

## INJECTION PACKER TEST SUMMARY AND STATISTICS

| Well    | Depth        | Hydrologic Unit | Hydraulic Conductivity (K)<br>(ft/sec) |
|---------|--------------|-----------------|--|
| MW3-LGR | 266.5-272    | LGR             | 0.00E+00                               |
| MW3-LGR | 304.5-310    | LGR             | 0.00E+00                               |
| MW3-LGR | 401.5-407    | LGR             | 6.15E-07                               |
| MW4-LGR | 213.5-219'   | LGR             | 1.23E-07                               |
| MW4-LGR | 304.5-310.0' | LGR             | 1.00E-06                               |
| MW5-LGR | 319.5-325'   | LGR             | 0.00E+00                               |
| MW5-LGR | 419.5-425.0' | LGR             | 1.19E-06                               |
| MW6-LGR | 196.5-202    | LGR             | 0.00E+00                               |
| MW6-LGR | 340-345.5    | LGR             | 1.16E-06                               |
| MW6-BS  | 377-382.5    | BS              | 0.00E+00                               |
| MW6-BS  | 389.5-395'   | BS              | 0.00E+00                               |
| MW6-BS  | 409.5-415'   | BS              | 0.00E+00                               |
| MW6-CC  | 448-453.5    | CC              | 1.69E-06                               |
| MW6-CC  | 470-475.5    | CC              | 1.05E-06                               |
| MW7-LGR | 68-73.5'     | LGR             | 3.47E-08                               |
| MW7-LGR | 324.5-330'   | LGR             | 2.38E-06                               |
| MW7-CC  | 420 - 432.1' | CC              | 1.24E-05                               |
| MW7-CC  | 440 - 452.1  | CC              | 2.69E-05                               |
| MW8-LGR | 305.5-316'   | LGR             | 1.08E-05                               |
| MW8-LGR | 346.5-357'   | LGR             | 1.01E-05                               |
| MW8-CC  | 434.8-445'   | CC              | 1.21E-05                               |
| MW8-CC  | 449.8-460'   | CC              | 6.42E-06                               |
| MW9-CC  | 153-158.5'   | LGR             | 5.03E-05                               |
| MW9-CC  | 294-299.5'   | LGR             | 3.22E-06                               |
| MW9-CC  | 360-365.5'   | BS              | 5.22E-07                               |
| MW9-CC  | 370-375.5'   | BS              | 3.47E-06                               |
| MW9-CC  | 386.5-392'   | CC              | 1.27E-05                               |
| MW9-CC  | 424.5-430'   | CC              | 1.21E-06                               |
| MW9-CC  | 445.5-451'   | CC              | 0.00E+00                               |
| MW10-CC | 307-317.4'   | LGR             | 0.00E+00                               |
| MW10-CC | 320-330.4'   | LGR             | 0.00E+00                               |
| MW10-CC | 356-366.4'   | LGR             | 1.79E-06                               |
| MW10-CC | 379-389.4'   | LGR             | 2.21E-06                               |
| MW10-CC | 416-426.4'   | BS              | 0.00E+00                               |
| MW10-CC | 436-446.4'   | BS              | 1.89E-07                               |
| MW10-CC | 460-470.4'   | CC              | 1.68E-06                               |
| MW10-CC | 478-488.4'   | CC              | 1.60E-06                               |
| MW10-CC | 504-514.4'   | CC              | 8.45E-07                               |

LGR: Lower Glen Rose  
 BS: Bexar Shale  
 CC: Cow Creek

Shaded Areas represent test sections that coincide with part or all of the well screen interval

### Test Failure Rate for Entire Data Set (n=38)

*(including tests where K=0.00E+00)*

| Hydrologic Unit | Permeable | Impermeable | % of "Permeable" | % of "Impermeable" | Ratio of Normalized Failure Rate compared to CC (x) |
|-----------------|-----------|-------------|------------------|--------------------|---|
| LGR             | 13        | 6           | 68.4%            | 31.6%              | 3.8   |
| BS              | 3         | 4           | 42.9%            | 57.1%              | 6.9   |
| CC              | 11        | 1           | 91.7%            | 8.3%               | 1.0   |

### Summary Statistics for Entire Data Set (n=38)

*(including tests where K=0.00E+00)*

| Hydrologic Unit | Count (n) | (ft/sec) |          |          |          | Ratio of Normalized Average Permeability compared to BS (x) |
|-----------------|-----------|----------|----------|----------|----------|---|
|                 |           | Min      | Max      | Median   | Average  |   |
| LGR             | 19        | 0.00E+00 | 5.03E-05 | 1.00E-06 | 4.47E-06 | 7.5   |
| BS              | 7         | 0.00E+00 | 3.47E-06 | 0.00E+00 | 5.98E-07 | 1.0   |
| CC              | 12        | 0.00E+00 | 2.69E-05 | 1.68E-06 | 6.56E-06 | 11.0  |

### Summary Statistics for Subset (n=27)

*(not including tests where K=0.00E+00)*

| Hydrologic Unit | Count (n) | (ft/sec) |          |          |          | Ratio of Normalized Average Permeability compared to BS (x) |
|-----------------|-----------|----------|----------|----------|----------|---|
|                 |           | Min      | Max      | Median   | Average  |   |
| LGR             | 13        | 3.47E-08 | 5.03E-05 | 1.79E-06 | 6.53E-06 | 4.7   |
| BS              | 3         | 1.89E-07 | 3.47E-06 | 5.22E-07 | 1.40E-06 | 1.0   |
| CC              | 11        | 8.45E-07 | 2.69E-05 | 6.42E-06 | 7.48E-06 | 5.4   |

### Summary Statistics for Tests Performed within the Screened Interval

| Hydrologic Unit | Count (n) | (ft/sec) |          |          |          | Ratio of Normalized Average Permeability compared to BS (x) |
|-----------------|-----------|----------|----------|----------|----------|---|
|                 |           | Min      | Max      | Median   | Average  |   |
| LGR             | 8         | 6.15E-07 | 1.01E-05 | 1.70E-06 | 2.73E-06 | 2.1   |
| BS              | 3         | 0.00E+00 | 3.47E-06 | 5.22E-07 | 1.33E-06 | 1.0   |
| CC              | 6         | 0.00E+00 | 2.69E-05 | 4.01E-06 | 8.02E-06 | 6.0   |

## INJECTION PACKER TEST DATA SHEET

Well: **MW3-LGR**  
 Test Interval: **266.5-272**

Date: **February 4, 2001**  
 Job #: **729973-06000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 2485.4           |                    |                              |                               |
| 0.5             | 45           | 2493.2           | 7.8                | 15.6                         | 15.60                         |
| 1               | 45           | 2493.2           | 7.8                | 7.8                          | 0.00                          |
| 1.5             | 45           | 2493.2           | 7.8                | 5.2                          | 0.00                          |
| 2               | 45           | 2493.2           | 7.8                | 3.9                          | 0.00                          |
| 2.5             | 46           | 2493.2           | 7.8                | 3.1                          | 0.00                          |
| 3               | 47           | 2493.2           | 7.8                | 2.6                          | 0.00                          |
| 3.5             | 47           | 2492.9           | 7.5                | 2.1                          | -0.60                         |
| 4               | 47           | 2492.8           | 7.4                | 1.9                          | -0.20                         |
| 4.5             | 47           | 2492.6           | 7.2                | 1.6                          | -0.40                         |
| 5               | 47           | 2492.6           | 7.2                | 1.4                          | 0.00                          |

FIELD NOTES INDICATE THAT THE TEST WAS STOPPED  
 SINCE FORMATION DID NOT TAKE WATER ONCE PRESSURE BUILT UP

### Calculations (Zone 3 - Below Water Table)

Q= 0.0 gpm      0.00000 ft<sup>3</sup>/sec  
 A= 5.5 ft  
 r= 0.125 ft  
 A/r= 44.00  
 C<sub>s</sub>= 68  
 h<sub>1</sub>= 194.7 ft  
 h<sub>2</sub>= 108.429 ft  
 L= 0.000 ft  
     P<sub>L</sub>= 280 ft  
     Q= 0.0 gpm  
     c= 140  
     d= 1.25 inches  
 H= 303.129  
 K= 0.00E+00 ft/sec

*Note: Q is set to Zero since a no-flow condition was established within the first 5 minutes of the test. The resultant Permeability is arbitrarily calculated as zero because of the no-flow condition.*

Depth to Water: 191 feet  
 Height of Gauge: 3.7 feet  
 Length of Injection Pipe: 266.5 feet  
 Injection Pipe Stickup: 3.9 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW3-LGR**  
 Test Interval: **304.5-310**

Date: **February 4, 2001**  
 Job #: **729973-06000**

### Field Measurement Input

| Time Elapsed    | <i>Pressure</i> | <i>Totalizer</i> | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|-----------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i>    | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0               | 2478.0           |                    |                              |                               |
| 0.5             | 45              | 2485.8           | 7.8                | 15.6                         | 15.60                         |
| 1               | 45              | 2485.8           | 7.8                | 7.8                          | 0.00                          |
| 1.5             | 45              | 2485.8           | 7.8                | 5.2                          | 0.00                          |
| 2               | 45              | 2485.8           | 7.8                | 3.9                          | 0.00                          |
| 2.5             | 45              | 2485.8           | 7.8                | 3.1                          | 0.00                          |
| 3               | 45              | 2485.8           | 7.8                | 2.6                          | 0.00                          |
| 3.5             | 45              | 2485.8           | 7.8                | 2.2                          | 0.00                          |
| 4               | 45              | 2485.8           | 7.8                | 2.0                          | 0.00                          |
| 4.5             | 45              | 2485.5           | 7.5                | 1.7                          | -0.60                         |
| 5               | 45              | 2485.4           | 7.4                | 1.5                          | -0.20                         |

FIELD NOTES INDICATE THAT THE TEST WAS STOPPED  
 SINCE FORMATION DID NOT TAKE WATER ONCE PRESSURE BUILT UP

### Calculations (Zone 3 - Below Water Table)

Q= 0.0 gpm      0.00000 ft<sup>3</sup>/sec  
 A= 5.5 ft  
 r= 0.125 ft  
 A/r= 44.00  
 C<sub>s</sub>= 68  
 h<sub>1</sub>= 194.7 ft  
 h<sub>2</sub>= 103.815 ft  
 L= 0.000 ft  
     P<sub>L</sub>= 316 ft  
     Q= 0.0 gpm  
     c= 140  
     d= 1.25 inches  
 H= 298.515  
 K= 0.00E+00 ft/sec

*Note: Q is set to Zero since a no-flow condition was established within the first 5 minutes of the test. The resultant Permeability is arbitrarily calculated as zero because of the no-flow condition.*

Depth to Water: 191 feet  
 Height of Gauge: 3.7 feet  
 Length of Injection Pipe: 304.5 feet  
 Injection Pipe Stickup: 1.5 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW3-LGR**  
 Test Interval: **401.5-407**

Date: **February 4, 2001**  
 Job #: **729973-06000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 2456.8           |                    |                              |                               |
| 0.5             | 45           | 2464.7           | 7.9                | 15.8                         | 15.80                         |
| 1               | 43           | 2465.0           | 8.2                | 8.2                          | 0.60                          |
| 1.5             | 43           | 2465.2           | 8.4                | 5.6                          | 0.40                          |
| 2               | 43           | 2465.4           | 8.6                | 4.3                          | 0.40                          |
| 2.5             | 43           | 2465.7           | 8.9                | 3.6                          | 0.60                          |
| 3               | 43           | 2465.8           | 9.0                | 3.0                          | 0.20                          |
| 3.5             | 43           | 2466.0           | 9.2                | 2.6                          | 0.40                          |
| 4               | 43           | 2466.2           | 9.4                | 2.3                          | 0.40                          |
| 4.5             | 43           | 2466.4           | 9.6                | 2.1                          | 0.40                          |
| 5               | 43           | 2466.6           | 9.8                | 2.0                          | 0.40                          |
| 6               | 43           | 2466.8           | 10.0               | 1.7                          | 0.20                          |
| 7               | 43           | 2467.0           | 10.2               | 1.5                          | 0.20                          |
| 8               | 43           | 2467.5           | 10.7               | 1.3                          | 0.50                          |
| 9               | 44           | 2467.9           | 11.1               | 1.2                          | 0.40                          |
| 10              | 44           | 2468.4           | 11.6               | 1.2                          | 0.50                          |
| 15              | 45           | 2470.7           | 13.9               | 0.9                          | 0.46                          |
| 20              | 45           | 2473.1           | 16.3               | 0.8                          | 0.48                          |
| 25              | 45           | 2475.5           | 18.7               | 0.7                          | 0.48                          |
| 30              | 45           | 2477.8           | 21.0               | 0.7                          | 0.46                          |

### Calculations (Zone 3 - Below Water Table)

Q= 0.7 gpm      0.00156 ft<sup>3</sup>/sec  
 A= 5.5 ft  
 r= 0.125 ft  
 A/r= 44.00  
 C<sub>s</sub>= 68  
 h<sub>1</sub>= 194.7 ft  
 h<sub>2</sub>= 103.815 ft  
 L= 0.081 ft  
     P<sub>L</sub>= 413 ft  
     Q= 0.7 gpm  
     c= 140  
     d= 1.25 inches  
 H= 298.434  
**K= 6.15E-07 ft/sec**

Depth to Water: 191 feet  
 Height of Gauge: 3.7 feet  
 Length of Injection Pipe: 401.5 feet  
 Injection Pipe Stickup: 1.57 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW4-LGR**  
 Test Interval: **213.5-219'**

