6TH STREET – OLIVE STREET TO SPRING STREET

RECOMMENDATIONS

Pavement Maintenance Options (Short-Term)

These options are not available for this street because of structural deficiencies and/or pavement cracking condition.

Pavement Rehabilitation Options (Long-Term)

Overlay Options

For option 1, we recommend 4 inch digouts for base failures, placing a 1/2 inch HMA leveling course, pavement fabric and a 1-3/4 inch HMA overlay.

Estimated Cost: $162,000 Estimated Life Expectancy: 10-12 Years

For option 2, we recommend 4 inch digouts for base failures, placing a 1/2 inch HMA leveling course and a 1-3/4 inch RHMA overlay.

Estimated Cost: $163,000 Estimated Life Expectancy: 10-12 Years

Recycle and Mill and Replace Options

These options are not available for this street because of the structural deficiencies and thin pavement layer.

Reconstruction Options

For option 1, we recommend removing the pavement to a depth of 10 inches and placing 10 inches of new HMA. The HMA should be placed in 4 lifts.

Estimated Cost: $550,000 Estimated Life Expectancy: 20 Years

For option 2, we recommend removing 4 inches of the existing structure, lime treating the native soil to a depth of 13 inches and placing 4 inches of new HMA in 2 lifts.

Estimated Cost: $268,000 Estimated Life Expectancy: 20 Years

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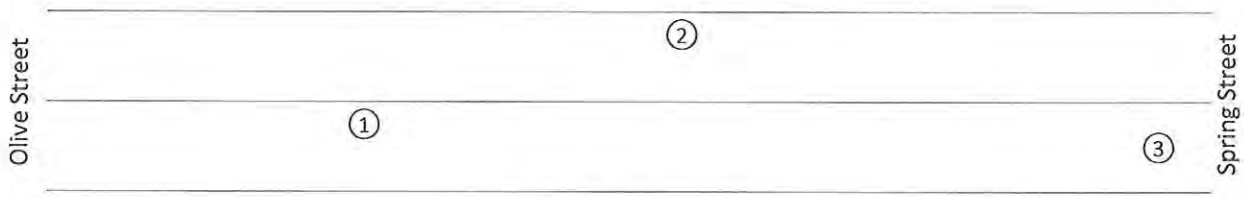

NOTES:
- NTS
- ACTUAL ROAD MAY NOT BE STRAIGHT
- NOT ALL ROADS CONNECTING TO THIS STREET ARE SHOWN
- WIDTH OF ROAD MAY VARY WITHIN THE BOUNDARY SECTION
- ALL LOCATIONS SHOWN ARE APPROXIMATED

6th Street

[Section of Road ≈ 1100ft]

TRAFFIC LAYOUT:
- 2-WAY STREET
- 1 LANE EACH WAY

VISUAL DESCRIPTION FOR THIS SECTION OF ROAD

The pavement exhibits block shrinkage cracking progressing to alligator cracking. Some areas of base failure are developing. The intersection at Oak Street has been skin patched.

CORING LOG

Symbol	Location	Core Data		R-value
1	East of Olive Street 300ft	AC AB	3.00" NO BASE	24
2	East of Olive Street 600ft	AC AB	3.00" NO BASE	-
3	East of Olive Street 1050ft	AC AB	4.00" NO BASE	12

DEFLECTION ANALYSIS

Lane	Tolerable	TI	80th Percentile	Percent Reduction	HMA Overlay
West Bound	28	7.0	43.24	35.25	2.16 - inches
East Bound	28	7.0	39.58	29.27	1.44 - inches
				Overlay Required by Reflective Cracking	1.50 - inches

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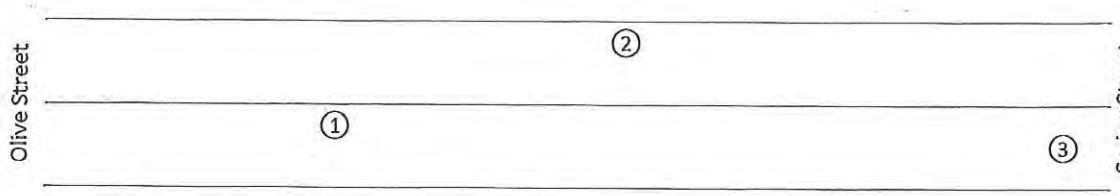

