



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET 25090

P. O. BOX 793 PHONE 793-7903

GREAT BEND, KANSAS

Formation Miss Elevation 1538 DF Eff. Pay _____ Ft.

District Augusta Date 4-24-76 Customer Order No. _____

COMPANY NAME F. H. Woods Jr.

ADDRESS 305 Farm & Bk. Bldg. Wichita, Kans 67202

LEASE AND WELL NO. Washburn #1 COUNTY Harper STATE Kans Sec. 30 Twp. 31 Rge. 8W

Mail Inv. To Same No. Copies Requested 1

Co. Name _____ Address _____

Mail Charts To Same No. Copies Requested 5

Address _____

Formation Test No. 1 O.K. — Misrun — Interval Tested From 4310 to 4334 Total Depth 4334

Size Main Hole 2 7/8 Rat Hole — Conv. X B.T. — Damaged X Yes — No Conv. — B.T. — Damaged — Yes — No

Top Packer Depth 4310 Ft. Size 6 3/4 Bottom Packer Depth — Ft. Size —

Straddle — Conv. — B.T. — Damaged — Yes — No Packer Depth — Ft. Size —

Tool Size 5 1/2 OD Tool Joint Size 4 1/2 FH Anchor Length 24 Ft. Size 5 1/2 OD Surface Choke Size 34 In. Bottom Choke Size 34 In.

RECORDERS Depth 4325 Ft. Clock No. 6866 Depth 4328 Ft. Clock No. 6896

Top Make Kuster Cap. 4500 No. 3085 Inside — Outside — Bottom Make Kuster Cap. 4400 No. 2603 Inside — Outside —

Below Straddle: Depth — Rec. No. — Clock No. — Inside — Outside — Depth — Ft. Rec. No. — Clock No. — Inside — Outside —

Time Set Packer 5:48 P.M.

Tool Open I.F.P. From 5:45 M. to 6:00 M. — Hr. 45 Min. From (B) 48 55 P.S.I. To (C) 240 P.S.I.

Tool Closed I.C.I.P. From 6:00 M. to 6:20 P. M. — Hr. 20 Min. (D) 1303 P.S.I. To (E) 1319 P.S.I.

Tool Open F.F.P. From — M. to — M. — Hr. — Min. From (E) not P.S.I. To (F) taken P.S.I.

Tool Closed F.C.I.P. From — M. to — M. — Hr. — Min. (G) not taken P.S.I.

Initial Hydrostatic Pressure (A) 2270 P.S.I. Final Hydrostatic Pressure (H) 2200 P.S.I. Maximum Temp. 117°

BLOW Strong, off bottom of bucket - INFORMATION

Did Well Flow X Yes — No — Recovery Total Ft. Gas to surface in 45 min

Reversed Out — Yes X No — Mud Type Stark Viscosity 38 Weight 9.7 Water Loss 20 cc. Chlorides 47000

EXTRA EQUIPMENT: Type Circ. Sub. Pir Safety Joint — Jars: Size — In. Make — Ser. No. —

Dual Packers no Did Packers Hold? no Did Tool Plug? no Where? —

DRILLING CONTRACTOR D. B. Lamb Only Length Drill Pipe 425 ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4 1/2 FH In.

Length Weight Pipe — ft. I.D. Weight Pipe — In. Tool Joint Size — In. Length Drill Collars — ft. I.D. Drill Collars — In.

Tool Joint Size — In. Length D.S.T. Tool 39 ft.

Remarks Packer seat washed out after 15 min into final flow period

COMPANY TERMS

Western Testing Co., Inc., shall not be liable for damage 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, or 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 10% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

INVOICE SECTION

Open Hole Test	\$	
Straddle Test	\$	
Jars	\$	
Selective Zone	\$	
Safety Joint	\$	
Misrun	\$	<u>150.00</u>
Evaluation	\$	
Packer	\$	
Circ. Sub.	\$	
Total	\$	<u>150.00</u>

Test Approved By Richard C. Rely Western Representative Charles Branstetter

Signature of Customer or his
Authorized Representative

Operator's Time _____ Hrs.

WESTERN TESTING CO., INC.

Pressure Data

Date 4-24-76 Test Ticket No. 21578
 Recorder No. 3085 Capacity 4500 Location 4325 Ft.
 Block No. 6866 Elevation 1538 D.F. Well Temperature 117 °F

