

DRAHIS 2504

524-0077

Green 524-2815

South line - 113-1

North line - 55-6

| | Time | Temp | Press (WH) | Flow 1 (north) | Flow 2 (South) | Comments |
|-----|--------|--------|------------|----------------|----------------|----------|
| | 9/1/76 | | | | | |
| | 14:00 | 90° F | 145 psi | 0 | 0 | |
| | 14:30 | | | | | |
| | 14:33 | 142° F | | 80 | 0 | |
| 10 | 14:40 | 147° | 139 | 100 | 0 | |
| 14 | 14:44 | 150° | 140 | 80 | 0 | |
| 15 | 14:46 | 154° | 134 | 76 | 85 | |
| 16 | 14:48 | 158° | 133.5 | 90 | 92 | |
| 17 | 14:50 | 164° | 134 | 90 | 83 | |
| 20 | 14:55 | 174° | 135 | 90 | 83 | |
| 25 | 15:00 | 186° | 136.5 | 90 | 83 | |
| 30 | 15:05 | 192° | 138 | 90 | 83 | 120 |
| 35 | 15:12 | 199° | 139 | 89 | 83 | 122 |
| 40 | 15:15 | 200° | 139.5 | 89 | 83 | 123 |
| 45 | 15:20 | 204° | 141 | 89 | 83 | 124 |
| 50 | 15:25 | 204.5° | 141.5 | 89 | 82 | 125 |
| 55 | 15:30 | 206 | 142.5 | 89 | 83 | 126 |
| 60 | 16:58 | 135° | 161.5 | 0 | 0 | 127 |
| | 17:06 | 188° | 140 | 30 | 115 | 0 |
| | 17:10 | 200° | 132 | 57 | 126 | 44 |
| | 17:15 | 212° | 134.5 | 56 | 120 | 47 |
| | 17:20 | 217° | 138 | 58 | 118 | 43 |
| | 17:25 | 223° | 140 | 58 | 108 | 39 |
| | 17:30 | 228° | 141 | 57 | 115 | 64 |
| | 17:37 | 238° | 142 | 56 | 115 | 68 |
| | 17:45 | 238 | 143 | 56 | 115 | 69 |
| | 17:50 | 238 | 143 | 58 | 110 | 70 |
| | 18:00 | 242 | 143 | 56 | 114 | 70 |
| | 18:10 | 246 | 144 | 58 | 115 | 72 |
| | 18:20 | 252 | 144 | 54 | 115 | 72 |
| 240 | 18:30 | 252 | 144 | 57 | 117 | 74 |
| | 18:40 | 252 | 145 | 55 | 110 | 74 |
| 260 | 18:50 | 252 | 145 | 57 | 117 | 74 |
| | 19:00 | 259 | 145 | 55 | 116 | 74 |
| 280 | 19:15 | 258 | 145 | 58 | 118 | 74 |
| 300 | 19:30 | 259 | 145 | 54 | 116 | 74 |
| 320 | 20:00 | 261 | 145 | 59 | 117 | 75 |
| | 20:30 | 261 | 145 | 53 | 115 | 75 |
| 340 | 21:00 | 262 | 145 | 54 | 115 | 75 |
| | 21:30 | 264 | 145 | 54 | 116 | 76 |
| 450 | 22:00 | 265 | 145 | 54 | 115 | 76 |
| | 23:00 | 265 | 145 | 54 | 116 | 77 |
| 500 | 00:00 | 265 | 145 | 52 | 118 | 77 |
| | 04:00 | 266 | 144 | 53 | 116 | 77 |
| 650 | 08:00 | 267 | 144 | 53 | 116 | 77 |
| | 09:15 | 272 | 143.5 | 54 | 117 | 77 |
| | 09:25 | 271 | 144.5 | 54 | 121 | 78 |
| | 09:35 | 271 | 143 | 54 | 124 | 77 |
| | | | | | 123 | 77 |

