hazards

5.3 Site Stratigraphy

The Fountain Quadrangle Geology Map showing the site is presented in Exhibit 4 (Reference 7). The Geology Map prepared for the site is presented in Figure 3. Three mappable units were identified on this site, which are described as follows:

- Qaf Artificial Fill of Holocene Age:** These are man-made fill deposits associated with the erosion berms and earthen embankments along the drainage on the site and fill in the area of the existing substation. Other areas of fill may be encountered that are not indicated on the map.
- Qav Valley-fill Alluvium of Holocene Age:** These are recent alluvial deposits along the low broad valleys in the area. These materials typically consist of sandy to silty clays with some shale, ironstone, and limestone clasts derived from the weathering of the nearby Pierre Shale.
- Qc/Kp Colluvium of Quaternary Age Overlying the Pierre Shale of Cretaceous Age:** These materials consist of colluvial or residual soils overlying the bedrock materials on-site. The colluvium was deposited by the action of sheetwash and gravity. The residual soils were derived from the in-situ weathering of the bedrock materials. The bedrock underlying this site consists of olive brown to gray claystone and shale. These are marine deposits associated with the Cretaceous Seaway. They are typically expansive.

The soils listed above were mapped from site-specific mapping, the *Geologic Map of the Fountain Quadrangle* distributed by the Colorado Geological Survey in 2017 (Reference 7), the *Geologic Map of the Colorado Springs-Castle Rock Area*, distributed by the US Geological Survey in 1979 (Reference 8), and the *Geologic Map of the Pueblo 1° x 2° Quadrangle*, distributed by the US Geological Survey in 1978 (Reference 9). The test borings were also used in evaluating the site and are included in Appendix B. The Geology/Engineering Geology Map prepared for the site is presented in Figure 3.

sample of slightly sandy clay fill resulted in a volume change of 0.4%, indicating a low expansion potential. However, clay soils in the project area typically exhibit a moderate to high expansion potential.

Soil Type 2 classified as native stiff to hard clay with sand to slightly sandy clay (CL). The native clay was encountered in all borings underlying 6 to 12 inches of topsoil, or Soil Type 1 in boring TB-7. The clays extended to depths of 3 to 17 feet bgs where Soil Type 3 was encountered, or to the termination depths of borings TB-2 and TB-3 at a depth of 20 feet bgs. One-dimensional swell/collapse testing on samples of native clay resulted in volume changes of -1.7% to 5.0%, indicating moderate to high collapse and very high expansion potential.

Soil Type 3 classified as claystone bedrock, or hard, slightly sandy clay (CL) when classified as a soil. Claystone was encountered in borings TB-1, TB-2, and TB-5 through TB-11 underlying Soil Type 2 at depths of 3 to 17 feet bgs and extended to the termination depth of the borings at 20 feet bgs. One-dimensional swell/collapse testing on samples of claystone bedrock resulted in volume changes of -0.8% to 1.1%, indicating a low to moderate collapse and expansion potential. Claystone bedrock in the project area typically exhibits a high expansion potential.

5.5 Groundwater

Depth to groundwater was measured in the borings at the conclusion of, and subsequent to, drilling. Groundwater was encountered in boring TB-4 at a depth of 17.5 feet bgs. All other test borings were dry during drilling and when measured subsequent to drilling. It should be noted that groundwater levels could change due to seasonal variations, changes in land runoff characteristics, and future development of nearby areas.

6 ENGINEERING GEOLOGY – IDENTIFICATION AND MITIGATION OF GEOLOGIC HAZARDS

Detailed mapping has been performed on this site to produce the Engineering Geology Map, Figure 3. This map shows the location of various geologic conditions the land developer should consider during the planning, design, and construction stages of the project. These hazards and the recommended mitigation techniques are as follows:

6.1 Geologic Hazards

6.1.1 Artificial Fill – Constraint

These are areas of man-placed fill associated with existing erosion berms across the site and along the drainage in the central portion of the site. Areas of artificial fill other than those mapped may exist on the site. Any artificial fill encountered on-site is considered uncontrolled for construction purposes. It is anticipated that the erosion berms will be removed during the site grading.

Mitigation: Any uncontrolled fill encountered beneath foundations will require removal and recompaction to 95% of the applicable proctor dry density.

6.1.2 Collapsible Soils – Constraint

The majority of the soils encountered on-site do not exhibit collapsible characteristics; however, some of the fine-grained and dry surficial soils on-site have the potential for settlement upon saturation. One-dimensional swell/collapse testing on samples of the soils and bedrock resulted in collapses of 0.7% to 1.7%, indicating low to moderate collapse potentials.

Mitigation: Should collapsible soils be encountered beneath foundations, removal and recompaction to 95% of the applicable proctor dry density within +/-2% of the optimum moisture content is typically recommended. The depth of removal/recompaction should be determined after additional investigation of each structure site. Roadway areas may also experience movement. Proof rolling and recompaction of soft areas should be performed during site grading.

6.1.3 Potentially Expansive Soils – Constraint

The site is classified in an area of high swell potential according to the *Map of Potentially Swelling Soil and Rock in the Front Range Urban Corridor, Colorado* by Hart, 1974 (Reference 10). Expansive soils were encountered in the test borings drilled on-site with swells ranging from 0.1% to 5%, indicating low to very high swell potentials. Expansive clays and claystone, encountered at foundation grade, can cause differential movement in structures. These occurrences should be identified and mitigated on an individual basis.

Mitigation: Should expansive soils be encountered beneath foundations, mitigation will be necessary. Mitigation of expansive soils will require special foundation design. Overexcavation of 4 to 10 feet and replacement with nonexpansive soils, moisture conditioning, or a combination are suitable mitigations that are common in the area. Floor slabs on expansive soils should be expected to experience movement. Overexcavation and replacement has been successful in minimizing slab movements. The use of structural floors should be considered if movement cannot be tolerated. Final recommendations should be determined after additional investigation of each structure.

6.1.4 Slope Stability and Landslide Susceptibility – Hazard

The existing site grades are relatively flat to gently sloping and do not exhibit signs of any past or potential unstable slopes or landslides. It is recommended that any future grading or fill slopes should be 3:1 or flatter.

6.1.5 Areas of Erosion – Constraint

These are areas that are undergoing erosion by water and sheetwash, producing gullies and rill erosion. The areas of erosion observed on the site are primarily located along the drainage in the central portion of the site and along minor drainage swales across the site.

Mitigation: Due to the nature of the soils on this site, virtually all the soils are subject to erosion by wind and water. Other minor areas of erosion were observed on-site other than those mapped, particularly where some rill erosion has occurred. Areas of erosion can occur across the entire site, particularly if the soils are disturbed during construction. Vegetation reduces the potential for erosion. The areas identified where erosion is actually taking place may require check dams, regrading, and revegetation using channel lining mats to anchor vegetation. Further recommendations for erosion control are discussed under Section 8.0, Erosion Control, of this report. Recommendations pertaining to

revegetation may require input from a qualified landscape architect and/or the Natural Resource Conservation Service (previously Soil Conservation Service).

6.1.6 Shallow Bedrock – Constraint

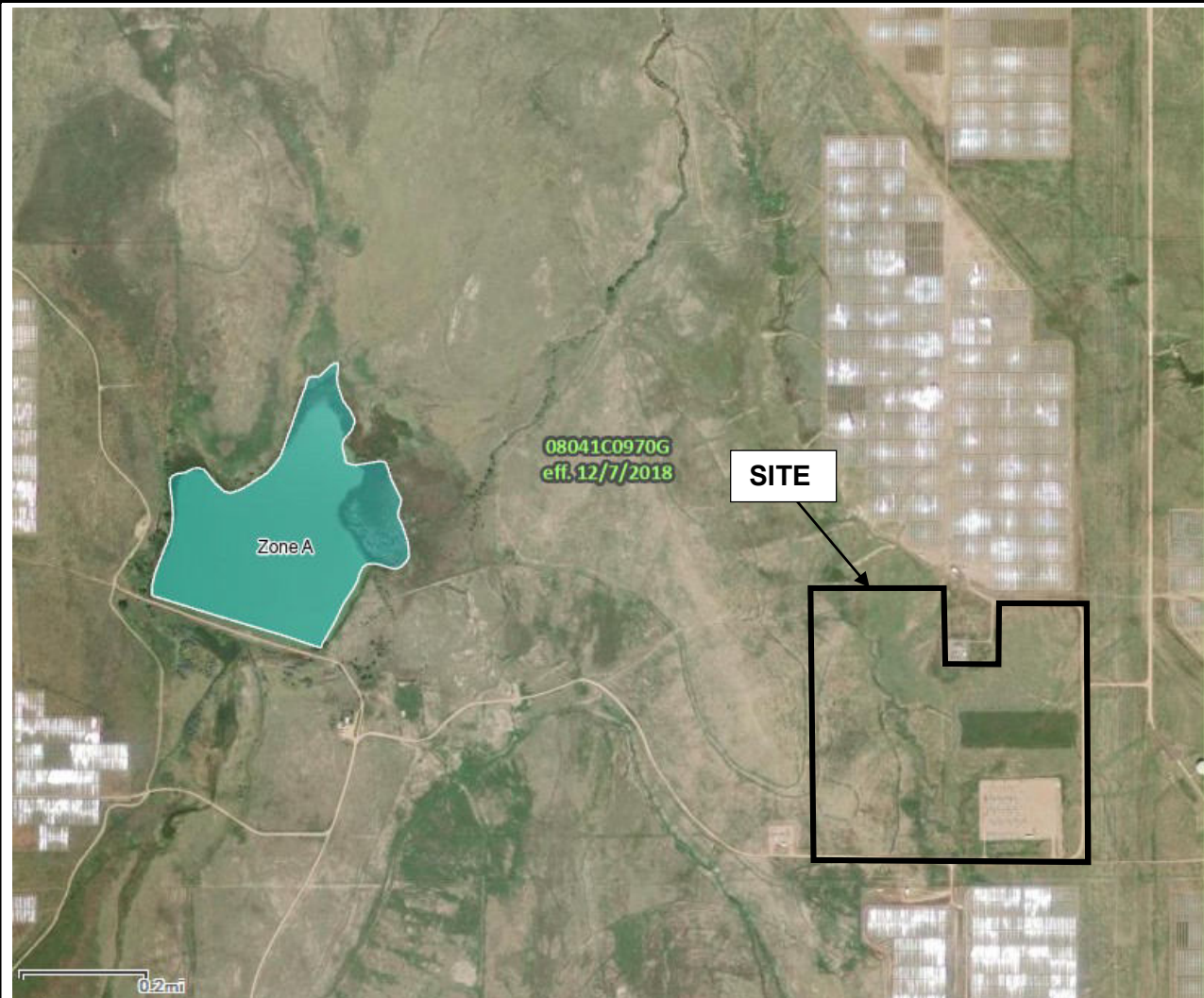
Bedrock was encountered in 9 of the 11 test borings at depths ranging from 3 to 17 feet. The borings were drilled to depths of 20 feet. A Summary of the Depth to Bedrock is included in Table B-1 in Appendix B. Where claystone bedrock is encountered, excavation/grading may be difficult, requiring track-mounted equipment with ripper attachments.

6.1.7 Groundwater and Floodplain Areas – Constraint

A tributary of Williams Creek bisects the central portion of the site. This drainage and minor drainage swales across the site have been identified as areas of potentially seasonal shallow groundwater. The site is not mapped within any floodplains according to FEMA Map No. 08041CO706G, Exhibit 5 (Reference 11). The existing topography generally slopes towards a drainage running north-to-south through the center of the site. Groundwater was encountered in TB-4 at a depth of 17.5 feet bgs. A minimum separation of 3 feet between foundation components and groundwater levels is recommended. Groundwater is not expected to affect the site development.

Exhibit 5: FEMA Flood Map

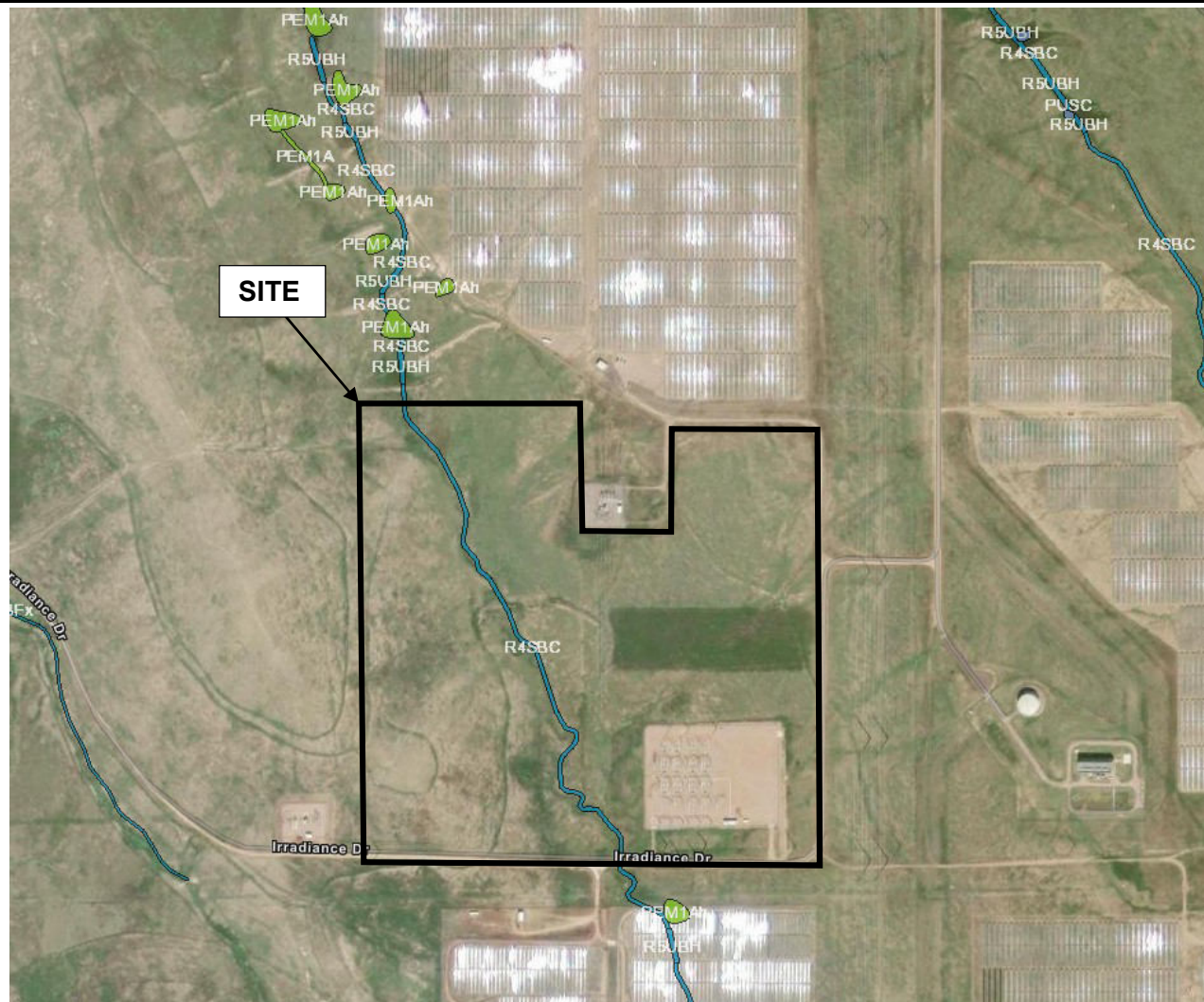
FEMA Map No. 08041C0706G, eff. 12/7/2018



The drainage that bisects the central portion of the site has been included in the National Wetlands Inventory as Freshwater Wetland habitat (Reference 12) and is shown in Exhibit 6. The drainage within the project area is classified as **R4SBA** (R – Riverine, 4 – Intermittent, SB – Streambed, A – Temporarily Flooded).

Exhibit 6: USFWS Wetland Mapper

Wetland Map



Mitigation: Foundations must have a minimum 30-inch depth for frost protection. Subsurface perimeter drains are recommended for structures with any crawlspaces or usable space below grade. Groundwater is not anticipated to affect the construction on the site. Any grading in these areas should be done to direct surface flows around construction to avoid areas of ponded water. Structures should not block drainages. All organic material should be completely removed prior to any fill placement.

6.1.8 Radon – Hazard

Radon levels for the area have been reported by the Colorado Geologic Survey in the open file, Report No. 91-4 (Reference 13). Average Radon levels for the 80817 ZIP code are 3.88 pCi/L. Exhibit 7 is a table of radon levels in this area:

Exhibit 7: Average Radon Levels

Average Radon Levels for the 80817 ZIP Code	
0 < 4 pCi/L	50.00%
4 < 10 pCi/L	50.00%
10 < 20 pCi/L	0.00%
> 20 pCi/L	0.00%

Mitigation: The potential for high radon levels is present for the site. Build-up of radon gas can usually be mitigated by providing increased ventilation of the basement and crawlspace and sealing joints. Testing is recommended for structures that will have extended occupation, such as office areas where workers are present. **Specific requirements for mitigation should be based on site-specific testing.**

6.2 Relevance of Geologic Conditions to Land Use Planning

We understand that the development will consist of a power plant site with moderate to high building loads. It is our opinion that the existing geologic and engineering geologic conditions will impose some constraints on the proposed development and construction. The primary constraints/hazards affecting development are associated with artificial fill, expansive soils, potentially seasonal shallow groundwater areas, shallow bedrock, and the potential for elevated radon levels. The hazards on the site can be satisfactorily mitigated through proper engineering design and construction practices.

The upper materials are typically of stiff to hard consistencies. The expansive cohesive soils and bedrock encountered in the test borings will require mitigation. Foundations anticipated for the site will consist of drilled piers with a minimum pier depth of 25 feet, or shallow foundations such as mat foundations or spread footings in conjunction with overexcavation. Overexcavation depths of 4 to 10 feet are anticipated for the shallow foundations. Excavation of the surficial cohesive soils is anticipated to be moderate with rubber-tired equipment. Claystone may require track-mounted equipment, and slow production should be anticipated. Preliminary construction

recommendations have been provided in the Preliminary Geotechnical Report (Reference 1, Appendix B).

In summary, development of the site can be achieved if the items mentioned above are mitigated. These items can be mitigated through proper design and construction or through avoidance. Additional site investigation will be required prior to construction.

7 ECONOMIC MINERAL RESOURCES

Some of the sandy materials on-site could be considered a low-grade sand resource. According to the *El Paso County Aggregate Resource Evaluation Map* (Reference 14), the area is not mapped with any aggregate deposits. According to the *Atlas of Sand, Gravel and Quarry Aggregate Resources, Colorado Front Range Counties*, distributed by the Colorado Geological Survey (Reference 15), areas of the site are not mapped with any resources. According to the *Evaluation of Mineral and Mineral Fuel Potential* (Reference 16), the area of the site has been mapped as “Good” for industrial minerals. However, considering the clayey nature of these materials, they would be considered to have little significance as an economic resource.

According to the *Evaluation of Mineral and Mineral Fuel Potential of El Paso County State Mineral Lands* (Reference 16), the site is mapped within the Denver Basin Coal Region. However, the area of the site has been mapped as “Poor” for coal resources. No active or inactive mines have been mapped in the area of the site. No metallic mineral resources have been mapped on-site (Reference 16).

The site has been mapped as “Fair” for oil and gas resources (Reference 16). No oil or gas fields have been discovered in the area of the site. The sedimentary rocks in the area may lack the geologic structure for trapping oil or gas; therefore, it may not be considered a significant resource. Hydraulic fracturing is a new method that is being used to extract oil and gas from rocks. It utilizes pressurized fluid to extract oil and gas from rocks that would not normally be productive. The area of the site has not been explored to determine if the rocks underlying the site would be commercially viable utilizing hydraulic fracturing. The practice of hydraulic fracturing has come under review due to concerns about environmental impacts, health, and safety.

8 EROSION CONTROL

The soil types observed on the site are mildly to highly susceptible to wind erosion and moderately to highly susceptible to water erosion. A minor wind erosion and dust problem may be created for a short time during and immediately after construction. Should the problem be considered severe enough during this time, watering of the cut areas or the use of chemical palliative may be required to control dust. However, once construction has been completed and vegetation re-established, the potential for wind erosion should be considerably reduced.

With regard to water erosion, loosely compacted soils will be the most susceptible to water erosion; residually weathered soils become increasingly less susceptible to water erosion. For the typical soils observed on-site, allowable velocities for unvegetated and unlined earth channels would be on the order of 3 to 4 feet/second, depending upon the sediment load carried by the water. Permissible velocities may be increased through the use of vegetation to something on the order of 4 to 7 feet/second, depending upon the type of vegetation established. Should the anticipated velocities exceed these values, some form of channel lining material may be required to reduce erosion potential. These might consist of some of the synthetic channel lining materials on the market or conventional riprap. In cases where ditch-lining materials are still insufficient to control erosion, small check dams or sediment traps may be required. The check dams will serve to reduce flow velocities, as well as provide small traps for containing sediment. The determination of the amount, location, and placement of ditch linings, check dams, and special erosion control features should be performed by or in conjunction with the drainage engineer who is more familiar with the flow quantities and velocities.

Cut and fill slope areas will be subjected primarily to sheetwash and rill erosion. Unchecked rill erosion can eventually lead to concentrated flows of water and gully erosion. The best means to combat this type of erosion is, where possible, the adequate re-vegetation of cut and fill slopes. Cut and fill slopes having gradients more than three (3) horizontal to one (1) vertical become increasingly more difficult to revegetate successfully. Therefore, recommendations pertaining to the vegetation of the cut and fill slopes may require input from a qualified landscape architect and/or the Natural Resource Conservation Service.

9 ROADWAY AND EMBANKMENT CONSTRUCTION RECOMMENDATIONS

In general, the site soils are suitable for the proposed site grading, roadways, and embankments. Groundwater is not expected to be encountered, provided the soils are properly moisture conditioned and compacted. If excavations encroach on the groundwater level, unstable soil conditions may be encountered. Excavation of saturated soils will be difficult with rubber-tired equipment. Stabilization using shot rock or geogrids may be necessary.

Any areas to receive fill should have all topsoil, organic material, or debris removed. Prior to fill placement, Entech should observe the subgrade. Fill must be properly benched and compacted to minimize potentially unstable conditions in slope areas. Fill slopes should be 3:1. The subgrade should be scarified and moisture conditioned to within 2% of optimum moisture content and compacted to 95% of the Standard Proctor (ASTM D698) maximum dry density for cohesive soils prior to placing new fill. Areas receiving fill may require stabilization with rock or fabric if shallow groundwater conditions are encountered.

New fill should be placed in thin lifts not to exceed 6 inches after compaction to 95% of the Standard Proctor (ASTM D698) maximum dry density. Where fill depths exceed 10 feet, fill should be compacted to 100% of the Standard Proctor (ASTM D698) or 98% of the Modified Proctor (ASTM D1557) maximum dry density. These materials should be placed at a moisture content conducive to compaction, usually 0% to $\pm 2\%$ of Proctor optimum moisture content. The placement and compaction of fill should be observed and tested by Entech during construction. Entech should approve any imported materials prior to placing or hauling them to the site.

