NTS GEOTECHNICAL

May 5, 2023

Project No. 23143.1

Mr. Daniel Patneaude
DRP Enterprises, LLC
PO Box 4428
Palm Springs, CA 92263

Subject: Percolation Report
Proposed Lomita Boutique Campground
APN 0596-271-07, Town of Yucca Valley, California
5022 Lomita Lane

Dear Mr. Patneaude:

In accordance with your request and authorization, we are presenting the results of our percolation investigation for the proposed Lomita Boutique Campground project at APN 0596-271-07, in the Town of Yucca Valley, County of San Bernardino, California. The purpose of this investigation has been to evaluate the subsurface conditions at the site and to provide geotechnical engineering recommendations for the proposed construction.

Based on our findings, the proposed project is geotechnically feasible, provided that the recommendations in this report are incorporated into the design and are implemented during construction of the project. This report was prepared in accordance with the requirements of the 2022 California Building Code and the County of San Bernardino requirements.

We appreciate the opportunity to be of service on this project. Should you have any questions regarding this report or if we can be of further service, please do not hesitate to contact the undersigned at (657) 888-4608 or info@ntsgeo.com.

Respectfully submitted,
NTS GEOTECHNICAL, INC.

Nadim Sunna, M.Sc., Q.S.P, P.E., G.E. 3172
Principal Engineer

Attachment(s):

Plate 1 – Location Map
Plate 2 – Plot Plan

Appendix A – Field Exploration
Appendix B – Geotechnical Laboratory Test Result
Appendix C – Percolation Test Result
Appendix D – Leachline Calculations

1. DESCRIPTION OF SITE AND OF PROPOSAL:

1.1 Date County Specialist Notified: March 22, 2023, Notified by Mr. Nadim Sunna via email to ehs.customerservice@dph.sbcounty.gov

1.2 Prepared for: Mr. Daniel Patneaude
DRP Enterprises, LLC
PO Box 4428
Palm Springs, CA 92263

1.3 Location of Land: The site is located at 5022 Lomita Lane in the Town of Yucca Valley, County of San Bernardino, California. See attached Plate 1 – Location Map.

1.4 Proposed Development/Project/Land Use:

a) Type of Project: The project consists of construction of 19 campgrounds, club house, and parking lot at the subject site. The location of the structure is shown on Plate 2 – Plot Plan.

b) 1. Acreage: The total area of the site is approximately 5.0 Acres. The area available for the system is approximately 0.75 acre located in the eastern side of the property.

2. Number of lots: One.

3. Lot density: One lot per 5.0 acres.

c) Type of Sewage Disposal: A septic tank and leach field system was proposed.

d) Grading: Some grading is required for the project to develop the driveway leading to the building pad and the building pads.

1.5 Description of Site and Surroundings:

a) Topography: The area of the proposed leachfield system is gently sloping with an approximate 3 foot difference in elevation over approximately 80 feet going from east to west.

b) Water Courses: Based on review of available survey and google earth images, no water courses cross the site or located within 50 feet of the site.

c) Vegetation Type and Density: Light growth of weeds and native plants and Joshua Trees.

d) Existing Structures: None in the system area.

e) Existing Wells or Abandoned Wells on or Within 300 Feet of Project: None known.

f) Rock Outcrops: No bedrock outcrops were observed.

g) Probable Depth to Water Table:

Groundwater was not observed during our exploration to a maximum depth of 15 feet below the existing grade. Review of nearby well data (Well No. 341625N1164122W001) reveal that the highest groundwater reading is about elevation 3516 MSL, which places the groundwater at a depth of approximately 190 feet below existing grade. Groundwater conditions may vary across the site due to stratigraphic and hydrologic conditions, and may change over time as a consequence of seasonal and meteorological fluctuations, or activities by humans at this site and nearby sites. However, based on the above findings, groundwater is unlikely to impact the proposed development.

h) Any Other Features That May Affect Sewage Disposal: None. The proposed system will be entirely within native materials.

2. EQUIPMENT:

2.1 Exploration: The soil conditions underlying the subject site were previously explored by means of five (5) exploratory boring excavated to a maximum depth of 15 feet bgs with hand tools. Our exploration log is presented within Appendix A.

2.2 Percolation Tests: Four percolation tests were performed on site to a depth of 4 feet bgs. Approximately two inches of gravel was placed at the bottom of each hole.

3. METHODOLOGY AND PROCEDURES:

3.1 Location of Exploratory Borings: See attached Plate 2 – Plot Plan.

3.2 Soil Characteristics to Determine Number of Borings: The investigation was based on a favorable soil classification.

3.3 Minimum Number of Exploratory Borings: Per San Bernardino County Department of Environmental Health Service Soil Percolation Test Report Standards, a minimum of one exploratory boring is required. For the purposes of this percolation report, four exploratory borings were excavated onsite.

3.3.1 Exploratory Boring Results: Our exploratory boring logs are presented within Appendix A. The near surface native soils generally consist of silty sands (SM).

3.3.2 Laboratory Test Results: Our laboratory test results are presented within Appendix B of this report.

3.4 Tests for Leachlines: A minimum of four percolation tests are required for favorable soil conditions. Four percolation tests were performed for the proposed leachfield. The percolation test holes were excavated using an 8-inch diameter hollow stem auger.

3.4.1 Standard Percolation Test Procedure for Leachlines:

Test holes: In accordance with the Standard Percolation Test Procedure for Leachlines, Environmental Health Services, San Bernardino County, California, dated June 2017 the percolation tests were performed within 12 inches of the anticipated depth of the leachlines.

The test holes were pre-soaked by inverting a full 5 gallon bottle of water over the test hole. Testing was performed the same day, due to two consecutive measurements showing 6 inches of water did seep away in 25 minutes.

Measurement of the Percolation Rate: Readings were attempted the following day in 10-minute intervals. Based on our site observation, it is our recommendation to use a

conservative percolation rate of 8 minutes per inch and an application rate of 0.8 gallons per day per square foot.

3.4.2 Leachline Test Results: See the attached percolation test data sheets (Appendix C)

4. DISCUSSION OF RESULTS:

4.1 Soils: The soil conditions as encountered within the exploratory boring and test holes were generally uniform. The near surface native soils generally consist of silty sands (SM). The soil conditions should be considered to be favorable.

4.2 Possible Sources of Error: Tests were performed in clean native soils. The material was generally uniform in nature. No other possible sources of error were noted.

4.3 Interpretation of Results: Results were generally as anticipated, based on the classification of the soils encountered.

5. DESIGN:

5.1 General Criteria

5.1.1 Percolation Rates: The recommended percolation rates for the proposed leach field is determined to be 8 minutes per inch (mpi).

5.1.2 The separation between the bottom of the proposed system and the groundwater level will exceed 40 feet based on data described above.

5.2 Convert Percolation Rates to Leachline Design Rates: For a percolation rate of 8 minutes per inch, the leach field will require a design rate of 83 sf/100/gstc.

5.3 Based on our understand that the site will be constructed as a boutique campground with 19 total units, with each unit consists of 2 sinks, one toilet, and one shower, for a total of 133 fixtures. Based on the fixture count and in accordance with CPC, we recommend a minimum tank size

of 4500 gallons.

