

**WASTEWATER REPORT  
LATIGO TRAILS FILINGS 9 AND 10, 78 LOTS  
SOUTHWEST OF EASTONVILLE ROAD  
AND LATIGO BOULEVARD  
EL PASO COUNTY, COLORADO**

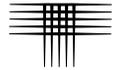
Prepared For:

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Project No. CS19409-115

October 7, 2021



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FIG. 1 – LOCATIONS OF EXPLORATORY BORINGS AND SOIL PROFILE  
TEST PITS

FIGS. 2 and 3 – SEPTIC SUITABILITY MAPS

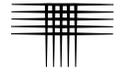
FIG. 4 – NRCS SOIL SURVEY MAP

APPENDIX A – SUMMARY LOGS OF EXPLORATORY BORINGS

APPENDIX B – LABORATORY TEST RESULTS

APPENDIX C – NRCS SOIL CLASSIFICATIONS

APPENDIX D – NEARBY WELL LOCATIONS



## **SCOPE**

This report presents the results of our evaluation of proposed onsite wastewater treatment systems (OWTS) for Latigo Trails Filings 9 and 10 located west of Eastonville Road and south of Latigo Boulevard in El Paso County, Colorado. Filing 9 is located in the western portion of Section 16 and Filing 10 is located in the southwest portion of Section 17, Township 12 South, Range 64 West of the 6<sup>th</sup> Principal Meridian, El Paso County, Colorado (Fig. 1). The purpose of our investigation was to evaluate the geographic, subsurface and geologic conditions and their effects on the development as they relate to onsite wastewater treatment systems.

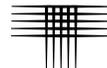
## **SITE CONDITIONS**

Filing 9 is an irregular shaped, elongated site of approximately 95 acres located approximately 800 feet west of Eastonville Road and immediately south of Latigo Boulevard. Existing rural residential properties lie to the west of Filing 9. Undeveloped property borders Filing 9 to the south and east. Filing 10 is an irregular shaped, elongated site of approximately 115 acres located northeast of the intersection of Water Tank Heights and Londonderry Drive. An existing detention area is present adjacent to the northern portion of Filing 9.

Vegetation consists of weeds and grasses. The site is gently to moderately rolling terrain with overall drainage generally draining to the southeast. Grades vary from approximately 1 to 15 percent with the steeper grades found in drainage areas. Figure 1 shows the size, shape, and the vicinity of the site. We understand the site has historically been used as ranch land and is currently undeveloped.

## **SUBSURFACE INVESTIGATION**

We investigated subsurface conditions June 14<sup>th</sup> through June 23<sup>rd</sup>, 2021 by drilling and sampling twenty exploratory borings. Additionally, we excavated a total of sixteen test pits on July 29, 2021. The approximate locations of our borings and test



pits are shown on Fig. 1. The borings were drilled to depths of 20 to 30 feet below existing grades using 4-inch diameter, continuous-flight, solid-stem auger and a truck-mounted CME-45 drill rig. The test pits were excavated to depths of 5 to 10-feet below existing grades using a Caterpillar 325 trackhoe.

Laboratory testing was performed on some samples to classify the soils and bedrock and determine engineering characteristics. Results of laboratory testing are included in Appendix B and a summary of laboratory test results is presented in Table B-1.

## **SOIL AND GEOLOGIC CONDITIONS**

### **Soil Survey**

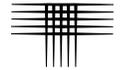
The National Resource Conservation Service (NRCS) has mapped the site. The predominant soil type is Stapleton Sandy Loam which covers all of Filing 9 and nearly all of Filing 10, with the exception of the northwest corner where Pring Coarse Sandy Loam is mapped as shown in Fig. 4. Both units have been described as having a high capacity to transmit water with expected permeability rates of 2 to 6 inches per hour. Descriptions of the units are provided below. The complete NRCS descriptions are provided in Appendix C.

#### *Stapleton Sandy Loam:*

3 to 8 percent slopes, well drained, depth to water table more than 80 inches, typical profile consists of 0 to 11 inches of sandy loam, 11 to 17 inches of gravelly sandy loam, and 17 to 60 inches of gravelly loamy sand.

#### *Pring Coarse Sandy Loam:*

3 to 8 percent slopes, well drained, depth to water table more than 80 inches, typical profile consists of 0 to 14 inches of coarse sandy loam and 14 to 60 inches of gravelly sandy loam.

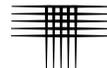


## Soils and Bedrock

The soils encountered in our test pits consisted predominantly of Type 1 sand and loamy sand and Type 2 sandy loam with localized areas of silty clay loam and sandy clay. Bedrock was identified in fourteen of our test pits at depths between 2 and 9 feet. It is noted that bedrock was identified in our borings at depths of 1 to 3 feet; however, the borings were drilled for the purpose of geotechnical engineering and the methodology for determining bedrock for OWTS purposes differs slightly. The observations in the test pits were generally relied upon for this report. The near surface bedrock was typically sandstone with some shallow claystone beds in the southeastern portion of Filing 9. The soil and bedrock layers encountered in our test pits are summarized below in Table A. Our boring logs are presented in Appendix A.

**Table A – Soil Profile Pit Layers**

Soil Profile Pit	Soil Type	Depth (ft)	Soil Profile Pit	Soil Type	Depth (ft)
1	Top Soil	0-1.2	9	Topsoil	0-1
	Silty Clay Loam	1.2-3.5		Sand	1-1.9
	Sand	3.5-8		Sandy Loam	1.9-3.7
	-	-		Bedrock	3.7-8
2	Top Soil	0-1.1	10	Topsoil	1-1.3
	Sand	1.1-3.3		Sand	1.3-2
	Bedrock	3.3-6		Bedrock	2-6
3	Top Soil	0-1	11	Topsoil	0-1.3
	Sand	1-2.5		Sandy Loam	1.3-2.4
	Sandy Loam	2.5-4.5		Bedrock	2.4-6
	Bedrock	4.5-5		-	-
4	Top Soil	0-1.3	12	Topsoil	0-1
	Sandy Clay Loam	1.3-2.8		Sand	1-3
	Sandy Loam	2.8-6		Bedrock	3-8
	Bedrock	6-7		-	-
5	Top Soil	0-1	13	Topsoil	0-1.3
	Sand	1-2.2		Sand	1.3-3.1
	Sandy Loam	2.2-6.5		Bedrock	3.1-6.7
6	Top Soil	0-1.5	14	Topsoil	0-1
	Sand	1.5-3.7		Sandy Loam	1-1.7
	Loamy Sand	3.7-9		Bedrock	1.7-5.5
	Bedrock	9-10		-	-
7	Top Soil	0-0.8	15	Topsoil	0-2
	Sand	0.8-1.8		Bedrock	2-6
	Sandy Clay	1.8-6		-	-
	Bedrock	6-7.5		-	-
8	Top Soil	0-1	16	Topsoil	0-1
	Sandy Loam	1-2		Sand	1-2.3
	Bedrock	2-6		Bedrock	2.3-6.5

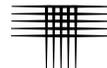


## **Groundwater**

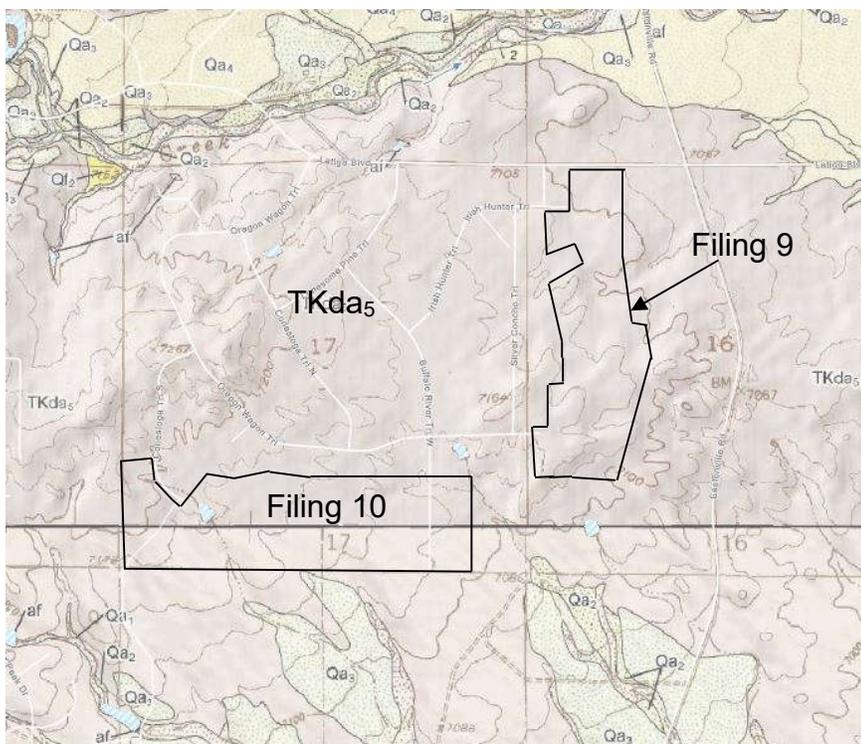
Groundwater was encountered in boring TH-1 at a depth of 28 feet at the time of drilling. Groundwater was not encountered in the remaining borings. When checked approximately 24 hours after drilling, groundwater was measured at a depth of 26 feet in boring TH-1. Groundwater or evidence of seasonal groundwater were not encountered during test pit excavation. Groundwater may develop and fluctuate seasonally and rise in response to development, precipitation, and landscape irrigation.

## **Geologic Conditions**

The surficial geology at the site was evaluated by reviewing published geologic maps and our site visits. The Eastonville Quadrangle Geologic Map published by the Colorado Geological Survey, covers Filing 9 and the majority of Filing 10. The southern end of Filing 10 is covered by the Falcon Quadrangle Geologic map published by the Colorado Geological Survey



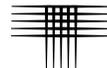
The entire site is mapped as Dawson Formation bedrock, facies 5 (TKda<sub>5</sub>). The bedrock generally consists of sandstone with occasional interbedded layers of sandy claystone. Conditions at the site were found to be similar to the mapped conditions with the exception of a surficial layer of silty to clayey sand overlying the bedrock. The geologic map is shown below.



Excerpt from Eastonville and Falcon 7.5 minute Geologic Maps

## CENTRAL WASTEWATER TREATMENT

The nearest wastewater district to the site is the Meridian Ranch Metro District (MRMD). The estates at Meridian Ranch, a single-family residential community, is located approximately 1,500 to 2,000 feet southwest of the proposed Filing 10 and is connected to MRMD wastewater lines. No information was available regarding the capacity of the MRMD to incorporate the proposed Latigo filings into their collection and treatment systems; however, based on the distance to Latigo, we do not believe it would be economically feasible to connect the proposed Latigo filings to the MRMD



wastewater collection facilities. In addition, onsite wastewater treatment systems are already in use on the previously developed Latigo filings and are appropriate for the proposed new filings.

please provide documentation that the district or municipality is incapable of serving the site or that the costs of service are prohibitive.

**PROXIMITY OF WATER FEATURES**

Appendix D shows the location of constructed wells in the vicinity of the subject sites. The closest well is about 300 feet from the eastern side of Filing No. 10 (Permit No. 258835). The depth of the well is indicated at 945 feet where water is obtained from the Denver Aquifer. Additionally, a well is present about 300 feet from the east side of Filing No. 9 (Permit No. 46302), which is about 170 feet deep, within the Black Squirrel Drainage Basin. Other wells are in excess of 800 feet from the site.

Drainages and seasonally moist areas currently identified on the site have been noted on Figs. 2 and 3 as areas where septic systems are not recommended.

**ONSITE WASTEWATER TREATMENT SYSTEMS**

Based on our evaluation we believe both Filings 9 and 10 are suitable for individual on-site wastewater treatment systems without contamination of surface and subsurface water resources, provided a detailed evaluation of each individual OWTS site is performed and the systems are installed according to guidelines set forth by El Paso County and the State of Colorado. It is not expected that OWTS will interfere with enjoyment, use, or utility of adjoining land by virtue of pollution, odor, health hazard or water usage. The adjoining land is either already developed or expected to be developed with similar rural residential construction. New wells are not planned for the proposed lots and are not present at the adjoining lots within previous Latigo filings, except as previously discussed. We understand the MRMD will provide potable water to the proposed residences.

Signs of seasonally occurring shallow groundwater were not observed in our test pits and groundwater is not expected to affect design of OWTS systems. However-

areas must be designated as no-build and a plat note needs to be added stating that septic systems cannot be located within drainage areas



er, based on our evaluation shallow bedrock is widespread across the majority of both filings. Shallow bedrock is considered a limiting layer and is likely to result in engineered systems for most of the residences. Mounded systems utilizing import fill material are commonly used in this area. A septic suitability map is presented on Figs. 2 and 3. Areas that should be avoided for construction of absorption fields are shown on the figures. Long-term acceptance rates (LTAR) for the onsite materials can be expected to range from 0.50 to 1.2 with localized lower values where sandy or silty clay is encountered.

## LIMITATIONS

Our borings and test pits were widely spaced to provide a general picture of subsurface conditions for preliminary assessment of on-site wastewater treatment systems. The data are representative of conditions encountered only at the exact locations. Variations in the subsoil conditions not indicated by our borings and test pits are possible. We believe this investigation was conducted with that level of skill and care ordinarily used by geotechnical engineers practicing under similar conditions. No warranty, express or implied, is made.

If we can be of further service in discussing the contents of this report or in the analysis of the influence of the subsoil conditions on design of the structure, please call.

CTL | THOMPSON, INC

Reviewed by:

  
Jeffrey M. Jones, P.E.  
Associate Engineer

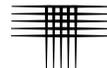




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## REFERENCES

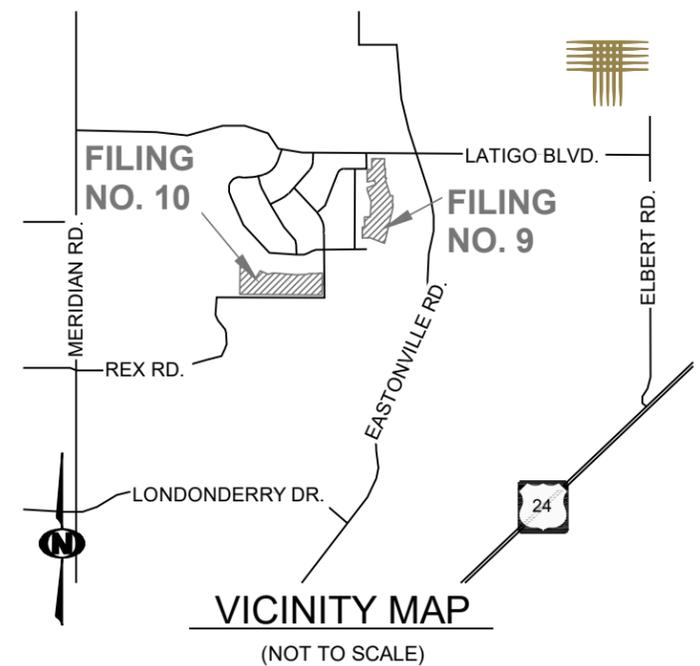
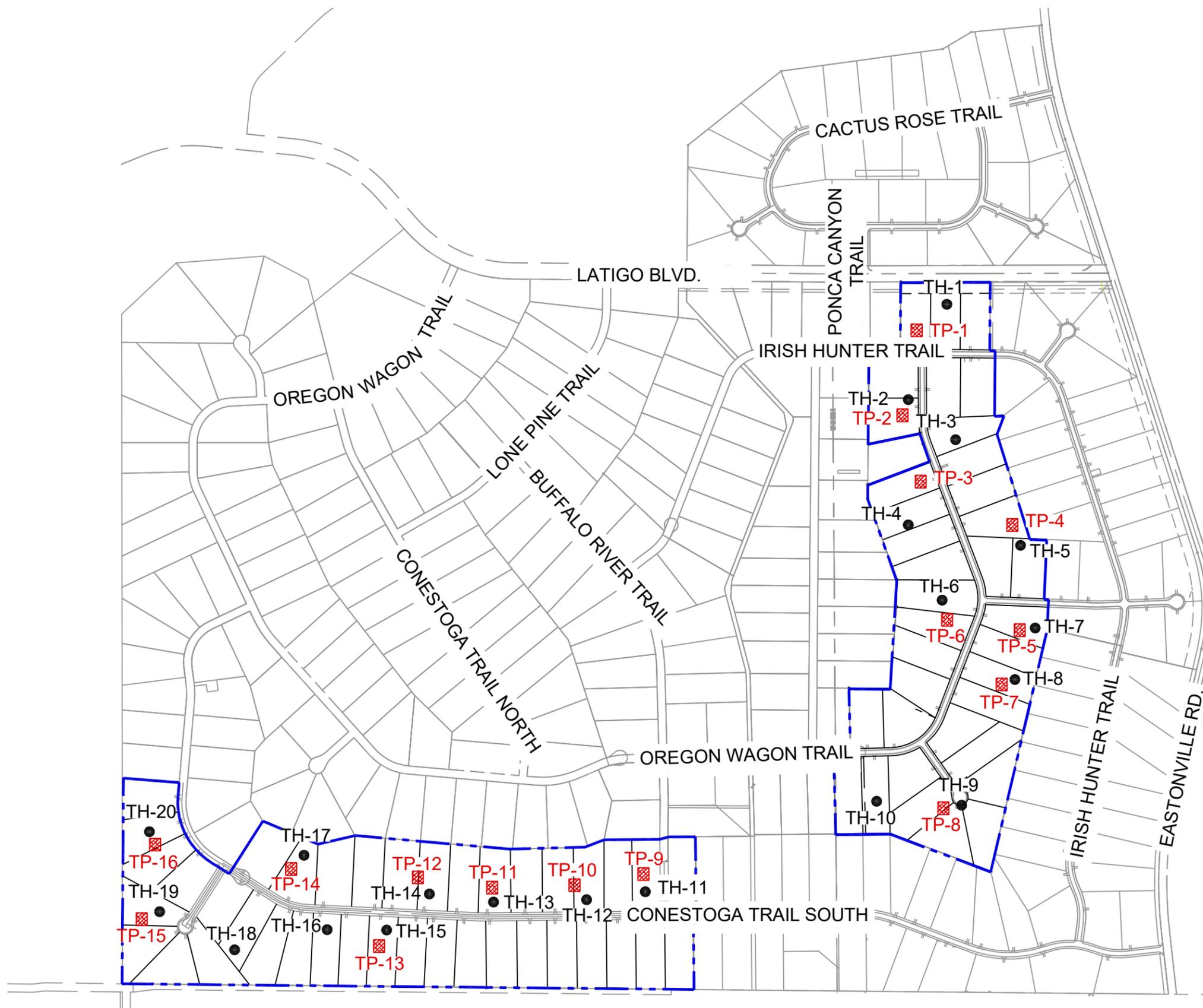
Colorado Division of Water Resources, Department of Natural Resources, GIS Map Viewer, <https://dwr.colorado.gov/services/data-information/gis>.

Federal Emergency Management Agency, December 7, 2018, Flood Insurance Rate Map, Panel Nos. 08041C0552G and 08041C0339G.

Morgan, M.L. and White, J.L., 2012, Geologic Map of the Falcon Quadrangle, El Paso County, Colorado. Colorado Geological Survey.

Morgan, M.L. and Barkmann, P.E., 2012, Geologic Map of the Eastonville Quadrangle, El Paso County, Colorado. Colorado Geological Survey.

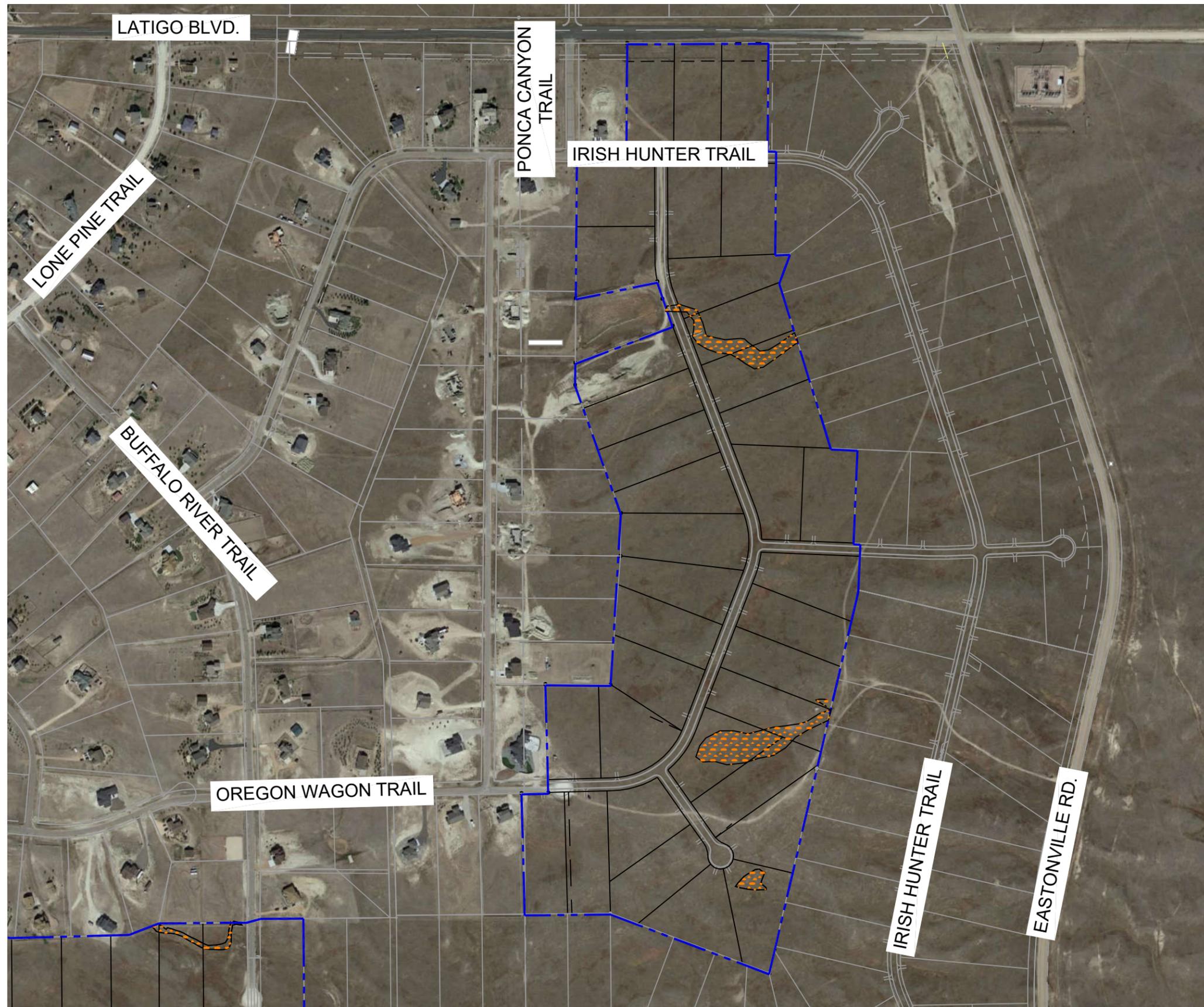
Natural Resource Conservation Service, Web Soil Survey, United States Department of Agriculture, <http://websoilsurvey.sc.egov.usda.gov/App/HomePage>



- LEGEND:
- TH-1 APPROXIMATE LOCATION OF EXPLORATORY BORING.
  - TP-1 APPROXIMATE LOCATION OF SOIL PROFILE TEST PIT.
  - - - PROJECT BOUNDARY



**LOCATION OF EXPLORATORY BORINGS AND SOIL PROFILE TEST PITS**



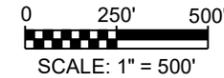
LEGEND:



AREAS WHERE SEPTIC SYSTEMS ARE NOT RECOMMENDED.



PROJECT BOUNDARY

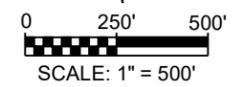


**FILLING 9  
SEPTIC  
SUITABILITY  
MAP**

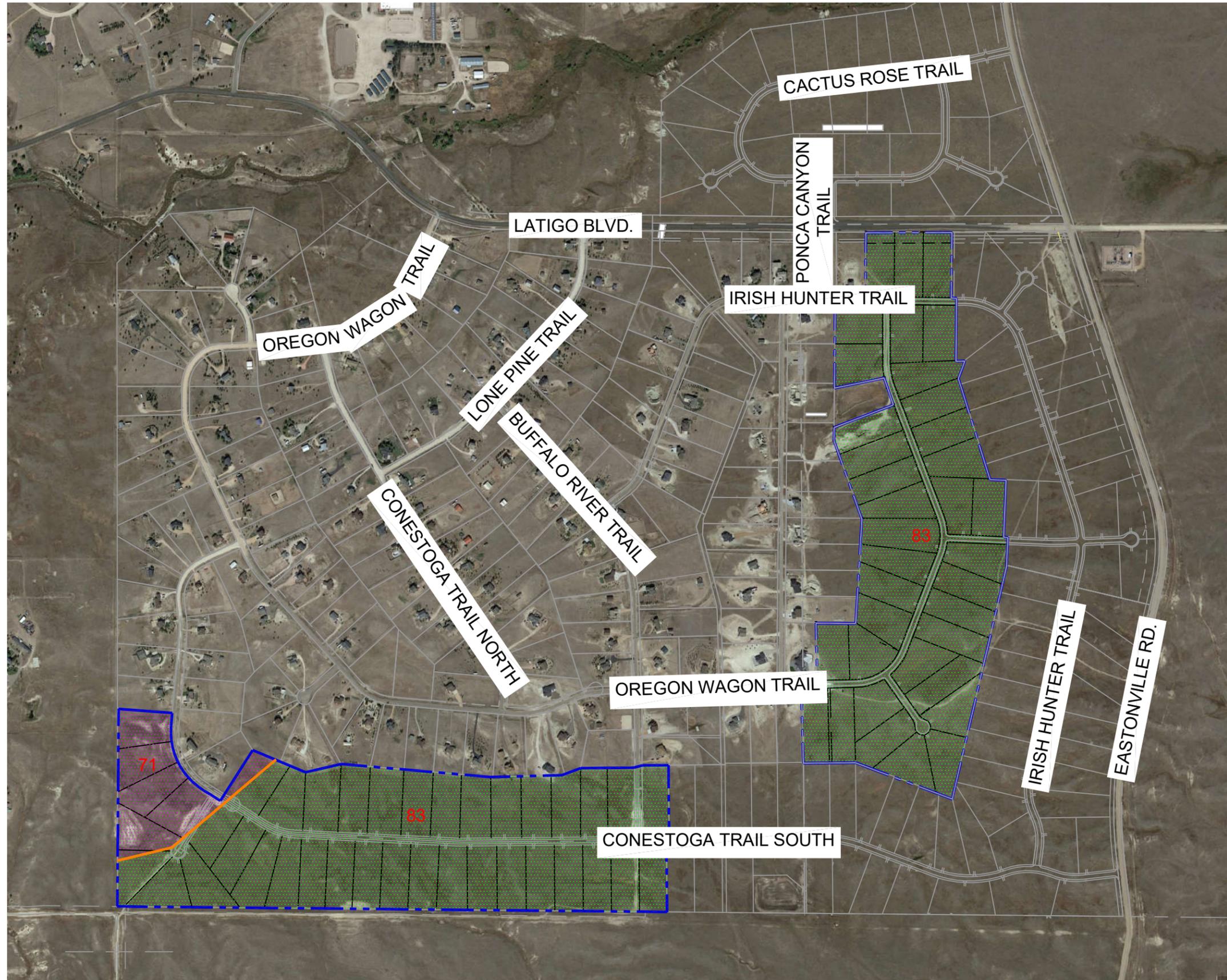


LEGEND:

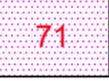
-  AREA WHERE SEPTIC SYSTEMS ARE NOT RECOMMENDED.
-  PROJECT BOUNDARY

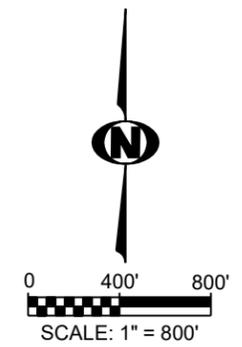


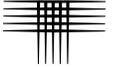
**FILLING 10  
SEPTIC  
SUITABILITY  
MAP**



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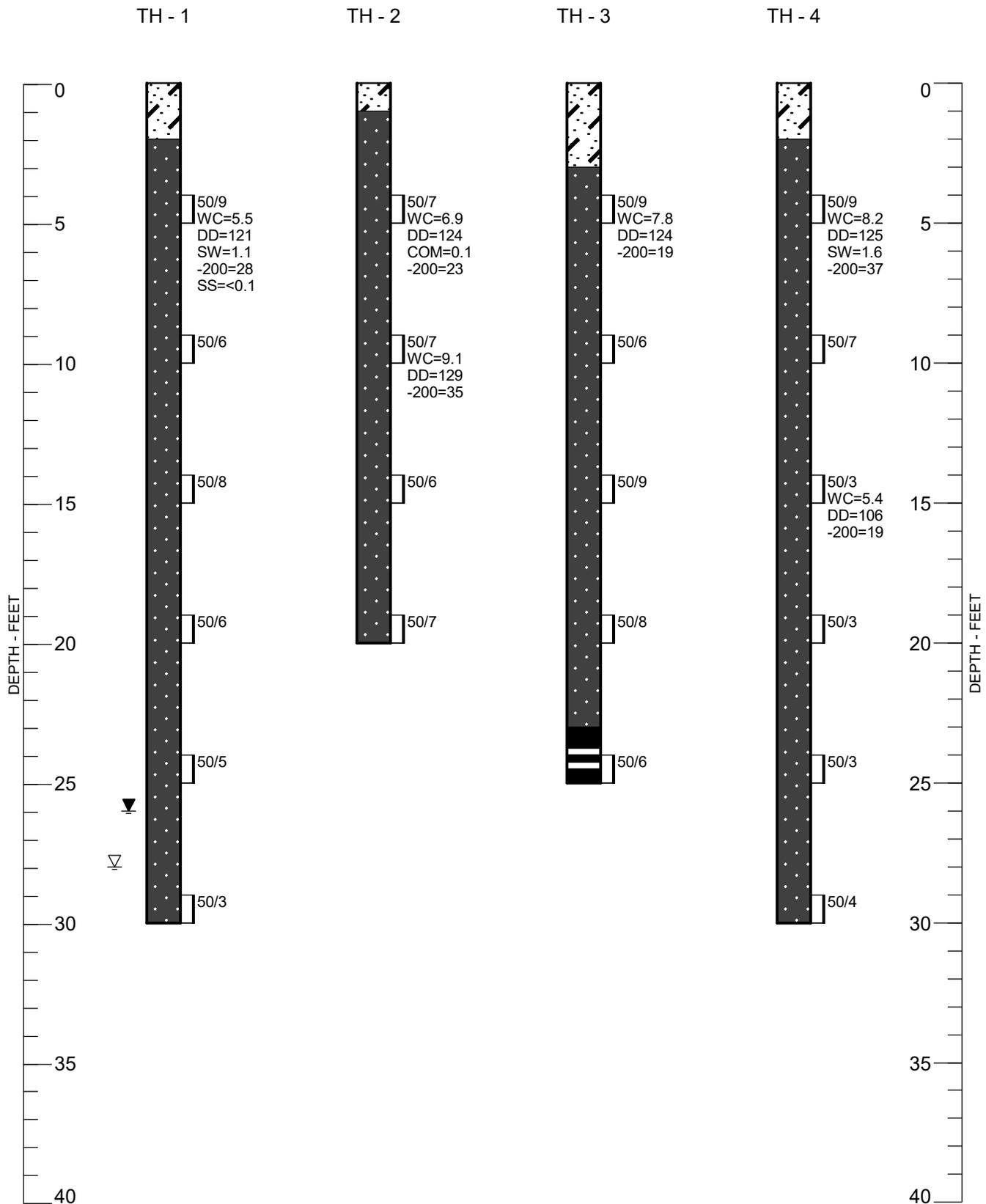
-  PROJECT BOUNDARY
-  APPROXIMATE BOUNDARY OF SOIL SURVEY CONTACT.
-  71 PRING COARSE SANDY LOAM, 3 TO 8 PERCENT SLOPES.
-  83 STAPLETON SANDY LOAM, 3 TO 8 PERCENT SLOPES.

