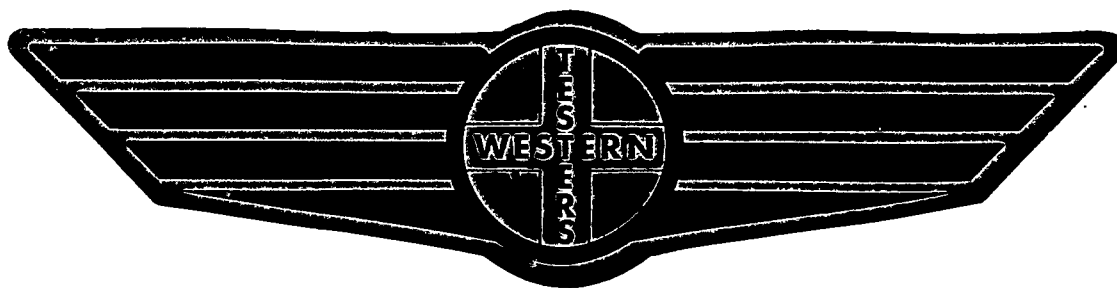


# FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 800-688-7021

COMPANY PETROLEUM PRODUCTION MANAGEMENT LEASE & WELL NO. #6 LANG SEC. 22 TWP. 21S RGE. 34W TEST NO. 1 DATE 9/28/94

## DST REPORT

### GENERAL INFORMATION

|           |                             |                |                  |
|-----------|-----------------------------|----------------|------------------|
| DATE      | : 9-28-94                   | TICKET         | : 20821          |
| CUSTOMER  | : PETROLEUM PRODUCTION MGMT | LEASE          | : LANG           |
| WELL      | : #6                        | TEST: 1        | GEOLOGIST: BAKER |
| ELEVATION | : 2951 GL                   | FORMATION      | : KRIDER         |
| SECTION   | : 22                        | TOWNSHIP       | : 21S            |
| RANGE     | : 34W                       | COUNTY: FINNEY | STATE : KS       |
| GAUGE SN# | : 1562                      | RANGE : 3900   | CLOCK : 12       |

### WELL INFORMATION

|                            |            |                    |            |            |           |
|----------------------------|------------|--------------------|------------|------------|-----------|
| PERFORATION INTERVAL FROM: | 2510.00 ft | TO:                | 2560.00 ft | TVD:       | 2560.0 ft |
| DEPTH OF SELECTIVE ZONE:   |            |                    |            | TEST TYPE: | GAS       |
| DEPTH OF RECORDERS:        | 2530.0 ft  |                    | 2533.0 ft  |            |           |
| TEMPERATURE:               | 107.0      |                    |            |            |           |
| DRILL COLLAR LENGTH:       | 540.0 ft   | I.D.:              |            | 2.200 in   |           |
| WEIGHT PIPE LENGTH :       | 0.0 ft     | I.D.:              |            | 0.000 in   |           |
| DRILL PIPE LENGTH :        | 1950.0 ft  | I.D.:              |            | 3.800 in   |           |
| TEST TOOL LENGTH :         | 20.0 ft    | TOOL SIZE :        |            | 5.500 in   |           |
| ANCHOR LENGTH :            | 50.0 ft    | ANCHOR SIZE:       |            | 5.500 in   |           |
| SURFACE CHOKE SIZE :       | 0.750 in   | BOTTOM CHOKE SIZE: |            | 0.750 in   |           |
| MAIN HOLE SIZE :           | 7.875 in   | TOOL JOINT SIZE :  |            | 4.5 XH     |           |
| PACKER DEPTH:              | 2505.0 ft  | SIZE:              |            | 6.625 in   |           |
| PACKER DEPTH:              | 2510.0 ft  | SIZE:              |            | 6.625 in   |           |
| PACKER DEPTH:              | 0.0 ft     | SIZE:              |            | 0.000 in   |           |
| PACKER DEPTH:              | 0.0 ft     | SIZE:              |            | 0.000 in   |           |

### MUD INFORMATION

|                 |           |                |           |
|-----------------|-----------|----------------|-----------|
| DRILLING CON. : | MURFIN #3 | VISCOSITY :    | 44.00 cp  |
| MUD TYPE :      | STARCH    | WATER LOSS:    | 16.000 cc |
| WEIGHT :        | 9.400 ppg | SERIAL NUMBER: |           |
| CHLORIDES :     | 47000 ppm | REVERSED OUT?: | NO        |
| JARS-MAKE :     |           |                |           |
| DID WELL FLOW?: | YES       |                |           |

### COMMENTS

#### Comment

INITIAL FLOW PERIOD- STRONG BLOW GAS TO SURFACE  
IN 30 MINUTES.  
SLID TOOL 4 FEET TO BOTTOM.

# DST REPORT (CONTINUED)

## COMMENTS (CONTINUED)

Comment

## FLUID RECOVERY

| Feet of<br>Fluid | %<br>Oil | %<br>Gas | %<br>Water | %<br>Mud | Comments             |
|------------------|----------|----------|------------|----------|----------------------|
| 80.0             | 0.0      | 5.0      | 0.0        | 95.0     | SLIGHTLY GAS CUT MUD |
| 0.0              | 0.0      | 0.0      | 0.0        | 0.0      | CHLORIDES 44000 PPM  |

## RATE INFORMATION

|               |        |     |                     |               |
|---------------|--------|-----|---------------------|---------------|
| OIL VOLUME:   | 0.0000 | STB |                     |               |
| GAS VOLUME:   | 0.1056 | SCF |                     |               |
| MUD VOLUME:   | 0.3573 | STB |                     |               |
| WATER VOLUME: | 0.0000 | STB |                     |               |
| TOTAL FLUID : | 0.3573 | STB |                     |               |
|               |        |     | TOTAL FLOW TIME:    | 110.0000 min. |
|               |        |     | AVERAGE OIL RATE:   | 0.0000 STB/D  |
|               |        |     | AVERAGE WATER RATE: | 0.0000 STB/D  |

## FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1391.00

| Description     | Duration | p1    | p End  |
|-----------------|----------|-------|--------|
| INITIAL FLOW    | 60.00    | 80.00 | 84.00  |
| INITIAL SHUT-IN | 60.00    |       | 450.00 |
| FINAL FLOW      | 60.00    | 86.00 | 86.00  |
| FINAL SHUT-IN   | 60.00    |       | 450.00 |

FINAL HYDROSTATIC PRESSURE: 1341.00

DST REPORT (CONTINUED)

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1420.00

| Description     | Duration | p1    | p End  |
|-----------------|----------|-------|--------|
| INITIAL FLOW    | 55.00    | 64.00 | 69.00  |
| INITIAL SHUT-IN | 60.00    |       | 452.00 |
| FINAL FLOW      | 55.00    | 68.00 | 68.00  |
| FINAL SHUT-IN   | 60.00    |       | 452.00 |

FINAL HYDROSTATIC PRESSURE: 1332.00

# GAS FLOW REPORT

## GENERAL INFORMATION

|                                      |                   |
|--------------------------------------|-------------------|
| DATE : 9-28-94                       | TICKET : 20821    |
| CUSTOMER : PETROLEUM PRODUCTION MGMT | LEASE : LANG      |
| WELL : #6                            | GEOLOGIST: BAKER  |
| ELEVATION: 2951 GL                   | FORMATION: KRIDER |
| SECTION : 22                         | TOWNSHIP : 21S    |
| RANGE : 34W                          | STATE : KS        |
| GAUGE SN#: 1562                      | CLOCK : 12        |
| COUNTY: FINNEY                       |                   |
| RANGE : 3900                         |                   |

## PRE FLOW

| Time Guage<br>(min) | Tester<br>Type | Orifice<br>Size | Pressure  | Flow Desc.  |
|---------------------|----------------|-----------------|-----------|-------------|
| 40 MIN              | MERLA          | 0.250           | 28" WATER | 8890 SCF/D  |
| 50 MIN              | MERLA          | 0.250           | 30" WATER | 9200 SCF/D  |
| 60 MIN              | MERLA          | 0.250           | 36" WATER | 10100 SCF/D |

## SECOND FLOW

| Time Guage<br>(min) | Tester<br>Type | Orifice<br>Size | Pressure  | Flow Desc.  |
|---------------------|----------------|-----------------|-----------|-------------|
| 10 MIN              | MERLA          | 0.500           | 36" WATER | 37600 SCF/D |
| 20 MIN              | MERLA          | 0.500           | 38" WATER | 38600 SCF/D |
| 30 MIN              | MERLA          | 0.500           | 38" WATER | 38600 SCF/D |
| 40 MIN              | MERLA          | 0.500           | 38" WATER | 38600 SCF/D |
| 50 MIN              | MERLA          | 0.500           | 38" WATER | 38600 SCF/D |
| 60 MIN              | MERLA          | 0.500           | 38" WATER | 38600 SCF/D |

# PRESSURE TRANSIENT REPORT

## GENERAL INFORMATION

|           |                             |           |          |
|-----------|-----------------------------|-----------|----------|
| DATE      | : 9-28-94                   | TICKET    | : 20821  |
| CUSTOMER  | : PETROLEUM PRODUCTION MGMT | LEASE     | : LANG   |
| WELL      | : #6                        | GEOLOGIST | : BAKER  |
| ELEVATION | : 2951 GL                   | FORMATION | : KRIDER |
| SECTION   | : 22                        | TOWNSHIP  | : 21S    |
| RANGE     | : 34W                       | STATE     | : KS     |
| GAUGE SN# | : 1562                      | CLOCK     | : 12     |
|           | COUNTY: FINNEY              |           |          |
|           | RANGE : 3900                |           |          |

## INITIAL FLOW

| Time<br>(min) | Pressure | Delta P |
|---------------|----------|---------|
| 0.00          | 64.00    | 64.00   |
| 5.00          | 64.00    | 0.00    |
| 10.00         | 65.00    | 1.00    |
| 15.00         | 66.00    | 1.00    |
| 20.00         | 67.00    | 1.00    |
| 25.00         | 68.00    | 1.00    |
| 30.00         | 68.00    | 0.00    |
| 35.00         | 68.00    | 0.00    |
| 40.00         | 68.00    | 0.00    |
| 45.00         | 69.00    | 1.00    |
| 50.00         | 69.00    | 0.00    |
| 55.00         | 69.00    | 0.00    |

## INITIAL SHUT IN

| Time<br>(min) | Pressure | Delta P | Horner T |
|---------------|----------|---------|----------|
| 3.00          | 299.00   | 299.00  | 11.00    |
| 6.00          | 412.00   | 113.00  | 6.00     |
| 9.00          | 432.00   | 20.00   | 4.33     |
| 12.00         | 441.00   | 9.00    | 3.50     |
| 15.00         | 446.00   | 5.00    | 3.00     |
| 18.00         | 450.00   | 4.00    | 2.67     |
| 21.00         | 452.00   | 2.00    | 2.43     |
| 24.00         | 452.00   | 0.00    | 2.25     |
| 27.00         | 452.00   | 0.00    | 2.11     |
| 30.00         | 452.00   | 0.00    | 2.00     |
| 33.00         | 452.00   | 0.00    | 1.91     |
| 36.00         | 452.00   | 0.00    | 1.83     |
| 39.00         | 452.00   | 0.00    | 1.77     |
| 42.00         | 452.00   | 0.00    | 1.71     |

# PRESSURE TRANSIENT REPORT (CONTINUED)

## INITIAL SHUT IN (CONTINUED)

| Time<br>(min) | Pressure | Delta P | Horner T |
|---------------|----------|---------|----------|
| 45.00         | 452.00   | 0.00    | 1.67     |
| 48.00         | 452.00   | 0.00    | 1.63     |
| 51.00         | 452.00   | 0.00    | 1.59     |
| 54.00         | 452.00   | 0.00    | 1.56     |
| 57.00         | 452.00   | 0.00    | 1.53     |
| 60.00         | 452.00   | 0.00    | 1.50     |

