



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET No 6536

P. O. BOX 1599 WICHITA, KANSAS 67201
PHONE (316) 838-0601

Elevation Formation Eff. Pay Ft.

KANSAS CITY K.C.

District Great Bend Date 9-4-80 Customer Order No.

COMPANY NAME Cougar Petroleum Corp.

ADDRESS 1675 Broadway Suite 1770, Denver, Colorado 80202

LEASE AND WELL NO. #1-29 Hartman COUNTY Sumner STATE Kansas Sec. 29 Twp. 30S Rge. 3W

Mail Invoice To Same as above Co. Name Address No. Copies Requested 5

Mail Charts To Same as above Co. Name Address No. Copies Requested 5

Formation Test No. 1 Interval Tested from 3254 ft. to 3285 ft. Total Depth 3285 ft.
Packer Depth 3249 ft. Size 6 7/8 in.
Packer Depth 3254 ft. Size 6 7/8 in.

Top Recorder Depth (Inside) 3275 ft. Recorder Number 6074 Cap. 5100
Bottom Recorder Depth (Outside) 3278 ft. Recorder Number 1563 Cap. 4200
Below Straddle Recorder Depth ft. Recorder Number Cap.

Drilling Contractor Chase Dring Co. Rig #15 Drill Collar Length 494 I. D. 2 1/4 in.
Mud Type Premix Viscosity 44 Weight Pipe Length I. D. in.
Weight 9.2 Water Loss 48.8 cc. Drill Pipe Length 2731 I. D. 3.8 in.
Chlorides 17,000 P.P.M. Test Tool Length 29 ft. Tool Size 5 1/2 in.
Jars: Make W.T.C. Serial Number 402 Anchor Length 31 ft. Size 5 1/2 in.
Did Well Flow? No Reversed Out No Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.
Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 FH in.

Blow: Very weak blow died in 15min on 1st flow period. No blow on 2nd flow period. Flushed tool, few bubbles died.

Recovered 70 ft. of Mud
Recovered ft. of
Recovered ft. of
Recovered ft. of
Recovered ft. of

RECEIVED SEP 8 - 1980

Time Set Packer(s) 12:45 A.M. Time Started Off Bottom 2:45 A.M. Maximum Temperature 118
Initial Hydrostatic Pressure (A) 1737 P.S.I.
Initial Flow Period Minutes 30 (B) 38 P.S.I. to (C) 51 P.S.I.
Initial Closed In Period Minutes 30 (D) 1125 P.S.I.
Final Flow Period Minutes 30 (E) 63 P.S.I. to (F) 63 P.S.I.
Final Closed In Period Minutes 30 (G) 1061 P.S.I.
Final Hydrostatic Pressure (H) 1724 P.S.I.

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, of its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By R.E. Whetstone Signature of Customer or his authorized representative

Western Representative Vernon Wondra Thank You

No charts need Charts 9-9-80

FIELD INVOICE

Open Hole Test \$ 550.00
Misrun \$
Straddle Test \$
Jars \$ 300.00
Selective Zone \$
Safety Joint \$ 50.00
Standby \$
Evaluation \$
Extra Packer \$
Circ. Sub. \$
Mileage \$ 130 mi @ 750
Fluid Sampler \$
Extra Charts \$
TOTAL \$ 997.50

# WESTERN TESTING CO., INC.

## Pressure Data

Date 9-4-80 Test Ticket No. 6536  
 Recorder No. 6074 Capacity 5700 Location 3275 Ft.  
 Clock No. \_\_\_\_\_ Elevation \_\_\_\_\_ Well Temperature 118 °F

Point	Pressure	P.S.I.	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1739</u>	P.S.I.	<u>12:45 P</u>	<u>M</u>
B First Initial Flow Pressure	<u>49</u>	P.S.I.	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>56</u>	P.S.I.	<u>30</u> Mins.	<u>27</u> Mins.
D Initial Closed-in Pressure	<u>1135</u>	P.S.I.	<u>30</u> Mins.	<u>30</u> Mins.
E Second Initial Flow Pressure	<u>72</u>	P.S.I.	<u>30</u> Mins.	<u>27</u> Mins.
F Second Final Flow Pressure	<u>74</u>	P.S.I.		
G Final Closed-in Pressure	<u>1064</u>	P.S.I.		
H Final Hydrostatic Mud	<u>1737</u>	P.S.I.		

### PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>9</u> Inc.		Breakdown: <u>6</u> Inc.		Breakdown: <u>9</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>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1	<u>0</u>	<u>0</u>	<u>56</u>	<u>0</u>	<u>72</u>	<u>0</u>	<u>74</u>
P 2	<u>5</u>	<u>3</u>	<u>409</u>	<u>5</u>	<u>69</u>	<u>3</u>	<u>289</u>
P 3	<u>10</u>	<u>6</u>	<u>647</u>	<u>10</u>	<u>72</u>	<u>6</u>	<u>578</u>
P 4	<u>15</u>	<u>9</u>	<u>839</u>	<u>15</u>	<u>73</u>	<u>9</u>	<u>729</u>
P 5	<u>20</u>	<u>12</u>	<u>938</u>	<u>20</u>	<u>74</u>	<u>12</u>	<u>862</u>
P 6	<u>25</u>	<u>15</u>	<u>1010</u>	<u>25</u>	<u>74</u>	<u>15</u>	<u>928</u>
P 7	<u>30</u>	<u>18</u>	<u>1056</u>	<u>30</u>	<u>74</u>	<u>18</u>	<u>974</u>
P 8	<u>35</u>	<u>21</u>	<u>1089</u>	<u>35</u>		<u>21</u>	<u>1013</u>
P 9	<u>40</u>	<u>24</u>	<u>1115</u>	<u>40</u>		<u>24</u>	<u>1041</u>
P10	<u>45</u>	<u>27</u>	<u>1135</u>	<u>45</u>		<u>27</u>	<u>1064</u>
P11	<u>50</u>	<u>30</u>		<u>50</u>		<u>30</u>	
P12	<u>55</u>	<u>33</u>		<u>55</u>		<u>33</u>	
P13	<u>60</u>	<u>36</u>		<u>60</u>		<u>36</u>	
P14		<u>39</u>		<u>65</u>		<u>39</u>	
P15		<u>42</u>		<u>70</u>		<u>42</u>	
P16		<u>45</u>		<u>75</u>		<u>45</u>	
P17		<u>48</u>		<u>80</u>		<u>48</u>	
P18		<u>51</u>		<u>85</u>		<u>51</u>	
P19		<u>54</u>		<u>90</u>		<u>54</u>	
P20		<u>57</u>				<u>57</u>	
		<u>60</u>				<u>60</u>	

Company Couger Petroleum Corporation Lease & Well No. Hartman #1-29  
 Elevation ---- Formation Kansas City Effective Pay --- Ft. Ticket No. 6536  
 Date 9/4/80 Sec. 29 Twp. 30S Range 3W County Sumner State Kansas  
 Test Approved by R. E. Whetstine Western Representative Vernon Wondra

Formation Test No. 1 Interval Tested from 3254 ft. to 3285 ft. Total Depth 3285 ft.  
 Packer Depth 3249 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.  
 Packer Depth 3254 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -  
 Top Recorder Depth (Inside) 3275 ft. Recorder Number 6074 Cap. 5100  
 Bottom Recorder Depth (Outside) 3278 ft. Recorder Number 1563 Cap. 4200  
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Chase Drlg. Co. Rig #15 Drill Collar Length 494 I. D. 2 1/4 in.  
 Mud Type premix Viscosity 44 Weight Pipe Length - I. D. - in.  
 Weight 9.2 Water Loss 48.8 cc. Drill Pipe Length 2731 I. D. 3.8 in.  
 Chlorides 17,000 P.P.M. Test Tool Length 29 ft. Tool Size 5 1/2 OD in.  
 Jars: Make WTC Serial Number 402 Anchor Length 31 ft. Size 5 1/2 OD in.  
 Did Well Flow? No Reversed Out No Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.  
 Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 FH in.

