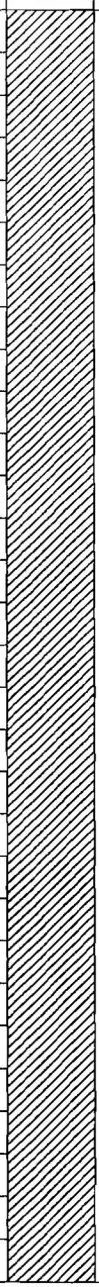


DOCKETED	
Docket Number:	24-OPT-02
Project Title:	Compass Energy Storage Project
TN #:	264555
Document Title:	Geotechnical Evaluation Report (TN #255561-6) References Part 2_2 of 9
Description:	N/A
Filer:	Erin Phillips
Organization:	Dudek
Submitter Role:	Applicant Consultant
Submission Date:	7/2/2025 6:58:42 PM
Docketed Date:	7/2/2025

GEOTECHNICAL BORING LOG LAB-3

Project No. 012383-001
Project Continuing Life/Orchards
Drilling Co. C&L Pacific Drilling
Drilling Method - 12" Drop
Location

Date Drilled 1-5-09
Logged By SMS
Hole Diameter 30"
Ground Elevation 270'
Sampled By SMS

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
270	0			B-1 0'-5'				CL	<i>The Soil Description applies only to a location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.</i> QUATERNARY COLLUVIUM (Qcol) @ 0': Clay to sandy CLAY: Brownish-black, very moist; sparse brush and grasses; fine sand; some fine gravel rock fragments; concrete and asphalt debris from road	
265	5									
260	10		R-1	1				@ 10': Sandy SILT with clay: Dark brown, moist; stiff, calcium-carbonate stringers; very fine to fine SAND: slight micaceous grades to mottled gray-brown; and reddish-brown		
255	15							TERTIARY CAPISTRANO FORMATION (Tc) oxidized @ 15': SILTSTONE: Gray, stiff, damp		
250	20		R-2	1				@ 20': SILTSTONE: Gray; very moist, stiff, some clay; some iron-oxide staining, micaceous @ 22': Concretions		
245	25									
240	30							@ 28': Ground water encountered		


SAMPLE TYPES:
S SPLIT SPOON
R RING SAMPLE
B BULK SAMPLE
T TUBE SAMPLE

G GRAB SAMPLE
C CORE SAMPLE

TYPE OF TESTS:
DS DIRECT SHEAR
MD MAXIMUM DENSITY
CN CONSOLIDATION
CR CORROSION

SA SIEVE ANALYSIS
SE SAND EQUIVALENT
EI EXPANSION INDEX
RV R VALUE

-200 % FINES PASSING
AL ATTERBERG LIMITS
CO COLLAPSE
PP POCKET PENETROMETER



SAMPLE TYPES:

S SPLIT SPOON G GRAB SAMPLE
 R RING SAMPLE C CORE SAMPLE
 B BULK SAMPLE
 T TUBE SAMPLE

TYPE OF TESTS:

DS DIRECT SHEAR SA SIEVE ANALYSIS -200 % FINES PASSING
 MD MAXIMUM DENSITY SE SAND EQUIVALENT AL ATTERBERG LIMITS
 CN CONSOLIDATION EI EXPANSION INDEX CO COLLAPSE
 CR CORROSION RV R VALUE PP POCKET PENETROMETER



GEOTECHNICAL BORING LOG LAB-3

Project No. 012383-001
 Project Continuing Life/Orchards
 Drilling Co. C&L Pacific Drilling
 Drilling Method - 12" Drop
 Location

Date Drilled 1-5-09
 Logged By SMS
 Hole Diameter 30"
 Ground Elevation 270'
 Sampled By SMS

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
<i>The Soil Description applies only to a location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.</i>										
240	30	N S		B-2 30'-35'				CL	TERTIARY CAPISTRANO FORMATION @ 30': CLAYSTONE: Olive-gray, mottled with iron-oxide staining; wet; stiff/medium hard, high plasticity; micaceous; highly fractured, fractures well healed with iron-oxide <hr style="border-top: 1px dashed black;"/> @ 33': Unoxidized @ 40': SILTSTONE: Very dark brown, wet; very hard; micaceous; thinly bedded? petroleum odor, trace (1mm shell fragments) Total Depth = 40 Feet Ground water encountered at 28 feet at time of drilling Measured at 33 Feet Boring backfilled upon completion 1/5/09 Not downhole logged due to presence of ground water Drive Weight: 0-29-3,615 lbs., 30-57-2,395 lbs.	
235	35									
230	40			R-4	5					
225	45									
220	50			R-5						
215	55									
210	60									

SAMPLE TYPES:
 S SPLIT SPOON
 R RING SAMPLE
 B BULK SAMPLE
 T TUBE SAMPLE

TYPE OF TESTS:
 DS DIRECT SHEAR
 MD MAXIMUM DENSITY
 CN CONSOLIDATION
 CR CORROSION

SA SIEVE ANALYSIS
 SE SAND EQUIVALENT
 EI EXPANSION INDEX
 RV R VALUE

-200 % FINES PASSING
 AL ATTERBERG LIMITS
 CO COLLAPSE
 PP POCKET PENETROMETER



GEOTECHNICAL BORING LOG LAB-4

Project No. 012383-001
 Project Continuing Life/Orchards
 Drilling Co. C&L Pacific Drilling
 Drilling Method - 12" Drop
 Location

Date Drilled 1-5-09
 Logged By SMS
 Hole Diameter 30"
 Ground Elevation 285'
 Sampled By SMS

