

Company Imperial Oil Company Lease & Well No. Butler-Thompson #2-24
 Elevation 2082 Kelly Bushing Formation Kansas City Effective Pay - Ft. Ticket No. 9153
 Date 1/5/81 Sec. 24 Twp 27S Range 16W County Kiowa State Kansas
 Test Approved by Peter J. Stubbs Western Representative Rodger A Mounts
 Formation Test No. 1 Interval Tested from 4031 ft. to 4060 ft. Total Depth 4060 ft.
 Packer Depth 4026 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.
 Packer Depth 4031 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.
 Depth of Selective Zone Set -
 Top Recorder Depth (Inside) 4041 ft. Recorder Number 1566 Cap. 4300
 Bottom Recorder Depth (Outside) 4060 ft. Recorder Number 3086 Cap. 4500
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -
 Drilling Contractor Red Tiger Drilling Rig #6 Drill Collar Length - I. D. - in.
 Mud Type Drispac Viscosity 45 Weight Pipe Length 1512 I. D. 3.2 in.
 Weight 9.3 Water Loss 11.2 cc. Drill Pipe Length 2492 I. D. 3.8 in.
 Chlorides 14,000 P.P.M. Test Tool Length 27 ft. Tool Size 5 1/2 OD in.
 Jars: Make WTC Serial Number 419 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: Weak dying in three minutes initial flow period.

Recovered 50 ft. of drilling fluid

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 1:04 ~~P.M.~~ ^{A.M.} Time Started Off Bottom 3:04 ~~P.M.~~ ^{A.M.} Maximum Temperature 108
 Initial Hydrostatic Pressure 2015 P.S.I.
 Initial Flow Period 35 Minutes (A) 73 P.S.I. to (C) 60 P.S.I.
 Initial Closed In Period 30 Minutes (D) 1487 P.S.I.
 Final Flow Period 35 Minutes (E) 80 P.S.I. to (F) 63 P.S.I.
 Final Closed In Period 30 Minutes (G) 1167 P.S.I.
 Final Hydrostatic Pressure 1996 P.S.I. (H)

WESTERN TESTING CO., INC.

Pressure Data

Date 1/5/81 Recorder No. 1566 Capacity 4300 Test Ticket No. 9153
 Clock No. - Elevation 2082 Kelly Bushing Location 4041 Ft. 108 Well Temperature 108 °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	2015 P.S.I.	1:04A	M
B First Initial Flow Pressure	73 P.S.I.	30 Mins.	35 Mins.
C First Final Flow Pressure	60 P.S.I.	30 Mins.	30 Mins.
D Initial Closed-in Pressure	1487 P.S.I.	30 Mins.	35 Mins.
E Second Initial Flow Pressure	80 P.S.I.	30 Mins.	30 Mins.
F Second Final Flow Pressure	63 P.S.I.		
G Final Closed-in Pressure	1167 P.S.I.		
H Final Hydrostatic Mud	1996 P.S.I.		

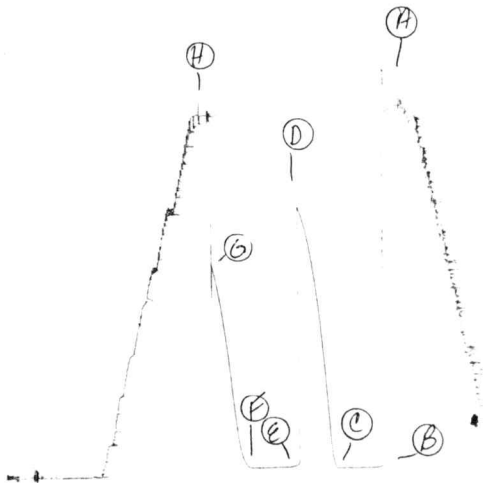
PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>7</u> Inc.		Breakdown: <u>10</u> Inc.		Breakdown: <u>7</u> Inc.		Breakdown: <u>10</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>73</u>	<u>0</u>	<u>60</u>	<u>0</u>	<u>80</u>	<u>0</u>	<u>63</u>
P 2 <u>5</u>	<u>65</u>	<u>3</u>	<u>151</u>	<u>5</u>	<u>67</u>	<u>3</u>	<u>69</u>
P 3 <u>10</u>	<u>60</u>	<u>6</u>	<u>407</u>	<u>10</u>	<u>65</u>	<u>6</u>	<u>114</u>
P 4 <u>15</u>	<u>60</u>	<u>9</u>	<u>643</u>	<u>15</u>	<u>65</u>	<u>9</u>	<u>203</u>
P 5 <u>20</u>	<u>60</u>	<u>12</u>	<u>830</u>	<u>20</u>	<u>63</u>	<u>12</u>	<u>357</u>
P 6 <u>25</u>	<u>60</u>	<u>15</u>	<u>1002</u>	<u>25</u>	<u>63</u>	<u>15</u>	<u>530</u>
P 7 <u>30</u>	<u>60</u>	<u>18</u>	<u>1163</u>	<u>30</u>	<u>63</u>	<u>18</u>	<u>703</u>
P 8 <u>35</u>	<u>60</u>	<u>21</u>	<u>1289</u>	<u>35</u>	<u>63</u>	<u>21</u>	<u>843</u>
P 9		<u>24</u>	<u>1388</u>			<u>24</u>	<u>972</u>
P10		<u>27</u>	<u>1457</u>			<u>27</u>	<u>1088</u>
P11		<u>30</u>	<u>1487</u>			<u>30</u>	<u>1167</u>
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

