

Company W. L. Hartman Estate Lease & Well No. Brodie #5  
 Elevation - Formation - Effective Pay - Ft. Ticket No. 11351  
 Date 3/21/81 Sec. 25 Twp. 19S Range 12W County Barton State Kansas  
 Test Approved by R L Schmidlapp Western Representative Denis Wondra

Formation Test No. 1 Interval Tested from 2880 ft. to 2915 ft. Total Depth 2915 ft.  
 Packer Depth 2875 ft. Size 6 5/8 in. Packer Depth 2880 ft. Size 6 5/8 in.  
 Packer Depth - ft. Size - in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -  
 Top Recorder Depth (Inside) 2905 ft. Recorder Number 3474 Cap. 3000  
 Bottom Recorder Depth (Outside) 2908 ft. Recorder Number 3659 Cap. 4000  
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Woodman-Iannitti Rig #1 Drill Collar Length - I. D. - in.  
 Mud Type Starch Viscosity 38 Weight Pipe Length 990 I. D. 2.8 in.  
 Weight 9.9 Water Loss 8.4 cc. Drill Pipe Length 1868 I. D. 3.8 in.  
 Chlorides 84,000 P.P.M. Test Tool Length 22 ft. Tool Size 5 1/2 OD in.  
 Jars: Make - Serial Number - 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: Steady one inch throughout test.

Recovered 80 ft. of watery mud - few spots of oil

Recovered          ft. of         

Recovered          ft. of         

Recovered          ft. of         

Recovered          ft. of         

Remarks:         

Time Set Packer(s) 7:53 ~~P.M.~~ <sup>A.M.</sup> Time Started Off Bottom 9:55 ~~P.M.~~ <sup>A.M.</sup> Maximum Temperature 101  
 Initial Hydrostatic Pressure 1509 (A)          P.S.I.  
 Initial Flow Period 90 Minutes (B) 58 P.S.I. to (C) 68 P.S.I.  
 Initial Closed In Period 30 Minutes (D) 642 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 1496 (H)          P.S.I.

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

Date 3/21/81

Test Ticket No. 11351

Recorder No. 3474

Capacity 3000

Location 2905 Ft.

Clock No. -

Elevation -

Well Temperature 101 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1509</u> P.S.I.	Open Tool	<u>7:53A</u> M	
B First Initial Flow Pressure	<u>58</u> P.S.I.	First Flow Pressure	<u>90</u> Mins.	<u>90</u> Mins.
C First Final Flow Pressure	<u>68</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>642</u> P.S.I.	Second Flow Pressure	<u>-</u> Mins.	<u>-</u> Mins.
E Second Initial Flow Pressure	<u>-</u> P.S.I.	Final Closed-in Pressure	<u>-</u> Mins.	<u>-</u> Mins.
F Second Final Flow Pressure	<u>-</u> P.S.I.			
G Final Closed-in Pressure	<u>-</u> P.S.I.			
H Final Hydrostatic Mud	<u>1496</u> P.S.I.			

**PRESSURE BREAKDOWN**

**First Flow Pressure**  
Breakdown: 18 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: 0 Inc.  
of 5 mins. and a  
final inc. of 0 Min.

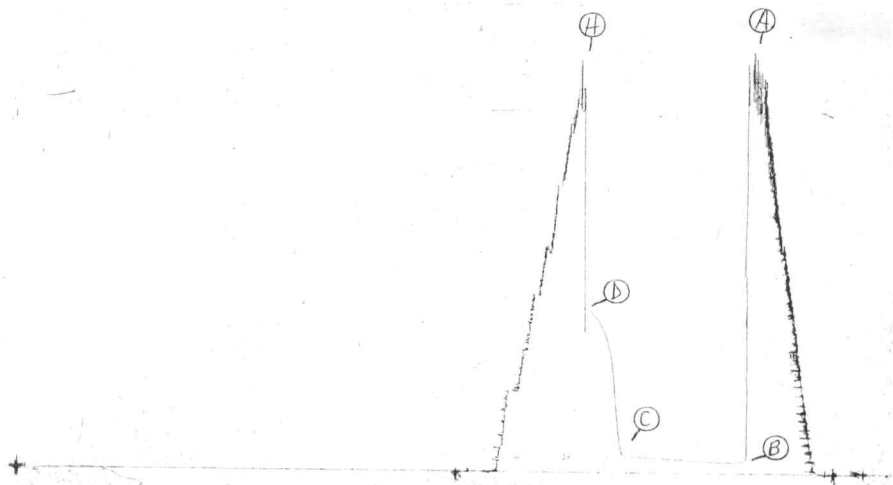
**Final Shut-In**  
Breakdown: 0 Inc.  
of 3 mins. and a  
final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>58</u>	<u>0</u>	<u>68</u>				
P 2 <u>5</u>	<u>47</u>	<u>3</u>	<u>124</u>				
P 3 <u>10</u>	<u>45</u>	<u>6</u>	<u>268</u>				
P 4 <u>15</u>	<u>45</u>	<u>9</u>	<u>424</u>				
P 5 <u>20</u>	<u>45</u>	<u>12</u>	<u>505</u>				
P 6 <u>25</u>	<u>46</u>	<u>15</u>	<u>550</u>				
P 7 <u>30</u>	<u>48</u>	<u>18</u>	<u>585</u>				
P 8 <u>35</u>	<u>50</u>	<u>21</u>	<u>608</u>				
P 9 <u>40</u>	<u>52</u>	<u>24</u>	<u>623</u>				
P10 <u>45</u>	<u>54</u>	<u>27</u>	<u>636</u>				
P11 <u>50</u>	<u>56</u>	<u>30</u>	<u>642</u>				
P12 <u>55</u>	<u>58</u>						
P13 <u>60</u>	<u>59</u>						
P14 <u>65</u>	<u>61</u>						
P15 <u>70</u>	<u>63</u>						
P16 <u>75</u>	<u>64</u>						
P17 <u>80</u>	<u>66</u>						
P18 <u>85</u>	<u>67</u>						
P19 <u>90</u>	<u>68</u>						
P20							

