

1988 135th Street
Fairmont, MN 56031



Ph. (507) 235-6779
Fax. (507) 235-6722

WELL #2 (SOUTH WELL)

STEP-DRAWDOWN TEST

| | | | |
|------------------------|---------------|--------------------------|----------|
| Customer: | Wright County | Date: | 8/4/2020 |
| Engineer: | ISG | Static: | 66.5' |
| Unique Well No: | South | Design Flow Rate: | 60gpm |

| Design Flow % | GPM | Pumping Level | Start Time | Stop Time |
|---------------|-------|---------------|------------|-----------|
| 50 | 30gpm | 132.23 | 8:00 AM | 8:30 AM |

| Pumping | | |
|----------------|------|---------------|
| Interval (min) | Time | Pumping Level |
| 1 | 8:01 | 117 |
| 2 | 8:02 | 119 |
| 3 | 8:03 | 122 |
| 5 | 8:05 | 122.5 |
| 7 | 8:07 | 125 |
| 10 | 8:10 | 125.6 |
| 20 | 8:20 | 126.37 |
| 30 | 8:30 | 132.23 |
| Recovery | | |
| Interval (min) | Time | Pumping Level |
| 1 | 8:31 | 124.3 |
| 2 | 8:32 | 111.3 |
| 3 | 8:33 | 102.2 |
| 5 | 8:35 | 90.83 |
| 7 | 8:37 | 83.04 |
| 10 | 8:40 | 78.5 |
| 20 | 8:50 | 71 |
| 30 | 9:00 | 69.34 |

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|------------------------|---------------|--------------------------|----------|
| Customer: | Wright County | Date: | 8/4/2020 |
| Engineer: | ISG | Static: | 69.34 |
| Unique Well No: | South | Design Flow Rate: | 60gpm |

| Design Flow % | GPM | Pumping Level | Start Time | Stop Time |
|---------------|-------|---------------|------------|-----------|
| 75 | 45gpm | 146.85 | 9:00 AM | 9:30 AM |

| Pumping | | |
|----------------|-------|---------------|
| Interval (min) | Time | Pumping Level |
| 1 | 9:01 | 78.98 |
| 2 | 9:02 | 95.09 |
| 3 | 9:03 | 101.82 |
| 5 | 9:05 | 105.3 |
| 7 | 9:07 | 128.02 |
| 10 | 9:10 | 131.26 |
| 20 | 9:20 | 142.01 |
| 30 | 9:30 | 146.85 |
| Recovery | | |
| Interval (min) | Time | Pumping Level |
| 1 | 9:31 | 131 |
| 2 | 9:32 | 118.2 |
| 3 | 9:33 | 111.8 |
| 5 | 9:35 | 94.6 |
| 7 | 9:37 | 86.29 |
| 10 | 9:40 | 79.9 |
| 20 | 9:50 | 74.26 |
| 30 | 10:00 | 70.22 |

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|------------------------|---------------|--------------------------|----------|
| Customer: | Wright County | Date: | 8/4/2020 |
| Engineer: | ISG | Static: | 70.22 |
| Unique Well No: | South | Design Flow Rate: | 60gpm |

| Design Flow % | GPM | Pumping Level | Start Time | Stop Time |
|---------------|-------|---------------|------------|-----------|
| 100 | 60gpm | 168.4 | 10:00 AM | 10:30 AM |

| Pumping | | |
|----------------|-------|---------------|
| Interval (min) | Time | Pumping Level |
| 1 | 10:01 | 88.35 |
| 2 | 10:02 | 107.21 |
| 3 | 10:03 | 112.8 |
| 5 | 10:05 | 127.1 |
| 7 | 10:07 | 130.2 |
| 10 | 10:10 | 156.21 |
| 20 | 10:20 | 162.4 |
| 30 | 10:30 | 168.4 |
| Recovery | | |
| Interval (min) | Time | Pumping Level |
| 1 | 10:01 | 149 |
| 2 | 10:02 | 126 |
| 3 | 10:03 | 111 |
| 5 | 10:05 | 101.2 |
| 7 | 10:07 | 92.3 |
| 10 | 10:10 | 86.3 |
| 20 | 10:20 | 76.9 |
| 30 | 10:30 | 72.24 |

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| | | | |
|------------------------|---------------|--------------------------|----------|
| Customer: | Wright County | Date: | 8/4/2020 |
| Engineer: | ISG | Static: | 72.24 |
| Unique Well No: | South | Design Flow Rate: | 60gpm |

| Design Flow % | GPM | Pumping Level | Start Time | Stop Time |
|---------------|-------|---------------|------------|-----------|
| 125 | 75gpm | 166.13 | 11:00 AM | 11:30 AM |

| Pumping | | |
|----------------|-------|---------------|
| Interval (min) | Time | Pumping Level |
| 1 | 11:01 | 102.6 |
| 2 | 11:02 | 123.87 |
| 3 | 11:03 | 139.06 |
| 5 | 11:05 | 155.1 |
| 7 | 11:07 | 162.24 |
| 10 | 11:10 | 165.27 |
| 20 | 11:20 | 166.13 |
| 30 | 11:30 | |
| Recovery | | |
| Interval (min) | Time | Pumping Level |
| 1 | | |
| 2 | | |
| 3 | | |
| 5 | | |
| 7 | | |
| 10 | | |
| 20 | | |
| 30 | | |

NOTE: Pump end stopped pumping. Retest on 8/5/20 after pump is replaced.

