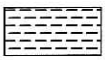
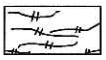
Generalized Graphic Rock Symbols

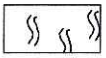

Claystone

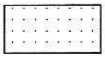
Siltstone

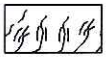

Tuff (Volcanic Ash)

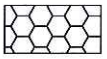
Shale

Chert


Andesite

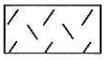

Sandstone


Serpentine


Basalt

Conglomerate

Metamorphic Rock


Granite

Stratification

Bedding of Sedimentary Rocks	Thickness of Beds
Massive	No apparent bedding
Very thick bedded	Greater than 4 feet
Thick bedded	2 feet to 4 feet
Thin bedded	2 inches to 2 feet
Very thin bedded	0.5 inches to 2 inches
Laminated	0.125 inches to 0.5 inches
Thinly laminated	less than 0.125 inches

Fracturing

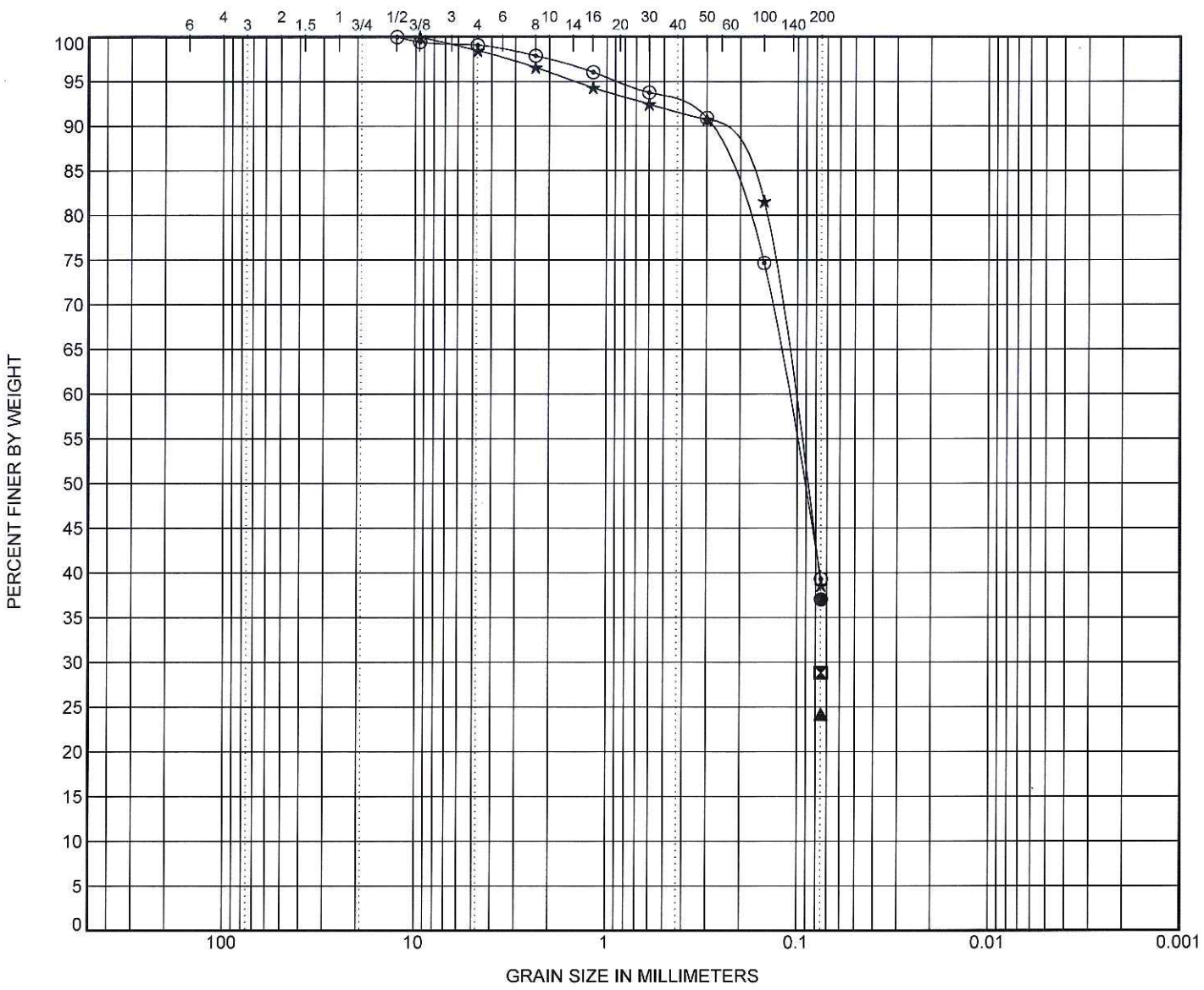
Fracturing Intensity	Thickness of Beds
Little	Greater than 4 feet
Occasional	1 foot to 4 feet
Moderate	6 inches to 1 foot
Close	1 inch to 6 inches
Intense	0.5 inches to 1 inch
Crushed	less than 0.5 inches

Strength

Soft	Plastic or very low strength.
Friable	Crumbles by hand.
Low hardness	Crumbles under light hammer blows.
Moderate hardness	Crumbles under a few heavy hammer blows.
Hard	Breaks into large pieces under heavy, ringing hammer blows.
Very hard	Resists heavy, ringing hammer blows and will yield with difficulty only dust and small flying fragments.

Weathering

Deep	Moderate to complete mineral decomposition, extensive disintegration, deep and thorough discoloration, many extensively coated fractures.
Moderate	Slight decomposition of minerals, little disintegration, moderate discoloration, moderately coated fractures.
Little	No megascopic decomposition of minerals, slight to no effect on cementation, slight and intermittent, or localized discoloration, few stains on fracture surfaces.
Fresh	Unaffected by weathering agents, no disintegration or discoloration, fractures usually less numerous than joints.