## FINAL FLOW

| Time<br>(min) | Pressure | Delta P |
|---------------|----------|---------|
| 0.00          | 68.00    | 68.00   |
| 5.00          | 68.00    | 0.00    |
| 10.00         | 68.00    | 0.00    |
| 15.00         | 68.00    | 0.00    |
| 20.00         | 68.00    | 0.00    |
| 25.00         | 68.00    | 0.00    |
| 30.00         | 68.00    | 0.00    |
| 35.00         | 68.00    | 0.00    |
| 40.00         | 68.00    | 0.00    |
| 45.00         | 68.00    | 0.00    |
| 50.00         | 68.00    | 0.00    |
| 55.00         | 68.00    | 0.00    |

## FINAL SHUT IN

| Time<br>(min) | Pressure | Delta P | Horner T |
|---------------|----------|---------|----------|
| 3.00          | 302.00   | 302.00  | 22.67    |
| 6.00          | 401.00   | 99.00   | 11.83    |
| 9.00          | 422.00   | 21.00   | 8.22     |
| 12.00         | 433.00   | 11.00   | 6.42     |
| 15.00         | 438.00   | 5.00    | 5.33     |
| 18.00         | 441.00   | 3.00    | 4.61     |
| 21.00         | 444.00   | 3.00    | 4.10     |
| 24.00         | 445.00   | 1.00    | 3.71     |
| 27.00         | 446.00   | 1.00    | 3.41     |
| 30.00         | 447.00   | 1.00    | 3.17     |
| 33.00         | 448.00   | 1.00    | 2.97     |
| 36.00         | 448.00   | 0.00    | 2.81     |

# PRESSURE TRANSIENT REPORT (CONTINUED)

## FINAL SHUT IN (CONTINUED)

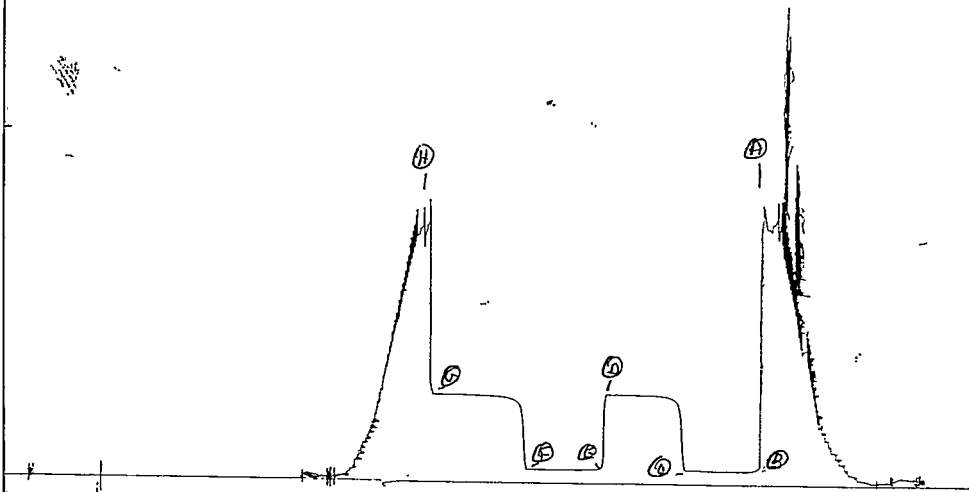
| Time<br>(min) | Pressure | Delta P | Horner T |
|---------------|----------|---------|----------|
| 39.00         | 449.00   | 1.00    | 2.67     |
| 42.00         | 449.00   | 0.00    | 2.55     |
| 45.00         | 450.00   | 1.00    | 2.44     |
| 48.00         | 450.00   | 0.00    | 2.35     |
| 51.00         | 451.00   | 1.00    | 2.27     |
| 54.00         | 451.00   | 0.00    | 2.20     |
| 57.00         | 452.00   | 1.00    | 2.14     |
| 60.00         | 452.00   | 0.00    | 2.08     |

15621  
Dex #1  
208

Kit # 20821

5

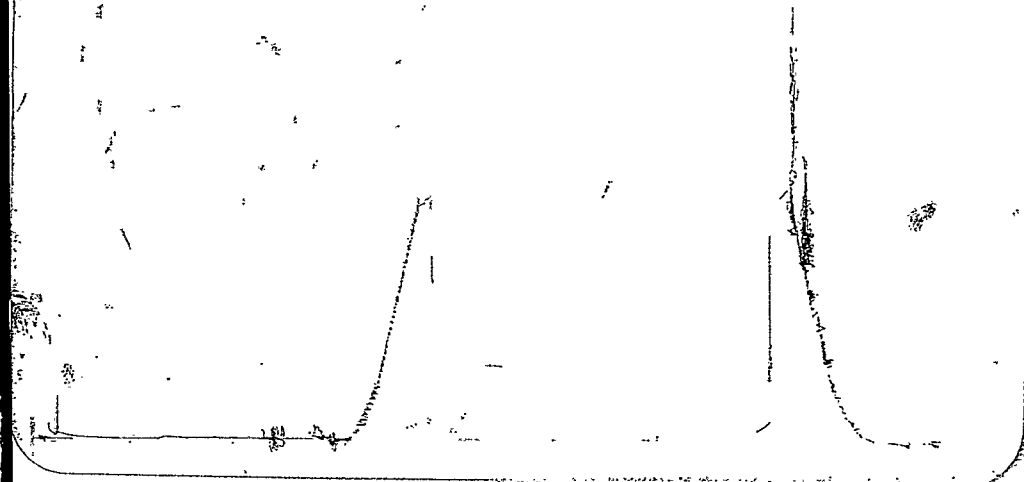
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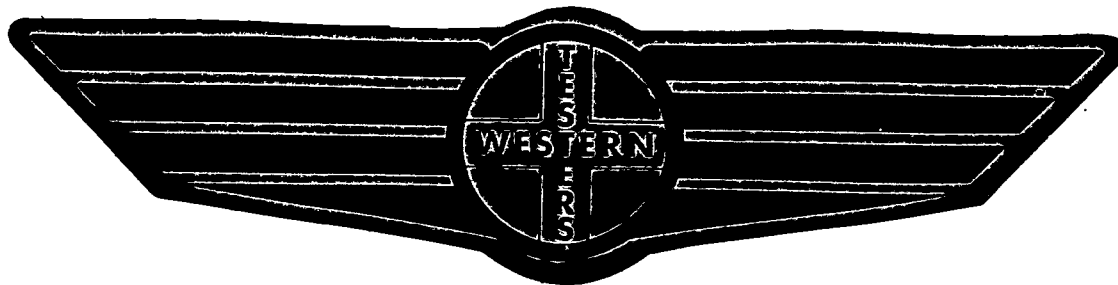
2604  
Dist #1  
Bottom