15-6-6

NK # 9153

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Company Imperial Oil Company Lease & Well No. Butler-Thompson #2-24
Elevation 2086 Kelly Bushing Kansas City Formation Effective Pay - Ft. Ticket No. 9154
Date 1/6/81 Sec. 24 Twp. 27S Range 16W County Kiowa State Kansas
Test Approved by Peter J Stubbs Western Representative Rodger A Mounts

Formation Test No. 2 Interval Tested from 4180 ft. to 4200 ft. Total Depth 4200 ft.

Packer Depth 4175 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Packer Depth 4180 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 4190 ft. Recorder Number 1566 Cap. 4300

Bottom Recorder Depth (Outside) 4200 ft. Recorder Number 3086 Cap. 4500

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

Drilling Contractor Red Tiger Drilling Rig #6 Drill Collar Length - I. D. - in.

Mud Type Drispac Viscosity 49 Weight Pipe Length 1512 I. D. 3.2 in.

Weight 9.3 Water Loss 16.8 cc. Drill Pipe Length 2641 I. D. 3.8 in.

Chlorides 20,000 P.P.M. Test Tool Length 27 ft. Tool Size 5 1/2 OD in.

Jars: Make WTC Serial Number 419 Anchor Length 20 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: Weak with very slight build initial flow period. Same in final flow period. Weak with very slight build throughout test.

Recovered 20 ft. of drilling mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 11:38 A.M. Time Started Off Bottom 2:38 P.M. Maximum Temperature 110

Initial Hydrostatic Pressure (A) 2074 P.S.I.

Initial Flow Period Minutes 45 (B) 60* P.S.I. to (C) 62* P.S.I.

Initial Closed In Period Minutes 48 (D) 1120 P.S.I.

Final Flow Period Minutes 45 (E) 76* P.S.I. to (F) 63 P.S.I.

Final Closed In Period Minutes 51 (G) 824 P.S.I.

Final Hydrostatic Pressure (H) 2067 P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 1/6/81 Recorder No. 1566 Capacity 4300 Test Ticket No. 9154
 Location 4190 Ft.
 Clock No. - Elevation 2086 Kelly Bushing Well Temperature 110 °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	2074 P.S.I.	11:38P	M
B First Initial Flow Pressure	60* P.S.I.	45 Mins.	45 Mins.
C First Final Flow Pressure	62* P.S.I.	45 Mins.	48 Mins.
D Initial Closed-in Pressure	1120 P.S.I.	45 Mins.	45 Mins.
E Second Initial Flow Pressure	76* P.S.I.	45 Mins.	51 Mins.
F Second Final Flow Pressure	63 P.S.I.		
G Final Closed-in Pressure	824 P.S.I.		
H Final Hydrostatic Mud	2067 P.S.I.		

