

300 Sierra Manor Drive, Suite 1
Reno, NV 89511

February 15, 2019
File: 1009

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

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

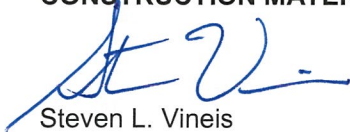
Dear Mr. Benna:

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.

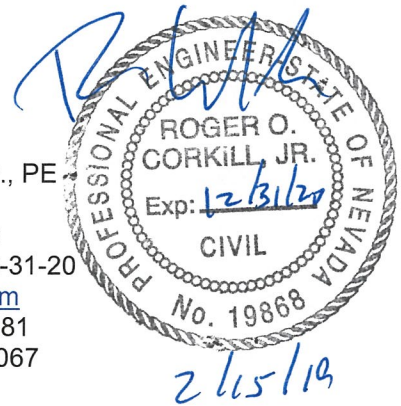
Sincerely,

CONSTRUCTION MATERIALS ENGINEERS, INC.



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Project Manager
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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 ¹	2016 SSPWC & NDOT Specification ¹
1 Inch	100	100	100
3/4 Inch	99	90 - 100	90 - 100
1/2 Inch	85	-	-
3/8 Inch	76	-	-
No. 4	55	35 - 65	35 - 65
No. 8	39	-	-
No. 10	35	25 - 53	-
No. 16	25	15 - 40	15 - 40
No. 30	16	-	-
No. 40	13	12 - 28	-
No. 50	10	-	-
No. 100	6	-	-
No. 200	4.2	2 - 10	2 - 10

Test Type	Test Method	Sample Result	SSPWC/NDOT Specifications ¹
Fractured Faces	ASTM D5821/Nev. T230	98.8%	35% Minimum
Resistance (R) Value	ASTM D2844/Nev. T115	72	70 Minimum
Resistance to Wear (Grading B)	ASTM C131/AASHTO T96	29.3%	45% Maximum

