

**CME** CONSTRUCTION  
MATERIALS  
ENGINEERS, INC.

6980 Sierra Center Parkway, Suite 90  
Reno, NV 89511

February 6, 2018  
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 and 2016 Standard Specifications for Public Works Construction (SSPWC) - "Orange Book", current ASTM specification requirements, and 2014 Nevada Department of Transportation (NDOT) Standard Specifications for Road and Bridge Construction 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.

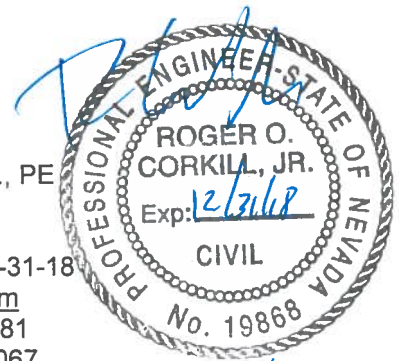
Sincerely,

**CONSTRUCTION MATERIALS ENGINEERS, INC.**



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SLV:ROC:jb  
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		
	Type 2, Class B Aggregate Base	2012 SSPWC Specification <sup>1</sup>	2016 SSPWC & NDOT Specification <sup>1</sup>
1 Inch	100	100	100
3/4 Inch	100	90 - 100	90 - 100
1/2 Inch	89	-	-
3/8 Inch	78	-	-
No. 4	56	35 - 65	35 - 65
No. 8	39	-	-
No. 10	36	25 - 53	-
No. 16	27	15 - 40	15 - 40
No. 30	18	-	-
No. 40	14	12 - 28	-
No. 50	12	-	-
No. 100	8	-	-
No. 200	5.1	2 - 10	2 - 10

Test Type	Test Method	Sample Result	SSPWC/NDOT Specifications <sup>1</sup>
Fractured Faces Resistance (R) Value	ASTM D5821/Nev. T230	98.4%	35% Minimum
Resistance to Wear (Grading B)	ASTM D2844/Nev. T115	75	70 Minimum
	ASTM C131/AASHTO T96	31.4%	45% Maximum

