

# Drilling Log

|                                               |           |                    |                                          |                                          |                |                            |               |
|-----------------------------------------------|-----------|--------------------|------------------------------------------|------------------------------------------|----------------|----------------------------|---------------|
| Project Name <b>Lessna</b>                    |           |                    |                                          |                                          |                | Boring No. <b>D-30</b>     |               |
| Project No. <b>85-141-4-001</b>               |           |                    |                                          |                                          |                | Page <b>1</b> of <b>7</b>  |               |
| Ground Elevation <b>1298.9</b>                |           |                    | Location <b>See Boring Location Plan</b> |                                          |                | Total Footage <b>115.8</b> |               |
| Drilling Type                                 | Hole Size | Overburden Footage | Bedrock Footage                          | No. of Samples                           | No. Core Boxes | Depth To Water,            | Date Measured |
| Wash Bore                                     | 5"        | 115.8              | 0                                        | 7                                        | 0              | See Remarks                |               |
| Drilling Co. <b>Layne Western Company Inc</b> |           |                    |                                          | Driller (s) <b>R Crowl B Blank</b>       |                |                            |               |
| Drilling Rig. <b>ATV mounted CME 750</b>      |           |                    |                                          | Type of Penetration Test <b>Standard</b> |                |                            |               |
| Date <b>4.6.87</b>                            |           | To <b>4.7.87</b>   |                                          | Field Observer (s) <b>M Eversman</b>     |                |                            |               |

| Depth | Description                                                       | Class. | Blow Count | Recov. | Sample or Box No. | Remarks             |
|-------|-------------------------------------------------------------------|--------|------------|--------|-------------------|---------------------|
| 1     | Reddish Brown Clay. Silty<br>Mod stiff. Sandy with<br>some gravel |        |            |        |                   | Started @<br>4:00 p |
| 2     |                                                                   |        |            |        |                   |                     |
| 3     |                                                                   |        |            |        |                   |                     |
| 4     |                                                                   |        |            |        |                   |                     |
| 5     |                                                                   |        |            |        |                   |                     |
| 6     |                                                                   |        |            |        |                   |                     |
| 7     |                                                                   |        |            |        |                   |                     |
| 8     | as above                                                          |        |            |        |                   |                     |
| 9     |                                                                   |        |            |        |                   |                     |
| 10    |                                                                   |        |            |        |                   |                     |
| 11    |                                                                   |        |            |        |                   |                     |
| 12    |                                                                   |        |            |        |                   |                     |
| 13    | as above                                                          |        |            |        |                   |                     |
| 14    |                                                                   |        |            |        |                   |                     |

# Drilling Log, continued

| Project Name <i>Cessna</i>      |                                                                 |              |            |                    |  | Boring No. <i>D-30</i>    |         |
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| Project No. <i>85-141-4-001</i> |                                                                 |              |            |                    |  | Page <i>2</i> of <i>7</i> |         |
|                                 |                                                                 |              |            |                    |  | Date <i>4.6.87</i>        |         |
| Depth                           | Description                                                     | Log or Class | Blow Count | Core Recov. & Loss |  | Box or Sample No.         | Remarks |
| 15                              | <i>Brown Sand. Medium to Coarse Grained. Some coarse gravel</i> |              |            |                    |  |                           |         |
| 16                              |                                                                 |              |            |                    |  |                           |         |
| 17                              |                                                                 |              |            |                    |  |                           |         |
| 18                              |                                                                 |              |            |                    |  |                           |         |
| 19                              |                                                                 |              |            |                    |  |                           |         |
| 20                              |                                                                 |              |            |                    |  |                           |         |
| 21                              |                                                                 |              |            |                    |  |                           |         |
| 22                              | <i>as above</i>                                                 |              |            |                    |  |                           |         |
| 23                              |                                                                 |              |            |                    |  |                           |         |
| 24                              |                                                                 |              |            |                    |  |                           |         |
| 25                              |                                                                 |              |            |                    |  |                           |         |
| 26                              |                                                                 |              |            |                    |  |                           |         |
| 27                              |                                                                 |              |            |                    |  |                           |         |
| 28                              |                                                                 |              |            |                    |  |                           |         |
| 29                              | <i>as above</i>                                                 |              |            |                    |  |                           |         |
| 30                              |                                                                 |              |            |                    |  |                           |         |
| 31                              |                                                                 |              |            |                    |  |                           |         |

