



**NCDOT GEOTECHNICAL ENGINEERING UNIT  
FIELD BORELOG (ENGLISH)**

|   |                            |   |                              |                                   |
|---|----------------------------|---|------------------------------|-----------------------------------|
| PROJECT NUMBER<br>32635.1.3   | ID<br>B-2500               | CD<br>Dare                                | GEO<br>Bradley/Plummer       | GROUND WATER<br>0 HOUR<br>24 HOUR |
| SITE DESC<br>Bridge No. 11 (Bonner Bridge) on NC 12 over Oregon Inlet |                            |   |                              | Depth to WATER<br>N/A<br>N/A      |
| BORING NUMBER<br>B.65   | STA                        | OFFSET<br>FT                              | ALIGNMENT<br>EAST<br>3029183 | Depth to BTM<br>-<br>-            |
| ELEVATION<br>FT   | TOTAL DEPTH<br>185.7<br>FT | NORTH<br>752117                           | DEPTH TO ROCK<br>N/A<br>FT   | DATE<br>-<br>-                    |
| DRILL MACHINE<br>CME 550x   | DRILL EQMT NUMBER          | DRILL METHOD<br>H casing / 3 7/8" Tricone | HAMMER TYPE<br>Auto          | DRILLER<br>M. Keim / J. S. W.     |
| START DATE<br>5/15/11   | COMP DATE<br>5/17/11       | SURFACE WTR DEPTH<br>13.2<br>FT           | DEPTH TO ROCK<br>N/A<br>FT   |                                   |

| DEPTH (ft) | BLOW COUNT |        |        | BLOWS PER FOOT |    |    |    |     | SAMPLE NO. & INTERVAL | MOI | ORIGIN                      | SOIL & ROCK DESCRIPTION      |
|------------|------------|--------|--------|----------------|----|----|----|-----|-----------------------|-----|-----------------------------|------------------------------|
|            | 0.5 ft     | 0.5 ft | 0.5 ft | 0              | 25 | 50 | 75 | 100 |                       |     |                             |                              |
| 0.0        | 10         | 3      | 1      | 4              |    |    |    |     | 55.69/0.0-1.5         | SAT | Under coastal plain Deposit | Gray silty fine SAND (A.2.4) |
| 5.0        |            |        |        |                |    |    |    |     | Ref 55.65             | SAT |                             | Gray silty fine SAND (A.2.4) |
| 10.0       | work       | work   | work   | 0              |    |    |    |     | 55.70/10.0-11.5       | W   |                             | Gray fine SANDY clay (A.6)   |
| 15.4       | 6          | 6      | 7      | 13             |    |    |    |     | 55.71/15.4-16.9       | SAT |                             | Gray silty fine SAND (A.2.4) |
| 20.4       | 4          | 9      | 10     | 19             |    |    |    |     | Ref 55.71             | SAT |                             | Gray silty fine SAND (A.2.4) |
| 25.9       | 5          | 5      | 7      | 12             |    |    |    |     | 55.72/25.9-27.4       | SAT |                             | Gray silty fine SAND (A.2.4) |
| 31.0       | 3          | 2      | 3      | 5              |    |    |    |     | Ref 55.72             | SAT |                             | Gray silty fine SAND (A.2.4) |
| 36.1       | 7          | 7      | 4      | 11             |    |    |    |     | 55.73/36.1-37.6       | SAT |                             | Gray silty fine SAND (A.2.4) |

NOTES 1) Advanced H casing To 67.0 feet (87.4 Tricone)  
 2) Advanced 3 7/8" Tricone To 184.3 feet  
 3) Ocean H<sub>2</sub>O used as drilling fluid  
 4) Approx drilling fluid density

DECK TO DATUM DISTANCE \_\_\_\_\_ FT

DRILLING FLUID PROPERTIES

5) loss of drilling fluid observed \_\_\_\_\_ FINAL CASING DEPTH \_\_\_\_\_ FT

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

NOTES \_\_\_\_\_

RED LINE



NCDOT GEOTECHNICAL ENGINEERING UNIT  
FIELD BORELOG (ENGLISH)

