

6980 Sierra Center Parkway, Suite 90
Reno, NV 89511

February 17, 2015
File: 1009

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

**RE: Rilite Pit - Concrete Sand
Aggregate Qualification**

Dear Mr. Benna:

Per your request, we have performed aggregate quality testing on the concrete sand received by our laboratory from the Rilite Pit on January 14th. Test results are provided on the attached page(s), including gradation and aggregate quality test results in comparison with the 2012 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.

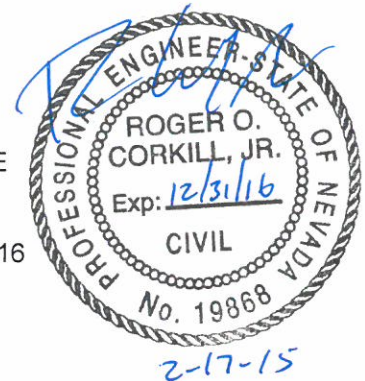
Sincerely,

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 12-31-16
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 CONCRETE SAND

Sieve Analysis

U.S. Standard Sieve Size	Percent Passing by Weight		
	ASTM C136/C117	SSPWC Specification ¹	ASTM C33 Specification
³ / ₈ Inch	100	100	100
No. 4	100	95 - 100	95 - 100
No. 8	87	80 - 100	80 - 100
No. 16	61	50 - 85	50 - 85
No. 30	41	25 - 60	25 - 60
No. 50	22	10 - 30	5 - 30
No. 100	6	2 - 10	0 - 10
No. 200	2.0	0 - 3.0	0 - 3.0
Fineness Modulus	2.84	2.3 - 3.1	2.3 - 3.1

Aggregate Quality Testing²

Test Type	Test Method	Sample Result	SSPWC Specification ¹
Soundness (by Sodium Sulfate)	ASTM C88	6%	10 Maximum
Clay Lumps	ASTM C142	0.2%	3 Maximum
Organic Impurities	ASTM C40	Plate 1	Less Than Plate 3
Sand Equivalent	ASTM D2419	92	71 Minimum
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 (Loose Basis, pcf)	ASTM C29	79	-
Bulk Specific Gravity (SSD Basis)	ASTM C128	2.26	-
Absorption	ASTM C128	4.4%	-

¹ All SSPWC specification requirements per 2012 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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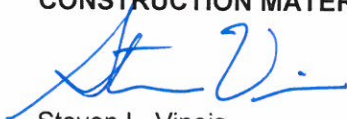
Dear Mr. Benna:

Per your request, we have performed aggregate quality testing on the concrete sand received by our laboratory from the Rilite Pit on January 14th. 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.

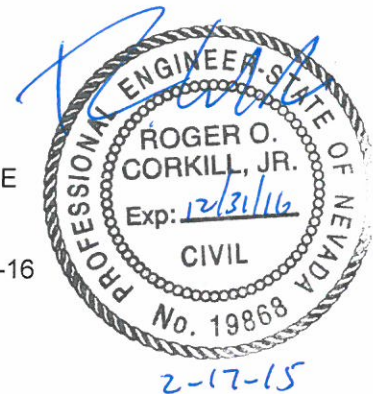
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AGGREGATE TEST RESULTS SUMMARY - RILITE PIT CONCRETE SAND

Sieve Analysis

U.S. Standard Sieve Size	Percent Passing by Weight	
	Nev. T206	NDOT Specification ¹
³ / ₈ Inch	100	100
No. 4	100	95 - 100
No. 8	87	80 - 100
No. 16	61	50 - 85
No. 30	41	25 - 60
No. 50	22	5 - 30
No. 100	6	0 - 10
No. 200	2.0	0 - 5
Fineness Modulus ²	2.84	2.30 - 3.10

Aggregate Quality Testing³

Test Type	Test Method	Sample Result	Specification ¹
Sand Equivalent	Nev. T227	92	71 Minimum
Clay Lumps	AASHTO T112	0.2%	1% Maximum
Soundness (by Sodium Sulfate)	AASHTO T104	6%	10% Maximum
Lightweight Pieces	AASHTO T113	0.0%	1% Maximum
Organic Impurities	AASHTO T21	Satisfactory	Satisfactory

Aggregate Property Testing

Test Type	Test Method	Sample Result	Specification ¹
Unit Weight (Loose Basis, pcf)	AASHTO T19	79	-
Bulk Specific Gravity (SSD Basis)	Nev. T493	2.26	-
Absorption	Nev. T493	4.4%	-

¹ All specification requirements per 2014 NDOT Standard Specifications for Road and Bridge Construction.

² Determined according to AASHTO T27 and AASHTO T11.

³ Potential Reactivity data (per AASHTO T303) is available upon request.



