PROJECT NUMBER 170039

BORING NUMBER



SOIL BORING LOG

| PROJECT | | ability Study | | | | | | |
|-----------------|-----------------|----------------|-----------------|--|---|------------|--|-----------------|
| | | | | DRILLING CONTRACTOR : Boart Longyear c rig (4 inch sample casing / 6 inch outer casing) | | | | |
| WATER LE | | | START : | 05/05/2002 | END: 05/05/2002 | LOGGER : | Mike Karafa | |
| | LOW SURFACE (FT | .) | STANDARD | | SOIL DESCRIPTION | | COMMENT | S |
| | TERVAL (FT) | / | PENETRATION | | | | | - |
| | RECOVERY | Y (%) /TYPE | TEST RESULTS | | ROUP SYMBOL, COLOR, I, RELATIVE DENSITY, | | DEPTH OF CASING, DRI DRILLING FLUID LOSS, | LLING RATE, |
| | | | 6"-6"-6"-6" | OR CONSISTENCY, S | OIL STRUCTURE, | | TESTS, AND INSTRUME | |
| | | | (N) | MINERALOGY. | | | | cted FID (ppm): |
| l l | Į į | | | Gravel (parking lot) | | | (501 | headspace) |
| - | | | | Silt, brown, moist, loe | ess, stifl | | | - |
| - | 400 | | | | | | | |
| | 100 | | | | | | | 0.0 |
| 5 | | | | | | | | |
| -1 | | | | | | | | |
| | | | | | | | | 0.0 |
| ¹⁰ — | 100 | | | Same as above | | | | |
| - | | | | | | | | 0.0 |
| - | | | | | | | | |
| ¹⁵ | | | | Sandy clay, (some silt), inclusions, stiff, moist | brown grading to tan, dense, red and grey | sandy clay | | |
| | | | | | | | | 0.0 |
| 20 | 100 | | | | | | | |
| | | | | | | | | 0.0 |
| | · | | | Clayey sand, red, fine gi | rained, firm, moist | | | |
| | | | | | | | | |
| -1 -1 -1 | | | | | | | | 0.0 |
| ³⁰ | 100 | | | Sand (slight gravel), der | k red, fine grained, well sorted, moist, firm | to loose | | |
| 1 1 1 | | | | oshu (onghi gravor), Udi | ,, ine granes, wei sortes, moist, illill | | Driller's sample bag: Ziplock: | 151.0 0.0 |
| ³⁵ — | · | | | Clay, pink with light gray | r mottles, stiff, dense | | | |
| | | | | | | | | |

PROJECT NUMBER

170039

BORING NUMBER

IW-7

SOIL BORING LOG

| PROJECT : | EBT Trea | atability Study | | | | | |
|----------------|--------------------------|------------------|--|--|--|----------|--|
| ELEVATION : | | | DRILLING CONTRACTOR : Boart Longyear USED : Rotasonic rig (4 inch sample casing / 6 inch outer casing) | | | | |
| WATER LEVELS : | | | START : | | Mike Karafa | | |
| DEPTH BELOW | DEPTH BELOW SURFACE (FT) | | | SOIL DESCRIPTION | COMMENTS | | |
| INTEF | RVAL (FT) RECOVE | RY (%) #/TYPE | PENETRATION TEST RESULTS | SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, | DEPTH OF CASING, DRILLING DRILLING FLUID LOSS, | | |
| | | | 6"-6"-6" (N) | OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY. | TESTS, AND INSTRUMENTAT Corrected F | | |
| | | | (N) | WINNERALOGI. | | | |
| 40 | 100 | | | Sand, golden to light yellow, fine grained, well sorted, loose, moist | Driller's sample bag: 83 Ziplock: 0. | | |
| | -4 | | | Gravel Sand, brownish yellow, fine to coarse grained, poorly sorted, loose, gravel (<10%), subangular, <0.25 inches diameter | Driller's sample bag: 172 Ziplock: 0. | | |
| | 100 | | | | Driller's sample bag: 312 Ziplock: 0. | 2.0 0 | |
| | | | | Sand, light yellow, fine grain, well sorted, loose Gravelly Sand, brownish yellow, fine to medium grain, poorly sorted, | Driller's sample bag: 223 Ziplock: 0. | | |
| | 100 | | | pebbles (<20%), subangular, <0.25 inches diameter | Driller's sample bag: 188 Ziplock: 0. | | |
| | | | | Sand, brownish yellow, fine grain, well sorted, loose Gravelly Sand, brownish yellow, fine to medium grained, poorly sorted, loose pebbles (10-20%), <0.5 inches diameter Sand, brownish yellow, fine to medium grain, well sorted, loose | Driller's sample bag: 129 Ziplock: 0. | | |
| | -4 | | | | Driller's sample bag: 184 Ziplock: 0. | | |
| | 100 | | | Gravelly sand, brownish yellow, fine to coarse grained sand, subangular pebbles (<30%), < 1 inch diameter | Driller's sample bag: 198 Ziplock: 0. | 5.0 0 | |