40

SHEET 2 OF 5

|   |                      |   |                         |                            |         |
|---|----------------------|---|-------------------------|----------------------------|---------|
| PROJECT NUMBER<br>32635.1.3   | ID<br>B-2500         | CO<br>Dare                                  | GEO<br>Bradley/Plummer  | GROUND WATER<br>0 HOUR     | 24 HOUR |
| SITE DESC<br>Bridge No. 11 (Bonner Bridge) on NC 12 over Oregon Inlet |                      |   |                         | Depth to WATER             |         |
| BORING NUMBER<br>B-65   | STA<br>1857          | OFFSET<br>FT                                | ALIGNMENT<br>EAST       | Depth to BTTM              |         |
| ELEVATION<br>FT   | TOTAL DEPTH<br>FT    | NORTH                                       |                         | DATE                       |         |
| DRILL MACHINE<br>CME 5504   | DRILL EQMT NUMBER    | DRILL METHOD<br>H CASE 1.9 / 3 7/8" TISCONE | HAMMER TYPE<br>Auto     |                            |         |
| START DATE<br>5/15/11   | COMP DATE<br>5/17/11 | SURFACE WTR DEPTH<br>13.2 FT                | DEPTH TO ROCK<br>N/A FT | DRILLER<br>MKE M / JASON W |         |

| DEPTH (ft) | BLOW COUNT |        |        | BLOWS PER FOOT |    |    |    | SAMPLE NO. & INTERVAL | MOI             | ORIGIN | SOIL & ROCK DESCRIPTION                     |
|------------|------------|--------|--------|----------------|----|----|----|-----------------------|-----------------|--------|---|
|            | 0.5 ft     | 0.5 ft | 0.5 ft | 0              | 25 | 50 | 75 |                       |                 |        |   |
| 46.1       | 2          | 4      | 3      |                |    |    |    |                       | SS 74/41.1-42.6 | SAT    | GRAY FINE SANDY SILT (A-4) (LITTLE RECORD)  |
| 51.7       |            |        |        |                |    |    |    |                       |                 |        |   |
| 46.1       | -          | 1      | 2      |                |    |    |    |                       | SS 75/40.1-47.6 | M      | GRAY SILTY CLAY (S)                         |
| 51.7       |            |        |        |                |    |    |    |                       |                 |        |   |
| 56.1       | 14         | 20     | 20     |                |    |    |    |                       | SS 76/51.1-52.6 | M      | GRAY CLAYS & Y LAY (A-U)                    |
| 51.7       |            |        |        |                |    |    |    |                       |                 |        |   |
| 57.0       | 10         | 15     | 17     |                |    |    |    |                       | SS 77/57.0-58.5 | SAT    | GRAY SILTY SAND w/ some SHELL FRAGMENTS (Z) |
| 51.7       |            |        |        |                |    |    |    |                       |                 |        |   |
| 62.0       | 7          | 7      | 14     |                |    |    |    |                       | REF SS.7        | SAT    |   |
| 51.7       |            |        |        |                |    |    |    |                       |                 |        |   |
| 67.5       | 4          | 7      | 7      |                |    |    |    |                       | SS 78/67.5-69.0 | SAT    | GRAY FINE SAND ALL AG NTG                   |
| 51.7       |            |        |        |                |    |    |    |                       |                 |        |   |
| 72.5       | 15         | 30     | 45     |                |    |    |    |                       | 74              |        |   |
| 51.7       |            |        |        |                |    |    |    |                       |                 |        |   |
| 77.5       | 16         | 26     | 50     |                |    |    |    |                       | REF SS.79       | SAT    |   |
| 51.7       |            |        |        |                |    |    |    |                       |                 |        |   |

