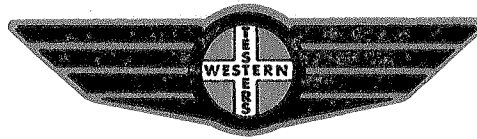


15-047-50023-0001



4-24s-16w

Home Office: Great Bend, Kansas

P. O. Box 793 (316) 793-7903

Company Messman-Rinehart Oil Co. Lease & Well No. Hahn # 3  
 Elevation 2082 Kelly Bushing Formation Mississippian Effective Pay 18 Ft. Ticket No. 15466  
 Date 3-19-71 Sec. 4 Twp. 24s Range 16w County Edwards State Kansas  
 Test Approved by J. G. Klein Western Representative Dean Blagrove

Formation Test No. 1 O.K. ☒ Misrun \_\_\_\_\_ Interval Tested From 4162' to 4180' Total Depth 4180'  
 Size Main Hole 6 1/2" Rat Hole \_\_\_\_\_ Conv. \_\_\_\_\_ B.T. ☒ Damaged Yes ☒ No Conv. ☒ B.T. \_\_\_\_\_ Damaged Yes ☒ No  
 Packer Depth 4157 Ft. Size 5 1/2" Packer Depth 4162 Ft. Size 5 1/2"  
 Straddle Yes \_\_\_\_\_ No ☒ Conv. \_\_\_\_\_ B.T. \_\_\_\_\_ Damaged Yes \_\_\_\_\_ No

Packer Depth \_\_\_\_\_ Ft. Size \_\_\_\_\_  
 Tool Size 4 1/2" OD Tool Jt. Size 3 1/2" Anchor Length 18 Ft. Size 4 1/2" OD

RECORDERS Depth 4173 Ft. Clock No. 9103 Depth 4176 Ft. Clock No. 8376  
 Top Make Kuster Cap. 4150 No. 2608 Inside \_\_\_\_\_ Outside \_\_\_\_\_ Bottom Make Kuster Cap. 4200 No. 1559 Inside \_\_\_\_\_ Outside \_\_\_\_\_  
 Below Straddle: Depth \_\_\_\_\_ Clock No. \_\_\_\_\_ Inside \_\_\_\_\_ Outside \_\_\_\_\_ Depth \_\_\_\_\_ Ft. Clock No. \_\_\_\_\_ Inside \_\_\_\_\_ Outside \_\_\_\_\_  
 Top Make \_\_\_\_\_ Cap. \_\_\_\_\_ No. \_\_\_\_\_ Inside \_\_\_\_\_ Outside \_\_\_\_\_ Bottom Make \_\_\_\_\_ Cap. \_\_\_\_\_ No. \_\_\_\_\_ Inside \_\_\_\_\_ Outside \_\_\_\_\_

Time Set Packer 4:08A M  
 Tool Open I.F.P. From 4:10 M. to 4:20A M. Hr. 10 Min. From (B) 41 P.S.I. To (C) 29 P.S.I.  
 Tool Closed I.C.I.P. From 4:20 M. to 4:50A M. Hr. 30 Min. (D) 1068 P.S.I.  
 Tool Open F.F.P. From 4:50 M. to 5:50A M. Hr. 60 Min. From (E) 43 P.S.I. To (F) 32 P.S.I.  
 Tool Closed F.C.I.P. From 5:50 M. to 6:50A M. Hr. 60 Min. (G) 1346 P.S.I.  
 Initial Hydrostatic Pressure (A) 2081 P.S.I. Final Hydrostatic Pressure (H) 2073 P.S.I.

