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**SOILS AND GEOLOGY STUDY
SCHMIDT WEST – PUD
MARKSHEFFEL ROAD AND BRUSHTOP ROAD
EL PASO COUNTY, COLORADO**



Prepared for:
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PCD No.

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Entech Job No. 231875

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1 SUMMARY

Project Location

The project lies in a portion of the S½ of Section 32, Township 12 South, Range 65 West of the 6th Principal Meridian in El Paso County, Colorado, just north of the Colorado Springs city limits. The site is located west of the intersection of Marksheffel and Vollmer Roads, and east of Black Forest Road and Research Parkways. The approximate location of the project site is shown on the Vicinity Map (Figure 1).

Project Description

The Schmidt West site development will consist of 277 residential lots on the 58.6-acre site with associated site improvements. The development will utilize Falcon Area Water and Wastewater Authority (FAWWA) for sewer and water.

Scope of Report

This report presents the results of our geologic evaluation and engineering geologic hazards study for the planned infrastructure improvements.

Land Use and Engineering Geology

This site was found to be suitable for the proposed development; however, geologic conditions in certain areas will impose some minor constraints on development and land use. These include areas of artificial fill, loose collapsible soils, potentially expansive soils, potentially unstable slopes, and a mapped floodplain. These conditions will be discussed in greater detail in the report.

In general, it is our opinion that the development can be achieved if the observed geologic conditions on site are either properly mitigated or avoided. All recommendations are subject to the limitations discussed in the report.

2 GENERAL SITE CONDITIONS AND PROJECT DESCRIPTION

The site topography gradually slopes to the south-southwest with moderate to steep slopes along portions of Cottonwood Creek, and the soil berm in the northern portion of the site. Cottonwood Creek is located in the western portion of the site which flows to the southwest. Water was observed in Cottonwood Creek at the time of our field mapping. The approximate site location is indicated on the USGS Map (Exhibit 1). Previous land uses included grazing and pasture land with a former gravel quarry. Fill has been placed across portions of the quarry the southern portion of the quarry which was periodically tested by Entech. Other areas of undocumented fill are present in the northern portion of the old quarry and other areas of the site. The site is mostly free of vegetation due to recent grading. The area of the proposed detention pond contains field grasses, weeds, yuccas, and cacti. Site photographs, taken May 21, 2026, are included in Appendix A.

The Schmidt West site development will consist of 277 residential lot on the 58.6-acre site with associated site improvements. The development will utilize Falcon Area Water and Wastewater Authority (FAWWA) for sewer and water. A proposed detention basin in the southwest portion of the site will service the development. The proposed site grading is indicated in the Site and Exploration Plan (Figure 2), and the Engineering Geology Map (Figure 3).

Exhibit 1: USGS Topography Map

Falcon NW Quadrangle - 2019



3 SCOPE OF THE REPORT

The scope of the report includes a general geologic analysis utilizing published geologic data. Detailed site-specific mapping was 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 site was also evaluated using the Web Soil Survey from the Natural Resource Conservation Service (NRCS), formerly known as the Soil Conservation Service (SCS). 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 (Figure 6) that identified pertinent geologic conditions affecting development. The field mapping was performed by Entech personnel on May 21, 2026.

Eight (8) test borings were drilled on the site as part of the Soil and Geology Study for the Schmidt West – PUD to determine general soil and bedrock characteristics. The locations of the test borings are indicated on the Site and Exploration Plan (Figure 2). The Test Boring Logs are presented in Appendix B. Results of this testing will be discussed later in this report.

Laboratory testing was also performed on select soil samples to classify and determine the engineering characteristics of the soil. Laboratory tests included Grain-Size Analysis (ASTM D6913) and Atterberg Limits testing (ASTM D4318). Sulfate testing was performed on select samples to evaluate the potential for below-grade concrete degradation due to sulfate attack. Results of the laboratory testing are included in Appendix C, and the Summary of Laboratory Test Results is presented in Table C-1.

Previous site investigations for the Schmidt Property include the Entech *Preliminary Geotechnical Report*, dated January 10, 2024 (Reference 1, Appendix D), and the A.G. Wassenaar *Geotechnical Site Development Study, Proposed Residential Development, Schmidt Property*, dated October 12, 2021 (Reference 2, Appendix E). Information from these reports was also used to evaluate the site. Three of the previously completed test borings by Entech were placed along Brush Top Road (TB-13 through TB-15). Significant site grading has occurred since the completion of the Entech *Preliminary Geotechnical Report*, and the A.G. Wassenaar *Geotechnical Report*.

A copy of the *Schmidt West Parcel – Site Timeline* dated May 27, 2026 (Reference 3) is included in Appendix F. This letter provides a history of the site pertaining to earthwork activities. Density

testing for fill placed in the southern portion of the site is also included. Fill activity and areas of documented and uncontrolled fill are discussed in the following section.

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 Rampart Range Fault lies approximately 11 miles to the west. This fault marks the boundary between the Great Plains Physiographic Province and the Southern Rocky Mountain Province. The site exists within the southeastern edge of a large structural feature known as the Denver Basin. Bedrock was encountered in seven of the test borings, which were drilled to depths of 20 feet, at depths of 4 to 17 feet below ground surface (bgs) and the existing surface grade of TB-3. Bedrock in the area tends to gently dip in a northerly direction (Reference 3). The bedrock in the area of the site is sedimentary and typically Tertiary to Upper Cretaceous in age. The bedrock underlying the site consists of the Dawson Formation. Overlying this formation are unconsolidated deposits of recent man-made fill and alluvial and eolian sediments of the Holocene and Pleistocene Ages. The site's stratigraphy will be discussed in more detail in Section 5.3.

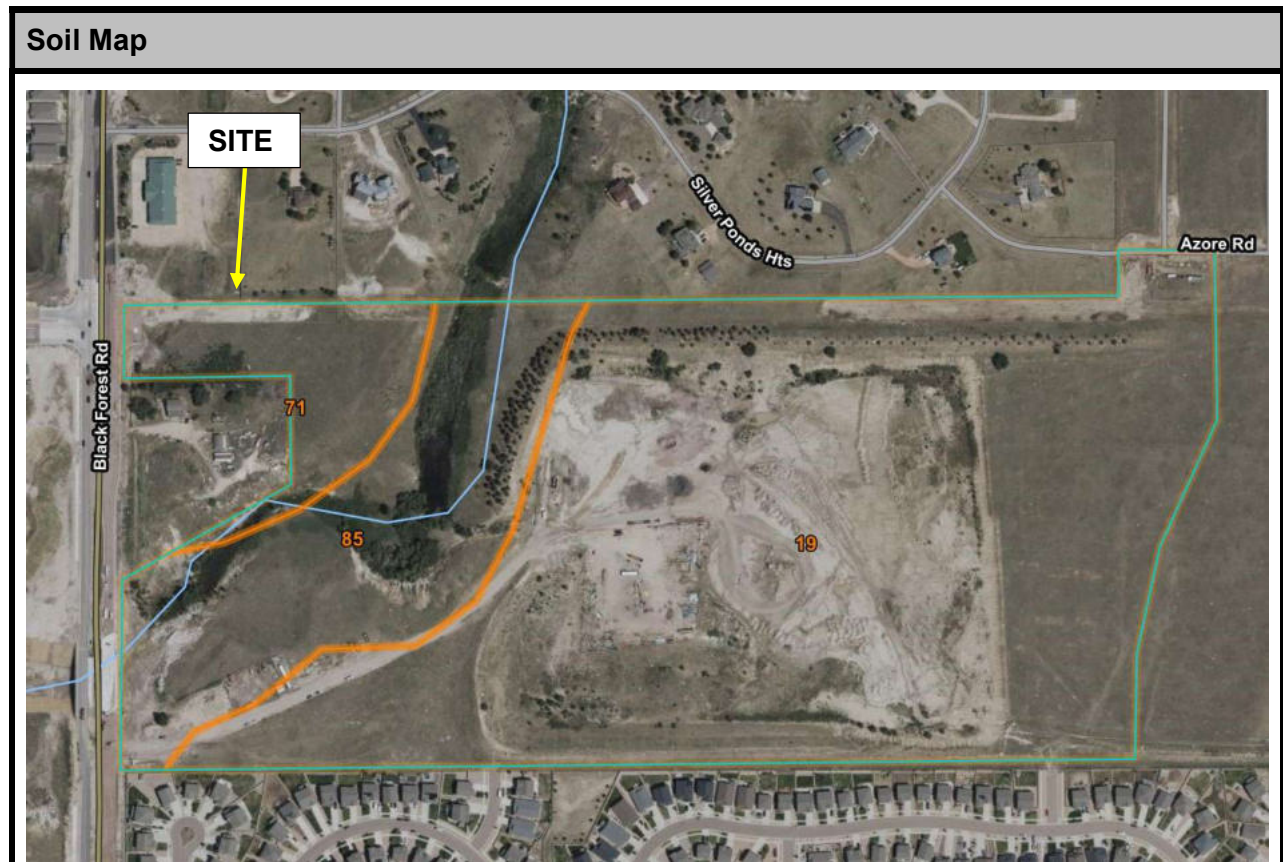
5.2 Soil Conservation Survey

The Natural Resource Conservation Service (Reference 4), previously the Soil Conservation Service (Reference 5), has mapped three soil types on the site. In general, it is a coarse sandy loam. The soils are described in Exhibit 1, and the soil map is shown in Exhibit 2.

Exhibit 2: Soil Survey Description

Type	Description
19	Columbine gravelly sandy loam, 0 to 3% slopes
71	Pring coarse sandy loam, 3 to 8% slopes
85	Stapleton-Bernal sandy loams, 3 to 20% slopes

Exhibit 3: USDA Soil Survey Map



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

5.3 Site Stratigraphy

The *Geologic Map of the Falcon Northwest Quadrangle* showing the site is presented in Figure 5 (Reference 6). The Geology Map prepared for the site is presented in Figure 6. Five mappable units were identified on this site and are described as follows:

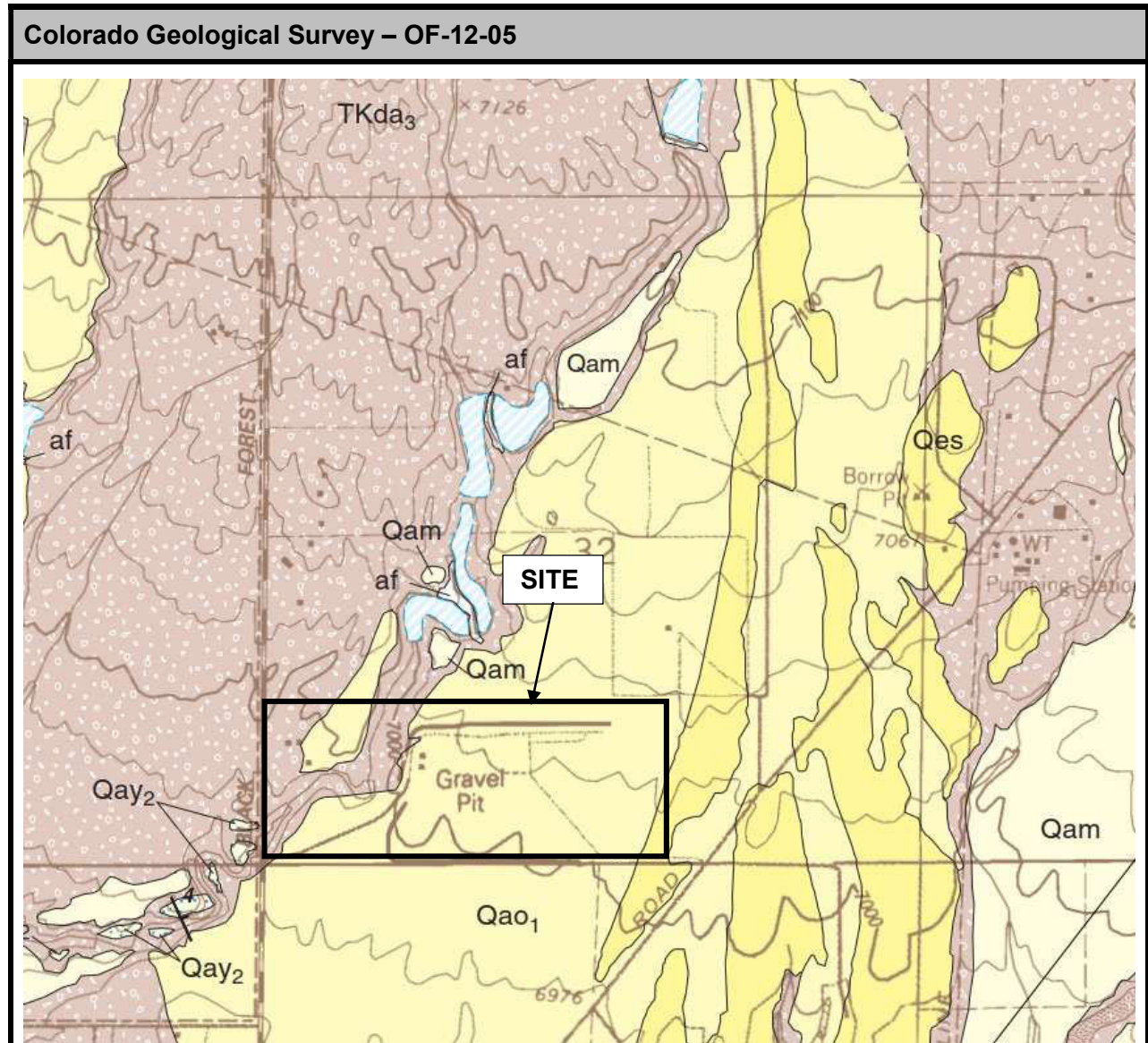
Qal Recent Alluvium of Holocene Age: These are recent stream deposits that have been deposited in the Cottonwood Creek in the western portion of the site. These materials consist of silty to clayey sands and sandy clays. Some of these alluviums may contain highly organic soils.

- Qaf** **Artificial Fill of Holocene Age:** These recent man-made deposits are associated with the former quarry operation, fill stockpiles located on the site, fill placed during recent grading for site stormwater improvements, and areas where uncontrolled fill was mitigated in the southern portion of the former quarry. Fill was encountered in five of the borings to depths of 4 to 8 feet bgs.
- Qes** **Eolian Sand of Middle and Early Holocene and Late Pleistocene Age:** These deposits are fine to medium grained soil deposited on the site by the action of prevailing winds from the west and northwest. They typically occur as large dune deposits or narrow ridges. These soil types are typically tan to brown in color, tend to have very uniform or well-sorted gradation, and tend to have a relatively high permeability and low density.
- Qao₁** **Old Alluvium One of Late-Middle Pleistocene Age:** This material is a water-deposited alluvium, typically classified as a silty to well-graded sand, brown to dark brown in color, and of moderate density. The Old Alluvium One can sometimes be very highly stratified and contain thin layers of very silty and clayey soil. This unit correlates to the Louviers Alluvium in the Denver area. Old alluvium one was the sand and gravel source for the former quarry where most of the deposit has been removed. The alluvium is still located in the area of the proposed detention basin in the southwest portion of the site.
- Qc/Tkd** **Colluvium of Quaternary Age overlying the Dawson Formation of Tertiary to Cretaceous Age:** These materials consist of silty to clayey sands deposited by the action of sheetwash and gravity, and the residual soil from in-situ weathering of the bedrock exist in this mapping. These soils are overlying the Dawson Formation. The Dawson Formation typically consists of coarse-grained, arkosic sandstone with interbedded lenses of fine-grained sandstone, claystone, and siltstone.

The soils listed above were mapped from site-specific mapping, the *Geologic Map of the Falcon Northwest Quadrangle* distributed by the Colorado Geological Survey in 2003 (Reference 6), 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 1981 (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.

Exhibit 3: Falcon NW Quadrangle Geologic Map



5.4 Soil Conditions

The soils encountered in the test borings can be grouped into five general soil types. The soils were classified using the Unified Soil Classification System (USCS).

Soil Type 1 classified as clayey sand fill (SC) and was encountered five of the eight borings at existing ground surface extending to depths ranging from 4 to 8 feet bgs a. These soils were

encountered in loose to medium dense states and in dry to moist conditions. The majority of the soils were encountered at medium dense states.

Soil Type 2 classified as clayey sand, and slightly silty sand (SC, SW-SM) were encountered in TB-5 and TB-6 underlying the fill at depths of 4 and 7 feet, and extended to depths of 9 and 14 feet. These soils were encountered in loose to dense states and in dry to moist conditions. The majority of the soils were encountered in medium dense states.

Soil Type 3 classified as sandy clay to clay with sand (CL) and was encountered in TB-1, TB-2, TB-5, TB-6, TB-7 and TB-8 at depths ranging from the existing surface to 14 feet bgs, and extended to depths of 4 to 18 feet and to the termination of the TB-5 (20 feet). These soils were encountered in very stiff to hard consistencies and in moist conditions. Swell/Collapse testing on a samples of the sandy clay resulted in volume changes of -0.2 to 0.8%, indicating a low consolidation and expansion potentials.

Soil Type 4 classified as completely weathered silty to clayey sandstone, or silty to clayey sand when classified as a soil (SM, SC). The sandstone was encountered in TB-2, TB-5, and TB-6 at depths ranging from 4 to 18 feet bgs, and extended to the termination of the borings (20 feet). The sandstone was encountered in very dense states and in moist conditions.

Soil Type 5 classified as completely weathered claystone, or sandy clay when classified as a soil (CL). The claystone was encountered in TB-3, TB-4, TB-7 and TB-8 at depths ranging from the existing surface grade 12 feet bgs and extended to 12 to 14 feet bgs, and to the termination of TB-4 and TB-8 (20 feet). The claystone was encountered in hard consistencies and in moist conditions. Swell/Collapse testing on a sample of the claystone resulted in volume changes of 1.1%, indicating a low consolidation and expansion potentials.

The Test Boring Logs are presented in Appendix B, and the Summary of Laboratory Test Results is included in Appendix C.

5.5 Groundwater

Groundwater was encountered in two of the eight recent test borings at depths of 7 to 17.5 feet. Water was not encountered in the remaining borings, which were drilled to 20 feet. Fluctuation in groundwater conditions may occur due to variations in rainfall and other factors not readily apparent at this time. Areas of seasonal shallow groundwater associated with a detention pond

and drainage in the western and southern portions of the site are discussed further in the following sections.

It should be noted that some groundwater conditions might be encountered due to the variability in the soil profile of the sandy materials on site. Isolated sand and gravel layers within the soils, sometimes only a few feet in thickness and width, can carry water in the subsurface. Groundwater may also flow on top of the underlying bedrock. Builders and planners should monitor potential occurrences of such subsurface water features during construction on-site and mitigate as necessary at the time of construction.

6 ENGINEERING GEOLOGY – IDENTIFICATION AND MITIGATION OF GEOLOGIC HAZARDS

As mentioned previously, detailed mapping has been performed on this site to produce an Engineering Geology Map (Figure 6). This map shows the location of various geologic conditions the developers should monitor during the planning, design, and construction stages of the project. Hazards include areas of artificial fill, loose collapsible soils, potentially expansive soils, potentially unstable slopes, and a mapped floodplain. These hazards and the recommended mitigation techniques include:

Artificial Fill – Constraint

These are recent man-placed deposits associated with the former quarry operation, fill stockpiles located on the site, fill placed during recent grading for site stormwater improvements, and areas where uncontrolled fill was mitigated in the southern portion of the former quarry. Areas of uncontrolled fill exist in the northern portion of the proposed area of residential development and along the existing soil berm in the northern portion of the site. It is anticipated the uncontrolled fill will be removed/mitigated during the site grading.

Mitigation: The overlot fill is suitable to support the proposed roadway. The stockpiles and any uncontrolled fill or loose soil encountered will require removal and recompaction at a minimum of 95% of the Modified Procter (ASTM D1557) maximum dry density.

Collapsible Soils – Constraint

The majority of the soils encountered on-site do not exhibit collapsible characteristics; however, areas of loose soils were encountered in the test borings drilled on-site. Additionally, areas mapped as Qes (eolian sand) have the potential for hydrocompaction.

Mitigation: Should loose or collapsible soils be encountered beneath foundations, recompaction and moisture conditioning of the upper 2 to 3 feet of soil at 95% of the Modified Procter (ASTM D1557) maximum dry density will be required. Exterior flatwork and parking areas may also experience movement. Proof rolling and recompaction of soft areas should be performed during site work.

Expansive Soils – Constraint

Expansive soils were not encountered in the test borings drilled on site; however, the potential for isolated clay or claystone lenses in the sand and sandstone exists across the site. These occurrences are typically sporadic; therefore, none have been indicated on the maps. Expansive clays or claystones, if 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. Expansive soils in roadways may require moisture conditioning. Mitigation of expansive soils will require special foundation design. Overexcavation and replacement with nonexpansive soils at a minimum of 95% of the Modified Procter (ASTM D1557) maximum dry density is a suitable mitigation that is common in the area. Slabs or flatwork on expansive soils should be expected to experience movement. Overexcavation and replacement have been successful in minimizing slab movements.

Slope Stability and Landslide Susceptibility – Hazard

The majority of the slopes on-site are gradually sloping and do not exhibit and past or potential unstable slopes or landslides. The moderate to steep slopes are located along portions of Cottonwood Creek in the western portion of the site below the proposed detention basin. These steeper slopes have been identified as potentially unstable. However, these slopes are located within the Cottonwood Creek drainage and will be avoided by construction.

Potentially Unstable Slopes

Portions of the slopes along Cottonwood Creek and the existing soil berm have been identified as potentially unstable. The slopes are stable in their current state; however considerable care must be exercised in these areas not to create a condition which would tend to activate instability. The potentially unstable slopes along the existing fill berm/slopes will be mitigated during site grading.

Mitigation: The potentially unstable slope in the along the creek will be located below the proposed detention basin. Fill added for the proposed detention basin embankment should

be benched into the existing slope and properly compacted. The embankment, any future grading, or fill slopes should be constructed no steeper than 3:1.

Groundwater and Floodplain Areas – Constraint

Groundwater was encountered in two of the eight test borings at depths of 7 to 17.5 feet. Cottonwood Creek in the western portion of the site has been mapped within floodplain zones according to the FEMA Map No. 08041C0529G (Exhibit 5, Reference 9). The floodplain will be avoided by the proposed site development. Water was observed in the creek during our field mapping. The proposed residential development is not anticipated to be affected by the groundwater, however, the potential for perched water conditions onto of the underlying bedrock exists across the site.

Exhibit 5: FEMA Flood Map

FEMA Map No. 08041C0552G, eff. 12/7/2018



The Cottonwood Creek along in the western portion of the site and north of the proposed detention pond has been included in the National Wetlands Inventory (Reference 12) as a Freshwater

Wetland habitats classified as **R4SBA** (R – Riverine, 4 – Intermittent, SB – Streambed, C – Temporary Flooded). The wetlands map is shown in Exhibit 6.

Exhibit 6: National Wetlands Inventory Map

USFWS – Wetlands Map



Mitigation Foundations must have a minimum 30-inch depth for frost protection. Subsurface perimeter drains are recommended for structures with any useable space below grade. Groundwater is not anticipated to affect the construction of shallow foundations on the site, however, if shallow groundwater is encountered the following drains should be considered. Typical drain details are presented in Figures 4 through 7. Any grading in these areas should be done to direct surface flow 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. Finished floor levels must be

located a minimum of one foot above floodplain levels. Additional site investigation should be completed once utility installation and site grading has been completed.

Radon – Hazard

Radon is a colorless, tasteless radioactive gas with a United States Environmental Protection Agency (EPA) -specified action level of 4.0 picocuries per liter (pCi/L) of air. Radon gas has a very short half-life of 3.8 days. Radon levels for the area have been reported by the Colorado Geologic Survey in the open file, Report No. 91-4 (Reference 10). The average Radon level for the 80908 zip code is 3.40 pCi/l. The following is a table of radon levels in this area:

Exhibit 7: Radon Levels

Average Radon Levels for the 80908 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 basement and crawlspace and sealing joints. Specific requirements for mitigation should be based on site specific testing.

6.1 Relevance of Geologic Conditions to Land Use Planning

It is our opinion that the existing geologic and engineering geologic conditions will impose some minor constraints on the proposed roadways and detention pond. The most significant problems affecting development will be those associated with the artificial fill and loose or collapsible soils. Other hazards on site can be satisfactorily mitigated through proper engineering design and construction practices.

The medium dense to dense granular soils will provide good support for the residential development, proposed roadways, and infrastructure improvements. Loose soils or uncontrolled fill, if encountered at or foundation subgrade, will require mitigation. Excavation of the site sand materials is anticipated to be moderate with rubber-tired equipment and difficult for the dense sandstone. Expansive layers may also be encountered in the soil and bedrock on this site. Areas of expansive soils encountered on site are sporadic; therefore, none have been indicated on the

maps. Expansive soils, if encountered, will require overexcavation. These soils will not prohibit development.

Areas of uncontrolled fill exist in the northern portion of the proposed area of residential development and along the existing soil berm in the northern portion of the site and other areas of the site. It is anticipated the uncontrolled fill will be removed/mitigated during the site grading. Uncontrolled fill should be completely removed prior to placement of any new fill.

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 avoidance. Investigation of each lot is recommended prior to construction.

Trench backfill placement should be performed in accordance with El Paso County specifications. All excavation and excavation shoring/bracing should be performed in accordance with OSHA guidelines.

7 ECONOMIC MINERAL RESOURCES

Some of the sandy materials on site could be considered low-grade sand resources. According to the *El Paso County Aggregate Resource Evaluation Map* (Reference 11), 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 12), areas of the site are not mapped with any resources. According to the *Evaluation of Mineral and Mineral Fuel Potential* (Reference 13), the area of the site has been mapped as “Fair” for industrial minerals. However, considering the predominately silty nature of these materials, the abundance of similar materials throughout the region, and the proximity to developed land, 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 13), the site is mapped within the Denver Basin Coal Region. However, the site area mapped has been designated as “Poor” for coal resources. No active mines have been mapped in the area of the site, but several inactive mines are located approximately 4 to 5 miles south and southeast of the site. No metallic mineral resources have been mapped onsite (Reference 13).

The site has been mapped as “Fair” for oil and gas resources (Reference 13). No oil or gas fields have been discovered in the site area. 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 moderately 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 on 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 revegetation 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 Soil Conservation Service.

9 ROADWAY, EMBANKMENT, and STORMWATER FACILITY CONSTRUCTION RECOMMENDATIONS

In general, the site soils are suitable for the proposed roadways and detention pond. Groundwater is not anticipated to affect the roadway or detention pond construction. If road or utility 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.

A minor drainage swale that has been identified as a potential seasonally shallow groundwater area on the Geology/Engineering Geology Map (Figure 6) is located within the proposed detention pond. The proposed grading plans indicated the swale will be filled during the site work and construction of the detention pond embankment. Groundwater was encountered at 18 feet in TB-1, which was placed in the detention pond. Based on the soil types and the gradual existing slopes near the detention pond, lining of the detention pond is not necessary.

Any areas to receive fill should have all topsoil, organic material, or debris removed. Entech should observe the subgrade prior to fill placement. Any undocumented fill in roadways should be removed and recompact. Fill must be properly benched and compacted to minimize potentially unstable conditions in slope areas. Fill slopes should be 3:1 or flatter. The subgrade should be scarified, moisture conditioned, and compacted to a minimum of 95% of the Modified Proctor (ASTM D1557) maximum dry density at +/-2% prior to placing new fill. Granular fill should be compacted to a minimum of 95% of the Modified Proctor (ASTM D1557) maximum dry density at +/-2% of optimum moisture content.

New fill should be placed in thin lifts not to exceed 6 inches after compaction while maintaining a minimum of 95% of the Modified Proctor (ASTM D1557) maximum dry density at +/-2%. The placement and compaction of fill should be observed and tested by Entech during construction. Entech should approve any import materials prior to placing or hauling them to the site. Additional

investigation will be required for pavement designs once roadway grading is completed and utilities are installed.

10 CLOSURE

It is our opinion that the existing geologic engineering and geologic conditions will impose some constraints on the 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 variable nature of data obtained by random sampling of non-homogeneous materials such as soil and rock, it is important that Entech be informed of any differences observed between surface and subsurface conditions encountered in construction and those assumed in this report. Individual investigations for building sites will be required prior to construction. Construction and design personnel should be made familiar with the contents of this report. Additional site investigation is recommended as plan are finalized, and prior to construction.

This soils and geology report has been prepared for Turkey Canyon Quarry, Inc., with application to the planned residential development for Schmidt West – PUD, located west of the intersection of Marksheffel and Vollmer Roads, and east of Black Forest Road and Research Parkway in El Paso County, Colorado. In conducting the soils and geology investigation, laboratory testing, engineering evaluation, and reporting, Entech Engineering, Inc. endeavored to work in accordance with generally accepted professional geotechnical and geologic practices and principles consistent with the level of care and skill ordinarily exercised by members of the geotechnical profession currently practicing in the same locality and under similar conditions. No other warranty, expressed or implied, is made. During final design and/or construction, if conditions are encountered that appear different from those described in this report, Entech Engineering, Inc. requests to be notified so that the evaluation and recommendations presented herein can be reviewed and modified as appropriate.

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

Respectfully Submitted,

ENTECH ENGINEERING, INC.



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

Reviewed by:



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

LLL:JCG

11 REFERENCES

1. Entech Engineering, Inc. dated January 10, 2024. *Preliminary Geotechnical Report, Schmidt Property, Turkey Canyon Quarry, Colorado Springs, Colorado*. Entech Job No. 231875.
2. A.G. Wassenaar, Inc. dated October 12, 2021. *Geotechnical Site Development Study, Proposed Residential Development, Schmidt Property, Southwest of Marksheffel and Vollmer Roads, Colorado Springs, Colorado*. A.G. Wassenaar Project No. 213542.
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FIGURES

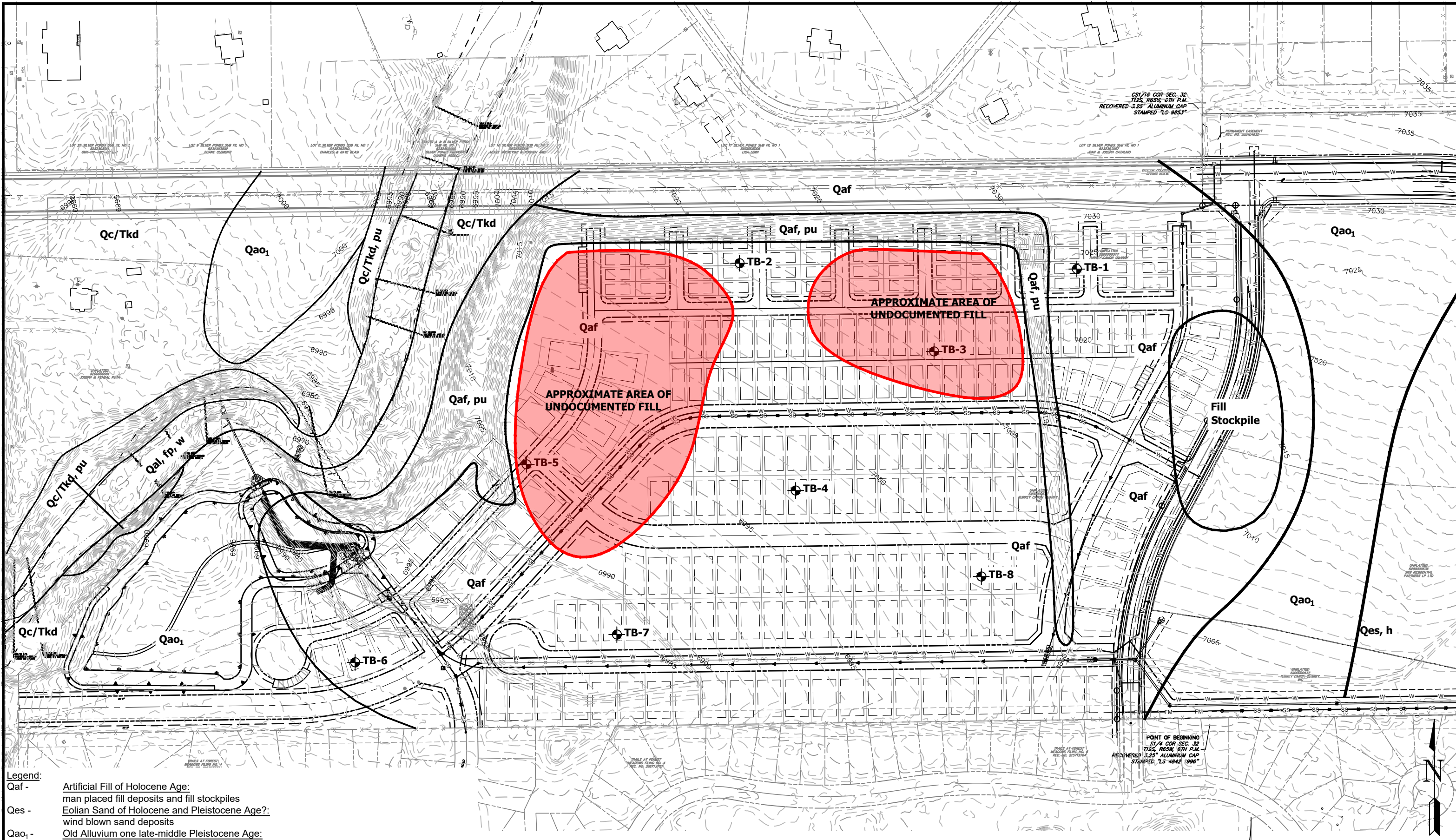


VICINITY MAP

SCHMIDT WEST - PUD
TURKEY CANYON QUARRY, INC.