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests	
<i>The Soil Description applies only to a location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.</i>											
285	0			B-1 0'-6'					@ 0': Asphalt concrete: 1" Base: 3" <u>ARTIFICIAL FILL (Af)</u> @ 3": Fine to coarse SAND to fine to coarse GRAVEL: Brown, moist, dense		
280	5								<u>QUATERNARY (Qcol)</u>		
275	10			R-1					@ 10': CLAY: Dark brown, moist; medium stiff; porous; voids <1-5mm; blocky fracture, some silt; trace fine sand		
270	15								@ 15': Silty CLAY: Dark brown, moist; medium stiff, porous; <1mm-2mm voids; blocky fracture; becomes siltier with depth		
265	20			R-2				CL	<u>TERTIARY CAPISTRANO FORMATION (Tc)</u> oxidized		
260	25								@ 25': CLAY: Brown, wet; medium stiff; moderate plasticity, some silt; small cobble-size concretions		
									@ 27': CLAY SILT: Mottled gray to brown with olive, yellow and orange, very moist, iron-oxide high plasticity		
									@ 29': CLAY: Olive-gray mottled with orange, very moist; some SILT, gypsum vein, high plasticity, abundant cobble-size concretions		
255	30										

SAMPLE TYPES:
S SPLIT SPOON
R RING SAMPLE
B BULK SAMPLE
T TUBE SAMPLE

G GRAB SAMPLE
C CORE SAMPLE

TYPE OF TESTS:
DS DIRECT SHEAR
MD MAXIMUM DENSITY
CN CONSOLIDATION
CR CORROSION

SA SIEVE ANALYSIS
SE SAND EQUIVALENT
EI EXPANSION INDEX
RV R VALUE

-200 % FINES PASSING
AL ATTERBERG LIMITS
CO COLLAPSE
PP POCKET PENETROMETER

SAMPLE TYPES:

S SPLIT SPOON
 R RING SAMPLE
 B BULK SAMPLE
 T TUBE SAMPLE

G GRAB SAMPLE
 C CORE SAMPLE

TYPE OF TESTS:

DS DIRECT SHEAR
 MD MAXIMUM DENSITY
 CN CONSOLIDATION
 CR CORROSION

SA SIEVE ANALYSIS
 SE SAND EQUIVALENT
 EI EXPANSION INDEX
 RV R VALUE



-200 % FINES PASSING
 AL ATTERBERG LIMITS
 CO COLLAPSE
 PP POCKET PENETROMETER



GEOTECHNICAL BORING LOG LAB-4

Project No. 012383-001
 Project Continuing Life/Orchards
 Drilling Co. C&L Pacific Drilling
 Drilling Method - 12" Drop
 Location

Date Drilled 1-5-09
 Logged By SMS
 Hole Diameter 30"
 Ground Elevation 285'
 Sampled By SMS

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
									<i>The Soil Description applies only to a location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.</i>	
255	30			R-3					TERTIARY CAPISTRANO FORMATION (Continued) @ 30': CLAYSTONE: Mottled gray/orange, some black and yellow; concretions; very moist; medium stiff; some iron-oxide, some silt	
250	35			B-2 34'-35'						
245	40			R-1					@ 38': Thin interbeds of light brown sandy SILT, very fine SAND; very moist @ 40': CLAYSTONE: Gray mottled with yellow, some black and orange; stiff; moist; some gypsum micaceous; medium hard	
240	45								@ 45': CLAYSTONE: Gray, orange, yellow mottled, stiff, moist; finely laminated @ 47': CLAYSTONE: Brownish-gray, mottled with orange, moist, stiff; fine to coarse sand-size gypsum in iron-oxide	
235	50			R-5					@ 50': CLAYSTONE: Gray mottled with orange and yellow; very moist; stiff; highly fractured, fractures well healed with iron-oxide, and some gypsum in wider fractures; thin balls of black, very soft clay, some thin beds of gray silt	
230	55								@ 55': SILTSTONE: Gray, mottled with yellow and orange; moist; stiff; highly fractured, fractures well healed with iron-oxide	
225	60								@ 57': SILTSTONE: Dark gray, with yellow stiff, moist; thin interbeds of very fine to fine white SAND and brown clay, micaceous	
<div><div>SAMPLE TYPES: S SPLIT SPOON R RING SAMPLE B BULK SAMPLE T TUBE SAMPLE</div><div>TYPE OF TESTS: DS DIRECT SHEAR MD MAXIMUM DENSITY CN CONSOLIDATION CR CORROSION</div><div>SA SIEVE ANALYSIS SE SAND EQUIVALENT EI EXPANSION INDEX RV R VALUE</div><div>-200 % FINES PASSING AL ATTERBERG LIMITS CO COLLAPSE PP POCKET PENETROMETER</div></div> <div></div>										



GEOTECHNICAL BORING LOG LAB-4

Project No. 012383-001

Date Drilled 1-5-09

Project Continuing Life/Orchards

Logged By SMS

Drilling Co. C&L Pacific Drilling

Hole Diameter 30"

Drilling Method - 12" Drop

Ground Elevation 285'

Location

Sampled By SMS

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
225	60	N S							<i>The Soil Description applies only to a location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.</i>	
									Total Depth = 57 Feet Ground water encountered 27 feet Boring backfilled 12/23/08 Not downhole logged due to presence of ground water Drive Weight: 0-29-3,615 lbs., 30-57-2,395 lbs.	
220	65									
215	70									
210	75									
205	80									
200	85									
195	90									