Date: **February 7, 2001**  
 Job #: **729973-06000**

### Field Measurement Input

| Time Elapsed<br><i>(minute)</i> | <i>Pressure</i><br><i>(psi)</i> | <i>Totalizer</i><br><i>(gallons)</i> | Volume<br>Injected<br><i>(gallons)</i> | Overall<br>Discharge<br>Rate<br><i>(gpm)</i> | Interval<br>Discharge<br>Rate<br><i>(gpm)</i> |
|---------------------------------|---------------------------------|--------------------------------------|--|--|---|
| 0                               | 0                               | 2507.50                              |  |  |   |
| 0.5                             | 46                              | 2508.20                              | 0.7                                    | 1.4  | 1.40  |
| 1                               | 46                              | 2508.20                              | 0.7                                    | 0.7  | 0.00  |
| 1.5                             | 46                              | 2508.30                              | 0.8                                    | 0.5  | 0.20  |
| 2                               | 46                              | 2508.30                              | 0.8                                    | 0.4  | 0.00  |
| 2.5                             | 46                              | 2508.30                              | 0.8                                    | 0.3  | 0.00  |
| 3                               | 47                              | 2508.31                              | 0.8                                    | 0.3  | 0.02  |
| 3.5                             | 47                              | 2508.34                              | 0.8                                    | 0.2  | 0.06  |
| 4                               | 47                              | 2508.35                              | 0.8                                    | 0.2  | 0.02  |
| 4.5                             | 47                              | 2508.37                              | 0.9                                    | 0.2  | 0.04  |
| 5                               | 47                              | 2508.39                              | 0.9                                    | 0.2  | 0.04  |
| 6                               | 47                              | 2508.40                              | 0.9                                    | 0.2  | 0.01  |
| 7                               | 47                              | 2508.42                              | 0.9                                    | 0.1  | 0.02  |
| 8                               | 47                              | 2508.49                              | 1.0                                    | 0.1  | 0.07  |
| 9                               | 47                              | 2508.50                              | 1.0                                    | 0.1  | 0.01  |
| 10                              | 47                              | 2508.51                              | 1.0                                    | 0.1  | 0.01  |
| 15                              | 47                              | 2508.65                              | 1.2                                    | 0.1  | 0.03  |
| 20                              | 47                              | 2508.80                              | 1.3                                    | 0.1  | 0.03  |
| 25                              | 47                              | 2509.00                              | 1.5                                    | 0.1  | 0.04  |

| Calculations (Zone 3 - Below Water Table) |                         |                              |
|---|-------------------------|------------------------------|
| Q=  | 0.1 gpm                 | 0.00013 ft <sup>3</sup> /sec |
| A=  | 5.5 ft                  |                              |
| r=  | 0.125 ft                |                              |
| A/r=                                      | 44.00                   |                              |
| C <sub>s</sub> =                          | 68                      |                              |
| h <sub>1</sub> =                          | 19.72 ft                |                              |
| h <sub>2</sub> =                          | 108.429 ft              |                              |
| L=  | 0.000 ft                |                              |
|   | P <sub>L</sub> = 225 ft |                              |
|   | Q= 0.1 gpm              |                              |
|   | c= 140                  |                              |
|   | d= 1.25 inches          |                              |
| H=  | 128.149                 |                              |
| <b>K=</b>                                 | <b>1.23E-07 ft/sec</b>  |                              |

Depth to Water: **16.02** feet  
 Height of Gauge: **3.7** feet  
 Length of Injection Pipe: **213.5** feet  
 Injection Pipe Stickup: **1.7** feet  
 Length of Hose: **10** feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW4-LGR**  
 Test Interval: **304.5-310.0'**

Date: **February 7, 2001**  
 Job #: **729973-06000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 2494.5           |                    |                              |                               |
| 0.5             | 45           | 2497.8           | 3.3                | 6.6                          | 6.60                          |
| 1               | 47           | 2498.1           | 3.6                | 3.6                          | 0.60                          |
| 1.5             | 47           | 2498.3           | 3.8                | 2.5                          | 0.40                          |
| 2               | 47           | 2498.5           | 4.0                | 2.0                          | 0.40                          |
| 2.5             | 48           | 2498.7           | 4.2                | 1.7                          | 0.40                          |
| 3               | 48           | 2498.8           | 4.3                | 1.4                          | 0.20                          |
| 3.5             | 48           | 2499.1           | 4.6                | 1.3                          | 0.60                          |
| 4               | 48           | 2499.3           | 4.8                | 1.2                          | 0.40                          |
| 4.5             | 48           | 2499.5           | 5.0                | 1.1                          | 0.40                          |
| 5               | 48           | 2499.7           | 5.2                | 1.0                          | 0.40                          |
| 6               | 48           | 2500.1           | 5.6                | 0.9                          | 0.40                          |
| 7               | 48           | 2500.4           | 5.9                | 0.8                          | 0.30                          |
| 8               | 48           | 2500.8           | 6.3                | 0.8                          | 0.40                          |
| 9               | 48           | 2501.2           | 6.7                | 0.7                          | 0.40                          |
| 10              | 48           | 2501.6           | 7.1                | 0.7                          | 0.40                          |
| 15              | 48           | 2503.5           | 9.0                | 0.6                          | 0.38                          |
| 20              | 49           | 2505.3           | 10.8               | 0.5                          | 0.36                          |
| 25              | 49           | 2507.2           | 12.7               | 0.5                          | 0.38                          |

| Calculations (Zone 3 - Below Water Table) |                         |                              |
|---|-------------------------|------------------------------|
| Q=  | 0.5 gpm                 | 0.00113 ft <sup>3</sup> /sec |
| A=  | 5.5 ft                  |                              |
| r=  | 0.125 ft                |                              |
| A/r=                                      | 44.00                   |                              |
| C <sub>s</sub> =                          | 68                      |                              |
| h <sub>1</sub> =                          | 19.72 ft                |                              |
| h <sub>2</sub> =                          | 113.043 ft              |                              |
| L=  | 0.035 ft                |                              |
|   | P <sub>L</sub> = 329 ft |                              |
|   | Q= 0.5 gpm              |                              |
|   | c= 140                  |                              |
|   | d= 1.25 inches          |                              |
| H=  | 132.728                 |                              |
| <b>K=</b>                                 | <b>1.00E-06 ft/sec</b>  |                              |

Depth to Water: 16.02 feet  
 Height of Gauge: 3.7 feet  
 Length of Injection Pipe: 304.5 feet  
 Injection Pipe Stickup: 14.5 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW5-LGR**  
 Test Interval: **319.5-325'**

Date: **February 2, 2001**  
 Job #: **729973-06000**

### Field Measurement Input

| Time Elapsed<br><i>(minute)</i> | <i>Pressure</i><br><i>(psi)</i> | <i>Totalizer</i><br><i>(gallons)</i> | Volume<br>Injected<br><i>(gallons)</i> | Overall<br>Discharge<br>Rate<br><i>(gpm)</i> | Interval<br>Discharge<br>Rate<br><i>(gpm)</i> |
|---------------------------------|---------------------------------|--------------------------------------|--|--|---|
| 0                               | 0                               | 2452.9                               |  |  |   |
| 0.5                             | 50                              | 2458.5                               | 5.6                                    | 11.2   | 11.20   |
| 1                               | 50                              | 2458.5                               | 5.6                                    | 5.6  | 0.00  |
| 1.5                             | 50                              | 2458.5                               | 5.6                                    | 3.7  | 0.00  |
| 2                               | 50                              | 2458.3                               | 5.4                                    | 2.7  | -0.40   |
| 2.5                             | 50                              | 2457.9                               | 5.0                                    | 2.0  | -0.80   |
| 4                               | 50                              | 2457.2                               | 4.3                                    | 1.1  | -0.47   |
| 6                               | 50                              | 2456.9                               | 4.0                                    | 0.7  | -0.15   |
| 10                              | 50                              | 2456.7                               | 3.8                                    | 0.4  | -0.05   |

### Calculations (Zone 3 - Below Water Table)

Q= 0.0 gpm      0.00000 ft<sup>3</sup>/sec  
 A= 5.5 ft  
 r= 0.125 ft  
 A/r= 44.00  
 C<sub>s</sub>= 68  
 h<sub>1</sub>= 210.5 ft  
 h<sub>2</sub>= 115.35 ft  
 L= 0.000 ft  
 P<sub>L</sub>= 335 ft  
 Q= 0.0 gpm  
 c= 140  
 d= 1.25 inches  
 H= 325.850  
**K= 0.00E+00 ft/sec**

*Note: Q is set to Zero since a no-flow condition was established within the first 5 minutes of the test. The resultant Permeability is arbitrarily calculated as zero because of the no-flow condition.*

Depth to Water: 205 feet  
 Height of Gauge: 5.5 feet  
 Length of Injection Pipe: 319.5 feet  
 Injection Pipe Stickup: 5.5 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: MW5-LGR  
 Test Interval: 419.5-425.0'

Date: February 2, 2001  
 Job #: 729973-06000

### Field Measurement Input

| Time Elapsed<br><i>(minute)</i> | Pressure<br><i>(psi)</i> | Totalizer<br><i>(gallons)</i> | Volume<br>Injected<br><i>(gallons)</i> | Overall<br>Discharge<br>Rate<br><i>(gpm)</i> | Interval<br>Discharge<br>Rate<br><i>(gpm)</i> |
|---------------------------------|--------------------------|-------------------------------|--|--|---|
| 0                               | 0                        | 2416.0                        |  |  |   |
| 0.5                             | 50                       | 2425.0                        | 9.0                                    | 18.0   | 18.00   |
| 1                               | 50                       | 2425.9                        | 9.9                                    | 9.9  | 1.80  |
| 1.5                             | 50                       | 2426.3                        | 10.3                                   | 6.9  | 0.80  |
| 2                               | 50                       | 2427.5                        | 11.5                                   | 5.8  | 2.40  |
| 2.5                             | 50                       | 2428.3                        | 12.3                                   | 4.9  | 1.60  |
| 3                               | 50                       | 2429.0                        | 13.0                                   | 4.3  | 1.40  |
| 3.5                             | 50                       | 2429.6                        | 13.6                                   | 3.9  | 1.20  |
| 4                               | 50                       | 2430.3                        | 14.3                                   | 3.6  | 1.40  |
| 4.5                             | 50                       | 2431.0                        | 15.0                                   | 3.3  | 1.40  |
| 5                               | 50                       | 2431.6                        | 15.6                                   | 3.1  | 1.30  |
| 6                               | 50                       | 2432.3                        | 16.3                                   | 2.7  | 0.70  |
| 7                               | 50                       | 2433.9                        | 17.9                                   | 2.6  | 1.60  |
| 8                               | 50                       | 2435.0                        | 19.0                                   | 2.4  | 1.10  |
| 9                               | 50                       | 2436.1                        | 20.1                                   | 2.2  | 1.10  |
| 10                              | 50                       | 2437.2                        | 21.2                                   | 2.1  | 1.10  |
| 15                              | 50                       | 2442.5                        | 26.5                                   | 1.8  | 1.06  |
| 20                              | 50                       | 2447.8                        | 31.8                                   | 1.6  | 1.06  |
| 25                              | 50                       | 2452.8                        | 36.8                                   | 1.5  | 1.00  |

### Calculations (Zone 3 - Below Water Table)

Q= 1.5 gpm      0.00328 ft<sup>3</sup>/sec  
 A= 5.5 ft  
 r= 0.125 ft  
 A/r= 44.00  
 C<sub>s</sub>= 68  
 h<sub>1</sub>= 210.5 ft  
 h<sub>2</sub>= 115.35 ft  
 L= 0.335 ft  
 P<sub>L</sub>= 434 ft  
 Q= 1.5 gpm  
 c= 140  
 d= 1.25 inches  
 H= 325.515  
**K= 1.19E-06 ft/sec**

Depth to Water: 205 feet  
 Height of Gauge: 5.5 feet  
 Length of Injection Pipe: 419.5 feet  
 Injection Pipe Stickup: 4.5 feet  
 Length of Hose: 10 feet



## INJECTION PACKER TEST DATA SHEET

Well: **MW6-LGR**  
 Test Interval: **196.5-202**

Date: **February 21, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | <i>Pressure</i> | <i>Totalizer</i> | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|-----------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i>    | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0               | 2790.6           |                    |                              |                               |
| 0.5             | 48              | 2794.9           | 4.3                | 8.6                          | 8.60                          |
| 1               | 48              | 2794.9           | 4.3                | 4.3                          | 0.00                          |
| 1.5             | 48              | 2794.9           | 4.3                | 2.9                          | 0.00                          |
| 2               | 48              | 2794.9           | 4.3                | 2.2                          | 0.00                          |
| 2.5             | 48              | 2794.9           | 4.3                | 1.7                          | 0.00                          |
| 3               | 48              | 2794.8           | 4.2                | 1.4                          | -0.20                         |
| 3.5             | 48              | 2794.8           | 4.2                | 1.2                          | 0.00                          |
| 4               | 48              | 2794.8           | 4.2                | 1.1                          | 0.00                          |
| 4.5             | 48              | 2794.8           | 4.2                | 0.9                          | -0.10                         |
| 5               | 48              | 2794.8           | 4.2                | 0.8                          | 0.00                          |
| 6               | 48              | 2794.8           | 4.2                | 0.7                          | 0.00                          |
| 7               | 48              | 2794.8           | 4.2                | 0.6                          | 0.00                          |
| 8               | 48              | 2794.8           | 4.2                | 0.5                          | 0.00                          |
| 9               | 48              | 2794.8           | 4.2                | 0.5                          | 0.00                          |
| 10              | 48              | 2794.8           | 4.2                | 0.4                          | 0.00                          |

