



Project: Wells G & H Remedial Investigation  
 TDD No.: FI-8409-01  
 Sheet: 1 of 4  
 Hole No.: S78  
 Location: Beatrice Property  
 Angle from Horiz. Vertical

Begun: 16 JAN 85  
 Completed: 02 FEB 95  
 Driller: BDC/NEBC  
 Drill Make & Model: CME55/Mobile B53  
 Hole Dia.: 3.5"  
 Overburden (ft): 90.5  
 Rock (ft): 20  
 Total Depth: 110.5  
 Core Recovery (ft): 20  
 Core Bxs: 2  
 Samples: [blank]  
 El. Top of Casing: [blank]  
 Ground El.: S78D-45.41, S78D-45.77  
 Depth to Top of Rock: 90.5  
 Sample Hammer Weight/Fall: 140 lbs/30"  
 Casing: Solid Sch 80 PVC 1.5" I.D. 0.010 slot  
 Screen: [blank]  
 NUS Inspector: Ross

| Depth | Sample No. | ROCK          |     | SOIL         |                     |               | Well Construction                         | Stratum Description        | Notes |
|-------|------------|---------------|-----|--------------|---------------------|---------------|---|----------------------------|-------|
|       |            | Core/Rec (in) | RQD | Pen/Rec (in) | Depth Interval (ft) | Blows/6"      |   |                            |       |
| 5     | 01         |               |     | 24/14        | 0-2                 | 4/5/2/2       | [Well Construction Diagram]               | BN F/M SAND, TR Silt       | 1     |
|       |            |               |     |              |                     |               |   | S78S Top of Ottawa Sand 4' |       |
|       |            |               |     |              |                     |               |   | S78S Top of screen 5'      |       |
| 10    | 02         |               |     | 21/21        | 7-9                 | 7/11/68/100.3 |   | BN F SAND, LI Silt         |       |
|       |            |               |     |              |                     |               |   |                            |       |
|       |            |               |     |              |                     |               |   |                            |       |
| 15    | 03         |               |     | 24/24        | 12-14               | 5/4/5/5       |   | GR F SAND, LI Silt         |       |
|       |            |               |     |              |                     |               |   |                            |       |
|       |            |               |     |              |                     |               |   |                            |       |
| 20    | 04         |               |     | 24/20        | 17-19               | 10/12/13/15   | GR and BN F/M SAND, TR Silt - interbedded |                            |       |
|       |            |               |     |              |                     |               |   |                            |       |
|       |            |               |     |              |                     |               |   |                            |       |
| 25    | 05         |               |     | 24/24        | 22-24               | 8/10/11/16    | GR and BN F SAND, LI Silt                 |                            |       |
|       |            |               |     |              |                     |               | S78S Bottom of screen 25'                 |                            |       |
|       |            |               |     |              |                     |               |   |                            |       |
| 30    | 06         |               |     | 24/24        | 27-29               | 2/23/27/40    | BN VF SAND, LI Silt                       |                            |       |
|       |            |               |     |              |                     |               |   |                            |       |
|       |            |               |     |              |                     |               |   |                            |       |
|       | 07         |               |     | 24/12        | 32-34               | 2/50/52/50    | BN F/C SAND, LI F/C Gravel                |                            |       |

GRANULAR SOILS PROPORTIONS ABBREVIATIONS

|          |          |             |        |                    |
|----------|----------|-------------|--------|--------------------|
| Blows/Ft | Density  | USED        |        |                    |
| 0-4      | V. Loose | Trace (TR)  | 0-10%  | F-Fine             |
| 4-10     | Loose    | Little (LI) | 10-20% | M-Medium           |
| 10-30    | M. Dense | Some (SO)   | 20-35% | C-Coarse           |
| 30-50    | Dense    | And         | 35-50% | F/M-Fine to Medium |
| >50      | V. Dense |             |        | F/C-Fine to Coarse |
|          |          |             |        | V-Very             |
|          |          |             |        | GR-Gray            |
|          |          |             |        | BN-Brown           |
|          |          |             |        | YEL-Yellow         |