SAMPLE TYPES:

S SPLIT SPOON G GRAB SAMPLE

R RING SAMPLE C CORE SAMPLE

B BULK SAMPLE

T TUBE SAMPLE

TYPE OF TESTS:

DS DIRECT SHEAR SA SIEVE ANALYSIS -200 % FINES PASSING

MD MAXIMUM DENSITY SE SAND EQUIVALENT AL ATTERBERG LIMITS

CN CONSOLIDATION EI EXPANSION INDEX CO COLLAPSE

CR CORROSION RV R VALUE PP POCKET PENETROMETER

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

Lowney Borings

APPENDIX A FIELD EXPLORATION

The field investigation consisted of a surface reconnaissance and a subsurface exploration program using truck-mounted, 24-inch diameter bucket auger and hollow-stem auger drill rigs. Exploratory borings were drilled in late March through June 2001, to a maximum depth of 147 feet. The approximate locations of the exploratory borings are shown on the Site Plan, Figures 2a and 2b. Encountered soils were continuously logged in the field by our representative and described in accordance with the Unified Soil Classification System (ASTM D 2488-93). The logs of the borings, as well as a key to the classification of the soil, are included as part of this appendix.

The locations of borings were approximately determined by pacing from existing site references. Elevations of the borings were estimated by interpolation from plan contours. The locations and elevations of the borings should be considered accurate only to the degree implied by the method used.

Representative earth material samples were obtained from the borings at selected depths. These samples were transported to our Fullerton geotechnical laboratory for evaluation and appropriate testing. For the one hollow stem boring, the Standard Penetration Test (SPT) resistance blow counts were obtained by dropping a 140-pound hammer through a 30-inch free fall. The 2-inch outside diameter split spoon sampler was driven 18 inches and the number of blows was recorded for each 6 inches of penetration (ASTM D 1586-99). For the bucket auger borings, 2½-inch inside diameter brass ring samples were obtained using a Modified California sampler driven into the soil with telescoping kelly bar. Unless otherwise indicated, the blows per foot recorded on the boring log represent the accumulated number of blows required to drive the last 12 inches. The various samplers are denoted at the appropriate depth on the boring logs and symbolized as shown on Figure A-1.

The attached boring logs and related information depict subsurface conditions only at the locations indicated and at the particular date designated on the logs. Subsurface conditions at other locations may differ from conditions occurring at these boring locations. The passage of time may result in altered subsurface conditions due to environmental changes. In addition, any stratification lines on the logs represent the approximate boundary between soil types and the transition may be gradual.

* * * * *

EXPLORATORY BORING: LF-01

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: ML

START DATE: 3-21-01

FINISH DATE: 3-21-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 20.0 FT.

This log is a part of a report by Lowney Associates, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

MATERIAL DESCRIPTION AND REMARKS

SURFACE ELEVATION: 222 FT. (+/-)

ALLUVIUM: CLAYEY SILT (ML), dark brown

- moist, light grayish brown, brown iron oxide

- stiff

- moist

- dark brown oxide

BOTTOM OF BORING AT 20 FEET

SOIL TYPE

PENETRATION
RESISTANCE
(BLOWS/FT.)

SAMPLER

MOISTURE
CONTENT (%)

DRY DENSITY
(PCF)

PERCENT PASSING
NO. 200 SIEVE

Undrained Shear Strength
(ksf)

○ Pocket Penetrometer

△ Torvane

● Unconfined Compression

▲ U-U Triaxial Compression

1.0 2.0 3.0 4.0

GROUND WATER OBSERVATIONS:

NO FREE GROUNDWATER ENCOUNTERED

Northing: 3,809

Easting: 752

EXPLORATORY BORING: LF-02

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: ML

START DATE: 3-21-01

FINISH DATE: 3-21-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 20.0 FT.

This log is a part of a report by Lowney Associates, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

MATERIAL DESCRIPTION AND REMARKS

SURFACE ELEVATION: 238 FT. (+/-)

ALLUVIUM: CLAYEY SILT (ML), stiff, slightly moist, dark brown, trace orange oxides

BEDROCK: SILTSTONE (Tcsl), light brown with trace white and brown staining

- very stiff, slightly moist

- hard with dark brown rock, trace white minerals

- slightly moist, grayish brown

BOTTOM OF BORING AT 20 FEET

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)			
238.0	0								○ Pocket Penetrometer	△ Torvane	● Unconfined Compression	▲ U-U Triaxial Compression
				1.0	2.0	3.0	4.0					
			ML	11	23	94						
	5			25	22	100						
	10		Tcsl	30	29	94						
	15			53	32	91						
	20			36	31	91						
	25											

GROUND WATER OBSERVATIONS:

NO FREE GROUNDWATER ENCOUNTERED

Northing: 3,758

Easting: 630

LA CORP GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LF-03

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: ML

START DATE: 3-21-01

FINISH DATE: 3-21-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 20.0 FT.

This log is a part of a report by Lowney Associates, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

MATERIAL DESCRIPTION AND REMARKS

SURFACE ELEVATION: 213 FT. (+/-)

ALLUVIUM: CLAYEY SAND (SC), slightly moist, very dark brown, trace roots

- stiff, dark brown

- soft, moist, trace orange brown oxides

- streaks of fine white minerals

GROUNDWATER AT 14 FEET

- very wet, light olive brown

- trace coarse white minerals

BOTTOM OF BORING AT 20 FEET

SOIL TYPE

PENETRATION
RESISTANCE
(BLows/FT.)