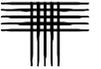




## **APPENDIX A**

### **SUMMARY LOGS OF EXPLORATORY BORINGS**



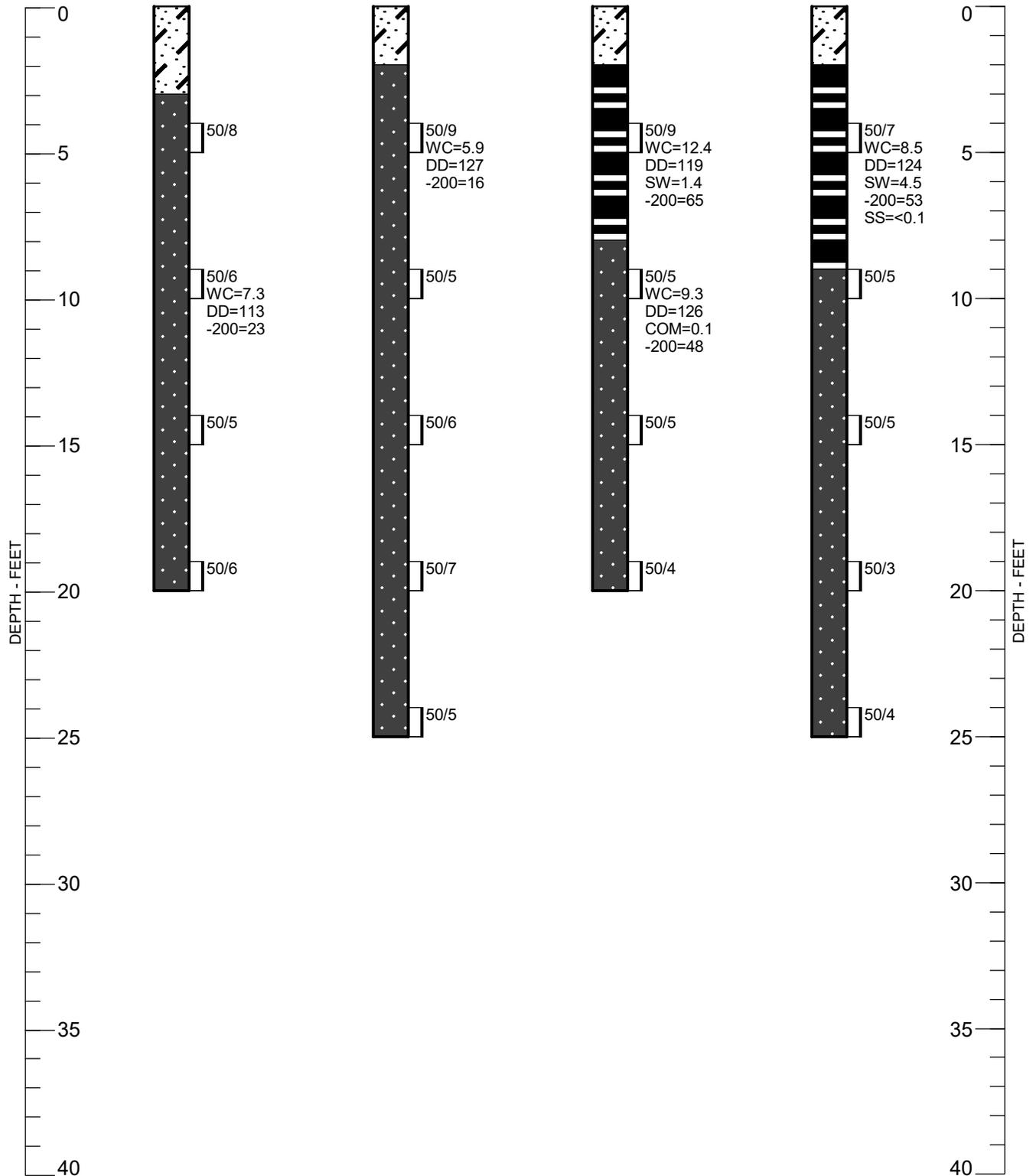


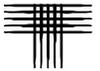
TH - 5

TH - 6

TH - 7

TH - 8



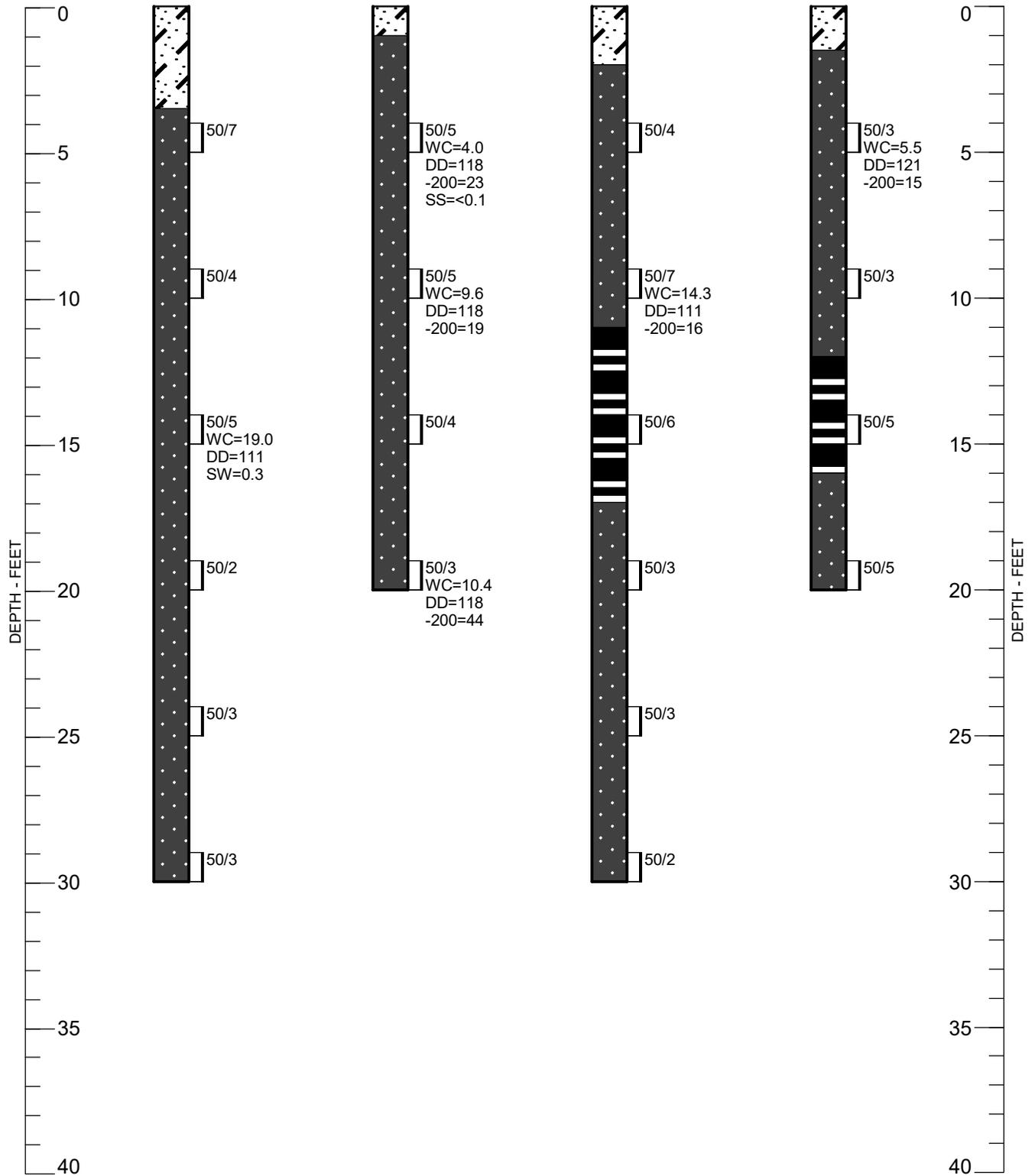


TH - 9

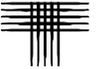
TH - 10

TH - 11

TH - 12



### Summary Logs of Exploratory Borings

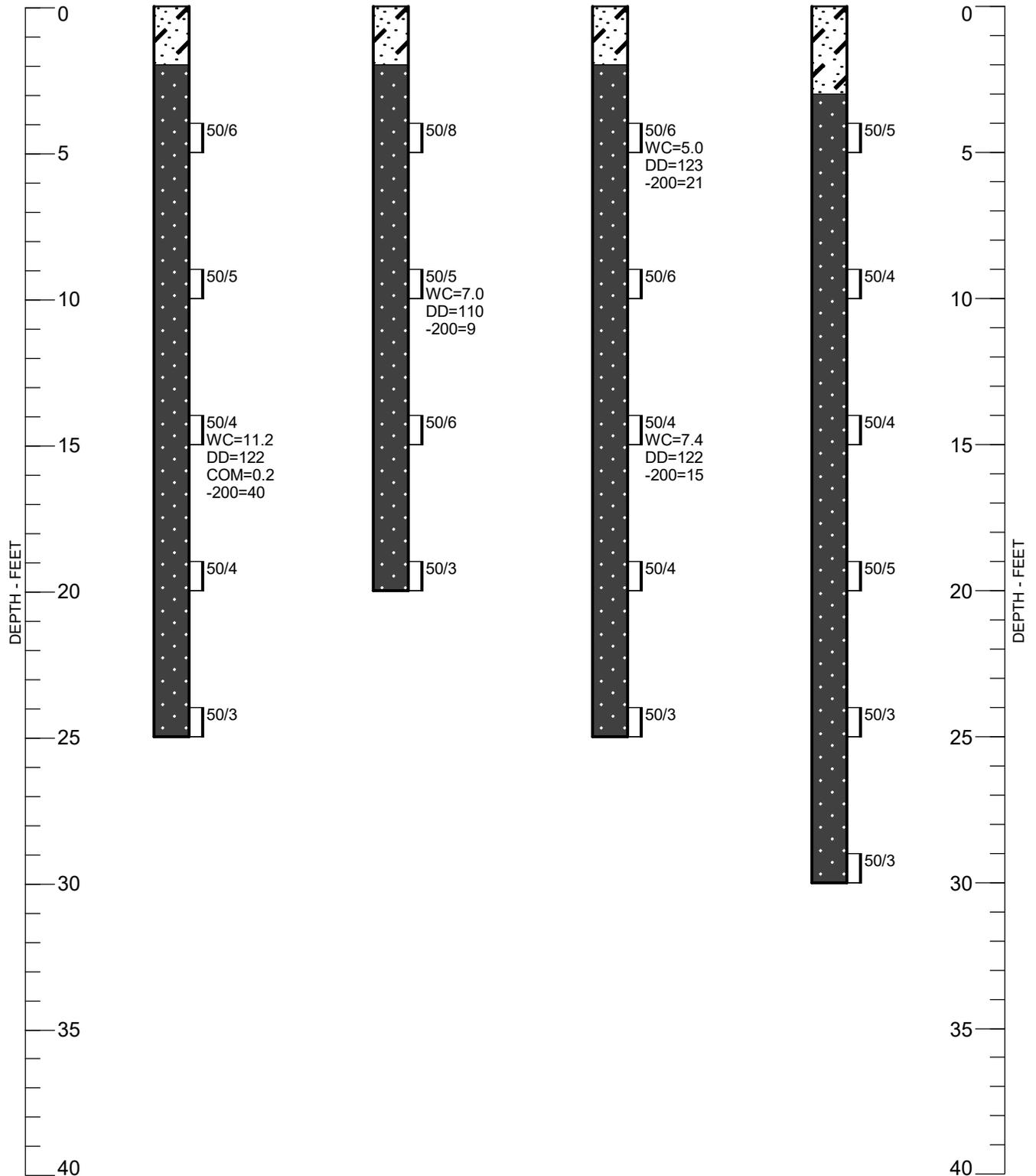


TH - 13

TH - 14

TH - 15

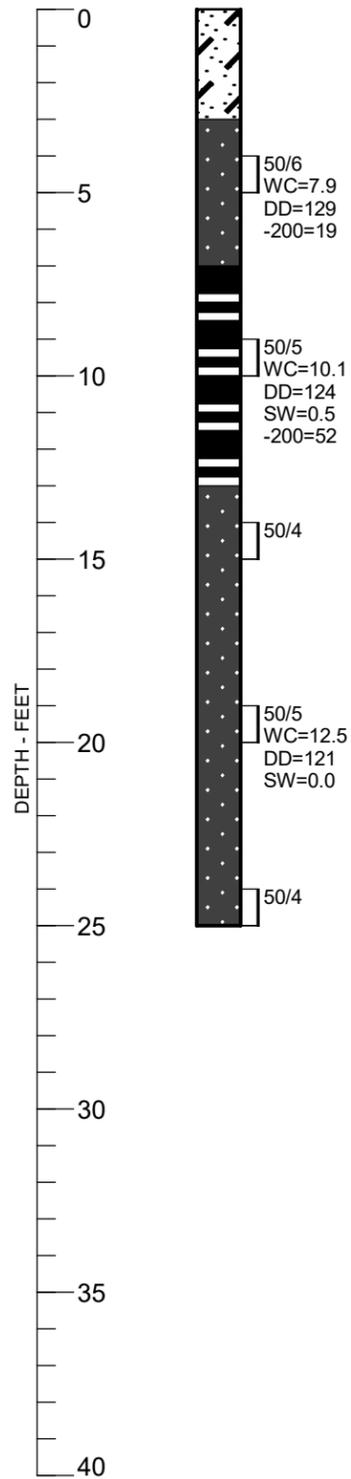
TH - 16



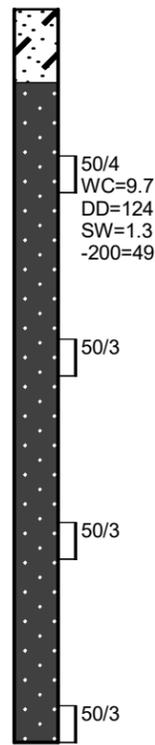
### Summary Logs of Exploratory Borings



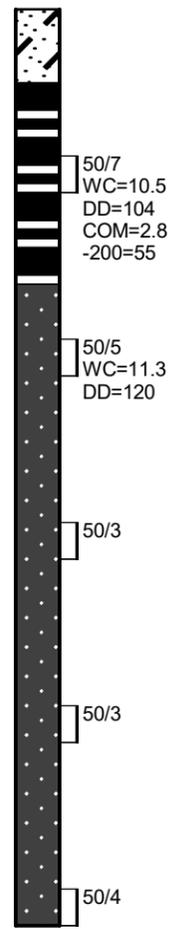
TH - 17



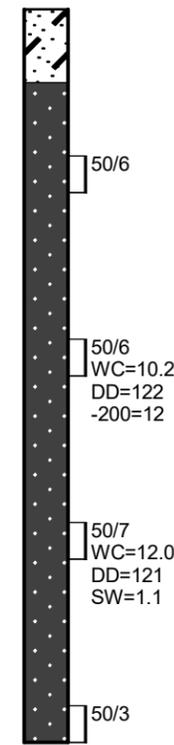
TH - 18



TH - 19



TH - 20



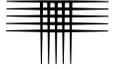
LEGEND:

- CLAY, SAND, SLIGHTLY MOIST TO MOIST, LIGHT BROWN TO BROWN (SC).
- SANDSTONE, SLIGHTLY SILTY TO VERY SILTY, CLAYEY TO VERY CLAYEY, HARD TO VERY HARD, DRY TO MOIST VARIOUS SHADES OF BROWN AND GRAY.
- CLAYSTONE, SANDY TO VERY SANDY, VERY HARD, SLIGHTLY MOIST TO MOIST, GRAY TO BROWN.

