John R. Byerly
INCORPORATED

SOILS INVESTIGATION
FOR ON-SITE SEWAGE DISPOSAL SYSTEMS

HIGH TRAILS OUTDOOR SCIENCE SCHOOL

RADFORD RANCH ROAD

ANGLES OAKS, CALIFORNIA

ASSESSOR'S PARCEL NO. 0305-241-14

GEOTECHNICAL ENGINEERS • TESTING AND INSPECTION
2257 South Lilac Ave., Bloomington, CA 92316-2903
Bloomington (909) 877-1324 Riverside (909) 783-1910 Fax (909) 877-5210

John R. Byerly
INCORPORATED

SOILS INVESTIGATION
FOR ON-SITE SEWAGE DISPOSAL SYSTEMS

DECEMBER 21, 2016

HIGH TRAILS OUTDOOR SCIENCE SCHOOL

RADFORD RANCH ROAD

ANGLES OAKS, CALIFORNIA

ASSESSOR'S PARCEL NO. 0305-241-14

CLIENT:

HIGH TRAILS OUTDOOR SCIENCE SCHOOL

P.O. BOX 2640

BIG BEAR CITY, CALIFORNIA 92314

ATTENTION: DRIZ COOK, DIRECTOR

RPT. NO.: 4137
FILE NO.: S-13852

DISTRIBUTION:
(2) CLIENT
(4) DKC ARCHITECTURE, INC.

GEOTECHNICAL ENGINEERS • TESTING AND INSPECTION
2257 South Lilac Ave., Bloomington, CA 92316-2903
Bloomington (909) 877-1324 Riverside (909) 783-1910 Fax (909) 877-5210

INTRODUCTION

During November and December of 2016, an investigation of the percolation characteristics of the soils underlying the areas proposed for leach line installation at the subject site was conducted by this firm. The purpose of our investigation was to provide an evaluation of the general suitability of the subsoils for a septic tank and leach line system, and to provide design criteria. Our percolation testing for the leach lines followed procedures outlined in the booklet "On-Site Waste Water Disposal System, Soil Percolation (PERC) Test Report Standards" (County of San Bernardino Division of Environmental Health Services, August 1992). The outline format report is presented on the following pages.

This report has been prepared for the exclusive use of High Trails Outdoor Science School and their consultants for specific application to the project described herein. Should the project be modified, the conclusions and recommendations presented in this report should be reviewed by the geotechnical engineer. Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted engineering principles and practices. This warranty is in lieu of all other warranties, express or implied.

Respectfully submitted,

JOHN R. BYERLY, INC.

John R. Byerly, Geotechnical Engineer
President

JRB:jet

Enclosures:
(1) San Bernardino County Standard Percolation Report
(2) Index Map
(3) Plot Plan
(4) Exploration Logs
(5) Summary of Percolation Test Results
(6) Percolation Test Field Data

Rpt. No.: 4137
File No.: S-13852

SAN BERNARDINO COUNTY
STANDARD PERCOLATION REPORT

1. Description of Site and of Proposal

1.1 Prepared for: High Trails Outdoor Science School
P.O. Box 2640
Big Bear City, California 92314
Phone: (909) 855-0782
Attn: Driz Cook

1.2 Location of Land:

a. Radford Camp Road, Angeles Oaks. The property was identified by its proximity to Radford Camp Road, and the crossing of the seasonal Converse Creek. A fence is located along the east property line. Topographic features shown on the Overall Site Plan (DKC Architects, Inc., February 11, 2015) also assisted in determining the property boundaries.

b. Assessor's Parcel No. 0305-241-14

c. An index map showing the property location is presented as Enclosure 2.

1.3 Proposed Development:

a. Type of project: Residential school facility, consisting of 17 student and staff housing buildings, 2 caretaker residences, and a lodge/dining hall. It is anticipated that full capacity will be at 300 students and 60 staff.

b. Acreage: 41 acres

c. Type of sewage disposal: Septic tanks and leach lines

d. Description of planned grading: no cuts or fills seem likely within the vicinity of the proposed leach line installations

1.4 Description of Site and Surroundings:

a. Topography: The area of proposed construction is generally planar, sloping downward to the south at an average rate of 7.6 percent. The site topography is illustrated on the site plan enclosed herewith, Enclosure 3.

b. Water courses: The Converse Creek extends from north to south through the western portion of the property. This seasonal creek is located more than 100 feet west of any proposed leach line. An unnamed ephemeral drainage extends from northeast to southwest, entering the property near the northeast property corner, and connecting with the Converse Creek drainage approximately 360 feet north of the south property line. This drainage is also located more than 100 feet from of any proposed leach line.

c. Vegetation: Scattered trees and brush, and low grass and weeds. More extensive brush has been recently removed.

d. Existing structures: No existing structures are on the site.

e. Existing Wells: A well is located approximately 460 feet south of the north property line and 700 feet east of the west property line. The well is located about 300 feet from the nearest proposed leach line.

f. Rock outcroppings: None on site or on adjacent property

g. Water table: Free ground water was not encountered in our test borings. No mottling or other evidence of previous ground water was observed in the exploration pits. We conclude that the historic groundwater surface is deeper than 15 feet below the existing ground surface.

h. Other features that may affect sewage disposal: None

2. Equipment

a. Tractor mounted backhoe with 24-inch wide bucket was used to excavate exploratory and test pits. Test holes were excavated in the bottoms of the test pits with a 6-inch post hole digger. Measurements were made with a measuring tape with 1/16-inch divisions.

3. Methodology and Procedures

3.1 Locations of exploratory pits and test pits:

a. Selection: One exploratory pit located in or adjacent to each proposed leach line system. Test pits were located within each proposed leach line system. Locations of exploratory pits and percolation pits are shown on the site plan, Enclosure 3.

b. Measurements: Locations were established by measuring from landmarks, including the existing Radford Camp Road and the east property line fence.

3.2 Soil characteristics: Favorable – fine- to coarse-grained sands.

3.3 Number of exploratory pits: 11. Number of percolation test pits: 45.

3.3.1 Exploration results: See exploration logs (Enclosure 4). The explorations encountered sands with varying amounts of silt, gravel, and cobbles. All pits were backfilled with the excavated soil.

3.4.1 Percolation Test Procedures:

a. Percolation test pits were excavated to depths of 5 to 6 feet below the existing ground surface. Test holes, 8 inches in diameter, were excavated to a depth of 13 to 15 inches below the bottoms of the test pits. Two inches of clean gravel

was placed in the bottoms of the test holes. Perforated plastic cans, 12 inches in height and 6 inches in diameter, were then placed in the test holes to control scour.

b. Presoak: Each can was filled with water to allow the soil to soak and condition. At intervals of about 1 hour, the can was refilled. This was repeated until at least 5 gallons of water was introduced into the can.

c. Testing: The following day, water was reintroduced into the test holes to bring the water level to about 10 inches above the top of the gravel, and the water was allowed to percolate into the soil. At intervals, the level of water was measured, and additional water was added to the test holes to bring the water level up to about 10 inches above the top of the gravel. The tests were performed in general accordance with San Bernardino County Environmental Health Services Percolation Report Standards, revised August, 1992.

3.4.3 Leach Line Test Results

3.4.3.1 A summary tabulation of the percolation test results is presented on Enclosure 5.

3.4.3.2 The field test data are presented on Enclosure 6.

4. Discussion of Results

4.1 The percolation test results ranged from 0.3 to 6.2 minutes per inch throughout the site. The maximum variation within any individual system occurred in System 6 as designated on the enclosed site plan, with rates ranging from 1.1 to 6.2 minutes per inch.

5. Design

We recommend that the leach lines be designed for the slowest percolation rate obtained in each leach line system area. Those rates, and the corresponding leach line area required by the County of San Bernardino Department of Environmental Health Services are tabulated below.

Leach Line System Area	Design Percolation Rate (min/inch)	Leach Line Area (sq.ft./gal/day)
1	4.4	0.90
2	1.6	0.60
3	3.2	0.84
4	3.5	0.85
5	3.5	0.85
6	6.2	1.02
7	5.6	0.98
8	6.2	1.02

6. Plot Plan

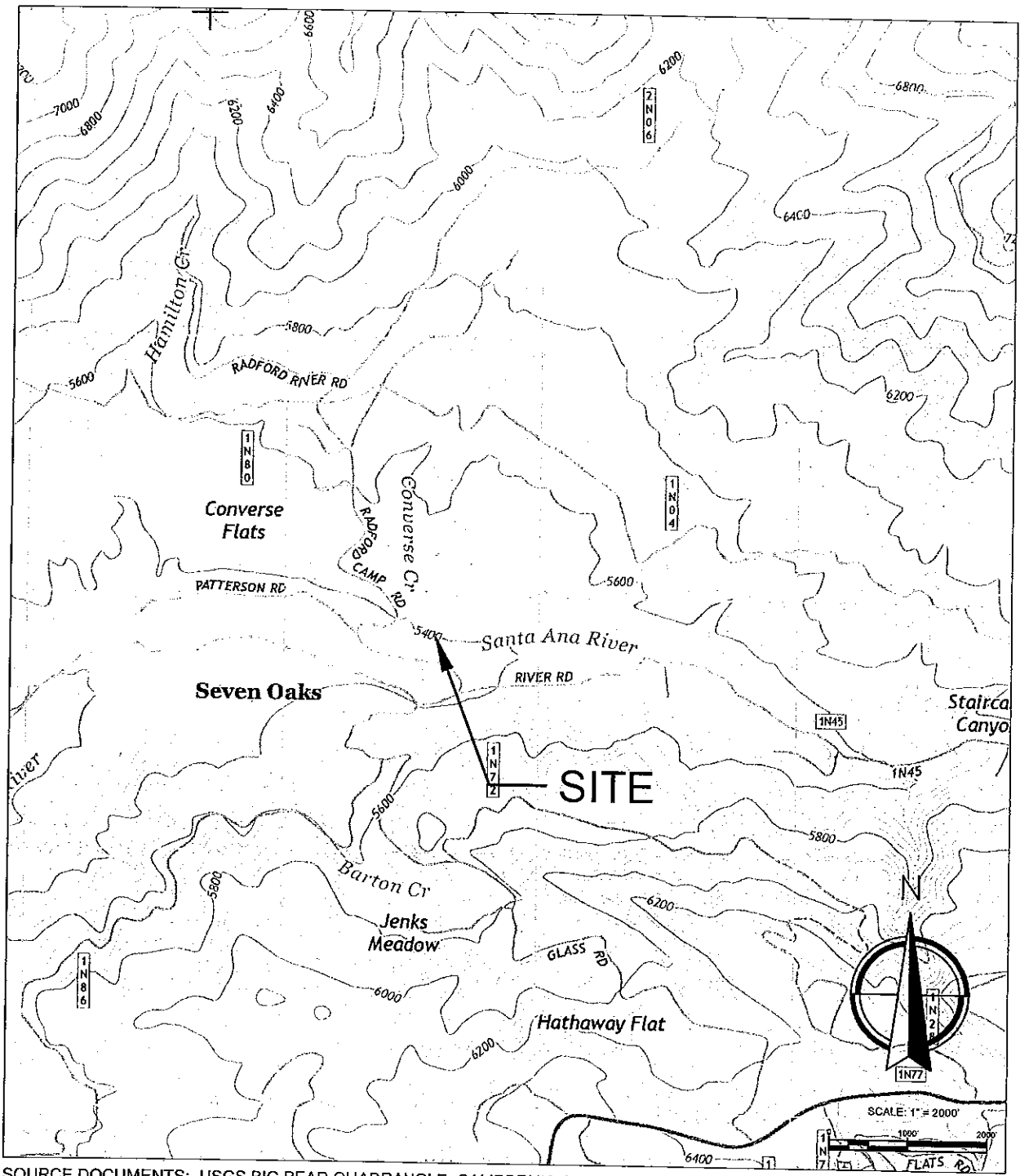
See Enclosure 3. The plotting of the leach lines should be performed when the number of fixture units has been determined so the leach line areas can be computed.

7. General Discussion and Conclusions and Recommendations

Construction of leach lines at the locations indicated should result in all California Regional Water Quality Control Board requirements being met.

The client is urged to obtain a copy of the Department of Environmental Health Services handout Taking Care of Your Septic System for further information with respect to owner maintenance requirements of a septic sewage disposal system.

INDEX MAP



SOURCE DOCUMENTS: USGS BIG BEAR QUADRANGLE, CALIFORNIA, 7.5 MINUTE SERIES, 2015

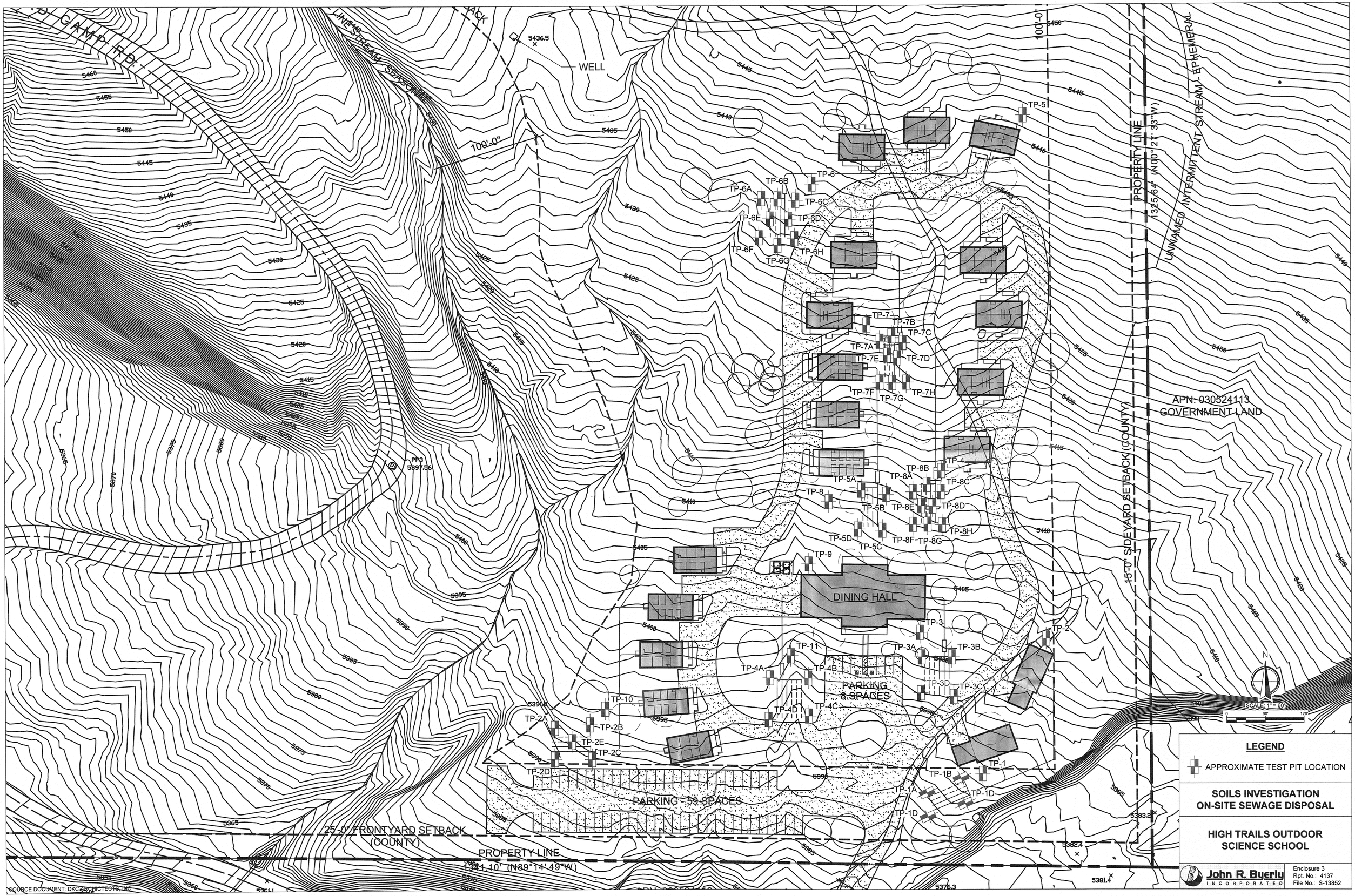
TOWNSHIP AND RANGE: SECTION 8, T1N, R1E

LATITUDE: 34.1869° N

LONGITUDE: 116.9068° W

John R. Byerly
INCORPORATED

Enclosure 2
Rpt. No.: 4137
File No.: S-13852



SOURCE DOCUMENT: DKC ARCHITECTS, INC.

