

Company RAM Petroleum Corporation Lease & Well No. Hardtner #1
Elevation 1431 Rotary Bushing Formation Cherokee Sand Effective Pay ---- Ft. Ticket No. 4072
Date 12/4/79 Sec. 8 Twp. 35S Range 12W County Barber State Kansas
Test Approved by Bill Iverson Western Representative Rod Tritt

Formation Test No. 2 Interval Tested from 4764 ft. to 4786 ft. Total Depth 4786 ft.
Packer Depth 4759 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
Packer Depth 4764 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
Depth of Selective Zone Set -

Top Recorder Depth (Inside) 4768 ft. Recorder Number 2606 Cap. 4150
Bottom Recorder Depth (Outside) 4771 ft. Recorder Number 6074 Cap. 5200
Below Straddle Recorder Depth - ft. Recorder Number - Cap. -
Drilling Contractor Union Drilling Company Drill Collar Length 543 I. D. 2 1/4 in.
Mud Type premix-MonPac viscosity - Weight Pipe Length - I. D. - in.
Weight 9.1 Water Loss 8.0 cc. Drill Pipe Length 4201 I. D. 3.8 in.
Chlorides 18,000 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 OD in.
Jars: Make No Serial Number --- Anchor Length 22 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: Fair blow on initial flow period. Fair blow on final flow period. No gas to surface.

Recovered 130 ft. of slightly oil spotted drilling mud
Recovered - ft. of -
Recovered - ft. of -
Recovered - ft. of -
Recovered - ft. of -
Remarks: Slid tool ten feet to bottom.

Time Set Packer(s) 9:40 ~~A.M.~~ P.M. Time Started Off Bottom 2:10 ~~A.M.~~ P.M. Maximum Temperature 126⁰
Initial Hydrostatic Pressure 2334 (A) P.S.I.
Initial Flow Period 30 Minutes (B) 74 P.S.I. to (C) 67 P.S.I.
Initial Closed In Period 30 Minutes (D) 93 P.S.I.
Final Flow Period 120 Minutes (E) 77 P.S.I. to (F) 81 P.S.I.
Final Closed In Period 90 Minutes (G) 172 P.S.I.
Final Hydrostatic Pressure 2309 (H) P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 12/4/79 Recorder No. 2606 Capacity 4150 Test Ticket No. 4072

Clock No. --- Elevation 1431 Rotary Bushing Location 4768 Ft. 126

Well Temperature °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	2334 P.S.I.	9:40P	M
B First Initial Flow Pressure	74 P.S.I.	30 Mins.	30 Mins.
C First Final Flow Pressure	67 P.S.I.	30 Mins.	30 Mins.
D Initial Closed-in Pressure	93 P.S.I.	120 Mins.	120 Mins.
E Second Initial Flow Pressure	77 P.S.I.	90 Mins.	90 Mins.
F Second Final Flow Pressure	81 P.S.I.		
G Final Closed-in Pressure	172 P.S.I.		
H Final Hydrostatic Mud	2309 P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>10</u> Inc.		Breakdown: <u>24</u> Inc.		Breakdown: <u>30</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>74</u>	<u>0</u>	<u>67</u>	<u>0</u>	<u>77</u>	<u>0</u>	<u>81</u>
P 2 <u>5</u>	<u>64</u>	<u>3</u>	<u>67</u>	<u>5</u>	<u>74</u>	<u>3</u>	<u>81</u>
P 3 <u>10</u>	<u>62</u>	<u>6</u>	<u>68</u>	<u>10</u>	<u>71</u>	<u>6</u>	<u>81</u>
P 4 <u>15</u>	<u>64</u>	<u>9</u>	<u>69</u>	<u>15</u>	<u>73</u>	<u>9</u>	<u>81</u>
P 5 <u>20</u>	<u>65</u>	<u>12</u>	<u>70</u>	<u>20</u>	<u>73</u>	<u>12</u>	<u>85</u>
P 6 <u>25</u>	<u>66</u>	<u>15</u>	<u>70</u>	<u>25</u>	<u>73</u>	<u>15</u>	<u>87</u>
P 7 <u>30</u>	<u>67</u>	<u>18</u>	<u>77</u>	<u>30</u>	<u>74</u>	<u>18</u>	<u>91</u>
P 8 <u> </u>	<u> </u>	<u>21</u>	<u>81</u>	<u>35</u>	<u>74</u>	<u>21</u>	<u>93</u>
P 9 <u> </u>	<u> </u>	<u>24</u>	<u>84</u>	<u>40</u>	<u>74</u>	<u>24</u>	<u>94</u>
P10 <u> </u>	<u> </u>	<u>27</u>	<u>87</u>	<u>45</u>	<u>75</u>	<u>27</u>	<u>95</u>
P11 <u> </u>	<u> </u>	<u>30</u>	<u>93</u>	<u>50</u>	<u>75</u>	<u>30</u>	<u>96</u>
P12 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>55</u>	<u>76</u>	<u>33</u>	<u>100</u>
P13 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>60</u>	<u>76</u>	<u>36</u>	<u>101</u>
P14 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>65</u>	<u>76</u>	<u>39</u>	<u>102</u>
P15 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>70</u>	<u>77</u>	<u>42</u>	<u>106</u>
P16 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>75</u>	<u>77</u>	<u>45</u>	<u>110</u>
P17 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>80</u>	<u>78</u>	<u>48</u>	<u>114</u>
P18 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>85</u>	<u>78</u>	<u>51</u>	<u>119</u>
P19 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>90</u>	<u>78</u>	<u>54</u>	<u>123</u>
P20 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>95</u>	<u>79</u>	<u>57</u>	<u>127</u>
				<u>100</u>	<u>80</u>	<u>60</u>	<u>131</u>

WESTERN TESTING CO., INC.

