

July 13, 2020

Project No. 14678-10B

Ms. Angela Little  
**SAND CREEK DEVELOPMENT L.P.**  
33725 Grand Avenue  
Winchester, CA 92596

Subject: **Soil Sampling and Sieve Analysis, Proposed 16 Lot Development, Assessor's Parcel Number 951-220-002, Tentative Tract Map 33356, Located on the Northwest Corner of Linda Rosea Drive and Anza Road, Temecula Areas, Riverside County, California**

Per your request, Earth Strata Geotechnical Services, Inc. has provided field exploration and laboratory testing services for the above referenced project. The purpose of our sampling and testing was to identify the grain size distribution and the D-50 values. A summary of the work completed is provided below.

### **Field Exploration**

Subsurface exploration within the subject site was performed on July 1, 2020 for the exploratory excavations. Hand tools were utilized to excavate five (5) test pits to a maximum depth of 4 feet. Earth materials encountered during exploration were classified and logged in general accordance with the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure) of ASTM D 2488. Upon completion of laboratory testing, sample descriptions may have been reconciled to reflect laboratory test results with regard to ASTM D 2487. Associated with the subsurface exploration was the collection of bulk (disturbed) samples of earth materials for laboratory testing and analysis. The approximate exploratory locations are shown on Plate 1.

**Laboratory Testing**

**Grain Size Distribution:** Select samples were tested using the guidelines of ASTM C 136. The test results are presented in the table below along with the sample description and D50 Value.

SAMPLE LOCATION	MATERIAL DESCRIPTION	D50 Values	% PASSING # 200 SIEVE
S-1 @ 1.5 Feet	Silty SAND	0.5	12
S-1 @ 4 Feet	Silty SAND	0.7	11
S-2 @ 1.5 Feet	Poorly Graded SAND	1.0	9.2
S-2 @ 4 Feet	Poorly Graded SAND	0.9	7.4
S-3 @ 1.5 Feet	Silty SAND	2.0	24
S-3 @ 4 Feet	Silty SAND	0.7	16
S-4 @ 1.5 Feet	Silty SAND	0.5	14
S-4 @ 4 Feet	Silty SAND	0.7	15
S-5 @ 1.5 Feet	Poorly Graded SAND	0.6	9.6
S-5 @ 4 Feet	Poorly Graded SAND	0.6	9.4

Earth Strata sincerely appreciates the opportunity to provide our services and advice on this project.

Respectfully presented,

EARTH STRATA GEOTECHNICAL SERVICES, INC.



Stephen M. Poole, PE, GE  
Principal Engineer

SMP/hr



Attachment - Laboratory Test Results

14678-10B  
Sand Creek

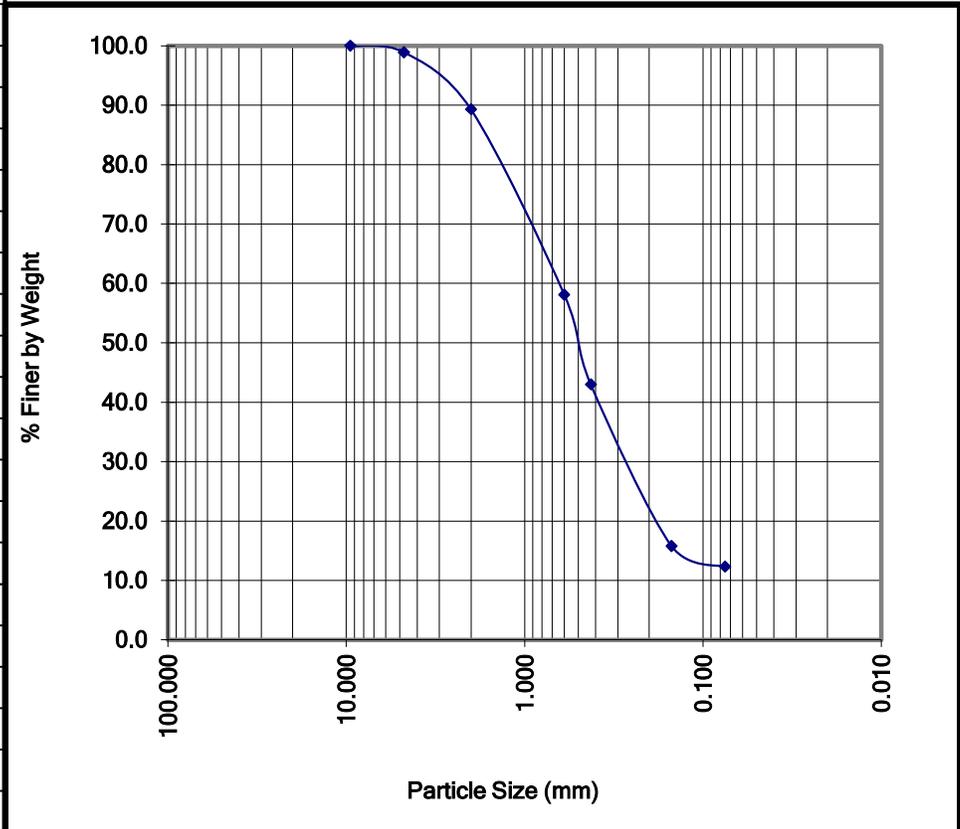
## D 50 Values

Test Pit No.:	Depth (ft.):	D 50 (mm):	- No. 200 (%):	Soil Classification:
S-1	1.5	0.5	12	SM
S-1	4.0	0.7	11	SM
S-2	1.5	1.0	9.2	SP-SM
S-2	4.0	0.9	7.4	SP-SM
S-3	1.5	2.0	24	SM
S-3	4.0	0.7	16	SM
S-4	1.5	0.5	14	SM
S-4	4.0	0.7	15	SM
S-5	1.5	0.6	9.6	SP-SM
S-5	4.0	0.6	9.4	SP-SM

