CTL|THOMPSON INCORPORATED

PRELIMINARY GEOTECHNICAL INVESTIGATION
FALCON COMMERCE CENTER
SW OF BAPTIST ROAD AND I-25
EL PASO COUNTY, COLORADO

Prepared for:

CP CAPITAL REAL ESTATE
1650 Lake Cook Road
Deerfield, Illinois 60015

CTL|T Project No. CS19214-115

September 1, 2020

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SCOPE

This report presents the results of our Preliminary Geotechnical Investigation for portions of the proposed Falcon Commerce Center located south of Baptist Road and west of Interstate 25 (I-25) in El Paso County, Colorado. Our purpose was to evaluate the subsurface conditions that influence development and to provide preliminary geotechnical design concepts. This report includes a summary of subsurface and groundwater conditions found in our exploratory borings and preliminary geotechnical design and construction recommendations.

The report was prepared based on conditions interpreted from conditions found in our exploratory borings, results of laboratory tests, engineering analysis, and our experience. The criteria presented are applicable for planning and preliminary design. Building locations, finish floor elevations, and structural information were not available at the time of this report. The geotechnical exploration and laboratory testing information contained in this report can be used as a supplement for future design-level investigations. CTL|Thompson can provide final geotechnical investigation services, including additional borings, as well as pavement design services as a separate scope of work. Evaluation of the property for the possible presence of potentially hazardous materials (environmental site assessment) is beyond the scope of our investigation. Assessment of the site for the potential for wildfire hazards, corrosive soils, erosion problems, or flooding is also beyond the scope of this investigation.

The following section summarizes the report. A more complete description of the conditions found, our interpretations, and our recommendations are included in the report.

SUMMARY

1. The conditions encountered in our borings drilled at the site consisted of predominantly natural sands with localized layers of very clayey sand and sandy clay underlain by sandstone and claystone bedrock.

2. At the time of drilling, groundwater was measured in seven of our exploratory borings ranging in depth from about 6 to 17 feet below the existing ground surface. Groundwater was measured approximately 24 hours after drilling at depths ranging between 4 and 17 feet.

3. The soils and bedrock at the site generally exhibit negligible to low swell potential. Localized areas of moderately to highly expansive claystone bedrock are likely present at the site.

4. We believe site grading and utility installation for the proposed development can be accomplished using conventional, heavy-duty construction equipment. Deep excavations extending below the groundwater table may require construction dewatering.

5. We anticipate spread footing foundations will be appropriate for lightly to moderately loaded buildings. Where loose or expansive soils are encountered at or near footing and floor slab elevations following grading, it will likely be necessary to sub-excavate this material and then replace the expansive soils with moisture conditioned, densely compacted fill, prior to footing construction. Methods of mitigation are described in the report.

6. The natural sands and dense fills constructed using sands should provide good support for the lightly to moderately loaded slabs-on-grade. Performance of slabs will likely be poor where site grading causes clays or claystone bedrock with high or very high potential for expansion to be near floor levels.

7. Overall plans should provide for the rapid conveyance of surface runoff to the storm sewer system.

SITE CONDITIONS

The site covers approximately 112-acres south of Baptist Road and west of Interstate 25 (I-25) in El Paso County, Colorado. The site is in the eastern half of Section 35 and the southeast quarter of Section 36, both of Township 11, Range 67 West of the 6th Principal Meridian, El Paso County. The general location is shown in Fig. 1.

The site is relatively flat to gently rolling and slopes down to the southwest at grades estimated to be less than 5 percent. A perennial stream (Jackson Creek) borders the south end of the site. Other ephemeral drainages bisect the middle portion of the site and also originate within the site. The sides of these drainages slope at grades generally less than 15 percent. The site is accessed from Wood Carver Road to the west and Terrazzo Drive to the north. A dirt road entrance to the site extends from

Woodcarver Road approximately 600 feet south of Baptist Road. This alignment will become a new road providing access to the northwest portion of the development. Terrazzo Drive dead ends at the north end of the site where a gate provides access. An abandoned railroad bed embankment is present near the east end of the site and a dirt road transects north/south across the eastern portion of the site. The property is bordered to the east by I-25 and the existing Pilot Travel Center, to the north by Baptist Road and the Pilot Travel Center, to the south by undeveloped land that includes a buffer zone adjacent to Jackson Creek for habitat protection of the Prebles Jumping Mouse, and to the west by the Santa Fe regional trail. Vegetation consists of natural grasses and yucca plants with sporadic trees along the eastern and southern portions of the site. The general size, shape, and vicinity of the site and the locations of our test borings are presented on Figure 1.

PROPOSED DEVELOPMENT

The project will be a commercial development involving the design and construction of predominantly low-rise buildings and possibly some mid-rise buildings. Occupants are expected to include office, hotel, retail, restaurant, light industrial and small warehouse type buildings. We anticipate the structures will be serviced by municipal water and wastewater systems. Other improvements will include a southward extension of Terrazzo Drive and a new street to be called Squadron Drive will extend into the site from Woodcarver Road. Numerous private access driveways and parking areas will be constructed within the development. Underground utilities will be constructed throughout the site and a large detention basin totaling approximately 9.7 acres is planned for the south end of the site, north of Jackson Creek. We understand cuts and fills will generally be on the order of 12 feet or less, with the exception of the area of the proposed detention basin where cuts up to approximately 18 feet are planned.

PREVIOUS INVESTIGATIONS

Our firm performed a Geologic Hazards Evaluation and Preliminary Geotechnical Investigation (CTL|T Job No. CS-10,148; report dated December 17, 1999) for a larger 320-acre site that included the property covered by this investigation. The 1999 study

included the drilling of 22 widely spaced exploratory borings. More recently we completed a Concept Level Geologic Hazards Evaluation (CTL|T Job No. CS19214-100; report dated February 26, 2020) for 213-acres that included the subject site as well as an area south of Jackson Creek that is excluded from the current Preliminary Geotechnical Investigation. The information obtained during previous studies was utilized in our analysis for this investigation.

SUBSURFACE INVESTIGATION

Subsurface conditions across the site were investigated by recently drilling eleven (11), widely-spaced exploratory borings to depths of 15 to 25 feet at the approximate locations shown in Fig. 1. Graphical logs of conditions found in our exploratory borings, the results of field penetration resistance tests, and some laboratory data are in Appendix A. Swell-consolidation and sieve analysis test results are presented in Appendix B and summarized in Table B-1. Graphical logs of our borings drilled during our 1999 study are presented in Appendix D.

Soil and bedrock samples obtained during this study were returned to our laboratory and visually classified. Laboratory testing was then assigned to representative samples. Testing included moisture content and dry density, swell-consolidation, Atterberg limits, sieve analysis, and water-soluble sulfate content tests. The swell test samples were wetted under applied loads that approximated the overburden pressure (the weight of overlying soil and bedrock).

SUBSURFACE CONDITIONS

The soils encountered in the exploratory borings drilled at the site during this study and previous studies consisted of predominantly natural, slightly silty to silty sand with sporadic areas of clayey to very clayey sand and sandy clay. The overburden soils are underlain by sandstone and claystone bedrock. The bedrock was encountered at depths between 3.5 and 20 feet below the existing ground surface. Some of the pertinent engineering characteristics of the soils and bedrock encountered, and groundwater conditions are discussed in the following paragraphs.

Sands

The predominant soil consisted of natural, slightly silty to silty sand with sporadic layers of clayey to very clayey sand that varied in thickness. The sand soils extended to depths between 3.5 and 20 feet. The natural sand was medium dense to very dense based on the results of field penetration resistance tests. Five samples of the sand contained 10 to 49 percent clay and silt-size particles (passing the No. 200 sieve). One sample of very clayey sand compressed 0.6 percent when wetted under approximate overburden pressure. Our experience indicates the sands are typically non-expansive or exhibit low expansion potential when wetted.

Clays

In borings TH-6, TH-8, and TH-10, we encountered layers of sandy to very sandy clay soils underlying sand at depths between 6 and 11 feet. The clay layers were approximately 4 to 7.5 feet thick. The clay was very stiff based on the results of field penetration resistance tests. Two samples of the clay tested contained 52 and 77 percent silt and clay-sized particles. One sample exhibited measured swell of 1.1 percent when wetted under approximate overburden pressure. The clay soils may be present sporadically in other areas of the site.

Bedrock

Silty to clayey sandstone or sandy claystone bedrock was found in each of the borings, with the exception of TH-2 that was only advanced to 15 feet for the proposed monument sign. The bedrock underlies the natural soils at depths ranging between 3.5 to 20 feet below the existing ground surface. The sandstone is weakly to moderately cemented. Field penetration resistance test results indicated the bedrock was hard to very hard. Our experience indicates the silty sandstone typically exhibits negligible expansion while the clayey sandstone can exhibit low to moderate swell potential. The sandy claystone can exhibit low to high swell potential. During our previous study performed in 1999, samples of bedrock swelled up to 2.4 percent under a 1,000 psf surcharge pressure.

Groundwater

At the time of drilling, groundwater was measured in seven of our exploratory borings at depths ranging from 6 to 17 feet below the ground surface. Groundwater was measured approximately 24 hours after drilling in six of our borings at depths ranging from 4 to 17 feet. Water levels should be expected to fluctuate in response to altered surface drainage patterns, seasonal precipitation, and irrigation of landscaping. Our borings were drilled in the middle part of the summer when groundwater is generally beginning to reach seasonal highs. High groundwater conditions generally occur in late September to early October. Conditions are favorable for the formation of a perched groundwater table at the bedrock surface. A seasonal fluctuation of 3 to 5 feet is “normal” for this area.

SITE DEVELOPMENT CONSIDERATIONS

We believe the more significant constraints to development are the presence of sporadic pockets of expansive claystone and areas of shallow bedrock and shallow groundwater. Our experience in the area indicates the claystone bedrock underlying the site may possess high potential for expansion upon wetting. However, based on our experience at the site, natural sandy soils and sandstone bedrock are the predominant materials.

Cuts that expose expansive soils and bedrock often make performance of shallow foundations questionable. Slab-on-grade floors supported by the expansive clays and claystone bedrock can heave and crack. The risk of overall damage to structures is significantly higher where expansive soils and bedrock are exposed at the ground surface as the result of site grading. Our experience in the site area indicates groundwater is found at least seasonally perched above the bedrock surface particularly in natural drainages. Groundwater also occurs in fractures in the bedrock and in the more permeable sandstone beds. Where grading exposes cuts in bedrock and groundwater is present some type of subdrain will likely be appropriate. The proposed deep cut areas for the detention basin in the southern portion of the site will extend below the groundwater table.

As the project is in the preliminary planning stage, site development plans were not available at the time of our investigation; however, preliminary grading plans and a cut/fill map of the project site were provided. The plans indicate cuts and fills will generally be on the order of 12 feet or less, with the exception of the area of the proposed detention basin at the south end of the site where cuts up to approximately 18 feet are planned. Based on the results of this investigation, the near surface materials are predominantly granular and will generally provide good support for spread footing foundations, slabs-on-grade, and pavements. Where clay soils or claystone bedrock are encountered following grading or are present within 4 feet of proposed foundations and floor slabs, sub-excavation and reworking of these materials will be necessary.

Site Grading

The site naturally slopes downward toward the southwest to Jackson Creek. Site grading will be necessary to establish level building pads. We believe site grading can be accomplished using conventional heavy-duty earthmoving equipment. Where cuts extend into hard to very hard bedrock, more aggressive excavation techniques such as single-shank rippers, rock buckets, etc. should be expected.