10 CLOSURE

It is our opinion that the existing geologic engineering and geologic conditions will impose some constraints on development and construction of the site. The majority of these conditions can be mitigated through proper engineering design and construction practices. The proposed development and use are consistent with anticipated geologic and engineering geologic conditions.

Due to the nature of data obtained by random sampling of such variable and non-homogeneous materials as soil and rock, it is important that we be informed of any differences observed between surface and subsurface conditions encountered in construction and those assumed in this report. Reporting such discrepancies to Entech Engineering, Inc. soon after they are discovered would

be greatly appreciated and could help avoid construction and development problems. Additional investigations for the site will be required prior to construction. Construction and design personnel should be made familiar with the contents of this report.

This report has been prepared for Vertex Consulting Services for application to the proposed project in accordance with generally accepted geologic, soil, and engineering practices. No other warranty, express or implied, is made.

We trust that this report has provided you with all the information that you require. Should you require additional information, please do not hesitate to contact Entech Engineering, Inc.

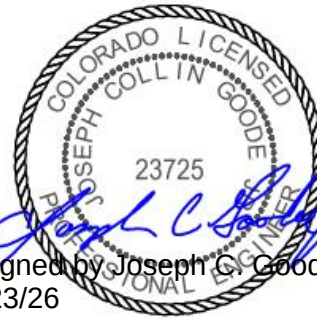
Respectfully Submitted,

ENTECH ENGINEERING, INC.



Logan L. Langford, P.G.
Sr. Geologist

Reviewed by:



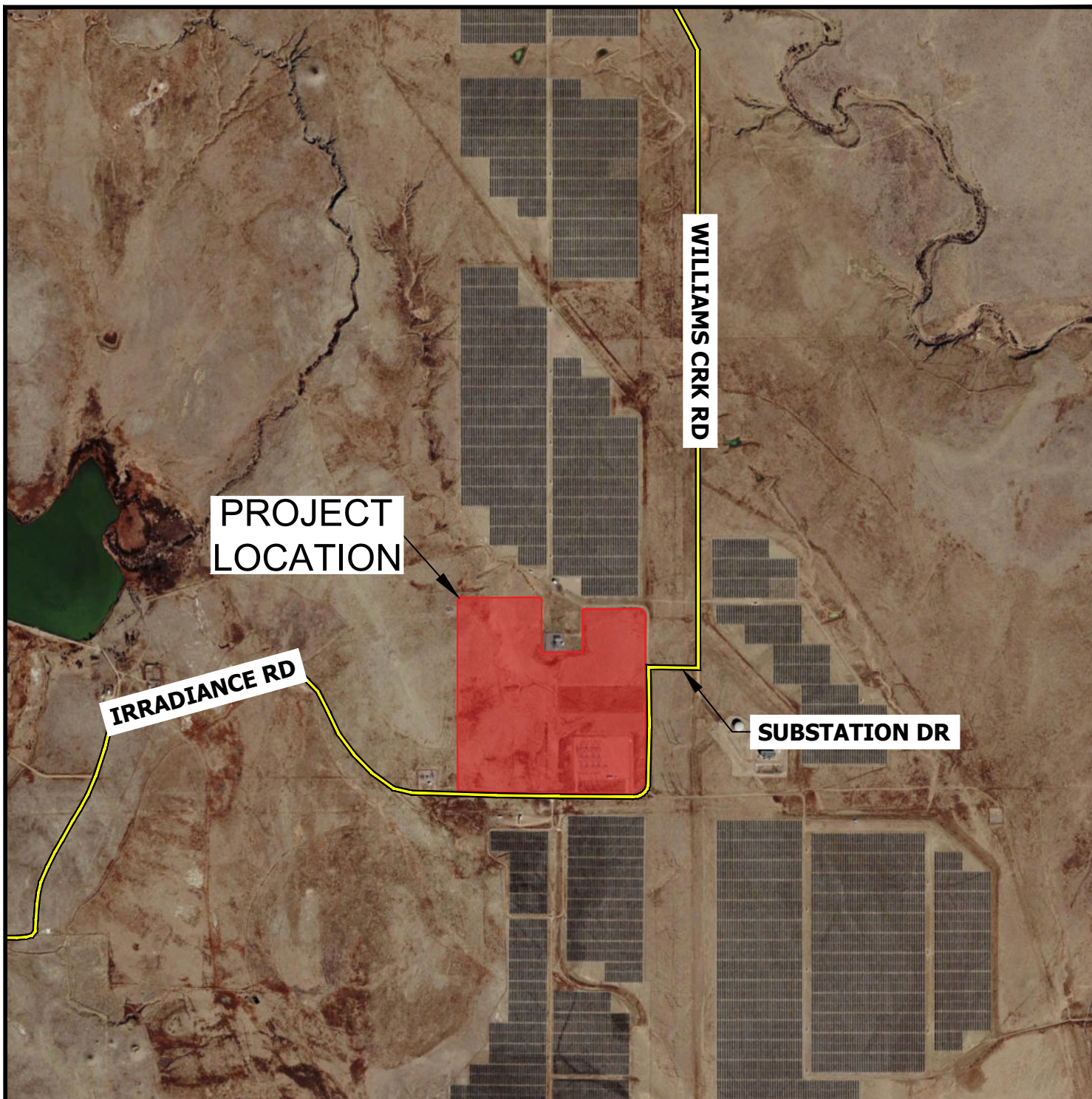
Digitally signed by Joseph C. Goode Jr.
Date: 09/23/26

Joseph C. Goode Jr., P.E.
President

LLL:JG/ed
Entech Job No. 261095

11 REFERENCES

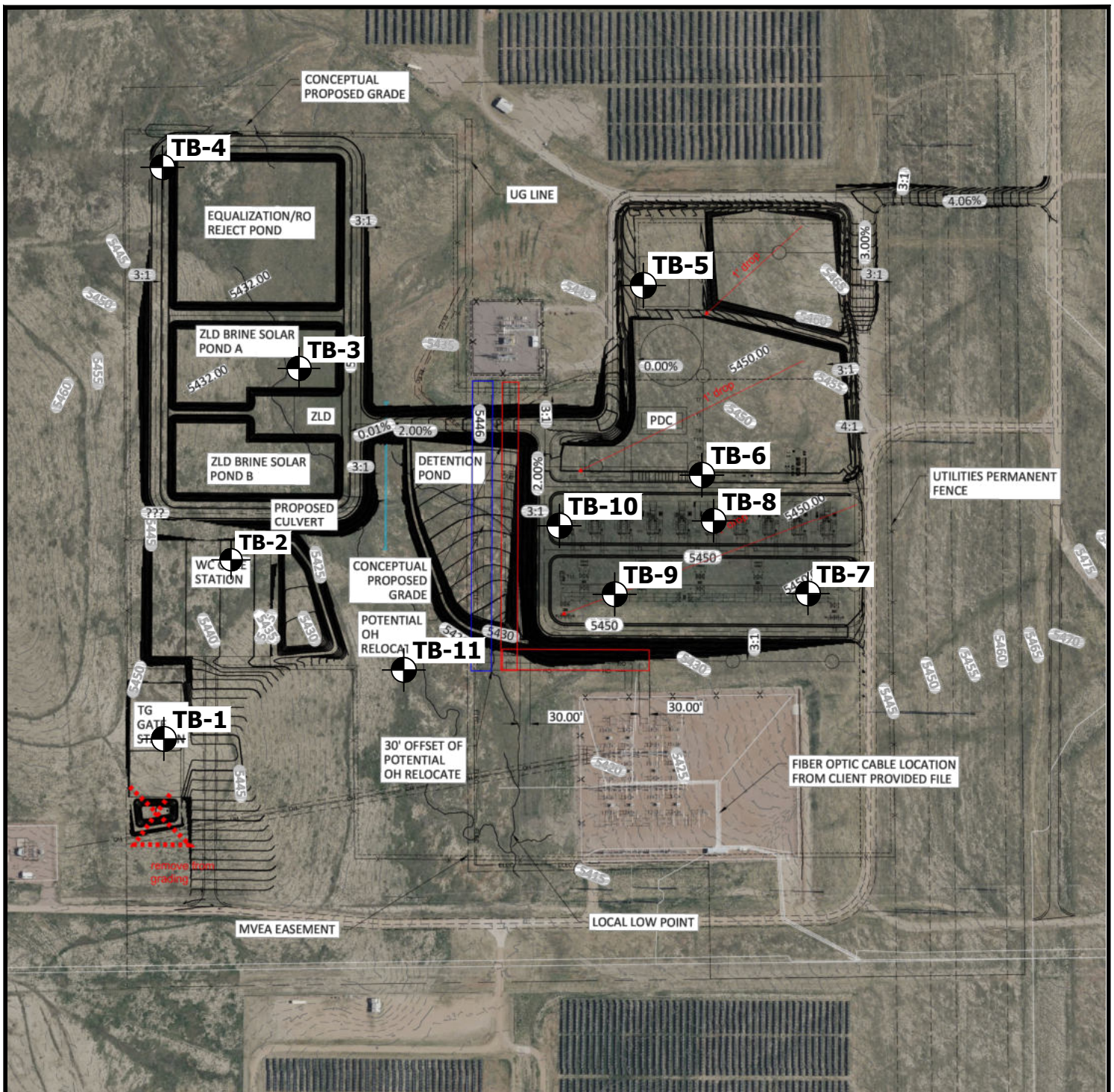
1. Entech Engineering, Inc. August 7, 2026. *Preliminary Geotechnical Report, CSU – Williams Creek Plant, El Paso County, Colorado*. Entech Job No. 261095.
2. Entech Engineering, Inc. July 29, 2026. *OWTS Site Evaluation, CSU – Williams Creek Plant, El Paso County, Colorado*. Entech Job No. 261095.
3. Entech Engineering, Inc. August 7, 2026. *Preliminary Geotechnical Report – Infiltration Rate Testing, CSU – Williams Creek Plant, El Paso County, Colorado*. Entech Job No. 261095.
4. Scott, Glen R., Taylor, Richard B., Epis, Rudy C., and Wobus, Reinhard A. 1978. *Geologic Structure Map of the Pueblo 1° x 2° Quadrangle, South-Central Colorado*. Sheet 2. U.S. Geological Survey, Map I-1022.
5. Natural Resource Conservation Service, August 29, 2025. *Web Soil Survey*. United States Department of Agriculture, <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>.
6. United States Department of Agriculture Soil Conservation Service. June 1981. *Soil Survey of El Paso County Area, Colorado*.
7. White, J.L., Lindsey, K.O., Morgan, M.L., and Mahan, S.A., 2017. *Geologic Map of the Fountain Quadrangle, El Paso County, Colorado*. Colorado Geological Survey, Open-File Report 17-05.
8. Trimble, Donald E. and Machette, Michael N. 1979. *Geologic Map of the Colorado Springs-Castle Rock Area, Front Range Urban Corridor, Colorado*. U.S. Geological Survey, Map I-857-F.
9. Scott, Glen R., Taylor, Richard B., Epis, Rudy C., and Wobus, Reinhard A. 1978. *Geologic Map of the Pueblo 1° x 2° Quadrangle, South-Central Colorado*. U.S. Geological Survey, Map 1-1022.
10. Hart, Stephen S. 1974. *Potentially Swelling Soil and Rock in the Front Range Urban Corridor, Colorado*. Colorado Springs-Castle Rock Map. Colorado Geological Survey, Map Series 42.
11. Federal Emergency Management Agency. December 7, 2018. *Flood Insurance Rate Maps for El Paso County, Colorado and Incorporated Areas*. Map Number 08041CO706G.
12. U.S. Fish & Wildlife Service, May 1, 2020. *National Wetlands Inventory*. Department of the Interior, fws.gov/wetlands/data/Mapper.html.
13. Colorado Geological Survey. 1991. *Results of the 1987-88 EPA Supported Radon Study in Colorado*. Open-file Report 91-4.
14. El Paso County Planning Development. December 1995. *El Paso County Aggregate Resource Evaluation Maps*.
15. Schwochow, S.D.; Shroba, R.R. and Wicklein, P.C. 1974. *Atlas of Sand, Gravel, and Quarry Aggregate Resources, Colorado Front Range Counties*. Colorado Geological Survey, Special Publication 5-B.
16. Keller, John W.; TerBest, Harry and Garrison, Rachel E. 2003. *Evaluation of Mineral and Mineral Fuel Potential of El Paso County State Mineral Lands Administered by the Colorado State Land Board*. Colorado Geological Survey, Open-File Report 03-07.



VICINITY MAP

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095
FIG. 1



TB- APPROXIMATE TEST BORING LOCATION AND NUMBER



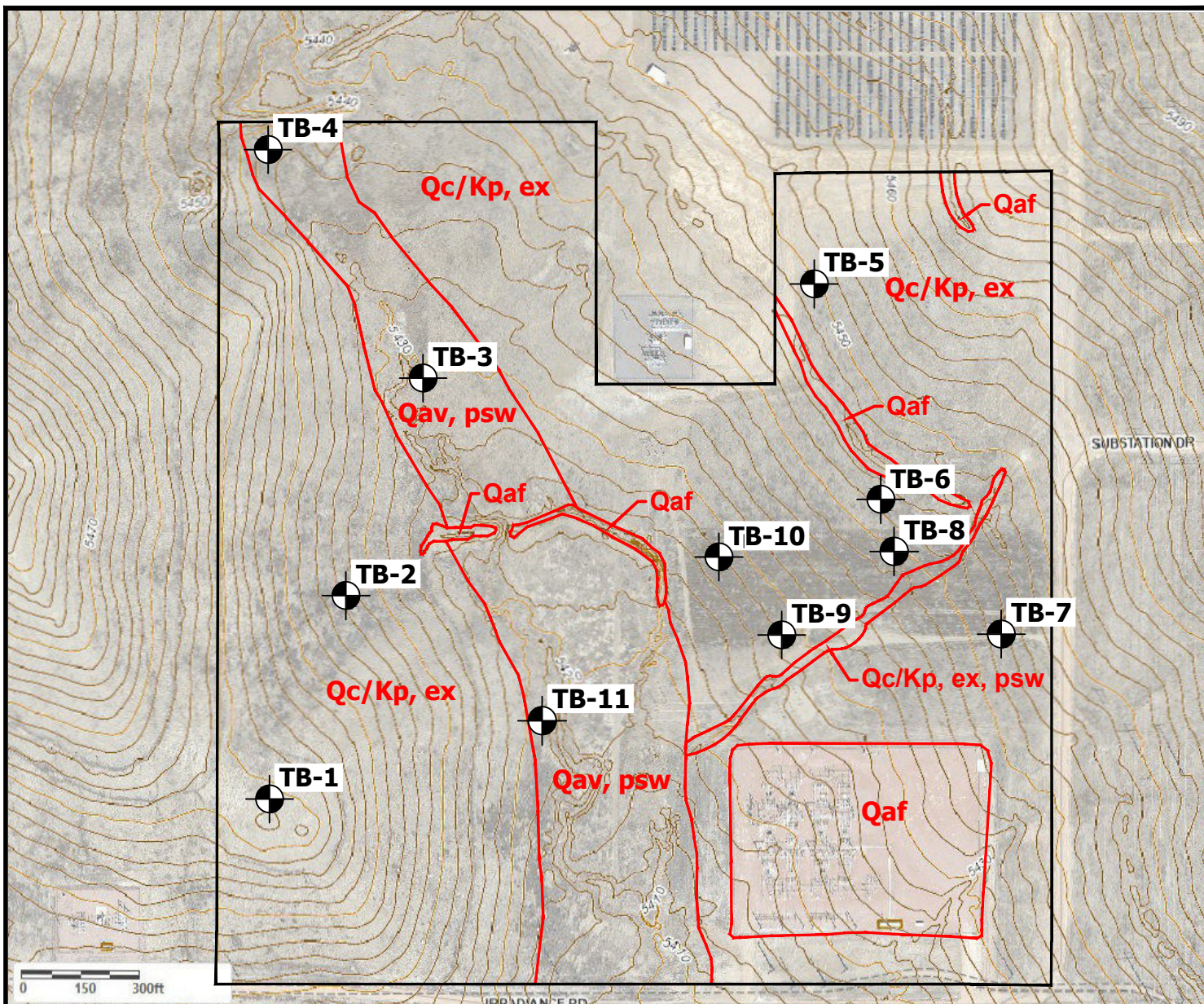
SITE AND EXPLORATION MAP

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.

261095

FIG. 2



Legend

- ex - Expansive soils & bedrock
- psw - Potentially Seasonally shallow groundwater
- Qaf - **Artificial Fill Deposits of Holocene Age:**
Man-made fill deposits
- Qav - **Valley-fill Alluvium of Holocene Age:**
Recent sandy-silty clays deposited along the drainage in central portion of the site
- Qc/Kp - **Colluvium Quaternary Age Overlying The Pierre Shale of Cretaceous Age:**
Sheetwash and residual soil deposits overlying claystone and shale



TB- APPROXIMATE TEST BORING LOCATION AND NUMBER

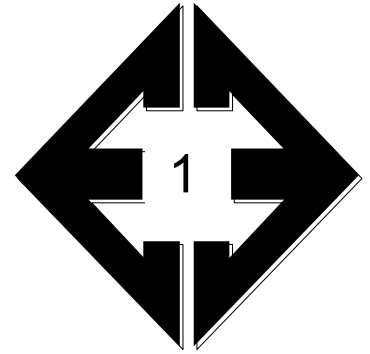


GEOLOGY/ENGINEERING GEOLOGY MAP

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

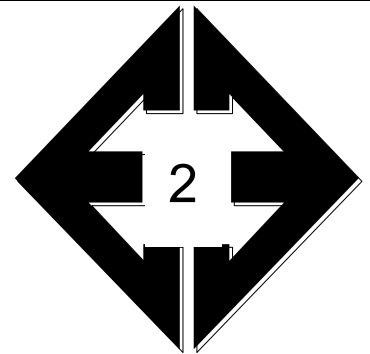
JOB NO.
261095
FIG. 3

APPENDIX A: Site Photographs



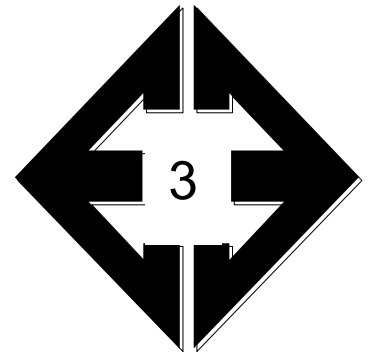
**Looking south from
the northeastern
portion of the site.**

September 10, 2026



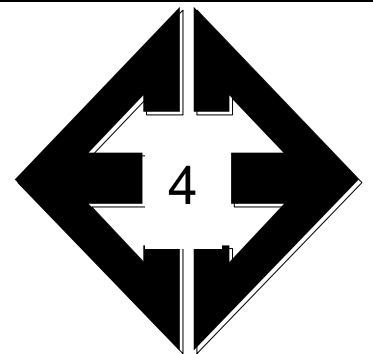
**Looking southwest
from the northeastern
portion of the site.**

September 10, 2026



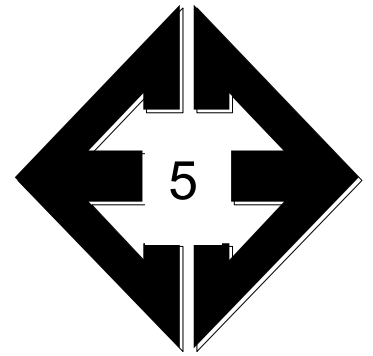
**Looking west from the
northeastern portion of
the site.**

September 10, 2026



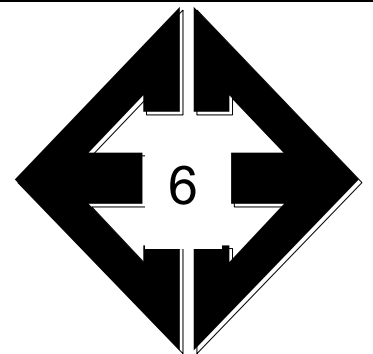
**Looking northwest
from the central
portion of the site.**

September 10, 2026



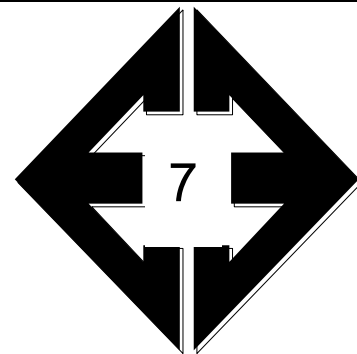
**Looking south from
the central portion of
the site.**

September 10, 2026



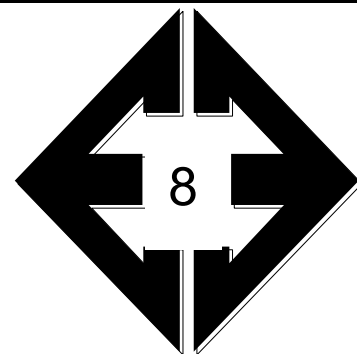
**Looking southwest
from the central
portion of the site.**

September 10, 2026



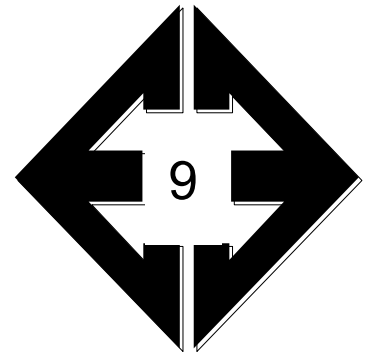
**Looking northwest
along dry drainage
central portion of the
site.**

September 10, 2026



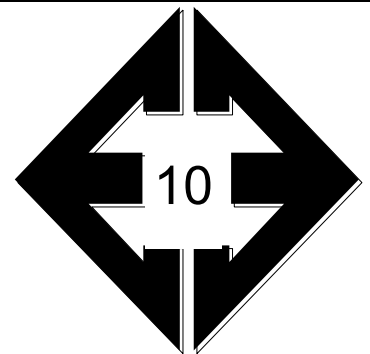
**Looking south along
dry drainage central
portion of the site.**

September 10, 2026



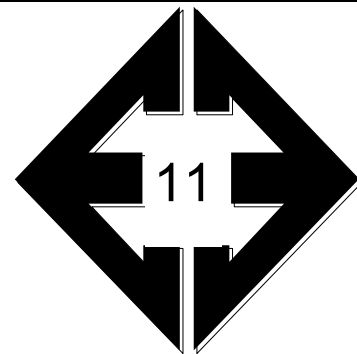
**Looking east from the
western portion of the
site.**

September 10, 2026



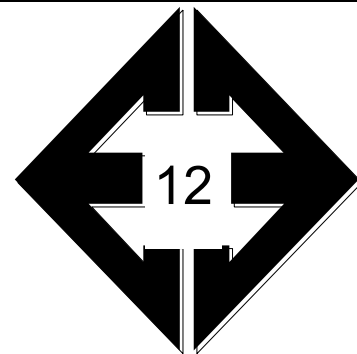
**Looking east from the
southwestern portion
of the site.**

September 10, 2026



**Looking west from the
southeastern portion
of the site.**

September 10, 2026



**Looking northwest
from the southeastern
portion of the site.**

September 10, 2026

**APPENDIX B: Preliminary Geotechnical Report
CSU – Williams Creek Plant
Entech Job No. 261095**



ENTECH
ENGINEERING, INC.