# Particle-Size Distribution

ASTM C 136

Sieve & Hydro Data		
Sieve or Time	Size (mm)	% Finer
2-1/2 in.	63.500	
2 in.	50.800	
1-1/2 in.	38.100	
1 in.	25.400	
3/4 in.	19.050	
1/2 in.	12.700	
3/8 in.	9.500	100.0
No. 4	4.750	98.9
No. 8	2.360	
No. 10	2.000	89.3
No. 16	1.180	
No. 20	0.850	
No. 30	0.600	58.1
No. 40	0.425	43.0
No. 50	0.300	
No. 60	0.250	
No. 100	0.150	15.8
No. 140	0.106	
No. 200	0.075	12.3
No. 270	0.053	



Size Distribution	
% Gravel:	1.1
% Sand:	86.6
% Fines:	12.3

Classification
<b>SM</b>

Curve Data	
Coefficient of Uniformity (Cu):	
Coefficient of Curvature (Cc):	
D50 Diameter (mm):	0.5

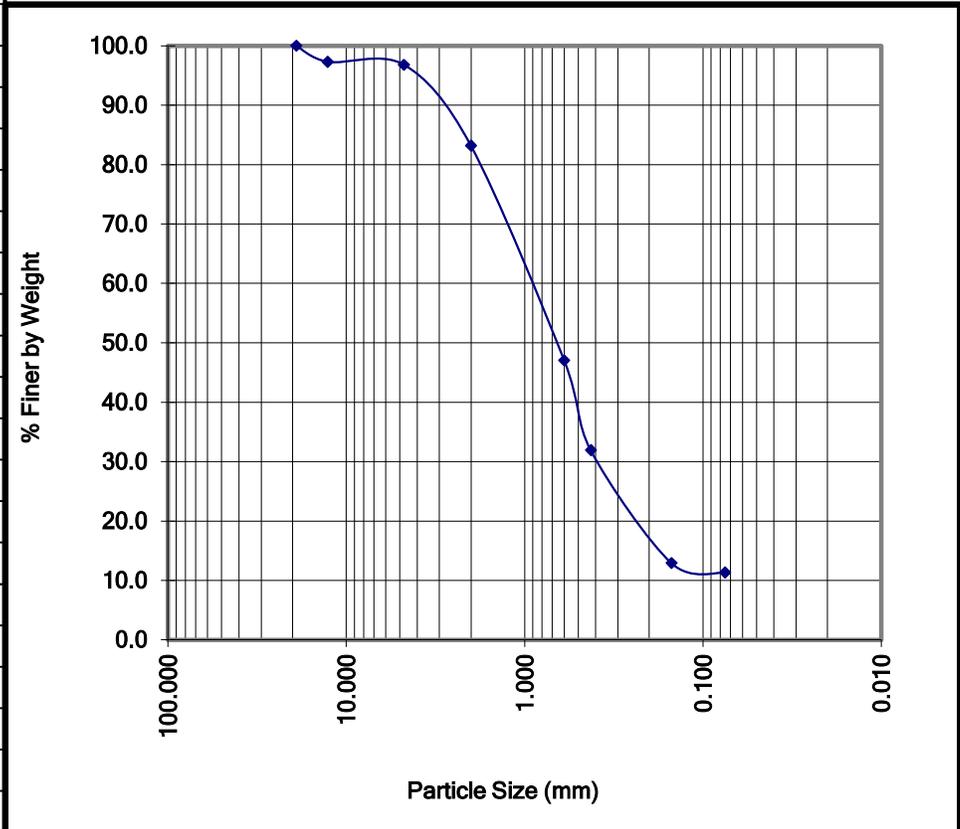
Project: 14678-10B Sand  
Creek Sample: S-1 @ 1.5'

ESGS, Inc.  
July,3 2020

# Particle-Size Distribution

ASTM C 136

Sieve & Hydro Data		
Sieve or Time	Size (mm)	% Finer
2-1/2 in.	63.500	
2 in.	50.800	
1-1/2 in.	38.100	
1 in.	25.400	
3/4 in.	19.050	100.0
1/2 in.	12.700	97.3
3/8 in.	9.500	
No. 4	4.750	96.8
No. 8	2.360	
No. 10	2.000	83.2
No. 16	1.180	
No. 20	0.850	
No. 30	0.600	47.0
No. 40	0.425	31.9
No. 50	0.300	
No. 60	0.250	
No. 100	0.150	12.9
No. 140	0.106	
No. 200	0.075	11.3
No. 270	0.053	



