

6980 Sierra Center Parkway, Suite 90
Reno, NV 89511

April 3, 2017
File: 1009

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

**RE: Rilite Pit – No. 67 Concrete Rock
Aggregate Qualification**

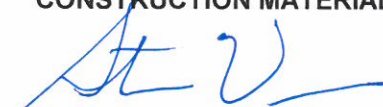
Dear Mr. Benna:

Per your request, we have performed aggregate quality testing on the No. 67 concrete rock received by our laboratory from the Rilite Pit on March 13th. Test results are provided on the attached page(s), including gradation and aggregate quality test results in comparison with the 2012 and 2016 Standard Specifications for Public Works Construction (SSPWC), "Orange Book", and current ASTM 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.

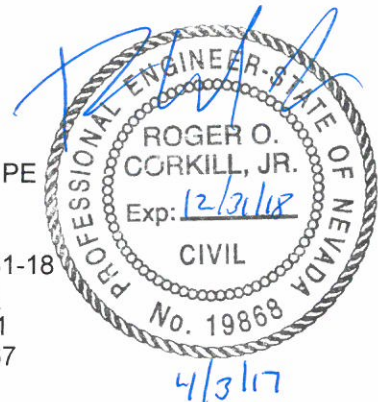
Sincerely,

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 12-31-18
rcorkill@cmenv.com
Direct: 775-737-7581
Mobile: 775-722-5067



SLV:ROC:jy
Attachment

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AGGREGATE TEST RESULTS SUMMARY - RILITE PIT COARSE AGGREGATE SIZE NO. 67

Sieve Analysis

U.S. Standard Sieve Size	Percent Passing by Weight	
	ASTM C136/C117	Coarse Aggregate Size No. 67 SSPWC / ASTM C33 Specification ¹
1 Inch	100	100
³ / ₄ Inch	99	90 - 100
¹ / ₂ Inch	47	-
³ / ₈ Inch	21	20 - 55
No. 4	6	0 - 10
No. 8	2	0 - 5
No. 200	0.7	0 - 1.0

Aggregate Quality Testing²

Test Type	Test Method	Sample Result	SSPWC Specification ¹
Resistance to Wear	ASTM C131	29%	50 Maximum
Soundness (by Sodium Sulfate)	ASTM C88	8%	12 Maximum
Clay Lumps	ASTM C142	0.2%	5 Maximum
Cleanness Value	Nev. T228	91	75 Minimum
Lightweight Pieces/Chert	ASTM C123	0.4%	3 Maximum ³
Coal and Lignite	ASTM C123	0.0%	0.5 Maximum ³

Aggregate Property Testing

Test Type	Test Method	Sample Result	SSPWC Specification ¹
Unit Weight (Rodded Basis, pcf)	ASTM C29	80	-
Unit Weight (Loose Basis, pcf)	ASTM C29	73	-
Bulk Specific Gravity (SSD Basis)	ASTM C127	2.29	-
Absorption	ASTM C127	4.6%	-

¹ All SSPWC specification requirements per 2012 & 2016 Standard Specifications for Public Works Construction unless otherwise noted.

² Potential Reactivity data (per ASTM C33, Appendix requirements) is available upon request.

³ Specification requirement per ASTM C33.



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

**RE: Rilite Pit – 1 Inch x No. 4 Concrete Rock
Aggregate Qualification**

Dear Mr. Benna:

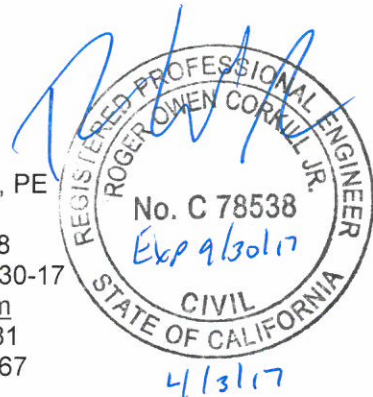
Per your request, we have performed aggregate quality testing on the 1 Inch x No. 4 concrete rock received by our laboratory from the Rilite Pit on March 13th. Test results are provided on the attached page(s), including gradation and aggregate quality test results in comparison with specifications outlined in the 2015 Caltrans Standard Specifications.

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
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SLV:ROC: jy
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AGGREGATE TEST RESULTS SUMMARY - RILITE PIT COARSE AGGREGATE SIZE 1 INCH TO NO. 4

Sieve Analysis

U.S. Standard Sieve Size	Percent Passing by Weight			
	CT 202	X-Value	Operating Range Specification ¹	Contract Compliance Specification ¹
1 1/2 Inch	100	-	100	100
1 Inch	100	-	88 - 100	86 - 100
3/4 Inch	99	85	70 - 100	63 - 100
1/2 Inch	47	-	-	-
3/8 Inch	21	21	6 - 36	2 - 40
No. 4	6	-	0 - 16	0 - 18
No. 8	2	-	0 - 6	0 - 7
No. 200	0.7	-	-	-

Aggregate Quality Testing

Test Type	Test Method	Sample Result	Specification ¹
Clay Lumps	ASTM C142	0.2%	3.0% Maximum ²
Soundness (by Sodium Sulfate)	CT 214	8.0%	10% Maximum
Durability Index	CT 229	90	60 Minimum
Los Angeles Rattler	CT 211	25%	45% Maximum
Cleanness (Operating Range)	CT 227	91	75 Minimum
Cleanness (Contract Compliance)	CT 227	91	71 Minimum

Aggregate Property Testing

Test Type	Test Method	Sample Result	Specification ¹
Unit Weight (Rodded Basis, pcf)	CT 212	79.9	-
Unit Weight (Loose Basis, pcf)	CT 212	73.3	-
Bulk Specific Gravity (SSD Basis)	CT 206	2.29	-
Absorption	CT 206	4.6%	-

¹ All specification requirements per 2015 Caltrans Standard Specifications unless otherwise noted.