Vegetation and organic materials should be removed from the ground surface of areas to be filled. Soft or loose soils, if encountered, should be stabilized or removed to expose stable material prior to placement of fill.

The onsite materials are generally suitable for use as grading fill, and excavation backfill, provided they are free of debris, vegetation/organics, and other deleterious materials. If imported fill is necessary, it should ideally consist of granular material with 100 percent passing the 2-inch sieve and less than 35 percent material passing the No. 200 sieve.

The ground surface in areas to receive fill should be scarified deeply, moisture conditioned and compacted to a high density to establish a stable subgrade for fill placement. The properties of the fill will affect the performance of foundations, slabs-on-grade, and pavements. Detailed recommendations for moisture conditioning, place-

ment, and compaction of grading fill are set forth in Appendix C. Placement and compaction of the grading fill should be periodically observed and tested by our representative during construction.

We recommend grading plans consider long-term cut and fill slopes no steeper than 3:1 (horizontal to vertical). This ratio considers that no seepage of groundwater occurs. If groundwater seepage does occur, a drain system and flatter slopes may be appropriate. Flatter slopes should be considered to reduce erosion of the sand soils and fill. Slopes should be revegetated as soon as possible to control erosion by wind and water. Concentrated water flows over slopes should be avoided.

Buried Utilities

Based on the subsurface conditions encountered in our exploratory borings, we anticipate most of the materials encountered during utility trench excavation will consist of silty sands, clayey sands, and sandstone bedrock. Utility trench excavation can likely be accomplished using heavy-duty track hoes.

Excavations for utilities should be braced or sloped to maintain stability and should meet applicable local, state, and federal safety regulations. The contractor should identify the soils and bedrock encountered in trench excavations and refer to Occupational Safety and Health Administration (OSHA) standards to determine appropriate slopes. We anticipate the near-surface sand soils will classify as Type C. Temporary excavations in Type C materials require a maximum slope inclination of 1.5:1 (horizontal to vertical) in the absence of groundwater, unless the excavation is shored or braced. Clay soils will classify as Type B requiring maximum slope inclinations of 1:1. Where excavations extend into sound bedrock, these materials will classify as Type A requiring maximum slope inclinations of 0.75:1. Excavations deeper than 20 feet should be designed by a professional engineer.

Where deep utilities are planned, excavations may extend into groundwater and construction dewatering may be necessary. Relatively clean, granular soils will likely flow into excavations below the groundwater surface. Dewatering using local sump pits

and pumps could be effective depending on the amount of water flowing through the sands. More aggressive dewatering techniques including well points installed within the sand soils and sandstone bedrock could be necessary.

Water and sewer lines are usually constructed beneath paved areas. Compaction of trench backfill will have a significant effect on the life and serviceability of pavements. We recommend trench backfill be moisture conditioned and compacted in accordance with the recommendations set forth in Appendix C. Personnel from our firm should periodically observe and test the placement and compaction of the trench backfill during construction.

FOUNDATION AND FLOOR SYSTEM CONCEPTS

We recommend the preparation of design-level geotechnical investigations for the proposed buildings to develop specific foundation recommendations for the design and construction of foundations and floor systems. The foundation type should be chosen based on the building type, building loads, subsurface conditions, and other factors. Selection of floor system alternatives should consider risk of movement associated with slab-on-grade floors and ventilation in crawl space areas beneath structural floors.

The surficial sands are non-expansive and relatively dense. While we do not anticipate widespread areas of expansive soils or bedrock, localized pockets of moderately to highly expansive claystone may be present.

We believe spread footing foundations will be appropriate for lightly to moderately loaded buildings. For preliminary planning purposes, spread footings with allowable bearing pressures of 2,000 to 3,000 psf are expected to be appropriate. Where loose or expansive soils are found, sub-excavation and replacement with moisture conditioned, densely compacted fill may be appropriate.

We anticipate slab-on-grade floors will be the desired floor system for light industrial/commercial buildings. The surficial sands are relatively dense and should provide good slab support for lightly loaded (50 psf or less) slabs-on-grade with a low risk of

poor performance. It should be understood that expansive soils can cause heave and damage to slab-on-grade floors. Where loose or expansive soils are present at or near finished floor elevations after grading, sub-excavation and replacement below the slab may be appropriate to enhance floor system performance.

MONUMENT SIGN FOUNDATION

A monument sign for the Falcon Commerce Center is proposed at the southwest corner of Baptist Road and Terrazzo Drive. The location of the monument sign is underlain by silty sand soils. We believe the monument sign can be supported on a spread footing foundation. We recommend the foundation be constructed directly on the existing soils or on densely compacted fill and be designed for a maximum allowable soil pressure of 2,000 psf. Footings should be provided with at least 30-inches of frost cover. We should observe the completed excavations to verify conditions are as indicated by our borings. We recommend designs consider total settlement of 1-inch and differential settlement of 1/2-inch.

GEOTECHNICAL CONSIDERATIONS FOR DETENTION BASINS

We understand a large detention basin is planned at the south end of the site to temporarily retain stormwater runoff. Based on preliminary plans prepared by Kiowa Engineering, the side slopes of the detention basin will be 4:1 and an outlet structure with a 30-inch diameter RCP outlet pipe is proposed at the south end the basin and extend south where it will discharge into Jackson Creek. The majority of the detention basin will be within cut areas. Where berms are to be built using the onsite materials, they should be overbuilt and cut back to the design slopes so the slope face exposes compacted material. Based on the findings of this study and the proposed grades within the detention basin, it should be expected that retained water may not infiltrate quickly. In some areas, groundwater is expected to be encountered above the bottom of the detention basin. Accordingly, special drainage measures may be necessary along portions of the detention basin side slopes, possibly including cut-off trench drains or blanket drains. The extent of drainage needed for the slopes may not become evident until

construction commences. Recommendations for drainage can be provided at the time of construction based on the conditions encountered.

PAVEMENTS

The natural sand soils are expected to be the predominant pavement subgrade material at this site. We anticipate pavement sections on the order of 3 to 4 inches of asphalt over 6 or more inches of aggregate base course will be appropriate for drive lanes and parking lots. A composite section of 4 to 5 inches of asphalt over 6 to 8 inches of base course may be needed for Squadron Drive and the extension of Terrazzo Drive, as well as other areas that will be subjected to heavy truck traffic. Where clay soils are exposed at pavement subgrade elevations, thicker pavement sections should be anticipated. A subgrade investigation and pavement design should be performed after designs are finalized and site grading is complete.

CONCRETE

Concrete in contact with soil can be subject to sulfate attack. We measured the water-soluble sulfate concentration in one sample from this site at less than 0.1 percent. Sulfate concentrations less than 0.1 percent indicate Class 0 exposure to sulfate attack for concrete in contact with the subsoils, according to ACI 201.2R-01, as published in the 2008 American Concrete Institute (ACI) Manual of Concrete Practice. For this level of sulfate concentration, the ACI indicates Type I or Type I/II cement can be used for concrete in contact with the subsoils. In our experience, superficial damage may occur to the exposed surfaces of highly permeable concrete, even though sulfate levels are relatively low. To control this risk and to resist freeze-thaw deterioration, the water-to-cementitious material ratio should not exceed 0.50 for concrete in contact with soils that are likely to stay moist due to surface drainage or high water tables. Concrete subjected to freeze-thaw cycles should be air entrained.

SURFACE DRAINAGE AND IRRIGATION

The performance of structures, flatwork, and roads within the development will be influenced by surface drainage. When developing an overall drainage scheme, consideration should be given to drainage around each structure and from pavement areas. Drainage should be planned such that surface runoff is directed away from foundations and is not allowed to pond adjacent to or between structures or over pavements. Ideally, slopes of at least 6 inches in the first 10 feet should be planned for the areas immediately surrounding buildings, where possible. Roof downspouts and other water collection systems should discharge well beyond the limits of all backfill around the structures.

Proper control of surface runoff is also important to prevent the erosion of surface soils. Concentrated flows should not be directed over unprotected slopes. Permanent slopes should be seeded or mulched to reduce the potential for erosion. Backfill soils behind the curb and gutter adjacent to access roadways, parking lots, and in utility trenches within individual lots should be compacted. If surface drainage between preliminary development and construction phases is neglected, performance of the roadways, flatwork, and foundations may be compromised.

FURTHER INVESTIGATIONS

After site development plans have been formalized, we recommend pavement subgrade investigations and additional design-level geotechnical investigations be completed. Such investigations will be required to determine the appropriate foundation and floor systems for the buildings based upon the over-lot grading and building finished floor elevations.

LIMITATIONS

The recommendations and conclusions presented in this report were prepared based on conditions disclosed by our exploratory borings, geologic reconnaissance, engineering analyses, and our experience. Variations in the subsurface conditions not indicated by the borings are possible and should be expected.

We believe this report was prepared with that level of skill and care ordinarily used by geologists and geotechnical engineers practicing under similar circumstances. No warranty, express or implied, is made.

Should you have any questions regarding the contents of this report or the project from a geotechnical engineering point-of-view, please call.

CTL | THOMPSON INC.

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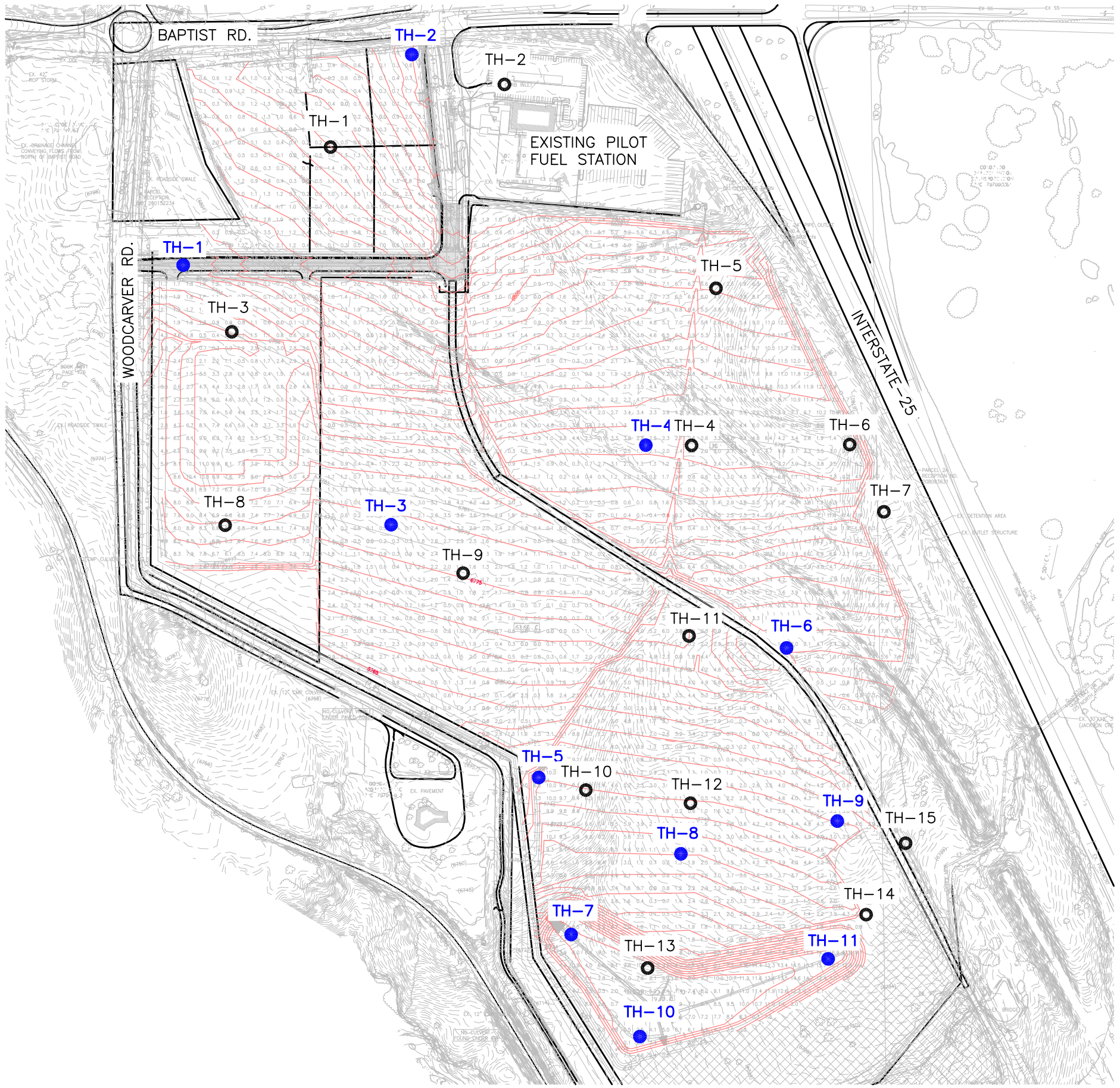