Size Distribution	
% Gravel:	3.2
% Sand:	85.5
% Fines:	11.3

Classification
<b>SM</b>

Curve Data	
Coefficient of Uniformity (Cu):	
Coefficient of Curvature (Cc):	
D50 Diameter (mm):	0.7

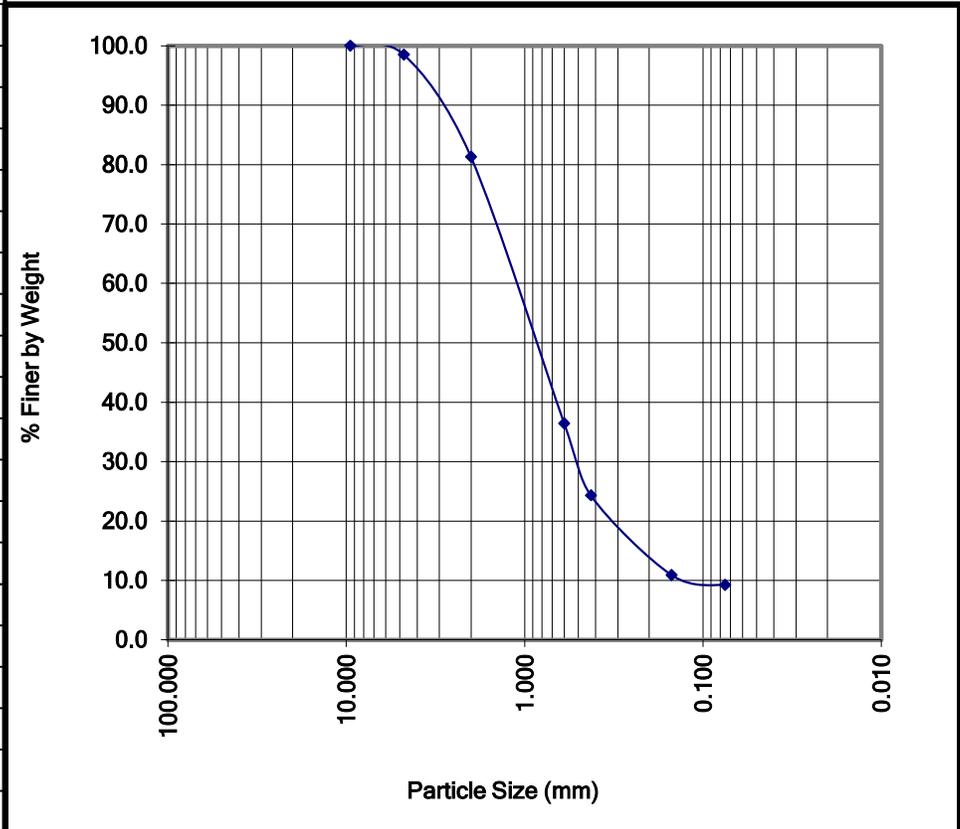
Project: 14678-10B Sand  
Creek Sample: S-1 @ 4'

ESGS, Inc.  
July,3 2020

# Particle-Size Distribution

ASTM C 136

Sieve & Hydro Data		
Sieve or Time	Size (mm)	% Finer
2-1/2 in.	63.500	
2 in.	50.800	
1-1/2 in.	38.100	
1 in.	25.400	
3/4 in.	19.050	
1/2 in.	12.700	
3/8 in.	9.500	100.0
No. 4	4.750	98.5
No. 8	2.360	
No. 10	2.000	81.3
No. 16	1.180	
No. 20	0.850	
No. 30	0.600	36.4
No. 40	0.425	24.3
No. 50	0.300	
No. 60	0.250	
No. 100	0.150	10.9
No. 140	0.106	
No. 200	0.075	9.2
No. 270	0.053	



Size Distribution	
% Gravel:	1.5
% Sand:	89.3
% Fines:	9.2

Classification
<b>SP-SM</b>

Curve Data	
Coefficient of Uniformity (Cu):	
Coefficient of Curvature (Cc):	
D50 Diameter (mm):	1.0