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WELL #2 (SOUTH WELL)

STEP-DRAWDOWN TEST

| | | | |
|------------------------|---------------|--------------------------|----------|
| Customer: | Wright County | Date: | 8/5/2020 |
| Engineer: | ISG | Static: | 66.5' |
| Unique Well No: | South | Design Flow Rate: | 60gpm |

| Design Flow % | GPM | Pumping Level | Start Time | Stop Time |
|---------------|--------|---------------|------------|-----------|
| 125 | 75 gpm | 209 | 8:45 AM | 9:00 AM |

| Pumping | | |
|----------------|------|---------------|
| Interval (min) | Time | Pumping Level |
| 1 | 8:45 | 110.5 |
| 2 | 8:46 | 117 |
| 3 | 8:47 | 141.11 |
| 5 | 8:49 | 149.86 |
| 7 | 8:51 | 142.49 |
| 10 | 9:01 | 209 |
| 20 | 9:21 | |
| 30 | 9:31 | |
| Recovery | | |
| Interval (min) | Time | Pumping Level |
| 1 | | |
| 2 | | |
| 3 | | |
| 5 | | |
| 7 | | |
| 10 | | |
| 20 | | |
| 30 | | |

RETEST

NOTE: Pump 75 gpm. Step test drew down to 209, started sucking air, and contacted Kelly. He said start constant rate at 60 gpm, and start static at 195.

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94252
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Pumping Constant Rate Test

WELL #2 (SOUTH WELL)

| | | | | | |
|-----------|---------------|---------|--------|-------|----------|
| Customer: | Wright County | Static: | 195 ft | Date: | 8/5/2020 |
|-----------|---------------|---------|--------|-------|----------|

Pumping Constant Rate Test @ 60 GPM

| | | | |
|-------------|---------|-------------|----------|
| Start time: | 9:00 AM | Start Date: | 8/5/2020 |
|-------------|---------|-------------|----------|

| | Time | Pumping Level | | Time | Pumping Level |
|------------|---------|---------------|-----|----------|---------------|
| 1 minute | 9:01 AM | 195 | 30 | 9:30 AM | 196.2 |
| 2 minutes | 9:02 AM | 195 | 35 | 9:35 AM | 196.7 |
| 3 minutes | 9:03 AM | 195 | 40 | 9:40 AM | 197 |
| 4 minutes | 9:04 AM | 195 | 45 | 9:45 AM | 197.5 |
| 5 minutes | 9:05 AM | 195 | 50 | 9:50 AM | 198 |
| 6 minutes | 9:06 AM | 195 | 55 | 9:55 AM | 198.2 |
| 7 minutes | 9:07 AM | 195 | 60 | 10:00 AM | 198.5 |
| 8 minutes | 9:08 AM | 195.5 | 70 | 10:10 AM | 199 |
| 9 minutes | 9:09 AM | 195.5 | 80 | 10:20 AM | 199.4 |
| 10 minutes | 9:10 AM | 195.5 | 90 | 10:30 AM | 199.9 |
| 12 minutes | 9:12 AM | 195.5 | 100 | 10:40 AM | 200.2 |
| 14 minutes | 9:14 AM | 195.5 | 120 | 11:00 AM | 200.7 |
| 16 minutes | 9:16 AM | 195.5 | 140 | 11:20 AM | 201.1 |
| 18 minutes | 9:18 AM | 195.5 | 160 | 11:40 AM | 201.3 |
| 20 minutes | 9:20 AM | 195.9 | 180 | 12:00 PM | 201.6 |
| 25 minutes | 9:25 AM | 196 | 200 | 12:20 PM | 201.9 |

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WELL #2 (SOUTH WELL)

| | Time | Pumping Level | | Time | Pumping Level |
|-----|----------|---------------|-------|----------|---------------|
| 220 | 12:40 PM | 202.3 | 840 | 10:20 PM | 210.5 |
| 240 | 1:00 PM | 202.5 | 960 | 12:20 AM | 211.5 |
| 300 | 1:20 PM | 203 | 1080 | 2:20 AM | 211.5 |
| 360 | 2:20 PM | 203.5 | 1200 | 4:20 AM | 211.5 |
| 420 | 3:20 PM | 204 | 1320 | 6:20 AM | 212 |
| 480 | 4:20 PM | 204.8 | 1440 | 8:20 AM | 212.2 |
| 600 | 6:20 PM | 205 | Final | 9:00 AM | 212.2 |
| 720 | 8:20 PM | 205.8 | | | |