5.4 Based on design rate of 83 sf/100/gstc, a minimum tank size of 4500 gallons, we have determined the minimum lengths of leachlines for 3-foot-wide trenches at various gravel depths. The calculation for the trench lengths are provided within Appendix D of this report.

5.5 Based on our calculations and assumptions made above, we recommend at minimum that the septic dispersal system consisting of a minimum of 8 leachlines trenches that are 87 feet long with a rock depth of 3 feet.

6. PLOT PER CURRENTLY ADOPTED UNIFORM PLUMBING CODE:

Percolation testing was performed in the provided area of the leachfield as determined by others. Additional details such as design of the septic system, including location of the system, should be designed by an engineer competent in disposal system design.

7. GENERAL DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS:

7.1 Leachline disposal systems for the site should be constructed in accordance with current DEHS criteria and applicable portions of the Uniform Plumbing Code. All pertinent requirements of the Regional Water Quality Control Board should be met.

7.2 According to all information available to this firm, the proposed system area contains sufficient area to handle the liquid wastes, provided proper design is achieved. It is our opinion that there is sufficient area at the site for system installation, in addition to a 100 percent expansion area.

7.3 If more than one leachfield is needed for a disposal system at the site, the system should be designed by an engineer competent in disposal system design, or a properly installed distribution box should be utilized to balance flow and equalize the distribution of effluent to each leach line in lieu of such a design. Based upon the rates obtained and the anticipated usage of the site, sewage mounding should not be a concern.

7.4 A copy of this report should be submitted to DEHS for their review and assignment of the final application rate.

7.5 A copy of the San Bernardino County's DEHS handout "Taking Care of Your Septic System" should be obtained and utilized.

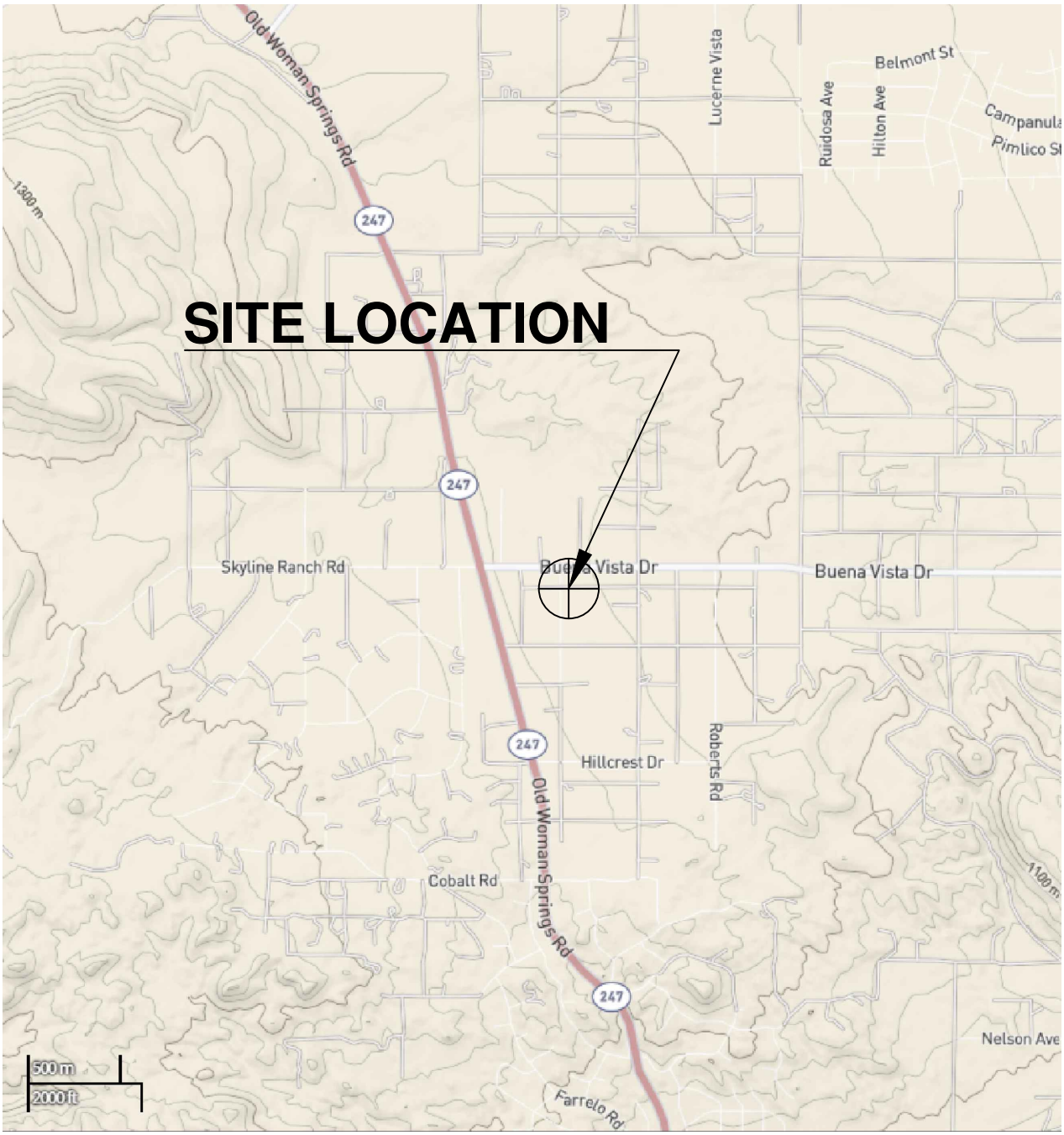
8. LIMITATIONS

All parties reviewing or utilizing this report should recognize that the findings, conclusions, and recommendations presented represent the results of our professional geological and geotechnical engineering efforts and judgments. Due to the inexact nature of the state of the art of these professions and the possible occurrence of undetected variables in subsurface conditions, we cannot guarantee that the conditions actually encountered during grading and site construction will be identical to those observed, sampled, and interpreted during our study, or that there are no unknown subsurface conditions which could have an adverse effect on the use of the property. We have exercised a degree of care comparable to the standard of practice presently maintained by other professionals in the fields of geotechnical engineering and engineering geology, and believe that our findings present a reasonably representative description of geotechnical conditions and their probable influence on the grading and use of the property.

Our conclusions and recommendations are based on the assumption that our firm will act as the geotechnical engineer of record during construction and grading of the project to observe the actual conditions exposed, to verify our design concepts and the grading contractor's general compliance with the project geotechnical specifications, and to provide our revised conclusions and recommendations should subsurface conditions differ significantly from those used as the basis for our conclusions and recommendations presented in this report. Since our conclusions and recommendations are based on a limited amount of current and previous geotechnical exploration and analysis, all parties should recognize the need for possible revisions to our conclusions and recommendations during grading of the project.

It should be further noted that the recommendations presented herein are intended solely to minimize the effects of post-construction soil movements. Consequently, minor cracking and/or distortion of all on-site improvements should be anticipated.

This report has not been prepared for the use by other parties or projects other than those named or described herein. This report may not contain sufficient information for other parties or other purposes.