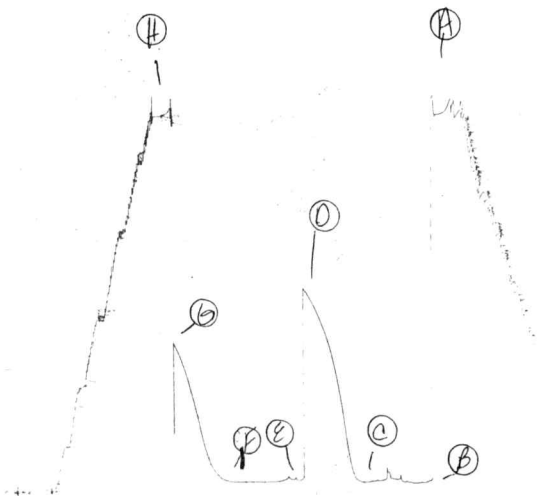
*Plugging action

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>9</u> Inc.		Breakdown: <u>16</u> Inc.		Breakdown: <u>9</u> Inc.		Breakdown: <u>17</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 0	60*	0	62*	0	76*	0	63
P 2 5	54*	3	58	5	73*	3	63
P 3 10	52*	6	58	10	78*	6	63
P 4 15	52*	9	67	15	71*	9	65
P 5 20	58*	12	108	20	65	12	71
P 6 25	71*	15	205	25	63	15	80
P 7 30	78*	18	346	30	63	18	104
P 8 35	71*	21	517	35	63	21	130
P 9 40	65*	24	626	40	63	24	175
P10 45	62*	27	729	45	63	27	238
P11		30	815			30	326
P12		33	882			33	433
P13		36	938			36	528
P14		39	987			39	607
P15		42	1036			42	680
P16		45	1073			45	748
P17		48	1120			48	794
P18						51	824
P19							
P20							

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Blow: Weak with very slight build throughout test

Remarks:

Final Hydrostatic Pressure (H) 2128 P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 1/7/81 Recorder No. 1566 Capacity 4300 Test Ticket No. 9155
 Clock No. - Elevation 2082 Kelly Bushing Location 4266 Ft. 122
 Well Temperature 122 °F

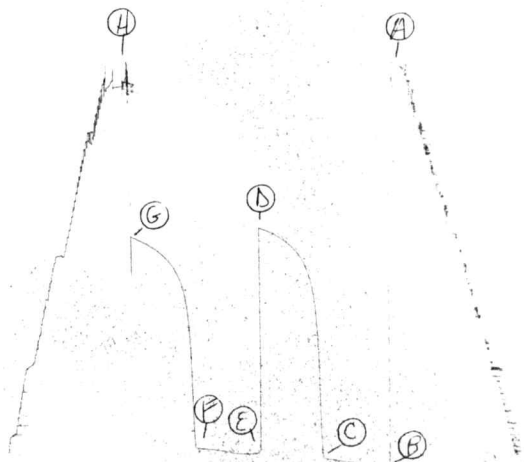
Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	2139 P.S.I.	8:02P	M
B First Initial Flow Pressure	48 P.S.I.	45 Mins.	50 Mins.
C First Final Flow Pressure	82 P.S.I.	45 Mins.	45 Mins.
D Initial Closed-in Pressure	1339 P.S.I.	45 Mins.	50 Mins.
E Second Initial Flow Pressure	123 P.S.I.	45 Mins.	48 Mins.
F Second Final Flow Pressure	150 P.S.I.		
G Final Closed-in Pressure	1294 P.S.I.		
H Final Hydrostatic Mud	2128 P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>10</u> Inc.		Breakdown: <u>15</u> Inc.		Breakdown: <u>10</u> Inc.		Breakdown: <u>16</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>48</u>	<u>0</u>	<u>82</u>	<u>0</u>	<u>123</u>	<u>0</u>	<u>150</u>
P 2 <u>5</u>	<u>48</u>	<u>3</u>	<u>541</u>	<u>5</u>	<u>114</u>	<u>3</u>	<u>551</u>
P 3 <u>10</u>	<u>48</u>	<u>6</u>	<u>893</u>	<u>10</u>	<u>114</u>	<u>6</u>	<u>884</u>
P 4 <u>15</u>	<u>52</u>	<u>9</u>	<u>1039</u>	<u>15</u>	<u>117</u>	<u>9</u>	<u>998</u>
P 5 <u>20</u>	<u>54</u>	<u>12</u>	<u>1109</u>	<u>20</u>	<u>121</u>	<u>12</u>	<u>1068</u>
P 6 <u>25</u>	<u>60</u>	<u>15</u>	<u>1158</u>	<u>25</u>	<u>130</u>	<u>15</u>	<u>1109</u>
P 7 <u>30</u>	<u>65</u>	<u>18</u>	<u>1195</u>	<u>30</u>	<u>136</u>	<u>18</u>	<u>1143</u>
P 8 <u>35</u>	<u>70</u>	<u>21</u>	<u>1223</u>	<u>35</u>	<u>140</u>	<u>21</u>	<u>1173</u>
P 9 <u>40</u>	<u>76</u>	<u>24</u>	<u>1242</u>	<u>40</u>	<u>145</u>	<u>24</u>	<u>1195</u>
P10 <u>45</u>	<u>80</u>	<u>27</u>	<u>1264</u>	<u>45</u>	<u>147</u>	<u>27</u>	<u>1212</u>
P11 <u>50</u>	<u>82</u>	<u>30</u>	<u>1279</u>	<u>50</u>	<u>150</u>	<u>30</u>	<u>1229</u>
P12		<u>33</u>	<u>1291</u>			<u>33</u>	<u>1244</u>
P13		<u>36</u>	<u>1304</u>			<u>36</u>	<u>1255</u>
P14		<u>39</u>	<u>1317</u>			<u>39</u>	<u>1268</u>
P15		<u>42</u>	<u>1326</u>			<u>42</u>	<u>1281</u>
P16		<u>45</u>	<u>1339</u>			<u>45</u>	<u>1289</u>
P17						<u>48</u>	<u>1294</u>
P18							
P19							
P20							