JOB NO.
231875

FIG. 1



- Legend:**
- Qaf -** Artificial Fill of Holocene Age: man placed fill deposits and fill stockpiles
 - Qes -** Eolian Sand of Holocene and Pleistocene Age?: wind blown sand deposits
 - Qao₁ -** Old Alluvium one late-middle Pleistocene Age: terrace deposited sands and gravels
 - Qc/Tkd -** Colluvium of Quaternary Age overlying the Dawson Formation of Tertiary to Cretaceous Age: colluvial and residual soils overlying arkosic sandstone with interbedded claystone and siltstone
 - h -** hydrocompaction
 - pu -** potentially unstable slopes
 - fp -** floodplain
 - w -** flowing water

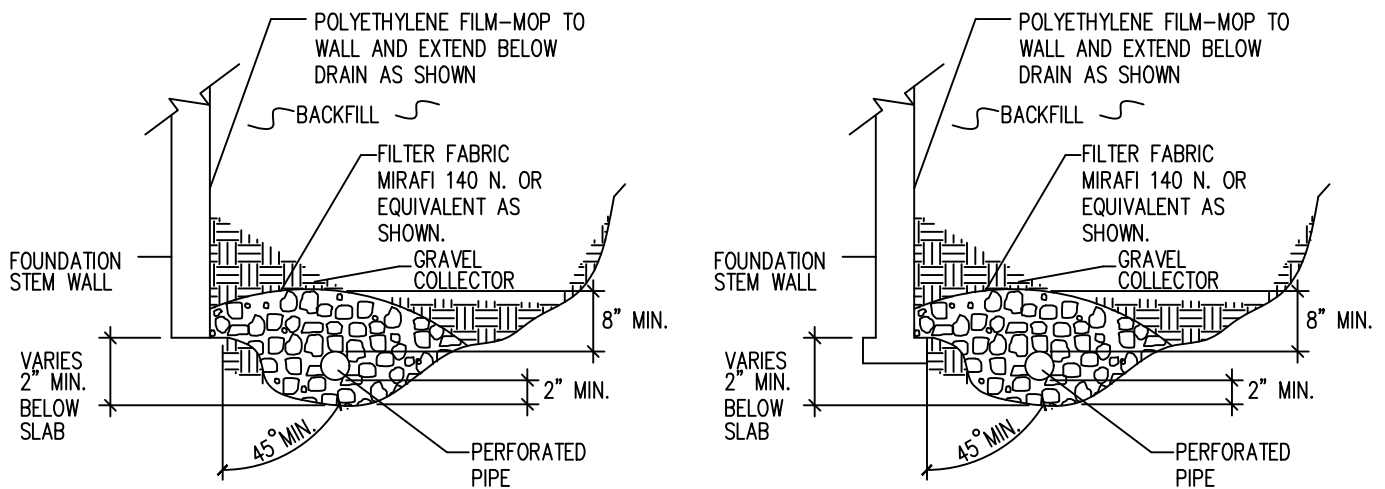


GEOLOGY / ENGINEERING MAP

SCHMIDT WEST - PUD
TURKEY CANYON QUARRY, INC.

JOB NO.
231875

FIG. 3



NOTES:

—GRAVEL SIZE IS RELATED TO DIAMETER OF PIPE PERFORATIONS—85% GRAVEL GREATER THAN 2x PERFORATION DIAMETER.

—PIPE DIAMETER DEPENDS UPON EXPECTED SEEPAGE. 4-INCH DIAMETER IS MOST OFTEN USED.

—ALL PIPE SHALL BE PERFORATED PLASTIC. THE DISCHARGE PORTION OF THE PIPE SHOULD BE NON-PERFORATED PIPE.

—FLEXIBLE PIPE MAY BE USED UP TO 8 FEET IN DEPTH, IF SUCH PIPE IS DESIGNED TO WITHSTAND THE PRESSURES. RIGID PLASTIC PIPE WOULD OTHERWISE BE REQUIRED.

—MINIMUM GRADE FOR DRAIN PIPE TO BE 1% OR 3 INCHES OF FALL IN 25 FEET.

—DRAIN TO BE PROVIDED WITH A FREE GRAVITY OUTFALL, IF POSSIBLE. A SUMP AND PUMP MAY BE USED IF GRAVITY OUT FALL IS NOT AVAILABLE.

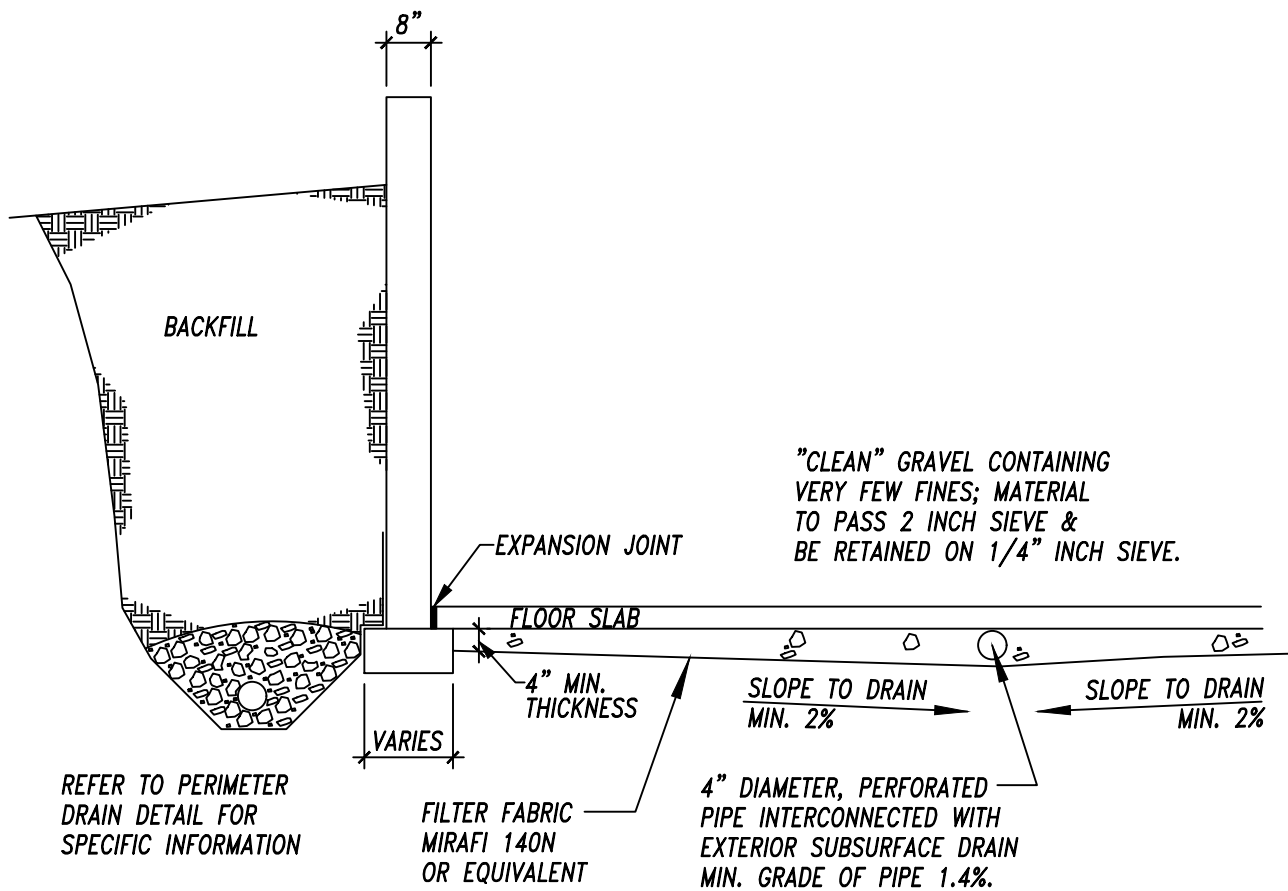


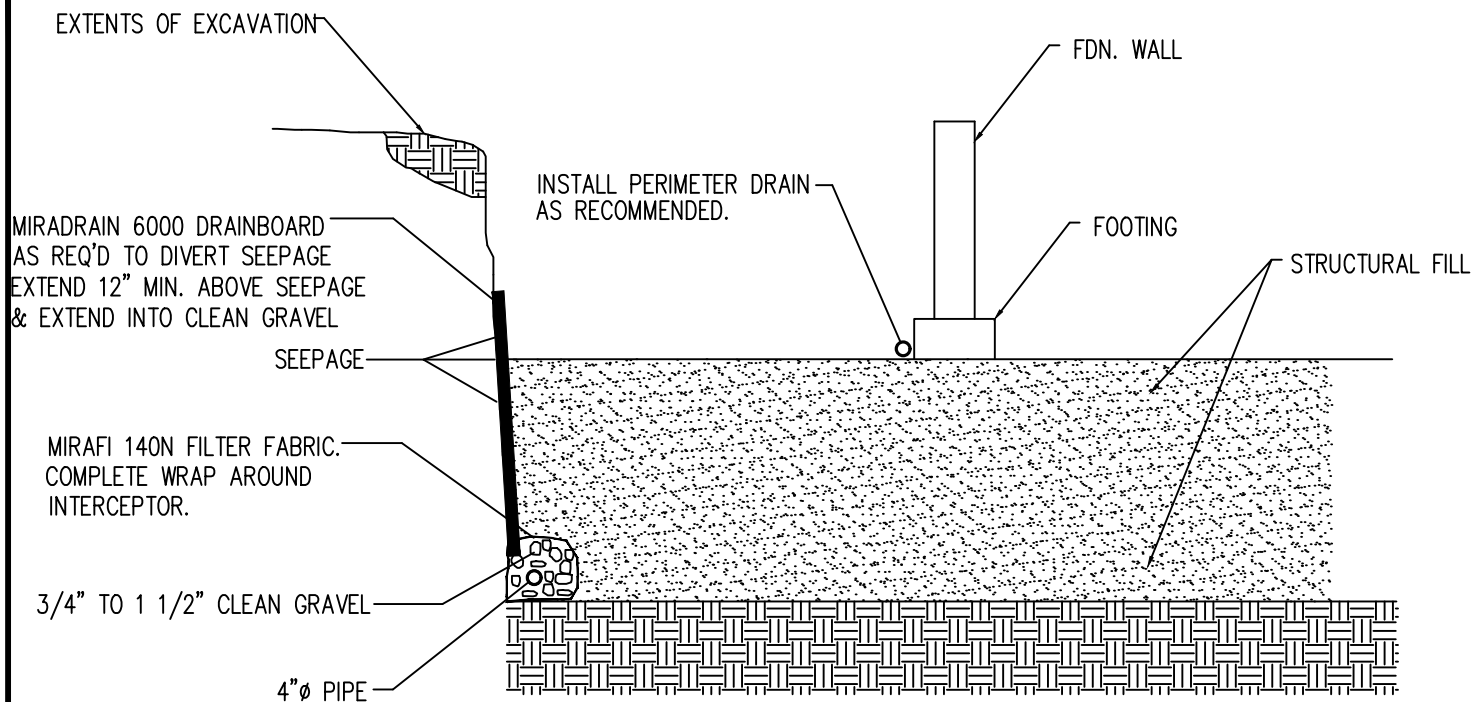
PERIMETER DRAIN DETAIL

SCHMIDT WEST - PUD
TURKEY CANYON QUARRY, LLC

JOB NO.
231875

FIG. 4





NOTE:
EXTEND INTERCEPTOR DRAIN TO UNDERDRAIN OR TO SUMP.
BENCH DRAIN INTO NATIVE SOILS 12 INCHES MINIMUM.

INTERCEPTOR DRAIN DETAIL

N.T.S.

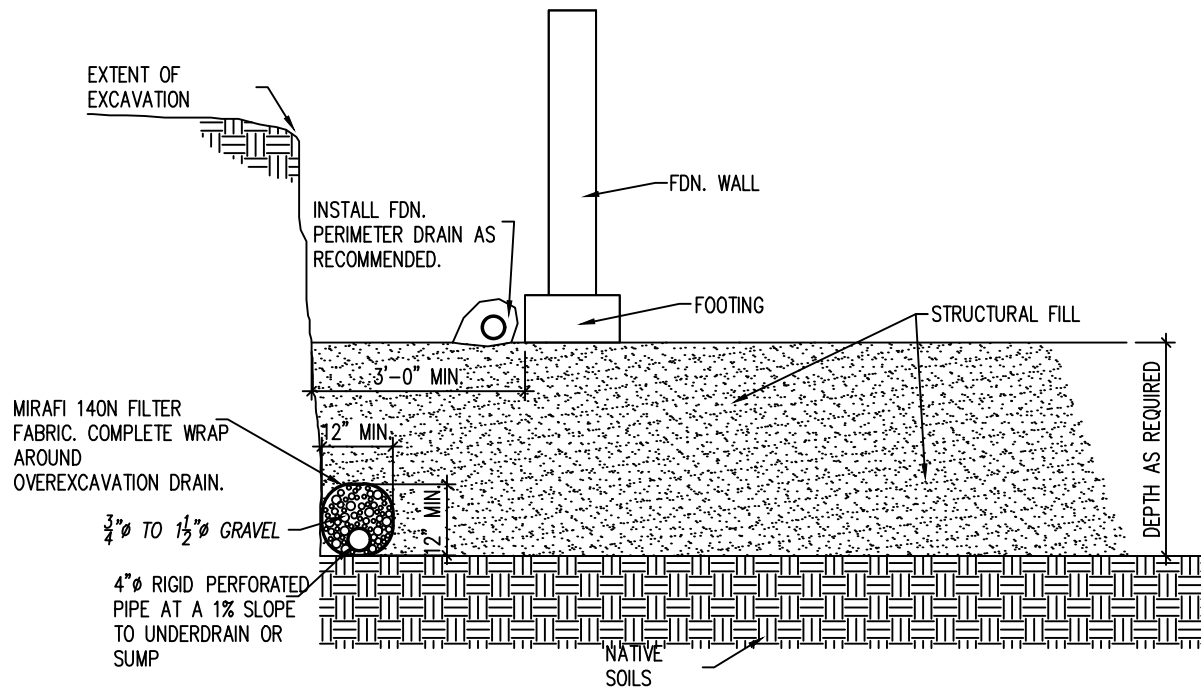


INTERCEPTOR DRAIN DETAIL

SCHMIDT WEST - PUD
TURKEY CANYON QUARRY, LLC

JOB NO.
231875

FIG. 6



OVEREXCAVATION DRAIN DETAIL

N.T.S.

NOTE:

EXTEND DRAIN TO SUMP AS REQ'D.



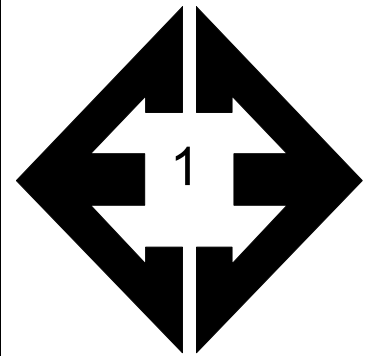
OVEREXCAVATION DRAIN

SCHMIDT WEST - PUD
TURKEY CANYON QUARRY, LLC

JOB NO.
231875

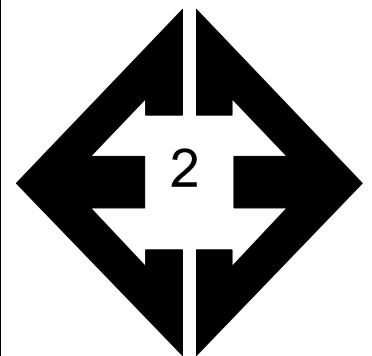
FIG. 7

APPENDIX A: Site Photographs



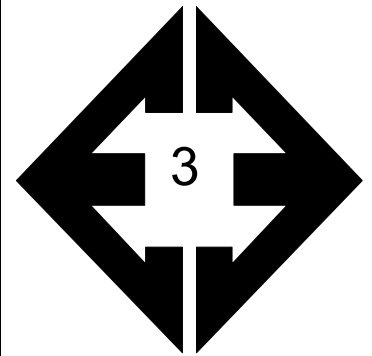
**Looking west from the
eastern side of the
site.**

May 21, 2026



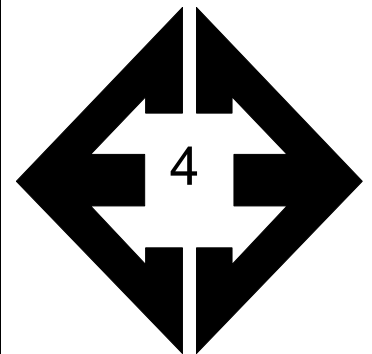
**Looking south from
the eastern side of the
site.**

May 21, 2026



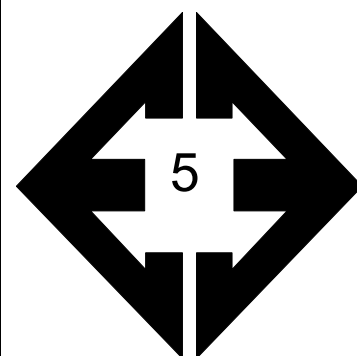
**Looking north from the
eastern side of the
site.**

May 21, 2026



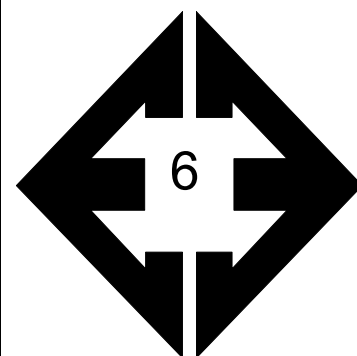
**Looking west from the
central portion of the
site.**

May 21, 2026



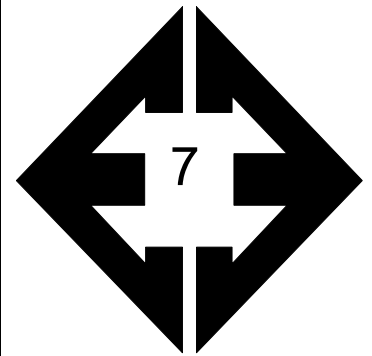
**Looking east from the
central portion of the
site.**

May 21, 2026



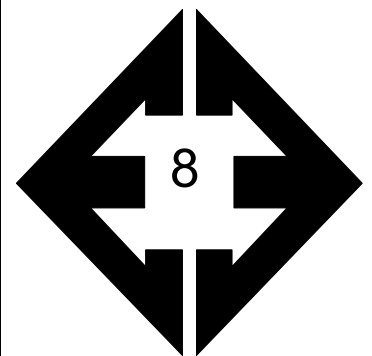
**Looking northeast
from the central
portion of the site.**

May 21, 2026



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

May 21, 2026



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

May 21, 2026

APPENDIX B: Test Boring Logs

TEST BORING 1
DATE DRILLED 5/18/2026
REMARKS

WATER @ 17.5', 5/20/26

FILL 0-4', SAND, CLAYEY, TAN,
MEDIUM DENSE, MOIST

CLAY, SANDY, GRAY, STIFF to
HARD, MOIST

SANDSTONE, VERY WEAK,
GRAY, HIGHLY WEATHERED
(SAND, CLAYEY, VERY DENSE,
MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			14	6.8	1
5			12	3.6	3
10			14	15.0	3
15			44	9.0	3
20			50 7"	10.7	4

TEST BORING 2
DATE DRILLED 5/18/2026
REMARKS

DRY TO 20', 5/20/26

CLAY, SANDY, GRAY, HARD, MOIST

SANDSTONE, EXTREMELY WEAK,
BROWN to GRAY, HIGHLY
WEATHERED (SAND, CLAYEY,
VERY DENSE to DENSE, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			42	9.3	3
5			50 11"	7.6	4
10			33	10.5	4
15			50 9"	11.3	4
20			50 9"	12.2	4



TEST BORING LOGS

SCHMIDT WEST - PUD
TURKEY CANYON QUARRY, LLC

JOB NO.
231875

FIG. B-1

TEST BORING 3
DATE DRILLED 5/18/2026
REMARKS

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 20', 5/20/26					
5			50 10"	11.3	5
			50 10"	12.8	5
			50 11"		
10			50 6"	12.7	5
15			50 6"	9.2	4
20			50 8"	7.8	4

DRY TO 20', 5/20/26

CLAYSTONE, VERY WEAK, GRAY,
HIGHLY WEATHERED (CLAY,
SANDY, HARD, MOIST)

SANDSTONE, VERY WEAK, GRAY,
HIGHLY WEATHERED (SAND,
CLAYEY, VERY DENSE, MOIST)

TEST BORING 4
DATE DRILLED 5/18/2026
REMARKS

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 19.5', 5/20/26					
5			32	6.9	1
			23	5.9	1
10			37	10.2	3
15			50 10"	11.1	5
20			50 9"	10.7	5

DRY TO 19.5', 5/20/26

FILL 0-6', SAND, CLAYEY, TAN,
DENSE to MEDIUM DENSE,

CLAY, SANDY, GRAY, HARD, MOIST

CLAYSTONE, VERY WEAK, GRAY,
HIGHLY WEATHERED (CLAY,
SANDY, HARD, MOIST)



TEST BORING LOGS

SCHMIDT WEST - PUD
TURKEY CANYON QUARRY, LLC

JOB NO.
231875

FIG. B-2

TEST BORING 5
DATE DRILLED 5/18/2026
REMARKS

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 19.5', 5/20/26						
4" ASPHALT						
FILL 0-4', SAND, CLAYEY, TAN, LOOSE, MOIST				7	5.4	1
SAND, SLIGHTLY SILTY, TAN, LOOSE, MOIST	5			4	8.5	2
CLAY, SANDY, BROWN to GRAY, VERY STIFF to HARD, MOIST	10			22	11.9	3
	15			45	9.1	3
	20			31	13.1	3

TEST BORING 6
DATE DRILLED 5/18/2026
REMARKS

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 19.5', 5/20/26						
FILL 0-7', SAND, CLAYEY, BROWN to TAN, MEDIUM DENSE to LOOSE, MOIST				22	4.8	1
	5			9	6.2	1
SAND, CLAYEY, GRAY, MEDIUM DENSE, MOIST	10			26	8.5	2
CLAY, SANDY, BROWN, HARD, MOIST	15			44	8.4	3
SANDSTONE, EXTREMELY WEAK, TAN, COMPLETELY WEATHERED (SAND, SILTY, VERY DENSE, MOIST)	20			50 5"	3.4	4



TEST BORING LOGS
SCHMIDT WEST - PUD
TURKEY CANYON QUARRY, LLC

JOB NO.
231875

FIG. B-3

TEST BORING 7
DATE DRILLED 5/18/2026
REMARKS

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 20', 5/20/26					
			46	10.8	3
5			50 11"	13.3	5
10			37	14.4	5
15			50 7"	9.1	4
20			50 10"	8.4	4

TEST BORING 8
DATE DRILLED 5/18/2026
REMARKS

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
WATER @ 7', 5/20/26					
			24	8.5	1
5			23	8.0	1
10			39	9.7	3
15			50 9"	10.4	5
20			50 9"	12.4	5



TEST BORING LOGS
SCHMIDT WEST - PUD
TURKEY CANYON QUARRY, LLC

JOB NO.
231875

FIG. B-4

TABLE B-1
DEPTH TO BEDROCK

TEST BORING	DEPTH OF FILL (ft.)	DEPTH TO GROUNDWATER (ft.)	DEPTH TO BEDROCK (ft.)
1	4	17.5	17
2	N/A	>20	4
3	N/A	>20	SURFACE
4	6	>20	12
5	4	>20	>20
6	7	>20	18
7	N/A	>20	4
8	8	7	12

APPENDIX C: Laboratory Testing Results

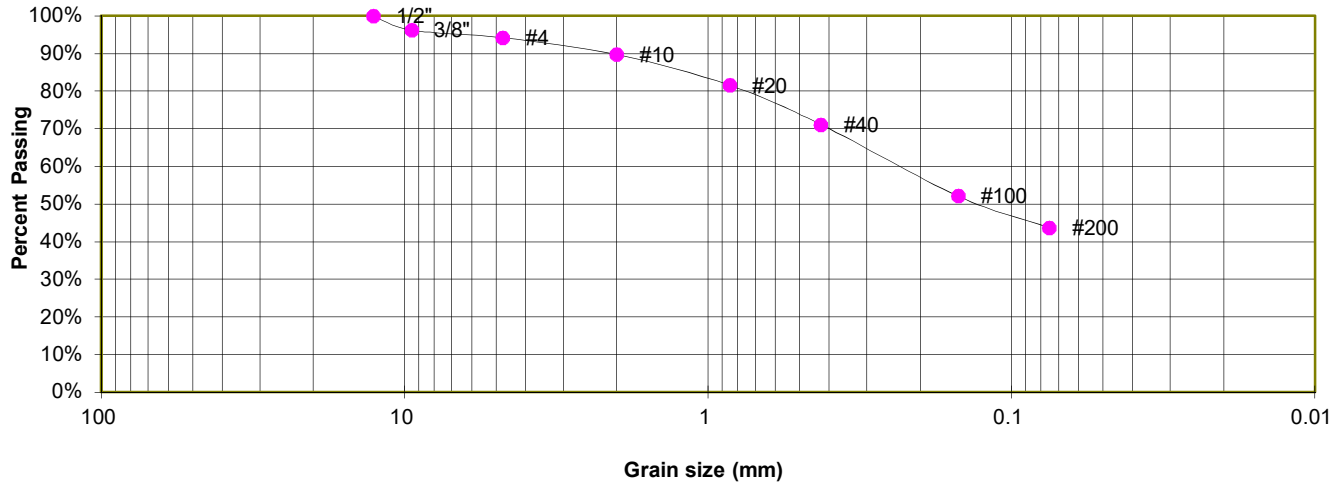
TABLE C-1
SUMMARY OF LABORATORY TEST RESULTS

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	6	2-3			43.7						SC	FILL, SAND, CLAYEY
2	5	5			4.5				0.00		SW	SAND, SLIGHTLY SILTY
3	1	10	17.2	110.2	64.8	34	22	12	0.00	-0.2	CL	CLAY, SANDY
3	4	10	12.8	119.6	55.4					0.1	CL	CLAY, SANDY
3	7	2-3	12.0	126.3	61.5					0.8	CL	CLAY, SANDY
3	8	10	14.1	119.2	58.8					0.5	CL	CLAY, SANDY
4	2	5			35.7	26	18	8	<0.01		SC	SANDSTONE (SAND, CLAYEY)
5	3	5	14.1	106.9	55.1	32	23	9	<0.01	-1.1	CL	CLAYSTONE (CLAY, SANDY)

TEST BORING 6
DEPTH (FT) 2-3

SOIL DESCRIPTION FILL, SAND, CLAYEY
SOIL TYPE 1

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	96.2%
4	94.2%
10	89.7%
20	81.6%
40	71.1%
100	52.1%
200	43.7%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SC



LABORATORY TEST RESULTS

SCHMIDT PARCEL
TURKEY CANYON QUARRY, LLC

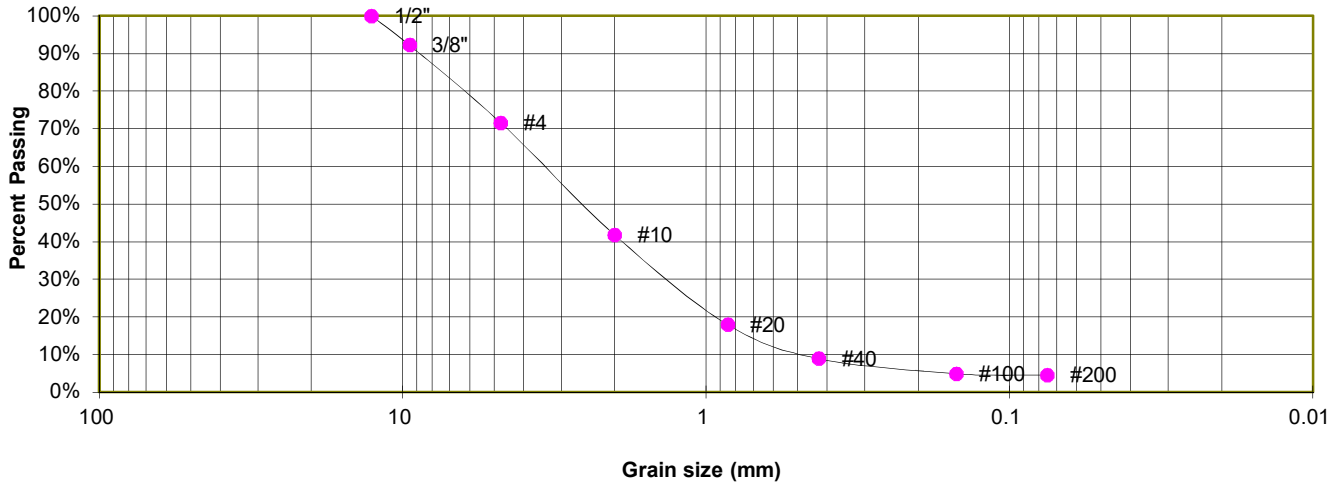
JOB NO.
231875

FIG. C-1

TEST BORING	5
DEPTH (FT)	5

SOIL DESCRIPTION SAND, SLIGHTLY SILTY
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"	92.3%
4	71.6%
10	41.7%
20	17.9%
40	8.9%
100	4.9%
200	4.5%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SW



LABORATORY TEST RESULTS

SCHMIDT PARCEL
TURKEY CANYON QUARRY, LLC

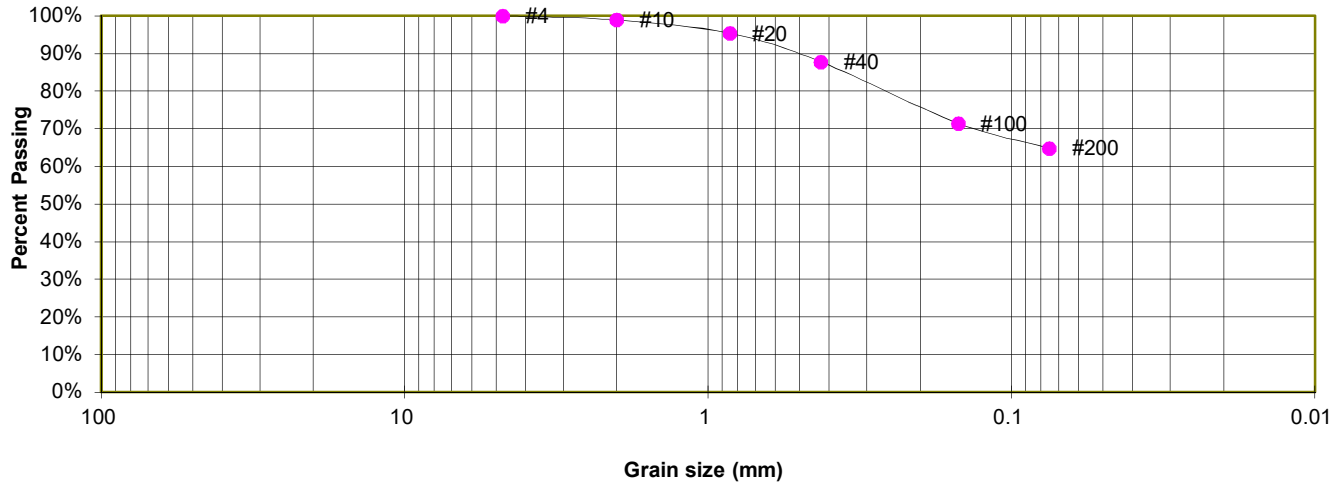
JOB NO.
231875

FIG. C-2

TEST BORING	1
DEPTH (FT)	10

SOIL DESCRIPTION CLAY, 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	100.0%
10	98.9%
20	95.4%
40	87.8%
100	71.5%
200	64.8%

ATTERBERG LIMITS

Plastic Limit	22
Liquid Limit	34
Plastic Index	12

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

SCHMIDT PARCEL
TURKEY CANYON QUARRY, LLC

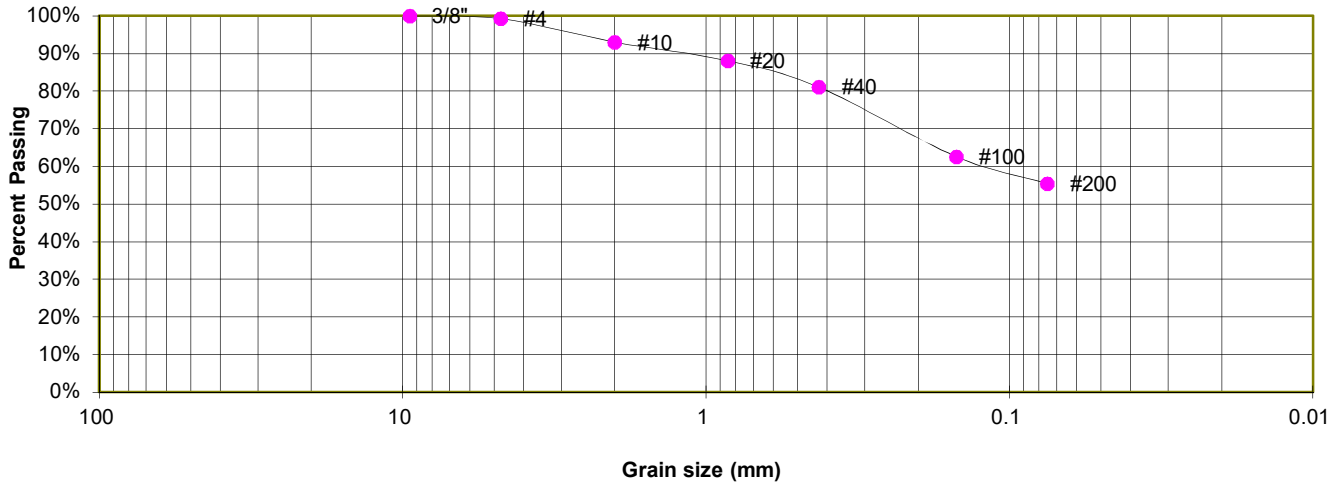
JOB NO.
231875

FIG. C-3

TEST BORING 4
DEPTH (FT) 10

SOIL DESCRIPTION CLAY, 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"	100.0%
4	99.3%
10	93.0%
20	88.1%
40	81.1%
100	62.6%
200	55.4%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

SCHMIDT PARCEL
TURKEY CANYON QUARRY, LLC

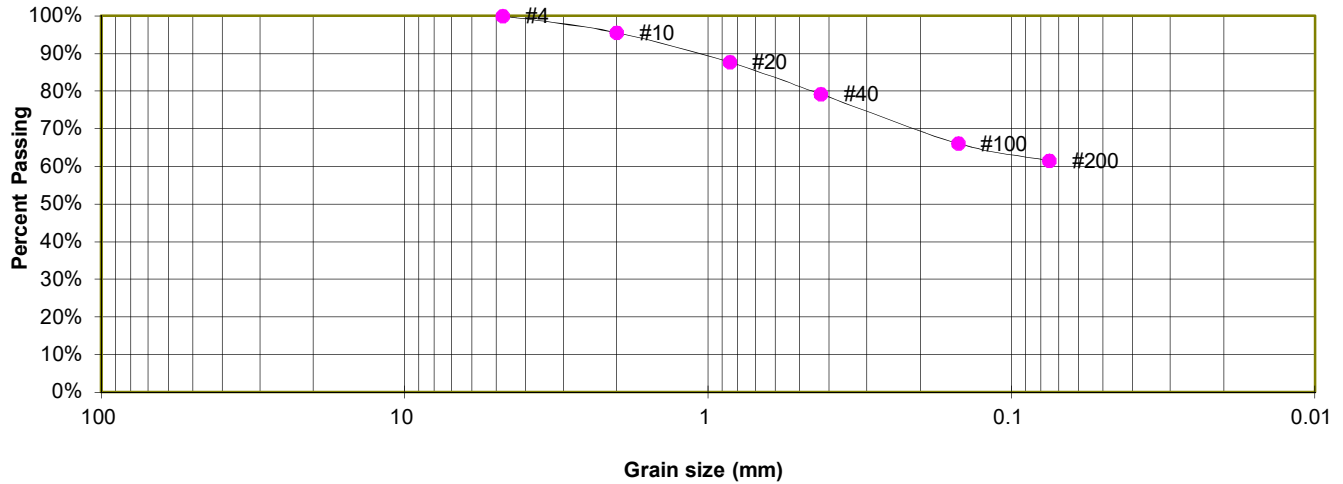
JOB NO.
231875

FIG. C-4

TEST BORING 7
DEPTH (FT) 2-3

SOIL DESCRIPTION CLAY, 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	100.0%
10	95.6%
20	87.7%
40	79.2%
100	66.1%
200	61.5%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