MOISTURE
CONTENT (%)

DRY DENSITY
(PCF)

PERCENT PASSING
NO. 200 SIEVE

Undrained Shear Strength
(ksf)

- Pocket Penetrometer
- △ Torvane
- Unconfined Compression
- ▲ U-U Triaxial Compression

1.0 2.0 3.0 4.0

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	SOIL TYPE	PENETRATION RESISTANCE (BLows/FT.)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)
213.0	0							
	2.3			23	16	109		
	5			12	26	95		
	10		ML	18	27	97		
	15			5	29			
	20			12	31	93		
	25							

GROUND WATER OBSERVATIONS:

▽: FREE GROUND WATER MEASURED DURING DRILLING AT 14.0 FEET

Northing: 3,593

Easting: 817

LA. CORP. GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LF-04

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: ML

START DATE: 3-21-01 FINISH DATE: 3-21-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 20.0 FT.

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (TENS. SPT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)			
										○ Pocket Penetrometer	△ Torvane	● Unconfined Compression	▲ U-U Triaxial Compression
216.0	0		SURFACE ELEVATION: 216 FT. (+/-)										
			ALLUVIUM: CLAY (CH), soft, slightly moist, dark brown, EI = 110	CL	13	×	23	100					
			CLAYEY SILT (ML), soft, moist, dark brown, wood fragments										
	5		- slightly moist, light brown, trace orange iron oxides		26	×	13	109					
	10		- moist, dark olive brown to light olive brown, streaks of white minerals	ML	24	×	28	95					
	15		- grayish brown, dark brown mineral deposits, trace organic fragments		25	×	41	80					
	20		BEDROCK: SILTSTONE (Tcsl), very stiff, slightly moist, grayish brown	Tcsl	31	×	45	76					
			BOTTOM OF BORING AT 20 FEET										
	25												

GROUND WATER OBSERVATIONS:
NO FREE GROUNDWATER ENCOUNTERED

Northing: 3,553
Easting: 760

LA CORP. GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LF-05

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: ML

START DATE: 3-21-01

FINISH DATE: 3-21-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 20.0 FT.

This log is a part of a report by Lowney Associates, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

MATERIAL DESCRIPTION AND REMARKS

SURFACE ELEVATION: 217 FT. (+/-)

ALLUVIUM: CLAYEY SILT (ML), slightly moist, dark brown, roots

- soft, moist

- olive brown streaks of white brown minerals

- very moist, light grayish brown

BOTTOM OF BORING AT 20 FEET

Undrained Shear Strength (ksf)

○ Pocket Penetrometer

△ Torvane

● Unconfined Compression

▲ U-U Triaxial Compression

1.0 2.0 3.0 4.0

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)
217.0	0									
	17				17	15	105			
	25				25	22	103			
	15				15	26	98			
	16				16	39	81			
	12				12	36	86			
	20									
	25									

GROUND WATER OBSERVATIONS:

NO FREE GROUNDWATER ENCOUNTERED

Northing: 3,557

Easting: 738

LA CORP GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LF-06

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: ML

START DATE: 3-21-01

FINISH DATE: 3-21-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 20.0 FT.

This log is a part of a report by Lowney Associates, and should not be used as a stand-alone document. This description applies only to the location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with time. The description presented is a simplification of actual conditions encountered. Transitions between soil types may be gradual.

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLows/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)
211.0	0		SURFACE ELEVATION: 211 FT. (+/-)							
			ALLUVIUM: CLAY (CL), with silt, soft, moist, very dark brown		9	28	90			
	5		- trace orange oxides		9	27	95			
			- streaks of white minerals							
	10		- very soft, very moist	CL	10	32	92			
	15		- grayish brown		6	35	86			
	20		BOTTOM OF BORING AT 20 FEET		6	34	88			
	25									

GROUND WATER OBSERVATIONS:
NO FREE GROUNDWATER ENCOUNTERED

Northing: 3,395
Easting: 828

LA CORP.GDT 7/31/01 Fullerton* ALM

EXPLORATORY BORING: LF-07

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION
BORING TYPE: HOLLOW STEM 8-INCH
LOGGED BY: ML
START DATE: 3-21-01 FINISH DATE: 3-21-01

PROJECT NO: 1651-4
PROJECT: JUNIPERO SERRA HIGH SCHOOL
LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA
COMPLETION DEPTH: 20.0 FT.

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)			
									○ Pocket Penetrometer	△ Torvane	● Unconfined Compression	▲ U-U Triaxial Compression
209.0	0		SURFACE ELEVATION: 209 FT. (+/-) ALLUVIUM: CLAYEY SILT (ML), brown	ML								
			SILTY SAND (SM), soft, moist, light brown	SM	9	16	100					
	5		SILTY CLAY (CL), soft, moist, dark olive brown	CL	11	29	93					
	10		CLAYEY SILT (ML), dark olive brown	ML	11	29	93					
	15		- very moist, streaks of white minerals	ML	8	38	83					
	20		GROUNDWATER AT 16.5 FEET		5	32						
			BOTTOM OF BORING AT 20 FEET									

GROUND WATER OBSERVATIONS:

▽: FREE GROUND WATER MEASURED DURING DRILLING AT 16.5 FEET

Northing: 3,136

Easting: 778

LA CORP GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LF-08

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: ML

START DATE: 3-21-01

FINISH DATE: 3-21-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 20.0 FT.