505 ELKTON DRIVE
COLORADO SPRINGS, CO 80907
PHONE (719) 531-5599

**PRELIMINARY GEOTECHNICAL REPORT
CSU – WILLIAMS CREEK PLANT
EL PASO COUNTY, COLORADO**

Prepared for:
**Vertex Consulting Services
5825 Delmonico Drive, Suite 320
Colorado Springs, Colorado 80919**

Attn: Craig Dossey

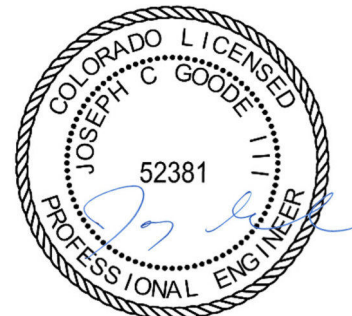
August 7, 2026

Respectfully Submitted,

ENTECH ENGINEERING, INC.

Calvin J. Pickett
Geotechnical Engineering Staff

Reviewed by:



Date: 08/07/26

Joseph C. Goode III, P.E.
Sr. Engineer

Joseph C Goode III

CP:JCG/ed

Entech Job No. 261095

Table of Contents

1	<i>Introduction</i>	<i>1</i>
2	<i>Project and Site Description.....</i>	<i>1</i>
3	<i>Subsurface Explorations and Laboratory Testing</i>	<i>2</i>
3.1	Subsurface Exploration Program	2
3.2	Geotechnical Index and Engineering Property Testing	2
4	<i>Subsurface Conditions</i>	<i>3</i>
4.1	Soil and Bedrock.....	3
4.2	Groundwater.....	3
5	<i>Preliminary Geotechnical Evaluation and Recommendations.....</i>	<i>4</i>
5.1	Foundation Considerations	4
5.1.1	Deep Foundations.....	4
5.1.2	Shallow Foundations.....	4
5.1.3	Floor Slabs.....	5
5.2	Pond Infrastructure	5
5.3	Seismic Site Classification	6
6	<i>Construction Recommendations</i>	<i>6</i>
6.1	Fill Placement and Compaction	6
6.2	Excavation Potential	6
6.3	Excavation Stability.....	6
6.4	Concrete Degradation Due to Sulfate Attack.....	6
7	<i>Closure.....</i>	<i>7</i>

Figures

Figure 1: Vicinity Map

Figure 2: Site and Exploration Plan

List of Appendices

Appendix A: Test Boring Logs

Appendix B: Laboratory Test Results

1 Introduction

Entech Engineering Inc. (Entech) completed this preliminary geotechnical report for a proposed power plant facility in El Paso County, Colorado. This report describes the subsurface exploration program conducted for the site and provides recommendations for foundation design and construction considerations. Our services were completed for Vertex Consulting Services in accordance with our consultant agreement dated May 22, 2026. The contents of this report, including the geotechnical evaluation and recommendations, are subject to the limitations and assumptions presented in Section 7. **Additional drilling and final recommendations are required prior to foundation design and construction.**

2 Project and Site Description

The project will consist of the construction of the new Williams Creek Plant in El Paso County, Colorado. The project site is located northwest of Irradiance Road and Williams Creek Road, as shown on the Vicinity Map (Figure 1). The site is generally surrounded by undeveloped land, existing solar fields, and Calhan Reservoir to the west. We understand that the power plant infrastructure will include multiple structures and ponds as listed below:

- Individual Exhaust Tanks
- GCU Transfers
- Dead End Towers
- Water Storage Tanks
- Wastewater Treatment Facility
- Ponds
- Related Structures

Structural loads are expected to be moderate to high. At the time of drilling, the site was mostly undeveloped and vegetated with field grasses and weeds. An existing substation was located in the southeast corner of the site, as well as overhead electrical lines associated with the existing substation and adjacent solar fields. The existing topography generally slopes towards a drainage running north-to-south through the center of the site. The site was generally surrounded by undeveloped land, existing solar fields, and Calhan Reservoir located to the northwest of the site. The proposed plant pad site was previously used as a laydown area for previous construction.

3 Subsurface Explorations and Laboratory Testing

3.1 Subsurface Exploration Program

Subsurface conditions at the project site were explored by eleven test borings, designated TB-1 through TB-11, drilled on June 17, 2026, June 18, 2026, and July 28, 2026, at the approximate locations shown on the Site and Exploration Plan (Figure 2). Borings were drilled to depths of 20 feet. The drilling was performed using a truck-mounted, continuous flight auger drill rig supplied and operated by Entech. Descriptive boring logs providing the lithologies of the subsurface conditions encountered during drilling are presented in Appendix A. Groundwater levels were measured in each of the open boreholes at the conclusion of, and subsequent to, drilling.

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

3.2 Geotechnical Index and Engineering Property Testing

Water content testing (ASTM D2216) was performed on the samples recovered from the borings, and the results are shown on the boring logs. Grain-size analysis (ASTM D6913) and Atterberg limits testing (ASTM D4318) were performed on selected samples to assist in classifying the materials encountered in the borings. Volume change testing was performed on selected samples using the One-dimensional Swell or Collapse Test (ASTM D4546) in order to evaluate the potential expansion characteristics of the soil and bedrock. Soluble sulfate testing was performed on select soil samples to evaluate the potential for below-grade degradation of concrete due to sulfate attack. The Laboratory Testing Results are presented in Appendix B and summarized in Table B-1.

4 Subsurface Conditions

Two soil types and one bedrock type were encountered in the test borings drilled for the subsurface exploration program. The soil and bedrock types were classified in accordance with the Unified Soil Classification System (USCS) and the American Association of State Highway and Transportation Officials (AASHTO) soil classification system using the laboratory testing results and the observations made during drilling.

4.1 Soil and Bedrock

Soil Type 1 classified as very stiff, slightly sandy clay fill (CH). The clay fill was encountered in boring TB-7 underlying about 6 inches of topsoil and extended to a depth of 3 feet below ground surface (bgs), where Soil Type 2 was encountered. One-dimensional swell/collapse testing on a sample of slightly sandy clay fill resulted in a volume change of 0.4%, indicating a low expansion potential. However, clay soils in the project area typically exhibit a moderate to high expansion potential.

Soil Type 2 classified as native stiff to hard clay with sand to slightly sandy clay (CL). The native clay was encountered in all borings underlying 6 to 12 inches of topsoil, or Soil Type 1 in boring TB-7, and extended to depths of 3 to 17 feet bgs where Soil Type 3 was encountered, or to the termination depths of borings TB-2 and TB-3 at a depth of 20 feet bgs. One-dimensional swell/collapse testing on samples of native clay resulted in volume changes of -1.7% to 5.0%, indicating moderate to high collapse and expansion potential.

Soil Type 3 classified as claystone bedrock, or hard, slightly sandy clay (CL) when classified as a soil. Claystone was encountered in borings TB-1, TB-2, and TB-5 through TB-11 underlying Soil Type 2 at depths of 3 to 17 feet bgs and extended to the termination depth of the borings 20 feet bgs. One-dimensional swell/collapse testing on samples of claystone bedrock resulted in volume changes of -0.8% to 1.1%, indicating a low to moderate collapse and expansion potential. However, claystone bedrock in the project area typically exhibits a high expansion potential.

4.2 Groundwater

Depth to groundwater was measured in the borings at the conclusion of, and subsequent to, drilling. Groundwater was encountered in boring TB-4 at a depth of 17.5 feet bgs. It should be noted that groundwater levels could change due to seasonal variations, changes in land runoff characteristics, and future development of nearby areas.

5 Preliminary Geotechnical Evaluation and Recommendations

*The following discussion is based on the subsurface conditions encountered in the borings drilled in the proposed construction areas. If subsurface conditions different from those described herein are encountered during construction, or if the project elements change from those described, Entech Engineering, Inc. should be notified so that the evaluation and recommendations presented can be reviewed and revised if necessary. **Final design explorations and recommendations are required prior to construction.***

As discussed in Section 2, we understand that the project will include the construction of power plant infrastructure. Subsurface conditions are anticipated to consist of clay and claystone materials. Claystone was encountered at depths of 3 to 12 feet within the proposed power block area. Feasible foundation alternatives for the project include both deep and shallow foundations.

5.1 Foundation Considerations

5.1.1 Deep Foundations

Deep foundation systems utilizing drilled piers bearing in claystone bedrock to support anticipated compressive and lateral loads are a suitable foundation option for the site. Drilled piers should extend into the bedrock a minimum of 6 feet or 6 pier diameters, whichever is greater, with a minimum pier length of 25 feet. Based on the depth of bedrock encountered on-site, it is anticipated that a minimum pier length of 25 feet will likely control the design. Piers will also require reinforcing to resist uplift forces due to potential expansion of the overburden clays and bedrock, as well as any tensile forces transmitted by the support structure.

Based on local experience, auger drilling methods can typically penetrate bedrock similar to that encountered at the site. Groundwater can infiltrate drilled shaft excavations from perched groundwater or fractures in the bedrock. Temporary casing of the drilled shafts may be necessary to control soft sidewall conditions or groundwater, if encountered. Casing should be pushed, rotated, vibrated, or driven into the bedrock, if required.

5.1.2 Shallow Foundations

Shallow foundations, such as mat foundations or spread footings, in conjunction with overexcavation, can be considered as a feasible foundation alternative.

Due to the highly expansive nature of the soil and bedrock encountered on this site, shallow foundation systems would not be expected to perform adequately if they were to rest on the soils in their in-situ condition. Additional swell testing within the structure area is required; however, a swell mitigation of 4 to 10 feet is anticipated. Swell mitigation may include overexcavation and replacement with non-swell susceptible soil, moisture conditioning, or a combination thereof.

Pending additional swell testing, on-site cohesive soils used for the moisture-conditioned subgrade will require frequent testing of the backfill to ensure elevated moisture contents. In addition, we recommend that swell tests (ASTM D4546) be completed for every 1,000 yards of material placed to confirm that the moisture-conditioned subgrade maintains a swell percentage less than 2%.

Granular fill shall consist of nonexpansive, granular soil, free of organic matter, unsuitable materials, debris, and cobbles greater than 3 inches in diameter. Entech should approve any imported granular or structural fill to be used as wall backfill prior to delivery to the site. Imported granular fill should have no more than 35% fines passing the No. 200 sieve, and the fines should have a plastic index of 10 or less.

5.1.3 Floor Slabs

On-grade floor slabs for the planned structures will require swell mitigation. Where slab foundations and light-loaded mat foundations are not founded to a depth of 30 inches below grade, non-frost susceptible fill (NFSF) can be considered beneath the slab to protect against frost heave. It should be noted that with the deep foundations, the expansive potential of the soils beneath the floor slab is not mitigated, and swell mitigation or a structural floor may be utilized in lieu of slabs-on-grade and overexcavation if on-grade floor slab movement cannot be tolerated.

If utilized, non-frost susceptible fill (NFSF) shall consist of nonexpansive, granular soil, free of organic matter, unsuitable materials, debris, and cobbles greater than 3 inches in diameter. NFSF should have no more than 6% fines passing the No. 200 sieve, and the fines should be non-plastic.

5.2 Pond Infrastructure

Subsurface conditions within the proposed Equalization/RO Reject Pond, ZLD Brine Solar Pond A, and ZLD Brine Solar Pond B will generally consist of clay soils. Groundwater was encountered

at a depth of 17.5 feet below existing ground surface in TB-4, and final elevations of the ponds should be reviewed once available.

5.3 Seismic Site Classification

Based on the subsurface conditions encountered at the site, and in accordance with Section 1613 of the 2021 *International Building Code* (IBC), the site meets the conditions of Site Class C and D. Additional investigations are required, and the design site class will be determined during final design.

6 Construction Recommendations

6.1 Fill Placement and Compaction

All granular fill placed within the foundation area should be compacted to a minimum of 95% of the Modified Proctor (ASTM D1557) maximum dry density at $\pm 2\%$ of optimum moisture content. Cohesive soils shall be compacted to a minimum of 95% of the Standard Proctor (ASTM D698) maximum dry density at 0% to $+3\%$ of the optimum moisture content. Fill material should be placed in horizontal lifts such that each finished lift has a compacted thickness of 6 inches or less.

6.2 Excavation Potential

Excavation of the surficial cohesive soils should be feasible with rubber-tired equipment. Claystone may require track-mounted equipment, and slow production should be anticipated.

6.3 Excavation Stability

Excavation sidewalls must be properly sloped, benched, and/or otherwise supported in order to maintain stable conditions. All excavation openings and work completed therein shall conform to OSHA Standards as put forward in CFR 29, Part 1926.650-652 (Subpart P).

6.4 Concrete Degradation Due to Sulfate Attack

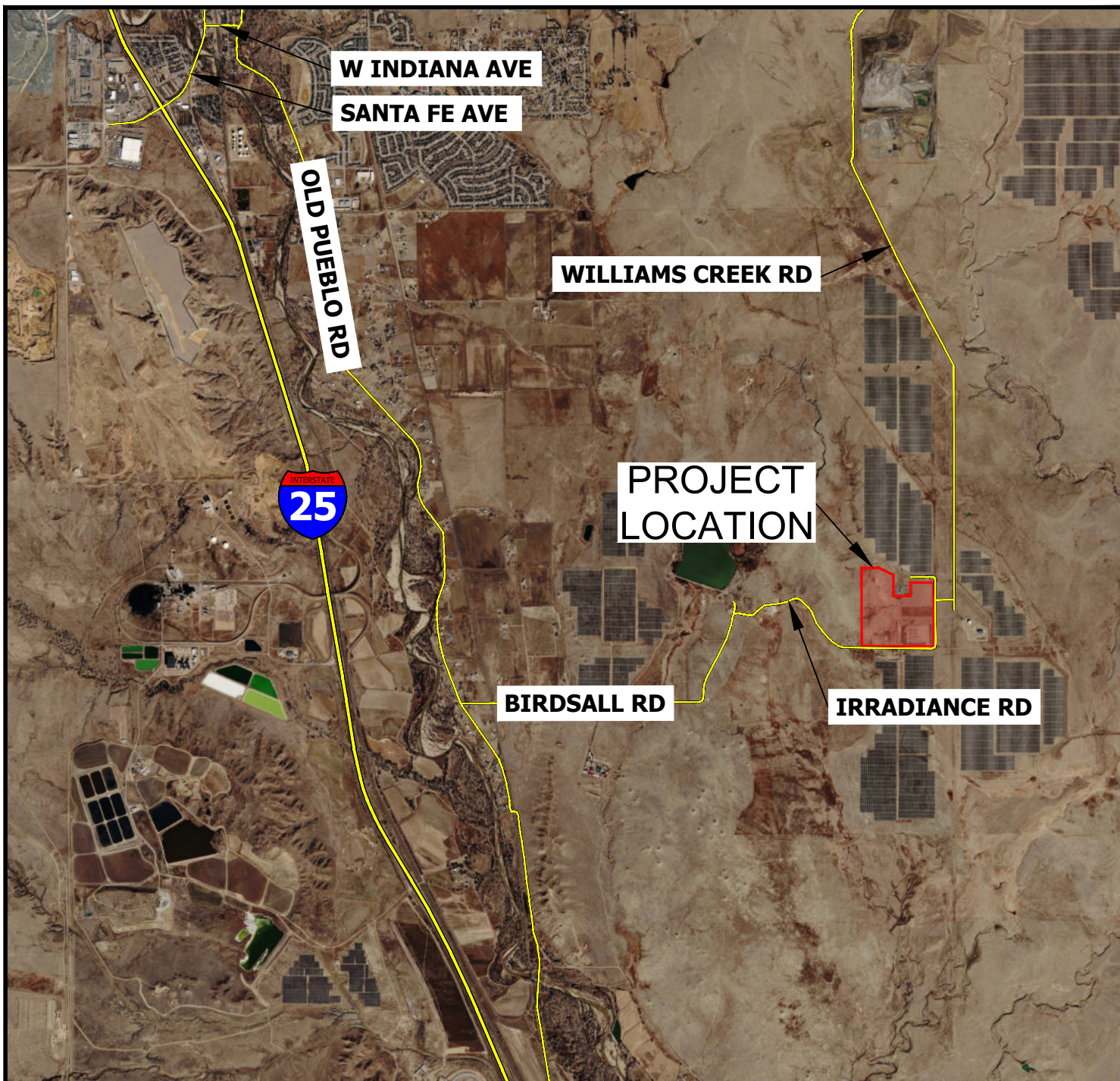
Sulfate solubility testing was conducted on several samples recovered from the test borings to evaluate the potential for sulfate attack on concrete placed below surface grade. The test results indicated less than 0.01% to 0.29% soluble sulfate (by weight). The test results indicate that the sulfate component of the in-place soils presents a severe exposure threat to concrete placed below the site grade.

Type V cement is recommended for the manufacture of any concrete that will come into contact with clay soils that have high sulfates. We understand Type V cement may not be readily available. Concrete made with cement that meets ASTM C150 Type II requirements (20% fly ash, a maximum water-to-cement ratio of 0.45, and air entrainment of 5% to 7%) can be used to provide similar resistance. The fly ash should meet ASTM C618 Class F requirements. High-strength concrete (4,500 psi) is recommended. Care should be taken to prevent the accumulation or ponding of water in the foundation excavation prior to the placement of concrete. If standing water is present in the foundation excavation, it should be removed by ditching to sumps and pumping the water away from the foundation area prior to concrete placement.

7 Closure

The subsurface investigation, geotechnical evaluation, and recommendations presented in this report are intended for use by Vertex Consulting Services with application to the proposed Williams Creek Plant located in El Paso County, Colorado. In conducting the subsurface exploration program, laboratory testing, engineering evaluation, and reporting, Entech Engineering, Inc. endeavored to work in accordance with generally accepted professional geotechnical and geologic practices and principles consistent with the level of care and skill ordinarily exercised by members of the geotechnical profession currently practicing in the same locality and under similar conditions. No other warranty, express or implied, is made. **Final design explorations and recommendations are required prior to construction.**

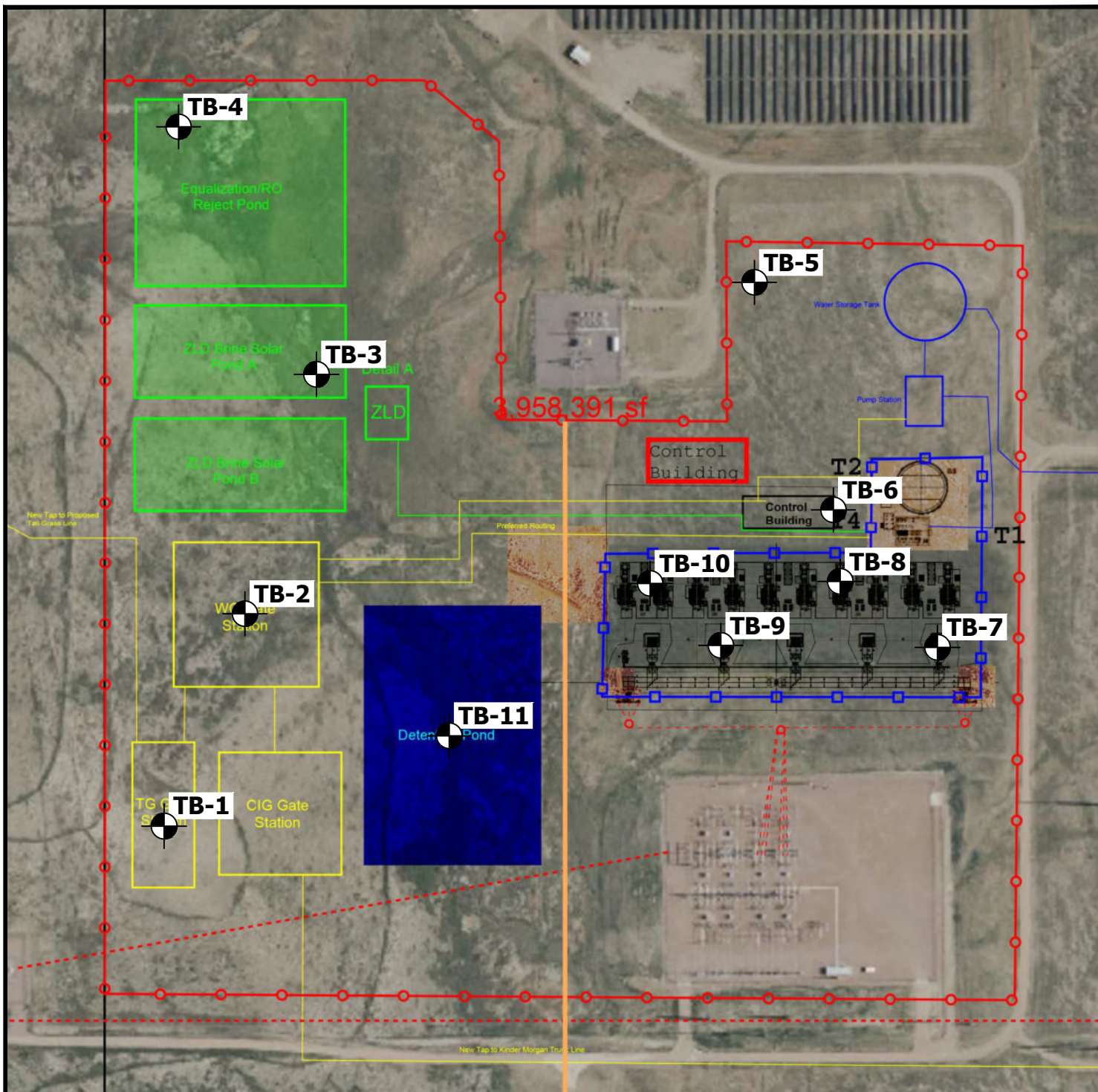
If there are any questions regarding the information provided herein, or if Entech Engineering, Inc. can be of further assistance, please do not hesitate to contact us.