- DRIVE SAMPLE. THE SYMBOL 50/7 INDICATES 50 BLOWS OF A 140-POUND HAMMER FALLING 30 INCHES WERE REQUIRED TO DRIVE A 2.5-INCH O.D. SAMPLER 7 INCHES.
- GROUNDWATER LEVEL MEASURED AT TIME OF DRILLING.
- GROUNDWATER LEVEL MEASURED AFTER DRILLING.

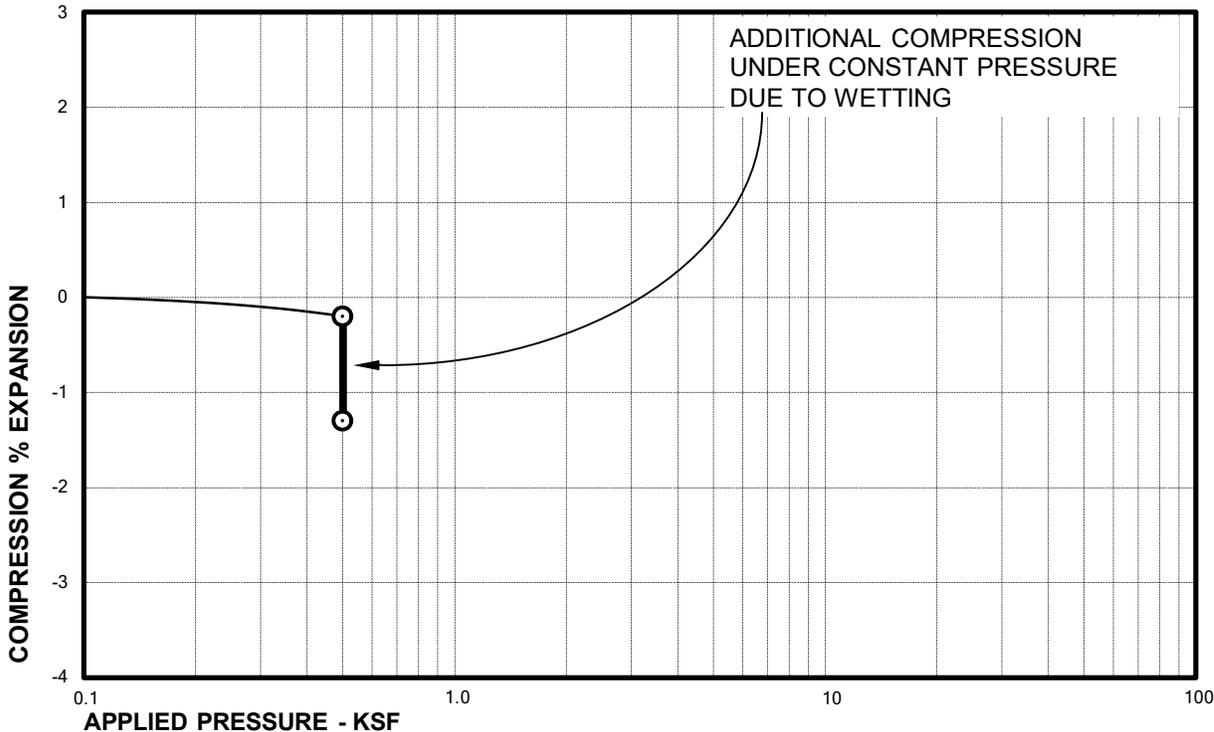
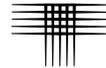
NOTES:

1. THE BORINGS WERE DRILLED JUNE 14, 21, 22, AND 23 2021 USING A 4-INCH DIAMETER, CONTINUOUS-FLIGHT AUGER AND A CME-45, TRUCK-MOUNTED DRILL RIG.
2. THESE LOGS ARE SUBJECT TO THE EXPLANATIONS, LIMITATIONS, AND CONCLUSIONS AS CONTAINED IN THIS REPORT.
3. WC - INDICATES MOISTURE CONTENT. (%)  
 DD - INDICATES DRY DENSITY. (PCF)  
 SW - INDICATES SWELL WHEN WETTED UNDER APPROXIMATE OVERBURDEN PRESSURE. (%)  
 COM - INDICATES COMPRESSION WHEN WETTED UNDER APPROXIMATE OVERBURDEN PRESSURE. (%)  
 -200 - INDICATES PASSING NO. 200 SIEVE. (%)  
 SS - INDICATES WATER-SOLUBLE SULFATE CONTENT. (%)



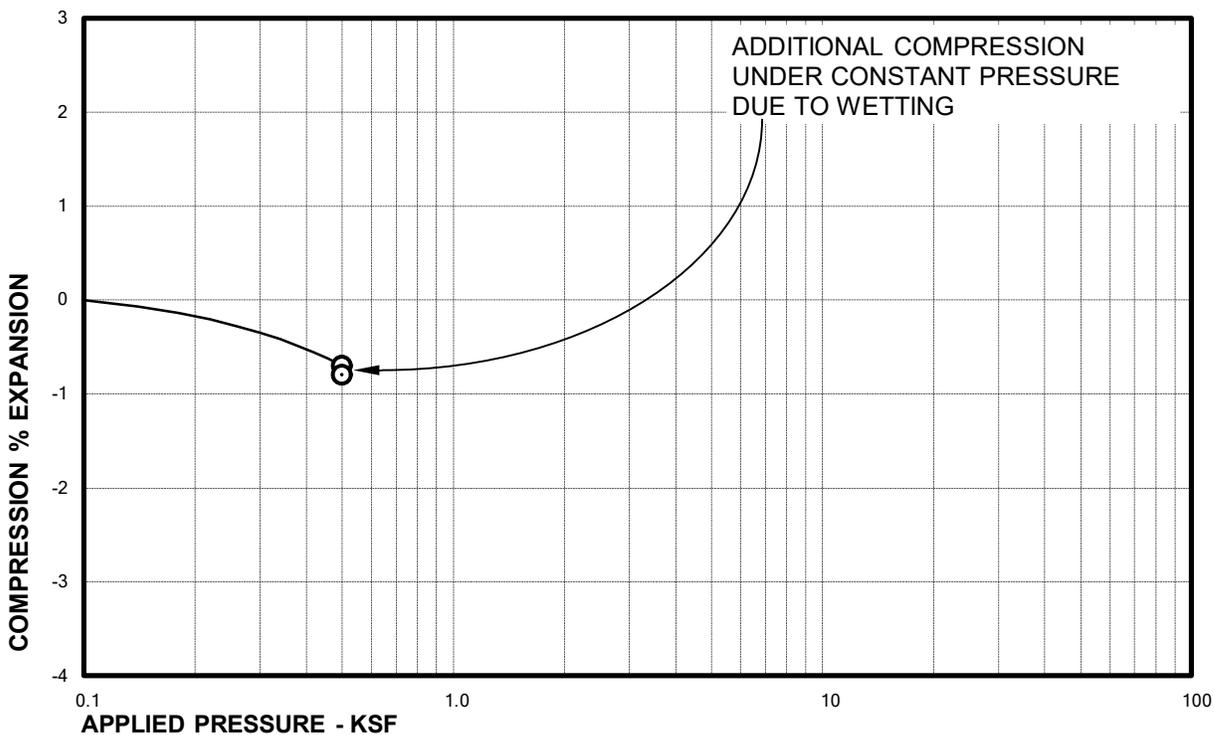
## **APPENDIX B**

### **LABORATORY TEST RESULTS TABLE B-1 – SUMMARY OF LABORATORY TESTING**



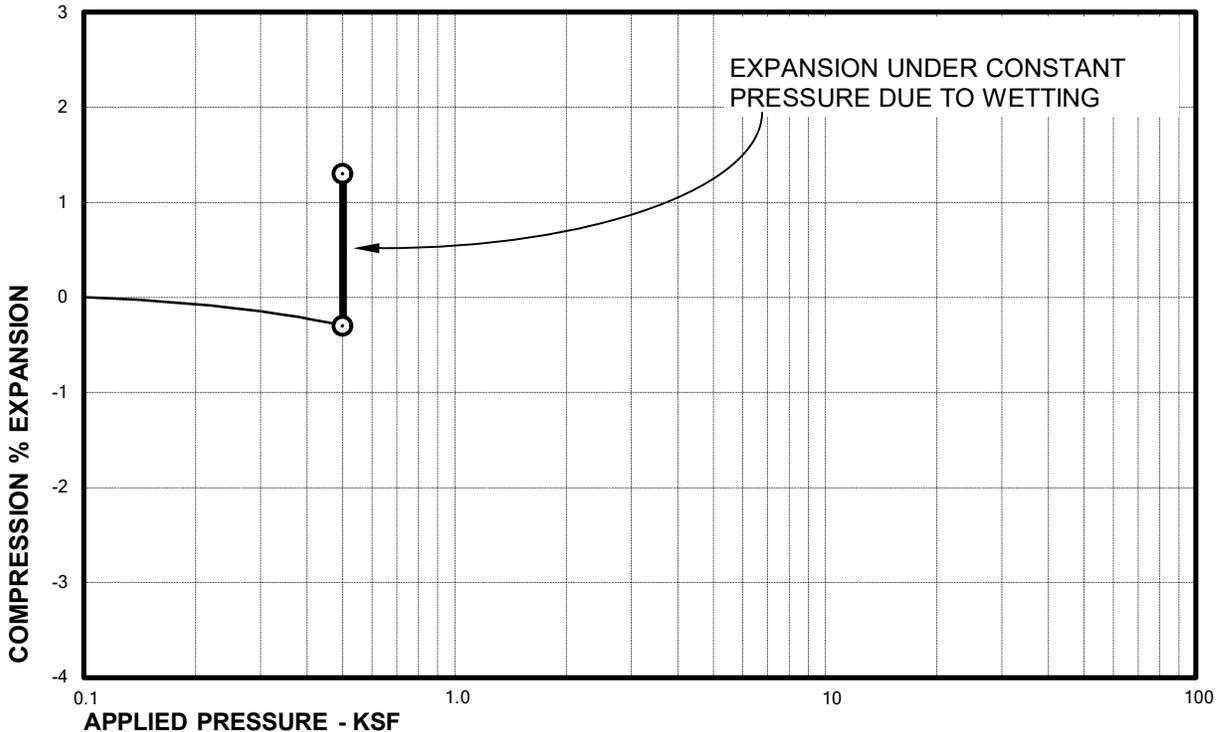
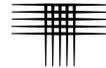
Sample of SANDSTONE, CLAYEY  
From TH-1 AT 4 FEET

DRY UNIT WEIGHT= 121 PCF  
MOISTURE CONTENT= 5.5 %



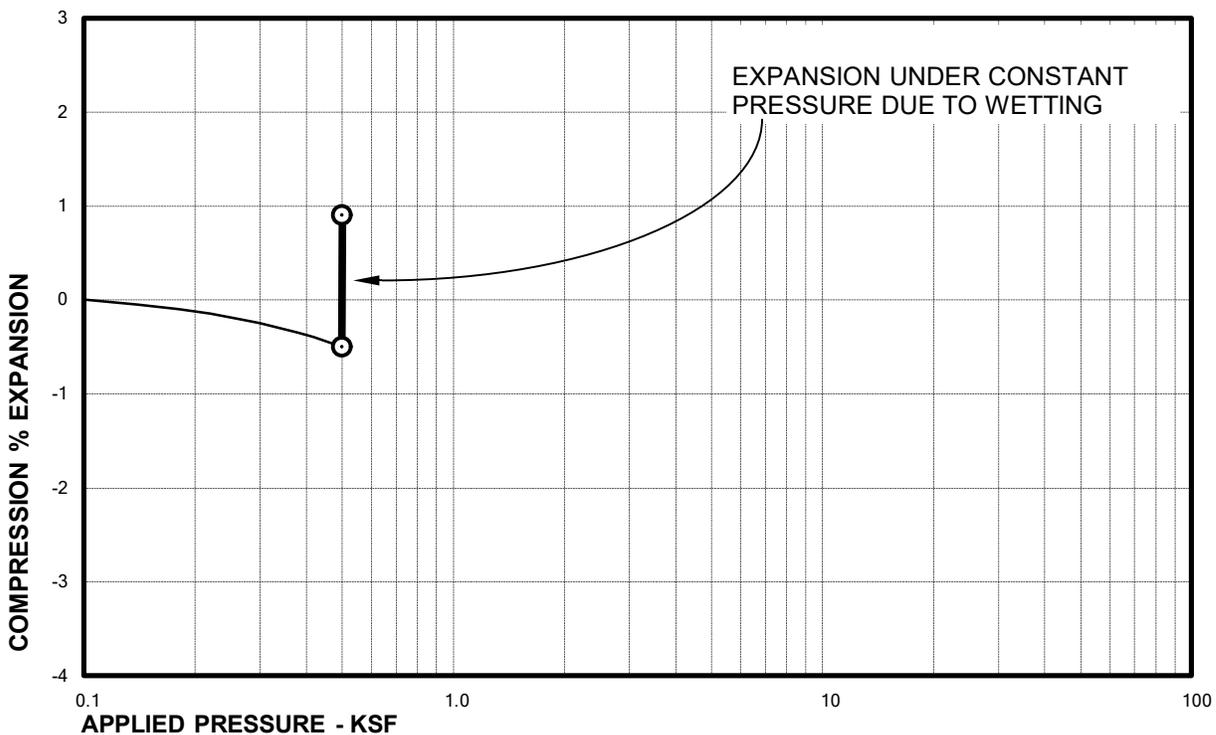
Sample of SANDSTONE, SILTY  
From TH-2 AT 4 FEET