Blow: Very weak blow; died in fifteen minutes on initial flow period. No blow on final flow period. Flushed tool, few bubbles and died.

Recovered 70 ft. of mud  
 Recovered        ft. of         
 Recovered        ft. of         
 Recovered        ft. of         
 Recovered        ft. of       

Remarks:       

Time Set Packer(s) 12:45 ~~AM~~ P.M. Time Started Off Bottom 2:45 ~~AM~~ P.M. Maximum Temperature 118°  
 Initial Hydrostatic Pressure ..... (A) 1739 P.S.I.  
 Initial Flow Period ..... Minutes 30 (B) 49 P.S.I. to (C) 56 P.S.I.  
 Initial Closed In Period ..... Minutes 27 (D) 1135 P.S.I.  
 Final Flow Period ..... Minutes 30 (E) 72 P.S.I. to (F) 74 P.S.I.  
 Final Closed In Period ..... Minutes 27 (G) 1064 P.S.I.  
 Final Hydrostatic Pressure ..... (H) 1737 P.S.I.

# WESTERN TESTING CO., INC.

## Pressure Data

Date 9-4-80

Test Ticket No. 6536

Recorder No. 6074

Capacity 5100

Location 3275 Ft.

Clock No. -

Elevation -

Well Temperature 118 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1739 P.S.I.	Open Tool	12:45P M	
B First Initial Flow Pressure	49 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	56 P.S.I.	Initial Closed-in Pressure	30 Mins.	27 Mins.
D Initial Closed-in Pressure	1135 P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
E Second Initial Flow Pressure	72 P.S.I.	Final Closed-in Pressure	30 Mins.	27 Mins.
F Second Final Flow Pressure	74 P.S.I.			
G Final Closed-in Pressure	1064 P.S.I.			
H Final Hydrostatic Mud	1737 P.S.I.			

### PRESSURE BREAKDOWN

**First Flow Pressure**  
Breakdown: 6 Inc.  
of 5 mins. and a  
final inc. of 0 Min.

**Initial Shut-In**  
Breakdown: 9 Inc.  
of 3 mins. and a  
final inc. of 0 Min.

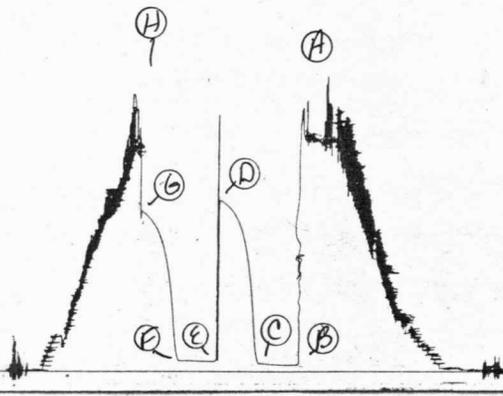
**Second Flow Pressure**  
Breakdown: 6 Inc.  
of 5 mins. and a  
final inc. of 0 Min.

**Final Shut-In**  
Breakdown: 9 Inc.  
of 3 mins. and a  
final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	49	0	56	0	72	0	74
P 2 5	46	3	409	5	69	3	289
P 3 10	46	6	647	10	72	6	578
P 4 15	46	9	839	15	73	9	729
P 5 20	49	12	938	20	74	12	862
P 6 25	54	15	1010	25	74	15	928
P 7 30	56	18	1056	30	74	18	974
P 8		21	1089			21	1013
P 9		24	1115			24	1041
P 10		27	1135			27	1064
P 11							
P 12							
P 13							
P 14							
P 15							
P 16							
P 17							
P 18							
P 19							
P 20							

Sp# 6536

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WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET NO 5896

Kelly Bushing

KANSAS CITY

P. O. BOX 1599 PHONE (316) 838-0601 WICHITA, KANSAS 67201

Elevation 1359 KB Formation KC Eff. Pay - Ft.

District Augusta Date 9-5-80 Customer Order No. -

COMPANY NAME Cougar Petroleum

ADDRESS 1675 Broadway Suite 1760 Denver Colo 80202

LEASE AND WELL NO Hartman 129 COUNTY Sumner STATE Ko Sec. 29 Twp. 30S Rge. 3W

Mail Invoice To Same Co. Name Address No. Copies Requested 5

Mail Charts To Same Address No. Copies Requested 5

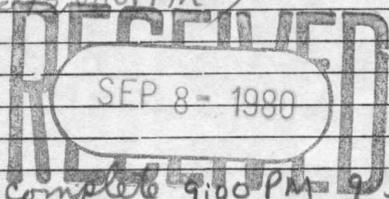
Formation Test No. 2 Interval Tested from 3382 ft. to 3409 ft. Total Depth 3409 ft. Packer Depth 3382 ft. Size 6 3/4 in. Packer Depth 3377 ft. Size 6 3/4 in.

Top Recorder Depth (Inside) 3402 ft. Recorder Number 1559 Cap. 4200 Bottom Recorder Depth (Outside) 3405 ft. Recorder Number 5666 Cap. 3950 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Chase Drilling Co #15 Mud Type Chem Viscosity 42 Weight 9.1 Water Loss 58.8 cc. Chlorides 16,000 P.P.M. Jars: Make WTC Serial Number 401 Did Well Flow? No Reversed Out No Drill Collar Length 477 I. D. 2 1/4 in. Weight Pipe Length - I. D. - in. Drill Pipe Length 2877 I. D. 3.8 in. Test Tool Length 55 ft. Tool Size 5 1/2 in. Anchor Length 27 ft. Size 5 1/2 in. Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in. Main Hole Size 7/8 in. Tool Joint Size 4 1/2 X H in.

Blow: Weak to very weak 75 minutes

Recovered 70 ft. of slightly oil cut mud (5% oil 95% mud chloride at 5,000 PPM)



Remarks: On location 12:15 PM 9-5-80 Pick up tool 12:30 PM Job complete 9:00 PM 9-5-80

Table with columns: Time Set Packer(s), Time Started Off Bottom, Maximum Temperature, Initial Hydrostatic Pressure, Initial Flow Period, Initial Closed In Period, Final Flow Period, Final Closed In Period, Final Hydrostatic Pressure.

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, of its statements or opinion concerning the results of any test.

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By Douglas H. McGinnis Signature of Customer or his authorized representative

Western Representative Norman Allen Wynn Wier

FIELD INVOICE

Table with columns: Item, Price. Items include Open Hole Test, Misrun, Straddle Test, Jars, Selective Zone, Safety Joint, Standby, Evaluation, Extra Packer, Circ. Sub., Mileage, Fluid Sampler, Extra Charts, TOTAL.

WESTERN TESTING CO., INC.