Atterberg Limits

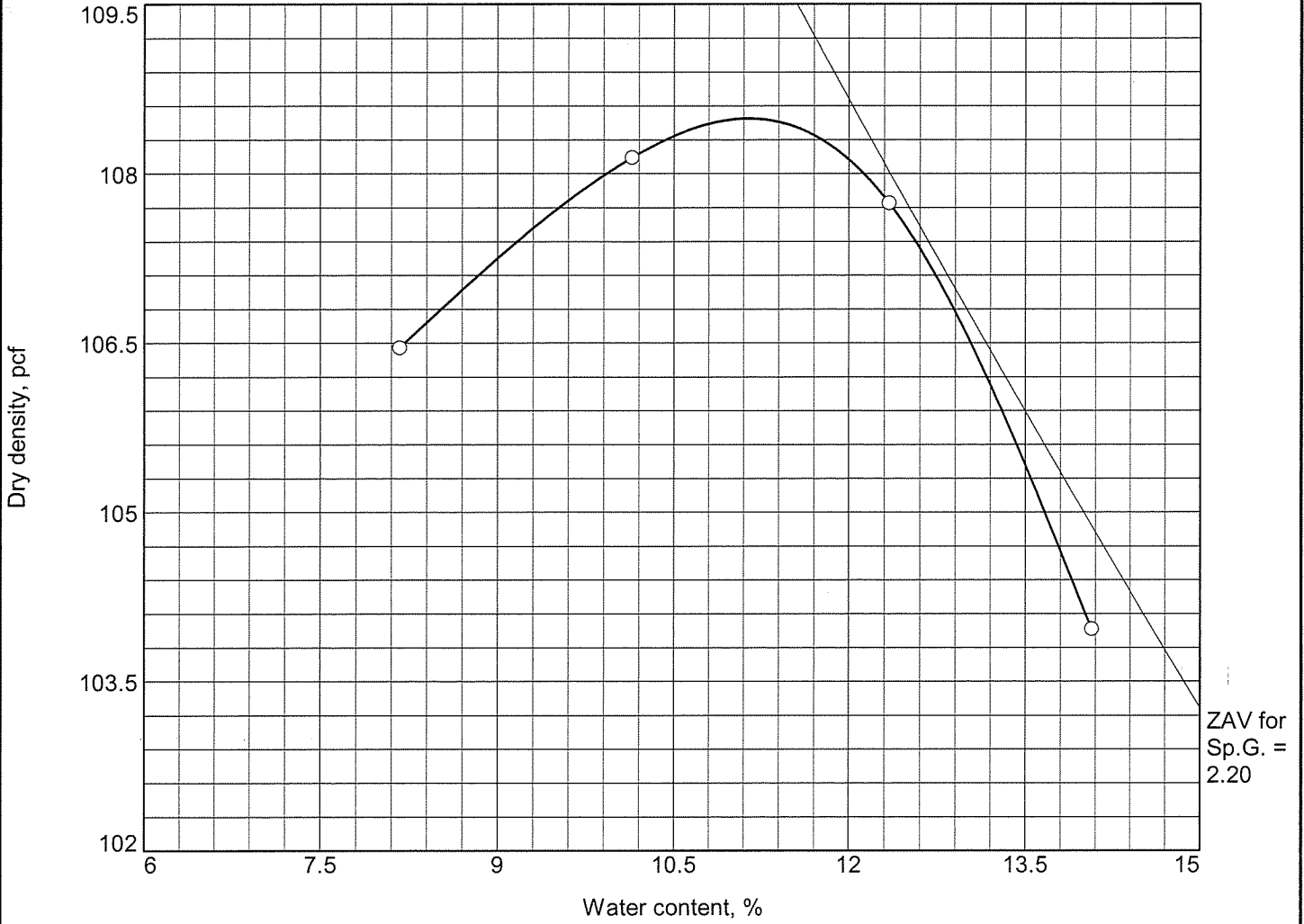
Test Type	Specification Type	Test Method	Sample Result	Specifications ¹
Liquid Limit	2012 SSPWC/NDOT	ASTM D4318/Nev. T210	No Value	35 Maximum
Plasticity Index	2012 SSPWC/NDOT	ASTM D4318/Nev. T212	Non Plastic	9 Maximum
Plasticity Index	2016 SSPWC	ASTM D4318	Non Plastic	8 Maximum

Moisture Density

Test Type	Test Method	Sample Result	SSPWC/NDOT Specifications ¹
Maximum Dry Density	ASTM D1557A	108.5 pcf	-
Optimum Moisture	ASTM D1557A	11.0%	-

¹ 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.

MOISTURE DENSITY CURVE



Test specification: ASTM D 1557-07 Method C Modified

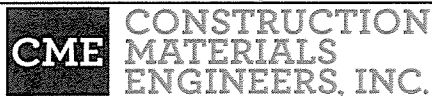
Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
							0.7	4.2

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 108.5 pcf Optimum moisture = 11.0 %	AGGREGATE BASE TYPE 2 CLASS B RILITE PIT

Project No. 1009 **Client:** RILITE AGGREGATES
Project: RILITE AGGREGATES-QUALITY TESTING