DRY UNIT WEIGHT= 124 PCF  
MOISTURE CONTENT= 6.9 %



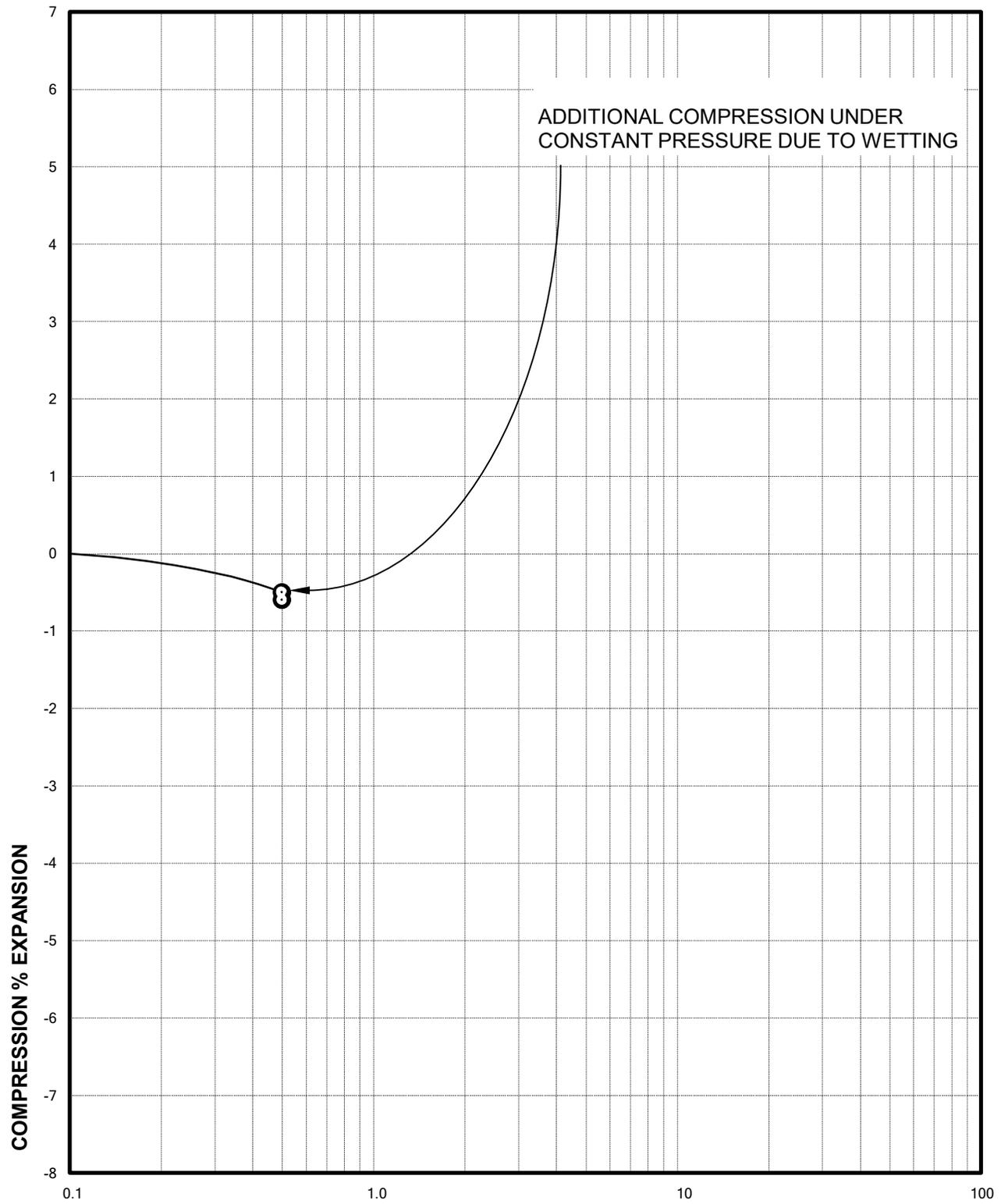
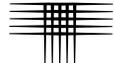
Sample of SANDSTONE, VERY CLAYEY  
From TH-4 AT 4 FEET

DRY UNIT WEIGHT= 125 PCF  
MOISTURE CONTENT= 8.2 %



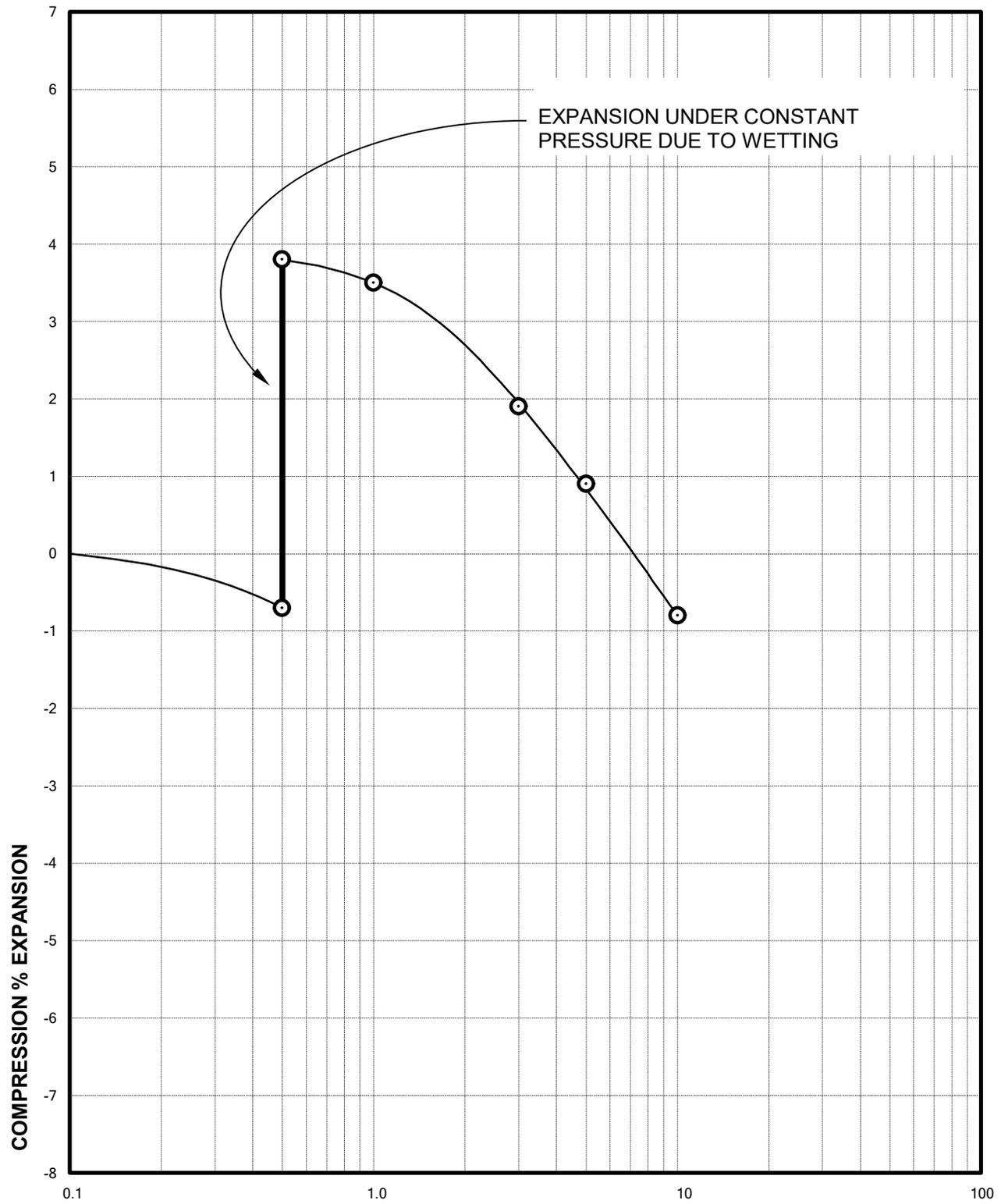
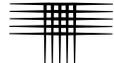
Sample of CLAYSTONE, SANDY  
From TH-7 AT 4 FEET

DRY UNIT WEIGHT= 119 PCF  
MOISTURE CONTENT= 12.4 %



**APPLIED PRESSURE - KSF**  
Sample of SANDSTONE, VERY CLAYEY  
From TH-7 AT 9 FEET

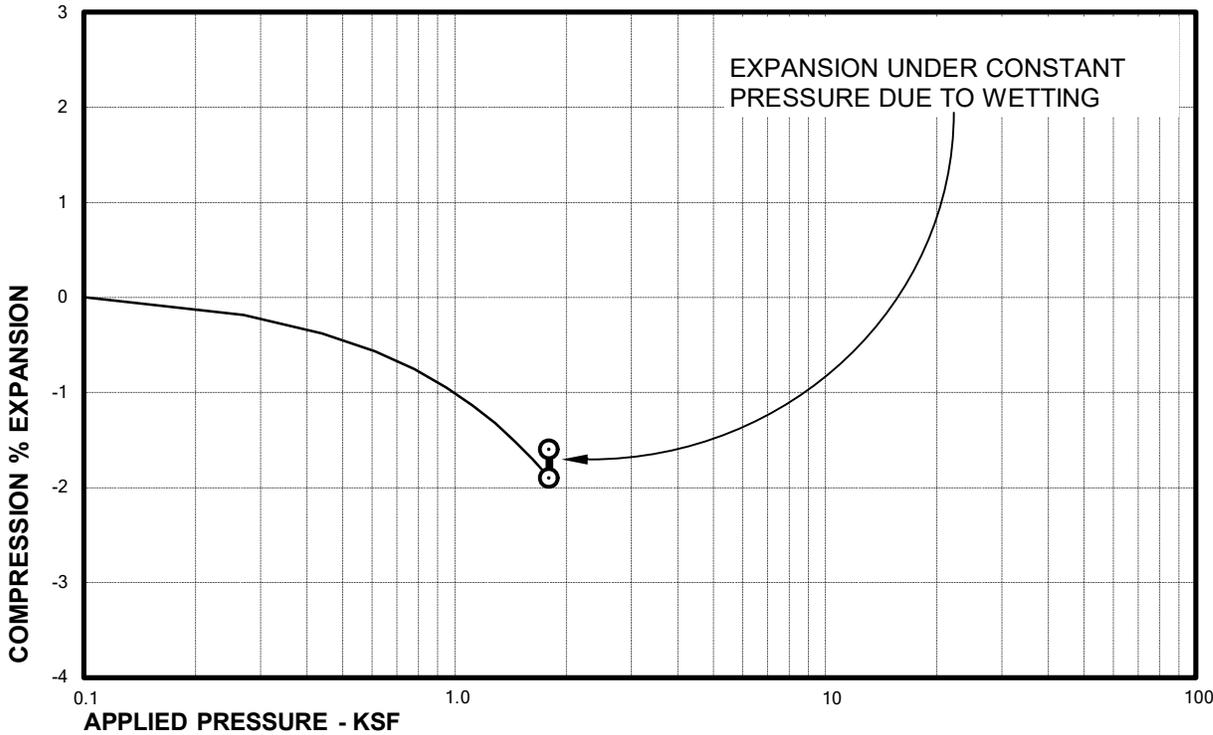
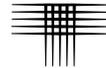
DRY UNIT WEIGHT= 126 PCF  
MOISTURE CONTENT= 9.3 %



**APPLIED PRESSURE - KSF**  
Sample of CLAYSTONE, VERY SANDY  
From TH-8 AT 4 FEET

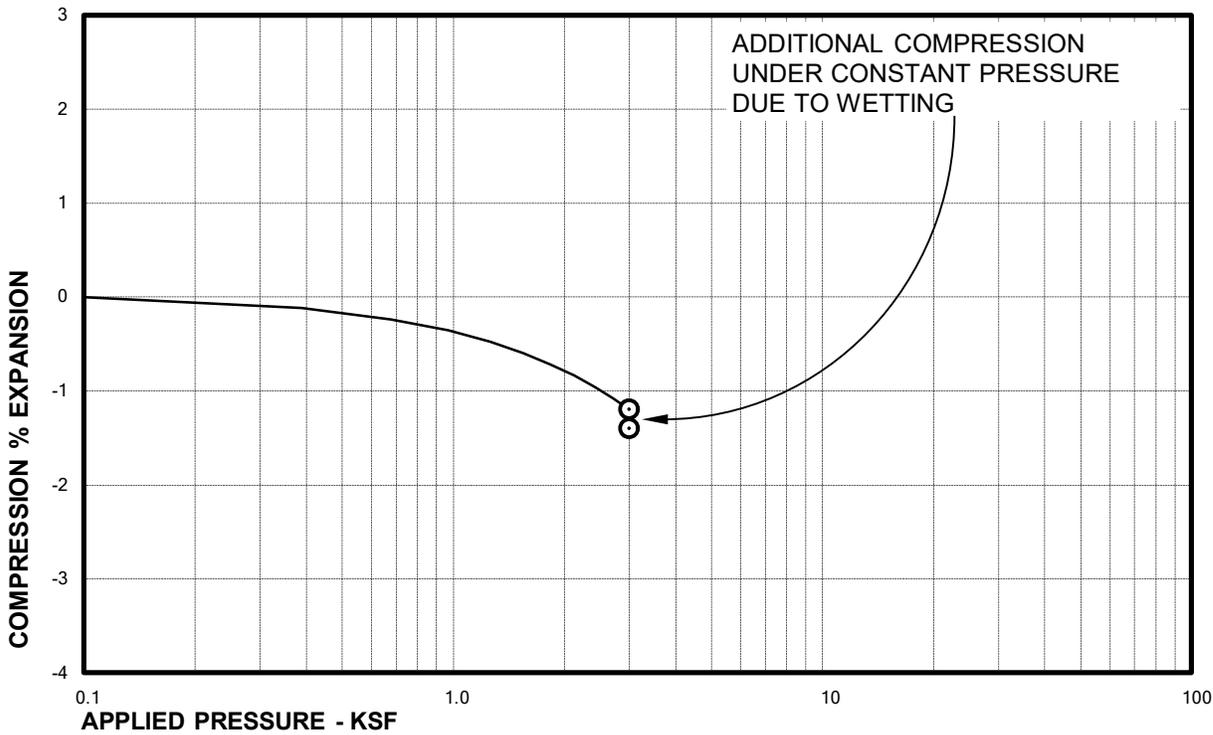
DRY UNIT WEIGHT= 124 PCF  
MOISTURE CONTENT= 8.5 %

### Swell Consolidation Test Results



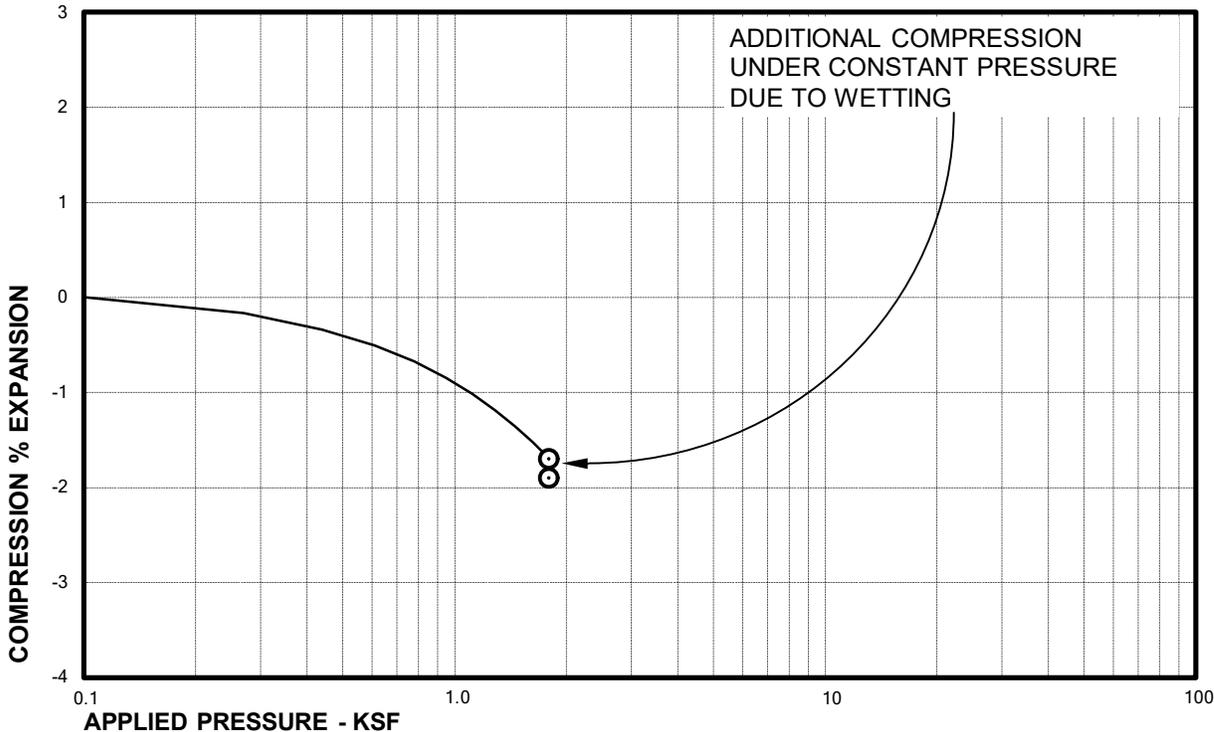
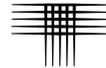
Sample of SANDSTONE, VERY CLAYEY  
From TH-9 AT 14 FEET