Jkt # 20821

0



# FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 813-800-6888-7021

COMPANY PETROLEUM PRODUCTION MANAGEMENT LEASE & WELL NO. #6 LANG SEC. 22 TWP. 21S RGE. 34W TEST NO. 2 DATE 9/28/94

## DST REPORT

### GENERAL INFORMATION

|           |                             |           |            |
|-----------|-----------------------------|-----------|------------|
| DATE      | : 9-28-94                   | TICKET    | : 20822    |
| CUSTOMER  | : PETROLEUM PRODUCTION MGMT | LEASE     | : LANG     |
| WELL      | : #6                        | TEST:     | 2          |
| ELEVATION | : 2951 GL                   | GEOLOGIST | : BAKER    |
| SECTION   | : 22                        | FORMATION | : WINFIELD |
| RANGE     | : 34W                       | TOWNSHIP  | : 21S      |
| Gauge SN# | : 1562                      | STATE     | : KS       |
| COUNTY    | : FINNEY                    | CLOCK     | : 12       |
| RANGE     | : 3900                      |           |            |

### WELL INFORMATION

|                            |            |                    |            |            |           |
|----------------------------|------------|--------------------|------------|------------|-----------|
| PERFORATION INTERVAL FROM: | 2583.00 ft | TO:                | 2620.00 ft | TVD:       | 2620.0 ft |
| DEPTH OF SELECTIVE ZONE:   |            |                    |            | TEST TYPE: | GAS       |
| DEPTH OF RECORDERS:        | 2593.0 ft  |                    | 2596.0 ft  |            |           |
| TEMPERATURE:               | 107.0      |                    |            |            |           |
| DRILL COLLAR LENGTH:       | 540.0 ft   | I.D.:              |            | 2.200 in   |           |
| WEIGHT PIPE LENGTH :       | 0.0 ft     | I.D.:              |            | 0.000 in   |           |
| DRILL PIPE LENGTH :        | 2023.0 ft  | I.D.:              |            | 3.800 in   |           |
| TEST TOOL LENGTH :         | 20.0 ft    | TOOL SIZE :        |            | 5.500 in   |           |
| ANCHOR LENGTH :            | 37.0 ft    | ANCHOR SIZE:       |            | 5.500 in   |           |
| SURFACE CHOKE SIZE :       | 0.750 in   | BOTTOM CHOKE SIZE: |            | 0.750 in   |           |
| MAIN HOLE SIZE :           | 7.875 in   | TOOL JOINT SIZE :  |            | 4.5 XH     |           |
| PACKER DEPTH:              | 2578.0 ft  | SIZE:              |            | 6.625 in   |           |
| PACKER DEPTH:              | 2583.0 ft  | SIZE:              |            | 6.625 in   |           |
| PACKER DEPTH:              | 0.0 ft     | SIZE:              |            | 0.000 in   |           |
| PACKER DEPTH:              | 0.0 ft     | SIZE:              |            | 0.000 in   |           |

### MUD INFORMATION

|                 |           |                |           |
|-----------------|-----------|----------------|-----------|
| DRILLING CON. : | MURFIN #3 | VISCOSITY :    | 44.00 cp  |
| MUD TYPE :      | STARCH    | WATER LOSS:    | 16.000 cc |
| WEIGHT :        | 9.400 ppg | SERIAL NUMBER: |           |
| CHLORIDES :     | 47000 ppm | REVERSED OUT?: | NO        |
| JARS-MAKE :     |           |                |           |
| DID WELL FLOW?: | YES       |                |           |

### COMMENTS

#### Comment

INITIAL FLOW PERIOD- WEAK TO STRONG BLOW OFF  
BOTTOM OF BUCKET IN 64 MINUTES.  
FINAL FLOW PERIOD- STRONG BLOW, GAS TO SURFACE IN

# DST REPORT (CONTINUED)

## COMMENTS (CONTINUED)

Comment

30 MINUTES.

## FLUID RECOVERY

| Feet of<br>Fluid | %<br>Oil | %<br>Gas | %<br>Water | %<br>Mud | Comments             |
|------------------|----------|----------|------------|----------|----------------------|
| 70.0             | 0.0      | 8.0      | 0.0        | 92.0     | SLIGHTLY GAS CUT MUD |
| 0.0              | 0.0      | 0.0      | 0.0        | 0.0      | CHLORIDES 42000 PPM  |

## RATE INFORMATION

OIL VOLUME: 0.0000 STB  
 GAS VOLUME: 0.1478 SCF  
 MUD VOLUME: 0.3028 STB  
 WATER VOLUME: 0.0000 STB  
 TOTAL FLUID : 0.3028 STB

TOTAL FLOW TIME: 175.0000 min.  
 AVERAGE OIL RATE: 0.0000 STB/D  
 AVERAGE WATER RATE: 0.0000 STB/D

## FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1440.00

| Description     | Duration | p1    | p End  |
|-----------------|----------|-------|--------|
| INITIAL FLOW    | 90.00    | 30.00 | 36.00  |
| INITIAL SHUT-IN | 60.00    |       | 450.00 |
| FINAL FLOW      | 90.00    | 50.00 | 52.00  |
| FINAL SHUT-IN   | 90.00    |       | 450.00 |

FINAL HYDROSTATIC PRESSURE: 1381.00

DST REPORT (CONTINUED)

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1441.00

| Description                 | Duration | p1    | p End  |
|-----------------------------|----------|-------|--------|
| INITIAL FLOW                | 85.00    | 30.00 | 36.00  |
| INITIAL SHUT-IN             | 60.00    |       | 438.00 |
| FINAL FLOW                  | 90.00    | 42.00 | 42.00  |
| FINAL SHUT-IN               | 90.00    |       | 450.00 |
| FINAL HYDROSTATIC PRESSURE: | 1381.00  |       |        |