SCHMIDT PARCEL
TURKEY CANYON QUARRY, LLC

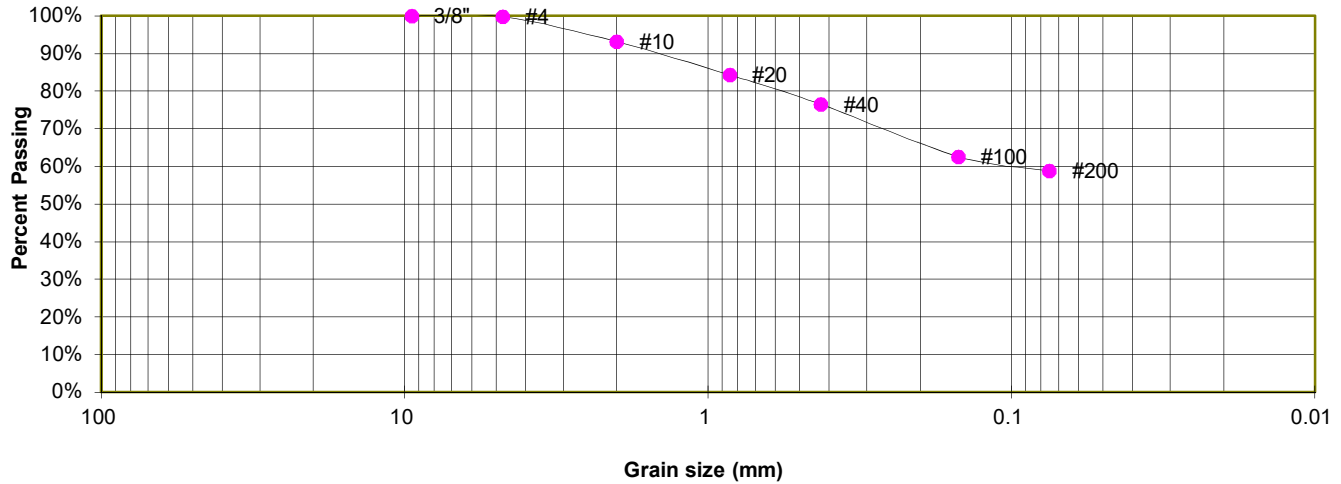
JOB NO.
231875

FIG. C-5

TEST BORING 8
DEPTH (FT) 10

SOIL DESCRIPTION CLAY, 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"	100.0%
4	99.8%
10	93.1%
20	84.4%
40	76.5%
100	62.6%
200	58.8%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

SCHMIDT PARCEL
TURKEY CANYON QUARRY, LLC

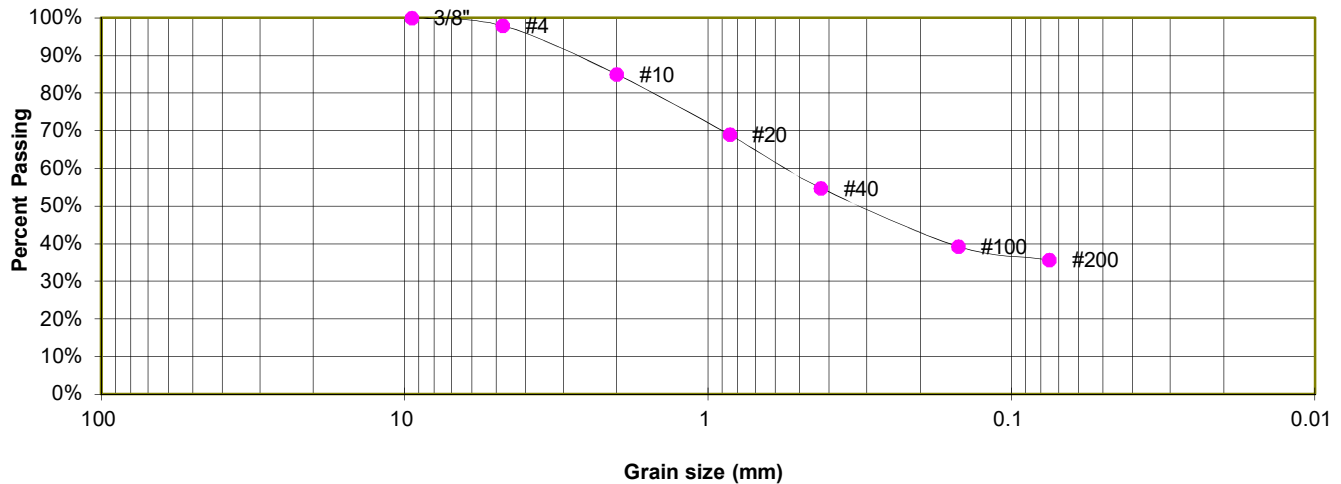
JOB NO.
231875

FIG. C-6

TEST BORING	2
DEPTH (FT)	5

SOIL DESCRIPTION SANDSTONE (SAND, CLAYEY)
SOIL TYPE 4

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	97.9%
10	85.0%
20	69.0%
40	54.8%
100	39.3%
200	35.7%

ATTERBERG LIMITS

Plastic Limit	18
Liquid Limit	26
Plastic Index	8

SOIL CLASSIFICATION

USCS CLASSIFICATION: SC



LABORATORY TEST RESULTS

SCHMIDT PARCEL
TURKEY CANYON QUARRY, LLC

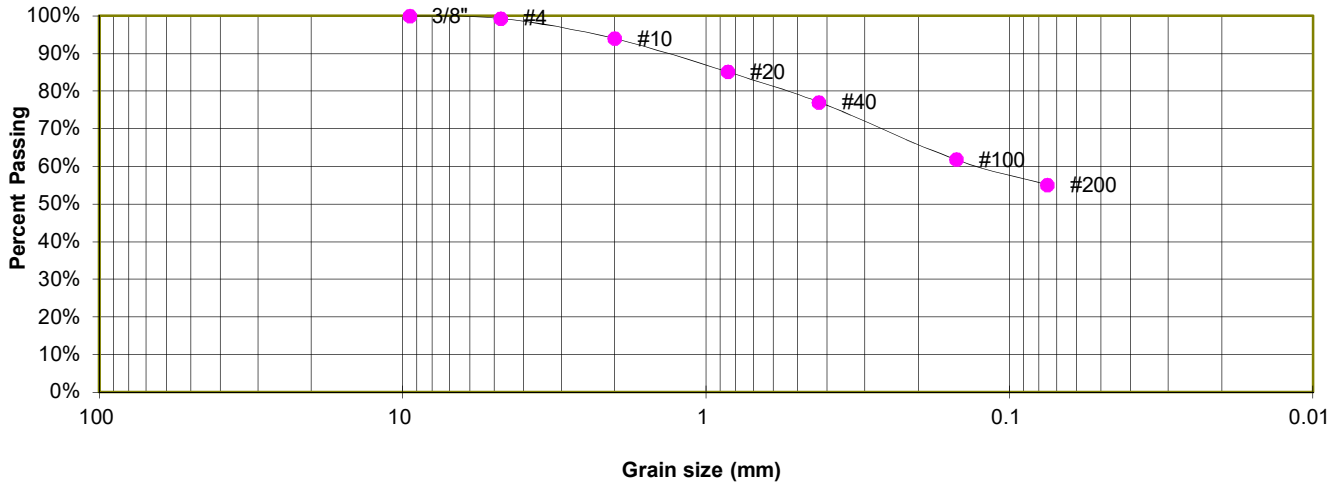
JOB NO.
231875

FIG. C-7

TEST BORING	3
DEPTH (FT)	5

SOIL DESCRIPTION CLAYSTONE (CLAY, SANDY)
SOIL TYPE 5

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	99.4%
10	94.0%
20	85.1%
40	77.1%
100	61.8%
200	55.1%

ATTERBERG LIMITS

Plastic Limit	23
Liquid Limit	32
Plastic Index	9

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



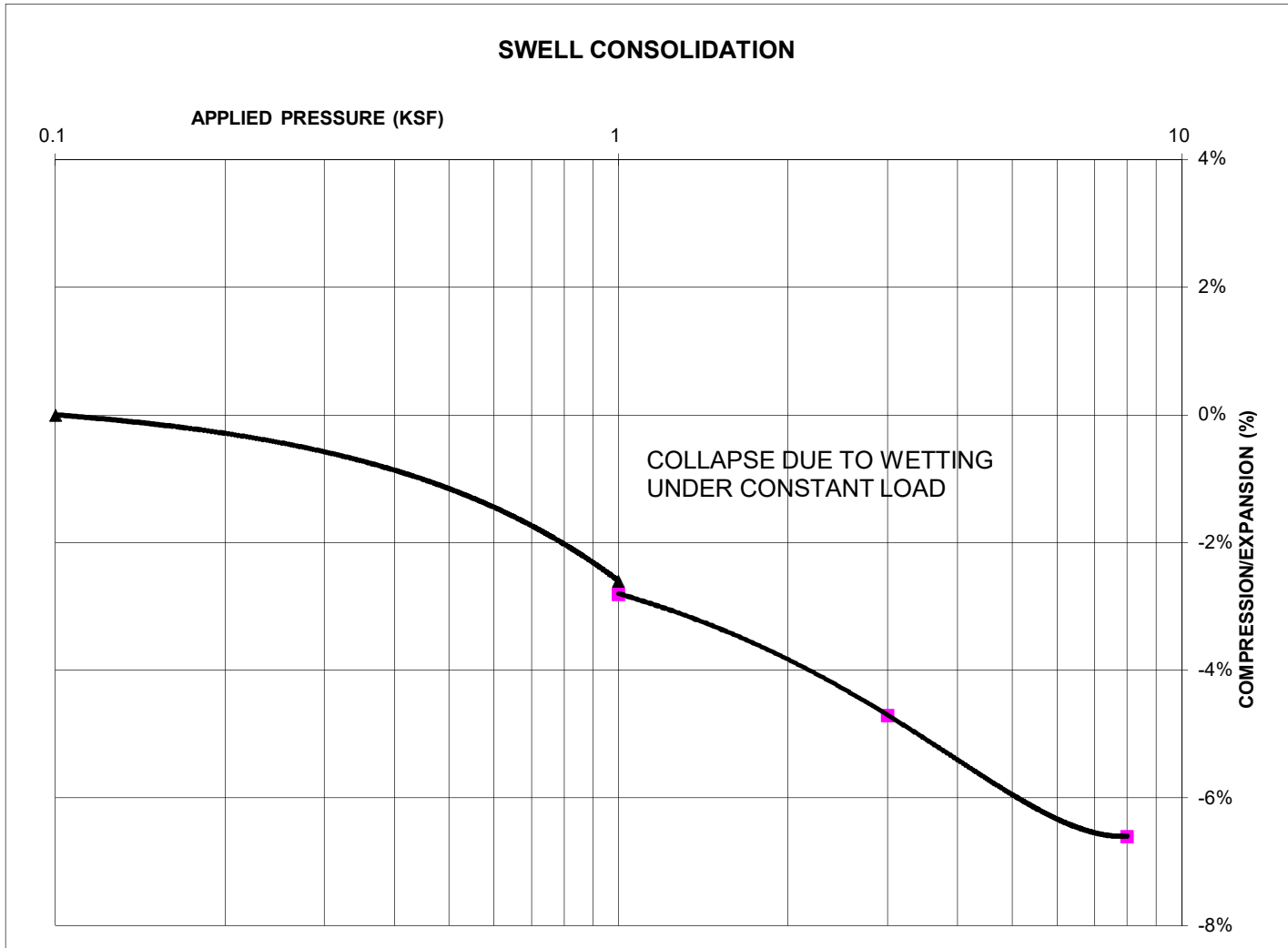
LABORATORY TEST RESULTS

SCHMIDT PARCEL
TURKEY CANYON QUARRY, LLC

JOB NO.
231875

FIG. C-8

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



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 110
NATURAL MOISTURE CONTENT: 17.2%
SWELL/COLLAPSE (%): -0.2%



SWELL TEST RESULTS

SCHMIDT PARCEL
TURKEY CANYON QUARRY, LLC

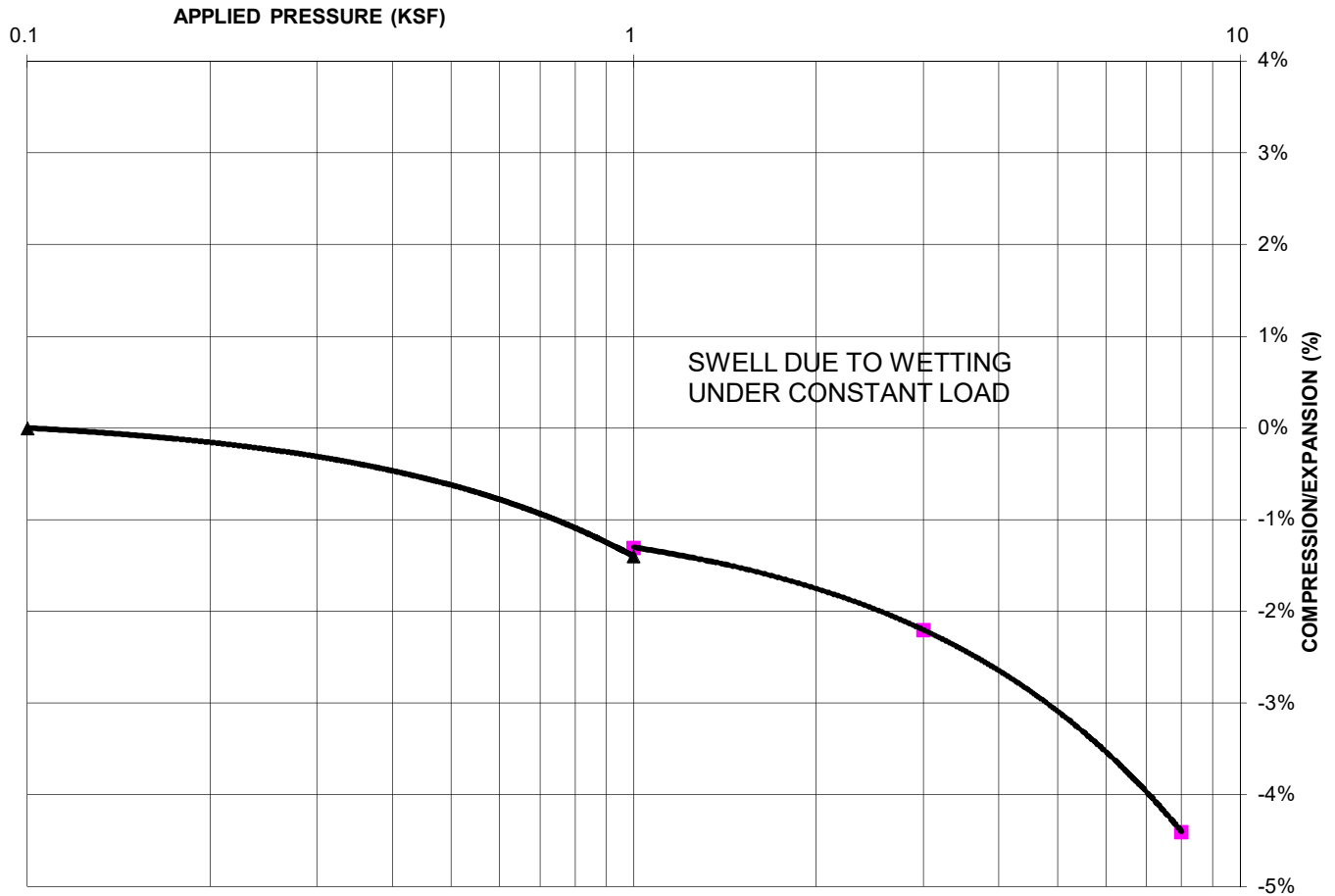
JOB NO.
231875

FIG. C-9

TEST BORING 4
DEPTH (FT) 10

SOIL DESCRIPTION CLAY, SANDY
SOIL TYPE 3

SWELL CONSOLIDATION



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 120
NATURAL MOISTURE CONTENT: 12.8%
SWELL/COLLAPSE (%): 0.1%



SWELL TEST RESULTS

SCHMIDT PARCEL
TURKEY CANYON QUARRY, LLC

JOB NO.
231875

FIG. C-10

TEST BORING 7
DEPTH (FT) 2-3

SOIL DESCRIPTION CLAY, SANDY
SOIL TYPE 3



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 126
NATURAL MOISTURE CONTENT: 12.0%
SWELL/COLLAPSE (%): 0.8%



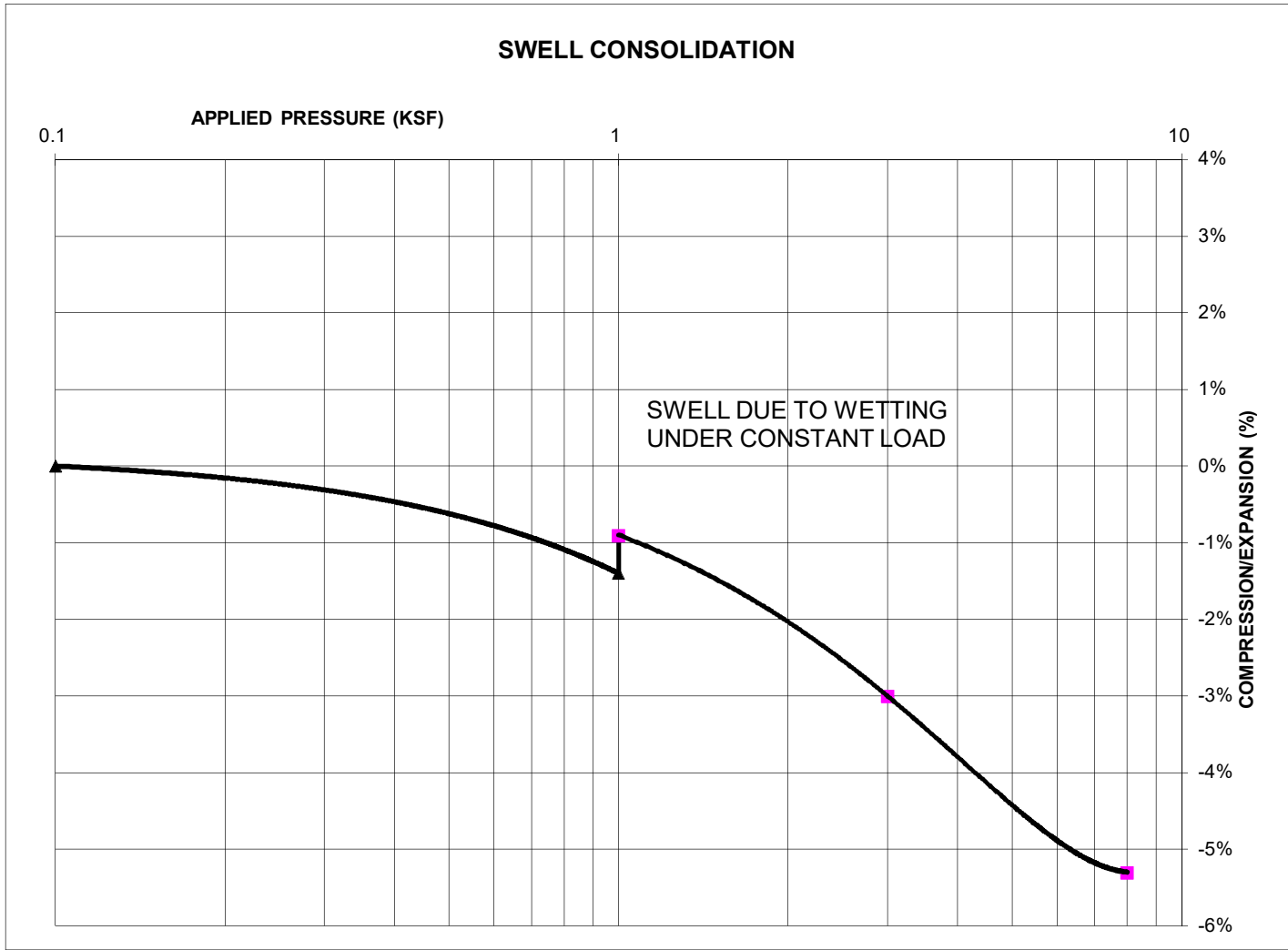
SWELL TEST RESULTS

SCHMIDT PARCEL
TURKEY CANYON QUARRY, LLC

JOB NO.
231875

FIG. C-11

TEST BORING	8	SOIL DESCRIPTION	CLAY, SANDY
DEPTH (FT)	10	SOIL TYPE	3



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 119
NATURAL MOISTURE CONTENT: 14.1%
SWELL/COLLAPSE (%): 0.5%



SWELL TEST RESULTS

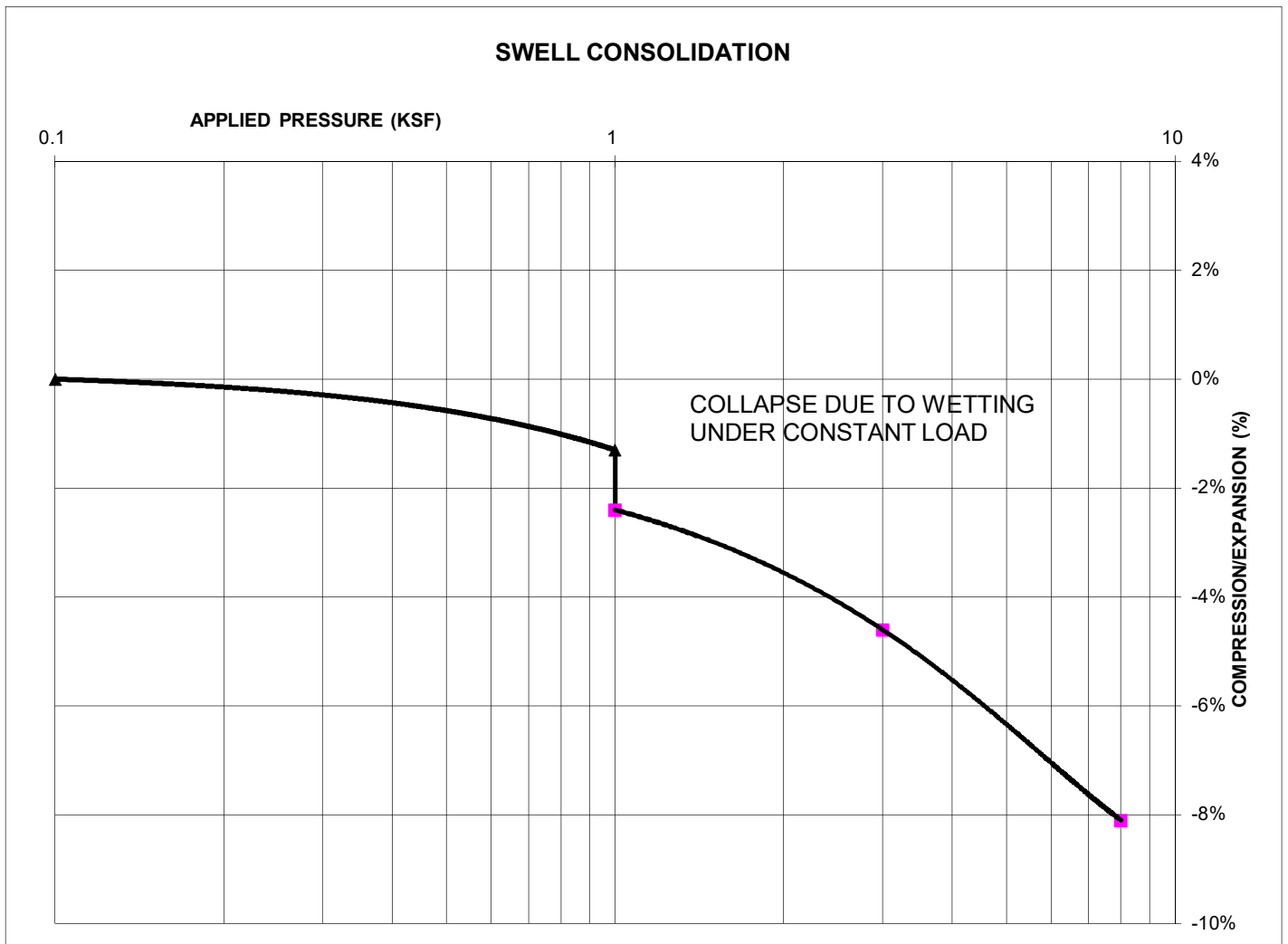
SCHMIDT PARCEL
TURKEY CANYON QUARRY, LLC

JOB NO.
231875

FIG. C-2

TEST BORING 3
DEPTH (FT) 5

SOIL DESCRIPTION CLAYSTONE (CLAY, SANDY)
SOIL TYPE 5



SWELL/COLLAPSE TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 107
NATURAL MOISTURE CONTENT: 14.1%
SWELL/COLLAPSE (%): -1.1%



SWELL TEST RESULTS

SCHMIDT PARCEL
TURKEY CANYON QUARRY, LLC

JOB NO.
231875

FIG. C-13

**APPENDIX D: EEI, Preliminary Geotechnical Report, Schmidt
Property, Job No. 231875**



January 10, 2024

Turkey Canyon Quarry, Inc.
20 Boulder Crescent Street, 1st Floor
Colorado Springs, Colorado 80903

Attn: Mark Morley

Re: Preliminary Geotechnical Report
Schmidt Property
Turkey Canyon Quarry
Colorado Springs, Colorado
Entech Job No. 231875

Dear Mr. Morley:

Entech Engineering, Inc. (Entech) completed this preliminary geotechnical report for the above referenced site in Colorado Springs, Colorado. This report describes the subsurface exploration program and laboratory testing program, and provides preliminary recommendations for construction future residential development of the site. Our services were completed for Turkey Canyon Quarry. Grading plans were not available at the time of this report.

SITE AND PROJECT DESCRIPTION

The project is to consist of the development of the site for residential use. The site is located between Black Forest Road and Vollmer Road, south of Silver Pond Heights in Colorado Springs, Colorado. The site is indicated on the Vicinity Map, Figure 1. The site was previously utilized as a borrow quarry and is now being utilized as a storage laydown construction yard (located near the western central portion of the quarry). At the time of our subsurface exploration program a large stockpile was located near the center of the site with some placed fill in the area around the stockpile. Additional fill piles are scattered throughout the site and steep slopes and fill berms surround the property. The perimeter berms were placed as part of the quarry operations as a visual barrier. A low wet area is located near the southeast corner of the quarry. Residential neighborhoods are located to the north and south and undisturbed pastureland is located to the east. Vegetation consists of field grasses, weeds and brush, trees, and some reeds near the wetland area. A row of trees has been planted along the fill berm to the north and northwest.

FIELD INVESTIGATION AND LABORATORY TESTING:

The subsurface conditions on this site were investigated by drilling fifteen exploratory test borings, designated TB-1 through TB-15 spaced across the site. The borings were drilled to depths of 20 to 25 feet on December 6, December 7, and December 11, 2023. Two test pits were excavated on December 7, 2023, designated TP-1 and TP-2, to analyze the condition of the existing recently placed fill. Borings TB-13, TB-14, and TB-15 were drilled east of the quarry area and the upper granular soils had not been removed. The approximate locations of the test borings and pits are indicated on the Site and Exploration Plan, Figure 2. Results of the Standard Penetration Tests are shown on the Test Boring Logs. The Test Boring Logs are presented in Appendix A. Moisture Content, ASTM D2216, was obtained in the laboratory for the recovered samples. Grain-Size Analysis, ASTM D422, and determination of Atterberg Limits, ASTM D4318, were performed on samples for the purposes of classification. FHA swell testing and Swell/Consolidation testing, ASTM D4546, was performed to determine the soils



expansive or compressive characteristics. Laboratory test results are summarized in Table 1 and presented in Appendix B.

SOIL AND GROUNDWATER CONDITIONS:

Two primary soil types and two bedrock types were observed during drilling which consisted of Type 1A: clayey sand to sandy clay fill (SC, CL), Type 1: native silty to clayey sand or sand with silt (SM, SC, SW-SM) Type 2: native clay with sand to sandy clay (CL), Soil Type 3: sandstone bedrock and Soil Type 4: claystone/shale bedrock. Each soil type was classified in accordance with the Unified Soil Classification System (USCS) using the laboratory testing results and the observations made during drilling.

Soil Type 1A classified as clayey sand to sandy clay fill (SC, CL). The stiff to medium stiff sandy clay fill and medium dense clayey sand was encountered in TB-7 and TB-8 and TP-1 and TP-2 at the ground surface and extended to depths of 7 to 9 feet below ground surface (bgs). Swell/Consolidation testing on the clay fill resulted in a volume change of 0.5% which indicates a low expansion potential. FHA swell testing on a sample of clayey sand fill resulted in a swell pressure of 450 pounds per square foot (psf), indicating a low expansion potential.

Soil Type 1 classified as native silty to clayey sand to sand with silt (SM, SC, SW-SM). The very loose to dense native sand was encountered in nine of the test borings at the ground surface (TB-3) or below the fill at a depth of 7 feet bgs and extended to 3 to 21 feet bgs or to the depths explored (20 feet) bgs. The native sand is anticipated to exhibit a low expansion potential.

Soil Type 2 classified as native clay with sand to sandy clay (CL). The stiff to hard clay was encountered in eight of the test borings either the ground surface or below the Type 1 sand at 4 to 19 feet and extended to 3 feet or to the termination of the boring at 20 feet bgs. Swell/Consolidation testing on the native clay resulted in volume changes of 0.3% indicating a low expansion potential. FHA swell testing resulted in a swell pressure of 940 psf indicating a low expansion potential.

Soil Type 3 classified as sandstone bedrock, or when classified as a soil very dense to dense silty to clayey sand (SM, SC). The sandstone was encountered in ten of the test borings at depths of 3 to 17 feet bgs and extended to 18 feet or to the full depth of the borings at 20 feet bgs. The sandstone bedrock is anticipated to exhibit a low expansion potential.

Soil Type 4 classified as claystone to shale bedrock or hard sandy clay (CL) when classified as a soil. The claystone/shale bedrock was encountered in nine of the test borings at depths of 3 to 21 feet and extended to 8 feet or to termination of the borings at 20 to 25 feet bgs. Swell/Consolidation testing on the claystone/shale bedrock resulted in volume changes of -0.9 to +2.4% indicating a low potential for consolidation and a moderate expansion potential.

Groundwater was encountered in nine of the test borings at depths between 3.5 and 17 feet subsequent to drilling (see Table A-1). Shallow water was primarily in the north east portion of the quarry area. We anticipate that the groundwater may affect grading activities and may affect residential construction depending on final site grading. Fluctuations in precipitation or runoff may create unstable conditions in excavations and stabilization with shot rock and/or geofabric may be required.



PRELIMINARY DEVELOPMENT CONSIDERATIONS AND RECOMMENDATIONS:

The recently placed fill was explored by boring TB-7 as well as test pits TP-1 and TP-2. Fill was encountered to depths of 6 to 9 feet. A layer of dark organics was also encountered at the base of the fill. Standard Penetration Testing and compaction testing in the test pits indicated the fill was not placed in a controlled, compacted manner. Refer to Appendix C for density testing results. A layer of highly organic soil was encountered below the fill in the test pits indicating the vegetation was not properly stripped before fill placement. Any fill will require removal and recompaction to native soils prior placing additional fill. In addition, the organics layer will require removal.

Wet soft soils encountered in the vicinity of TB-12 need to be mitigated prior to placing new any new fill. Ponded water should be drained from low lying areas and soft or loose soils should be overexcavated to a dense and unyielding subgrade. If the overexcavation encroaches on the water table, and stabilization with shot rock and geofabric may be necessary.

As discussed above, subsurface soil conditions encountered in the test borings consisted of sandy clay to clayey sand fill over native sand, sandy clay, sandstone and claystone bedrock. Shallow foundations bearing on controlled structural fill, medium dense or recompacted on-site sand or undisturbed sandstone bedrock are feasible for structures on this site. Shallow bedrock (less than 10 feet) was encountered in eleven of the test borings across the site (see Table A-1). Overexcavation of clay soils or claystone bedrock and replacement with structural fill is also anticipated where clay/claystone is encountered close to foundation grades. Overexcavation depths of 4 to 5 feet are anticipated in areas of claystone bedrock.

Groundwater will likely affect the construction of shallow foundations or utility trenches proposed for development of this site. Development of this and adjacent properties as well as seasonal precipitation changes and runoff may affect groundwater elevations.

PRELIMINARY CONCRETE RECOMMENDATIONS:

Sulfate solubility testing was conducted on select soil samples recovered from the test borings to evaluate the potential for sulfate attack on concrete placed at or below surface grade. Test results indicate 0.01 to less than 0.01 percent soluble sulfate (by weight), refer to Appendix B. These tests results indicate that the sulfate component of the site soils present negligible exposure threats to concrete degradation.

SITE GRADING:

Any areas to receive fill should have all uncontrolled fill, topsoil, organic material or debris removed. Fill must be properly benched and compacted to minimize potentially unstable conditions in slope areas. Completed slopes should be 3H:1V (horizontal to vertical) or flatter if constructed without geosynthetic reinforcements. Flatter slopes may be necessary if ground water is present. Grading that approaches the water table will encounter unstable conditions. The surface to receive fill should be scarified a minimum 8 inches, and moisture conditioned to within +/-2% of optimum moisture content and compacted to a minimum of 95% of its maximum Standard Proctor Dry Density, ASTM D-698 for cohesive soils (clay) and 95% of its maximum Modified Proctor Dry Density, ASTM D1557 for cohesionless soils (sand), prior to placing new fill.



New fill should be placed in thin lifts not to exceed 6 inches after compaction while adhering to the same specifications listed above. The placement and compaction of fill should be observed and tested by Entech during construction. Entech should approve any import materials prior to hauling them to the site.

ADDITIONAL GEOTECHNICAL EXPLORATIONS:

Additional geotechnical investigation is recommended when the development plans are finalized, subdivision lots are staked and overlot grading is completed in order to provide final design and construction recommendations.