LOCATION MAP

NTS GEOTECHNICAL	Date: April 13th, 2023	Plate 1
	Project No.: 23143	

4942 LOMITA LANE, YUCCA VALLEY, CA 92284

APN: 0596-271-06-0000

ROWELL ROAD

LOMITA LANE

PROPOSED FENCE

PL

N89°59'58"W 660.98'

N00°05'47"E 332.55'

N00°09'13"E 332.54'

N90°00'00"W 660.66'

B-1

B-2

B-3

B-4

B-5

P-1

P-2

P-3

P-4

I-1

PRIMARY LEACHLINE

100% EXPANSION

SEPTIC TANK

ADA UNIT

BASIN BOTTOM 3703

3:1 SLOPE

APN: 0596-271-08-0000

APN: 0596-271-23-0000

APN: 0596-271-22-0000

CONSTRUCTION NOTE:

① PROPOSED 0" CURB

② PROPOSED 5" DECOMPOSE GRANITE OVER AB (CLASS II)

③ PROPOSED 4" DECOMPOSE GRANITE WALKWAY

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0 50'

GEOTECHNICAL LEGEND

B-1 ● APPROXIMATE LOCATION OF BORING

P-1 ● APPROXIMATE LOCATION OF PERCOLATION TEST

I-1 ● APPROXIMATE LOCATION OF INFILTRATION TEST

PLOT PLAN

Date: 05/05/2023	Project No.: 23143	Plate: 2

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APPENDIX A

Field Exploration

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Appendix A
Field Exploration

The subsurface exploration program for the proposed project consisted of advancing five (5) 8-inch-diameter, hand tool borings at the subject site. The borings were advanced to depths ranging from 10 to 15 feet below the existing grade. The logs are presented within Appendix A.

The Boring Logs are presented as Figures A-2 to A-6. The Boring Logs describe the earth materials encountered, samples obtained, and show the field and laboratory tests performed. The log also shows the boring number, drilling date, and the name of the logger and drilling subcontractor. The borings were logged by an engineer using the Unified Soil Classification System. The boundaries between soil types shown on the logs are approximate because the transition between different soil layers may be gradual. Drive and bulk samples of representative earth materials were obtained from the borings.

A California modified sampler was used to obtain drive samples of the soil encountered. This sampler consists of a 3-inch outside diameter (O.D.), 2.4-inch inside diameter (I.D.) split barrel shaft that was driven a total of 6-inches into the soil at the bottom of the boring by a safety hammer. The soil was retained in brass rings for laboratory testing. Additional soil from each drive remaining in the cutting shoe was usually discarded after visually classifying the soil.

Upon completion of the borings, the boreholes were backfilled with soil from the cuttings.

Project: **5022 Lomita Lane**

Project Location: **5022 Lomita Lane, Yucca Valley**

Project Number: **23143**

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Key to Log of Boring

Sheet 1 of 1

Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Material Type	Graphic Log	MATERIAL DESCRIPTION	Water Content, %	Dry Unit Weight, pcf	REMARKS AND OTHER TESTS
1	2	3	4	5	6	7	8	9

COLUMN DESCRIPTIONS

1. Depth (feet): Depth in feet below the ground surface.
2. Sample Type: Type of soil sample collected at the depth interval shown.
3. Sampling Resistance, blows/ft: Number of blows to advance driven sampler one foot (or distance shown) beyond seating interval using the hammer identified on the boring log.
4. Material Type: Type of material encountered.
5. Graphic Log: Graphic depiction of the subsurface material encountered.
6. MATERIAL DESCRIPTION: Description of material encountered. May include consistency, moisture, color, and other descriptive text.
7. Water Content, %: Water content of the soil sample, expressed as percentage of dry weight of sample.
8. Dry Unit Weight, pcf: Dry weight per unit volume of soil sample measured in laboratory, in pounds per cubic foot.
9. REMARKS AND OTHER TESTS: Comments and observations regarding drilling or sampling made by driller or field personnel.

FIELD AND LABORATORY TEST ABBREVIATIONS

CHEM: Chemical tests to assess corrosivity
COMP: Compaction test
CONS: One-dimensional consolidation test
LL: Liquid Limit, percent
PI: Plasticity Index, percent
SA: Sieve analysis
DS: Direct Shear
EI: Expansion Index
WA: Wash sieve (percent passing No. 200 Sieve)

MATERIAL GRAPHIC SYMBOLS

Silty SAND (SM)

TYPICAL SAMPLER GRAPHIC SYMBOLS

- Auger sampler
- Bulk Sample
- 3-inch-OD California w/ brass rings
- CME Sampler
- Grab Sample
- 2.5-inch-OD Modified California w/ brass liners
- Pitcher Sample
- 2-inch-OD unlined split spoon (SPT)
- Shelby Tube (Thin-walled, fixed head)

OTHER GRAPHIC SYMBOLS

- Water level (at time of drilling, ATD)
- Water level (after waiting, AW)
- Minor change in material properties within a stratum
- Inferred/gradational contact between strata
- Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

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Figure A-1

Project: **5022 Lomita Lane** Project Location: **5022 Lomita Lane, Yucca Valley** Project Number: **23143**	NTS GEOTECHNICAL	Log of Boring B-1 **Sheet 1 of 1**

Date(s) Drilled **03/23/2023**	Logged By **ERL**	Checked By **NS**
Drilling Method **Hollow Stem Auger**	Drill Bit Size/Type **8"**	Total Depth of Borehole **10 feet**
Drill Rig Type **CME 75**	Drilling Contractor **OWD**	Approximate Surface Elevation **N/A**
Groundwater Level and Date Measured **Not encountered**	Sampling Method(s) **Modified California, SPT**	Hammer Data **140-lb autohammer**
Borehole Backfill **Native**	Location **4942 Lomita Lane, Yucca Valley**	

