

QU(TSF) STANDARD PENETRATION TEST  
 P-Penet. DEPTH BLOWS/6"  
 L-Labor. Elev. 416.7

Cuttings: Brown to Dark Gray, Fine to Coarse SAND, (SW)  
 (Note: The stratigraphy described on this boring log is based on the drill cuttings observed at the ground surface and the action of the drilling tools and is only approximate)  
 Elev. 411.7

Brown, Loose, Fine to Medium SAND, (SP)  
 Elev. 397.7

- smooth drilling

- very rough drilling from 92.5 to 94.5 ft.

- slightly rough drilling from 99.0 to 101.0 ft.

- very rough drilling from 114.0 to 121.3 ft.

| ROCK CORE |      |      |
|-----------|------|------|
| DEPTH     | REC% | RQD% |
| 125.3     | 83   | 42   |
| 130.3     | 100  | 100  |
| 135.3     | 100  | 93   |
| 140.3     | 100  | 100  |
| 145.3     | 100  | 100  |
| 150.3     | 100  | 90   |

Elev. 295.4  
 LIMESTONE, gray to dark gray, moderately hard, medium crystalline, thin to thick bedded, slightly weathered  
 - dark gray, thick bedded below 129.0 ft.  
 - fractured from 124.0 to 124.4 ft.  
 - possible core loss from 124.5 to 125.2 ft.  
 - 0.12" gray, soft, shale seam at 122.6, 123.5, 124.0, 128.8 and 129.3 ft.  
 Elev. 286.4  
 DOLOMITE, gray, moderately hard, finely crystalline, thin bedded, slightly weathered, slightly pitted  
 Elev. 281.4  
 LIMESTONE, gray, moderately hard to hard, medium to finely crystalline, very thick to thick bedded, slightly weathered, pitted  
 - hard, finely crystalline, thick bedded below 140.3 ft.  
 - very thick bedded below 145.3 ft.  
 - 45 degree joint from 141.8 to 142.0, 141.8 to 142.0 and 143.2 to 143.4 ft.  
 - cherty from 139.7 to 140.3 and 148.7 to 150.3 ft.  
 - chert nodules at 149.2 ft.  
 Elev. 266.4

Boring No. ILC-5B  
 Pier 17  
 Sta. 112+34.70, 47.50' Lt.

QU(TSF) STANDARD PENETRATION TEST  
 P-Penet. DEPTH BLOWS/6"  
 L-Labor. Elev. 417.2

Topsoil (3.0")  
 Elev. 417.0  
 Dark Gray, Loose, Cinders, Moist, (FILL),  
 Some Lean Clay, Few Crushed Limestone  
 Elev. 414.2

0.75P 13.5 2-1-2  
 1.25P 16  
 18.5 3-5-7  
 Brown to Gray, Medium Dense to Loose,  
 Medium to Fine SAND, Moist, (SP)  
 Elev. 403.4

23.5 3-6-5  
 28.5 3-5-6  
 33.5 WOH-2-4  
 38.5 3-4-5  
 43.5 12-20-16  
 48.5 13-16-22  
 53.5 5-8-17  
 58.5 7-7-11  
 63.5 20-25-25  
 68.5 11-15-17  
 73.5 10-10-14  
 78.5 12-18-14  
 83.5 8-10-12  
 88.5 9-12-12  
 93.5 12-13-17  
 98.5 12-15-20  
 103.5 32-34-32  
 108.5 19-21-30  
 113.5 31-27-21  
 118.5 50/5"  
 123.5 50

Gray, Firm, Fat CLAY, Moist, (CH)  
 Elev. 401.2  
 Gray, Stiff, Sandy Lean CLAY, Moist, (CL)  
 Elev. 398.7

Gray, Medium Dense to Loose,  
 Fine SAND, Wet, (SP)  
 Elev. 375.2

Gray, Dense to Very Dense, Medium,  
 Occasionally Coarse SAND, Wet, (SP),  
 Few to Little Fine Gravel  
 Trace Limestone Pieces at Depth

ROCK CORE

| DEPTH | REC% | RQD% |
|-------|------|------|
| 124.5 | 100  | 0    |
| 129.5 | 93   | 62   |
| 134.5 | 100  | 95   |
| 139.5 | 95   | 75   |
| 144.5 | 0    | 0    |
| 149.5 | 77   | 57   |
| 152.7 | 100  | 95   |
| 154.5 | 100  | 67   |
| 159   | 100  | 100  |
| 164   | 100  | 88   |
| 169   | 100  | 93   |
| 174   | 100  | 100  |

Elev. 293.7  
 Gray, Hard, SHALE, Moist, Trace Fine Gravel  
 Elev. 293.2

LIMESTONE, gray, moderately hard, finely to medium crystalline, medium to thick bedded, weathered to slightly weathered  
 - 4" void at 126.7 ft.  
 - medium crystalline below 129.5 ft.  
 - vuggy from 134.5 to 139.1 ft.  
 - slightly weathered, dense below 145.8 ft.  
 - finely crystalline below 149.5 ft.  
 - thick bedded below 154.5 ft.  
 - thick bedded, medium crystalline below 169.0 ft.  
 - calcite deposit from 157.2 to 158.0 ft.  
 - shale below 173.2 ft.  
 - 0.12" gray, soft, shale seam at 127.9 and 128.9 ft.  
 - 1.0" gray, soft, shale seam at 129.4 ft.  
 - cherty from 151.3, 151.4, 151.5, 151.8, 152.0, 153.1, 153.5, 153.8, 154.0, 154.4, 154.7, 154.8, 155.7, 156.2, 156.5 and 162.1 ft.