LEGEND

APPROXIMATE TEST PIT LOCATION

SOILS INVESTIGATION
ON-SITE SEWAGE DISPOSAL

HIGH TRAILS OUTDOOR SCIENCE SCHOOL

John R. Byerly INCORPORATED

Enclosure 3
Rpt. No.: 4137
File No.: S-13852

Test Pit 1A

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table
0–14						GWT not encountered

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth (ft)	USCS	Description
0 – 2.6	SP	Brown silty fine to coarse sand with silt and gravel, damp and slightly dense
2.6 – 6.0	SW	Brown fine to coarse sand with silt, gravel, and cobbles, damp and medium dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

LOG OF BORING

Test Pit 1B

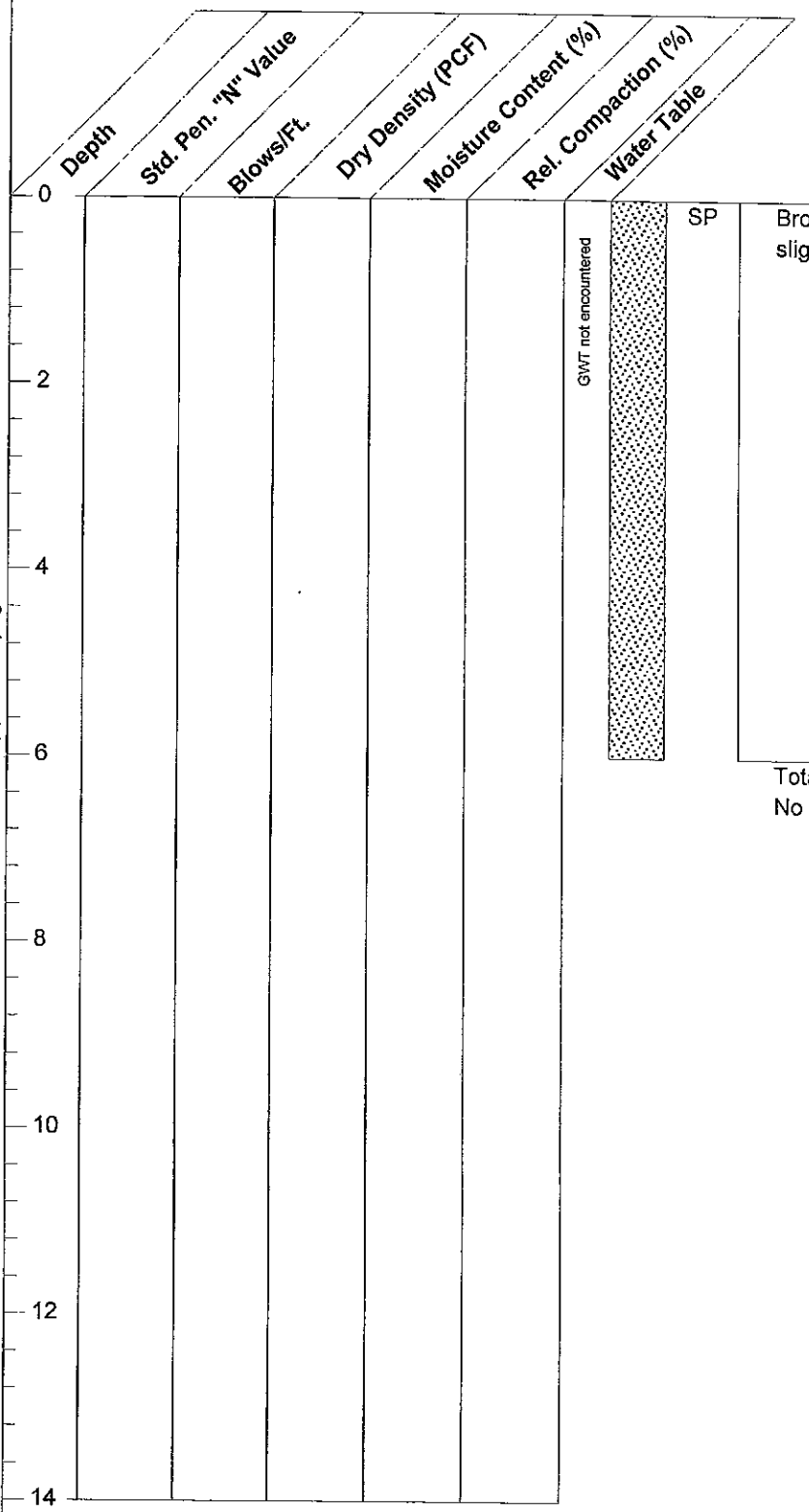
Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SP	Brown fine to coarse sand with silt and gravel, slightly damp and medium dense
4							SW	Brown fine to coarse sand with silt, gravel, and cobbles, dry and moderately dense
6								Total Depth at 6.0 Feet No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

LOG OF BORING

Test Pit 1C



Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

SP — Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

LOG OF BORING

Test Pit 1D

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table		Description
0						GWT not encountered	SM	Dark brown silty fine to coarse sand with gravel and organic matter, damp and loose
							SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense
2								
4								
6								Total Depth at 6.0 Feet No Free Ground Water Encountered
8								
10								
12								
14								

LOG OF BORING

Test Pit 2A

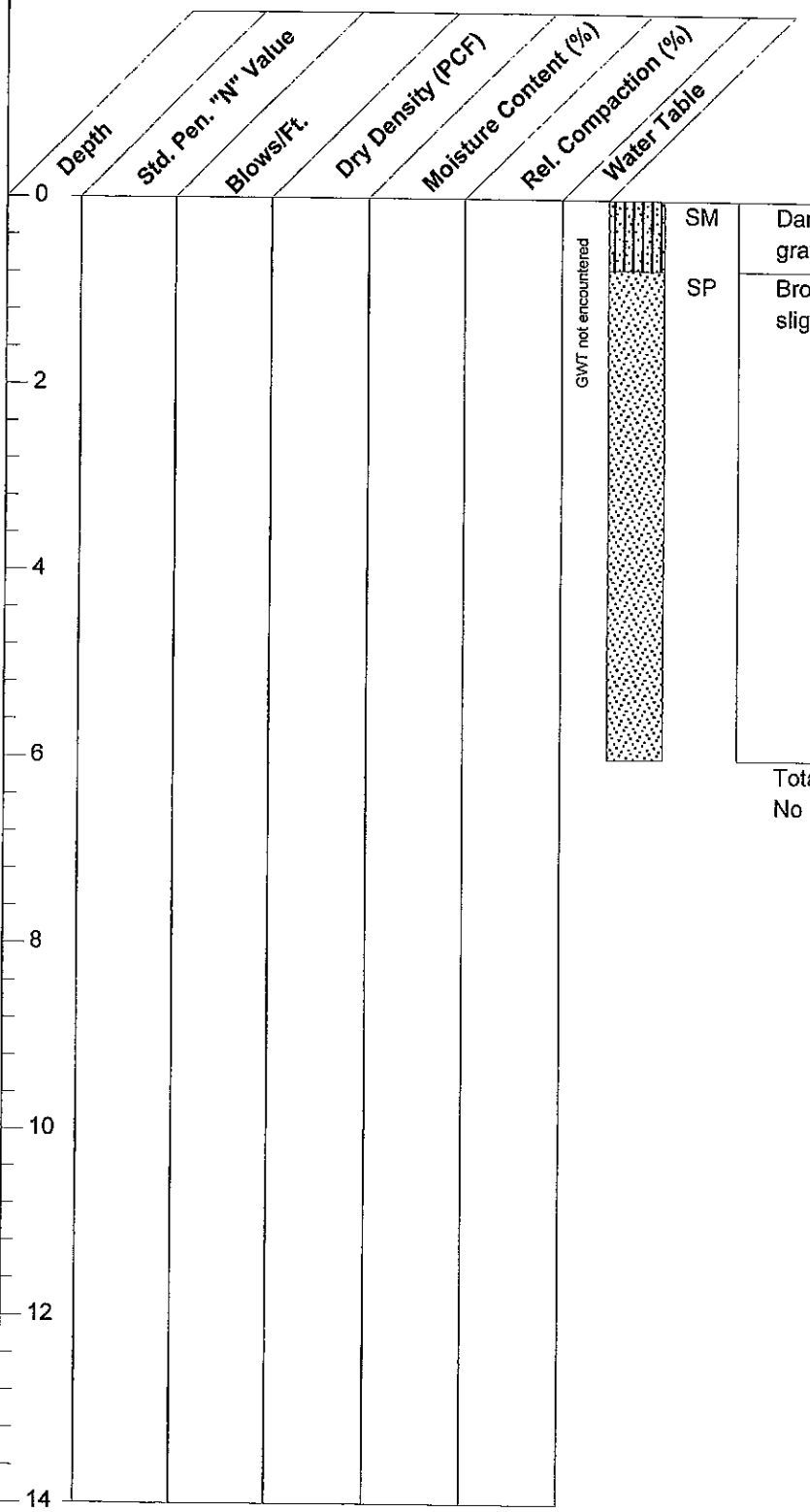
Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table		Description
0						GWT not encountered	SP	Brown fine to coarse sand with gravel, cobbles, and boulders, slightly damp and dense
6								Total Depth at 6.0 Feet No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

LOG OF BORING

Test Pit 2B



Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

SM	Dark brown silty fine to coarse sand with organic matter, gravel, and cobbles, moist and loose
SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

LOG OF BORING

Test Pit 2C

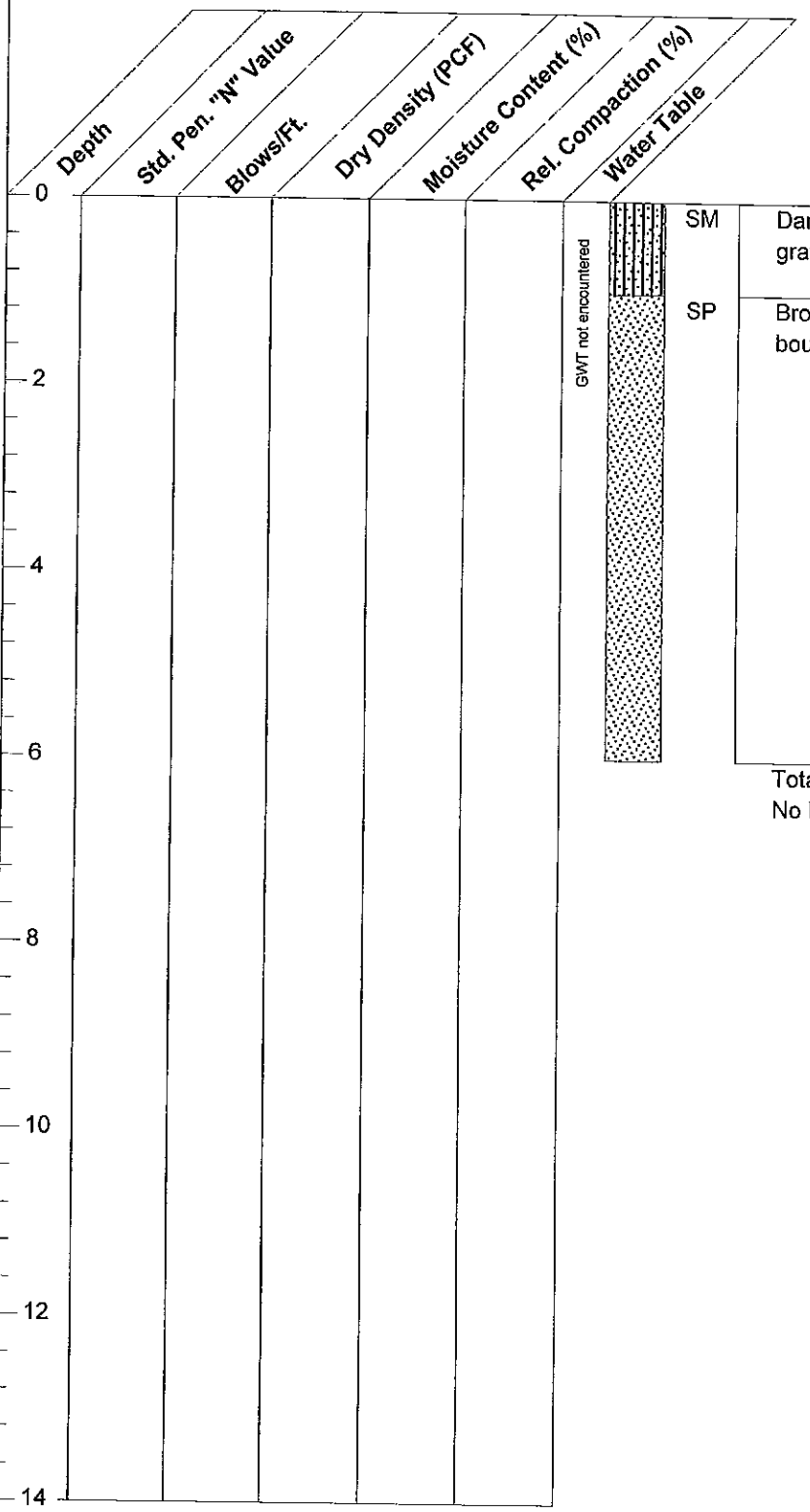
Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SM	Dark brown silty fine to coarse sand with organic matter, gravel, and cobbles, damp and loose
1							SP	Brown fine to coarse sand with silt, gravel, cobbles, and boulders, slightly damp and dense
6								Total Depth at 6.0 Feet No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

