

# *Step Rate Injection Test Report*

*for*

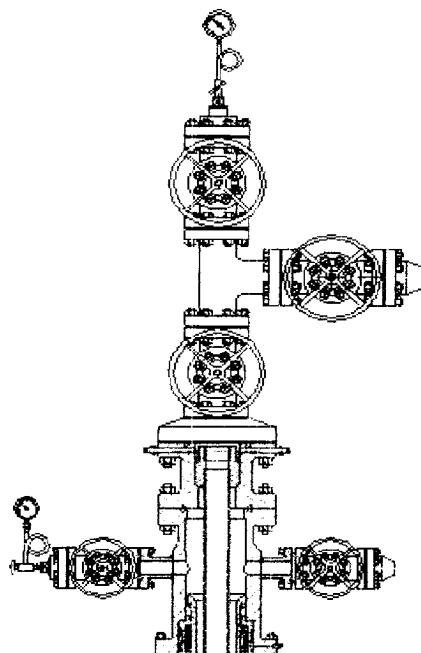
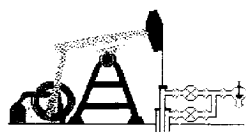
*Chevron / Texaco*

*NVAWU #3*

*0*

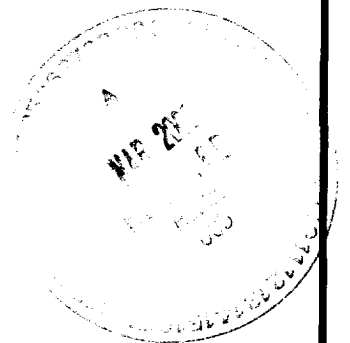
*Sec.15 - T17S - R34E*

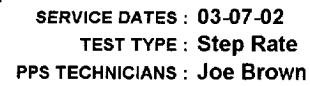
*03-07-02*



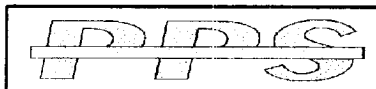
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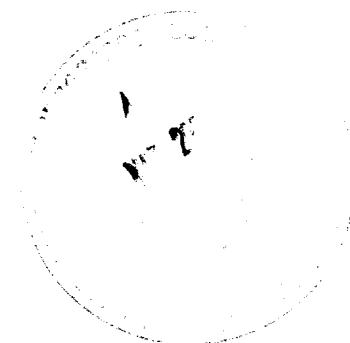
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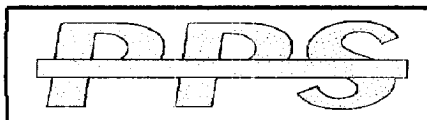


COMPANY : Chevron / Texaco  
WELL: NVAWU #3  
COMPANY REP: Britton McQuien  
PERFORATIONS: N/A

SERVICE DATES : 03-07-02  
TEST TYPE : Step Rate  
PPS TECHNICIANS : Joe Brown

| DATE     | TIME  | REMARKS                                                           |
|----------|-------|-------------------------------------------------------------------|
| 03/07/02 | 9:28  | Open up well with 24# at surface. Start pumping at 1770 Bbls/day. |
| 03/07/02 | 10:15 | Start test.                                                       |
| 03/07/02 | 13:02 |                                                                   |
| 03/07/02 | 13:03 |                                                                   |
| 03/07/02 | 13:04 |                                                                   |
| 03/07/02 | 13:05 |                                                                   |
| 03/07/02 | 13:06 |                                                                   |
| 03/07/02 | 13:07 |                                                                   |
| 03/07/02 | 13:08 |                                                                   |
| 03/07/02 | 13:09 |                                                                   |
| 03/07/02 | 13:10 |                                                                   |
| 03/07/02 | 13:15 | End Test.                                                         |

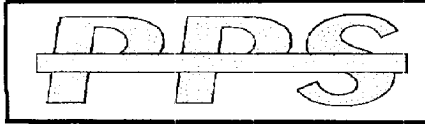




COMPANY : Chevron / Texaco  
 WELL: NVAWU #3  
 COMPANY REP: Britton McQuien  
 PERFORATIONS: N/A