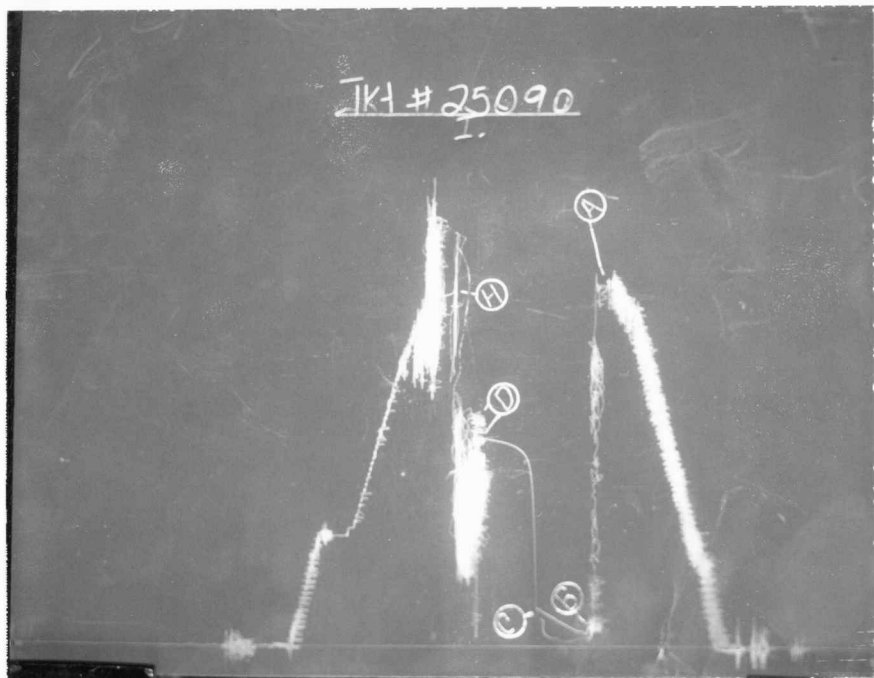
Point	Pressure	Open Tool	Time Given	Time Computed
Initial Hydrostatic Mud	<u>2271</u> P.S.I.		<u>5:43 P.</u> M.	
First Initial Flow Pressure	<u>55</u> P.S.I.	First Flow Pressure	<u>45</u> Mins.	<u>45</u> Mins.
First Final Flow Pressure	<u>246</u> P.S.I.	Initial Closed-in Pressure	<u>20</u> Mins.	<u>45</u> Mins.
Initial Closed-in Pressure	<u>1319</u> P.S.I.	Second Flow Pressure	— Mins.	— Mins.
Second Initial Flow Pressure	<u>Not taken</u> P.S.I.	Final Closed-in Pressure	— Mins.	— Mins.
Second Final Flow Pressure	" " P.S.I.			
Final Closed-in Pressure	<u>1</u> P.S.I.			
Final Hydrostatic Mud	<u>2235</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>9</u> Inc.		Breakdown: <u>15</u> 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.	
Point mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
1 0	<u>55</u>	0	<u>246</u>	0		0	
2 5	<u>85</u>	3	<u>804</u>	5		3	
3 10	<u>98</u>	6	<u>1122</u>	10		6	
4 15	<u>117</u>	9	<u>1203</u>	15		9	
5 20	<u>139</u>	12	<u>1237</u>	20		12	
6 25	<u>161</u>	15	<u>1259</u>	25		15	
7 30	<u>185</u>	18	<u>1270</u>	30		18	
8 35	<u>208</u>	21	<u>1282</u>	35		21	
9 40	<u>232</u>	24	<u>1291</u>	40		24	
10 45	<u>246</u>	27	<u>1297</u>	45		27	
11 50		30	<u>1303</u>	50		30	
12 55		33	<u>1307</u>	55		33	
13 60		36	<u>1312</u>	60		36	
14		39	<u>1317</u>	65		39	
15		42	<u>7219 1318</u>	70		42	
16		45	<u>1319</u>	75		45	
17		48		80		48	
18		51		85		51	
19		54		90		54	
20		57				57	
		60				60	

IK1 #25090

I.





Home Office: Wichita, Kansas 67201
P. O. Box 1599 (316) 838-0601

Company E. H. Wood Jr. Lease & Well No. Washbon #1
Elevation 1538 Derrick Floor Formation Mississippi Effective Pay - - Ft. Ticket No. 25090
Date 4-24-76 Sec. 30 Twp. 31S Range 8W County Harper State Kansas
Test Approved by Richard E. Roby Western Representative Charles Branstetter
Formation Test No. 1 O.K. - Misrun X Interval Tested From 4310' to 4334' Total Depth 4334'
Size Main Hole 77/8 Rat Hole - Conv. X B.T. - Damaged X Yes - No Conv. - B.T. - Damaged - Yes - No
Top Packer Depth 4310 Ft. Size 6 3/4 Bottom Packer Depth - Ft. Size -
Straddle - Conv. - B.T. - Damaged - Yes - No Packer Depth - Ft. Size -
Tool Size 5 1/2 OD Tool Joint Size 4 1/2 FH Anchor Length 24 Ft. Size 5 1/2 OD Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.
RECORDERS Depth 4325 Ft. Clock No. 6866 Depth 4328 Ft. Clock No. 6896
Top Make Kuster Cap. 4500 No. 3085 Inside Bottom Make Kuster Cap. 4400 No. 2603 Inside
Below Straddle: Depth - Rec. No. - Clock No. - Inside Depth - Ft. Rec. No. - Clock No. - Inside
Time Set Packer 5:43 P.M.
Tool Open I.F.P. From 5:45 P.M. to 6:00 P.M. - Hr. 45 Min. From (B) 55 P.S.I. To (C) 246 P.S.I.
Tool Closed I.C.I.P. From 6:00 P.M. to 6:20 P.M. - Hr. 20 Min (D) 1319 P.S.I.
Tool Open F.F.P. From - M. to - M. - Hr. - Min. From (E) - P.S.I. To (F) - P.S.I.
Tool Closed F.C.I.P. From - M. to - M. - Hr. - Min. (G) not taken P.S.I.
Initial Hydrostatic Pressure (A) 2271 P.S.I. Final Hydrostatic Pressure (H) 2235 P.S.I. Maximum Temp. 117

INFORMATION

BLOW Strong blow throughout test.
Did Well Flow X Yes - No - Recovery Total Ft. MISRUN Gas to surface in 45 minutes.
Reversed Out - Yes X No - Mud Type starch Viscosity 38 Weight 9.7 Water Loss 20. cc. Chlorides 47,000 P.P.M.
EXTRA EQUIPMENT: Type Circ. Sub. pin Safety Joint - Jars: Size - In. Make - Ser. No. -
Dual Packer no Did Packers Hold? no Did Tool Plug? no Where? -
DRILLING CONTRACTOR D.R. Lauck Drlg. Length Drill Pipe? 4295 Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4 1/2 FH In.
Length Weight Pipe - Ft. I.D. Weight Pipe - In. Tool Joint Size - In. Length Drill Collars - Ft. I.D. Drill Collars - In.
Tool Joint Size - In. Length D.S.T. Tool 39 Ft.
Remarks: Packer seat washed out after 15 minutes on final flow period.