## GAS FLOW REPORT

### GENERAL INFORMATION

|            |                             |            |          |
|------------|-----------------------------|------------|----------|
| DATE       | : 9-28-94                   | TICKET     | : 20822  |
| CUSTOMER   | : PETROLEUM PRODUCTION MGMT | LEASE      | : LANG   |
| WELL       | : #6                        | TEST:      | 2        |
| ELEVATION: | 2951 GL                     | GEOLOGIST: | BAKER    |
| SECTION    | : 22                        | FORMATION: | WINFIELD |
| RANGE      | : 34W                       | TOWNSHIP   | : 21S    |
| GAUGE SN#: | 1562                        | STATE      | : KS     |
|            |                             | CLOCK      | : 12     |
|            | COUNTY: FINNEY              |            |          |
|            | RANGE : 3900                |            |          |

### PRE FLOW

| Time Guage<br>(min) | Tester<br>Type | Orifice<br>Size | Pressure | Flow Desc. |
|---------------------|----------------|-----------------|----------|------------|
|---------------------|----------------|-----------------|----------|------------|

### SECOND FLOW

| Time Guage<br>(min) | Tester<br>Type | Orifice<br>Size | Pressure  | Flow Desc. |
|---------------------|----------------|-----------------|-----------|------------|
| 40 MIN              | MERLA          | 0.125           | 9" WATER  | 1590 SCF/D |
| 50 MIN              | MERLA          | 0.125           | 10" WATER | 1670 SCF/D |
| 60 MIN              | MERLA          | 0.125           | 12" WATER | 1830 SCF/D |
| 70 MIN              | MERLA          | 0.125           | 13" WATER | 1910 SCF/D |
| 80 MIN              | MERLA          | 0.125           | 13" WATER | 1910 SCF/D |
| 90 MIN              | MERLA          | 0.125           | 13" WATER | 1910 SCF/D |

# PRESSURE TRANSIENT REPORT

## GENERAL INFORMATION

|           |                             |           |            |
|-----------|-----------------------------|-----------|------------|
| DATE      | : 9-28-94                   | TICKET    | : 20822    |
| CUSTOMER  | : PETROLEUM PRODUCTION MGMT | LEASE     | : LANG     |
| WELL      | : #6                        | GEOLOGIST | : BAKER    |
| ELEVATION | : 2951 GL                   | FORMATION | : WINFIELD |
| SECTION   | : 22                        | TOWNSHIP  | : 21S      |
| RANGE     | : 34W                       | STATE     | : KS       |
| GAUGE SN# | : 1562                      | CLOCK     | : 12       |
|           | COUNTY: FINNEY              |           |            |
|           | RANGE : 3900                |           |            |

## INITIAL FLOW

| Time<br>(min) | Pressure | Delta P |
|---------------|----------|---------|
| 0.00          | 30.00    | 30.00   |
| 5.00          | 30.00    | 0.00    |
| 10.00         | 30.00    | 0.00    |
| 15.00         | 31.00    | 1.00    |
| 20.00         | 31.00    | 0.00    |
| 25.00         | 31.00    | 0.00    |
| 30.00         | 32.00    | 1.00    |
| 35.00         | 32.00    | 0.00    |
| 40.00         | 32.00    | 0.00    |
| 45.00         | 33.00    | 1.00    |
| 50.00         | 33.00    | 0.00    |
| 55.00         | 33.00    | 0.00    |
| 60.00         | 34.00    | 1.00    |
| 65.00         | 34.00    | 0.00    |
| 70.00         | 34.00    | 0.00    |
| 75.00         | 35.00    | 1.00    |
| 80.00         | 35.00    | 0.00    |
| 85.00         | 36.00    | 1.00    |

## INITIAL SHUT IN

| Time<br>(min) | Pressure | Delta P | Horner T |
|---------------|----------|---------|----------|
| 3.00          | 104.00   | 104.00  | 11.00    |
| 6.00          | 170.00   | 66.00   | 6.00     |
| 9.00          | 242.00   | 72.00   | 4.33     |
| 12.00         | 317.00   | 75.00   | 3.50     |
| 15.00         | 369.00   | 52.00   | 3.00     |
| 18.00         | 396.00   | 27.00   | 2.67     |
| 21.00         | 412.00   | 16.00   | 2.43     |
| 24.00         | 438.00   | 26.00   | 2.25     |

# PRESSURE TRANSIENT REPORT (CONTINUED)

## INITIAL SHUT IN (CONTINUED)

| Time<br>(min) | Pressure | Delta P | Horner T |
|---------------|----------|---------|----------|
| 27.00         | 438.00   | 0.00    | 2.11     |
| 30.00         | 438.00   | 0.00    | 2.00     |
| 33.00         | 438.00   | 0.00    | 1.91     |
| 36.00         | 438.00   | 0.00    | 1.83     |
| 39.00         | 438.00   | 0.00    | 1.77     |
| 42.00         | 438.00   | 0.00    | 1.71     |
| 45.00         | 438.00   | 0.00    | 1.67     |
| 48.00         | 438.00   | 0.00    | 1.63     |
| 51.00         | 438.00   | 0.00    | 1.59     |
| 54.00         | 438.00   | 0.00    | 1.56     |
| 57.00         | 438.00   | 0.00    | 1.53     |
| 60.00         | 438.00   | 0.00    | 1.50     |

## FINAL FLOW

| Time<br>(min) | Pressure | Delta P |
|---------------|----------|---------|
| 0.00          | 42.00    | 42.00   |
| 5.00          | 42.00    | 0.00    |
| 10.00         | 42.00    | 0.00    |
| 15.00         | 42.00    | 0.00    |
| 20.00         | 42.00    | 0.00    |
| 25.00         | 42.00    | 0.00    |
| 30.00         | 42.00    | 0.00    |
| 35.00         | 42.00    | 0.00    |
| 40.00         | 42.00    | 0.00    |
| 45.00         | 42.00    | 0.00    |
| 50.00         | 42.00    | 0.00    |
| 55.00         | 42.00    | 0.00    |
| 60.00         | 42.00    | 0.00    |
| 65.00         | 42.00    | 0.00    |
| 70.00         | 42.00    | 0.00    |
| 75.00         | 42.00    | 0.00    |
| 80.00         | 42.00    | 0.00    |
| 85.00         | 42.00    | 0.00    |
| 90.00         | 42.00    | 0.00    |