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	B-1	5.0 ft	LIGHT OLIVE SILTY SANDSTONE					
⊠	B-1	19.5 ft	ORANGE TO OLIVE SILTY SANDSTONE					
▲	TP- 1	8.0 ft	OLIVE TO ORANGE-BROWN SILTY SANDSTONE					
★	TP- 1	11.0 ft	ORANGE TO OLIVE SILTY SANDSTONE					
⊙	TP- 2	6.0 ft	ORANGE TO OLIVE SILTY SANDSTONE					

Specimen Identification			D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-1	5.0 ft	0.075						37.0	
⊠	B-1	19.5 ft	0.075						28.8	
▲	TP- 1	8.0 ft	0.075						24.1	
★	TP- 1	11.0 ft	9.5	0.106			1.5	59.9	38.6	
⊙	TP- 2	6.0 ft	12.5	0.113			0.9	59.8	39.3	

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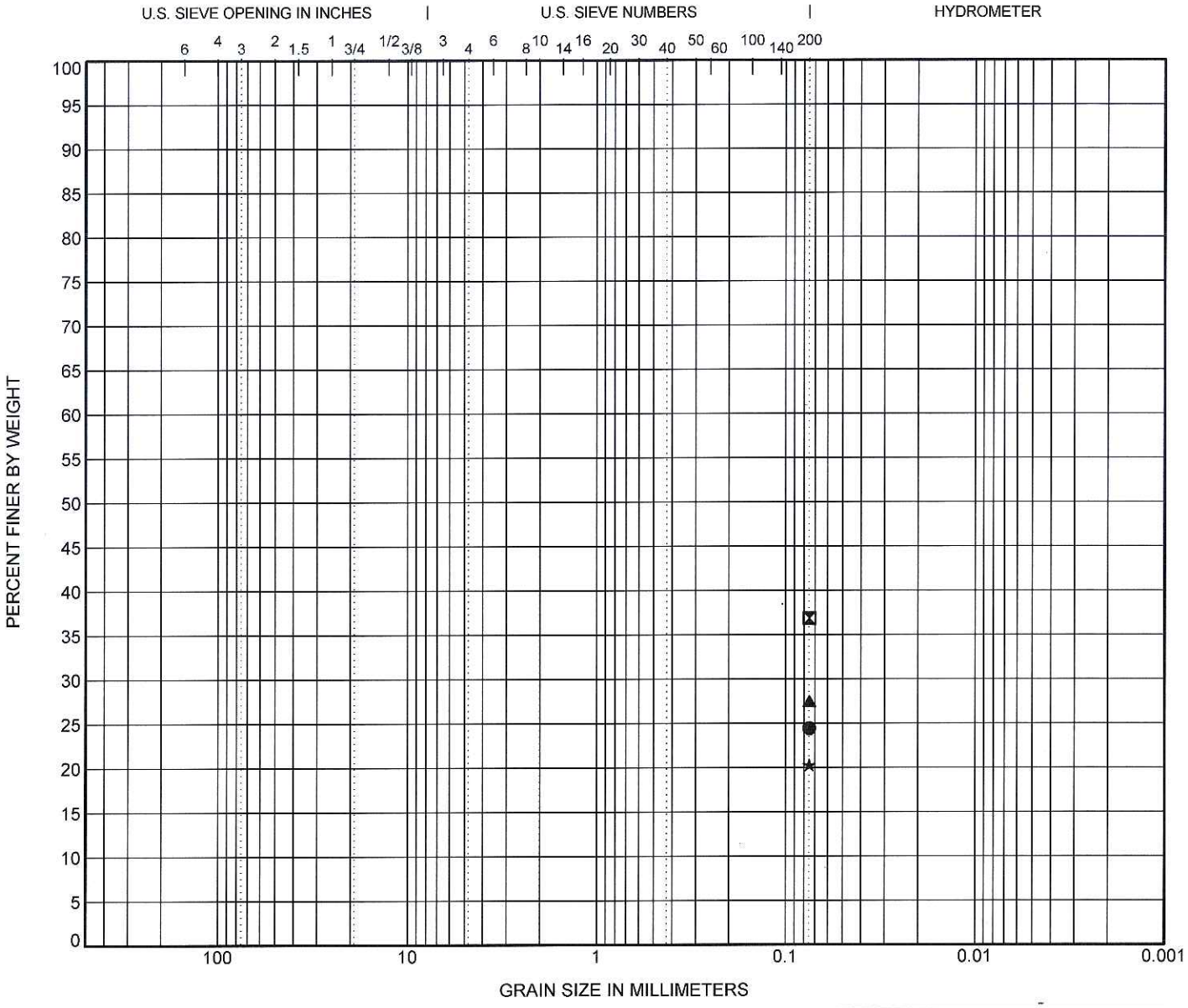
GRAIN SIZE DISTRIBUTION

FAIRFAX VINEYARDS
RESERVOIR AND SUMP POND
35147 Annapolis Road
Annapolis, California

PLATE
17



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	TP- 3 5.0 ft	OLIVE TO ORANGE SILTY SANDSTONE					
⊠	TP- 4 3.0 ft	OLIVE TO ORANGE SILTY SANDSTONE					
▲	TP- 6 4.0 ft	ORANGE TO OLIVE SILTY SANDSTONE					
★	TP- 7 4.0 ft	OLIVE TO ORANGE SILTY SANDSTONE					

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	TP- 3 5.0 ft	0.075						24.4	
⊠	TP- 4 3.0 ft	0.075						36.8	
▲	TP- 6 4.0 ft	0.075						27.5	
★	TP- 7 4.0 ft	0.075						20.3	