CLOSURE:

The preliminary subsurface exploration program, geotechnical evaluation, and recommendations presented in this report are intended for use by Turkey Canyon Quarry, Inc. with application to the proposed development of the Schmidt Property. The borings were located to provide preliminary recommendations, variations in site subsurface conditions not indicated on the borings should be anticipated.

In conducting the preliminary 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 same locality and under similar conditions. No other warranty, expressed or implied is made.

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

Respectfully Submitted,

ENTECH ENGINEERING, INC.

A handwritten signature in blue ink, appearing to read "Stuart Wood".

Stuart Wood

SW:JCG
Entech Job No. 231875

AAPProjects/2023/231875 - pgr

Entech Job No. 231875

Reviewed by:



Digitally signed by Joseph C Goode III
Date: 2024.01.10 14:34:40 -07'00'

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



VICINITY MAP
SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. 1



- TB- APPROXIMATE TEST BORING LOCATION AND NUMBER
- TP- APPROXIMATE TEST PIT LOCATION AND NUMBER



SITE AND EXPLORATION PLAN

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. 2



APPENDIX A: Test Boring Logs

TABLE A-1
DEPTH TO GROUNDWATER & BEDROCK

TEST BORING	DEPTH TO GROUNDWATER (ft.)	DEPTH TO BEDROCK (ft.)
1	>20	3
2	>20	3
3	>20	7
4	>20	4
5	>20	9
6	>20	3
7	16.5	14
8	17.5	8
9	7	3
10	3.5	8
11	3.5	9
12	11	10
13	13	21
14	16	>20
15	17	>20

TEST BORING 1
DATE DRILLED 12/11/2023
REMARKS

DRY TO 19', 12/12/23

SAND, SILTY, OLIVE, DENSE, MOIST

SANDSTONE, VERY WEAK, GRAY, HIGHLY WEATHERED (SAND, CLAYEY, VERY DENSE, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			30	8.3	1
5			<u>50</u> 11"	10.1	3
10			50	11.4	3
15			<u>50</u> 11"	13.0	3
20			<u>50</u> 6"	11.6	3

TEST BORING 2
DATE DRILLED 12/11/2023
REMARKS

DRY TO 18', 12/12/23

SAND, SILTY, BROWN, DENSE, MOIST

CLAYSTONE, VERY WEAK, OLIVE, HIGHLY WEATHERED (CLAY, SANDY, HARD, MOIST)

SANDSTONE, VERY WEAK, GRAY to OLIVE, HIGHLY WEATHERED (SAND, CLAYEY, VERY DENSE to DENSE, MOIST)

CLAYSTONE, VERY WEAK, GRAY, MODERATELY WEATHERED (CLAY, SANDY, HARD, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			40	4.6	1
5			<u>50</u> 11"	8.6	4
10			<u>50</u> 9"	11.0	3
15			42	10.6	3
20			<u>50</u> 9"	10.9	4



TEST BORING LOGS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. A-1

TEST BORING 3
DATE DRILLED 12/11/2023

REMARKS

DRY TO 19', 12/12/23

SAND, SILTY, OLIVE, DENSE,
MOIST

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

CLAYSTONE, VERY WEAK, GRAY,
MODERATELY WEATHERED
(CLAY, SANDY, HARD, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			32	6.3	1
5			40	7.9	1
10			$\frac{50}{9''}$	10.7	3
15			$\frac{50}{10''}$	9.7	3
20			$\frac{50}{9''}$	12.2	4

TEST BORING 4
DATE DRILLED 12/11/2023

REMARKS

DRY TO 19.5', 12/12/23

CLAY, SANDY, GRAY, STIFF, MOIST

CLAYSTONE, VERY WEAK, OLIVE,
HIGHLY WEATHERED (CLAY,
SANDY, HARD, MOIST)

SANDSTONE, VERY WEAK, OLIVE
to GRAY, HIGHLY WEATHERED
(SAND, SILTY, VERY DENSE,
MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			11	18.3	2
5			$\frac{50}{11''}$	12.0	4
10			$\frac{50}{9''}$	11.6	4
15			$\frac{50}{9''}$	7.0	3
20			$\frac{50}{7''}$	7.8	3



TEST BORING LOGS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. A-2

TEST BORING 5
DATE DRILLED 12/11/2023
REMARKS

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 19', 12/12/23						
SAND, SILTY, BROWN, MEDIUM DENSE, MOIST				24	5.0	1
CLAY, WITH SAND, GRAY, STIFF, MOIST	5			14	17.6	2
CLAYSTONE, VERY WEAK, DARK GRAY, HIGHLY WEATHERED (CLAY, SANDY, HARD, MOIST)	10			50 9"	9.0	4
SANDSTONE, WEAK, OLIVE, HIGHLY WEATHERED (SAND, CLAYEY, VERY DENSE, MOIST)	15			50 6"	11.2	3
	20			50 6"	8.3	3

TEST BORING 6
DATE DRILLED 12/11/2023
REMARKS

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 19.5', 12/12/23						
CLAY, SANDY, GRAY, VERY STIFF, MOIST				20	10.4	2
CLAYSTONE, VERY WEAK, GREEN-GRAY, MODERATELY WEATHERED (CLAY, SANDY, HARD, MOIST)	5			50 10"	9.9	4
	10			50 8"	11.1	4
	15			50 8"	15.0	4
SANDSTONE, WEAK, GRAY, HIGHLY WEATHERED (SAND, CLAYEY, VERY DENSE, MOIST)	20			50 6"	8.5	3



TEST BORING LOGS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. A-3

TEST BORING 7
DATE DRILLED 12/11/2023
REMARKS

WATER @ 16.5', 12/12/23

FILL 0-7', CLAY, SANDY, STIFF to
MEDIUM STIFF, MOIST

SAND, SILTY, LIGHT BROWN to
GRAY, DENSE, MOIST

SANDSTONE, WEAK, GRAY,
HIGHLY WEATHERED (SAND,
CLAYEY, VERY DENSE, MOIST) 

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
					
			10	16.8	1A
5			5	14.4	1A
10			38	8.8	1
15			50 10"	10.6	3
20			50 7"	8.1	3

TEST BORING 8
DATE DRILLED 12/11/2023
REMARKS

WATER @ 17.5', 12/12/23

FILL 0-8', SAND, CLAYEY, TAN,
MEDIUM DENSE, MOIST

SANDSTONE, WEAK, GRAY,
HIGHLY WEATHERED (SAND,
CLAYEY, VERY DENSE, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
					
			15	9.8	1A
5			10	10.7	1A
10			50 11"	11.3	3
15			50 7"	14.6	3
20			50 7"	12.0	3



TEST BORING LOGS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. A-4

TEST BORING 9
DATE DRILLED 12/7/2024
REMARKS

WATER @ 7', 12/12/23

CLAY, SANDY, BROWN, VERY STIFF, MOIST

SANDSTONE, WEAK, GRAY, HIGHLY WEATHERED (SAND, CLAYEY, VERY DENSE, MOIST)



Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			24	13.4	2
5			<u>50</u> 9"	6.5	3
10			<u>50</u> 9"	10.9	3
15			<u>50</u> 10"	11.9	3
20			<u>50</u> 9"	10.1	3

TEST BORING 10
DATE DRILLED 12/7/2024
REMARKS

WATER @ 3.5', 12/12/23

SAND, CLAYEY TAN, MEDIUM DENSE, MOIST

CLAY, SANDY, GRAY, VERY STIFF, MOIST

CLAYSTONE, WEAK, GRAY, HIGHLY WEATHERED (CLAY, SANDY, HARD, MOIST)



Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			13	9.6	1
5			22	15.1	2
10			45	14.6	4
15			<u>50</u> 7"	9.9	4
20			<u>50</u> 6"	11.3	4



TEST BORING LOGS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. A-5

TEST BORING 11
DATE DRILLED 12/7/2024
REMARKS

WATER @ 3.5', 12/12/23
CLAY, SANDY, BROWN, VERY
STIFF to HARD, MOIST

SHALE, WEAK, GRAY, HIGHLY
WEATHERED (CLAY, SANDY,
HARD, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
5			25	15.2	2
5			47	16.3	2
10			44	12.7	2
15			50 7"	11.0	4
20			50 7"	10.5	4

TEST BORING 12
DATE DRILLED 12/11/2024
REMARKS

WATER @ 11', 12/12/23
CLAY, SANDY, OLIVE to GREEN-
GRAY, MEDIUM STIFF to VERY
STIFF, MOIST

SANDSTONE, VERY WEAK, OLIVE,
HIGHLY WEATHERED (SAND,
CLAYEY, VERY DENSE, MOIST)

CLAYSTONE, WEAK, GRAY,
HIGHLY WEATHERED (CLAY,
SANDY, HARD, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
5			6	17.0	2
5			27	8.4	2
10			50 11"	9.9	3
15			50 7"	10.2	3
20			50 6"	10.3	4



TEST BORING LOGS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. A-6

TEST BORING 13
 DATE DRILLED 12/11/2024
 REMARKS

WATER @ 13', 12/12/23

SAND, CLAYEY, BROWN to OLIVE,
 MEDIUM DENSE to VERY LOOSE,
 MOIST to WET

CLAYSTONE, WEAK, GREEN-GRAY,
 HIGHLY WEATHERED (CLAY,
 SANDY, HARD, MOIST)

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			28	3.1	1
5			10	6.8	1
10			16	8.2	1
15			16	6.8	1
20			1	14.9	1
25			50 8"	14.9	4

TEST BORING 14
 DATE DRILLED 12/11/2024
 REMARKS

WATER @ 16', 12/12/23

SAND, WITH SILT, BROWN to
 OLIVE, LOOSE to MEDIUM
 DENSE, MOIST to WET

CLAY, WITH SAND, GREEN-GRAY,
 VERY STIFF, MOIST

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			5	4.0	1
5			11	16.3	1
10			20	9.4	1
15			19	12.9	1
20			26	21.0	2



TEST BORING LOGS

SCHMIDT PROPERTY
 TURKEY CANYON QUARRY

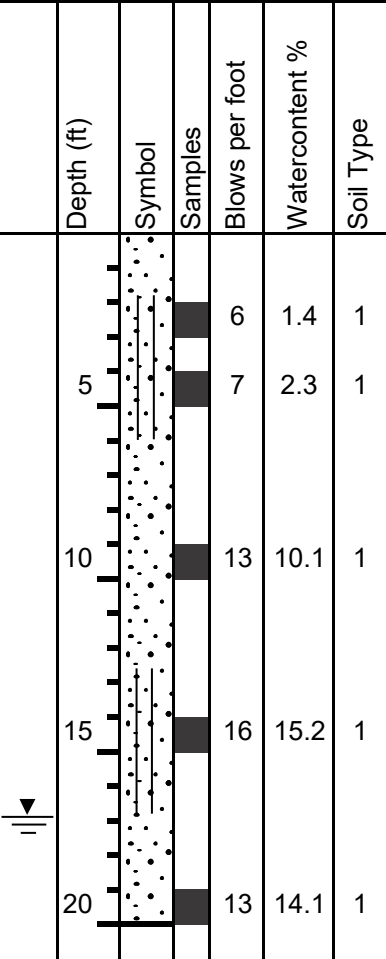
JOB NO.
 231875

FIG. A-7

TEST BORING 15
DATE DRILLED 12/11/2024
REMARKS

WATER @ 17', 12/12/23

SAND, WITH SILT, BROWN to
OLIVE, LOOSE to MEDIUM
DENSE, DRY to WET



TEST BORING LOGS
SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875
FIG. A-8

TEST PIT 1
DATE DRILLED 12/7/2024
REMARKS

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 9', 12/7/23						
FILL 0-9', SAND, CLAYEY, BROWN, MEDIUM DENSE, MOIST						1A
FILL, CLAY, SANDY, BROWN, STIFF, MOIST	5					1A
ORGANICS LAYER AT 9'	10					
	15					
	20					

TEST PIT 2
DATE DRILLED 12/7/2024
REMARKS

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 9', 12/7/23						
FILL 0-9', SAND, CLAYEY, BROWN, MEDIUM DENSE, MOIST						1A
FILL, CLAY, SANDY, BROWN, STIFF, MOIST	5					1A
ORGANICS LAYER AT 9'	10					
	15					
	20					



TEST PIT LOGS
SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. A-9



APPENDIX B: Laboratory Test Results

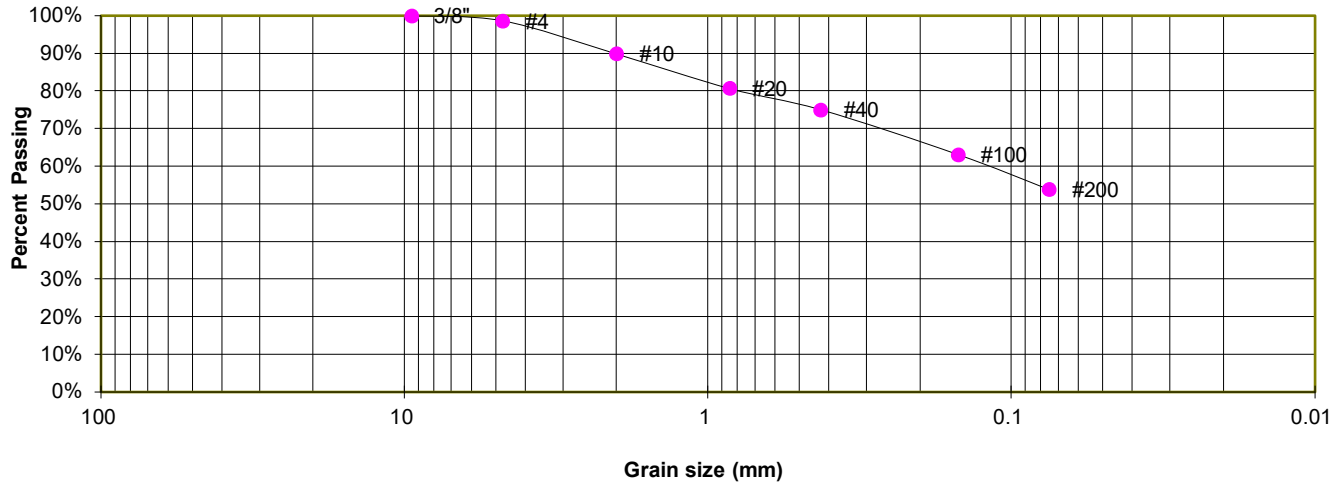
TABLE B-1
SUMMARY OF LABORATORY TEST RESULTS

SOIL TYPE	TEST BORING NO.	DEPTH (FT)	WATER (%)	DRY DENSITY (PCF)	PASSING NO. 200 SIEVE (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTIC INDEX	SULFATE (WT %)	FHA SWELL (PSF)	SWELL/ CONSOL (%)	USCS	SOIL DESCRIPTION
1A	7	2-3	15.9	109.1	53.9						0.5	CL	FILL, CLAY, SANDY
1A	8	5			21.5					450		SC	FILL, SAND, CLAYEY
1	1	2-3			17.7	NV	NP	NP	<0.01			SM	SAND, SILTY
1	7	10			19.8							SM	SAND, SILTY
1	13	20			30.4	25	13	12				SC	SAND, CLAYEY
1	14	5			5.7							SW-SM	SAND, WITH SILT
1	15	10			8.5	NV	NP	NP				SW-SM	SAND, WITH SILT
2	5	5	20.5	105.8	83.4	36	20	16	<0.01		0.3	CL	CLAY, WITH SAND
2	6	2-3			66.0					940		CL	CLAY, SANDY
2	9	2-3	11.9	113.1	60.3	34	17	17	<0.01		0.3	CL	CLAY, SANDY
2	14	20			82.1							CL	CLAY, WITH SAND
3	3	10			20.0	NV	NP	NP	<0.01			SM	SANDSTONE (SAND, SILTY)
3	8	20			14.0							SM	SANDSTONE (SAND, SILTY)
3	12	10			42.2							SC	SANDSTONE (SAND, CLAYEY)
4	2	5	10.0	110.4	61.0	27	17	10	<0.01		-0.9	CL	CLAYSTONE (CLAY, SANDY)
4	4	5	12.3	119.5	63.5						0.4	CL	CLAYSTONE (CLAY, SANDY)
4	10	10	14.6	116.0	54.9				<0.01		2.4	CL	CLAYSTONE (CLAY, SANDY)
4	11	20	10.6	123.5	55.1	33	20	13	0.01		1.7	CL	SHALE (CLAY, SANDY)
4	13	25	11.6	121.4	65.3						0.4	CL	CLAYSTONE (CLAY, SANDY)

TEST BORING 7
DEPTH (FT) 2-3

SOIL DESCRIPTION FILL, CLAY, SANDY
SOIL TYPE 1A

**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	98.6%
10	89.9%
20	80.7%
40	75.0%
100	63.1%
200	53.9%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

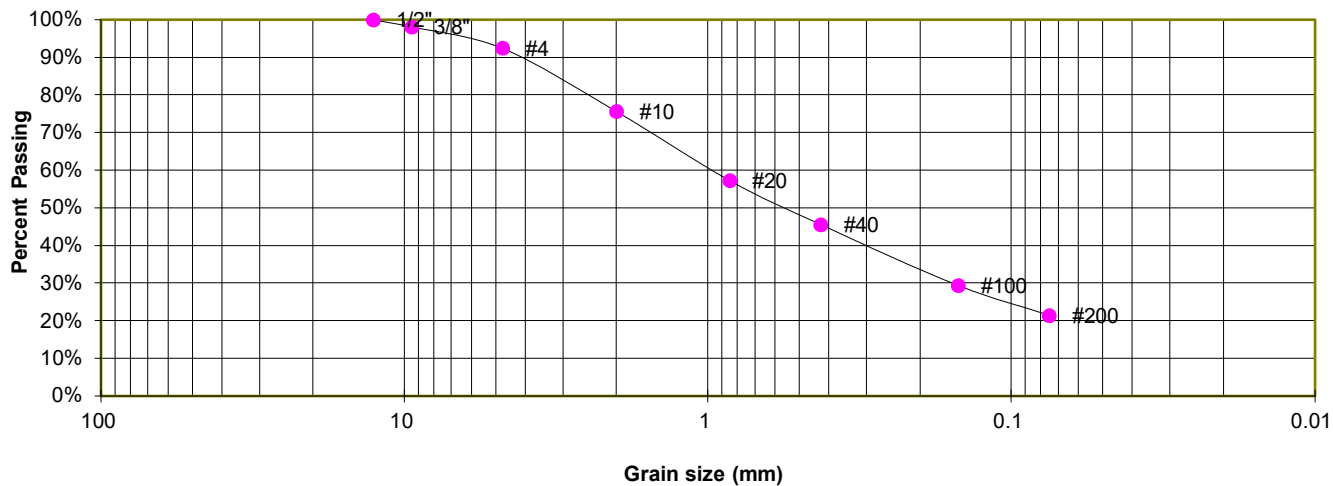
JOB NO.
231875

FIG. B-1

TEST BORING	8
DEPTH (FT)	5

SOIL DESCRIPTION FILL, SAND, CLAYEY
SOIL TYPE 1A

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"	98.1%
4	92.4%
10	75.6%
20	57.3%
40	45.6%
100	29.4%
200	21.5%

FHA SWELL

Moisture at start	7.8%
Moisture at finish	15.1%
Moisture increase	7.4%
Initial dry density (pcf)	108
Swell (psf)	450

SOIL CLASSIFICATION

USCS CLASSIFICATION: SC



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

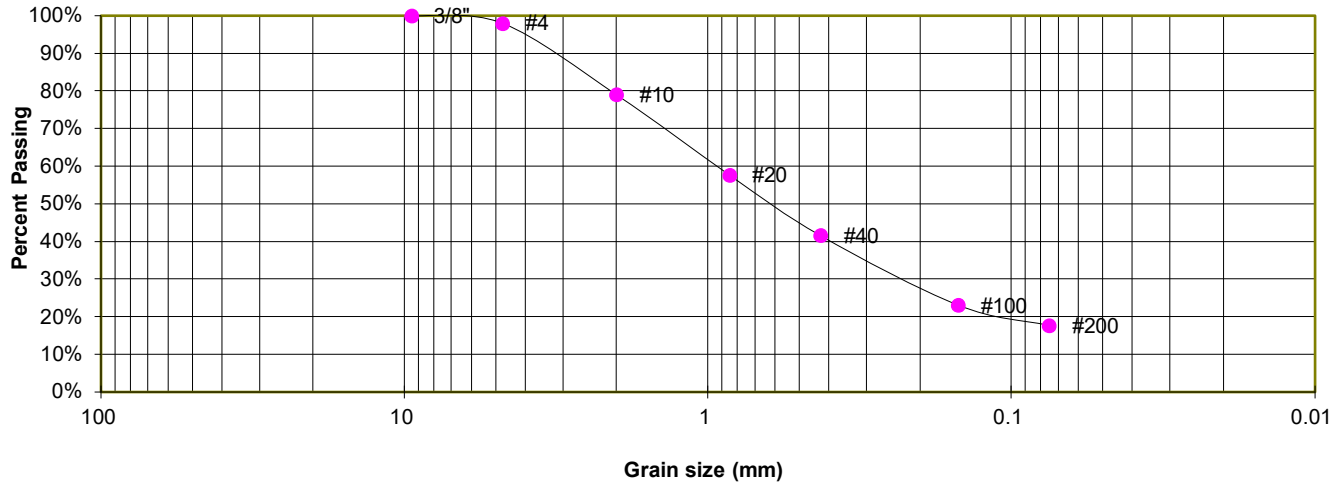
JOB NO.
231875

FIG. B-2

TEST BORING 1
DEPTH (FT) 2-3

SOIL DESCRIPTION SAND, SILTY
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"	100.0%
4	98.0%
10	79.0%
20	57.7%
40	41.6%
100	23.1%
200	17.7%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

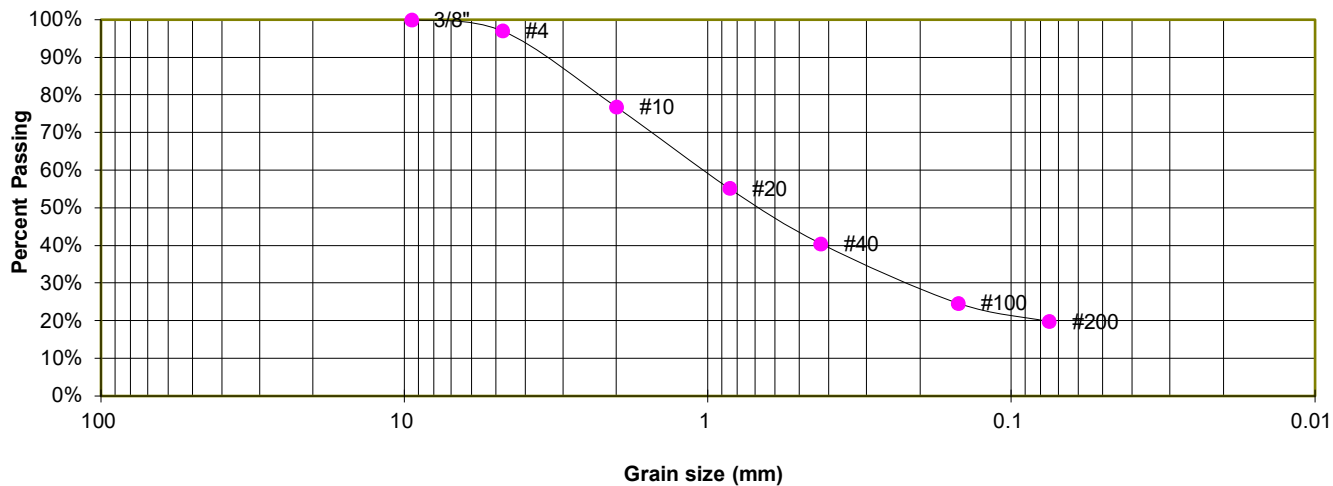
JOB NO.
231875

FIG. B-3

TEST BORING 7
DEPTH (FT) 10

SOIL DESCRIPTION SAND, SILTY
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"	100.0%
4	97.1%
10	76.8%
20	55.2%
40	40.5%
100	24.7%
200	19.8%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

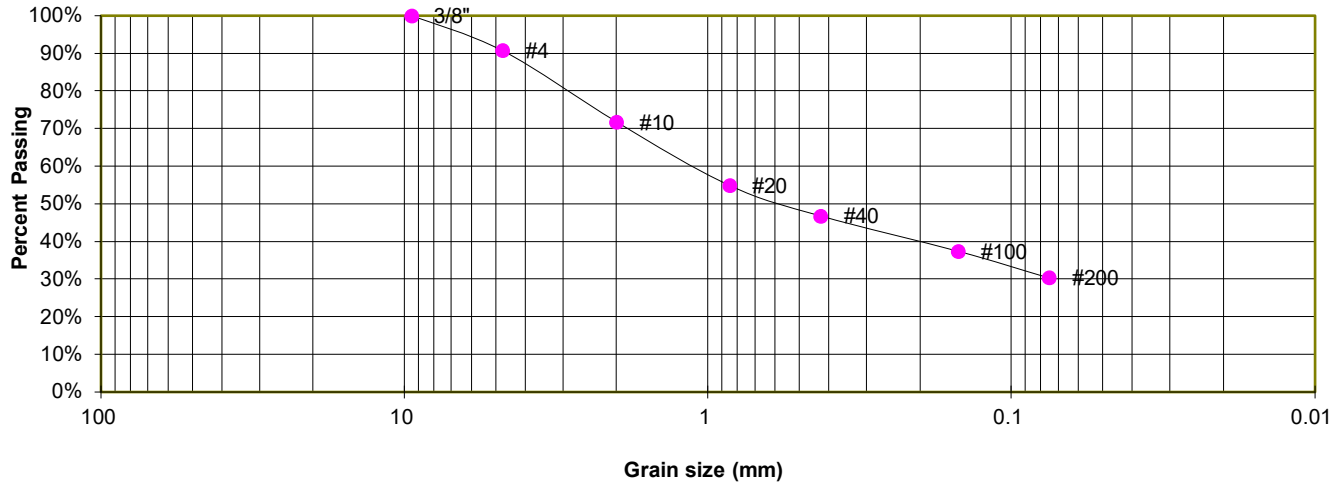
JOB NO.
231875

FIG. B-4

TEST BORING	13
DEPTH (FT)	20

SOIL DESCRIPTION SAND, CLAYEY
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"	100.0%
4	90.7%
10	71.7%
20	54.9%
40	46.8%
100	37.4%
200	30.4%

ATTERBERG LIMITS

Plastic Limit	13
Liquid Limit	25
Plastic Index	12

SOIL CLASSIFICATION

USCS CLASSIFICATION: SC



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

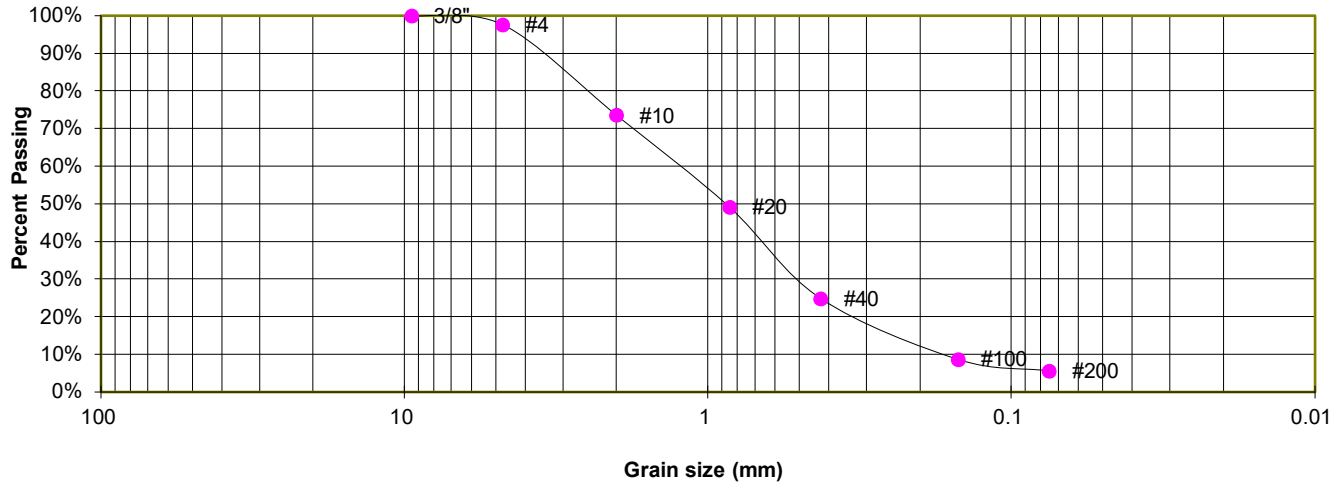
JOB NO.
231875

FIG. B-5

TEST BORING 14
DEPTH (FT) 5

SOIL DESCRIPTION SAND, WITH SILT
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"	100.0%
4	97.6%
10	73.6%
20	49.2%
40	24.8%
100	8.7%
200	5.7%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SW-SM



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

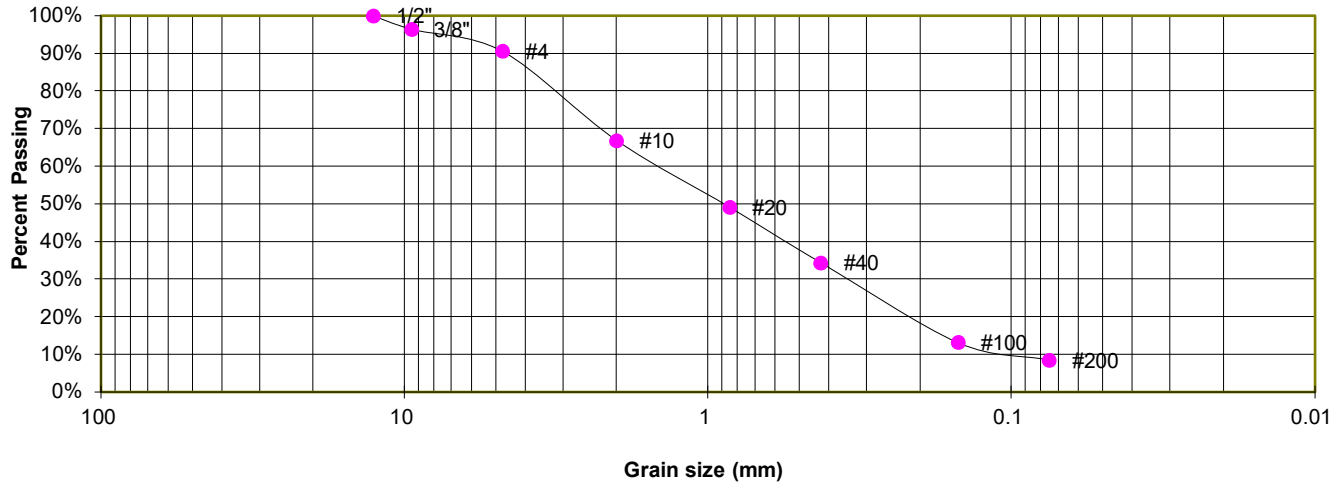
JOB NO.
231875

FIG. B-6

TEST BORING	15
DEPTH (FT)	10

SOIL DESCRIPTION SAND, WITH SILT
SOIL TYPE 1

Sieve Analysis Grain Size Distribution



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	96.4%
4	90.6%
10	66.9%
20	49.2%
40	34.4%
100	13.2%
200	8.5%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION: SW-SM



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

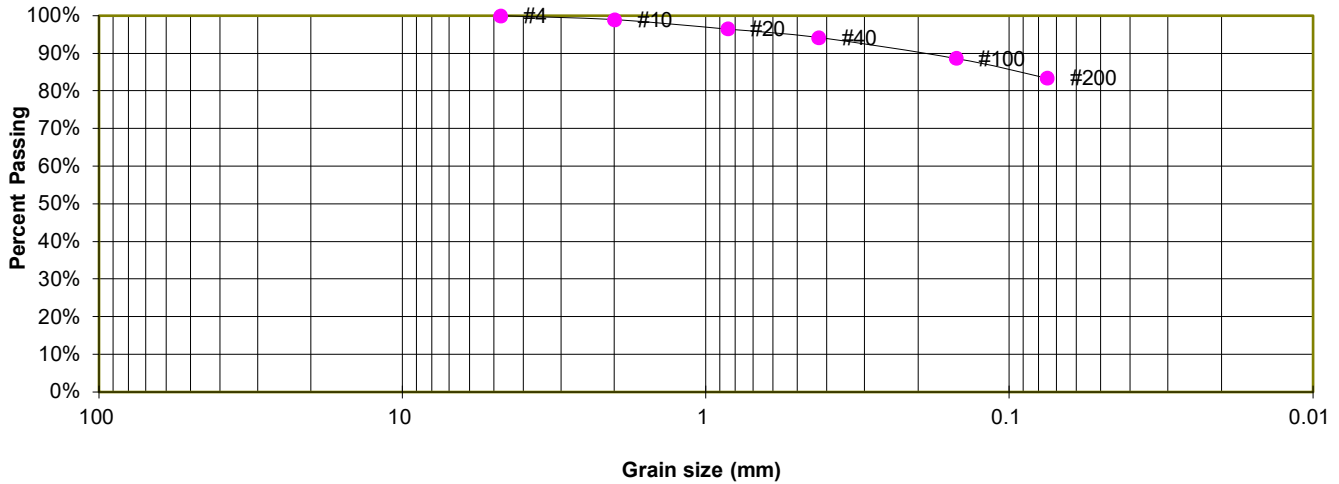
JOB NO.
231875

FIG. B-7

TEST BORING 5
DEPTH (FT) 5

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	100.0%
10	99.0%
20	96.5%
40	94.2%
100	88.7%
200	83.4%