### Calculations (Zone 3 - Below Water Table)

Q= 0.0 gpm      0.00000 ft<sup>3</sup>/sec  
 A= 5.5 ft  
 r= 0.167 ft  
 A/r= 33.00  
 C<sub>s</sub>= 58  
 h<sub>1</sub>= 123 ft  
 h<sub>2</sub>= 110.736 ft  
 L= 0.000 ft  
     P<sub>L</sub>= 197 ft  
     Q= 0.0 gpm  
     c= 140  
     d= 1.25 inches  
 H= 233.736  
 K= 0.00E+00 ft/sec

Depth to Water: 120 feet  
 Height of Gauge: 3 feet  
 Length of Injection Pipe: 196.5 feet  
 Injection Pipe Stickup: 2.5 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW6-LGR**  
 Test Interval: **340-345.5**

Date: **February 21, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | <i>Pressure</i> | <i>Totalizer</i> | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|-----------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i>    | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0               | 2762.3           |                    |                              |                               |
| 0.5             | 45              | 2767.8           | 5.5                | 11.0                         | 11.00                         |
| 1               | 45              | 2768.4           | 6.1                | 6.1                          | 1.20                          |
| 1.5             | 45              | 2769.0           | 6.7                | 4.5                          | 1.20                          |
| 2               | 45              | 2769.6           | 7.3                | 3.6                          | 1.20                          |
| 2.5             | 45              | 2770.1           | 7.8                | 3.1                          | 1.00                          |
| 3               | 45              | 2770.9           | 8.6                | 2.9                          | 1.60                          |
| 3.5             | 45              | 2771.4           | 9.1                | 2.6                          | 1.00                          |
| 4               | 45              | 2772.0           | 9.7                | 2.4                          | 1.20                          |
| 4.5             | 45              | 2772.5           | 10.2               | 2.3                          | 1.00                          |
| 5               | 45              | 2773.0           | 10.7               | 2.1                          | 1.00                          |
| 6               | 45              | 2774.1           | 11.8               | 2.0                          | 1.10                          |
| 7               | 45              | 2775.1           | 12.8               | 1.8                          | 1.00                          |
| 8               | 45              | 2776.0           | 13.7               | 1.7                          | 0.90                          |
| 9               | 45              | 2777.1           | 14.8               | 1.6                          | 1.10                          |
| 10              | 45              | 2777.7           | 15.4               | 1.5                          | 0.60                          |
| 15              | 45              | 2782.1           | 19.8               | 1.3                          | 0.88                          |
| 20              | 45              | 2786.4           | 24.1               | 1.2                          | 0.86                          |
| 25              | 45              | 2790.7           | 28.4               | 1.1                          | 0.86                          |

### Calculations (Zone 3 - Below Water Table)

Q= 1.1 gpm      0.00253 ft<sup>3</sup>/sec  
 A= 5.5 ft  
 r= 0.167 ft  
 A/r= 33.00  
 C<sub>s</sub>= 58  
 h<sub>1</sub>= 123 ft  
 h<sub>2</sub>= 103.815 ft  
 L= 0.170 ft  
     P<sub>L</sub>= 356 ft  
     Q= 1.1 gpm  
     c= 140  
     d= 1.25 inches  
 H= 226.645  
**K= 1.16E-06 ft/sec**

Depth to Water: 120 feet  
 Height of Gauge: 3 feet  
 Length of Injection Pipe: 340 feet  
 Injection Pipe Stickup: 6 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW6-BS**  
 Test Interval: **377-382.5**

Date: **March 15, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | <i>Pressure</i> | <i>Totalizer</i> | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|-----------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i>    | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0               | 8836.2           |                    |                              |                               |
| 0.5             | 45              | 8840.3           | 4.1                | 8.2                          | 8.20                          |
| 1               | 45              | 8840.3           | 4.1                | 4.1                          | 0.00                          |
| 1.5             | 45              | 8840.2           | 4.0                | 2.7                          | -0.20                         |
| 2               | 45              | 8840.1           | 3.9                | 1.9                          | -0.20                         |

### Calculations (Zone 3 - Below Water Table)

Q= 0.0 gpm      0.00000 ft<sup>3</sup>/sec  
 A= 5.5 ft  
 r= 0.125 ft  
 A/r= 44.00  
 C<sub>s</sub>= 68  
 h<sub>1</sub>= 376.3 ft  
 h<sub>2</sub>= 103.815 ft  
 L= 0.000 ft  
     P<sub>L</sub>= 394 ft  
     Q= 0.0 gpm  
     c= 140  
     d= 1.25 inches  
 H= 480.115  
**K= 0.00E+00 ft/sec**

*Note: Q is set to Zero since a no-flow condition was established within the first 5 minutes of the test. The resultant Permeability is arbitrarily calculated as zero because of the no-flow condition.*

Depth to Water: 373 feet  
 Height of Gauge: 3.3 feet  
 Length of Injection Pipe: 377 feet  
 Injection Pipe Stickup: 6.5 feet  
 Length of Hose: 10 feet

FIELD NOTES INDICATE THAT THE TEST WAS STOPPED  
 SINCE FORMATION DID NOT TAKE WATER ONCE PRESSURE BUILT UP

## INJECTION PACKER TEST DATA SHEET

Well: **MW6-BS**  
 Test Interval: **389.5-395'**

Date: **March 15, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 8832.3           |                    |                              |                               |
| 0.5             | 45           | 8836.5           | 4.2                | 8.4                          | 8.40                          |
| 1               | 45           | 8836.5           | 4.2                | 4.2                          | 0.00                          |
| 1.5             | 45           | 8836.4           | 4.1                | 2.7                          | -0.20                         |
| 2               | 45           | 8836.3           | 4.0                | 2.0                          | -0.20                         |
| 2.5             | 45           | 8836.3           | 4.0                | 1.6                          | 0.00                          |
| 3               | 45           | 8836.3           | 4.0                | 1.3                          | 0.00                          |
| 3.5             | 45           | 8836.3           | 4.0                | 1.1                          | 0.00                          |

| Calculations (Zone 3 - Below Water Table) |                         |                              |
|---|-------------------------|------------------------------|
| Q=  | 0.0 gpm                 | 0.00000 ft <sup>3</sup> /sec |
| A=  | 5.5 ft                  |                              |
| r=  | 0.125 ft                |                              |
| A/r=                                      | 44.00                   |                              |
| C <sub>s</sub> =                          | 68                      |                              |
| h <sub>1</sub> =                          | 376.3 ft                |                              |
| h <sub>2</sub> =                          | 103.815 ft              |                              |
| L=  | 0.000 ft                |                              |
|   | P <sub>L</sub> = 406 ft |                              |
|   | Q= 0.0 gpm              |                              |
|   | c= 140                  |                              |
|   | d= 1.25 inches          |                              |
| H=  | 480.115                 |                              |
| <b>K=</b>                                 | <b>0.00E+00 ft/sec</b>  |                              |

FIELD NOTES INDICATE THAT THE TEST WAS STOPPED  
 SINCE FORMATION DID NOT TAKE WATER ONCE PRESSURE BUILT UP

*Note: Q is set to Zero since a no-flow condition was established within the first 5 minutes of the test. The resultant Permeability is arbitrarily calculated as zero because of the no-flow condition.*

Depth to Water: 373 feet  
 Height of Gauge: 3.3 feet  
 Length of Injection Pipe: 389.5 feet  
 Injection Pipe Stickup: 6 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: MW6-BS  
 Test Interval: 409.5-415'

Date: March 15, 2001  
 Job #: 736071-07000

### Field Measurement Input

| Time Elapsed    | <i>Pressure</i> | <i>Totalizer</i> | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|-----------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i>    | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0               | 8832.3           |                    |                              |                               |
| 0.5             | 45              | 8832.3           | 0.0                | 0.0                          | 0.00                          |
| 1               | 45              | 8832.3           | 0.0                | 0.0                          | 0.00                          |
| 1.5             | 45              | 8832.3           | 0.0                | 0.0                          | 0.00                          |

### Calculations (Zone 3 - Below Water Table)

Q= 0.0 gpm      0.00000 ft<sup>3</sup>/sec  
 A= 5.5 ft  
 r= 0.125 ft  
 A/r= 44.00  
 C<sub>s</sub>= 68  
 h<sub>1</sub>= 376.3 ft  
 h<sub>2</sub>= 103.815 ft  
 L= 0.000 ft  
     P<sub>L</sub>= 426 ft  
     Q= 0.0 gpm  
     c= 140  
     d= 1.25 inches  
 H= 480.115  
**K= 0.00E+00 ft/sec**

*Note: Q is set to Zero since a no-flow condition was established within the first 5 minutes of the test. The resultant Permeability is arbitrarily calculated as zero because of the no-flow condition.*

FIELD NOTES INDICATE THAT THE TEST WAS STOPPED  
 SINCE FORMATION DID NOT TAKE WATER ONCE PRESSURE BUILT UP

Depth to Water: 373 feet  
 Height of Gauge: 3.3 feet  
 Length of Injection Pipe: 409.5 feet  
 Injection Pipe Stickup: 6.5 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW6-CC**  
 Test Interval: **448-453.5**

Date: **April 8, 2001**  
 Job #: **736071-07000**

Cow Creek Apr4-01  
 Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 100068.1         |                    |                              |                               |
| 0.5             | 39           | 100072.3         | 4.2                | 8.4                          | 8.40                          |
| 1               | 39           | 100073.0         | 4.8                | 4.8                          | 1.30                          |
| 1.5             | 39           | 100073.2         | 5.1                | 3.4                          | 0.50                          |
| 2               | 39           | 100074.4         | 6.3                | 3.1                          | 2.40                          |
| 2.5             | 39           | 100075.1         | 7.0                | 2.8                          | 1.40                          |
| 3               | 39           | 100075.8         | 7.7                | 2.6                          | 1.40                          |
| 3.5             | 39           | 100076.4         | 8.3                | 2.4                          | 1.20                          |
| 4               | 39           | 100077.1         | 9.0                | 2.3                          | 1.40                          |
| 4.5             | 39           | 100077.8         | 9.7                | 2.2                          | 1.40                          |
| 5               | 39           | 100078.5         | 10.3               | 2.1                          | 1.35                          |
| 6               | 39           | 100079.8         | 11.7               | 1.9                          | 1.35                          |
| 7               | 39           | 100081.2         | 13.1               | 1.9                          | 1.40                          |
| 8               | 39           | 100082.5         | 14.4               | 1.8                          | 1.30                          |
| 9               | 39           | 100083.9         | 15.8               | 1.8                          | 1.40                          |
| 10              | 39           | 100085.3         | 17.2               | 1.7                          | 1.40                          |
| 11              | 39           | 100086.7         | 18.6               | 1.7                          | 1.40                          |
| 12              | 39           | 100088.0         | 19.9               | 1.7                          | 1.30                          |
| 13              | 39           | 100089.4         | 21.3               | 1.6                          | 1.40                          |
| 14              | 39           | 100090.8         | 22.7               | 1.6                          | 1.40                          |
| 15              | 39           | 100092.1         | 24.0               | 1.6                          | 1.36                          |
| 20              | 39           | 100099.0         | 30.9               | 1.5                          | 1.38                          |
| 25              | 39           | 100105.8         | 37.7               | 1.5                          | 1.36                          |
| 30              | 39           | 100112.7         | 44.6               | 1.5                          | 1.38                          |
| 35              | 39           | 100119.5         | 51.4               | 1.5                          | 1.36                          |

| Calculations (Zone 3 - Below Water Table) |                         |                              |
|---|-------------------------|------------------------------|
| Q=  | 1.5 gpm                 | 0.00327 ft <sup>3</sup> /sec |
| A=  | 5.5 ft                  |                              |
| r=  | 0.167 ft                |                              |
| A/r=                                      | 33.00                   |                              |
| C <sub>s</sub> =                          | 58                      |                              |
| h <sub>1</sub> =                          | 110.63 ft               |                              |
| h <sub>2</sub> =                          | 89.973 ft               |                              |
| L=  | 0.359 ft                |                              |
|   | P <sub>L</sub> = 467 ft |                              |
|   | Q= 1.5 gpm              |                              |
|   | c= 140                  |                              |
|   | d= 1.25 inches          |                              |
| H=  | 200.244                 |                              |
| K=  | 1.69E-06 ft/sec         |                              |

Depth to Water: 107.93 feet  
 Height of Gauge: 2.7 feet  
 Length of Injection Pipe: 448 feet  
 Injection Pipe Stickup: 9.33 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW6-CC**  
 Test Interval: **470-475.5**

