

6980 Sierra Center Parkway, Suite 90
Reno, NV 89511

March 6, 2014
File: 1009

Mr. Chris Benna
RILITE AGGREGATES
3025 Mill Street
Reno, NV 89502

RE: Rilite Pit – Type 2, Class B Aggregate Base

Dear Mr. Benna:

Per your request, we have performed testing on the Type 2, Class B aggregate base sample you delivered to our laboratory. Test results are provided on the attached page(s) in comparison with the 2012 Standard Specifications for Public Works Construction (SSPWC), "Orange Book", specification requirements.

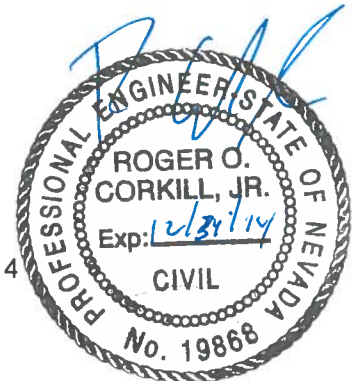
We appreciate this opportunity to provide our laboratory testing services. If you have any questions or require further information, please do not hesitate to contact us.

Sincerely,

CONSTRUCTION MATERIALS ENGINEERS, INC.

Steven L. Vineis
Laboratory Manager
svineis@cmenv.com
Direct: 775-737-7568
Mobile: 775-772-9921

Roger O. Corkill Jr., PE
Project Manager
RE Number 19868
Expiration Date 12-31-14
rcorkill@cmenv.com
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3/6/14

SLV:ROC:jy
Attachments
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TYPE 2, CLASS B AGGREGATE BASE TEST RESULTS SUMMARY - RILITE PIT

Sieve Analysis

U.S. Standard Sieve Size	Percent Passing by Weight	
	ASTM C136/ASTM C117	SSPWC Specification ¹
1 Inch	100	100
3/4 Inch	96	90 - 100
1/2 Inch	84	-
3/8 Inch	79	-
No. 4	62	35 - 65
No. 8	51	-
No. 10	48	25 - 53
No. 16	39	15 - 40
No. 30	30	-
No. 40	26	12 - 28
No. 50	21	-
No. 100	13	-
No. 200	7.5	2 - 10

Test Type	Test Method	Sample Result	SSPWC Specification ¹
Fractured Faces	ASTM D5821	99%	35 Minimum
Resistance (R) Value	ASTM D2844	80	70 Minimum
Resistance to Wear (Grading B)	ASTM C131	39%	45 Maximum

Atterberg Limits

Test Type	Test Method	Sample Result	SSPWC Specification ¹
Liquid Limit	ASTM D4318	No Value	35 Maximum
Plasticity Index ²	ASTM D4318	Nonplastic	6 Maximum