# PRESSURE TRANSIENT REPORT (CONTINUED)

## FINAL SHUT IN

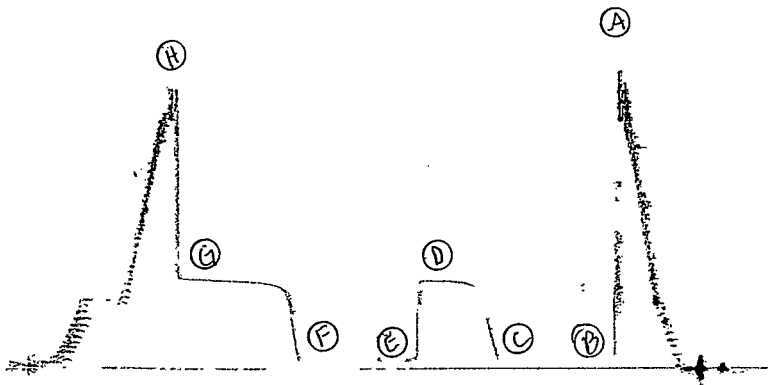
| Time<br>(min) | Pressure | Delta P | Horner T |
|---------------|----------|---------|----------|
| 3.00          | 209.00   | 209.00  | 22.67    |
| 6.00          | 310.00   | 101.00  | 11.83    |
| 9.00          | 370.00   | 60.00   | 8.22     |
| 12.00         | 395.00   | 25.00   | 6.42     |
| 15.00         | 409.00   | 14.00   | 5.33     |
| 18.00         | 419.00   | 10.00   | 4.61     |
| 21.00         | 425.00   | 6.00    | 4.10     |
| 24.00         | 431.00   | 6.00    | 3.71     |
| 27.00         | 433.00   | 2.00    | 3.41     |
| 30.00         | 436.00   | 3.00    | 3.17     |
| 33.00         | 437.00   | 1.00    | 2.97     |
| 36.00         | 437.00   | 0.00    | 2.81     |
| 39.00         | 438.00   | 1.00    | 2.67     |
| 42.00         | 438.00   | 0.00    | 2.55     |
| 45.00         | 439.00   | 1.00    | 2.44     |
| 48.00         | 440.00   | 1.00    | 2.35     |
| 51.00         | 440.00   | 0.00    | 2.27     |
| 54.00         | 441.00   | 1.00    | 2.20     |
| 57.00         | 442.00   | 1.00    | 2.14     |
| 60.00         | 443.00   | 1.00    | 2.08     |
| 63.00         | 443.00   | 0.00    | 2.03     |
| 66.00         | 444.00   | 1.00    | 1.98     |
| 69.00         | 445.00   | 1.00    | 1.94     |
| 72.00         | 445.00   | 0.00    | 1.90     |
| 75.00         | 446.00   | 1.00    | 1.87     |
| 78.00         | 446.00   | 0.00    | 1.83     |
| 81.00         | 447.00   | 1.00    | 1.80     |
| 84.00         | 448.00   | 1.00    | 1.77     |
| 87.00         | 449.00   | 1.00    | 1.75     |
| 90.00         | 450.00   | 1.00    | 1.67     |

1562  
DST #2  
TOP

JKT # 20822

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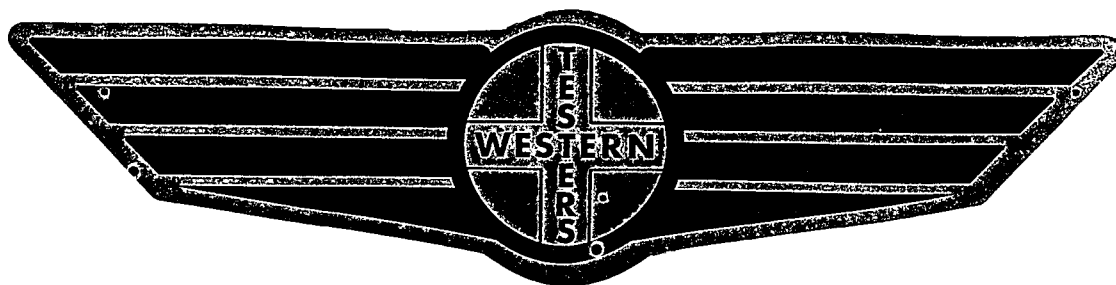


2604  
Dy #2  
Bottom

Ikt # 20822

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# FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1-800-688-7021

COMPANY PETROLEUM PRODUCTION MANAGEMENT & WELL NO. #6 LANG SEC. 22 TWP. 31S RGE. 34W TEST NO. 3 DATE 9/29/94

## DST REPORT

### GENERAL INFORMATION

|            |                            |            |         |
|------------|----------------------------|------------|---------|
| DATE       | : 9/24/94                  | TICKET     | : 20823 |
| CUSTOMER   | : PETROLEUM PRODUCTION MAN | LEASE      | : LANG  |
| WELL       | : #6                       | TEST:      | 3       |
| ELEVATION: | 2951 GL                    | GEOLOGIST: | BAKER   |
| SECTION    | : 22                       | FORMATION: | TOWANDA |
| RANGE      | : 34W                      | TOWNSHIP   | : 31S   |
| GAUGE SN#: | 1562                       | STATE      | : KS    |
|            |                            | CLOCK      | : 12    |
|            | COUNTY: FINNEY             |            |         |
|            | RANGE : 3900               |            |         |