WESTERN TESTING CO., INC.

Pressure Data

Date 4-24-76 Test Ticket No. 25090
 Recorder No. 3085 Capacity 4500 Location 4325 Ft.
 Clock No. 6866 Elevation 1538 Derrick Floor Well Temperature 117 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2271</u> P.S.I.	Open Tool	<u>5:43 P.</u> M	
B First Initial Flow Pressure	<u>55</u> P.S.I.	First Flow Pressure	<u>45</u> Mins.	<u>45</u> Mins.
C First Final Flow Pressure	<u>246</u> P.S.I.	Initial Closed-in Pressure	<u>20</u> Mins.	<u>45</u> Mins.
D Initial Closed-in Pressure	<u>1319</u> P.S.I.	Second Flow Pressure	<u>-</u> Mins.	<u>-</u> Mins.
E Second Initial Flow Pressure	<u>not taken</u> P.S.I.	Final Closed-in Pressure	<u>-</u> Mins.	<u>-</u> Mins.
F Second Final Flow Pressure	<u>not taken</u> P.S.I.			
G Final Closed-in Pressure	<u>not taken</u> P.S.I.			
H Final Hydrostatic Mud	<u>2235</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
Breakdown: <u>9</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Breakdown: <u>15</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.		Breakdown: <u>-</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Breakdown: <u>-</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	
P 1 <u>0</u>	<u>55</u>	<u>0</u>	<u>246</u>	<u>not taken</u>	<u>-</u>	<u>not taken</u>	<u>-</u>
P 2 <u>5</u>	<u>85</u>	<u>3</u>	<u>804</u>				
P 3 <u>10</u>	<u>98</u>	<u>6</u>	<u>1122</u>				
P 4 <u>15</u>	<u>117</u>	<u>9</u>	<u>1203</u>				
P 5 <u>20</u>	<u>139</u>	<u>12</u>	<u>1237</u>				
P 6 <u>25</u>	<u>161</u>	<u>15</u>	<u>1259</u>				
P 7 <u>30</u>	<u>185</u>	<u>18</u>	<u>1270</u>				
P 8 <u>35</u>	<u>208</u>	<u>21</u>	<u>1282</u>				
P 9 <u>40</u>	<u>232</u>	<u>24</u>	<u>1291</u>				
P 10 <u>45</u>	<u>246</u>	<u>27</u>	<u>1297</u>				
P 11		<u>30</u>	<u>1303</u>				
P 12		<u>33</u>	<u>1307</u>				
P 13		<u>36</u>	<u>1312</u>				
P 14		<u>39</u>	<u>1317</u>				
P 15		<u>42</u>	<u>1318</u>				
P 16		<u>45</u>	<u>1319</u>				
P 17							
P 18							
P 19							
P 20							



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET 25091

P. O. BOX 793 PHONE 793-7903
GREAT BEND, KANSAS

Formation Miss Elevation 1538 DF Eff. Pay _____ Ft.

District Augusta Date 4-25-76 Customer Order No. _____

COMPANY NAME E. H. Woods Jr.

ADDRESS 305 Farm & BK Bldg. Wichita Kans 67202

LEASE AND WELL NO. Washburn #1 COUNTY Harpis STATE Kans Sec. 30 Twp. 31S Rge. 8W

Mail Inv. To Same Co. Name _____ Address _____ No. Copies Requested 1

Mail Charts To Same Address _____ No. Copies Requested 5

Formation Test No. 2 O.K. X Misrun — Interval Tested From 4328 to 4336 Total Depth 4336
Size Main Hole 7 7/8 Rat Hole _____ Conv. X B.T. — Damaged — Yes X No Conv. — B.T. X Damaged — Yes X No
Top Packer Depth 4283 Ft. Size 6 3/4 Bottom Packer Depth 4328 Ft. Size 6 3/4
Straddle _____ Conv. _____ B.T. _____ Damaged _____ Yes _____ No Packer Depth _____ Ft. Size _____
Tool Size 5 1/2 OD Tool Joint Size 4 1/2 FH Anchor Length 8 Ft. Size 5 1/2 OD Surface Choke Size 1 1/4 In. Bottom Choke Size 3/4 In.

RECORDERS Depth 4283 Ft. Clock No. 6866 Depth 4333 Ft. Clock No. 6896
Top Make Kuster Cap. 4500 No. 3085 Inside _____ Outside _____
Bottom Make Kuster Cap. 4400 No. 2603 Inside _____ Outside _____
Below Straddle: Depth _____ Rec. No. _____ Clock No. _____ Inside _____ Outside _____

Time Set Packer 8:00 AM
Tool Open I.F.P. From 8:00 A M. to 8:45 A M. — Hr. 45 Min. From (B) 22 12 P.S.I. To (C) 36 36 P.S.I.
Tool Closed I.C.I.P. From 8:45 A M. to 9:30 A M. — Hr. 45 Min. (D) 1326 1339 P.S.I.
Tool Open F.F.P. From 9:30 A M. to 11:30 A M. — Hr. 120 Min. From (E) 24 43 P.S.I. To (F) 60 55 P.S.I.
Tool Closed F.C.I.P. From 11:30 A M. to 12:30 P M. — Hr. 60 Min. (G) 1360 1334 P.S.I.
Initial Hydrostatic Pressure (A) 2200 P.S.I. Final Hydrostatic Pressure (H) 2190 P.S.I. Maximum Temp. 117°

INFORMATION

BLOW Strong blow Gas to surface 27 min.