VICINITY MAP
CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. 1





APPENDIX A: Test Boring Logs

TABLE A-1
DEPTH TO BEDROCK

TEST BORING	DEPTH TO BEDROCK (ft.)
1	3
2	17
3	>20
4	>20
5	4
6	4
7	8
8	3
9	12
10	8
11	12

TEST BORING	1
DATE DRILLED	6/17/2026
REMARKS	

TEST BORING	2
DATE DRILLED	6/17/2026
REMARKS	

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DATE DRILLED 6/17/2026						
DRY TO 19.5', 6/18/26						
6" TOPSOIL						
CLAY, SLIGHTLY SANDY, BROWN, HARD, MOIST						
CLAYSTONE, VERY WEAK, BROWN to DARK BROWN-GRAY, HIGHLY WEATHERED (CLAY, SLIGHTLY SANDY, HARD, MOIST)						
	5			34	7.8	2
				50	9.6	3
				7"		
	10			50	10.1	3
				6"		
	15			50	13.4	3
				11"		
	20			50	9.5	3
				4"		

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DATE DRILLED 6/17/2026						
DRY TO 19.5', 6/18/26						
6" TOPSOIL						
CLAY, SLIGHTLY SANDY, BROWN, VERY STIFF to HARD, MOIST						
	5			28	7.9	2
				50	11.4	2
				9"		
	10			14	15.8	2
	15			30	13.1	2
	20			50	12.7	3
				10"		
CLAYSTONE, VERY WEAK, DARK BROWN-GRAY, HIGHLY WEATHERED (CLAY, SLIGHTLY SANDY, HARD, MOIST)						



TEST BORING LOGS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. A-1

TEST BORING 3
 DATE DRILLED 6/17/2026
 REMARKS

DRY TO 19.5', 6/18/26

12" TOPSOIL

CLAY, SLIGHTLY SANDY, BROWN,
 HARD to STIFF, MOIST

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			40	10.8	2
5			50 11"	13.3	2
10			18	15.8	2
15			10	18.3	2
20			15	18.3	2

TEST BORING 4
 DATE DRILLED 6/17/2026
 REMARKS

WATER @ 17.5', 6/18/26

6" TOPSOIL

CLAY, SLIGHTLY SANDY, BROWN
 to DARK BROWN-GRAY, HARD to
 STIFF, MOIST



Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			37	10.6	2
5			34	11.1	2
10			38	12.9	2
15			14	25.8	2
20			21	0.5	2



TEST BORING LOGS

CSU - WILLIAMS CREEK PLANT
 VERTEX CONSULTING

JOB NO.
 261095

FIG. A-2

TEST BORING 5
DATE DRILLED 7/28/2026
REMARKS

DRY TO 20', 7/28/26

6" TOPSOIL

CLAY, SLIGHTLY SANDY, TAN,
HARD, MOIST

CLAYSTONE, VERY WEAK, DARK
BROWN-GRAY, HIGHLY
WEATHERED (CLAY, SLIGHTLY
SANDY, HARD, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			40	4.9	2
5			<u>50</u> 11"	13.0	3
10			<u>50</u> 7"	13.7	3
15			<u>50</u> 8"	24.4	3
20			<u>50</u> 9"	12.3	3

TEST BORING 6
DATE DRILLED 6/18/2026
REMARKS

DRY TO 19.5', 6/18/26

CLAY, SANDY, BROWN-LIGHT
BROWN, HARD, MOIST

CLAYSTONE, VERY WEAK, DARK
BROWN-GRAY, HIGHLY
WEATHERED (CLAY, SLIGHTLY
SANDY, HARD, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			36	12.7	2
5			<u>50</u> 11"	14.2	3
10			<u>50</u> 10"	12.5	3
15			<u>50</u> 7"	13.8	3
20			<u>50</u> 3"	13.8	3



TEST BORING LOGS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. A-3

TEST BORING 7
DATE DRILLED 6/18/2026
REMARKS

DRY TO 20', 6/18/26

6" TOPSOIL
FILL 0-3', CLAY, SLIGHTLY SANDY,
TAN, VERY STIFF, MOIST
CLAY, SLIGHTLY SANDY, BROWN-
GRAY, HARD, MOIST

CLAYSTONE, VERY WEAK, DARK
GRAY-BROWN, HIGHLY
WEATHERED (CLAY, SLIGHTLY
SANDY, HARD, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
0					
3			18	16.5	1
5			39	15.8	2
10			50 11"	12.0	3
15			50 8"	13.0	3
20			50 9"	13.8	3

TEST BORING 8
DATE DRILLED 6/18/2026
REMARKS

DRY TO 19.5', 6/18/26

6" TOPSOIL
CLAY, SLIGHTLY SANDY, DARK
BROWN, VERY STIFF, MOIST
CLAYSTONE, VERY WEAK, DARK
BROWN, HIGHLY WEATHERED
(CLAY, SLIGHTLY SANDY, HARD,
MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
0					
3			25	15.1	2
5			50 9"	12.3	3
10			50 11"	12.8	3
15			50 10"	12.5	3
20			41	15.6	3



TEST BORING LOGS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. A-4

TEST BORING 9
DATE DRILLED 6/17/2026
REMARKS

DRY TO 19.5', 6/18/26

6" TOPSOIL
CLAY, SLIGHTLY SANDY, BROWN,
HARD, MOIST

CLAYSTONE, VERY WEAK, DARK
GRAY-BROWN, HIGHLY
WEATHERED (CLAY, SLIGHTLY
SANDY, HARD, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			33	10.8	2
5			37	9.0	2
10			42	9.8	2
15			50 9"	10.8	3
20			33	8.2	3

TEST BORING 10
DATE DRILLED 6/17/2026
REMARKS

DRY TO 20', 6/18/26

6" TOPSOIL
CLAY, SLIGHTLY SANDY, BROWN,
VERY STIFF to HARD, MOIST

CLAYSTONE, VERY WEAK, DARK
GRAY-BROWN, HIGHLY
WEATHERED (CLAY, SLIGHTLY
SANDY, HARD, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			24	12.4	2
5			50 10"	10.9	2
10			50 11"	10.6	3
15			39	11.4	3
20			50 10"	11.4	3



TEST BORING LOGS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. A-5

TEST BORING

11

DATE DRILLED

6/17/2026

REMARKS

DRY TO 20', 6/18/26

12" TOPSOIL

CLAY, WITH SAND, BROWN, VERY STIFF to HARD, MOIST

CLAYSTONE, VERY WEAK, DARK GRAY-BROWN, HIGHLY WEATHERED (CLAY, SLIGHTLY SANDY, HARD, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			23	8.1	2
5			26	6.6	2
10			41	9.7	2
15			50 9"	10.8	3
20			50 9"	13.2	3



TEST BORING LOGS

CSU - WILLIAMS CREEK PLANT

VERTEX CONSULTING

JOB NO.

261095

FIG. A-6



APPENDIX B: Laboratory Test Results

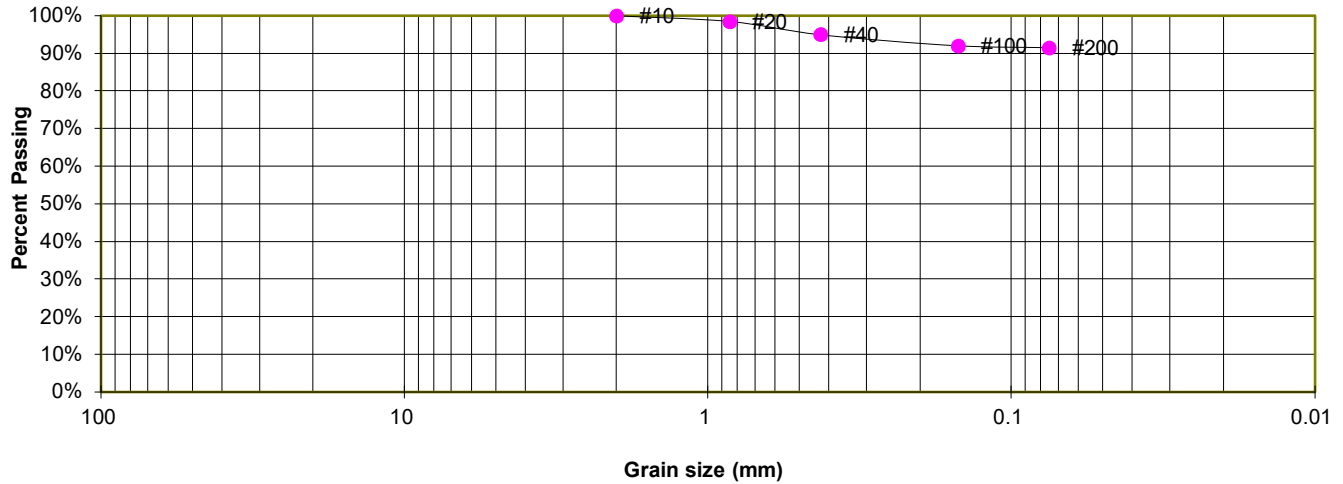
TABLE B-1
SUMMARY OF LABORATORY TEST RESULTS

SOIL TYPE	TEST BORING NO.	DEPTH (FT)	WATER (%)	DRY DENSITY (PCF)	PASSING NO. 200 SIEVE (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTIC INDEX	SULFATE (WT %)	SWELL/ CONSOL (%)	USCS	SOIL DESCRIPTION
1	7	2-3	18.1	87.9	91.5	57	28	29	0.29	0.4	CH	FILL, CLAY, SLIGHTLY SANDY
2	2	5	14.8	89.4	97.0					-0.7	CL	CLAY, SLIGHTLY SANDY
2	3	5	15.0	112.8	93.3					5.0	CL	CLAY, SLIGHTLY SANDY
2	4	5	13.8	94.0	95.7	38	23	15		-1.2	CL	CLAY, SLIGHTLY SANDY
2	4	10			95.1						CL	CLAY, SLIGHTLY SANDY
2	8	2-3	16.8	97.7	97.0					1.2	CL	CLAY, SLIGHTLY SANDY
2	9	10	13.0	106.8	99.0					0.6	CL	CLAY, SLIGHTLY SANDY
2	10	5	14.0	89.2	93.4					-1.5	CL	CLAY, SLIGHTLY SANDY
2	11	2-3	10.4	91.2	82.6					-1.7	CL	CLAY, WITH SAND
3	1	10	11.6	98.9	98.8	43	24	19	<0.01	-0.8	CL	CLAYSTONE (CLAY, SL. SANDY)
3	5	5	12.3	95.5	97.1					-0.8	CL	CLAYSTONE (CLAY, SL. SANDY)
3	6	10	15.9	106.7	97.5					1.1	CL	CLAYSTONE (CLAY, SL. SANDY)
3	11	15	12.7	108.3	93.2					0.1	CL	CLAYSTONE (CLAY, SL. SANDY)

TEST BORING 7
DEPTH (FT) 2-3

SOIL DESCRIPTION FILL, CLAY, SLIGHTLY SANDY
SOIL TYPE 1

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	
10	100.0%
20	98.5%
40	95.0%
100	92.1%
200	91.5%

ATTERBERG LIMITS

Plastic Limit	28
Liquid Limit	57
Plastic Index	29

SOIL CLASSIFICATION

USCS CLASSIFICATION: CH



LABORATORY TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

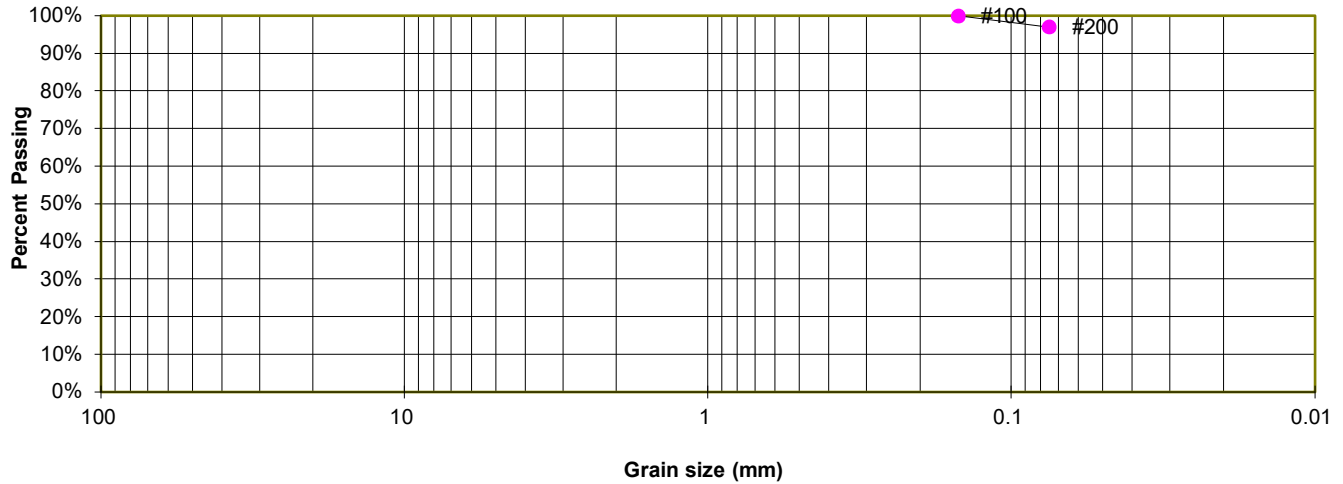
JOB NO.
261095

FIG. B-1

TEST BORING 2
DEPTH (FT) 5

SOIL DESCRIPTION CLAY, SLIGHTLY SANDY
SOIL TYPE 2

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	
10	
20	
40	
100	100.0%
200	97.0%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

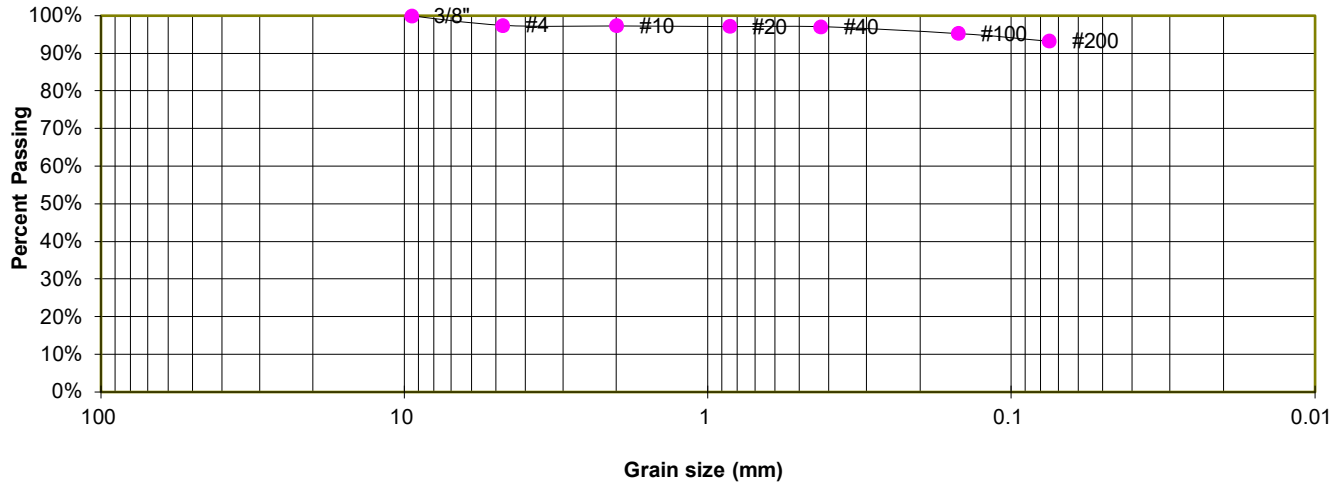
JOB NO.
261095

FIG. B-2

TEST BORING	3
DEPTH (FT)	5

SOIL DESCRIPTION CLAY, SLIGHTLY SANDY
SOIL TYPE 2

Sieve Analysis Grain Size Distribution



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	97.5%
10	97.4%
20	97.2%
40	97.1%
100	95.3%
200	93.3%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

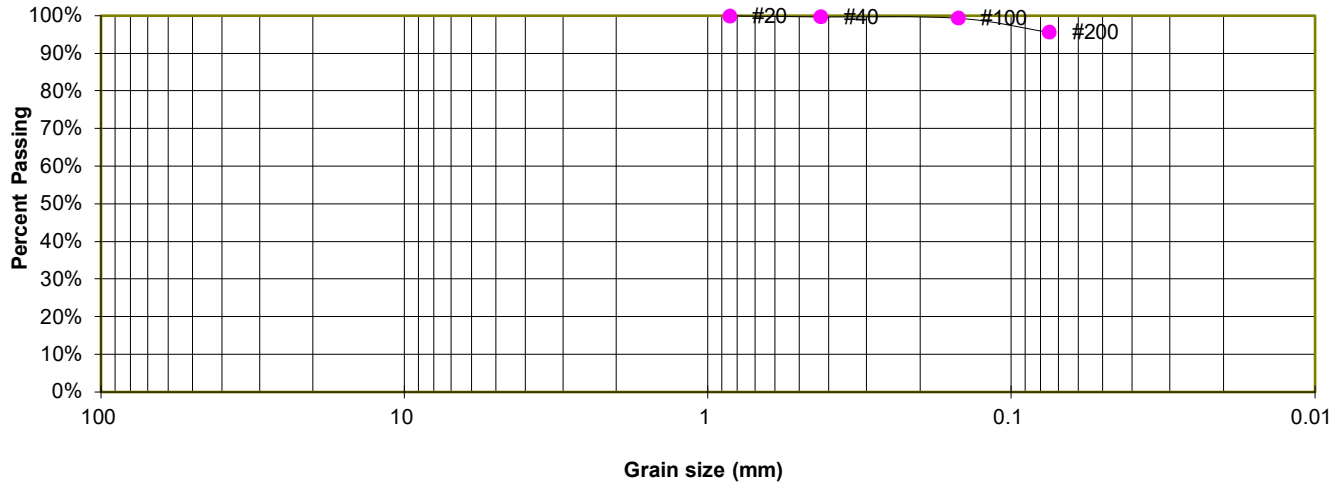
JOB NO.
261095

FIG. B-3

TEST BORING	4
DEPTH (FT)	5

SOIL DESCRIPTION CLAY, SLIGHTLY SANDY
SOIL TYPE 2

Sieve Analysis Grain Size Distribution



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	
10	
20	100.0%
40	99.8%
100	99.4%
200	95.7%

ATTERBERG LIMITS

Plastic Limit	23
Liquid Limit	38
Plastic Index	15

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

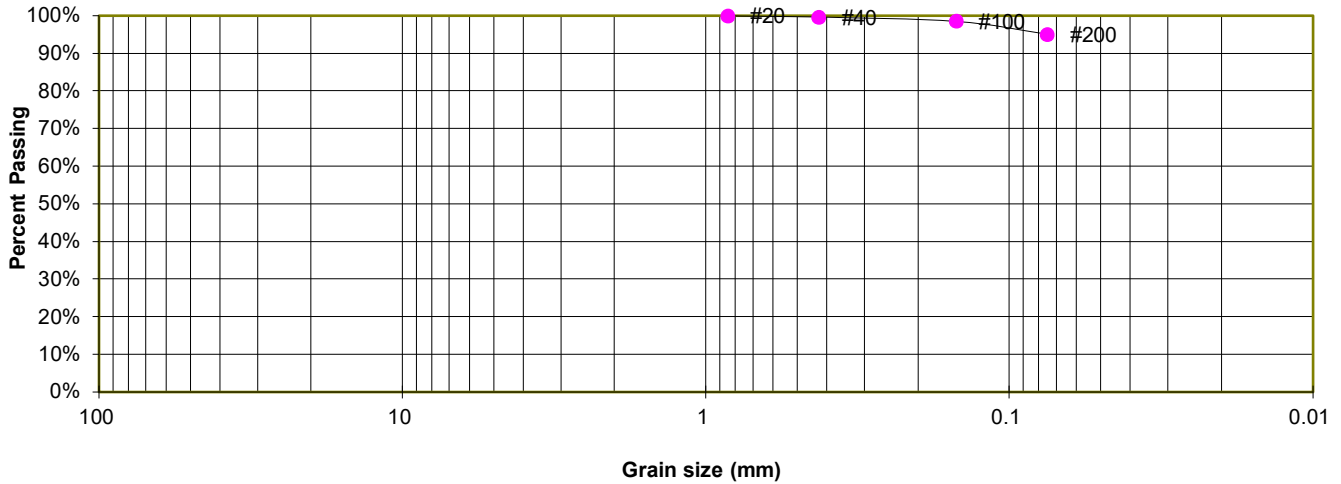
JOB NO.
261095

FIG. B-4

TEST BORING	4
DEPTH (FT)	10

SOIL DESCRIPTION CLAY, SLIGHTLY SANDY
SOIL TYPE 2

Sieve Analysis Grain Size Distribution



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	
10	
20	100.0%
40	99.6%
100	98.6%
200	95.1%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



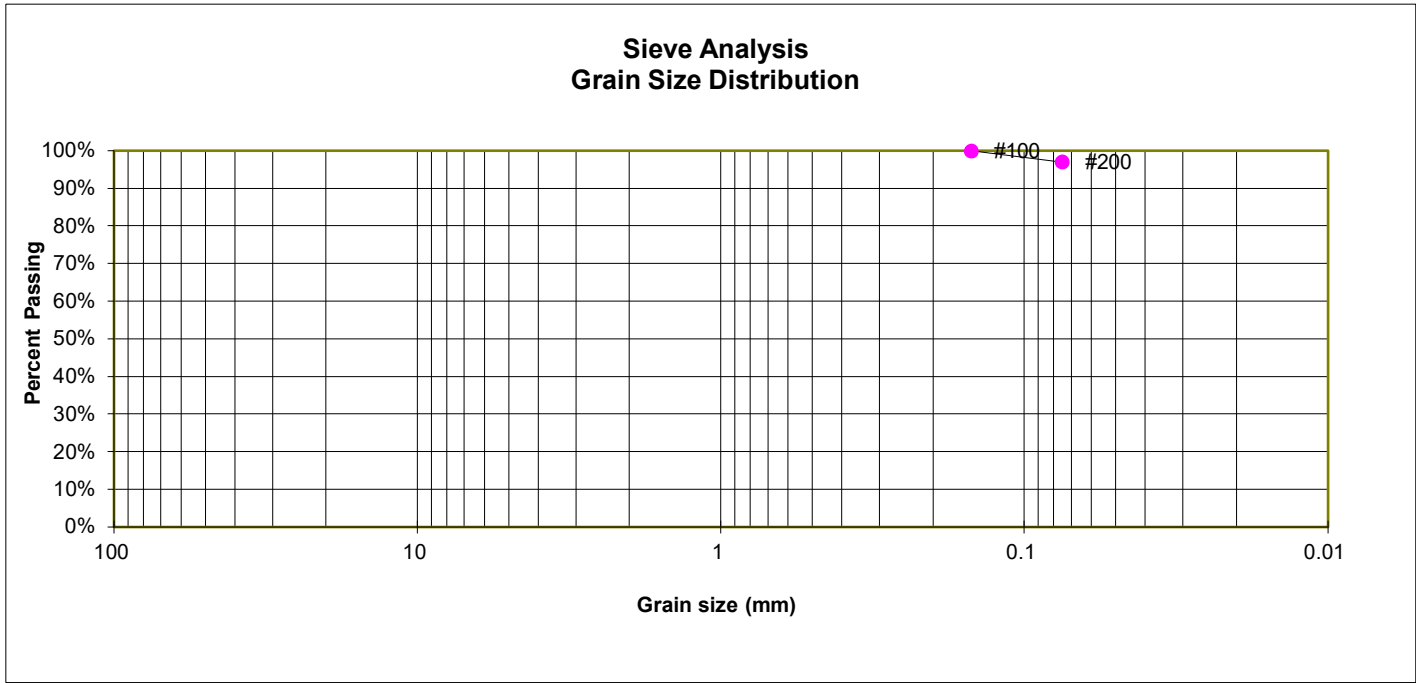
LABORATORY TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. B-5

TEST BORING	8	SOIL DESCRIPTION	CLAY, SLIGHTLY SANDY
DEPTH (FT)	2-3	SOIL TYPE	2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	
10	
20	
40	
100	100.0%
200	97.0%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