Pressure Data

Date 9-5-80 Recorder No. 1559 Capacity 4200 Test Ticket No. 5896  
 Clock No. \_\_\_\_\_ Elevation 1359 KB Location 3409 Ft. \_\_\_\_\_  
 Well Temperature 122 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1622</u>	P.S.I.	<u>3:20 P</u>	
B First Initial Flow Pressure	<u>69</u>	P.S.I.	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>56</u>	P.S.I.	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>418</u>	P.S.I.	<u>60</u> Mins.	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>79</u>	P.S.I.	<u>60</u> Mins.	<u>63</u> Mins.
F Second Final Flow Pressure	<u>67</u>	P.S.I.		
G Final Closed-in Pressure	<u>843</u>	P.S.I.		
H Final Hydrostatic Mud	<u>1622</u>	P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure  
 Breakdown: 6 Inc.  
 of 5 mins. and a  
 final inc. of 0 Min.

Initial Shut-In  
 Breakdown: 10 Inc.  
 of 3 mins. and a  
 final inc. of 0 Min.

Second Flow Pressure  
 Breakdown: 12 Inc.  
 of 5 mins. and a  
 final inc. of 0 Min.

Final Shut-In  
 Breakdown: 21 Inc.  
 of 3 mins. and a  
 final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	<u>69</u>	0	<u>56</u>	0	<u>79</u>	0	<u>67</u>
P 2 5	<u>59</u>	3	<u>56</u>	5	<u>70</u>	3	<u>76</u>
P 3 10	<u>56</u>	6	<u>60</u>	10	<u>67</u>	6	<u>84</u>
P 4 15	<u>↑</u>	9	<u>66</u>	15	<u> </u>	9	<u>96</u>
P 5 20	<u>↓</u>	12	<u>84</u>	20	<u> </u>	12	<u>110</u>
P 6 25	<u>↓</u>	15	<u>105</u>	25	<u> </u>	15	<u>134</u>
P 7 30	<u>56</u>	18	<u>148</u>	30	<u> </u>	18	<u>167</u>
P 8 35		21	<u>205</u>	35	<u> </u>	21	<u>213</u>
P 9 40		24	<u>270</u>	40	<u> </u>	24	<u>255</u>
P 10 45		27	<u>330</u>	45	<u> </u>	27	<u>314</u>
P 11 50		30	<u>418</u>	50	<u> </u>	30	<u>374</u>
P 12 55		33		55	<u> </u>	33	<u>424</u>
P 13 60		36		60	<u>67</u>	36	<u>470</u>
P 14		39		65		39	<u>519</u>
P 15		42		70		42	<u>560</u>
P 16		45		75		45	<u>606</u>
P 17		48		80		48	<u>644</u>
P 18		51		85		51	<u>687</u>
P 19		54		90		54	<u>731</u>
P 20		57				57	<u>768</u>
		60				60	<u>806</u>
						<u>63</u>	<u>843</u>

Company Couger Petroleum Lease & Well No. Hartman #1-29  
 Elevation 1359 Kelly Bushing Kansas City Effective Pay --- Ft. Ticket No. 5896  
 Date 9/5/80 29 30S 3W Sumner Kansas  
 Test Approved by Douglas H. McGinness Western Representative Norman Allen-Wyman Weir

Formation Test No. 2 Interval Tested from 3382 ft. to 3409 ft. Total Depth 3409 ft.

Packer Depth 3382 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 3377 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 3402 ft. Recorder Number 1559 Cap. 4200

Bottom Recorder Depth (Outside) 3405 ft. Recorder Number 5666 Cap. 3950

Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Chase Drlg. Co. #15 Drill Collar Length 477 I. D. 2 1/4 in.

Mud Type chemical Viscosity 42 Weight Pipe Length - I. D. - in.

Weight 9.1 Water Loss 58.8 cc. Drill Pipe Length 2877 I. D. 3.83 in.

Chlorides 16,000 P.P.M. Test Tool Length 55 ft. Tool Size 5 1/2 in.

Jars: Make WTC Serial Number 401 Anchor Length 27 ft. Size 5 1/2 in.

Did Well Flow? NO Reversed Out NO Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 XH in.

Blow: Weak to very weak seventy-five minutes.

Recovered 70 ft. of slightly oil cut mud (5% oil; 95% mud-Chlorides 15,000 ppm)

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 3.20 AM Time Started Off Bottom 6:20 AM Maximum Temperature 122°

Initial Hydrostatic Pressure (A) 1622 P.S.I.

Initial Flow Period Minutes 30 (B) 69 P.S.I. to (C) 56 P.S.I.

Initial Closed In Period Minutes 30 (D) 418 P.S.I.

Final Flow Period Minutes 60 (E) 79 P.S.I. to (F) 67 P.S.I.

Final Closed In Period Minutes 63 (G) 843 P.S.I.

Final Hydrostatic Pressure (H) 1622 P.S.I.

**WESTERN TESTING CO., INC.**

**Pressure Data**

Date 9-5-80 Test Ticket No. 5896  
 Recorder No. 1559 Capacity 4200 Location 3409 Ft.  
 Clock No. ----- Elevation 1359 Kelly Bushing Well Temperature 122 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1622</u> P.S.I.	Open Tool	<u>3:20</u> P. M.	
B First Initial Flow Pressure	<u>69</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>56</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>418</u> P.S.I.	Second Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>79</u> P.S.I.	Final Closed-in Pressure	<u>60</u> Mins.	<u>63</u> Mins.
F Second Final Flow Pressure	<u>67</u> P.S.I.			
G Final Closed-in Pressure	<u>843</u> P.S.I.			
H Final Hydrostatic Mud	<u>1622</u> P.S.I.			