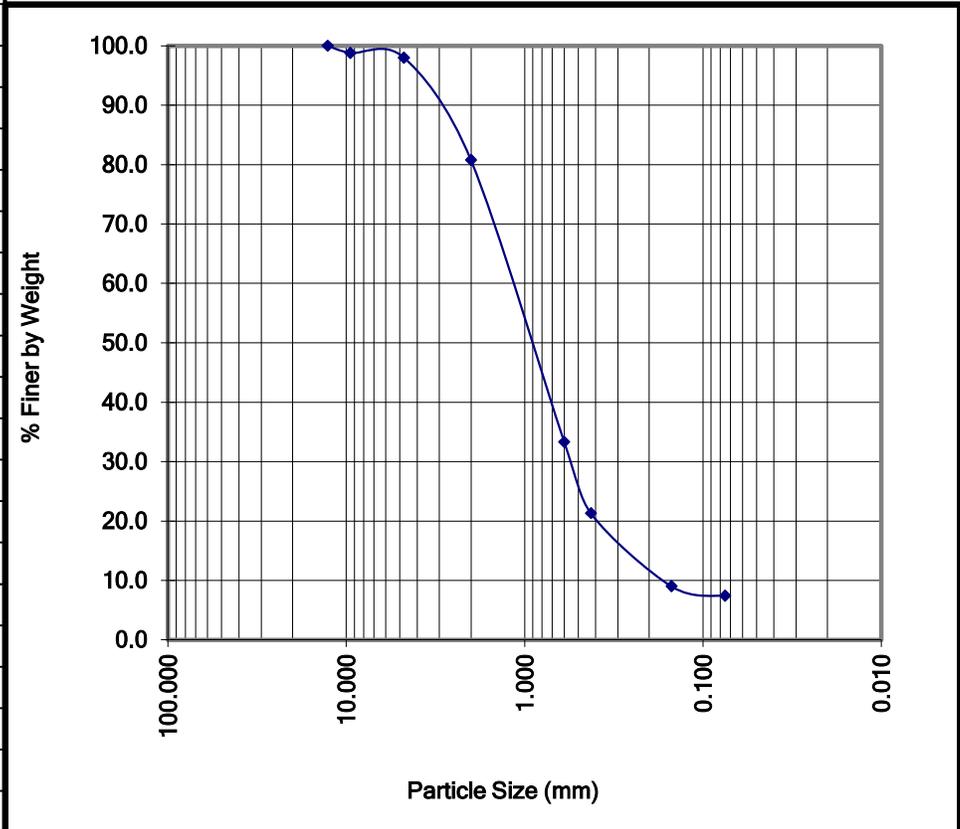
Project: 14678-10B Sand  
Creek Sample: S-2 @ 1.5'

ESGS, Inc.  
July,3 2020

# Particle-Size Distribution

ASTM C 136

Sieve & Hydro Data		
Sieve or Time	Size (mm)	% Finer
2-1/2 in.	63.500	
2 in.	50.800	
1-1/2 in.	38.100	
1 in.	25.400	
3/4 in.	19.050	
1/2 in.	12.700	100.0
3/8 in.	9.500	98.8
No. 4	4.750	98.0
No. 8	2.360	
No. 10	2.000	80.8
No. 16	1.180	
No. 20	0.850	
No. 30	0.600	33.3
No. 40	0.425	21.3
No. 50	0.300	
No. 60	0.250	
No. 100	0.150	9.0
No. 140	0.106	
No. 200	0.075	7.4
No. 270	0.053	



Size Distribution	
% Gravel:	2.0
% Sand:	90.6
% Fines:	7.4

Classification
<b>SP-SM</b>

Curve Data	
Coefficient of Uniformity (Cu):	
Coefficient of Curvature (Cc):	
D50 Diameter (mm):	0.9

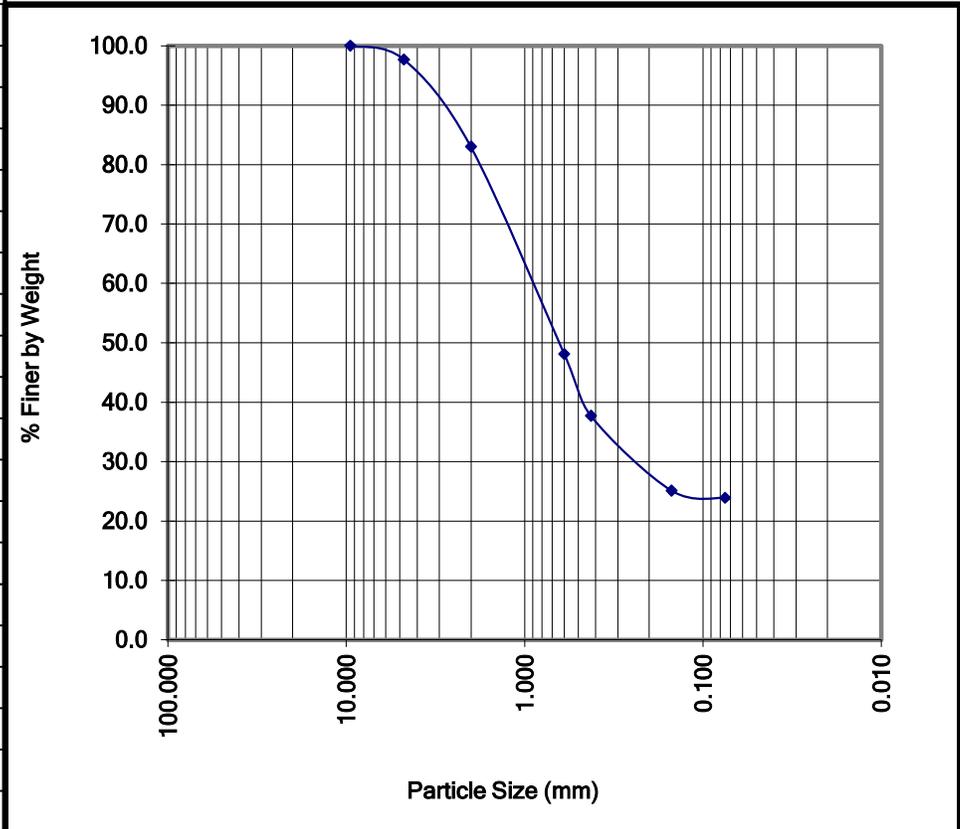
Project: 14678-10B Sand  
Creek Sample: S-2 @ 4'