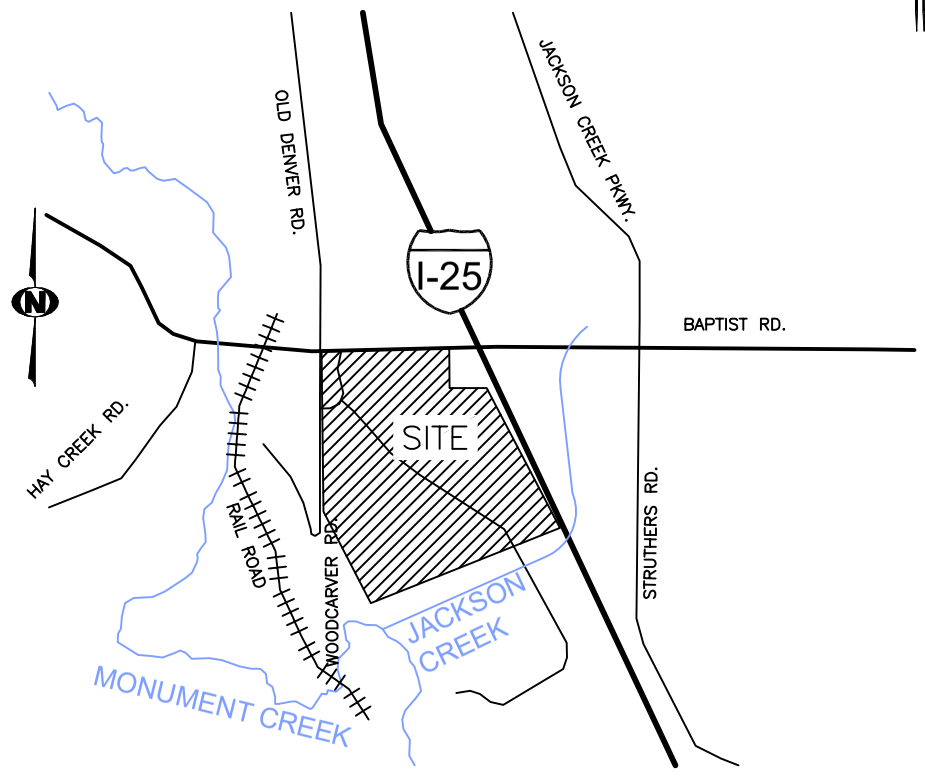

VICINITY MAP
NOT TO SCALE

LEGEND:

TH-1 — APPROXIMATE LOCATION OF EXPLORATORY BORING

TH-1 — APPROXIMATE LOCATION OF 1999 EXPLORATORY BORING DRILLED FOR CS-10,148 DATED SEPTEMBER, 1999.

EXISTING TOPOGRAPHY

PROPOSED TOPOGRAPHY

NOTE: BASE PLAN PREPARED BY KIOWA ENGINEERING CORP. DATED JULY 8, 2020.

0 200 400

SCALE: 1" = 400'

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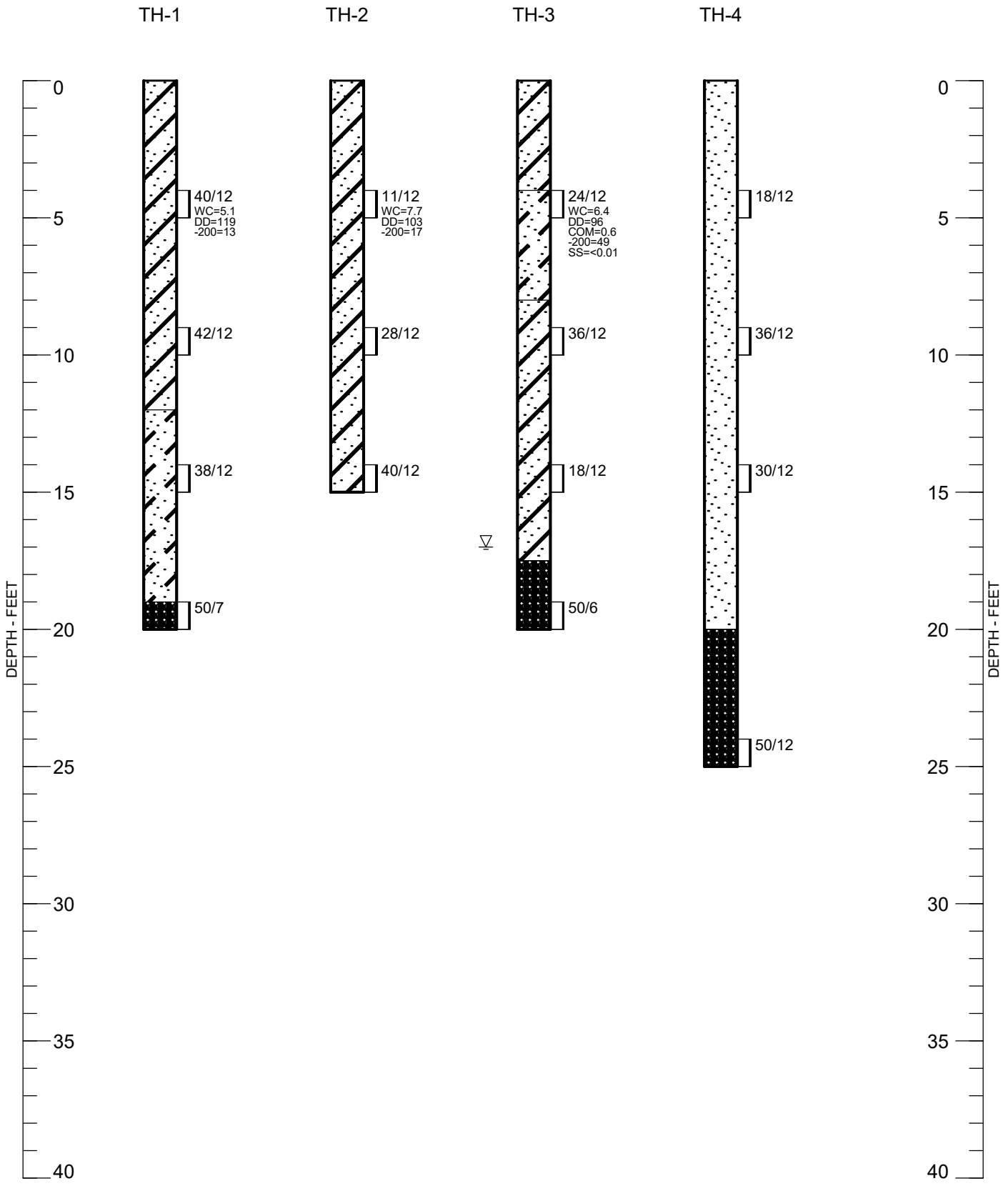
Locations of Exploratory Borings

Fig. 1

APPENDIX A

SUMMARY LOGS OF EXPLORATORY BORINGS



SUMMARY LOGS OF EXPLORATORY BORINGS

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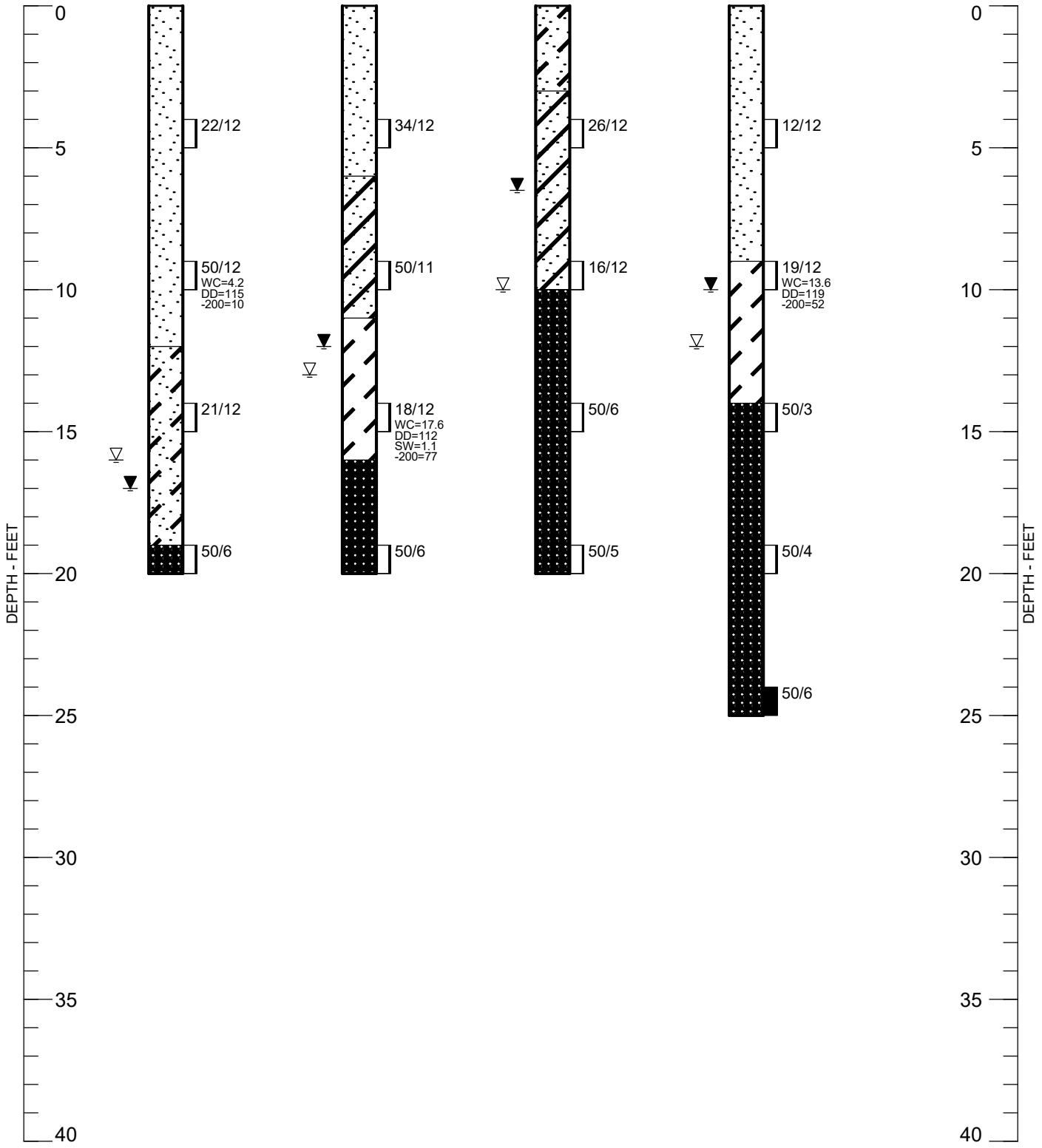
FIG. A- 1