TKT # 11351

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Company W. L. Hartman Estate Lease & Well No. Brodie #5  
 Elevation -- Formation Lansing Effective Pay - Ft. Ticker No. 11352  
 Date 3/22/81 Sec. 25 Twp. 19S Range 12W County Barton State Kansas  
 Test Approved by R. L. Schmidlapp Western Representative Denis Wondra

Formation Test No. 2 Interval Tested from 3089 = ft. to 3122 ft. Total Depth 3122 ft.  
 Packer Depth 3084 ft. Size 6 5/8 in. Packer Depth 3089 ft. Size 6 5/8 in.  
 Packer Depth - ft. Size - in. Packer Depth - ft. Size - in.  
 Depth of Selective Zone Set -

Top Recorder Depth (Inside) 3112 ft. Recorder Number 3474 Cap. 3000  
 Bottom Recorder Depth (Outside) 3115 ft. Recorder Number 3659 Cap. 4000  
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Woodman-Iannitti Drlg. Rig #1 Drill Collar Length - I. D. - in.  
 Mud Type starch Viscosity 41 Weight Pipe Length 990 I. D. 2.8 in.  
 Weight 10.0 Water Loss 8.0 cc. Drill Pipe Length 2077 I. D. 3.8 in.  
 Chlorides 80,000 P.P.M. Test Tool Length 22 ft. Tool Size 5 1/2 OD in.  
 Jars: Make - Serial Number - Anchor Length 33 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: Very weak; died in twenty minutes on initial flow period.

Recovered 65 ft. of drilling mud  
 Recovered     ft. of      
 Recovered     ft. of      
 Recovered     ft. of      
 Recovered     ft. of    

Remarks:    

Time Set Packer(s) 6:03 A.M. Time Started Off Bottom 7:35 A.M. Maximum Temperature 104°  
 Initial Hydrostatic Pressure (A) 1646 P.S.I.  
 Initial Flow Period Minutes 60 (B) 83 P.S.I. to (C) 67 P.S.I.  
 Initial Closed In Period Minutes 27 (D) 98 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) 1646 P.S.I.

**WESTERN TESTING CO., INC.**

**Pressure Data**

Date 3/22/81 Test Ticket No. 11352  
 Recorder No. 3474 Capacity 3000 Location 3112 Ft.  
 Clock No. - Elevation - Well Temperature 104 °F

Point	Pressure		Time Given	Time Computed
A. Initial Hydrostatic Mud	<u>1646</u> P.S.I.	Open Tool	<u>6:03A</u> M	
B. First Initial Flow Pressure	<u>83</u> P.S.I.	First Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
C. First Final Flow Pressure	<u>67</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>27</u> Mins.
D. Initial Closed-in Pressure	<u>98</u> P.S.I.	Second Flow Pressure	<u>--</u> Mins.	<u>--</u> Mins.
E. Second Initial Flow Pressure	<u>--</u> P.S.I.	Final Closed-in Pressure	<u>--</u> Mins.	<u>--</u> Mins.
F. Second Final Flow Pressure	<u>--</u> P.S.I.			
G. Final Closed-in Pressure	<u>--</u> P.S.I.			
H. Final Hydrostatic Mud	<u>1646</u> P.S.I.			

**PRESSURE BREAKDOWN**

**First Flow Pressure**  
 Breakdown: 12 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.

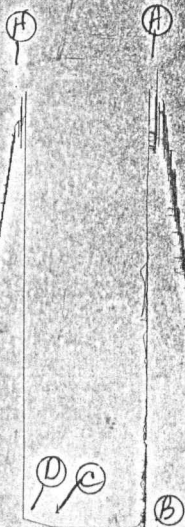
**Second Flow Pressure**  
 Breakdown: 0 Inc.  
 of 5 mins. and a  
 final inc. of 0 Min.