TKT # 9155
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1566



Company Imperial Oil Company Lease & Well No. Butler-Thompson #2-24
 Elevation 2082 Kelly Bushing Formation Kansas City Effective Pay - Ft. Ticket No. 9156
 Date 1/8/81 Sec. 24 Twp. 27S Range 16W County Kiowa State Kansas
 Test Approved by Peter J Stubbs Western Representative Rodger A Mounts
 Formation Test No. 4 Interval Tested from 4300 ft. to 4335 ft. Total Depth 4335 ft.
 Packer Depth 4295 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.
 Packer Depth 4300 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.
 Depth of Selective Zone Set -
 Top Recorder Depth (Inside) 4310 ft. Recorder Number 1566 Cap. 4300
 Bottom Recorder Depth (Outside) 4335 ft. Recorder Number 3086 Cap. 4500
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -
 Drilling Contractor Red Tiger Drilling Rig #6 Drill Collar Length - I. D. - in.
 Mud Type Drispac Viscosity 63 Weight Pipe Length 1512 I. D. 3.2 in.
 Weight 9.3 Water Loss 13.6 cc. Drill Pipe Length 2761 I. D. 3.8 in.
 Chlorides 22,000 P.P.M. Test Tool Length 27 ft. Tool Size 5 1/2 OD in.
 Jars: Make WTC Serial Number 419 Anchor Length 35 ft. Size 5 1/2 OD in.
 Did Well Flow? Yes 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 FH in.

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

Recovered 2250 ft. of gassy oil 38 Gravity @ 60°F

Recovered 62 ft. of muddy gassy oil

Recovered 62 ft. of muddy oil

Recovered ft. of

Recovered ft. of

Remarks: Reversed out oil @ 28 Stands out.

Time Set	<u>12:54</u>	<u>A.M.</u> <u>P.M.</u>	Time Started Off Bottom	<u>4:54</u>	<u>A.M.</u> <u>P.M.</u>	Maximum Temperature	<u>-</u>
Initial Hydrostatic Pressure			(A)	<u>2150</u>	P.S.I.		
Initial Flow Period	Minutes	<u>60</u>	(B)	<u>173</u>	P.S.I. to (C)	<u>346</u>	P.S.I.
Initial Closed In Period	Minutes	<u>63</u>	(D)	<u>1420</u>	P.S.I.		
Final Flow Period	Minutes	<u>60</u>	(E)	<u>428</u>	P.S.I. to (F)	<u>592</u>	P.S.I.
Final Closed In Period	Minutes	<u>60</u>	(G)	<u>1418</u>	P.S.I.		
Final Hydrostatic Pressure			(H)	<u>2135</u>	P.S.I.		

GAS FLOW REPORT

Date 1/8/81 Ticket 9156 Company Imperial Oil Company
Well Name and No. Butler-Thompson #2-24 Dst No. 4 Interval Tested 4300-4335
County Kiowa State Kansas Sec. 24 Twp. 27S Rg. 16W

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 6 minutes			PRE FLOW			
	10 Min	3.5 PSIG	¼" Orifice			17,100 C.F.P.D.
	20 Min	6.0 PSIG	¼" Orifice			22,900 C.F.P.D.
	30 Min	8.5 PSIG	¼" Orifice			28,000 C.F.P.D.
	40 Min	7.5 PSIG	¼" Orifice			26,100 C.F.P.D.
	50 Min	6.0 PSIG	¼" Orifice			22,900 C.F.P.D.
	60 Min	4.0 PSIG	¼" Orifice			18,500 C.F.P.D.