SUMMARY LOGS OF EXPLORATORY BORINGS

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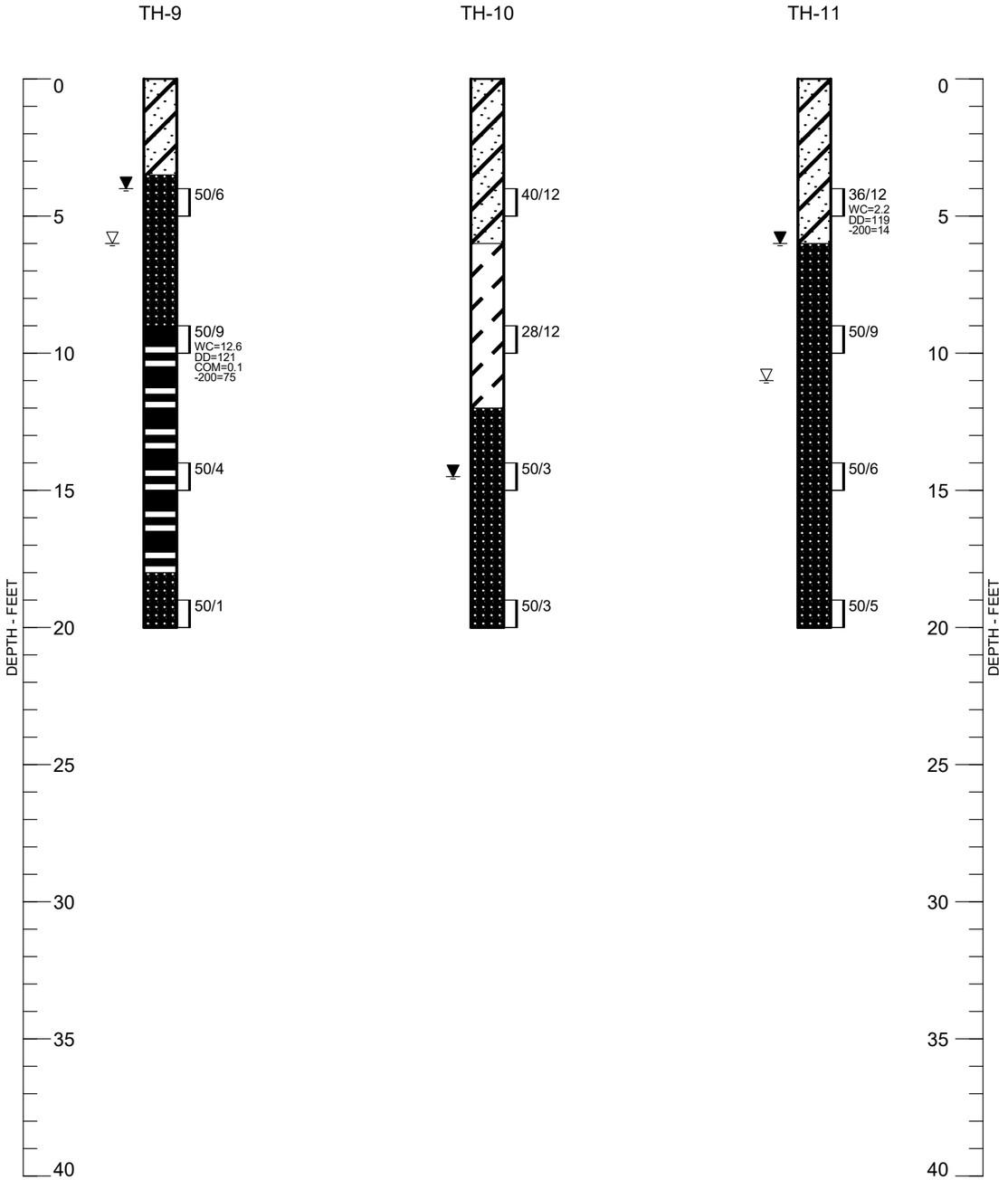
FIG. A- 2



SUMMARY LOGS OF EXPLORATORY BORINGS

LEGEND:

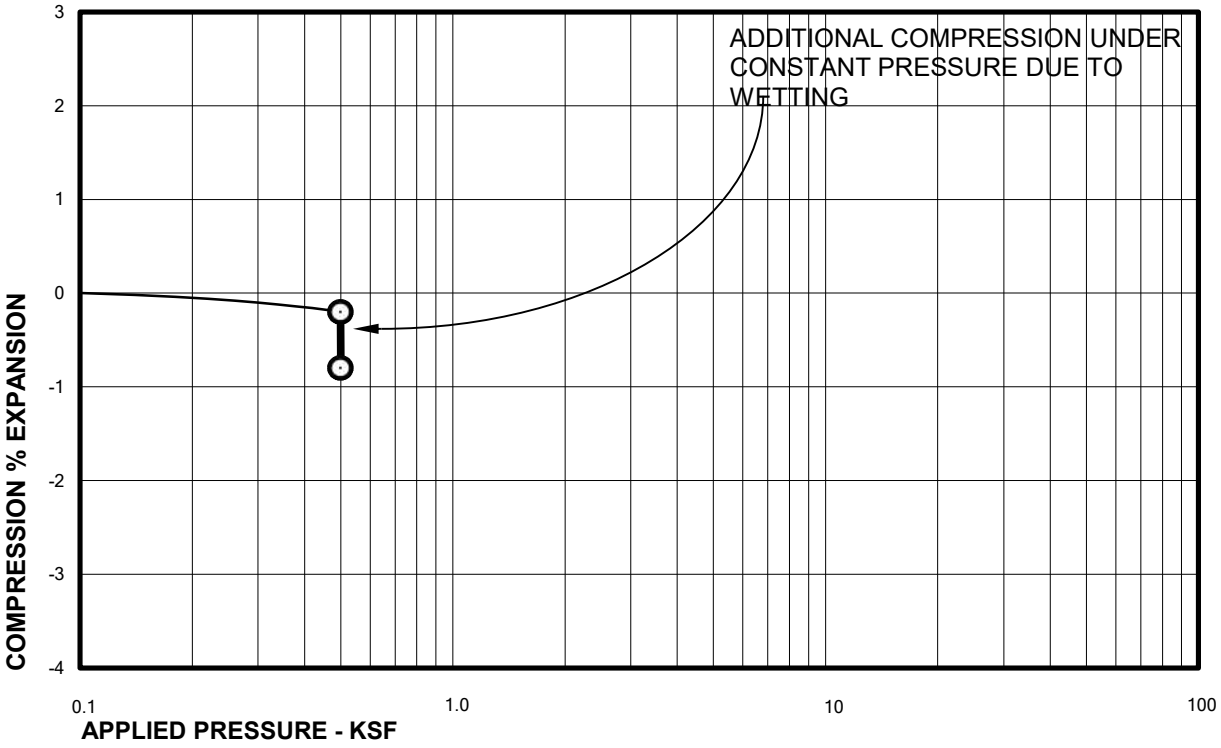
- CLAY, SANDY TO VERY SANDY, VERY STIFF, MOIST TO VERY MOIST, BROWN, LIGHT BROWN, ORANGE, GRAY (CL).
- SAND, SLIGHTLY CLAYEY TO CLAYEY, MEDIUM DENSE TO DENSE, MOIST, LIGHT BROWN (SC).
- SAND, SILTY, SLIGHTLY GRAVELLY, DENSE TO VERY DENSE, SLIGHTLY MOIST TO WET, BROWN, TAN (SM).
- SAND, CLEAN TO SLIGHTLY SILTY, MEDIUM DENSE TO DENSE, DRY TO MOIST, TAN, LIGHT BROWN, REDDISH BROWN (SP, SP-SM).
- BEDROCK, SANDSTONE, SILTY TO CLAYEY, HARD TO VERY HARD, MOIST TO WET, LIGHT BROWN, ORANGE, GRAY.
- BEDROCK, CLAYSTONE, SANDY, HARD TO VERY HARD, MOIST, GRAY.
- DRIVE SAMPLE. THE SYMBOL 40/12 INDICATES 40 BLOWS OF AN AUTOMATIC 140-POUND HAMMER FALLING 30 INCHES WERE REQUIRED TO DRIVE A 2.5-INCH O.D. SAMPLER 12 INCHES.
- WATER LEVEL MEASURED AT TIME OF DRILLING.
- WATER LEVEL MEASURED AFTER DRILLING ON AUGUST 12, 2020.

NOTES:

1. THE BORINGS WERE DRILLED ON AUGUST 11, 2020 USING 4-INCH DIAMETER, CONTINUOUS-FLIGHT SOLID-STEM AUGER AND TRUCK-MOUNTED CME-55 DRILL RIG.
2. WC INDICATES MOISTURE CONTENT (%).
   DD - INDICATES DRY DENSITY (PCF).
   SW - INDICATES SWELL WHEN WETTED UNDER APPLIED PRESSURE (%).
   COM- INDICATES COMPRESSION WHEN WETTED UNDER APPLIED PRESSURE (%).
   LL - INDICATES LIQUID LIMIT.
   PI - INDICATES PLASTICITY INDEX.
   -200 - INDICATES PASSING NO. 200 SIEVE (%).
   SS - INDICATES WATER-SOLUBLE SULFATE CONTENT (%).
3. THESE LOGS ARE SUBJECT TO THE EXPLANATIONS, LIMITATIONS AND CONCLUSIONS CONTAINED IN THIS REPORT.