**Final Shut-In**  
 Breakdown: 0 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>83</u>	<u>0</u>	<u>67</u>				
P 2 <u>5</u>	<u>71</u>	<u>3</u>	<u>67</u>				
P 3 <u>10</u>	<u>68</u>	<u>6</u>	<u>70</u>				
P 4 <u>15</u>	<u>67</u>	<u>9</u>	<u>74</u>				
P 5 <u>20</u>	<u>67</u>	<u>12</u>	<u>79</u>				
P 6 <u>25</u>	<u>67</u>	<u>15</u>	<u>83</u>				
P 7 <u>30</u>	<u>67</u>	<u>18</u>	<u>88</u>				
P 8 <u>35</u>	<u>67</u>	<u>21</u>	<u>92</u>				
P 9 <u>40</u>	<u>67</u>	<u>24</u>	<u>97</u>				
P10 <u>45</u>	<u>67</u>	<u>27</u>	<u>98</u>				
P11 <u>50</u>	<u>67</u>						
P12 <u>55</u>	<u>67</u>						
P13 <u>60</u>	<u>67</u>						
P14							
P15							
P16							
P17							
P18							
P19							
P20							

JKT # 11352

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Company W. L. Hartman Estate Lease & Well No. Brodie #5  
 Elevation -- Formation Kansas City Effective Pay - Ft. Ticket No. 11353  
 Date 3/22/81 Sec. 25 Twp 19S Range 12W County Barton State Kansas  
 Test Approved by R. L. Schmidlapp Western Representative Denis Wondra

Formation Test No. 3 Interval Tested from 3126 ft. to 3166 ft. Total Depth 3166 ft.  
 Packer Depth 3121 ft. Size 6 5/8 in. Packer Depth 3126 ft. Size 6 5/8 in.  
 Packer Depth - ft. Size - in. Packer Depth - ft. Size - in.  
 Depth of Selective Zone Set -

Top Recorder Depth (Inside) 3156 ft. Recorder Number 3474 Cap. 3000  
 Bottom Recorder Depth (Outside) 3159 ft. Recorder Number 3659 Cap. 4000  
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Woodman-Iannitti Drlg. Rig#1 Drill Collar Length - I. D. - in.  
 Mud Type starch Viscosity 43 Weight Pipe Length 990 I. D. 2.8 in.  
 Weight 10.0 Water Loss 6.4 cc. Drill Pipe Length 2114 I. D. 3.8 in.  
 Chlorides 90,000 P.P.M. Test Tool Length 22 ft. Tool Size 5 1/2 OD in.  
 Jars: Make - Serial Number - Anchor Length 40 ft. Size 5 1/2 OD in.  
 Did Well Flow? Yes 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: Strong throughout initial flow period. Strong gas to surface in ten minutes on final flow period. See attached sheet for gas measurements.

Recovered 190 ft. of oil and gas cut mud  
 Recovered 120 ft. of heavily oil and gas cut mud  
 Recovered 120 ft. of muddy oil  
 Recovered 660 ft. of froggy oil  
 Recovered 120 ft. of gassy oil  
 Remarks: 50 ft. of salt water

Time Set Packer(s) 6:43 ~~AM~~ P.M. Time Started Off Bottom 8:50 ~~AM~~ P.M. Maximum Temperature 105°  
 Initial Hydrostatic Pressure (A) 1668 P.S.I.  
 Initial Flow Period Minutes 5 (B) 145 P.S.I. to (C) 130 P.S.I.  
 Initial Closed In Period Minutes 30 (D) 670 P.S.I.  
 Final Flow Period Minutes 60 (E) 197 P.S.I. to (F) 336 P.S.I.  
 Final Closed In Period Minutes 30 (G) 632 P.S.I.  
 Final Hydrostatic Pressure (H) 1661 P.S.I.

## GAS FLOW REPORT

Date 3/22/81 Ticket 11353 Company W. L. Hartman Estate  
 Well Name and No. Brodie #5 Dst No. 3 Interval Tested 3126' - 3166'  
 County Barton State Kansas Sec. 25 Twp. 19S 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
<b>PRE FLOW</b>						

### SECOND FLOW

Gas to surface at 7:30 PM

5 min.	15"	of water	1/4"	orifice	6,550 CFPD
15 min.	28"	of water	1/4"	orifice	8,890 CFPD
25 min.	22"	of water	1/4"	orifice	7,880 CFPD
35 min.	18"	of water	1/4"	orifice	7,120 CFPD
45 min.	14"	of water	1/4"	orifice	6,330 CFPD

### GAS BOTTLE

Serial No.   --   Date Bottle Filled   ---   Date to be Invoiced 3/22/81

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 W. L. Hartman Estate  
 Authorized by R. L. Schmidlapp

**WESTERN TESTING CO., INC.**

**Pressure Data**

Date 3/22/81 Test Ticket No. 11353  
 Recorder No. 3474 Capacity 3000 Location 3156 Ft.  
 Clock No. ----- Elevation --- Well Temperature 105 °F