### WELL INFORMATION

|                            |            |                    |            |            |           |
|----------------------------|------------|--------------------|------------|------------|-----------|
| PERFORATION INTERVAL FROM: | 2650.00 ft | TO:                | 2685.00 ft | TVD:       | 2685.0 ft |
| DEPTH OF SELECTIVE ZONE:   |            |                    |            | TEST TYPE: | GAS       |
| DEPTH OF RECORDERS:        | 2660.0 ft  |                    | 2663.0 ft  |            |           |
| TEMPERATURE:               | 107.0      |                    |            |            |           |
| DRILL COLLAR LENGTH:       | 540.0 ft   | I.D.:              |            | 2.200 in   |           |
| WEIGHT PIPE LENGTH :       | 0.0 ft     | I.D.:              |            | 0.000 in   |           |
| DRILL PIPE LENGTH :        | 2090.0 ft  | I.D.:              |            | 3.800 in   |           |
| TEST TOOL LENGTH :         | 20.0 ft    | TOOL SIZE :        |            | 5.500 in   |           |
| ANCHOR LENGTH :            | 35.0 ft    | ANCHOR SIZE:       |            | 5.500 in   |           |
| SURFACE CHOKE SIZE :       | 0.750 in   | BOTTOM CHOKE SIZE: |            | 0.750 in   |           |
| MAIN HOLE SIZE :           | 7.875 in   | TOOL JOINT SIZE :  |            | 4.5XH      |           |
| PACKER DEPTH:              | 2645.0 ft  | SIZE:              |            | 6.630 in   |           |
| PACKER DEPTH:              | 2650.0 ft  | SIZE:              |            | 6.630 in   |           |
| PACKER DEPTH:              | 0.0 ft     | SIZE:              |            | 0.000 in   |           |
| PACKER DEPTH:              | 0.0 ft     | SIZE:              |            | 0.000 in   |           |

### MUD INFORMATION

|                 |              |                |           |
|-----------------|--------------|----------------|-----------|
| DRILLING CON. : | MURFIN RIG 3 | VISCOSITY :    | 45.00 cp  |
| MUD TYPE :      | STARCH       | WATER LOSS:    | 12.000 cc |
| WEIGHT :        | 9.500 ppg    | SERIAL NUMBER: |           |
| CHLORIDES :     | 0 ppm        | REVERSED OUT?: | NO        |
| JARS-MAKE :     |              |                |           |
| DID WELL FLOW?: | YES          |                |           |

### COMMENTS

#### Comment

INITIAL FLOW PERIOD STRONG BLOW - GAS TO SURFACE  
IN 20 MINUTES.  
GAS TO SURFACE IN 20 MINUTES ON INITIAL FLOW.

# DST REPORT (CONTINUED)

## FLUID RECOVERY

| Feet of<br>Fluid | %<br>Oil | %<br>Gas | %<br>Water | %<br>Mud | Comments            |
|------------------|----------|----------|------------|----------|---------------------|
| 90.0             | 0.0      | 16.0     | 0.0        | 84.0     | GAS CUT MUD         |
| 0.0              | 0.0      | 0.0      | 0.0        | 0.0      | CHLORIDES 47500 PPM |

## RATE INFORMATION

|               |        |     |                     |               |
|---------------|--------|-----|---------------------|---------------|
| OIL VOLUME:   | 0.0000 | STB |                     |               |
| GAS VOLUME:   | 0.3801 | SCF | TOTAL FLOW TIME:    | 115.0000 min. |
| MUD VOLUME:   | 0.3554 | STB | AVERAGE OIL RATE:   | 0.0000 STB/D  |
| WATER VOLUME: | 0.0000 | STB | AVERAGE WATER RATE: | 0.0000 STB/D  |
| TOTAL FLUID : | 0.3554 | STB |                     |               |

## FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1440.00

| Description     | Duration | p1    | p End  |
|-----------------|----------|-------|--------|
| INITIAL FLOW    | 60.00    | 30.00 | 60.00  |
| INITIAL SHUT-IN | 60.00    |       | 460.00 |
| FINAL FLOW      | 60.00    | 50.00 | 70.00  |
| FINAL SHUT-IN   | 60.00    |       | 460.00 |

FINAL HYDROSTATIC PRESSURE: 1430.00

## OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1452.00

| Description     | Duration | p1    | p End  |
|-----------------|----------|-------|--------|
| INITIAL FLOW    | 55.00    | 30.00 | 43.00  |
| INITIAL SHUT-IN | 60.00    |       | 439.00 |
| FINAL FLOW      | 60.00    | 43.00 | 47.00  |
| FINAL SHUT-IN   | 63.00    |       | 435.00 |

FINAL HYDROSTATIC PRESSURE: 1430.00

# GAS FLOW REPORT

## GENERAL INFORMATION

DATE : 9/24/94  
 CUSTOMER : PETROLEUM PRODUCTION MAN  
 WELL : #6 TEST: 3  
 ELEVATION: 2951 GL  
 SECTION : 22  
 RANGE : 34W COUNTY: FINNEY  
 GAUGE SN#: 1562 RANGE : 3900

TICKET : 20823  
 LEASE : LANG  
 GEOLOGIST: BAKER  
 FORMATION: TOWANDA  
 TOWNSHIP : 31S  
 STATE : KS  
 CLOCK : 12

## PRE FLOW

| Time Guage<br>(min) | Tester<br>Type | Orifice<br>Size | Pressure  | Flow Desc.  |
|---------------------|----------------|-----------------|-----------|-------------|
| 30 MIN              | MERLA          | 0.750           | 20" WATER | 63500 SCF/D |
| 40 MIN              | MERLA          | 0.750           | 15" WATER | 55200 SCF/D |
| 50 MIN              | MERLA          | 0.750           | 24" WATER | 69500 SCF/D |
| 60 MIN              | MERLA          | 0.750           | 34" WATER | 80300 SCF/D |

## SECOND FLOW

| Time Guage<br>(min) | Tester<br>Type | Orifice<br>Size | Pressure  | Flow Desc.   |
|---------------------|----------------|-----------------|-----------|--------------|
| 10 MIN              | MERLA          | 1.000           | 24" WATER | 126000 SCF/D |
| 20 MIN              | MERLA          | 1.000           | 24" WATER | 126000 SCF/D |
| 30 MIN              | MERLA          | 1.000           | 22" WATER | 121000 SCF/D |
| 40 MIN              | MERLA          | 1.000           | 22" WATER | 121000 SCF/D |
| 50 MIN              | MERLA          | 1.000           | 22" WATER | 121000 SCF/D |
| 60 MIN              | MERLA          | 1.000           | 22" WATER | 121000 SCF/D |