NOTES:
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6th Street

[Section of Road ≈ 1100ft]

N

TRAFFIC LAYOUT:
- 2-WAY STREET
- 1 LANE EACH WAY

VISUAL DESCRIPTION FOR THIS SECTION OF ROAD

CORING LOG

Symbol	Location	Core Data		R-value
1	East of Olive Street 300ft	AC AB	3.00" NO BASE	24
2	East of Olive Street 600ft	AC AB	3.00" NO BASE	-
3	East of Olive Street 1050ft	AC AB	4.00" NO BASE	12

PHOTO LOG

Symbol	Location	Comments
A	_____ of _____ _____ ft	
B	_____ of _____ _____ ft	
C	_____ of _____ _____ ft	

DEFLECTION ANALYSIS

Lane	Tolerable	TI	80th Percentile	Percent Reduction	HMA Overlay
West Bound	28	7.0	43.24	35.25	2.16 - Inches
East Bound	28	7.0	39.58	29.27	1.44 - Inches
				Overlay Required by Reflective Cracking	1.50 - Inches

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03/27/13

City of Paso Robles

Road: 6th
From: Olive
To: Spring
Lane/Line: EB

Survey Date: 03/14/13
Thickness: 0.25
Traffic Index: 7.00
Project Number: 130065

Deflection Data Analysis

Deflection Readings (Equivalent Deflectometer Units)

No. of Tests	Low	Mean	High	Std. Dev.
11	14.70	32.09	48.28	8.93

Road Surface

Thickness	Traffic Index
0.25	7.00

Structural Design

Tolerable	80th Percentile	90th Percentile	% Reduction	GE Deficient
28.00	39.58	43.51	29.27	0.23

HMA Overlay
0.12

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City of Paso Robles

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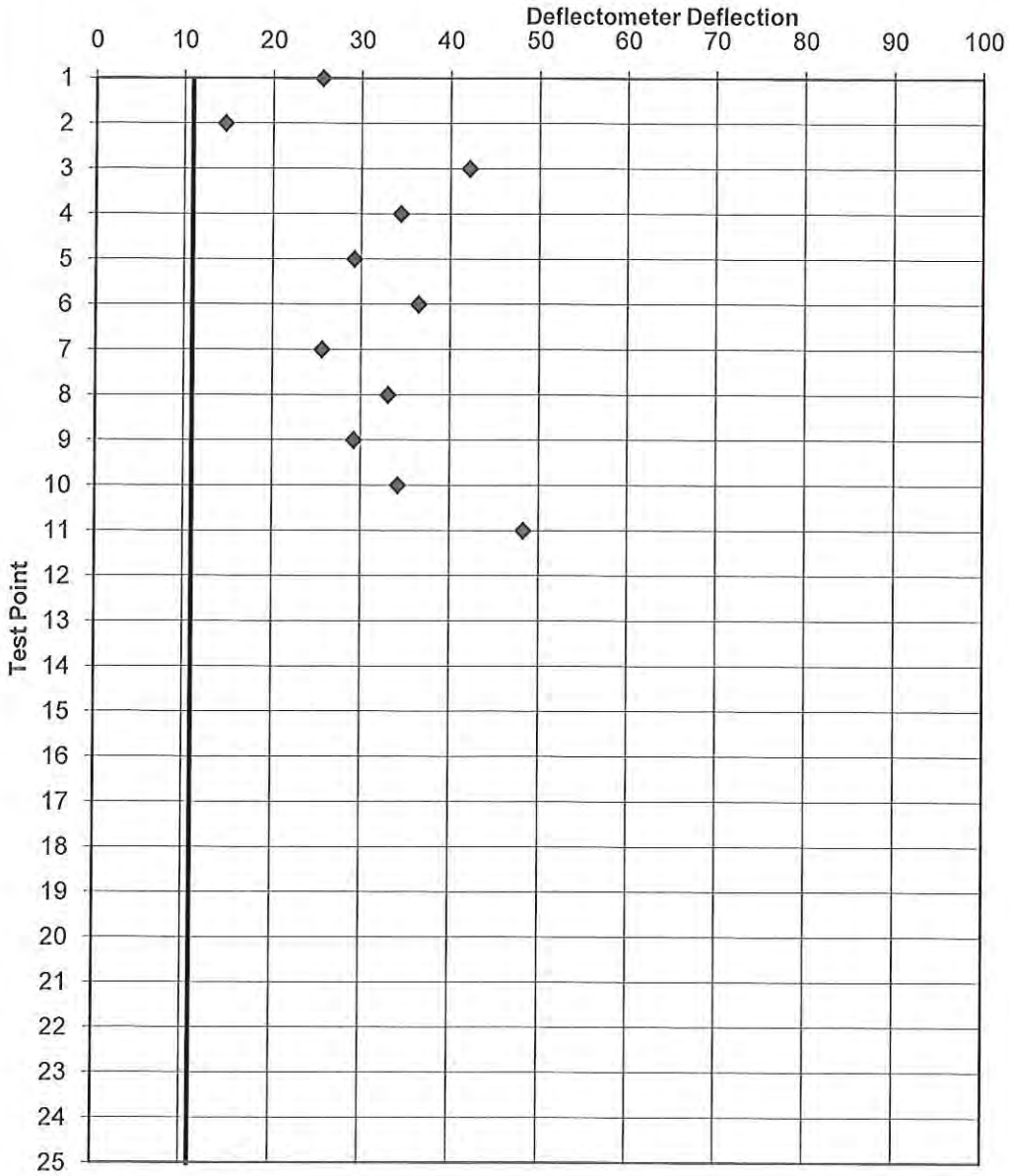
From: Olive
To: Spring
Lane/Line: EB