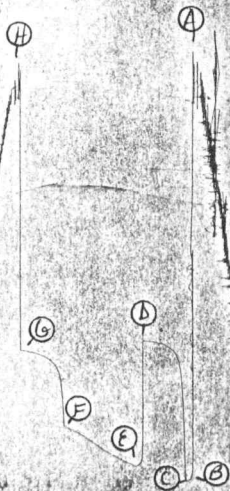
Point	Pressure		Time Given	Time Computed
A. Initial Hydrostatic Mud	<u>1668</u> P.S.I.	Open Tool	<u>6:43P</u> M	
B. First Initial Flow Pressure	<u>145</u> P.S.I.	First Flow Pressure	<u>5</u> Mins.	<u>5</u> Mins.
C. First Final Flow Pressure	<u>130</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D. Initial Closed-in Pressure	<u>670</u> P.S.I.	Second Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
E. Second Initial Flow Pressure	<u>197</u> P.S.I.	Final Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
F. Second Final Flow Pressure	<u>336</u> P.S.I.			
G. Final Closed-in Pressure	<u>632</u> P.S.I.			
H. Final Hydrostatic Mud	<u>1661</u> P.S.I.			

**PRESSURE BREAKDOWN**

Point Mins.	First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
	Breakdown:	Inc.	Breakdown:	Inc.	Breakdown:	Inc.	Breakdown:	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.	
	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes
P 1	<u>145</u>	<u>0</u>	<u>130</u>	<u>0</u>	<u>197</u>	<u>0</u>	<u>336</u>	<u>0</u>
P 2	<u>130</u>	<u>3</u>	<u>496</u>	<u>3</u>	<u>185</u>	<u>5</u>	<u>541</u>	<u>3</u>
P 3		<u>6</u>	<u>602</u>	<u>6</u>	<u>195</u>	<u>10</u>	<u>576</u>	<u>6</u>
P 4		<u>9</u>	<u>632</u>	<u>9</u>	<u>208</u>	<u>15</u>	<u>592</u>	<u>9</u>
P 5		<u>12</u>	<u>647</u>	<u>12</u>	<u>221</u>	<u>20</u>	<u>603</u>	<u>12</u>
P 6		<u>15</u>	<u>656</u>	<u>15</u>	<u>235</u>	<u>25</u>	<u>612</u>	<u>15</u>
P 7		<u>18</u>	<u>661</u>	<u>18</u>	<u>252</u>	<u>30</u>	<u>617</u>	<u>18</u>
P 8		<u>21</u>	<u>664</u>	<u>21</u>	<u>270</u>	<u>35</u>	<u>623</u>	<u>21</u>
P 9		<u>24</u>	<u>667</u>	<u>24</u>	<u>286</u>	<u>40</u>	<u>626</u>	<u>24</u>
P10		<u>27</u>	<u>669</u>	<u>27</u>	<u>302</u>	<u>45</u>	<u>630</u>	<u>27</u>
P11		<u>30</u>	<u>670</u>	<u>30</u>	<u>318</u>	<u>50</u>	<u>632</u>	<u>30</u>
P12					<u>330</u>	<u>55</u>		
P13					<u>336</u>	<u>60</u>		
P14								
P15								
P16								
P17								
P18								
P19								
P20								

TKT # 11353

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Company W. L. Hartman Estate Lease & Well No. Brodie #5

Elevation --- Formation Kansas City Effective Pay - Ft. Ticket No. 11354

Date 3/23/81 Sec. 25 Twp. 19S Range 12W County Barton State Kansas

Test Approved by R. L. Schmidlapp Western Representative Denis Wondra

Formation Test No. 4 Interval Tested from 3214 ft. to 3260 ft. Total Depth 3260 ft.

Packer Depth 3209 ft. Size 6 5/8 in. Packer Depth 3214 ft. Size 6 5/8 in.

Packer Depth - ft. Size - in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 3221 ft. Recorder Number 3474 Cap. 3000

Bottom Recorder Depth (Outside) 3224 ft. Recorder Number 3659 Cap. 4000

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

Drilling Contractor Woodman-Iannitti Drlg. Rig #1 Drill Collar Length --- I. D. - in.

Mud Type starch Viscosity 42 Weight Pipe Length 990 I. D. 2.8 in.

Weight 9.8 Water Loss 6.0 cc. Drill Pipe Length 2202 I. D. 3.8 in.

Chlorides 76,000 P.P.M. Test Tool Length 22 ft. Tool Size 5 1/2 OD in.

Jars: Make - Serial Number - Anchor Length 46 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: Very good throughout flow periods.

Recovered 780 ft. of gas in pipe

Recovered 120 ft. of gas cut mud few spots of oil

Recovered        ft. of       

Recovered        ft. of       

Recovered        ft. of       

Remarks:       

Time Set Packer(s) 1:58 ~~AM~~ P.M. Time Started Off Bottom 4:05 ~~AM~~ P.M. Maximum Temperature 106°

Initial Hydrostatic Pressure (A) 1691 P.S.I.

Initial Flow Period Minutes 5 (B) 48 P.S.I. to (C) 41 P.S.I.

Initial Closed In Period Minutes 27 (D) 138 P.S.I.

Final Flow Period Minutes 60 (E) 56 P.S.I. to (F) 61 P.S.I.

Final Closed In Period Minutes 30 (G) 127 P.S.I.