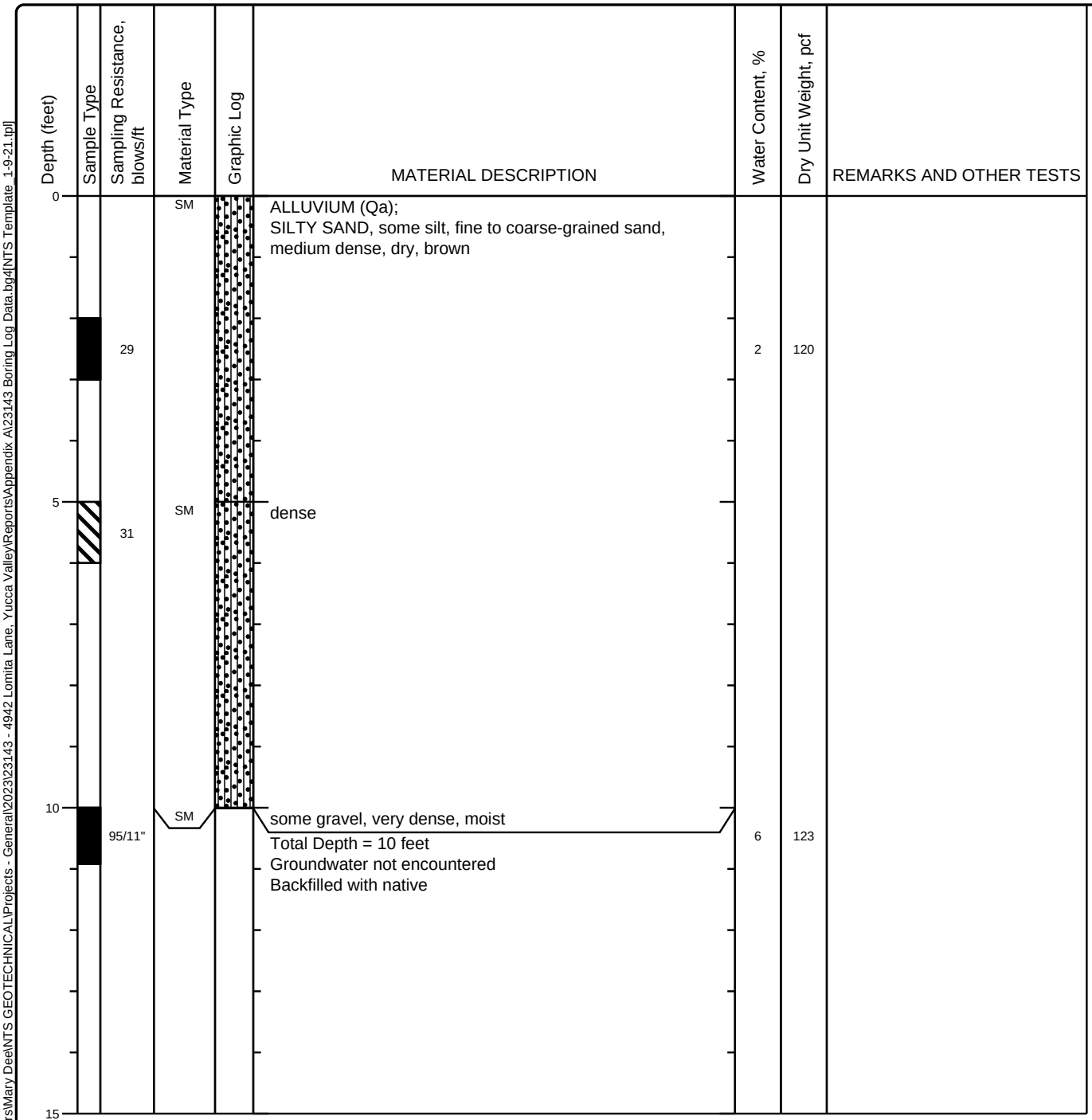

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Figure A-2

Project: **5022 Lomita Lane** Project Location: **5022 Lomita Lane, Yucca Valley** Project Number: **23143**	NTS GEOTECHNICAL	Log of Boring B-2 **Sheet 1 of 1**

Date(s) Drilled **03/23/2023**	Logged By **ERL**	Checked By **NS**
Drilling Method **Hollow Stem Auger**	Drill Bit Size/Type **8"**	Total Depth of Borehole **10 feet**
Drill Rig Type **CME 75**	Drilling Contractor **OWD**	Approximate Surface Elevation **N/A**
Groundwater Level and Date Measured **Not encountered**	Sampling Method(s) **Modified California, SPT**	Hammer Data **N/A**
Borehole Backfill **Native**	Location **4942 Lomita Lane, Yucca Valley**	

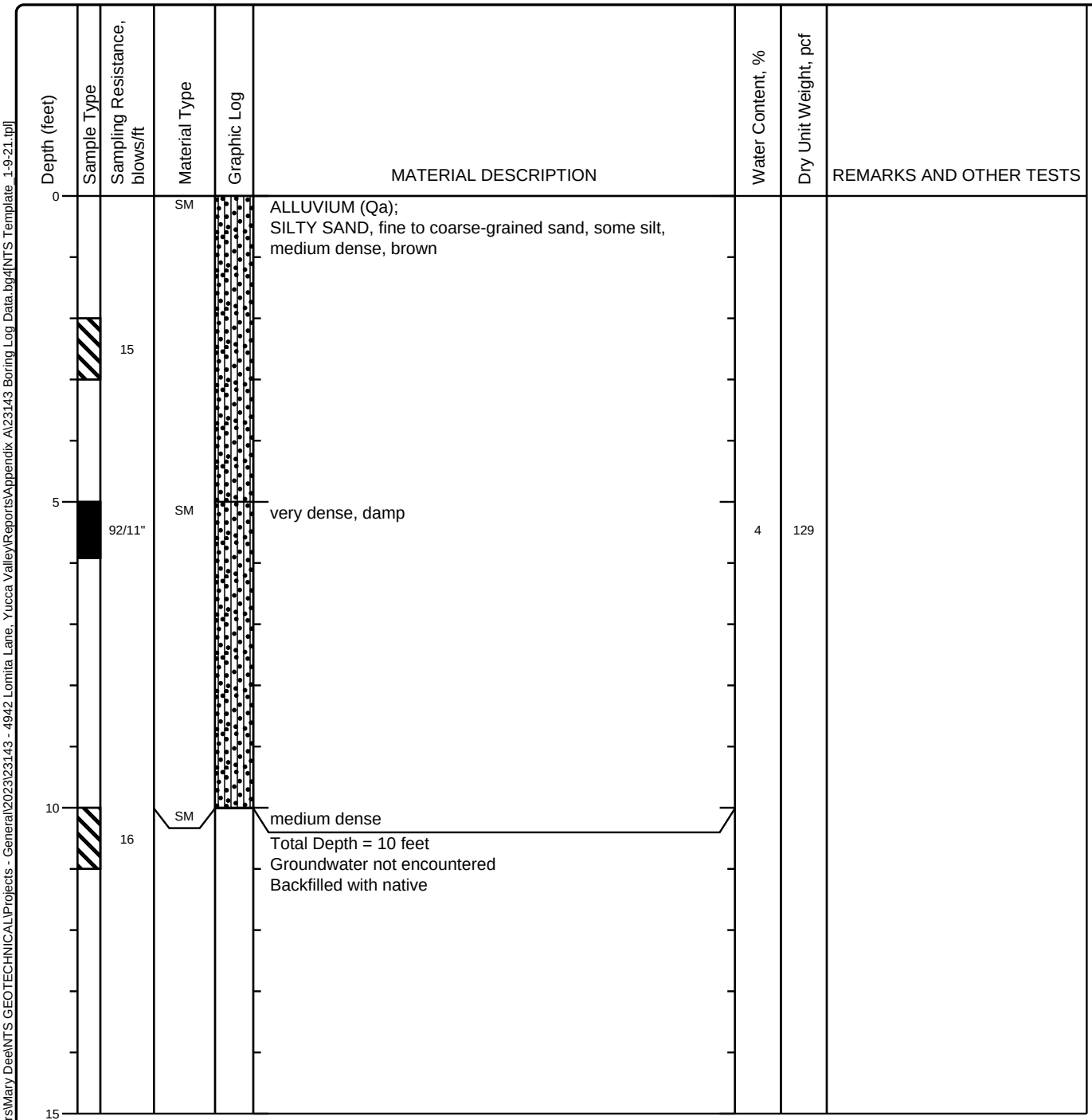

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Figure A-3

Project: **5022 Lomita Lane** Project Location: **5022 Lomita Lane, Yucca Valley** Project Number: **23143**	NTS GEOTECHNICAL	Log of Boring B-3 **Sheet 1 of 2**