Survey Date: 03/14/13
Thickness: 0.25
Traffic Index: 7.00
Project Number: 130065



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Date: 3/27/2013

Client: City of Paso Robles
Road: 6th
From: Olive
To: Spring
Lane/Line: EB

Interval: 100
Survey Date: 3/14/13
Thickness: 0.25
Traffic Index: 7.00
Project Number: 130065

Test Points	Dynaflect	Conditions	Comments	Deflection	Exclude
1	1.15			25.590	
2	0.67		Olive	14.700	
3	1.88		Vine	42.151	
4	1.54			34.437	
5	1.31			29.219	
6	1.63			36.479	
7	1.15			25.590	
8	1.48		Oak	33.076	
9	1.31			29.219	
10	1.53			34.211	
11	2.15			48.276	

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03/27/13

City of Paso Robles

Road: 6th
From: Spring
To: Olive
Lane/Line: WB

Survey Date: 03/14/13
Thickness: 0.25
Traffic Index: 7.00
Project Number: 130065

Deflection Data Analysis

Deflection Readings (Equivalent Deflectometer Units)

No. of Tests	Low	Mean	High	Std. Dev.
11	22.19	36.44	51.00	8.10

Road Surface

Thickness	Traffic Index
0.25	7.00

Structural Design

Tolerable	80th Percentile	90th Percentile	% Reduction	GE Deficient
28.00	43.24	46.81	35.25	0.34