SECOND FLOW

[illegible]

GAS BOTTLE

Serial No. WTC 84 Date Bottle Filled 1/8/81 Date to be Invoiced 1/8/81

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 1½% 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 Imperial Oil Company

Authorized by Peter J Stubbs

WESTERN TESTING CO., INC.

Pressure Data

Date 1/8/81 Recorder No. 1566 Capacity 4300 Test Ticket No. 9156
 Clock No. - Elevation 2082 Kelly Bushing Location 4310 Ft. -
 Well Temperature - °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2150	P.S.I.	12:54P	M
B First Initial Flow Pressure	173	P.S.I.	60	Mins. 60
C First Final Flow Pressure	346	P.S.I.	60	Mins. 63
D Initial Closed-in Pressure	1420	P.S.I.	60	Mins. 60
E Second Initial Flow Pressure	428	P.S.I.	60	Mins. 60
F Second Final Flow Pressure	592	P.S.I.		
G Final Closed-in Pressure	1418	P.S.I.		
H Final Hydrostatic Mud	2135	P.S.I.		

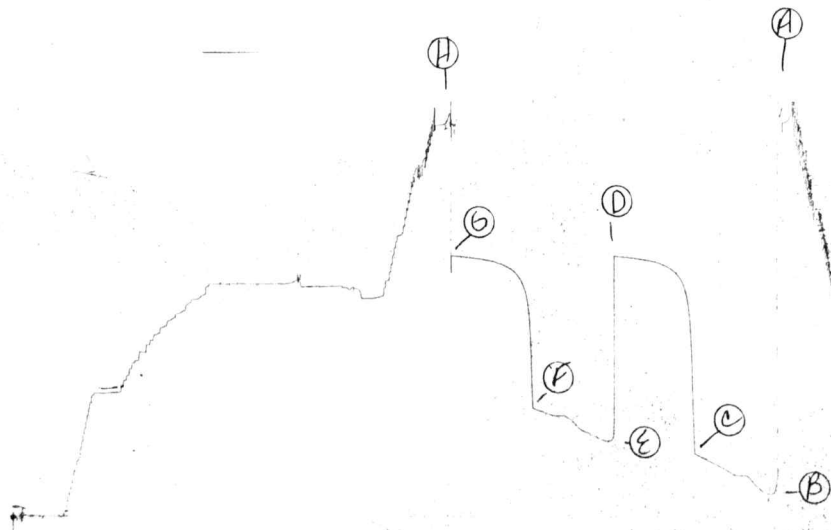
PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>12</u> Inc.		Breakdown: <u>20</u> Inc.		Breakdown: <u>12</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 0	173	0	346	0	428	0	592
P 2 5	127	3	736	5	418	3	1051
P 3 10	136	6	1086	10	426	6	1208
P 4 15	168	9	1214	15	446	9	1270
P 5 20	205	12	1272	20	463	12	1304
P 6 25	229	15	1311	25	480	15	1332
P 7 30	229	18	1334	30	519	18	1350
P 8 35	246	21	1352	35	547	21	1362
P 9 40	268	24	1365	40	551	24	1373
P10 45	287	27	1375	45	554	27	1382
P11 50	307	30	1384	50	566	30	1386
P12 55	326	33	1390	55	579	33	1393
P13 60	346	36	1395	60	592	36	1397
P14		39	1399			39	1401
P15		42	1403			42	1403
P16		45	1408			45	1407
P17		48	1410			48	1409
P18		51	1414			51	1411
P19		54	1415			54	1413
P20		57	1416			57	1415
		60	1418			60	1418
		63	1420				

15.66

SK# 9156

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Company Imperial Oil Company Lease & Well No. Butler-Thompson #2-24
Elevation 2082 Kelly Bushing Formation Kansas City & Marmaton Effective Pay - Ft. Ticket No. 9157
Date 1/9/81 Sec. 24 Twp. 27S Range 16W County Kiowa State Kansas

Test Approved by Peter J Stubbs Western Representative Rodger A Mounts

Formation Test No. 5 Interval Tested from 4332 ft. to 4400 ft. Total Depth 4400 ft.