Date(s) Drilled **03/23/2023**	Logged By **ERL**	Checked By **NS**
Drilling Method **Hollow Stem Auger**	Drill Bit Size/Type **8"**	Total Depth of Borehole **15 feet**
Drill Rig Type **CME 75**	Drilling Contractor **OWD**	Approximate Surface Elevation **N/A**
Groundwater Level and Date Measured **Not encountered**	Sampling Method(s) **Modified California, SPT**	Hammer Data **N/A**
Borehole Backfill **Native**	Location **4942 Lomita Lane, Yucca Valley**	

Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Material Type	Graphic Log	MATERIAL DESCRIPTION	Water Content, %	Dry Unit Weight, pcf	REMARKS AND OTHER TESTS
0			SM		ALLUVIUM (Qa); SILTY SAND, fine to coarse-grained sand, medium dense, dry, brown			
		28				3	116	
5			SM		very dense			
		74						
10			SM		dense, dry			
		48				3	122	
15								

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Figure A-4

Project: **5022 Lomita Lane**

Project Location: **5022 Lomita Lane, Yucca Valley**

Project Number: **23143**

NTS GEOTECHNICAL

Log of Boring B-3

Sheet 2 of 2

Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Material Type	Graphic Log	MATERIAL DESCRIPTION	Water Content, %	Dry Unit Weight, pcf	REMARKS AND OTHER TESTS
15		38	SM		some gravel, broken pieces of rock, dense Total Depth = 15 feet Groundwater not encountered Backfilled with native			
20								
25								
30								
35								
40								
45								
50								

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Figure A-4

Project: **5022 Lomita Lane** Project Location: **5022 Lomita Lane, Yucca Valley** Project Number: **23143**	NTS GEOTECHNICAL	Log of Boring B-4 **Sheet 1 of 2**

Date(s) Drilled **03/23/2023**	Logged By **ERL**	Checked By **NS**
Drilling Method **Hollow Stem Auger**	Drill Bit Size/Type **8"**	Total Depth of Borehole **15 feet**
Drill Rig Type **CME 75**	Drilling Contractor **OWD**	Approximate Surface Elevation **N/A**
Groundwater Level and Date Measured **Not encountered**	Sampling Method(s) **Modified California, SPT**	Hammer Data **N/A**
Borehole Backfill **Native**	Location **4942 Lomita Lane, Yucca Valley**	

Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Material Type	Graphic Log	MATERIAL DESCRIPTION	Water Content, %	Dry Unit Weight, pcf	REMARKS AND OTHER TESTS
0			SM		ALLUVIUM (Qa); SILTY SAND, few pebbles, fine to coarse-grained sand, medium dense, damp, brown			
		23				4	120	
5		47	SM		very dense			
10		98/11"	SM		very dense, damp	5	125	
15								

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Figure A-5

Project: **5022 Lomita Lane**

Project Location: **5022 Lomita Lane, Yucca Valley**

Project Number: **23143**

NTS GEOTECHNICAL

Log of Boring B-4

Sheet 2 of 2

Depth (feet)	Sample Type	Sampling Resistance, blows/ft	Material Type	Graphic Log	MATERIAL DESCRIPTION	Water Content, %	Dry Unit Weight, pcf	REMARKS AND OTHER TESTS
15		55	SM		fine to coarse-grained sand, very dense, light brown to tan Total Depth = 15 feet Groundwater not encountered Backfilled with native			
20								
25								
30								
35								
40								
45								
50								

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Figure A-5

Project: **5022 Lomita Lane** Project Location: **5022 Lomita Lane, Yucca Valley** Project Number: **23143**	NTS GEOTECHNICAL	Log of Boring B-5 **Sheet 1 of 1**

Date(s) Drilled **03/23/2023**	Logged By **ERL**	Checked By **NS**
Drilling Method **Hollow Stem Auger**	Drill Bit Size/Type **8"**	Total Depth of Borehole **10 feet**
Drill Rig Type **CME 75**	Drilling Contractor **OWD**	Approximate Surface Elevation **N/A**
Groundwater Level and Date Measured **Not encountered**	Sampling Method(s) **Modified California, SPT**	Hammer Data **N/A**
Borehole Backfill **Native**	Location **4942 Lomita Lane, Yucca Valley**	

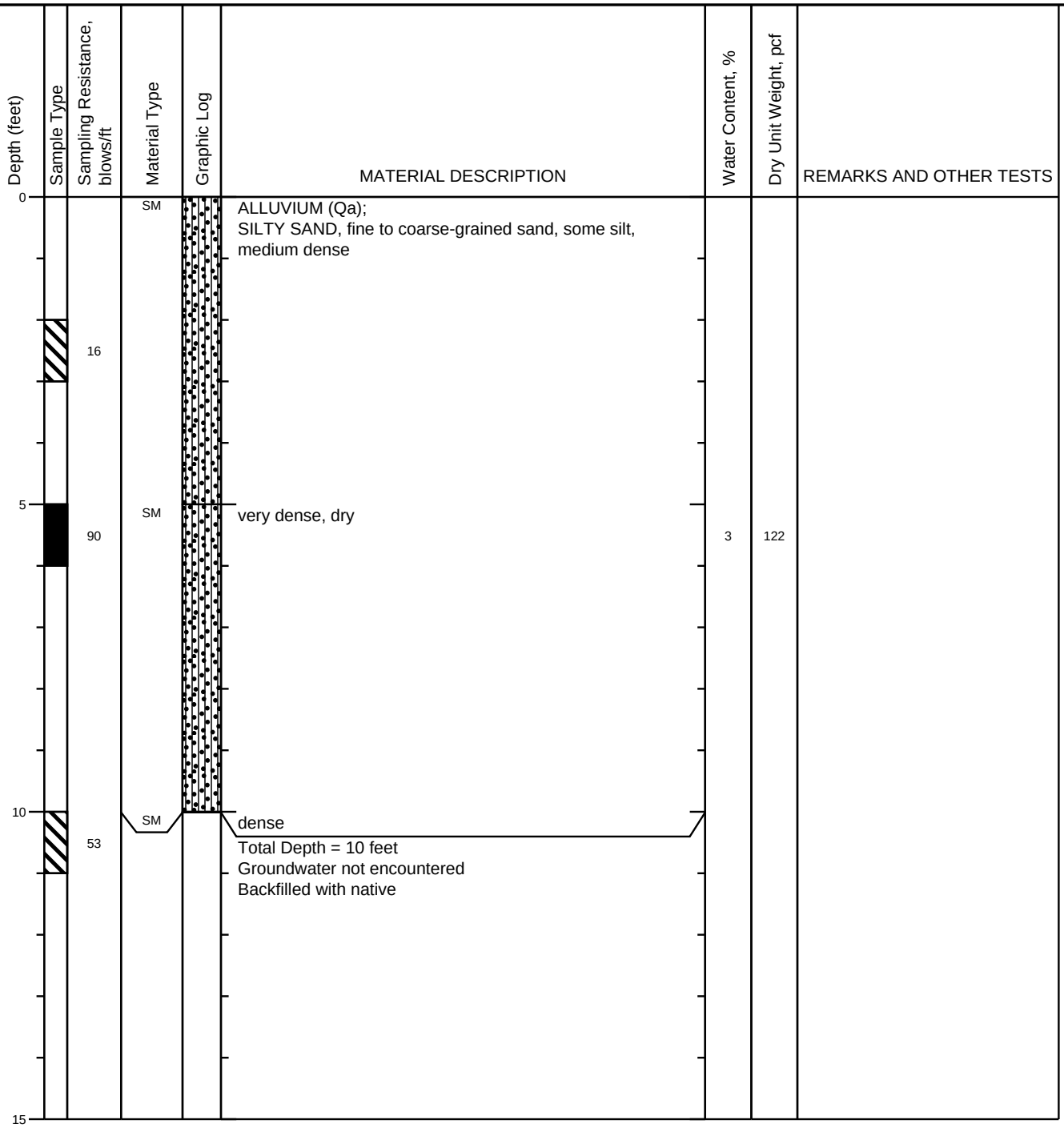

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Figure A-6

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APPENDIX B

Laboratory Testing Data

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Appendix B
Geotechnical Laboratory Testing