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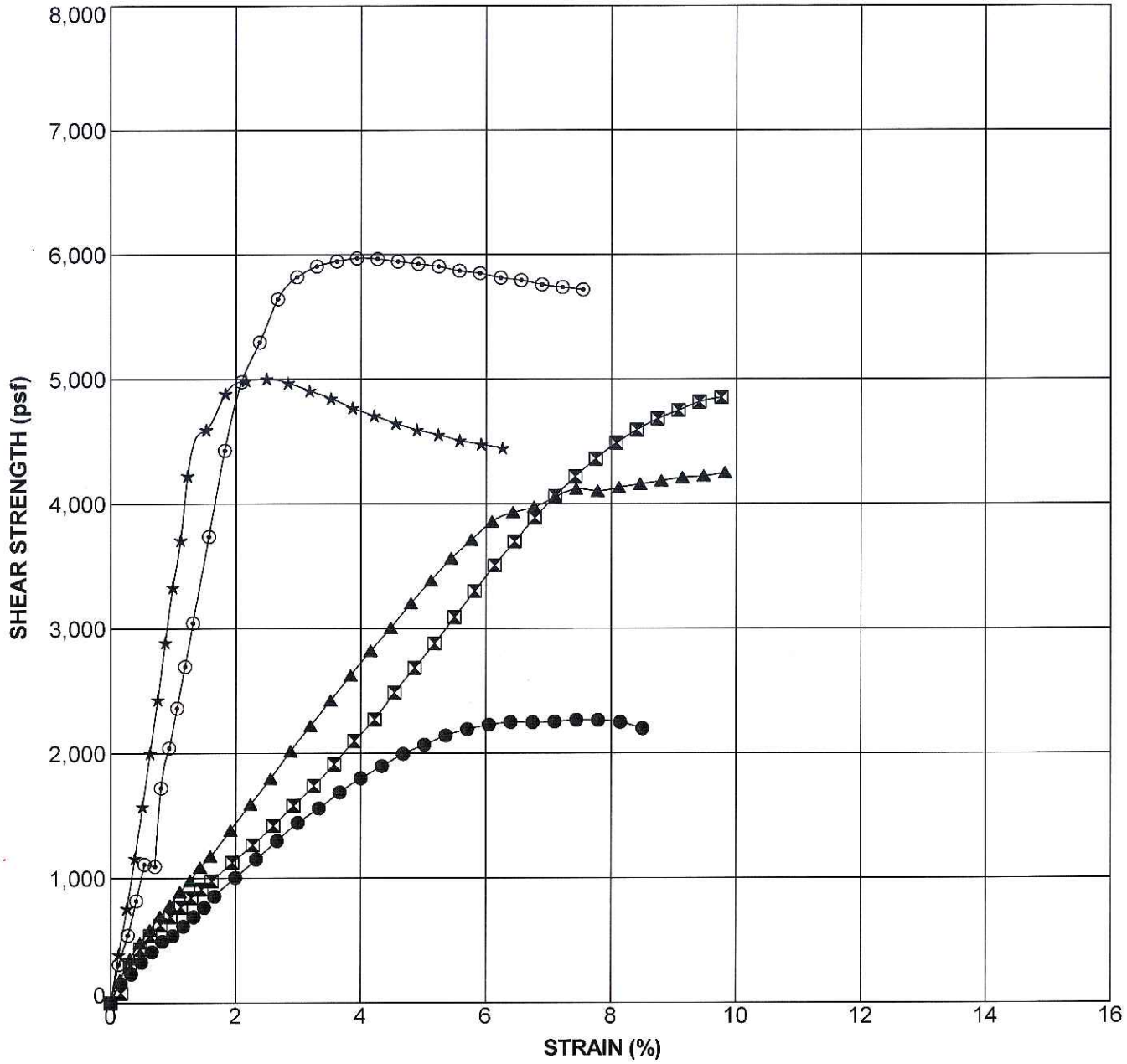
GRAIN SIZE DISTRIBUTION
FAIRFAX VINEYARDS
RESERVOIR AND SUMP POND
35147 Annapolis Road
Annapolis, California

PLATE
18



Sample Source	Classification	Confining Pressure (psf)	Yield Strength (psf)	Strain (%)	Dry Density (pcf)	Moisture Content (%)
● B-1 at 3.5 ft	LIGHT OLIVE SILTY SANDSTONE	432	1770	3.7	103	22.4
⊠ B-1 at 14.25 ft	ORANGE TO OLIVE SILTY SANDSTONE	1728	2007	3.6	97	25.4
▲ B-2 at 11 ft	ORANGE SILTY SANDSTONE	1296	3740	5.4	98	26.2
★ BULK D&E at 10 ft	LIGHT BROWN SILT SAND (SM) some gravel	1440	4644	1.5	101	17.4
⊙ BULK D&E at 20 ft	LIGHT BROWN SILT SAND (SM) some gravel	2880	5886	2.9	98	17.5