Date: **April 8, 2001**  
 Job #: **736071-07000**

Cow Creek    Apr4-01  
 Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 5.8              |                    |                              |                               |
| 0.5             | 39           | 10.4             | 4.6                | 9.2                          | 9.20                          |
| 1               | 40           | 11.0             | 5.2                | 5.2                          | 1.20                          |
| 1.5             | 40           | 11.4             | 5.6                | 3.7                          | 0.80                          |
| 2               | 40           | 11.8             | 6.0                | 3.0                          | 0.80                          |
| 2.5             | 40           | 12.3             | 6.5                | 2.6                          | 1.00                          |
| 3               | 40           | 12.8             | 7.0                | 2.3                          | 1.00                          |
| 3.5             | 40           | 13.1             | 7.3                | 2.1                          | 0.60                          |
| 4               | 40           | 13.6             | 7.8                | 2.0                          | 1.00                          |
| 4.5             | 40           | 14.0             | 8.2                | 1.8                          | 0.80                          |
| 5               | 40           | 14.4             | 8.6                | 1.7                          | 0.80                          |
| 6               | 40           | 15.2             | 9.4                | 1.6                          | 0.80                          |
| 7               | 40           | 16.0             | 10.2               | 1.5                          | 0.80                          |
| 8               | 40           | 16.7             | 10.9               | 1.4                          | 0.70                          |
| 9               | 40           | 17.5             | 11.7               | 1.3                          | 0.80                          |
| 10              | 40           | 18.2             | 12.4               | 1.2                          | 0.70                          |
| 11              | 40           | 19.0             | 13.2               | 1.2                          | 0.80                          |
| 12              | 40           | 19.9             | 14.1               | 1.2                          | 0.85                          |
| 13              | 40           | 20.2             | 14.4               | 1.1                          | 0.35                          |
| 14              | 40           | 21.5             | 15.7               | 1.1                          | 1.25                          |
| 15              | 40           | 22.2             | 16.4               | 1.1                          | 0.80                          |
| 20              | 40           | 26.3             | 20.5               | 1.0                          | 0.82                          |
| 25              | 40           | 30.2             | 24.4               | 1.0                          | 0.78                          |
| 30              | 40           | 34.2             | 28.4               | 0.9                          | 0.79                          |
| 35              | 40           | 38.1             | 32.3               | 0.9                          | 0.78                          |

| Calculations (Zone 3 - Below Water Table) |                         |                              |
|---|-------------------------|------------------------------|
| Q=  | 0.9 gpm                 | 0.00205 ft <sup>3</sup> /sec |
| A=  | 5.5 ft                  |                              |
| r=  | 0.167 ft                |                              |
| A/r=                                      | 33.00                   |                              |
| C <sub>s</sub> =                          | 58                      |                              |
| h <sub>1</sub> =                          | 109.33 ft               |                              |
| h <sub>2</sub> =                          | 92.28 ft                |                              |
| L=  | 0.158 ft                |                              |
|   | P <sub>L</sub> = 488 ft |                              |
|   | Q= 0.9 gpm              |                              |
|   | c= 140                  |                              |
|   | d= 1.25 inches          |                              |
| H=  | 201.452                 |                              |
| K=  | 1.05E-06 ft/sec         |                              |

Depth to Water:            **106.63** feet  
 Height of Gauge:            **2.7** feet  
 Length of Injection Pipe:    **470** feet  
 Injection Pipe Stickup:      **8** feet  
 Length of Hose:              **10** feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW7-LGR**  
 Test Interval: **68-73.5'**

Date: **February 19, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | <i>Pressure</i> | <i>Totalizer</i> | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|-----------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i>    | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0               | 2705.0           |                    |                              |                               |
| 0.5             | 45              | 2705.0           | 0.0                | 0.0                          | 0.00                          |
| 1               | 45              | 2705.1           | 0.1                | 0.1                          | 0.20                          |
| 1.5             | 45              | 2705.1           | 0.1                | 0.1                          | 0.00                          |
| 2               | 45              | 2705.1           | 0.1                | 0.0                          | 0.00                          |
| 2.5             | 45              | 2705.1           | 0.1                | 0.0                          | 0.00                          |
| 3               | 45              | 2705.1           | 0.1                | 0.0                          | 0.00                          |
| 3.5             | 45              | 2705.1           | 0.1                | 0.0                          | 0.00                          |
| 4               | 45              | 2705.15          | 0.2                | 0.0                          | 0.10                          |
| 4.5             | 45              | 2705.15          | 0.2                | 0.0                          | 0.00                          |
| 5               | 45              | 2705.15          | 0.2                | 0.0                          | 0.00                          |
| 6               | 45              | 2705.15          | 0.2                | 0.0                          | 0.00                          |
| 7               | 45              | 2705.2           | 0.2                | 0.0                          | 0.05                          |
| 8               | 45              | 2705.2           | 0.2                | 0.0                          | 0.00                          |
| 9               | 45              | 2705.25          | 0.3                | 0.0                          | 0.05                          |
| 10              | 45              | 2705.3           | 0.3                | 0.030                        | 0.05                          |

| Calculations (Zone 3 - Below Water Table) |                         |                              |
|---|-------------------------|------------------------------|
| Q=  | 0.030 gpm               | 0.00007 ft <sup>3</sup> /sec |
| A=  | 5.5 ft                  |                              |
| r=  | 0.125 ft                |                              |
| A/r=                                      | 44.00                   |                              |
| C <sub>s</sub> =                          | 68                      |                              |
| h <sub>1</sub> =                          | 123 ft                  |                              |
| h <sub>2</sub> =                          | 103.815 ft              |                              |
| L=  | 0.000 ft                |                              |
|   | P <sub>L</sub> = 197 ft |                              |
|   | Q= 0.0 gpm              |                              |
|   | c= 140                  |                              |
|   | d= 1.25 inches          |                              |
| H=  | 226.815                 |                              |
| <b>K=</b>                                 | <b>3.47E-08 ft/sec</b>  |                              |

Depth to Water: **74.03** feet  
 Height of Gauge: **2.5** feet  
 Length of Injection Pipe: **68** feet  
 Injection Pipe Stickup: **5** feet  
 Length of Hose: **10** feet



## INJECTION PACKER TEST DATA SHEET

Well: MW7-LGR  
 Test Interval: 324.5-330'

Date: February 19, 2001  
 Job #: 736071-07000

### Field Measurement Input

| Time Elapsed    | <i>Pressure</i> | <i>Totalizer</i> | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|-----------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i>    | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0               | 2650.5           |                    |                              |                               |
| 0.5             | 45              | 2654.6           | 4.1                | 8.2                          | 8.20                          |
| 1               | 45              | 2655.3           | 4.8                | 4.8                          | 1.40                          |
| 1.5             | 45              | 2656.1           | 5.6                | 3.7                          | 1.60                          |
| 2               | 45              | 2656.9           | 6.4                | 3.2                          | 1.60                          |
| 2.5             | 45              | 2657.7           | 7.2                | 2.9                          | 1.60                          |
| 3               | 46              | 2658.4           | 7.9                | 2.6                          | 1.40                          |
| 3.5             | 46              | 2659.2           | 8.7                | 2.5                          | 1.60                          |
| 4               | 46              | 2659.9           | 9.4                | 2.4                          | 1.40                          |
| 4.5             | 46              | 2661.0           | 10.5               | 2.3                          | 2.20                          |
| 5               | 46              | 2661.5           | 11.0               | 2.2                          | 1.60                          |
| 6               | 46              | 2663.1           | 12.6               | 2.1                          | 1.60                          |
| 7               | 46              | 2664.6           | 14.1               | 2.0                          | 1.50                          |
| 8               | 46              | 2666.2           | 15.7               | 2.0                          | 1.60                          |
| 9               | 46              | 2667.6           | 17.1               | 1.9                          | 1.40                          |
| 10              | 46              | 2669.0           | 18.5               | 1.9                          | 1.40                          |
| 15              | 46              | 2676.8           | 26.3               | 1.8                          | 1.56                          |
| 20              | 46              | 2684.4           | 33.9               | 1.7                          | 1.52                          |
| 25              | 46              | 2691.8           | 41.3               | 1.7                          | 1.48                          |

### Calculations (Zone 3 - Below Water Table)

Q= 1.7 gpm      0.00368 ft<sup>3</sup>/sec  
 A= 5.5 ft  
 r= 0.125 ft  
 A/r= 44.00  
 C<sub>s</sub>= 68  
 h<sub>1</sub>= 76.53 ft  
 h<sub>2</sub>= 106.122 ft  
 L= 0.324 ft  
     P<sub>L</sub>= 339 ft  
     Q= 1.7 gpm  
     c= 140  
     d= 1.25 inches  
 H= 182.328  
**K= 2.38E-06 ft/sec**

Depth to Water: 74.03 feet  
 Height of Gauge: 2.5 feet  
 Length of Injection Pipe: 324.5 feet  
 Injection Pipe Stickup: 4.5 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW7-CC**  
 Test Interval: **420 - 432.1'**

Date: **June 28, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | <i>Pressure</i> | <i>Totalizer</i> | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|-----------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i>    | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0               | 18997.5          | 0.0                | 0.0                          | 0.00                          |
| 0.5             | 28              | 19009.6          | 12.1               | 24.2                         | 24.20                         |
| 1               | 29              | 19018.2          | 20.7               | 20.7                         | 17.20                         |
| 1.5             | 32              | 19027.3          | 29.8               | 19.9                         | 18.20                         |
| 2               | 32              | 19035.6          | 38.1               | 19.0                         | 16.60                         |
| 2.5             | 33              | 19044.1          | 46.6               | 18.6                         | 17.00                         |
| 3               | 33              | 19052.7          | 55.2               | 18.4                         | 17.20                         |
| 3.5             | 33              | 19061.1          | 63.6               | 18.2                         | 16.80                         |
| 4               | 33              | 19069.7          | 72.2               | 18.1                         | 17.20                         |
| 4.5             | 33              | 19078.3          | 80.8               | 18.0                         | 17.20                         |
| 5               | 34              | 19086.4          | 88.9               | 17.8                         | 16.70                         |
| 6               | 34              | 19103.9          | 106.4              | 17.7                         | 17.50                         |
| 7               | 35              | 19121.1          | 123.6              | 17.7                         | 17.20                         |
| 8               | 35              | 19137.6          | 140.1              | 17.5                         | 16.50                         |
| 9               | 35              | 19154.3          | 156.8              | 17.4                         | 16.70                         |
| 10              | 35              | 19171.2          | 173.7              | 17.4                         | 16.90                         |
| 15              | 35              | 19259.6          | 262.1              | 17.5                         | 17.68                         |
| 20              | 35              | 19342.5          | 345.0              | 17.3                         | 16.58                         |
| 25              | 35              | 19425.7          | 428.2              | 17.1                         | 16.64                         |

### Calculations (Zone 3 - Below Water Table)

Q= 17.1 *gpm*      0.03816 *ft<sup>3</sup>/sec*  
 A= 12.1 *ft*  
 r= 0.167 *ft*  
 A/r= 72.60  
 C<sub>s</sub>= 100  
 h<sub>1</sub>= 135 *ft*  
 h<sub>2</sub>= 80.745 *ft*  
 L= 31.531 *ft*  
     P<sub>L</sub>= 436 *ft*  
     Q= 17.1 *gpm*  
     c= 140  
     d= 1.25 *inches*  
 H= 184.214  
**K= 1.24E-05 *ft/sec***

Depth to Water: 132.6 *feet*  
 Height of Gauge: 2.4 *feet*  
 Length of Injection Pipe: 420 *feet*  
 Injection Pipe Stickup: 6 *feet*  
 Length of Hose: 10 *feet*

## INJECTION PACKER TEST DATA SHEET

Well: **MW7-CC**  
 Test Interval: **440 - 452.1**

Date: **June 28, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 19431.0          | 0.0                | 0.0                          | 0.00                          |
| 0.5             | 18           | 19444.0          | 13.0               | 26.0                         | 26.00                         |
| 1               | 19           | 19455.5          | 24.5               | 24.5                         | 23.00                         |
| 1.5             | 19           | 19468.7          | 37.7               | 25.1                         | 26.40                         |
| 2               | 20           | 19481.2          | 50.2               | 25.1                         | 25.00                         |
| 2.5             | 20           | 19493.5          | 62.5               | 25.0                         | 24.60                         |
| 3               | 20           | 19505.8          | 74.8               | 24.9                         | 24.60                         |
| 3.5             | 20           | 19517.7          | 86.7               | 24.8                         | 23.80                         |
| 4               | 20           | 19530.0          | 99.0               | 24.8                         | 24.60                         |
| 4.5             | 21           | 19542.3          | 111.3              | 24.7                         | 24.60                         |
| 5               | 21           | 19554.4          | 123.4              | 24.7                         | 24.40                         |
| 6               | 21           | 19578.9          | 147.9              | 24.7                         | 24.50                         |
| 7               | 21           | 19603.1          | 172.1              | 24.6                         | 24.20                         |
| 8               | 21           | 19627.6          | 196.6              | 24.6                         | 24.50                         |
| 9               | 21           | 19651.9          | 220.9              | 24.5                         | 24.30                         |
| 10              | 21           | 19676.2          | 245.2              | 24.5                         | 24.30                         |
| 15              | 21           | 19797.9          | 366.9              | 24.5                         | 24.34                         |
| 20              | 21           | 19919.0          | 488.0              | 24.4                         | 24.22                         |
| 25              | 21           | 20038.1          | 607.1              | 24.3                         | 23.82                         |

### Calculations (Zone 3 - Below Water Table)

Q= 24.3 gpm      0.05411 ft<sup>3</sup>/sec  
 A= 12.1 ft  
 r= 0.167 ft  
 A/r= 72.60  
 C<sub>s</sub>= 100  
 h<sub>1</sub>= 135 ft  
 h<sub>2</sub>= 48.447 ft  
 L= 62.908 ft  
     P<sub>L</sub>= 456 ft  
     Q= 24.3 gpm  
     c= 140  
     d= 1.25 inches  
 H= 120.539  
**K= 2.69E-05 ft/sec**

Depth to Water: 132.6 feet  
 Height of Gauge: 2.4 feet  
 Length of Injection Pipe: 440 feet  
 Injection Pipe Stickup: 6 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW8-LGR**  
 Test Interval: **305.5-316'**