Laboratory Moisture Content and Density Tests

The moisture content and dry densities of selected driven samples obtained from the exploratory boring was evaluated in general accordance with the latest version of ASTM D 2937. The test results are presented on the log of the exploratory boring in Appendix A.

Grain Size Analysis

The number of fines passing the No. 200 sieve was evaluated by the wash sieve. The test procedure was in general accordance with ASTM D422. The results are attached to this Appendix B.

Boring No.	Depth (ft)	Soil Description	Fines Passing No. 200, %
B-1	5	Qa	28
B-4	15	Qa	30

Corrosion Suite

The corrosion potential of typical on-site materials under long-term contact with both metal and concrete was determined by chemical and electrical resistance tests. The soluble sulfate test for potential concrete corrosion was performed in general accordance with ASTM D4327. The test results are attached to this Appendix B.

Boring No.	Depth (feet)	pH	As-Is-Soil Resistivity (ohm-cm)	Minimum Soil Resistivity (ohm-cm)	Chloride (ppm)	Sulfate (ppm)
B-4	2.0	7.34	20,000	6,000	70	40

Direct Shear Tests

Direct shear tests were performed on selected remolded and relatively undisturbed soil samples in general accordance with ASTM D 3080 to evaluate the shear strength characteristics of the materials. The samples were inundated during shearing to represent adverse field conditions. Direct shear test results are attached to this Appendix B.

Consolidation Test

Consolidation tests was performed on a selected driven soil sample in general accordance with the latest version of ASTM D2435. The sample was inundated during testing to represent adverse field conditions. The percent consolidation for each load cycle was recorded as a ratio of the amount of vertical compression to the original height of the sample. Consolidation testing results are attached to this Appendix B.

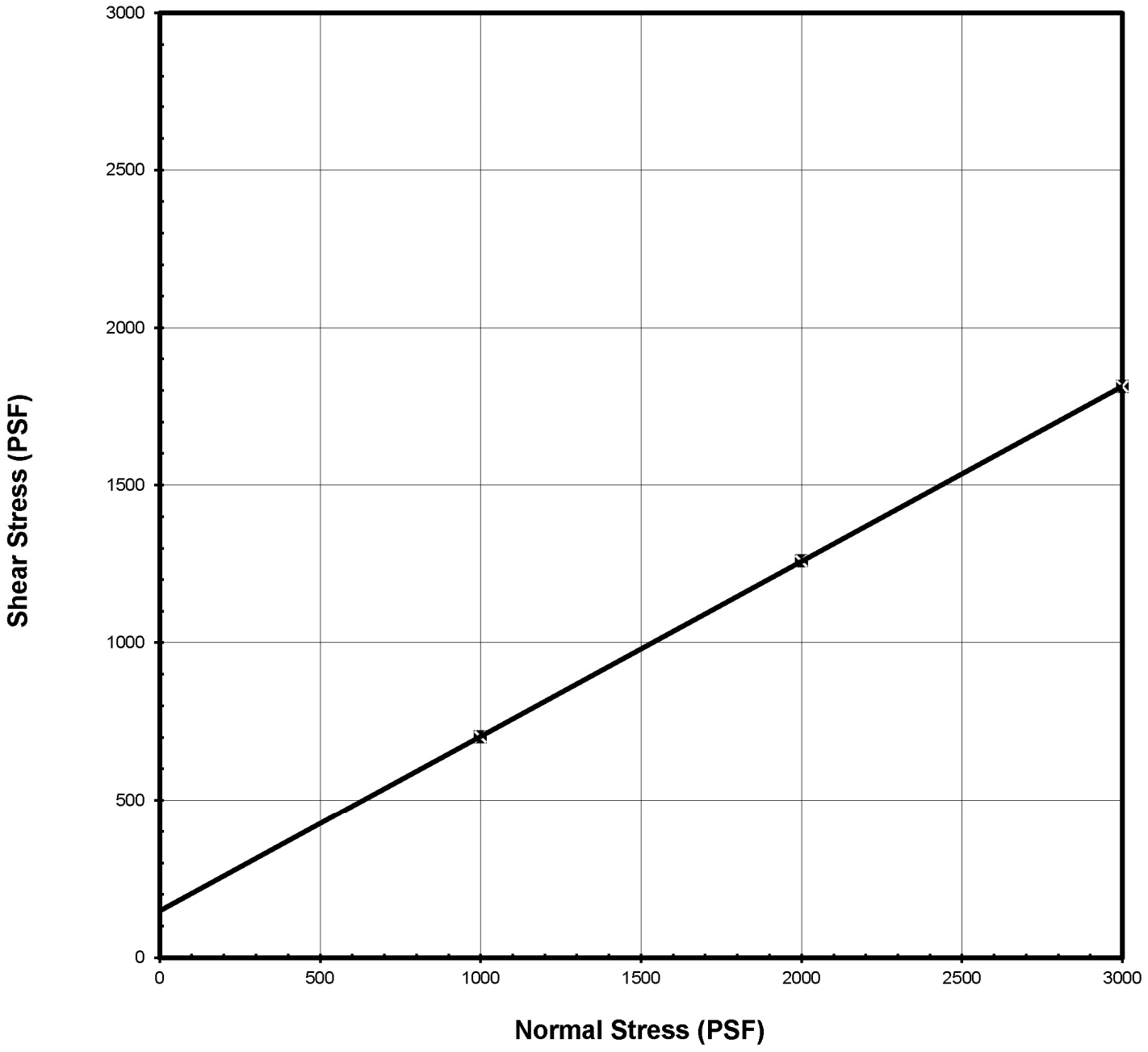
Direct Shear Test Diagram (D-3080)

PLATE: S-1

P.N. 23143

Sample Description	Sample Identification	Test Type	Sample Test State	Number of Passes
Qa	B-1 @ 2.0'	Ultimate	Saturated	1