Stop time: 9:00 AM

Stop Date: 8/6/2020

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These should all be AM

= 60 / (212.2-195)

| | Time | Pumping Level | | Time | Pumping Level |
|-----|----------|---------------|-------|----------|---------------|
| 220 | 12:40 PM | 202.3 | 840 | 10:20 PM | 210.5 |
| 240 | 1:00 PM | 202.5 | 960 | 12:20 PM | 211.5 |
| 300 | 1:20 PM | 203 | 1080 | 2:20 PM | 211.5 |
| 360 | 2:20 PM | 203.5 | 1200 | 4:20 PM | 211.5 |
| 420 | 3:20 PM | 204 | 1320 | 6:20 PM | 212 |
| 480 | 4:20 PM | 204.8 | 1440 | 8:20 PM | 212.2 |
| 600 | 6:20 PM | 205 | Final | 9:00 AM | 212.2 |
| 720 | 8:20 PM | 205.8 | | | |

Stop time:

Stop Date:

Where is this data?

Specific Capacity = 3.49 gpm/ft 3.49 gpm/ft

Static Water Level = 66.5 ft
PWL @ 60 gpm = 83.7 ft
PWL @ 50 gpm = 80.8 ft

NOTE: This was after
step-drawdown tests
& likely incorrect

195 ft
212.2 ft
209.3 ft

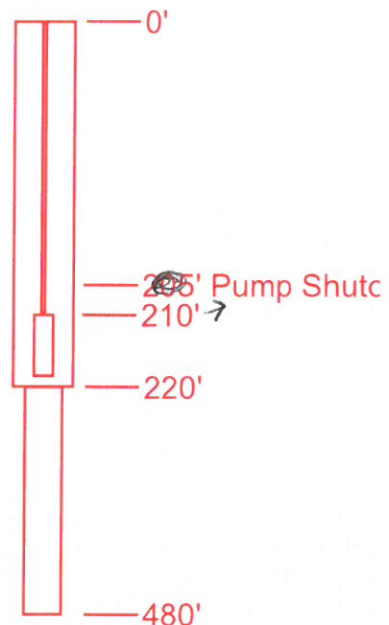
= 60 / (212.2-66.5)

Specific Capacity = 0.41 gpm/ft 0.41 gpm/ft

Static Water Level = 66.5 ft
PWL @ 60 gpm = 212.2 ft
PWL @ 50 gpm = 187.9 ft

195 ft
340.7 ft
316.4 ft

WELL PROFILE



Beemer to confirm

Transducer hanging @
215'

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Recovery

WELL #2 (SOUTH WELL)

| | | | | | |
|-----------|---------------|---------|----------|-------|----------|
| Customer: | Wright County | Static: | 212.2 ft | Date: | 8/6/2020 |
|-----------|---------------|---------|----------|-------|----------|

Pumping Constant Rate Test @ _____ 60 _____ GPM

| | | | |
|-------------|---------|-------------|----------|
| Start time: | 9:00 AM | Start Date: | 8/6/2020 |
|-------------|---------|-------------|----------|

| | Time | Pumping Level | | Time | Pumping Level |
|------------|---------|---------------|-----|----------|---------------|
| 1 minute | 9:01 AM | 188 | 30 | 9:30 AM | 87.8 |
| 2 minutes | 9:02 AM | 183 | 35 | 9:35 AM | 86.9 |
| 3 minutes | 9:03 AM | 176 | 40 | 9:40 AM | 85.7 |
| 4 minutes | 9:04 AM | 168 | 45 | 9:45 AM | 84.7 |
| 5 minutes | 9:05 AM | 150 | 50 | 9:50 AM | 83.9 |
| 6 minutes | 9:06 AM | 136 | 55 | 9:55 AM | 83 |
| 7 minutes | 9:07 AM | 125 | 60 | 10:00 AM | 82.6 |
| 8 minutes | 9:08 AM | 118 | 70 | 10:10 AM | 81.4 |
| 9 minutes | 9:09 AM | 112 | 80 | 10:20 AM | 80.6 |
| 10 minutes | 9:10 AM | 107 | 90 | 10:30 AM | 79.7 |
| 12 minutes | 9:12 AM | 100 | 100 | 10:40 AM | 79 |
| 14 minutes | 9:14 AM | 95 | 120 | 11:00 AM | 78 |
| 16 minutes | 9:16 AM | 93 | 140 | 11:20 AM | |
| 18 minutes | 9:18 AM | 91 | 160 | 11:40 AM | |
| 20 minutes | 9:20 AM | 89 | 180 | 12:00 PM | |
| 25 minutes | 9:25 AM | 88 | 200 | 12:20 PM | |

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|-----|----------|---------------|-------|----------|---------------|
| 220 | 12:40 PM | | 840 | 11:00 PM | |
| 240 | 1:00 PM | | 960 | 1:00 AM | |
| 300 | 2:00 PM | | 1080 | 3:00 AM | |
| 360 | 3:00 PM | | 1200 | 5:00 AM | |
| 420 | 4:00 PM | | 1320 | 7:00 AM | |
| 480 | 5:00 PM | | 1440 | 9:00 AM | |
| 600 | 7:00 PM | | Final | | |
| 720 | 9:00 PM | | | | |

Stop time: 11:00 AM

Stop Date: 8/6/2020