SURFACE Size Choke 1/4 In. Max. Press. P.S.I. \_\_\_\_\_ Time \_\_\_\_\_ Description of Flow \_\_\_\_\_  
 INFORMATION \_\_\_\_\_ M. \_\_\_\_\_  
 \_\_\_\_\_ M. \_\_\_\_\_  
 \_\_\_\_\_ M. \_\_\_\_\_

BLOW Good through out -- Gas to surface in 20 minutes to small to measure Bottom Choke Size 3/4 In.  
 Did Well Flow Yes ☒ No \_\_\_\_\_ Recovery Total Ft. 60 feet mud

Reversed Out Yes ☒ No \_\_\_\_\_ Mud Type starch Viscosity 43 Weight 9.2 Water Loss 8 cc. Maximum Temp. 114 °F  
 Type Circ. Sub. plug Did Tool Plug? no Jars: Size \_\_\_\_\_ Make \_\_\_\_\_ Ser. No. \_\_\_\_\_  
 EXTRA EQUIPMENT: Dual Packers yes Safety Joint no Did Packer Hold? yes Where? \_\_\_\_\_  
 Length Drill Pipe 3115 ft. I.D. Drill Pipe 2.7 in. Length Weight Pipe 1053 ft. I.D. Weight Pipe 2.5 in. Length Drill Collars \_\_\_\_\_ ft.  
 I. D. Drill Collars \_\_\_\_\_ in. Length D.S.T. Tool 36 ft.

Remarks

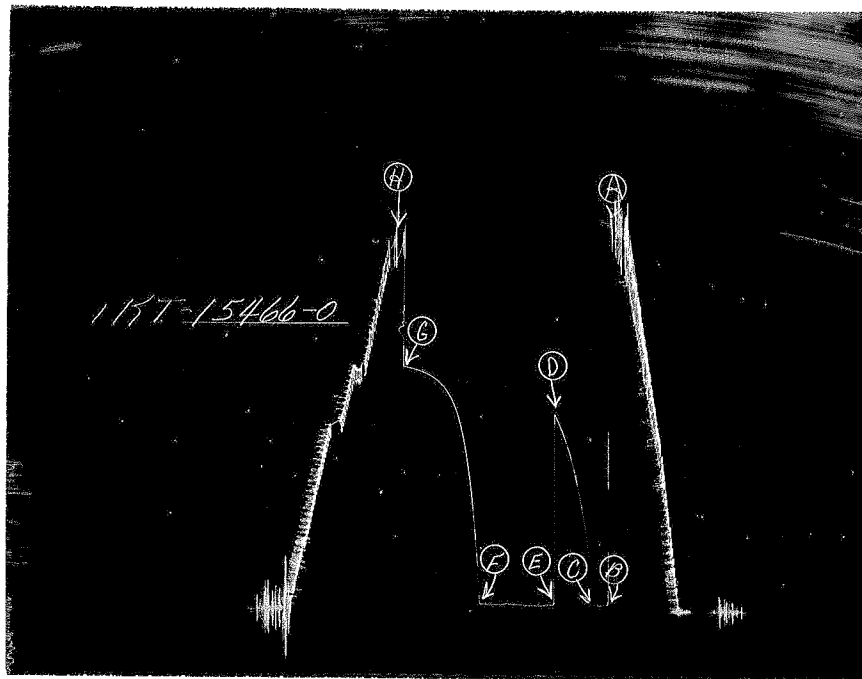
**WESTERN TESTING CO., INC.**  
**Pressure Data**

Date 3-19-71 Test Ticket No. 15466  
Recorder No. 2608 Capacity 4150 Location 4173 Ft.  
Clock No. 9003 Elevation 2082 Kelly Dushing Well Temperature 114 °F