Pressure Data

Date 12/4/79 Recorder No. 2606 Capacity 4150 Test Ticket No. 4072
 Location 4768 Ft. 126
 Clock No. --- Elevation 1431 Rotary Bushing Well Temperature 126 °F

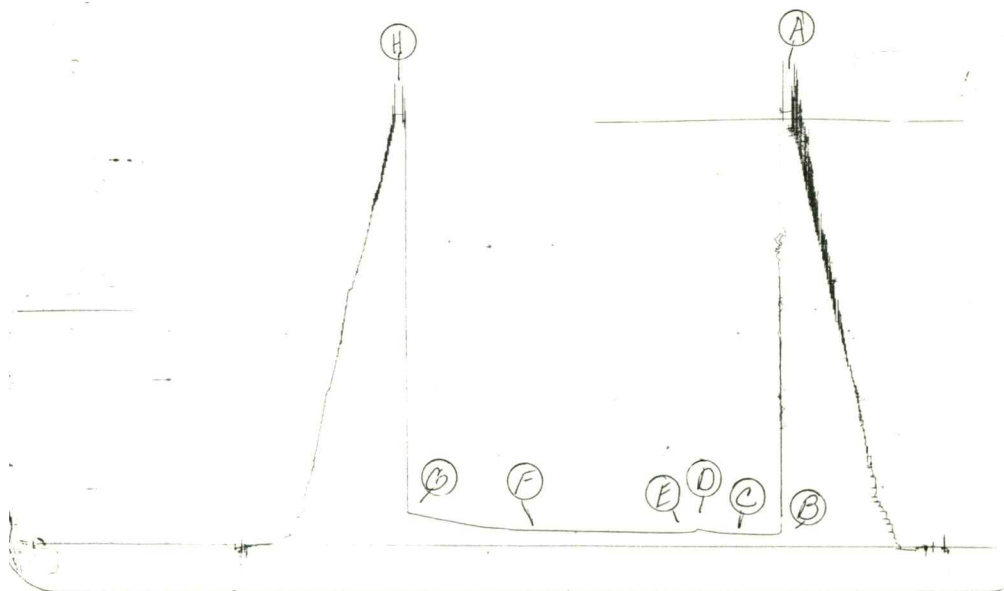
Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2334 P.S.I.	Open Tool	9:40P	M
B First Initial Flow Pressure	74 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	67 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	93 P.S.I.	Second Flow Pressure	120 Mins.	120 Mins.
E Second Initial Flow Pressure	77 P.S.I.	Final Closed-in Pressure	90 Mins.	90 Mins.
F Second Final Flow Pressure	81 P.S.I.			
G Final Closed-in Pressure	172 P.S.I.			
H Final Hydrostatic Mud	2309 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>10</u> Inc.		Breakdown: <u>24</u> Inc.		Breakdown: <u>30</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				105	81	63	136
P 2				110	81	66	140
P 3				115	81	69	144
P 4				120	81	72	148
P 5						75	152
P 6						78	156
P 7						81	160
P 8						84	164
P 9						87	168
P10						90	172
P11							
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

2606 DSY #2

TRK # 4092
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Company RAM Petroleum Company Lease & Well No. Hardtner #1
Elevation 1431 Kelly Bushing Mississippi Effective Pay ---- Ft. Ticket No. 4073
Date 12/5/79 Sec. 8 Twp. 35S Range 12W County Barber State Kansas
Test Approved by Bill Iverson Western Representative Rod Tritt

Formation Test No. 3 Interval Tested from 4801 ft. to 4830 ft. Total Depth 4830 ft.

Packer Depth 4796 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 4801 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 4805 ft. Recorder Number 2606 Cap. 4150

Bottom Recorder Depth (Outside) 4808 ft. Recorder Number 6074 Cap. 5100

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

Drilling Contractor Union Drilling Company Rig #1 Drill Collar Length 543 I. D. 2 1/4 in.

Mud Type premix-MonPac viscosity 55 Weight Pipe Length - I. D. - in.

Weight 9.2 Water Loss 8.8 cc. Drill Pipe Length 4238 I. D. 3.8 in.

Chlorides 18,000 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 OD in.

Jars: Make NO Serial Number -- Anchor Length 29 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: Strong blow throughout test. Gas to surface seventeen minutes. See attached sheet for gas measurements.

Recovered 140 ft. of heavy oil cut mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 2:20 A.M. Time Started Off Bottom 6:50 A.M. Maximum Temperature 126⁰
P.M. P.M.