ATTERBERG LIMITS

Plastic Limit	20
Liquid Limit	36
Plastic Index	16

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

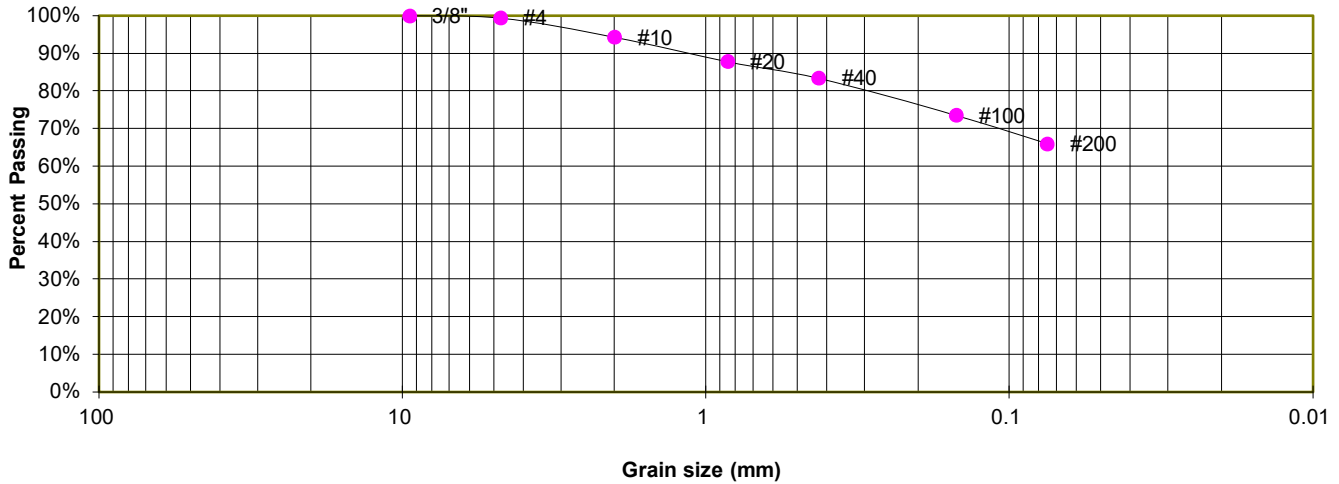
JOB NO.
231875

FIG. B-8

TEST BORING 6
DEPTH (FT) 2-3

SOIL DESCRIPTION CLAY, 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	99.4%
10	94.3%
20	87.8%
40	83.4%
100	73.6%
200	66.0%

FHA SWELL

Moisture at start	10.3%
Moisture at finish	17.0%
Moisture increase	6.8%
Initial dry density (pcf)	111
Swell (psf)	940

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

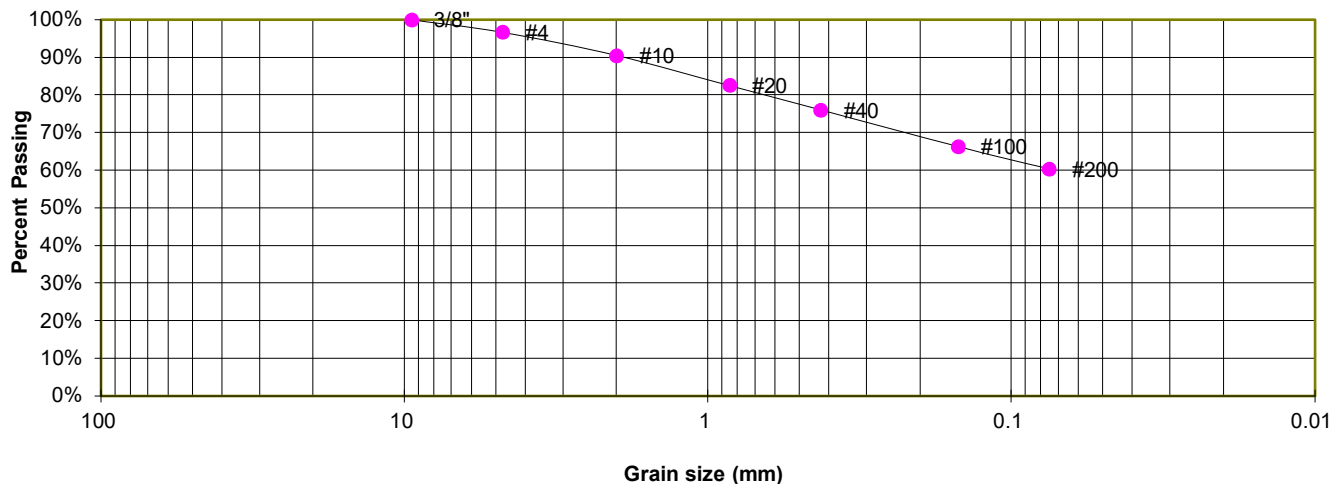
JOB NO.
231875

FIG. B-9

TEST BORING 9
DEPTH (FT) 2-3

SOIL DESCRIPTION CLAY, 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	96.7%
10	90.5%
20	82.6%
40	76.1%
100	66.3%
200	60.3%

ATTERBERG LIMITS

Plastic Limit	17
Liquid Limit	34
Plastic Index	17

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

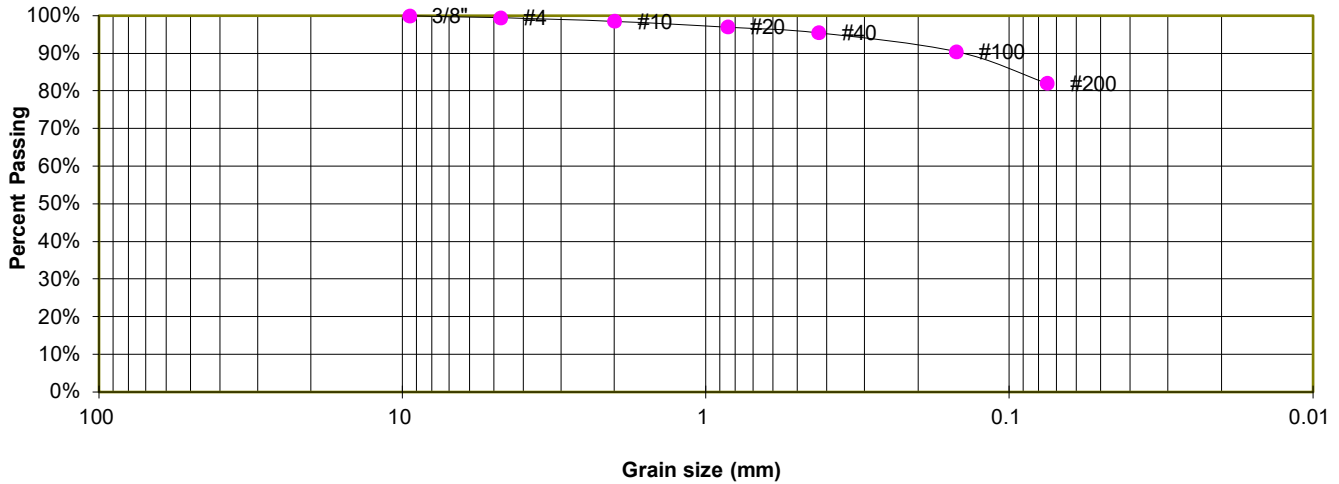
JOB NO.
231875

FIG. B-10

TEST BORING	14
DEPTH (FT)	20

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"	100.0%
4	99.5%
10	98.6%
20	97.0%
40	95.5%
100	90.5%
200	82.1%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

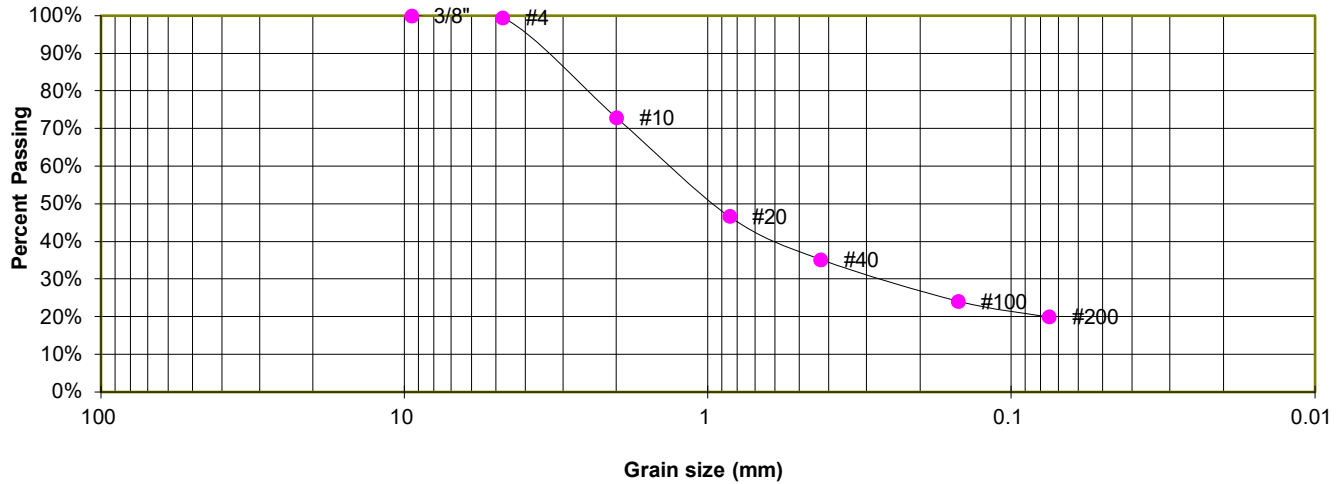
JOB NO.
231875

FIG. B-11

TEST BORING 3
DEPTH (FT) 10

SOIL DESCRIPTION SANDSTONE (SAND, SILTY)
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"	100.0%
4	99.5%
10	72.9%
20	46.7%
40	35.2%
100	24.2%
200	20.0%

ATTERBERG LIMITS

Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

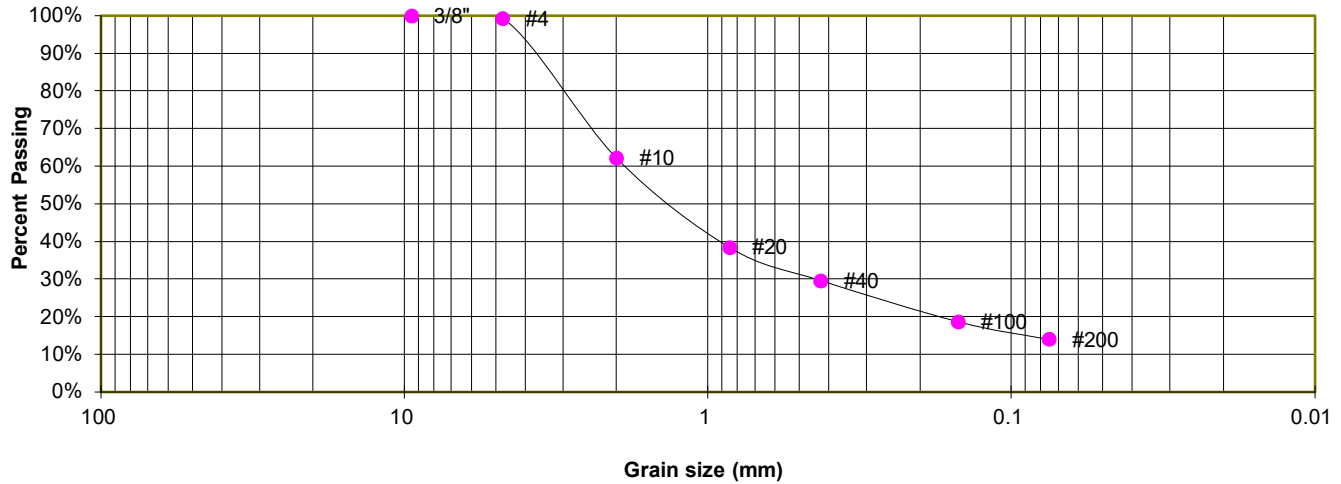
JOB NO.
231875

FIG. B-12

TEST BORING 8
DEPTH (FT) 20

SOIL DESCRIPTION SANDSTONE (SAND, SILTY)
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"	100.0%
4	99.3%
10	62.1%
20	38.5%
40	29.6%
100	18.7%
200	14.0%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

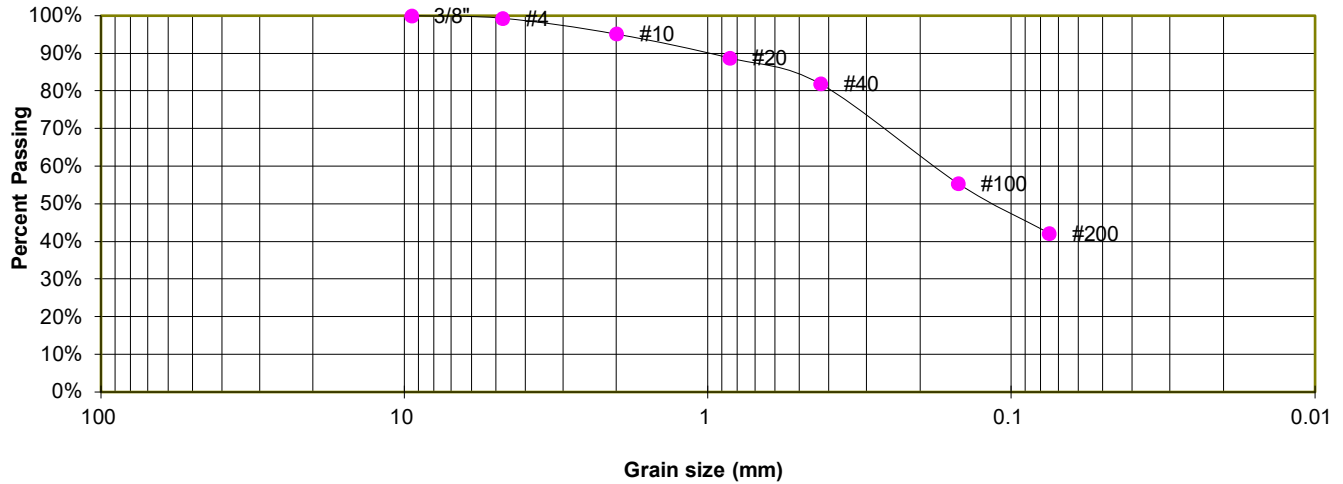
JOB NO.
231875

FIG. B-13

TEST BORING 12
DEPTH (FT) 10

SOIL DESCRIPTION SANDSTONE (SAND, CLAYEY)
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"	100.0%
4	99.3%
10	95.2%
20	88.8%
40	81.9%
100	55.5%
200	42.2%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SC



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

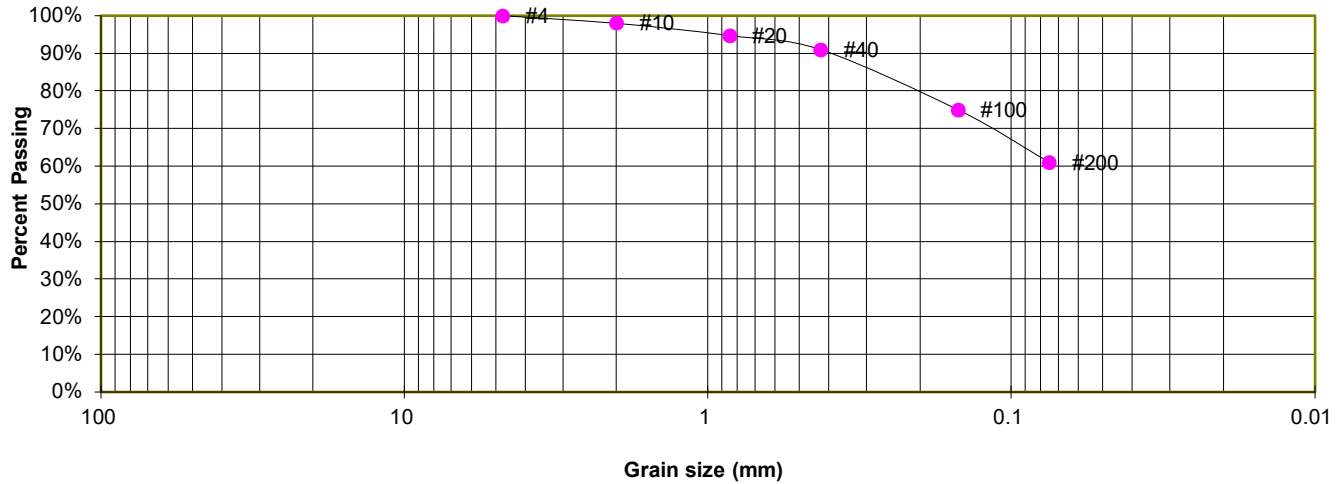
JOB NO.
231875

FIG. B-14

TEST BORING	2
DEPTH (FT)	5

SOIL DESCRIPTION	CLAYSTONE (CLAY, SANDY)
SOIL TYPE	4

Sieve Analysis Grain Size Distribution



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	98.1%
20	94.8%
40	91.0%
100	75.1%
200	61.0%

ATTERBERG LIMITS

Plastic Limit	17
Liquid Limit	27
Plastic Index	10

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

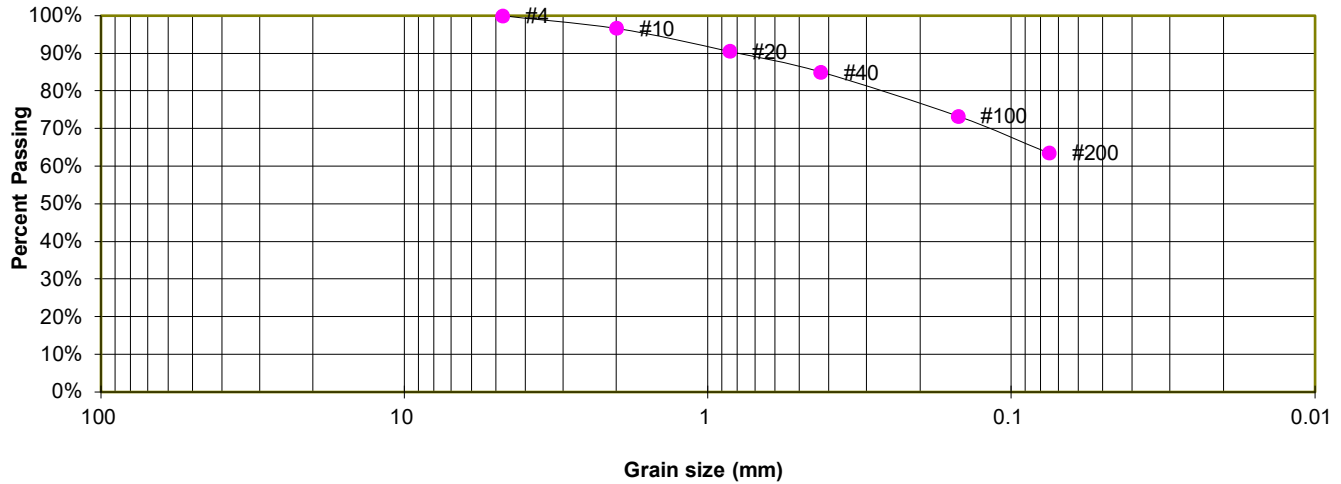
JOB NO.
231875

FIG. B-15

TEST BORING 4
DEPTH (FT) 5

SOIL DESCRIPTION CLAYSTONE (CLAY, SANDY)
SOIL TYPE 4

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	96.7%
20	90.6%
40	85.1%
100	73.3%
200	63.5%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

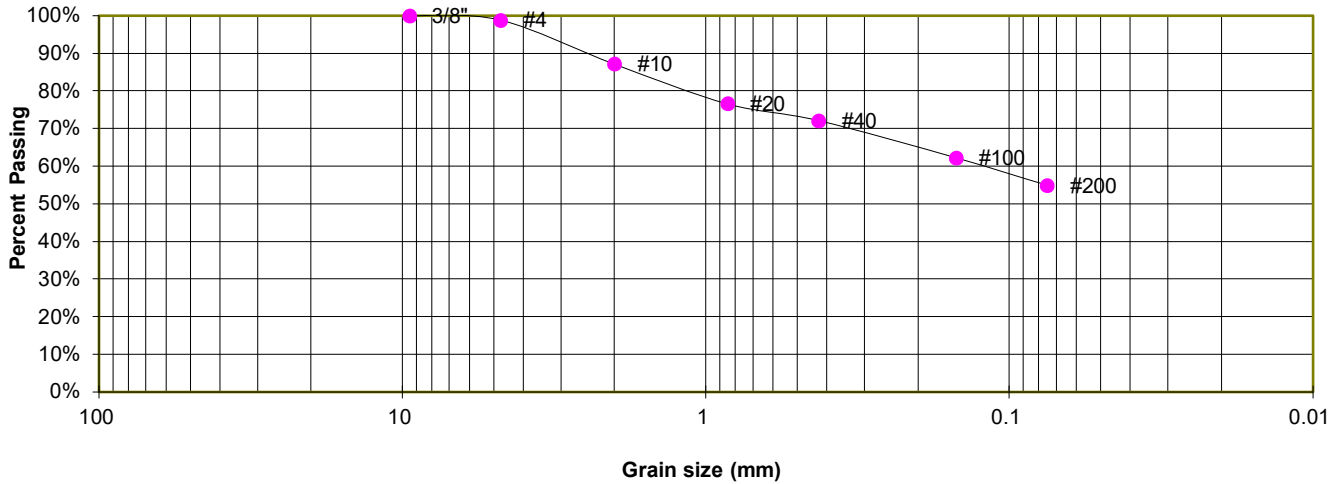
JOB NO.
231875

FIG. B-16

TEST BORING 10
DEPTH (FT) 10

SOIL DESCRIPTION CLAYSTONE (CLAY, SANDY)
SOIL TYPE 4

**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	98.9%
10	87.1%
20	76.6%
40	72.1%
100	62.3%
200	54.9%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

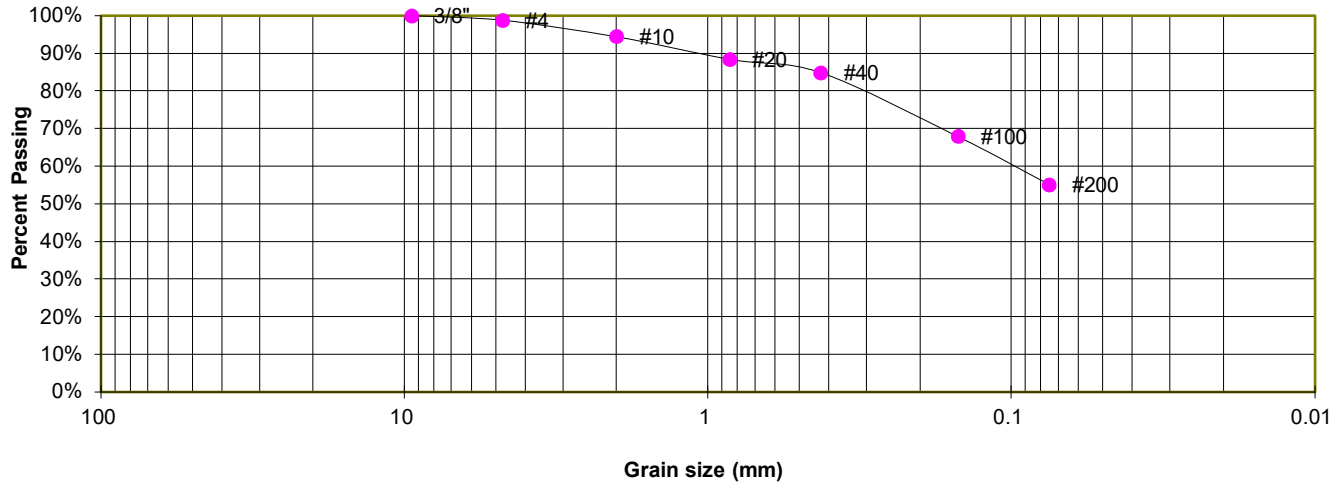
JOB NO.
231875

FIG. B-17

TEST BORING	11
DEPTH (FT)	20

SOIL DESCRIPTION SHALE (CLAY, SANDY)
SOIL TYPE 4

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	98.8%
10	94.5%
20	88.5%
40	84.9%
100	67.9%
200	55.1%

ATTERBERG LIMITS

Plastic Limit	20
Liquid Limit	33
Plastic Index	13

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

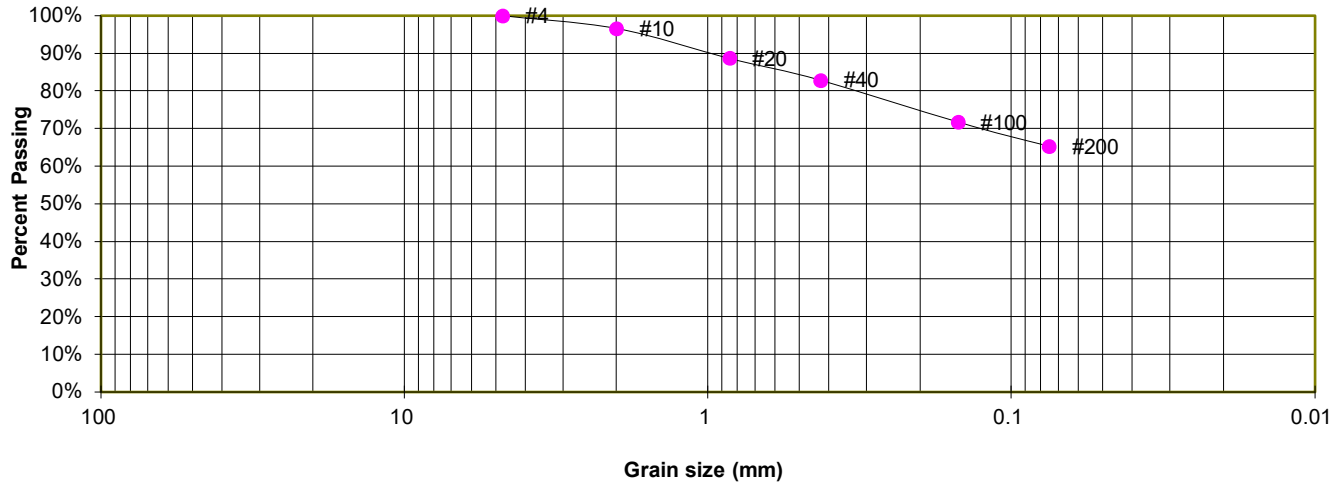
JOB NO.
231875

FIG. B-18

TEST BORING 13
DEPTH (FT) 25

SOIL DESCRIPTION CLAYSTONE (CLAY, SANDY)
SOIL TYPE 4

**Sieve Analysis
Grain Size Distribution**



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	96.6%
20	88.7%
40	82.9%
100	71.8%
200	65.3%

SOIL CLASSIFICATION

USCS CLASSIFICATION: CL



LABORATORY TEST RESULTS

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. B-19

TEST BORING 7
DEPTH (FT) 2-3

SOIL DESCRIPTION FILL, CLAY, SANDY
SOIL TYPE 1A



SWELL/CONSOLIDATION TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 109
NATURAL MOISTURE CONTENT: 15.9%
SWELL/CONSOLIDATION (%): 0.5%



**SWELL/CONSOLIDATION
TEST RESULTS**

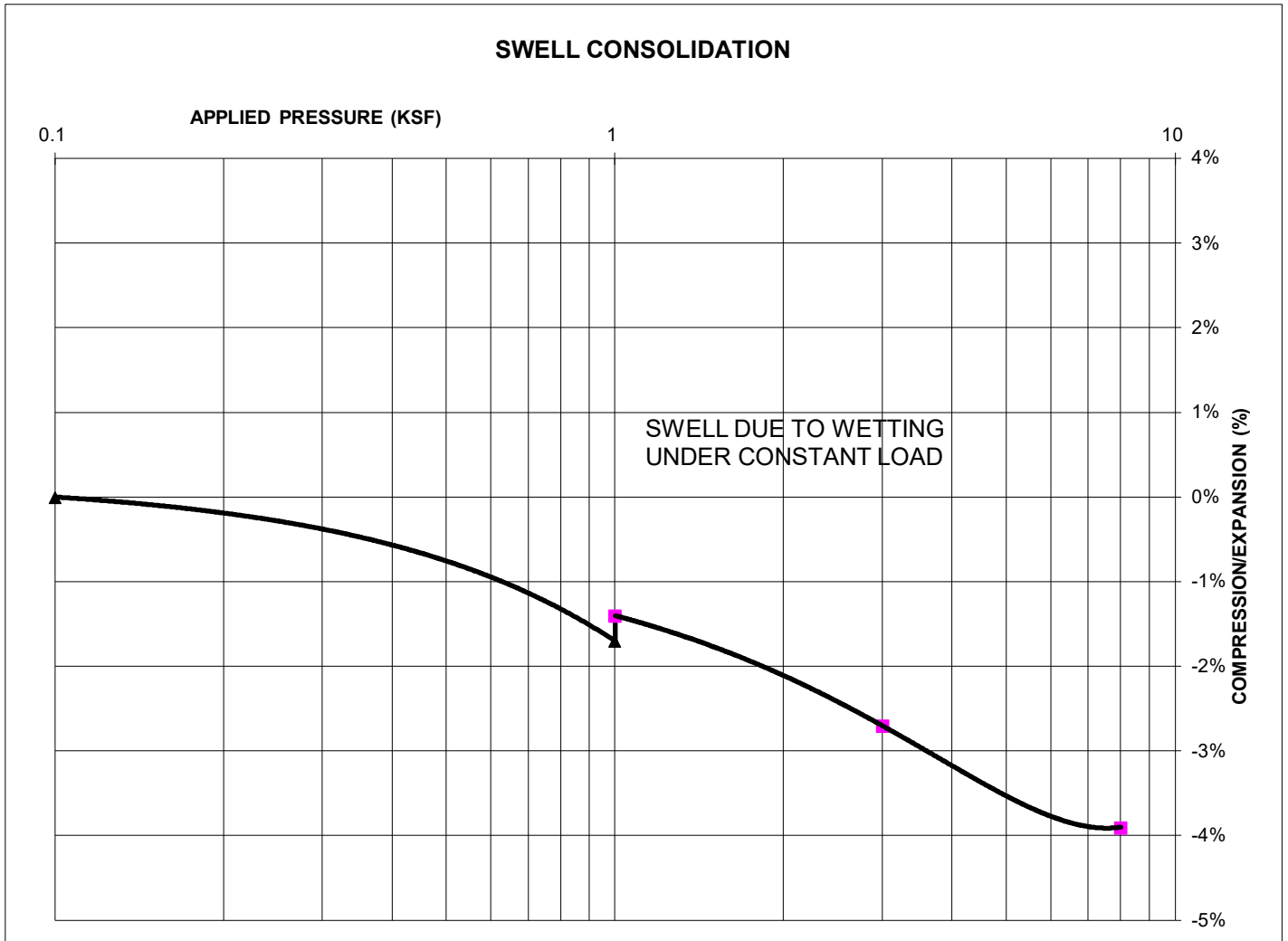
SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. B-20

TEST BORING 5
DEPTH (FT) 5

SOIL DESCRIPTION CLAY, SANDY
SOIL TYPE 2



SWELL/CONSOLIDATION TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 106
NATURAL MOISTURE CONTENT: 20.5%
SWELL/CONSOLIDATION (%): 0.3%



**SWELL/CONSOLIDATION
TEST RESULTS**

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. B-21

TEST BORING 9
DEPTH (FT) 2-3

SOIL DESCRIPTION CLAY, SANDY
SOIL TYPE 2



SWELL/CONSOLIDATION TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 113
NATURAL MOISTURE CONTENT: 11.9%
SWELL/CONSOLIDATION (%): 0.3%



**SWELL/CONSOLIDATION
TEST RESULTS**

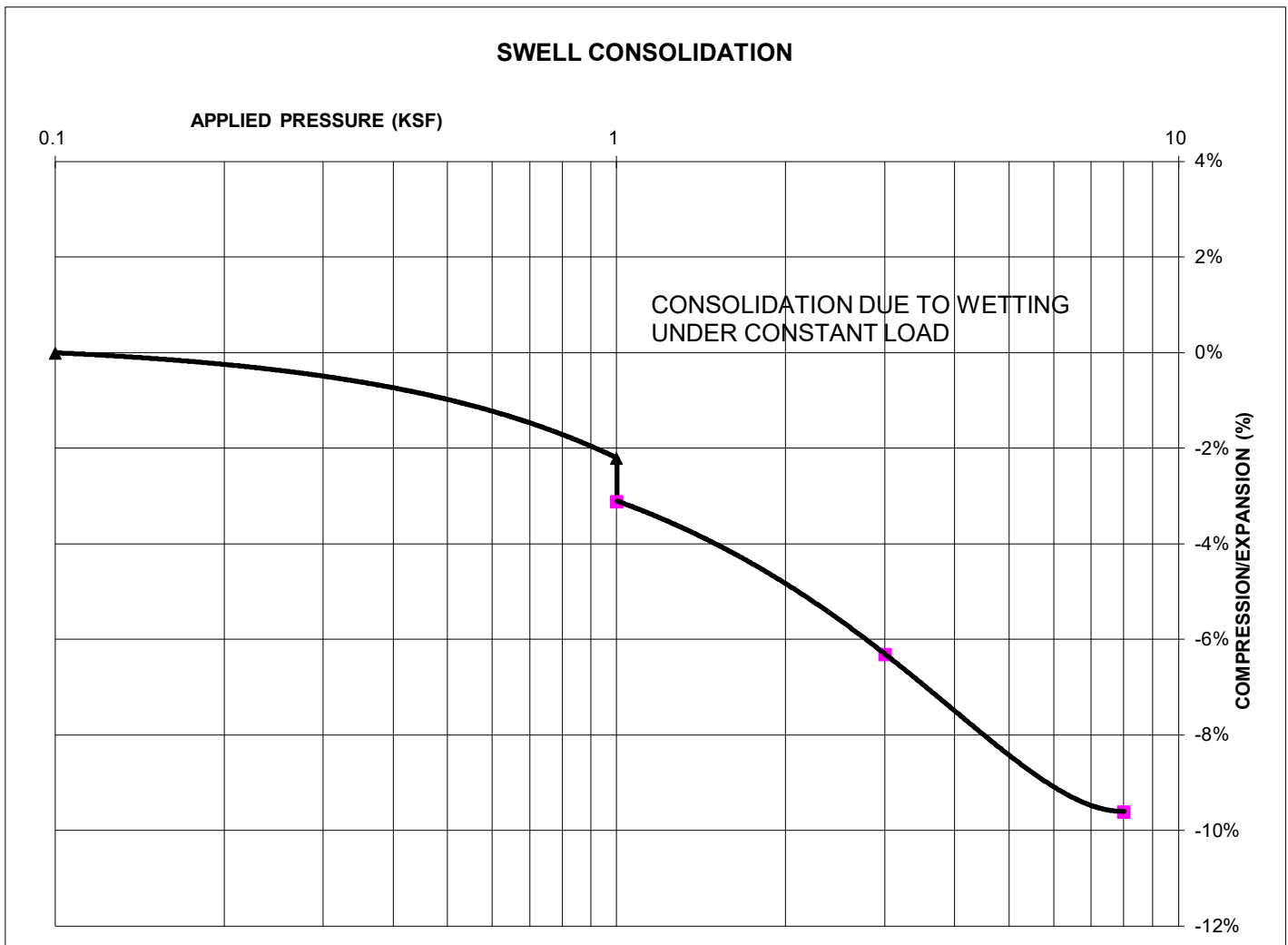
SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. B-22