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Aggregate Qualification**

Dear Mr. Benna:

Per your request, we have performed aggregate quality testing on the concrete sand received by our laboratory from the Rilite Pit on January 14th. Test results are provided on the attached page(s), including gradation and aggregate quality test results in comparison with specifications outlined in the 2010 Caltrans Standard Specifications.

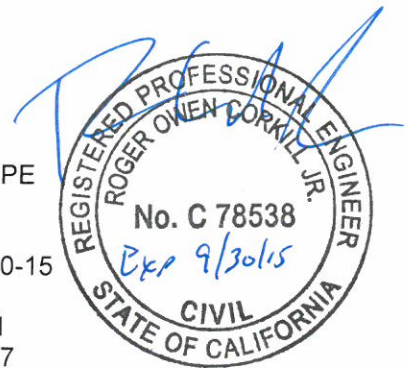
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2-17-15

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AGGREGATE TEST RESULTS SUMMARY - RILITE PIT CONCRETE SAND

Sieve Analysis

U.S. Standard Sieve Size	Percent Passing by Weight			
	CT 202	X-Value	Operating Range Specification ¹	Contract Compliance Specification ¹
³ / ₈ Inch	100	-	100	100
No. 4	100	-	95 - 100	93 - 100
No. 8	87	-	65 - 95	61 - 99
No. 16	61	61	51 - 71	48 - 74
No. 30	41	40	31 - 49	28 - 52
No. 50	22	23	17 - 29	14 - 32
No. 100	6	-	2 - 12	1 - 15
No. 200	2.0	-	0 - 8	0 - 10
Fineness Modulus	2.84	-	-	-

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	6.2%	10% Maximum
Durability Index	CT 229	85	60 Minimum
Organic Impurities	CT 213	Satisfactory	Satisfactory
Sand Equivalent (Operating Range)	CT 217	92	75 Minimum
Sand Equivalent (Contract Compliance)	CT 217	92	71 Minimum

Aggregate Property Testing

Test Type	Test Method	Sample Result	Specification ¹
Unit Weight (Loose Basis, pcf)	CT 212	78.5	-
Bulk Specific Gravity (SSD Basis)	CT 207	2.26	-
Absorption	CT 207	4.4%	-

¹ All specification requirements per 2010 Caltrans Standard Specifications unless otherwise noted.

² Specification requirement per ASTM C33.

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**RE: Rilite Pit – Relative Mortar Strength of Portland Cement Concrete Sand
Concrete Sand - Stockpile Sample**

Dear Mr. Benna:

Per your request, we have performed relative mortar strength of Portland cement concrete sand and testing on the sample delivered to our laboratory from the Rilite Pit on January 14th. The cement utilized for the testing was Nevada Type II cement. Test results in comparison with Caltrans specifications are as follows:

Sieve Size Analysis (Caltrans CT202)		
U.S. Standard Sieve Size	Percent By Weight Passing	
	Washed Concrete Sand	Caltrans Operating Specifications
¾ Inch	100	100
No. 4	100	95 - 100
No. 8	87	65 - 95
No. 16	61	49 - 69
No. 30	41	31 - 49
No. 50	22	17 - 29
No. 100	6	2 - 12
No. 200	2.0	0 - 8
Fineness Modulus	2.84	-

Sand Equivalent (Caltrans CT217)	
Sample	Caltrans Specification
92	71 Minimum

Organic Impurities (Caltrans CT213)	
Fine Aggregate Sample	Caltrans Specification
Less Than Plate 1	Less Than Plate 3

Specific Gravity and Absorption (Caltrans CT207)	
Bulk Specific Gravity (SSD Basis)	2.21
Absorption	3.3%

NOTE: Specific gravity and absorption tests are representative of the processed sample only and not the original sample.

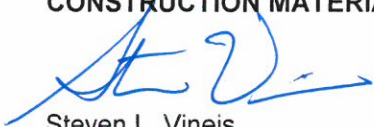
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Page 2

Relative Mortar Strength of Portland Cement Concrete Sand (Caltrans CT515)	
Average Strength of Three Batches Ottawa Sand Mortar (Control)	5488 PSI
Average of Three Cubes Rilite Concrete Sand	5853 PSI
Relative Strength of Portland Cement Concrete Sand	110

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.

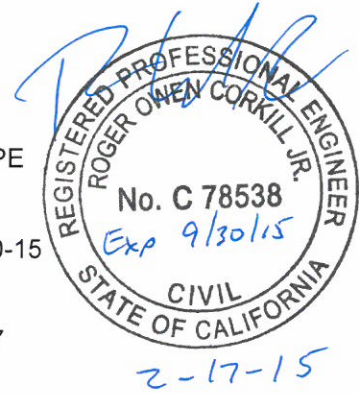
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