



| PROJECT NO. 8.2353001  |               | ID. B-3450                |       | COUNTY Durham                            |                | GEOLOGIST D. Goodnight     |                   |           |    |              |     |                           |   |
|--|---------------|---------------------------|-------|--|----------------|----------------------------|-------------------|-----------|----|--------------|-----|---------------------------|---|
| SITE DESCRIPTION Bridge No. 217 Over Tributary of Sandy Creek on SR1116 (Garrett Road) |               |                           |       |  |                |                            | GROUND WATER (ft) |           |    |              |     |                           |   |
| BORING NO. B1-A  |               | BORING LOCATION 14+36     |       | OFFSET 13 ft LT                          |                | ALIGNMENT -L-              |                   | 0 HR. 0.0 |    |              |     |                           |   |
| COLLAR ELEV. 247.3 ft  |               | NORTHING 802547.29        |       | EASTING 2008011.04                       |                | 24 HR. 0.0                 |                   |           |    |              |     |                           |   |
| TOTAL DEPTH 46.9 ft  |               | DRILL MACHINE Mobile B-57 |       | DRILL METHOD 3-7/8" Tricone Wash/HQ Core |                | HAMMER TYPE 140 lb. Manual |                   |           |    |              |     |                           |   |
| DATE STARTED 10/2/02   |               | COMPLETED 10/3/02         |       | SURFACE WATER DEPTH NA                   |                |                            |                   |           |    |              |     |                           |   |
| ELEV.<br>(ft)  | DEPTH<br>(ft) | BLOW COUNT                |       |  | BLOWS PER FOOT |                            |                   |           |    | SAMP.<br>NO. | LOG | SOIL AND ROCK DESCRIPTION |   |
|  |               | 0.5ft                     | 0.5ft | 0.5ft                                    | 0              | 20                         | 40                | 60        | 80 |              |     |                           | 100   |
| 247.3  |               |                           |       |  |                |                            |                   |           |    |              |     |                           | 247.3 Concrete Debris and Gravel 0.00   |
| 246.3  | 1.0           |                           |       |  |                |                            |                   |           |    |              |     |                           | 244.3 ALLUVIAL: Very Loose to Very Loose Grey Fine to Coarse SAND with Traces of Clay and Silt 3.0  |
| 243.8  | 3.5           | 21                        | 40    | 20                                       |                |                            |                   |           |    |              |     |                           | 238.8 ALLUVIAL: Stiff Grey Clayey Fine Sandy SILT 8.5   |
| 240.3  | 7.0           | 4                         | 1     | 1  |                |                            |                   |           |    |              |     |                           | 235.3 ALLUVIAL: Medium Dense Grey Clayey Silty Coarse to Fine SAND 12.0   |
| 238.8  | 8.5           | 4                         | 4     | 3  |                |                            |                   |           |    |              |     |                           | 231.3 WEATHERED ROCK: Grey Triassic Mudstone 16.0   |
| 235.3  | 12.0          | 3                         | 4     | 8  |                |                            |                   |           |    |              |     |                           | 227.4 Greenish Grey and Reddish Brown; Moderately to Slightly Weathered; Moderately Hard to Medium Hard; Indurated Triassic Mudstone with Close Fracture Spacing 19.9                     |
| 233.8  | 13.5          | 2                         | 3     | 8  |                |                            |                   |           |    |              |     |                           | 221.7 Red, Tan, and Grey; Slightly to Very Slightly Weathered; Hard; Indurated; Micaceous; Fine to Coarse Grained Triassic Sandstone with Close to Moderately Close Fracture Spacing 25.6 |
| 228.8  | 18.5          | 6                         | 5     | 5  |                |                            |                   |           |    |              |     |                           | 216.1 Red, Tan, and Grey; Very Slightly Weathered; Hard; Indurated; Micaceous; Fine to Coarse Grained Triassic Sandstone with Very Wide Fracture Spacing 31.2                             |
|  |               | 15                        | 35    | 65/0.2                                   |                |                            |                   |           |    |              |     |                           | 201.7 Red and Grey; Moderately Weathered; Hard; Indurated; Slightly Micaceous; Fine to Coarse Grained Triassic Sandstone with Close Fracture Spacing 45.6                                 |
|  |               |                           |       |  |                |                            |                   |           |    |              |     |                           | 200.4 Grey and Reddish Brown; Slightly Weathered; Hard; Indurated; Triassic Mudstone with Close Fracture Spacing 45.6   |