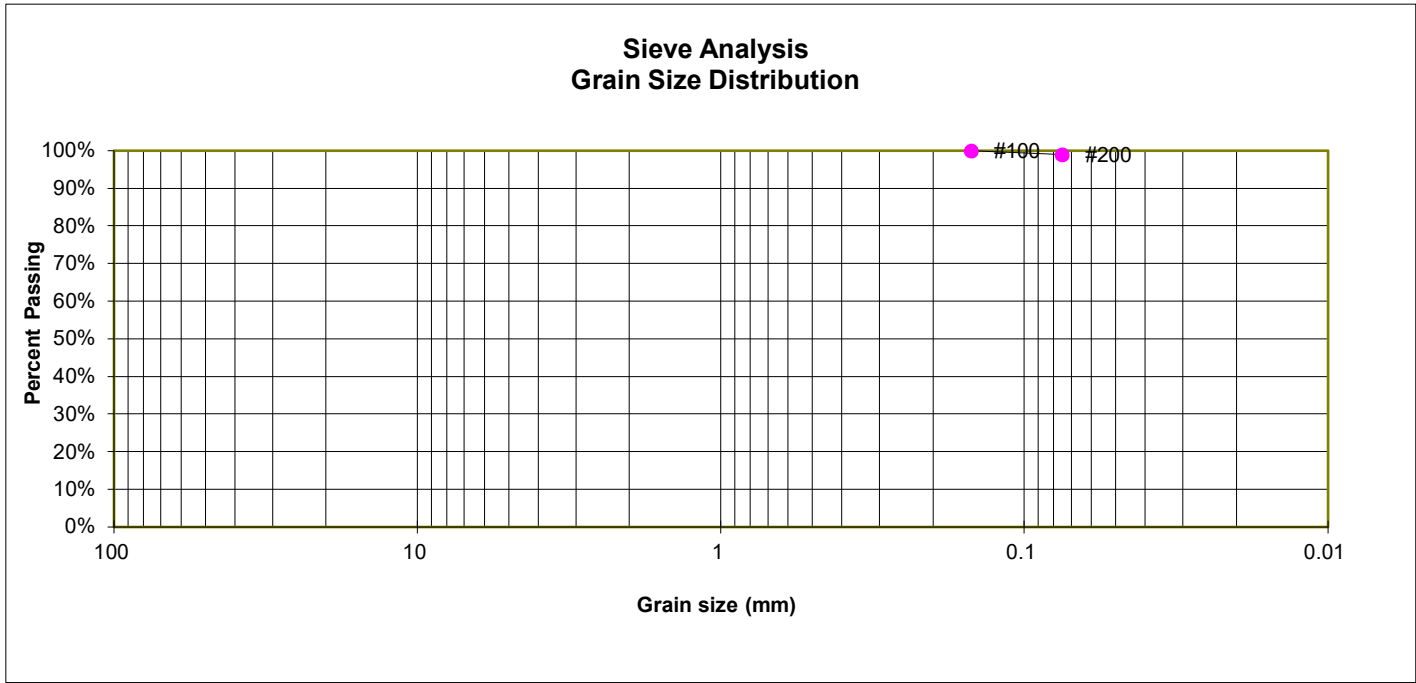
LABORATORY TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. B-6

TEST BORING	9	SOIL DESCRIPTION	CLAY, SLIGHTLY SANDY
DEPTH (FT)	10	SOIL TYPE	2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	
10	
20	
40	
100	100.0%
200	99.0%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

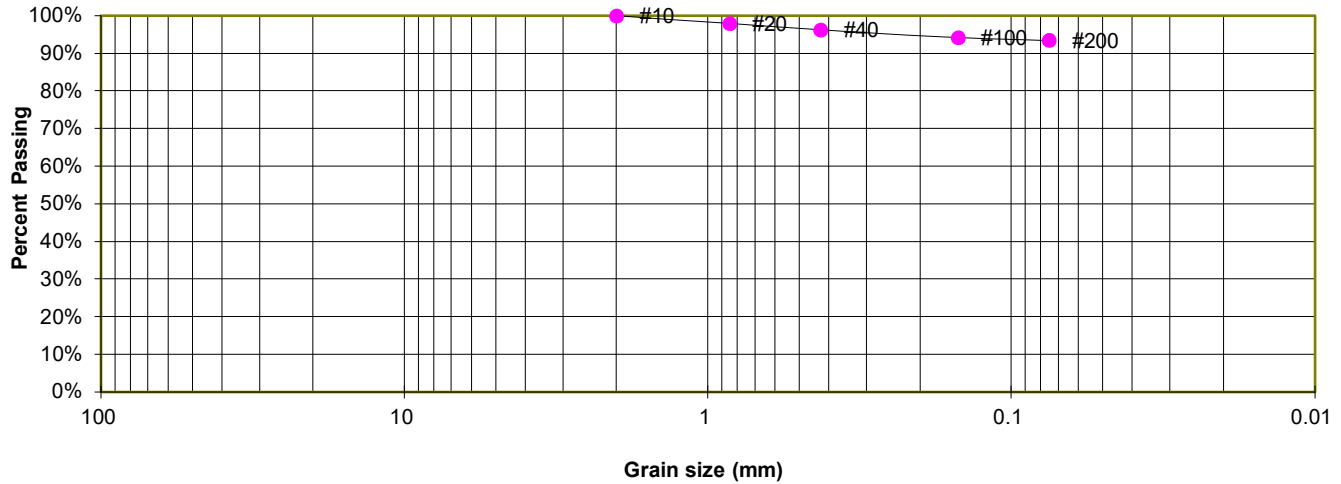
JOB NO.
261095

FIG. B-7

TEST BORING	10
DEPTH (FT)	5

SOIL DESCRIPTION CLAY, SLIGHTLY SANDY
SOIL TYPE 2

Sieve Analysis Grain Size Distribution



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	
10	100.0%
20	98.0%
40	96.3%
100	94.2%
200	93.4%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

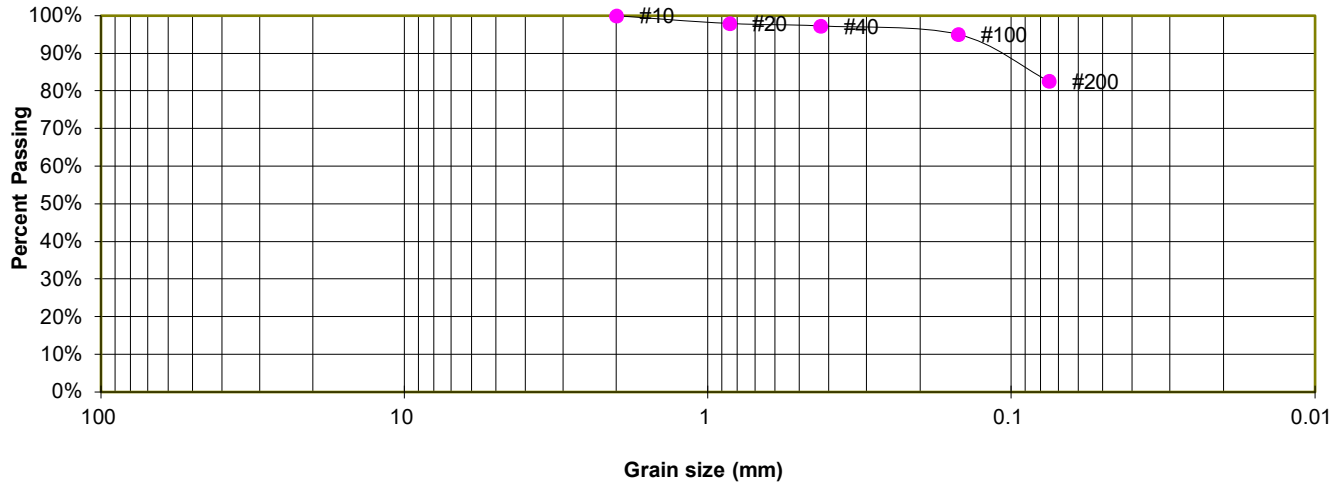
JOB NO.
261095

FIG. B-8

TEST BORING 11
DEPTH (FT) 2-3

SOIL DESCRIPTION CLAY, WITH SAND
SOIL TYPE 2

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	
10	100.0%
20	98.0%
40	97.3%
100	95.0%
200	82.6%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

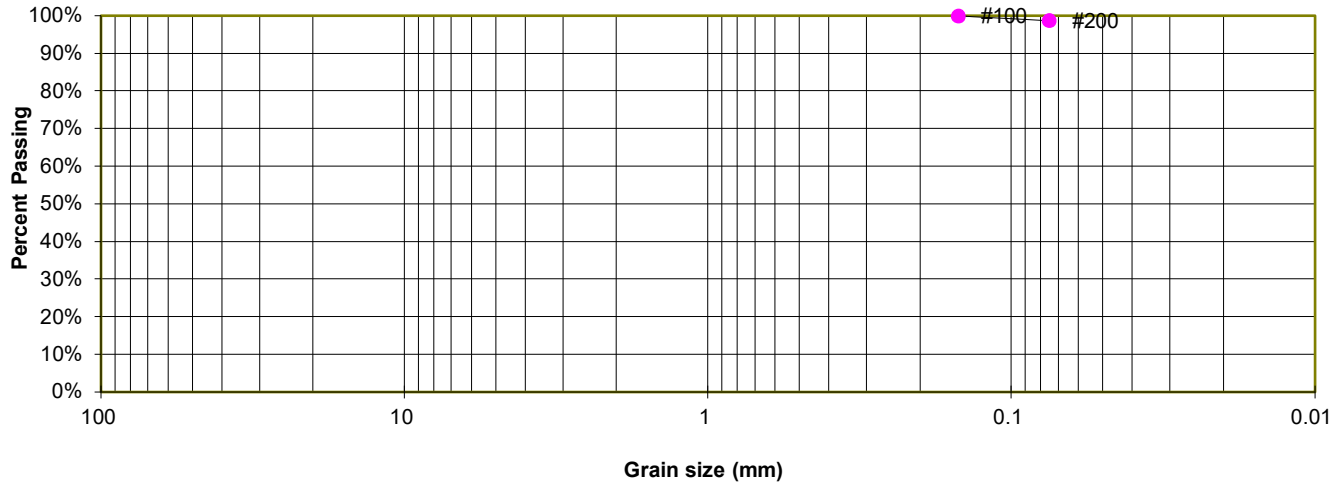
CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. B-9

TEST BORING	1	SOIL DESCRIPTION	CLAYSTONE (CLAY, SL. SANDY)
DEPTH (FT)	10	SOIL TYPE	3

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

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

ATTERBERG LIMITS

Plastic Limit	24
Liquid Limit	43
Plastic Index	19

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

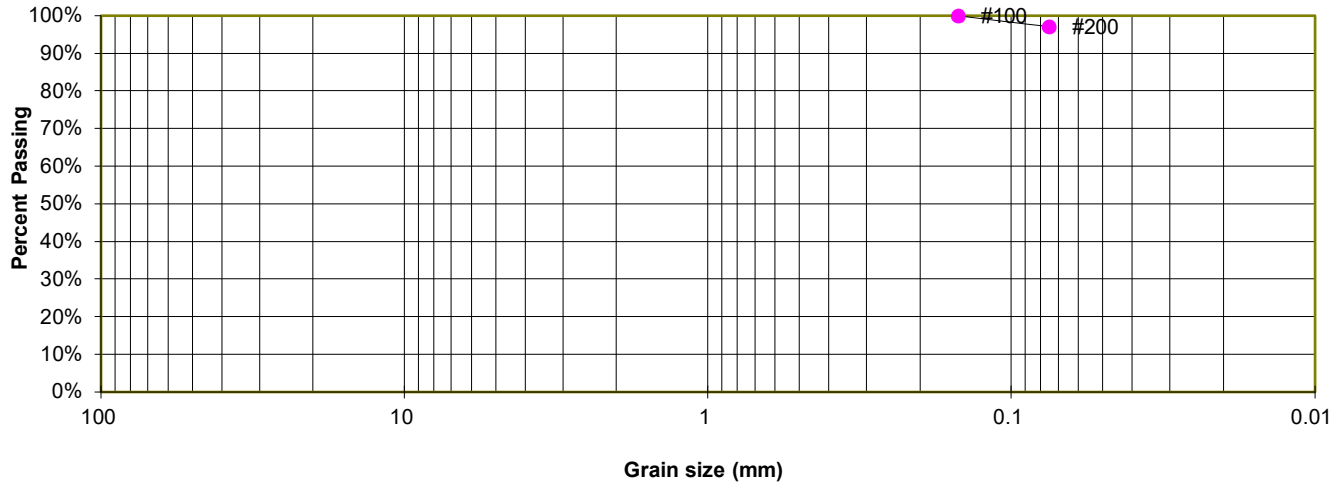
JOB NO.
261095

FIG. B-10

TEST BORING 5
DEPTH (FT) 5

SOIL DESCRIPTION CLAYSTONE (CLAY, SL. SANDY)
SOIL TYPE 3

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

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

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

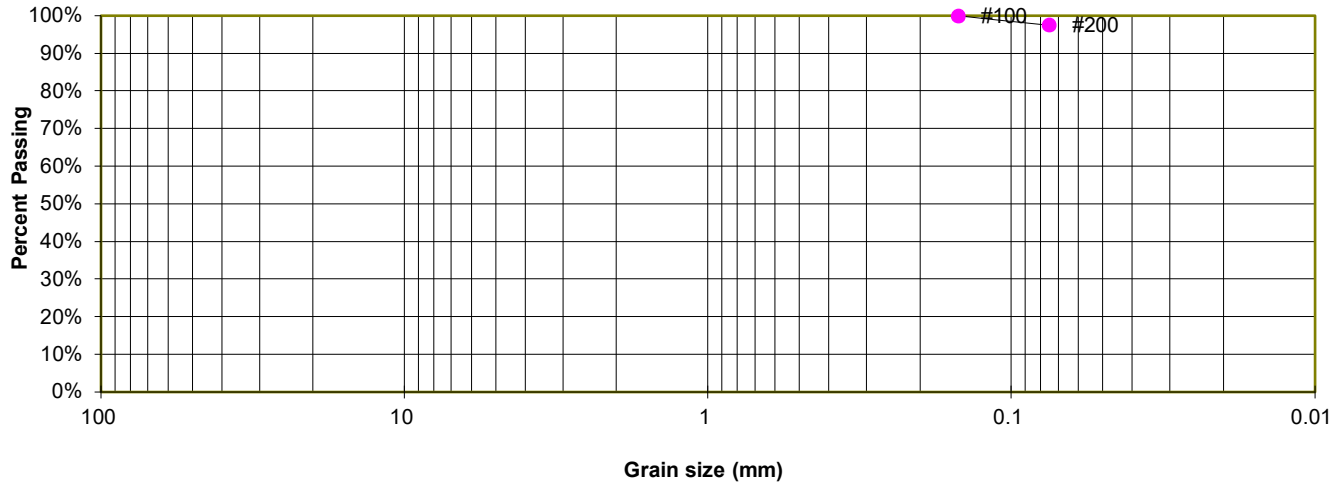
JOB NO.
261095

FIG. B-11

TEST BORING 6
DEPTH (FT) 10

SOIL DESCRIPTION CLAYSTONE (CLAY, SL. SANDY)
SOIL TYPE 3

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	
10	
20	
40	
100	100.0%
200	97.5%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

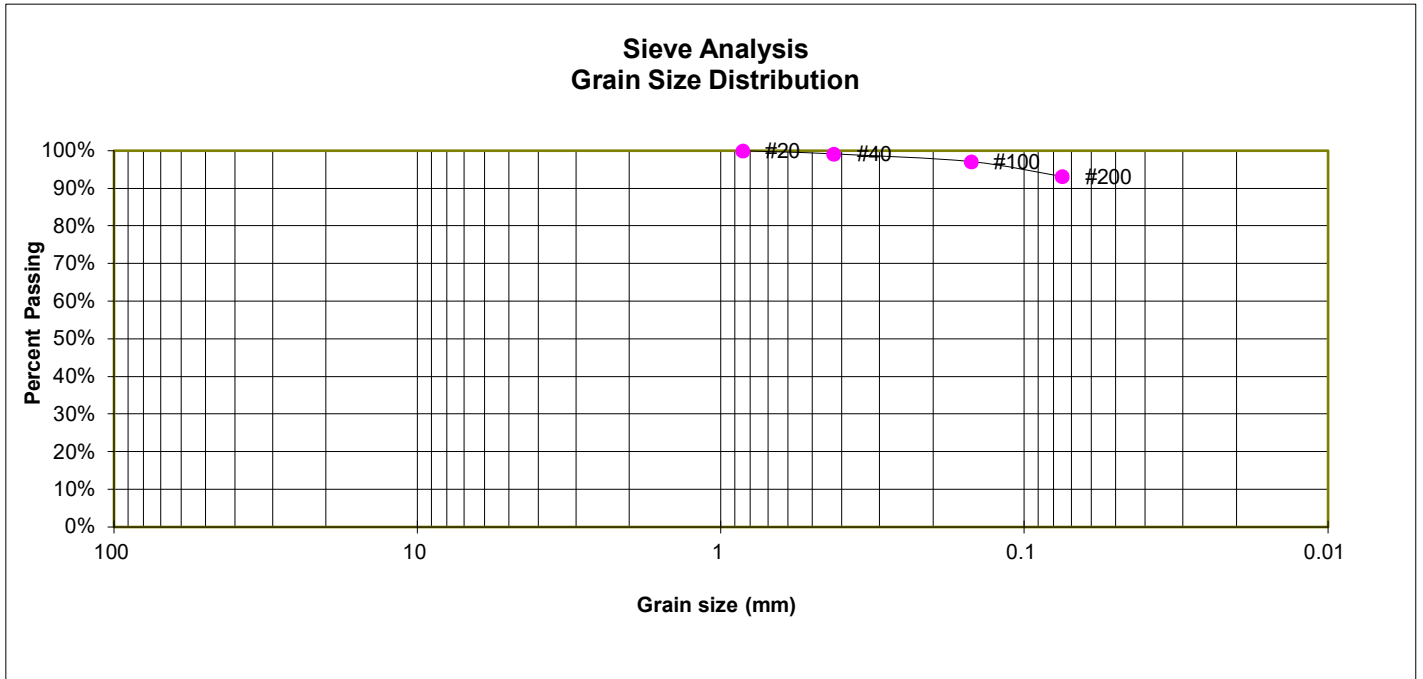
CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. B-12

TEST BORING	11
DEPTH (FT)	15

SOIL DESCRIPTION	CLAYSTONE (CLAY, SL. SANDY)
SOIL TYPE	3



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	
10	
20	100.0%
40	99.2%
100	97.1%
200	93.2%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

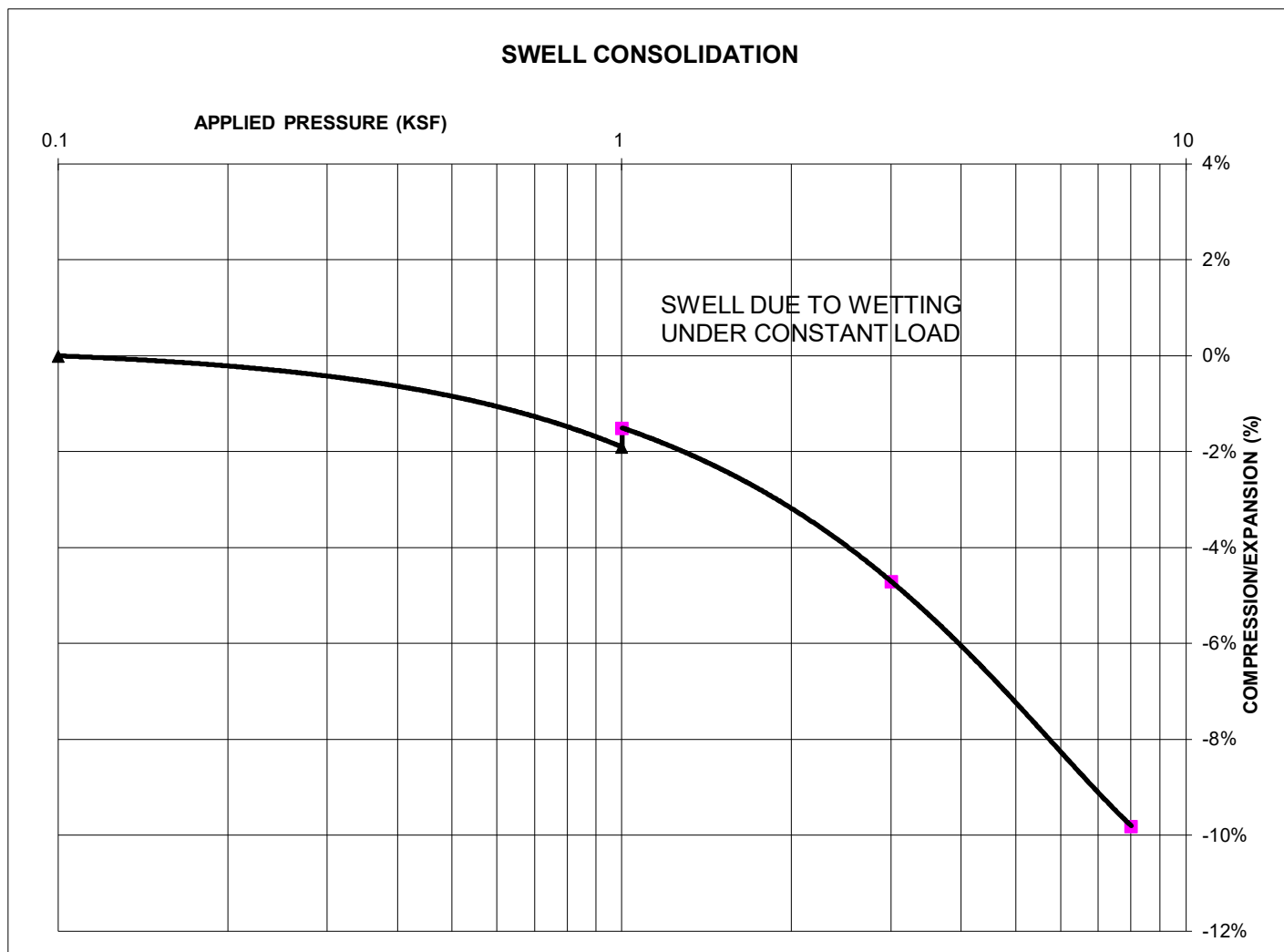
CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. B-13

TEST BORING 7
DEPTH (FT) 2-3

SOIL DESCRIPTION FILL, CLAY, SLIGHTLY SANDY
SOIL TYPE 1



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 88
NATURAL MOISTURE CONTENT: 18.1%
SWELL/COLLAPSE (%): 0.4%



SWELL TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. B-14

TEST BORING 2
DEPTH (FT) 5

SOIL DESCRIPTION CLAY, SLIGHTLY SANDY
SOIL TYPE 2



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 89
NATURAL MOISTURE CONTENT: 14.8%
SWELL/COLLAPSE (%): -0.7%



SWELL TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. B-15

TEST BORING 3
DEPTH (FT) 5

SOIL DESCRIPTION CLAY, SLIGHTLY SANDY
SOIL TYPE 2



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 113
NATURAL MOISTURE CONTENT: 15.0%
SWELL/COLLAPSE (%): 5.0%



SWELL TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. B-16

TEST BORING 4
DEPTH (FT) 5

SOIL DESCRIPTION CLAY, SLIGHTLY SANDY
SOIL TYPE 2



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 94
NATURAL MOISTURE CONTENT: 13.8%
SWELL/COLLAPSE (%): -1.2%