Did Well Flow X Yes — No Recovery Total Ft. 90' gassy dry mud

Reversed Out — Yes X No Mud Type Starch Viscosity 45 Weight 9.7 Water Loss 10.4 cc. Chlorides 51,000 PPM

EXTRA EQUIPMENT: Type Circ. Sub. Pain Safety Joint _____ Jars: Size _____ In. Make _____ Ser. No. _____

Dual Packers yes Did Packers Hold? yes Did Tool Plug? no Where? _____

DRILLING CONTRACTOR Lauch Dug Co. Length Drill Pipe 4275 ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4 1/2 FH In.

Length Weight Pipe _____ ft. I.D. Weight Pipe _____ In. Tool Joint Size _____ In. Length Drill Collars _____ ft. I.D. Drill Collars _____ In.

Tool Joint Size _____ In. Length D.S.T. Tool 63 ft.

Remarks see attached sheet for gas measurements

INVOICE SECTION

Open Hole Test	\$ <u>390.00</u>
Straddle Test	\$ <u>9</u>
Jars	\$ <u>—</u>
Selective Zone	\$ <u>—</u>
Safety Joint	\$ <u>—</u>
Misrun	\$ <u>—</u>
Evaluation	\$ <u>—</u>
Packer	\$ <u>—</u>
Circ. Sub.	\$ <u>—</u>
Total	\$ <u>390.00</u>

COMPANY TERMS

Western Testing Co., Inc., shall not be liable for damage 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, or 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 10% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By Richard E. Rely Western Representative Charles Branstetter
Signature of Customer or his Authorized Representative Operator's Time _____ Hrs.

WESTERN TESTING CO., INC. Pressure Data

Order No. 4-25-76 3085 Capacity 4500 Location 4283 Ft.
 Well No. 6866 Elevation 1538 DF Well Temperature 117 °F

Initial	Pressure		Open Tool	Time Given	Time Computed
Initial Hydrostatic Mud	<u>2269</u>	P.S.I.		<u>800 A</u>	M.
First Initial Flow Pressure	<u>22</u>	P.S.I.	First Flow Pressure	<u>45</u>	Mins. <u>45</u> Mins.
First Final Flow Pressure	<u>36</u>	P.S.I.	Initial Closed-in Pressure	<u>45</u>	Mins. <u>45</u> Mins.
Initial Closed-in Pressure	<u>1339</u>	P.S.I.	Second Flow Pressure	<u>120</u>	Mins. <u>120</u> Mins.
Second Initial Flow Pressure	<u>43</u>	P.S.I.	Final Closed-in Pressure	<u>60</u>	Mins. <u>62</u> Mins.
Second Final Flow Pressure	<u>55</u>	P.S.I.			
Final Closed-in Pressure	<u>1336</u>	P.S.I.			
Final Hydrostatic Mud	<u>2235</u>	P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: <u>20</u> Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>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	Press.	Point	Press.	Point	Press.	Point	Press.
ins.		Minutes		Minutes		Minutes	
1 0	<u>22</u>	0	<u>36</u>	0	<u>43</u>	0	<u>55</u>
2 5	<u>14</u>	3	<u>579</u>	5	<u>36</u>	3	<u>804</u>
3 10	<u>19</u>	6	<u>909</u>	10	<u>36</u>	6	<u>1083</u>
4 15	<u>22</u>	9	<u>1106</u>	15	<u>37</u>	9	<u>1199</u>
5 20	<u>24</u>	12	<u>1100</u>	20	<u>38</u>	12	<u>1247</u>
6 25	<u>26</u>	15	<u>9000</u>	25	<u>39</u>	15	<u>1273</u>
7 30	<u>27</u>	18	<u>7.666</u>	30	<u>40</u>	18	<u>7.666</u>
8 35	<u>29</u>	21	<u>6.714</u>	35	<u>41</u>	21	<u>6.714</u>
9 40	<u>33</u>	24	<u>6.000</u>	40	<u>42</u>	24	<u>6.000</u>
10 45	<u>36</u>	27	<u>5.444</u>	45	<u>46</u>	27	<u>5.444</u>
11 50		30	<u>5.000</u>	50	<u>50</u>	30	<u>5.000</u>
12 55		33	<u>4.636</u>	55	<u>52</u>	33	<u>4.636</u>
13 60		36	<u>4.333</u>	60	<u>55</u>	36	<u>4.333</u>
14		39	<u>4.077</u>	65	<u>57</u>	39	<u>4.077</u>
15		42	<u>3.857</u>	70	<u>58</u>	42	<u>3.857</u>
16		45	<u>3.666</u>	75	<u>57</u>	45	<u>3.666</u>
17		48		80	<u>56</u>	48	<u>3.500</u>
18		51		85	<u>57</u>	51	<u>3.353</u>
19		54		90	<u>60</u>	54	<u>3.222</u>
20		57		95	<u>62</u>	57	<u>3.105</u>
		60		100	<u>64</u>	60	<u>3.000</u>
				105	<u>67</u>		
				110	<u>69</u>		

P. O. Box 1599
WICHITA, KANSAS 67201

GAS FLOW REPORT

No 495

Date 4-25-76 Ticket 25091 Company E. H. Woods Jr.
Well Name and No. Washbon #1 Dst No. 2 Interval Tested 4328-4336
County Harper State Kans Sec. 30 Twp. 31S Rg. 8W