ESGS, Inc.  
July,3 2020

# Particle-Size Distribution

ASTM C 136

Sieve & Hydro Data		
Sieve or Time	Size (mm)	% Finer
2-1/2 in.	63.500	
2 in.	50.800	
1-1/2 in.	38.100	
1 in.	25.400	
3/4 in.	19.050	
1/2 in.	12.700	
3/8 in.	9.500	100.0
No. 4	4.750	97.7
No. 8	2.360	
No. 10	2.000	83.0
No. 16	1.180	
No. 20	0.850	
No. 30	0.600	48.1
No. 40	0.425	37.7
No. 50	0.300	
No. 60	0.250	
No. 100	0.150	25.1
No. 140	0.106	
No. 200	0.075	23.9
No. 270	0.053	



Size Distribution	
% Gravel:	2.3
% Sand:	73.8
% Fines:	23.9

Classification
<b>SM</b>

Curve Data	
Coefficient of Uniformity (Cu):	
Coefficient of Curvature (Cc):	
D50 Diameter (mm):	2.0

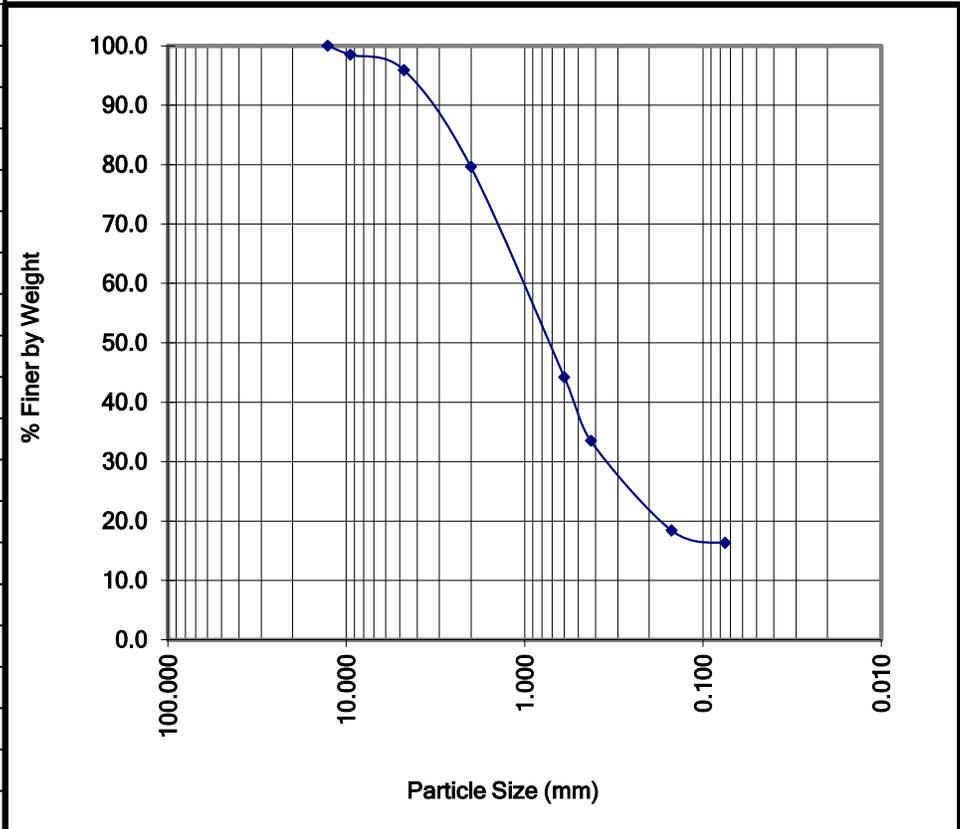
Project: 14678-10B Sand  
Creek Sample: S-3 @ 1.5'

ESGS, Inc.  
July,3 2020

# Particle-Size Distribution

ASTM C 136

Sieve & Hydro Data		
Sieve or Time	Size (mm)	% Finer
2-1/2 in.	63.500	
2 in.	50.800	
1-1/2 in.	38.100	
1 in.	25.400	
3/4 in.	19.050	
1/2 in.	12.700	100.0
3/8 in.	9.500	98.5
No. 4	4.750	95.9
No. 8	2.360	
No. 10	2.000	79.6
No. 16	1.180	
No. 20	0.850	
No. 30	0.600	44.2
No. 40	0.425	33.5
No. 50	0.300	
No. 60	0.250	
No. 100	0.150	18.4
No. 140	0.106	
No. 200	0.075	16.3
No. 270	0.053	