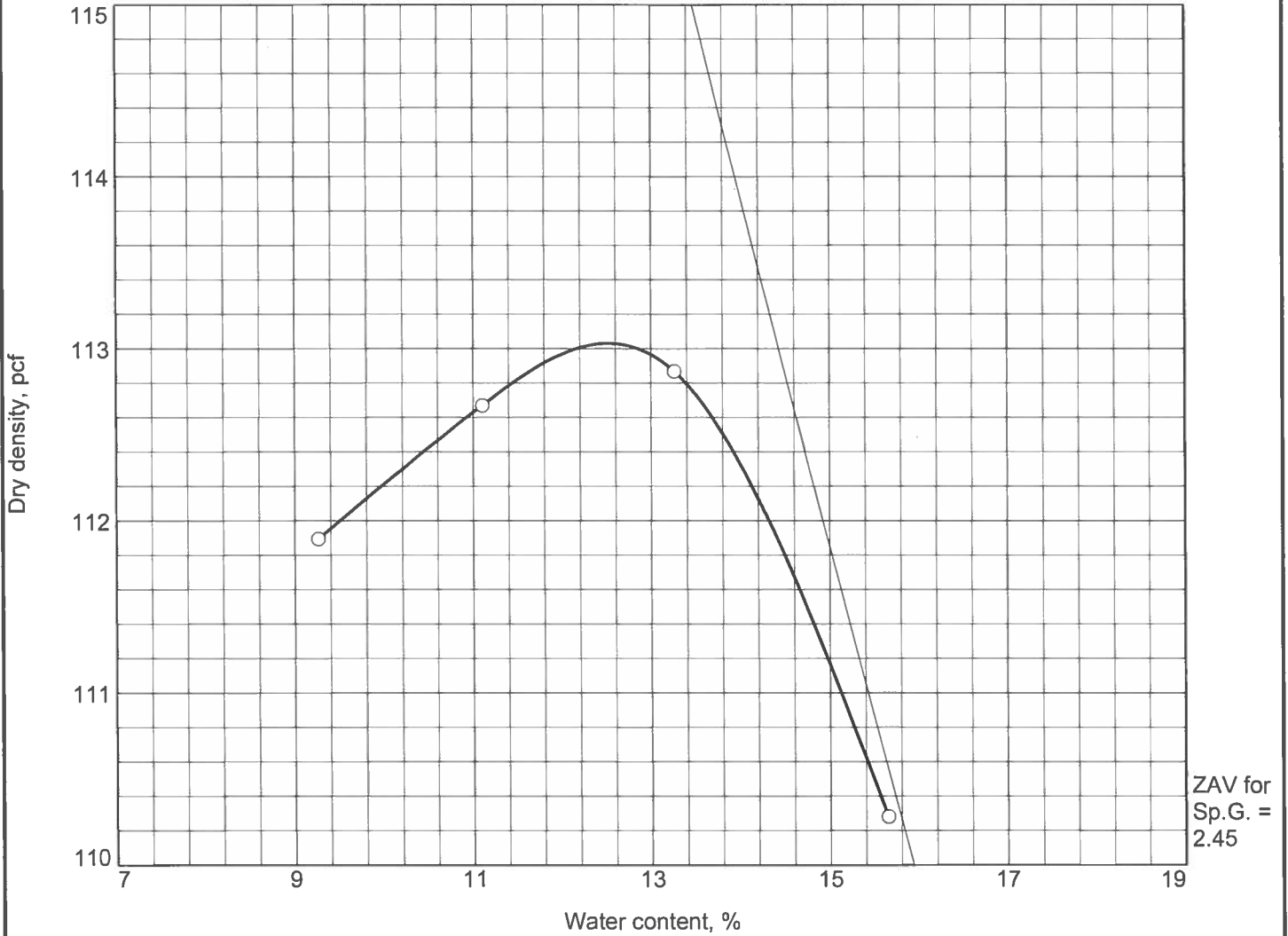
Moisture Density

Test Type	Test Method	Sample Result	SSPWC Specification ¹
Maximum Dry Density	ASTM D1557A	113.0 pcf	-
Optimum Moisture	ASTM D1557A	12.5%	-

¹ Specifications per Section 200.01.03 of the 2012 Standard Specifications for Public Works Construction.

² Specification per Sections 200.01.02 of the 2012 Standard Specifications for Public Works Construction.

