

Company Eagle Exploration, Inc. Lease & Well No. Schooley #1
 Elevation ---- Formation Mississippi Effective Pay - Ft. Ticket No. 10733
 Date 4/2/81 Sec. 16 Twp. 33S Range 10W County Barber State Kansas
 Test Approved by J. L. Byers Western Representative Jeff Piotrowski
 Formation Test No. 1 Interval Tested from 4508 ft. to 4526 ft. Total Depth 4526 ft.
 Packer Depth 4503 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Packer Depth 4508 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Depth of Selective Zone Set -
 Top Recorder Depth (Inside) 4511 ft. Recorder Number 5673 Cap. 5400
 Bottom Recorder Depth (Outside) 4514 ft. Recorder Number 1565 Cap. 4500
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -
 Drilling Contractor Sarcee Drlg. Rig #5 Drill Collar Length 120 I. D. 2.2 in.
 Mud Type Monpac Viscosity 33 Weight Pipe Length - I. D. - in.
 Weight 9.1 Water Loss 13.6 cc. Drill Pipe Length 4359 I. D. 3.2 in.
 Chlorides 22,000 P.P.M. Test Tool Length 29 ft. Tool Size 5 1/2 OD in.
 Jars: Make WTC Serial Number 405 Anchor Length 18 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 77/8 in. Tool Joint Size 4FH in.

Blow: Strong. Gas to surface in five minutes. See attached sheet for gas measurements.

Recovered 30 ft. of heavy oil cut mud
 Recovered 120 ft. of oil cut mud
 Recovered 120 ft. of muddy oil
60% oil; 30% mud; 10% gas
 Recovered - ft. of -
 Recovered - ft. of -

Remarks: -

Time Set Packer(s) 5:10 A.M. Time Started Off Bottom 9:10 A.M. Maximum Temperature 110°
 Initial Hydrostatic Pressure 2157 P.S.I.
 Initial Flow Period 30 Minutes (B) 90 P.S.I. to (C) 55 P.S.I.
 Initial Closed In Period 57 Minutes (D) 1635 P.S.I.
 Final Flow Period 60 Minutes (E) 68 P.S.I. to (F) 100 P.S.I.
 Final Closed In Period 90 Minutes (G) 1603 P.S.I.
 Final Hydrostatic Pressure 2157 P.S.I.

GAS FLOW REPORT

Date 4/2/81 Ticket 10733 Company Eagle Explorations, Inc.
 Well Name and No. Schooley #1 Dst No. 1 Interval Tested 4508'-4526'
 County Barber State Kansas Sec. 16 Twp. 33S Rg. 10W

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
Gas to surface in five minutes PRE FLOW						
	20 min.	14" of water		3/4" orifice		53,300CFPD
	30 min.	7" of water		3/4" orifice		37,400CFPD

SECOND FLOW						
	10 min.	14" of water		3/4" orifice		53,300 CFPD
	20 min.	10" of water		3/4" orifice		44,800 CFPD
	30 min.	8" of water		3/4" orifice		40,000 CFPD
	40 min.	6" of water		3/4" orifice		34,700 CFPD
	50 min.	18" of water		3/4" orifice		26,600 CFPD
	60 min.	18" of water		3/4" orifice		26,600 CFPD

GAS BOTTLE

Serial No. --- Date Bottle Filled --- Date to be Invoiced 4/2/81

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 Eagle Exploration, Inc.

Authorized by J . L. Byers

WESTERN TESTING CO., INC.

Pressure Data

Date 4/2/81 Test Ticket No. 10733
 Recorder No. 5673 Capacity 5400 Location 4511 Ft.
 Clock No. - Elevation - Well Temperature 110 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2157 P.S.I.	Open Tool	5:10A M	
B First Initial Flow Pressure	90 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	55 P.S.I.	Initial Closed-in Pressure	60 Mins.	57 Mins.
D Initial Closed-in Pressure	1635 P.S.I.	Second Flow Pressure	60 Mins.	60 Mins.
E Second Initial Flow Pressure	68 P.S.I.	Final Closed-in Pressure	90 Mins.	90 Mins.
F Second Final Flow Pressure	100 P.S.I.			
G Final Closed-in Pressure	1603 P.S.I.			
H Final Hydrostatic Mud	2157 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>19</u> Inc.		Breakdown: <u>12</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>90</u>	<u>0</u>	<u>55</u>	<u>0</u>	<u>68</u>	<u>0</u>	<u>100</u>
P 2 <u>5</u>	<u>73</u>	<u>3</u>	<u>765</u>	<u>5</u>	<u>62</u>	<u>3</u>	<u>571</u>
P 3 <u>10</u>	<u>60</u>	<u>6</u>	<u>1070</u>	<u>10</u>	<u>68</u>	<u>6</u>	<u>847</u>
P 4 <u>15</u>	<u>56</u>	<u>9</u>	<u>1273</u>	<u>15</u>	<u>65</u>	<u>9</u>	<u>1043</u>
P 5 <u>20</u>	<u>55</u>	<u>12</u>	<u>1386</u>	<u>20</u>	<u>63</u>	<u>12</u>	<u>1168</u>
P 6 <u>25</u>	<u>55</u>	<u>15</u>	<u>1446</u>	<u>25</u>	<u>65</u>	<u>15</u>	<u>1259</u>
P 7 <u>30</u>	<u>55</u>	<u>18</u>	<u>1489</u>	<u>30</u>	<u>68</u>	<u>18</u>	<u>1327</u>
P 8		<u>21</u>	<u>1519</u>	<u>35</u>	<u>71</u>	<u>21</u>	<u>1376</u>
P 9		<u>24</u>	<u>1543</u>	<u>40</u>	<u>74</u>	<u>24</u>	<u>1411</u>
P10		<u>27</u>	<u>1565</u>	<u>45</u>	<u>81</u>	<u>27</u>	<u>1441</u>
P11		<u>30</u>	<u>1581</u>	<u>50</u>	<u>87</u>	<u>30</u>	<u>1462</u>
P12		<u>33</u>	<u>1589</u>	<u>55</u>	<u>96</u>	<u>33</u>	<u>1481</u>
P13		<u>36</u>	<u>1600</u>	<u>60</u>	<u>100</u>	<u>36</u>	<u>1497</u>
P14		<u>39</u>	<u>1608</u>			<u>39</u>	<u>1511</u>
P15		<u>42</u>	<u>1615</u>			<u>42</u>	<u>1527</u>
P16		<u>45</u>	<u>1619</u>			<u>45</u>	<u>1538</u>
P17		<u>48</u>	<u>1624</u>			<u>48</u>	<u>1546</u>
P18		<u>51</u>	<u>1627</u>			<u>51</u>	<u>1551</u>
P19		<u>54</u>	<u>1630</u>			<u>54</u>	<u>1556</u>
P20		<u>57</u>	<u>1635</u>			<u>57</u>	<u>1561</u>
						<u>60</u>	<u>1568</u>