Date: **May 7, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 11629.0          | 0.0                | 0.0                          | 0.00                          |
| 0.5             | 33           | 11627.5          | -1.5               | -3.0                         | -3.00                         |
| 1               | 34           | 11633.8          | 4.8                | 4.8                          | 12.60                         |
| 1.5             | 34           | 11640.0          | 11.0               | 7.3                          | 12.40                         |
| 2               | 34           | 11645.9          | 16.9               | 8.4                          | 11.80                         |
| 2.5             | 34           | 11651.6          | 22.6               | 9.0                          | 11.40                         |
| 3               | 34           | 11657.5          | 28.5               | 9.5                          | 11.80                         |
| 3.5             | 34           | 11663.2          | 34.2               | 9.8                          | 11.40                         |
| 4               | 34           | 11668.8          | 39.8               | 9.9                          | 11.20                         |
| 4.5             | 34           | 11674.2          | 45.2               | 10.0                         | 10.80                         |
| 5               | 34           | 11680.1          | 51.1               | 10.2                         | 11.30                         |
| 6               | 34           | 11691.4          | 62.4               | 10.4                         | 11.30                         |
| 7               | 34           | 11702.4          | 73.4               | 10.5                         | 11.00                         |
| 8               | 34           | 11713.7          | 84.7               | 10.6                         | 11.30                         |
| 9               | 34           | 11724.7          | 95.7               | 10.6                         | 11.00                         |
| 10              | 34           | 11735.7          | 106.7              | 10.7                         | 11.00                         |
| 11              | 34           | 11746.8          | 117.8              | 10.7                         | 11.10                         |
| 12              | 34           | 11757.8          | 128.8              | 10.7                         | 11.00                         |
| 13              | 34           | 11768.7          | 139.7              | 10.7                         | 10.90                         |
| 14              | 34           | 11779.7          | 150.7              | 10.8                         | 11.00                         |
| 15              | 34           | 11790.7          | 161.7              | 10.8                         | 11.00                         |
| 20              | 34           | 11844.9          | 215.9              | 10.8                         | 10.84                         |
| 25              | 34           | 11898.7          | 269.7              | 10.8                         | 10.76                         |

### Calculations (Zone 3 - Below Water Table)

Q= 10.8 *gpm*      0.02404 *ft<sup>3</sup>/sec*  
 A= 10.5 *ft*  
 r= 0.167 *ft*  
 A/r= 63.00  
 C<sub>s</sub>= 88  
 h<sub>1</sub>= 82.7 *ft*  
 h<sub>2</sub>= 78.438 *ft*  
 L= 9.975 *ft*  
     P<sub>L</sub>= 324.4 *ft*  
     Q= 10.8 *gpm*  
     c= 140  
     d= 1.25 *inches*  
 H= 151.163  
**K= 1.08E-05 *ft/sec***

Depth to Water: 80 feet  
 Height of Gauge: 2.7 feet  
 Length of Injection Pipe: 305.5 feet  
 Injection Pipe Stickup: 8.9 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW8-LGR**  
 Test Interval: **346.5-357'**

Date: **May 7, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 11361.4          | 0.0                | 0.0                          | 0.00                          |
| 0.5             | 32           | 11371.0          | 9.6                | 19.2                         | 19.20                         |
| 1               | 34           | 11376.5          | 15.1               | 15.1                         | 11.00                         |
| 1.5             | 35           | 11381.9          | 20.5               | 13.7                         | 10.80                         |
| 2               | 35           | 11387.4          | 26.0               | 13.0                         | 11.00                         |
| 2.5             | 35           | 11392.7          | 31.3               | 12.5                         | 10.60                         |
| 3               | 35           | 11398.0          | 36.6               | 12.2                         | 10.60                         |
| 3.5             | 35           | 11403.8          | 42.4               | 12.1                         | 11.60                         |
| 4               | 35           | 11408.9          | 47.5               | 11.9                         | 10.20                         |
| 4.5             | 35           | 11413.4          | 52.0               | 11.6                         | 9.00                          |
| 5               | 35           | 11418.2          | 56.8               | 11.4                         | 9.30                          |
| 6               | 35           | 11428.3          | 66.9               | 11.1                         | 10.10                         |
| 7               | 35           | 11438.7          | 77.3               | 11.0                         | 10.40                         |
| 8               | 35           | 11448.3          | 86.9               | 10.9                         | 9.60                          |
| 9               | 35           | 11458.3          | 96.9               | 10.8                         | 10.00                         |
| 10              | 35           | 11468.4          | 107.0              | 10.7                         | 10.10                         |
| 11              | 35           | 11478.4          | 117.0              | 10.6                         | 10.00                         |
| 12              | 35           | 11488.3          | 126.9              | 10.6                         | 9.90                          |
| 13              | 35           | 11498.4          | 137.0              | 10.5                         | 10.10                         |
| 14              | 35           | 11508.3          | 146.9              | 10.5                         | 9.90                          |
| 15              | 35           | 11518.2          | 156.8              | 10.5                         | 9.90                          |
| 20              | 35           | 11567.3          | 205.9              | 10.3                         | 9.82                          |
| 25              | 35           | 11616.0          | 254.6              | 10.2                         | 9.74                          |

### Calculations (Zone 3 - Below Water Table)

Q= 10.2 *gpm*      0.02269 *ft<sup>3</sup>/sec*  
 A= 10.5 *ft*  
 r= 0.167 *ft*  
 A/r= 63.00  
 C<sub>s</sub>= 88  
 h<sub>1</sub>= 82.7 *ft*  
 h<sub>2</sub>= 80.745 *ft*  
 L= 10.114 *ft*  
     P<sub>L</sub>= 365.9 *ft*  
     Q<sub>L</sub>= 10.2 *gpm*  
     c= 140  
     d= 1.25 *inches*  
 H= 153.331  
**K= 1.01E-05 *ft/sec***

Depth to Water: 80 feet  
 Height of Gauge: 2.7 feet  
 Length of Injection Pipe: 346.5 feet  
 Injection Pipe Stickup: 9.4 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW8-CC**  
 Test Interval: **434.8-445'**

Date: **June 5, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 12170.0          | 0.0                | 0.0                          | 0.00                          |
| 0.5             | 33           | 12180.2          | 10.2               | 20.4                         | 20.40                         |
| 1               | 34           | 12186.5          | 16.5               | 16.5                         | 12.60                         |
| 1.5             | 34           | 12192.3          | 22.3               | 14.9                         | 11.60                         |
| 2               | 34           | 12197.9          | 27.9               | 13.9                         | 11.20                         |
| 2.5             | 34           | 12203.8          | 33.8               | 13.5                         | 11.80                         |
| 3               | 34           | 12209.7          | 39.7               | 13.2                         | 11.80                         |
| 3.5             | 34           | 12215.0          | 45.0               | 12.9                         | 10.60                         |
| 4               | 34           | 12220.3          | 50.3               | 12.6                         | 10.60                         |
| 4.5             | 35           | 12225.5          | 55.5               | 12.3                         | 10.40                         |
| 5               | 35           | 12230.0          | 60.0               | 12.0                         | 9.70                          |
| 6               | 35           | 12242.7          | 72.7               | 12.1                         | 12.70                         |
| 7               | 35           | 12254.0          | 84.0               | 12.0                         | 11.30                         |
| 8               | 35           | 12265.4          | 95.4               | 11.9                         | 11.40                         |
| 9               | 35           | 12276.6          | 106.6              | 11.8                         | 11.20                         |
| 10              | 35           | 12287.8          | 117.8              | 11.8                         | 11.20                         |
| 11              | 35           | 12299.5          | 129.5              | 11.8                         | 11.70                         |
| 12              | 35           | 12310.4          | 140.4              | 11.7                         | 10.90                         |
| 13              | 35           | 12321.5          | 151.5              | 11.7                         | 11.10                         |
| 14              | 35           | 12332.8          | 162.8              | 11.6                         | 11.30                         |
| 15              | 35           | 12344.0          | 174.0              | 11.6                         | 11.20                         |
| 20              | 35           | 12400.1          | 230.1              | 11.5                         | 11.22                         |

### Calculations (Zone 3 - Below Water Table)

Q= 11.5 gpm      0.02564 ft<sup>3</sup>/sec  
 A= 10.2 ft  
 r= 0.167 ft  
 A/r= 61.20  
 C<sub>s</sub>= 86  
 h<sub>1</sub>= 82.3 ft  
 h<sub>2</sub>= 80.745 ft  
 L= 15.614 ft  
     P<sub>L</sub>= 450.8 ft  
     Q= 11.5 gpm  
     c= 140  
     d= 1.25 inches  
 H= 147.431  
**K= 1.21E-05 ft/sec**

Depth to Water: 80 feet  
 Height of Gauge: 2.3 feet  
 Length of Injection Pipe: 434.8 feet  
 Injection Pipe Stickup: 6 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW8-CC**  
 Test Interval: **449.8-460'**

Date: **June 5, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 11996.8          | 0.0                | 0.0                          | 0.00                          |
| 0.5             | 37           | 12006.2          | 9.4                | 18.8                         | 18.80                         |
| 1               | 38           | 12009.8          | 13.0               | 13.0                         | 7.20                          |
| 1.5             | 38           | 12013.5          | 16.7               | 11.1                         | 7.40                          |
| 2               | 38           | 12017.7          | 20.9               | 10.5                         | 8.40                          |
| 2.5             | 38           | 12020.0          | 23.2               | 9.3                          | 4.60                          |
| 3               | 38           | 12023.4          | 26.6               | 8.9                          | 6.80                          |
| 3.5             | 38           | 12026.5          | 29.7               | 8.5                          | 6.20                          |
| 4               | 38           | 12029.6          | 32.8               | 8.2                          | 6.20                          |
| 4.5             | 38           | 12032.7          | 35.9               | 8.0                          | 6.20                          |
| 5               | 38           | 12035.9          | 39.1               | 7.8                          | 6.30                          |
| 6               | 38           | 12042.2          | 45.4               | 7.6                          | 6.30                          |
| 7               | 38           | 12048.4          | 51.6               | 7.4                          | 6.20                          |
| 8               | 38           | 12054.5          | 57.7               | 7.2                          | 6.10                          |
| 9               | 38           | 12060.4          | 63.6               | 7.1                          | 5.90                          |
| 10              | 38           | 12067.2          | 70.4               | 7.0                          | 6.80                          |
| 11              | 38           | 12073.8          | 77.0               | 7.0                          | 6.60                          |
| 12              | 38           | 12080.1          | 83.3               | 6.9                          | 6.30                          |
| 13              | 38           | 12086.8          | 90.0               | 6.9                          | 6.70                          |
| 14              | 38           | 12093.3          | 96.5               | 6.9                          | 6.50                          |
| 15              | 38           | 12099.8          | 103.0              | 6.9                          | 6.50                          |
| 20              | 38           | 12132.5          | 135.7              | 6.8                          | 6.54                          |
| 25              | 38           | 12165.9          | 169.1              | 6.8                          | 6.68                          |

### Calculations (Zone 3 - Below Water Table)

Q= 6.8 gpm      0.01507 ft<sup>3</sup>/sec  
 A= 10.2 ft  
 r= 0.167 ft  
 A/r= 61.20  
 C<sub>s</sub>= 86  
 h<sub>1</sub>= 82.3 ft  
 h<sub>2</sub>= 87.666 ft  
 L= 6.056 ft  
     P<sub>L</sub>= 467.1 ft  
     Q= 6.8 gpm  
     c= 140  
     d= 1.25 inches  
 H= 163.910  
**K= 6.42E-06 ft/sec**

Depth to Water: 80 feet  
 Height of Gauge: 2.3 feet  
 Length of Injection Pipe: 449.8 feet  
 Injection Pipe Stickup: 7.3 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW9-CC**  
 Test Interval: **153-158.5'**

Date: **November 22, 2000**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 144.6            |                    |                              |                               |
| 0.5             | 5            | 154.4            | 9.8                | 19.6                         | 19.60                         |
| 1               | 6            | 164.2            | 19.6               | 19.6                         | 19.60                         |
| 1.5             | 6            | 175.0            | 30.4               | 20.3                         | 21.60                         |
| 2               | 6            | 185.0            | 40.4               | 20.2                         | 20.00                         |
| 2.5             | 7            | 195.5            | 50.9               | 20.4                         | 21.00                         |
| 3               | 7            | 206.0            | 61.4               | 20.5                         | 21.00                         |
| 3.5             | 6            | 216.0            | 71.4               | 20.4                         | 20.00                         |
| 4               | 6            | 227.0            | 82.4               | 20.6                         | 22.00                         |
| 4.5             | 6            | 237.0            | 92.4               | 20.5                         | 20.00                         |
| 5               | 6            | 248.0            | 103.4              | 20.7                         | 21.00                         |
| 6               | 6            | 269.0            | 124.4              | 20.7                         | 21.00                         |
| 7               | 7            | 290.0            | 145.4              | 20.8                         | 21.00                         |
| 8               | 8            | 311.0            | 166.4              | 20.8                         | 21.00                         |
| 9               | 7            | 331.0            | 186.4              | 20.7                         | 20.00                         |
| 10              | 7            | 353.0            | 208.4              | 20.8                         | 22.00                         |
| 15              | 7            | 460.0            | 315.4              | 21.0                         | 21.40                         |
| 20              | 6            | 564.0            | 419.4              | 21.0                         | 20.80                         |
| 25              | 6            | 667.0            | 522.4              | 20.9                         | 20.60                         |

### Calculations (Zone 3 - Below Water Table)

Q= 20.9 gpm      0.04656 ft<sup>3</sup>/sec  
 A= 5.5 ft  
 r= 0.167 ft  
 A/r= 33.00  
 C<sub>s</sub>= 58  
 h<sub>1</sub>= 99.53 ft  
 h<sub>2</sub>= 13.842 ft  
 L= 17.552 ft  
     P<sub>L</sub>= 168 ft  
     Q= 20.9 gpm  
     c= 140  
     d= 1.25 inches  
 H= 95.820  
**K= 5.03E-05 ft/sec**

Depth to Water: 96.61 feet  
 Height of Gauge: 2.92 feet  
 Length of Injection Pipe: 153 feet  
 Injection Pipe Stickup: 5 feet  
 Length of Hose: 10 feet



