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January 16, 2017 PL-02667-02

Recycled Aggregate Materials Company
3713 Alamo Street
Simi Valley, California 93063

Attention: Mr. Dallas Jones

Subject: **Laboratory Test Results**
Caltrans Section 26 Class 3 Aggregate Base
Recycled Aggregate Materials Company
250 East Santa Ana Avenue
Rialto, California

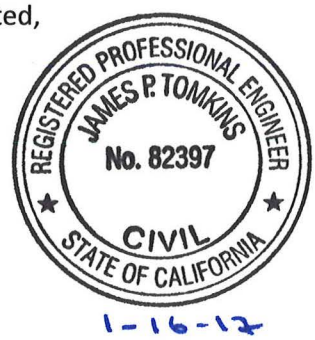
This report presents the results of laboratory tests performed on one (1) sample of Caltrans Section 26 Class 3 Aggregate Base from the above referenced project. The sample was obtained by a qualified Earth Systems Southern California technician and delivered to our laboratory on October 25, 2016. Per your request the following tests were performed;

A) Sieve Analysis (Caltest 202)
B) Sand Equivalent (Caltest 217)
C) Durability Index (Caltest 229)
D) Resistance/R-Value (Caltest 301)
E) Los Angeles Abrasion (Caltest 211)
F) Maximum Density – Optimum Moisture (ASTM D-1557)

The laboratory test results are attached. We trust this report meets your current needs. If you have any questions please contact us.

Respectfully submitted,

Earth Systems
Southern California



1-16-17

Jim Tomkins
Project Engineer
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Summary of Laboratory Test Results
Caltrans Standard Specifications
Section 26 Class 3 Aggregate Base
Recycled Aggregate Materials Company - Rialto, California
Sampled on October 25, 2016

A) **Sieve Analysis** (Caltest 202)

Sieve Size		Percent Passing	Project Specs Class 3 Aggregate Base (3/4" Maximum)
1"	(25.0 mm)	100	100
3/4"	(19.0 mm)	95	90-100
1/2"	(12.5 mm)	79	
3/8"	(9.5 mm)	70	
#4	(4.75 mm)	54	40-70
#8	(2.36 mm)	49	
#16	(1.18 mm)	34	
#30	(0.6 mm)	25	12-40
#50	(0.3 mm)	17	
#100	(0.15 mm)	11	
#200	(0.075 mm)	7.3	3-15

B) **Sand Equivalent** (Caltest 217)

Sand Equivalent = 52 21 Min.

C) **Durability Index** (Caltest 229)

D_f = 61
Dc = 76

D) **Resistance/R-Value** (Caltest 301)

R-Value = 79 50 Min.

E) **Los Angeles Abrasion** (Caltest 211)