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ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLows/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)	Test Method
208.0	0		SURFACE ELEVATION: 208 FT. (+/-) ALLUVIUM: SILTY CLAY (CL), soft, moist, dark grayish brown, wood fragments	CL	20	16	114				
	5		CLAY (CL), soft	CL	9	29	93				
	10		- very moist	CL	7	33	89				
	13		GROUNDWATER AT 13 FEET								
	15				5	34					
	20		CLAYEY SILT (ML) gray with streaks of white BOTTOM OF BORING AT 20 FEET	ML	5	25					

GROUND WATER OBSERVATIONS:

∇: FREE GROUND WATER MEASURED DURING DRILLING AT 13.0 FEET

Northing: 2,984

Easting: 821

LA CORP. GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LF-09

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: ML

START DATE: 3-22-01

FINISH DATE: 3-22-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 20.0 FT.

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ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLows/ft.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)
207.0	0		SURFACE ELEVATION: 207 FT. (+/-)							
			ALLUVIUM: SILTY CLAY (CL), soft, dark brown	CL						
			SILT (ML), with fine sand, soft, moist, dark brown	ML	10	26	92			
	5		SILTY CLAY (CL), soft, moist, very dark brown	CL	10	30	91			
	10		- medium sand, brown	CL	10	32	91			
			GROUNDWATER AT 11 FEET							
	15		CLAYEY SILT (ML), soft, moist, white minerals	ML	9	34	89			
			- very moist, dark brown	ML	11	29	96			
			BOTTOM OF BORING AT 20 FEET							
	25									

GROUND WATER OBSERVATIONS:

▽: FREE GROUND WATER MEASURED DURING DRILLING AT 11.0 FEET

Northing: 2,794

Easting: 792

LA CORP.GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LF-10

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: ML

START DATE: 3-22-01

FINISH DATE: 3-22-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 20.0 FT.

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ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLows/FT)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)
219.0	0		SURFACE ELEVATION: 219 FT. (+/-)							
			ALLUVIUM: SILTY CLAY (CL), very soft, very dark brown, brush	CL						
			CLAYEY SILT (ML), medium sand, moist, very dark brown, roots		16	☒	22	102		
	5				16	☒	22	101		
	10		- soft, olive brown	ML	13	☒	22	99		
	15		- light olive brown with orange light brown oxides		15	☒	29	94		
	20		- medium sand, moist, dark brown		20	☒	27	96		
			BOTTOM OF BORING AT 20 FEET							
	25									

GROUND WATER OBSERVATIONS:
NO FREE GROUNDWATER ENCOUNTERED

Northing: 2,801
Easting: 500

LA CORP. GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LF-11

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: ML

START DATE: 3-22-01

FINISH DATE: 3-22-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 20.0 FT.

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MATERIAL DESCRIPTION AND REMARKS

SURFACE ELEVATION: 210 FT. (+/-)

ALLUVIUM: SILTY CLAY (CL), medium stiff, moderate plasticity, moist, very dark brown, organic fragments

GROUNDWATER AT 13 FEET

CLAYEY SILT (ML), trace fine sand, soft, moist, brown

SILTY CLAY-CLAYEY SILT (CL-ML), trace fine sand, stiff, moist, grayish brown

BOTTOM OF BORING AT 20 FEET

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	SOIL TYPE	PENETRATION RESISTANCE (BLows/ft.)	WATER CONTENT (%)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)			
210.0	0											
	1			11	23	99						
	5		CL	16	22	104						
	10			14	24	102						
	15		ML	12	30	97						
	20		CL-ML	19	28	100						
	25											

GROUND WATER OBSERVATIONS:

∇: FREE GROUND WATER MEASURED DURING DRILLING AT 13.0 FEET

Northing: 2,894

Easting: 598

LA CORP GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LF-12

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

PROJECT NO: 1651-4

BORING TYPE: HOLLOW STEM 8-INCH

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOGGED BY: ML

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

START DATE: 3-22-01

FINISH DATE: 3-22-01

COMPLETION DEPTH: 20.0 FT.

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ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (LOUS/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)
208.0	0		SURFACE ELEVATION: 208 FT. (+/-) ALLUVIUM: CLAYEY SILT (ML), soft, moist, brown							<div>○ Pocket Penetrometer</div> <div>△ Torvane</div> <div>● Unconfined Compression</div> <div>▲ U-U Triaxial Compression</div>
	5		- dark brown		9	44 43	81 79			
	10		- dense, very moist	ML	10	28 29	92 93			
	15		- streaks of white minerals		9	31	91			
	20		BOTTOM OF BORING AT 20 FEET		9	32 32	88 92			
	25				9	28	95			

GROUND WATER OBSERVATIONS:

NO FREE GROUNDWATER ENCOUNTERED

Northing: 2,956

Easting: 695

LA CORP.GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LF-13

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION
BORING TYPE: HOLLOW STEM 8-INCH
LOGGED BY: ML
START DATE: 3-22-01 FINISH DATE: 3-22-01

PROJECT NO: 1651-4
PROJECT: JUNIPERO SERRA HIGH SCHOOL
LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA
COMPLETION DEPTH: 20.0 FT.

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ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)	<ul style="list-style-type: none"> ○ Pocket Penetrometer △ Torvane ● Unconfined Compression ▲ U-U Triaxial Compression
218.0	0		SURFACE ELEVATION: 218 FT. (+/-) ALLUVIUM: CLAYEY SILT (ML) , very stiff, slightly moist, dark brown.							1.0 2.0 3.0 4.0	
	5		- stiff, brown, organic fragments, white streaks		35	✕	13	110			
	10		- medium sand, moist, orange iron oxides	ML	23	✕	18	109			
	15		- soft, very moist, dark brown		20	✕	23	100			
	20		- very soft, moist, light olive brown		17	✕	26	99			
	20		BOTTOM OF BORING AT 20 FEET		15	✕	31	90			

GROUND WATER OBSERVATIONS:
NO FREE GROUNDWATER ENCOUNTERED

Northing: 3,107
Easting: 504

LA CORP. GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LF-14

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: ML

START DATE: 3-22-01

FINISH DATE: 3-22-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 20.0 FT.