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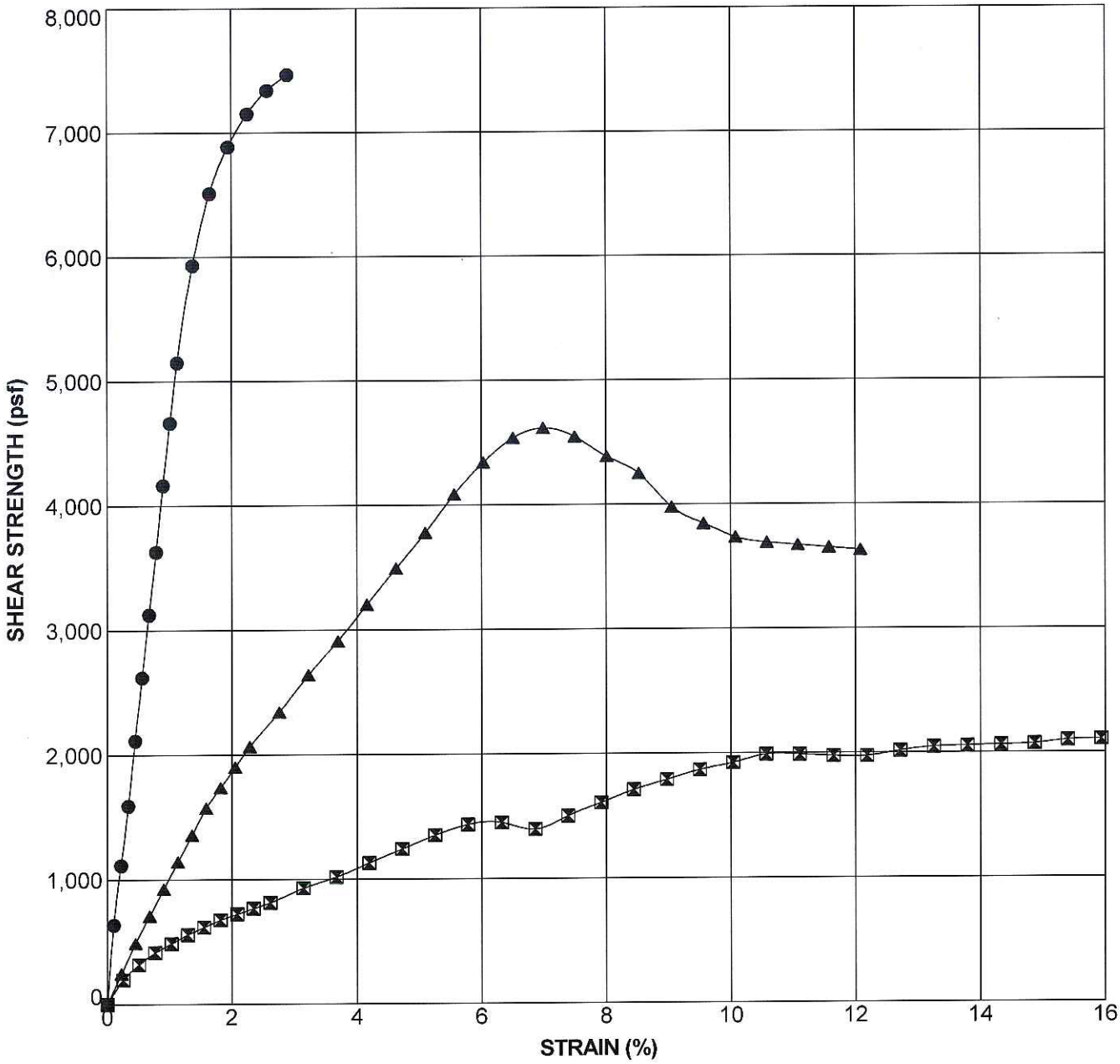
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST

FAIRFAX VINEYARDS
RESERVOIR AND SUMP POND
35147 Annapolis Road
Annapolis, California

PLATE
19



Sample Source	Classification	Confining Pressure (psf)	Yield Strength (psf)	Strain (%)	Dry Density (pcf)	Moisture Content (%)
● BULK D&E at 30 ft	LIGHT BROWN SILT SAND (SM) some gravel	4320	7226	2.3	99	17.7
⊠ TP-10 at 6 ft	MOTTLED BUFF-BROWN FINE-GRAINED SANDSTONE	864	1154	4.2	98	24.7
▲ TP-12 at 6.5 ft	MOTTLED BUFF-BROWN TO ORANGE-BROWN FINE TO MEDIUM GRAINED SANDSTONE	864	3267	4.2	98	20.2

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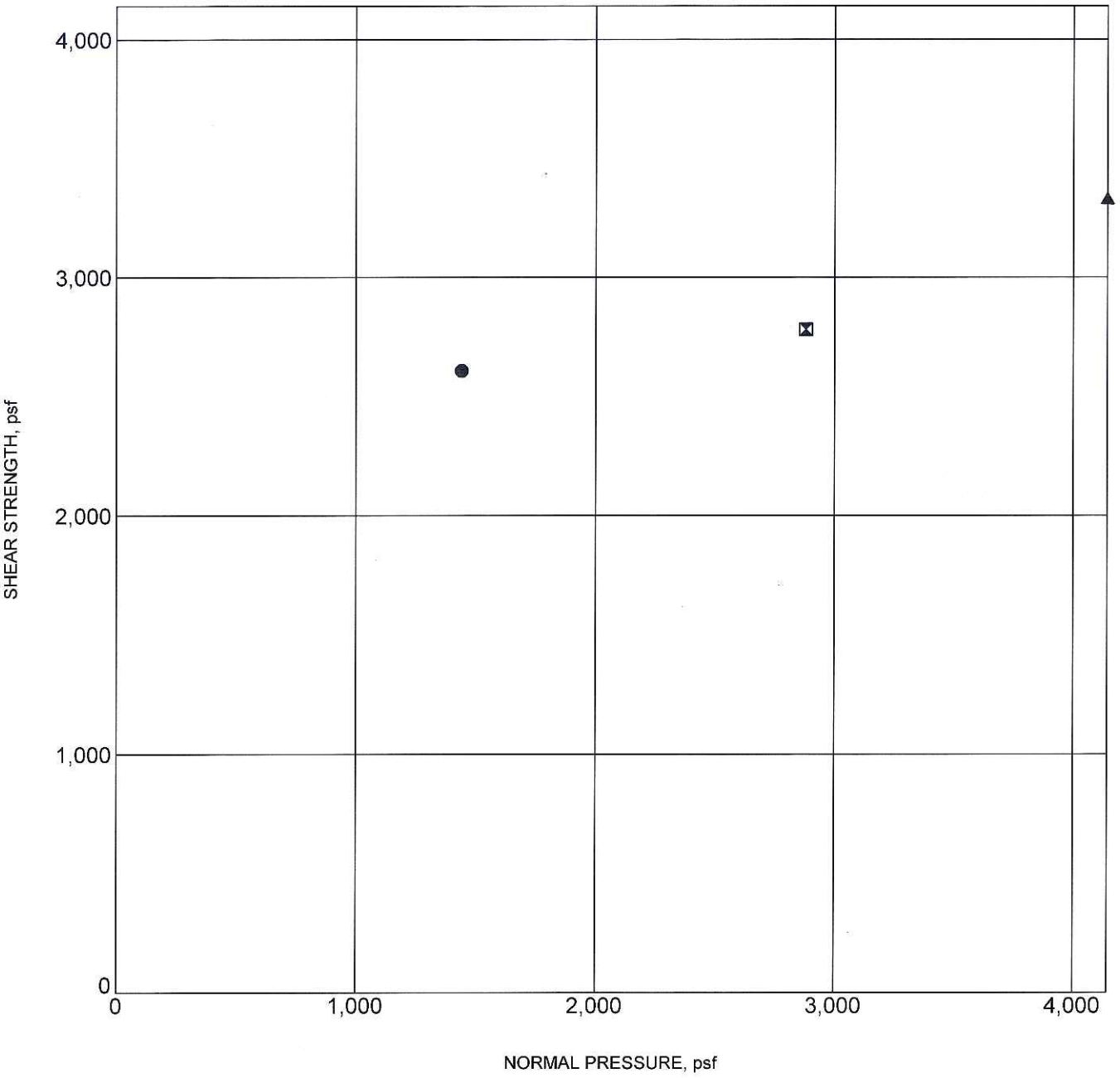
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST

FAIRFAX VINEYARDS
RESERVOIR AND SUMP POND
35147 Annapolis Road
Annapolis, California

PLATE
20



Specimen Identification		Classification	γ_d	MC%	c	ϕ (degree)
●	**BULK A**	**DARK GRAY-GREEN SANDSTONE**	**102**	**17.9**		
⊠	**BULK A**	**DARK GRAY-GREEN SANDSTONE**	**94**	**17.5**		
▲	**BULK A**	**DARK GRAY-GREEN SANDSTONE**	**97**	**17.5**		

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DIRECT SHEAR TEST
FAIRFAX VINEYARDS
RESERVOIR AND SUMP POND
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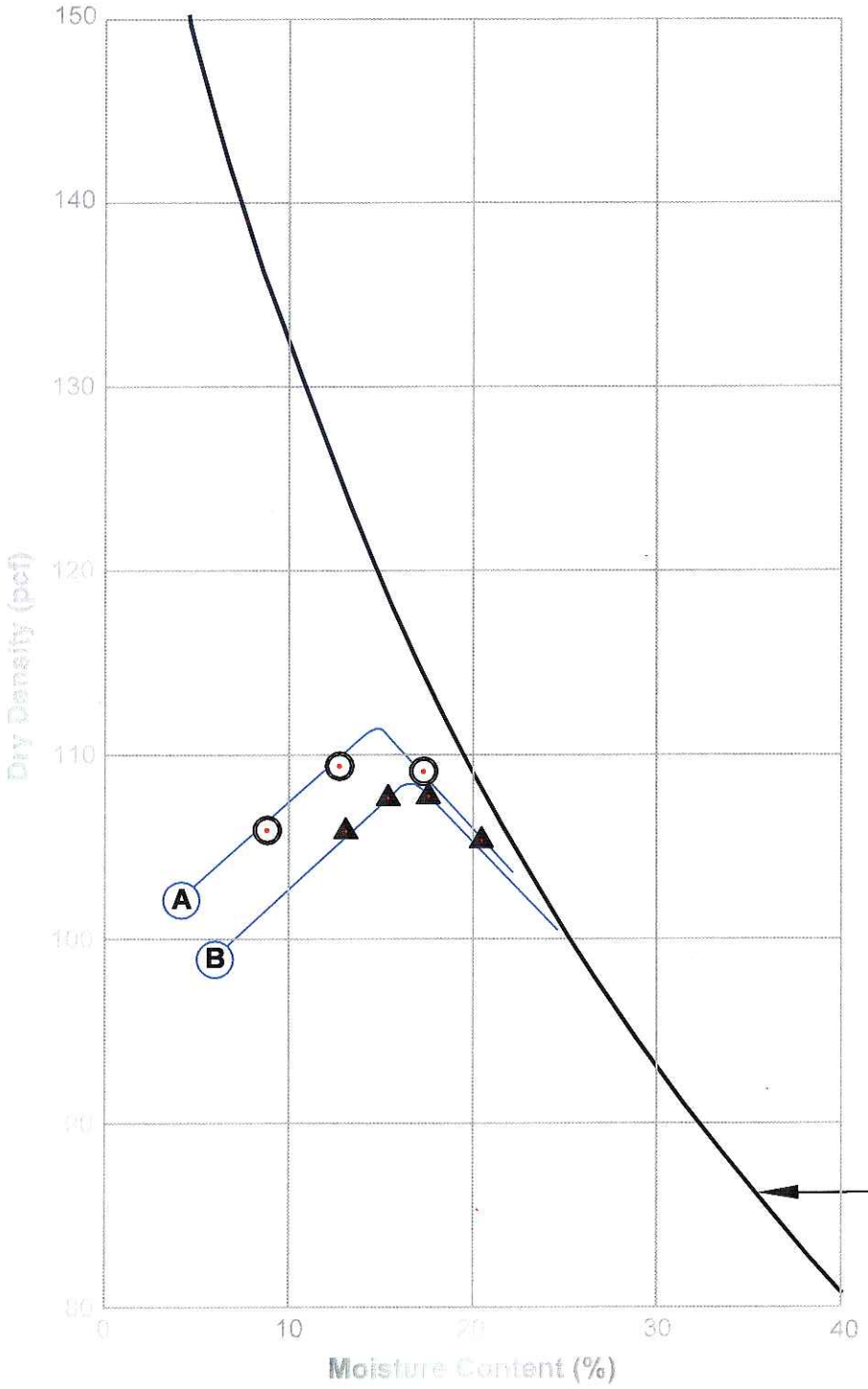
Annapolis, California