## INJECTION PACKER TEST DATA SHEET

Well: **MW9-CC**  
 Test Interval: **294-299.5'**

Date: **November 22, 2000**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 67.6             |                    |                              |                               |
| 0.5             | 15           | 74.8             | 7.2                | 14.4                         | 14.40                         |
| 1               | 34           | 76.0             | 8.4                | 8.4                          | 2.40                          |
| 1.5             | 34           | 77.2             | 9.6                | 6.4                          | 2.40                          |
| 2               | 34           | 78.2             | 10.6               | 5.3                          | 2.00                          |
| 2.5             | 34           | 79.3             | 11.7               | 4.7                          | 2.20                          |
| 3               | 34           | 80.5             | 12.9               | 4.3                          | 2.40                          |
| 3.5             | 34           | 81.6             | 14.0               | 4.0                          | 2.20                          |
| 4               | 34           | 82.8             | 15.2               | 3.8                          | 2.40                          |
| 5               | 34.8         | 85.0             | 17.4               | 3.5                          | 2.20                          |
| 6               | 35           | 87.4             | 19.8               | 3.3                          | 2.40                          |
| 7               | 35           | 89.6             | 22.0               | 3.1                          | 2.20                          |
| 8               | 35           | 91.9             | 24.3               | 3.0                          | 2.30                          |
| 9               | 35           | 94.1             | 26.5               | 2.9                          | 2.20                          |
| 10              | 35           | 96.5             | 28.9               | 2.9                          | 2.40                          |
| 11              | 35           | 98.7             | 31.1               | 2.8                          | 2.20                          |
| 12              | 35           | 101.0            | 33.4               | 2.8                          | 2.30                          |
| 13              | 35           | 103.2            | 35.6               | 2.7                          | 2.20                          |
| 14              | 35           | 105.5            | 37.9               | 2.7                          | 2.30                          |
| 15              | 35           | 107.8            | 40.2               | 2.7                          | 2.30                          |
| 20              | 35           | 119.7            | 52.1               | 2.6                          | 2.38                          |
| 25              | 35           | 131.1            | 63.5               | 2.5                          | 2.28                          |
| 30              | 35           | 142.8            | 75.2               | 2.5                          | 2.34                          |

| Calculations (Zone 3 - Below Water Table) |                        |                              |
|---|------------------------|------------------------------|
| Q=  | 2.5 gpm                | 0.00559 ft <sup>3</sup> /sec |
| A=  | 5.5 ft                 |                              |
| r=  | 0.167 ft               |                              |
| A/r=                                      | 33.00                  |                              |
| C <sub>s</sub> =                          | 58                     |                              |
| h <sub>1</sub> =                          | 99.53 ft               |                              |
| h <sub>2</sub> =                          | 80.745 ft              |                              |
| L=  | 0.639 ft               |                              |
|   | P <sub>L</sub> =       | 309 ft                       |
|   | Q=                     | 2.5 gpm                      |
|   | c=                     | 140                          |
|   | d=                     | 1.25 inches                  |
| H=  | 179.636                |                              |
| <b>K=</b>                                 | <b>3.22E-06 ft/sec</b> |                              |

Depth to Water: 96.61 feet  
 Height of Gauge: 2.92 feet  
 Length of Injection Pipe: 294 feet  
 Injection Pipe Stickup: 5 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW9-CC**  
 Test Interval: **360-365.5'**

Date: **January 4, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 1195.7           |                    |                              |                               |
| 0.5             | 60           | 1198.5           | 2.8                | 5.6                          | 5.60                          |
| 1               | 77           | 1200.7           | 5.0                | 5.0                          | 4.40                          |
| 1.5             | 100          | 1202.5           | 6.8                | 4.5                          | 3.60                          |
| 2               | 106          | 1203.2           | 7.5                | 3.8                          | 1.40                          |
| 2.5             | 106          | 1204.5           | 8.8                | 3.5                          | 2.60                          |
| 3               | 106          | 1205.2           | 9.5                | 3.2                          | 1.40                          |
| 3.5             | 106          | 1205.9           | 10.2               | 2.9                          | 1.40                          |
| 4               | 106          | 1206.5           | 10.8               | 2.7                          | 1.20                          |
| 4.5             | 106          | 1207.1           | 11.4               | 2.5                          | 1.20                          |
| 5               | 106          | 1207.7           | 12.0               | 2.4                          | 1.20                          |
| 6               | 106          | 1208.8           | 13.1               | 2.2                          | 1.10                          |
| 7               | 106          | 1209.9           | 14.2               | 2.0                          | 1.10                          |
| 9               | 106          | 1211.7           | 16.0               | 1.8                          | 0.90                          |
| 10              | 107          | 1212.8           | 17.1               | 1.7                          | 1.10                          |
| 11              | 107          | 1213.6           | 17.9               | 1.6                          | 0.80                          |
| 12              | 108          | 1214.3           | 18.6               | 1.5                          | 0.70                          |
| 13              | 108          | 1215.1           | 19.4               | 1.5                          | 0.80                          |
| 14              | 108          | 1215.9           | 20.2               | 1.4                          | 0.80                          |
| 15              | 108          | 1216.6           | 20.9               | 1.4                          | 0.76                          |
| 20              | 108          | 1219.9           | 24.2               | 1.2                          | 0.66                          |
| 25              | 108          | 1222.6           | 26.9               | 1.1                          | 0.54                          |
| 30              | 108          | 1225.1           | 29.4               | 1.0                          | 0.50                          |

| Calculations (Zone 3 - Below Water Table) |                         |                              |
|---|-------------------------|------------------------------|
| Q=  | 1.0 gpm                 | 0.00218 ft <sup>3</sup> /sec |
| A=  | 5.5 ft                  |                              |
| r=  | 0.167 ft                |                              |
| A/r=                                      | 33.00                   |                              |
| C <sub>s</sub> =                          | 58                      |                              |
| h <sub>1</sub> =                          | 184.2 ft                |                              |
| h <sub>2</sub> =                          | 249.156 ft              |                              |
| L=  | 0.424 ft                |                              |
|   | P <sub>L</sub> = 394 ft |                              |
|   | Q= 1.0 gpm              |                              |
|   | c= 140                  |                              |
|   | d= 1 inches             |                              |
| H=  | 432.932                 |                              |
| K=  | 5.22E-07 ft/sec         |                              |

Depth to Water: 181 feet  
 Height of Gauge: 3.2 feet  
 Length of Injection Pipe: 360 feet  
 Injection Pipe Stickup: 13 feet  
 Length of Hose: 21 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW9-CC**  
 Test Interval: **370-375.5'**

Date: **January 4, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 1095.9           |                    |                              |                               |
| 0.5             | 10           | 1102.7           | 6.8                | 13.6                         | 13.60                         |
| 1               | 10           | 1109.5           | 13.6               | 13.6                         | 13.60                         |
| 1.5             | 10           | 1111.8           | 15.9               | 10.6                         | 4.60                          |
| 2               | 20           | 1121.5           | 25.6               | 12.8                         | 19.40                         |
| 2.5             | 24           | 1126.0           | 30.1               | 12.0                         | 9.00                          |
| 3               | 26           | 1129.3           | 33.4               | 11.1                         | 6.60                          |
| 3.5             | 28           | 1132.1           | 36.2               | 10.3                         | 5.60                          |
| 4               | 29           | 1134.1           | 38.2               | 9.5                          | 4.00                          |
| 4.5             | 30           | 1135.9           | 40.0               | 8.9                          | 3.60                          |
| 5               | 31           | 1137.5           | 41.6               | 8.3                          | 3.40                          |
| 6               | 31           | 1140.5           | 44.6               | 7.4                          | 3.00                          |
| 7               | 31           | 1143.4           | 47.5               | 6.8                          | 2.90                          |
| 8               | 31           | 1146.1           | 50.2               | 6.3                          | 2.70                          |
| 9               | 31           | 1149.0           | 53.1               | 5.9                          | 2.90                          |
| 10              | 31           | 1151.7           | 55.8               | 5.6                          | 2.70                          |
| 11              | 32           | 1154.5           | 58.6               | 5.3                          | 2.80                          |
| 12              | 31           | 1157.1           | 61.2               | 5.1                          | 2.60                          |
| 13              | 31           | 1159.8           | 63.9               | 4.9                          | 2.70                          |
| 14              | 31           | 1162.8           | 66.9               | 4.8                          | 2.76                          |
| 15              | 31           | 1165.0           | 69.1               | 4.6                          | 2.20                          |
| 20              | 31           | 1177.7           | 81.8               | 4.1                          | 2.54                          |
| 25              | 31           | 1190.3           | 94.4               | 3.8                          | 2.52                          |

| Calculations (Zone 3 - Below Water Table) |                         |                              |
|---|-------------------------|------------------------------|
| Q=  | 3.8 gpm                 | 0.00841 ft <sup>3</sup> /sec |
| A=  | 5.5 ft                  |                              |
| r=  | 0.167 ft                |                              |
| A/r=                                      | 33.00                   |                              |
| C <sub>s</sub> =                          | 58                      |                              |
| h <sub>1</sub> =                          | 184.2 ft                |                              |
| h <sub>2</sub> =                          | 71.517 ft               |                              |
| L=  | 5.223 ft                |                              |
|   | P <sub>L</sub> = 400 ft |                              |
|   | Q= 3.8 gpm              |                              |
|   | c= 140                  |                              |
|   | d= 1 inches             |                              |
| H=  | 250.494                 |                              |
| <b>K=</b>                                 | <b>3.47E-06 ft/sec</b>  |                              |

Depth to Water: 181 feet  
 Height of Gauge: 3.2 feet  
 Length of Injection Pipe: 370 feet  
 Injection Pipe Stickup: 9 feet  
 Length of Hose: 21 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW9-CC**  
 Test Interval: **386.5-392'**

Date: **January 4, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 718.2            |                    |                              |                               |
| 0.5             | 24           | 727.5            | 9.3                | 18.6                         | 18.60                         |
| 1               | 21           | 735.0            | 16.8               | 16.8                         | 15.00                         |
| 1.5             | 19           | 743.0            | 24.8               | 16.5                         | 16.00                         |
| 2               | 19           | 751.0            | 32.8               | 16.4                         | 16.00                         |
| 2.5             | 16           | 758.5            | 40.3               | 16.1                         | 15.00                         |
| 3               | 15           | 766.4            | 48.2               | 16.1                         | 15.80                         |
| 3.5             | 15           | 774.4            | 56.2               | 16.1                         | 16.00                         |
| 4               | 15           | 781.0            | 62.8               | 15.7                         | 13.20                         |
| 4.5             | 16           | 788.1            | 69.9               | 15.5                         | 14.20                         |
| 5               | 16           | 794.9            | 76.7               | 15.3                         | 13.90                         |
| 6               | 18           | 808.0            | 89.8               | 15.0                         | 13.10                         |
| 7               | 21           | 819.5            | 101.3              | 14.5                         | 11.50                         |
| 8               | 22           | 830.1            | 111.9              | 14.0                         | 10.60                         |
| 9               | 22           | 840.5            | 122.3              | 13.6                         | 10.40                         |
| 10              | 22           | 850.6            | 132.4              | 13.2                         | 10.10                         |
| 11              | 22           | 860.7            | 142.5              | 13.0                         | 10.10                         |
| 12              | 22           | 870.7            | 152.5              | 12.7                         | 10.00                         |
| 13              | 21           | 880.6            | 162.4              | 12.5                         | 9.90                          |
| 14              | 21           | 890.4            | 172.2              | 12.3                         | 9.98                          |
| 15              | 20           | 900.0            | 181.8              | 12.1                         | 9.60                          |
| 20              | 21           | 948.5            | 230.3              | 11.5                         | 9.70                          |
| 25              | 21           | 996.6            | 278.4              | 11.1                         | 9.62                          |
| 30              | 20           | 1043.8           | 325.6              | 10.9                         | 9.44                          |
| 35              | 20           | 1091.8           | 373.6              | 10.7                         | 9.60                          |

### Calculations (Zone 3 - Below Water Table)

Q= 10.7 gpm      0.02378 ft<sup>3</sup>/sec  
 A= 5.5 ft  
 r= 0.167 ft  
 A/r= 33.00  
 C<sub>s</sub>= 58  
 h<sub>1</sub>= 184.2 ft  
 h<sub>2</sub>= 46.14 ft  
 L= 36.849 ft  
     P<sub>L</sub>= 413 ft  
     Q= 10.7 gpm  
     c= 140  
     d= 1 inches  
 H= 193.491  
**K= 1.27E-05 ft/sec**

Depth to Water: 181 feet  
 Height of Gauge: 3.2 feet  
 Length of Injection Pipe: 386.5 feet  
 Injection Pipe Stickup: 5.2 feet  
 Length of Hose: 21 feet

## INJECTION PACKER TEST DATA SHEET

Well: MW9-CC  
 Test Interval: 424.5-430'

Date: January 9, 2001  
 Job #: 736071-07000

### Field Measurement Input

| Time Elapsed    | <i>Pressure</i> | <i>Totalizer</i> | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|-----------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i>    | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0               | 1482.5           |                    |                              |                               |
| 0.5             | 48              | 1491.5           | 9.0                | 18.0                         | 18.00                         |
| 1               | 49              | 1493.6           | 11.1               | 11.1                         | 4.20                          |
| 1.5             | 50              | 1495.8           | 13.3               | 8.9                          | 4.40                          |
| 2               | 50              | 1498.1           | 15.6               | 7.8                          | 4.60                          |
| 2.5             | 50              | 1499.6           | 17.1               | 6.8                          | 3.00                          |
| 3               | 50              | 1500.9           | 18.4               | 6.1                          | 2.60                          |
| 3.5             | 50              | 1502.1           | 19.6               | 5.6                          | 2.40                          |
| 4               | 50              | 1503.0           | 20.5               | 5.1                          | 1.80                          |
| 4.5             | 50              | 1504.8           | 22.3               | 5.0                          | 3.60                          |
| 5               | 50              | 1505.9           | 23.4               | 4.7                          | 2.90                          |
| 6               | 50              | 1507.8           | 25.3               | 4.2                          | 1.90                          |
| 7               | 50              | 1509.8           | 27.3               | 3.9                          | 2.00                          |
| 8               | 50              | 1511.6           | 29.1               | 3.6                          | 1.80                          |
| 9               | 50              | 1513.2           | 30.7               | 3.4                          | 1.60                          |
| 10              | 50              | 1514.9           | 32.4               | 3.2                          | 1.70                          |
| 15              | 50              | 1522.4           | 39.9               | 2.7                          | 1.50                          |
| 20              | 50              | 1528.3           | 45.8               | 2.3                          | 1.18                          |
| 25              | 50              | 1537.1           | 54.6               | 2.2                          | 1.76                          |