SWELL TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. B-17

TEST BORING 8
DEPTH (FT) 2-3

SOIL DESCRIPTION CLAY, SLIGHTLY SANDY
SOIL TYPE 2



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 98
NATURAL MOISTURE CONTENT: 16.8%
SWELL/COLLAPSE (%): 1.2%



SWELL TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. B-18

TEST BORING 9
DEPTH (FT) 10

SOIL DESCRIPTION CLAY, SLIGHTLY SANDY
SOIL TYPE 2



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 107
NATURAL MOISTURE CONTENT: 13.0%
SWELL/COLLAPSE (%): 0.6%



SWELL TEST RESULTS

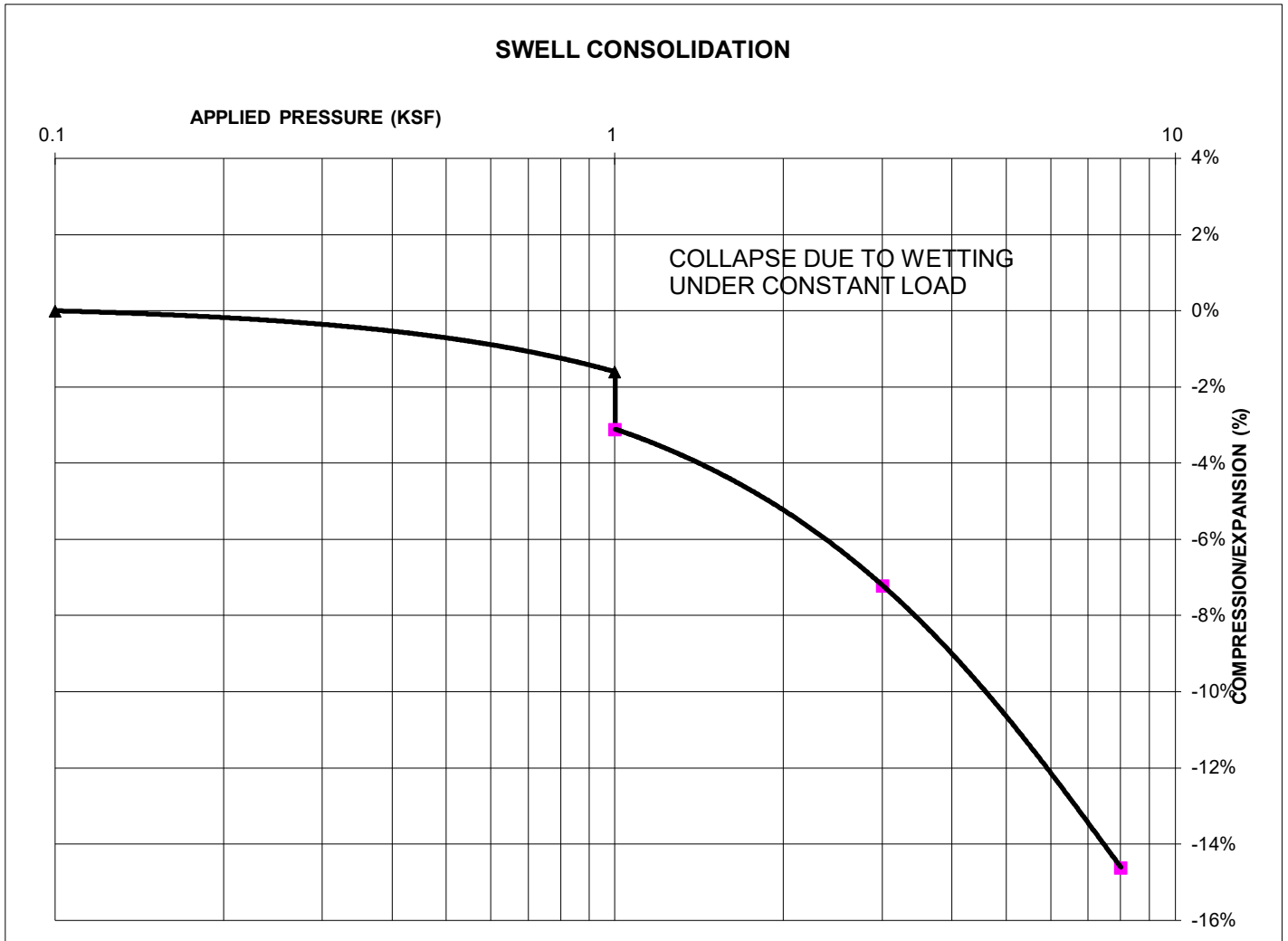
CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. B-19

TEST BORING 10
DEPTH (FT) 5

SOIL DESCRIPTION CLAY, SLIGHTLY SANDY
SOIL TYPE 2



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 89
NATURAL MOISTURE CONTENT: 14.0%
SWELL/COLLAPSE (%): -1.5%



SWELL TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. B-20

TEST BORING 11
DEPTH (FT) 2-3

SOIL DESCRIPTION CLAY, WITH SAND
SOIL TYPE 2



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 91
NATURAL MOISTURE CONTENT: 10.4%
SWELL/COLLAPSE (%): -1.7%



SWELL TEST RESULTS

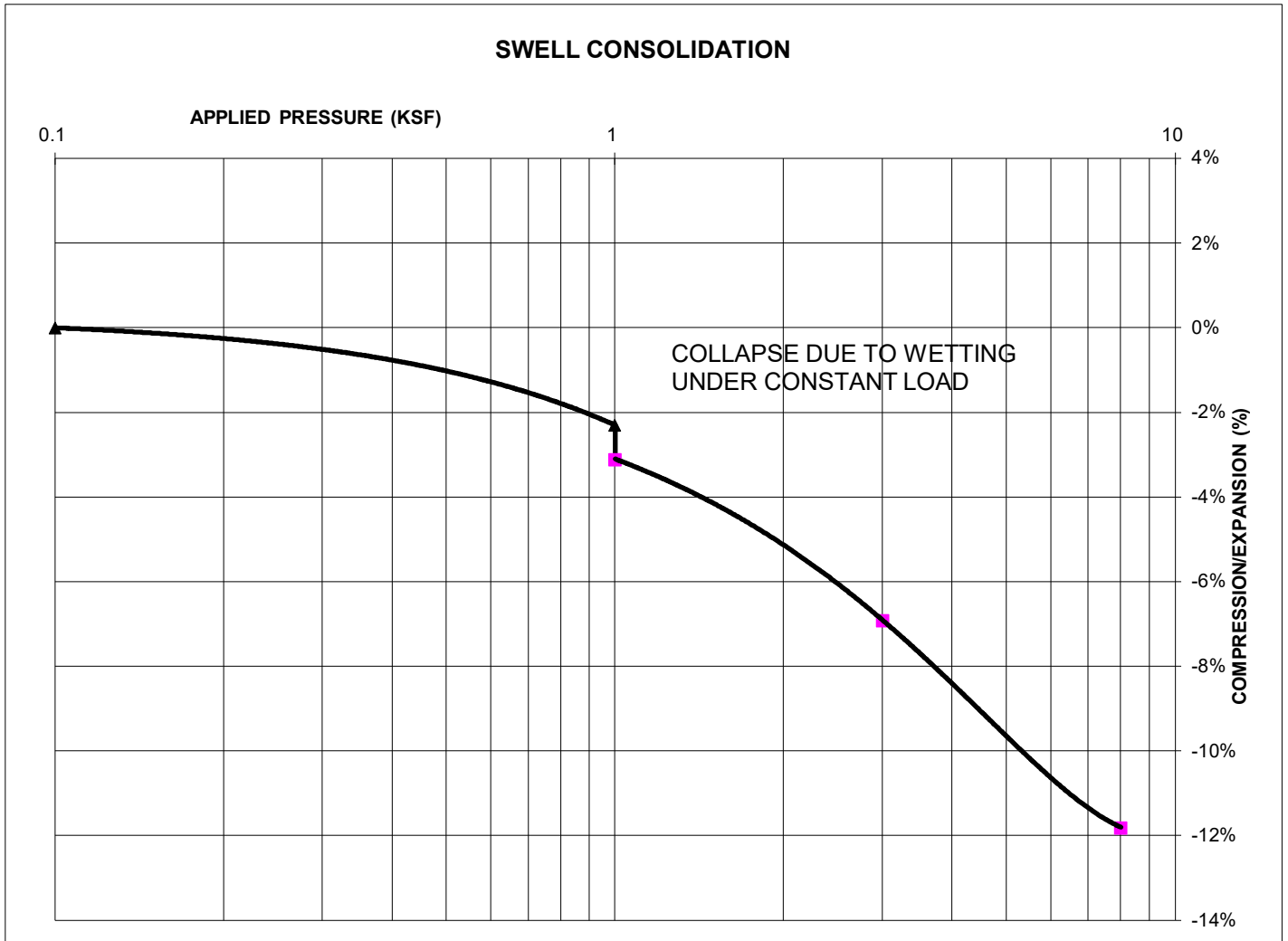
CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. B-21

TEST BORING 1
DEPTH (FT) 10

SOIL DESCRIPTION CLAYSTONE (CLAY, SL. SANDY)
SOIL TYPE 3



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 99
NATURAL MOISTURE CONTENT: 11.6%
SWELL/COLLAPSE (%): -0.8%



SWELL TEST RESULTS

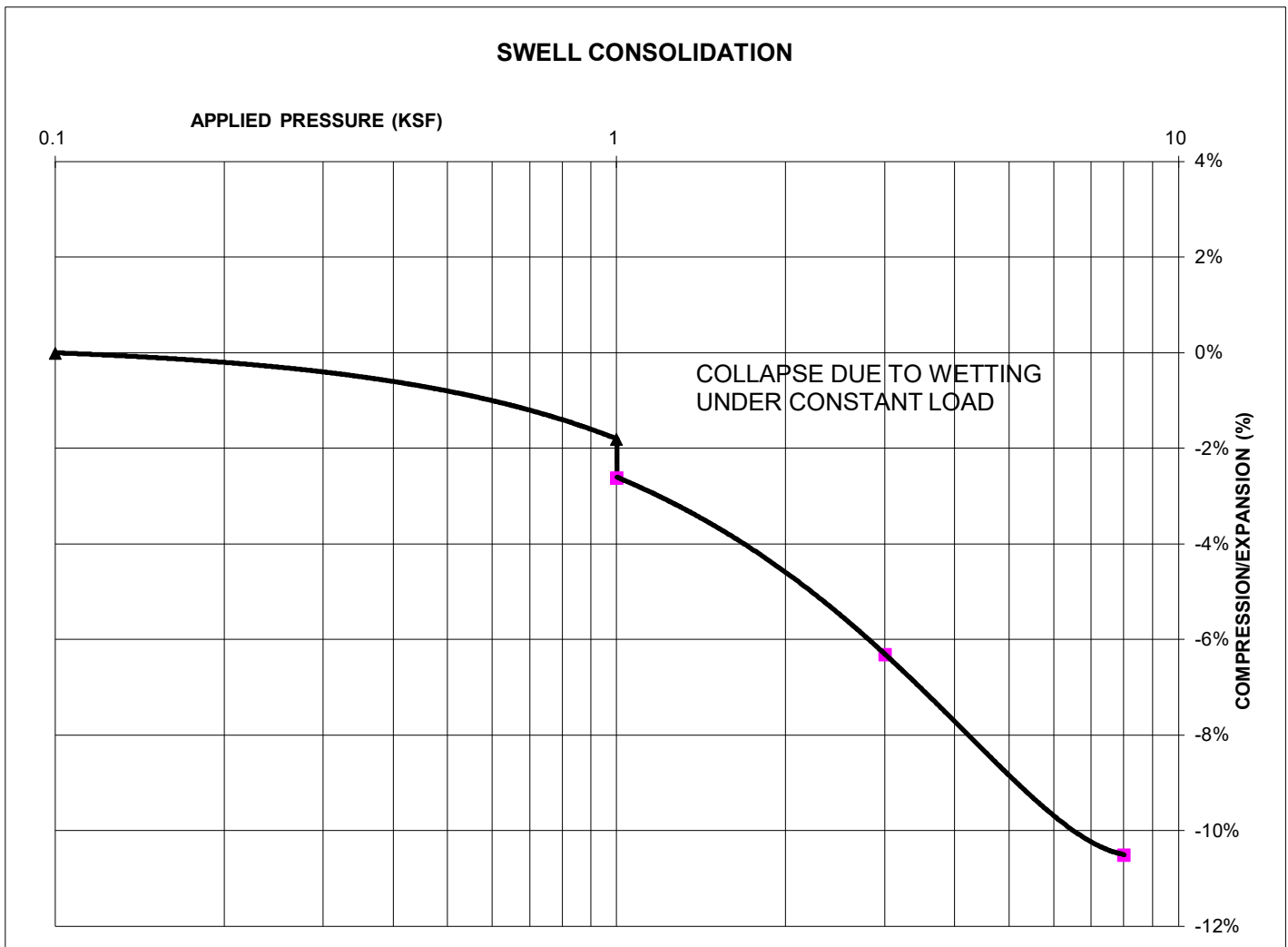
CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. B-22

TEST BORING 5
DEPTH (FT) 5

SOIL DESCRIPTION CLAYSTONE (CLAY, SL. SANDY)
SOIL TYPE 3



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 96
NATURAL MOISTURE CONTENT: 12.3%
SWELL/COLLAPSE (%): -0.8%



SWELL TEST RESULTS

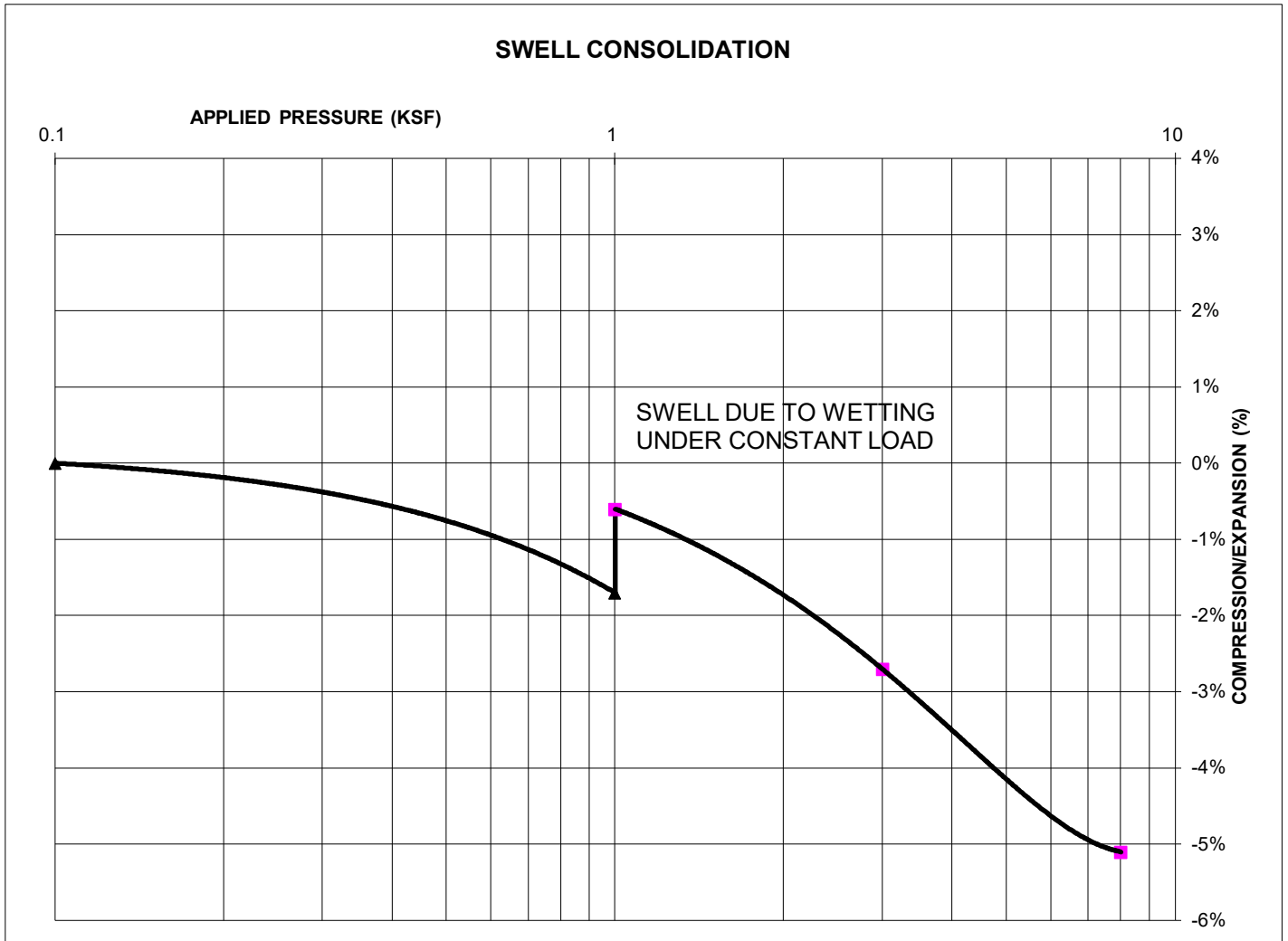
CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. B-23

TEST BORING 6
DEPTH (FT) 10

SOIL DESCRIPTION CLAYSTONE (CLAY, SL. SANDY)
SOIL TYPE 3



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 107
NATURAL MOISTURE CONTENT: 15.9%
SWELL/COLLAPSE (%): 1.1%



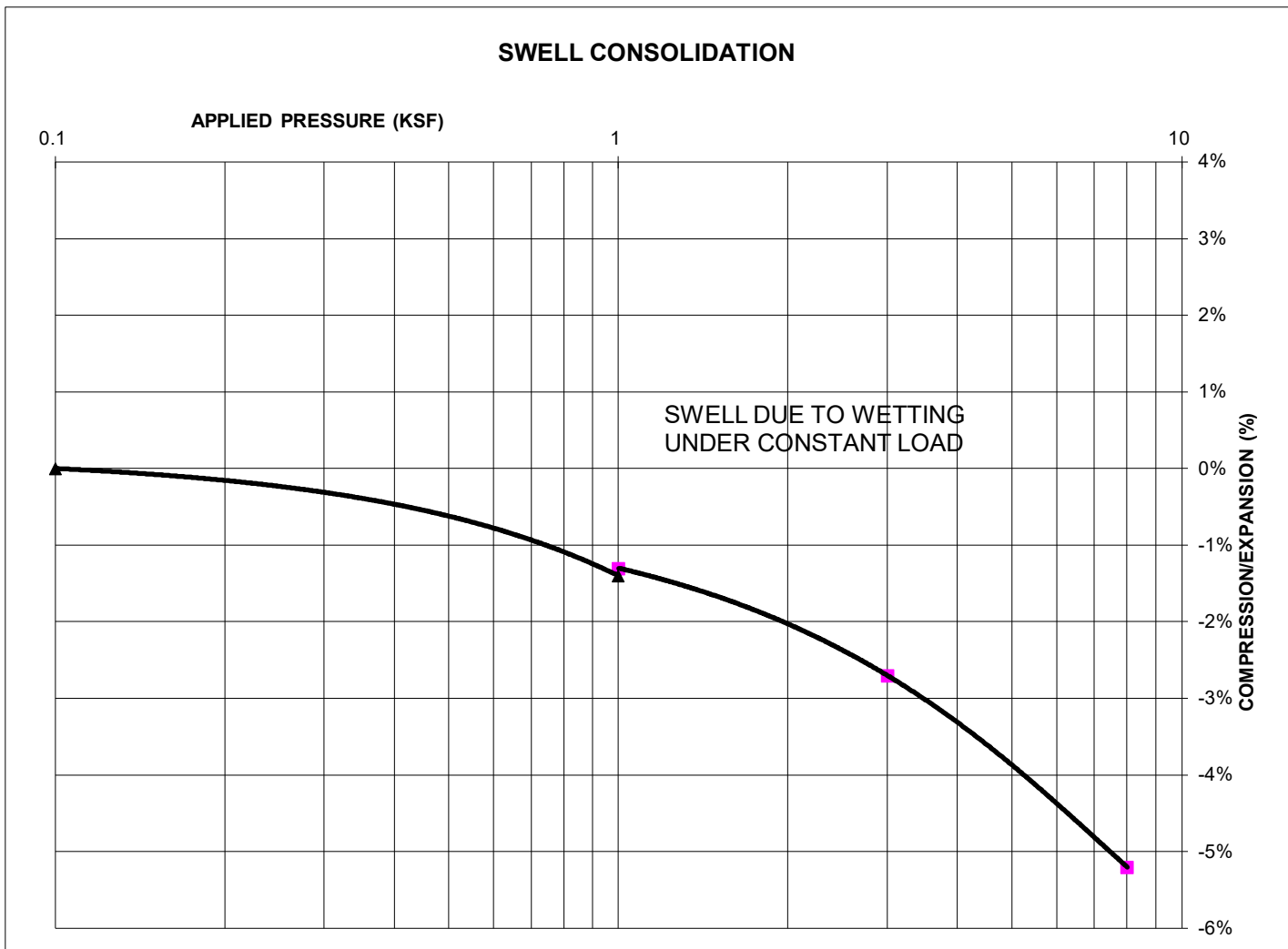
SWELL TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. B-24

TEST BORING	11	SOIL DESCRIPTION	CLAYSTONE (CLAY, SL. SANDY)
DEPTH (FT)	15	SOIL TYPE	3



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 108
 NATURAL MOISTURE CONTENT: 12.7%
 SWELL/COLLAPSE (%): 0.1%



SWELL TEST RESULTS

CSU - WILLIAMS CREEK PLANT
 VERTEX CONSULTING

JOB NO.
 261095

FIG. B-25

**APPENDIX C: OWTS Site Evaluation
CSU – Williams Creek Plant
Entech Job No. 261095**

July 29, 2026



Vertex Consulting Services
5825 Delmonico Drive, Suite 320
Colorado Springs, CO 80919

Attn: Craig Dossey

Re: OWTS Site Evaluation
CSU Williams Creek Plant
Arrays Place
Parcel No. 5600000123
El Paso County, Colorado

Dear Craig Dossey:

As requested, personnel of Entech Engineering, Inc. have observed the excavation of two test pits in the area of the proposed on-site wastewater treatment system (OWTS) absorption field location at the above referenced site. This letter presents the results of our testing.

The locations of the test pits are shown in Figures 1, 1a, 1b, and 1c. The test pits were excavated on June 30, 2026, to approximate depths of 6.0 feet below grade. Soils encountered in both test pits consisted of topsoil with underlying moderately cemented sandy clay. The Test Pit Logs and Laboratory Test Results are shown in Figures 2 through 4. Bedrock was encountered in TP-1 and TP-2 at approximately 6.0 feet below grade. Redoximorphic features were not encountered in the test pits.

Visual and tactile evaluation of the soils was performed. The limiting layers encountered in the test pits are the sandy clay and shallow bedrock, which classified as USDA Soil Type 4A. For design purposes a LTAR Value of 0.15 gallons per day per square foot is recommended for Treatment Level 1. A maximum LTAR Value of 0.20 gallons per day per square foot is recommended for Treatment Level 3. An engineer designed system is required for this site due to shallow bedrock and Soil Type 4A encountered in both test pits. The absorption field should be installed in accordance with El Paso County Health Department regulations.