# Drilling Log, continued

| Project Name <u>Cessna</u>      |                                                              |              |            |                    |                   | Boring No. <u>D-30</u>         |  |
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| Project No. <u>85-141-4-001</u> |                                                              |              |            |                    |                   | Page <u>3</u> of <u>7</u>      |  |
|                                 |                                                              |              |            |                    |                   | Date <u>4.6.87</u>             |  |
| Depth                           | Description                                                  | Log or Class | Blow Count | Core Recov. & Loss | Box or Sample No. | Remarks                        |  |
| 32                              | Brown sand. Med to<br>Course grained. Some<br>coarse gravel. |              |            |                    |                   |                                |  |
| 33                              |                                                              |              |            |                    |                   |                                |  |
| 34                              |                                                              |              |            |                    |                   |                                |  |
| 35                              |                                                              |              |            |                    |                   |                                |  |
| 36                              |                                                              |              |            |                    |                   |                                |  |
| 37                              |                                                              |              |            |                    |                   |                                |  |
| 38                              |                                                              |              |            |                    |                   |                                |  |
| 39                              |                                                              |              |            |                    |                   |                                |  |
| 40                              | as above                                                     |              |            |                    |                   |                                |  |
| 41                              |                                                              |              |            |                    |                   |                                |  |
| 42                              |                                                              |              |            |                    |                   |                                |  |
| 43                              |                                                              |              |            |                    |                   |                                |  |
| 44                              |                                                              |              |            |                    |                   | Thin interbedded<br>clay sands |  |
| 45                              |                                                              |              |            |                    |                   |                                |  |
| 46                              |                                                              |              |            |                    |                   |                                |  |
| 47                              | as above                                                     |              |            |                    |                   |                                |  |
| 48                              |                                                              |              |            |                    |                   |                                |  |

# Drilling Log, continued

| Project Name <u>Cessna</u>      |                                  |              |            |                    |                   | Boring No. <u>D-30</u>      |  |
|---------------------------------|----------------------------------|--------------|------------|--------------------|-------------------|-----------------------------|--|
| Project No. <u>85-141-4-001</u> |                                  |              |            |                    |                   | Page <u>4</u> of <u>7</u>   |  |
|                                 |                                  |              |            |                    |                   | Date <u>4.6.87</u>          |  |
| Depth                           | Description                      | Log or Class | Blow Count | Core Recov. & Loss | Box or Sample No. | Remarks                     |  |
| 49                              | Brown Sand. Fine Grained         |              |            |                    |                   |                             |  |
| 50                              | Brown sand. Fine Grained         |              | 15         |                    |                   | Stopped @ 50'               |  |
| 51                              | Well sorted. V. Dense. Saturated |              | 35         |                    | SS1               | Thin clayey sand seam @ 51' |  |
| 52                              |                                  |              | 50         |                    |                   |                             |  |
| 53                              |                                  |              |            |                    |                   |                             |  |
| 54                              |                                  |              |            |                    |                   |                             |  |
| 55                              |                                  |              |            |                    |                   |                             |  |
| 56                              |                                  |              |            |                    |                   |                             |  |
| 57                              |                                  |              |            |                    |                   |                             |  |
| 58                              |                                  |              |            |                    |                   |                             |  |
| 59                              |                                  |              |            |                    |                   |                             |  |
| 60                              |                                  |              |            |                    |                   |                             |  |
| 61                              | as above.                        |              | 16         |                    | SS2               |                             |  |
| 62                              |                                  |              | 50         |                    |                   |                             |  |
| 63                              |                                  |              |            |                    |                   |                             |  |
| 64                              |                                  |              |            |                    |                   |                             |  |
| 65                              |                                  |              |            |                    |                   |                             |  |

# Drilling Log, continued

| Project Name <u>Cessna</u>      |                                         |              |            |                    |                   | Boring No. <u>D-30</u>    |  |
|---------------------------------|-----------------------------------------|--------------|------------|--------------------|-------------------|---------------------------|--|
| Project No. <u>85-141-4-001</u> |                                         |              |            |                    |                   | Page <u>5</u> of <u>7</u> |  |
|                                 |                                         |              |            |                    |                   | Date <u>4.7.87</u>        |  |
| Depth                           | Description                             | Log or Class | Blow Count | Core Recov. & Loss | Box or Sample No. | Remarks                   |  |
| 66                              | Brown Sand. Fine Grained<br>Well Sorted |              |            |                    |                   |                           |  |
| 67                              |                                         |              |            |                    |                   |                           |  |
| 68                              |                                         |              |            |                    |                   |                           |  |
| 69                              |                                         |              |            |                    |                   |                           |  |
| 70                              | Brown sand. Fine Grained                |              | 50         |                    |                   | Drove spoon 6"            |  |
| 71                              | Well Sorted. V. Dense                   |              | 1          |                    | SS3               |                           |  |
| 72                              | Saturated. Some med<br>grained sand.    |              |            |                    |                   |                           |  |
| 73                              |                                         |              |            |                    |                   |                           |  |
| 74                              |                                         |              |            |                    |                   |                           |  |
| 75                              |                                         |              |            |                    |                   |                           |  |
| 76                              |                                         |              |            |                    |                   |                           |  |
| 77                              |                                         |              |            |                    |                   |                           |  |
| 78                              |                                         |              |            |                    |                   |                           |  |
| 79                              |                                         |              |            |                    |                   |                           |  |
| 80                              |                                         |              | 50         |                    |                   | Drove spoon 6"            |  |
| 81                              |                                         |              | 1          |                    | SS4               | No recovery               |  |
| 82                              |                                         |              |            |                    |                   |                           |  |