NOTES

---



---



---

DECK TO DATUM DISTANCE \_\_\_\_\_ FT

DRILLING FLUID PROPERTIES \_\_\_\_\_

FINAL CASING DEPTH \_\_\_\_\_ FT

SIGNATURE \_\_\_\_\_

NOTES

---



---

RED LINE



**NCDOT GEOTECHNICAL ENGINEERING UNIT  
FIELD BORELOG (ENGLISH)**

|   |                        |   |                         |                                  |         |
|---|------------------------|---|-------------------------|----------------------------------|---------|
| PROJECT NUMBER<br>32635.1.3   | ID<br>B-2500           | CO<br>Dare                              | GEO<br>Bradley/Plummer  | GROUND WATER<br>0 HOUR           | 24 HOUR |
| SITE DESC<br>Bridge No. 11 (Bonner Bridge) on NC 12 over Oregon Inlet |                        |   |                         | Depth to WATER                   |         |
| BORING NUMBER<br>B-65   | STA                    | OFFSET<br>FT                            | ALIGNMENT<br>EAST       | DEPTH to BTM<br>DATE             |         |
| ELEVATION<br>FT   | TOTAL DEPTH<br>1857 FT | NORTH                                   |                         | mm/dd                            |         |
| DRILL MACHINE<br>CME-550x   | DRILL EQMT NUMBER      | DRILL METHOD<br>N casing 137/8" Tricone | HAMMER TYPE<br>Auto     |                                  |         |
| START DATE<br>5/15/11   | COMP DATE<br>5/17/11   | SURFACE WTR DEPTH<br>13.2 FT            | DEPTH TO ROCK<br>N/A FT | DRILLER<br>Ray N, Mike M, John A |         |

| DEPTH (ft) | BLOW COUNT |        |        | BLOWS PER FOOT |    |    |    |     | SAMPLE NO. & INTERVAL | MOI | ORIGIN | SOIL & ROCK DESCRIPTION<br>SOIL or ROCK NAME (w/ color, density/consistency, texture, plasticity, organics, other) |
|------------|------------|--------|--------|----------------|----|----|----|-----|-----------------------|-----|--------|--|
|            | 0.5 ft     | 0.5 ft | 0.5 ft | 0              | 25 | 50 | 75 | 100 |                       |     |        |  |
| 82.5       |            |        |        |                |    |    |    |     | SS-80/82.5-84.0       | SAT |        | Gray silty coarse T. fine SAND (A-2.4)   |
| 5          | 23         | 42     | 48     |                |    |    |    |     |                       |     |        |  |
| 87.5       |            |        |        |                |    |    |    |     | Ref SS-80             | SAT |        | Gray silty coarse T. fine SAND (A-2.4)   |
| 10         | 18         | 26     | 40     |                |    |    |    |     |                       |     |        |  |
| 92.5       |            |        |        |                |    |    |    |     | SS-81/92.5-94.0       | SAT |        | Green Gray silty fine SAND (A-2.4)   |
| 15         | 4          | 3      | 2      |                |    |    |    |     |                       |     |        |  |
| 97.5       |            |        |        |                |    |    |    |     | Ref SS-81             | SAT |        | Gray silty coarse T. fine SAND (A-2.4)   |
| 20         | 8          | 14     | 20     |                |    |    |    |     |                       |     |        |  |
| 102.5      |            |        |        |                |    |    |    |     | SS-82/102.5-104.0     | SAT |        | Gray silty coarse T. fine SAND (A-2.4)   |
| 25         | 15         | 35     | 55     |                |    |    |    |     |                       |     |        |  |
| 107.5      |            |        |        |                |    |    |    |     | Ref SS-82             | SAT |        | Gray silty coarse T. fine SAND (A-2.4)   |
| 30         | 27         | 40     | 60/0.4 |                |    |    |    |     |                       |     |        |  |
| 112.5      |            |        |        |                |    |    |    |     | SS-83/112.5-113.2     | SAT |        | Gray silty coarse T. fine SAND (A-2.4)   |
| 35         | 60         | 40/0.2 |        |                |    |    |    |     |                       |     |        |  |
| 117.4      |            |        |        |                |    |    |    |     | Ref SS-83             | SAT |        | Gray silty coarse T. fine SAND (A-2.4)   |
| 40         | 29         | 59     | 41/0.2 |                |    |    |    |     |                       |     |        |  |