Packer Depth 4327 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Packer Depth 4332 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 4352 ft. Recorder Number 1566 Cap. 4300

Bottom Recorder Depth (Outside) 4400 ft. Recorder Number 3086 Cap. 4500

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

Drilling Contractor Red Tiger Drilling Rig #6 Drill Collar Length - I. D. - in.

Mud Type Drispac Viscosity 63 Weight Pipe Length 1480 I. D. 3.2 in.

Weight 9.3 Water Loss 13.6 cc. Drill Pipe Length 2825 I. D. 3.8 in.

Chlorides 22,000 P.P.M. Test Tool Length 27 ft. Tool Size 5 1/2 OD in.

Jars: Make WTC Serial Number 419 Anchor Length 68 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: Weak dead in 6 minutes on initial flow period. Dead on final flow period.

Recovered 20 ft. of drilling mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 2:40 ~~A.M.~~ P.M. Time Started Off Bottom 4:40 ~~A.M.~~ P.M. Maximum Temperature -

Initial Hydrostatic Pressure 2215 (A) P.S.I.

Initial Flow Period 30 Minutes (B) 76 P.S.I. to (C) 80 P.S.I.

Initial Closed In Period 30 Minutes (D) 97 P.S.I.

Final Flow Period 30 Minutes (E) 71 P.S.I. to (F) 75 P.S.I.

Final Closed In Period 30 Minutes (G) 84 P.S.I.

Final Hydrostatic Pressure 2193 (H) P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 1/9/81 Recorder No. 1566 Capacity 4300 Test Ticket No. 9157
 Location 4352 Ft. Clock No. - Elevation 2082 Kelly Bushing Well Temperature - °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2215	P.S.I.	2:40P	M
B First Initial Flow Pressure	76	P.S.I.	30	30
C First Final Flow Pressure	80	P.S.I.	30	30
D Initial Closed-in Pressure	97	P.S.I.	30	30
E Second Initial Flow Pressure	71	P.S.I.	30	30
F Second Final Flow Pressure	75	P.S.I.		
G Final Closed-in Pressure	84	P.S.I.		
H Final Hydrostatic Mud	2193	P.S.I.		

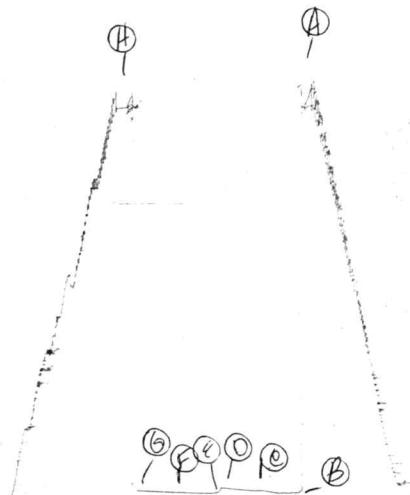
PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>10</u> Inc.		Breakdown: <u>6</u> Inc.		Breakdown: <u>10</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>76</u>	<u>0</u>	<u>80</u>	<u>0</u>	<u>71</u>	<u>0</u>	<u>75</u>
P 2 <u>5</u>	<u>69</u>	<u>3</u>	<u>80</u>	<u>5</u>	<u>69</u>	<u>3</u>	<u>76</u>
P 3 <u>10</u>	<u>67</u>	<u>6</u>	<u>80</u>	<u>10</u>	<u>69</u>	<u>6</u>	<u>77</u>
P 4 <u>15</u>	<u>67</u>	<u>9</u>	<u>82</u>	<u>15</u>	<u>69</u>	<u>9</u>	<u>78</u>
P 5 <u>20</u>	<u>69</u>	<u>12</u>	<u>84</u>	<u>20</u>	<u>70</u>	<u>12</u>	<u>79</u>
P 6 <u>25</u>	<u>76</u>	<u>15</u>	<u>86</u>	<u>25</u>	<u>71</u>	<u>15</u>	<u>80</u>
P 7 <u>30</u>	<u>80</u>	<u>18</u>	<u>89</u>	<u>30</u>	<u>75</u>	<u>18</u>	<u>81</u>
P 8		<u>21</u>	<u>91</u>			<u>21</u>	<u>82</u>
P 9		<u>24</u>	<u>93</u>			<u>24</u>	<u>83</u>
P10		<u>27</u>	<u>95</u>			<u>27</u>	<u>83</u>
P11		<u>30</u>	<u>97</u>			<u>30</u>	<u>84</u>
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

13-6

JK # 9157

I



Company Imperial Oil Company Lease & Well No. Butler-Thompson #2-24
Elevation 2082 Kelly Bushing Marmaton Effective Pay 4 Ft. Ticket No. 9158
Date 1/10/81 Sec. 24 Twp. 27S Range 16W County Kiowa State Kansas
Test Approved by Peter J. Stubbs Western Representative Roger A. Mounts

Formation Test No. 6 Interval Tested from 4400 ft. to 4450 ft. Total Depth 4450 ft.

