



**AGGREGATE SUBMITTAL**  
**Report of Physical Properties**

GRP Material Description: Rock, 1 1/2"

Report Date: June 3, 2023

GRP Material Code: ROCF

Reviewed by: Dan McDaniel

Source Location/Code: North Hansen / 527

Report No. 527ROCF00223

TEST RESULTS				SIEVE ANALYSIS			
Standard	PHYSICAL PROPERTIES		Result	Test Spec.	ASTM C136	AASHTO T27	
ASTM C 29 AASHTO T19	<b>Unit Weight</b>	Unit Weight, lbs./cu.ft. =	<b>93</b>		<b>Sieve Size</b>	<b>% Passing</b>	<b>Spec.</b>
	<b>Weight</b>	Voids, % =	<b>41</b>		450 mm (18")		
		<input type="checkbox"/> Jigged <input type="checkbox"/> Loose <input checked="" type="checkbox"/> Rodded			375 mm (15")		
ASTM D1557 AASHTO T180	<b>Modified Proctor</b>	Max. density, lbs./cu.ft. =			300 mm (12")		
		Optimum Moisture, % =			250 mm (10")		
ASTM D698 AASHTO T99	<b>Standard Proctor</b>	Max. density, lbs./cu.ft. =			225 mm (9")		
		Optimum Moisture, % =			200 mm (8")		
ASTM D4318 AASHTO T89/90	<b>Liquid Limit Plastic Limit Plasticity Index</b>	Liquid Limit =			150 mm (6")		
		Plastic Limit =			125 mm (5")		
		Plasticity Index =			100 mm (4")		
ASTM C131 AASHTO T96	<b>L.A. Abrasion</b>	Small Coarse Loss, % =			75.0 mm (3")		
		Grading/Revolutions, =			63.0 mm (2-1/2")		
ASTM C535	<b>L.A. Abrasion</b>	Large Coarse Loss, % =	<b>24</b>		50.0 mm (2")	<b>100</b>	
		Grading/Revolutions, =	<b>3/1000</b>		37.5 mm (1-1/2")	<b>98</b>	
ASTM C 128 AASHTO T84	<b>Fine Specific Gravity &amp; Absorption</b>	Bulk Specific Gravity (dry) =			25.0 mm (1")	<b>23</b>	
		Bulk Specific Gravity, SSD =			19.0 mm (3/4")	<b>4</b>	
		Apparent Specific Gravity =			12.5 mm (1/2")	<b>2</b>	
		Absorption, % =			9.5 mm (3/8")	<b>1</b>	
ASTM C 127 AASHTO T85	<b>Coarse Specific Gravity &amp; Absorption</b>	Bulk Specific Gravity (dry) =	<b>2.583</b>		6.3 mm (1/4")		
		Bulk Specific Gravity, SSD =	<b>2.610</b>		4.75 mm (No.4)		
		Apparent Specific Gravity =	<b>2.653</b>		2.36 mm (No.8)		
		Absorption, % =	<b>1.0</b>		2.00 mm (No.10)		
ASTM D2419 AASHTO T176	<b>Sand Equivalent</b>	Sand Equivalent, % =			1.18 mm (No.16)		
					0.600 mm (No.30)		
ASTM C 88 AASHTO T104	<b>Soundness</b>	Coarse Soundness Loss, % =	<b>1</b>		0.425 mm (No.40)		
		Sodium No. of Cycles =	<b>5</b>		0.300 mm (No.50)		
	<b>Soundness</b>	Fine Soundness Loss, % =			0.180 mm (No.80)		
		Sodium No. of Cycles =			0.150 mm (No.100)		
ASTM C 1252 AASHTO T304	<b>Fine Aggregate Angularity</b>	Uncompacted Voids, % =			0.075 mm (No.200)	<b>0.7</b>	
		Method C (as received material)			ASTM D422		
ASTM C40 AASHTO T21	<b>Organic Impurities</b>	Coarse Aggregate, % =	<b>0.0</b>		<b>Hydrometer =</b>		
		Fine Aggregate, % =			ASTM C566 AASHTO T255		
ASTM C142 AASHTO T112	<b>Clay / Friable Particles</b>	Coarse Aggregate, % =	<b>0.0</b>		<b>Moisture Content, % =</b>		
		Fine Aggregate, % =			ASTM C136 AASHTO T27		
ASTM C123 AASHTO T113	<b>Lightweight Pieces</b>	Coarse Aggregate, % =	<b>0.0</b>		<b>Fineness Modulus (FM) =</b>		
		Fine Aggregate, % =			AASHTO M145		
ASTM D1883 AASHTO T193	<b>CBR</b>	Surcharge = 10 lbs CBR @ 0.1" =			<b>Classification of Soils =</b>		
		Swell% = 0.0% CBR @ 0.2" =			ASTM D4791	Ratio =	<b>5:1</b>
ASTM D5821	<b>Fractured Face</b>	1 or 2 Faces =	<b>1=100</b>	<b>2=98</b>	<b>Flat &amp; Elongated, % =</b>		<b>0.0</b>
		Fractured Face, % =	<b>3=92</b>				
AASHTO T288	<b>Resistivity</b>	10300chm-cm					

NOTES: ROCF is a Quartzite material from the POM Pit.