PLATE
21



TEST METHOD
ASTM D1557-91

Laboratory Compaction Point

Reference Line -- 100% Saturation for 2.70 Specific Gravity

Symbol	Sample Source	Classification	Optimum Moisture (%)	Maximum Dry Density (pcf)
A ⊙	Test Pit TP -1 at 8 feet	OLIVE TO ORANGE -BROWN SILTY SANDSTONE	15.0	112
B ▲	Test Pit TP-1 at 11-13 ft. & TP-2 at 6 ft.	ORANGE TO OLIVE SILTY SANDSTONE	16.5	108

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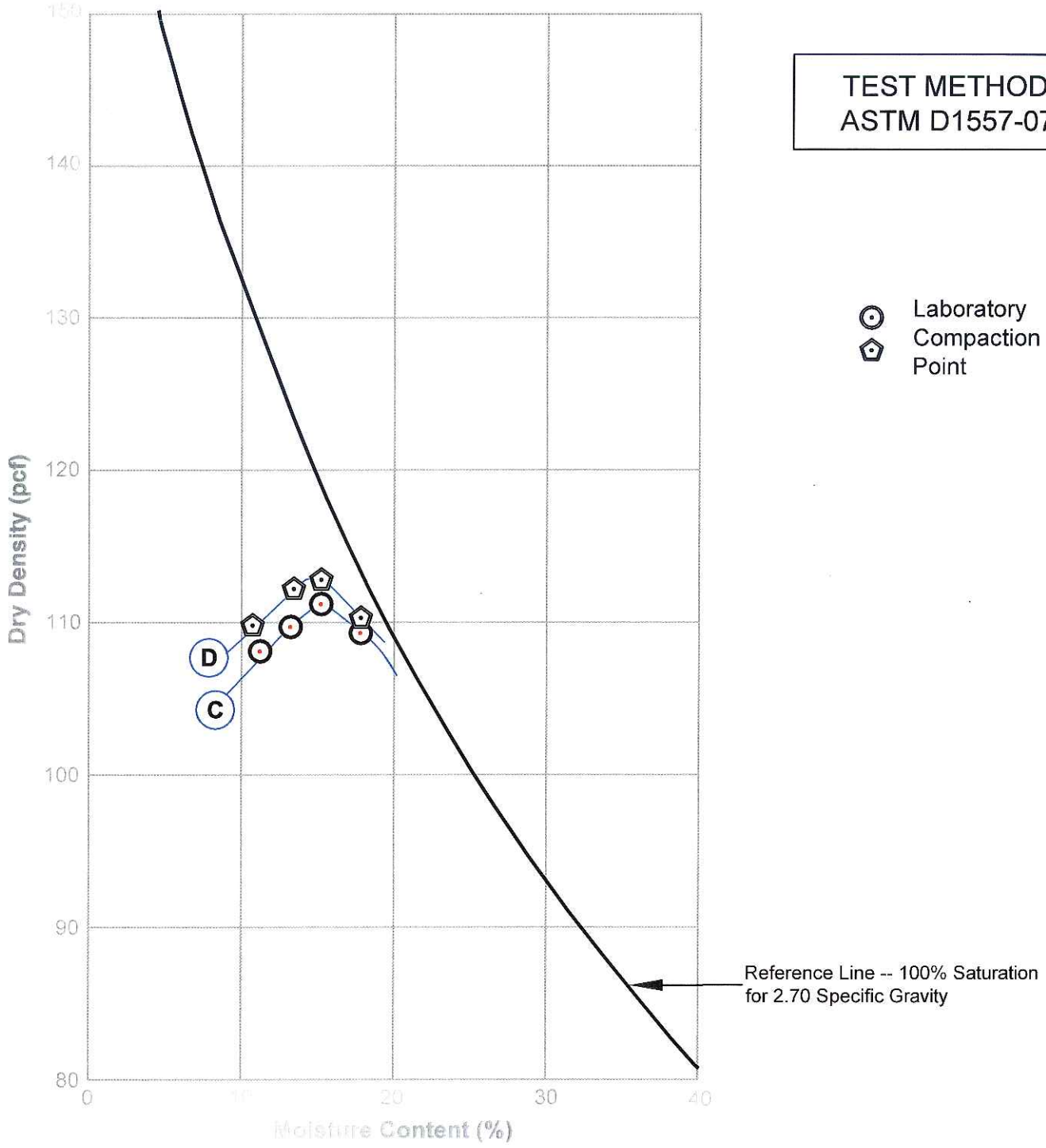
COMPACTION TEST DATA
FAIRFAX VINEYARDS
RESERVOIR AND SUMP POND
35147 Annapolis Road
Annapolis, California

PLATE
22



Symbol	Sample Source	Classification	Optimum Moisture (%)	Maximum Dry Density (pcf)
C	TP-11 at 0-13.5 ft;TP-12 at 0-8 ft.	DARK GRAY-GREEN SANDSTONE	15.4	111
D	TP-10 at 0-10 ft; TP-11 at 0-13.5 ft.	YELLOW-BROWN SILTY SANDSTONE	15.1	113

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COMPACTION TEST DATA
FAIRFAX VINEYARDS
RESERVOIR AND SUMP POND
35147 Annapolis Road
Annapolis, California

PLATE
23

(1) Sample Source	Classification	(2) Remolded Dry Density (pcf)	(2) Remolded Moisture Content (%)	(3) Permeability (cm/sec.)
TP-1 at 8 ft. Ⓐ	OLIVE TO ORANGE-BROWN SILTY SANDSTONE	100	17.0	1.3×10^{-6}
TP-1 at 11-13 ft. & TP-2 at 6 ft. Ⓑ	ORANGE TO OLIVE SILTY SANDSTONE	97	19.0	7×10^{-7}

NOTES:

(1) Sample obtained from on-site excavation.

