



December 14, 2017

PL-02667-04

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

Attention: Mr. Dallas Jones

Subject: **Laboratory Test Results**
SSPWC Section 200-2.5 Processed Miscellaneous Base
Recycled Aggregate Materials Company
8354 Nelson Way
Escondido, California

This report presents the results of laboratory tests performed on one (1) sample of Standard Specification for Public Works Construction (SSPWC) Processed Miscellaneous Base from the above referenced project. The sample was delivered to our laboratory on November 8, 2017. Per your request the following tests were performed:

- A) Sieve Analysis (ASTM C-136)
- B) Sand Equivalent (Caltest 217)
- C) Durability Index (Caltest 229)
- D) R-Value (Caltest 301)
- E) Los Angeles Abrasion (ASTM C-131)
- 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.

The Material Tested met did not meet the requirements of Standard Specifications for Public Works Construction, 2015 edition Section 200-2.5 Processed Miscellaneous Base, Fine.

Respectfully submitted,

Earth Systems
Southern California

Jim Tomkins
Project Engineer
P. E. #82397



12-15-17

Distribution: e-mail: Dallas@ramco.us.com, manselmo@ramco.us.com; markh@ramco.us.com; josh@ramco.us.com; april@ramco.us.com; dawn@ramco.us.com;

Summary of Laboratory Test Results
SSPWC Section 200-2.5
Processed Miscellaneous Base
Recycled Aggregate Materials Company - Escondido, California
Delivered on November 8, 2017

A) Sieve Analysis (ASTM C-136)

<u>Sieve Size</u>		<u>Percent Passing</u>	<u>SSPWC Section 200-2.5 Processed Miscellaneous Base</u>
1 1/2"	(37.5 mm)	100	100
1"	(25.0 mm)	100	
3/4"	(19.0 mm)	98	85-100
1/2"	(12.5 mm)	83	
3/8"	(9.5 mm)	70	55-75
#4	(4.75 mm)	47	35-60
#8	(2.36 mm)	33	
#16	(1.18 mm)	24	
#30	(0.6 mm)	17	10-30
#50	(0.3 mm)	10	
#100	(0.15 mm)	6	
#200	(0.075 mm)	3.3	2-9

B) Sand Equivalent (Caltest 217)

Sand Equivalent = 73 35 Min.

C) Durability Index (Caltest 229)

$D_f = 70$

$D_c = 74$

D) R-Value (Caltest 301)

R-Value = 84 78 Min.

E) Los Angeles Abrasion (ASTM C-131)

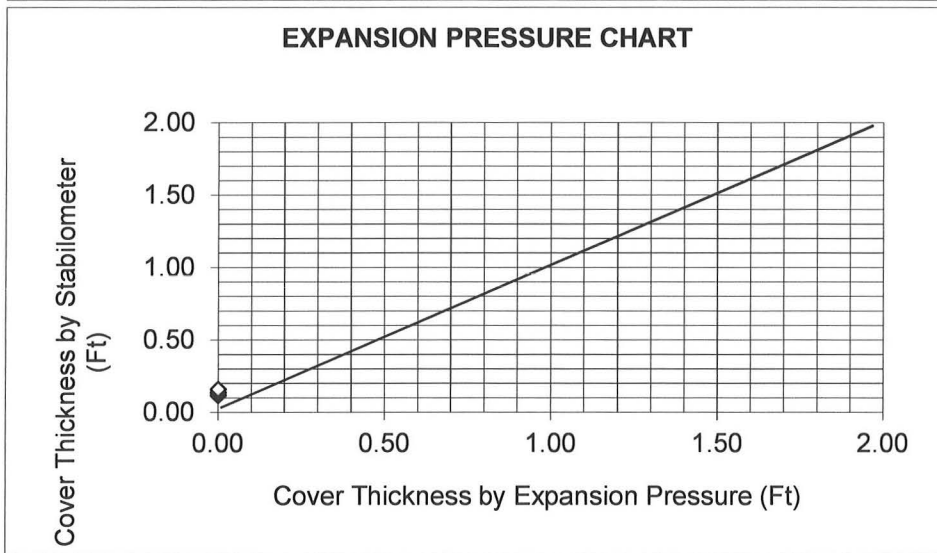
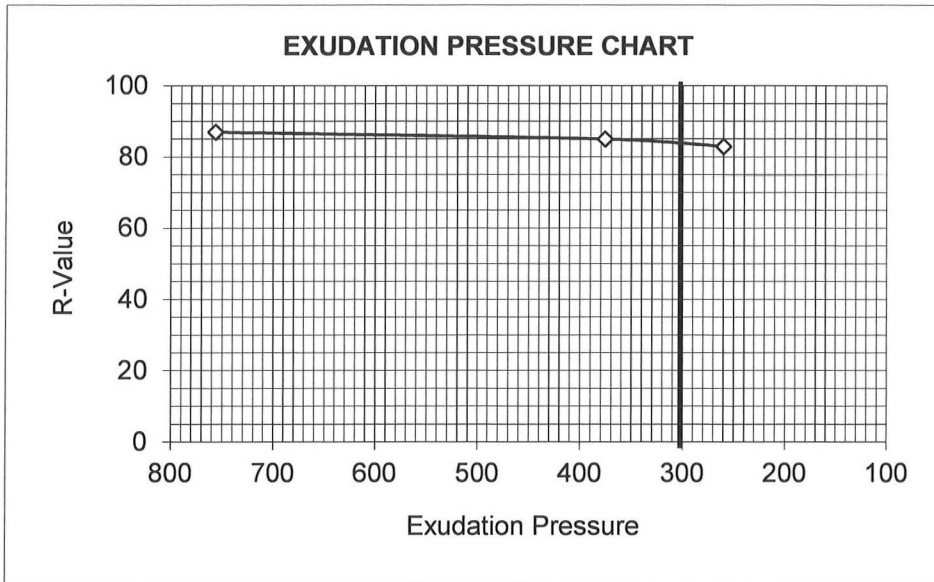
<u>Revolutions</u>	<u>% Loss</u>	
100	10.6	15% Max.
500	32.6	52% Max.