CH2MHILL

PROJECT NUMBER 170039 BORING NUMBER

SOIL BORING LOG

IW-7

| PROJEC | | EBT Tre | atability Stud | у | LOCATION : Memphis Depot | |
|--------|--|----------|----------------|-------------|---|---|
| | ELEVATION : DRILLING CONTRACTOR : Boart Longyear DRILLING METHOD AND EQUIPMENT USED : Rotasonic rig (4 inch sample casing / 6 inch outer casing) | | | | | |
| WATER | | | EQUIPMEN | START : | 05/05/2002 END: 05/05/2002 LOGGER | : Mike Karafa |
| | | JRFACE (| FT) | STANDARD | SOIL DESCRIPTION | COMMENTS |
| | INTERVA | | , | PENETRATION | | COMMENTO |
| | | RECOVE | RY (%) | TEST | SOIL NAME, USCS GROUP SYMBOL, COLOR, | DEPTH OF CASING, DRILLING RATE, |
| | | | #/TYPE | RESULTS | MOISTURE CONTENT, RELATIVE DENSITY, | DRILLING FLUID LOSS, |
| | | | | 6"-6"-6"-6" | OR CONSISTENCY, SOIL STRUCTURE, | TESTS, AND INSTRUMENTATION. |
| | | | | (N) | MINERALOGY. | Corrected FID (ppm): |
| 75 | ļ | | | | Gravelly sand, same as above, brownish yellow | |
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| _ | | | | | | |
| | | | | | | Driller's sample bag: 150.0 |
| - | ĺ | | | | | Ziplock: 0.0 |
| - | | | | | | |
| 80 | | 100 | | | | |
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| - | | | | 1 | | 1 |
| _ | j | | | 1 | | 1 |
| | | | | | | Driller's sample bag: 143.0 |
| _ | | | | | | Driller's sample bag: 143.0 Ziplock: 0.0 |
| - | j | | | | Gravelly sand, same as above, brownish yellow | |
| 85 | | | | | | |
| | | | | | | |
| - | j | | | | | |
| _ | | | | | | |
| | | | | | | Driller's sample bag: 113.0 |
| _ | | | | | | Driller's sample bag: 113.0 Ziplock: 0.0 |
| - | | | | | | |
| 90 | | 100 | | | | |
| | | | | | | |
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| - | | | | | | |
| _ | | | | | | Driller's sample bag: 41.0 |
| | | | | | | Ziplock: 0.0 |
| - | | | | | | |
| 95 | | j | | | | |
| | | | | | | Watertable @ approximately 93 feet bg |
| _ | | | | | | |
| - | j | | | | Gravelly sand, same as above, brownish yellow | |
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| | | | | 1 | Gravelly sand, same as above, brownish yellow | |
| | | | | 1 | | |
| 110 | | l | | 1 | Clay, yellowish brown, dense, moist, stiff | |
| | | | | | | |

PROJECT NUMBER 170039 BORING NUMBER

IW-7

SOIL BORING LOG

| PROJECT : | EBT Treatabi | lity Study | LOCATION : Memphis Depot | | | | |
|--------------------|--------------|-------------|--|---------------------------------|--|--|--|
| ELEVATION : | | | DRILLING CONTRACTOR : Boart Longy | <u>'ear</u> | | | |
| WATER LEVE | | START : | c rig (4 inch sample casing / 6 inch outer casing) 05/05/2002 END: 05/05/2002 | LOGGER : Mike Karafa | | | |
| DEPTH BELOW | | STANDARD | SOIL DESCRIPTION | COMMENTS | | | |
| | VAL (FT) | PENETRATION | | | | | |
| | RECOVERY (% | 6) TEST | SOIL NAME, USCS GROUP SYMBOL, COLOR, | DEPTH OF CASING, DRILLING RATE, | | | |
| | #/TY | PE RESULTS | MOISTURE CONTENT, RELATIVE DENSITY, | DRILLING FLUID LOSS, | | | |
| | | 6"-6"-6"-6" | OR CONSISTENCY, SOIL STRUCTURE, | TESTS, AND INSTRUMENTATION. | | | |
| | | (N) | MINERALOGY. | Corrected FID (ppm): | | | |
| | ! | | Same as above, Clay | | | | |
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