WESTERN TESTING CO., INC.

Pressure Data

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 Recorder No. 5673 Capacity 5400 Location 4511 Ft.
 Clock No. - Elevation - Well Temperature 110 °F

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C First Final Flow Pressure	55 P.S.I.	60 Mins.	57 Mins.
D Initial Closed-in Pressure	1635 P.S.I.	60 Mins.	60 Mins.
E Second Initial Flow Pressure	68 P.S.I.	90 Mins.	90 Mins.
F Second Final Flow Pressure	100 P.S.I.		
G Final Closed-in Pressure	1603 P.S.I.		
H Final Hydrostatic Mud	2157 P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>19</u> Inc.		Breakdown: <u>12</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						63	1572
P 2						66	1576
P 3						69	1580
P 4						72	1584
P 5						75	1586
P 6						78	1588
P 7						81	1592
P 8						84	1596
P 9						87	1602
P10						90	1603
P11							
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

Liquid Production

B.T. Gauge Numbers		567	Ticket Number	10733
Initial Hydrostatic		2157	Elevation	-- ft.
Final Hydrostatic		2157	Indicated Production	1st Flow bbls. day
1st Flow	Initial	90	Total Flow	2.696 bbls. day
	Final	55	Drill Collar Length	.120 ft.
Initial Closed In Pressure		1635	Drill Collar I.D.	2.25 in.
2nd Flow	Initial	68	Drill Pipe Factor	.0142 bbls. ft.
	Final	100	Hole Size	7.875 in.
Final Closed In Pressure		1603	Footage Tested	18 ft.
Extrapolated Static Pressure		1706 - 1310	Mud Weight	9.1 lbs. gal.
		1717 - 1336	Viscosity, Oil or Water	33 cp
Slope psi/cycle		395.390	Oil API Gravity	—
		380.383	Water Specific Gravity	—

Remarks:

SUMMARY		Gauge No. Depth		
Product	Equation	INITIAL	FINAL	Units
Production	$Q = \frac{1440 R}{t}$	19.136	43.143	bbls. day.
Transmissibility	$\frac{K_h}{\mu} = \frac{162.6 Q}{m}$	7.857	18.412	md. ft. cp
Indicated Flow Capacity	$K_h = \frac{K_h}{\mu} \mu$	3.928	9.206	md. ft.
Average Effective Permeability	$K = \frac{K_h}{h}$	.261	1.022	md.
	$K_i = \frac{K_h}{h_i}$	.261	1.022	md.
Damage Ratio	$DR = .183 \frac{P_s - P_f}{m}$	.762	.776	—
Theoretical Potential w/Damage Removed	$Q_1 = Q DR$	14.600	33.508	bbls. day
Approx. Radius of Investigation	$b \approx \sqrt{Kt}$ or $\sqrt{Kt_0}$	2.803	9.594	ft.
	$b_1 \approx \sqrt{K_1 t}$ or $\sqrt{K_1 t_0}$	2.803	9.594	ft.
Potentiometric Surface *	$Pot. = EI - GD + 2.319 Ps$			ft.

NOTICE: These calculations are based upon information furnished by you and taken from Drill Stem Test pressure charts, and are furnished you for your information. In furnishing such calculations and elevations based thereon, Western Testing Co., Inc. is merely expressing its opinion. You agree that Western Testing Co., Inc. makes no warranty express or implied as to the accuracy of such calculations or opinions, and that Western Testing Co., Inc. shall not be liable for any loss or damage, whether due to negligence or otherwise, in connection with such calculations and opinions.

INTERPRETATIONS AND CALCULATIONS