Final Hydrostatic Pressure (H) 1684 P.S.I.

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

Date 3/23/81 Test Ticket No. 11354  
 Recorder No. 3474 Capacity 3000 Location 3221 Ft.  
 Clock No. - Elevation -- Well Temperature 106 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1691</u>	P.S.I.	<u>1:58P</u>	<u>M</u>
B First Initial Flow Pressure	<u>48</u>	P.S.I.	<u>5</u> Mins.	<u>5</u> Mins.
C First Final Flow Pressure	<u>41</u>	P.S.I.	<u>30</u> Mins.	<u>27</u> Mins.
D Initial Closed-in Pressure	<u>138</u>	P.S.I.	<u>60</u> Mins.	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>56</u>	P.S.I.	<u>30</u> Mins.	<u>30</u> Mins.
F Second Final Flow Pressure	<u>61</u>	P.S.I.		
G Final Closed-in Pressure	<u>127</u>	P.S.I.		
H Final Hydrostatic Mud	<u>1684</u>	P.S.I.		

**PRESSURE BREAKDOWN**

**First Flow Pressure**  
 Breakdown: ; 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: 10 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>48</u>	<u>0</u>	<u>41</u>	<u>0</u>	<u>56</u>	<u>0</u>	<u>61</u>
P 2 <u>5</u>	<u>41</u>	<u>3</u>	<u>67</u>	<u>5</u>	<u>52</u>	<u>3</u>	<u>73</u>
P 3		<u>6</u>	<u>86</u>	<u>10</u>	<u>49</u>	<u>6</u>	<u>86</u>
P 4		<u>9</u>	<u>103</u>	<u>15</u>	<u>49</u>	<u>9</u>	<u>95</u>
P 5		<u>12</u>	<u>112</u>	<u>20</u>	<u>50</u>	<u>12</u>	<u>103</u>
P 6		<u>15</u>	<u>123</u>	<u>25</u>	<u>51</u>	<u>15</u>	<u>109</u>
P 7		<u>18</u>	<u>127</u>	<u>30</u>	<u>52</u>	<u>18</u>	<u>114</u>
P 8		<u>21</u>	<u>133</u>	<u>35</u>	<u>54</u>	<u>21</u>	<u>118</u>
P 9		<u>24</u>	<u>138</u>	<u>40</u>	<u>56</u>	<u>24</u>	<u>123</u>
P10		<u>27</u>	<u>138</u>	<u>45</u>	<u>58</u>	<u>27</u>	<u>126</u>
P11		<u>30</u>		<u>50</u>	<u>59</u>	<u>30</u>	<u>127</u>
P12				<u>55</u>	<u>60</u>		
P13				<u>60</u>	<u>61</u>		
P14							
P15							
P16							
P17							
P18							
P19							
P20							

SKT # 11354

I

H

A

G

F

E

D

C

B

Company W. L. Hartman Estate Lease & Well No. Brodie #5  
 Elevation ----- Formation Kansas City Effective Pay -- Ft. Ticket No. 11355  
 Date 3/24/81 Sec. 25 Twp. 19S Range 12W County Barton State Kansas  
 Test Approved by R. L. Schmidlapp Western Representative Denis Wondra

Formation Test No. 5 Interval Tested from 3281 ft. to 3329 Total Depth 3329 ft.  
 Packer Depth 3276 ft. Size 6 5/8 in. Packer Depth 3281 ft. Size 6 5/8 in.  
 Packer Depth - ft. Size - in. Packer Depth - ft. Size - in.  
 Depth of Selective Zone Set --

Top Recorder Depth (Inside) 3319 ft. Recorder Number 3474 Cap. 3000  
 Bottom Recorder Depth (Outside) 3322 ft. Recorder Number 3659 Cap. 4000  
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Woodman-Iannitti Drlg. Rig #1 Drill Collar Length - I. D. - in.  
 Mud Type starch Viscosity 43 Weight Pipe Length 990 I. D. 2.8 in.  
 Weight 9.8 Water Loss 5.2 cc. Drill Pipe Length 2269 I. D. 3.8 in.  
 Chlorides 88,000 P.P.M. Test Tool Length 22 ft. Tool Size 5 1/2 OD in.  
 Jars: Make - Serial Number - Anchor Length 48 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: Very weak; died in twenty-five minutes on initial flow period.

