**SMART OPTION, Koochiching County, Minnesota**

**D. D. HOLE No. S-43-2**

<table>
<thead>
<tr>
<th>Grid S-E</th>
<th>Lengths 524'</th>
</tr>
</thead>
</table>

**Dip collar:** 45°  
**Bearing collar:**  
**Collar et al.:**  
**Bottom of:**  
**Drilled by Longyear Core size: AXT**

**Samples**

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Lon.</th>
<th>Rec.</th>
<th>Geology</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>10</td>
<td></td>
<td>0</td>
<td>OVERBURDEN</td>
</tr>
<tr>
<td>10</td>
<td>92</td>
<td>82</td>
<td>100</td>
<td>Granite, pink colour, massive medium grain. 5% hornblende, 70% plagioclase, 25% ctz.</td>
</tr>
<tr>
<td>92</td>
<td>102</td>
<td>10</td>
<td></td>
<td>Granite, 10% biotite, minor inclusions of sediments, minor po.</td>
</tr>
<tr>
<td>165</td>
<td>182</td>
<td>17</td>
<td></td>
<td>Metasediments or tuff. Fine to medium grain. Quartsitic. 5% biotite.</td>
</tr>
<tr>
<td>182</td>
<td>184.5</td>
<td>2.5</td>
<td></td>
<td>Andesitic tuff. 6&quot; one-half inch wide bands Po. Py. Similar to above. 5% Po. Py. 5-10% sphalerite. Possible slump structures.</td>
</tr>
<tr>
<td>184.5</td>
<td>187</td>
<td>2.5</td>
<td></td>
<td>Andesite tuff. Fine grained.</td>
</tr>
<tr>
<td>205</td>
<td>208</td>
<td>3</td>
<td></td>
<td>Medium grained dioritic intrusive.</td>
</tr>
<tr>
<td>208</td>
<td>222</td>
<td>14</td>
<td></td>
<td>Andesite flow or tuff. Fairly massive. Minor disseminated Po. Py.</td>
</tr>
<tr>
<td>222</td>
<td>235</td>
<td>13</td>
<td></td>
<td>Quartzite. Fine grained. Light grey colour</td>
</tr>
<tr>
<td>235</td>
<td>238</td>
<td>3</td>
<td></td>
<td>Metasediments and andesite tuff intermixed. Dark green colour. Possible slump structure. 4% incipient garnet.</td>
</tr>
<tr>
<td>238</td>
<td>247</td>
<td>9</td>
<td></td>
<td>Conductor. Dacite tuff. Coarse grained. 15-20% irregular patches of Po.</td>
</tr>
<tr>
<td>247</td>
<td>252</td>
<td>5</td>
<td></td>
<td>Andesite tuff. Well laminated at 70% to core axis.</td>
</tr>
<tr>
<td>252</td>
<td>274</td>
<td>22</td>
<td></td>
<td>Andesite dacite tuff. Fragments up to 2&quot; length. Well laminated at 70% to core axis.</td>
</tr>
</tbody>
</table>

**Logged by V. N. Kelly**

**Sample #724**  
**Zn.**  
**4.06**  
**0.005"**

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**Table continued on page 2**
<table>
<thead>
<tr>
<th>Drilled by</th>
<th>Core size</th>
<th>Begain</th>
<th>End</th>
<th>Logged by</th>
<th>V.N. Kelly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Samples</td>
<td>Footage drilled</td>
<td></td>
<td></td>
<td>Geology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>From</td>
<td>To</td>
<td>Len.</td>
<td>Rec.</td>
<td></td>
</tr>
<tr>
<td>274</td>
<td>303</td>
<td>29</td>
<td>Metasediments. Quartzitic. 10% biotite. Coarsely recrystallized.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>310</td>
<td>7</td>
<td>Metasediments or fine grain. Andesite tuff. 5% Po.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>310</td>
<td>315</td>
<td>5</td>
<td>Andesite tuff. 5% Po. Dacite tuff. Fragments up to ½&quot; in length.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>322</td>
<td>345</td>
<td>23</td>
<td>Andesite tuff. Dark green colour. Minor incipient garnet. 3% Po. Fairly soft.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>345</td>
<td>358</td>
<td>18</td>
<td>Aplite vein. Andesite tuff. Dark green colour. Minor incipient garnet. 3% Po.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>358</td>
<td>360.5</td>
<td>2.5</td>
<td>Dacite tuff/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>360.5</td>
<td>372</td>
<td>11.5</td>
<td>Metasediment. 15% biotite. Fairly coarse grained. Mottled uniform texture.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>372</td>
<td>380</td>
<td>8</td>
<td>Similar to above but becomes fine grained. Dacite tuff.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>420</td>
<td>445</td>
<td>25</td>
<td>Intermediate tuff or metasediments. Mottled texture due to biotite.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>496</td>
<td>510.5</td>
<td>12.5</td>
<td>Dacitic tuff.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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