

6980 Sierra Center Parkway, Suite 90
Reno, NV 89511

March 22, 2017
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.

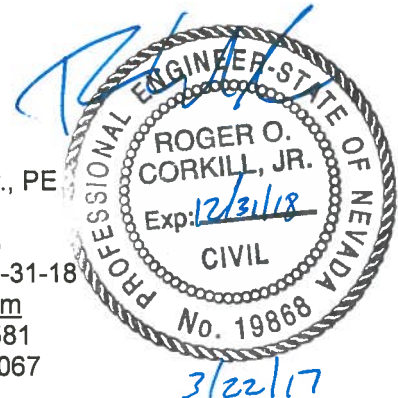
Sincerely,

CONSTRUCTION MATERIALS ENGINEERS, INC.



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Roger O. Corkill Jr., PE
Project Manager
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SLV:ROC:lnh
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	98	90 - 100	90 - 100
1/2 Inch	85	-	-
3/8 Inch	75	-	-
No. 4	52	35 - 65	35 - 65
No. 8	37	-	-
No. 10	34	25 - 53	-
No. 16	25	15 - 40	15 - 40
No. 30	17	-	-
No. 40	15	12 - 28	-
No. 50	13	-	-
No. 100	10	-	-
No. 200	6.6	2 - 10	2 - 10

Test Type	Test Method	Sample Result	SSPWC/NDOT Specifications ¹
Fractured Faces	ASTM D5821/Nev. T230	97%	35% Minimum
Resistance (R) Value	ASTM D2844/Nev. T115	80	70 Minimum
Resistance to Wear (Grading B)	ASTM C131/AASHTO T96	31.0%	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	6 Maximum
Plasticity Index	2016 SSPWC	ASTM D4318	Non Plastic	8 Maximum

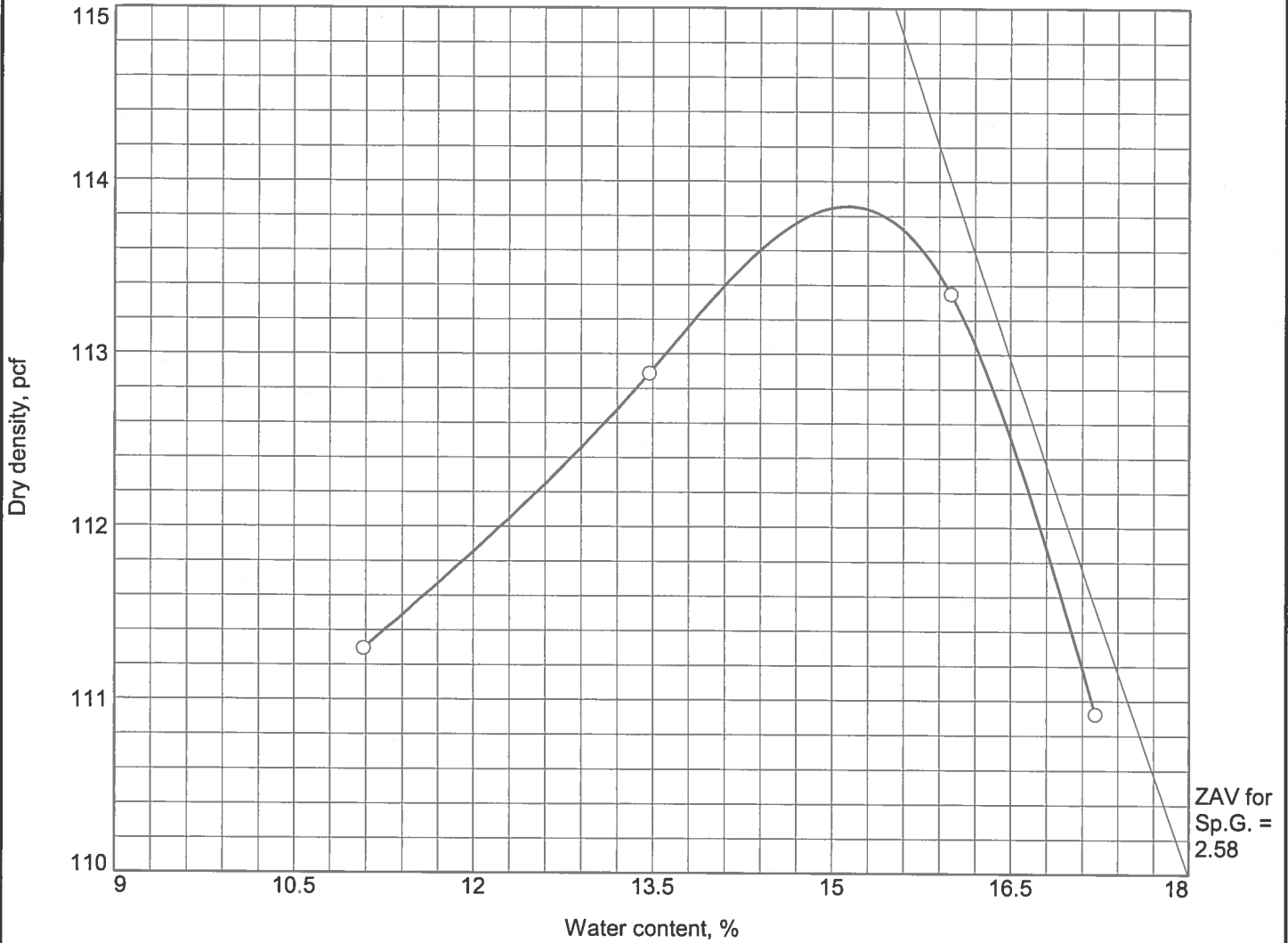
Moisture Density

Test Type	Test Method	Sample Result	SSPWC/NDOT Specifications ¹
Maximum Dry Density	ASTM D1557A	114.0 pcf	-
Optimum Moisture	ASTM D1557A	15.0%	-