TEST BORING 2
DEPTH (FT) 5

SOIL DESCRIPTION CLAYSTONE (CLAY, SANDY)
SOIL TYPE 4



SWELL/CONSOLIDATION TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 110
NATURAL MOISTURE CONTENT: 10.0%
SWELL/CONSOLIDATION (%): -0.9%



**SWELL/CONSOLIDATION
TEST RESULTS**

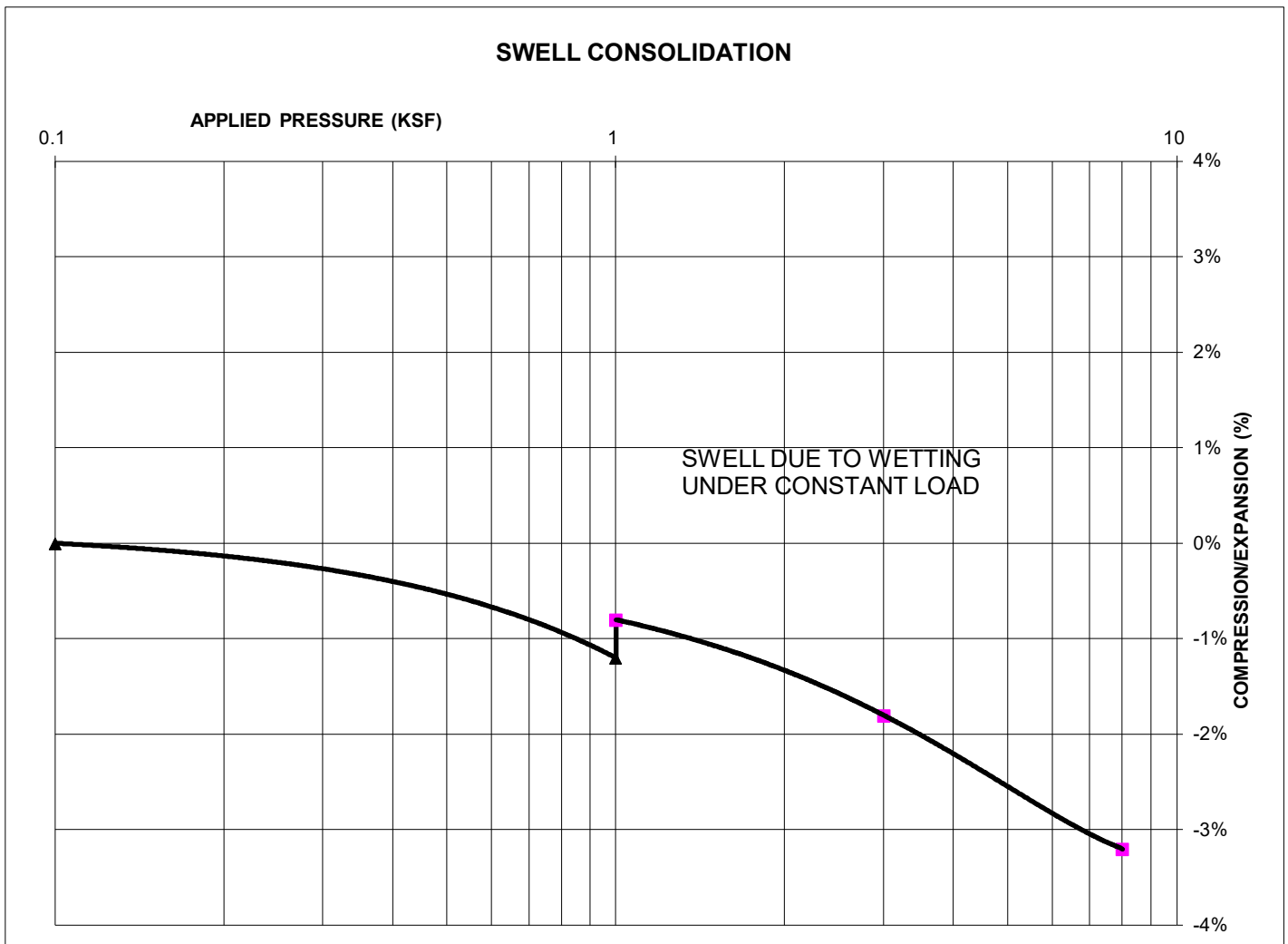
SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. B-23

TEST BORING 4
DEPTH (FT) 5

SOIL DESCRIPTION CLAYSTONE (CLAY, SANDY)
SOIL TYPE 4



SWELL/CONSOLIDATION TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 119
NATURAL MOISTURE CONTENT: 12.3%
SWELL/CONSOLIDATION (%): 0.4%



**SWELL/CONSOLIDATION
TEST RESULTS**

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. B-24

TEST BORING 10
DEPTH (FT) 10

SOIL DESCRIPTION CLAYSTONE (CLAY, SANDY)
SOIL TYPE 4



SWELL/CONSOLIDATION TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 116
NATURAL MOISTURE CONTENT: 14.6%
SWELL/CONSOLIDATION (%): 2.4%



**SWELL/CONSOLIDATION
TEST RESULTS**

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. B-25

TEST BORING 11
DEPTH (FT) 20

SOIL DESCRIPTION SHALE (CLAY, SANDY)
SOIL TYPE 4



SWELL/CONSOLIDATION TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 123
NATURAL MOISTURE CONTENT: 10.6%
SWELL/CONSOLIDATION (%): 1.7%



**SWELL/CONSOLIDATION
TEST RESULTS**

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. B-26

TEST BORING 13
DEPTH (FT) 25

SOIL DESCRIPTION CLAYSTONE (CLAY, SANDY)
SOIL TYPE 4



SWELL/CONSOLIDATION TEST RESULTS

NATURAL UNIT DRY WEIGHT (PCF): 121
NATURAL MOISTURE CONTENT: 11.6%
SWELL/CONSOLIDATION (%): 0.4%



**SWELL/CONSOLIDATION
TEST RESULTS**

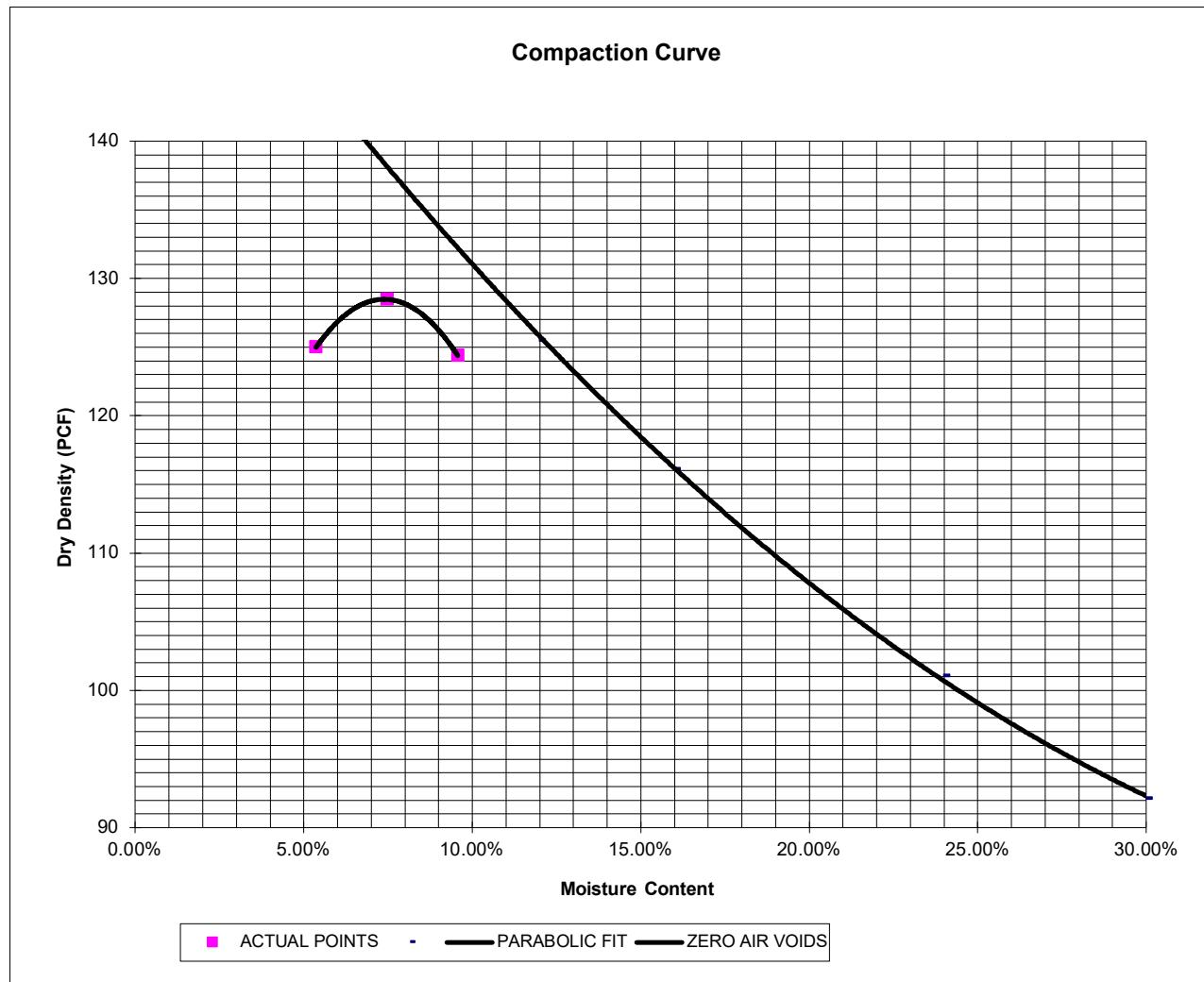
SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. B-27

<u>PROJECT</u>	SCHMIDT PROPERTY	<u>CLIENT</u>	TURKEY CANYON QUARRY
<u>SAMPLE LOCATION</u>	TB-1 @ 2-3'	<u>JOB NO.</u>	231875
<u>SOIL DESCRIPTION</u>	SAND, CLAYEY, BROWN	<u>DATE</u>	12/07/23

<u>IDENTIFICATION</u>	SC	<u>PROCTOR TEST #</u>	1
<u>TEST DESIGNATION / METHOD</u>	ASTM D-1557-A	<u>TEST BY</u>	DK
<u>MAXIMUM DRY DENSITY (PCF)</u>	128.5	<u>OPTIMUM MOISTURE</u>	7.5%



MOISTURE DENSITY RELATION

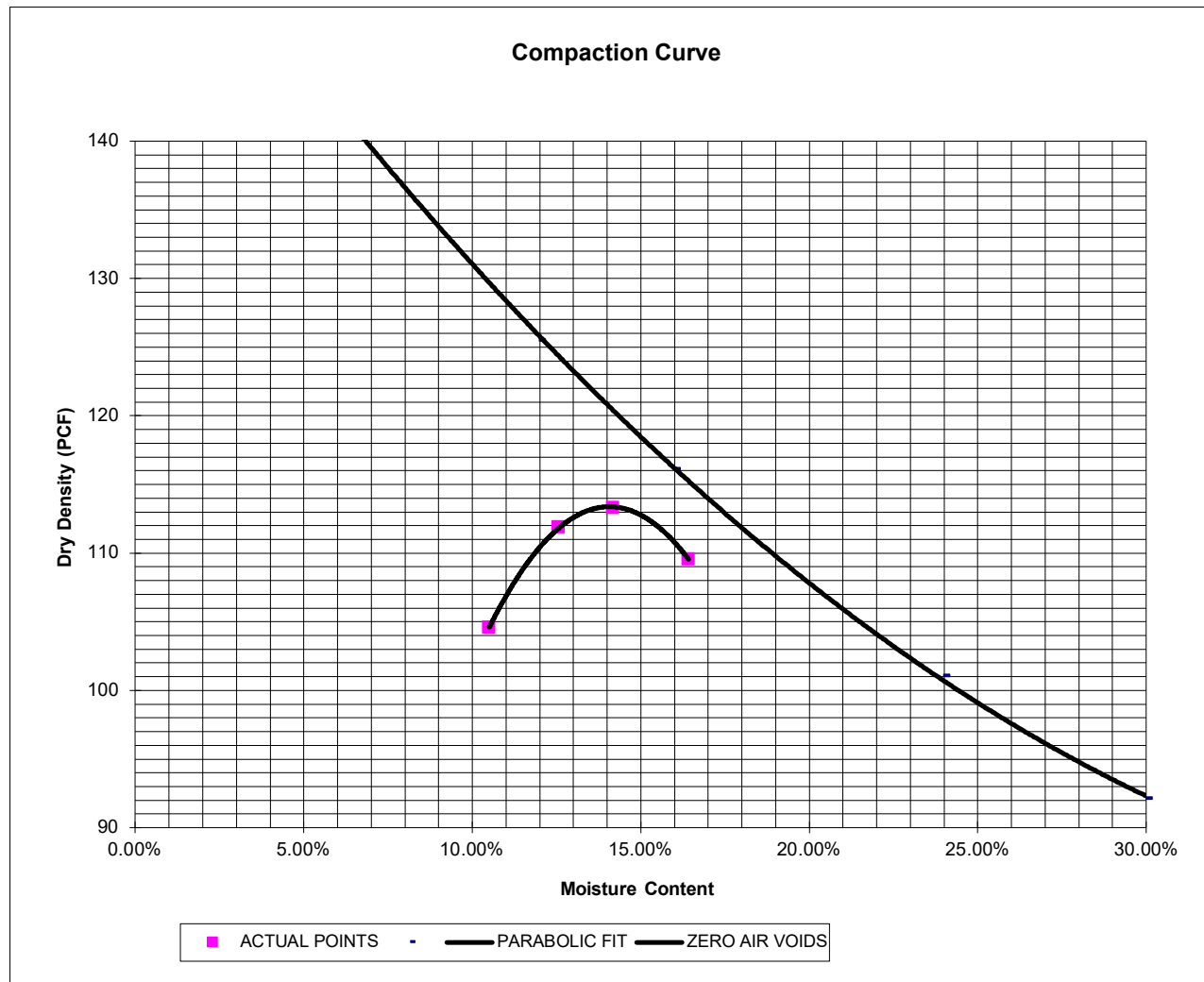
SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. B-28

<u>PROJECT</u>	SCHMIDT PROPERTY	<u>CLIENT</u>	TURKEY CANYON QUARRY
<u>SAMPLE LOCATION</u>	TB-2 @ 4'	<u>JOB NO.</u>	231875
<u>SOIL DESCRIPTION</u>	CLAY, SANDY, BROWN	<u>DATE</u>	12/12/23

<u>IDENTIFICATION</u>	CL	<u>PROCTOR TEST #</u>	2
<u>TEST DESIGNATION / METHOD</u>	ASTM D-698-A	<u>TEST BY</u>	DK
<u>MAXIMUM DRY DENSITY (PCF)</u>	113.4	<u>OPTIMUM MOISTURE</u>	14.1%



MOISTURE DENSITY RELATION

SCHMIDT PROPERTY
TURKEY CANYON QUARRY

JOB NO.
231875

FIG. B-29

APPENDIX C: Density Testing

Client: Turkey Canyon Quarry, Inc.	Entech Job #: 231875.5	Proctor Value Key: M = modified, ASTM D-1557 S = standard, ASTM D-698 T = AASHTO, T-180
Project: Schmidt Property	Tested By: S. Wood	
Subject: Miscellaneous	Report Date: 12-26-2023	

Test #	Test Location	Testing Date	Percent Compaction	Percent Required	Percent Moisture	Soil Type	Proctor Type/Value	Pass/Fail ☒ = Fail
1	Test at Pit 2, 1.5' below grade.	12/7/2023	84	95	12.5	SC	M - 128.5 @ 7.5	☒
2	Test at Pit 2, 3' below grade.	12/7/2023	81	95	15.0	SC	M - 128.5 @ 7.5	☒
3	Test at Pit 2, 4.5' below grade.	12/7/2023	82	95	16.3	CL	S - 113.4 @ 14.1	☒
4	Test at Pit 1, 1' below grade.	12/7/2023	86	95	12.6	SC	M - 128.5 @ 7.5	☒
5	Test at Pit 1, 3' below grade.	12/7/2023	82	95	18.7	CL	S - 113.4 @ 14.1	☒
6	Test at Pit 1, 4.5' below grade.	12/7/2023	82	95	20.4	CL	S - 113.4 @ 14.1	☒

Comments:

Scope of Observation: PERIODIC; CONTRACTOR'S OR CLIENT'S REPRESENTATIVE ADVISED

All dimensions are approximate. Cl. = Centerline



ENTECH
ENGINEERING, INC.
505 Elkton Drive
Colorado Springs, CO 80907
(719) 531-5599 • (719) 531-5238 (fax)

FIELD DENSITY RESULTS

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

**APPENDIX E: A.G. Wassenaar, Inc., Schmidt Property
Boring Logs, Project No. 213542**



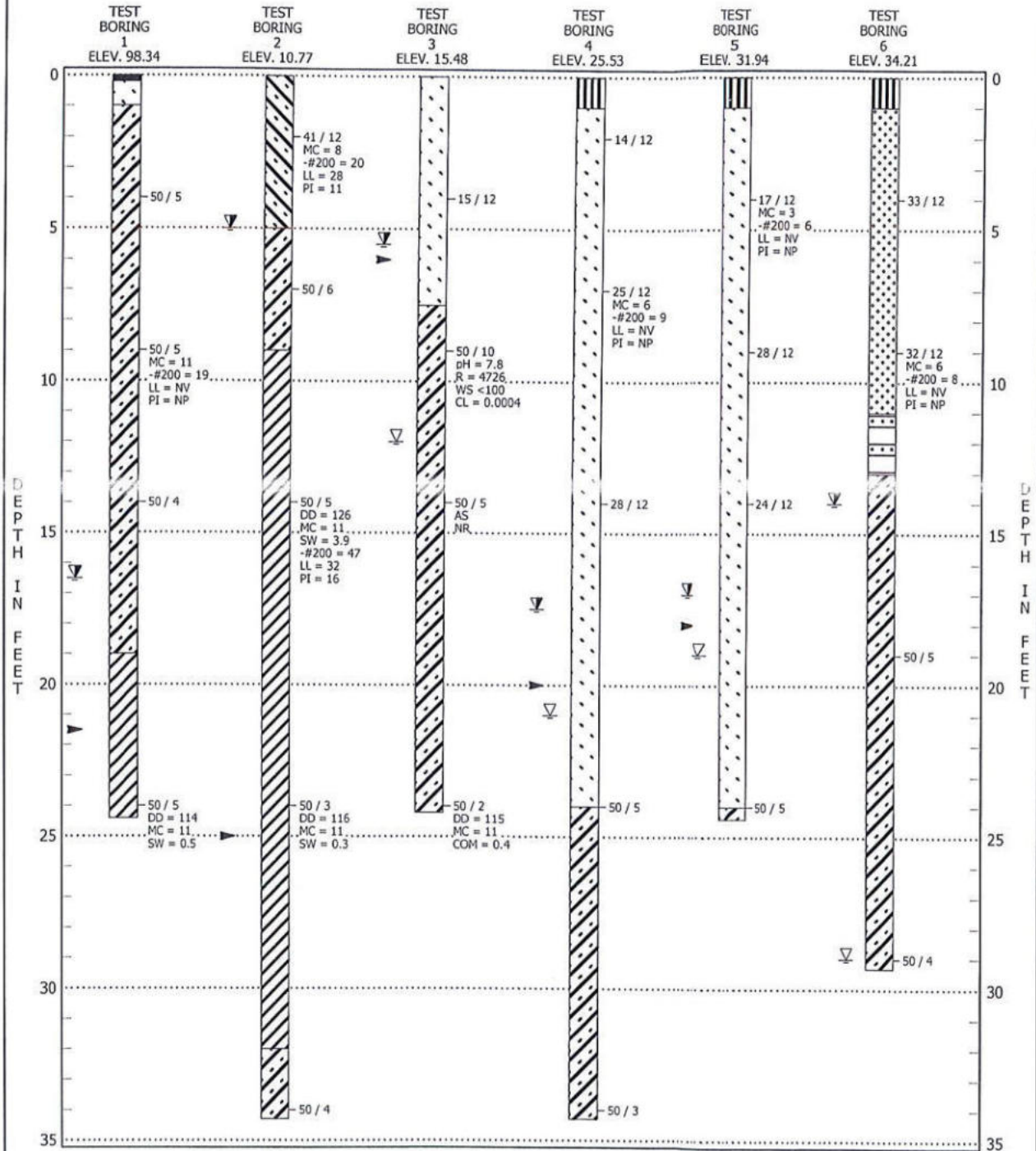
A.G. WASSENAAR, INC.

CLIENT AMH Development, LLC

PROJECT NUMBER 213542

PROJECT NAME Schmidt Property

PROJECT LOCATION Colorado Springs, Colorado



SEE FIGURE 7 FOR LEGEND AND NOTES

TEST BORING LOGS

FIGURE 2



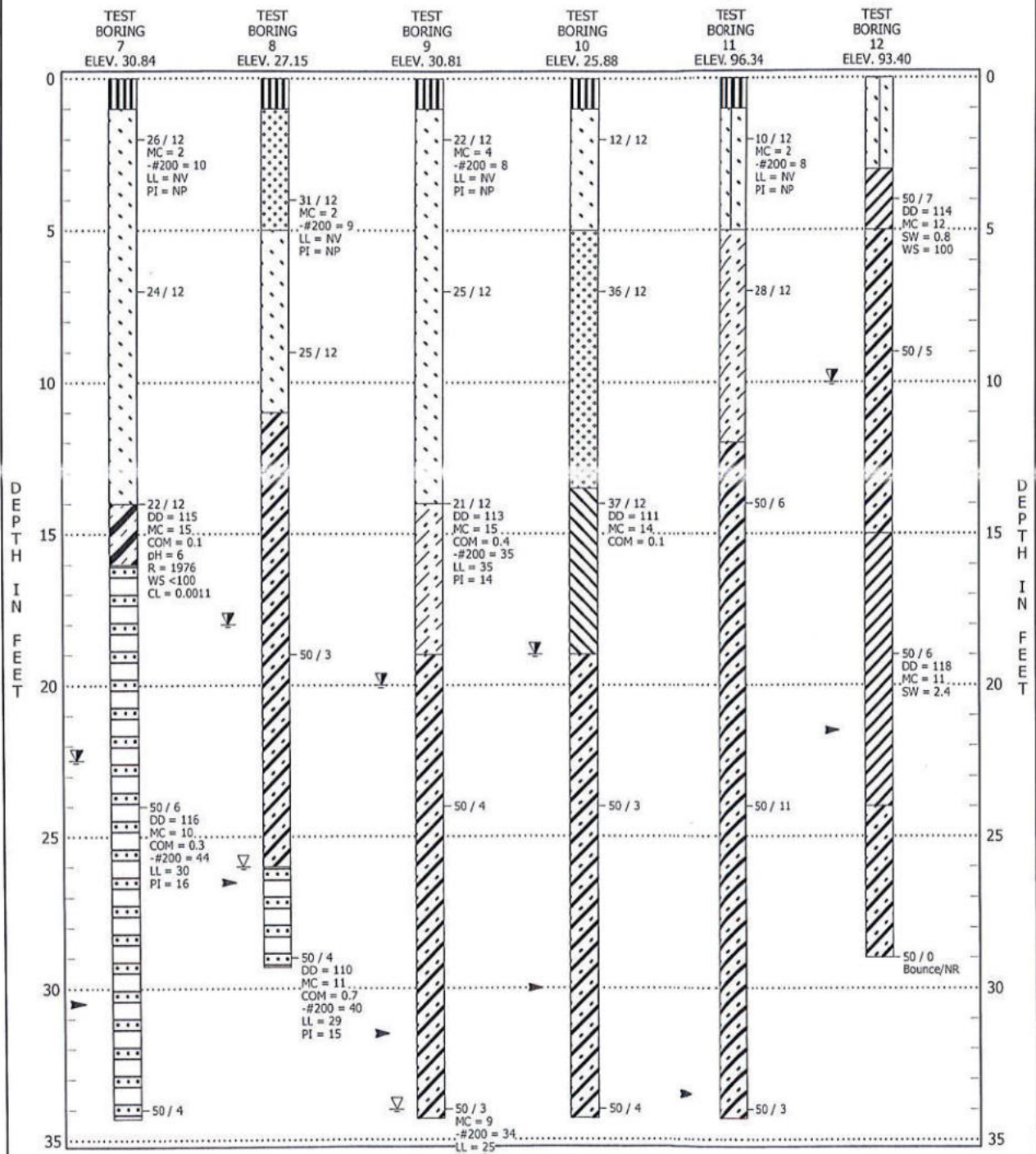
A. G. WASSENAAR, INC.

CLIENT AMH Development, LLC

PROJECT NUMBER 213542

PROJECT NAME Schmidt Property

PROJECT LOCATION Colorado Springs, Colorado



SEE FIGURE 7 FOR LEGEND AND NOTES

TEST BORING LOGS
FIGURE 3



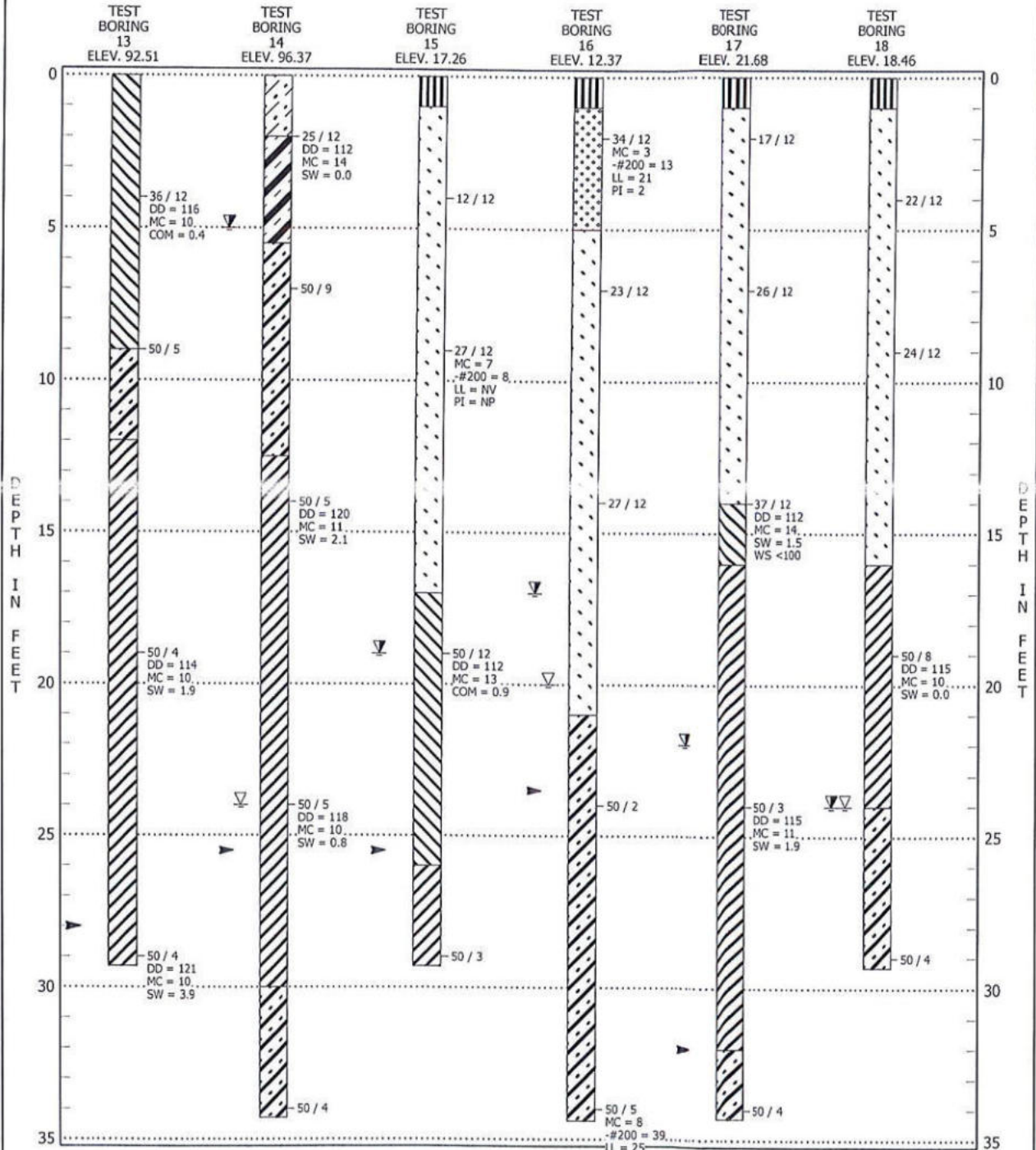
A. G. WASSENAAR, INC.

CLIENT AMH Development, LLC

PROJECT NAME Schmidt Property

PROJECT NUMBER 213542

PROJECT LOCATION Colorado Springs, Colorado



SEE FIGURE 7 FOR LEGEND AND NOTES

TEST BORING LOGS

FIGURE 4



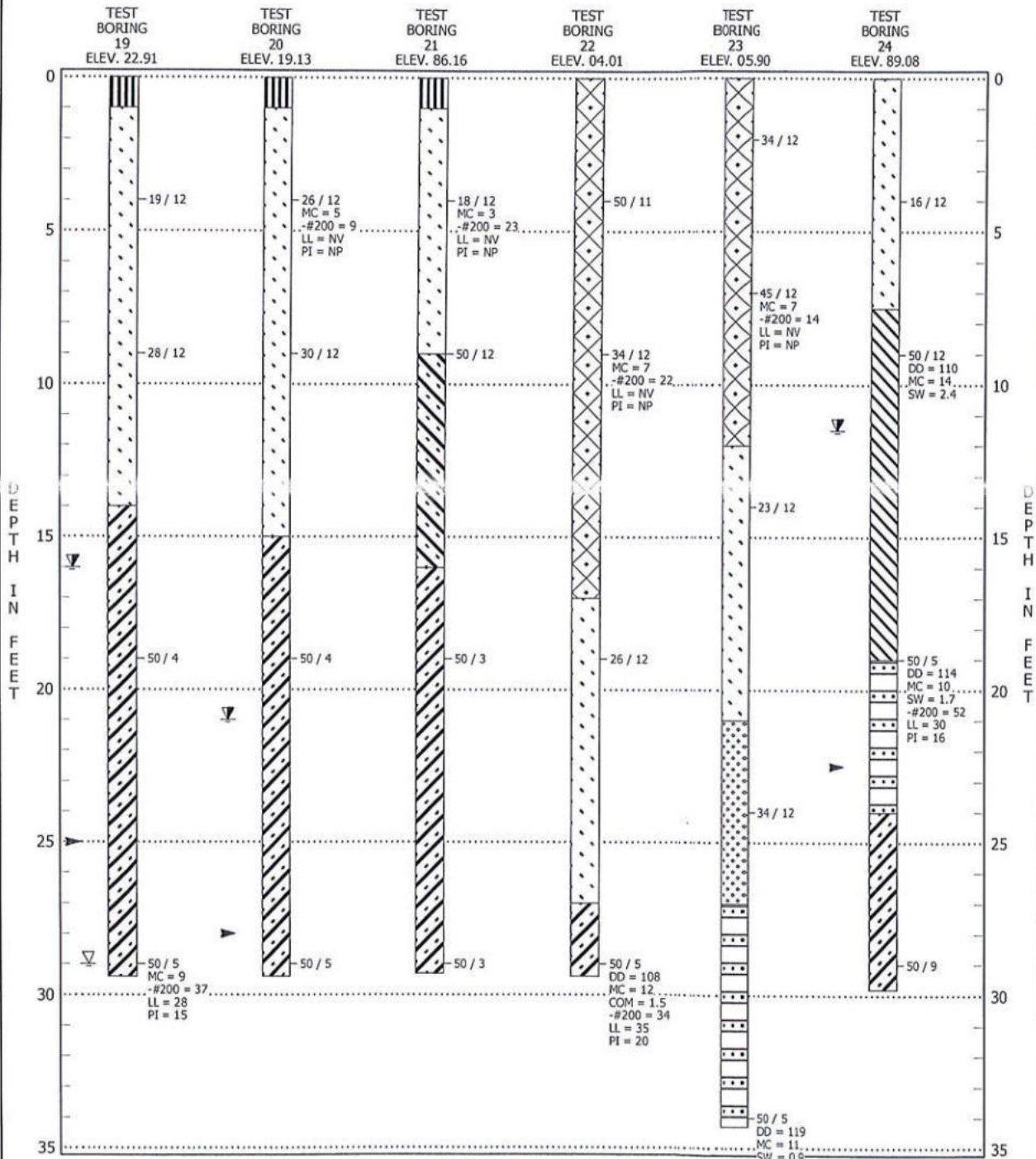
A.G. WASSENAAR, INC.

CLIENT AMH Development, LLC

PROJECT NAME Schmidt Property

PROJECT NUMBER 213542

PROJECT LOCATION Colorado Springs, Colorado



SEE FIGURE 7 FOR LEGEND AND NOTES

TEST BORING LOGS
FIGURE 5



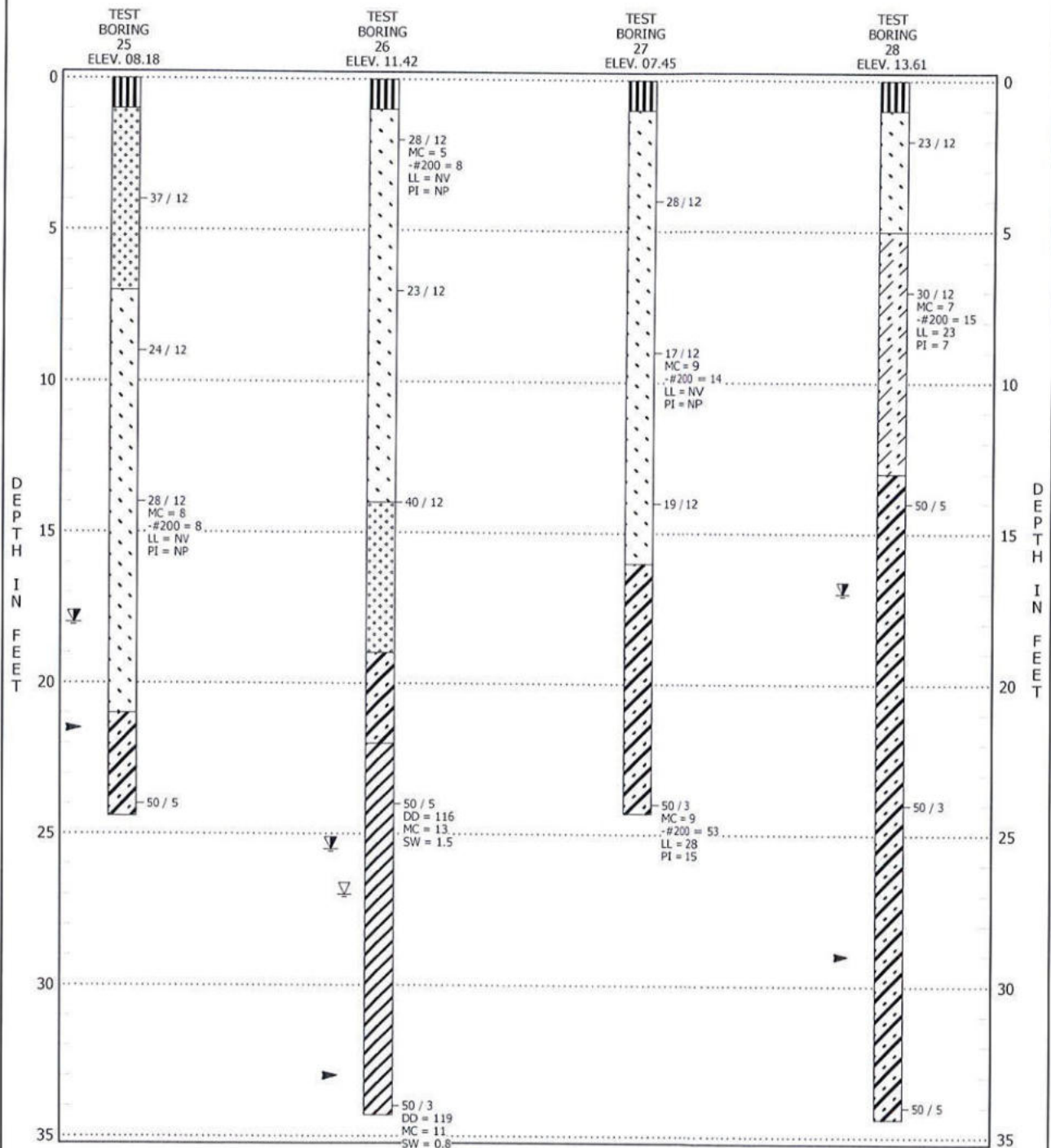
A.G. WASSENAAR, INC.