LOG OF BORING

Test Pit 2D



Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

SM	Dark brown silty fine to coarse sand with organic matter, gravel, and cobbles, damp and loose
SP	Brown fine to coarse sand with silt, gravel, cobbles, and boulders, slightly damp and dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

LOG OF BORING

Test Pit 2E

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

GWT not encountered

Depth (ft)	USCS	Description
0–1	SM	Dark brown silty fine to coarse sand with organic matter, gravel, and cobbles, moist and loose
1–6	SP	Brown fine to coarse sand with silt, gravel, cobbles, and boulders, slightly damp and dense

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

Total Depth at 6.0 Feet
No Free Ground Water Encountered

LOG OF BORING

Test Pit 3A

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0–2						GWT not encountered	SM	Brown silty fine to coarse sand with gravel, damp and medium dense
2–6							SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

LOG OF BORING

Test Pit 3B

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table		
0–6						GWT not encountered	SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

Log Ch... Software, ... www....tech.com File: C:\Superlog4\PROJECTS\S-13852 (Rpt. No. 4137).log Date: 12/21/2016

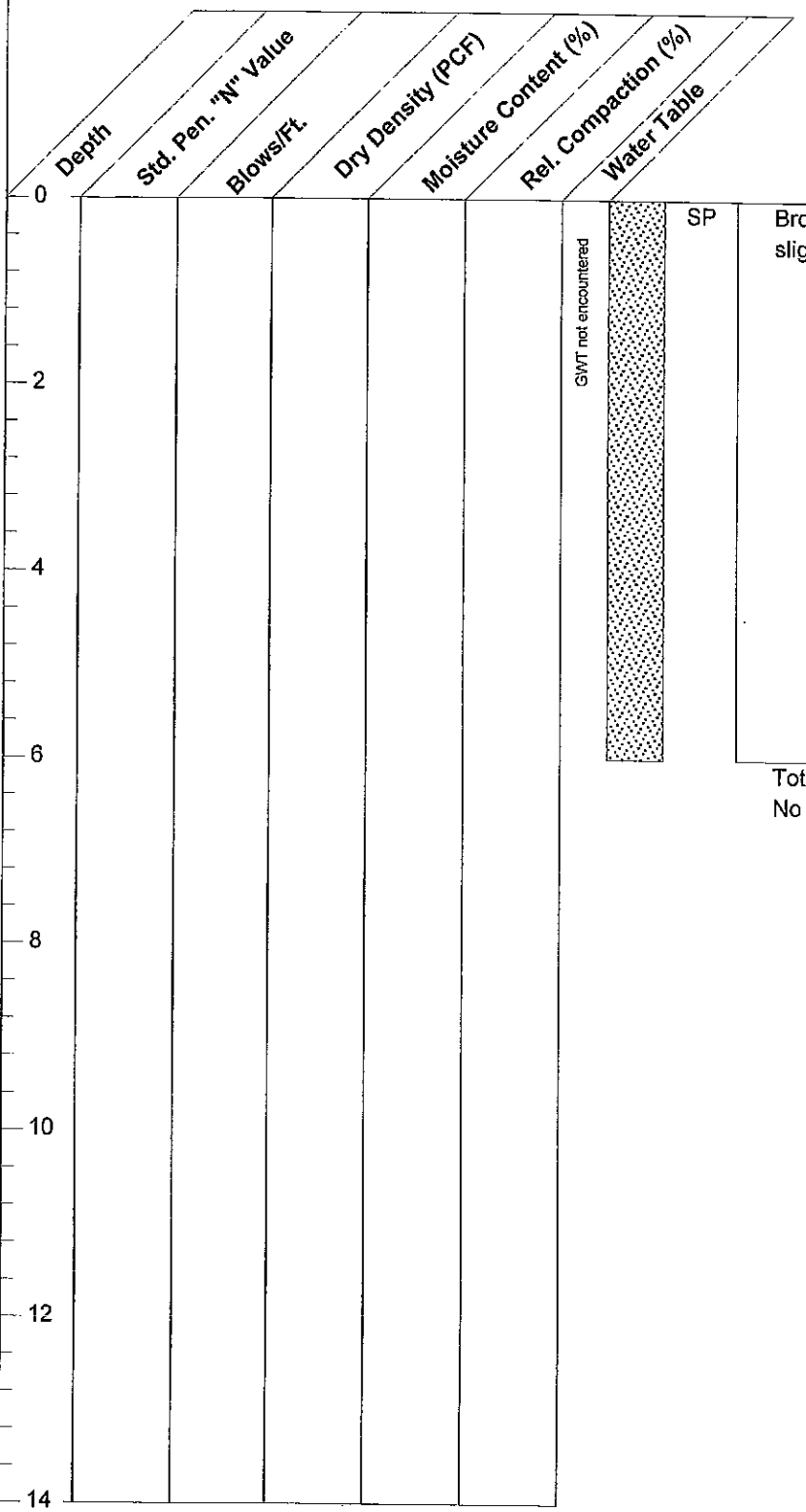
LOG OF BORING

John R. Byerly, Inc.

High Trails Outdoor Science School
Angeles Oaks, California

Enclosure 4, Page 11
Rpt. No.: 4137
File No.: S-13852

Test Pit 3C



Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

SP — Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

LOG OF BORING

John R. Byerly, Inc.	**High Trails Outdoor Science School** **Angeles Oaks, California**	Enclosure 4, Page 12 Rpt. No.: 4137 File No.: S-13852

Test Pit 3D

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense
3.5							SP	Brown fine to coarse gravelly sand with cobbles, slightly damp and medium dense
6								Total Depth at 6.0 Feet No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

LOG OF BORING

Test Pit 4A

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table		
0–6						GWT not encountered	SP	Brown fine to coarse sand with silt and gravel, slightly damp and medium dense

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

Total Depth at 6.0 Feet
No Free Ground Water Encountered

LOG OF BORING

John R. Byerly, Inc.

High Trails Outdoor Science School
Angeles Oaks, California

Enclosure 4, Page 14
Rpt. No.: 4137
File No.: S-13852

Test Pit 4B

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SM	Dark brown silty fine to coarse sand with organic matter and gravel, moist and loose
1							SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense
6								Total Depth at 6.0 Feet No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

LOG OF BORING

Test Pit 4C

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

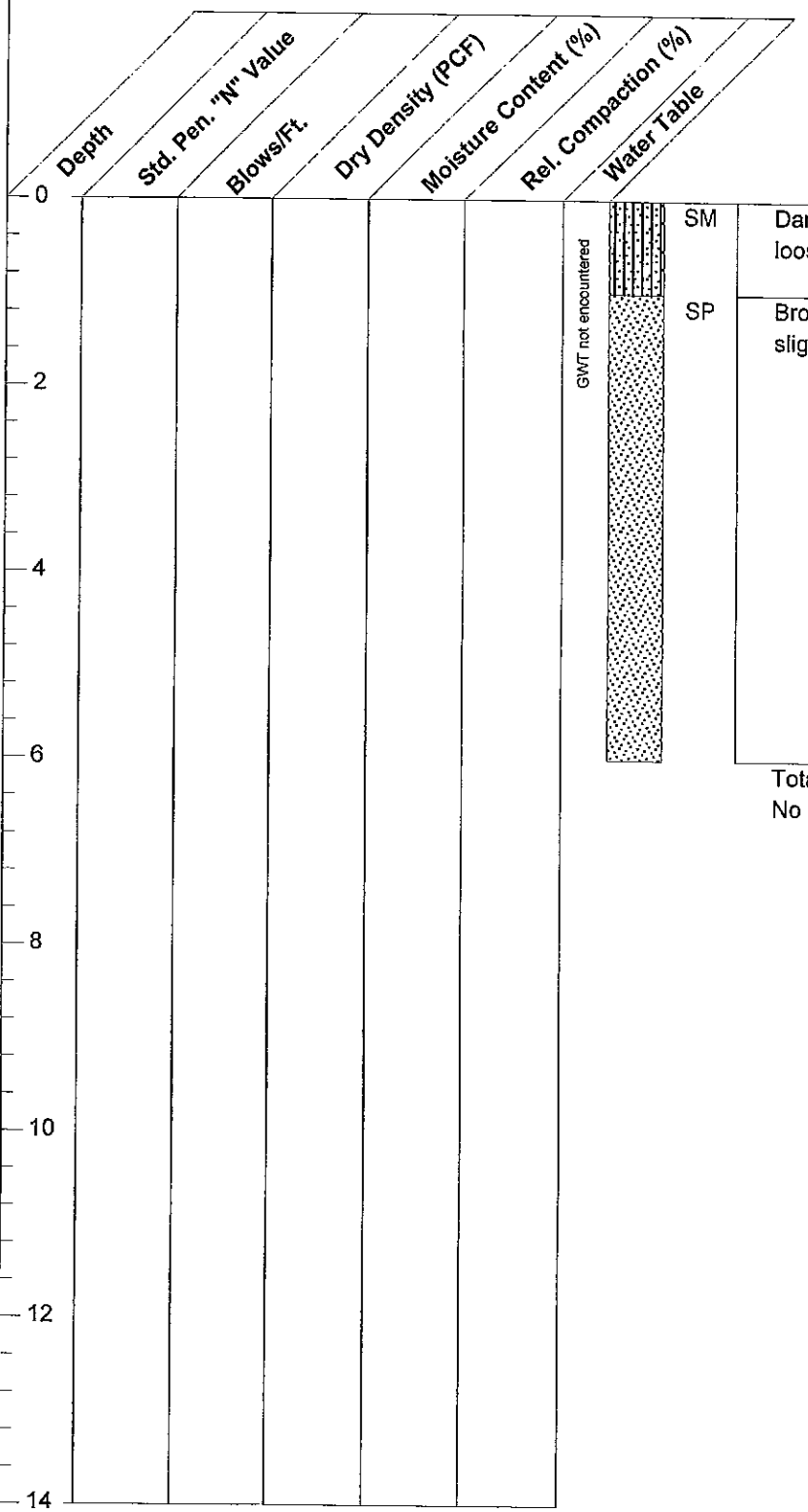
Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
1							SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense
6								Total Depth at 6.0 Feet No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

Log Ch... Software ... www.....h.com ... C:\Superlog4\PROJECTS\S-13852 (Rpt. No. 4137).log Date: 12/21/2016

LOG OF BORING

Test Pit 5A



Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

SM	Dark brown silty fine to coarse sand with gravel, moist and loose
SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

LOG OF BORING

Test Pit 5B

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table
0–14						GWT not encountered

Depth (ft)	USCS	Description
0 – 1.0	SM	Dark brown silty fine to coarse sand with organic matter and gravel, moist and loose
1.0 – 6.0	SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

LOG OF BORING

Test Pit 5C

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Columns: Depth | Std. Pen. "N" Value | Blows/Ft. | Dry Density (PCF) | Moisture Content (%) | Rel. Compaction (%) | Water Table

Water Table: GWT not encountered

Depth (ft)	USCS	Description
0 – 1	SM	Dark brown silty fine to coarse sand with gravel and cobbles, moist and loose
1 – 3	SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense
3 – 6	SP	Brown fine to coarse sand with silt and gravel, slightly damp and medium dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

LOG OF BORING

John R. Byerly, Inc.

High Trails Outdoor Science School
Angeles Oaks, California

Enclosure 4, Page 19
Rpt. No.: 4137
File No.: S-13852

Test Pit 5D

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
1							SP	Brown fine to coarse sand with silt and gravel, slightly damp and medium dense
6								Total Depth at 6.0 Feet No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

LOG OF BORING

John R. Byerly, Inc.	High Trails Outdoor Science School Angeles Oaks, California	Enclosure 4, Page 20 Rpt. No.: 4137 File No.: S-13852

Test Pit 6A

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

GWT not encountered

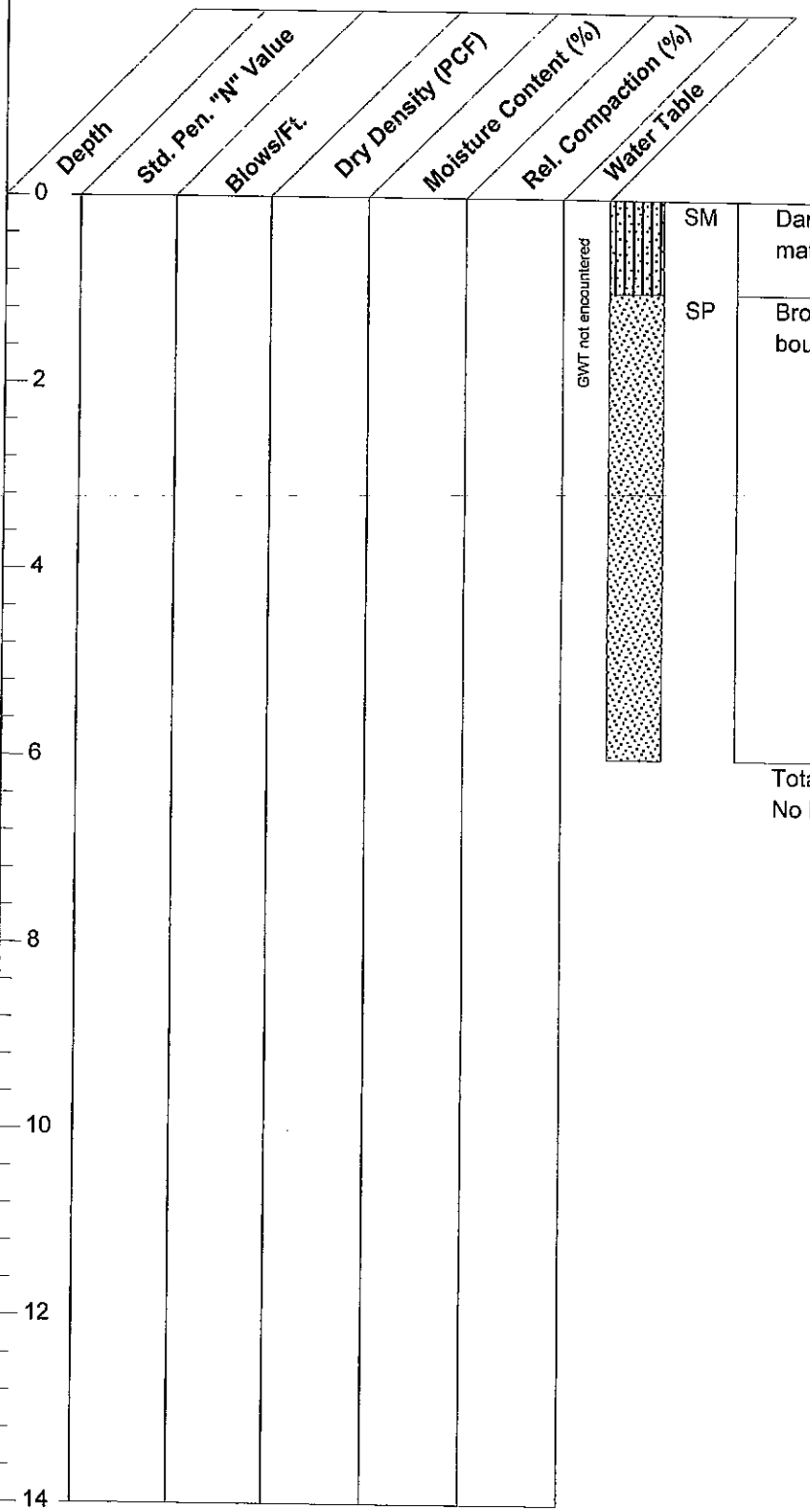
Depth (ft)	USCS	Description
0–1	SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
1–6	SP	Brown fine to coarse sand with silt, gravel, cobbles, and boulders, slightly damp and medium dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