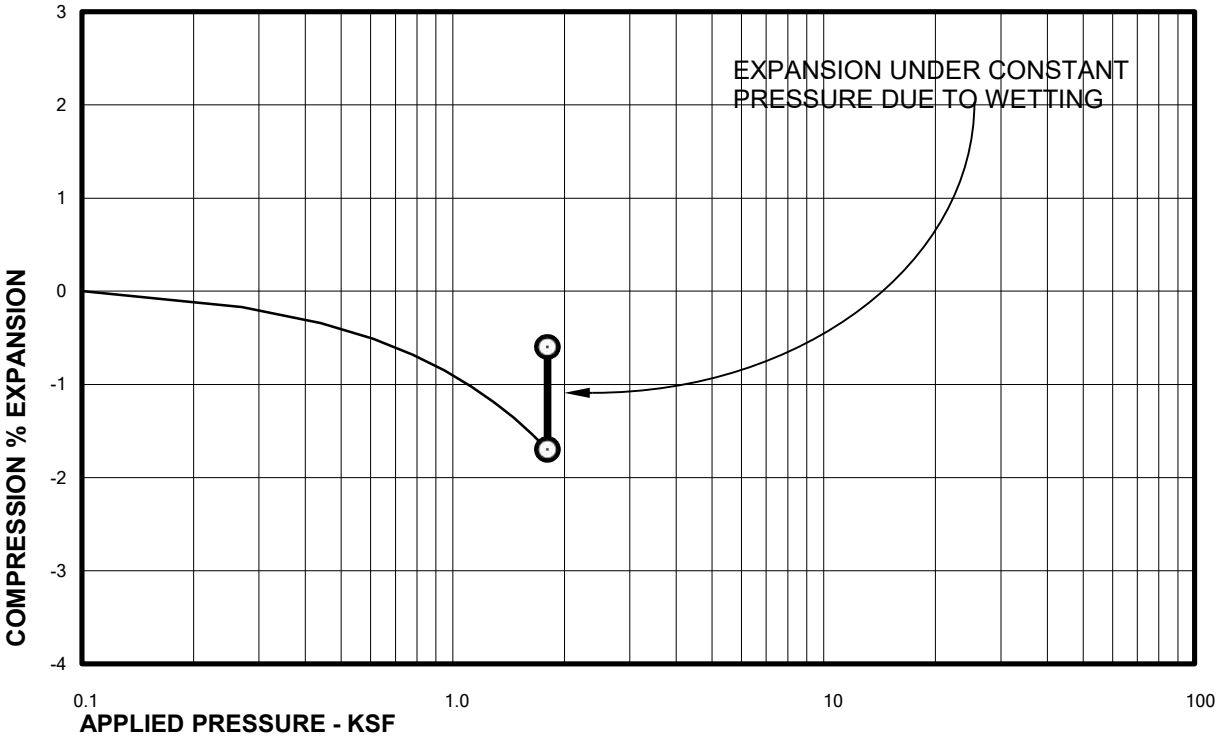
APPENDIX B

LABORATORY TEST RESULTS,
TABLE B-1: SUMMARY OF LABORATORY TESTING



Sample of SAND, VERY CLAYEY (SC) DRY UNIT WEIGHT= 96 PCF

From TH-3 AT 4 FEET MOISTURE CONTENT= 6.4 %



Sample of CLAY, SANDY (CL) DRY UNIT WEIGHT= 112 PCF

From TH-6 AT 14 FEET MOISTURE CONTENT= 17.6 %

Swell Consolidation Test Results

FIG. B-1

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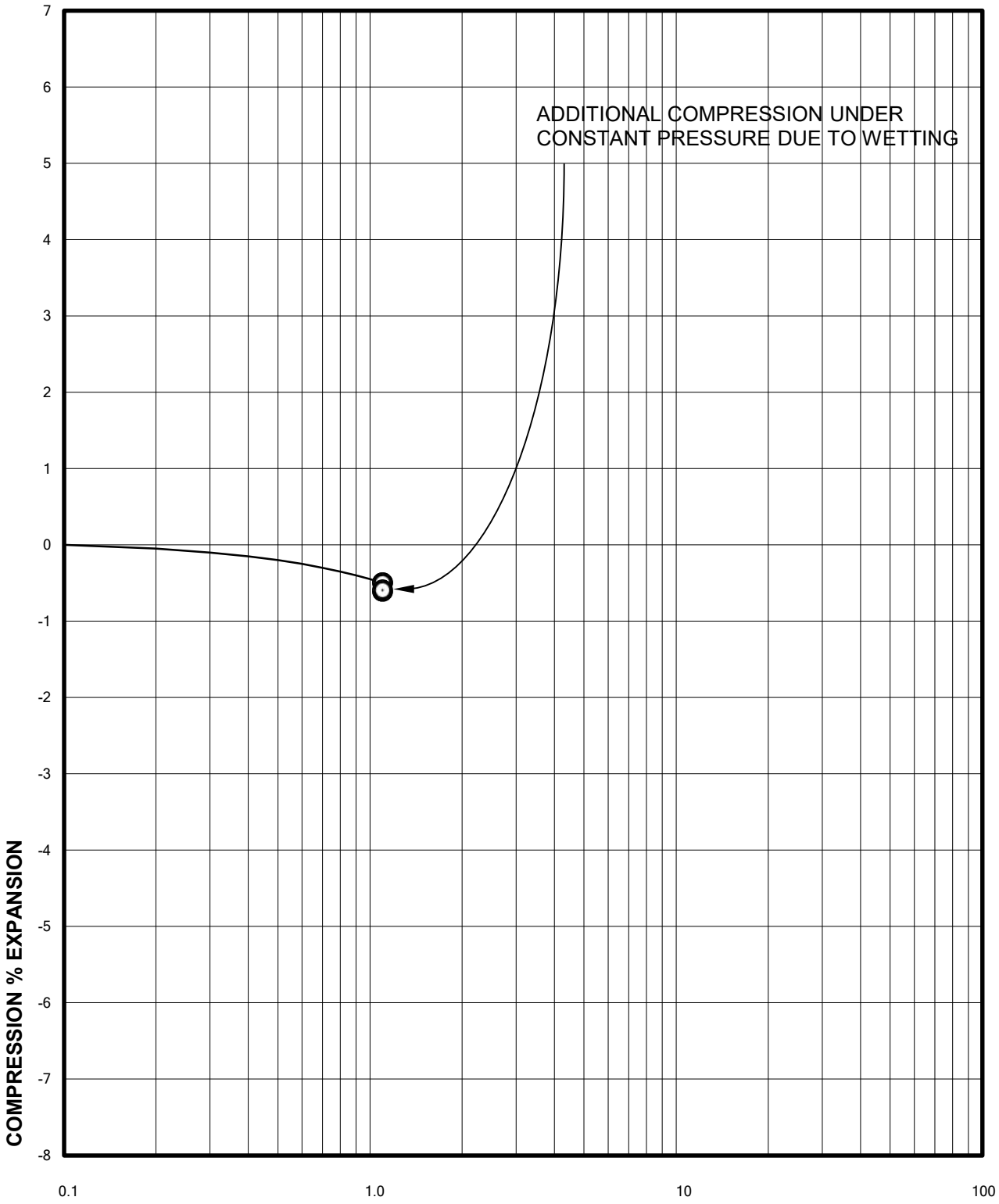

Sample of CLAYSTONE
From TH-9 AT 9 FEET

DRY UNIT WEIGHT= 121 PCF
MOISTURE CONTENT= 12.6 %

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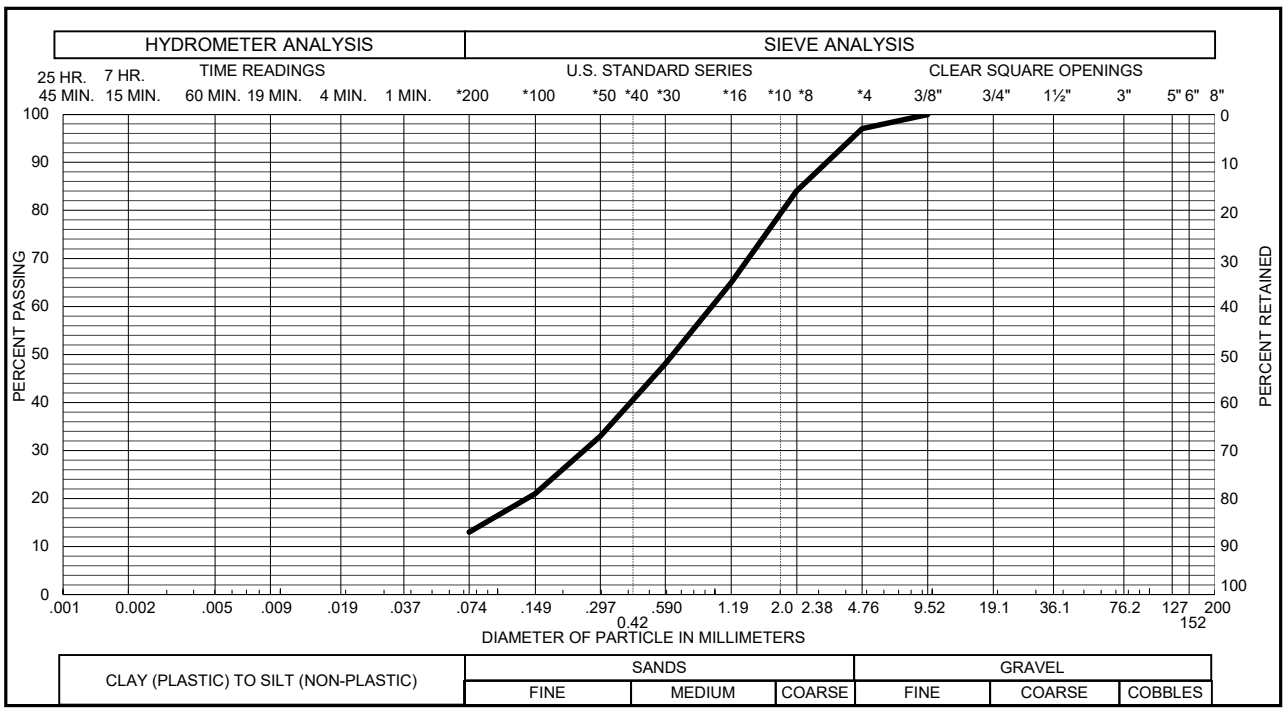
Swell Consolidation Test Results