(2) Sample remolded to about 90% relative compaction and about optimum moisture content based on laboratory compaction test performed in accordance with the ASTM D-1557-91 test method; see compaction data on Plate 22.

(3) Permeability tests performed in accordance with ASTM D-5084-00.

(1) Sample Source	Classification	(2) Remolded Dry Density (pcf)	(2) Remolded Moisture Content (%)	(3) Permeability (cm/sec.)
TP-11 at 0-13 ft. and TP-12 at 0-8ft. Ⓒ	DARK GRAY-GREEN SANDSTONE	100	17.8	2.1×10^{-5}
TP-10 at 0-10 ft. and TP-11 at 0-13.5ft. Ⓓ	YELLOW-BROWN SILTY SANDSTONE	101	17.8	1.5×10^{-5}

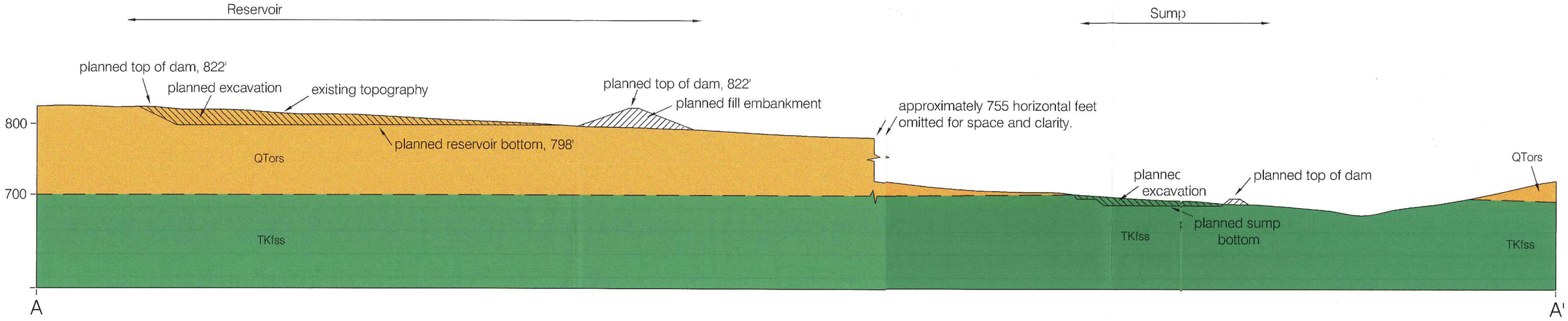
NOTES:

(1) Sample obtained from on-site excavation.

(2) Sample remolded to about 90% relative compaction and about optimum moisture content based on laboratory compaction test performed in accordance with the ASTM D-1557-07 test method; see compaction data on Plate 23.

(3) Permeability tests performed in accordance with ASTM D-5084-03.

Geologic Cross Section A-A'



Scale : 1" = 100'
V = H

Legend

- Geologic contact, dashed where approximate
- Planned compacted fill
- Planned excavation
- QTors — Quaternary-Tertiary (Pleistocene-Pliocene) Ohlson Ranch Formation sedimentary rocks
- TKfss — Tertiary-Cretaceous Franciscan Complex sedimedtary rocks

Elevations and Topography referenced to Site Plan by Lee Erickson, P.E., see Plate 2

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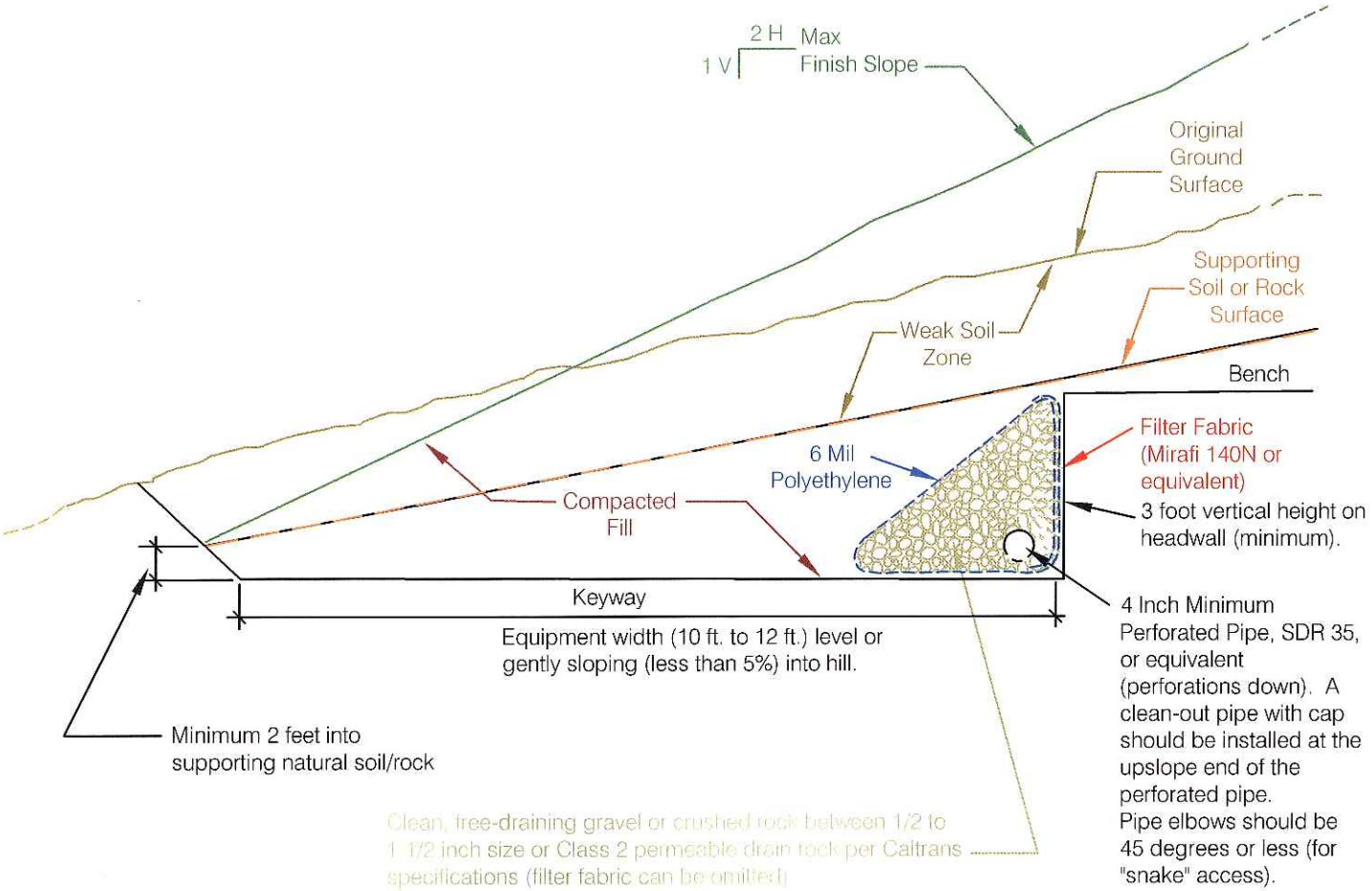
GEOLOGIC CROSS SECTION A-A'
FAIRFAX VINEYARDS
RESERVOIR AND SUMP POND
35147 Annapolis Road
Annapolis, California