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 1557-12 Method C Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
							1.6	6.6

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 114.0 pcf Optimum moisture = 15.0 %	AGGREGATE BASE TYPE 2 CLASS B RILITE AGGREGATES

Project No. 1009 **Client:** RILITE AGGREGATES
Project: RILITE AGGREGATES-QUALITY TESTING
Location: PLANT STOCKPILE **Sample Number:** 31141

Remarks:
 RECEIVED 3/15/2017

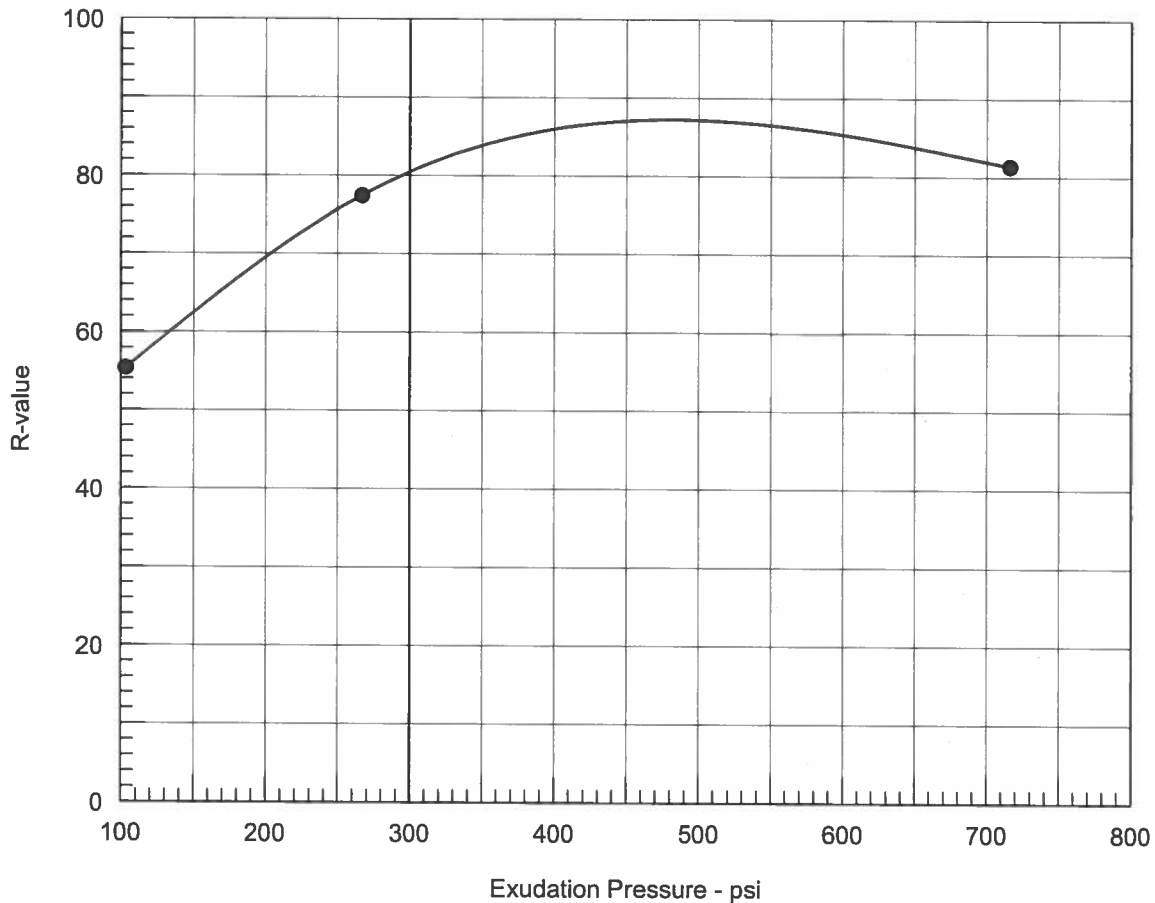


Figure

Tested By: T. HAM

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	110.5	13.4	0.00	15	2.40	716	83	81
2	350	107.2	15.2	0.00	20	2.70	267	74	77
3	350	107.0	17.0	0.00	40	2.60	103	53	55

Test Results	Material Description
R-value at 300 psi exudation pressure = 80	AGGREGATE BASE TYPE 2 CLASS B RILITE AGGREGATES

Project No.: 1009 Project: RILITE AGGREGATES-QUALITY TESTING Location: PLANT STOCKPILE Sample Number: 31141 Date: 3/22/2017	Tested by: G. MORALES Checked by: S. VINEIS Remarks: RECEIVED 3/15/2017
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Figure 1A