| Point                          | Pressure           |                            | Time Given      | Time Computed   |
|--------------------------------|--------------------|----------------------------|-----------------|-----------------|
| A Initial Hydrostatic Mud      | <u>2081</u> P.S.I. | Open Tool                  | <u>4:08A</u> M  |                 |
| B First Initial Flow Pressure  | <u>41</u> P.S.I.   | First Flow Pressure        | <u>10</u> Mins. | <u>10</u> Mins. |
| C First Final Flow Pressure    | <u>29</u> P.S.I.   | Initial Closed-in Pressure | <u>30</u> Mins. | <u>30</u> Mins. |
| D Initial Closed-in Pressure   | <u>1068</u> P.S.I. | Second Flow Pressure       | <u>60</u> Mins. | <u>60</u> Mins. |
| E Second Initial Flow Pressure | <u>43</u> P.S.I.   | Final Closed-in Pressure   | <u>60</u> Mins. | <u>59</u> Mins. |
| F Second Final Flow Pressure   | <u>32</u> P.S.I.   |                            |                 |                 |
| G Final Closed-in Pressure     | <u>1346</u> P.S.I. |                            |                 |                 |
| H Final Hydrostatic Mud        | <u>2073</u> P.S.I. |                            |                 |                 |

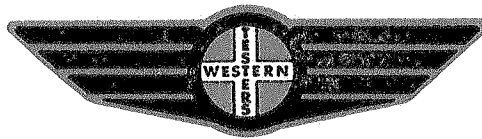
**PRESSURE BREAKDOWN**

| First Flow Pressure      |           | Initial Shut-In           |             | Second Flow Pressure      |           | Final Shut-In             |             |
|--------------------------|-----------|---------------------------|-------------|---------------------------|-----------|---------------------------|-------------|
| Breakdown: <u>2</u> Inc. |           | Breakdown: <u>10</u> Inc. |             | Breakdown: <u>12</u> Inc. |           | Breakdown: <u>19</u> Inc. |             |
| of <u>5</u> mins. and a  |           | of <u>3</u> mins. and a   |             | of <u>5</u> mins. and a   |           | of <u>3</u> mins. and a   |             |
| final inc. of _____ Min. |           | final inc. of _____ Min.  |             | final inc. of _____ Min.  |           | final inc. of _____ Min.  |             |
| Point Mins.              | Press.    | Point Minutes             | Press.      | Point Minutes             | Press.    | Point Minutes             | Press.      |
| P 1 <u>0</u>             | <u>41</u> | <u>0</u>                  | <u>29</u>   | <u>0</u>                  | <u>43</u> | <u>0</u>                  | <u>32</u>   |
| P 2 <u>5</u>             | <u>31</u> | <u>3</u>                  | <u>220</u>  | <u>5</u>                  | <u>31</u> | <u>3</u>                  | <u>370</u>  |
| P 3 <u>10</u>            | <u>29</u> | <u>6</u>                  | <u>401</u>  | <u>10</u>                 | <u>27</u> | <u>6</u>                  | <u>609</u>  |
| P 4 _____                |           | <u>9</u>                  | <u>549</u>  | <u>15</u>                 | <u>22</u> | <u>9</u>                  | <u>784</u>  |
| P 5 _____                |           | <u>12</u>                 | <u>673</u>  | <u>20</u>                 | <u>23</u> | <u>12</u>                 | <u>919</u>  |
| P 6 _____                |           | <u>15</u>                 | <u>767</u>  | <u>25</u>                 | <u>23</u> | <u>15</u>                 | <u>1024</u> |
| P 7 _____                |           | <u>18</u>                 | <u>830</u>  | <u>30</u>                 | <u>24</u> | <u>18</u>                 | <u>1106</u> |
| P 8 _____                |           | <u>21</u>                 | <u>904</u>  | <u>35</u>                 | <u>27</u> | <u>21</u>                 | <u>1164</u> |
| P 9 _____                |           | <u>24</u>                 | <u>968</u>  | <u>40</u>                 | <u>29</u> | <u>24</u>                 | <u>1196</u> |
| P10 _____                |           | <u>27</u>                 | <u>1022</u> | <u>45</u>                 | <u>29</u> | <u>27</u>                 | <u>1227</u> |
| P11 _____                |           | <u>30</u>                 | <u>1068</u> | <u>50</u>                 | <u>30</u> | <u>30</u>                 | <u>1252</u> |
| P12 _____                |           |                           |             | <u>55</u>                 | <u>31</u> | <u>33</u>                 | <u>1273</u> |
| P13 _____                |           |                           |             | <u>60</u>                 | <u>32</u> | <u>36</u>                 | <u>1289</u> |
| P14 _____                |           |                           |             |                           |           | <u>39</u>                 | <u>1302</u> |
| P15 _____                |           |                           |             |                           |           | <u>42</u>                 | <u>1312</u> |
| P16 _____                |           |                           |             |                           |           | <u>45</u>                 | <u>1321</u> |
| P17 _____                |           |                           |             |                           |           | <u>48</u>                 | <u>1328</u> |
| P18 _____                |           |                           |             |                           |           | <u>51</u>                 | <u>1333</u> |
| P19 _____                |           |                           |             |                           |           | <u>54</u>                 | <u>1340</u> |
| P20 _____                |           |                           |             |                           |           | <u>57</u>                 | <u>1344</u> |
|                          |           |                           |             |                           |           | <u>59</u>                 | <u>1346</u> |