Size Distribution	
% Gravel:	4.1
% Sand:	79.6
% Fines:	16.3

Classification
<b>SM</b>

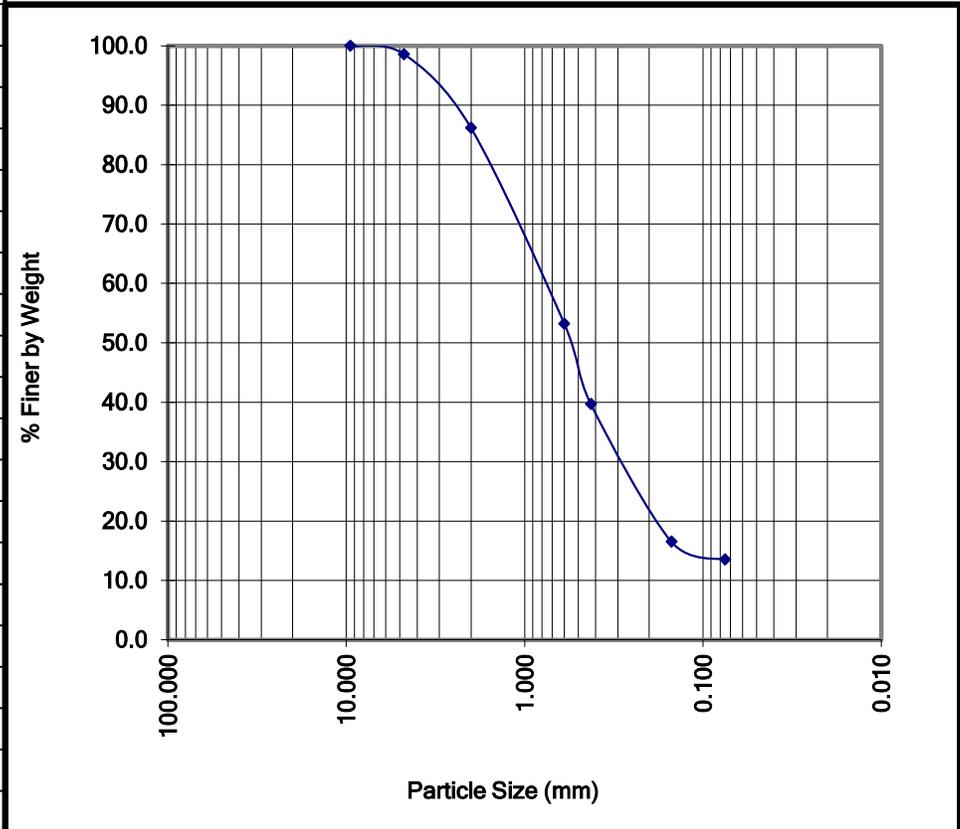
Curve Data	
Coefficient of Uniformity (Cu):	
Coefficient of Curvature (Cc):	
D50 Diameter (mm):	0.7

<b>Project: 14678-10B Sand</b> <b>Creek Sample: S-3 @ 4'</b>	<b>ESGS, Inc.</b> <b>July,3 2020</b>
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# Particle-Size Distribution

ASTM C 136

Sieve & Hydro Data		
Sieve or Time	Size (mm)	% Finer
2-1/2 in.	63.500	
2 in.	50.800	
1-1/2 in.	38.100	
1 in.	25.400	
3/4 in.	19.050	
1/2 in.	12.700	
3/8 in.	9.500	100.0
No. 4	4.750	98.6
No. 8	2.360	
No. 10	2.000	86.2
No. 16	1.180	
No. 20	0.850	
No. 30	0.600	53.2
No. 40	0.425	39.7
No. 50	0.300	
No. 60	0.250	
No. 100	0.150	16.5
No. 140	0.106	
No. 200	0.075	13.5
No. 270	0.053	



Size Distribution	
% Gravel:	1.4
% Sand:	85.1
% Fines:	13.5

Classification
<b>SM</b>

Curve Data	
Coefficient of Uniformity (Cu):	
Coefficient of Curvature (Cc):	
D50 Diameter (mm):	0.5

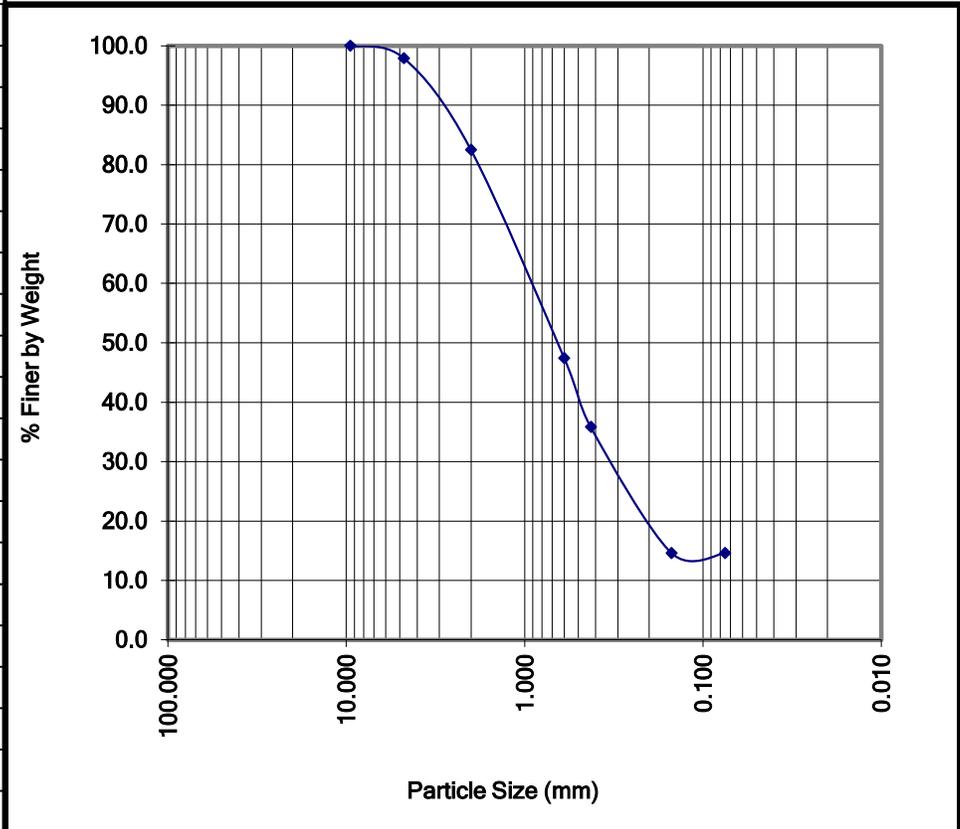
Project: 14678-10B Sand  
Creek Sample: S-4 @ 1.5'

