Montana Basalt &
North Dakota Class 13
June 9, 2011

Mr. John Detton
John Detton Construction
P.O. Box 23
Dillon, MT 59725

RE: John Detton Construction, Inc. Materials Testing
Pioneer Technical Services Project No. 15665

Dear Mr. Detton;
On June 6th, a sample was delivered to our ASTM/AASHTO accredited materials testing laboratory. The sample was referenced as "Sample 1" and given Lab No. 10969. The testing request consisted of:


Table 1 presents our results.

Table 1 – Sieve Analysis

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Lab No. 10969</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot;</td>
<td>25 mm</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>19 mm</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>12.5 mm</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>9.5 mm</td>
</tr>
<tr>
<td>#4</td>
<td>4.75 mm</td>
</tr>
<tr>
<td>#10</td>
<td>2.0 mm</td>
</tr>
<tr>
<td>#20</td>
<td>0.850 mm</td>
</tr>
<tr>
<td>#40</td>
<td>0.425 mm</td>
</tr>
<tr>
<td>#60</td>
<td>0.250 mm</td>
</tr>
<tr>
<td>#100</td>
<td>0.150 mm</td>
</tr>
<tr>
<td>#200</td>
<td>0.075 mm</td>
</tr>
</tbody>
</table>

The grain size distribution curve is included with this report. We thank you for using Pioneer Technical Services for your geotechnical and materials testing requirements. If you have any questions regarding these results, please contact Todd Lorenzen or Paul Bushnell at (406) 443-6053.
Basalt material, July 14, 2011
Basalt material, July 14, 2011
Day 5, July 19, after 1.5 inches of rain
Magnesium Chloride Treated
Day 5, July 19, after 1.5 inches of rain
Magnesium Chloride Treated

Some segregation on shoulders
Day 5, July 19, after 1.5 inches of rain
Not Treated
Day 5, July 19, after 1.5 inches of rain
Not Treated

Lots of segregation on shoulders
Day 11, July 25
Magnesium Chloride Treated
Day 11, July 25
Magnesium Chloride Treated
Day 11, July 25
Non Treated
Day 11, July 25
Traffic
Day 137, November 29
Third Application of Magnesium Chloride Applied Nov 2
Watered and Bladed Nov 15
Day 137, November 29
Third Application of Magnesium Chloride Applied Nov 2
Watered and Bladed Nov 15
Nov 29, One Month After First Application of Magnesium Chloride on 4” of Class 13
Nov 29, Approx. One Month After First Application of Magnesium Chloride on 4” of Class 13