# PRESSURE TRANSIENT REPORT

## GENERAL INFORMATION

|           |                            |           |           |
|-----------|----------------------------|-----------|-----------|
| DATE      | : 9/24/94                  | TICKET    | : 20823   |
| CUSTOMER  | : PETROLEUM PRODUCTION MAN | LEASE     | : LANG    |
| WELL      | : #6                       | GEOLOGIST | : BAKER   |
| ELEVATION | : 2951 GL                  | FORMATION | : TOWANDA |
| SECTION   | : 22                       | TOWNSHIP  | : 31S     |
| RANGE     | : 34W                      | STATE     | : KS      |
| GAUGE SN# | : 1562                     | CLOCK     | : 12      |
|           | COUNTY: FINNEY             |           |           |
|           | RANGE : 3900               |           |           |

## INITIAL FLOW

| Time<br>(min) | Pressure | Delta P |
|---------------|----------|---------|
| 0.00          | 30.00    | 30.00   |
| 5.00          | 31.00    | 1.00    |
| 10.00         | 32.00    | 1.00    |
| 15.00         | 33.00    | 1.00    |
| 20.00         | 34.00    | 1.00    |
| 25.00         | 35.00    | 1.00    |
| 30.00         | 37.00    | 2.00    |
| 35.00         | 39.00    | 2.00    |
| 40.00         | 40.00    | 1.00    |
| 45.00         | 41.00    | 1.00    |
| 50.00         | 42.00    | 1.00    |
| 55.00         | 43.00    | 1.00    |

## INITIAL SHUT IN

| Time<br>(min) | Pressure | Delta P | Horner T |
|---------------|----------|---------|----------|
| 3.00          | 331.00   | 331.00  | 19.33    |
| 6.00          | 388.00   | 57.00   | 10.17    |
| 9.00          | 409.00   | 21.00   | 7.11     |
| 12.00         | 423.00   | 14.00   | 5.58     |
| 15.00         | 429.00   | 6.00    | 4.67     |
| 18.00         | 435.00   | 6.00    | 4.06     |
| 21.00         | 435.00   | 0.00    | 3.62     |
| 24.00         | 436.00   | 1.00    | 3.29     |
| 27.00         | 436.00   | 0.00    | 3.04     |
| 30.00         | 437.00   | 1.00    | 2.83     |
| 33.00         | 437.00   | 0.00    | 2.67     |
| 36.00         | 438.00   | 1.00    | 2.53     |
| 39.00         | 438.00   | 0.00    | 2.41     |
| 42.00         | 439.00   | 1.00    | 2.31     |

# PRESSURE TRANSIENT REPORT (CONTINUED)

## INITIAL SHUT IN (CONTINUED)

| Time<br>(min) | Pressure | Delta P | Horner T |
|---------------|----------|---------|----------|
| 45.00         | 439.00   | 0.00    | 2.22     |
| 48.00         | 439.00   | 0.00    | 2.15     |
| 51.00         | 439.00   | 0.00    | 2.08     |
| 54.00         | 439.00   | 0.00    | 2.02     |
| 57.00         | 439.00   | 0.00    | 1.96     |
| 60.00         | 439.00   | 0.00    | 1.92     |

## FINAL FLOW

| Time<br>(min) | Pressure | Delta P |
|---------------|----------|---------|
| 0.00          | 43.00    | 43.00   |
| 5.00          | 43.00    | 0.00    |
| 10.00         | 44.00    | 1.00    |
| 15.00         | 44.00    | 0.00    |
| 20.00         | 44.00    | 0.00    |
| 25.00         | 45.00    | 1.00    |
| 30.00         | 45.00    | 0.00    |
| 35.00         | 45.00    | 0.00    |
| 40.00         | 46.00    | 1.00    |
| 45.00         | 46.00    | 0.00    |
| 50.00         | 46.00    | 0.00    |
| 55.00         | 47.00    | 1.00    |
| 60.00         | 47.00    | 0.00    |

## FINAL SHUT IN

| Time<br>(min) | Pressure | Delta P | Horner T |
|---------------|----------|---------|----------|
| 3.00          | 312.00   | 312.00  | 21.00    |
| 6.00          | 370.00   | 58.00   | 11.00    |
| 9.00          | 386.00   | 16.00   | 7.67     |
| 12.00         | 400.00   | 14.00   | 6.00     |
| 15.00         | 409.00   | 9.00    | 5.00     |
| 18.00         | 414.00   | 5.00    | 4.33     |
| 21.00         | 416.00   | 2.00    | 3.86     |
| 24.00         | 418.00   | 2.00    | 3.50     |
| 27.00         | 420.00   | 2.00    | 3.22     |
| 30.00         | 422.00   | 2.00    | 3.00     |
| 33.00         | 425.00   | 3.00    | 2.82     |

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN (CONTINUED)

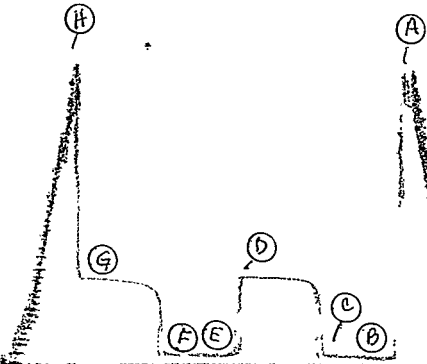
| <u>Time<br/>(min)</u> | <u>Pressure</u> | <u>Delta P</u> | <u>Horner T</u> |
|-----------------------|-----------------|----------------|-----------------|
| 36.00                 | 427.00          | 2.00           | 2.67            |
| 39.00                 | 429.00          | 2.00           | 2.54            |
| 42.00                 | 430.00          | 1.00           | 2.43            |
| 45.00                 | 431.00          | 1.00           | 2.33            |
| 48.00                 | 432.00          | 1.00           | 2.25            |
| 51.00                 | 433.00          | 1.00           | 2.18            |
| 54.00                 | 434.00          | 1.00           | 2.11            |
| 57.00                 | 435.00          | 1.00           | 2.05            |
| 60.00                 | 435.00          | 0.00           | 2.00            |
| 63.00                 | 435.00          | 0.00           | 1.95            |

562  
D31  
708

Act # 20823

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2603  
DST #3  
Bottom

Ykt # 20823