Recovered 10 ft. of drilling mud  
 Recovered        ft. of         
 Recovered        ft. of         
 Recovered        ft. of         
 Recovered        ft. of       

Remarks:       

Time Set Packer(s) 6:38 ~~P.M.~~ <sup>A.M.</sup> Time Started Off Bottom 8:10 ~~P.M.~~ <sup>A.M.</sup> Maximum Temperature 107°  
 Initial Hydrostatic Pressure 1745 P.S.I. (A)  
 Initial Flow Period 60 Minutes (B) 61 P.S.I. to (C) 41 P.S.I.  
 Initial Closed In Period 30 Minutes (D) 47 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 1745 P.S.I. (H)

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

Date 3/24/81 Test Ticket No. 11355  
 Recorder No. 3474 Capacity 3000 Location 3319 Ft.  
 Clock No. --- Elevation -- Well Temperature 107 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1745</u> P.S.I.	Open Tool	<u>6:38A</u> M	
B First Initial Flow Pressure	<u>61</u> P.S.I.	First Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
C First Final Flow Pressure	<u>41</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>47</u> P.S.I.	Second Flow Pressure	<u>--</u> Mins.	<u>--</u> Mins.
E Second Initial Flow Pressure	<u>--</u> P.S.I.	Final Closed-in Pressure	<u>--</u> Mins.	<u>--</u> Mins.
F Second Final Flow Pressure	<u>--</u> P.S.I.			
G Final Closed-in Pressure	<u>--</u> P.S.I.			
H Final Hydrostatic Mud	<u>1745</u> P.S.I.			

**PRESSURE BREAKDOWN**

**First Flow Pressure**  
 Breakdown: 12 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.

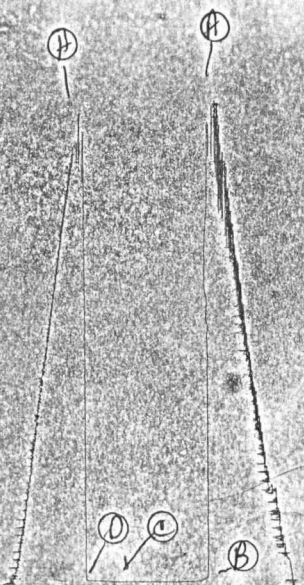
**Second Flow Pressure**  
 Breakdown: 0 Inc.  
 of 5 mins. and a  
 final inc. of 0 Min.

**Final Shut-In**  
 Breakdown: 0 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>61</u>	<u>0</u>	<u>41</u>				
P 2 <u>5</u>	<u>48</u>	<u>3</u>	<u>41</u>				
P 3 <u>10</u>	<u>44</u>	<u>6</u>	<u>41</u>				
P 4 <u>15</u>	<u>42</u>	<u>9</u>	<u>42</u>				
P 5 <u>20</u>	<u>41</u>	<u>12</u>	<u>42</u>				
P 6 <u>25</u>	<u>41</u>	<u>15</u>	<u>43</u>				
P 7 <u>30</u>	<u>41</u>	<u>18</u>	<u>43</u>				
P 8 <u>35</u>	<u>41</u>	<u>21</u>	<u>44</u>				
P 9 <u>40</u>	<u>41</u>	<u>24</u>	<u>45</u>				
P10 <u>45</u>	<u>41</u>	<u>27</u>	<u>46</u>				
P11 <u>50</u>	<u>41</u>	<u>30</u>	<u>47</u>				
P12 <u>55</u>	<u>41</u>						
P13 <u>60</u>	<u>41</u>						
P14							
P15							
P16							
P17							
P18							
P19							
P20							

Site # 11355

I



Company W. L. Hartman Estate Lease & Well No. Brodie #5  
 Elevation ---- Formation Arbuckle Effective Pay - Ft. Ticket No. 11356  
 Date 3/24/81 Sec. 25 Twp. 19S Range 12W County Barton State Kansas  
 Test Approved by R. L. Schmidlapp Western Representative Denis Wondra

Formation Test No. 6 Interval Tested from 3328 ft. to 3366 ft. Total Depth 3366 ft.  
 Packer Depth 3323 ft. Size 6 5/8 in. Packer Depth 3328 ft. Size 6 5/8 in.  
 Packer Depth - ft. Size - in. Packer Depth - ft. Size - in.  
 Depth of Selective Zone Set -

Top Recorder Depth (Inside) 3356 ft. Recorder Number 3474 Cap. 3000  
 Bottom Recorder Depth (Outside) 3359 ft. Recorder Number 3659 Cap. 4000  
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Woodman-Iannitti Drlg. Rig #1 Drill Collar Length -- I. D. - in.  
 Mud Type starch Viscosity 43 Weight Pipe Length 990 I. D. 2.8 in.  
 Weight 9.8 Water Loss 5.2 cc. Drill Pipe Length 2316 I. D. 3.8 in.  
 Chlorides 88,000 P.P.M. Test Tool Length 22 ft. Tool Size 5 1/2 OD in.  
 Jars: Make - Serial Number - Anchor Length 38 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: Steady one inch throughout test.

Recovered 125 ft. of oil cut mud  
 Recovered        ft. of         
 Recovered        ft. of         
 Recovered        ft. of         
 Recovered        ft. of       

Remarks:       

Time Set Packer(s) 8:18 ~~A.M.~~ P.M. Time Started Off Bottom 10:50 ~~A.M.~~ P.M. Maximum Temperature 110°  
 Initial Hydrostatic Pressure (A) 1768 P.S.I.  
 Initial Flow Period Minutes 115 (B) 58 P.S.I. to (C) 94 P.S.I.  
 Initial Closed In Period Minutes 42 (D) 869 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) 1760 P.S.I.