DRY UNIT WEIGHT= 111 PCF  
MOISTURE CONTENT= 19.0 %



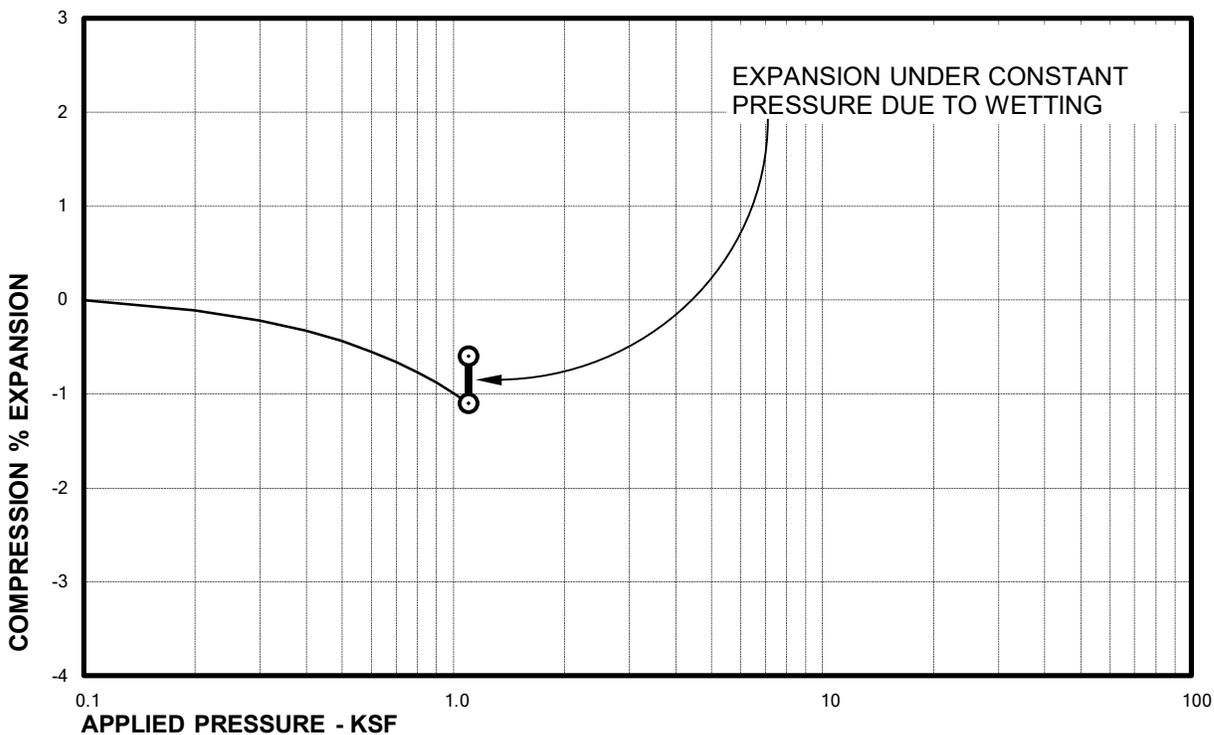
Sample of SANDSTONE, CLAYEY  
From TH-11 AT 24 FEET

DRY UNIT WEIGHT= 111 PCF  
MOISTURE CONTENT= 14.3 %



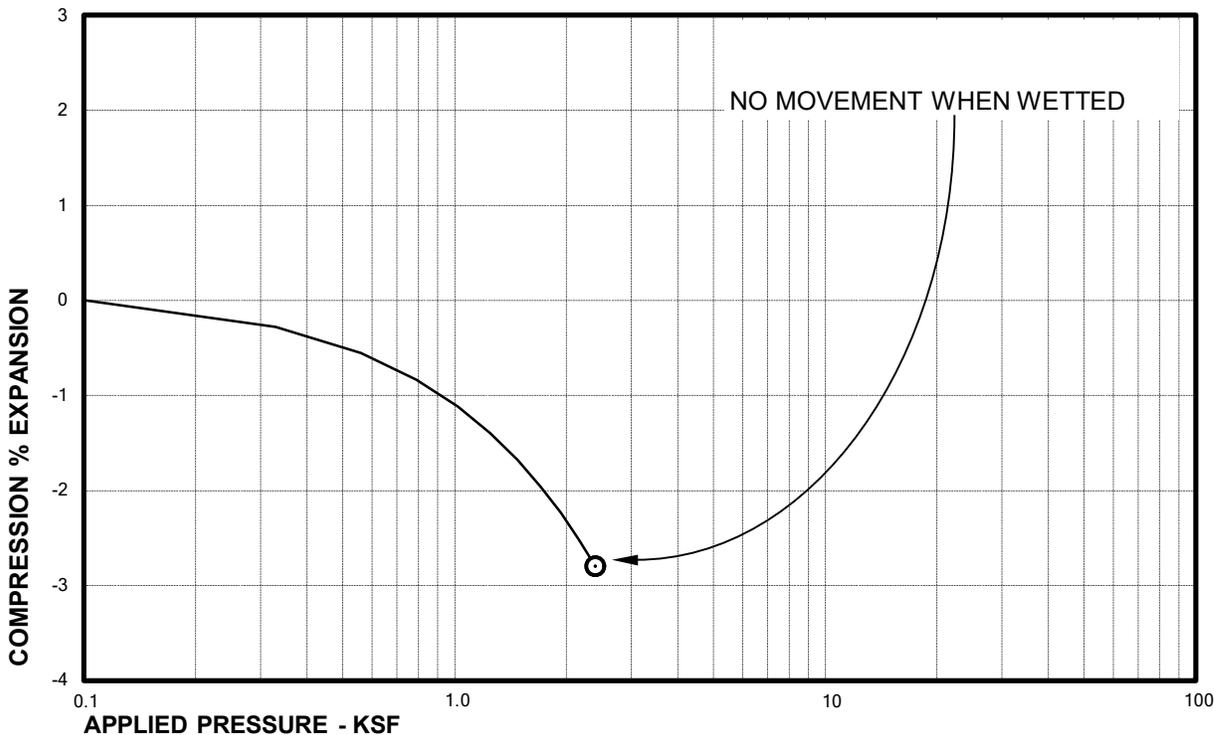
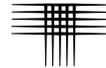
Sample of SANDSTONE, VERY SILTY  
From TH-13 AT 14 FEET

DRY UNIT WEIGHT= 122 PCF  
MOISTURE CONTENT= 11.2 %



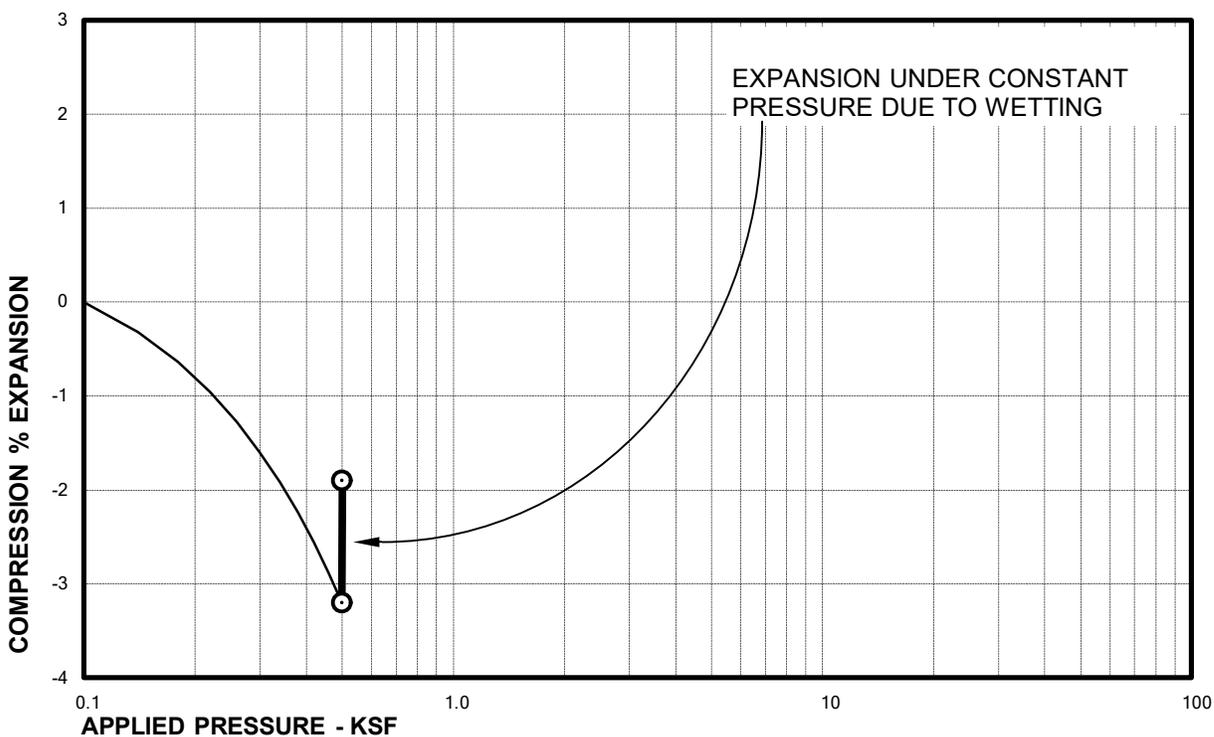
Sample of CLAYSTONE, VERY SANDY  
From TH-17 AT 9 FEET

DRY UNIT WEIGHT= 124 PCF  
MOISTURE CONTENT= 10.1 %



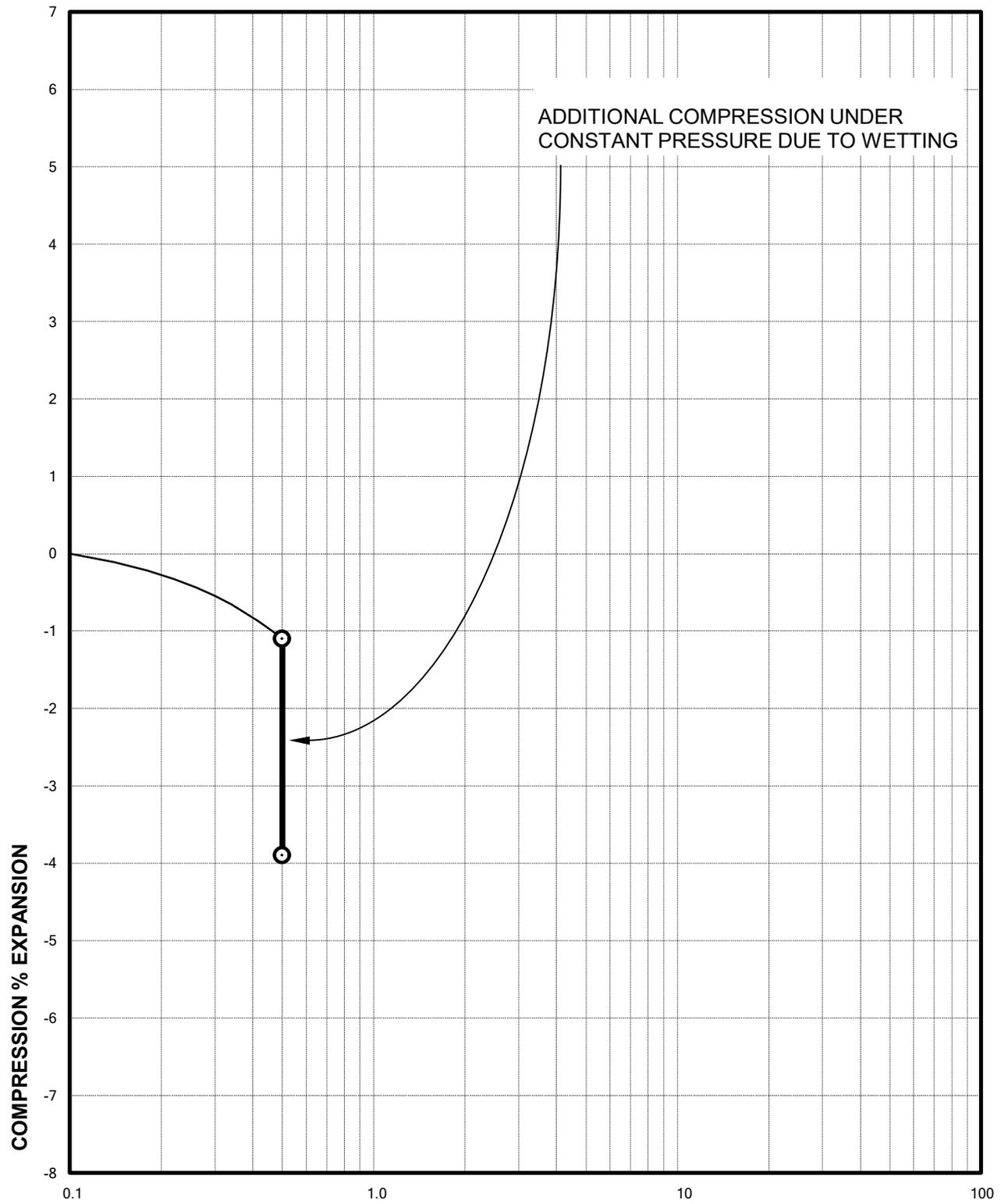
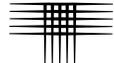
Sample of SANDSTONE  
From TH-17 AT 19 FEET

DRY UNIT WEIGHT= 121 PCF  
MOISTURE CONTENT= 12.5 %



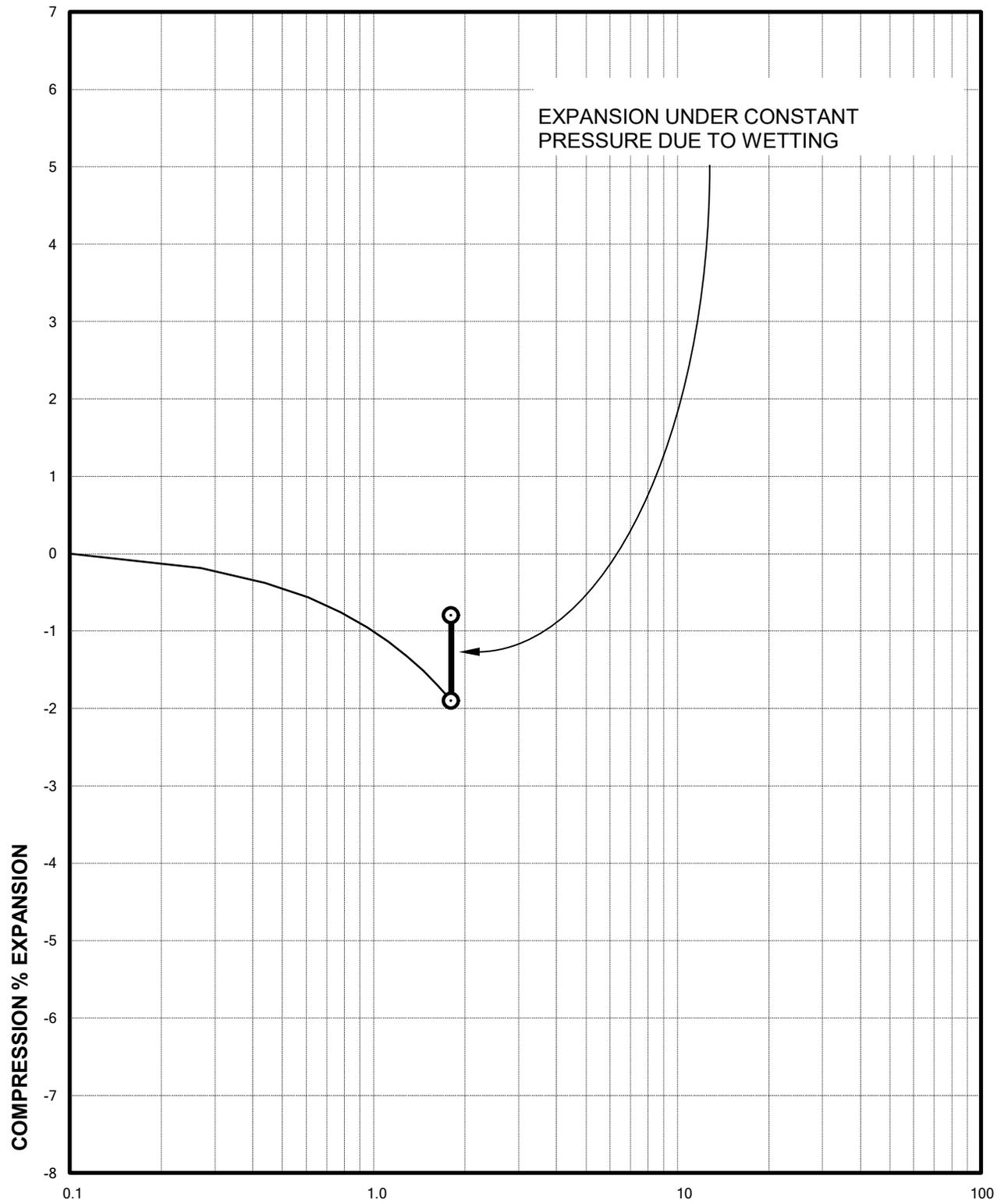
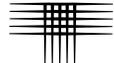
Sample of SANDSTONE, VERY CLAYEY  
From TH-18 AT 4 FEET