NOTES

---



---



---

DECK TO DATUM DISTANCE \_\_\_\_\_ FT

DRILLING FLUID PROPERTIES \_\_\_\_\_

FINAL CASING DEPTH \_\_\_\_\_ FT

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

NOTES

---



---



---

RED LINE



**NCDOT GEOTECHNICAL ENGINEERING UNIT  
FIELD BORELOG (ENGLISH)**

|   |                        |  |                         |                           |         |
|---|------------------------|--|-------------------------|---------------------------|---------|
| PROJECT NUMBER<br>32635.1.3   | ID<br>B-2500           | CO<br>Dare                                 | GEO<br>Bradley/Plummer  | GROUND WATER<br>0 HOUR    | 24 HOUR |
| SITE DESC<br>Bridge No. 11 (Bonner Bridge) on NC 12 over Oregon Inlet |                        |  |                         | Depth to WATER            |         |
| BORING NUMBER<br>B.65   | STA                    | OFFSET<br>FT                               | ALIGNMENT<br>EAST       | Depth to BTM              |         |
| ELEVATION<br>FT   | TOTAL DEPTH<br>1857 FT | NORTH                                      |                         | DATE                      |         |
| DRILL MACHINE<br>CME-550X   | DRILL EQMT NUMBER      | DRILL METHOD<br>H casing / 3 7/8" Tri-cone |                         | HAMMER TYPE<br>Auto       |         |
| START DATE<br>5/15/11   | COMP DATE<br>5/17/11   | SURFACE WTR DEPTH<br>13.2 FT               | DEPTH TO ROCK<br>N/A FT | DRILLER<br>Roy N. M.M. JW |         |

| DEPTH (ft) | BLOW COUNT |        |        | BLOWS PER FOOT |    |     |    | SAMPLE NO. & INTERVAL | MOI | ORIGIN | SOIL & ROCK DESCRIPTION                          |
|------------|------------|--------|--------|----------------|----|-----|----|-----------------------|-----|--------|--|
|            | 0.5 ft     | 0.5 ft | 0.5 ft | 0              | 25 | 50  | 75 |                       |     |        |  |
| 122.0      |            |        |        |                |    |     |    |                       |     |        |  |
|            | 5          | 25     | 25     |                |    | 50  |    | 55.84/122.0-123.5     | SAT |        | Gray silty fine SAND (A-2.4)                     |
| 5          |            |        |        |                |    |     |    |                       |     |        |  |
| 127.0      |            |        |        |                |    |     |    | Ref 55.84             | SAT |        | Gray silty fine SAND (A-2.4)                     |
|            | 7          | 28     | 50     |                |    | 78  |    |                       |     |        |  |
| 10         |            |        |        |                |    |     |    |                       |     |        |  |
| 132.0      |            |        |        |                |    |     |    | 55.85/132.0-133.5     | SAT |        | Gray silty coarse T. fine SAND (A-2.4)           |
|            | 23         | 37     | 60     |                |    | 97  |    |                       |     |        |  |
| 15         |            |        |        |                |    |     |    |                       |     |        |  |
| 136.7      |            |        |        |                |    |     |    | Ref 55.85             | SAT |        | Gray silty coarse T. fine SAND (A-2.4)           |
|            | 26         | 29     | 49     |                |    | 178 |    |                       |     |        |  |
| 20         |            |        |        |                |    |     |    |                       |     |        |  |
| 141.7      |            |        |        |                |    |     |    | 55.86/141.7-143.2     |     |        | Gray silty clay w/ trace of shells (A-7.5)       |
|            | 3          | 2      | 3      |                |    | 5   |    |                       |     |        |  |
| 25         |            |        |        |                |    |     |    |                       |     |        |  |
| 146.7      |            |        |        |                |    |     |    | Ref 55.86             | D   |        | GRAY SILTY CLAY w/ TRACE CHLOR. ELEMENTS (A-7.5) |
|            | 1          | 2      | 4      |                |    | 46  |    |                       |     |        |  |
| 30         |            |        |        |                |    |     |    |                       |     |        |  |
| 151.7      |            |        |        |                |    |     |    | 55.87/151.7-153.2     | M   |        | GRAY SILTY CLAY (A-7.5)                          |
|            | -          | 1      | 2      |                |    | 13  |    |                       |     |        |  |
| 35         |            |        |        |                |    |     |    |                       |     |        |  |
| 157.2      |            |        |        |                |    |     |    | Ref 55.87             | M   |        | GRAY SILTY CLAY (A-7.5)                          |
|            | 1          | 2      | 5      |                |    | 67  |    |                       |     |        |  |