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| SITE DESCRIPTION Bridge No. 217 Over Tributary of Sandy Creek on SR1116 (Garrett Road) |               |                           |                           |   |                  |                            | GROUND WATER (ft) |                  |     |   |
| BORING NO. B1-A  |               | BORING LOCATION 14+36     |                           | OFFSET 13 ft LT                         |                  | ALIGNMENT -L-              |                   | 0 HR. 0.0        |     |   |
| COLLAR ELEV. 247.3 ft  |               | NORTHING 802547.29        |                           | EASTING 2008011.04                      |                  | 24 HR. 0.0                 |                   |                  |     |   |
| TOTAL DEPTH 46.9 ft  |               | DRILL MACHINE Mobile B-57 |                           | DRILL METHOD 3-7/8" Tricone/Wash Rotary |                  | HAMMER TYPE 140 lb. Manual |                   |                  |     |   |
| DATE STARTED 10/2/02   |               | COMPLETED 10/3/02         |                           | SURFACE WATER DEPTH NA                  |                  |                            |                   |                  |     |   |
| CORE SIZE HQ   |               |                           |                           | TOTAL RUN 27.0 ft                       |                  |                            | DRILLER B. Shull  |                  |     |   |
| ELEV.<br>(ft)  | DEPTH<br>(ft) | RUN<br>(ft)               | DRILL<br>RATE<br>(Min/ft) | RUN                                     |                  | SAMP.<br>NO.               | STRATA            |                  | LOG | DESCRIPTION AND REMARKS   |
|  |               |                           |                           | REC.<br>(ft)<br>%                       | RQD<br>(ft)<br>% |                            | REC.<br>(ft)<br>% | RQD<br>(ft)<br>% |     |   |
|  |               |                           |                           |   |                  |                            |                   |                  |     | Begin Coring @ 19.9 ft  |
| 227.4  | 19.9          | 2.0                       | 6:45                      | (95%)                                   | (55%)            |                            | (79%)             | (49%)            |     | 227.4 Greenish Grey and Reddish Brown; Moderately to Slightly Weathered; Moderately Hard to Medium Hard; Indurated Triassic Mudstone with Close Fracture Spacing 19.9                     |
| 225.4  | 21.9          | 5.0                       | 5:07                      | (78%)                                   | (60%)            |                            | 4.5               | 2.8              |     | 225.4 jts @ 0° to 10° 24.1 feet to 25.6 feet is intact 25.6   |
|  |               |                           | 3:20                      | 3.9                                     | 3.0              |                            |                   |                  |     |   |
|  |               |                           | 4:46                      |   |                  |                            |                   |                  |     |   |
|  |               |                           | 4:02                      |   |                  |                            |                   |                  |     |   |
|  |               |                           | 3:41                      |   |                  |                            | (93%)             | (93%)            |     | 221.7 Red, Tan, and Grey; Slightly to Very Slightly Weathered; Hard; Indurated; Micaceous; Fine to Coarse Grained Triassic Sandstone with Close to Moderately Close Fracture Spacing 25.6 |
|  |               |                           | 3:25                      | (92%)                                   | (92%)            |                            | 5.2               | 5.2              |     |   |
|  |               |                           | 2:29                      | 4.6                                     | 4.6              |                            |                   |                  |     |   |
|  |               |                           | 2:36                      |   |                  |                            |                   |                  |     |   |
|  |               |                           | 2:36                      |   |                  |                            |                   |                  |     |   |
|  |               |                           | 4:10                      | (100%)                                  | (100%)           |                            | (100%)            | (100%)           |     | 216.1 3 jts @ 0° to 10° along grain 31.2  |
|  |               |                           | 3:24                      | 5.0                                     | 5.0              |                            | 14.4              | 14.4             |     | 216.1 Red, Tan, and Grey; Very Slightly Weathered; Hard; Indurated; Micaceous; Fine to Coarse Grained Triassic Sandstone with Very Wide Fracture Spacing 31.2                             |
|  |               |                           | 3:04                      |   |                  |                            |                   |                  |     |   |
|  |               |                           | 3:17                      |   |                  |                            |                   |                  |     |   |
|  |               |                           | 3:32                      |   |                  |                            |                   |                  |     |   |
|  |               |                           | 3:21                      | (100%)                                  | (100%)           |                            |                   |                  |     | No natural fractures  |
|  |               |                           | 3:55                      | 5.0                                     | 5.0              |                            |                   |                  |     |   |
|  |               |                           | 3:42                      |   |                  |                            |                   |                  |     |   |
|  |               |                           | 3:42                      |   |                  |                            |                   |                  |     |   |
|  |               |                           | 2:39                      | (100%)                                  | (98%)            |                            |                   |                  |     |   |
|  |               |                           | 2:59                      | 5.0                                     | 4.9              |                            |                   |                  |     |   |
|  |               |                           | 3:50                      |   |                  |                            |                   |                  |     |   |
|  |               |                           | 2:40                      |   |                  |                            |                   |                  |     |   |
|  |               |                           | 2:40                      |   |                  |                            |                   |                  |     |   |
|  |               |                           | 2:47                      |   |                  |                            | (100%)            | (88%)            |     | 201.7 Red and Grey; Moderately Weathered; Hard; Indurated; Slightly Micaceous; Fine to Coarse Grained Triassic Sandstone with Close Fracture Spacing 45.6                                 |
|  |               |                           |                           |   |                  |                            | 0.8               | 0.7              |     | 200.4 Grey and Reddish Brown; Slightly Weathered; Hard; Indurated; Triassic Mudstone with Close Fracture Spacing 45.6   |
|  |               |                           |                           |   |                  |                            | (100%)            | (100%)           |     | 3 jts @ 10°   |
|  |               |                           |                           |   |                  |                            | 0.5               | 0.5              |     | Grey and Reddish Brown; Slightly Weathered; Hard; Indurated; Triassic Mudstone with Close Fracture Spacing  |
|  |               |                           |                           |   |                  |                            |                   |                  |     | No breaks   |
|  |               |                           |                           |   |                  |                            |                   |                  |     | Coring Terminated at Elevation 200.4 feet in Non-Crystalline Rock (Slightly Weathered Triassic Mudstone)  |

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