DRY UNIT WEIGHT= 124 PCF  
MOISTURE CONTENT= 9.7 %



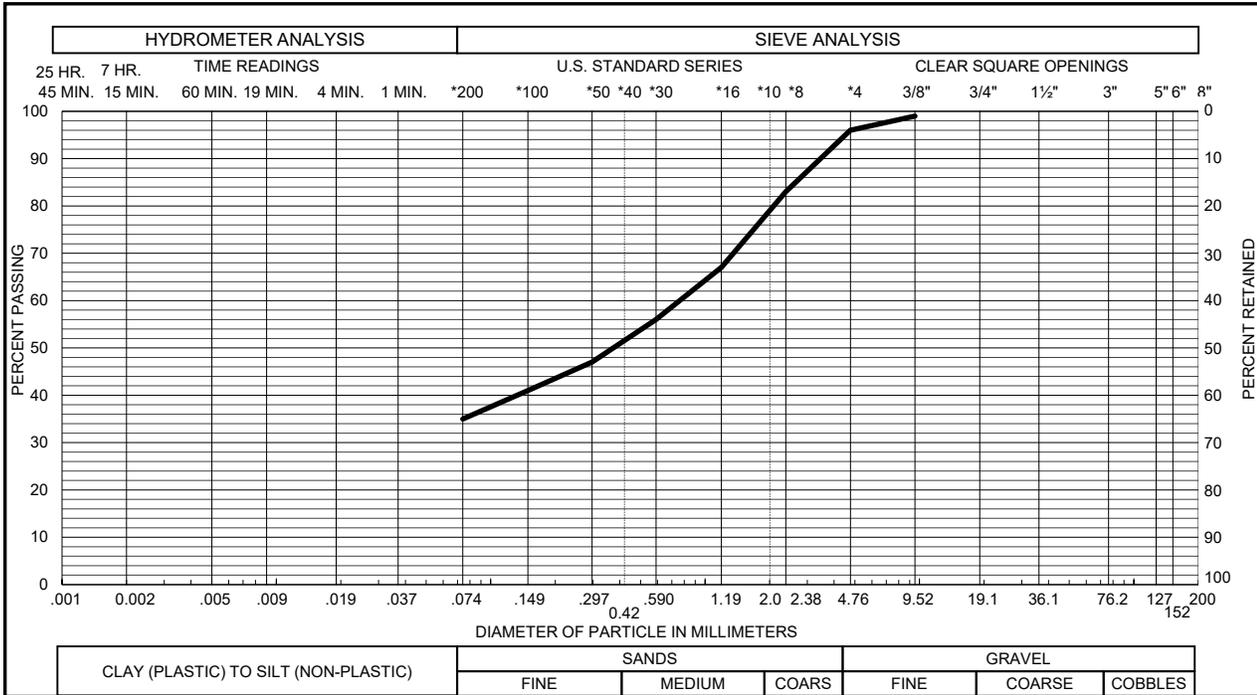
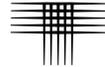
**APPLIED PRESSURE - KSF**  
Sample of CLAYSTONE, VERY SANDY  
From TH-19 AT 4 FEET

DRY UNIT WEIGHT= 104 PCF  
MOISTURE CONTENT= 10.5 %

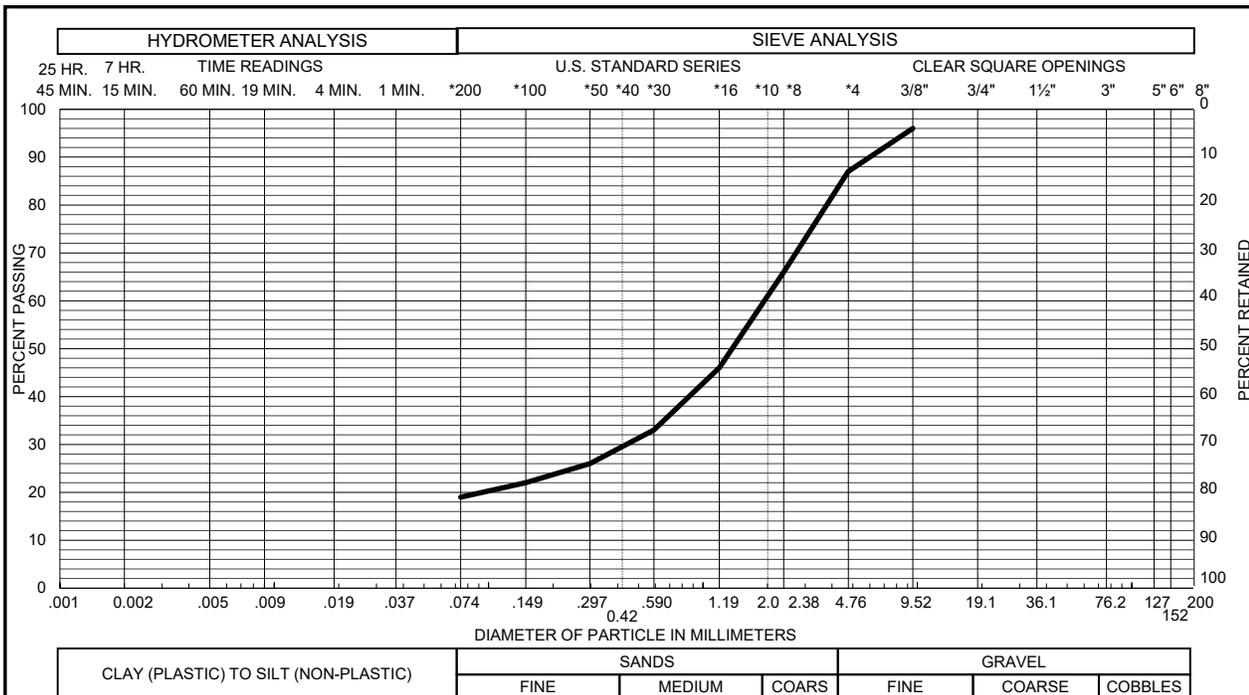


**APPLIED PRESSURE - KSF**  
Sample of SANDSTONE, CLAYEY  
From TH-20 AT 14 FEET

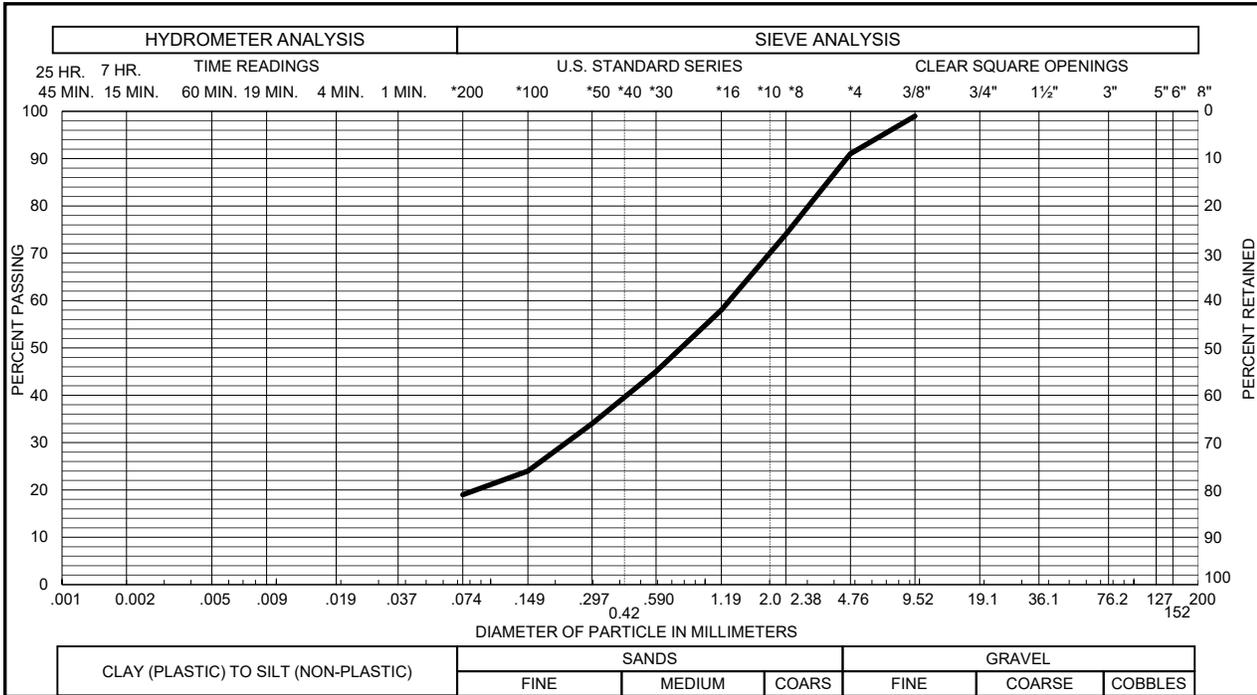
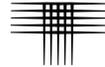
DRY UNIT WEIGHT= 121 PCF  
MOISTURE CONTENT= 12.0 %



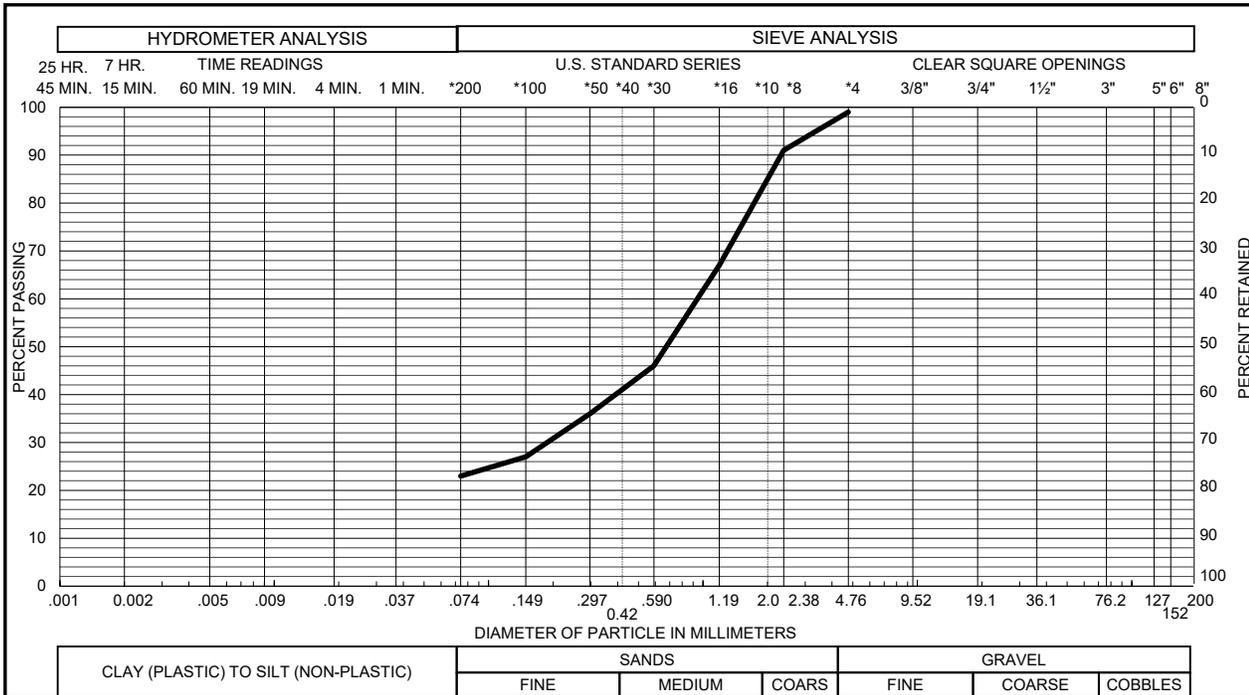
Sample of SANDSTONE, SILTY GRAVEL 4 % SAND 61 %  
 From TH - 2 AT 9 FEET SILT & CLAY 35 % LIQUID LIMIT     %   
 PLASTICITY INDEX     %



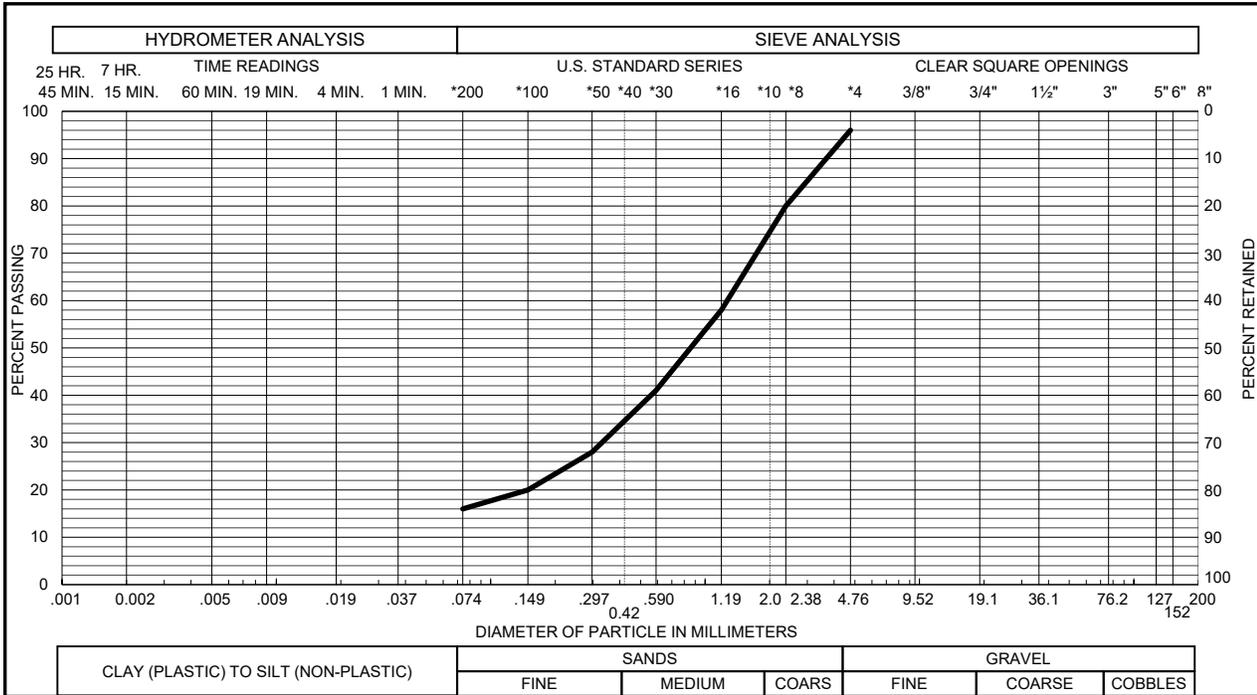
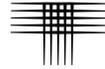
Sample of SANDSTONE, SILTY GRAVEL 13 % SAND 68 %  
 From TH - 3 AT 4 FEET SILT & CLAY 19 % LIQUID LIMIT     %   
 PLASTICITY INDEX     %