Summary of Laboratory Test Results
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F) **Maximum Density – Optimum Moisture** (ASTM D-1557)

<u>Sample Description</u>	<u>Maximum Density</u>	<u>Optimum Moisture</u>
SSPWC Processed Miscellaneous Base *	120.5 PCF	13.4 %

*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

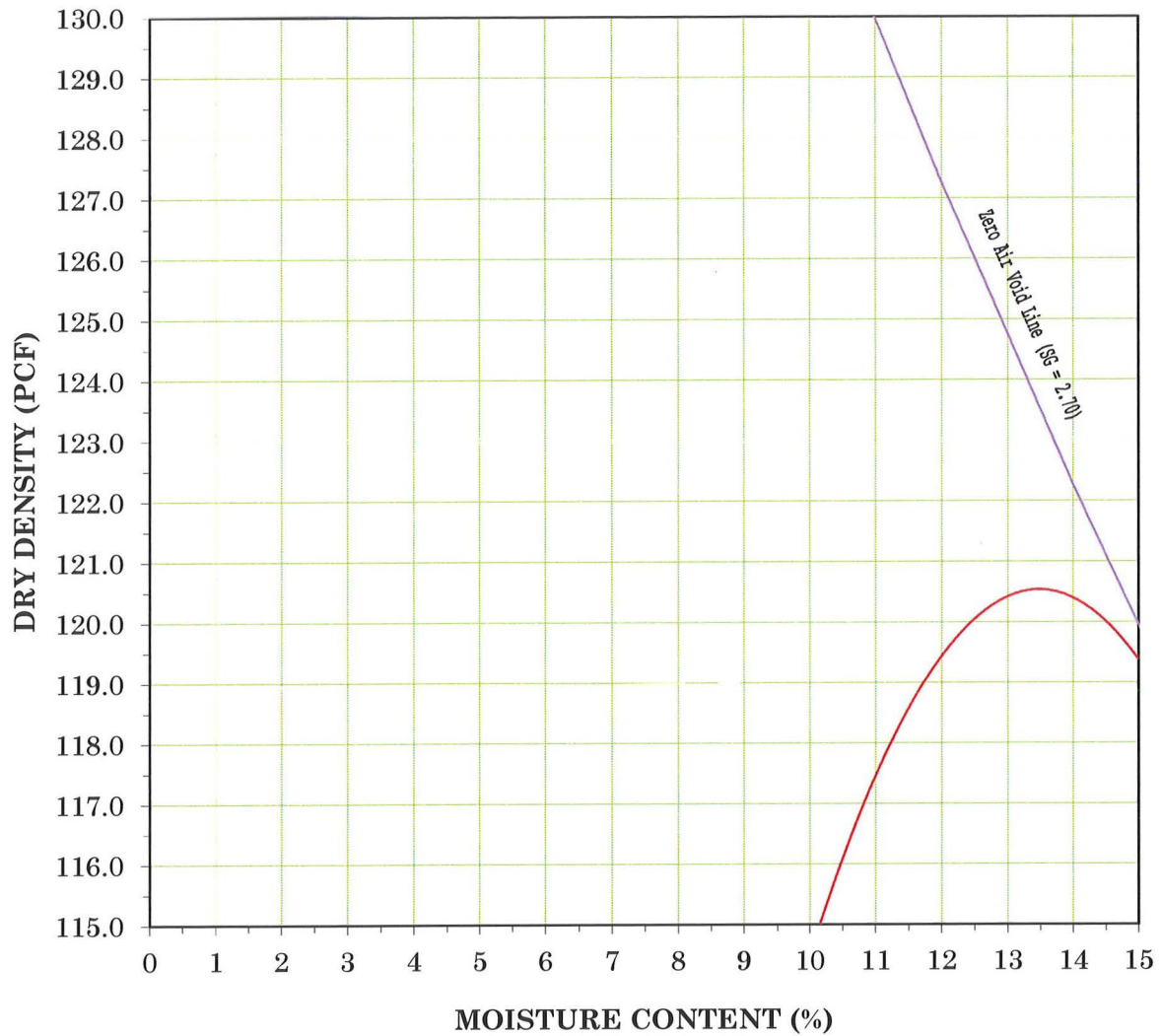


JOB NAME: RAMCO - Escondido
SAMPLE I. D.: Sample Delivered on November 8, 2017
SOIL DESCRIPTION: Processed Miscellaneous Base

SPECIMEN NUMBER	A	B	C
EXUDATION PRESSURE	757	376	260
RESISTANCE VALUE	87	85	83
EXPANSION DIAL(0.0001")	0	0	0
EXPANSION PRESSURE (PSF)	0.0	0.0	0.0
% MOISTURE AT TEST	8.9	9.3	9.8
DRY DENSITY AT TEST	116.9	119.1	113.8

R-VALUE @ 300 PSI EXUDATION	84
R-VALUE by Expansion Pressure*	100

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



Maximum Density - Optimum Moisture Characteristics*


Sample Location: Sample Delivered on November 8, 2017

Material: Processed Miscellaneous Base

Maximum Density (pcf): 120.5

Optimum Moisture: 13.4%

* Test Method: ASTM D-1557

MAXIMUM DENSITY - OPTIMUM MOISTURE	
RAMCO - Escondido	
Escondido, California	
 Earth Systems Southern California	
12/14/2017	PL-02667-04