LOG OF BORING

Test Pit 6B



Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
SP	Brown fine to coarse sand with silt, gravel, cobbles, and boulders, slightly damp and medium dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

LOG OF BORING

Test Pit 6C

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

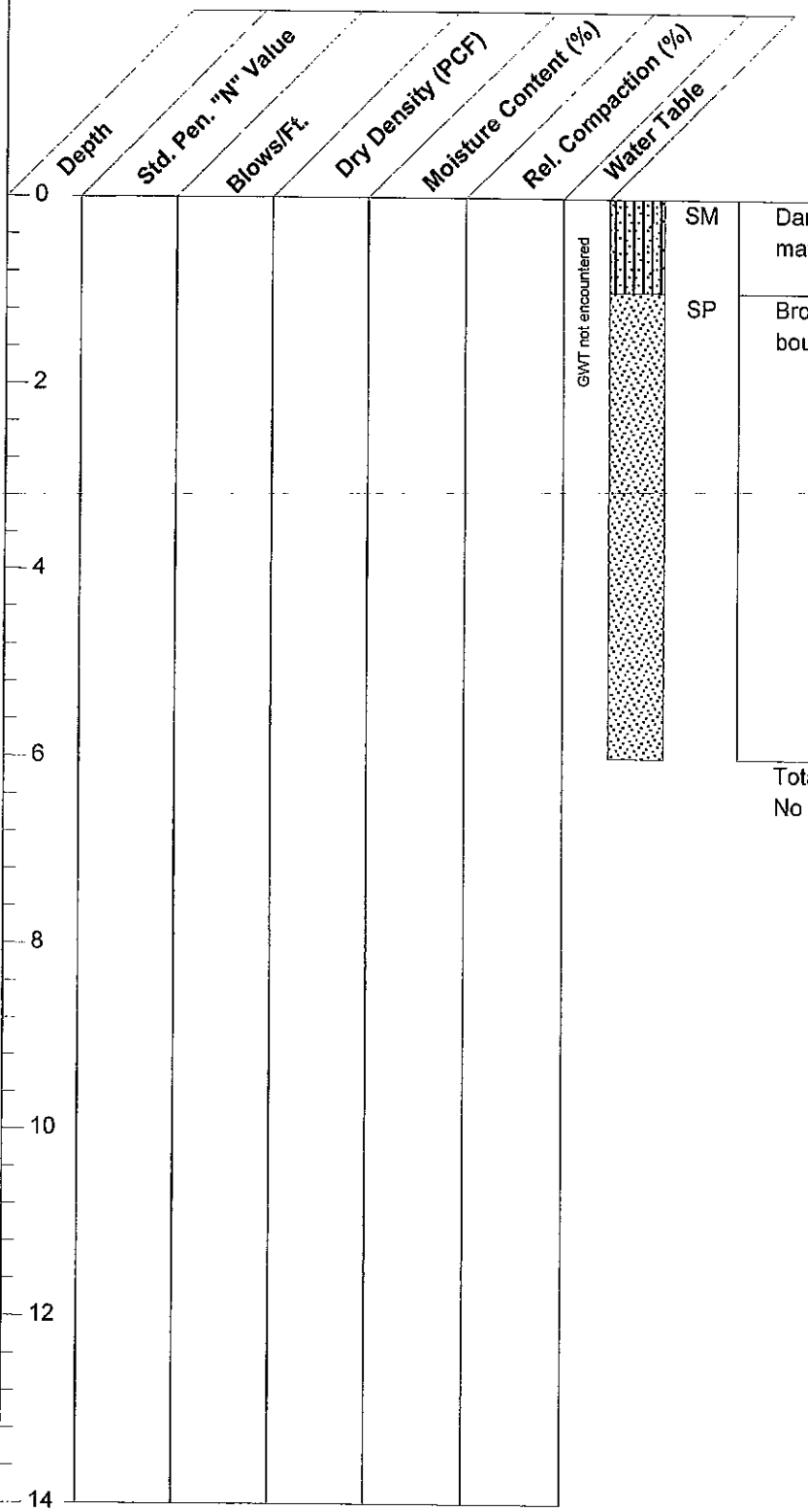
Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
							SP	Brown fine to coarse sand with silt, gravel, cobbles, and boulders, slightly damp and medium dense
6								Total Depth at 6.0 Feet No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

LOG OF BORING

John R. Byerly, Inc.	High Trails Outdoor Science School Angeles Oaks, California	Enclosure 4, Page 23 Rpt. No.: 4137 File No.: S-13852

Test Pit 6D



Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
SP	Brown fine to coarse sand with silt, gravel, cobbles, and boulders, slightly damp and medium dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

LOG OF BORING

Test Pit 6E

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	Soil	Description
0						GWT not encountered	SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
							SP	Brown fine to coarse sand with silt, gravel, cobbles, and boulders, slightly damp and medium dense
6								Total Depth at 6.0 Feet No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

LOG OF BORING

Test Pit 6F

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

GWT not encountered

Depth (ft)	USCS	Description
0	SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
1	SP	Brown fine to coarse sand with silt, gravel, cobbles, and boulders, slightly damp and medium dense
6		Total Depth at 6.0 Feet No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

LOG OF BORING

Test Pit 6H

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
1							SP	Brown fine to coarse sand with silt, gravel, cobbles, and boulders, slightly damp and medium dense
2								
4								
6								Total Depth at 6.0 Feet No Free Ground Water Encountered
8								
10								
12								
14								

LOG OF BORING

John R. Byerly, Inc.	**High Trails Outdoor Science School** **Angeles Oaks, California**	**Enclosure 4, Page 28** **Rpt. No.: 4137** **File No.: S-13852**

Test Pit 7A

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SM	Dark brown silty fine to coarse sand with gravel, cobbles, and organic matter, moist and loose
1							SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense
3							SP	Brown fine to coarse sand with silt and gravel, slightly damp and medium dense
6								Total Depth at 6.0 Feet No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

LOG OF BORING

John R. Byerly, Inc.

High Trails Outdoor Science School
Angeles Oaks, California

Enclosure 4, Page 29
Rpt. No.: 4137
File No.: S-13852

Test Pit 7B

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table		Description
0						GWT not encountered	SM	Dark brown silty fine to coarse sand with organic matter, gravel, and cobbles, moist and loose
1							SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense
3							SP	Brown fine to coarse sand with silt and gravel, slightly damp and dense
6								Total Depth at 6.0 Feet No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

LOG OF BORING

Test Pit 7C

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SM	Dark brown silty fine to coarse sand with organic matter and gravel, moist and loose
							SP	Brown fine to coarse sand with gravel and cobbles, slightly damp and medium dense
2								
							SP	Brown fine to coarse sand with gravel, slightly damp and medium dense
4								
6								Total Depth at 6.0 Feet No Free Ground Water Encountered
8								
10								
12								
14								

LOG OF BORING

Test Pit 7D

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SM	Dark brown silty fine to coarse sand with organic matter and gravel, moist and loose
							SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense
							SP	Brown fine to coarse sand with silt and gravel, slightly damp and medium dense

Depth scale (feet): 0, 2, 4, 6, 8, 10, 12, 14

Total Depth at 6.0 Feet
No Free Ground Water Encountered

LOG OF BORING

Test Pit 7E

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
1							SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense
6								Total Depth at 6.0 Feet No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

SuperLog CivilTech Software, USA www.civiltech.com File: C:\Superlog4\PROJECTS\S-13852 (rpt. no. 4137).log Date: 12/21/2016

LOG OF BORING

John R. Byerly, Inc.

High Trails Outdoor Science School
Angeles Oaks, California

Enclosure 4, Page 33
Rpt. No.: 4137
File No.: S-13852

Test Pit 7F

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	Symbol	Description
0						GWT not encountered	SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
1							SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense
6								Total Depth at 6.0 Feet No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

LOG OF BORING

Test Pit 7G

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0–1						GWT not encountered	SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
1–6							SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

Total Depth at 6.0 Feet
No Free Ground Water Encountered

LOG OF BORING

Test Pit 7H

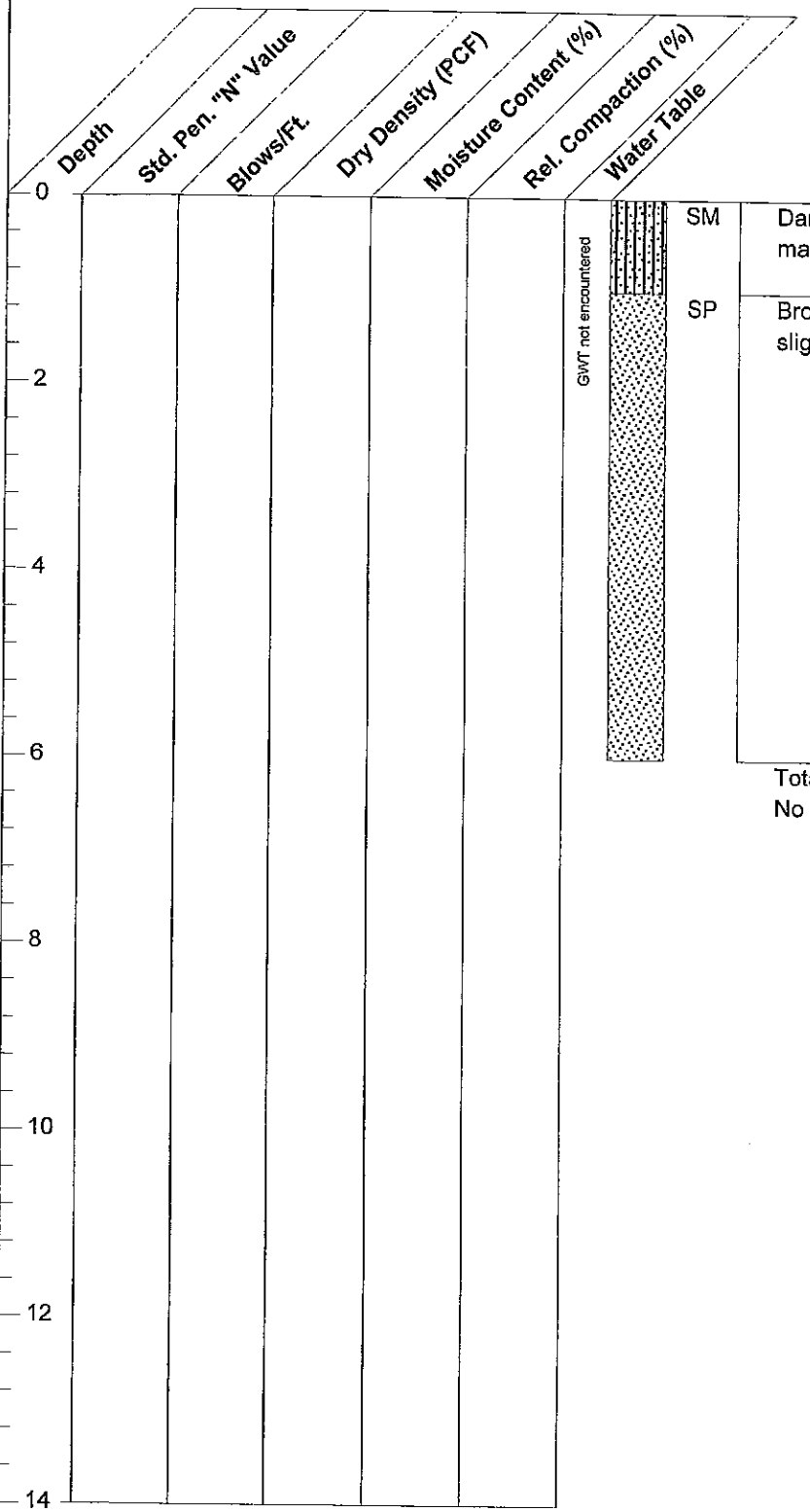
Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
1							SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense
6								Total Depth at 6.0 Feet No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