**WESTERN TESTING CO., INC.**

**Pressure Data**

Date 3/24/81 Test Ticket No. 11356  
 Recorder No. 3474 Capacity 3000 Location 3356 Ft. 110  
 Clock No. -- Elevation -- Well Temperature 110 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1768</u>	P.S.I.	<u>8:18P</u>	<u>M</u>
B First Initial Flow Pressure	<u>58</u>	P.S.I.	<u>120</u>	<u>115</u> Mins.
C First Final Flow Pressure	<u>94</u>	P.S.I.	<u>30</u>	<u>42</u> Mins.
D Initial Closed-in Pressure	<u>869</u>	P.S.I.	<u>--</u>	<u>--</u> Mins.
E Second Initial Flow Pressure	<u>--</u>	P.S.I.		<u>--</u> Mins.
F Second Final Flow Pressure	<u>--</u>	P.S.I.		
G Final Closed-in Pressure	<u>--</u>	P.S.I.		
H Final Hydrostatic Mud	<u>1760</u>	P.S.I.		

**PRESSURE BREAKDOWN**

**First Flow Pressure**  
 Breakdown: 23 Inc.  
 of 5 mins. and a  
 final inc. of 0 Min.

**Initial Shut-In**  
 Breakdown: 14 Inc.  
 of 3 mins. and a  
 final inc. of 0 Min.

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

**Final Shut-In**  
 Breakdown: 0 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>58</u>	<u>0</u>	<u>94</u>				
P 2 <u>5</u>	<u>53</u>	<u>3</u>	<u>323</u>				
P 3 <u>10</u>	<u>53</u>	<u>6</u>	<u>451</u>				
P 4 <u>15</u>	<u>53</u>	<u>9</u>	<u>546</u>				
P 5 <u>20</u>	<u>55</u>	<u>12</u>	<u>605</u>				
P 6 <u>25</u>	<u>58</u>	<u>15</u>	<u>648</u>				
P 7 <u>30</u>	<u>61</u>	<u>18</u>	<u>694</u>				
P 8 <u>35</u>	<u>63</u>	<u>21</u>	<u>730</u>				
P 9 <u>40</u>	<u>65</u>	<u>24</u>	<u>761</u>				
P10 <u>45</u>	<u>68</u>	<u>27</u>	<u>788</u>				
P11 <u>50</u>	<u>72</u>	<u>30</u>	<u>808</u>				
P12 <u>55</u>	<u>74</u>	<u>33</u>	<u>829</u>				
P13 <u>60</u>	<u>76</u>	<u>36</u>	<u>844</u>				
P14 <u>65</u>	<u>78</u>	<u>39</u>	<u>859</u>				
P15 <u>70</u>	<u>79</u>	<u>42</u>	<u>869</u>				
P16 <u>75</u>	<u>80</u>	<u>45</u>					
P17 <u>80</u>	<u>82</u>						
P18 <u>85</u>	<u>84</u>						
P19 <u>90</u>	<u>85</u>						
P20 <u>95</u>	<u>87</u>						
<u>wtc100</u>	<u>89</u>						

continued next page

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

Date 3/24/81 Test Ticket No. 11356  
 Recorder No. 3474 Capacity 3000 Location 3356 Ft.  
 Clock No. -- Elevation -- Well Temperature 110 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1768</u> P.S.I.	Open Tool	<u>8:18P</u> M	
B First Initial Flow Pressure	<u>58</u> P.S.I.	First Flow Pressure	<u>120</u> Mins.	<u>115</u> Mins.
C First Final Flow Pressure	<u>94</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>42</u> Mins.
D Initial Closed-in Pressure	<u>869</u> P.S.I.	Second Flow Pressure	<u>--</u> Mins.	<u>--</u> Mins.
E Second Initial Flow Pressure	<u>--</u> P.S.I.	Final Closed-in Pressure	<u>--</u> Mins.	<u>--</u> Mins.
F Second Final Flow Pressure	<u>--</u> P.S.I.			
G Final Closed-in Pressure	<u>--</u> P.S.I.			
H Final Hydrostatic Mud	<u>1760</u> P.S.I.			

**PRESSURE BREAKDOWN**

**First Flow Pressure**  
 Breakdown: 23 Inc.  
 of 5 mins. and a  
 final inc. of 0 Min.

**Initial Shut-In**  
 Breakdown: 14 Inc.  
 of 3 mins. and a  
 final inc. of 0 Min.

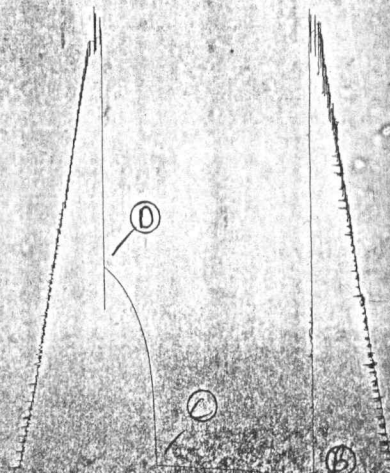
**Second Flow Pressure**  
 Breakdown: 0 Inc.  
 of 5 mins. and a  
 final inc. of 0 Min.