Packer Depth 4395 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Packer Depth 4400 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 4430 ft. Recorder Number 1566 Cap. 4300

Bottom Recorder Depth (Outside) 4450 ft. Recorder Number 3086 Cap. 4500

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

Drilling Contractor Red Tiger Drilling Rig #6 Drill Collar Length - I. D. - in.

Mud Type drispac Viscosity 44 Weight Pipe Length 1512 I. D. 3.2 in.

Weight 9.3 Water Loss 14.4 cc. Drill Pipe Length 2861 I. D. 3.8 in.

Chlorides 29,000 P.P.M. Test Tool Length 27 ft. Tool Size 5 1/2 OD in.

Jars: Make WTC Serial Number 419 Anchor Length 50 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- building to strong on initial flow period. (No gas to surface; strong blow final flow period with no gas to surface)

Recovered 70 ft. of slightly spotty oil cut mud

Recovered 120 ft. of heavy oil cut mud 75% mud; 15% oil; 10% gas (no water)

Recovered 60 ft. of heavy oil cut mud 55% mud; 35% oil; 10% gas (no water)

Recovered 1950 ft. of gas in pipe

Recovered - ft. of -

Remarks:

Time Set Packer(s) 9:48 A.M. Time Started Off Bottom 1:48 A.M. Maximum Temperature 115°

Initial Hydrostatic Pressure 2228 P.S.I.

Initial Flow Period 60 Minutes (B) 69 P.S.I. to (C) 110 P.S.I.

Initial Closed In Period 69 Minutes (D) 325 P.S.I.

Final Flow Period 60 Minutes (E) 175 P.S.I. to (F) 162 P.S.I.

Final Closed In Period 72 Minutes (G) 316 P.S.I.

Initial Hydrostatic Pressure 2228 P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 1/10/81 Recorder No. 1566 Capacity 4300 Test Ticket No. 9158
 Location 4430 Ft.
 Clock No. ---- Elevation 2088 Kelly Bushing Well Temperature 115 °F

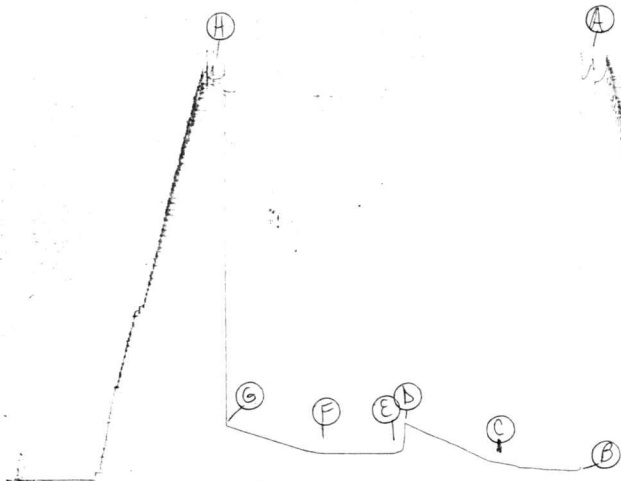
Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	2228 P.S.I.	9:48A	
B First Initial Flow Pressure	69 P.S.I.	60 Mins.	60 Mins.
C First Final Flow Pressure	110 P.S.I.	60 Mins.	69 Mins.
D Initial Closed-in Pressure	325 P.S.I.	60 Mins.	60 Mins.
E Second Initial Flow Pressure	175 P.S.I.	60 Mins.	72 Mins.
F Second Final Flow Pressure	162 P.S.I.		
G Final Closed-in Pressure	316 P.S.I.		
H Final Hydrostatic Mud	2228 P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In		
Breakdown: <u>12</u> Inc.		Breakdown: <u>23</u> Inc.		Breakdown: <u>12</u> Inc.		Breakdown: <u>24</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	0	69	0	110	0	175	0	162
P 2	5	69	3	113	5	164	3	164
P 3	10	69	6	119	10	162	6	166
P 4	15	71	9	125	15	162	9	171
P 5	20	72	12	136	20	162	12	175
P 6	25	72	15	147	25	162	15	179
P 7	30	78	18	156	30	162	18	186
P 8	35	80	21	166	35	162	21	192
P 9	40	82	24	179	40	162	24	199
P10	45	84	27	190	45	162	27	205
P11	50	97	30	201	50	162	30	214
P12	55	104	33	210	55	162	33	220
P13	60	110	36	129	60	162	36	227
P14			39	229			39	233
P15			42	240			42	242
P16			45	246			45	248
P17			48	255			48	256
P18			51	264			51	264
P19			54	274			54	270
P20			57	285			57	276
			60	298			60	283
			63	308			63	292
			66	320			66	298
			69	325			69	307
							72	316