t →

8

Adjusted Rate

Broken Flow AT #2 Flow meter 21

| Time | Temp | Press (WH) | Flow 1 (north) | Flow 2 (South) | Orifice ΔP | Comments |
|---|---------------------------------|------------|----------------|----------------|------------|---------------|
| 09:55 | 271 | 143 | 52 | 122 | | 77 |
| 10:15 | 271 | 143 | 52 | 122 | | 77 |
| 1200 10:30 | 272 | 143 | 54 | 123 | | 76 |
| 10:45 | 272 | 142.5 | 50 | 122 | | 76 |
| 11:15 | 270 | 142.5 | 53 | 122 | | 75 |
| 12:00 | 270 | 142.5 | 53 | 122 | | 75 |
| 14:00 | 270 | 142.5 | 51 | 120 | | 75 |
| 16:00 | 269 | 142.5 | 51 | 115 | | 78 |
| 1700 20:00 | 270 | 142.5 | 54 | 108 | | 78 |
| 0000 | 270 | 142.0 | 52.5 | 109 | | 78 |
| 2250 0600 | 270 | 142 | 54 | 102 | | 78 |
| 19:00 | 270 | 141.5 | 53 | 97 | | 78 |
| 19:30 | 270 | 141.5 | 53 | 100 | | 70 |
| AT 19:30, WE OPENED THE BUTTERFLY VALVE SLIGHTLY TO LOWER BACK PRESSURE — THE COVERING OF THE DISCHARGE PIPE BY RES. PIT WATER HAD CAUSED THIS CONDITION APPARENTLY | | | | | | |
| | | | | | | WENDY J. FORD |
| 22:30 | 270 | 141 | 54 | 102 | | 70 |
| 7-4-76 | HAPPY B-DAY AMERICA! | | | | | |
| 3150 0700 | 270 | 140 | 49 | 98 | | 70 |
| 17:00 | 272 | 140.5 | 51 | 99 | | 77 |
| 4470 19:00 | FLOW INCREASED AT HEAD BY VALVE | | | | | |
| | 272 | 132 | 57 | 115 | | 74 |
| 2300 | 272 | 133 | 54 | 115 | | 79 |
| 03:00 | 272 | 127 | 53 | 115 | | 80 |
| 5190 07:00 | 272 | 126 | 52 | 115 | | 79 |
| 11:00 | 277 | 126 | 53 | 119 | | 80 |
| 15:00 | 278 | 128 | 54 | 120 | | 80 |
| 5910 19:00 | 270 | 128 | 50 | 115 | | 75 |
| 23:00 | 270 | 127 | 50 | 119 | | 79 |
| 7-6-76 | | | | | | |
| 0300 | 270 | 127 | 52 | 110 | | 79 |
| 6630 07:00 | 274 | 124 | 59 | 115 | | 81 |
| 15:00 | 275 | 124 | 56 | 113 | | 81 |
| 22:00 | 275 | 123 | 56 | 115 | | 82 |
| 0800 | 273 | 123 | 55 | 111 | | 82 |
| 7-7-76 07:00 | 273 | 123 | 54 | 112 | | 82 |

7-3-76

7-5-76

| Time | Temp | Press (WH) | Flow 1 (north) | Flow 2 (South) | Orifice ΔP | Comments |
|---|--|------------|----------------|----------------|------------|----------|
| 7-7-76 | | | | | | |
| 4:00 | 278°F | 121 | 50 | 120 | | 78 |
| <p><u>NOTE:</u> AT ABOUT 14:05, THE #1 END OF THE 2-2 PIPELINE BLEW OUT JUST NORTH OF THE PUMP CELLAR — FAILURE OR SLIPPAGE OF THE COLLAR IDENTICAL TO OUR #2 PROBLEM IS SUSPECTED.</p> | | | | | | |
| 2:00 | 275°F | 120 | 50 | 115 | | 81 |
| 7-8-76 | | | | | | |
| 0700 | 275 | 121 | 50 | 118 | | 80 |
| 1615 | 276 | 121 | 52 | 116 | | 80 |
| 1614 | <p><u>SHUTDOWN</u> DUE TO DETERIORATION OF SITUATION AT SITE #1 (i.e. water buildup in pit, collapse of pit bank, inability to pump water to #2)</p> | | | | | |
| 1616 | 276 | 145 | | | | |
| 1617 | 268 | 160 | | | | |
| 1618 | 262 | 160 | | | | |
| 1619 | 258 | 162 | | | | |
| 1620 | 257 | 162 | | | | |
| 1625 | 240 | 164 | | | | |
| 1630 | 216 | 165 | | | | |
| 1645 | 201 | 167 | | | | |
| 1900 | 148 | 168 | | | | |