**Atterberg Limits**

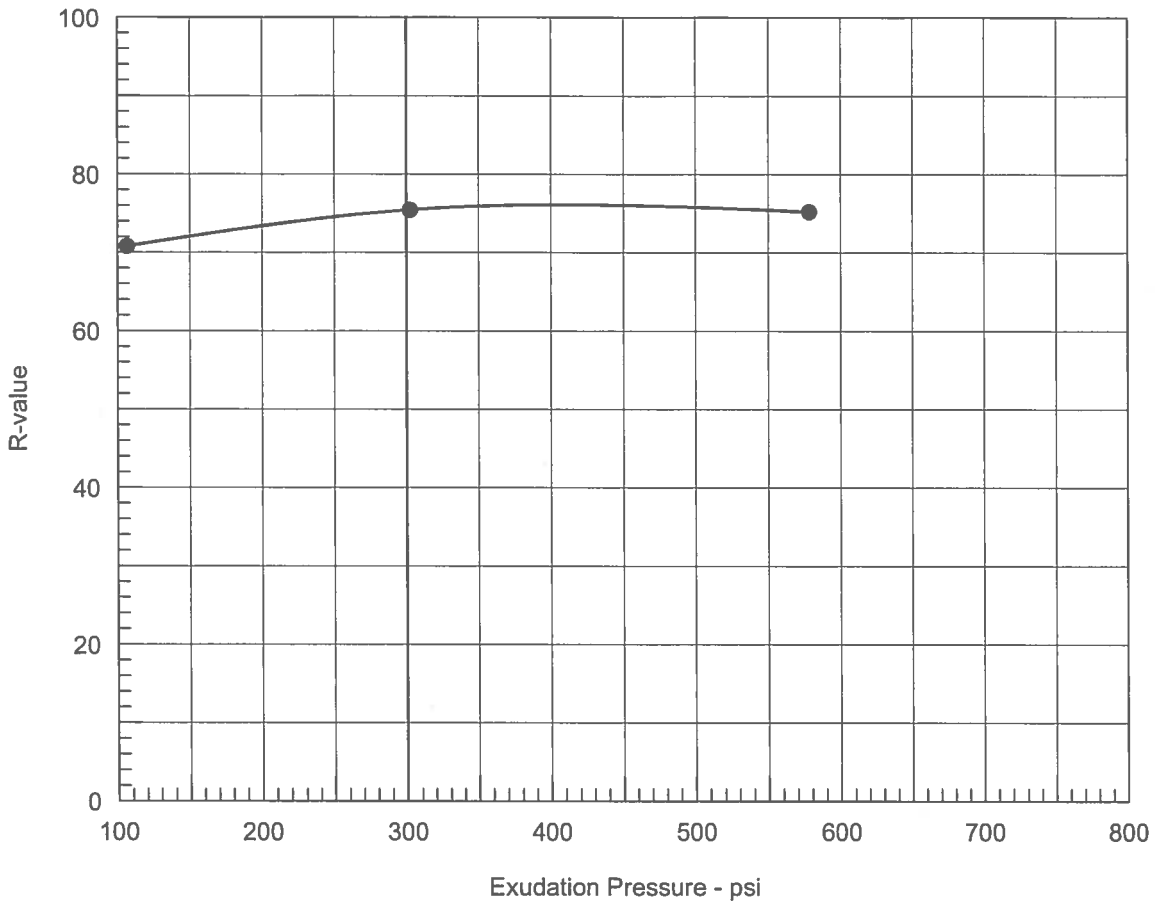
Test Type	Specification Type	Test Method	Sample Result	Specifications <sup>1</sup>
Liquid Limit	2012 SSPWC/NDOT	ASTM D4318/Nev. T210	No Value	35 Maximum
Plasticity Index	2012 SSPWC/NDOT	ASTM D4318/Nev. T212	Non Plastic	6 Maximum
Plasticity Index	2016 SSPWC	ASTM D4318	Non Plastic	8 Maximum

**Moisture Density**

Test Type	Test Method	Sample Result	SSPWC/NDOT Specifications <sup>1</sup>
Maximum Dry Density	ASTM D1557A	111.5	-
Optimum Moisture	ASTM D1557A	13.0%	-

<sup>1</sup> All specification requirements per the 2012 & 2016 Standard Specifications for Public Works Construction and 2014 NDOT Standard Specifications for Road and Bridge Construction unless otherwise noted.

# R-VALUE TEST REPORT



**Resistance R-Value and Expansion Pressure - ASTM D2844**

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	104.3	13.3	0.00	27	2.55	578	75	75
2	350	101.0	14.4	0.00	28	2.60	302	74	75
3	340	102.7	15.7	0.00	29	2.50	107	71	71