MOISTURE DENSITY CURVE



Test specification: ASTM D 1557-07 Method C Modified

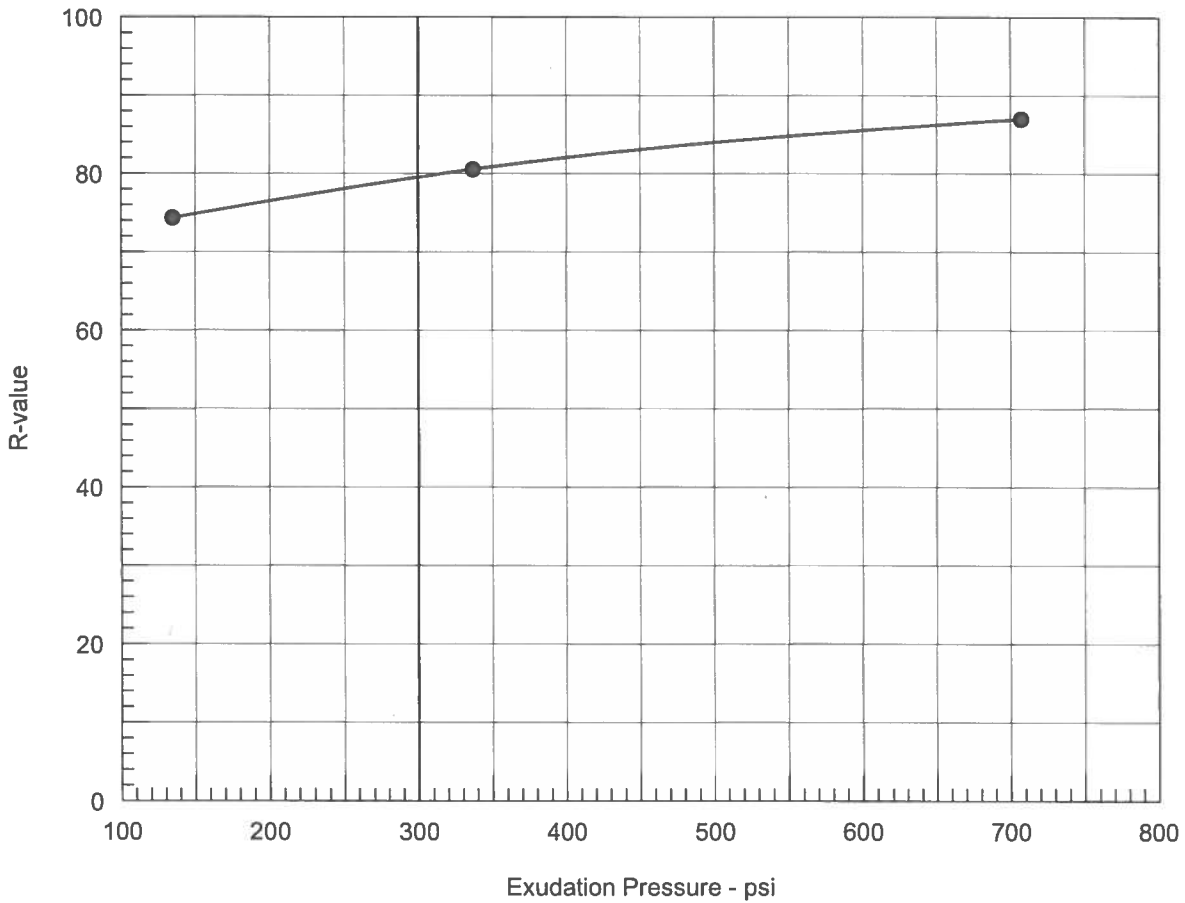
Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
							4.1	7.5

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 113.0 pcf Optimum moisture = 12.5 %	AGGREGATE BASE TYPE 2 CLASS B RILITE PIT
Project No. 1009 Client: RILITE AGGREGATES Project: RILITE AGGREGATES-AGGREGATE QUALITY TESTING ○ Location: PLANT STOCKPILE Sample Number: 28618	Remarks: RECEIVED 2/24/2014

Figure

Tested By: D. NASH Checked By: S. VINEIS

R-VALUE TEST REPORT



Resistance R-Value and Expansion Pressure - ASTM D 2844

No.	Compact. Pressure psi	Density pcf	Moist. %	Expansion Pressure psi	Horizontal Press. psi @ 160 psi	Sample Height in.	Exud. Pressure psi	R Value	R Value Corr.
1	350	113.3	11.3	0.00	13	2.50	707	87	87
2	350	116.6	12.5	0.00	18	2.43	337	81	81
3	350	114.3	13.4	0.00	25	2.46	135	74	74

Test Results	Material Description
R-value at 300 psi exudation pressure = 80	AGGREGATE BASE TYPE 2 CLASS B RILITE PIT
Project No.: 1009 Project: RILITE AGGREGATES-AGGREGATE QUALITY TESTING Location: PLANT STOCKPILE Sample Number: 28618 Date: 3/4/2014	Tested by: G. MORALES Checked by: S. VINEIS Remarks: RECEIVED 2/24/2014
R-VALUE TEST REPORT Construction Materials Engineers, Inc.	Figure 1A