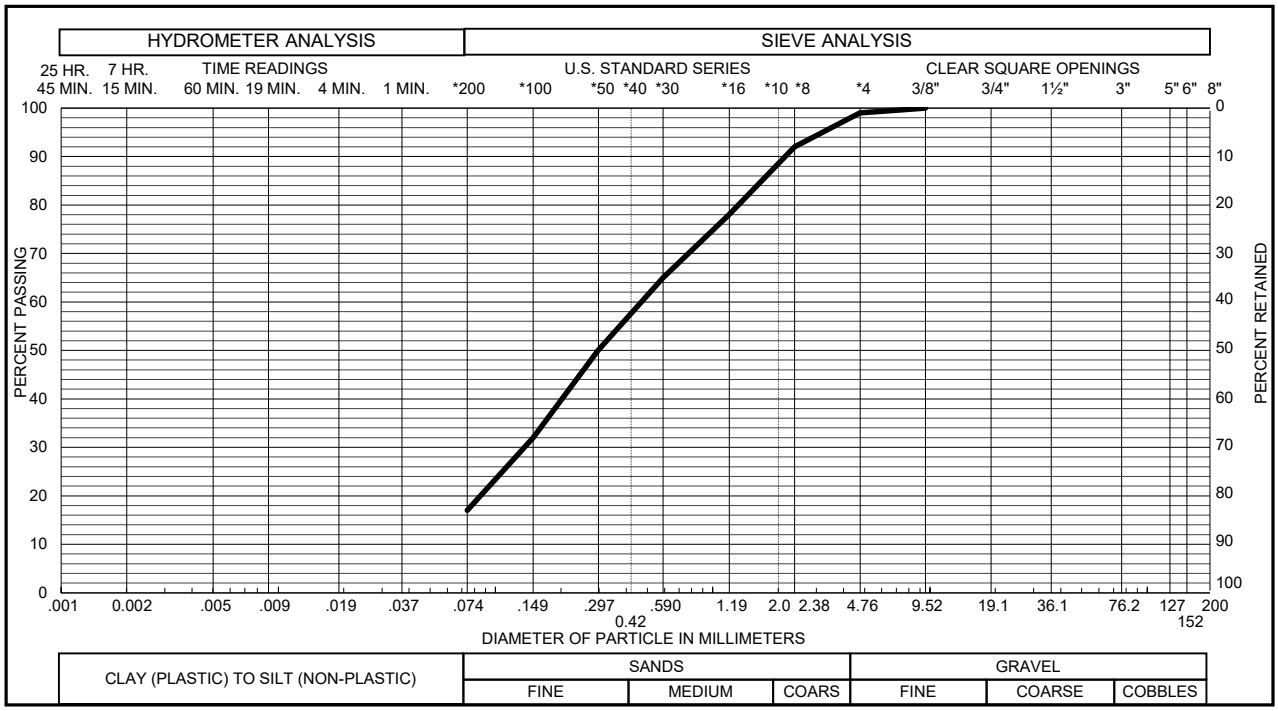
FIG. B-2



Sample of SAND, SILTY (SM) GRAVEL 3 % SAND 84 %

From TH - 1 AT 4 FEET SILT & CLAY 13 % LIQUID LIMIT

PLASTICITY INDEX



Sample of SAND, SILTY (SM) GRAVEL 1 % SAND 82 %

From TH - 2 AT 4 FEET SILT & CLAY 17 % LIQUID LIMIT

PLASTICITY INDEX

Gradation Test Results

FIG. B-3

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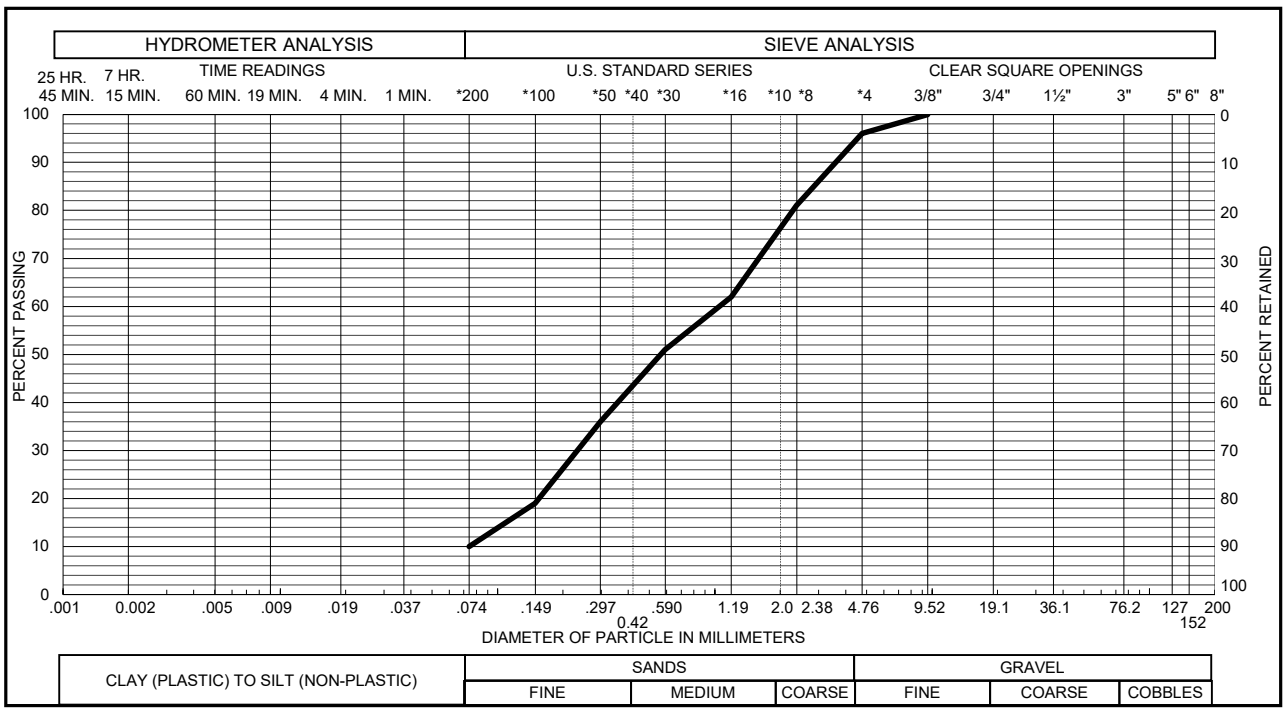
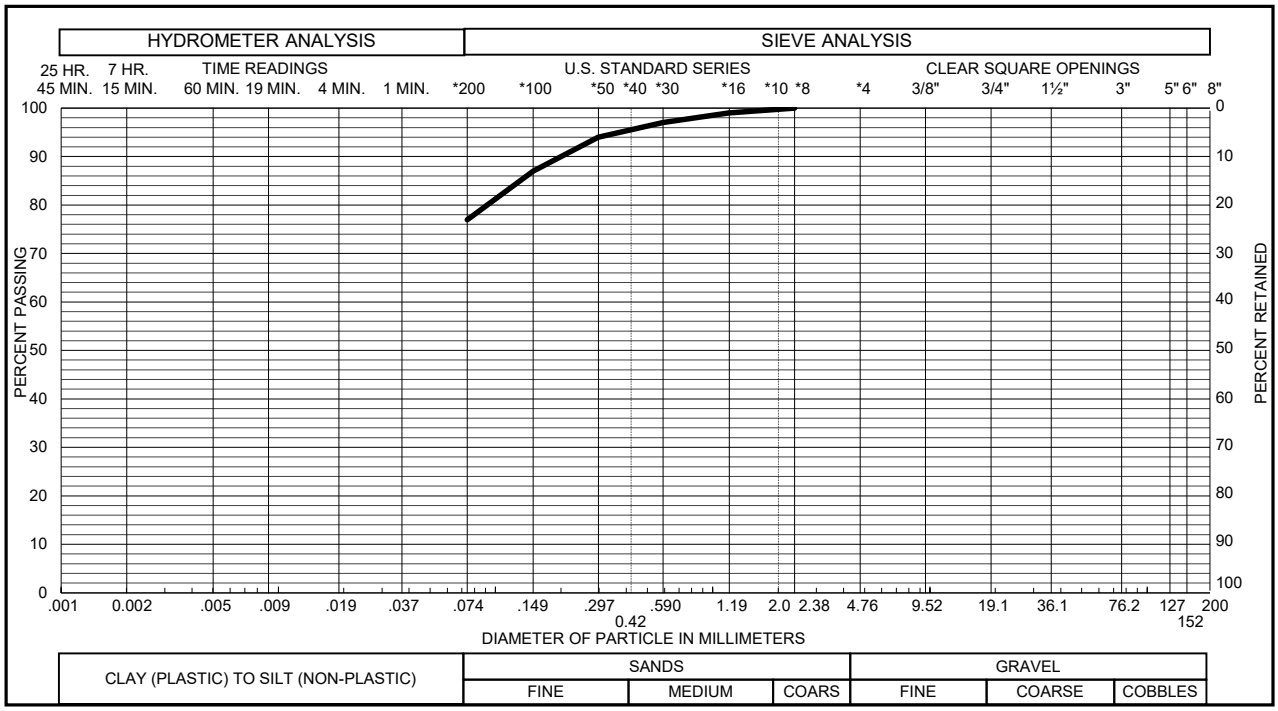


Sample of SAND, SLIGHTLY SILTY (SP-SM)
From TH - 5 AT 9 FEET

GRAVEL 4 % SAND 86 %
SILT & CLAY 10 % LIQUID LIMIT
PLASTICITY INDEX



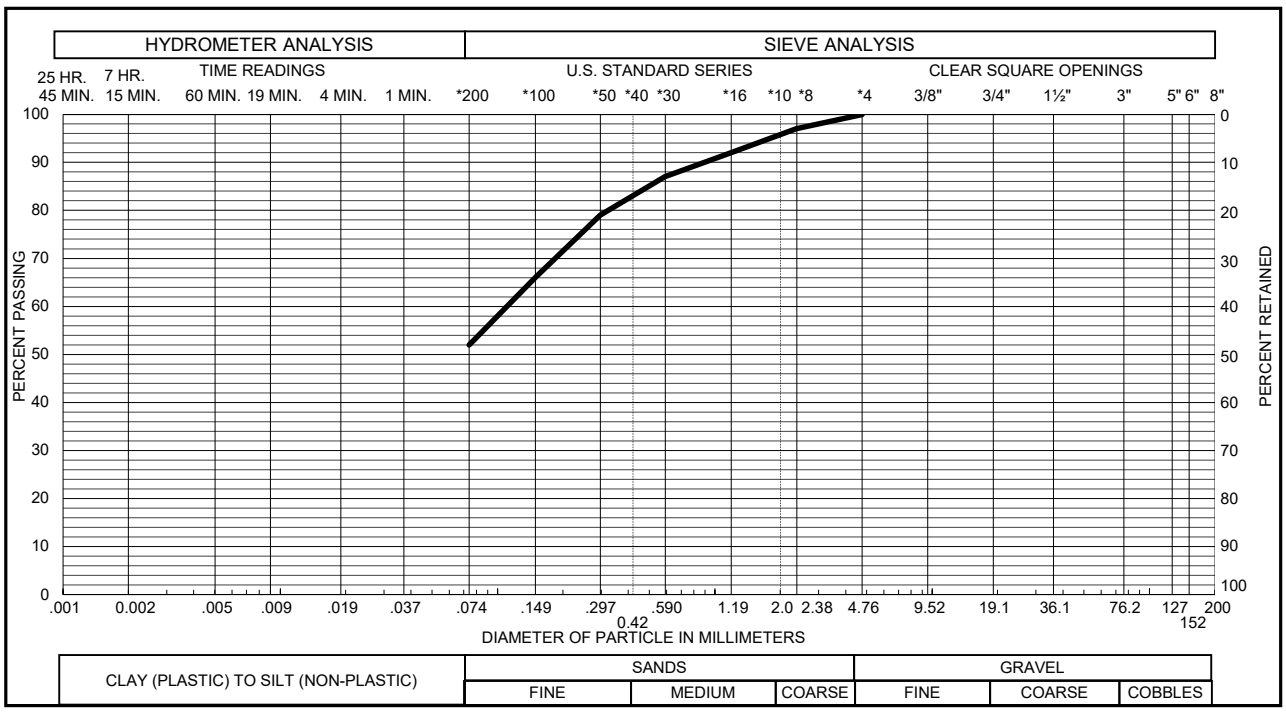
Sample of CLAY, SANDY (CL)
From TH - 6 AT 14 FEET