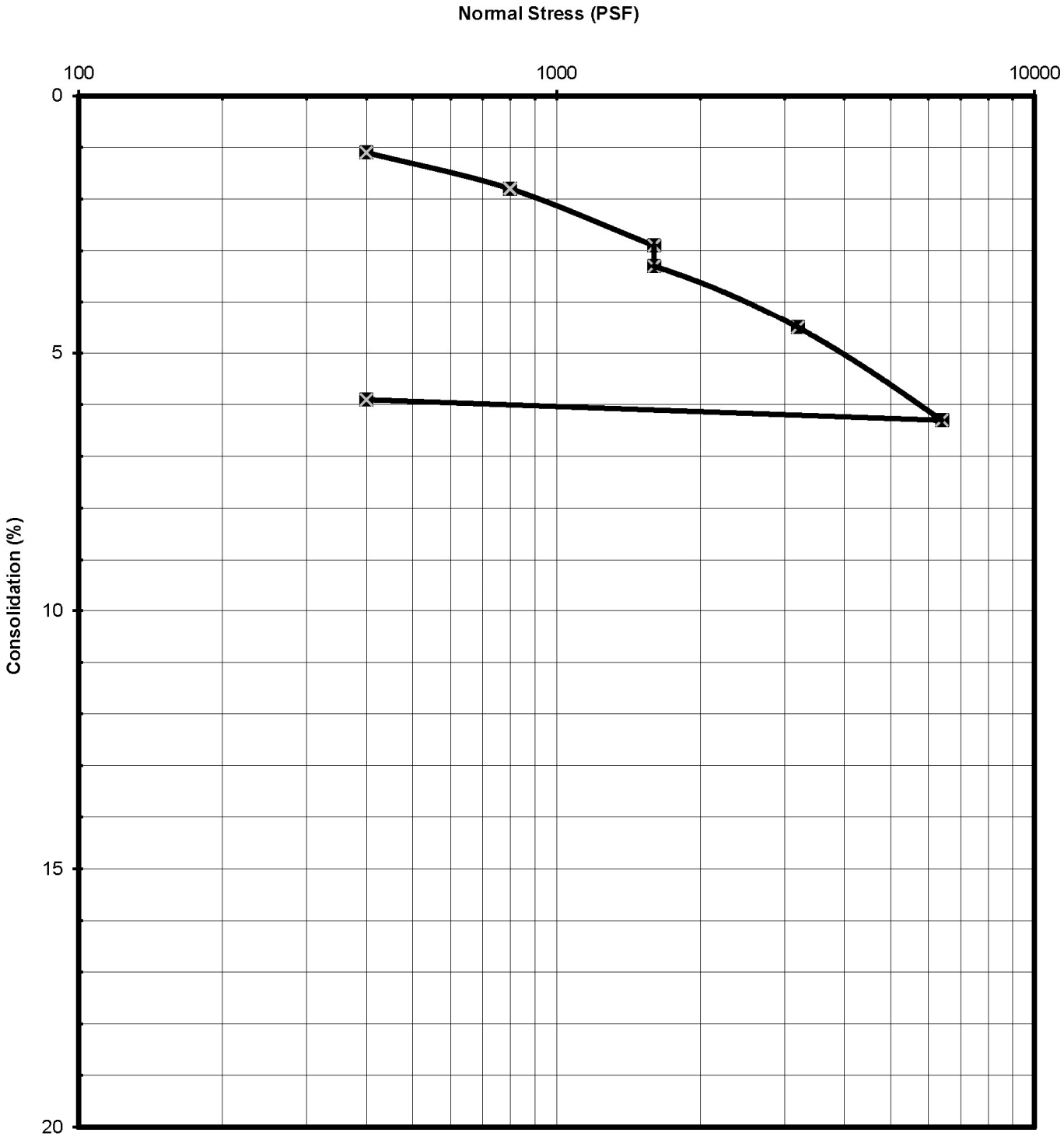
Soil Dry Density (PCF)	120	Shear Strength Values:	
Soil Moisture Content (%)	14	Phi (Degrees)	29.0
Soil Saturation (%)	98.1	Cohesion (PSF)	148.3



Consolidation Pressure Curve (D-2435)

Sample Identification	Sample Description
B-1 @ 10.0'	Qa

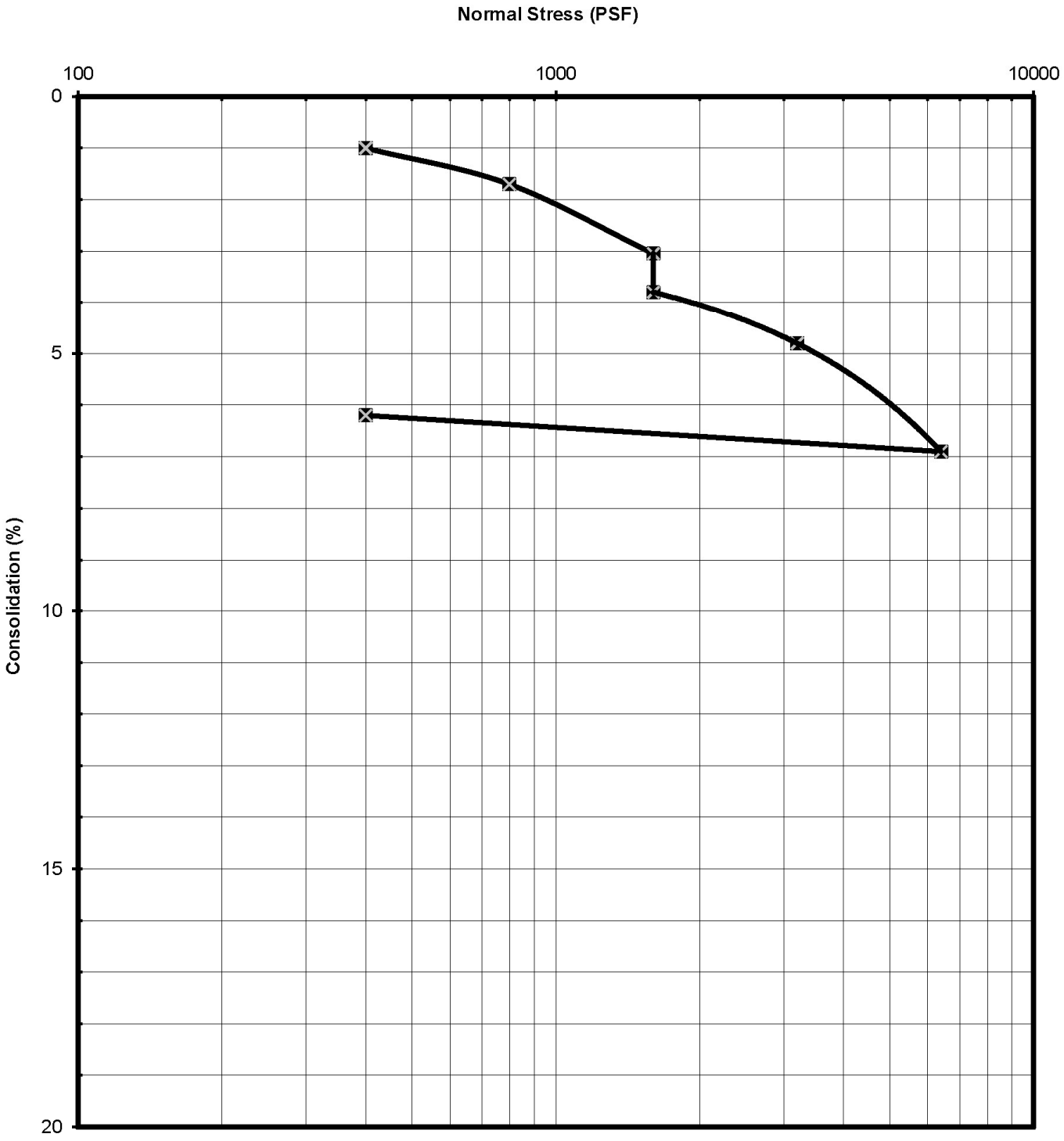
PLATE: C-1
P.N. 23143



Consolidation Pressure Curve (D-2435)