**Final Shut-In**  
 Breakdown: 0 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>105</u>	<u>91</u>					
P 2	<u>110</u>	<u>93</u>					
P 3	<u>115</u>	<u>94</u>					
P 4							
P 5							
P 6							
P 7							
P 8							
P 9							
P10							
P11							
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

JKT # 41356

I



24

Company W. L. Hartman Estate Lease & Well No. Brodie #5  
 Elevation --- Formation Arbuckle Effective Pay - Ft. Ticket No. 11357  
 Date 3/25/81 Sec. 25 Twp. 19S Range 12W County Barton State Kansas  
 Test Approved by R. L. Schmidlapp Western Representative Denis Wondra

Formation Test No. 7 Interval Tested from 3368 ft. to 3392 ft. Total Depth 3392 ft.  
 Packer Depth 3363 ft. Size 6 5/8 in. Packer Depth 3368 ft. Size 6 5/8 in.  
 Packer Depth - ft. Size - in. Packer Depth - ft. Size - in.  
 Depth of Selective Zone Set -

Top Recorder Depth (Inside) 3382 ft. Recorder Number 3474 Cap. 3000  
 Bottom Recorder Depth (Outside) 3385 ft. Recorder Number 3659 Cap. 4000  
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Woodman - Iannitti Drlg. Rig #1 Drill Collar Length - I. D. - in.

Mud Type starch Viscosity 48 Weight Pipe Length 990 I. D. 2.8 in.

Weight 9.7 Water Loss 3.2 cc. Drill Pipe Length 2356 I. D. 3.8 in.

Chlorides 84,000 P.P.M. Test Tool Length 22 ft. Tool Size 5 1/2 OD in.

Jars: Make -- Serial Number - Anchor Length 24 ft. Size 5 1/2 OD in.

Did Well Flow? Yes 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: Very good throughout flow periods.

Recovered 150 ft. of heavily oil and gas cut mud

Recovered 840 ft. of muddy oil

Recovered     ft. of    

Recovered     ft. of    

Recovered     ft. of    

Recovered     ft. of    

Recovered     ft. of    

Recovered     ft. of    

Remarks:    

Time Set Packer(s) 2:08 ~~A.M.~~ P.M. Time Started Off Bottom 3:40 ~~A.M.~~ P.M. Maximum Temperature 111°

Initial Hydrostatic Pressure (A) 1780 P.S.I.

Initial Flow Period Minutes 65 (B) 80 P.S.I. to (C) 448 P.S.I.

Initial Closed In Period Minutes 30 (D) 918 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) 1780 P.S.I.

**WESTERN TESTING CO., INC.**

**Pressure Data**

Date 3/25/81 Test Ticket No. 11357  
 Recorder No. 3474 Capacity 3000 Location 3382 Ft.  
 Clock No. -- Elevation -- Well Temperature 111 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1780</u> P.S.I.	Open Tool	<u>2:08P</u> M	
B First Initial Flow Pressure	<u>80</u> P.S.I.	First Flow Pressure	<u>60</u> Mins.	<u>65</u> Mins.
C First Final Flow Pressure	<u>448</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>918</u> P.S.I.	Second Flow Pressure	<u>--</u> Mins.	<u>--</u> Mins.
E Second Initial Flow Pressure	<u>--</u> P.S.I.	Final Closed-in Pressure	<u>--</u> Mins.	<u>--</u> Mins.
F Second Final Flow Pressure	<u>--</u> P.S.I.			
G Final Closed-in Pressure	<u>--</u> P.S.I.			
H Final Hydrostatic Mud	<u>1780</u> P.S.I.			

**PRESSURE BREAKDOWN**

**First Flow Pressure**  
 Breakdown: 13 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: 0 Inc.  
 of 5 mins. and a  
 final inc. of 0 Min.

**Final Shut-In**  
 Breakdown: 0 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>80</u>	<u>0</u>	<u>448</u>				
P 2 <u>5</u>	<u>111</u>	<u>3</u>	<u>738</u>				
P 3 <u>10</u>	<u>161</u>	<u>6</u>	<u>783</u>				
P 4 <u>15</u>	<u>206</u>	<u>9</u>	<u>815</u>				
P 5 <u>20</u>	<u>245</u>	<u>12</u>	<u>841</u>				
P 6 <u>25</u>	<u>282</u>	<u>15</u>	<u>861</u>				
P 7 <u>30</u>	<u>318</u>	<u>18</u>	<u>874</u>				
P 8 <u>35</u>	<u>350</u>	<u>21</u>	<u>888</u>				
P 9 <u>40</u>	<u>380</u>	<u>24</u>	<u>898</u>				
P10 <u>45</u>	<u>402</u>	<u>27</u>	<u>909</u>				
P11 <u>50</u>	<u>418</u>	<u>30</u>	<u>918</u>				
P12 <u>55</u>	<u>430</u>						
P13 <u>60</u>	<u>442</u>						
P14 <u>65</u>	<u>448</u>						
P15							
P16							
P17							
P18							
P19							
P20							

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3/4 #11357

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