GRAVEL 0 % SAND 23 %
SILT & CLAY 77 % LIQUID LIMIT
PLASTICITY INDEX

Gradation Test Results

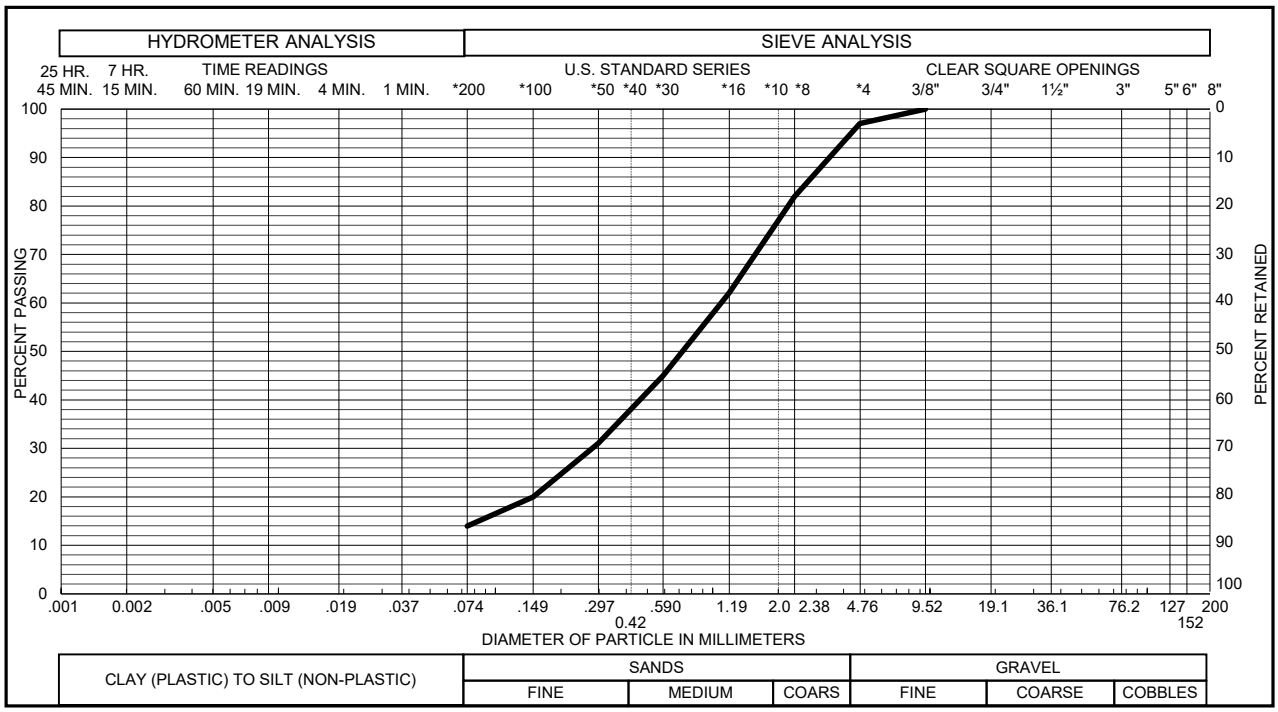
FIG. B-4

CP CAPITAL REAL ESTATE
FALCON COMMERCE CENTER
CTL|T PROJECT NO. CS19214-115



Sample of CLAY, VERY SANDY (CL)
From TH - 8 AT 9 FEET

GRAVEL 0 % SAND 48 %
SILT & CLAY 52 % LIQUID LIMIT
PLASTICITY INDEX



Sample of SAND, SILTY (SM)
From TH - 11 AT 4 FEET

GRAVEL 3 % SAND 83 %
SILT & CLAY 14 % LIQUID LIMIT
PLASTICITY INDEX

Gradation Test Results

FIG. B-5

CP CAPITAL REAL ESTATE
FALCON COMMERCE CENTER
CTL|T PROJECT NO. CS19214-115

TABLE B - I

SUMMARY OF LABORATORY TEST RESULTS

BORING	DEPTH (ft)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL TEST DATA				SOLUBLE SULFATE CONTENT (%)	PASSING NO. 200 SIEVE (%)	SOIL TYPE
				SWELL (%)	COMPRESSION (%)	APPLIED PRESSURE (psf)	SWELL PRESSURE (psf)			
TH-1	4	5.1	119						13	SAND, SILTY (SM)
TH-2	4	7.7	103						17	SAND, SILTY (SM)
TH-3	4	6.4	96		0.6	500		<0.01	49	SAND, VERY CLAYEY (SC)
TH-5	9	4.2	115						10	SAND, SLIGHTLY SILTY (SP-SM)
TH-6	14	17.6	112	1.1		1,800			77	CLAY, SANDY (CL)
TH-8	9	13.6	119						52	CLAY, VERY SANDY (CL)
TH-9	9	12.6	121		0.1		1,100		75	CLAYSTONE
TH-11	4	2.2	119						14	SAND, SILTY (SM)

APPENDIX C

GUIDELINE SITE GRADING SPECIFICATIONS
FALCON COMMERCE CENTER
EL PASO COUNTY, COLORADO

GUIDELINE SITE GRADING SPECIFICATIONS

FALCON COMMERCE CENTER
EL PASO COUNTY, COLORADO

1. DESCRIPTION

This item consists of the excavation, transportation, placement and compaction of materials from locations indicated on the plans, or staked by the Engineer, as necessary to achieve preliminary pavement and building pad elevations. These specifications also apply to compaction of materials that may be placed outside of the project.

2. GENERAL

The Soils Engineer will be the Owner's representative. The Soils Engineer will approve fill materials, method of placement, moisture contents and percent compaction.

3. CLEARING JOB SITE

The Contractor shall remove all trees, brush and rubbish before excavation or fill placement is begun. The Contractor shall dispose of the cleared material to provide the Owner with a clean, neat appearing job site. Cleared material shall not be placed in areas to receive fill or where the material will support structures of any kind.

4. SCARIFYING AREA TO BE FILLED

All topsoil, vegetable matter, and existing fill shall be removed from the ground surface upon which fill is to be placed. The surface shall then be plowed or scarified until the surface is free from ruts, hummocks or other uneven features that would prevent uniform compaction by the equipment to be used.

5. PLACEMENT OF FILL ON NATURAL SLOPES

Where natural slopes are steeper than 20 percent (5:1, horizontal to vertical) and fill placement is required, horizontal benches shall be cut into the hillside. The benches shall be at least 12 feet wide or 1-1/2 times the width of the compaction equipment and be provided at a vertical spacing of not more than 5 feet (minimum of two benches). Larger bench widths may be required by the Engineer. Fill shall be placed on completed benches as outlined within this specification.

6. COMPACTING AREA TO BE FILLED

After the foundation for the fill has been cleared and scarified, it shall be disced or bladed until it is free from large clods, brought to a workable moisture content and compacted.

7. FILL MATERIALS

Fill soils shall be free from vegetable matter or other deleterious substances and shall not contain rocks or lumps having a diameter greater than six (6) inches. Fill materials shall be obtained from cut areas shown on the plans or staked in the field by the Engineer or imported to the site.

8. MOISTURE CONTENT

For fill material classifying as CH or CL, the fill shall be moisture treated to between 1 and 4 percent above optimum moisture content as determined by ASTM D 698, if it is to be placed within 15 feet of the final grade. For deep cohesive fill (greater than 15 feet below final grade), it shall be moisture conditioned to within ±2 percent of optimum. Soils classifying as SM, SC, SW, SP, GP, GC and GM shall be moisture treated to within 2 percent of optimum moisture content as determined by ASTM D 1557. Sufficient laboratory compaction tests shall be made to determine the optimum moisture content for the various soils encountered in borrow areas.

The Contractor may be required to add moisture to the excavation materials in the borrow area if, in the opinion of the Soils Engineer, it is not possible to obtain uniform moisture content by adding water on the fill surface. The Contractor may be required to rake or disc the fill soils to provide uniform moisture content throughout the soils.

The application of water to embankment materials shall be made with any type of watering equipment approved by the Soils Engineer, which will give the desired results. Water jets from the spreader shall not be directed at the embankment with such force that fill materials are washed out.

Should too much water be added to any part of the fill, such that the material is too wet to permit the desired compaction to be obtained, all work on that section of the fill shall be delayed until the material has been allowed to dry to the required moisture content. The Contractor will be permitted to rework wet material in an approved manner to hasten its drying.

9. COMPACTION OF FILL AREAS

Selected fill material shall be placed and mixed in evenly spread layers. After each fill layer has been placed, it shall be uniformly compacted to not less than the specified percentage of maximum density. Granular fill placed less than 15 feet below final grade shall be compacted to at least 95 percent of maximum dry density as determined in accordance with ASTM D 1557. Cohesive fills placed less than 15 feet below final grade shall be compacted to at least 95 percent of maximum dry density as determined in accordance with ASTM D 698. For deep, cohesive fill (to be placed 15 feet or deeper below final grade), the material shall be compacted to at least 98 percent of maximum standard Proctor dry density (ASTM D 698). Granular fill placed more than 15 feet below final grade shall be compacted to at least 95 percent of maximum modified Proctor dry density (ASTM D 1557). Deep fills shall be placed within 2 percent of optimum moisture content. Fill materials shall be placed such that the thickness of loose materials does not exceed 10 inches and the compacted lift thickness does not exceed 6 inches.

Compaction, as specified above, shall be obtained by the use of sheepsfoot rollers, multiple-wheel pneumatic-tired rollers, or other equipment approved by the Soils Engineer for soils classifying as claystone, CL, CH or SC. Granular fill shall be compacted using vibratory equipment or other equipment approved by the Soils Engineer.

Compaction shall be accomplished while the fill material is at the specified moisture content. Compaction of each layer shall be continuous over the entire area. Compaction equipment shall make sufficient trips to ensure that the required density is obtained.

10. COMPACTION OF SLOPES

Fill slopes shall be compacted by means of sheepsfoot rollers or other suitable equipment. Compaction operations shall be continued until slopes are stable, but not too dense for planting, and there is no appreciable amount of loose soil on the slopes. Compaction of slopes may be done progressively in increments of 3 to 5 feet in height or after the fill is brought to its total height. Permanent fill slopes shall not exceed 3:1 (horizontal to vertical).

11. DENSITY TESTS

Field density tests will be made by the Soils Engineer at locations and depths of his/her choosing. Where sheepsfoot rollers are used, the soil may be disturbed to a depth of several inches. Density tests will be taken in compacted material below the disturbed surface. When density tests indicate the density or moisture content of any layer of fill or portion thereof is below that required, the particular layer or portion shall be reworked until the required density or moisture content has been achieved. The criteria for acceptance of fill shall be:

A. Moisture

The allowable ranges for moisture content of the fill materials specified above in "Moisture Content" are based on design considerations. The moisture shall be controlled by the Contractor so that moisture content of the compacted earth fill, as determined by tests performed by the Soils Engineer, shall be within the limits given. The Soils Engineer will inform the Contractor when the placement moisture is less than or exceeds the limits specified above and the Contractor shall immediately make adjustments in procedures as necessary to maintain placement moisture content within the specified limits.

B. Density

1. The average dry density of all material shall not be less than the dry density specified.

2. No more than 20 percent of the material represented by the samples tested shall be at dry densities less than the dry density specified.

3. Material represented by samples tested having a dry density more than 2 percent below the specified dry density will be rejected. Such rejected materials shall be reworked until a dry density equal to or greater than the specified dry density is obtained.

12. SEASONAL LIMITS

No fill material shall be placed, spread or rolled while it is frozen, thawing, or during unfavorable weather conditions. When work is interrupted by heavy precipitation, fill

operations shall not be resumed until the Soils Engineer indicates the moisture content and density of previously placed materials are as specified.

