

6980 Sierra Center Parkway, Suite 90  
Reno, NV 89511

February 8, 2016  
File: 1009

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

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

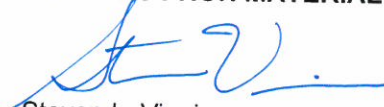
Dear Mr. Benna:

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.

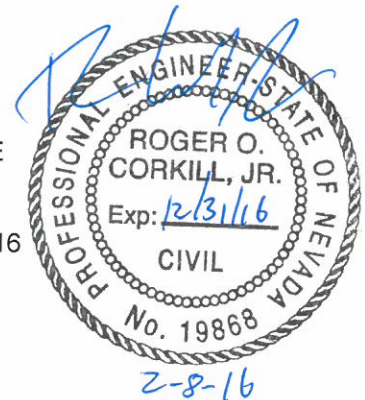
We appreciate this opportunity to provide our laboratory testing services. If you have any questions or require further information, please do not hesitate to contact us.

Sincerely,

**CONSTRUCTION MATERIALS ENGINEERS, INC.**

  
Steven L. Vineis  
Laboratory Manager  
[svineis@cmenv.com](mailto:svineis@cmenv.com)  
Direct: 775-737-7568  
Mobile: 775-772-9921

Roger O. Corkill Jr., PE  
Project Manager  
RE Number 19868  
Expiration Date 12-31-16  
[rcorkill@cmenv.com](mailto:rcorkill@cmenv.com)  
Direct: 775-737-7581  
Mobile: 775-722-5067



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 <sup>1</sup>
1 Inch	100	100
3/4 Inch	100	90 - 100
1/2 Inch	82	-
3/8 Inch	73	-
No. 4	60	35 - 65
No. 8	46	-
No. 10	42	25 - 53
No. 16	32	15 - 40
No. 30	24	-
No. 40	20	12 - 28
No. 50	16	-
No. 100	9	-
No. 200	5.1	2 - 10

Test Type	Test Method	Sample Result	SSPWC Specification <sup>1</sup>
Fractured Faces	ASTM D5821	99%	35 Minimum
Resistance (R) Value	ASTM D2844	79	70 Minimum
Resistance to Wear (Grading B)	ASTM C131	33%	45 Maximum

**Atterberg Limits**

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

**Moisture Density**

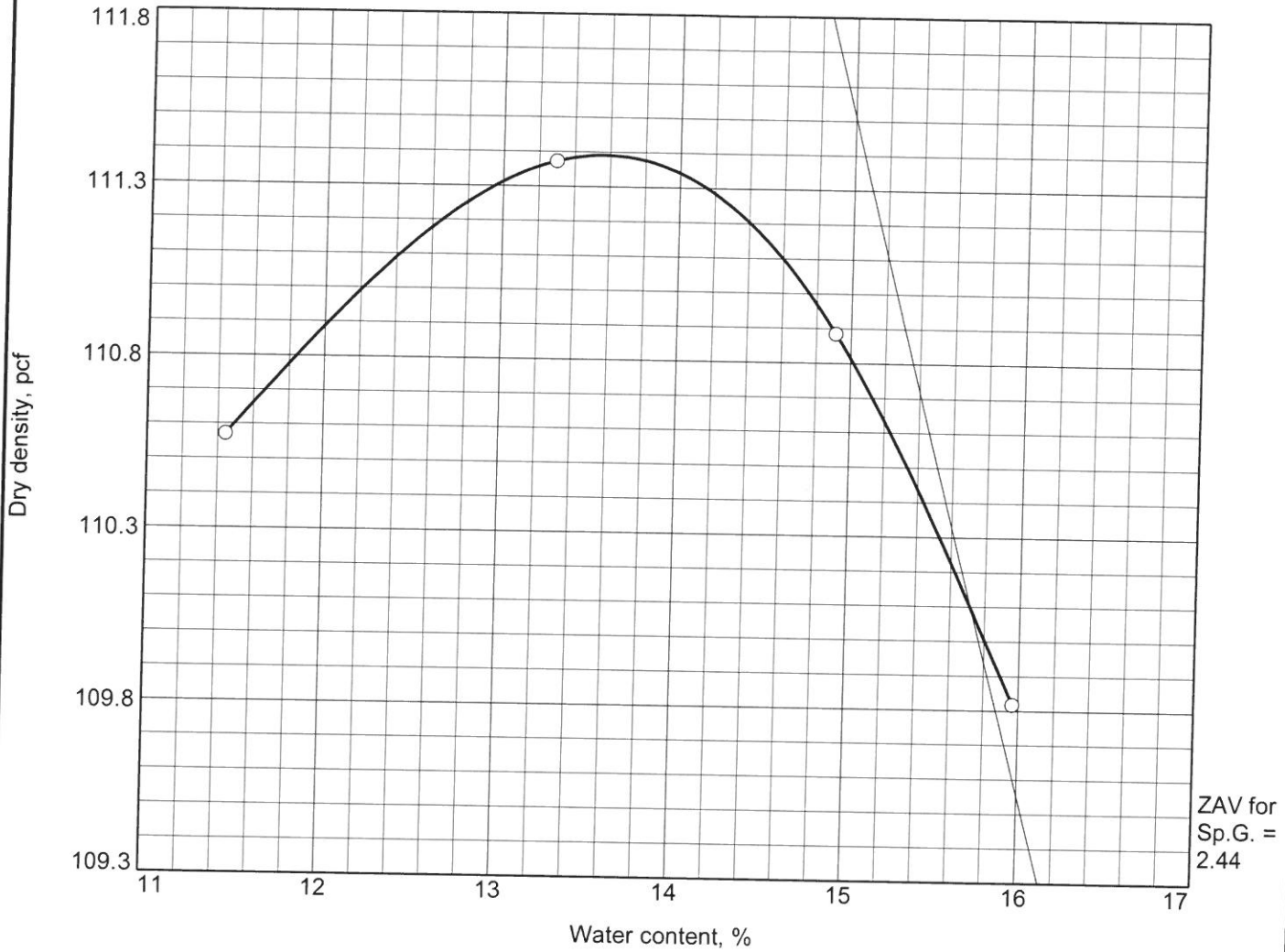
Test Type	Test Method	Sample Result	SSPWC Specification <sup>1</sup>
Maximum Dry Density	ASTM D1557A	111.5 pcf	-
Optimum Moisture	ASTM D1557A	13.5%	-

<sup>1</sup> Specifications per Section 200.01.03 of the 2012 Standard Specifications for Public Works Construction.