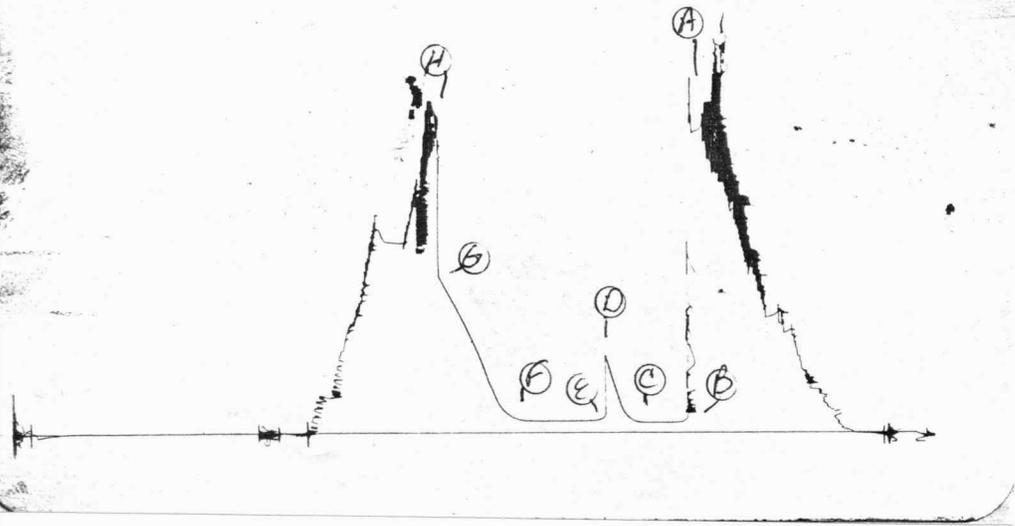
**PRESSURE BREAKDOWN**

First Flow Pressure Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Initial Shut-In Breakdown: <u>10</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.		Second Flow Pressure Breakdown: <u>12</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Final Shut-In Breakdown: <u>21</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1	<u>0</u> 69	<u>0</u> 56		<u>0</u> 79		<u>0</u> 67	
P 2	<u>5</u> 59	<u>3</u> 56		<u>5</u> 70		<u>3</u> 76	
P 3	<u>10</u> 56	<u>6</u> 60		<u>10</u> 67		<u>6</u> 84	
P 4	<u>15</u> 56	<u>9</u> 66		<u>15</u> 67		<u>9</u> 96	
P 5	<u>20</u> 56	<u>12</u> 84		<u>20</u> 67		<u>12</u> 110	
P 6	<u>25</u> 56	<u>15</u> 105		<u>25</u> 67		<u>15</u> 134	
P 7	<u>30</u> 56	<u>18</u> 148		<u>30</u> 67		<u>18</u> 167	
P 8		<u>21</u> 205		<u>35</u> 67		<u>21</u> 213	
P 9		<u>24</u> 270		<u>40</u> 67		<u>24</u> 255	
P10		<u>27</u> 330		<u>45</u> 67		<u>27</u> 314	
P11		<u>30</u> 418		<u>50</u> 67		<u>30</u> 374	
P12				<u>55</u> 67		<u>33</u> 424	
P13				<u>60</u> 67		<u>36</u> 470	
P14						<u>39</u> 519	
P15						<u>42</u> 560	
P16						<u>45</u> 606	
P17						<u>48</u> 644	
P18						<u>51</u> 687	
P19						<u>54</u> 731	
P20						<u>57</u> 768	
						<u>60</u> 806	
						<u>63</u> 843	

JKT # 5896

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1559





WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET No 5897

P. O. BOX 1599 PHONE (316) 838-0601 WICHITA, KANSAS 67201

Elevation 1359KB Formation Mississipp Eff. Pay Ft.

District Augusta Date 9-8-80 Customer Order No. -

COMPANY NAME Cougar Petroleum

ADDRESS 1675 Broadway Suite 1760 Denver CO 80202

LEASE AND WELL NO. Hartman 1-29 COUNTY Sumner STATE KS. Sec 29 Twp 30S Rge 3W

Mail Invoice To Same Co. Name Address No. Copies Requested 5

Mail Charts To Same Address No. Copies Requested 5

Formation Test No. 3 Interval Tested from 3875 ft. to 3910 ft. Total Depth 3910 ft. Packer Depth 3875 ft. Size 6 3/4 in. Packer Depth 3870 ft. Size 6 3/4 in.

Top Recorder Depth (Inside) 3903 ft. Recorder Number 1559 Cap. 4200 Bottom Recorder Depth (Outside) 3906 ft. Recorder Number 5666 Cap. 3950 Below Straddle Recorder Depth ft. Recorder Number Cap.

Drilling Contractor Chase Drilling Co #15 Mud Type Chem Viscosity 40 Weight 9.3 Water Loss 18.8 cc. Chlorides 18000 P.P.M. Jars: Make WTC Serial Number 401 Did Well Flow? No Reversed Out No Drill Collar Length 477 I. D. 2 1/4 in. Weight Pipe Length I. D. in. Drill Pipe Length 3370 I. D. 3.8 in. Test Tool Length 63 ft. Tool Size 5 1/2 OD in. Anchor Length 35 ft. Size 5 1/2 OD in. Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in. Main Hole Size 7 1/8 in. Tool Joint Size 4 1/2 KH in.

Blow: Missrun tool would not go to bottom Tool stopped 30' off bottom

Recovered ft. of. Remarks: On location 10:30 PM 9-7-80 Pick up tool 1:00 AM Job complete @ 7:00 AM 9-8-80

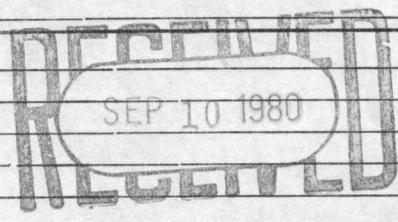


Table with columns: Time Set, Packer(s), A.M./P.M., Time Started Off Bottom, Maximum Temperature. Rows include Initial Hydrostatic Pressure, Initial Flow Period, Initial Closed In Period, Final Flow Period, Final Closed In Period, Final Hydrostatic Pressure.

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made...

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By R.E. Whetstone Signature of Customer or his authorized representative

Western Representative Norman Allen Wynne Wynn

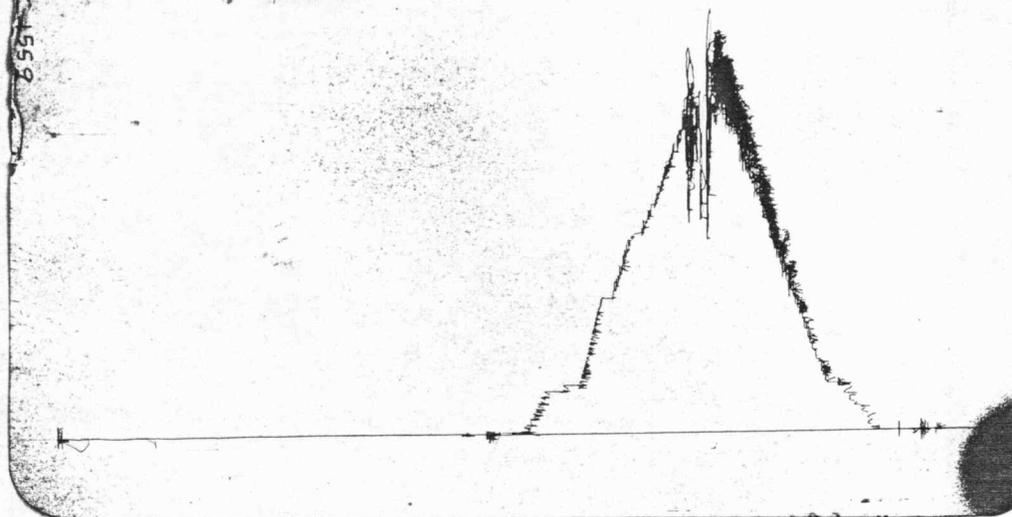
FIELD INVOICE

Table with columns: Item, Price. Items include Open Hole Test, Misrun, Straddle Test, Jars, Selective Zone, Safety Joint, Standby, Evaluation, Extra Packer, Circ. Sub., Mileage, Fluid Sampler, Extra Charts, TOTAL.

JK # 5897

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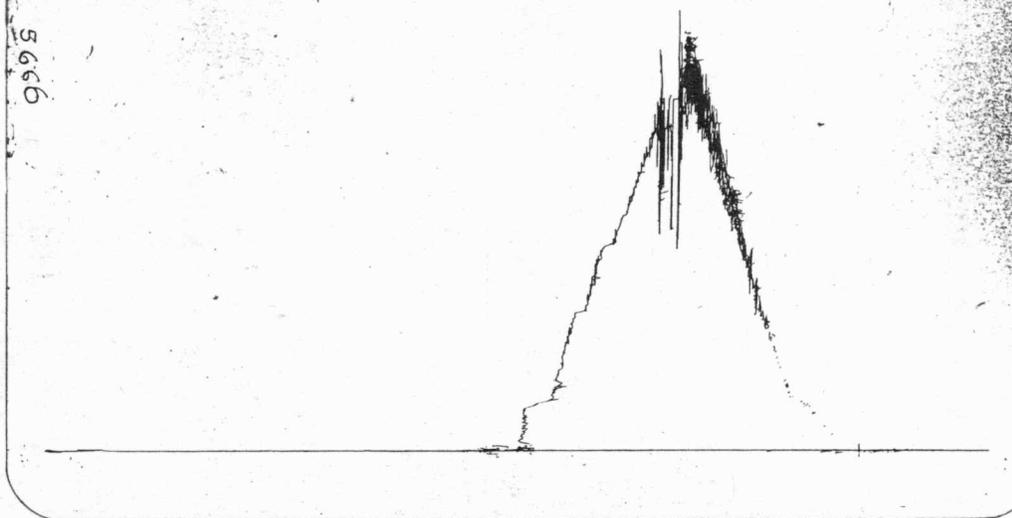
1559



