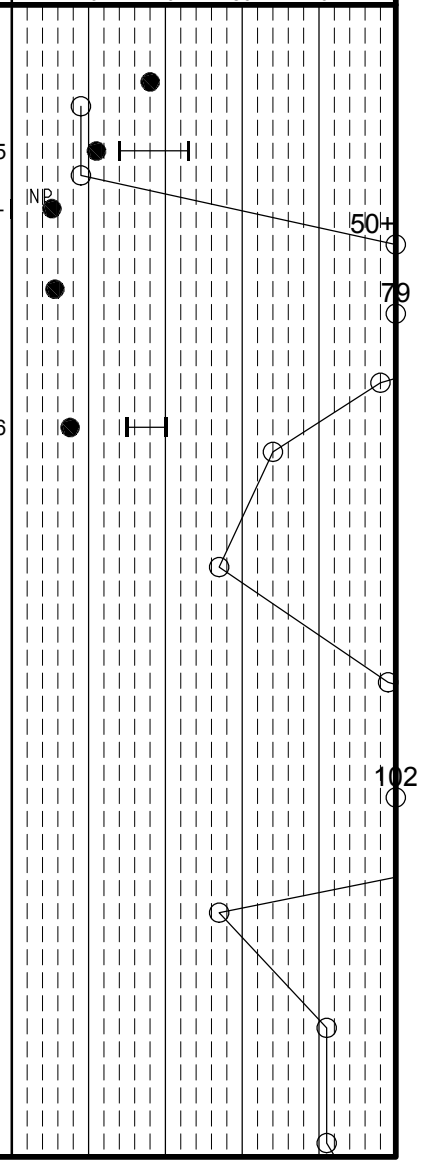
DLZ Ohio, Inc. * 6121 Huntley Road, Columbus, Ohio 43229 * (614) 888-0040

*Client:* ms consultants | *Project:* FRA-70-8.93 | *Job No.* 0221-1004.01

**LOG OF: Boring B-031-0-08** | *Location:* Sta. 196+17.42, 32.8' RT., BL I-70 EB | *Date Drilled:* 7/7/2008 to 7/8/2008

*WATER OBSERVATIONS:*
*Water seepage at: 9.5'*
*Water level at completion: 8.3' (includes drilling water)*

*FIELD NOTES:*
*Advanced boring using 3.25" diameter hollowstem augers.*

| Depth (ft) | Elev. (ft) | Blows per 6" | Recovery | Sample No. Drive | Sample No. Press / Core | Hand Penetrometer (tsf) | DESCRIPTION | Graphic Log | GRADATION % Aggregate | % C. Sand | % M. Sand | % F. Sand | % Silt | % Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 735.6 | | | | | | | | | | | | | |
| 0.7 | 734.9 | | | | | | Topsoil - 8" | | | | | | | |
| | | 2 4 5 | 18 | 1 | | 3.75 | FILL: Very stiff to hard brown SILT (A-4b), some clay, little fine to coarse sand, trace to little gravel; contains few brick and coal fragments; damp. | | | | | | | |
| | | 3 4 5 | 18 | 2 | | 4.5+ | | | 12 | 5 | --- | 6 | 52 | 25 |
| 4.0 | 731.6 | | | | | | | | | | | | | |
| 5 | | 16 50/5 | 5 | 3 | | | Dense to very dense brownish gray GRAVEL WITH SAND (A-1-b), little silt; damp. | | 50 | 20 | --- | 13 | --17-- | |
| | | 42 44 31 | 1 | 4 | | | @ 5.0', encountered refusal; offset boring approx. three feet west. | | | | | | | |
| | | 18 21 25 | 1 | 5 | | | @ 5.5'-8.5', rock fragments; possible cobble blocking shoe. | | | | | | | |
| 8.5 | 727.1 | | | | | | | | | | | | | |
| 9.5 | 726.1 | 9 15 17 | 18 | 6A | | 4.5 | Hard gray SANDY SILT (A-4a), little gravel; damp. | | 15 | 12 | --- | 25 | 32 | 16 |
| 10 | | | | 6B | | | Medium dense to dense gray SILT (A-4b), some fine sand; wet. | | | | | | | |
| | | 4 12 14 | 18 | 7 | | | | | | | | | | |
| 13.5 | 722.1 | | | | | | | | | | | | | |
| 15 | | 18 22 25 | 12 | 8 | | 4.5+ | Very stiff to hard gray SANDY SILT (A-4a), some fine to coarse sand, little gravel; damp. | | | | | | | |
| | | 14 48 49 | 18 | 9 | | 3.5 | | | | | | | | |
| 18.5 | 717.1 | | | | | | | | | | | | | |
| 20 | | 11 13 13 | 18 | 10 | | | Medium dense gray SILT (A-4b), trace fine sand; moist. | | | | | | | |
| 21.0 | 714.6 | | | | | | | | | | | | | |
| | | 7 18 21 | 18 | 11 | | | Dense gray COARSE AND FINE SAND (A-3a), some silt; wet. | | | | | | | |
| 23.5 | 712.1 | | | | | | | | | | | | | |
| 25 | 710.6 | 12 18 21 | 18 | 12 | | 4.5+ | Hard gray SANDY SILT (A-4a), some fine to coarse sand, trace gravel; damp. | | | | | | | |

*STANDARD PENETRATION (N60)*
*Natural Moisture Content, % -*
*PL* ⊢—⊣ *LL*
*Blows per foot - ○ / Non-Plastic - NP*
10 20 30 40