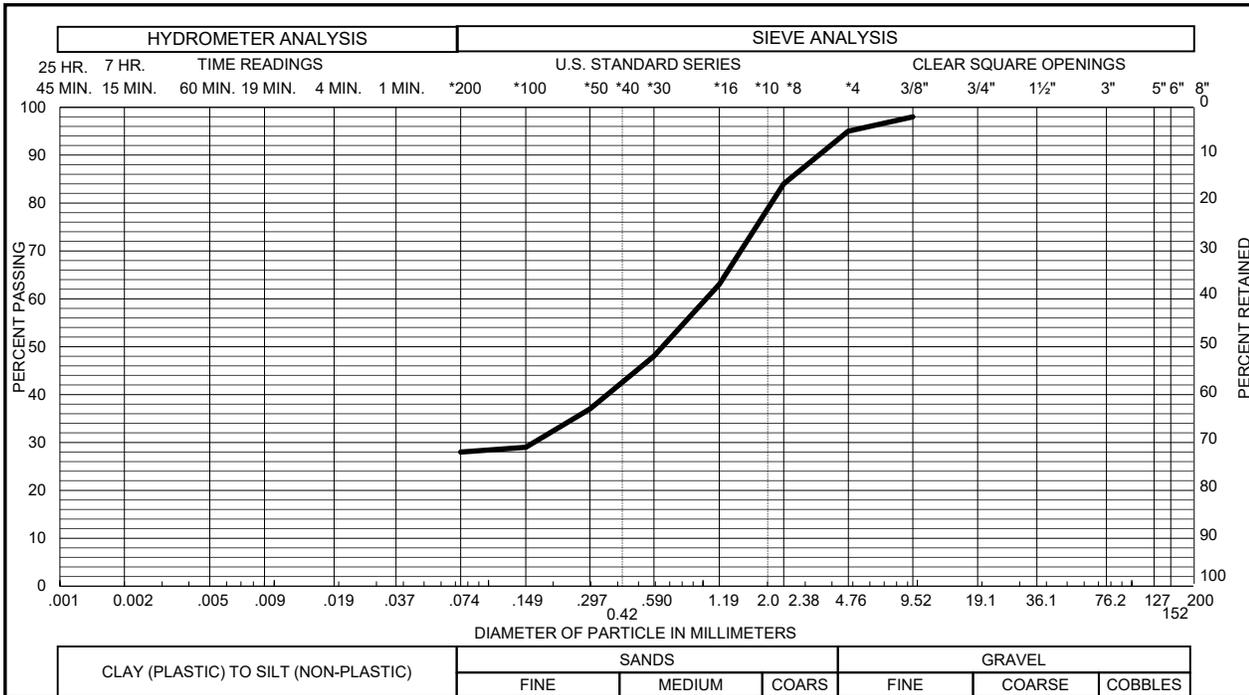
Sample of SANDSTONE, SILTY GRAVEL 9 % SAND 72 %  
 From TH - 4 AT 14 FEET SILT & CLAY 19 % LIQUID LIMIT     %   
 PLASTICITY INDEX     %



Sample of SANDSTONE, SILTY GRAVEL 1 % SAND 76 %  
 From TH - 5 AT 9 FEET SILT & CLAY 23 % LIQUID LIMIT     %   
 PLASTICITY INDEX     %

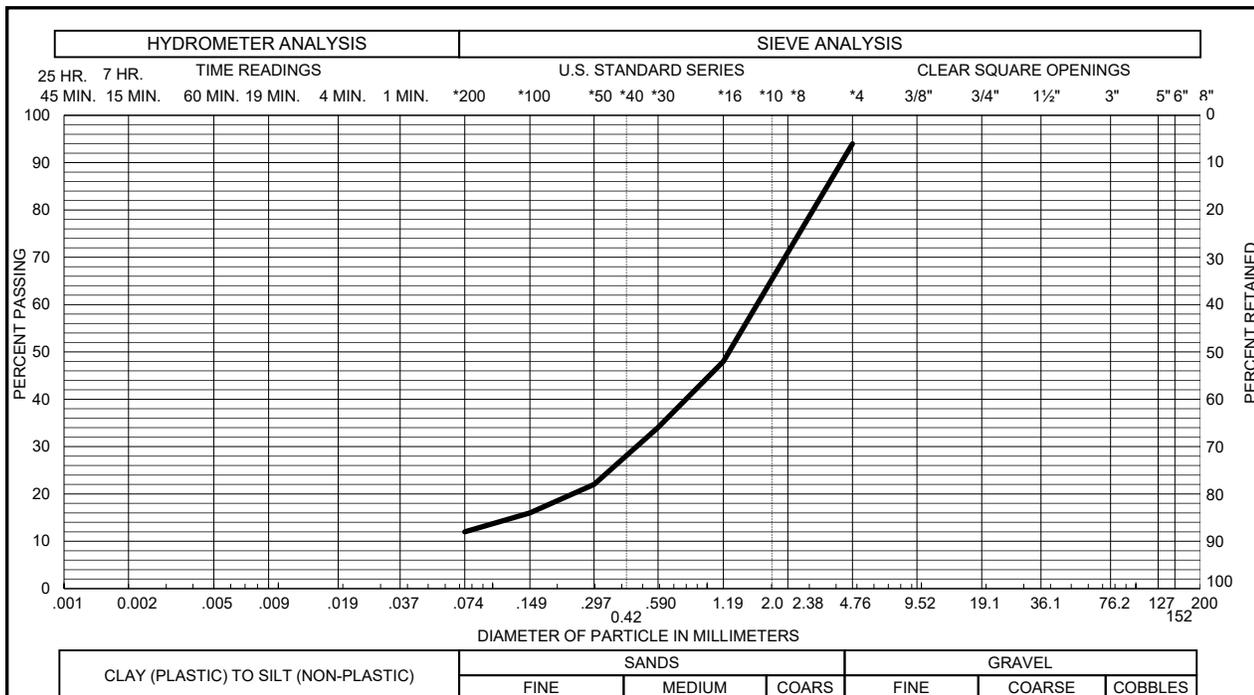
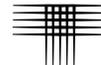


Sample of SANDSTONE, SILTY GRAVEL 4 % SAND 80 %  
 From TH - 6 AT 4 FEET SILT & CLAY 16 % LIQUID LIMIT     %   
 PLASTICITY INDEX     %

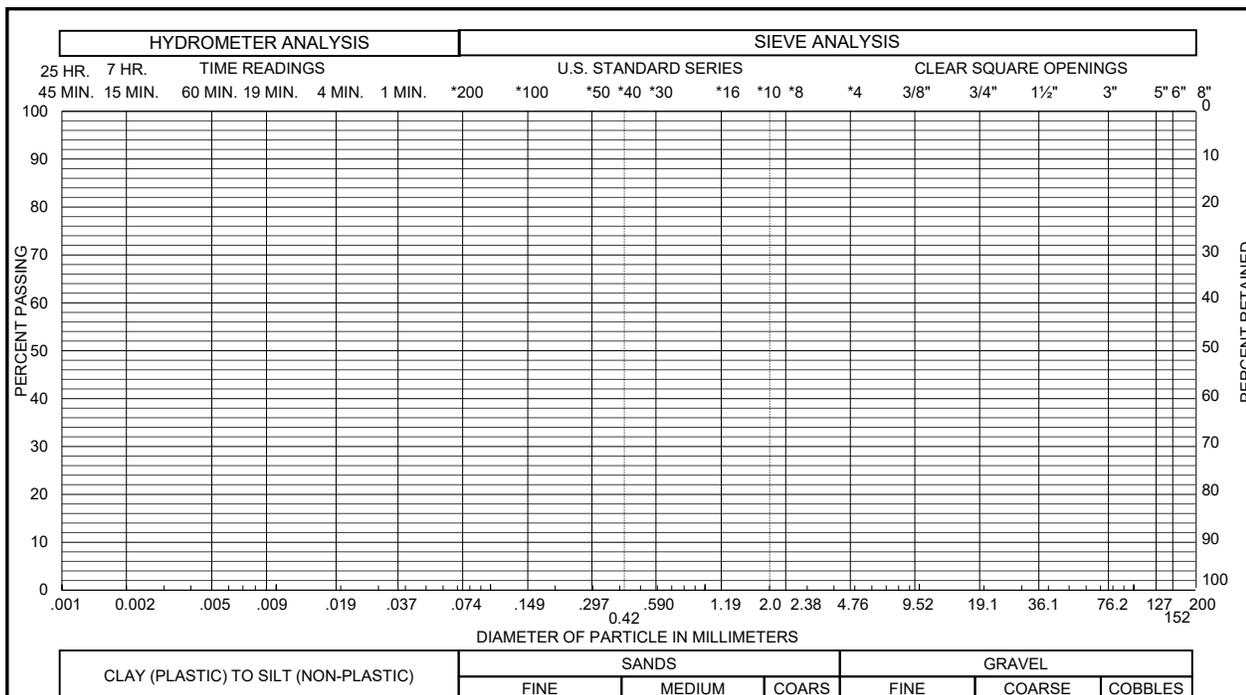


Sample of SANDSTONE, CLAYEY GRAVEL 5 % SAND 67 %  
 From TH - 10 AT 4 FEET SILT & CLAY 28 % LIQUID LIMIT     %   
 PLASTICITY INDEX     %

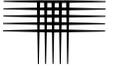




Sample of SANDSTONE, SLIGHTLY SILTY GRAVEL 6 % SAND 82 %  
 From TH - 20 AT 9 FEET SILT & CLAY 12 % LIQUID LIMIT \_\_\_\_\_ %  
 PLASTICITY INDEX \_\_\_\_\_ %



Sample of \_\_\_\_\_ GRAVEL \_\_\_\_\_ % SAND \_\_\_\_\_ %  
 From \_\_\_\_\_ SILT & CLAY \_\_\_\_\_ % LIQUID LIMIT \_\_\_\_\_ %  
 PLASTICITY INDEX \_\_\_\_\_ %



**APPENDIX C**  
NRCS SOIL CLASSIFICATIONS

## El Paso County Area, Colorado

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

#### Map Unit Setting

*National map unit symbol:* 369k

*Elevation:* 6,800 to 7,600 feet

*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Pring and similar soils:* 85 percent

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

#### Description of Pring

##### Setting

*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

*Hydric soil rating:* No

#### Minor Components

##### Pleasant

*Percent of map unit:*

*Landform:* Depressions

*Hydric soil rating:* Yes

**Other soils**

*Percent of map unit:*

*Hydric soil rating:* No

**Data Source Information**

Soil Survey Area: El Paso County Area, Colorado

Survey Area Data: Version 18, Jun 5, 2020

## El Paso County Area, Colorado

### 83—Stapleton sandy loam, 3 to 8 percent slopes

#### Map Unit Setting

*National map unit symbol:* 369z  
*Elevation:* 6,500 to 7,300 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:* 97 percent  
*Minor components:* 3 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Stapleton

##### Setting

*Landform:* Hills  
*Landform position (three-dimensional):* 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 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 4.7 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* B  
*Ecological site:* R049XB215CO - Gravelly Foothill  
*Hydric soil rating:* No

### **Minor Components**

#### **Pleasant**

*Percent of map unit:* 1 percent

*Landform:* Depressions

*Hydric soil rating:* Yes

#### **Other soils**

*Percent of map unit:* 1 percent

*Hydric soil rating:* No

#### **Fluvaquentic haplaquolls**

*Percent of map unit:* 1 percent

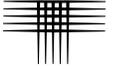
*Landform:* Swales

*Hydric soil rating:* Yes

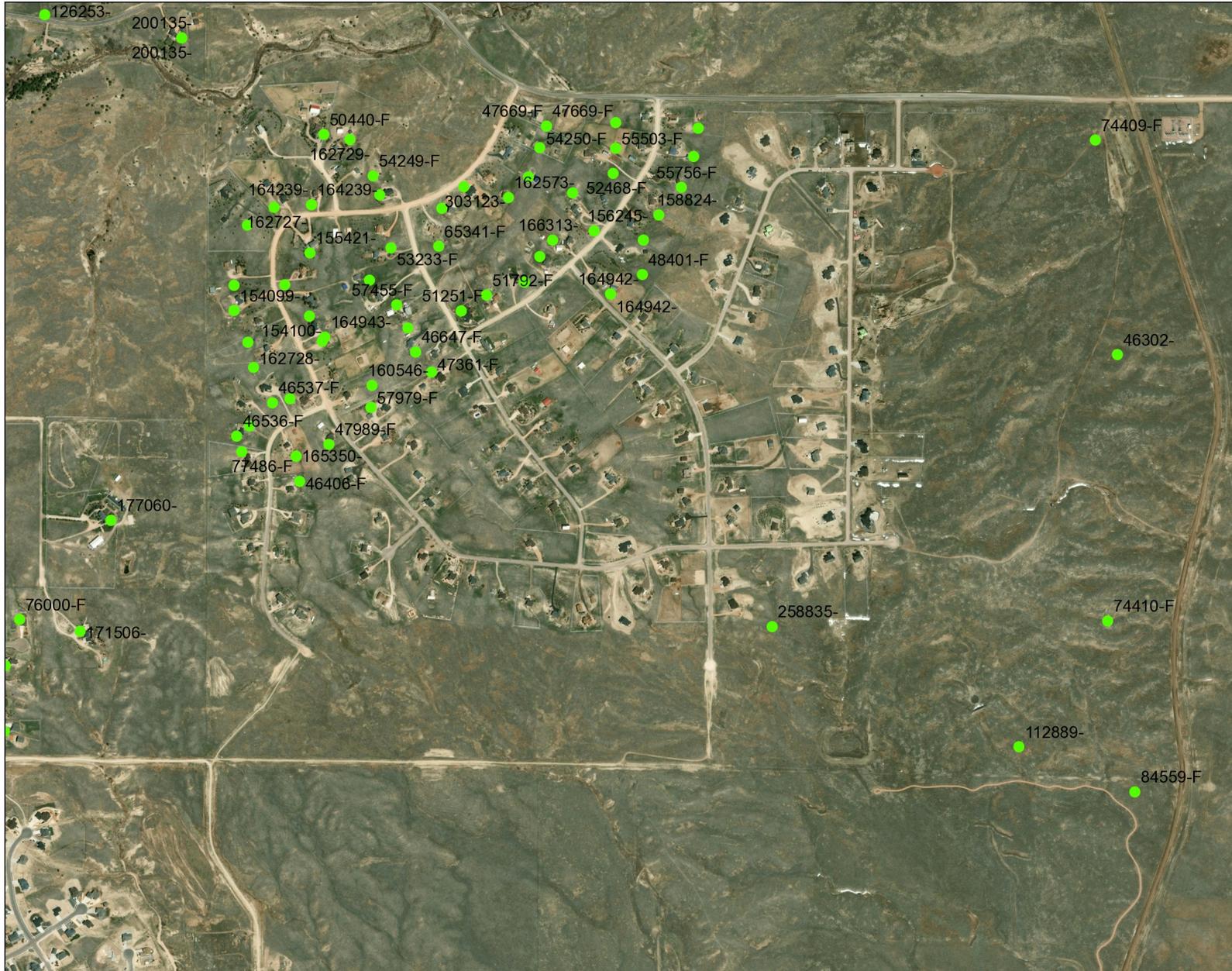
## **Data Source Information**

Soil Survey Area: El Paso County Area, Colorado

Survey Area Data: Version 18, Jun 5, 2020



**APPENDIX D**  
**NEARBY WELL LOCATIONS**



### Legend

- Well Constructed
- OGCC Well
- Final Permit
- County

### Location

### Notes

2,339                      0                      1,169                      2,339 Feet



1: 14,032



*This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.*

Date Prepared: 10/7/2021 11:19:01 AM