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MATERIAL DESCRIPTION AND REMARKS

SURFACE ELEVATION: 209 FT. (+/-)

ALLUVIUM: CLAYEY SILT (ML), soft, moist, very dark brown, iron oxides

- medium sand

- dark brown to brown

- streaks of white minerals

BOTTOM OF BORING AT 20 FEET

SOIL TYPE

PENETRATION
RESISTANCE
(BLows/ft.)

MOISTURE
CONTENT (%)

DRY DENSITY
(pcf)

PERCENT PASSING
NO. 200 SIEVE

Undrained Shear Strength
(ksf)

- Pocket Penetrometer
- △ Torvane
- Unconfined Compression
- ▲ U-U Triaxial Compression

1.0 2.0 3.0 4.0

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	SOIL TYPE	PENETRATION RESISTANCE (BLows/ft.)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)
209.0	0							
				11	27	94		
	5	- medium sand		17	24	100		
	10	- dark brown to brown	ML	19	23	102		
	15	- streaks of white minerals		17	23	102		
	20			14	28	98		
	25							

GROUND WATER OBSERVATIONS:

NO FREE GROUNDWATER ENCOUNTERED

Northing: 3,139

Easting: 616

LA CORP. GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LF-15

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: ML

START DATE: 3-28-01

FINISH DATE: 3-28-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 20.0 FT.

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MATERIAL DESCRIPTION AND REMARKS

SURFACE ELEVATION: 223 FT. (+/-)

ALLUVIUM: CLAYEY SILT (ML), moist, very dark brown

- stiff, trace white organic material

- very stiff, dark brown

- slightly moist, olive brown to light brown, orange to yellowish brown organic material

- moist, olive brown, trace orange and red organic material, roots

- stiff, very moist

BOTTOM OF BORING AT 20 FEET

SOIL TYPE

PENETRATION
RESISTANCE
(BLows/ft.)

SAMPLER

MOISTURE
CONTENT (%)

DRY DENSITY
(PCF)

PERCENT PASSING
NO. 200 SIEVE

Undrained Shear Strength
(ksf)

- Pocket Penetrometer
- △ Torvane
- Unconfined Compression
- ▲ U-U Triaxial Compression

1.0 2.0 3.0 4.0

ELEVATION
(FT)

DEPTH
(FT)

SOIL LEGEND

223.0

0

5

10

15

20

25

13

23

102

19

21

105

28

21

106

17

22

102

11

27

93

GROUND WATER OBSERVATIONS:

NO FREE GROUNDWATER ENCOUNTERED

Northing: 3,161

Easting: 446

LA CORP. GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LF-16

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: ML

START DATE: 3-28-01

FINISH DATE: 3-28-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 20.0 FT.

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLows/ft.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)			
										○ Pocket Penetrometer	△ Torvane	● Unconfined Compression	▲ U-U Triaxial Compression
212.0	0		SURFACE ELEVATION: 212 FT. (+/-)										
			ALLUVIUM: CLAYEY SILT (ML), slightly moist, dark brown										
			- medium stiff, moist, brown, trace orange material, roots		9	×	26	91					
	5		- stiff, very moist, very dark brown to light brown	ML	11	×	26	98					
			GROUNDWATER AT 8½ FEET										
	10		CLAYEY SILT-SILTY CLAY (ML-CL), medium stiff, high plasticity, very moist, brown	ML-CL	6	×	34	88					
	15		CLAYEY SILT (ML), medium stiff, wet, olive brown-grayish brown mottling, trace white organic materials	ML	5	×	34	84					
			NO RECOVERY		8	○							
	20		BOTTOM OF BORING AT 20 FEET										
	25												

GROUND WATER OBSERVATIONS:

▽: FREE GROUND WATER MEASURED DURING DRILLING AT 8.5 FEET

Northing: 3,395

Easting: 738

LA CORP GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LF-17

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

PROJECT NO: 1651-4

BORING TYPE: HOLLOW STEM 8-INCH

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOGGED BY: ML

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

START DATE: 3-28-01 FINISH DATE: 3-28-01

COMPLETION DEPTH: 20.0 FT.

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)			
										○ Pocket Penetrometer	△ Torvane	● Unconfined Compression	▲ U-U Triaxial Compression
219.0	0		SURFACE ELEVATION: 219 FT. (+/-) ALLUVIUM: SILT (ML), slightly moist, olive brown	ML									
			CLAYEY SILT (ML), stiff, moist, dark brown, trace yellowish organic material		10	☒	29	88					
	5		- very stiff, dark brown to olive brown	ML	20	☒	25	98					
	10		SILTY CLAY (CL), stiff, high plasticity, moist, olive brown GROUNDWATER AT 11 FEET		12	☒	32	89					
	15		- medium stiff, high plasticity, very moist	CL	7	☒	32	89					
	20		BOTTOM OF BORING AT 20 FEET		9	☒	33	88					

GROUND WATER OBSERVATIONS:

▽: FREE GROUND WATER MEASURED DURING DRILLING AT 11.0 FEET

Northing: 3,474

Easting: 637

EXPLORATORY BORING: LF-18

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: ML

START DATE: 3-22-01

FINISH DATE: 3-22-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 20.0 FT.