Time Gauge Pre-Flow	Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	P.S.I. on Prior Side Static Tester	P.S.I. on U-Tube Tester	Description of Flow
Gas to surface 27 min PRE FLOW Loop open @ 8:00 AM					
8:30 AM	30 min	1/4" choke	4 LBS	PSIG	18,500 CFPD
8:45 AM	45 min	" "	9 LBS	PSIG	29,000 "
DCIP			8:45-9:30		

SECOND FLOW

Time	Pressure (PSIG)	Flow (CFPD)
9:30	114	32,400
9:45	114	37,600
10:00	117	42,400
10:15	120	47,100
10:30	121	48,700
10:45	122	50,200
11:00	124	53,200
11:15	125	54,700
11:30	126	56,300

GAS BOTTLE

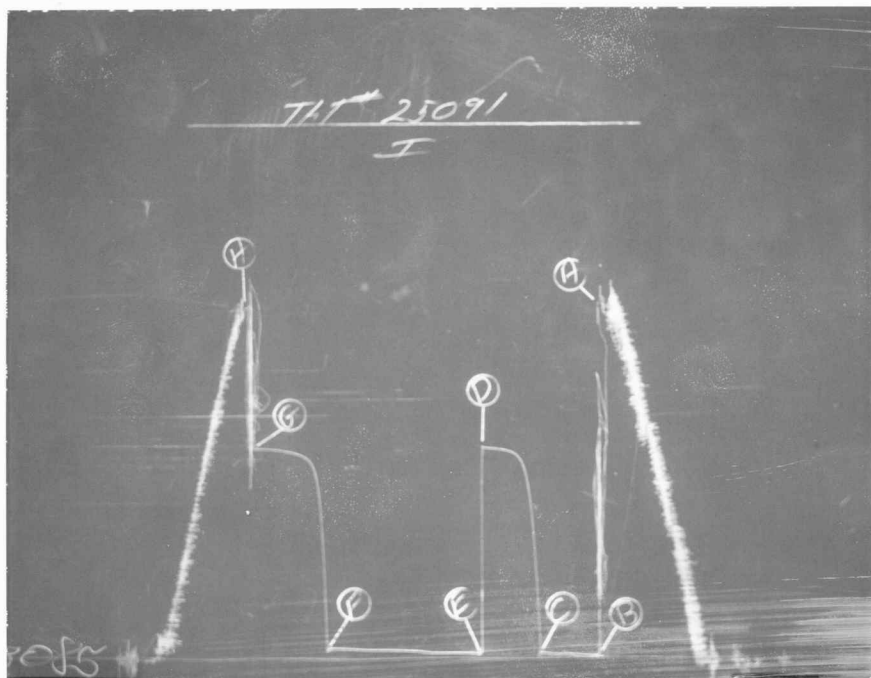
Serial No. _____ Date Bottle Filled 4-25-74 Date to be Invoiced 4-25-76

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% per month, equal to 12% 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 E. H. Wood Jr.

Authorized by Richard E. Robey





Home Office: Wichita, Kansas 67201
P. O. Box 1599 (316) 838-0601

Company F. H. Wood Jr. Lease & Well No. Washbon #1
Elevation 1538 Derrick Floor Formation Mississippi Effective Pay - Ft. Ticket No. 25091
Date 4-25-76 Sec. 30 Twp. 31S Range 8W County Harper State Kansas
Test Approved by Richard E. Roby Western Representative Charles Branstetter
Formation Test No. 2 O.K. ☒ Misrun ☐ Interval Tested From 4328' to 4336' Total Depth 4336'
Size Main Hole 77/8 Rat Hole ☐ Conv. ☒ B.T. ☐ Damaged ☐ Yes ☒ No Conv. ☐ B.T. ☒ Damaged ☐ Yes ☒ No
Top Packer Depth 4292 Ft. Size 6 3/4 Bottom Packer Depth 4328 Ft. Size 6 3/4
Straddle ☐ Conv. ☐ B.T. ☐ Damaged ☐ Yes ☐ No Packer Depth ☐ Ft. Size ☐
Tool Size 5 1/2 OD Tool Joint Size 4 1/2 FH Anchor Length 8 Ft. Size 5 1/2 OD Surface Choke Size 1/4 In. Bottom Choke Size 3/4 In.
RECORDERS Depth 4283 Ft. Clock No. 6866 Depth 4333 Ft. Clock No. 6896
Top Make Kuster Cap. 4500 No. 3085 Inside ☐ Outside ☒ Bottom Make Kuster Cap. 4400 No. 2603 Inside ☐ Outside ☒
Below Straddle: Depth ☐ Rec. No. ☐ Clock No. ☐ Inside ☐ Outside ☐ Depth ☐ Ft. Rec. No. ☐ Clock No. ☐ Inside ☐ Outside ☐
Time Set Packer 8:00 A. M
Tool Open I.F.P. From 8:00 A M. to 8:45A M. - Hr. 45 Min. From (B) 22 P.S.I. To (C) 36 P.S.I.
Tool Closed I.C.I.P. From 8:45A M. to 9:30A M. - Hr. 45 Min (D) 1339 P.S.I.
Tool Open F.F.P. From 9:30A M. to 11:30A M. - Hr. 120 Min. From (E) 43 P.S.I. To (F) 55 P.S.I.
Tool Closed F.C.I.P. From 11:30A M. to 12:30P M. - Hr. 60 Min. (G) 1336 P.S.I.
Initial Hydrostatic Pressure (A) 2269 P.S.I. Final Hydrostatic Pressure (H) 2235 P.S.I. Maximum Temp. 117

INFORMATION

BLOW Strong blow-Gas to surface on 27 minutes.