### Calculations (Zone 3 - Below Water Table)

Q= 2.2 gpm      0.00487 ft<sup>3</sup>/sec  
 A= 5.5 ft  
 r= 0.167 ft  
 A/r= 33.00  
 C<sub>s</sub>= 58  
 h<sub>1</sub>= 301.2 ft  
 h<sub>2</sub>= 115.35 ft  
 L= 0.731 ft  
     P<sub>L</sub>= 456 ft  
     Q= 2.2 gpm  
     c= 140  
     d= 1.25 inches  
 H= 415.819  
**K= 1.21E-06 ft/sec**

Depth to Water: 298 feet  
 Height of Gauge: 3.2 feet  
 Length of Injection Pipe: 424.5 feet  
 Injection Pipe Stickup: 10.7 feet  
 Length of Hose: 21 feet

## INJECTION PACKER TEST DATA SHEET

Well: MW9-CC  
 Test Interval: 445.5-451'

Date: January 9, 2001  
 Job #: 736071-07000

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 1544.7           |                    |                              |                               |
| 0.5             | 50           | 1552.3           | 7.6                | 15.2                         | 15.20                         |
| 1               | 50           | 1552.6           | 7.9                | 7.9                          | 0.60                          |
| 1.5             | 52           | 1552.6           | 7.9                | 5.3                          | 0.00                          |
| 2               | 52           | 1552.6           | 7.9                | 3.9                          | 0.00                          |
| 2.5             | 52           | 1552.6           | 7.9                | 3.2                          | 0.00                          |
| 3               | 52           | 1552.6           | 7.9                | 2.6                          | 0.00                          |
| 3.5             | 52           | 1552.6           | 7.9                | 2.3                          | 0.00                          |
| 4               | 52           | 1552.6           | 7.9                | 2.0                          | 0.00                          |
| 4.5             | 52           | 1552.6           | 7.9                | 1.8                          | 0.00                          |
| 5               | 52           | 1552.6           | 7.9                | 1.6                          | 0.00                          |

FIELD NOTES INDICATE THAT THE TEST WAS STOPPED  
 SINCE FORMATION DID NOT TAKE WATER ONCE PRESSURE BUILT UP

### Calculations (Zone 3 - Below Water Table)

Q= 0.0 gpm      0.00000 ft<sup>3</sup>/sec  
 A= 5.5 ft  
 r= 0.167 ft  
 A/r= 33.00  
 C<sub>s</sub>= 58  
 h<sub>1</sub>= 301.2 ft  
 h<sub>2</sub>= 119.964 ft  
 L= 0.000 ft  
     P<sub>L</sub>= 477 ft  
     Q= 0.0 gpm  
     c= 140  
     d= 1.25 inches  
 H= 421.164  
**K= 0.00E+00 ft/sec**

*Note: Q is set to Zero since a no-flow condition was established within the first 5 minutes of the test. The resultant Permeability is arbitrarily calculated as zero because of the no-flow condition.*

Depth to Water: 298 feet  
 Height of Gauge: 3.2 feet  
 Length of Injection Pipe: 445.5 feet  
 Injection Pipe Stickup: 10.7 feet  
 Length of Hose: 21 feet

## INJECTION PACKER TEST DATA SHEET

Well: MW10-CC  
 Test Interval: 307-317.4'

Date: August 24, 2001  
 Job #: 736071-07000

### Field Measurement Input

| Time Elapsed | Pressure | Totalizer | Volume Injected | Overall Discharge Rate | Interval Discharge Rate |
|--------------|----------|-----------|-----------------|------------------------|-------------------------|
| (minute)     | (psi)    | (gallons) | (gallons)       | (gpm)                  | (gpm)                   |
| 0            | 0        | 24825.0   |                 |                        |                         |
| 0.5          | 10       | 24837.0   | 12.0            | 24.0                   | 24.00                   |
| 1            | 42       | 24839.0   | 14.0            | 14.0                   | 4.00                    |
| 1.5          | 42       | 24838.7   | 13.7            | 9.1                    | -0.60                   |
| 2            | 42       | 24838.5   | 13.5            | 6.8                    | -0.40                   |

### Calculations (Zone 3 - Below Water Table)

Q= 0.0 gpm      0.00000 ft<sup>3</sup>/sec  
 A= 10.4 ft  
 r= 0.167 ft  
 A/r= 62.40  
 C<sub>s</sub>= 87  
 h<sub>1</sub>= 212.5 ft  
 h<sub>2</sub>= 96.894 ft  
 L= 0.000 ft  
     P<sub>L</sub>= 326 ft  
     Q= 0.0 gpm  
     c= 140  
     d= 1.25 inches  
 H= 309.394  
**K= 0.00E+00 ft/sec**

*Note: Q is set to Zero since a no-flow condition was established within the first 5 minutes of the test. The resultant Permeability is arbitrarily calculated as zero because of the no-flow condition.*

FIELD NOTES INDICATE THAT THE TEST WAS STOPPED  
 SINCE FORMATION DID NOT TAKE WATER ONCE PRESSURE BUILT UP

Depth to Water: 209.9 feet  
 Height of Gauge: 2.6 feet  
 Length of Injection Pipe: 307 feet  
 Injection Pipe Stickup: 8.7 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: MW10-CC  
 Test Interval: 320-330.4'

Date: August 24, 2001  
 Job #: 736071-07000

### Field Measurement Input

| Time Elapsed | Pressure | Totalizer | Volume Injected | Overall Discharge Rate | Interval Discharge Rate |
|--------------|----------|-----------|-----------------|------------------------|-------------------------|
| (minute)     | (psi)    | (gallons) | (gallons)       | (gpm)                  | (gpm)                   |
| 0            | 0        | 24833.0   |                 |                        |                         |
| 0.5          | 15       | 24845.0   | 12.0            | 24.0                   | 24.00                   |
| 1            | 42       | 24847.0   | 14.0            | 14.0                   | 4.00                    |
| 1.5          | 42       | 24846.6   | 13.6            | 9.1                    | -0.80                   |
| 2            | 42       | 24846.3   | 13.3            | 6.6                    | -0.60                   |

### Calculations (Zone 3 - Below Water Table)

Q= 0.0 gpm      0.00000 ft<sup>3</sup>/sec  
 A= 10.4 ft  
 r= 0.167 ft  
 A/r= 62.40  
 C<sub>s</sub>= 87  
 h<sub>1</sub>= 212.5 ft  
 h<sub>2</sub>= 96.894 ft  
 L= 0.000 ft  
     P<sub>L</sub>= 337 ft  
     Q= 0.0 gpm  
     c= 140  
     d= 1.25 inches  
 H= 309.394  
**K= 0.00E+00 ft/sec**

*Note: Q is set to Zero since a no-flow condition was established within the first 5 minutes of the test. The resultant Permeability is arbitrarily calculated as zero because of the no-flow condition.*

FIELD NOTES INDICATE THAT THE TEST WAS STOPPED  
 SINCE FORMATION DID NOT TAKE WATER ONCE PRESSURE BUILT UP

Depth to Water: 209.9 feet  
 Height of Gauge: 2.6 feet  
 Length of Injection Pipe: 320 feet  
 Injection Pipe Stickup: 6.8 feet  
 Length of Hose: 10 feet



## INJECTION PACKER TEST DATA SHEET

Well: **MW10-CC**  
 Test Interval: **356-366.4'**

Date: **August 24, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 24838.0          |                    |                              |                               |
| 0.5             | 12           | 24849.0          | 11.0               | 22.0                         | 22.00                         |
| 1               | 40           | 24855.0          | 17.0               | 17.0                         | 12.00                         |
| 1.5             | 42           | 24856.5          | 18.5               | 12.3                         | 3.00                          |
| 2               | 41           | 24858.0          | 20.0               | 10.0                         | 3.00                          |
| 2.5             | 41           | 24859.5          | 21.5               | 8.6                          | 3.00                          |
| 3               | 40           | 24861.0          | 23.0               | 7.7                          | 3.00                          |
| 3.5             | 40           | 24862.6          | 24.6               | 7.0                          | 3.20                          |
| 4               | 40           | 24864.2          | 26.2               | 6.6                          | 3.20                          |
| 4.5             | 40           | 24865.8          | 27.8               | 6.2                          | 3.20                          |
| 5               | 40           | 24867.4          | 29.4               | 5.9                          | 3.20                          |
| 6               | 41           | 24870.3          | 32.3               | 5.4                          | 2.90                          |
| 7               | 41           | 24873.4          | 35.4               | 5.1                          | 3.10                          |
| 8               | 41           | 24876.5          | 38.5               | 4.8                          | 3.10                          |
| 9               | 41           | 24879.6          | 41.6               | 4.6                          | 3.10                          |
| 10              | 41           | 24882.6          | 44.6               | 4.5                          | 3.00                          |
| 12              | 41           | 24888.9          | 50.9               | 4.2                          | 3.15                          |
| 14              | 41           | 24895.0          | 57.0               | 4.1                          | 3.05                          |
| 16              | 41           | 24901.0          | 63.0               | 3.9                          | 3.00                          |
| 18              | 41           | 24907.5          | 69.5               | 3.9                          | 3.25                          |
| 20              | 41           | 24913.8          | 75.8               | 3.8                          | 3.15                          |
| 22              | 41           | 24920.0          | 82.0               | 3.7                          | 3.10                          |
| 24              | 41           | 24926.3          | 88.3               | 3.7                          | 3.15                          |
| 26              | 41           | 24932.5          | 94.5               | 3.6                          | 3.10                          |
| 28              | 41           | 24938.7          | 100.7              | 3.6                          | 3.10                          |
| 30              | 41.0         | 24945.0          | 107.0              | 3.6                          | 3.1                           |

### Calculations (Zone 3 - Below Water Table)

Q= 3.6 gpm      0.00795 ft<sup>3</sup>/sec  
 A= 10.4 ft  
 r= 0.167 ft  
 A/r= 62.40  
 C<sub>s</sub>= 87  
 h<sub>1</sub>= 212.5 ft  
 h<sub>2</sub>= 94.587 ft  
 L= 1.487 ft  
     P<sub>L</sub>= 375 ft  
     Q= 3.6 gpm  
     c= 140  
     d= 1.25 inches  
 H= 305.600  
 K= 1.79E-06 ft/sec

Depth to Water: 209.9 feet  
 Height of Gauge: 2.6 feet  
 Length of Injection Pipe: 356 feet  
 Injection Pipe Stickup: 8.7 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW10-CC**  
 Test Interval: **379-389.4'**

Date: **August 24, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 24951.0          |                    |                              |                               |
| 0.5             | 13           | 24963.3          | 12.3               | 24.6                         | 24.60                         |
| 1               | 41           | 24968.0          | 17.0               | 17.0                         | 9.40                          |
| 1.5             | 41           | 24970.4          | 19.4               | 12.9                         | 4.80                          |
| 2               | 41           | 24972.2          | 21.2               | 10.6                         | 3.60                          |
| 2.5             | 41           | 24974.4          | 23.4               | 9.4                          | 4.40                          |
| 3               | 41           | 24976.4          | 25.4               | 8.5                          | 4.00                          |
| 3.5             | 41           | 24978.7          | 27.7               | 7.9                          | 4.60                          |
| 4               | 41           | 24980.6          | 29.6               | 7.4                          | 3.80                          |
| 4.5             | 41           | 24982.6          | 31.6               | 7.0                          | 4.00                          |
| 5               | 41           | 24984.7          | 33.7               | 6.7                          | 4.10                          |
| 5.5             | 41           | 24986.8          | 35.8               | 6.5                          | 4.20                          |
| 6               | 41           | 24988.8          | 37.8               | 6.3                          | 4.00                          |
| 8               | 41           | 24996.9          | 45.9               | 5.7                          | 4.05                          |
| 9.5             | 41           | 25003.0          | 52.0               | 5.5                          | 4.07                          |
| 10.5            | 41           | 25007.1          | 56.1               | 5.3                          | 4.10                          |
| 12.5            | 41           | 25015.1          | 64.1               | 5.1                          | 4.00                          |
| 14              | 41           | 25021.1          | 70.1               | 5.0                          | 4.00                          |
| 16              | 41           | 25028.7          | 77.7               | 4.9                          | 3.80                          |
| 18              | 41           | 25036.4          | 85.4               | 4.7                          | 3.85                          |
| 20              | 41           | 25044.1          | 93.1               | 4.7                          | 3.85                          |
| 22              | 41           | 25052.0          | 101.0              | 4.6                          | 3.95                          |
| 24              | 41           | 25059.5          | 108.5              | 4.5                          | 3.75                          |
| 26.5            | 41           | 25069.3          | 118.3              | 4.5                          | 3.92                          |
| 28              | 41           | 25075.0          | 124.0              | 4.4                          | 3.80                          |
| 30              | 41.0         | 25082.6          | 131.6              | 4.4                          | 3.8                           |

| Calculations (Zone 3 - Below Water Table) |                         |                              |
|---|-------------------------|------------------------------|
| Q=  | 4.4 gpm                 | 0.00977 ft <sup>3</sup> /sec |
| A=  | 10.4 ft                 |                              |
| r=  | 0.167 ft                |                              |
| A/r=                                      | 62.40                   |                              |
| C <sub>s</sub> =                          | 87                      |                              |
| h <sub>1</sub> =                          | 212.5 ft                |                              |
| h <sub>2</sub> =                          | 94.587 ft               |                              |
| L=  | 2.296 ft                |                              |
|   | P <sub>L</sub> = 395 ft |                              |
|   | Q= 4.4 gpm              |                              |
|   | c= 140                  |                              |
|   | d= 1.25 inches          |                              |
| H=  | 304.791                 |                              |
| K=  | 2.21E-06 ft/sec         |                              |