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ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLow TEST)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)			
220.0	0		SURFACE ELEVATION: 220 FT. (+/-)										
			ALLUVIUM: SILTY CLAY (CL), medium sand, moist, very dark brown, roots, organic fragments	CL	12	26	95						
	5		CLAYEY SILT (ML), medium sand, trace orange oxides, roots	ML	17	23	102						
	10		- dark brown, trace white oxides		21	23	103						
	15		- stiff, roots		17	25	100						
	20		BOTTOM OF BORING AT 20 FEET		15	28	96						

GROUND WATER OBSERVATIONS:
NO FREE GROUNDWATER ENCOUNTERED

Northing: 3,337

Easting: 522

LA CORP GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LF-19

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: ML

START DATE: 3-28-01

FINISH DATE: 3-28-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 20.0 FT.

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ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLows/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)
225.0	0		SURFACE ELEVATION: 225 FT. (+/-)							
			ALLUVIUM: SILTY CLAY (CL), coarse sand with gravel, medium dense, dry, black tar materials		25	0	113			
	5		- fine to medium sand with gravel, subangular 1-inch, medium dense, moist, very dark brown to black	CL	13	8	113			
	10		- very stiff, moderate plasticity, moist, brown, trace orange organic material		20	15	108			
	15		CLAYEY SILT (ML), stiff, moist, olive brown	ML	12	30	89			
	20		BOTTOM OF BORING AT 20 FEET		8	31	92			

GROUND WATER OBSERVATIONS:
NO FREE GROUNDWATER ENCOUNTERED

Northing: 3,460

Easting: 508

LA CORP.GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LH-01

Sheet 1 of 2

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: BAF

START DATE: 2-21-01

FINISH DATE: 2-23-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 36.0 FT.

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLows/ft.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)			
										1.0	2.0	3.0	4.0
204.0	0		SURFACE ELEVATION: 204 FT. (+/-) ALLUVIUM: CLAYEY SILT (ML) , fine sand, stiff, slightly moist to moist, light brown, numerous pores, some fine rootlets										
	5			ML	27	7	98						
	10		SILTY CLAY (CL) , trace fine sand, medium stiff, moderate plasticity, moist, dark brown		12	12	93						
	15			CL	12	22							
	20				18	23	103						
	25		- moderate gypsum streaking, small pockets		9	23							

Continued Next Page

GROUND WATER OBSERVATIONS:

NO FREE GROUNDWATER ENCOUNTERED

Northing: 1,940

Easting: 853

LA CORP GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LH-01 Cont'd

Sheet 2 of 2

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: BAF

START DATE: 2-21-01

FINISH DATE: 2-23-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 36.0 FT.

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MATERIAL DESCRIPTION AND REMARKS

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	SOIL TYPE	PENETRATION RESISTANCE (BLOWS/FT.)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)			
179.0	25			13	×	24	102					
	30		CL	7	×	28						
	35		CL	28	×	27	98					
	40											
	50											

BOTTOM OF BORING AT 36 FEET

GROUND WATER OBSERVATIONS:

NO FREE GROUNDWATER ENCOUNTERED

Northing: 1,940

Easting: 853

LA CORP. GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LH-02

Sheet 1 of 2

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: BAF

START DATE: 2-21-01

FINISH DATE: 2-23-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 31.0 FT.

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MATERIAL DESCRIPTION AND REMARKS

SURFACE ELEVATION:

FILL: CLAYEY SILT (ML), with fine sand, medium stiff, moist to wet, dark brown, trace clay, minor fine rootlets

ALLUVIUM: SANDY SILT-SILTY SAND (ML-SM)
fine sand, moist, light brown

SILTY CLAY (CL), trace fine to medium sand, medium stiff, low to moderate plasticity, moist, dark gray with dark brown mottling

- fine sand, medium stiff, moderate plasticity, dark gray

- some interbedded fine silty sand

- fine sand, stiff, moderate plasticity, dark gray

- some interbedded sandy clay, occasional cementation 1/8-inch pockets

Continued Next Page

GROUND WATER OBSERVATIONS:

NO FREE GROUNDWATER ENCOUNTERED

LA CORP GDT 7/31/01 Fullerton ALM

Undrained Shear Strength (ksf)

- Pocket Penetrometer
- △ Torvane
- Unconfined Compression
- ▲ U-U Triaxial Compression

1.0 2.0 3.0 4.0

EXPLORATORY BORING: LH-02 Cont'd

Sheet 2 of 2

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: BAF

START DATE: 2-21-01

FINISH DATE: 2-23-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 31.0 FT.

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MATERIAL DESCRIPTION AND REMARKS

25
- SILTY CLAY (CL), trace fine to medium sand, medium stiff, low to moderate plasticity, moist, dark gray with dark brown mottling
- some interbedded sandy clay and clayey sand, fine to medium sand, wet to saturated lenses at 24½ feet

30
- fine sand, medium stiff, moderate plasticity, dark brown gray, trace small cemented nodule, occasional fine rootlets and saturated pores

BOTTOM OF BORING AT 31 FEET

SOIL TYPE

PENETRATION RESISTANCE (BLows/ft.)