Did Well Flow ☒ Yes ☐ No Recovery Total Ft. 90' gassy drilling mud.

Reversed Out ☐ Yes ☒ No Mud Type starch Viscosity 45 Weight 9.7 Water Loss 10.4 cc. Chlorides 51,000 P.P.M.

EXTRA EQUIPMENT: Type Circ. Sub. pin Safety Joint ☐ Jars: Size ☐ In. Make ☐ Ser. No. ☐

Dual Packer yes Did Packers Hold? yes Did Tool Plug? no Where? ☐ ☐

DRILLING CONTRACTOR D.R. Lauck Drlg. Length Drill Pipe? 4273 Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4 1/2 FH In.

Length Weight Pipe ☐ Ft. I.D. Weight Pipe ☐ In. Tool Joint Size ☐ In. Length Drill Collars ☐ Ft. I.D. Drill Collars ☐ In.

Tool Joint Size ☐ In. Length D.S.T. Tool 63 Ft.

Remarks: See attached sheet for gas measurements.

WESTERN TESTING CO., INC.

Pressure Data

Date 4-25-76 Test Ticket No. 25091
 Recorder No. 3085 Capacity 4500 Location 4283 Ft.
 Clock No. 6866 Elevation 1538 Derrick Floor Well Temperature 117 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2269 P.S.I.	Open Tool	8:00 A. M.	
B First Initial Flow Pressure	22 P.S.I.	First Flow Pressure	45 Mins.	45 Mins.
C First Final Flow Pressure	36 P.S.I.	Initial Closed-in Pressure	45 Mins.	45 Mins.
D Initial Closed-in Pressure	1339 P.S.I.	Second Flow Pressure	120 Mins.	120 Mins.
E Second Initial Flow Pressure	43 P.S.I.	Final Closed-in Pressure	60 Mins.	60 Mins.
F Second Final Flow Pressure	55 P.S.I.			
G Final Closed-in Pressure	1336 P.S.I.			
H Final Hydrostatic Mud	2235 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>9</u> Inc.		Breakdown: <u>15</u> Inc.		Breakdown: <u>24</u> Inc.		Breakdown: <u>20</u> Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>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>22</u>	<u>0</u>	<u>36</u>	<u>0</u>	<u>43</u>	<u>0</u>	<u>55</u>
P 2 <u>5</u>	<u>14</u>	<u>3</u>	<u>579</u>	<u>5</u>	<u>36</u>	<u>3</u>	<u>804</u>
P 3 <u>10</u>	<u>19</u>	<u>6</u>	<u>909</u>	<u>10</u>	<u>36</u>	<u>6</u>	<u>1083</u>
P 4 <u>15</u>	<u>22</u>	<u>9</u>	<u>1106</u>	<u>15</u>	<u>37</u>	<u>9</u>	<u>1199</u>
P 5 <u>20</u>	<u>24</u>	<u>12</u>	<u>1210</u>	<u>20</u>	<u>38</u>	<u>12</u>	<u>1247</u>
P 6 <u>25</u>	<u>26</u>	<u>15</u>	<u>1266</u>	<u>25</u>	<u>39</u>	<u>15</u>	<u>1273</u>
P 7 <u>30</u>	<u>27</u>	<u>18</u>	<u>1294</u>	<u>30</u>	<u>40</u>	<u>18</u>	<u>1287</u>
P 8 <u>35</u>	<u>29</u>	<u>21</u>	<u>1307</u>	<u>35</u>	<u>41</u>	<u>21</u>	<u>1298</u>
P 9 <u>40</u>	<u>33</u>	<u>24</u>	<u>1316</u>	<u>40</u>	<u>42</u>	<u>24</u>	<u>1305</u>
P10 <u>45</u>	<u>36</u>	<u>27</u>	<u>1321</u>	<u>45</u>	<u>46</u>	<u>27</u>	<u>1312</u>
P11		<u>30</u>	<u>1326</u>	<u>50</u>	<u>50</u>	<u>30</u>	<u>1316</u>
P12		<u>33</u>	<u>1331</u>	<u>55</u>	<u>52</u>	<u>33</u>	<u>1321</u>
P13		<u>36</u>	<u>1333</u>	<u>60</u>	<u>55</u>	<u>36</u>	<u>1324</u>
P14		<u>39</u>	<u>1335</u>	<u>65</u>	<u>57</u>	<u>39</u>	<u>1327</u>
P15		<u>42</u>	<u>1336</u>	<u>70</u>	<u>58</u>	<u>42</u>	<u>1330</u>
P16		<u>45</u>	<u>1339</u>	<u>75</u>	<u>57</u>	<u>45</u>	<u>1331</u>
P17				<u>80</u>	<u>56</u>	<u>48</u>	<u>1332</u>
P18				<u>85</u>	<u>57</u>	<u>51</u>	<u>1333</u>
P19				<u>90</u>	<u>60</u>	<u>54</u>	<u>1334</u>
P20				<u>95</u>	<u>62</u>	<u>57</u>	<u>1335</u>
				<u>100</u>	<u>64</u>	<u>60</u>	<u>1336</u>
				<u>105</u>	<u>67</u>		
				<u>110</u>	<u>69</u>		
				<u>115</u>	<u>71</u>		
				<u>120</u>	<u>55</u>		

Phone 316 262-5861
316 838-0601



P. O. Box 1599
WICHITA, KANSAS 67201

GAS FLOW REPORT

Date 4-25-76 Ticket 25091 Company E.H. Wood Jr.
Well Name and No. Washbon #1 Dst No. 2 Interval Tested 4328' to 4336'
County Harper State Kansas Sec. 30 Twp. 31S Rg. 8W

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
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PRE FLOW

8:30 AM	30 min	1/4" choke	4 PSIG			18,500 C.F.P.D.
8:45 AM	45 min	1/4" choke	9 PSIG			29,000 C.F.P.D.
Tool opened at 8:00 AM. Gas to surface in 27 minutes.						