 Location: PLANT STOCKPILE **Sample Number:** 33157

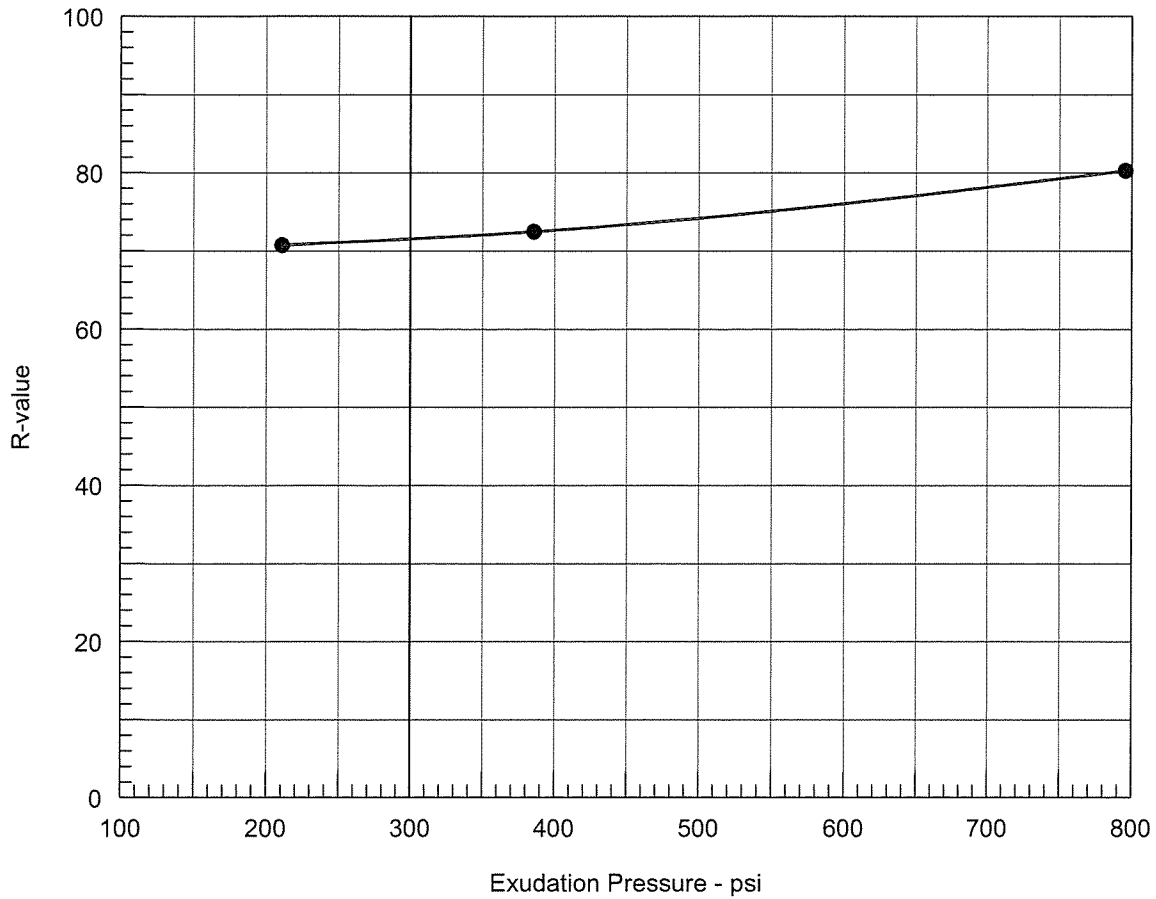
Remarks:
RECEIVED 1/30/2019



Figure

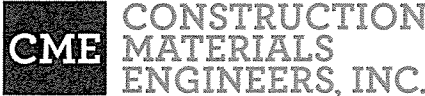
Tested By: M. PONTONI Checked By: S. VINEIS

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	108.4	12.5	0.00	19	2.60	796	79	80
2	350	106.4	11.9	0.00	26	2.55	386	72	72
3	350	103.9	13.2	0.00	30	2.60	211	69	71

Test Results	Material Description
R-value at 300 psi exudation pressure = 72	AGGREGATE BASE TYPE 2 CLASS B RILITE PIT
Project No.: 1009 Project: RILITE AGGREGATES-QUALITY TESTING Location: PLANT STOCKPILE Sample Number: 33157 Date: 2/14/2019	Tested by: G. MORALES Checked by: S. VINEIS Remarks: RECEIVED 1/30/2019
	Figure 1A