ESGS, Inc.  
July,3 2020

# Particle-Size Distribution

ASTM C 136

Sieve & Hydro Data		
Sieve or Time	Size (mm)	% Finer
2-1/2 in.	63.500	
2 in.	50.800	
1-1/2 in.	38.100	
1 in.	25.400	
3/4 in.	19.050	
1/2 in.	12.700	
3/8 in.	9.500	100.0
No. 4	4.750	97.9
No. 8	2.360	
No. 10	2.000	82.5
No. 16	1.180	
No. 20	0.850	
No. 30	0.600	47.4
No. 40	0.425	35.8
No. 50	0.300	
No. 60	0.250	
No. 100	0.150	14.6
No. 140	0.106	
No. 200	0.075	14.6
No. 270	0.053	



Size Distribution	
% Gravel:	2.1
% Sand:	83.3
% Fines:	14.6

Classification
<b>SM</b>

Curve Data	
Coefficient of Uniformity (Cu):	
Coefficient of Curvature (Cc):	
D50 Diameter (mm):	0.7

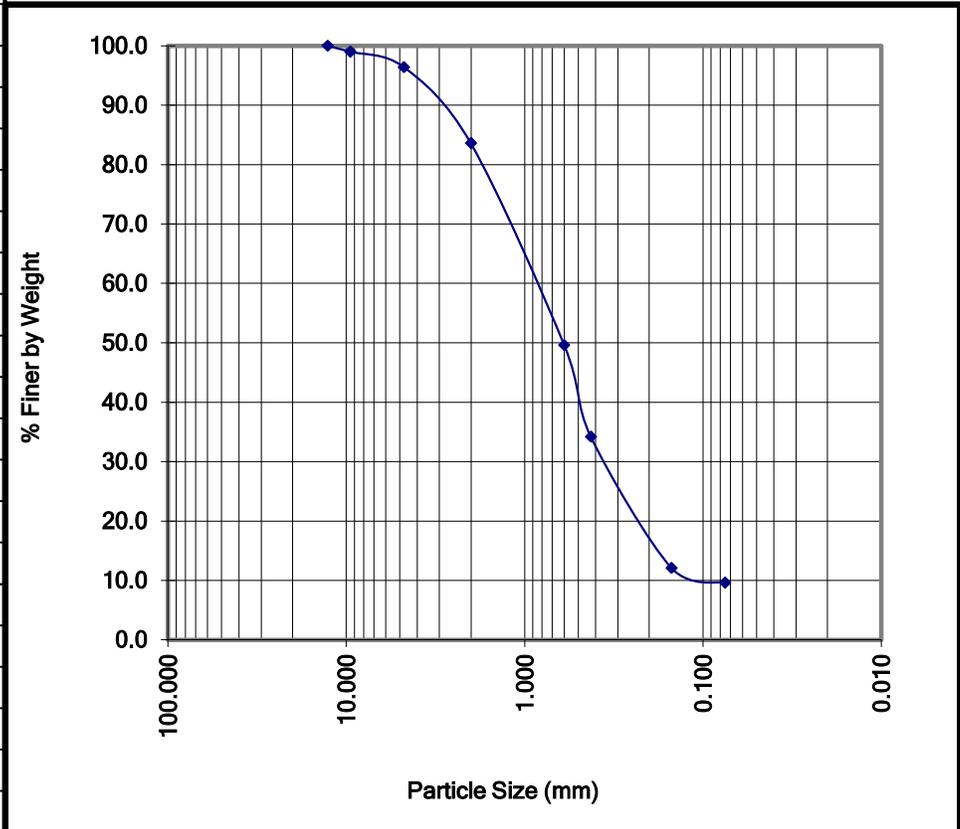
Project: 14678-10B Sand  
Creek Sample: S-4 @ 4'

ESGS, Inc.  
July,3 2020

# Particle-Size Distribution

ASTM C 136

Sieve & Hydro Data		
Sieve or Time	Size (mm)	% Finer
2-1/2 in.	63.500	
2 in.	50.800	
1-1/2 in.	38.100	
1 in.	25.400	
3/4 in.	19.050	
1/2 in.	12.700	100.0
3/8 in.	9.500	99.0
No. 4	4.750	96.4
No. 8	2.360	
No. 10	2.000	83.6
No. 16	1.180	
No. 20	0.850	
No. 30	0.600	49.6
No. 40	0.425	34.2
No. 50	0.300	
No. 60	0.250	
No. 100	0.150	12.1
No. 140	0.106	
No. 200	0.075	9.6
No. 270	0.053	