² Specification requirement per ASTM C33.

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

**RE: Rilite Pit – No. 67 Concrete Rock
Aggregate Qualification**

Dear Mr. Benna:

Per your request, we have performed aggregate quality testing on the No. 67 concrete rock received by our laboratory from the Rilite Pit on March 13th. Test results are provided on the attached page(s), including gradation and aggregate quality test results in comparison with the 2014 Nevada Department of Transportation (NDOT) Standard Specifications for Road and Bridge Construction requirements.

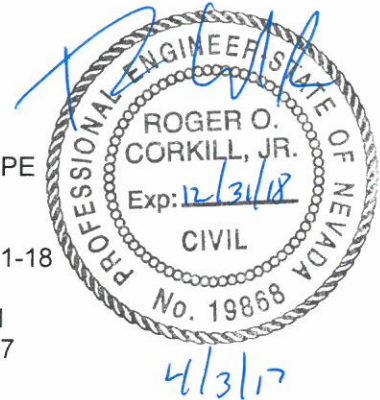
We appreciate this opportunity to provide our laboratory testing services. If you have any questions or require further information, please do not hesitate to contact us.

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Roger O. Corkill Jr., PE
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SLV:ROC:jy
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AGGREGATE TEST RESULTS SUMMARY - RILITE PIT COARSE AGGREGATE SIZE NO. 67

Sieve Analysis

U.S. Standard Sieve Size	Percent Passing by Weight	
	Nev. T206	NDOT Specification ¹
1 Inch	100	100
3/4 Inch	99	90 - 100
1/2 Inch	47	-
3/8 Inch	21	20 - 55
No. 4	6	0 - 10
No. 8	2	0 - 5
No. 200	0.7	0 - 1

Aggregate Quality Testing²

Test Type	Test Method	Sample Result	Specification ¹
Cleaness Value	Nev. T228	91	71 Minimum
Clay Lumps	AASHTO T112	0.2%	0.3% Maximum
Percentage of Wear	AASHTO T96	29%	50% Maximum
Soundness (by Sodium Sulfate)	AASHTO T104	8%	12% Maximum
Flat and Elongated Particles (5:1)	ASTM D4791	1%	15% Maximum

Aggregate Property Testing

Test Type	Test Method	Sample Result	Specification ¹
Unit Weight (Rodded Basis, pcf)	AASHTO T19	79.9	-
Unit Weight (Loose Basis, pcf)	AASHTO T19	73.3	-
Bulk Specific Gravity (SSD Basis)	Nev. T492	2.29	-
Absorption	Nev. T492	4.6%	-

¹ All specification requirements per 2014 NDOT Standard Specifications for Road and Bridge Construction.
² Potential Reactivity data (per AASHTO T303) is available upon request.



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

**RE: Rilite Pit – No. 57/67 Concrete Rock
Aggregate Qualification**

Dear Mr. Benna:

Per your request, we have performed aggregate quality testing on the No. 57/67 concrete rock received by our laboratory from the Rilite Pit on March 13th. Test results are provided on the attached page(s), including gradation and aggregate quality test results in comparison with the current AASHTO specification requirements.

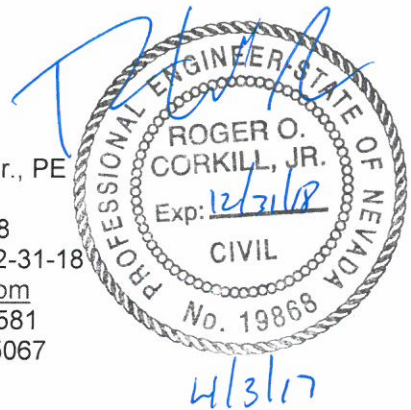
We appreciate this opportunity to provide our laboratory testing services. If you have any questions or require further information, please do not hesitate to contact us.

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SLV:ROC:jy
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AGGREGATE TEST RESULTS SUMMARY - RILITE PIT COARSE AGGREGATE SIZE NO. 57/67

Sieve Analysis

U.S. Standard Sieve Size	Percent Passing by Weight		
	No. 57/67 Stone	Coarse Aggregate Size No. 57 AASHTO M43 ¹	Coarse Aggregate Size No. 67 AASHTO M43 ¹
1-1/2 Inch	100	100	-
1 Inch	100	95 - 100	100
3/4 Inch	99	-	90 - 100
1/2 Inch	47	25 - 60	-
3/8 Inch	21	-	20 - 55
No. 4	6	0 - 10	0 - 10
No. 8	2	0 - 5	0 - 5
No. 200	0.4	0 - 1.0	0 - 1.0

Aggregate Quality Testing²

Test Type	Test Method	Sample Result	AASHTO M80 Specification ³
Resistance to Wear	AASHTO T96	29%	50 Maximum
Soundness (by Sodium Sulfate)	AASHTO T104	8%	12 Maximum
Clay Lumps	AASHTO T112	0.2%	3.0 Maximum
Lightweight Pieces/Chert	AASHTO T113	0.4%	3 Maximum
Coal and Lignite	AASHTO T113	0.0%	0.5 Maximum

Aggregate Property Testing

Test Type	Test Method	Sample Result	AASHTO M80 Specification ³
Unit Weight (Loose Basis, pcf)	AASHTO T19	80	-
Unit Weight (Rodded Basis, pcf)	AASHTO T19	73	-
Bulk Specific Gravity (SSD Basis)	AASHTO T85	2.29	-
Absorption	AASHTO T85	4.6%	-

¹ Specification requirement per AASHTO M43.

² Potential Reactivity data is available upon request.

³ Specification requirement per AASHTO M80.