Depth to Water: 209.9 feet  
 Height of Gauge: 2.6 feet  
 Length of Injection Pipe: 379 feet  
 Injection Pipe Stickup: 5.6 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: MW10-CC  
 Test Interval: 416-426.4'

Date: September 13, 2001  
 Job #: 736071-07000

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume Injected  | Overall Discharge Rate | Interval Discharge Rate |
|-----------------|--------------|------------------|------------------|------------------------|-------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i> | <i>(gpm)</i>           | <i>(gpm)</i>            |
| 0               | 0            | 25344.1          |                  |                        |                         |
| 0.5             | 40           | 25344.8          | 0.7              | 1.4                    | 1.40                    |
| 1               | 40           | 25344.7          | 0.6              | 0.6                    | -0.20                   |
| 1.5             | 40           | 25344.5          | 0.4              | 0.3                    | -0.40                   |
| 2               | 40           | 25344.3          | 0.2              | 0.1                    | -0.40                   |

### Calculations (Zone 3 - Below Water Table)

Q= 0.0 gpm      0.00000 ft<sup>3</sup>/sec  
 A= 10.4 ft  
 r= 0.167 ft  
 A/r= 62.40  
 C<sub>s</sub>= 87  
 h<sub>1</sub>= 206.5 ft  
 h<sub>2</sub>= 92.28 ft  
 L= 0.000 ft  
     P<sub>L</sub>= 430 ft  
     Q= 0.0 gpm  
     c= 140  
     d= 1.25 inches  
 H= 298.780  
 K= 0.00E+00 ft/sec

*Note: Q is set to Zero since a no-flow condition was established within the first 5 minutes of the test. The resultant Permeability is arbitrarily calculated as zero because of the no-flow condition.*

FIELD NOTES INDICATE THAT THE TEST WAS STOPPED  
 SINCE FORMATION DID NOT TAKE WATER ONCE PRESSURE BUILT UP

Depth to Water: 200 feet  
 Height of Gauge: 6.5 feet  
 Length of Injection Pipe: 416 feet  
 Injection Pipe Stickup: 4 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW10-CC**  
 Test Interval: **436-446.4'**

Date: **September 13, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 25332.1          |                    |                              |                               |
| 0.5             | 40           | 25334.7          | 2.6                | 5.2                          | 5.20                          |
| 1               | 40           | 25334.9          | 2.8                | 2.8                          | 0.40                          |
| 1.5             | 40           | 25335.1          | 3.0                | 2.0                          | 0.40                          |
| 2               | 40           | 25335.4          | 3.3                | 1.7                          | 0.60                          |
| 2.5             | 40           | 25335.6          | 3.5                | 1.4                          | 0.40                          |
| 3               | 40           | 25335.8          | 3.7                | 1.2                          | 0.40                          |
| 4               | 40           | 25336.2          | 4.1                | 1.0                          | 0.40                          |
| 4.5             | 40           | 25336.4          | 4.3                | 1.0                          | 0.40                          |
| 5               | 40           | 25336.6          | 4.5                | 0.9                          | 0.40                          |
| 6               | 40           | 25336.8          | 4.7                | 0.8                          | 0.27                          |
| 7               | 40           | 25337.3          | 5.2                | 0.7                          | 0.50                          |
| 8               | 40           | 25337.5          | 5.4                | 0.7                          | 0.20                          |
| 9               | 40           | 25337.8          | 5.7                | 0.6                          | 0.30                          |
| 10              | 40           | 25338.1          | 6.0                | 0.6                          | 0.30                          |
| 15              | 40           | 25339.4          | 7.3                | 0.5                          | 0.26                          |
| 20              | 40           | 25340.4          | 8.3                | 0.4                          | 0.20                          |
| 25              | 40.0         | 25341.3          | 9.2                | 0.4                          | 0.2                           |

### Calculations (Zone 3 - Below Water Table)

Q= 0.4 gpm      0.00082 ft<sup>3</sup>/sec  
 A= 10.4 ft  
 r= 0.167 ft  
 A/r= 62.40  
 C<sub>s</sub>= 87  
 h<sub>1</sub>= 206.5 ft  
 h<sub>2</sub>= 92.28 ft  
 L= 0.027 ft  
     P<sub>L</sub>= 451 ft  
     Q= 0.4 gpm  
     c= 140  
     d= 1.25 inches  
 H= 298.753  
**K= 1.89E-07 ft/sec**

Depth to Water: 200 feet  
 Height of Gauge: 6.5 feet  
 Length of Injection Pipe: 436 feet  
 Injection Pipe Stickup: 5 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW10-CC**  
 Test Interval: **460-470.4'**

Date: **September 13, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 25231.8          |                    |                              |                               |
| 0.5             | 40           | 25346.4          | 114.6              | 229.2                        | 229.20                        |
| 1               | 40           | 25238.2          | 6.4                | 6.4                          | -216.40                       |
| 1.5             | 39           | 25240.1          | 8.3                | 5.5                          | 3.80                          |
| 2               | 40           | 25241.8          | 10.0               | 5.0                          | 3.40                          |
| 2.5             | 40           | 25243.5          | 11.7               | 4.7                          | 3.40                          |
| 3               | 40           | 25245.8          | 14.0               | 4.7                          | 4.60                          |
| 3.5             | 39           | 25247.0          | 15.2               | 4.3                          | 2.40                          |
| 4               | 40           | 25248.8          | 17.0               | 4.3                          | 3.60                          |
| 4.5             | 40           | 25250.5          | 18.7               | 4.2                          | 3.40                          |
| 5               | 39           | 25252.1          | 20.3               | 4.1                          | 3.30                          |
| 6               | 40           | 25255.6          | 23.8               | 4.0                          | 3.50                          |
| 7               | 40           | 25259.0          | 27.2               | 3.9                          | 3.40                          |
| 8               | 40           | 25262.3          | 30.5               | 3.8                          | 3.30                          |
| 9               | 40           | 25265.6          | 33.8               | 3.8                          | 3.30                          |
| 10              | 40           | 25268.8          | 37.0               | 3.7                          | 3.20                          |
| 15              | 40           | 25283.9          | 52.1               | 3.5                          | 3.02                          |
| 20              | 40           | 25299.1          | 67.3               | 3.4                          | 3.0                           |
| 25              | 40           | 25314.6          | 82.8               | 3.3                          | 3.1                           |
| 30              | 40.0         | 25329.2          | 97.4               | 3.2                          | 2.9                           |

### Calculations (Zone 3 - Below Water Table)

Q= 3.2 gpm      0.00723 ft<sup>3</sup>/sec  
 A= 10.4 ft  
 r= 0.167 ft  
 A/r= 62.40  
 C<sub>s</sub>= 87  
 h<sub>1</sub>= 206.5 ft  
 h<sub>2</sub>= 92.28 ft  
 L= 1.581 ft  
     P<sub>L</sub>= 474 ft  
     Q= 3.2 gpm  
     c= 140  
     d= 1.25 inches  
 H= 297.199  
**K= 1.68E-06 ft/sec**

Depth to Water: 200 feet  
 Height of Gauge: 6.5 feet  
 Length of Injection Pipe: 460 feet  
 Injection Pipe Stickup: 4 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: **MW10-CC**  
 Test Interval: **478-488.4'**

Date: **September 13, 2001**  
 Job #: **736071-07000**

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 25137.4          |                    |                              |                               |
| 0.5             | 40           | 25142.0          | 4.6                | 9.2                          | 9.20                          |
| 1               | 40           | 25143.6          | 6.2                | 6.2                          | 3.20                          |
| 1.5             | 40           | 25145.4          | 8.0                | 5.3                          | 3.60                          |
| 2               | 40           | 25147.1          | 9.7                | 4.8                          | 3.40                          |
| 2.5             | 40           | 25148.8          | 11.4               | 4.6                          | 3.40                          |
| 3               | 40           | 25150.4          | 13.0               | 4.3                          | 3.20                          |
| 3.5             | 40           | 25152.0          | 14.6               | 4.2                          | 3.20                          |
| 4               | 40           | 25153.6          | 16.2               | 4.0                          | 3.20                          |
| 4.5             | 40           | 25155.2          | 17.8               | 4.0                          | 3.20                          |
| 5               | 40           | 25156.9          | 19.5               | 3.9                          | 3.30                          |
| 6               | 40           | 25160.3          | 22.9               | 3.8                          | 3.40                          |
| 7               | 40           | 25163.3          | 25.9               | 3.7                          | 3.00                          |
| 8               | 40           | 25166.5          | 29.1               | 3.6                          | 3.20                          |
| 9               | 40           | 25169.7          | 32.3               | 3.6                          | 3.20                          |
| 10              | 40           | 25172.7          | 35.3               | 3.5                          | 3.00                          |
| 15              | 40           | 25187.4          | 50.0               | 3.3                          | 2.94                          |
| 20              | 40           | 25201.8          | 64.4               | 3.2                          | 2.9                           |
| 25              | 40           | 25216.0          | 78.6               | 3.1                          | 2.8                           |
| 30              | 40.0         | 25230.4          | 93.0               | 3.1                          | 2.9                           |

### Calculations (Zone 3 - Below Water Table)

Q= 3.1 gpm      0.00691 ft<sup>3</sup>/sec  
 A= 10.4 ft  
 r= 0.167 ft  
 A/r= 62.40  
 C<sub>s</sub>= 87  
 h<sub>1</sub>= 206.5 ft  
 h<sub>2</sub>= 92.28 ft  
 L= 1.509 ft  
     P<sub>L</sub>= 493 ft  
     Q= 3.1 gpm  
     c= 140  
     d= 1.25 inches  
 H= 297.271  
**K= 1.60E-06 ft/sec**

Depth to Water: 200 feet  
 Height of Gauge: 6.5 feet  
 Length of Injection Pipe: 478 feet  
 Injection Pipe Stickup: 5 feet  
 Length of Hose: 10 feet

## INJECTION PACKER TEST DATA SHEET

Well: MW10-CC  
 Test Interval: 504-514.4'

Date: September 13, 2001  
 Job #: 736071-07000

### Field Measurement Input

| Time Elapsed    | Pressure     | Totalizer        | Volume<br>Injected | Overall<br>Discharge<br>Rate | Interval<br>Discharge<br>Rate |
|-----------------|--------------|------------------|--------------------|------------------------------|-------------------------------|
| <i>(minute)</i> | <i>(psi)</i> | <i>(gallons)</i> | <i>(gallons)</i>   | <i>(gpm)</i>                 | <i>(gpm)</i>                  |
| 0               | 0            | 25087.9          |                    |                              |                               |
| 0.5             | 40           | 25088.0          | 0.1                | 0.2                          | 0.20                          |
| 1               | 40           | 25091.8          | 3.9                | 3.9                          | 7.60                          |
| 1.5             | 40           | 25092.7          | 4.8                | 3.2                          | 1.80                          |
| 2               | 40           | 25093.6          | 5.7                | 2.8                          | 1.80                          |
| 2.5             | 40           | 25094.6          | 6.7                | 2.7                          | 2.00                          |
| 3               | 40           | 25095.5          | 7.6                | 2.5                          | 1.80                          |
| 3.5             | 40           | 25096.8          | 8.9                | 2.5                          | 2.60                          |
| 4               | 40           | 25097.7          | 9.8                | 2.4                          | 1.80                          |
| 4.5             | 40           | 25098.0          | 10.1               | 2.2                          | 0.60                          |
| 5               | 40           | 25098.9          | 11.0               | 2.2                          | 1.20                          |
| 6               | 40           | 25100.5          | 12.6               | 2.1                          | 1.60                          |
| 7               | 40           | 25102.1          | 14.2               | 2.0                          | 1.60                          |
| 8               | 40           | 25103.7          | 15.8               | 2.0                          | 1.60                          |
| 9               | 40           | 25105.4          | 17.5               | 1.9                          | 1.70                          |
| 10              | 40           | 25107.0          | 19.1               | 1.9                          | 1.60                          |
| 15              | 40           | 25114.9          | 27.0               | 1.8                          | 1.58                          |
| 20              | 40           | 25122.4          | 34.5               | 1.7                          | 1.5                           |
| 25              | 40           | 25130.0          | 42.1               | 1.7                          | 1.5                           |
| 30              | 40.0         | 25137.1          | 49.2               | 1.6                          | 1.4                           |

### Calculations (Zone 3 - Below Water Table)

Q= 1.6 gpm      0.00365 ft<sup>3</sup>/sec  
 A= 10.4 ft  
 r= 0.167 ft  
 A/r= 62.40  
 C<sub>s</sub>= 87  
 h<sub>1</sub>= 206.5 ft  
 h<sub>2</sub>= 92.28 ft  
 L= 0.489 ft  
     P<sub>L</sub>= 519 ft  
     Q= 1.6 gpm  
     c= 140  
     d= 1.25 inches  
 H= 298.291  
**K= 8.45E-07 ft/sec**

Depth to Water: 200 feet  
 Height of Gauge: 6.5 feet  
 Length of Injection Pipe: 504 feet  
 Injection Pipe Stickup: 5 feet  
 Length of Hose: 10 feet