CLIENT AMH Development, LLC

PROJECT NUMBER 213542

PROJECT NAME Schmidt Property

PROJECT LOCATION Colorado Springs, Colorado



SEE FIGURE 7 FOR LEGEND AND NOTES

TEST BORING LOGS

FIGURE 6



A.G. WASSENAAR, INC.

CLIENT AMH Development, LLC

PROJECT NUMBER 213542

PROJECT NAME Schmidt Property

PROJECT LOCATION Colorado Springs, Colorado

SOIL DESCRIPTIONS

	Asphalt
	Fill, sand, medium dense, silty, clayey
	Topsoil, clay, sandy, organic
	Sand, loose
	Sand, medium dense, silty
	Sand, medium dense, silty, clayey
	Sand, dense to very dense, silty
	Clay (weathered claystone), medium stiff to stiff
	Claystone (Bedrock), firm to medium hard
	Claystone (Bedrock), hard to very hard
	Sandstone (Bedrock), firm to medium hard
	Sandstone (Bedrock), hard to very hard
	Claystone/Sandstone (Bedrock), interbedded, hard to very hard

ABBREVIATIONS

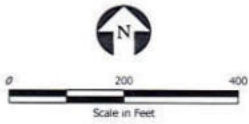
DD	Dry density of sample in pounds per cubic foot (pcf)
MC	Moisture content as a percentage of dry weight of soil (%)
SW	Percent swell under a surcharge of 1000 pounds per square foot (psf) upon wetting (%)
COM	Percent compression under a surcharge of 1000 pounds per square foot (psf) upon wetting (%)
UC	Unconfined compressive strength in pounds per square foot (psf)
-#200	Percent passing the Number 200 sieve (%)
LL	Liquid Limit
PI	Plasticity Index
NP	Non-Plastic
NV	No Value
pH	Acidity or alkalinity of sample in pH units
R	Resistivity in ohms.cm
WS	Water soluble sulfates in parts per million (ppm)
CL	Chlorides in percent (%)
x/y	X blows of a 140-pound hammer falling 30 inches were required to drive a 2.5-inch outside diameter sampler Y inches
x/y SS	X blows of a 140-pound hammer falling 30 inches were required to drive a 2.0-inch outside diameter sampler Y inches
C-x	Depth of cut to grade (rounded to the nearest foot)
F-x	Depth of fill to grade (rounded to the nearest foot)
FG	Finished grade (rounded to the nearest foot)
NR	No sample recovered
Bounce	Sampler bounced during driving
B	Bulk sample
AS	Auger sample
	Moderately to well cemented layer
—	Approximate depth of cut
	Depth at which practical drilling refusal was encountered
	Water level at time of drilling
	Caved depth at time of drilling
	Water level 1 to 5 day(s) after drilling
	Caved depth 1 to 5 day(s) after drilling

Notes:

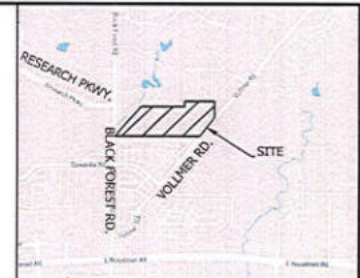
1. Test borings were drilled August 11, 2021 to August 16, 2021.
2. Location of the test borings were staked by others at locations chosen by this firm.
3. The horizontal lines shown on the logs are to differentiate materials and represent the approximate boundaries between materials. The transitions between materials may be gradual.
4. Elevations were obtained from staking provided by others and have been rounded to the nearest foot.
5. Boring logs shown in this report are subject to the limitations, explanations, and conclusions of this report.

LEGEND AND NOTES

FIGURE 7



SCHMIDT PROPERTY
COLORADO SPRINGS, COLORADO



VICINITY MAP
NOT TO SCALE



NOTES:

1. TEST BORINGS ARE OVERLAID ON THE "CONCEPTUAL LAYOUT PLANS", PREPARED BY NES, DATED FEBRUARY 6, 2021.
2. ALL LOCATIONS ARE APPROXIMATE.



SITE PLAN
AND
VICINITY MAP

PROJECT NO. 213542
FIGURE 1

**APPENDIX F: EEI. Schmidt Property – Site Timeline,
Job No. 231875**

May 27, 2026

Turkey Canyon Quarry, Inc.
20 Boulder Crescent, 1st Floor
Colorado Springs, CO 80903



ENTECH
ENGINEERING, INC.

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

Attn: Jim Morley

Re: Schmidt West Parcel – Site Timeline
Colorado Springs, Colorado
Entech Job No. 231875

Dear Mr. Morley:

This letter serves to provide a history of the above Schmidt Parcel site as understood by Entech as it pertains to earthwork activities within the west parcel of the Schmidt site. Approximate dates and associated site activities are listed below:

- Unknown dates – Schmidt Construction uses the site as a materials quarry.
- 2021 to 2022 (unknown date) – Wildcat Construction Co, Inc. (Wildcat) sets up laydown yard at the site.
- 2022 through 2023 – Wildcat imports fill from the nearby Black Forest Bridge project and places it in an undocumented manner in the center of the site.
- Jan. 10, 2024 – Entech Engineering Inc. (Entech) performs a Preliminary Geotechnical Report for the property. Undocumented fill was identified in the center of the site at depths of 6 to 9 feet.
- 2024 to 2025 (unknown dates) – Wildcat places undocumented fill in the northwest corner of the site.
- February 2025 – Wildcat constructs roadway through center of the site to access the pit from Vollmer Road. Compaction testing is performed throughout roadway construction by Entech personnel. Overexcavation of undocumented fill is completed as necessary within the roadway. See attached roadway plan and testing summary.
- June 2025 – Entech performs a Preliminary Geotechnical Report to evaluate the south berm materials for use as fill for the project.
- August to November 2025 – Cornella Brothers Excavating (Cornella) removes undocumented materials in the center of the site and places fill in the south and east portions of the site. Compaction testing is performed throughout overlot process by Entech personnel. See attached lot map, grading heat map, and testing summary.

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.

Christopher A. Wiese
Geotechnical Engineering Staff

Reviewed by:



Encl.

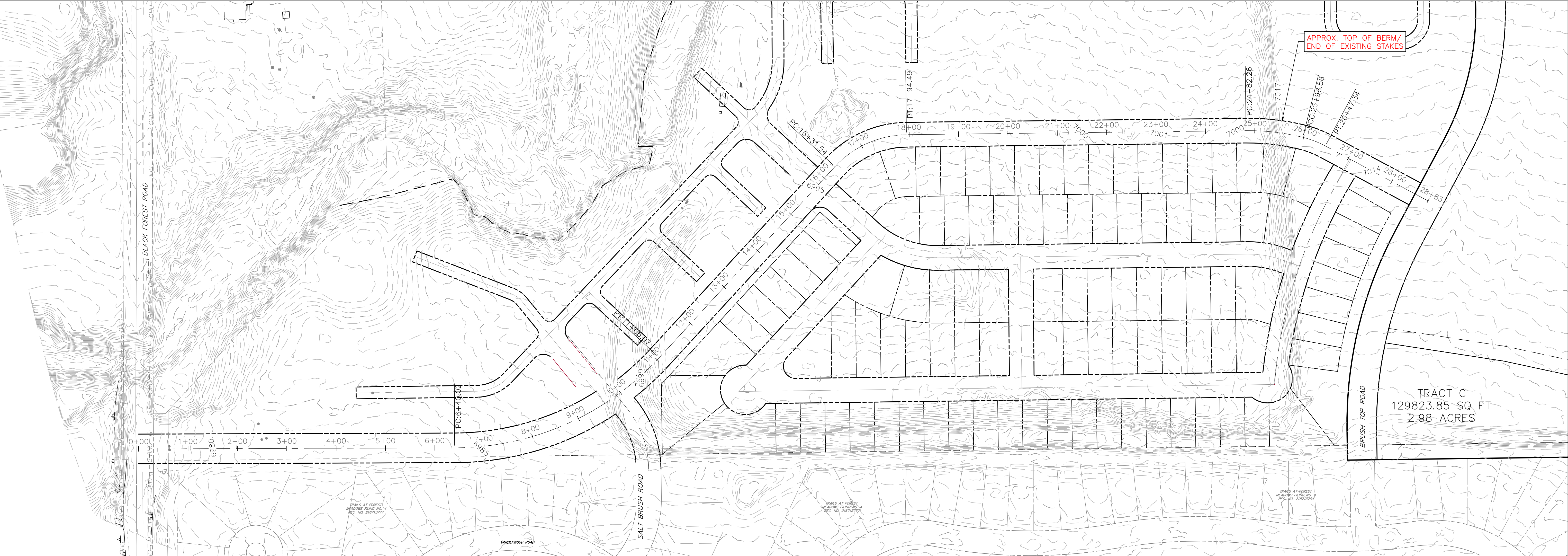
Joseph C. Goode III, P.E.
Sr. Engineer

JCG/cw

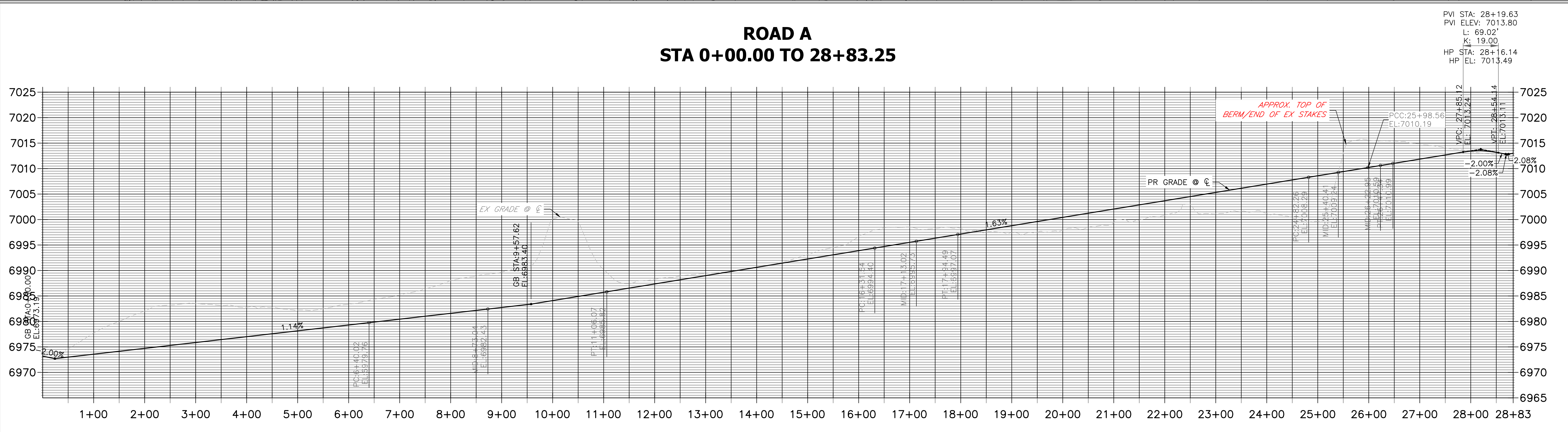
2025 Roadway Construction

SCHMIDT

WILDCAT COORDINATION EXHIBIT



ROAD A STA 0+00.00 TO 28+83.25



100 50 0 100 200
ORIGINAL SCALE: 1" = 100'



Entech Engineering
505 Elkton Dr.
Colorado Springs, CO 80907
Phone: 719-531-5599

Soil Density Report

Client:

Turkey Canyon Quarry, Inc
20 Boulder Crescent
Colorado Springs, CO 80903

Project:

231875
Schmidt Property - Vollmer and Sterling Ranch Rd
Schmidt Property - Vollmer and Sterling Ranch Rd
Colorado Springs, CO

Test Results

Subject / Overall Test #	Test Location	Elevation (feet)	Reference	Test Date	Proctor ID	In Place Moist. (%)	In Place Dry Density (pcf)	Percent Comp.	Min Comp. (%)	Opt. Moisture Tolerance (%)	Rem. Code	Retest Of	Field Tech
1 / 1	Roadway Subgrade: STA 24 + 00, westbound lane, 10' north of the center of the road.	5	Below Grade	02/05/2025	P1	8.3	122.1	95	95	-2 / 2	DPMP		RF
2 / 2	Roadway Subgrade: STA 23 + 00, eastbound lane, 9' south of the center of the road.	4	Below Grade	02/05/2025	P1	8.6	122.1	95	95	-2 / 2	DPMP		RF
3 / 3	Roadway Subgrade: STA 25 + 00, westbound lane, 12' north of the center of the road.	8	Below Grade	02/05/2025	P1	9.4	122.1	95	95	-2 / 2	DPMP		RF
4 / 4	Roadway Subgrade: STA 25 + 25, eastbound lane, 10' south of the center of the road.	7	Below Grade	02/05/2025	P1	9.5	122.5	95	95	-2 / 2	DPMP		RF
5 / 5	Roadway Subgrade: STA 24 + 25, westbound lane, 15' north of the center of the road.	4	Below Grade	02/05/2025	P1	8.9	122.1	95	95	-2 / 2	DPMP		RF
6 / 6	Roadway Subgrade: STA 23 + 25, eastbound lane, 18' south of the center of the road.	3	Below Grade	02/05/2025	P1	9.2	122.4	95	95	-2 / 2	DPMP		RF
7 / 7	Roadway Subgrade: STA 24 + 75, westbound lane, 15' north of the center of the road.	6	Below Grade	02/05/2025	P1	9.5	122.3	95	95	-2 / 2	DPMP		RF
8 / 8	Roadway Subgrade: STA 24 + 95, eastbound lane, 2' south of the center of the road.	5	Below Grade	02/06/2025	P1	9.6	122.3	95	95	-2 / 2	DPMP		RF
9 / 9	Roadway Subgrade: STA 24 + 10, eastbound lane, 17' south of the center of the road.	3	Below Grade	02/06/2025	P1	8.7	122.0	95	95	-2 / 2	DPMP		RF
10 / 10	Roadway Subgrade: STA 24 + 70, westbound lane, 2' north of the center of the road.	4	Below Grade	02/06/2025	P1	9.5	122.1	95	95	-2 / 2	DPMP		RF
11 / 11	Roadway Subgrade: STA 25 + 00, eastbound lane, 17' south of the center of the road.	3	Below Grade	02/06/2025	P1	8.8	122.8	95	95	-2 / 2	DPMP		RF
12 / 12	Roadway Subgrade: STA 24 + 00, westbound lane, 15' north of the center of the road.	2	Below Grade	02/06/2025	P1	9.3	122.3	95	95	-2 / 2	DPMP		RF
13 / 13	Roadway Subgrade: STA 25 + 15, westbound lane, 6' north of the center of the road.	2	Below Grade	02/06/2025	P1	9.0	122.3	95	95	-2 / 2	DPMP		RF
14 / 14	Roadway Subgrade: STA 24 + 05, eastbound lane, 7' south of the center of the road.	1	Below Grade	02/06/2025	P1	9.2	122.3	95	95	-2 / 2	DPMP		RF
15 / 15	Roadway Subgrade: STA 23 + 10, eastbound lane, 8' south of the center of the road.	2	Below Grade	02/06/2025	P1	8.7	122.8	95	95	-2 / 2	DPMP		RF



Entech Engineering
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Colorado Springs, CO 80907
Phone: 719-531-5599

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Colorado Springs, CO 80903

Project:

231875
Schmidt Property - Vollmer and Sterling Ranch Rd
Schmidt Property - Vollmer and Sterling Ranch Rd
Colorado Springs, CO

Subject / Overall Test #	Test Location	Elevation (feet)	Reference	Test Date	Proctor ID	In Place Moist. (%)	In Place Dry Density (pcf)	Percent Comp.	Min Comp. (%)	Opt. Moisture Tolerance (%)	Rem. Code	Retest Of	Field Tech
16 / 16	Roadway Subgrade: STA 23 + 00, westbound lane, 10' north of the center of the road.	1	Below Grade	02/07/2025	P1	8.5	122.3	95	95	-2 / 2	DPMP		RF
17 / 17	Roadway Subgrade: STA 25 + 00, eastbound lane, 13' south of the center of the road.	1	Below Grade	02/07/2025	P1	9.3	122.6	95	95	-2 / 2	DPMP		RF
18 / 18	Roadway Subgrade: STA 22 + 00, eastbound lane, 10' south of the center of the road.	3	Below Grade	02/07/2025	P2	9.8	119.3	95	95	-2 / 2	DPMP		RF
19 / 19	Roadway Subgrade: STA 21 + 00, westbound lane, 15' north of the center of the road.	4	Below Grade	02/07/2025	P2	10.1	118.7	95	95	-2 / 2	DPMP		RF
20 / 20	Roadway Subgrade: STA 20 + 00, eastbound lane, 12' south of the center of the road.	3	Below Grade	02/07/2025	P2	9.4	120.2	96	95	-2 / 2	DPMP		RF
21 / 21	Roadway Subgrade: STA 21 + 00, eastbound lane, 7' south of the center of the road.	3	Below Grade	02/07/2025	P2	9.7	119.5	95	95	-2 / 2	DPMP		RF
22 / 22	Roadway Subgrade: STA 22 + 07, westbound lane, 12' north of the center of the road.	2	Below Grade	02/07/2025	P2	9.8	119.4	95	95	-2 / 2	DPMP		RF
23 / 23	Roadway Subgrade: STA 21 + 05, westbound lane, 5' north of the center of the road.	2	Below Grade	02/07/2025	P2	10.1	118.5	95	95	-2 / 2	DPMP		RF
24 / 24	Roadway Subgrade: STA 20 + 06, westbound lane, 13' north of the center of the road.	2	Below Grade	02/07/2025	P1	9.1	122.8	95	95	-2 / 2	DPMP		RF
25 / 25	Roadway Subgrade: STA 21 + 95, eastbound lane, 12' south of the center of the road.	1	Below Grade	02/07/2025	P1	8.7	122.4	95	95	-2 / 2	DPMP		RF
26 / 26	Roadway Subgrade: STA 20 + 93, westbound lane, 8' north of the center of the road.	1	Below Grade	02/07/2025	P1	8.8	122.7	95	95	-2 / 2	DPMP		RF
27 / 27	Roadway Subgrade: STA 19 + 90, eastbound lane, 12' south of the center of the road.	1	Below Grade	02/07/2025	P1	8.7	123.1	95	95	-2 / 2	DPMP		RF
28 / 28	Roadway Subgrade: STA 25 + 15, westbound lane, 8' north of the center of the road.	-	At Grade	02/10/2025	P1	8.1	122.6	95	95	-2 / 2	DPMP		RF
29 / 29	Roadway Subgrade: STA 24 + 07, westbound lane, 6' north of the center of the road.	-	At Grade	02/10/2025	P1	9.6	122.0	95	95	-2 / 2	DPMP		RF
30 / 30	Roadway Subgrade: STA 19 + 05, eastbound lane, 6' south of the center of the road.	1	Below Grade	02/10/2025	P1	9.0	122.3	95	95	-2 / 2	DPMP		RF
31 / 31	Roadway Subgrade: STA 19 + 05, eastbound lane, 15' south of the center of the road.	-	At Grade	02/26/2025	P1	9.6	122.7	95	95	-2 / 2	DPMP		RF



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Colorado Springs, CO 80903

Project:

231875
Schmidt Property - Vollmer and Sterling Ranch Rd
Schmidt Property - Vollmer and Sterling Ranch Rd
Colorado Springs, CO

Subject / Overall Test #	Test Location	Elevation (feet)	Reference	Test Date	Proctor ID	In Place Moist. (%)	In Place Dry Density (pcf)	Percent Comp.	Min Comp. (%)	Opt. Moisture Tolerance (%)	Rem. Code	Retest Of	Field Tech
32 / 32	Roadway Subgrade: STA 20 + 50, eastbound lane, 10' north of the center of the road.	-	At Grade	02/26/2025	P1	7.5	122.2	95	95	-2 / 2	DPMP		RF
33 / 33	Roadway Subgrade: STA 22 + 00, eastbound lane, 10' south of the center of the road.	-	At Grade	02/26/2025	P1	7.5	122.7	95	95	-2 / 2	DPMP		RF

Remarks

DP/MP : Density Pass / Moisture Pass

Comments

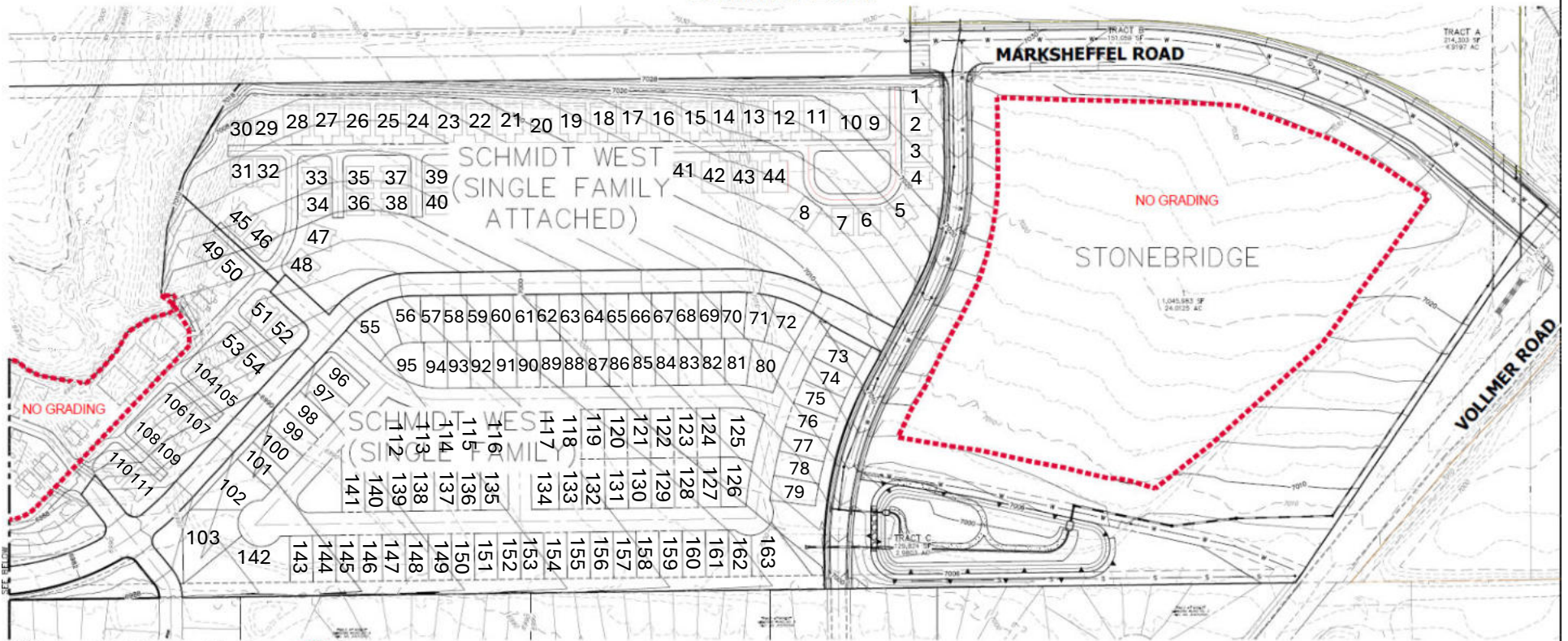
Tests are "Direct Transmission" (Method A). Gauge calibration data on file with the testing Agency.

Proctor Data

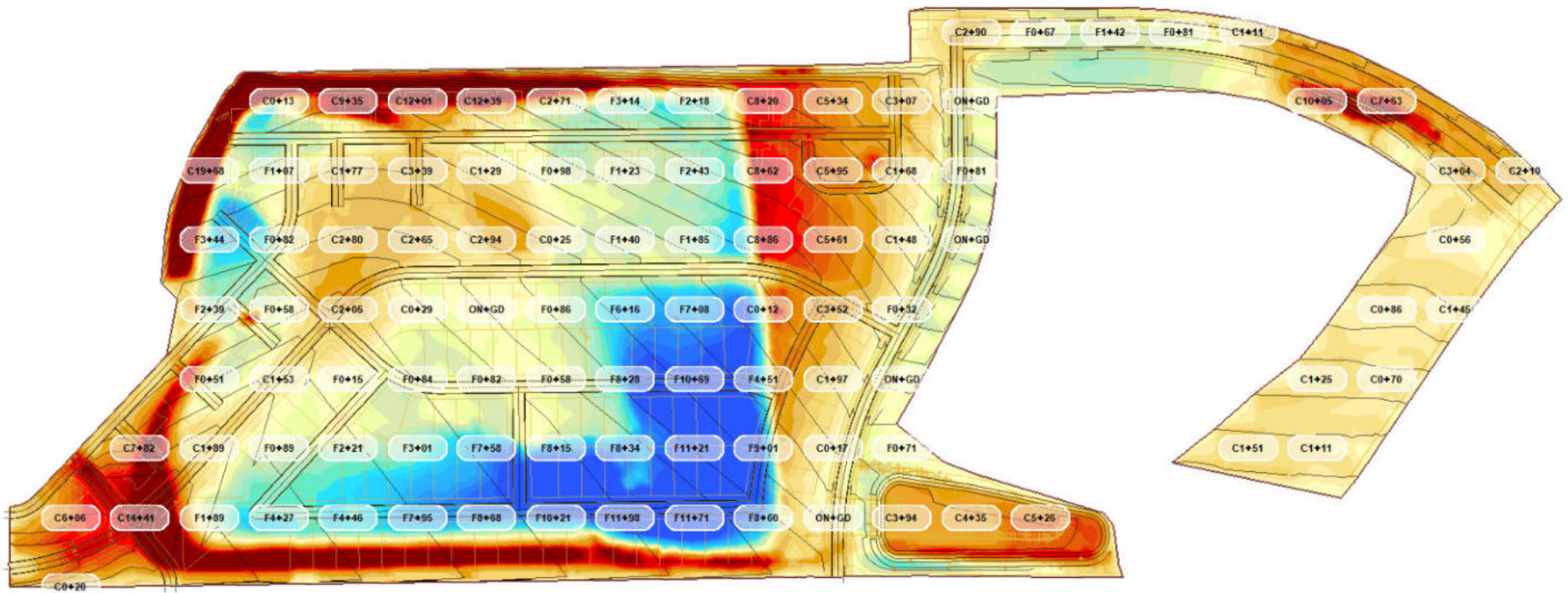
Proctor ID	Method	Soil Classification	Optimum Moisture (%)	Maximum Dry Density (pcf)
P1	ASTM D1557 - A	SC	7.7	129.1
P2	ASTM D1557 - A	SM	9	125.4

2025 Overlot Grading

STERLING RANCH OVERALL GRADING SCHMIDT 2024



Schmidt Parcel Preliminary Heat Map





Entech Engineering
505 Elkton Dr.
Colorado Springs, CO 80907
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Schmidt Property - Vollmer and Sterling Ranch Rd
Schmidt Property - Vollmer and Sterling Ranch Rd
Colorado Springs, CO

Test Results

Subject / Overall Test #	Test Location	Elevation (feet)	Reference	Test Date	Proctor ID	In Place Moist. (%)	In Place Dry Density (pcf)	Percent Comp.	Min Comp. (%)	Opt. Moisture Tolerance (%)	Rem. Code	Retest Of	Field Tech
1 / 34	Overlot: Lot 163, northwest area of the lot.	8	Below Grade	08/19/2025	P2	8.7	123.9	99	95	-2 / 2	DPMP		SR
2 / 35	Overlot: Lot 125, center of the lot.	8	Below Grade	08/19/2025	P5	10.0	119.9	96	95	-1 / 3	DPMP		SR
3 / 36	Overlot: Lot 72, center of the lot.	8	Below Grade	08/19/2025	P5	11.8	120.5	96	95	-1 / 3	DPMP		SR
4 / 37	Overlot: Lot 126, north of centerline of the lot.	8	Below Grade	08/21/2025	P5	11.8	122.4	98	95	-1 / 3	DPMP		MS
5 / 38	Overlot: Lot 160, centerline of the lot.	9	Below Grade	08/21/2025	P2	8.7	121.7	97	95	-2 / 2	DPMP		MS
6 / 39	Overlot: Lot 129, centerline of the lot.	8	Below Grade	08/21/2025	P4	6.9	121.8	97	95	-2 / 2	DPMP		MS
7 / 40	Overlot: Lot 123, north of centerline of the lot.	8	Below Grade	08/21/2025	P5	9.9	122.0	97	95	-1 / 3	DPMP		MS
8 / 41	Overlot: Lot 68, centerline of the lot.	7	Below Grade	08/21/2025	P2	9.6	121.8	97	95	-2 / 2	DPMP		MS
9 / 42	Overlot: Lot 81, centerline of the lot.	8	Below Grade	08/21/2025	P2	9.3	119.9	96	95	-2 / 2	DPMP		MS
10 / 43	Overlot: Lot 70, center of the lot.	7	Below Grade	08/22/2025	P5	8.8	119.3	95	95	-1 / 3	DPMP		SR
11 / 44	Overlot: Lot 127, east area of the lot.	7	Below Grade	08/22/2025	P5	8.9	120.4	96	95	-1 / 3	DPMP		SR
12 / 45	Overlot: Lot 78, east area of the lot.	7	Below Grade	08/22/2025	P5	9.2	120.3	96	95	-1 / 3	DPMP		SR
13 / 46	Overlot: Lot 68, center of the lot.	7	Below Grade	08/22/2025	P1	6.4	124.9	97	95	-2 / 2	DPMP		MS
14 / 47	Overlot: Lot 82, center of the lot.	7	Below Grade	08/22/2025	P1	7.3	123.4	96	95	-2 / 2	DPMP		MS
15 / 48	Overlot: Lot 125, center of the lot.	7	Below Grade	08/22/2025	P5	9.4	121.8	97	95	-1 / 3	DPMP		MS



Entech Engineering
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Colorado Springs, CO 80907
Phone: 719-531-5599

Soil Density Report

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Project:

231875
Schmidt Property - Vollmer and Sterling Ranch Rd
Schmidt Property - Vollmer and Sterling Ranch Rd
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Subject / Overall Test #	Test Location	Elevation (feet)	Reference	Test Date	Proctor ID	In Place Moist. (%)	In Place Dry Density (pcf)	Percent Comp.	Min Comp. (%)	Opt. Moisture Tolerance (%)	Rem. Code	Retest Of	Field Tech
16 / 49	Overlot: Lot 123, center of the lot.	7	Below Grade	08/22/2025	P5	9.5	121.9	97	95	-1 / 3	DPMP		MS
17 / 50	Overlot: Lot 121, east area of the lot.	7	Below Grade	08/22/2025	P1	6.9	123.6	96	95	-2 / 2	DPMP		MS
18 / 51	Overlot: Lot 129, center of the lot.	7	Below Grade	08/22/2025	P5	10.5	122.3	97	95	-1 / 3	DPMP		MS
19 / 52	Overlot: Lot 103, center of the lot.	7	Below Grade	09/17/2025	P4	6.6	120.1	95	95	-2 / 2	DPMP		SR
20 / 53	Overlot: Lot 102, west area of the lot.	7	Below Grade	09/17/2025	P4	7.1	119.9	95	95	-2 / 2	DPMP		SR
21 / 54	Overlot: Lot 101, center of the lot.	7	Below Grade	09/17/2025	P4	7.3	121.2	96	95	-2 / 2	DPMP		SR
22 / 55	Overlot: Lot 100, center of the lot.	7	Below Grade	09/17/2025	P4	6.9	119.3	95	95	-2 / 2	DPMP		SR
23 / 56	Overlot: Lot 99, west area of the lot.	7	Below Grade	09/17/2025	P4	7.4	120.6	96	95	-2 / 2	DPMP		SR
24 / 57	Overlot: Lot 98, east area of the lot.	7	Below Grade	09/17/2025	P4	7.7	120.9	96	95	-2 / 2	DPMP		SR
25 / 58	Overlot: Lot 141, east area of the lot.	6	Below Grade	09/17/2025	P4	6.9	120.4	96	95	-2 / 2	DPMP		SR
26 / 59	Overlot: Lot 112, east area of the lot.	7	Below Grade	09/17/2025	P4	7.3	122.0	97	95	-2 / 2	DPMP		SR
27 / 60	Overlot: Lot 97, center of the lot.	7	Below Grade	09/18/2025	P4	7.7	121.2	96	95	-2 / 2	DPMP		SR
28 / 61	Overlot: Lot 96, west side of the lot.	6	Below Grade	09/18/2025	P4	8.3	119.8	95	95	-2 / 2	DPMP		SR
29 / 62	Overlot: Lot 140, east area of the lot.	6	Below Grade	09/19/2025	P2	8.8	122.0	97	95	-2 / 2	DPMP		SR
30 / 63	Overlot: Lot 139, center of the lot.	6	Below Grade	09/19/2025	P2	9.3	120.6	96	95	-2 / 2	DPMP		SR
31 / 64	Overlot: Lot 138, center of the lot.	6	Below Grade	09/19/2025	P2	9.6	121.3	97	95	-2 / 2	DPMP		SR