Size Distribution	
% Gravel:	3.6
% Sand:	86.8
% Fines:	9.6

Classification
<b>SP-SM</b>

Curve Data	
Coefficient of Uniformity (Cu):	
Coefficient of Curvature (Cc):	
D50 Diameter (mm):	0.6

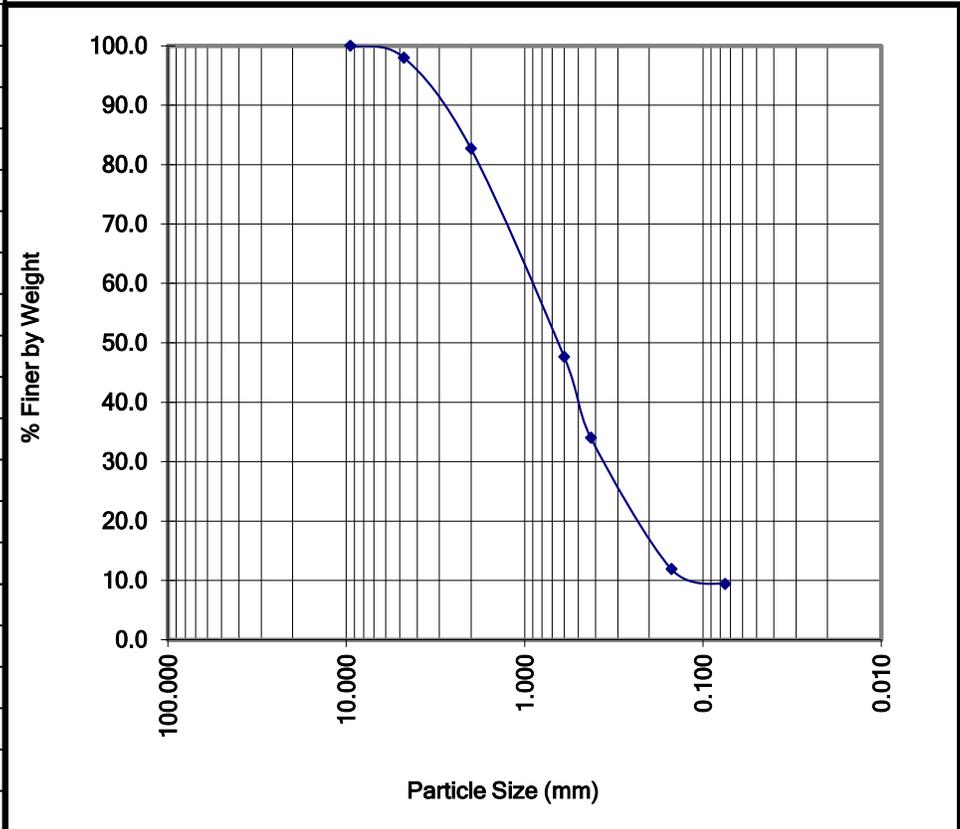
Project: 14678-10B Sand  
Creek Sample: S-5 @ 1.5'

ESGS, Inc.  
July,3 2020

# Particle-Size Distribution

ASTM C 136

Sieve & Hydro Data		
Sieve or Time	Size (mm)	% Finer
2-1/2 in.	63.500	
2 in.	50.800	
1-1/2 in.	38.100	
1 in.	25.400	
3/4 in.	19.050	
1/2 in.	12.700	
3/8 in.	9.500	100.0
No. 4	4.750	98.0
No. 8	2.360	
No. 10	2.000	82.7
No. 16	1.180	
No. 20	0.850	
No. 30	0.600	47.6
No. 40	0.425	34.0
No. 50	0.300	
No. 60	0.250	
No. 100	0.150	11.9
No. 140	0.106	
No. 200	0.075	9.4
No. 270	0.053	



Size Distribution	
% Gravel:	2.0
% Sand:	88.6
% Fines:	9.4

Classification
<b>SP-SM</b>

Curve Data	
Coefficient of Uniformity (Cu):	
Coefficient of Curvature (Cc):	
D50 Diameter (mm):	0.6

Project: 14678-10B Sand  
Creek Sample: S-5 @ 4'

ESGS, Inc.  
July,3 2020

**LEGEND**  
Locations are Approximate

**Symbols**



Sample Location



**SAMPLE LOCATION MAP**

LOCATES ON THE NORTHWEST CORNER OF LINDA ROSEA DRIVE AND ANZA ROAD  
TEMECULA AREA, RIVERSIDE COUNTY, CALIFORNIA  
APN 951-220-002

PROJECT	PROPOSED 16 LOT DEVELOPMENT
CLIENT	MS. ANGELA LITTLE
PROJECT NO.	14678-10B
DATE	JULY 2020
SCALE	1:150
DWG XREFS	
REVISION	
DRAWN BY	JDG
PLATE	1 OF 1

Earth Strata Geotechnical Services, Inc.  
Geotechnical, Environmental and Materials Testing Consultants  
www.ESCSINC.com (951) 397-8315