13. NOTICE REGARDING START OF GRADING

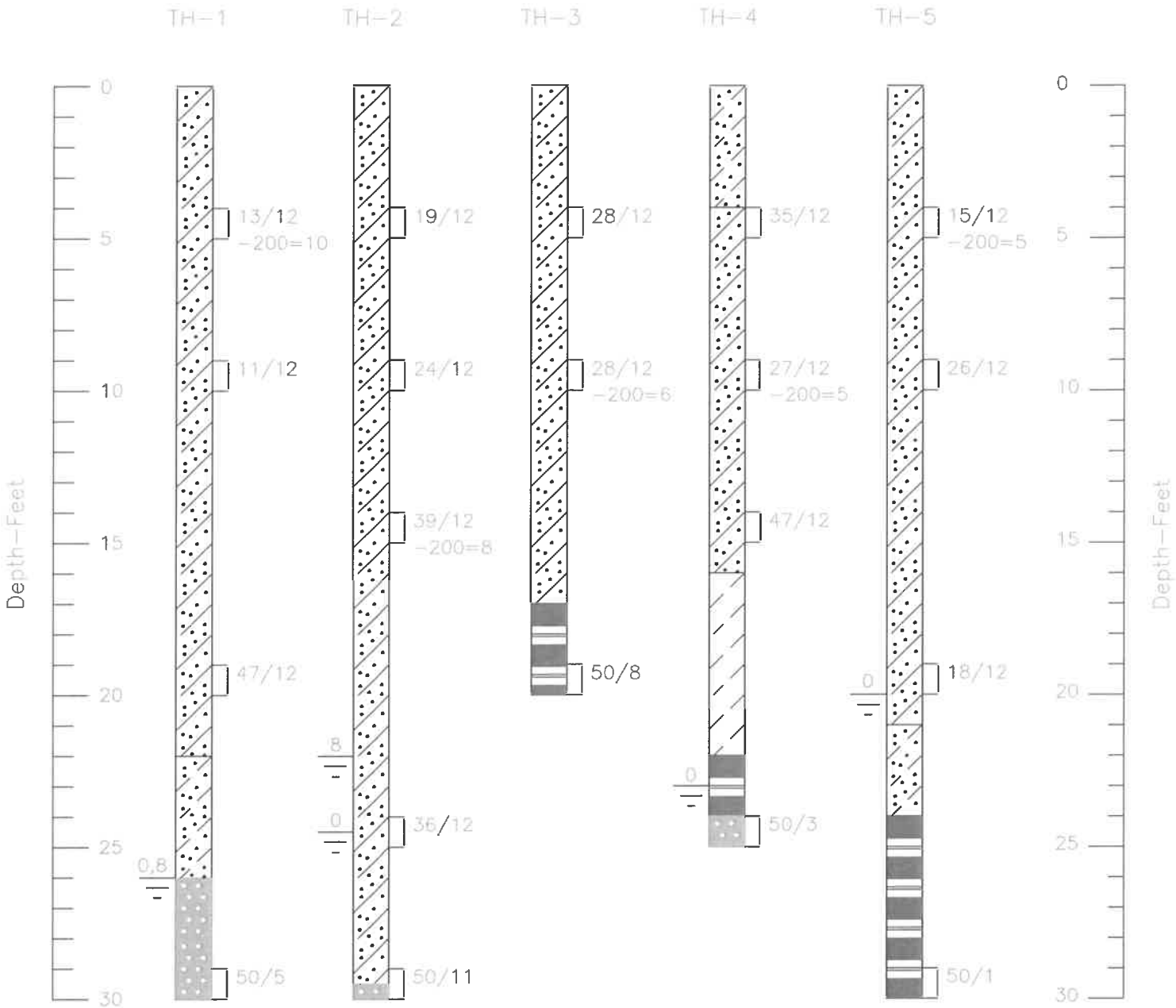
The Contractor shall submit notification to the Soils Engineer and owner advising them of the start of grading operations at least three (3) days in advance of the starting date. Notification shall also be submitted at least three days in advance of any resumption dates when grading operations have been stopped for any reason other than adverse weather conditions.

14. REPORTING OF FIELD DENSITY TESTS

Density tests made by the Soils Engineer, as specified under “Density Tests” above, will be submitted progressively to the Owner. Dry density, moisture content and percent compaction will be reported for each test taken.

APPENDIX D

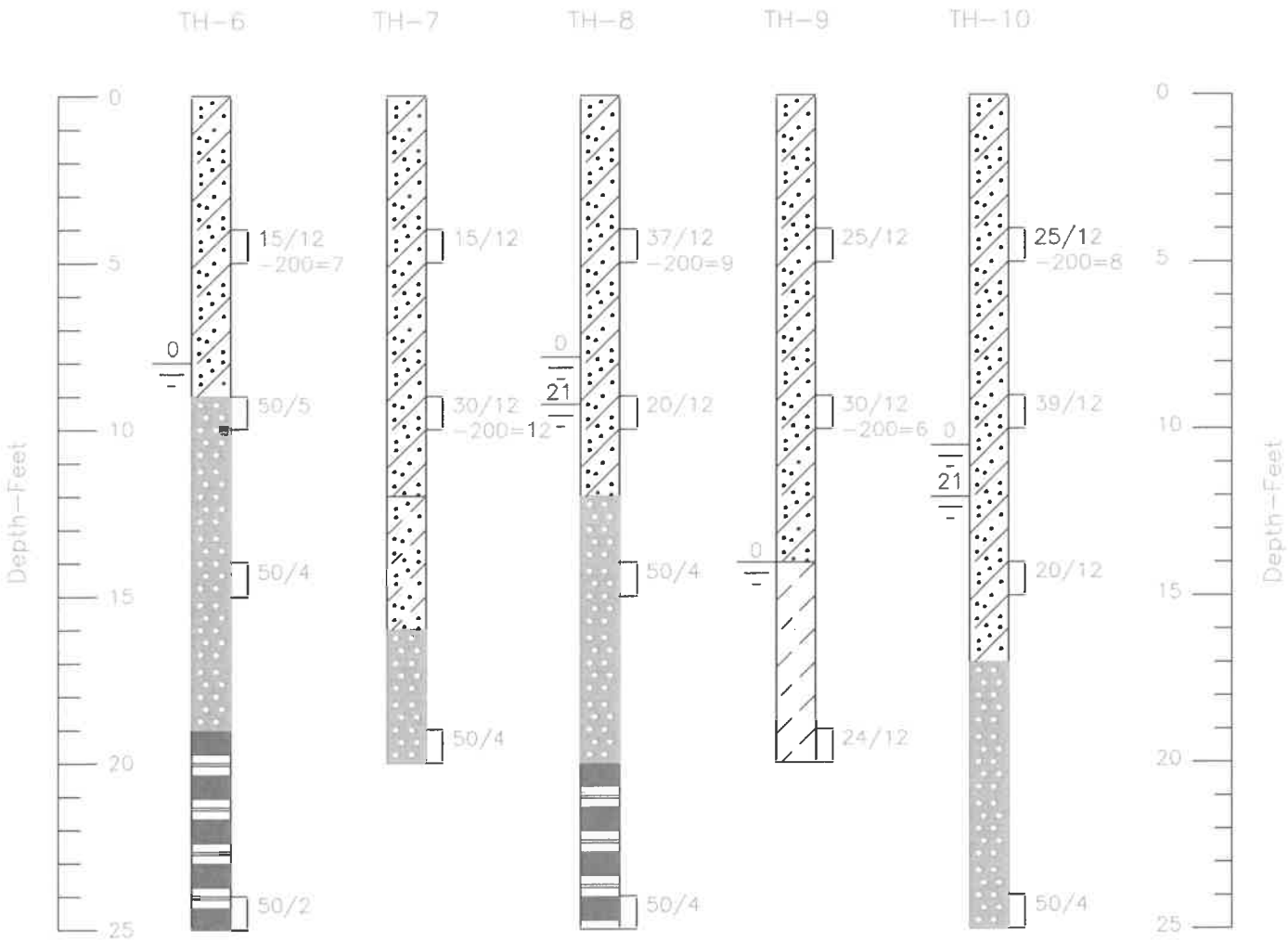
SUMMARY LOGS OF EXPLORATORY BORINGS
CTL|T PROJECT NO. CS-10,148



Logs of Exploratory Borings

SCHUCK INTERESTS, INC.
I-25 & BAPTIST ROAD PARCEL
Job No. CS-10,148

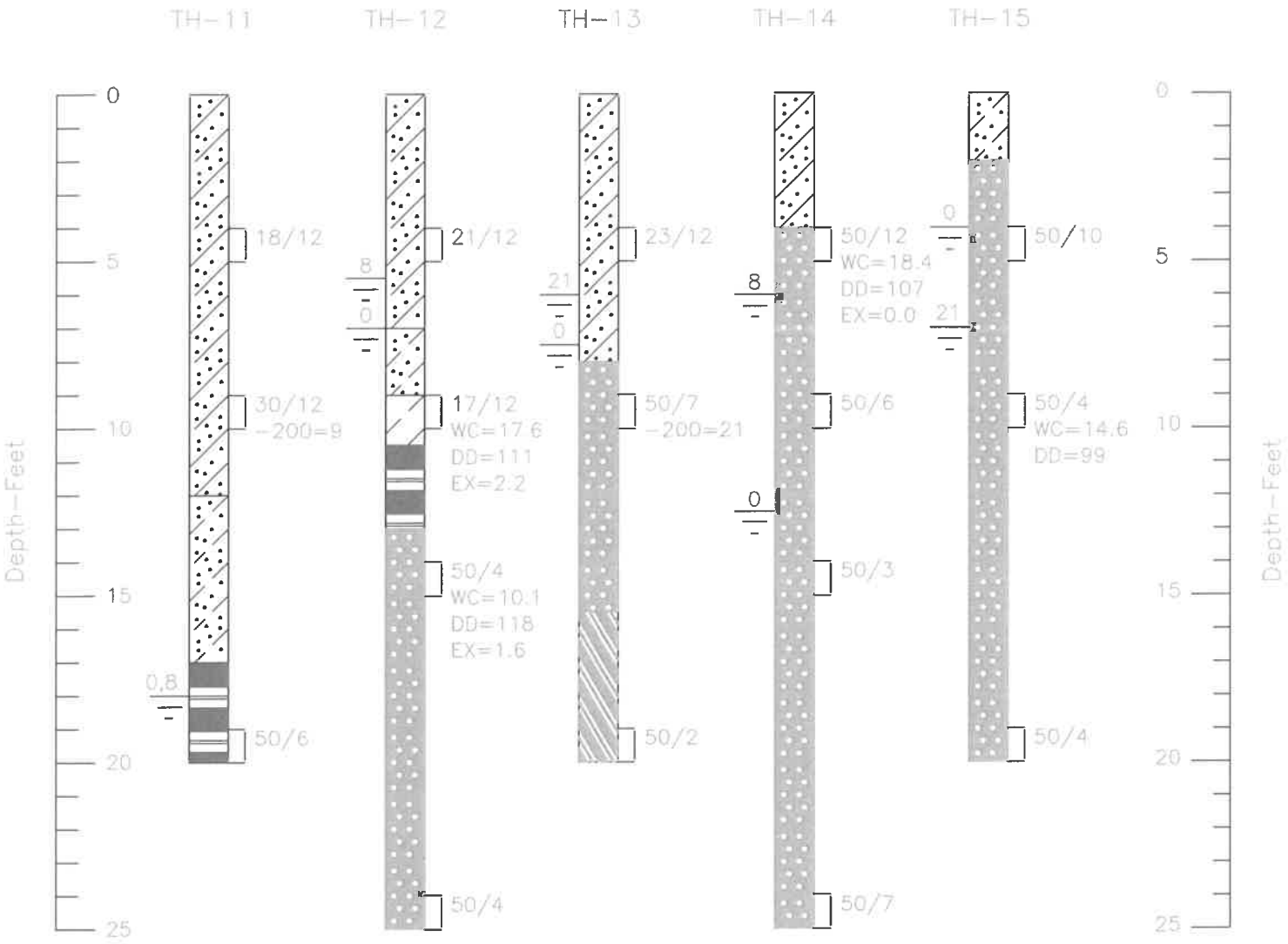
Fig. 4



Logs of Exploratory Borings

SCHUCK INTERESTS, INC.
I-25 & BAPTIST ROAD PARCEL
Job No. CS-10,148

Fig. 5



Logs of Exploratory Borings

SCHUCK INTERESTS, INC.
I-25 & BAPTIST ROAD PARCEL
Job No. CS-10,148

Fig. 6