JK # 5897

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5666



Company Couger Petroleum Lease & Well No. Hartman #1-29  
 Elevation 1359 Kelly Bushing Mississippi Formation Effective Pay ---- Ft. Ticket No. 5897  
 Date 9/8/80 Sec. 29 Twp. 30S Range 3W County Sumner State Kansas  
 Test Approved by R. E. Whetstine Western Representative Norman Allen-Wyman Weir

Formation Test No. 3 Interval Tested from 3875 ft. to 3910 ft. Total Depth 3910 ft.  
 Packer Depth 3875 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.  
 Packer Depth 3870 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -  
 Top Recorder Depth (Inside) 3903 ft. Recorder Number 1559 Cap. 4200  
 Bottom Recorder Depth (Outside) 3906 ft. Recorder Number 5666 Cap. 3950  
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Chase Drilling Co. Rig #15 Drill Collar Length 477 I. D. 2 1/4 in.  
 Mud Type chemical Viscosity 40 Weight Pipe Length - I. D. - in.  
 Weight 9.3 Water Loss 18.8 cc. Drill Pipe Length 3370 I. D. 3.8 in.  
 Chlorides 18,000 P.P.M. Test Tool Length 63 ft. Tool Size 5 1/2 OD in.  
 Jars: Make WTC Serial Number 401 Anchor Length 35 ft. Size 5 1/2 OD in.  
 Did Well Flow? No Reversed Out No Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.  
 Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 XH in.

Blow: Misrun: tool would not go to bottom. Tool stopped thirty feet off bottom.

Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_ MISRUN  
 Recovered \_\_\_\_\_ ft. of \_\_\_\_\_

Remarks: \_\_\_\_\_

NO PRESSURES AVAILABLE

Time Set Packer(s) \_\_\_\_\_ A.M. P.M. Time Started Off Bottom \_\_\_\_\_ A.M. P.M. Maximum Temperature \_\_\_\_\_  
 Initial Hydrostatic Pressure \_\_\_\_\_ (A) \_\_\_\_\_ P.S.I.  
 Initial Flow Period \_\_\_\_\_ Minutes (B) \_\_\_\_\_ P.S.I. to (C) \_\_\_\_\_ P.S.I.  
 Initial Closed In Period \_\_\_\_\_ Minutes (D) \_\_\_\_\_ P.S.I.  
 Final Flow Period \_\_\_\_\_ Minutes (E) \_\_\_\_\_ P.S.I. to (F) \_\_\_\_\_ P.S.I.  
 Final Closed In Period \_\_\_\_\_ Minutes (G) \_\_\_\_\_ P.S.I.  
 Final Hydrostatic Pressure \_\_\_\_\_ (H) \_\_\_\_\_ P.S.I.



WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET N<sup>o</sup> 5898

P. O. BOX 1599 PHONE (316) 838-0601 WICHITA, KANSAS 67201

Elevation 1359KB Formation Mississippi Eff. Pay Ft.

District Augusta Date 9-8-80 Customer Order No.

COMPANY NAME Cougar Petroleum

ADDRESS 1675 Broadway Suite 1760 Denver Colo 80202

LEASE AND WELL NO. Hartman 1-29 COUNTY Sumner STATE KS Sec. 29 Twp 30s Rge 3W

Mail Invoice To Same Co. Name Address No. Copies Requested 5

Mail Charts To Same Co. Name Address No. Copies Requested 5

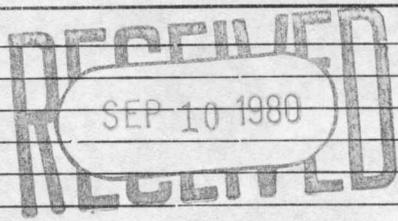
Formation Test No. 4 Interval Tested from 3875 ft. to 3910 ft. Total Depth 3910 ft. Packer Depth 3875 ft. Size 6 3/4 in. Packer Depth 3870 ft. Size 6 3/4 in.

Top Recorder Depth (Inside) 3903 ft. Recorder Number 1559 Cap. 4200 Bottom Recorder Depth (Outside) 3906 ft. Recorder Number 5666 Cap. 3950 Below Straddle Recorder Depth ft. Recorder Number Cap.

Drilling Contractor Chase Drily #15 Mud Type Starch Viscosity 52 Weight 9.0 Water Loss 10.8 cc. Chlorides 24000 P.P.M. Jars: Make WTC Serial Number 401 Did Well Flow? No Reversed Out Yes Drill Collar Length 477 I. D. 2 1/4 in. Weight Pipe Length I. D. in. Drill Pipe Length 3370 I. D. 3.8 in. Test Tool Length 63 ft. Tool Size 5 1/2 00 in. Anchor Length 35 ft. Size 5 1/2 00 in. Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in. Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 X H in.

Blow: Strong diminishing to fair at end of test

Recovered 2225 ft. of Saltwater Recovered ft. of Recovered ft. of Recovered ft. of Recovered ft. of Remarks:



On location 10:30 PM 9-7-80 Pick up tool 6:00 PM Job complete 2:30 AM 9-9-80

Table with 4 columns: Time Set Packer(s), Time Started Off Bottom, Maximum Temperature, and P.S.I. values for various tests (A-H).

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, of its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By R.E. Whitestone Signature of Customer or his authorized representative

Western Representative Norman Allen Wynn

FIELD INVOICE

Table listing items and costs: Open Hole Test \$550.00, Misrun \$, Straddle Test \$, Jars \$300.00, Selective Zone \$, Safety Joint \$50.00, Standby \$, Evaluation \$, Extra Packer \$, Circ. Sub. \$30.00, Mileage \$, Fluid Sampler \$, Extra Charts \$, TOTAL \$930.00

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

Date 9-8-80

Test Ticket No. 5898

Recorder No. 1559

Capacity 4200

Location 390.3 Ft.

Clock No. \_\_\_\_\_ Elevation 1359 KB

Well Temperature 128 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1,867</u> P.S.I.	Open Tool	<u>7:30</u> P.M.	
B First Initial Flow Pressure	<u>230</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>25</u> Mins.
C First Final Flow Pressure	<u>546</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>27</u> Mins.
D Initial Closed-in Pressure	<u>1498</u> P.S.I.	Second Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>650</u> P.S.I.	Final Closed-in Pressure	<u>60</u> Mins.	<u>57</u> Mins.
F Second Final Flow Pressure	<u>1048</u> P.S.I.			
G Final Closed-in Pressure	<u>1496</u> P.S.I.			
H Final Hydrostatic Mud	<u>1,831</u> P.S.I.			