NOTE: AT ABOUT 19:05, THE #1 END OF THE
 2-2 PIPELINE BLEW OUT JUST NORTH OF THE
 PUMP CELLAR — FAILURE OR SLIPPAGE OF THE
 COLLAR IDENTICAL TO OUR #2 PROBLEM IS
 SUSPECTED.

| | | | |
|-------|----|-----|----|
| 275°F | 50 | 115 | 81 |
| 270 | 56 | 113 | 80 |
| 270 | 52 | 110 | 80 |

DOWN DUE TO DETERIORATION OF SITUATION AT SITE
 #1 (i.e. water buildup in pit, collapse of
 pit bank, inability to pump water to #2)

| | |
|-----|-----|
| 270 | 145 |
| 265 | 160 |
| 262 | 160 |
| 258 | 162 |
| 257 | 162 |
| 240 | 164 |
| 210 | 165 |
| 201 | 167 |
| 148 | 168 |

11/8/76

| | | | | | |
|-----|-----|-------|----|---|----|
| 915 | 102 | 157.5 | 0 | 0 | 0 |
| 916 | 122 | 155.5 | 30 | 0 | 7 |
| 917 | 140 | 155.5 | 30 | 0 | 7 |
| 920 | 150 | 155.5 | 30 | 0 | 7 |
| 922 | 156 | 155.5 | 30 | 0 | 7 |
| 925 | 160 | 155.5 | 30 | 0 | 7 |
| 932 | 178 | 156 | 30 | 0 | 7 |
| 936 | 182 | 155.5 | 30 | 0 | 7 |
| 941 | 187 | 155.5 | 30 | 0 | 7 |
| 950 | 193 | 156.5 | 30 | 0 | 8 |
| 952 | 194 | 157.5 | 30 | 0 | 10 |
| 956 | 195 | 157 | 30 | 0 | 15 |
| 000 | 196 | 157 | 29 | 0 | 23 |
| 010 | 200 | 157.5 | 29 | 0 | 27 |
| 013 | 203 | 155 | 40 | 0 | 29 |
| 015 | 204 | 155 | 40 | 0 | 28 |
| 019 | 205 | 155.5 | 40 | 0 | 38 |

START UP f
 to #2 pit
 #2
 75

Closing B
 Valve At Pipe
 At #2 pit.
 20" prop at #3

INCREASING f
 north

Increase back p
 #1 pit to 30"

| | Temp | Press (WH) | Flow 1 (north) | Flow 2 (South) | Orifice ΔP | Comments | |
|----|----------------------------------|------------|----------------|----------------|------------|----------|--|
| | 208 | 156 | 40 | 0 | | 47 | |
| | 212 | 156 | 40 | 0 | | 47 | |
| 4 | 214 | 156.5 | 40 | 0 | | 45 | |
| 4 | 217 | 156.5 | 40 | 0 | | 42 | |
| 20 | 220 | 153.5 | 50 | 0 | | 42 | |
| 25 | 222 | 152.5 | 50 | 0 | | 55 | |
| 30 | 229 | 148.0 | 50 | 40 | | 46 | |
| 10 | 234 | 147.0 | 50 | 40 | | 47 | |
| 2 | 239 | 141.0 | 50 | 76 | | 60 | |
| 3 | 240 | 140 | 49 | 75 | | 44 | |
| 4 | 244 | 140 | 50 | 74 | | 46 | |
| 10 | 266 | 143 | 49 | 74 | | 43 | |
| 24 | Increasing Flow South to 115 GPM | | | | | | |
| 25 | 268 | 133 | 51 | 116 | | 60 | |
| 2 | 269 | 133 | 51 | 115 | | 60 | |
| 10 | 269 | 133 | 51 | 115 | | 60 | |
| 0 | 270 | 136.5 | 50 | 114 | | 62 | |
| 0 | 273 | 131.5 | 50 | 113 | | 64 | |
| 10 | 275 | 131 | 50 | 113 | | 65 | |

Increase Backflow at #2 to 40%

Increasing Flow to 50 GPM North

Starting Flow South

Increasing Flow S

Increase Backflow at #2 to 20 psi