NOTES

---



---

DECK TO DATUM DISTANCE \_\_\_\_\_ FT

DRILLING FLUID PROPERTIES \_\_\_\_\_

FINAL CASING DEPTH \_\_\_\_\_ FT

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

NOTES

---



---

RED LINE



**NCDOT GEOTECHNICAL ENGINEERING UNIT  
FIELD BORELOG (ENGLISH)**

|   |                         |  |                        |                        |         |
|---|-------------------------|--|------------------------|------------------------|---------|
| PROJECT NUMBER<br>32635.1.3   | ID<br>B-2500            | CO<br>Dare                             | GEO<br>Bradley/Plummer | GROUND WATER<br>0 HOUR | 24 HOUR |
| SITE DESC<br>Bridge No. 11 (Bonner Bridge) on NC 12 over Oregon Inlet |                         |  |                        | Depth to WATER         |         |
| BORING NUMBER<br>B-65   | STA                     | OFFSET<br>FT                           | ALIGNMENT<br>EAST      | Depth to BTTM          |         |
| ELEVATION<br>FT   | TOTAL DEPTH<br>185.7 FT | NORTH                                  |                        | DATE                   |         |
| DRILL MACHINE<br>CME-50X  | DRILL EQMT NUMBER       | DRILL METHOD<br>H CASINO / 3/8 TRICONE | HAMMER TYPE<br>Auto    |                        |         |
| START DATE<br>5/15/2011   | COMP DATE<br>5/17/2011  | SURFACE WTR DEPTH<br>13.2 FT           | DEPTH TO ROCK<br>FT    | DRILLER<br>J. WHITE    |         |

| DEPTH (ft) | BLOW COUNT |        |        | BLOWS PER FOOT |    |    |    |     | SAMPLE NO. & INTERVAL | MOI | ORIGIN | SOIL & ROCK DESCRIPTION  |
|------------|------------|--------|--------|----------------|----|----|----|-----|-----------------------|-----|--------|--|
|            | 0.5 ft     | 0.5 ft | 0.5 ft | 0              | 25 | 50 | 75 | 100 |                       |     |        |  |
| 108.8      |            |        |        |                |    |    |    |     |                       |     |        |  |
| 5          | 1          | 1      | 4      |                |    |    |    |     |                       |     |        | GRAY SILTY CLAY w/ TRACE SHELL FRAGMENTS (A-7-S)                           |
| 109.0      |            |        |        |                |    |    |    |     |                       |     |        |  |
| 10         | 1          | 2      | 4      |                |    |    |    |     |                       |     |        | GRAY SILTY CLAY w/ TRACE SHELL FRAGMENTS (A-7-S)                           |
| 174.3      |            |        |        |                |    |    |    |     |                       |     |        |  |
| 15         | 10         | 20     | 60     |                |    |    |    |     |                       |     |        | GRAY SILTY FINE SAND w/ SOME SHELL FRAGMENTS AND SOME CLAY LOCKETS (A-2-A) |
| 179.3      |            |        |        |                |    |    |    |     |                       |     |        |  |
| 20         | 32         | 51     | 45/64  |                |    |    |    |     |                       |     |        | GRAY SILTY FINE SAND (A-2-A)   |
| 184.5      |            |        |        |                |    |    |    |     |                       |     |        |  |
| 25         | 25         | 45     | 5/6.4  |                |    |    |    |     |                       |     |        | GRAY SILTY FINE SAND (A-2-S)   |
| 30         |            |        |        |                |    |    |    |     |                       |     |        |  |
| 35         |            |        |        |                |    |    |    |     |                       |     |        |  |

NOTES

---

DECK TO DATUM DISTANCE \_\_\_\_\_ FT

DRILLING FLUID PROPERTIES \_\_\_\_\_

FINAL CASING DEPTH \_\_\_\_\_ FT

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

NOTES