HMA Overlay
0.18

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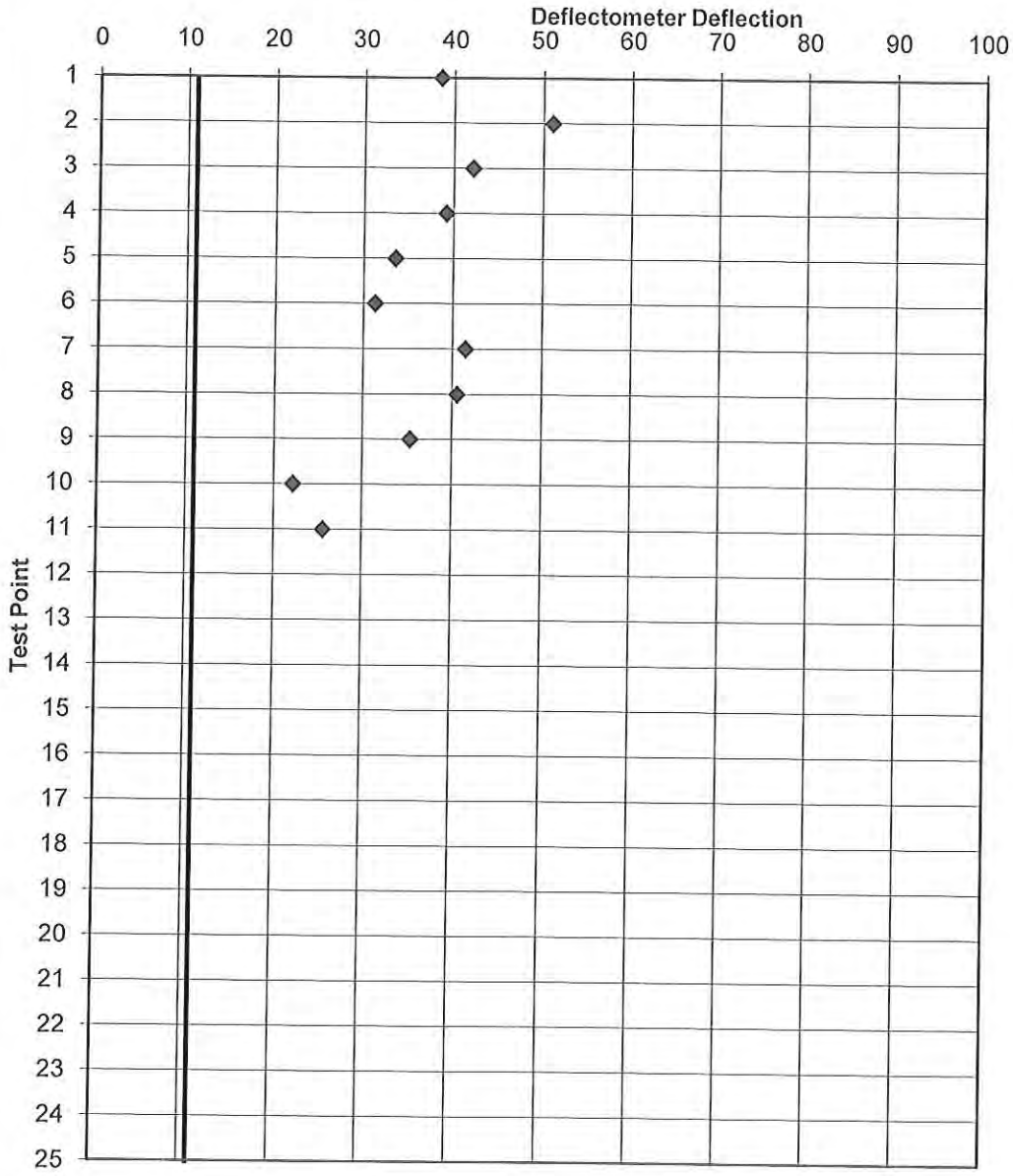
03/27/13

City of Paso Robles

Road: 6th
From: Spring
To: Olive
Lane/Line: WB

Survey Date: 03/14/13
Thickness: 0.25
Traffic Index: 7.00
Project Number: 130065



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Date: 3/27/2013

Client: City of Paso Robles
Road: 6th
From: Spring
To: Olive
Lane/Line: WB

Interval: 100
Survey Date: 3/14/13
Thickness: 0.25
Traffic Index: 7.00
Project Number: 130065

Test Points	Dynaflect	Conditions	Comments	Deflection	Exclude
1	1.72			38.521	
2	2.27			50.999	
3	1.88			42.151	
4	1.75		Oak	39.202	
5	1.50			33.530	
6	1.40			31.261	
7	1.85		Vine	41.470	
8	1.81			40.563	
9	1.58			35.345	
10	1.00			22.187	
11	1.15			25.590	