This is an actual photograph of recorder chart.

| POINT                                  | PRESSURE      |                |     |
|----------------------------------------|---------------|----------------|-----|
|                                        | Field Reading | Office Reading |     |
| (A) Initial Hydrostatic Mud .....      | 2087          | 2081           | PSI |
| (B) First Initial Flow Pressure .....  | 31            | 41             | PSI |
| (C) First Final Flow Pressure .....    | 31            | 29             | PSI |
| (D) Initial Closed-in Pressure .....   | 1068          | 1068           | PSI |
| (E) Second Initial Flow Pressure ..... | 31            | 43             | PSI |
| (F) Second Final Flow Pressure .....   | 31            | 32             | PSI |
| (G) Final Closed-in Pressure .....     | 1348          | 1346           | PSI |
| (H) Final Hydrostatic Mud .....        | 2066          | 2073           | PSI |



Home Office: Great Bend, Kansas

P. O. Box 793

(316) 793-7903

Company Messman Rinehart Oil Co. Lease & Well No. Hahn # 3

Elevation 2082 Kelly Bushing Formation Mississippian Effective Pay \_\_\_\_\_ Ft. Ticket No. 15467

Date 3-19-71 Sec. 4 Twp. 24s Range 16w County Edwards State Kansas

Test Approved by J.G. Klein Western Representative Dean Blagrove

Formation Test No. 2 O.K. ☒ Misrun \_\_\_\_\_ Interval Tested From 4182' to 4205' Total Depth 4205'

Size Main Hole 6 1/4 Rat Hole \_\_\_\_\_ Conv. \_\_\_\_\_ B.T. ☒ Damaged \_\_\_\_\_ Yes ☒ No Conv. ☒ B.T. \_\_\_\_\_ Damaged \_\_\_\_\_ Yes ☒ No

Packer Depth 4177 Ft. Size 5 1/2" Packer Depth 4182 Ft. Size 5 1/2"

Straddle \_\_\_\_\_ Yes \_\_\_\_\_ No ☒ Conv. \_\_\_\_\_ B.T. \_\_\_\_\_ Damaged \_\_\_\_\_ Yes \_\_\_\_\_ No

Packer Depth \_\_\_\_\_ Ft. Size \_\_\_\_\_

Tool Size 4 1/2"OD Tool Jt. Size 3 1/2"IF Anchor Length 23 Ft. Size 4 1/2"OD

RECORDERS Depth 4198 Ft. Clock No. 9103 Depth 4201 Ft. Clock No. 8376

Top Make Kuster Cap. 4150 No. 2608 ~~Inside~~ Outside Bottom Make Kuster Cap. 4200 No. 1559 ~~Inside~~ Outside

Below Straddle: Depth \_\_\_\_\_ Clock No. \_\_\_\_\_ ~~Inside~~ Outside Depth \_\_\_\_\_ Ft. Clock No. \_\_\_\_\_ ~~Inside~~ Outside

Top Make \_\_\_\_\_ Cap. \_\_\_\_\_ No. \_\_\_\_\_ ~~Inside~~ Outside Bottom Make \_\_\_\_\_ Cap. \_\_\_\_\_ No. \_\_\_\_\_ ~~Inside~~ Outside

Time Set Packer 5:43P M

Tool Open I.F.P. From 5:45 M. to 5:55P M. Hr. 10 Min. From (B) 43 P.S.I. To (C) 27 P.S.I.