LOG OF BORING

Test Pit 8A



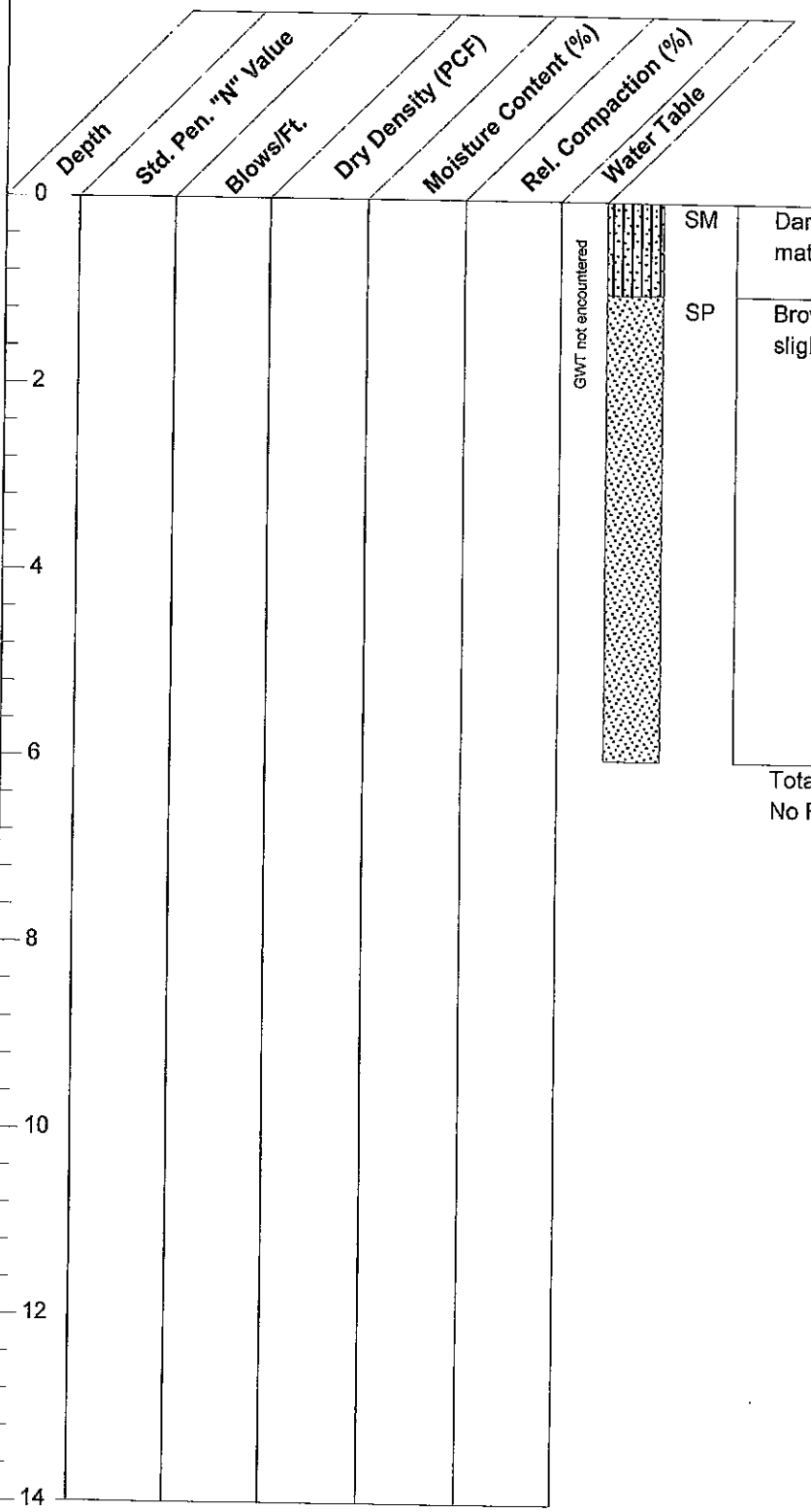
Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

LOG OF BORING

Test Pit 8B



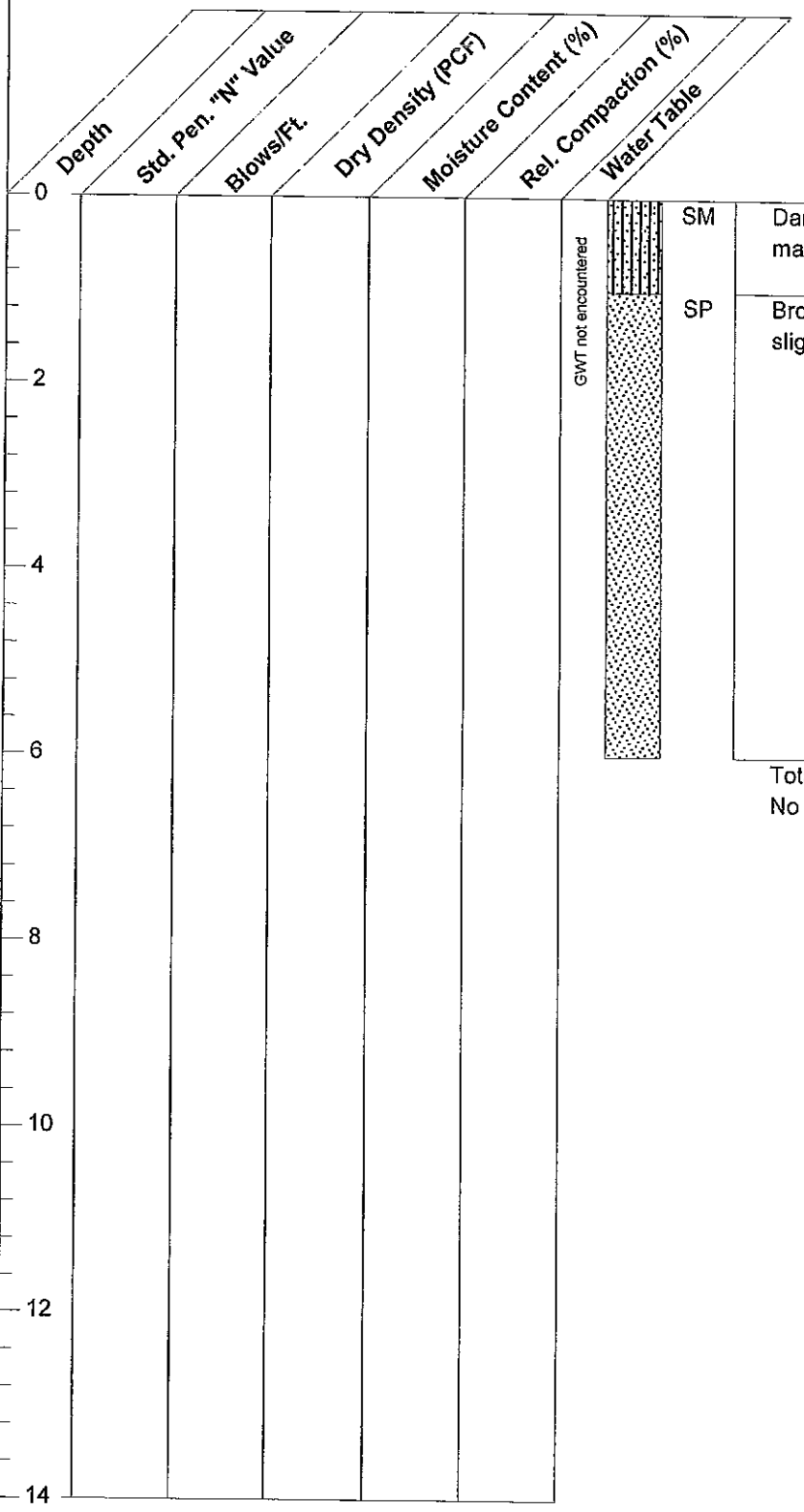
Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

LOG OF BORING

Test Pit 8C



Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

LOG OF BORING

Test Pit 8D

Depth | Std. Pen. "N" Value | Blows/Ft. | Dry Density (PCF) | Moisture Content (%) | Rel. Compaction (%) | Water Table

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Water Table: GWT not encountered

Depth	Soil	Description
0	SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
1	SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

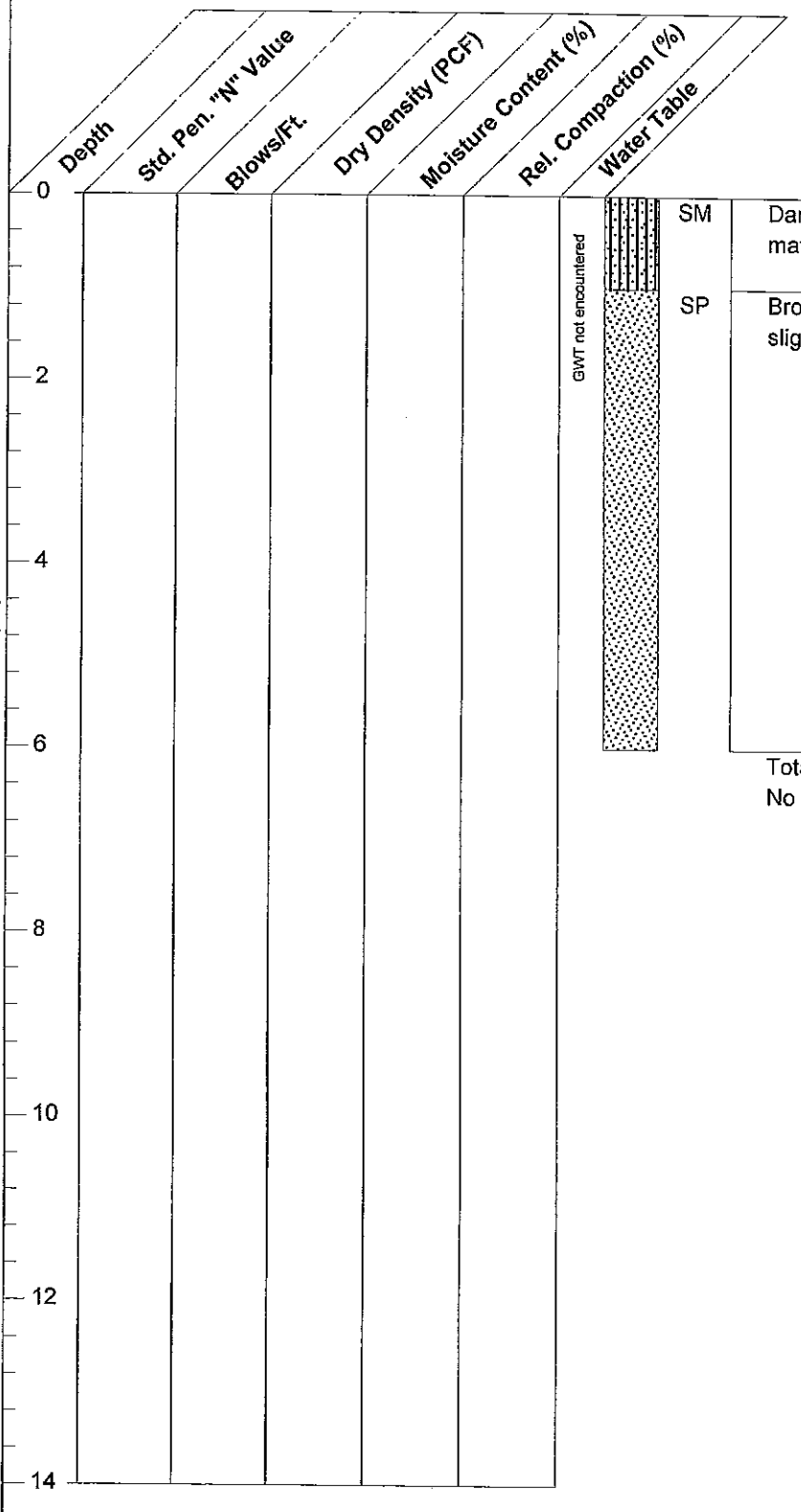
LOG OF BORING

John R. Byerly, Inc.

High Trails Outdoor Science School
Angeles Oaks, California

Enclosure 4, Page 40
Rpt. No.: 4137
File No.: S-13852

Test Pit 8E



Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

LOG OF BORING

Test Pit 8F

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

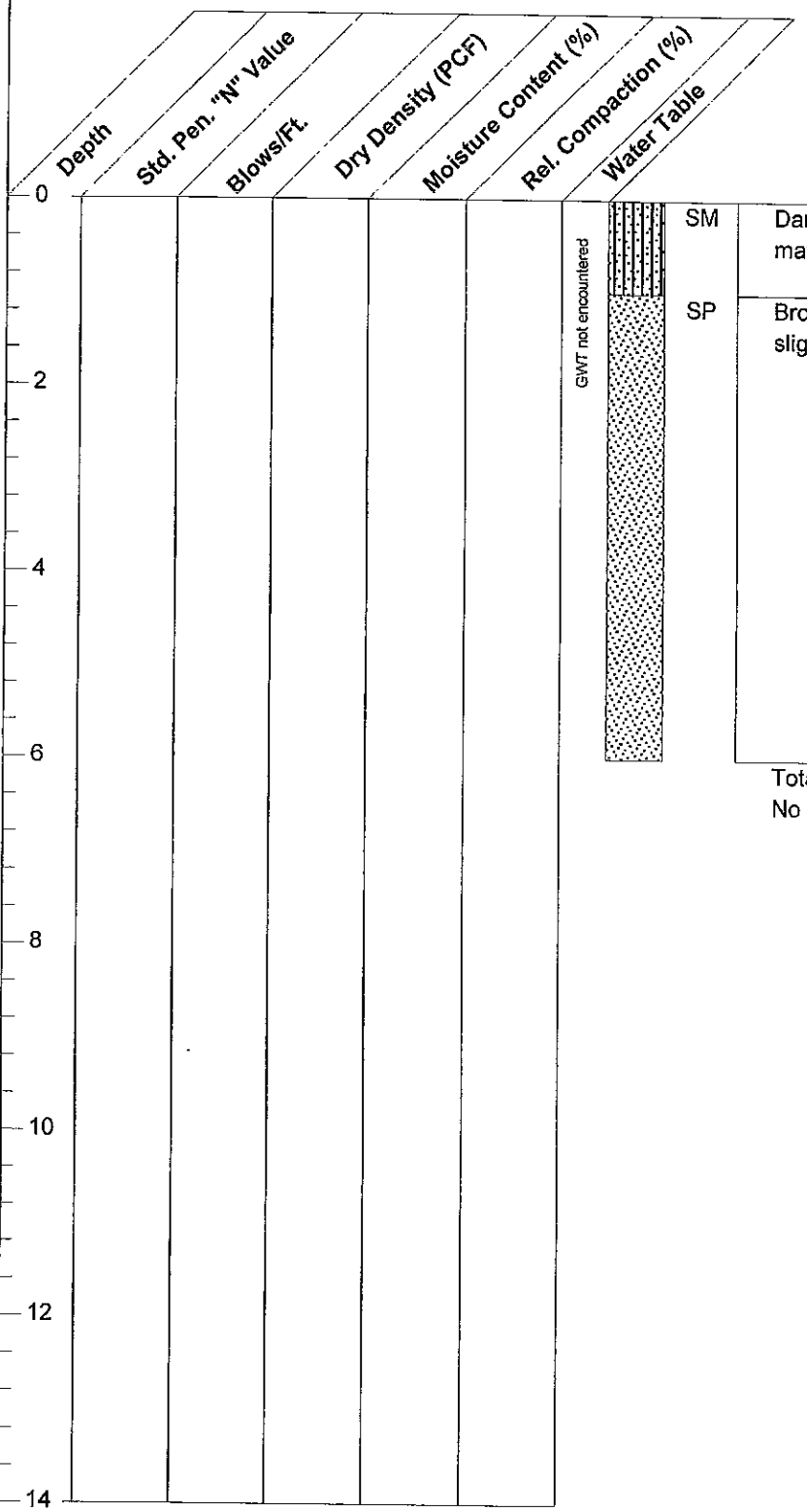
Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
1							SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense
6								Total Depth at 6.0 Feet No Free Ground Water Encountered