We trust that this has provided you with the information you required. If you have any questions or need additional information, please do not hesitate to contact us.

Respectfully Submitted,

ENTECH ENGINEERING, INC.

Christopher A. Wiese

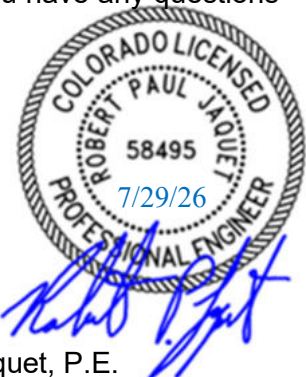
RPJ/cw

Encl.

Entech Job No. 261095

AA projects/2026/261095 owts site eval

Reviewed by:



Robert P. Jaquet, P.E.
Project Engineer

Digitally signed by Robert P. Jaquet
Date: 07/29/26



ENTECH
ENGINEERING, INC.

505 ELKTON DRIVE
COLORADO SPRINGS, CO 80907
PHONE (719) 531-5599

VICINITY MAP

CSU – WILLIAMS CREEK PLANT
PARCEL No. 5600000123
EL PASO COUNTY, COLORADO
FOR: VERTEX CONSULTING SERVICES

JOB NO.:

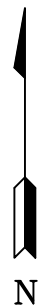
261095

FIG NO.:

1



- ⊕ TP- APPROXIMATE TEST PIT LOCATION AND NUMBER
- ⊕ - TP-1 38°37'58.17"N, 104°37'54.43"W
 - ⊕ - TP-2 38°37'57.94"N, 104°37'54.69"W



ENTECH
ENGINEERING, INC.

505 ELKTON DRIVE
COLORADO SPRINGS, CO 80907
PHONE (719) 531-5599

TEST PIT LOCATION MAP
CSU – WILLIAMS CREEK PLANT
PARCEL No. 5600000123
EL PASO COUNTY, COLORADO
FOR: VERTEX CONSULTING SERVICES

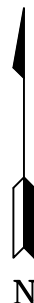
JOB NO.:
261095
FIG NO.:
1a



TP- APPROXIMATE TEST PIT LOCATION AND NUMBER



- TP-1 38°37'58.17"N, 104°37'54.43"W
- TP-2 38°37'57.94"N, 104°37'54.69"W



N



ENTECH
ENGINEERING, INC.

505 ELKTON DRIVE
COLORADO SPRINGS, CO 80907
PHONE (719) 531-5599

TEST PIT LOCATION MAP

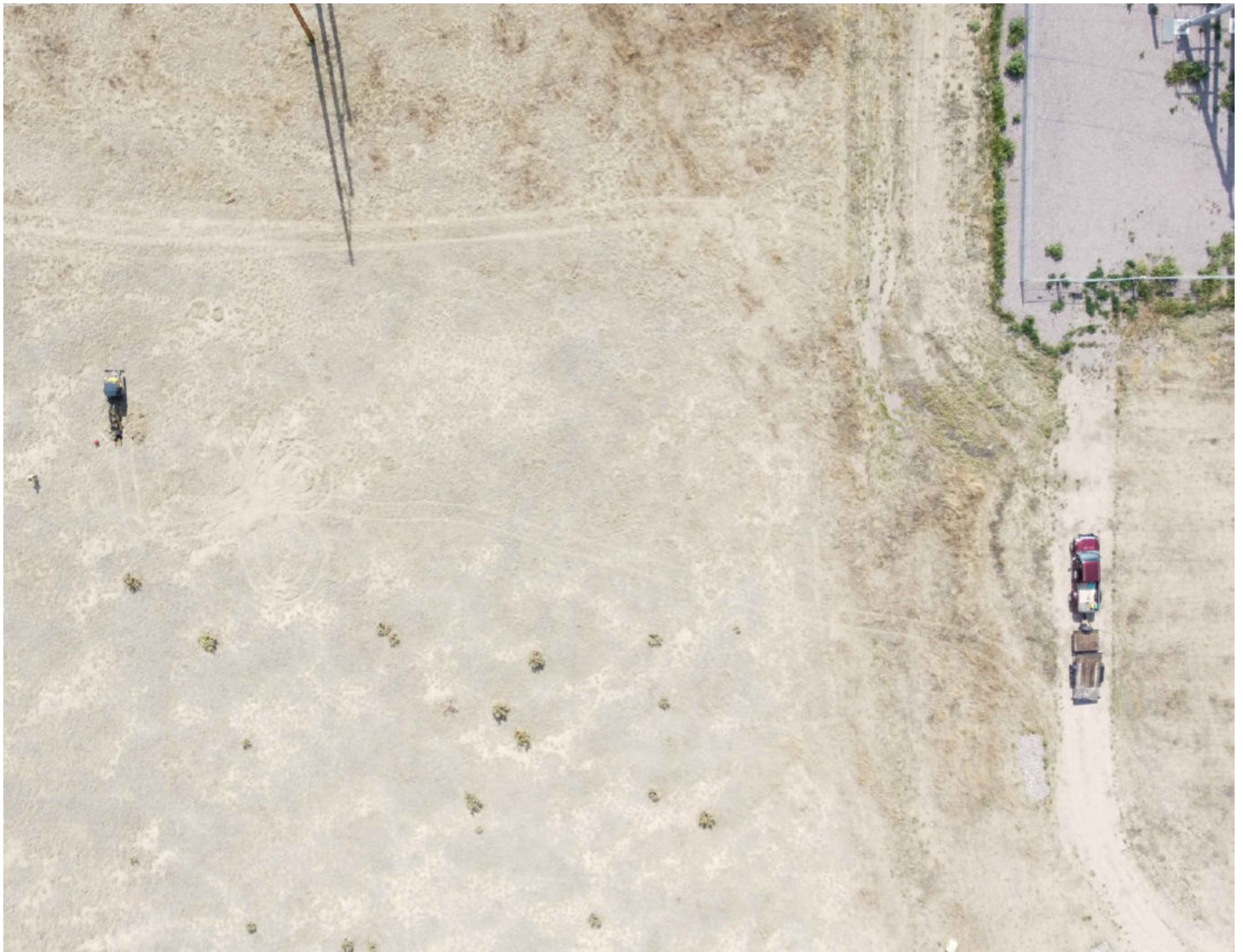
CSU – WILLIAMS CREEK PLANT
PARCEL No. 5600000123
EL PASO COUNTY, COLORADO
FOR: VERTEX CONSULTING SERVICES

JOB NO.:

261095

FIG NO.:

1b



Drone Photo 6.30.2026

-  **TP- APPROXIMATE TEST PIT LOCATION AND NUMBER**
-  - **TP-1 38°37'58.17"N, 104°37'54.43"W**
-  - **TP-2 38°37'57.94"N, 104°37'54.69"W**



ENTECH
ENGINEERING, INC.

505 ELKTON DRIVE
COLORADO SPRINGS, CO 80907
PHONE (719) 531-5599

TEST PIT LOCATION MAP

**CSU – WILLIAMS CREEK PLANT
PARCEL No. 5600000123
EL PASO COUNTY, COLORADO
FOR: VERTEX CONSULTING SERVICES**

JOB NO.:

261095

FIG NO.:

1c

TEST PIT 1
DATE EXCAVATED 6/30/2026
REMARKS

refusal due to bedrock @ 6'-0"

topsoil, sandy clay, brown, moist

sandy clay, fine to medium
grained, dark brown, moist,
moderately cemeneted

Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	Soil Type
1					
2			ma	sl	4A
3					
4					
5			ma	sl	4A
6					
7					
8					
9					
10					

TEST PIT 2
DATE EXCAVATED 6/30/2026
REMARKS

refusal due ot bedrock @ 6'-0"

topsoil, sandy clay, brown, moist

sandy clay, fine to medium
grained, dark brown, moist,
moderately cemeneted

Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	Soil Type
1					
2			ma	sl	4A
3					
4					
5			ma	sl	4A
6					
7					
8					
9					
10					

Soil Structure Shape

granular - gr
platy - pl
blocky - bl
prismatic - pr
single grain - sg
massive - ma

Soil Structure Grade

weak - w
moderate - m
strong - s
loose - l
structureless - sl



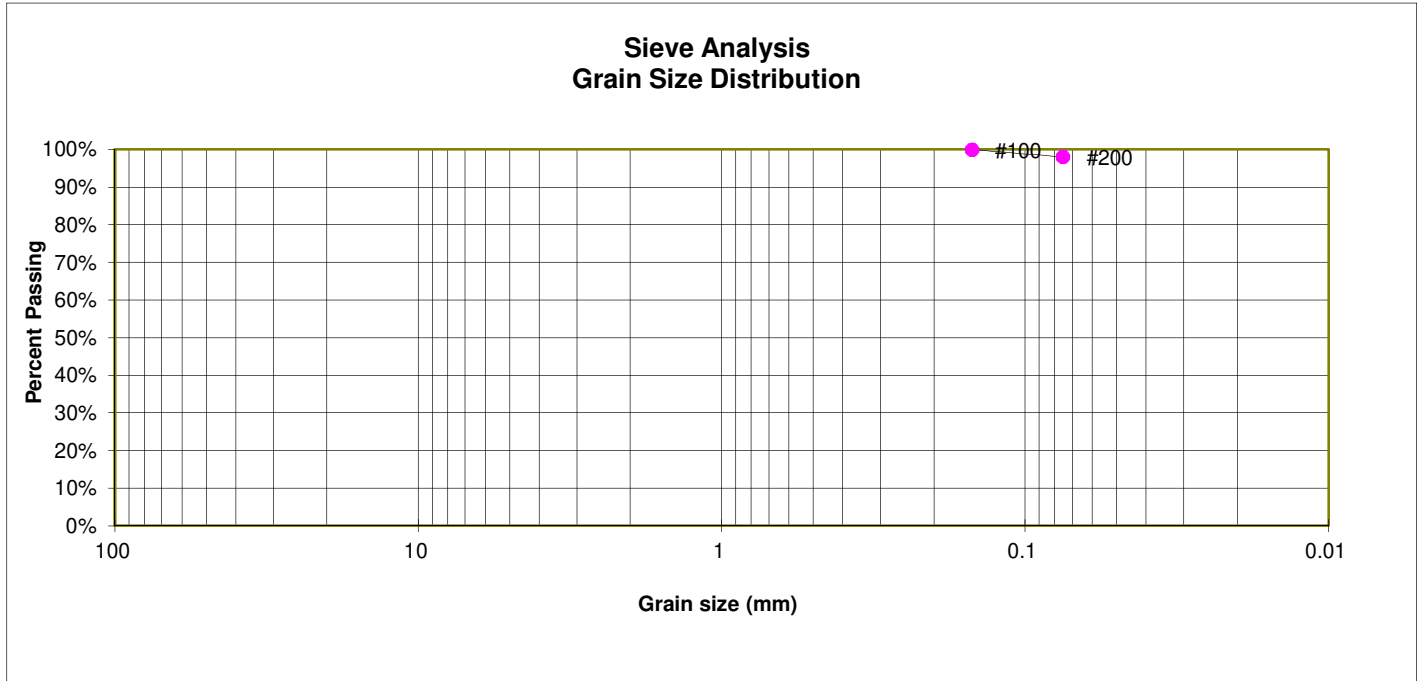
TEST PIT LOGS

CSU WILLIAMS CREEK PLANT
VERTEX CONSULTING SERVICES

JOB NO.
261095

FIG. 2

TEST PIT	TP-1	SOIL DESCRIPTION	CLAY, SLIGHTLY SANDY
DEPTH (FT)	2.5	SOIL TYPE #	4A



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	
10	
20	
40	
100	100.0%
200	98.0%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CH



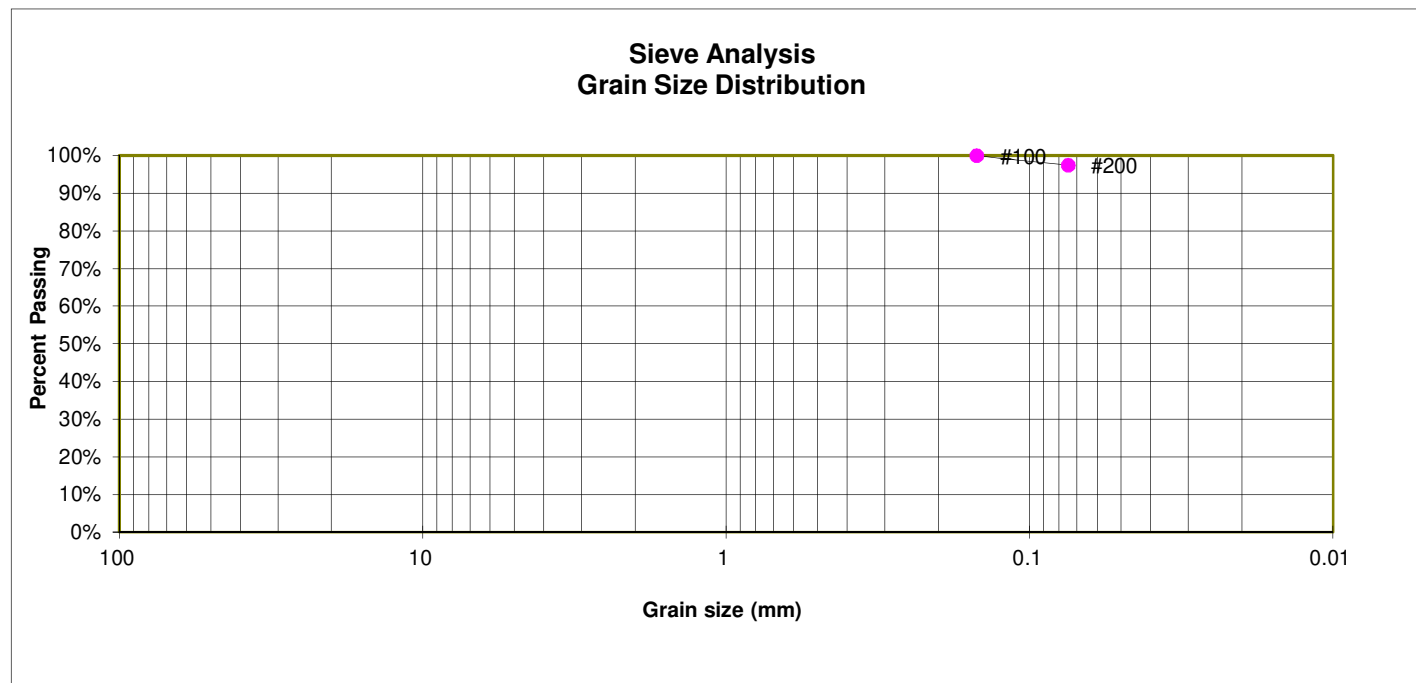
LABORATORY TEST RESULTS

CSU WILLIAMS CREEK PLANT
VERTEX CONSULTING SERVICES

JOB NO.
261095

FIG. 3

TEST PIT	TP-2	SOIL DESCRIPTION	CLAY, SLIGHTLY SANDY
DEPTH (FT)	5	SOIL TYPE #	4A



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	
10	
20	
40	
100	100.0%
200	97.4%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CH



LABORATORY TEST RESULTS

CSU WILLIAMS CREEK PLANT
VERTEX CONSULTING SERVICES

JOB NO.
261095

FIG. 4

APPENDIX D: Infiltration Rate Testing Letter
CSU – Williams Creek Plant
Entech Job No. 261095

August 31, 2026

Vertex Consulting Services
5825 Delmonico Drive, Suite 320
Colorado Springs, Colorado 80919



Attn: Craig Dossey

Re: Preliminary Geotechnical Report – Infiltration Rate Testing
CSU – Williams Creek Plant
El Paso County, Colorado
Entech Job No. 261095

Dear Craig Dossey:

As requested, personnel of Entech Engineering Inc. (Entech) performed preliminary infiltration testing in the proposed detention pond area located within the proposed Williams Creek Plant in El Paso County, Colorado. This letter presents the results of the field investigation and laboratory testing.

The infiltration testing was performed in the proposed detention pond area. The project location is shown in Figure 1. Entech drilled one profile hole (designated TB-11) to a depth of 20 feet and four shallow borings for percolation testing (designated P1 through P4) to depths of 5 feet in the area of the proposed detention pond. Locations of the borings are shown in Figure 2. Infiltration rates were determined using the percolation testing method.

Field Investigation and Laboratory Testing Program:

The profile hole was advanced with a power-driven, continuous flight auger drill rig. Samples were obtained during drilling using the standard penetration test (ASTM D1586) utilizing a 2-inch outside diameter split spoon or a 2½-inch modified California sampler. The results of the standard penetration test and percolation borings are shown on the Test Boring Logs presented in Figures 5 through 7.

Moisture content (ASTM D2216) was obtained in the laboratory for all recovered samples. Grain size (ASTM D422) was determined on select samples for the purpose of classification and to obtain pertinent engineering characteristics. Laboratory test results, percolation testing, and infiltration rates are included in Figures 3 through 11.

Subsurface Conditions:

Subsurface conditions observed in the borings consisted of approximately 6 to 12 inches of topsoil overlying native clay with sand to slightly sandy clay, which extended to the termination depths of borings TB-P1 through TB-P4 at a depth of 5 feet below ground surface (bgs), or to a depth of 12 feet bgs in profile boring TB-11 where claystone bedrock, or hard slightly sandy clay when classified as a soil, was encountered and extended to the termination depth of the boring 20 feet bgs.

Groundwater was not encountered in the borings at the conclusion of, and subsequent to, drilling. It should be noted that groundwater levels could change due to seasonal variations, changes in land runoff characteristics, and future development of nearby areas.



Infiltration Testing Results (Percolation Test Method):

Borings P1 through P4 were located in the area of the proposed detention pond as shown in Figure 2. The testing was completed at approximate depths ranging from 43 to 48.5 inches below the existing ground surface. The percolation borings were saturated at the time of drilling, and then percolation rates were measured 24 hours later. The adjusted infiltration rates obtained from P1 through P4 are presented in Exhibit 1.

Exhibit 1: Adjusted Infiltration Rates

Percolation Test No. (depth in.)	Percolation Rate (min./in.)	Adjusted Infiltration Rate (in./hr.)
P1 (43)	240	0.029
P2 (43)	240	0.041
P3 (43)	13	1.726
P4 (48.5)	60	0.115
Avg ¹	180	0.061 in/hr

Notes:

1. Due to the general soil conditions encountered in the test borings and the range of rates encountered during testing, percolation test P3 was not considered in calculating the average percolation rate or the average adjusted infiltration rate.

It is our understanding that the detention pond is in the preliminary design phase. Percolation rates may vary based on the final elevation of the detention pond.

Closing:

This report has been prepared for the proposed detention pond associated with the proposed Williams Creek Plant in accordance with generally accepted soil and foundation engineering practices. No other warranty, express or implied, is made. In the event that the project scope changes, the conclusions and recommendations in this report should not be considered valid unless the changes are reviewed and the conclusions of this report are verified in writing or, if necessary, modified.



We trust this has provided you with the information you required. If you have any questions or need additional information, please do not hesitate to contact us.

Respectfully Submitted,

ENTECH ENGINEERING, INC.

A handwritten signature in blue ink that reads "Calvin J. Pickett".

Calvin J. Pickett
Geotechnical Engineering Staff

Reviewed by:



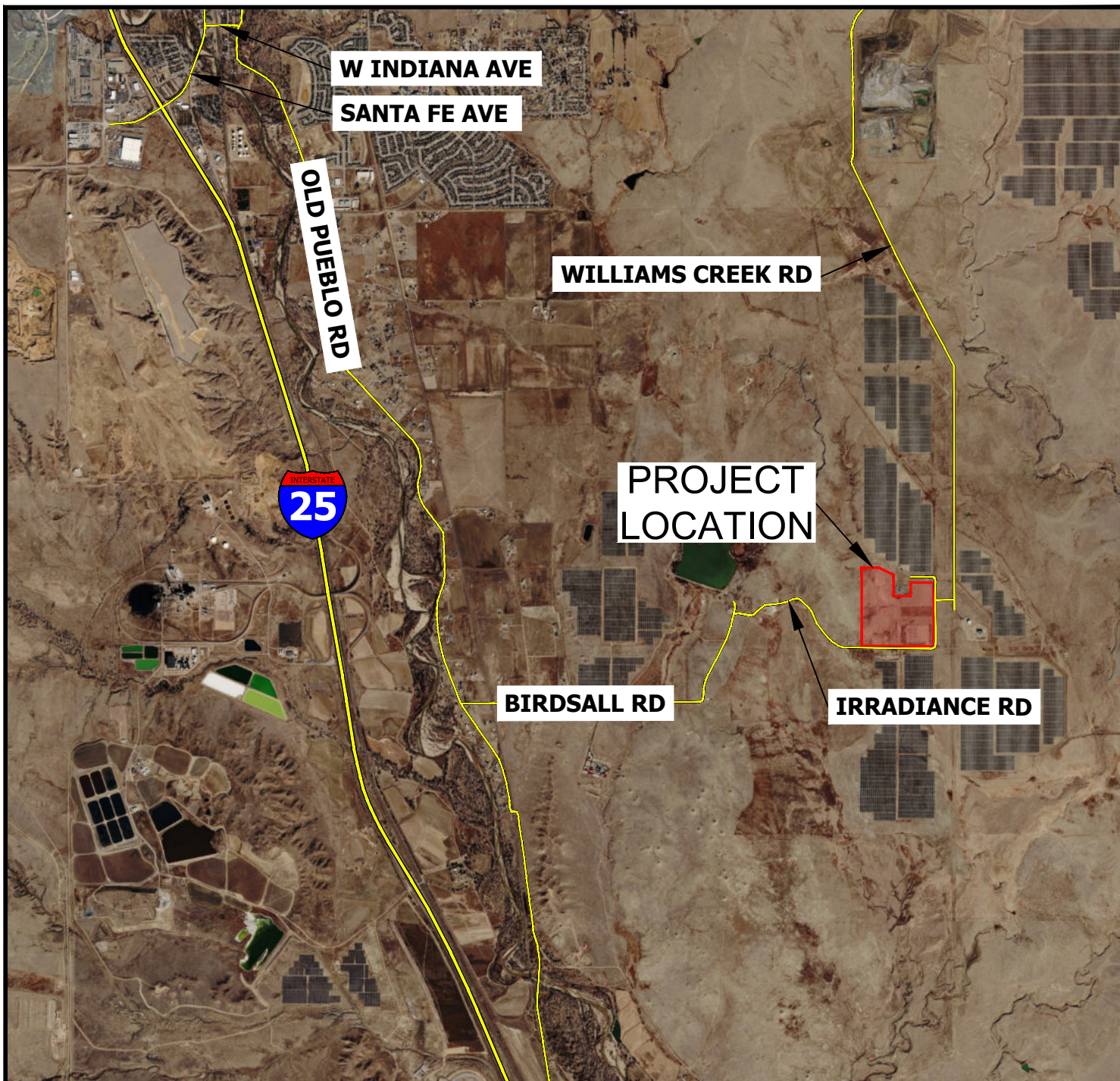
Digitally signed by Joseph C Goode III
Date: 09/01/26

Joseph C. Goode III, P.E.
Sr. Engineer

Encl.