Tool Closed I.C.I.P. From 5:55 M. to 6:25P M. Hr. 30 Min. (D) 220 P.S.I.

Tool Open F.F.P. From 6:25 M. to 7:40P M. 1 Hr. 15 Min. From (E) 41 P.S.I. To (F) 33 P.S.I.

Tool Closed F.C.I.P. From 7:40 M. to 8:40P M. 1 Hr. - Min. (G) 625 P.S.I.

Initial Hydrostatic Pressure (A) 2079 P.S.I. Final Hydrostatic Pressure (H) 2052 P.S.I.

SURFACE Size Choke 1/4 In. Max. Press. P.S.I. \_\_\_\_\_ Time \_\_\_\_\_ Description of Flow \_\_\_\_\_

INFORMATION \_\_\_\_\_ M. \_\_\_\_\_

\_\_\_\_\_ M. \_\_\_\_\_

\_\_\_\_\_ M. \_\_\_\_\_

BLOW Good thru out Bottom Choke Size 3/4 In.

Did Well Flow \_\_\_\_\_ Yes ☒ No \_\_\_\_\_ Recovery Total Ft. 520 feet gas in pipe--- 20 feet mud

Reversed Out \_\_\_\_\_ Yes ☒ No \_\_\_\_\_ Mud Type starch Viscosity 43 Weight 9.2 Water Loss 8 cc. Maximum Temp. 118 °F

Type Circ. Sub. plug Did Tool Plug? no Jars: Size \_\_\_\_\_ Make \_\_\_\_\_ Ser. No. \_\_\_\_\_

EXTRA EQUIPMENT: Dual Packers yes Safety Joint no Did Packer Hold? yes Where? \_\_\_\_\_

Length Drill Pipe 3115 ft. I.D. Drill Pipe 2.7 in. Length Weight Pipe 1053 ft. I.D. Weight Pipe 2.5 in. Length Drill Collars \_\_\_\_\_ ft.