Depth scale: 0, 2, 4, 6, 8, 10, 12, 14

LOG OF BORING

John R. Byerly, Inc.	High Trails Outdoor Science School Angeles Oaks, California	Enclosure 4, Page 42 Rpt. No.: 4137 File No.: S-13852

Test Pit 8G



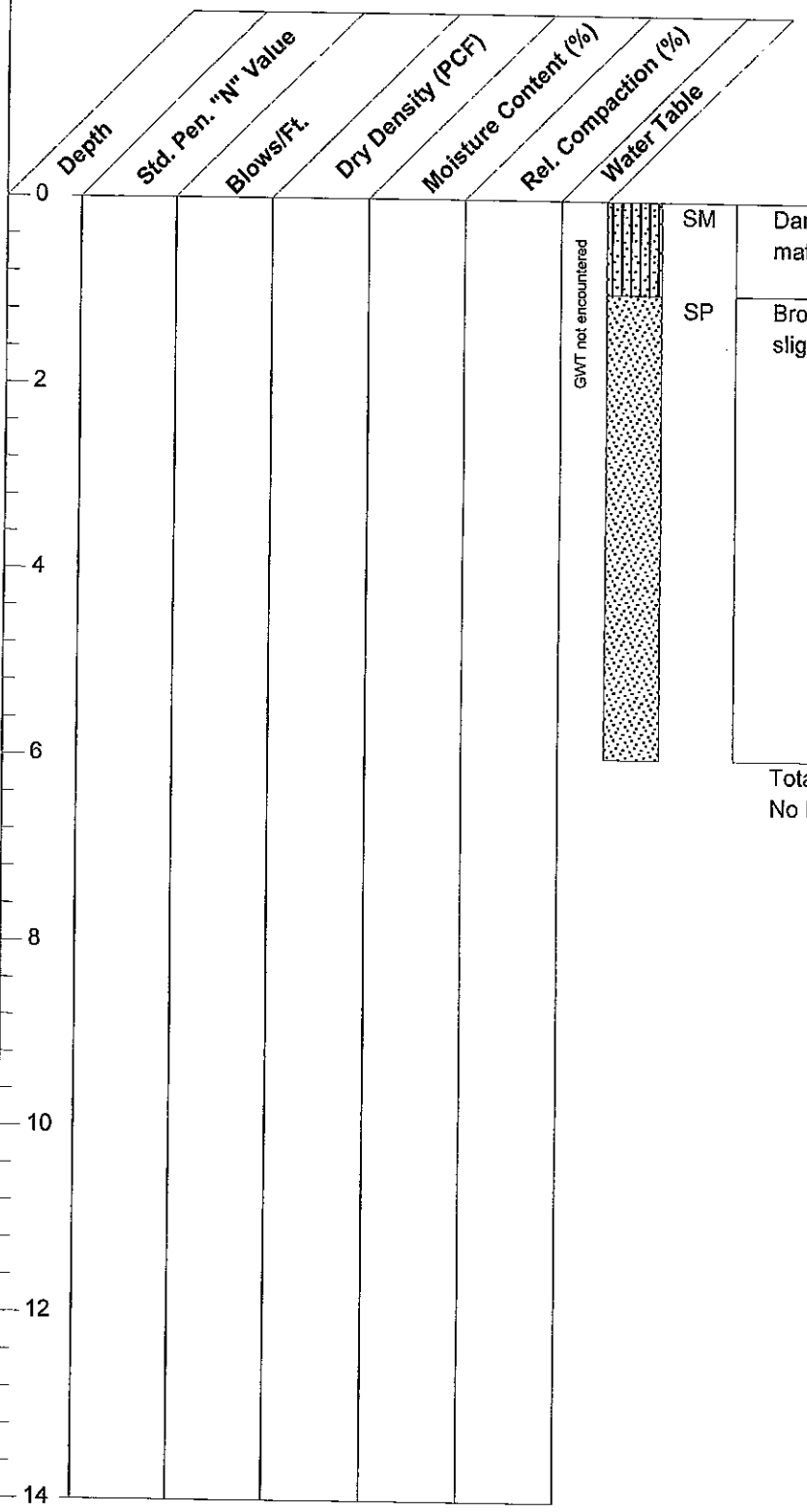
Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

LOG OF BORING

Test Pit 8H



Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense

Total Depth at 6.0 Feet
No Free Ground Water Encountered

LOG OF BORING

Test Pit 1

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SM	Dark brown silty fine to coarse sand with roots, moist and loose
							SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense
5								
							SM	Yellow-brown silty fine to coarse sand, slightly damp and medium dense
10								
15								
								Total Depth at 15.5 Feet No Free Ground Water Encountered
20								
25								
30								
35								

LOG OF BORING

Test Pit 2

Boring Date: 11/09/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SM	Brown silty fine to coarse sand with roots, porous, moist and loose
							SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense
5							SP	Yellow-brown fine to coarse sand with silt, gravel, and cobbles, slightly damp, and medium dense
10								
15								Total Depth at 15.0 Feet No Free Ground Water Encountered
20								
25								
30								
35								

LOG OF BORING

Test Pit 3

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SM	Dark brown silty fine to medium sand with roots, moist and loose
							SM	Yellow-brown silty fine to coarse sand with gravel and cobbles, dry and loose
							SP	Yellow-brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense
5							SP	Brown gravelly fine to coarse sand with silt and cobbles, slightly damp and medium dense
10								
15								Total Depth at 15.0 Feet No Free Ground Water Encountered
20								
25								
30								
35								

LOG OF BORING

Test Pit 4

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table
0 – 15						GWT not encountered

Boring Date: 11/09/16
Surface Elevation:
Drilling Method: Backhoe

Depth (ft)	USCS	Description
0 – ~1.2	SM	Dark brown silty fine to coarse sand with gravel and organic matter, moist and loose
~1.2 – 5.2	SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense
5.2 – 15	SP	Brown fine to coarse sand with silt, gravel, cobbles, and boulders, slightly damp and medium dense

Total Depth at 15.0 Feet
No Free Ground Water Encountered

Depth scale: 0, 5, 10, 15, 20, 25, 30, 35

LOG OF BORING

Test Pit 5

Boring Date: 11/10/16
Surface Elevation:
Drilling Method: Backhoe

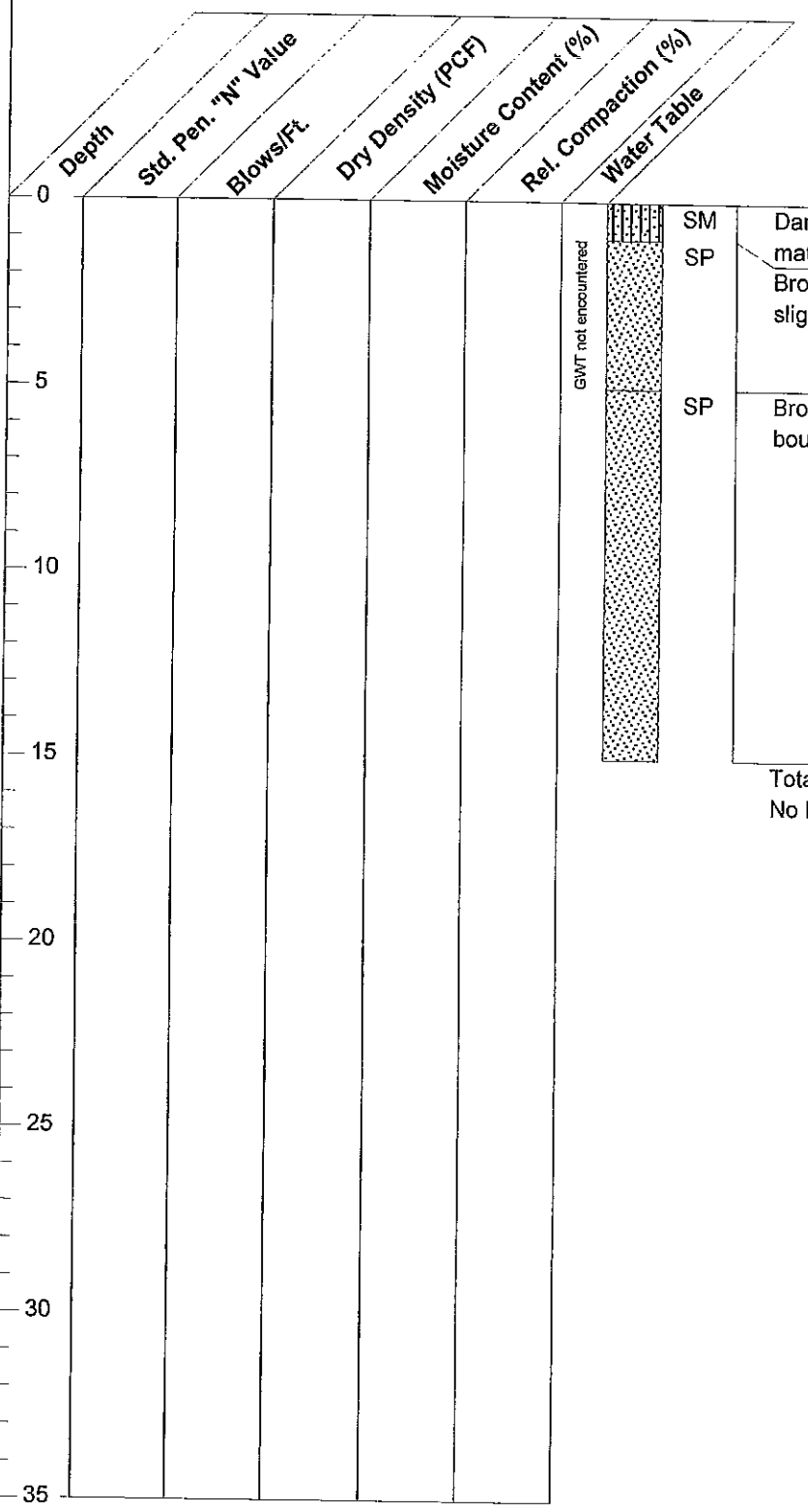
Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SM	Brown silty fine to coarse sand with organic matter and roots, porous, moist and loose
							SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense
5							SP	Brown fine to coarse sand with silt, gravel, cobbles, and boulders, slightly damp and medium dense
10								
15								

Total Depth at 15.0 Feet
No Free Ground Water Encountered

Depth scale: 0, 5, 10, 15, 20, 25, 30, 35

LOG OF BORING

Test Pit 6



Boring Date: 11/09/16
Surface Elevation:
Drilling Method: Backhoe

SM / SP — Dark brown silty fine to coarse sand with roots and organic matter, dry and loose

Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense

SP — Brown fine to coarse sand with silt, gravel, cobbles, and boulders, slightly damp and medium dense

Total Depth at 15.0 Feet
No Free Ground Water Encountered

LOG OF BORING

Test Pit 7

Depth | Std. Pen. "N" Value | Blows/Ft. | Dry Density (PCF) | Moisture Content (%) | Rel. Compaction (%) | Water Table

Boring Date: 11/09/16
Surface Elevation:
Drilling Method: Backhoe

Depth (ft)	USCS	Description
0	SM	Dark brown silty fine to coarse sand with organic matter, porous, damp and loose
	SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense
5	SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense

Water Table: GWT not encountered

Total Depth at 15.0 Feet
No Free Ground Water Encountered

Depth scale: 0, 5, 10, 15, 20, 25, 30, 35

LOG OF BORING

Test Pit 8

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table	USCS	Description
0						GWT not encountered	SM	Dark brown silty fine to coarse sand with gravel and roots, porous, moist and loose
							SP	Brown fine to coarse sand with silt and gravel, slightly damp and medium dense
5							SP	Brown gravelly fine to coarse sand with cobbles and boulders, slightly damp and medium dense
10								
15								Total Depth at 15.0 Feet No Free Ground Water Encountered
20								
25								
30								
35								

Boring Date: 11/09/16

Surface Elevation:

Drilling Method: Backhoe

LOG OF BORING

John R. Byerly, Inc.