SERVICE DATES : 03-07-02  
 TEST TYPE : Step Rate  
 PPS TECHNICIANS : Joe Brown

| STEP NO. | TIME  | SURFACE<br>TUBING PRESS.<br>(psig) | CUMULATIVE<br>VOL INJECTED<br>(bbbls) | INJECTION<br>RATE<br>(bbbls/day) | INJECTION<br>RATE (gpm) | MEASURED<br>BHP<br>(psi) |
|----------|-------|------------------------------------|---------------------------------------|----------------------------------|-------------------------|--------------------------|
|          | 10:15 | 47.6                               |                                       |                                  |                         |                          |
|          | 10:20 | 101.9                              | 4.4                                   | 1271.1                           | 37.07                   |                          |
|          | 10:25 | 156.6                              | 8.8                                   | 1268.5                           | 37.00                   |                          |
| 1        | 10:30 | 332.8                              | 13.9                                  | 1470.6                           | 42.89                   |                          |
|          | 10:35 | 439.7                              | 19.5                                  | 1606.8                           | 46.86                   |                          |
|          | 10:40 | 521.8                              | 25.1                                  | 1607.3                           | 46.88                   |                          |
| 2        | 10:45 | 575.5                              | 30.7                                  | 1607.2                           | 46.88                   |                          |
|          | 10:50 | 875.0                              | 37.8                                  | 2047.5                           | 59.72                   |                          |
|          | 10:55 | 998.0                              | 44.9                                  | 2048.8                           | 59.76                   |                          |
| 3        | 11:00 | 1048.2                             | 52.1                                  | 2066.0                           | 60.26                   |                          |
|          | 11:05 | 1364.3                             | 60.5                                  | 2421.0                           | 70.61                   |                          |
|          | 11:10 | 1469.6                             | 69.0                                  | 2445.7                           | 71.33                   |                          |
| 4        | 11:15 | 1538.0                             | 77.4                                  | 2439.4                           | 71.15                   |                          |
|          | 11:20 | 1874.6                             | 86.2                                  | 2517.5                           | 73.43                   |                          |
|          | 11:25 | 1702.4                             | 95.2                                  | 2610.4                           | 76.14                   |                          |
| 5        | 11:30 | 1876.7                             | 104.6                                 | 2703.2                           | 78.84                   |                          |
|          | 11:35 | 1844.4                             | 114.3                                 | 2796.1                           | 81.55                   |                          |
|          | 11:40 | 1934.5                             | 124.2                                 | 2853.1                           | 83.22                   |                          |
| 6        | 11:45 | 2126.9                             | 134.2                                 | 2877.0                           | 83.91                   |                          |
|          | 11:50 | 2425.3                             | 144.7                                 | 3003.2                           | 87.59                   |                          |
|          | 11:55 | 2477.0                             | 155.7                                 | 3168.5                           | 92.41                   |                          |
| 7        | 12:00 | 2563.7                             | 166.6                                 | 3158.3                           | 92.12                   |                          |
|          | 12:05 | 2916.5                             | 178.9                                 | 3529.0                           | 102.93                  |                          |
|          | 12:10 | 2972.3                             | 191.3                                 | 3591.9                           | 104.76                  |                          |
| 8        | 12:15 | 3046.4                             | 203.9                                 | 3622.2                           | 105.65                  |                          |
|          | 12:20 | 3416.8                             | 218.3                                 | 4128.3                           | 120.41                  |                          |
|          | 12:25 | 3453.7                             | 232.5                                 | 4112.7                           | 119.95                  |                          |
| 9        | 12:30 | 3539.1                             | 246.8                                 | 4119.2                           | 120.14                  |                          |
|          | 12:35 | 3888.4                             | 262.3                                 | 4445.9                           | 129.67                  |                          |
|          | 12:40 | 3871.7                             | 277.8                                 | 4457.6                           | 130.01                  |                          |
| 10       | 12:45 | 3931.1                             | 293.7                                 | 4585.3                           | 133.74                  |                          |
|          | 12:50 | 4009.9                             | 310.5                                 | 4846.9                           | 141.37                  |                          |
|          | 12:55 | 4043.5                             | 327.6                                 | 4922.9                           | 143.59                  |                          |



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WELL: NVAWU #3  
COMPANY REP: Britton McQuien  
PERFORATIONS: N/A