I. D. Drill Collars \_\_\_\_\_ in. Length D.S.T. Tool 41 ft.

Remarks \_\_\_\_\_

# WESTERN TESTING CO., INC.

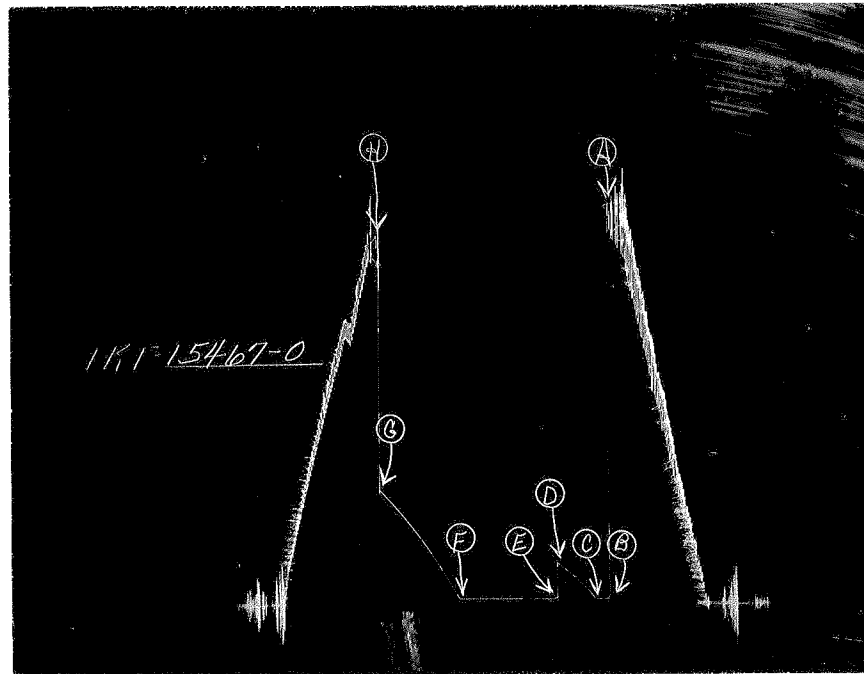
## Pressure Data

Date 3-19-71 Test Ticket No. 15467  
 Recorder No. 2608 Capacity 4150 Location 4198 Ft.  
 Clock No. 9103 Elevation 2082 Kelly Bushing Well Temperature 118 °F

| Point                          | Pressure           | Time Given      | Time Computed   |
|--------------------------------|--------------------|-----------------|-----------------|
| A Initial Hydrostatic Mud      | <u>2079</u> P.S.I. | <u>5:43P</u> M  |                 |
| B First Initial Flow Pressure  | <u>43</u> P.S.I.   | <u>10</u> Mins. | <u>10</u> Mins. |
| C First Final Flow Pressure    | <u>27</u> P.S.I.   | <u>30</u> Mins. | <u>30</u> Mins. |
| D Initial Closed-in Pressure   | <u>220</u> P.S.I.  | <u>75</u> Mins. | <u>73</u> Mins. |
| E Second Initial Flow Pressure | <u>41</u> P.S.I.   | <u>60</u> Mins. | <u>60</u> Mins. |
| F Second Final Flow Pressure   | <u>33</u> P.S.I.   |                 |                 |
| G Final Closed-in Pressure     | <u>625</u> P.S.I.  |                 |                 |
| H Final Hydrostatic Mud        | <u>2052</u> P.S.I. |                 |                 |