High Trails Outdoor Science School
Angeles Oaks, California

Enclosure 4, Page 52
Rpt. No.: 4137
File No.: S-13852

Test Pit 9

Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

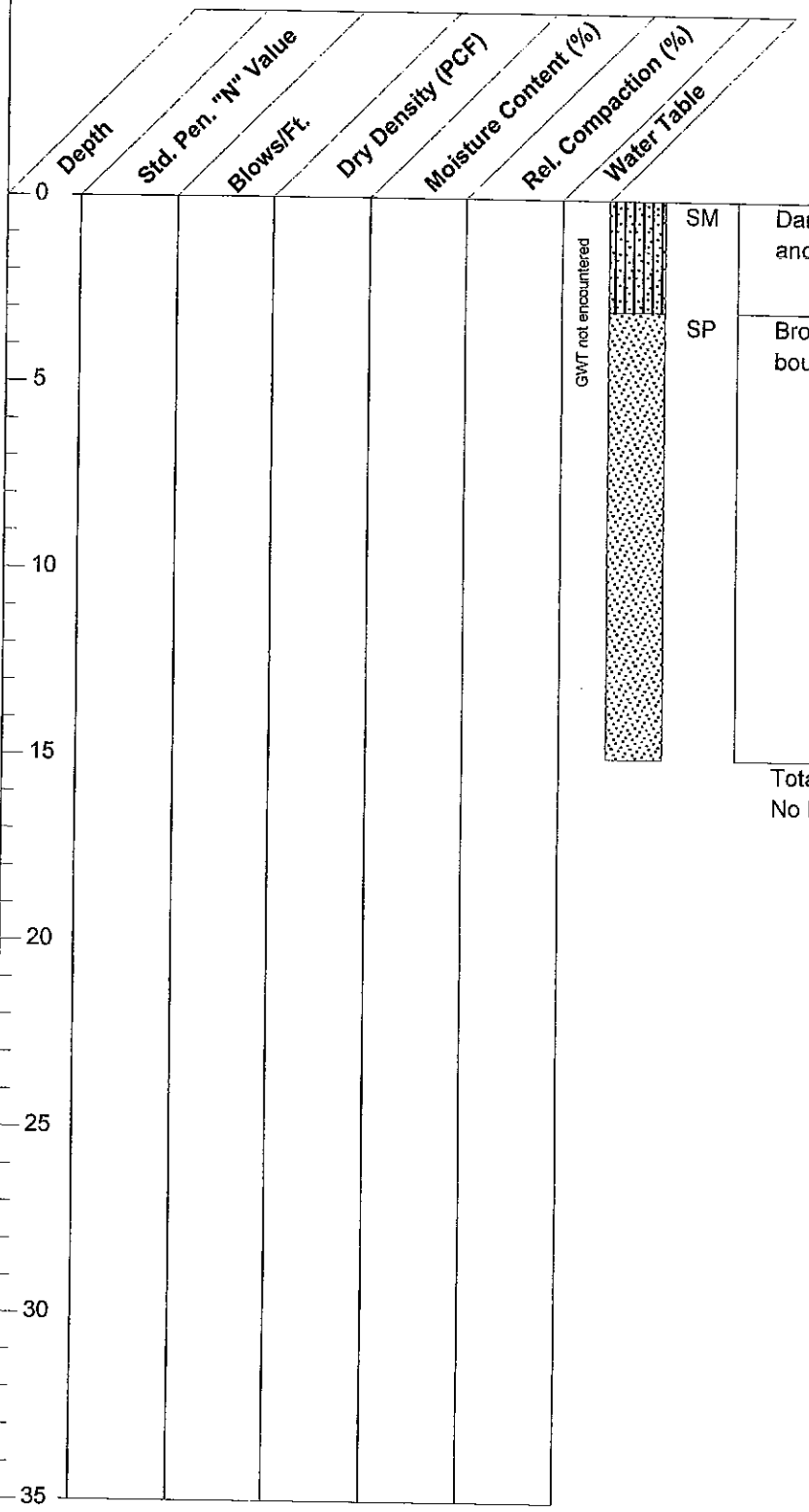
Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table		Description
0						GWT not encountered	SM	Brown silty fine to coarse sand, porous, damp and loose
							SP	Brown fine to coarse sand with silt and gravel, slightly damp and medium dense
10								- with boulders at 10.0 feet

Refusal on Boulders at 12.5 Feet
No Free Ground Water Encountered

Depth scale: 0, 5, 10, 15, 20, 25, 30, 35

LOG OF BORING

Test Pit 10



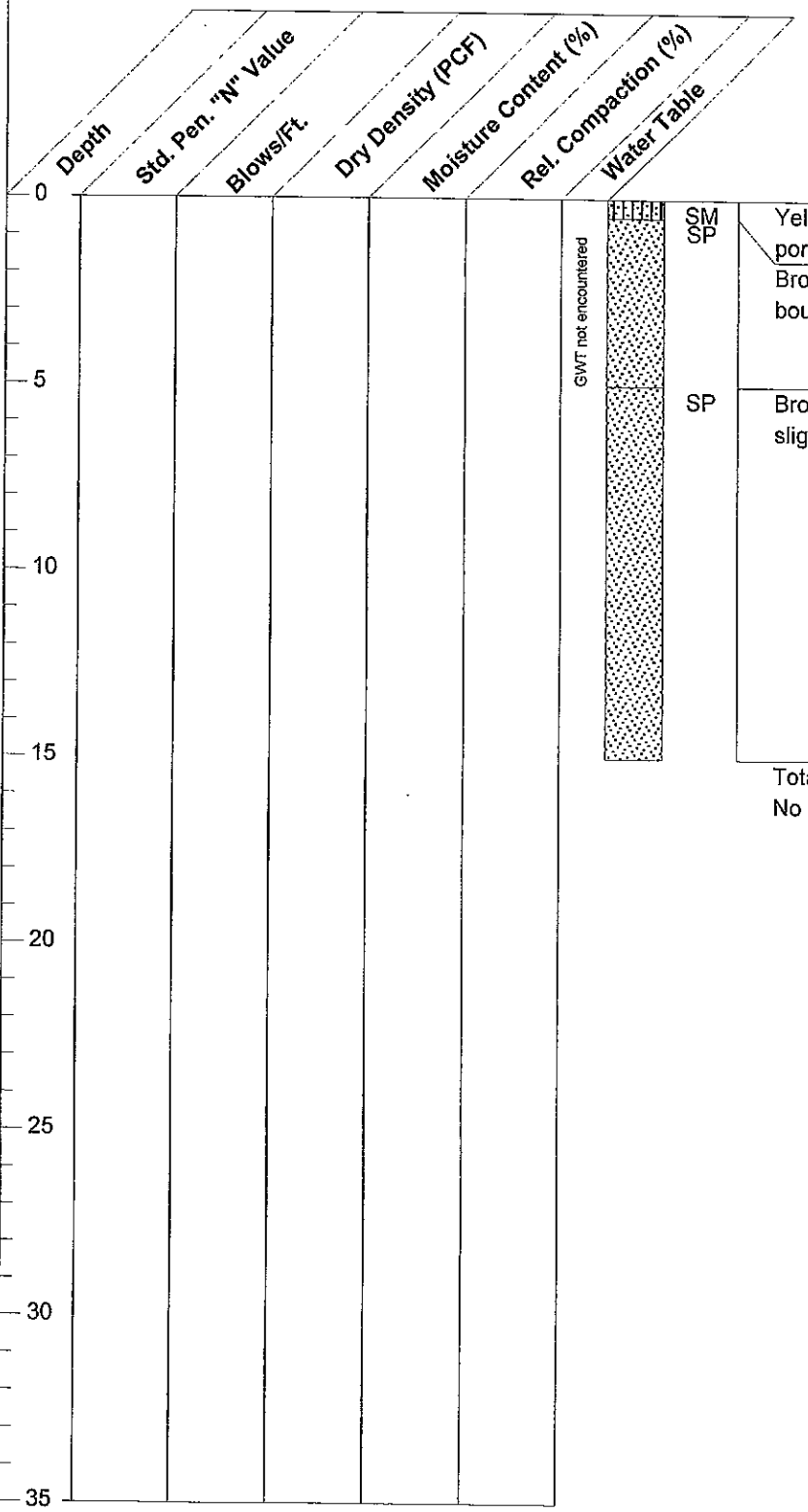
Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

SM	Dark brown silty fine to coarse sand with roots, porous, moist and loose
SP	Brown fine to coarse sand with silt, gravel, cobbles, and boulders, slightly damp and medium dense

Total Depth at 15.0 Feet
No Free Ground Water Encountered

LOG OF BORING

Test Pit 11



Boring Date: 11/08/16
Surface Elevation:
Drilling Method: Backhoe

SM SP	Yellow-brown silty fine to coarse sand with gravel and roots, porous, damp and medium dense
	Brown fine to coarse sand with silt, gravel, cobbles, and boulders, slightly damp and medium dense
SP	Brown fine to coarse sand with silt, gravel, and cobbles, slightly damp and medium dense

Total Depth at 15.0 Feet
No Free Ground Water Encountered

LOG OF BORING

SUMMARY OF PERCOLATION RATES

Test Pit No.	Depth of Test (ft.)	Percolation Rate (Min./inch)
1A	5.0	0.4
1B	5.0	2.1
1C	5.0	1.4
1D	5.0	4.4
2A	6.0	1.5
2B	6.0	1.1
2C	6.0	1.4
2D	6.0	1.6
2E	6.0	1.5
3A	6.0	3.2
3B	6.0	1.7
3C	6.0	1.6
3D	6.0	1.5
4A	5.0	3.0
4B	5.0	3.5
4C	5.0	2.5
4D	5.0	1.5
5A	6.0	2.6
5B	6.0	2.8
5C	6.0	2.9
5D	6.0	3.5
6A	6.0	5.7
6B	6.0	1.1
6C	6.0	3.2
6D	6.0	1.2
6E	6.0	5.3
6F	6.0	5.7
6G	6.0	1.4
6H	6.0	6.2
7A	6.0	3.0
7B	6.0	1.9

Test Pit No.	Depth of Test (ft.)	Percolation Rate (Min./inch)
7C	6.0	3.8
7D	6.0	1.8
7E	5.5	5.0
7F	5.5	4.1
7G	6.0	3.8
7H	6.0	5.6
8A	5.5	4.3
8B	6.0	4.8
8C	6.0	5.1
8D	6.0	5.6
8E	5.5	5.0
8F	5.7	5.6
8G	5.5	4.1
8H	6.0	6.2

JOHN R. BYERLY, INC.

PERCOLATION TEST DATA SHEET - LEACH LINES

Job: HIGH TRAILS OUTDOOR SCHOOL Date: 11/15/16 By: MSC Remarks:

T.P. No. 1A Dia. (in.) 8
Depth of Test 5.0

Time Read	Read. (in.)	Rate min/in
0903	2 1/4	—
0933	12+	
1158	2 1/2	0.3
1201	12	
1203	2 1/2	0.3
1206	12	
1208	2 1/2	0.4
1211	11	
1218	2	0.4
1220	7	
1221	2	0.4
1223	7	
1224	2	0.4
1226	7	

T.P. No. 1B Dia. (in.) 8
Depth of Test 5.0

Time Read	Read. (in.)	Rate min/in
0907	2	—
0937	12+	
1054	2	1.7
1104	7 3/4	
1105	2	2.1
1115	6 3/4	
1117	2	2.1
1127	6 3/4	
1128	2	2.1
1138	6 3/4	
1138	2	2.1
1148	6 3/4	
1148	2	2.1
1158	6 3/4	
1200	2	2.1
1210	6 3/4	

T.P. No. 1C Dia. (in.) 8
Depth of Test 5.0

Time Read	Read. (in.)	Rate min/in
0911	2 1/2	—
0941	12+	
0941	12 1/2	1.4
0951	9 3/4	
0952	2	1.3
1002	9 1/2	
1003	2	1.3
1013	9 3/4	
1014	2 1/4	1.4
1024	9 1/2	
1025	2 1/2	1.4
1035	9 1/2	
1036	2 1/2	1.4
1046	9 1/2	
1047	2 1/4	1.4
1057	9 1/4	

T.P. No. 1D Dia. (in.) 8
Depth of Test 5.0

Time Read	Read. (in.)	Rate min/in
0914	2	2.8
0934	9 1/4	
0946	2	4.0
0956	4 1/2	
0957	2	3.6
1007	4 3/4	
1009	2	4.0
1019	4 1/2	
1019	2	4.4
1029	4 1/4	
1029	2	4.4
1039	6 1/4	
1039	2	4.4
1049	4 1/4	

Enclosure 6, Page 1
Rpt. No.: 4137
File No.: S-13852

JOHN R. BYERLY, INC.

PERCOLATION TEST DATA SHEET - LEACH LINES

Job: High Trails Outdoor Science School Date: 11/22/16 By: MEC Remarks:

T.P. No. 2A Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1442	2	—
1512	12+	
1521	2 1/4	1.8
1532	8 1/2	
1533	2 3/4	1.5
1543	9 1/4	
1544	2 1/2	1.6
1554	8 7/8	
1555	2 1/8	1.5
1605	8 3/4	
1606	2 1/8	1.5
1616	8 3/4	
1617	2	1.5
1627	8 5/8	

T.P. No. 2B Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1444	2 1/4	—
1514	12+	
1523	2 1/4	1.1
1534	11 7/8	
1535	2 1/8	1.0
1545	11 3/4	
1546	2 1/4	1.1
1556	11 3/4	
1557	2	1.1
1607	11	
1608	2	1.1
1618	11	
1619	2	1.1
1629	11	

T.P. No. 2C Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1446	2	—
1516	12+	
1526	2 3/8	1.3
1536	9 7/8	
1537	2 1/8	1.4
1547	9 1/4	
1548	2 3/8	1.4
1558	9 5/8	
1559	2 1/8	1.5
1609	9	
1610	2 1/4	1.4
1620	9 1/4	
1622	2	1.4
1632	9	

T.P. No. 2D Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1448	2 1/8	—
1518	12+	
1528	2 1/8	1.6
1538	8 1/2	
1538	2 1/2	1.7
1548	8 3/8	
1549	2 1/4	1.6
1559	8 3/8	
1559	2 1/8	1.6
1610	8 1/4	
1612	2	1.6
1623	8 1/8	
1624	2 1/8	1.6
1634	8 1/4	

Enclosure 6, Page 2
Rpt. No.: 4137
File No.: S-13852

JOHN R. BYERLY, INC.

PERCOLATION TEST DATA SHEET - LEACH LINES

Job: High Trails Outdoor Science School Date: 11/22/16 By: MEC Remarks: ______

T.P. No. 2E Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1450	2	—
1520	12+	
1529	2	1.5
1539	8 3/4	
1540	2 1/8	1.5
1550	8 7/8	
1551	2	1.5
1601	8 5/8	
1602	2 1/8	1.5
1612	8 3/4	
1613	2	1.5
1624	8 1/2	
1625	2	1.5
1635	8 1/2	

T.P. No. ______ Dia. (in.) ______
Depth of Test ______

Time Read	Read. (in.)	Rate min/in

T.P. No. ______ Dia. (in.) ______
Depth of Test ______

Time Read	Read. (in.)	Rate min/in

T.P. No. ______ Dia. (in.) ______
Depth of Test ______

Time Read	Read. (in.)	Rate min/in

JOHN R. BYERLY, INC.

PERCOLATION TEST DATA SHEET - LEACH LINES

Job: Night Trails Outdoor Science School Date: 11/22/16 By: AWC Remarks:

T.P. No. 3A Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1329	2	—
1359	12+	
1408	2	2.9
1416	5 1/2	
1417	2	2.8
1427	5 1/8	
1427	2	3.2
1437	5 1/8	
1438	2	2.7
1448	5 3/4	
1448	2 1/2	3.2
1458	5 5/8	
1458	2	3.2
1508	5 1/8	

T.P. No. 3B Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1333	2	—
1403	12+	
1408	2 1/4	1.5
1418	8 7/8	
1421	2	1.6
1431	8 3/8	
1432	2 1/2	1.7
1442	8 3/8	
1443	2 1/2	1.7
1453	8 1/2	
1455	2 1/4	1.6
1505	8 1/2	
1506	2 1/4	1.7
1516	8 1/4	

T.P. No. 3C Dia. (in.) 8
Depth of Test 6

Time Read	Read. (in.)	Rate min/in
1337	2	—
1407	12+	
1520	2	1.5
1530	8 3/4	
1531	2	1.7
1541	8	
1542	2	1.6
1552	8 1/4	
1552	2	1.6
1602	8 1/4	
1603	2	1.6
1613	8 1/8	
1614	2	1.6
1624	8 1/8	

T.P. No. 3D Dia. (in.) 8
Depth of Test 6

Time Read	Read. (in.)	Rate min/in
1338	2	—
1408	12+	
1525	2	1.4
1535	9 1/4	
1536	2	1.4
1546	9 1/4	
1546	2	1.4
1556	9	
1557	2 1/8	1.5
1607	8 7/8	
1607	2 1/8	1.5
1617	9	
1617	2	1.4
1627	9	

Enclosure 6, Page 4
Rpt. No.: 4137
File No.: S-13852

JOHN R. BYERLY, INC.