**PRESSURE BREAKDOWN**

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>5</u> Inc.		Breakdown: <u>9</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 <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1	<u>0</u> <u>230</u>	<u>0</u> <u>546</u>	<u>0</u> <u>650</u>	<u>0</u> <u>1048</u>			
P 2	<u>5</u> <u>276</u>	<u>3</u> <u>1263</u>	<u>5</u> <u>656</u>	<u>3</u> <u>1326</u>			
P 3	<u>10</u> <u>341</u>	<u>6</u> <u>1366</u>	<u>10</u> <u>691</u>	<u>6</u> <u>1374</u>			
P 4	<u>15</u> <u>418</u>	<u>9</u> <u>1408</u>	<u>15</u> <u>735</u>	<u>9</u> <u>1406</u>			
P 5	<u>20</u> <u>479</u>	<u>12</u> <u>1435</u>	<u>20</u> <u>781</u>	<u>12</u> <u>1422</u>			
P 6	<u>25</u> <u>546</u>	<u>15</u> <u>1458</u>	<u>25</u> <u>824</u>	<u>15</u> <u>1435</u>			
P 7	<u>30</u> _____	<u>18</u> <u>1473</u>	<u>30</u> <u>866</u>	<u>18</u> <u>1448</u>			
P 8	<u>35</u> _____	<u>21</u> <u>1481</u>	<u>35</u> <u>902</u>	<u>21</u> <u>1456</u>			
P 9	<u>40</u> _____	<u>24</u> <u>1492</u>	<u>40</u> <u>941</u>	<u>24</u> <u>1462</u>			
P10	<u>45</u> _____	<u>27</u> <u>1498</u>	<u>45</u> <u>975</u>	<u>27</u> <u>1466</u>			
P11	<u>50</u> _____	<u>30</u> _____	<u>50</u> <u>1004</u>	<u>30</u> <u>1471</u>			
P12	<u>55</u> _____	<u>33</u> _____	<u>55</u> <u>1040</u>	<u>33</u> <u>1479</u>			
P13	<u>60</u> _____	<u>36</u> _____	<u>60</u> <u>1048</u>	<u>36</u> <u>1481</u>			
P14	_____	<u>39</u> _____	<u>65</u> _____	<u>39</u> <u>1483</u>			
P15	_____	<u>42</u> _____	<u>70</u> _____	<u>42</u> <u>1487</u>			
P16	_____	<u>45</u> _____	<u>73</u> _____	<u>45</u> <u>1490</u>			
P17	_____	<u>48</u> _____	<u>80</u> _____	<u>48</u> <u>1492</u>			
P18	_____	<u>51</u> _____	<u>85</u> _____	<u>51</u> <u>1493</u>			
P19	_____	<u>54</u> _____	<u>90</u> _____	<u>54</u> <u>1494</u>			
P20	_____	<u>57</u> _____	_____	<u>57</u> <u>1496</u>			
		<u>60</u> _____		<u>60</u> _____			

Company Cougar Petroleum Lease & Well No. Hartman #1-29  
 Elevation 1359 Kelly Bushing Mississippi Formation Effective Pay - Ft. Ticket No. 5898  
 Date 9/8/80 Sec. 29 Twp. 30S Range 3W County Sumner State Kansas

Test Approved by R. E. Whetstine Western Representative Norman Allen

Formation Test No. 4 Interval Tested from 3875 ft. to 3910 ft. Total Depth 3910 ft. Wyman Weir

Packer Depth 3875 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 3870 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set --

Top Recorder Depth (Inside) 3903 ft. Recorder Number 1559 Cap. 4200

Bottom Recorder Depth (Outside) 3906 ft. Recorder Number 5666 Cap. 3950

Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Chase Drlg. Rig #15 Drill Collar Length 477 I. D. 2 1/4 in.

Mud Type starch Viscosity 52 Weight Pipe Length -- I. D. - in.

Weight 9.0 Water Loss 10.8 cc. Drill Pipe Length 3370 I. D. 3.8 in.

Chlorides 24,000 P.P.M. Test Tool Length 63 ft. Tool Size 5 1/2 OD in.

Jars: Make WTC Serial Number 401 Anchor Length 35 ft. Size 5 1/2 OD

Did Well Flow? No Reversed Out Yes Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 XH in.

Blow: Strong diminishing to fair at end of test.

Recovered 2225 ft. of salt water

Recovered      ft. of     

Recovered      ft. of     

Recovered      ft. of     

Recovered      ft. of     

Remarks:     

Time Set Packer(s) 7:30 ~~AM~~ PM. Time Started Off Bottom 10:30 ~~AM~~ PM. Maximum Temperature 128 °

Initial Hydrostatic Pressure      (A) 1867 P.S.I.

Initial Flow Period      Minutes 25 (B) 230 P.S.I. to (C) 546 P.S.I.

Initial Closed In Period      Minutes 27 (D) 1498 P.S.I.

Final Flow Period      Minutes 60 (E) 650 P.S.I. to (F) 1048 P.S.I.

Final Closed In Period      Minutes 57 (G) 1496 P.S.I.

Final Hydrostatic Pressure      (H) 1831 P.S.I.

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

Date 9-8-80 Test Ticket No. 5898  
 Recorder No. 1559 Capacity 4200 Location 3903 Ft.  
 Clock No. ----- Elevation 1359 Kelly Bushing Well Temperature 128 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1867 P.S.I.	Open Tool	7:30 P M	
B First Initial Flow Pressure	230 P.S.I.	First Flow Pressure	30 Mins.	25 Mins.
C First Final Flow Pressure	546 P.S.I.	Initial Closed-in Pressure	30 Mins.	27 Mins.
D Initial Closed-in Pressure	1498 P.S.I.	Second Flow Pressure	60 Mins.	60 Mins.
E Second Initial Flow Pressure	650 P.S.I.	Final Closed-in Pressure	60 Mins.	57 Mins.
F Second Final Flow Pressure	1048 P.S.I.			
G Final Closed-in Pressure	1496 P.S.I.			
H Final Hydrostatic Mud	1831 P.S.I.			

**PRESSURE BREAKDOWN**

**First Flow Pressure**  
 Breakdown: 5 Inc.  
 of 5 mins. and a  
 final inc. of 0 Min.

**Initial Shut-In**  
 Breakdown: 9 Inc.  
 of 3 mins. and a  
 final inc. of 0 Min.

**Second Flow Pressure**  
 Breakdown: 12 Inc.  
 of 5 mins. and a  
 final inc. of 0 Min.

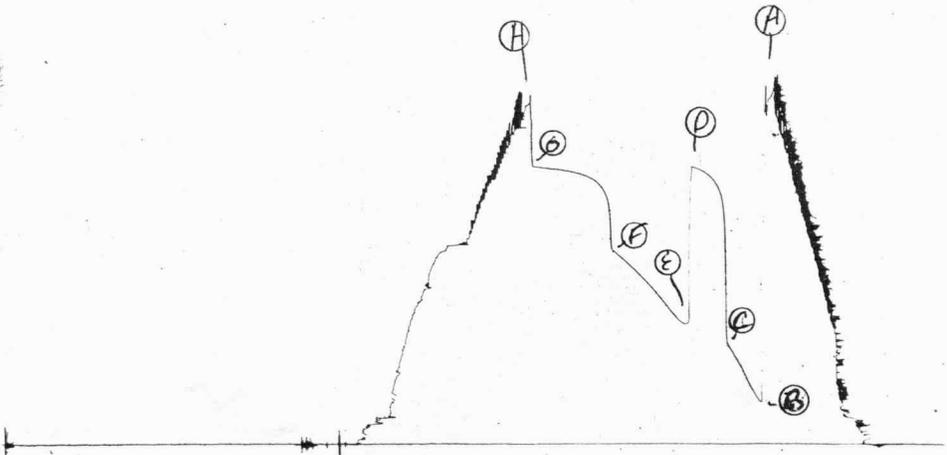
**Final Shut-In**  
 Breakdown: 19 Inc.  
 of 3 mins. and a  
 final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	230	0	546	0	650	0	1048
P 2 5	276	3	1263	5	656	3	1326
P 3 10	341	6	1366	10	691	6	1374
P 4 15	418	9	1408	15	735	9	1406
P 5 20	479	12	1435	20	781	12	1422
P 6 25	546	15	1458	25	824	15	1435
P 7		18	1473	30	866	18	1448
P 8		21	1481	35	902	21	1456
P 9		24	1492	40	941	24	1462
P10		27	1498	45	975	27	1466
P11				50	1004	30	1471
P12				55	1040	33	1479
P13				60	1048	36	1481
P14						39	1483
P15						42	1487
P16						45	1490
P17						48	1492
P18						51	1493
P19						54	1494
P20						57	1496

NKT #5898

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WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET No 5899

P. O. BOX 1599 WICHITA, KANSAS 67201
PHONE (316) 838-0601

Elevation 1359 Kelly Bushing Formation Simpson Eff. Pay - Ft.