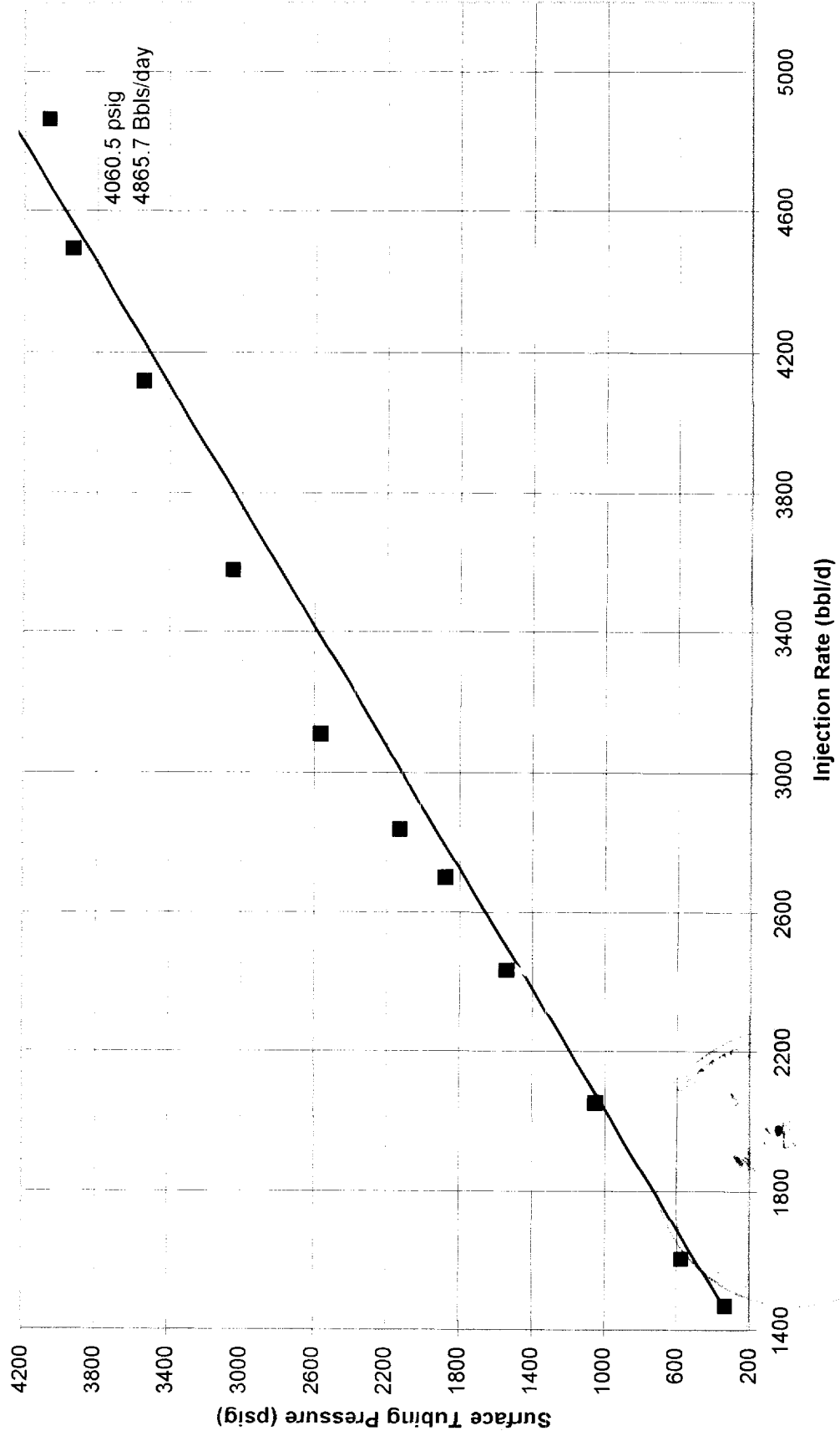
SERVICE DATES : 03-07-02  
TEST TYPE : Step Rate  
PPS TECHNICIANS : Joe Brown

| STEP NO. | TIME  | SURFACE<br>TUBING PRESS.<br>(psig) | CUMULATIVE<br>VOL INJECTED<br>(bbls) | INJECTION<br>RATE<br>(bbls/day) | INJECTION<br>RATE (gpm)<br>(2.448 bbls) | MEASURED<br>BHP<br>(psi) |
|----------|-------|------------------------------------|--------------------------------------|---------------------------------|-----------------------------------------|--------------------------|
| Falloff  | 13:00 | 4060.5                             | 344.4                                | 4827.3                          | 140.80                                  |                          |
|          | 13:01 | 2552.0                             |                                      |                                 |                                         |                          |
|          | 13:02 | 2529.5                             |                                      |                                 |                                         |                          |
|          | 13:03 | 2470.3                             |                                      |                                 |                                         |                          |
|          | 13:04 | 2429.4                             |                                      |                                 |                                         |                          |
|          | 13:05 | 2392.1                             |                                      |                                 |                                         |                          |
|          | 13:06 | 2358.5                             |                                      |                                 |                                         |                          |
|          | 13:07 | 2327.6                             |                                      |                                 |                                         |                          |
|          | 13:08 | 2298.8                             |                                      |                                 |                                         |                          |
|          | 13:09 | 2271.3                             |                                      |                                 |                                         |                          |
|          | 13:10 | 2247.4                             |                                      |                                 |                                         |                          |
|          | 13:15 | 2141.6                             |                                      |                                 |                                         |                          |



# Pacific Process Systems, Inc.

## Step Rate Injection Test



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