PERCOLATION TEST DATA SHEET - LEACH LINES

Job: Flight Trails Outdoor Science School Date: 11/23/16 By: MEC Remarks:

T.P. No. 4A Dia. (in.) ____
Depth of Test 5.0

Time Read	Read. (in.)	Rate min/in
0912	2	3.6
0942	9	
1004	2	2.4
1014	6 1/4	
1016	2 3/4	2.8
1026	6 3/8	
1026	2 1/2	3.0
1036	5 7/8	
1041	2 1/8	2.4
1051	6 1/2	
1052	2 3/8	2.6
1102	6 1/4	
1103	2 1/4	2.5
1113	6 1/4	

T.P. No. 4B Dia. (in.) 8
Depth of Test 5.0

Time Read	Read. (in.)	Rate min/in
0421	2	—
0451	12+	
1013	2 3/8	2.6
1023	6 1/4	
1024	2 1/4	2.4
1034	6 3/8	
1035	2 1/4	3.6
1045	5	
1046	2	3.5
1056	6 7/8	
1057	2 1/4	3.5
1107	5 1/8	
1108	2 5/8	3.5
1118	5 1/2	

T.P. No. 4C Dia. (in.) ____
Depth of Test 5.0

Time Read	Read. (in.)	Rate min/in
0923	2	—
0953	12+	
1133	2 1/8	2.2
1143	6 5/8	
1144	2 1/4	2.4
1154	6 1/2	
1155	2	2.5
1205	6	
1205	2	2.5
1215	6	
1216	2 1/8	2.5
1226	6 1/2	
1226	2	2.5
1236	6	

T.P. No. 4D Dia. (in.) 8
Depth of Test 5.0

Time Read	Read. (in.)	Rate min/in
0927	2 1/2	—
0957	12+	
1138	2 1/4	1.3
1148	10 1/4	
1148	2 1/4	1.4
1158	9 5/8	
1159	2 1/4	1.4
1209	9 5/8	
1211	2 1/4	1.4
1221	9 3/8	
1221	2 1/8	1.5
1231	9	
1231	2 1/4	1.4
1241	9 1/8	

Enclosure 6, Page 5
Rpt. No.: 4137
File No.: S-13852

JOHN R. BYERLY, INC.

PERCOLATION TEST DATA SHEET - LEACH LINES

Job: High Trails Outdoor Science School Date: 11/23/16 By: MEC Remarks:

T.P. No. 5A Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
0901	2	—
0931	12+	
1001	2	2.0
1011	7	
1012	2	2.4
1022	6 1/8	
1023	2	2.6
1033	5 7/8	
1034	2	2.6
1044	5 7/8	
1046	2	2.6
1056	5 7/8	
1057	2	2.6
1107	5 7/8	

T.P. No. 5B Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
0903	2 1/8	—
0933	12+	
1004	2 3/8	2.1
1014	2 1/4	
1017	2	2.8
1027	5 5/8	
1028	2 1/8	2.8
1038	5 3/4	
1038	2 3/8	2.8
1048	5 3/4	
1049	2 1/2	2.8
1059	6 1/8	
1100	2 1/2	2.8
1110	6 1/8	

T.P. No. 5C Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
0905	2	—
0935	12+	
1141	2	2.3
1157	6 3/8	
1157	2 1/8	3.0
1209	5 1/2	
1203	2	2.9
1213	5 1/2	
1214	2	2.9
1224	5 1/2	
1225	2	2.9
1235	5 1/2	
1236	2 1/8	2.9
1246	5 5/8	

T.P. No. 5D Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
0907	2 1/4	—
0937	12+	
1145	2	2.8
1155	5 5/8	
1156	2	3.5
1206	4 7/8	
1209	2	3.5
1219	4 7/8	
1220	2 1/4	3.5
1230	5 1/8	
1231	2	3.5
1241	4 7/8	
1242	2 1/4	3.5
1252	5	

Enclosure 6, Page 6
Rpt. No.: 4137
File No.: S-13852

JOHN R. BYERLY, INC.

PERCOLATION TEST DATA SHEET - LEACH LINES

Job: High Trails Outdoor Science School Date: 12/6/16 By: MOC Remarks:

T.P. No. 6A Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1007	2	4.6
1037	8 1/2	
1037	2	5.3
1047	3 7/8	
1048	2 1/4	5.3
1058	4 1/8	
1058	2	5.7
1108	3 3/4	
1109	2 1/8	5.7
1119	3 7/8	
1120	2	5.7
1130	3 3/4	
1131	2 3/8	5.7
1141	4 1/8	

T.P. No. 6B Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1011	2	—
1041	12+	
1149	2	1.1
1159	11 1/2	
1200	2	1.1
1210	11	
1211	2 1/8	1.1
1221	11	
1222	2	1.1
1232	10 7/8	
1233	2	1.1
1243	10 7/8	
1244	2 1/8	1.1
1254	11	

T.P. No. 6C Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1013	2	3.2
1043	11 1/2	
1044	2	3.1
1054	5 1/4	
1054	2	3.2
110	5 1/8	
1105	2	3.2
1115	5 1/8	
1116	2 1/8	3.2
1126	5 1/4	
1127	2	3.2
1137	5 1/8	
1138	2 1/8	3.2
1148	5 1/4	

T.P. No. 6D Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1076	2 1/8	—
1046	12+	
1152	2	1.1
1202	11	
1203	2	1.2
1213	10 1/2	
1214	2 1/8	1.2
1224	10 1/2	
1225	2	1.2
1235	10 3/8	
1236	2	1.2
1246	10 3/8	
1247	2 1/8	1.2
1257	10 1/2	

Enclosure 6, Page 7
Rpt. No.: 4137
File No.: S-13852

JOHN R. BYERLY, INC.

PERCOLATION TEST DATA SHEET - LEACH LINES

Job: HIGH TRAN: OUTDOOR SCIENCE SCHOOL Date: 12/06/16 By: MKC Remarks:

T.P. No. 6E Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1302	2	4.1
1332	9 1/4	
1350	2	4.4
1400	4 1/4	
1401	2 1/8	5.3
1411	4	
1412	2	5.3
1422	3 7/8	
1423	2	5.3
1433	3 7/8	
1434	2	5.3
1444	3 7/8	
1445	2 1/8	5.3
1455	4	

T.P. No. 6F Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1307	2	4.4
1337	8 1/4	
1355	2 1/8	5.3
1405	4	
1406	2	5.7
1416	3 3/4	
1417	2 1/4	5.7
1426	4	
1429	2 1/8	5.7
1439	3 7/8	
1440	2 1/8	5.7
1450	3 7/8	
1451	2 1/8	5.7
1501	3 7/8	

T.P. No. 6G Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1311	2	—
1341	12+	
1505	2	1.3
1515	9 1/2	
1516	2	1.4
1526	9 1/4	
1527	2 1/8	1.4
1537	9 1/4	
1538	2	1.4
1548	9	
1549	2 1/8	1.4
1559	9 1/8	
1600	2	1.4
1610	9	

T.P. No. 6H Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1316	2	4.0
1346	9 1/2	
1510	2	5.7
1520	3 3/4	
1521	2	6.2
1531	3 5/8	
1532	2 1/4	6.2
1542	3 7/8	
1543	2	6.2
1553	3 5/8	
1554	2 1/8	6.2
1604	3 3/4	
1605	2	6.2
1615	3 5/8	

JOHN R. BYERLY, INC.

PERCOLATION TEST DATA SHEET - LEACH LINES

Job: High Trails Outdoor Science School Date: 11/23/16 By: MJZ Remarks:

T.P. No. 7A Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1301	2 1/8	
1331	12+	
1357	2	2.3
1407	6 3/8	
1407	2 1/8	3.0
1417	5 1/2	
1417	2 1/8	3.0
1427	5 1/2	
1427	2 1/8	3.0
1437	5 1/2	
1438	2 1/4	3.0
1448	5 3/8	
1449	2 1/8	3.0
1459	5 1/2	

T.P. No. 7B Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1303	2	
1333	12+	
1401	2	1.6
1411	8 1/4	
1411	2	1.9
1421	7 1/4	
1422	2	1.9
1432	7 1/4	
1433	2	1.9
1443	7 1/4	
1444	2 1/8	1.9
1454	7 3/8	
1455	2	1.9
1505	7 1/4	

T.P. No. 7C Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1305	2 1/4	
1335	12+	
1457	2	2.6
1507	5 7/8	
1507	2 1/8	3.5
1517	5	
1517	2 1/8	3.8
1527	4 3/4	
1527	2 1/8	3.8
1537	4 3/4	
1538	2	3.8
1548	4 5/8	
1549	2 1/8	3.8
1559	4 3/4	

T.P. No. 7D Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1307	2 1/8	
1337	12+	
1502	2 1/4	1.5
1512	8 7/8	
1513	2	1.7
1523	7 7/8	
1523	2	1.8
1533	7 1/2	
1534	2	1.8
1544	7 1/2	
1545	2 1/8	1.8
1555	7 5/8	
1556	2	1.8
1606	7 1/2	

Enclosure 6, Page 9
Rpt. No.: 4137
File No.: S-13852

JOHN R. BYERLY, INC.

PERCOLATION TEST DATA SHEET - LEACH LINES

Job: High Trails Outdoor Science School Date: 11/30/16 By: MEC Remarks:

T.P. No. 7C Dia. (in.) 8
Depth of Test 5.0'

Time Read	Read. (in.)	Rate min/in
1005	2 3/8	4.2
1035	9 1/2	
1036	2 5/8	5.1
1106	8 3/8	
1107	2 3/8	5.0
1137	8 3/8	
1138	2 1/8	5.0
1208	8 1/8	
1208	2 1/2	5.0
1238	8 1/2	
1339	2 3/8	5.0
1309	8 5/8	

T.P. No. 7F Dia. (in.) 8
Depth of Test 5.0'

Time Read	Read. (in.)	Rate min/in
1008	2	3.6
1039	10 1/4	
1040	2	4.1
1110	9 1/4	
1111	2 1/8	4.1
1141	9 3/8	
1142	2	4.1
1212	9 1/4	
1213	2 1/8	4.1
1243	9 3/8	
1244	2	4.1
1314	9 1/4	

T.P. No. 7G Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1010	2 1/4	3.8
1040	10 1/2	
1041	2	3.8
1111	10	
1113	2 1/8	3.8
1143	10	
1144	2	3.8
1214	10	
1215	2	3.8
1245	10	
1246	2	3.8
1316	10	

T.P. No. 7H Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1014	2 1/8	4.9
1045	8 1/2	
1046	2 3/4	5.6
1116	8 1/8	
1117	2 1/8	5.6
1147	7 1/2	
1148	2 1/4	5.6
1218	7 5/8	
1219	2 1/8	5.6
1249	7 1/2	
1249	2	5.6
1319	7 3/8	

Enclosure 6, Page 10
Rpt. No.: 4137
File No.: S-13852

JOHN R. BYERLY, INC.

PERCOLATION TEST DATA SHEET - LEACH LINES

Job: High Trails Outdoor Science School Date: 11/30/16 By: MEC Remarks:

T.P. No. 8A Dia. (in.) 8
Depth of Test 5.5

Time Read	Read. (in.)	Rate min/in
1310	2	4.0
1340	9 1/2	
1341	2	4.2
1409	9 1/8	
1412	2	4.3
1442	9	
1443	2 1/8	4.3
1513	9 1/8	
1514	2	4.3
1544	9	
1545	2	4.3
1615	9	

T.P. No. 8B Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1313	2	4.4
1343	8 3/4	
1344	2 1/8	4.7
1414	8 1/2	
1415	2	4.6
1445	8 1/2	
1446	2 1/8	4.8
1516	8 3/8	
1517	2	4.8
1547	8 1/4	
1548	2	4.9
1618	8 1/4	

T.P. No. 8C Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1316	2 1/8	4.7
1346	8 1/2	
1347	2	4.9
1417	8 1/8	
1418	2	5.1
1448	7 7/8	
1449	2 1/8	5.1
1519	8	
1520	2 1/8	5.1
1550	8	
1551	2	5.1
1621	7 7/8	

T.P. No. 8D Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
1318	2 1/4	5.5
1348	7 3/4	
1349	2 1/8	5.6
1419	7 1/2	
1420	2	5.6
1450	7 7/8	
1451	2 1/8	5.6
1521	7 1/2	
1522	2 1/8	5.6
1552	7 1/2	
1553	2	5.6
1623	7 7/8	

JOHN R. BYERLY, INC.

PERCOLATION TEST DATA SHEET - LEACH LINES

Job: High Trails Outdoor Science School Date: 11/22/16 By: MWE Remarks:

T.P. No. BE Dia. (in.) 8
Depth of Test 5.5

Time Read	Read. (in.)	Rate min/in
931	2	4.6
1001	8 1/2	
1002	2	4.9
1032	8 1/8	
1033	2	5.0
1103	8	
1104	2 1/4	5.0
1134	8 1/4	
1135	2	5.0
1205	8	
1206	2 1/8	5.0
1236	8 1/8	

T.P. No. BF Dia. (in.) 8
Depth of Test 5.7

Time Read	Read. (in.)	Rate min/in
0936	2	5.3
1006	7 5/8	
1007	2 1/8	5.6
1037	7 1/2	
1038	2	5.6
1108	7 3/8	
1109	2 1/4	5.6
1139	7 5/8	
1140	2	5.6
1210	7 3/8	
1211	2 1/8	5.6
1241	7 1/2	

T.P. No. BG Dia. (in.) 8
Depth of Test 5.5

Time Read	Read. (in.)	Rate min/in
0941	2	3.9
1011	9 3/4	
1012	2	4.0
1042	9 1/2	
1043	2 1/8	4.1
1113	9 1/2	
1114	2	4.1
1144	9 3/8	
1145	2 1/8	4.1
1215	9 1/2	
1216	2	4.1
1246	9 3/8	

T.P. No. BH Dia. (in.) 8
Depth of Test 6.0

Time Read	Read. (in.)	Rate min/in
0945	2 1/8	5.6
1015	7 1/2	
1016	2	5.7
1046	7 1/4	
1047	2	5.8
1117	7 1/8	
1118	2 1/8	6.2
1148	7	
1149	2	6.2
1219	6 7/8	
1220	2 1/8	6.2
1250	7	