District Augusta Date 9-10-80 Customer Order No. -

COMPANY NAME Cougar Petroleum

ADDRESS 1675 Broadway Suite 1760 Denver Colo 80202

LEASE AND WELL NO. Hartman 1-29 COUNTY Sumner STATE KS Sec. 29 Twp. 30S Rge. 3W

Mail Invoice To Same Co. Name Address No. Copies Requested 5

Mail Charts To Same Co. Name Address No. Copies Requested 5

Formation Test No. 5 Interval Tested from 4200 ft. to 4286 ft. Total Depth 4286 ft.

Packer Depth 4200 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 4195 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 4279 ft. Recorder Number 1559 Cap. 4200

Bottom Recorder Depth (Outside) 4282 ft. Recorder Number 5666 Cap. 3950

Below Straddle Recorder Depth ft. Recorder Number Cap.

Drilling Contractor Chase Drilling Co #15 Drill Collar Length 477 I. D. 2 1/4 in.

Mud Type Starch Viscosity 56 Weight Pipe Length I. D. in.

Weight 9.1 Water Loss 8. cc. Drill Pipe Length 3609 I. D. 3.8 in.

Chlorides 24000 P.P.M. Test Tool Length 114 ft. Tool Size 5 1/2 in.

Jars: Make WJC Serial Number 401 Anchor Length 86 ft. Size 5 2 DP in.

Did Well Flow? Gas Reversed Out Surface Choke Size 1/2 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 1/8 in. Tool Joint Size 4 1/2 X 11 in.

Blow: Strong throughout test. Gas to surface 60 minutes (See Remarks) Dec. Attached sheet for gas measurements.

Recovered 150 ft. of Oil & gas cut mud. (25% oil 75% mud)

Recovered 240 ft. of Heavy oil (44% gravity corrected)

Recovered 120 ft. of Heavy oil (slightly muddy (Less than 10% mud)

Recovered 480 ft. of Gas cut muddy oil (50% oil 50% mud)

Recovered ft. of Took sample gas bubble # 110

Remarks: Gas measured 15,400 CFPD @ 70 minutes & 20,900 @ 80 minutes & 90 minutes

On location 2:00 AM 9-10-80 Pick up tool 10:00 AM Job complete @ 9:00 PM 9-10-80

Time Set Packer(s) 1:00 AM. P.M. Time Started Off Bottom 4:00 AM. P.M. Maximum Temperature 135

Initial Hydrostatic Pressure (A) 2000 P.S.I.

Initial Flow Period Minutes 30 (B) 75 P.S.I. to (C) 190 P.S.I.

Initial Closed In Period Minutes 30 (D) 1345 P.S.I.

Final Flow Period Minutes 60 (E) 260 P.S.I. to (F) 355 P.S.I.

Final Closed In Period Minutes 60 (G) 1345 P.S.I.

Final Hydrostatic Pressure (H) 2000 P.S.I.

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, of its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By Doug McGinness Signature of Customer or his authorized representative

Western Representative Norman Allen Wynn Warr

FIELD INVOICE

Table with 2 columns: Item and Price. Items include Open Hole Test (\$600.00), Misrun (\$), Straddle Test (\$), Jars (\$300.00), Selective Zone (\$), Safety Joint (\$50.00), Standby (\$), Evaluation (\$), Extra Packer (\$), Circ. Sub. (\$), Mileage (\$41.25), Fluid Sampler (\$), Extra Charts (\$), TOTAL (\$1089.50).

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

Date 9-10-80

Test Ticket No. 5899

Recorder No. 1559

Capacity 4200

Location 4279 Ft.

Clock No. \_\_\_\_\_

Elevation 1359 KB

Well Temperature 135 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1998</u> P.S.I.	Open Tool	<u>1:00 PM</u>	
B First Initial Flow Pressure	<u>82</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>188</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>1351</u> P.S.I.	Second Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>259</u> P.S.I.	Final Closed-in Pressure	<u>60</u> Mins.	<u>57</u> Mins.
F Second Final Flow Pressure	<u>348</u> P.S.I.			
G Final Closed-in Pressure	<u>1345</u> P.S.I.			
H Final Hydrostatic Mud	<u>1998</u> P.S.I.			

**PRESSURE BREAKDOWN**

**First Flow Pressure**  
Breakdown: 6 Inc.  
of 5 mins. and a  
final inc. of 0 Min.

**Initial Shut-In**  
Breakdown: 10 Inc.  
of 3 mins. and a  
final inc. of 0 Min.

**Second Flow Pressure**  
Breakdown: 12 Inc.  
of 5 mins. and a  
final inc. of 0 Min.

**Final Shut-In**  
Breakdown: 19 Inc.  
of 3 mins. and a  
final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1	<u>82</u>	0	<u>188</u>	0	<u>259</u>	0	<u>348</u>
P 2	<u>94</u>	3	<u>397</u>	5	<u>245</u>	3	<u>668</u>
P 3	<u>132</u>	6	<u>727</u>	10	<u>242</u>	6	<u>1190</u>
P 4	<u>153</u>	9	<u>1211</u>	15	<u>251</u>	9	<u>1242</u>
P 5	<u>173</u>	12	<u>1270</u>	20	<u>263</u>	12	<u>1272</u>
P 6	<u>184</u>	15	<u>1301</u>	25	<u>274</u>	15	<u>1288</u>
P 7	<u>188</u>	18	<u>1318</u>	30	<u>290</u>	18	<u>1301</u>
P 8		21	<u>1330</u>	35	<u>299</u>	21	<u>1311</u>
P 9		24	<u>1341</u>	40	<u>301</u>	24	<u>1319</u>
P10		27	<u>1347</u>	45	<u>305</u>	27	<u>1324</u>
P11		30	<u>1351</u>	50	<u>320</u>	30	<u>1328</u>
P12		33		55	<u>330</u>	33	<u>1331</u>
P13		36		60	<u>348</u>	36	<u>1333</u>
P14		39		65		39	<u>1336</u>
P15		42		70		42	<u>1339</u>
P16		45		75		45	<u>1341</u>
P17		48		80		48	<u>1342</u>
P18		51		85		51	<u>1343</u>
P19		54		90		54	<u>1344</u>
P20		57				57	<u>1345</u>
		60				<del>60</del>	

