



|                                       |                                   |                     |
|---------------------------------------|-----------------------------------|---------------------|
| <b>PROJECT NUMBER</b><br>113630.01.ZZ | <b>BORING NUMBER</b><br>MW-41 (K) | <b>SHEET 1 OF 3</b> |
| <b>SOIL BORING LOG</b>                |                                   |                     |

|  |   |
|--|---|
| <b>PROJECT</b> DDMT Groundwater Investigation  | <b>LOCATION</b> Memphis, TN   |
| <b>ELEVATION</b>                               | <b>DRILLING CONTRACTOR</b> Boart Longyear                                     |
| <b>DRILLING METHOD AND EQUIPMENT</b> Rotasonic |   |
| <b>WATER LEVELS</b> 85.82 ft. BTOC 1/14/96     | <b>START</b> 0915, 1/12/96 <b>FINISH</b> 1710, 1/12/96 <b>LOGGER</b> S. Bruer |

| DEPTH BELOW SURFACE (FT) | SAMPLE   |                 |          | STANDARD PENETRATION TEST RESULTS<br>6" - 8" - 6" (N) | SOIL DESCRIPTION<br>SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY                    | COMMENTS<br>DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION |
|--------------------------|----------|-----------------|----------|---|---|--|
|                          | INTERVAL | NUMBER AND TYPE | RECOVERY |   |   |  |
|                          | 0        |                 | 5        |   | 1-inch TOPSOIL<br><u>SILTY CLAY</u> (CL), light brown, moist, soft, trace organics<br><br>Light gray mottling below 3 ft.<br><br>Medium stiff below 5 ft. | Start drilling: 0915<br>Modified loess   |
| 5.0                      | 5        |                 |          |   |   |  |
| 10.0                     |          |                 | 10       |   |   |  |
| 15.0                     | 15       |                 |          |   | Stiff with black and gray mottling below 15 ft.<br><br>With some coarse, quartz sand and fine, chert gravel below 18 ft.                                  |  |
| 20.0                     |          |                 | 8        |   |   |  |
|                          | 23       |                 |          |   | <u>CLAYEY SAND</u> (SC), orange to brown, moist, medium dense, fine to medium, quartz with fine to coarse subrounded, chert gravel                        | Fluvial Deposits   |
| 25.0                     | 25       |                 | 2        |   |   |  |
|                          |          |                 | 4        |   | <u>SILTY FINE SAND</u> (SM), orangish-brown, moist, medium dense, fine, quartz with fine to coarse, subangular to subrounded chert gravel                 | 23 ft. to 24 ft.<br>HNU = 5 to 20 ppm<br>Off core sample                                   |
| 30                       |          |                 |          |   |   |  |



PROJECT NUMBER  
113630.01.ZZ

BORING NUMBER  
MW-41 (K)

SHEET 2 OF 3

## SOIL BORING LOG

PROJECT DDMT Groundwater Investigation

LOCATION Memphis, TN

ELEVATION

DRILLING CONTRACTOR Boart Longyear

DRILLING METHOD AND EQUIPMENT Rotasonic

WATER LEVELS 85.82 ft. BTOC 1/14/96

START 0915, 1/12/96

FINISH 1710, 1/12/96

LOGGER S. Bruer

| DEPTH BELOW SURFACE (FT) | SAMPLE   |                 |          | STANDARD PENETRATION TEST RESULTS<br>6" - 6" - 6" (N) | SOIL DESCRIPTION  | COMMENTS   |
|--------------------------|----------|-----------------|----------|---|---|--|
|                          | INTERVAL | NUMBER AND TYPE | RECOVERY |   | SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY  | DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION |
| 30                       |          |                 | 4        |   | POORLY-GRADED SAND (SP), orange, moist, loose, medium, quartz, with trace to some subrounded to rounded, fineto coarse, chert gravel<br><br>Dry from 36 ft. to 37 ft. | 30 ft. to 31 ft.<br>HNU = 4 to 14 ppm<br>Off core sample                       |
| 34                       |          |                 |          |   |   |  |
| 36.0                     |          |                 | 3        |   |   | Sample is very hot due to drilling friction                                    |
| 38                       |          |                 |          |   |   |  |
| 40.0                     |          |                 | 6        |   | SILTY SAND (SM), orangish-brown, moist, loose, fine, quartz, with trace fine, subangular, chert gravel  | 1130   |
| 44                       |          |                 |          |   |   |  |
| 45.0                     | 45       |                 | 1        |   | 44.5 ft. to 44.75 ft.: SILT (ML), light gray, dry   | 1151<br>1235<br>1300 - lunch break<br>1315 - drilling again                    |
| 50.0                     |          |                 | 5        |   |   |  |
| 55.0                     | 55       |                 |          |   | WELL-GRADED GRAVELLY SAND (SW), brown, moist, loose, medium to coarse, quartz, with fine to medium, subangular to subrounded, chert gravel                            | 1345   |
|                          |          |                 | 3.5      |   |   |  |
| 60                       |          |                 |          |   |   | 1451   |



|                                |                            |              |
|--------------------------------|----------------------------|--------------|
| PROJECT NUMBER<br>113630.01.ZZ | BORING NUMBER<br>MW-41 (K) | SHEET 3 OF 3 |
| SOIL BORING LOG                |                            |              |

|                               |                                |  |                     |                |                      |
|-------------------------------|--------------------------------|--|---------------------|----------------|----------------------|
| PROJECT                       | DDMT Groundwater Investigation |  | LOCATION            | Memphis, TN    |                      |
| ELEVATION                     |                                |  | DRILLING CONTRACTOR | Boart Longyear |                      |
| DRILLING METHOD AND EQUIPMENT | Rotasonic                      |  |                     |                |                      |
| WATER LEVELS                  | 65.82 ft. BTOC 1/14/96         |  | START               | 0915, 1/12/96  | FINISH 1710, 1/12/96 |
|                               |                                |  | LOGGER              | S. Bruer       |                      |

| DEPTH BELOW SURFACE (FT) | SAMPLE   |                 |          | STANDARD PENETRATION TEST RESULTS<br>6" - 6" - 6"<br>(N) | SOIL DESCRIPTION<br>SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY | COMMENTS<br>DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS TESTS AND INSTRUMENTATION |
|--------------------------|----------|-----------------|----------|--|--|---|
|                          | INTERVAL | NUMBER AND TYPE | RECOVERY |  |  |   |
| 65.0                     | 60       |                 | 5        |  |  |   |
|                          | 65       |                 |          |  |  | 1510<br>Geotechnical Sample collected at 65 ft. to 67 ft.                                 |
|                          |          |                 | 7        |  | SILTY CLAY (CL), yellowish orange, moist, medium stiff   |   |
| 70.0                     |          |                 |          |  |  | Jackson Formation/Upper Claiborne Group   |
|                          | 72       |                 |          |  | Light gray below 72 ft.  |   |
| 75.0                     |          |                 | 3        |  |  |   |
|                          | 75       |                 |          |  |  | 1544 Installing MW-41   |
|                          |          |                 |          |  | Boring terminated at 75 ft.  | 1710 MW-41 Installed (see attached construction log)                                      |
| 80.0                     |          |                 |          |  |  |   |
| 85.0                     |          |                 |          |  |  |   |