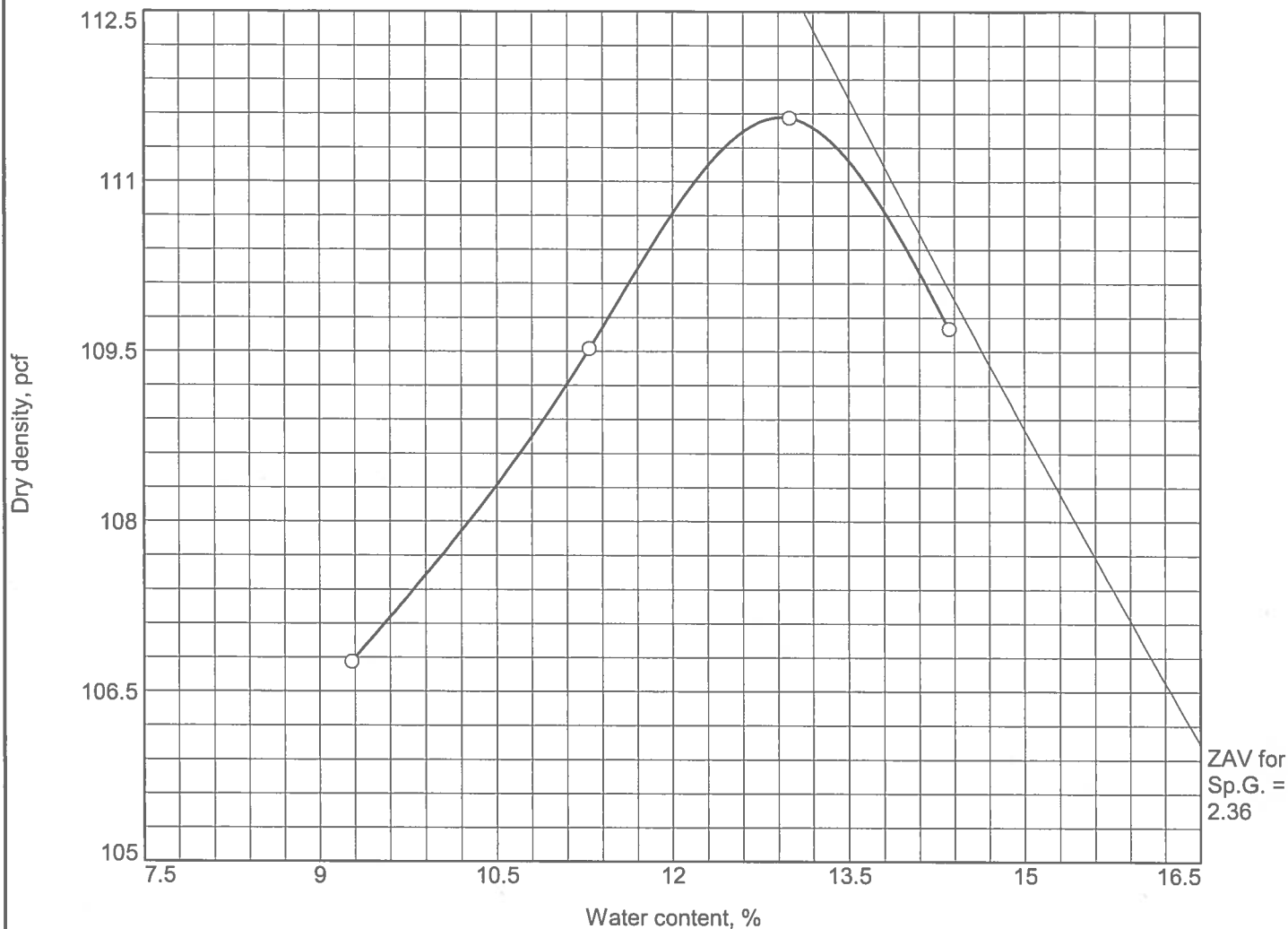
Test Results	Material Description
R-value at 300 psi exudation pressure = 75	AGGREGATE BASE TYPE 2 CLASS B RILITE PIT
<b>Project No.:</b> 1009 <b>Project:</b> RILITE AGGREGATES-QUALITY TESTING <b>Location:</b> PLANT STOCKPILE <b>Sample Number:</b> 31974 <b>Date:</b> 2/6/2018	<b>Tested by:</b> G. MORALES <b>Checked by:</b> S. VINEIS <b>Remarks:</b> RECEIVED 1/30/2018
	

Figure 1A

# MOISTURE DENSITY CURVE



Test specification: ASTM D 1557-12 Method C Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
							0.3	5.1

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 111.5 pcf Optimum moisture = 13.0 %	AGGREGATE BASE TYPE 2 CLASS B RILITE PIT
Project No. 1009      Client: RILITE AGGREGATES Project: RILITE AGGREGATES-QUALITY TESTING Location: PLANT STOCKPILE      Sample Number: 31974	Remarks: RECEIVED 1/30/2018

Figure

Tested By: G. MORALES      Checked By: S. VINEIS