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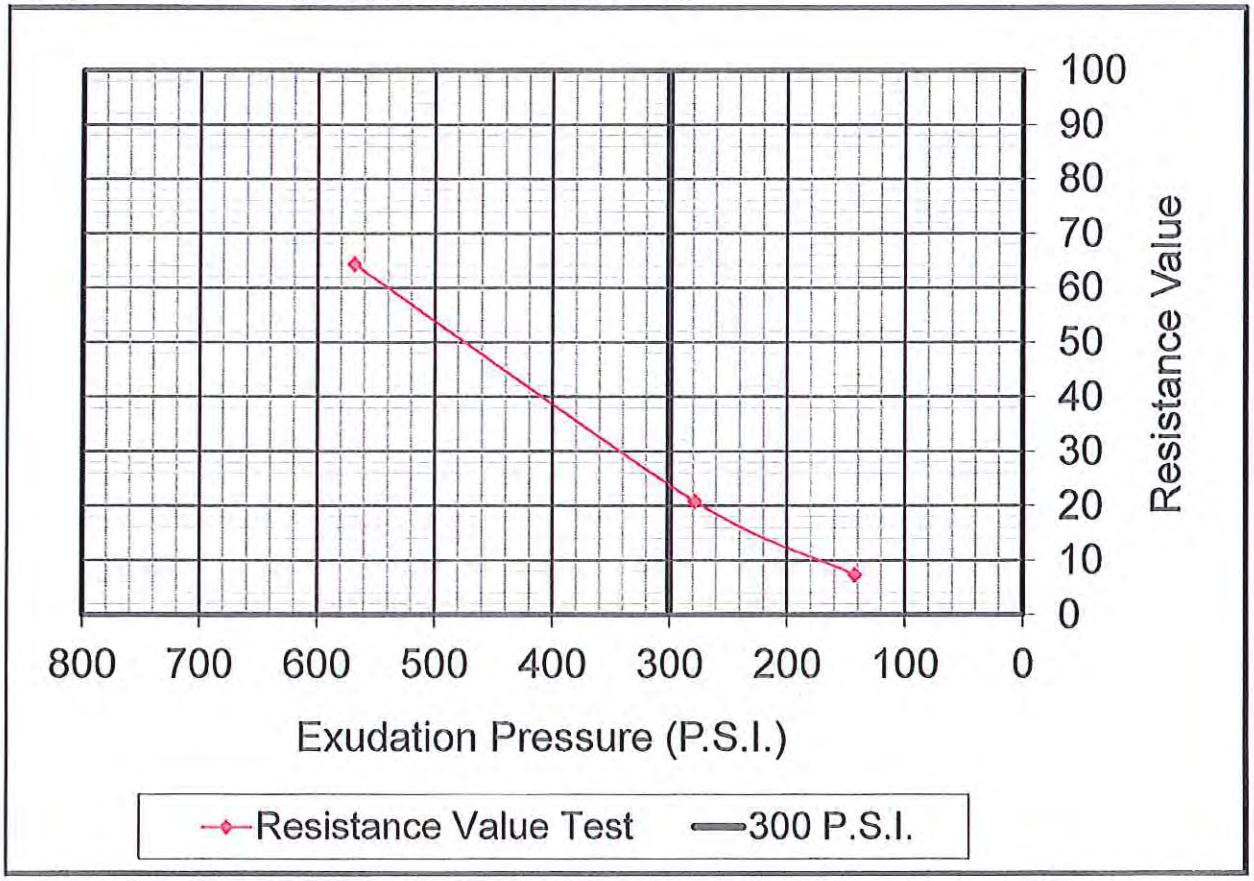
RESISTANCE (R) VALUE TEST
ASTM D 2844

Laboratory No.: L130083F
Project No.: 130065
Sample Date: March 14, 2013
Report Date: March 25, 2013
Client: City of Paso Robles
Project Name: City of Paso Robles 2013 Pavement Analysis
Sample Description: Dark Brown Clayey Sand
Sample Location: 6th Street - 300' East of Olive Street



Specimen No.	1	2	3
Moisture Content (%)	30.4	31.5	29.5
Dry Density (PCF)	85.3	84.4	85.7
Resistance Value (R)	21	7	64
Exudation Pressure (PSI)	279	143	569
Expansion Pressure	26	4	78