## PRESSURE BREAKDOWN

| First Flow Pressure            |             | Initial Shut-In                |             | Second Flow Pressure           |             | Final Shut-In                  |            |
|--------------------------------|-------------|--------------------------------|-------------|--------------------------------|-------------|--------------------------------|------------|
| Breakdown: <u>2</u> Inc.       |             | Breakdown: <u>10</u> Inc.      |             | Breakdown: <u>14</u> Inc.      |             | Breakdown: <u>20</u> Inc.      |            |
| of <u>5</u> mins. and a        |             | of <u>3</u> mins. and a        |             | of <u>5</u> mins. and a        |             | of <u>3</u> mins. and a        |            |
| final inc. of <u>    </u> Min. |             | final inc. of <u>    </u> Min. |             | final inc. of <u>    </u> Min. |             | final inc. of <u>    </u> Min. |            |
| Point Mins.                    | Press.      | Point Minutes                  | Press.      | Point Minutes                  | Press.      | Point Minutes                  | Press.     |
| P 1 <u>0</u>                   | <u>43</u>   | <u>0</u>                       | <u>27</u>   | <u>0</u>                       | <u>42</u>   | <u>0</u>                       | <u>33</u>  |
| P 2 <u>5</u>                   | <u>29</u>   | <u>3</u>                       | <u>43</u>   | <u>5</u>                       | <u>29</u>   | <u>3</u>                       | <u>52</u>  |
| P 3 <u>10</u>                  | <u>27</u>   | <u>6</u>                       | <u>66</u>   | <u>10</u>                      | <u>29</u>   | <u>6</u>                       | <u>95</u>  |
| P 4 <u>    </u>                | <u>    </u> | <u>9</u>                       | <u>92</u>   | <u>15</u>                      | <u>29</u>   | <u>9</u>                       | <u>133</u> |
| P 5 <u>    </u>                | <u>    </u> | <u>12</u>                      | <u>114</u>  | <u>20</u>                      | <u>29</u>   | <u>12</u>                      | <u>168</u> |
| P 6 <u>    </u>                | <u>    </u> | <u>15</u>                      | <u>128</u>  | <u>25</u>                      | <u>30</u>   | <u>15</u>                      | <u>199</u> |
| P 7 <u>    </u>                | <u>    </u> | <u>18</u>                      | <u>152</u>  | <u>30</u>                      | <u>30</u>   | <u>18</u>                      | <u>237</u> |
| P 8 <u>    </u>                | <u>    </u> | <u>21</u>                      | <u>171</u>  | <u>35</u>                      | <u>30</u>   | <u>21</u>                      | <u>272</u> |
| P 9 <u>    </u>                | <u>    </u> | <u>24</u>                      | <u>191</u>  | <u>40</u>                      | <u>31</u>   | <u>24</u>                      | <u>305</u> |
| P10 <u>    </u>                | <u>    </u> | <u>27</u>                      | <u>208</u>  | <u>45</u>                      | <u>31</u>   | <u>27</u>                      | <u>334</u> |
| P11 <u>    </u>                | <u>    </u> | <u>30</u>                      | <u>220</u>  | <u>50</u>                      | <u>31</u>   | <u>30</u>                      | <u>368</u> |
| P12 <u>    </u>                | <u>    </u> | <u>    </u>                    | <u>    </u> | <u>55</u>                      | <u>32</u>   | <u>33</u>                      | <u>397</u> |
| P13 <u>    </u>                | <u>    </u> | <u>    </u>                    | <u>    </u> | <u>60</u>                      | <u>33</u>   | <u>36</u>                      | <u>428</u> |
| P14 <u>    </u>                | <u>    </u> | <u>    </u>                    | <u>    </u> | <u>65</u>                      | <u>33</u>   | <u>39</u>                      | <u>458</u> |
| P15 <u>    </u>                | <u>    </u> | <u>    </u>                    | <u>    </u> | <u>70</u>                      | <u>33</u>   | <u>42</u>                      | <u>487</u> |
| P16 <u>    </u>                | <u>    </u> | <u>    </u>                    | <u>    </u> | <u>73</u>                      | <u>33</u>   | <u>45</u>                      | <u>516</u> |
| P17 <u>    </u>                | <u>    </u> | <u>    </u>                    | <u>    </u> | <u>    </u>                    | <u>    </u> | <u>48</u>                      | <u>542</u> |
| P18 <u>    </u>                | <u>    </u> | <u>    </u>                    | <u>    </u> | <u>    </u>                    | <u>    </u> | <u>51</u>                      | <u>565</u> |
| P19 <u>    </u>                | <u>    </u> | <u>    </u>                    | <u>    </u> | <u>    </u>                    | <u>    </u> | <u>54</u>                      | <u>590</u> |
| P20 <u>    </u>                | <u>    </u> | <u>    </u>                    | <u>    </u> | <u>    </u>                    | <u>    </u> | <u>57</u>                      | <u>614</u> |
|                                |             |                                |             |                                |             | <u>60</u>                      | <u>625</u> |



This is an actual photograph of recorder chart.

| POINT                                  | PRESSURE      |                |     |
|----------------------------------------|---------------|----------------|-----|
|                                        | Field Reading | Office Reading |     |
| (A) Initial Hydrostatic Mud .....      | 2066          | 2079           | PSI |
| (B) First Initial Flow Pressure .....  | 31            | 43             | PSI |
| (C) First Final Flow Pressure .....    | 31            | 27             | PSI |
| (D) Initial Closed-in Pressure .....   | 218           | 220            | PSI |
| (E) Second Initial Flow Pressure ..... | 31            | 41             | PSI |
| (F) Second Final Flow Pressure .....   | 31            | 33             | PSI |
| (G) Final Closed-in Pressure .....     | 623           | 625            | PSI |
| (H) Final Hydrostatic Mud .....        | 2045          | 2052           | PSI |