1. S78S sealed in overburden with bentonite pellets from 4' to GS.



|                                    |            |        |          |
|------------------------------------|------------|--------|----------|
| Project                            | TDD No.    | Sheet  | Hole No. |
| Wells G & H Remedial Investigation | F1-8409-01 | 2 of 4 | S78      |
| Location                           |            |        |          |
| Beatrice Property                  |            |        |          |

| Depth | ROCK       |                |     | SOIL         |                     |             | Well Construction                                 | Stratum Description | Notes |                          |
|-------|------------|----------------|-----|--------------|---------------------|-------------|---|---------------------|-------|--------------------------|
|       | Sample No. | Core/Rec. (in) | RQD | Pen/Rec (in) | Depth Interval (ft) | Blows/6"    |   |                     |       |                          |
| 35    |            |                |     |              |                     |             |   |                     |       |                          |
|       | 08         |                |     | 27/7         | 38-40               | 22/13/11/16 |   |                     |       | BN C SAND, LI F/M Gravel |
| 40    |            |                |     |              |                     |             |   |                     |       |                          |
|       |            |                |     |              |                     |             |   |                     |       |                          |
| 45    | 09         |                |     | 24/24        | 43-45               | 16/28/20/20 |   |                     |       | BN C SAND, TR F Gravel   |
|       |            |                |     |              |                     |             |   |                     |       |                          |
|       |            |                |     |              |                     |             |   |                     |       |                          |
| 50    | 10         |                |     | 24/22        | 48-50               | 7/27/60/77  |   |                     |       | C SAND, TR F Gravel      |
|       |            |                |     |              |                     |             |   |                     |       |                          |
| 55    | 11         |                |     | 24/14        | 53-55               | 8/24/34/34  |   |                     |       | C SAND, TR F Gravel      |
|       |            |                |     |              |                     |             |   |                     |       |                          |
| 60    |            |                |     | 24/0         | 58-60               | 58/26/18/16 |   |                     |       |                          |
|       |            |                |     |              |                     |             |   |                     |       |                          |
| 65    | 12         |                |     | 24/15        | 63-65               | 45/45/60/75 | Silty CLAY, color change from BN to GR with depth |                     |       |                          |
|       |            |                |     |              |                     |             |   |                     |       |                          |

REMARKS: <sup>13</sup> 24/22 68-70 12/12/25/40 GR F SAND, and Silt



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| Depth | ROCK       |               |     | SOIL         |                     |           | Well Construction | Stratum Description  | Notes |
|-------|------------|---------------|-----|--------------|---------------------|-----------|-------------------|--|-------|
|       | Sample No. | Core/Rec (in) | RQD | Pen/Rec (in) | Depth Interval (ft) | Blows/6"  |                   |  |       |
| 70    |            |               |     |              |                     |           |                   | 8" F GR SAND and Silt<br>4" VC Rx fragments,<br>highly angular, w/sharp<br>faces<br>Boulders nested in very<br>coarse sand and gravels -<br>large volume of water lost<br>to aquifer<br><br>No Sample attempted<br>75-90'<br><br>NO RECOVERY -<br>Bedrock - 90.5'<br>Schist increasing competence<br>with depth<br>S78D Top of Ottawa Sand 93'<br>S78D Top of screen 95.5' | 2     |
|       | 14         |               |     | 16/12        | 73-75               | 40/65/100 |                   |  |       |
| 75    | 14         |               |     |              | 75.5-76.7           |           |                   |  |       |
|       | 16         |               |     |              | 77-78.3             |           |                   |  |       |
|       | 15         |               |     |              | 78.5-79.8           |           |                   |  |       |
| 80    |            |               |     |              |                     |           |                   |  |       |
|       |            |               |     |              |                     |           |                   |  |       |
|       |            |               |     |              |                     |           |                   |  |       |
| 85    |            |               |     |              |                     |           |                   |  |       |
|       |            |               |     |              |                     |           |                   |  |       |
|       |            |               |     |              |                     |           |                   |  |       |
| 90    |            |               |     | 3/0          | 90                  | 100 R     |                   |  |       |
|       | 60/60      |               |     |              |                     |           |                   |  |       |
|       |            |               |     |              |                     |           |                   |  |       |
| 95    |            |               |     |              |                     |           |                   |  |       |
|       | 60/60      |               |     |              |                     |           |                   |  |       |
|       |            |               |     |              |                     |           |                   |  |       |
| 100   |            |               |     |              |                     |           |                   |  |       |
|       | 60/60      |               |     |              |                     |           |                   |  |       |

REMARKS:

2. S78D well sealed with cement/bentonite slurry from 90.5' to GS.