PLATE
26

(NOT TO SCALE)



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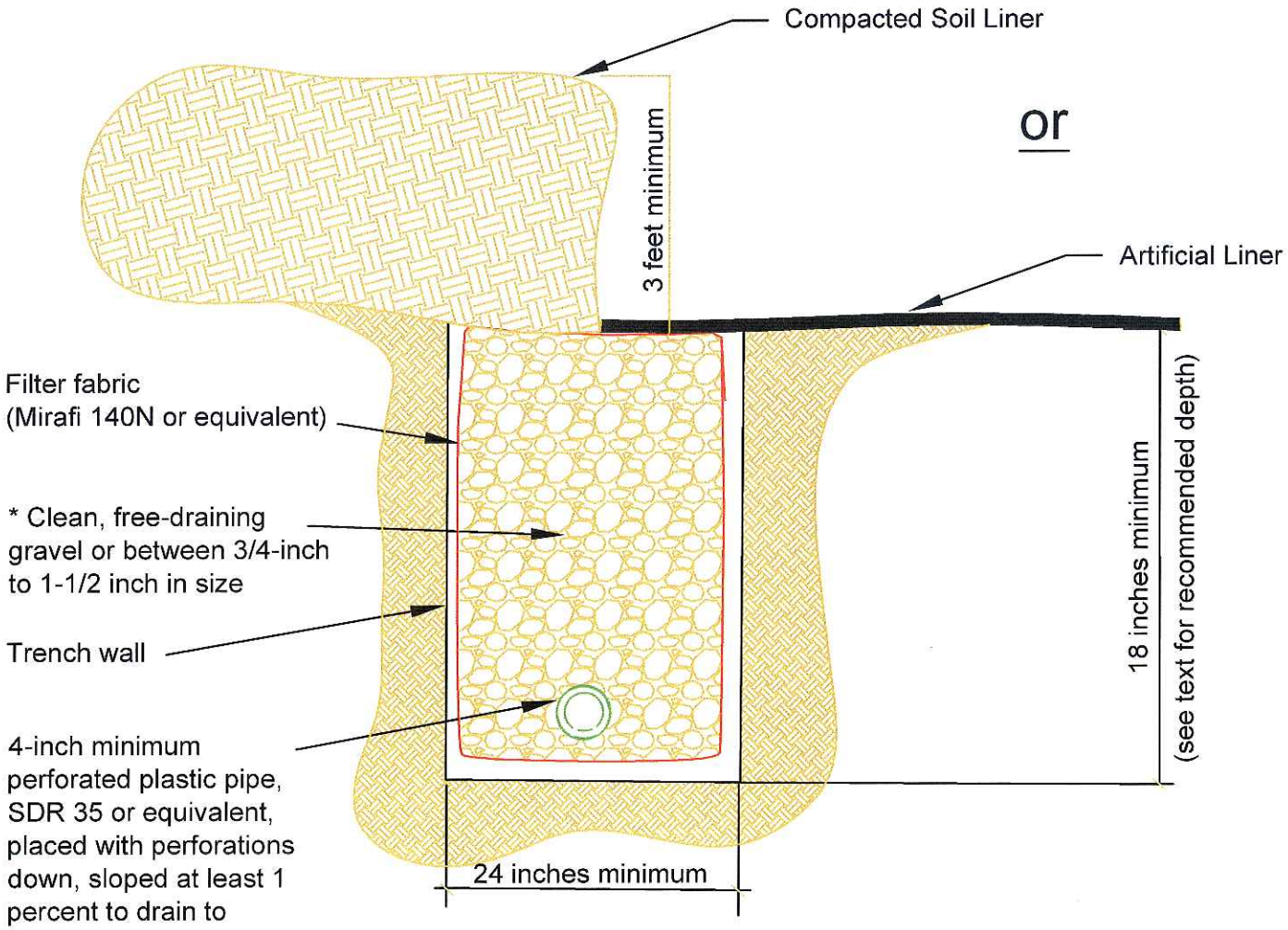

TYPICAL SECTION
NO SCALE

* Or, as an alternative, use Class 2 Permeable Material per Caltrans specifications without filter fabric.

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