

2511 Holman Avenue P. O. Box 80190 Billings, Montana 59108-0190 p: 406.652.3930; f: 406.652.3944 *www.skgeotechnical.com* 

Date:	December 31, 2016	0	<b>6-3480L Laboratory Testing</b> Aggregate Acceptance	
Client:	Mr. Fred Huppert Huppert Brothers Construction 3509 54th Street West Billings, Montana 59106	Copies:		
Source: Date Samp	Laurel South Quarry <b>bled:</b> 11/29/16	Sample: Sampled by:	Riprap #1 : FH/HB	

Test Method	Lab Result	FP-14 705.02 Riprap Specification
Sodium Sulfate Soundness loss, average of 3 coarse size ranges (ASTM C 88)	0.8% coarse	12% max
Sodium Sulfate Soundness loss, average of 4 fine size ranges (ASTM C 88)	2.7% fine	
LA Abrasion loss, <i>crushed and sized to grading A</i> (ASTM C 535)	13% at 500 rev	50% max
Freeze-Thaw loss, <i>recommend weighted average of 4</i> <i>rocks of varying geology, through 30 cycles</i> (ASTM D 5312)	< 0.5%	no FP-14 spec, but typ 10% max for those projects that specify
Specific Gravity, recommend an average of 8 rocks of varying geology (ASTM D 6473)	<ul><li>2.422 bulk Dry</li><li>2.485 bulk SSD</li><li>2.585 apparent</li><li>2.61% absorption</li></ul>	 2.40 min 4% max

DEBC DOER

Joe B. DeBar, PE Materials Lab Manager