RESISTANCE VALUE AT 300 P.S.I. 24

AASHTO R18

Reviewed By: Craig Long
Craig W. Long
Laboratory Operations Manager

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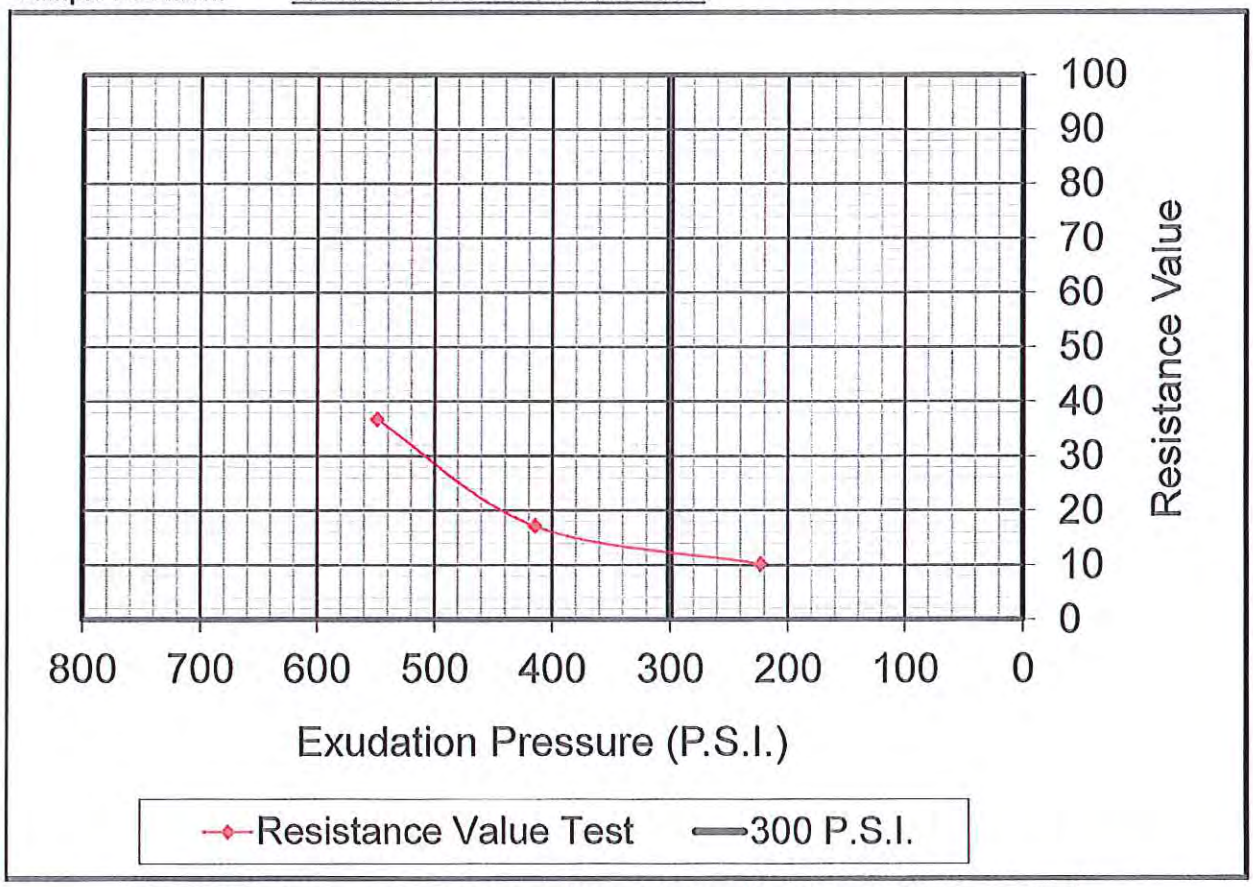
RESISTANCE (R) VALUE TEST
ASTM D 2844

Laboratory No.: L130083M
Project No.: 130065
Sample Date: March 14, 2013
Report Date: March 25, 2013
Client: City of Paso Robles
Project Name: City of Paso Robles 2013 Pavement Analysis
Sample Description: Dark Brown Sandy Clay
Sample Location: 6th Street - 1050' East of Olive Street



Specimen No.	1	2	3
Moisture Content (%)	18.0	19.0	19.8
Dry Density (PCF)	108.2	105.4	105.1
Resistance Value (R)	37	17	10
Exudation Pressure (PSI)	550	415	224
Expansion Pressure	65	39	0

RESISTANCE VALUE AT 300 P.S.I. 12

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6TH STREET – OLIVE STREET TO SPRING STREET
Spring Street looking Westbound

6TH STREET – OLIVE STREET TO SPRING STREET
Oak Street looking Westbound

6TH STREET – OLIVE STREET TO SPRING STREET
Vine Street looking Westbound