# Drilling Log, continued

| Project Name <u>Cessna</u>      |                                                        |              |            |                    |  | Boring No. <u>D-30</u>    |               |
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| Project No. <u>85-141-4-001</u> |                                                        |              |            |                    |  | Page <u>6</u> of <u>7</u> |               |
|                                 |                                                        |              |            |                    |  | Date <u>4.7.87</u>        |               |
| Depth                           | Description                                            | Log or Class | Blow Count | Core Recov. & Loss |  | Box or Sample No.         | Remarks       |
| 83                              | Brown sand Fine to Med Grained                         |              |            |                    |  |                           |               |
| 84                              |                                                        |              |            |                    |  |                           |               |
| 85                              |                                                        |              |            |                    |  |                           |               |
| 86                              |                                                        |              |            |                    |  |                           |               |
| 87                              |                                                        |              |            |                    |  |                           |               |
| 88                              |                                                        |              |            |                    |  |                           |               |
| 89                              |                                                        |              |            |                    |  |                           |               |
| 90                              | Brown sand. Medium Grained. Poorly Sorted. V. Dense    |              | 50+        |                    |  |                           | Draw spoon 6" |
| 91                              | Saturated. Some coarse to cobble gravel. Trace of clay |              | -          |                    |  | SS 5                      |               |
| 92                              |                                                        |              |            |                    |  |                           |               |
| 93                              |                                                        |              |            |                    |  |                           |               |
| 94                              |                                                        |              |            |                    |  |                           |               |
| 95                              |                                                        |              |            |                    |  |                           |               |
| 96                              |                                                        |              |            |                    |  |                           |               |
| 97                              |                                                        |              |            |                    |  |                           |               |
| 98                              |                                                        |              |            |                    |  |                           |               |
| 99                              |                                                        |              |            |                    |  |                           |               |

# Drilling Log, continued

| Project Name <u>Lessna</u>      |                                                                                                   |              |            |                    |                   | Boring No. <u>D-30</u>                                                                                   |  |
|---------------------------------|---------------------------------------------------------------------------------------------------|--------------|------------|--------------------|-------------------|----------------------------------------------------------------------------------------------------------|--|
| Project No. <u>85-141-4-001</u> |                                                                                                   |              |            |                    |                   | Page <u>7</u> of <u>7</u>                                                                                |  |
|                                 |                                                                                                   |              |            |                    |                   | Date <u>4-7-87</u>                                                                                       |  |
| Depth                           | Description                                                                                       | Log or Class | Blow Count | Core Recov. & Loss | Box or Sample No. | Remarks                                                                                                  |  |
| 100                             | Brown sand. Fine to Medium Grained. Poorly Sorted. V. Dense Saturated. Some fine to medium gravel |              | 35         |                    |                   | Drove spoon 0.7'                                                                                         |  |
| 101                             |                                                                                                   |              | 50+        |                    | SS6               |                                                                                                          |  |
| 102                             |                                                                                                   |              | -          |                    |                   |                                                                                                          |  |
| 103                             |                                                                                                   |              |            |                    |                   |                                                                                                          |  |
| 104                             |                                                                                                   |              |            |                    |                   | No water level during drilling                                                                           |  |
| 105                             |                                                                                                   |              |            |                    |                   |                                                                                                          |  |
| 106                             |                                                                                                   |              |            |                    |                   |                                                                                                          |  |
| 107                             |                                                                                                   |              |            |                    |                   |                                                                                                          |  |
| 108                             |                                                                                                   |              |            |                    |                   |                                                                                                          |  |
| 109                             |                                                                                                   |              |            |                    |                   | Drove spoon 0.8'                                                                                         |  |
| 110                             | as above                                                                                          |              | 50         |                    |                   |                                                                                                          |  |
| 111                             |                                                                                                   |              | 35+        |                    | SS7               |                                                                                                          |  |
| 112                             |                                                                                                   |              | -          |                    |                   | Installed 10' 2" Ø PVC screen to 109' Gravel Pack to 91' Bentonite Pellet Seal to 87.0' Grout to surface |  |
| 113                             |                                                                                                   |              |            |                    |                   |                                                                                                          |  |
| 114                             |                                                                                                   |              |            |                    |                   |                                                                                                          |  |
| 115                             | Gray Shale                                                                                        |              |            |                    |                   | Completed drilling @ 10:45a                                                                              |  |
| Total Depth 115.8'              |                                                                                                   |              |            |                    |                   |                                                                                                          |  |

- LEGEND**
- ▲ SHALLOW WELL (APPROX. 30-45ft.)
  - INTERMEDIATE WELL (APPROX. 75ft.)
  - DEEP WELL (APPROX. 100-120ft.)
  - PRODUCTION WELL
  - TEMPORARY BORING



Figure No. I-1  
MONITORING WELL  
LOCATIONS

BUTTS & McDONNELL  
ENGINEERS - ARCHITECTS - CONSULTANTS