CJP:JCG/ed

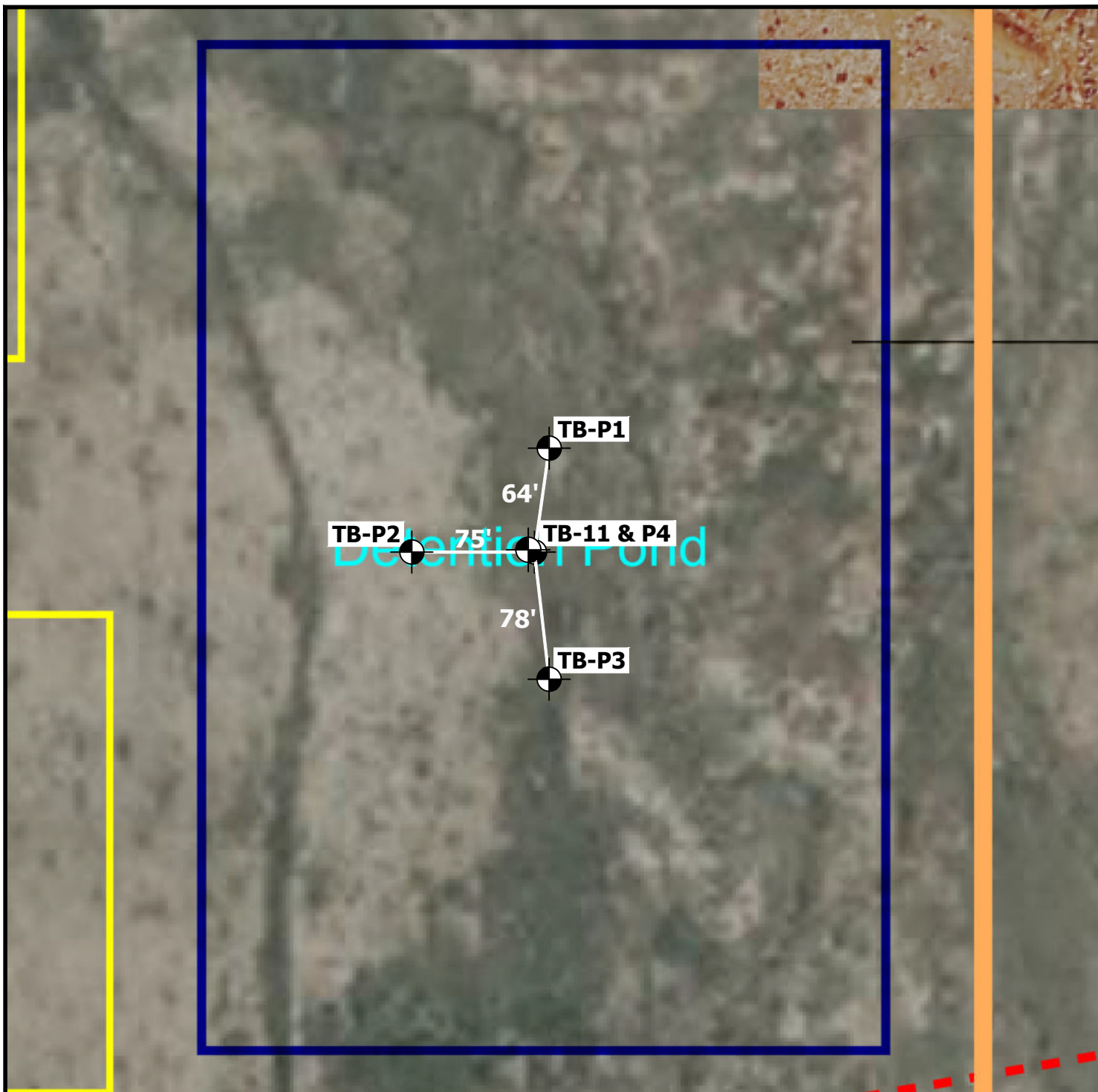
F:\AA Projects\2026\261095_Verx Consulting-CSU-Williams Creek Plant_Geot\Preliminary Investigation\09-Reports\Prelim
Geotech Rpt\261095_Infiltration Addendum.docx



VICINITY MAP
CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. 1



TB- APPROXIMATE TEST BORING LOCATION AND NUMBER



SITE AND EXPLORATION PLAN

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. 2

Client: Vertex Consulting
Test Location: CSU - Williams Creek Plant

Job Number: 261095

PERCOLATION HOLES

Date Holes Prepared: 8/13/2026

Date Hole Completed: 8/14/2026

Hole No. 1

Depth: 43"

	Time	Water
<u>Trial</u>	<u>(min.)</u>	<u>Level</u>
		<u>Change (in.)</u>
1	10	0
2	10	0
3	10	1/8

Perc Rate (min./in.): 240

Hole No. 2

Depth: 43"

	Time	Water
<u>Trial</u>	<u>(min.)</u>	<u>Level</u>
		<u>Change (in.)</u>
1	10	0
2	10	0
3	10	1/8

Perc Rate (min./in.): 240

Hole No. 3

Depth: 43"

	Time	Water
<u>Trial</u>	<u>(min.)</u>	<u>Level</u>
		<u>Change (in.)</u>
1	10	1 1/2
2	10	0
3	10	3/4

Perc Rate (min./in.): 13

Hole No.4

Depth: 48.5"

	Time	Water
<u>Trial</u>	<u>(min.)</u>	<u>Level</u>
		<u>Change (in.)</u>
1	10	0
2	10	0
3	10	1/2

Perc Rate (min./in.): 60

Average Perc Rate (min./in.) 180

Observer: N. Schletzbaum

By:



ENTECH
ENGINEERING, INC.

PERCOLATION TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. 3

Client: Vertex Consulting
Test Location: CSU - Williams Creek Plant

Job Number: 261095

Infiltration Rate (I) = Percolation Rate (P)/ Reduction Factor(R_f)
I=P/R_f

$R_f = [(2d_1 - \Delta d) / \text{dia}] + 1$

d₁ = initial water depth (in.)

Δd = final water level drop (in.)

dia = diameter of the percolation hole (in.)

Test No. P1

Perc Rate 0.25 in/hr
diameter 7

P1 (inches)
d₁ = 27.00
Δd = 0.125
R_f = 8.7

I = 0.029 in/hr

Test No. P2

Perc Rate 0.25 in/hr
diameter 7

P2 (inches)
d₁ = 18.0
Δd = 0.125
R_f = 6.1

0.5

I = 0.041 in/hr

Test No. P3

Perc Rate 4.50 in/hr
diameter 7

P2 (inches)
d₁ = 6.0
Δd = 0.750
R_f = 2.6

I = 1.726 in/hr

Test No. P4

Perc Rate 1.00 in/hr
diameter 7

P1 (inches)
d₁ = 27.50
Δd = 1.00
R_f = 8.7

I = 0.115 in/hr

I AVG= 0.061 in/hr



INFILTRATION TEST RESULTS

JOB NO.
261095

FIG. 4

TEST BORING P1
DATE DRILLED 8/13/2026

REMARKS

DRY TO 5', 8/13/26

6" TOPSOIL

CLAY, SLIGHTLY SANDY, BROWN,
HARD, MOIST

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
5				9.9	2
					2

TEST BORING P2
DATE DRILLED 8/13/2026

REMARKS

DRY TO 5', 8/13/26

6" TOPSOIL

CLAY, WITH SAND, BROWN, VERY
STIFF to HARD, MOIST

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
5				8.2	2
					2



TEST BORING LOGS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. 5

TEST BORING P3
DATE DRILLED 8/13/2026

TEST BORING P4
DATE DRILLED 8/13/2026

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type	REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 5', 8/13/26							DRY TO 5', 8/13/26						
6" TOPSOIL							12" TOPSOIL						
CLAY, SLIGHTLY SANDY, BROWN, HARD, MOIST					7.5	2	CLAY, WITH SAND, BROWN, VERY STIFF to HARD, MOIST					8.8	2
	5					2		5					2



TEST BORING LOGS
CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. 6

TEST BORING

11

DATE DRILLED

6/17/2026

REMARKS

DRY TO 20', 6/18/26

12" TOPSOIL

CLAY, WITH SAND, BROWN, VERY STIFF to HARD, MOIST

CLAYSTONE, VERY WEAK, DARK GRAY-BROWN, HIGHLY WEATHERED (CLAY, SLIGHTLY SANDY, HARD, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			23	8.1	2
5			26	6.6	2
10			41	9.7	2
15			50 9"	10.8	3
20			50 9"	13.2	3



TEST BORING LOGS

CSU - WILLIAMS CREEK PLANT

VERTEX CONSULTING

JOB NO.

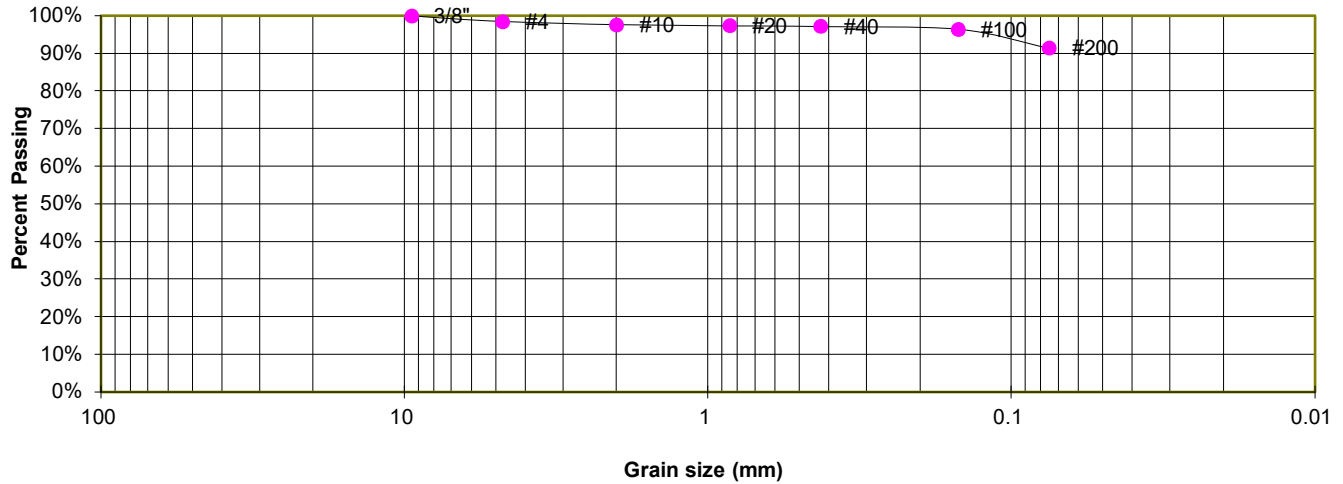
261095

FIG. 7

TEST BORING P1
DEPTH (FT) 5

SOIL DESCRIPTION CLAY, SLIGHTLY SANDY
SOIL TYPE 2

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	98.5%
10	97.7%
20	97.4%
40	97.2%
100	96.5%
200	91.4%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

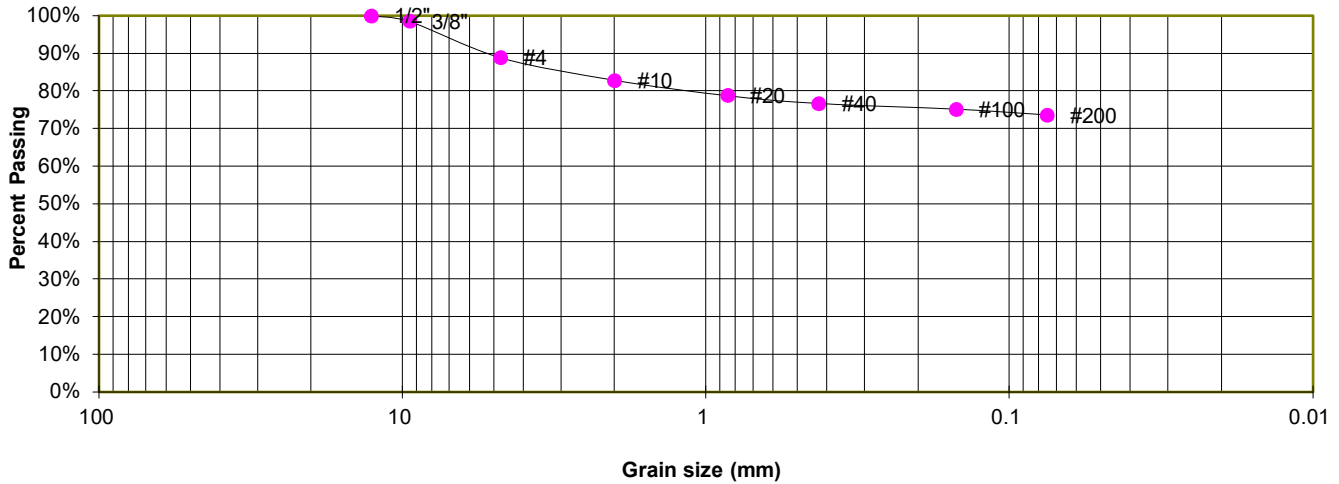
JOB NO.
261095

FIG. 8

TEST BORING P2
DEPTH (FT) 2-3

SOIL DESCRIPTION CLAY, WITH SAND
SOIL TYPE 2

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	98.5%
4	88.9%
10	82.8%
20	78.8%
40	76.7%
100	75.2%
200	73.7%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

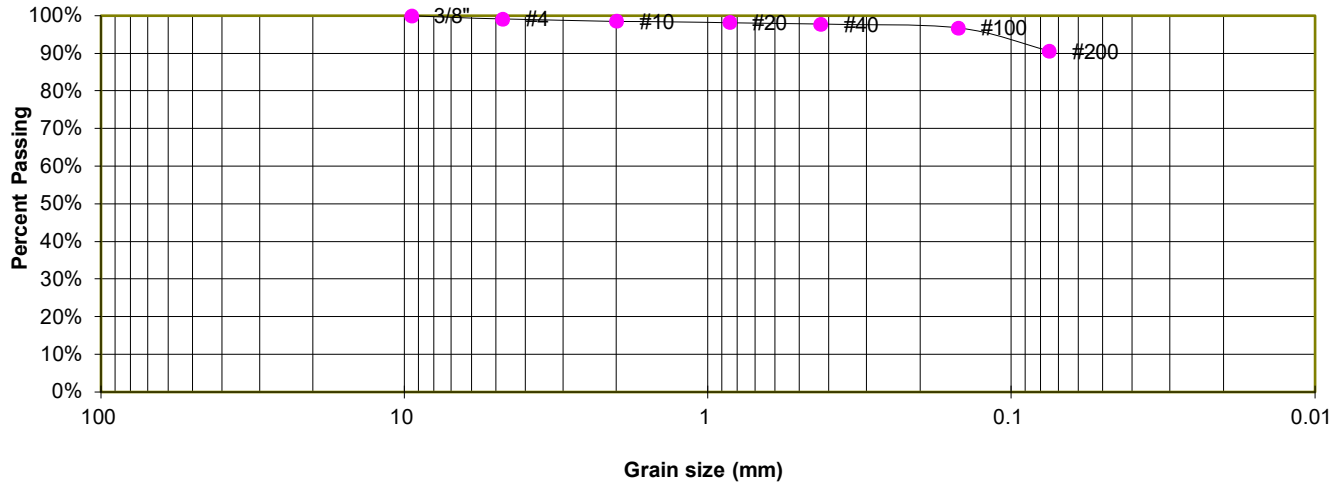
JOB NO.
261095

FIG. 9

TEST BORING P3
DEPTH (FT) 2-3

SOIL DESCRIPTION CLAY, SLIGHTLY SANDY
SOIL TYPE 2

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	99.2%
10	98.6%
20	98.2%
40	97.8%
100	96.8%
200	90.6%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

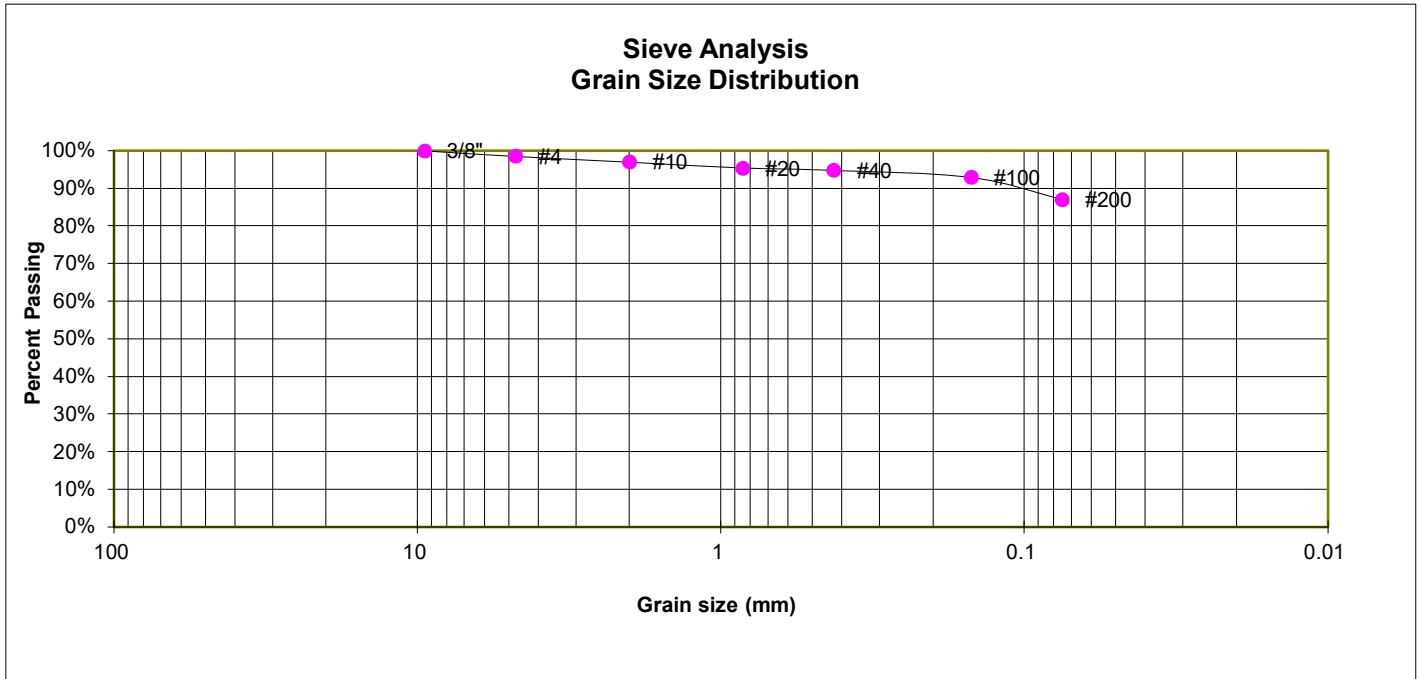
CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. 10

TEST BORING P4
DEPTH (FT) 2-3

SOIL DESCRIPTION CLAY, WITH SAND
SOIL TYPE 2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	98.6%
10	97.0%
20	95.4%
40	94.9%
100	92.9%
200	87.1%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

CSU - WILLIAMS CREEK PLANT
VERTEX CONSULTING

JOB NO.
261095

FIG. 11

APPENDIX E: Soil Survey Descriptions

El Paso County Area, Colorado

33—Heldt clay loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 3686

Elevation: 5,200 to 6,500 feet

Mean annual precipitation: 12 to 14 inches

Mean annual air temperature: 48 to 52 degrees F

Frost-free period: 135 to 155 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Heldt and similar soils: 98 percent

Minor components: 2 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Heldt

Setting

Landform: Stream terraces, Alluvial fans

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Clayey alluvium derived from shale

Typical profile

Ap - 0 to 8 inches: clay loam

Bw - 8 to 41 inches: silty clay

Bk - 41 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat):

Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Gypsum, maximum content: 4 percent

Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum: 10.0

Available water supply, 0 to 60 inches: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 4c

Hydrologic Soil Group: C
Ecological site: R069XY047CO - Alkaline Plains
Other vegetative classification: ALKALINE PLAINS (069BY047CO)
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit: 1 percent
Hydric soil rating: No

Pleasant

Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 23, Aug 29, 2025

El Paso County Area, Colorado

126—Midway clay loam, dry, 1 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2t520

Landscape: Plains

Elevation: 3,700 to 6,400 feet

Mean annual precipitation: 10 to 14 inches

Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 130 to 170 days

Farmland classification: Not prime farmland

Map Unit Composition

Midway, dry, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Midway, Dry

Setting

Landscape: Plains

Landform: Pediments, Hillslopes, Ridges

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Slope alluvium and/or residuum weathered from shale

Typical profile

A - 0 to 3 inches: clay loam

AC - 3 to 9 inches: clay

C - 9 to 16 inches: paragravelly clay

Cr - 16 to 79 inches: bedrock

Properties and qualities

Slope: 1 to 15 percent

Depth to restrictive feature: 11 to 20 inches to paralithic bedrock

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.00 to 0.21 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Gypsum, maximum content: 5 percent

Maximum salinity: Very slightly saline to slightly saline (2.0 to 7.9 mmhos/cm)

Sodium adsorption ratio, maximum: 10.0

Available water supply, 0 to 60 inches: Very low (about 2.2 inches)

Interpretive groups

Land capability classification (irrigated): 6e

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: D

Ecological site: R069XY046CO - Shaly Plains

Hydric soil rating: No

Minor Components

Razor, dry

Percent of map unit: 10 percent

Landscape: Plains

Landform: Hillslopes, Pediments

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Base slope, side slope

Down-slope shape: Linear

Across-slope shape: Convex

Ecological site: R069XY047CO - Alkaline Plains

Hydric soil rating: No

Manzanola

Percent of map unit: 5 percent

Landscape: Plains

Landform: Hillslopes, Fan remnants

Landform position (two-dimensional): Footslope, backslope

Landform position (three-dimensional): Base slope, side slope

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R069XY042CO - Clayey Plains

Other vegetative classification: Loamy Plains #6 (069XY006CO_2)

Hydric soil rating: No

Data Source Information

Soil Survey Area: El Paso County Area, Colorado

Survey Area Data: Version 23, Aug 29, 2025

El Paso County Area, Colorado

MzA—Manzanola silty clay loam, saline, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2rgrg

Landscape: Plains

Elevation: 3,900 to 6,000 feet

Mean annual precipitation: 12 to 14 inches

Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 130 to 170 days

Farmland classification: Not prime farmland

Map Unit Composition

Manzanola and similar soils: 90 percent

Minor components: 10 percent

*Estimates are based on observations, descriptions, and transects of
the mapunit.*

Description of Manzanola

Setting

Landscape: Plains

Landform: Terraces, Interfluves, Fan remnants, Drainageways

Landform position (two-dimensional): Summit, footslope

Landform position (three-dimensional): Side slope, tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium derived from shale

Typical profile

A - 0 to 4 inches: silty clay loam

Bt1 - 4 to 11 inches: silty clay loam

Bt2 - 11 to 26 inches: silty clay loam

Bk1 - 26 to 38 inches: silty clay loam

Bk2 - 38 to 79 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat):

Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 14 percent

Gypsum, maximum content: 3 percent

Maximum salinity: Moderately saline (8.0 to 15.0 mmhos/cm)

Sodium adsorption ratio, maximum: 13.0