Company Cougar Petroleum Lease & Well No. Hartman #1-29  
 Elevation 1359 Kelly Bushing Formation Simpson Effective Pay - Ft. Ticket No. 5899  
 Date 9-10-80 Sec. 29 Twp. 30S Range 3W County Sumner State Kansas  
 Test Approved by Doug McGinness Western Representative Norman Allen - Wynn Weir

Formation Test No. 5 Interval Tested from 4200 ft. to 4286 ft. Total Depth 4286 ft.  
 Packer Depth 4200 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.  
 Packer Depth 4195 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.  
 Depth of Selective Zone Set -

Top Recorder Depth (Inside) 4279 ft. Recorder Number 1559 Cap. 4200  
 Bottom Recorder Depth (Outside) 4282 ft. Recorder Number 5666 Cap. 3950  
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Chase Drilling Company #15 Drill Collar Length 477 I. D. 2 1/4 in.  
 Mud Type Starch Viscosity 56 Weight Pipe Length - I. D. - in.  
 Weight 9.1 Water Loss 8.0 cc. Drill Pipe Length 3609 I. D. 3.8 in.  
 Chlorides 24,000 P.P.M. Test Tool Length 114 ft. Tool Size 5 1/2 OD in.  
 Jars: Make WIC Serial Number 401 Anchor Length 86 ft. Size 5 1/2 & DP in.  
 Did Well Flow? Gas Reversed Out - Surface Choke Size 1/2 in. Bottom Choke Size 3/4 in.  
 Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 XH in.

Blow: Strong throughout test. Gas to surface in 60 minutes.

See attached sheet for gas measurements.

Recovered 150 ft. of oil & gas cut mud (25% oil, 75% mud)  
 Recovered 240 ft. of Gasy oil (44° gravity corrected)  
 Recovered 120 ft. of Gasy oil (slightly muddy - less than 10% mud)  
 Recovered 480 ft. of Gas cut muddy oil (50% oil, 50% mud)  
 Recovered        ft. of         
 Remarks: Took sample gas bottle #110

Time Set	Packer(s)	A.M. P.M.	Time Started	Off Bottom	A.M. P.M.	Maximum Temperature
	<u>1:00</u>		<u>4:00</u>			<u>135</u>
Initial Hydrostatic Pressure			(A)	<u>1998</u>	P.S.I.	
Initial Flow Period		Minutes	(B)	<u>30</u>	P.S.I. to (C)	<u>188</u> P.S.I.
Initial Closed In Period		Minutes	(D)	<u>30</u>	P.S.I.	
Final Flow Period		Minutes	(E)	<u>30</u>	P.S.I. to (F)	<u>348</u> P.S.I.
Final Closed In Period		Minutes	(G)	<u>57</u>	P.S.I.	
Final Hydrostatic Pressure			(H)	<u>1998</u>	P.S.I.	

## GAS FLOW REPORT

Date 9-10-80 Ticket 5899 Company Cougar Petroleum  
 Well Name and No. Hartman #1-29 Dst No. 5 Interval Tested 4200' - 4286'  
 County Sumner State Kansas Sec. 29 Twp. 30S Rg. 3W

Time Gauge Pre-Flow	Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	P.S.I. on U-Tube Tester	Description of Flow
<b>PRE FLOW</b>						

<b>SECOND FLOW</b>						
	60 min.	6.0" of water	1/2" orifice			15,400 C.F.P.D.
	70 min.	11.0" of water	1/2" orifice			20,900 C.F.P.D.
	80 min.	11.0" of water	1/2" orifice			20,900 C.F.P.D.

### GAS BOTTLE

Serial No. 110 Date Bottle Filled - Date to be Invoiced -

Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of \$75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

All charges subject to 1 1/2% per month, equal to 18% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME Cougar Petroleum  
 Authorized by Douglas McGinness

# WESTERN TESTING CO., INC.

## Pressure Data

Date 9-10-80

Test Ticket No. 5899

Recorder No. 1559

Capacity 4200

Location 4279 Ft.

Clock No. -

Elevation 1359 Kelly Bushing

Well Temperature 135 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1998</u>	P.S.I.	<u>1:00P</u>	<u>M</u>
B First Initial Flow Pressure	<u>82</u>	P.S.I.	<u>30</u>	<u>Mins. 30</u>
C First Final Flow Pressure	<u>188</u>	P.S.I.	<u>30</u>	<u>Mins. 30</u>
D Initial Closed-in Pressure	<u>1351</u>	P.S.I.	<u>60</u>	<u>Mins. 60</u>
E Second Initial Flow Pressure	<u>259</u>	P.S.I.	<u>60</u>	<u>Mins. 57</u>
F Second Final Flow Pressure	<u>348</u>	P.S.I.		
G Final Closed-in Pressure	<u>1345</u>	P.S.I.		
H Final Hydrostatic Mud	<u>1998</u>	P.S.I.		

### PRESSURE BREAKDOWN

**First Flow Pressure**  
Breakdown: 6 Inc.  
of 5 mins. and a  
final inc. of 0 Min.

**Initial Shut-In**  
Breakdown: 10 Inc.  
of 3 mins. and a  
final inc. of 0 Min.

**Second Flow Pressure**  
Breakdown: 12 Inc.  
of 5 mins. and a  
final inc. of 0 Min.

**Final Shut-In**  
Breakdown: 19 Inc.  
of 3 mins. and a  
final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>82</u>	<u>0</u>	<u>188</u>	<u>0</u>	<u>259</u>	<u>0</u>	<u>348</u>
P 2 <u>5</u>	<u>94</u>	<u>3</u>	<u>397</u>	<u>5</u>	<u>245</u>	<u>3</u>	<u>668</u>
P 3 <u>10</u>	<u>132</u>	<u>6</u>	<u>727</u>	<u>10</u>	<u>242</u>	<u>6</u>	<u>1190</u>
P 4 <u>15</u>	<u>153</u>	<u>9</u>	<u>1211</u>	<u>15</u>	<u>251</u>	<u>9</u>	<u>1242</u>
P 5 <u>20</u>	<u>173</u>	<u>12</u>	<u>1270</u>	<u>20</u>	<u>263</u>	<u>12</u>	<u>1272</u>
P 6 <u>25</u>	<u>184</u>	<u>15</u>	<u>1301</u>	<u>25</u>	<u>274</u>	<u>15</u>	<u>1288</u>
P 7 <u>30</u>	<u>188</u>	<u>18</u>	<u>1318</u>	<u>30</u>	<u>290</u>	<u>18</u>	<u>1301</u>
P 8		<u>21</u>	<u>1330</u>	<u>35</u>	<u>299</u>	<u>21</u>	<u>1311</u>
P 9		<u>24</u>	<u>1341</u>	<u>40</u>	<u>301</u>	<u>24</u>	<u>1319</u>
P10		<u>27</u>	<u>1347</u>	<u>45</u>	<u>305</u>	<u>27</u>	<u>1324</u>
P11		<u>30</u>	<u>1351</u>	<u>50</u>	<u>320</u>	<u>30</u>	<u>1328</u>
P12				<u>55</u>	<u>330</u>	<u>33</u>	<u>1331</u>
P13				<u>60</u>	<u>348</u>	<u>36</u>	<u>1333</u>
P14						<u>39</u>	<u>1336</u>
P15						<u>42</u>	<u>1339</u>
P16						<u>45</u>	<u>1341</u>
P17						<u>48</u>	<u>1342</u>
P18						<u>51</u>	<u>1343</u>
P19						<u>54</u>	<u>1344</u>
P20						<u>57</u>	<u>1345</u>

YKT # 5899

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1554