Revolutions	% Loss
100	8.6
500	34.1

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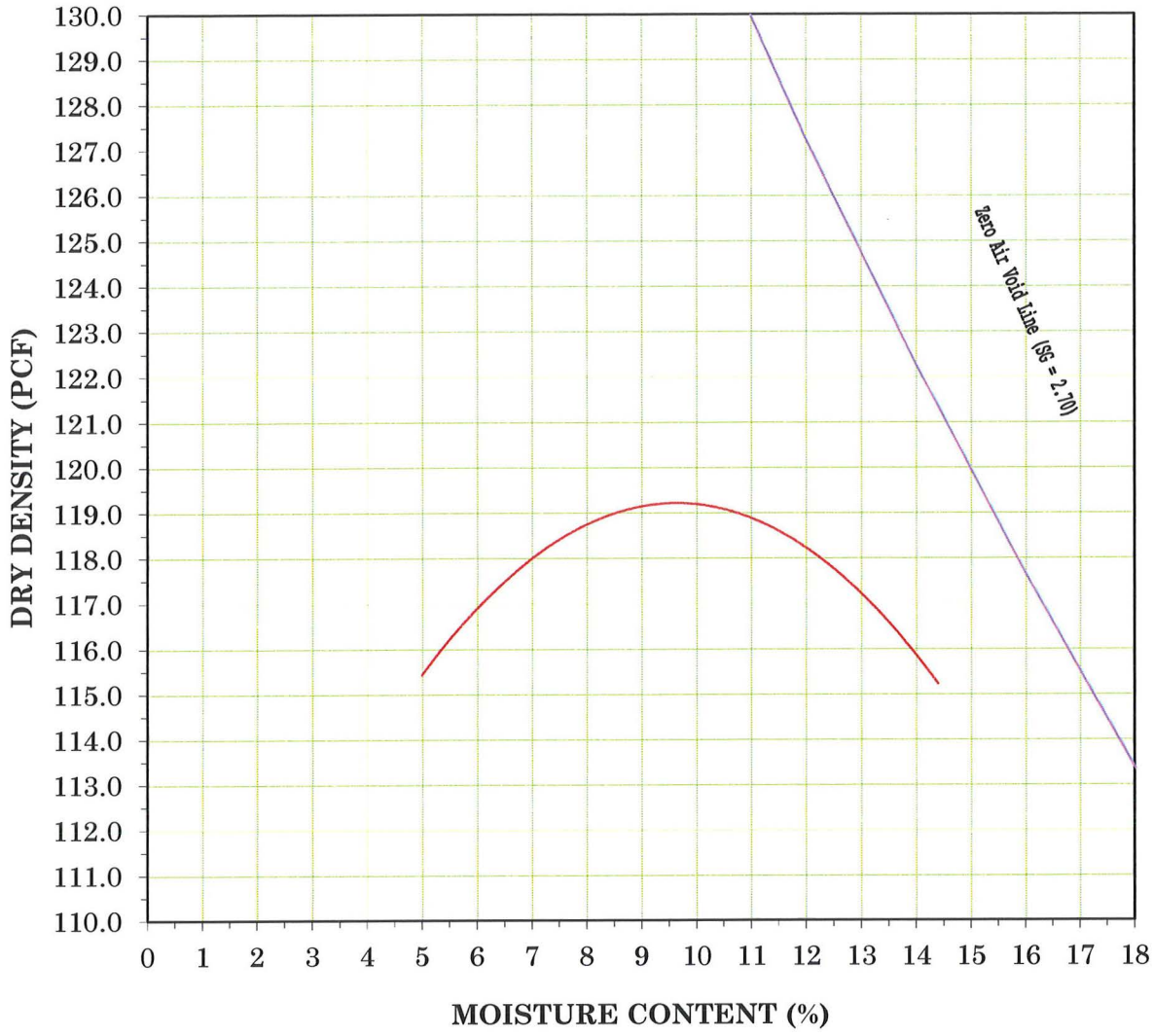
F) **Maximum Density – Optimum Moisture** (ASTM D-1557)

Sample Description	Maximum Density	Optimum Moisture
Class 3 Aggregate Base*	119.3 PCF	9.7 %

*Note: This product contains crushed recycled asphalt concrete. A bias is required for all nuclear density tests to adjust the tested dry density results to reflect actual in-place densities.



Maximum Density - Optimum Moisture Characteristics*

Sample Location: Sample Delivered on October 25, 2016

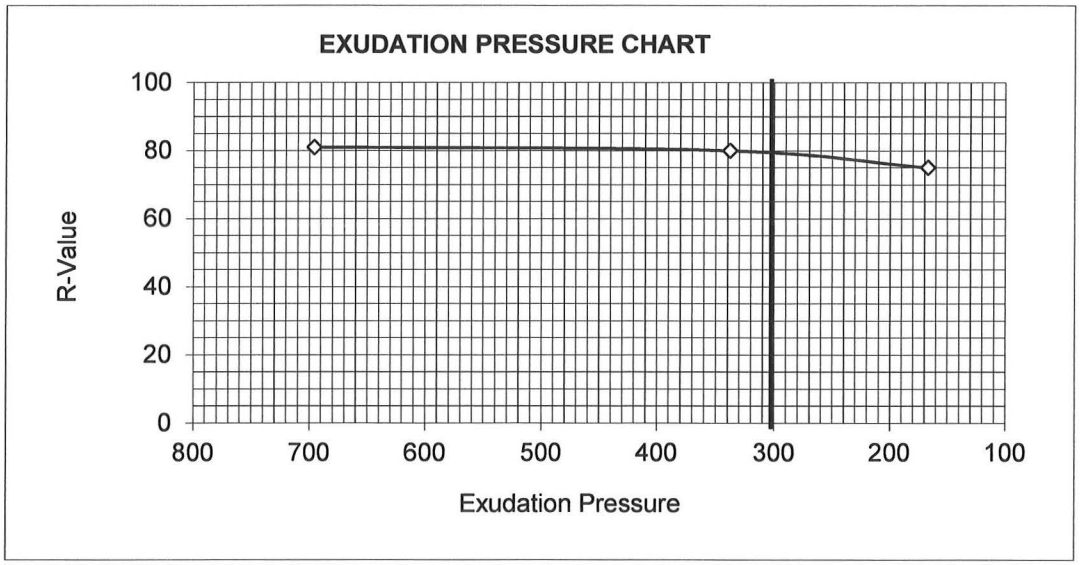
Material: Caltrans Class 3 Aggregate Base