SECOND FLOW

9:30 AM	46 min	1/4" choke	11 PSIG			32,400 C.F.P.D.
9:45 AM	60 min	1/4" choke	14 PSIG			37,600 C.F.P.D.
10:00 AM	75 min	1/4" choke	17 PSIG			42,400 C.F.P.D.
10:15 AM	90 min	1/4" choke	20 PSIG			47,100 C.F.P.D.
10:30 AM	105 min	1/4" choke	21 PSIG			48,700 C.F.P.D.
10:45 AM	120 min	1/4" choke	22 PSIG			50,200 C.F.P.D.
11:00 AM	135 min	1/4" choke	24 PSIG			53,200 C.F.P.D.
11:15 AM	150 min	1/4" choke	25 PSIG			54,700 C.F.P.D.
11:30 AM	165 min	1/4" choke	26 PSIG			56,300 C.F.P.D.

All measurements were through a 2" merla orifice well tester with a 1/4" choke.

GAS BOTTLE

Serial No. - Date Bottle Filled 4-25-76 Date to be Invoiced 4-25-76

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.

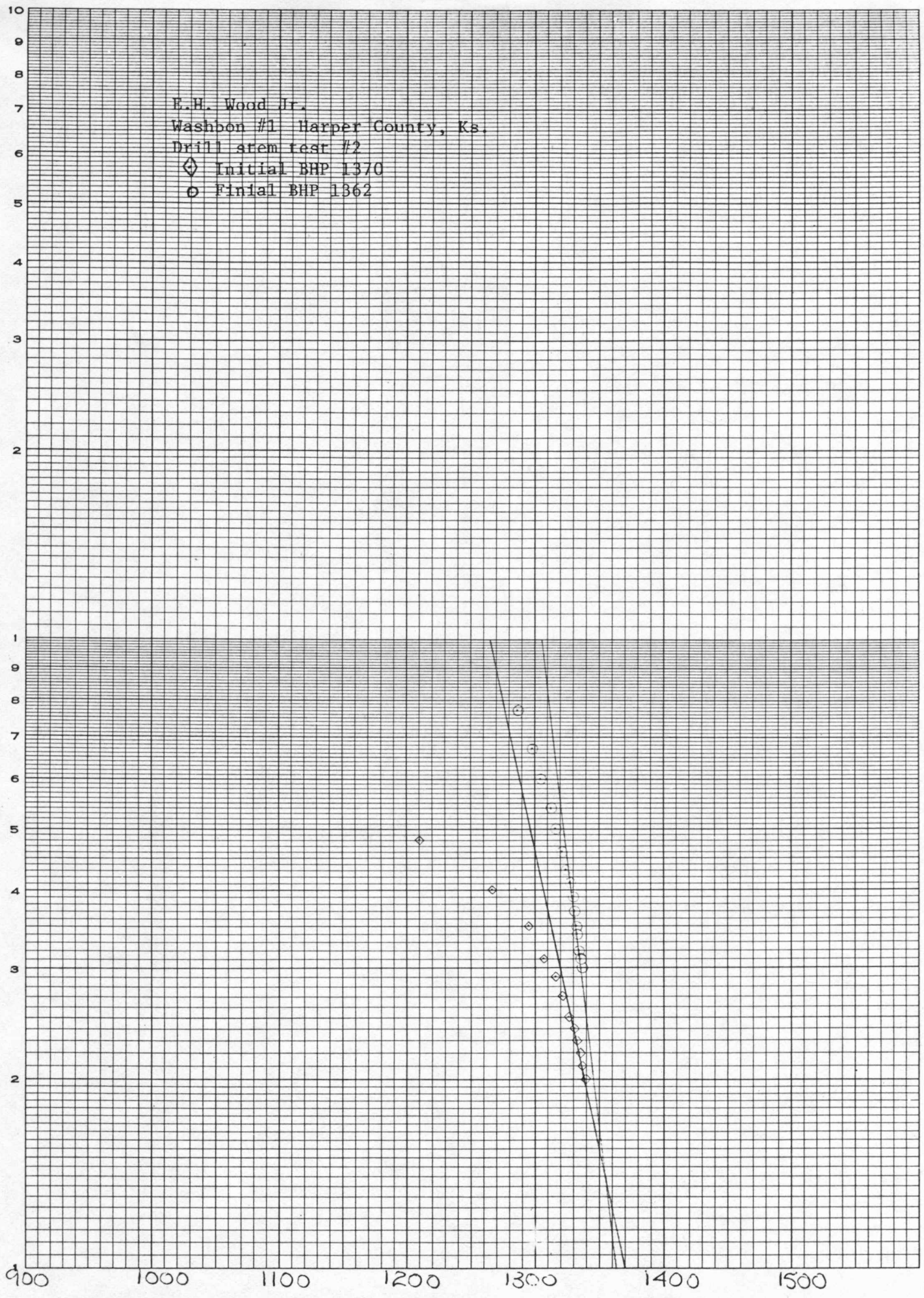
All charges subject to 1% per month, equal to 12% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME E.H. Wood Jr.