<sup>2</sup> Specification per Sections 200.01.02 of the 2012 Standard Specifications for Public Works Construction.



# MOISTURE DENSITY CURVE



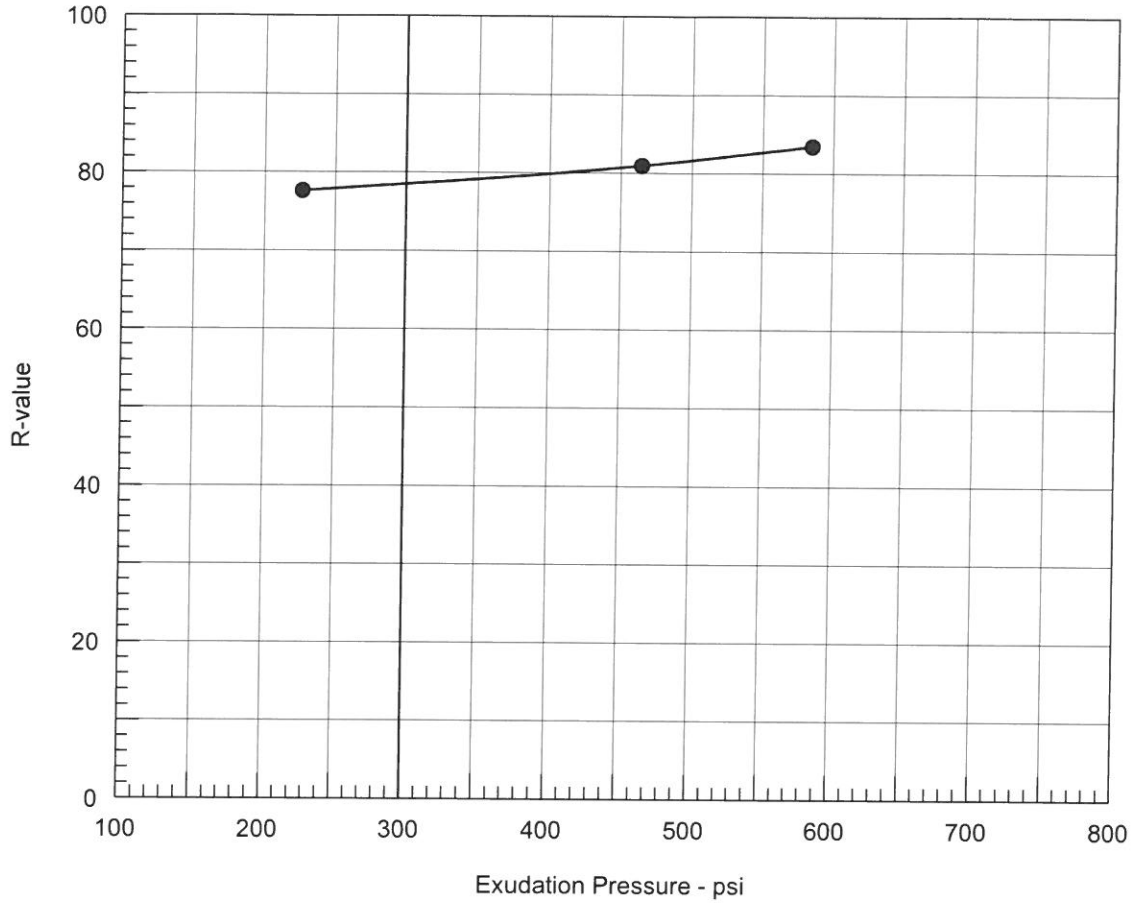
Test specification: ASTM D 1557-07 Method C Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
							0.0	5.1

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 111.5 pcf Optimum moisture = 13.5 %	AGGREGATE BASE TYPE 2 CLASS B RILITE PIT
Project No. 1009      Client: RILITE AGGREGATES Project: RILITE AGGREGATES-QUALITY TESTING Location: PLANT STOCKPILE      Sample Number: 30126	Remarks: RECEIVED 1/28/2016
	Figure

Tested By: S. HEIN      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	107.4	12.9	0.00	14	2.55	585	83	83
2	350	109.3	13.2	0.00	16	2.50	464	81	81
3	350	108.5	14.1	0.00	18	2.50	226	78	78

Test Results	Material Description
R-value at 300 psi exudation pressure = 79	AGGREGATE BASE TYPE 2 CLASS B RILITE PIT
<b>Project No.:</b> 1009 <b>Project:</b> RILITE AGGREGATES-QUALITY TESTING <b>Location:</b> PLANT STOCKPILE <b>Sample Number:</b> 30126 <b>Date:</b> 2/5/2016	<b>Tested by:</b> G. MORALES <b>Checked by:</b> S. VINEIS <b>Remarks:</b> RECEIVED 1/28/2016
R-VALUE TEST REPORT Construction Materials Engineers, Inc.	<b>Figure 1A</b>