Sample Identification	Sample Description
B-5 @ 5.0'	Qa

PLATE: C-2
P.N. 23143



NTS
GEOTECHNICAL

APPENDIX C

Percolation Test Data

NTS GEOTECHNICAL

Project Name:	5022 Lomita Lane, Yucca Valley	**Depth to Bottom of Hole (ft):**	4
Project #:	23143	**Hole Diameter (in.)**	8
Test Date:	3/24/2023	**Tested By:**	ERL
Test Hole #:	P-1	No Caving Observed	

Depth (feet)	Soil Classification
0'-4'	Brown Silty Sand (SM)

PRE-SOAK					
	Date	**Gallons Used**	**Start Time**	**End Time**	**Water Remained In Hole (Y/N)**
Pre-Soak Trial 1	24-Mar-23	5	6:31 AM	7:01 AM	N
Pre-Soak Trial 2	24-Mar-23	5	7:01 AM	7:31 AM	N

Initial Time	Final Time	Change in Time	Initial Depth (in.)	Final Depth (in.)	Change in Depth (in.)	Percolation Rate (min./inch)
7:35	7:45	10	18.00	22.50	4.50	2.22
7:45	7:55	10	22.50	26.00	3.50	2.86
7:55	8:05	10	26.00	29.00	3.00	3.33
8:05	8:15	10	29.00	32.25	3.25	3.08
8:15	8:25	10	32.25	35.00	2.75	3.64
8:25	8:35	10	35.00	37.25	2.25	4.44
				PERCOLATION RATE (MIN./INCH):		**4.44**

NTS GEOTECHNICAL

Project Name:	5022 Lomita Lane, Yucca Valley	**Depth to Bottom of Hole (ft):**	4
Project #:	23143	**Hole Diameter (in.)**	8
Test Date:	3/24/2023	**Tested By:**	ERL
Test Hole #:	P-2	No Caving Observed	

Depth (feet)	Soil Classification
0'-4'	Brown Silty Sand (SM)

PRE-SOAK					
	Date	**Gallons Used**	**Start Time**	**End Time**	**Water Remained In Hole (Y/N)**
Pre-Soak Trial 1	24-Mar-23	5	7:24 AM	7:54 AM	N

Initial Time	Final Time	Change in Time	Initial Depth (in.)	Final Depth (in.)	Change in Depth (in.)	Percolation Rate (min./inch)
8:03	8:13	10	15.25	20.50	5.25	1.90
8:13	8:23	10	20.50	24.25	3.75	2.67
8:23	8:33	10	24.25	27.25	3.00	3.33
8:33	8:43	10	27.25	30.00	2.75	3.64
8:43	8:53	10	30.00	32.00	2.00	5.00
8:53	9:03	10	32.00	33.50	1.50	6.67
				PERCOLATION RATE (MIN./INCH):		**6.67**

NTS GEOTECHNICAL

Project Name:	5022 Lomita Lane, Yucca Valley	**Depth to Bottom of Hole (ft):**	4
Project #:	23143	**Hole Diameter (in.)**	8
Test Date:	3/24/2023	**Tested By:**	ERL
Test Hole #:	P-3	No Caving Observed	

Depth (feet)	Soil Classification
0'-4'	Brown Silty Sand (SM)

PRE-SOAK					
	Date	**Gallons Used**	**Start Time**	**End Time**	**Water Remained In Hole (Y/N)**
Pre-Soak Trial 1	24-Mar-23	5	7:20 AM	7:50 AM	N

Initial Time	Final Time	Change in Time	Initial Depth (in.)	Final Depth (in.)	Change in Depth (in.)	Percolation Rate (min./inch)
8:00	8:10	10	16.50	20.75	4.25	2.35
8:10	8:20	10	20.75	24.00	3.25	3.08
8:20	8:30	10	24.00	26.25	2.25	4.44
8:30	8:40	10	26.25	28.25	2.00	5.00
8:40	8:50	10	28.25	30.00	1.75	5.71
8:50	9:00	10	30.00	31.25	1.25	8.00
				PERCOLATION RATE (MIN./INCH):		**8.00**

NTS GEOTECHNICAL

Project Name:	5022 Lomita Lane, Yucca Valley	**Depth to Bottom of Hole (ft):**	4
Project #:	23143	**Hole Diameter (in.)**	8
Test Date:	3/24/2023	**Tested By:**	ERL
Test Hole #:	P-4	No Caving Observed	

Depth (feet)	Soil Classification
0'-4'	Brown Silty Sand (SM)

PRE-SOAK					
	Date	**Gallons Used**	**Start Time**	**End Time**	**Water Remained In Hole (Y/N)**
Pre-Soak Trial 1	24-Mar-23	5	7:30 AM	8:10 AM	N

Initial Time	Final Time	Change in Time	Initial Depth (in.)	Final Depth (in.)	Change in Depth (in.)	Percolation Rate (min./inch)
8:17	8:27	10	15.75	21.25	5.50	1.82
8:27	8:37	10	21.25	24.50	3.25	3.08
8:37	8:47	10	24.50	26.50	2.00	5.00
8:47	8:57	10	26.50	28.25	1.75	5.71
8:57	9:07	10	28.25	29.75	1.50	6.67
9:07	9:17	10	29.75	31.00	1.25	8.00
				PERCOLATION RATE (MIN./INCH):		**8.00**

NTS GEOTECHNICAL

APPENDIX D

Leachline Caclulations

Project Name:	5022 Lomita Ln
Project #:	23143

Percolation Rate (min/inch)	Application Rate (sf/gallon/day)	Flow (gallons/day)	Design Rate (sf/100 gstc)
8	1.25	2000	83

Septic Tank Capacity (gallons)	Absorption Area Required (square feet)	Multi-Units Area Increase (30%)	Required Leach Line Length (3-Foot-Wide Trench)		
			1-Foot Rock	2-Foot Rock	3-Foot Rock
			Allowable Square Feet of Leaching Area per Foot of Leach Line		
			3	5	7
3000	2500	3250	1083	650	464

1-Foot of Rock		2-Feet of Rock		3-Feet of Rock	
No. of Lines	Length Per Line (ft.)	No. of Lines	Length Per Line (ft.)	No. of Lines	Length Per Line (ft.)
11	98	7	93	5	93
12	90	8	81	6	77

Additional Requirements:

Rock depths are below pipe.
Maximum Length of Single Leach Line: 100 feet
Maximum Spacing of 3-Foot Wide Trenches:

On Center Spacing (ft.)	Depth of Rock
7	1-Foot of Rock
9	2-Feet of Rock
11	3-Feet of Rock