Authorized by Richard E. Roby

EUGENE DIETZGEN CO.
MADE IN U. S. A.

SEMI-LOGARITHMIC
2 CYCLES X 10 DIVISIONS PER INCH



Gas Production

B.T. Gauge Numbers		3085	2603	Ticket Number	25091
Initial Hydrostatic		Pressure		Elevation	1538 D.F. . ft.
		2269			
Final Hydrostatic		2235		Production Rate	Initial 29.02 m cu. ft.
1st Flow	Initial	Time	22	Final	56.45 m cu. ft.
	Final	45	36		
Initial Closed In Pressure		45	1339	Hole Size	7 7/8 in.
2nd Flow		43	1339	Footage Tested	8 ft.
Initial	Initial	Time	43	Mud Weight	9.7 lbs. gal.
	Final	120	55	Gas Viscosity	.82 cp
Final Closed In Pressure		60	1336	Gas Gravity	.018 —
Extrapolated Static Pressure	Initial	1370-1275		Gas Compressibility	.70 —
	Final	1362-1306			
Slope Psi ² /cycle	Initial	251,275			
	Final	149,408			

Remarks:

SUMMARY

BT Gauge Number
Depth

Product	Equation	Initial	Final	Units
Transmissability	$\frac{Kh}{\mu} = \frac{1637 Q_g ZT}{m}$	89.390	291.859	md. ft. cp
Theoretical Flow Capacity	$Kh = \frac{Kh}{\mu} \mu$	1.509	5.253	md. ft.
Average Effective Permeability	$K = \frac{Kh}{h}$	.201	.657	md.
	$K_1 = \frac{Kh}{h_1}$	.201	.657	md.
Indicated Flow Capacity	$(Kh)_2 = \frac{3200 Q_g \mu ZT \log(0.472 b/r_w)}{P_b^2 - P_p^2}$	.193	.772	md. ft.
Damage Ratio	$DR = \frac{\text{Theo. Flow Cap}}{\text{Indicated Flow Cap}} \frac{Kh}{(Kh)_2}$	8.34	6.80	—
Indicated Flow Rate	$OF_1 = \frac{Q_g}{P_b^2 - P_p^2} \frac{P_b^2}{P_p^2}$	29.02	56.45	MCFD
		29.01	56.37	MCFD
Theoretical Potential Rate	$OF_3 = OF_1 DR \quad \text{Max.}$	242.027	383.792	MCFD
	$OF_4 = OF_2 DR \quad \text{Min.}$	241.943	383.316	MCFD
Approx. Radius of Investigation	$b \approx \sqrt{Kt} \text{ or } \sqrt{Kt_0}$	3.00	8.88	ft.
	$b_1 \approx \sqrt{K_1 t} \text{ or } \sqrt{K_1 t_0}$	3.00	8.88	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 Tests pressure charts, and are furnished you for your information. In furnishing such calculations and evaluations based thereon, Western Testing Co., Inc., is merely expressing its opinion. You agree that Western Testing Co., Inc., make 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.

Gas Production

B.T. Gauge Numbers		3085	2603	Ticket Number	25091
Initial Hydrostatic		Pressure		Elevation	1538 D.F. ft.
Final Hydrostatic		2235		Production Rate	Initial 29.02 m cu. ft.
1st Flow	Initial	Time	55 22	Final	56.45 m cu. ft.
	Final	45	246 36	Hole Size	7 7/8 in.
Initial Closed In Pressure		45	1319 1339	Footage Tested	8 ft.
2nd Flow	Initial	Time	43	Mud Weight	9.7 lbs. gal.
	Final	120	55	Gas Viscosity	.82 cp
Final Closed In Pressure		66	1336	Gas Gravity	.018
Extrapolated Static Pressure	Initial	1370-1275		Gas Compressibility	.70
	Final	1362-1306			
Slope Psi ² /cycle	Initial	251,275			
	Final	149,408			

Remarks: _____

SUMMARY

BT Gauge Number
Depth

Product	Equation	Initial	Final	Units
Transmissability	$\frac{Kh}{\mu} = \frac{1637 Q_g ZT}{m}$	89.390	291.859	md. ft. cp
Theoretical Flow Capacity	$Kh = \frac{Kh}{\mu} \mu$	1.609	5.253	md. ft.
Average Effective Permeability	$K = \frac{Kh}{h}$	.201 1.609	.657	md.
Indicated Flow Capacity	$(Kh)_2 = \frac{3200 Q_g \mu ZT \log(0.472 b/r_w)}{P_b^2 - P_r^2}$	.193	.772	md. ft.
Damage Ratio	$DR = \frac{\text{Theo. Flow Cap}}{\text{Indicated Flow Cap}} \frac{Kh}{(Kh)_2}$	8.34	6.804	—
Indicated Flow Rate	$OF_1 = \frac{Q_g}{P_b^2 - P_r^2}$	53.45 29.02 29.01	56.45 56.37	MCFD
Theoretical Potential Rate	$OF_3 = OF_1 DR \quad \text{Max.}$ $OF_4 = OF_2 DR \quad \text{Min.}$	242027 241.943	383.792 383.316	MCFD
Approx. Radius of Investigation	$b \approx \sqrt{Kt} \text{ or } \sqrt{Kt_0}$	3.00	8.88	ft.
	$b_1 \approx \sqrt{K_1 t} \text{ or } \sqrt{K_1 t_0}$	3.00	8.88	ft.
Potentiometric Surface *	$\text{Pot.} = (EI - GD) + (2.319 Ps)$			ft.

NOTICE:

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INTERPRETATIONS AND CALCULATIONS