SAMPLER

MOISTURE CONTENT (%)

DRY DENSITY (PCF)

PERCENT PASSING NO. 200 SIEVE

Undrained Shear Strength (ksf)

- Pocket Penetrometer
- △ Torvane
- Unconfined Compression
- ▲ U-U Triaxial Compression

1.0 2.0 3.0 4.0

GROUND WATER OBSERVATIONS:

NO FREE GROUNDWATER ENCOUNTERED

LA CORP.GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LH-03

Sheet 1 of 2

DRILL RIG: D&D CONSTRUCTION

PROJECT NO: 1651-4

BORING TYPE: HOLLOW STEM 8-INCH

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOGGED BY: BAF

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

START DATE: 2-21-01 FINISH DATE: 2-23-01

COMPLETION DEPTH: 36.0 FT.

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ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (BLOWSET)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)				
207.0	0		SURFACE ELEVATION: 207 FT. (+/-)											
			ALLUVIUM: CLAYEY SAND (SC), fine sand, moist, light brown	SC	8	⊠	6	100						
	5		CLAYEY SILT (ML)	ML	9	⊠	20	93						
			SILTY CLAY (CL), trace to minor fine sand, stiff, moderate plasticity, moist, black, trace fine rootlets											
	10		- minor fine cemented nodule, no rootlets, dark gray black		9	⊠	29							
				CL										
	15		- less cementation		18	⊠	41	85						
	20		SANDY CLAY (CL), fine sand, soft to medium stiff, moist to very moist, occasional cemented nodule		6	⊠	28							
			tip of sample: clayey sand, fine grained, wet	CL										
182.0	25													
Continued Next Page														

Continued Next Page

GROUND WATER OBSERVATIONS:

∇: FREE GROUND WATER MEASURED DURING DRILLING AT 27.0 FEET

Northing: 2,891

Easting: 1,123

LA CORP. GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LH-03 Cont'd

Sheet 2 of 2

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: BAF

START DATE: 2-21-01

FINISH DATE: 2-23-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 36.0 FT.

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ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (PSF)	SAMPLER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)
182.0	25		SANDY CLAY (CL), fine sand, soft to medium stiff, moist to very moist, occasional cemented nodule - medium stiff, moist		17	☒	23	102		
			GROUNDWATER AT 27 FEET							
	30			CL	5	☒	33			
	35		SILTY SAND (SM), fine sand, saturated, light brown	SM	15	☒	27			
			BOTTOM OF BORING AT 36 FEET							
			PULLED AUGERS, HOLE BLOCKED NO WATER VISIBLE AFTER AUGER PULLED							
	40									
	50									

GROUND WATER OBSERVATIONS:

☒: FREE GROUND WATER MEASURED DURING DRILLING AT 27.0 FEET

Northing: 2,891

Easting: 1,123

LA CORP.GDT. 7/31/01 Fullerton ALM

EXPLORATORY BORING: LH-09

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

PROJECT NO: 1651-4

BORING TYPE: HOLLOW STEM 8-INCH

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOGGED BY: BAF

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

START DATE: 2-21-01

FINISH DATE: 2-23-01

COMPLETION DEPTH: 11.0 FT.

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ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	MATERIAL DESCRIPTION AND REMARKS	SOIL TYPE	PENETRATION RESISTANCE (TSF)	SAMPLER MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)
210.0	0		SURFACE ELEVATION: 210 FT. (+/-)						
			FILL: CLAYEY SILT (ML), fine sands, soft, very moist, dark brown, organic to 1 1/2 feet	ML	13	21	97		
	5		ALLUVIUM: CLAYEY SILT (ML), stiff, less moisture brown, some white calcium mottling	ML	15	13	94		
	10				21	17	100		
	15								
	20								
	25								

BOTTOM OF BORING AT 11 FEET

GROUND WATER OBSERVATIONS:

NO FREE GROUNDWATER ENCOUNTERED

Northing: 2,152

Easting: 813

LA CORP. GDT 7/31/01 Fullerton ALM

EXPLORATORY BORING: LH-10

Sheet 1 of 1

DRILL RIG: D&D CONSTRUCTION

BORING TYPE: HOLLOW STEM 8-INCH

LOGGED BY: BAF

START DATE: 2-21-01

FINISH DATE: 2-23-01

PROJECT NO: 1651-4

PROJECT: JUNIPERO SERRA HIGH SCHOOL

LOCATION: SAN JUAN CAPISTRANO, CALIFORNIA

COMPLETION DEPTH: 21.0 FT.

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MATERIAL DESCRIPTION AND REMARKS

SURFACE ELEVATION: 217 FT. (+/-)

FILL: CLAY (CL), with silt, sand and gravel, medium stiff, moderate plasticity, moist, dark brown, gravel to 1½-inch, EI = 87

ALLUVIUM: SILTY CLAY (CL), trace fine sand medium stiff, moist, dark brown

- moderate plasticity, light brown

- sample split with hard brown cemented material

- increased fine sand, low to moderate plasticity

stiff, brown

BOTTOM OF BORING AT 21 FEET

Undrained Shear Strength (ksf)

- Pocket Penetrometer
- △ Torvane
- Unconfined Compression
- ▲ U-U Triaxial Compression

1.0 2.0 3.0 4.0

ELEVATION (FT)	DEPTH (FT)	SOIL LEGEND	SOIL TYPE	PENETRATION RESISTANCE (TSF)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PERCENT PASSING NO. 200 SIEVE	Undrained Shear Strength (ksf)
217.0	0							
	10		CL	10	19	99		
	15			15	23	98		
	7			7	36			
	22		CL	22	38	83		
	13			13	33			

GROUND WATER OBSERVATIONS:

NO FREE GROUNDWATER ENCOUNTERED

Northing: 3,697

Easting: 806