Initial Hydrostatic Pressure (A) 2353 P.S.I.

Initial Flow Period Minutes 30 (B) 62 P.S.I. to (C) 45 P.S.I.

Initial Closed In Period Minutes 36 (D) 1498 P.S.I.

Final Flow Period Minutes 120 (E) 60 P.S.I. to (F) 53 P.S.I.

Final Closed In Period Minutes 105 (G) 1584 P.S.I.

Final Hydrostatic Pressure (H) 2309 P.S.I.

GAS FLOW REPORT

Date 12/5/79 Ticket 4073 Company RAM PETROLEUM COMPANY
 Well Name and No. Hardtner #1 Dst No. 3 Interval Tested 4801'-4830'
 County Barber State Kansas Sec. 8 Twp. 35S Rg. 12W

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
2:20PM TOOL OPEN		PRE FLOW				
	17min.	10" of water	1/2" orifice			19,900 CFPD
	20 min.	20" of water	1/2" orifice			28,000 CFPD
	30 min.	15" of water	1/2" orifice			24,500 CFPD

3:20 TOOL OPEN		SECOND FLOW				
	1 min.	6 lbs.	1/2" orifice			86,300 CFPD
	20 min.	28" of water	1/2" orifice			33,200 CFPD
	40 min.	15" of water	1/2" orifice			24,500 CFPD
	60 min.	12" of water	1/2" orifice			21,900 CFPD
	80 min.	12" of water	1/2" orifice			21,900 CFPD
	100 min.	5" of water	1/2" orifice			14,100 CFPD
	20 min.	5" of water	1/2" orifice			14,100 CFPD

GAS BOTTLE

Serial No. ----- Date Bottle Filled ----- Date to be Invoiced 12/5/79

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 RAM Petroleum Company
 Authorized by Bill Iverson

WESTERN TESTING CO., INC.

Pressure Data

Date 12/5/79 Test Ticket No. 4073
 Recorder No. 2606 Capacity 4150 Location 4805 Ft.
 Clock No. ---- Elevation 1431 Kelly Bushing Well Temperature 126 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2353 P.S.I.	Open Tool	2:20P	M
B First Initial Flow Pressure	62 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	45 P.S.I.	Initial Closed-in Pressure	30 Mins.	36 Mins.
D Initial Closed-in Pressure	1498 P.S.I.	Second Flow Pressure	120 Mins.	120 Mins.
E Second Initial Flow Pressure	60 P.S.I.	Final Closed-in Pressure	90 Mins.	105 Mins.
F Second Final Flow Pressure	53 P.S.I.			
G Final Closed-in Pressure	1584 P.S.I.			
H Final Hydrostatic Mud	2309 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>12</u> Inc.		Breakdown: <u>24</u> Inc.		Breakdown: <u>35</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>	62	0	45	0	60	0	53
P 2 <u>5</u>	62	3	333	5	50	3	231
P 3 <u>10</u>	47	6	554	10	48	6	410
P 4 <u>15</u>	45	9	738	15	48	9	566
P 5 <u>20</u>	45	12	894	20	48	12	688
P 6 <u>25</u>	45	15	1037	25	48	15	796
P 7 <u>30</u>	45	18	1157	30	48	18	892
P 8		21	1246	35	48	21	969
P 9		24	1315	40	50	24	1033
P10		27	1379	45	50	27	1089
P11		30	1429	50	50	30	1136
P12		33	1473	55	50	33	1176
P13		36	1498	60	50	36	1215
P14				65	50	39	1250
P15				70	50	42	1284
P16				75	50	45	1313
P17				80	50	48	1340
P18				85	50	51	1363
P19				90	51	54	1384
P20				95	51	57	1404
				100	51	60	1423

WESTERN TESTING CO., INC.

Pressure Data

4073

Test Ticket No. _____

Date 12/5/79

Recorder No. 2606 Capacity 4150 Location 4805 Ft.

Block No. ---- Elevation 1431 Kelly Bushing Well Temperature 126 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2353 P.S.I.	Open Tool	2:20P	M
B First Initial Flow Pressure	62 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	45 P.S.I.	Initial Closed-in Pressure	30 Mins.	36 Mins.
D Initial Closed-in Pressure	1498 P.S.I.	Second Flow Pressure	120 Mins.	120 Mins.
E Second Initial Flow Pressure	60 P.S.I.	Final Closed-in Pressure	90 Mins.	105 Mins.
F Second Final Flow Pressure	53 P.S.I.			
G Final Closed-in Pressure	1584 P.S.I.			
H Final Hydrostatic Mud	2309 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>12</u> Inc.		Breakdown: <u>24</u> Inc.		Breakdown: <u>35</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.
1				105	51	63	1439
2				110	51	66	1458
3				115	52	69	1473
4				120	53	72	1488
5						75	1498
6						78	1508
7						81	1521
8						84	1532
9						87	1542
10						90	1553
11						93	1560
12						96	1566
13						99	1573
14						102	1577
15						105	1584
16							
17							
18							
19							
20							

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