Boring No. IL-6  
 Pier 18  
 Sta. 113+78.36, 54.65' Rt.

QU(TSF) STANDARD PENETRATION TEST  
 P-Penet. DEPTH BLOWS/6"  
 L-Labor. Elev. 424.7

Brown, Soft, Lean CLAY, Moist, (FILL),  
 Little Gravel and Cinders  
 Elev. 417.7

Brown, Loose, Coarse SAND, Moist  
 to Wet, (SP), Trace Fine Gravel  
 Elev. 406.7

0.5P 23.5 1-1-2  
 26  
 28.5 4-4-6  
 Gray, Loose, Fine SAND, Wet, (SP),  
 Few Silt, Trace Gravel  
 Elev. 402.7  
 Gray, Firm, Fat CLAY, Moist, (CH)  
 Elev. 398.7

Gray, Loose to Medium Dense, Fine SAND,  
 Wet, (SP), Trace Silt

Elev. 366.7

Gray to Brown, Medium to Very Dense,  
 Fine to Medium SAND, Wet, (SP), Trace to  
 Little Fine Gravel, Trace Wood Pieces,  
 Trace Limestone Pieces

Elev. 306.7

Brown, Medium to Very Dense, Coarse  
 SAND, Wet, (SP), Little to Some Medium  
 Gravel, Trace Limestone Pieces  
 Elev. 300.7

ROCK CORE

| DEPTH | REC% | RQD% |
|-------|------|------|
| 133.2 | 100  | 57   |
| 138.1 | 100  | 83   |
| 143.2 | 100  | 93   |
| 148.3 | 100  | 79   |
| 153.3 | 100  | 90   |
| 158.3 | 96   | 90   |
| 163.5 | 100  | 95   |
| 168.3 | 100  | 98   |
| 173.4 | 100  | 94   |
| 178.6 | 100  | 63   |

Brown GRAVEL and SAND With Limestone Layers  
 Elev. 296.2

LIMESTONE, gray to brown, moderately hard, medium to very finely crystalline, thin to thick bedded, slightly weathered  
 - slightly weathered, medium bedded below 133.2 ft.  
 - finely crystalline, medium to thick bedded below 138.1 ft.  
 - very finely crystalline below 143.2 ft.  
 - finely crystalline below 148.3 ft.  
 - fine to medium crystalline, thick bedded below 158.3 ft.  
 - gray to brown below 168.3 ft.  
 - finely crystalline, medium to thick bedded below 173.4 ft.  
 - multiple vertical fractures from 129.4 to 130.9 ft.  
 - 1.0" brown, medium hard, shale seam at 129.0 ft.  
 - 1.25" gray, soft, clay seam at 131.4 ft.  
 - 0.25" gray, soft, shale seam at 139.4 ft.  
 - 0.5" gray, soft, clay seam at 139.9 ft.  
 - shaley below 141.5 to 143.2 ft.  
 - 0.5" gray, soft, shale seam at 154.8 ft.  
 - 3.5" gray, soft, shale seam at 156.6 ft.  
 - cherty from 158.3 to 165.0 ft.  
 - chert nodules at 163.5, 163.7, 163.8, 163.9, 164.8, 165.0, 169.3, 169.5, 171.1, and 171.2  
 - 2.5" chert seam at 164.3 ft.  
 Elev. 246.1

Boring No. IL-7  
 Pier 19  
 Sta. 116+58.68, 48.13' Lt.

CONTRACT NO. 76D61

F.A. ROUTE SECTION  
 999 82-1B-2  
 FED. AID PROJECT ILLINOIS  
 COUNTY ST. CLAIR

USER NAME = JJJLiff  
 PLOT SCALE = #SCALE#  
 PLOT DATE = 4/14/2010  
 DESIGNED - HNTB  
 CHECKED - CMT  
 DRAWN - CMT / HNTB  
 REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

ILLINOIS APPROACH STRUCTURE  
 FOR NEW I-70 MISSISSIPPI RIVER BRIDGE

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 MISSOURI HIGHWAYS  
 AND TRANSPORTATION COMMISSION

HNTB  
 715 KIRK DRIVE  
 KANSAS CITY, MO 64105  
 TELEPHONE (816) 472-1201  
 CERTIFICATE OF AUTHORITY  
 NO. 001270

CMT  
 CRAWFORD, MURPHY & TILLY, INC.  
 2750 WEST WASHINGTON STREET  
 SPRINGFIELD, IL 62702  
 TELEPHONE (217) 787-8050  
 ENGINEERING CORPORATION - 000631

Detailed JUL 2009  
 Checked JUL 2009

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 13 of 152

Note: For Typical Boring and General Notes, see Sheet No. 9.

BORING DATA (5 OF 7)