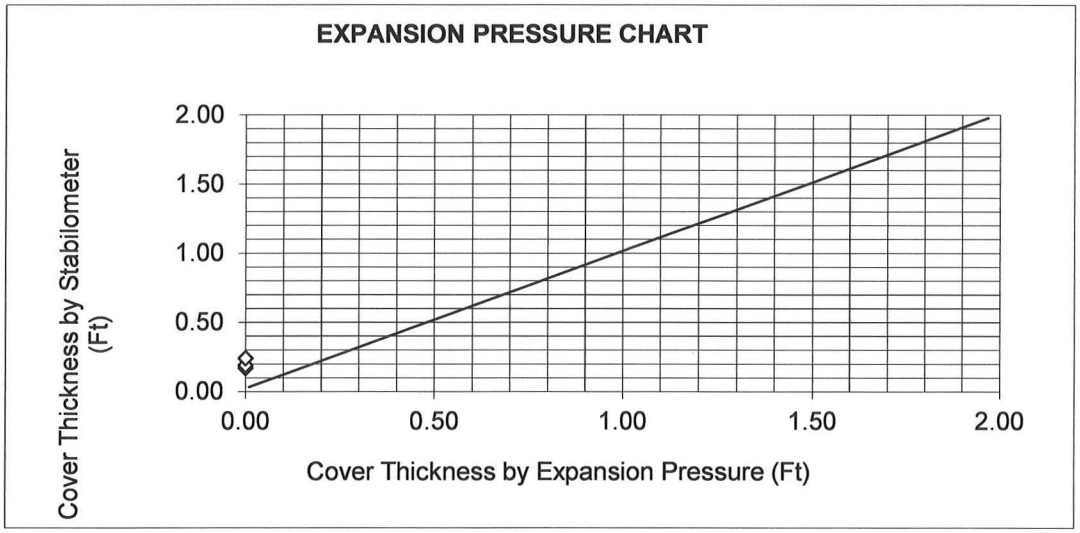
Maximum Density (pcf): 119.3

Optimum Moisture: 9.7%

* Test Method: ASTM D-1557

MAXIMUM DENSITY - OPTIMUM MOISTURE	
RAMCO - Rialto Rialto, California	
Earth Systems Southern California	
1/16/2017	PL-02667-02





JOB NAME: RAMCO - Rialto
SAMPLE I. D.: Sample Delivered on October 25, 2016
SOIL DESCRIPTION: Caltrans Class 3 Aggregate Base

SPECIMEN NUMBER	A	B	C
EXUDATION PRESSURE	696	338	167
RESISTANCE VALUE	81	80	75
EXPANSION DIAL(0.0001")	0	0	0
EXPANSION PRESSURE (PSF)	0.0	0.0	0.0
% MOISTURE AT TEST	10.8	11.8	12.2
DRY DENSITY AT TEST	116.3	117.9	118.2

R-VALUE @ 300 PSI EXUDATION	**79**
R-VALUE by Expansion Pressure*	**100**

**Based on a Traffic Index of 5.0 and a Gravel Factor of 1.70*