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Soil Density Report

Client:

Turkey Canyon Quarry, Inc
20 Boulder Crescent
Colorado Springs, CO 80903

Project:

231875
Schmidt Property - Vollmer and Sterling Ranch Rd
Schmidt Property - Vollmer and Sterling Ranch Rd
Colorado Springs, CO

Subject / Overall Test #	Test Location	Elevation (feet)	Reference	Test Date	Proctor ID	In Place Moist. (%)	In Place Dry Density (pcf)	Percent Comp.	Min Comp. (%)	Opt. Moisture Tolerance (%)	Rem. Code	Retest Of	Field Tech
33 / 66	Overlot: Lot 113, center of the lot.	6	Below Grade	09/19/2025	P2	9.2	121.1	97	95	-2 / 2	DPMP		SR
34 / 67	Overlot: Lot 93, center of the lot.	6	Below Grade	09/19/2025	P2	8.6	119.9	96	95	-2 / 2	DPMP		SR
35 / 68	Overlot: Lot 94, east area of the lot.	6	Below Grade	09/19/2025	P2	8.9	122.3	98	95	-2 / 2	DPMP		SR
36 / 69	Overlot: Lot 95, center of the lot.	6	Below Grade	09/19/2025	P2	9.1	122.8	98	95	-2 / 2	DPMP		SR
37 / 70	Overlot: Lot 55, south area of the lot.	6	Below Grade	09/19/2025	P2	8.3	121.9	97	95	-2 / 2	DPMP		SR
38 / 71	Overlot: Lot 56, south area of the lot.	6	Below Grade	09/19/2025	P2	9.7	123.3	98	95	-2 / 2	DPMP		SR
39 / 72	Overlot: Lot 57, center of the lot.	6	Below Grade	09/19/2025	P2	8.1	120.1	96	95	-2 / 2	DPMP		SR
40 / 73	Overlot: Lot 93, center of the lot.	4	Below Grade	09/22/2025	P2	9.3	121.1	97	95	-2 / 2	DPMP		SR
41 / 74	Overlot: Lot 94, center of the lot.	4	Below Grade	09/22/2025	P2	9.3	122.0	97	95	-2 / 2	DPMP		SR
42 / 75	Overlot: Lot 95, center of the lot.	4	Below Grade	09/22/2025	P2	8.9	123.4	98	95	-2 / 2	DPMP		SR
43 / 76	Overlot: Lot 102, east area of the lot.	5	Below Grade	09/23/2025	P2	9.1	122.9	98	95	-2 / 2	DPMP		SR
44 / 77	Overlot: Lot 101, center of the lot.	5	Below Grade	09/23/2025	P2	9.4	123.6	99	95	-2 / 2	DPMP		SR
45 / 78	Overlot: Lot 100, east area of the lot.	5	Below Grade	09/23/2025	P2	8.6	120.1	96	95	-2 / 2	DPMP		SR
46 / 79	Overlot: Lot 99, west area of the lot.	4	Below Grade	09/23/2025	P2	8.2	119.8	96	95	-2 / 2	DPMP		SR
47 / 80	Overlot: Lot 118, east area of the lot.	4	Below Grade	09/23/2025	P2	8.3	119.7	96	95	-2 / 2	DPMP		SR
48 / 81	Overlot: Lot 117, center of the lot.	4	Below Grade	09/23/2025	P2	8.3	120.6	96	95	-2 / 2	DPMP		SR



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Project:

231875
Schmidt Property - Vollmer and Sterling Ranch Rd
Schmidt Property - Vollmer and Sterling Ranch Rd
Colorado Springs, CO

Subject / Overall Test #	Test Location	Elevation (feet)	Reference	Test Date	Proctor ID	In Place Moist. (%)	In Place Dry Density (pcf)	Percent Comp.	Min Comp. (%)	Opt. Moisture Tolerance (%)	Rem. Code	Retest Of	Field Tech
49 / 82	Overlot: Lot 116, west area of the lot.	4	Below Grade	09/23/2025	P4	7.9	122.0	97	95	-2 / 2	DPMP		SR
50 / 83	Overlot: Lot 115, center of the lot.	4	Below Grade	09/23/2025	P3	7.2	123.3	96	95	-2 / 2	DPMP		SR
51 / 84	Overlot: Lot 136, north area of the lot.	4	Below Grade	09/23/2025	P3	7.3	122.9	96	95	-2 / 2	DPMP		SR
52 / 85	Overlot: Lot 135, east area of the lot.	5	Below Grade	09/23/2025	P3	6.9	122.8	96	95	-2 / 2	DPMP		SR
53 / 86	Overlot: Lot 83, center of the lot.	6	Below Grade	09/25/2025	P3	6.9	124.4	97	95	-2 / 2	DPMP		SR
54 / 87	Overlot: Lot 84, east area of the lot.	6	Below Grade	09/25/2025	P3	6.8	125.1	98	95	-2 / 2	DPMP		SR
55 / 88	Overlot: Lot 85, center of the lot.	6	Below Grade	09/25/2025	P3	6.6	123.6	96	95	-2 / 2	DPMP		SR
56 / 89	Overlot: Lot 86, center of the lot.	5	Below Grade	09/25/2025	P3	6.5	122.0	95	95	-2 / 2	DPMP		SR
57 / 90	Overlot: Lot 87, south area of the lot.	5	Below Grade	09/25/2025	P3	6.9	124.3	97	95	-2 / 2	DPMP		SR
58 / 91	Overlot: Lot 124, center of the lot.	5	Below Grade	09/26/2025	P3	6.8	123.5	96	95	-2 / 2	DPMP		SR
59 / 92	Overlot: Lot 127, center of the lot.	5	Below Grade	09/26/2025	P3	6.8	123.4	96	95	-2 / 2	DPMP		SR
60 / 93	Overlot: Lot 123, center of the lot.	5	Below Grade	09/26/2025	P3	7.2	124.4	97	95	-2 / 2	DPMP		SR
61 / 94	Overlot: Lot 128, east area of the lot.	5	Below Grade	09/26/2025	P3	7.3	125.1	98	95	-2 / 2	DPMP		SR
62 / 95	Overlot: Lot 129, north area of the lot.	5	Below Grade	09/26/2025	P3	6.5	124.4	97	95	-2 / 2	DPMP		SR
63 / 96	Overlot: Lot 122, west area of the lot.	5	Below Grade	09/26/2025	P3	7.7	125.0	98	95	-2 / 2	DPMP		SR
64 / 97	Overlot: Lot 55, center of the lot.	4	Below Grade	09/30/2025	P3	7.5	124.4	97	95	-2 / 2	DPMP		SR



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Project:

231875
Schmidt Property - Vollmer and Sterling Ranch Rd
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Subject / Overall Test #	Test Location	Elevation (feet)	Reference	Test Date	Proctor ID	In Place Moist. (%)	In Place Dry Density (pcf)	Percent Comp.	Min Comp. (%)	Opt. Moisture Tolerance (%)	Rem. Code	Retest Of	Field Tech
65 / 98	Overlot: Lot 56, center of the lot.	4	Below Grade	09/30/2025	P3	6.6	125.0	98	95	-2 / 2	DPMP		SR
66 / 99	Overlot: Lot 57, west area of the lot.	4	Below Grade	09/30/2025	P3	6.5	123.5	96	95	-2 / 2	DPMP		SR
67 / 100	Overlot: Lot 58, center of the lot.	4	Below Grade	09/30/2025	P3	7.2	126.2	98	95	-2 / 2	DPMP		SR
68 / 101	Overlot: Lot 59, center of the lot.	4	Below Grade	09/30/2025	P3	7.0	123.2	96	95	-2 / 2	DPMP		SR
69 / 102	Overlot: Lot 60, center of the lot.	4	Below Grade	09/30/2025	P3	7.3	122.9	96	95	-2 / 2	DPMP		SR
70 / 103	Overlot: Lot 83, center of the lot.	4	Below Grade	10/02/2025	P3	6.9	124.4	97	95	-2 / 2	DPMP		SR
71 / 104	Overlot: Lot 84, center of the lot.	4	Below Grade	10/02/2025	P3	6.6	123.3	96	95	-2 / 2	DPMP		SR
72 / 105	Overlot: Lot 85, center of the lot.	4	Below Grade	10/02/2025	P3	6.9	125.1	98	95	-2 / 2	DPMP		SR
73 / 106	Overlot: Lot 86, center of the lot.	3	Below Grade	10/02/2025	P3	6.8	123.3	96	95	-2 / 2	DPMP		SR
74 / 107	Overlot: Lot 87, south area of the lot.	3	Below Grade	10/02/2025	P3	6.8	123.9	97	95	-2 / 2	DPMP		SR
75 / 108	Overlot: Lot 100, west area of the lot.	3	Below Grade	10/07/2025	P3	7.4	123.2	96	95	-2 / 2	DPMP		SR
76 / 109	Overlot: Lot 101, center of the lot.	3	Below Grade	10/07/2025	P3	7.1	125.5	98	95	-2 / 2	DPMP		SR
77 / 110	Overlot: Lot 102, west area of the lot.	3	Below Grade	10/07/2025	P3	6.8	122.8	96	95	-2 / 2	DPMP		SR
78 / 111	Overlot: Lot 103, center of the lot.	4	Below Grade	10/07/2025	P3	8.2	125.4	98	95	-2 / 2	DPMP		SR
79 / 112	Overlot: Lot 129, west area of the lot.	3	Below Grade	10/07/2025	P3	6.8	122.8	96	95	-2 / 2	DPMP		SR
80 / 113	Overlot: Lot 127, center of the lot.	3	Below Grade	10/07/2025	P3	6.7	124.4	97	95	-2 / 2	DPMP		SR



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Colorado Springs, CO

Subject / Overall Test #	Test Location	Elevation (feet)	Reference	Test Date	Proctor ID	In Place Moist. (%)	In Place Dry Density (pcf)	Percent Comp.	Min Comp. (%)	Opt. Moisture Tolerance (%)	Rem. Code	Retest Of	Field Tech
81 /114	Overlot: Lot 70, east area of the lot.	5	Below Grade	10/20/2025	P3	7.5	123.3	96	95	-2 / 2	DPMP		SR
82 /115	Overlot: Lot 69, center of the lot.	5	Below Grade	10/20/2025	P3	6.9	123.0	96	95	-2 / 2	DPMP		SR
83 /116	Overlot: Lot 68, north area of the lot.	5	Below Grade	10/20/2025	P3	7.2	125.3	98	95	-2 / 2	DPMP		SR
84 /117	Overlot: Lot 67, center of the lot.	5	Below Grade	10/20/2025	P3	7.5	124.8	97	95	-2 / 2	DPMP		SR
85 /118	Overlot: Lot 66, east area of the lot.	5	Below Grade	10/20/2025	P3	7.1	122.7	96	95	-2 / 2	DPMP		SR
86 /119	Overlot: Lot 138, center of the lot.	4	Below Grade	10/20/2025	P3	6.9	123.4	96	95	-2 / 2	DPMP		SR
87 /120	Overlot: Lot 139, center of the lot.	4	Below Grade	10/20/2025	P3	7.6	125.9	98	95	-2 / 2	DPMP		SR
88 /121	Overlot: Lot 140, east area of the lot.	4	Below Grade	10/20/2025	P3	7.8	124.1	97	95	-2 / 2	DPMP		SR
89 /122	Overlot: Lot 119, west area of the lot.	3	Below Grade	10/21/2025	P3	7.5	123.5	96	95	-2 / 2	DPMP		SR
90 /123	Overlot: Lot 120, center of the lot.	3	Below Grade	10/21/2025	P3	8.1	125.0	98	95	-2 / 2	DPMP		SR
91 /124	Overlot: Lot 121, south area of the lot.	3	Below Grade	10/21/2025	P3	7.9	125.8	98	95	-2 / 2	DPMP		SR
92 /125	Overlot: Lot 122, center of the lot.	3	Below Grade	10/21/2025	P3	8.1	126.4	99	95	-2 / 2	DPMP		SR
93 /126	Overlot: Lot 123, center of the lot.	3	Below Grade	10/21/2025	P3	8.2	125.5	98	95	-2 / 2	DPMP		SR
94 /127	Overlot: Lot 103, center of the lot.	2	Below Grade	10/22/2025	P3	8.3	125.2	98	95	-2 / 2	DPMP		SR

Remarks

DP/MP : Density Pass / Moisture Pass

Comments

Tests are "Direct Transmission" (Method A). Gauge calibration data on file with the testing Agency.



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Project:

231875
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Colorado Springs, CO

Proctor Data

Proctor ID	Method	Soil Classification	Optimum Moisture (%)	Maximum Dry Density (pcf)
P2	ASTM D1557 - A	SW	9	125.4
P5	ASTM D698 - A	CL	10.1	125.6
P4	ASTM D1557 - A	SW	8.3	125.9
P1	ASTM D1557 - A	SC	7.7	129.1
P3	ASTM D1557 - A	SM	7.9	128.2



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Test Results

Subject / Overall Test #	Test Location	Elevation (feet)	Reference	Test Date	Proctor ID	In Place Moist. (%)	In Place Dry Density (pcf)	Percent Comp.	Min Comp. (%)	Opt. Moisture Tolerance (%)	Rem. Code	Retest Of	Field Tech
95 /128	Overlot: Lot 102, center of the lot.	1	Below Grade	10/22/2025	P3	8.8	124.3	97	95	-2 / 2	DPMP		SR
96 /129	Overlot: Lot 101, east area of the lot.	1	Below Grade	10/22/2025	P3	8.6	124.3	97	95	-2 / 2	DPMP		SR
97 /130	Overlot: Lot 100, center of the lot.	1	Below Grade	10/22/2025	P3	8.2	122.9	96	95	-2 / 2	DPMP		SR
98 /131	Overlot: Lot 112, east area of the lot.	2	Below Grade	10/22/2025	P3	7.7	123.3	96	95	-2 / 2	DPMP		SR
99 /132	Overlot: Lot 113, center of the lot.	2	Below Grade	10/22/2025	P3	8.6	122.5	96	95	-2 / 2	DPMP		SR
100 /133	Overlot: Lot 114, center of the lot.	1	Below Grade	10/22/2025	P3	8.6	124.9	97	95	-2 / 2	DPMP		SR
101 /134	Overlot: Lot 126, center of the lot.	2	Below Grade	10/23/2025	P3	7.3	123.2	96	95	-2 / 2	DPMP		SR
102 /135	Overlot: Lot 127, center of the lot.	1	Below Grade	10/23/2025	P3	6.9	124.4	97	95	-2 / 2	DPMP		SR
103 /136	Overlot: Lot 128, west area of the lot.	1	Below Grade	10/23/2025	P3	6.6	125.0	98	95	-2 / 2	DPMP		SR
104 /137	Overlot: Lot 129, west area of the lot.	1	Below Grade	10/23/2025	P3	7.1	124.6	97	95	-2 / 2	DPMP		SR
105 /138	Overlot: Lot 130, east area of the lot.	1	Below Grade	10/23/2025	P3	6.9	126.2	98	95	-2 / 2	DPMP		SR
106 /139	Overlot: Lot 75, west area of the lot.	5	Below Grade	10/24/2025	P3	7.1	123.3	96	95	-2 / 2	DPMP		SR
107 /140	Overlot: Lot 76, west area of the lot.	5	Below Grade	10/24/2025	P3	7.4	125.5	98	95	-2 / 2	DPMP		SR
108 /141	Overlot: Lot 77, west area of the lot.	6	Below Grade	10/24/2025	P3	8.1	124.8	97	95	-2 / 2	DPMP		SR
109 /142	Overlot: Lot 66, center of the lot.	2	Below Grade	10/24/2025	P4	8.6	122.6	97	95	-2 / 2	DPMP		SR



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110 /143	Overlot: Lot 67, center of the lot.	2	Below Grade	10/24/2025	P4	8.8	122.0	97	95	-2 / 2	DPMP		SR
111 /144	Overlot: Lot 68, south area of the lot.	2	Below Grade	10/24/2025	P4	9.0	121.9	97	95	-2 / 2	DPMP		SR
112 /145	Overlot: Lot 69, center of the lot.	2	Below Grade	10/24/2025	P4	8.1	122.0	97	95	-2 / 2	DPMP		SR
113 /146	Overlot: Lot 141, south area of the lot.	2	Below Grade	10/24/2025	P4	8.4	122.0	97	95	-2 / 2	DPMP		SR
114 /147	Overlot: Lot 139, south area of the lot.	2	Below Grade	10/24/2025	P4	8.8	122.8	98	95	-2 / 2	DPMP		SR
115 /148	Overlot: Lot 160, north area of the lot.	10	Below Grade	10/24/2025	P4	8.0	123.3	98	98	-2 / 2	DPMP		SR
116 /149	Overlot: Lot 157, north area of the lot.	10	Below Grade	10/24/2025	P4	8.3	123.8	98	98	-2 / 2	DPMP		SR
117 /150	Overlot: Lot 156, north area of the lot.	10	Below Grade	10/24/2025	P4	8.6	124.5	99	98	-2 / 2	DPMP		SR
118 /151	Overlot: Lot 155, north area of the lot.	9	Below Grade	10/24/2025	P4	8.4	123.7	98	95	-2 / 2	DPMP		SR
119 /152	Overlot: Lot 154, north area of the lot.	9	Below Grade	10/27/2025	P4	8.7	122.8	98	95	-2 / 2	DPMP		SR
120 /153	Overlot: Lot 158, north area of the lot.	10	Below Grade	10/27/2025	P4	8.8	123.3	98	95	-2 / 2	DPMP		SR
121 /154	Overlot: Lot 159, north area of the lot.	10	Below Grade	10/27/2025	P4	8.6	122.7	98	98	-2 / 2	DPMP		SR
122 /155	Overlot: Lot 77, west area of the lot.	4	Below Grade	10/27/2025	P3	7.9	124.4	97	95	-2 / 2	DPMP		SR
123 /156	Overlot: Lot 76, west area of the lot.	3	Below Grade	10/27/2025	P3	7.6	123.3	96	95	-2 / 2	DPMP		SR
125 /158	Overlot: Lot 75, west area of the lot.	3	Below Grade	10/27/2025	P3	7.3	124.0	97	95	-2 / 2	DPMP		SR
126 /159	Overlot: Lot 160, north area of the lot.	8	Below Grade	10/27/2025	P3	6.9	124.1	97	95	-2 / 2	DPMP		SR



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127 /160	Overlot: Lot 159, north area of the lot.	8	Below Grade	10/27/2025	P3	7.2	123.6	96	95	-2 / 2	DPMP		SR
128 /161	Overlot: Lot 158, north area of the lot.	8	Below Grade	10/28/2025	P3	8.1	123.6	96	95	-2 / 2	DPMP		SR
129 /162	Overlot: Lot 157, north area of the lot.	8	Below Grade	10/28/2025	P3	7.2	125.0	98	95	-2 / 2	DPMP		SR
130 /163	Overlot: Lot 156, north area of the lot.	8	Below Grade	10/28/2025	P3	7.5	124.3	97	95	-2 / 2	DPMP		SR
131 /164	Overlot: Lot 155, north area of the lot.	7	Below Grade	10/28/2025	P3	7.6	125.2	98	95	-2 / 2	DPMP		SR
132 /165	Overlot: Lot 154, north area of the lot.	7	Below Grade	10/29/2025	P3	7.4	124.6	97	95	-2 / 2	DPMP		SR
133 /166	Overlot: Lot 159, north area of the lot.	6	Below Grade	10/29/2025	P3	7.3	125.0	98	95	-2 / 2	DPMP		SR
134 /167	Overlot: Lot 160, north area of the lot.	6	Below Grade	10/29/2025	P3	6.9	123.9	97	95	-2 / 2	DPMP		SR
135 /168	Overlot: Lot 153, north area of the lot.	6	Below Grade	10/29/2025	P3	6.8	124.9	97	95	-2 / 2	DPMP		SR
136 /169	Overlot: Lot 155, north area of the lot.	5	Below Grade	10/29/2025	P3	8.1	125.6	98	95	-2 / 2	DPMP		SR
137 /170	Overlot: Lot 156, north area of the lot.	6	Below Grade	10/29/2025	P3	8.1	123.9	97	95	-2 / 2	DPMP		SR
138 /171	Overlot: Lot 157, north area of the lot.	6	Below Grade	10/29/2025	P3	8.0	123.3	96	95	-2 / 2	DPMP		SR
139 /172	Overlot: Lot 161, north area of the lot.	5	Below Grade	10/29/2025	P3	6.5	122.9	96	95	-2 / 2	DPMP		SR
140 /173	Overlot: Lot 154, north area of the lot.	5	Below Grade	10/29/2025	P3	7.2	125.5	98	95	-2 / 2	DPMP		SR
141 /174	Overlot: Lot 158, north area of the lot.	6	Below Grade	10/29/2025	P3	7.6	124.7	97	95	-2 / 2	DPMP		SR
142 /175	Overlot: Lot 161, north area of the lot.	3	Below Grade	10/30/2025	P4	8.5	122.3	97	95	-2 / 2	DPMP		SR



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Soil Density Report

Client:

Turkey Canyon Quarry, Inc
20 Boulder Crescent
Colorado Springs, CO 80903

Project:

231875
Schmidt Property - Vollmer and Sterling Ranch Rd
Schmidt Property - Vollmer and Sterling Ranch Rd
Colorado Springs, CO

Subject / Overall Test #	Test Location	Elevation (feet)	Reference	Test Date	Proctor ID	In Place Moist. (%)	In Place Dry Density (pcf)	Percent Comp.	Min Comp. (%)	Opt. Moisture Tolerance (%)	Rem. Code	Retest Of	Field Tech
143 /176	Overlot: Lot 160, north area of the lot.	4	Below Grade	10/30/2025	P4	8.5	123.3	98	95	-2 / 2	DPMP		SR
145 /178	Overlot: Lot 159, center of the lot.	4	Below Grade	10/30/2025	P4	8.8	122.9	98	95	-2 / 2	DPMP		SR
146 /179	Overlot: Lot 158, north area of the lot.	4	Below Grade	10/30/2025	P4	8.9	122.0	97	95	-2 / 2	DPMP		SR
147 /180	Overlot: Lot 157, north area of the lot.	4	Below Grade	10/30/2025	P4	8.6	123.3	98	95	-2 / 2	DPMP		SR
148 /181	Overlot: Lot 156, north area of the lot.	4	Below Grade	10/30/2025	P4	8.4	123.9	98	95	-2 / 2	DPMP		SR
149 /182	Overlot: Lot 155, north area of the lot.	3	Below Grade	10/30/2025	P4	8.9	122.0	97	95	-2 / 2	DPMP		SR
150 /183	Overlot: Lot 142, south area of the lot (overex area).	11	Below Grade	11/07/2025	P3	8.8	126.6	99	95	-2 / 2	DPMP		SR
151 /184	Overlot: Lot 143, south area of the lot.	13	Below Grade	11/07/2025	P3	8.7	125.9	98	98	-2 / 2	DPMP		SR
152 /185	Overlot: Lot 144, south area of the lot (overex area).	13	Below Grade	11/07/2025	P3	8.0	127.3	99	98	-2 / 2	DPMP		SR
153 /186	Overlot: Lot 145, south area of the lot (overex area).	13	Below Grade	11/07/2025	P3	8.6	126.8	99	98	-2 / 2	DPMP		SR
154 /187	Overlot: Lot 146, south area of the lot (overex area).	13	Below Grade	11/07/2025	P3	8.6	127.3	99	95	-2 / 2	DPMP		SR
155 /188	Overlot: Lot 147, south area of the lot (overex area).	13	Below Grade	11/07/2025	P3	7.9	125.5	98	98	-2 / 2	DPMP		SR
156 /189	Overlot: Lot 148, south area of the lot.	12	Below Grade	11/07/2025	P3	7.7	125.5	98	98	-2 / 2	DPMP		SR
157 /190	Overlot: Lot 148, south area of the lot.	10	Below Grade	11/10/2025	P3	8.4	126.3	99	95	-2 / 2	DPMP		SR
158 /191	Overlot: Lot 147, south area of the lot.	11	Below Grade	11/10/2025	P3	8.6	125.5	98	98	-2 / 2	DPMP		SR
159 /192	Overlot: Lot 146, south area of the lot.	11	Below Grade	11/10/2025	P3	8.4	126.6	99	98	-2 / 2	DPMP		SR



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160 /193	Overlot: Lot 145, south area of the lot.	11	Below Grade	11/10/2025	P3	7.8	125.5	98	98	-2 / 2	DPMP		SR
161 /194	Overlot: Lot 144, south area of the lot.	11	Below Grade	11/10/2025	P3	7.6	127.3	99	98	-2 / 2	DPMP		SR
162 /195	Overlot: Lot 143, south area of the lot.	11	Below Grade	11/10/2025	P3	7.4	126.6	99	95	-2 / 2	DPMP		SR
163 /196	Overlot: Lot 142, south area of the lot.	9	Below Grade	11/10/2025	P3	7.9	127.2	99	95	-2 / 2	DPMP		SR
164 /197	Overlot: Lot 142, south area of the lot.	7	Below Grade	11/10/2025	P3	7.6	125.2	98	95	-2 / 2	DPMP		SR
165 /198	Overlot: Lot 143, south area of the lot.	9	Below Grade	11/10/2025	P3	8.9	124.9	97	95	-2 / 2	DPMP		SR
166 /199	Overlot: Lot 144, south area of the lot.	9	Below Grade	11/10/2025	P3	9.2	125.8	98	95	-2 / 2	DPMP		SR
167 /200	Overlot: Lot 145, south area of the lot.	9	Below Grade	11/10/2025	P3	9.1	124.9	97	95	-2 / 2	DPMP		SR
168 /201	Overlot: Lot 146, south area of the lot.	9	Below Grade	11/10/2025	P3	8.8	126.1	98	95	-2 / 2	DPMP		SR
169 /202	Overlot: Lot 147, south area of the lot.	9	Below Grade	11/10/2025	P3	8.5	124.4	97	95	-2 / 2	DPMP		SR
170 /203	Overlot: Lot 148, south area of the lot.	8	Below Grade	11/10/2025	P3	9.3	125.7	98	95	-2 / 2	DPMP		SR
171 /204	Overlot: Lot 142, south area of the lot.	5	Below Grade	11/11/2025	P3	9.0	125.2	98	95	-2 / 2	DPMP		SR
172 /205	Overlot: Lot 143, south area of the lot.	7	Below Grade	11/11/2025	P3	9.2	124.7	97	95	-2 / 2	DPMP		SR
173 /206	Overlot: Lot 144, south area of the lot.	7	Below Grade	11/11/2025	P3	9.4	125.1	98	95	-2 / 2	DPMP		SR
174 /207	Overlot: Lot 145, south area of the lot.	7	Below Grade	11/11/2025	P3	9.5	123.9	97	95	-2 / 2	DPMP		SR
175 /208	Overlot: Lot 146, south area of the lot.	7	Below Grade	11/11/2025	P3	9.4	124.6	97	95	-2 / 2	DPMP		SR



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Colorado Springs, CO

Subject / Overall Test #	Test Location	Elevation (feet)	Reference	Test Date	Proctor ID	In Place Moist. (%)	In Place Dry Density (pcf)	Percent Comp.	Min Comp. (%)	Opt. Moisture Tolerance (%)	Rem. Code	Retest Of	Field Tech
176 /209	Overlot: Lot 147, south area of the lot.	7	Below Grade	11/11/2025	P3	9.3	126.7	99	95	-2 / 2	DPMP		SR
177 /210	Overlot: Lot 148, south area of the lot.	6	Below Grade	11/11/2025	P3	9.6	124.1	97	95	-2 / 2	DPMP		SR
178 /211	Overlot: Lot 142, south area of the lot.	3	Below Grade	11/12/2025	P3	9.1	124.5	97	95	-2 / 2	DPMP		SR
179 /212	Overlot: Lot 143, south area of the lot.	5	Below Grade	11/12/2025	P3	9.0	125.4	98	95	-2 / 2	DPMP		SR
180 /213	Overlot: Lot 144, south area of the lot.	5	Below Grade	11/12/2025	P3	8.8	124.3	97	95	-2 / 2	DPMP		SR
181 /214	Overlot: Lot 145, south area of the lot.	5	Below Grade	11/12/2025	P3	9.2	123.6	96	95	-2 / 2	DPMP		SR
182 /215	Overlot: Lot 146, south area of the lot.	5	Below Grade	11/12/2025	P3	9.4	123.9	97	95	-2 / 2	DPMP		SR
184 /217	Overlot: Lot 147, south area of the lot.	5	Below Grade	11/12/2025	P3	9.6	124.1	97	95	-2 / 2	DPMP		SR
185 /218	Overlot: Lot 148, south area of the lot.	4	Below Grade	11/12/2025	P3	8.7	125.3	98	95	-2 / 2	DPMP		SR
186 /219	Overlot: Lot 142, south area of the lot.	1	Below Grade	11/13/2025	P3	8.6	125.2	98	95	-2 / 2	DPMP		SR
187 /220	Overlot: Lot 143, south area of the lot.	3	Below Grade	11/13/2025	P3	9.1	124.7	97	95	-2 / 2	DPMP		SR
188 /221	Overlot: Lot 144, south area of the lot.	3	Below Grade	11/13/2025	P3	8.7	125.9	98	95	-2 / 2	DPMP		SR
189 /222	Overlot: Lot 145, south area of the lot.	3	Below Grade	11/13/2025	P3	9.2	123.8	97	95	-2 / 2	DPMP		SR
190 /223	Overlot: Lot 146, south area of the lot.	3	Below Grade	11/13/2025	P3	9.0	126.2	98	95	-2 / 2	DPMP		SR
191 /224	Overlot: Lot 147, south area of the lot.	3	Below Grade	11/13/2025	P3	8.3	124.5	97	95	-2 / 2	DPMP		SR
192 /225	Overlot: Lot 148, south area of the lot.	2	Below Grade	11/13/2025	P3	9.6	123.3	96	95	-2 / 2	DPMP		SR



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Subject / Overall Test #	Test Location	Elevation (feet)	Reference	Test Date	Proctor ID	In Place Moist. (%)	In Place Dry Density (pcf)	Percent Comp.	Min Comp. (%)	Opt. Moisture Tolerance (%)	Rem. Code	Retest Of	Field Tech
193 /226	Overlot: Lot 143, south area of the lot.	1	Below Grade	11/17/2025	P3	8.3	124.4	97	95	-2 / 2	DPMP		SR
194 /227	Overlot: Lot 144, south area of the lot.	1	Below Grade	11/17/2025	P3	7.8	125.6	98	95	-2 / 2	DPMP		SR
195 /228	Overlot: Lot 145, south area of the lot.	1	Below Grade	11/17/2025	P3	7.9	124.1	97	95	-2 / 2	DPMP		SR
196 /229	Overlot: Lot 146, south area of the lot.	1	Below Grade	11/17/2025	P3	8.3	126.4	99	95	-2 / 2	DPMP		SR
197 /230	Overlot: Lot 147, south area of the lot.	1	Below Grade	11/17/2025	P3	8.3	123.9	97	95	-2 / 2	DPMP		SR

Remarks

DP/MP : Density Pass / Moisture Pass

Comments

Tests are "Direct Transmission" (Method A). Gauge calibration data on file with the testing Agency.

Proctor Data

Proctor ID	Method	Soil Classification	Optimum Moisture (%)	Maximum Dry Density (pcf)
P3	ASTM D1557 - A	SM	7.9	128.2
P4	ASTM D1557 - A	SW	8.3	125.9

APPENDIX G: Soil Survey Descriptions

El Paso County Area, Colorado

19—Columbine gravelly sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 367p

Elevation: 6,500 to 7,300 feet

Mean annual precipitation: 14 to 16 inches

Mean annual air temperature: 46 to 50 degrees F

Frost-free period: 125 to 145 days

Farmland classification: Not prime farmland

Map Unit Composition

Columbine and similar soils: 97 percent

Minor components: 3 percent

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

Description of Columbine

Setting

Landform: Fans, Fan terraces, Flood plains

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium

Typical profile

A - 0 to 14 inches: gravelly sandy loam

C - 14 to 60 inches: very gravelly loamy sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: A

Ecological site: R049XY214CO - Gravelly Foothill

Hydric soil rating: No

Minor Components

Fluvaquentic haplaquolls

Percent of map unit: 1 percent

Landform: Swales
Hydric soil rating: Yes

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

71—Pring coarse sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 369k

Landscape: Uplands

Elevation: 6,800 to 7,600 feet

Farmland classification: Not prime farmland

Map Unit Composition

Pring and similar soils: 85 percent

Minor components: 15 percent

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

Description of Pring

Setting

Landscape: Uplands

Landform: Hills

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Arkosic alluvium derived from sedimentary rock

Typical profile

A - 0 to 14 inches: coarse sandy loam

C - 14 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 3 to 8 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): High
(2.00 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Ecological site: R048AY222CO - Loamy Park

Hydric soil rating: No

Minor Components

Other soils

Percent of map unit: 10 percent

Hydric soil rating: No

Pleasant

Percent of map unit: 5 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

85—Stapleton-Bernal sandy loams, 3 to 20 percent slopes

Map Unit Setting

National map unit symbol: 36b1

Elevation: 6,500 to 6,800 feet

Mean annual precipitation: 14 to 16 inches

Mean annual air temperature: 46 to 48 degrees F

Frost-free period: 125 to 145 days

Farmland classification: Not prime farmland

Map Unit Composition

Stapleton and similar soils: 55 percent

Bernal and similar soils: 44 percent

Minor components: 1 percent

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

Description of Stapleton

Setting

Landform: Hills

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

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Sandy alluvium derived from arkose

Typical profile

A - 0 to 11 inches: sandy loam

Bw - 11 to 17 inches: gravelly sandy loam

C - 17 to 60 inches: gravelly loamy sand

Properties and qualities

Slope: 3 to 15 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): High
(2.00 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: B

Ecological site: R049XY214CO - Gravelly Foothill

Hydric soil rating: No

Description of Bernal

Setting

Landform: Hills

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

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Residuum weathered from sandstone

Typical profile

A - 0 to 4 inches: sandy loam

Bt - 4 to 11 inches: sandy clay loam

C - 11 to 13 inches: sandy loam

R - 13 to 17 inches: unweathered bedrock

Properties and qualities

Slope: 3 to 20 percent

Depth to restrictive feature: 8 to 20 inches to lithic bedrock

Drainage class: Well drained

Runoff class: Medium

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

Available water supply, 0 to 60 inches: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: D

Ecological site: R049XB204CO - Shallow Foothill

Hydric soil rating: No

Minor Components

Other soils

Percent of map unit: 1 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: El Paso County Area, Colorado

Survey Area Data: Version 23, Aug 29, 2025