TKT # 9158
I

1566



Company Imperial Oil Company Lease & Well No. Barber-Thompson #2-24
 Elevation 2082 Kelly Bushing Mississippi Formation Effective Pay --- Ft. Ticket No. 9159
 Date 1/11/81 Sec. 24 Twp. 27S Range 16W County Kiowa State Kansas
 Test Approved by Peter J. Stubbs Western Representative Rodger A. Mounts
 Formation Test No. 7 Interval Tested from 4475 ft. to 4542 ft. Total Depth 4542 ft.
 Packer Depth 4470 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.
 Packer Depth 4475 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.
 Depth of Selective Zone Set -
 Top Recorder Depth (Inside) 4530 ft. Recorder Number 1566 Cap. 4300
 Bottom Recorder Depth (Outside) 4542 ft. Recorder Number 3086 Cap. 4500
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -
 Drilling Contractor Red Tiger Drilling Rig #6 Drill Collar Length - I. D. - in.
 Mud Type drispac Viscosity 52 Weight Pipe Length 1512 I. D. 3.2 in.
 Weight 9.3 Water Loss 18.4 cc. Drill Pipe Length 2936 I. D. 3.8 in.
 Chlorides 24,000 P.P.M. Test Tool Length 27 ft. Tool Size 5 1/2 OD in.
 Jars: Make WTC Serial Number 419 Anchor Length 67 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 FH in.

Blow: Strong with gas to surface twenty-eight minutes. See attached sheet for gas measurements.

Recovered 145 ft. of heavy drilling mud slightly gas cut
 Recovered 120 ft. of slightly gas cut watery mud
 Recovered - ft. of MISRUN
 Recovered - ft. of -
 Recovered - ft. of -

Remarks: Charts unusual in final flow period. (Both charts show same characteristics)

Time Set Packer(s) 12:34 ~~AM~~ P.M. Time Started Off Bottom 4:34 ~~AM~~ P.M. Maximum Temperature 116°
 Initial Hydrostatic Pressure 2271 P.S.I. (A)
 Initial Flow Period 70 Minutes (B) 97 P.S.I. to (C) 148 P.S.I.
 Initial Closed In Period 48 Minutes (D) 1139 P.S.I.
 Final Flow Period 60 Minutes (E) 1049 P.S.I. to (F) 549 P.S.I.
 Final Closed In Period 57 Minutes (G) 1371 P.S.I.
 Final Hydrostatic Pressure 2271 P.S.I. (H)

GAS FLOW REPORT

Date 1/11/81 Ticket 9159 Company Imperial Oil Company
 Well Name and No. Butler-Thompson #2-24 Dst No. 7 Interval Tested 4475'-4542'
 County Kiowa State Kansas Sec. 24 Twp. 27S Rg. 16W

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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Gas to surface in twenty-eight minutes. **PRE FLOW**

	30 min.	1.5 PSIG	1/4" orifice			11,020 CFPD
	40 min.	4.0 PSIG	1/4" orifice			18,500 CFPD
	50 min.	6.0 PSIG	1/4" orifice			22,900 CFPD
	60 min.	8.0 PSIG	1/4" orifice			27,000 CFPD

SECOND FLOW

	10 min.	8.0 PSIG	1/4" orifice			27,000 CFPD
	20 min.	8.5 PSIG	1/4" orifice			28,000 CFPD
	30 min.	7.0 PSIG	1/4" orifice			25,000 CFPD
	40 min.	6.5 PSIG	1/4" orifice			23,900 CFPD
	50 min.	6.0 PSIG	1/4" orifice			22,900 CFPD
	60 min.	9.5 PSIG	1/4" orifice			29,900 CFPD

GAS BOTTLE

Serial No. - Date Bottle Filled - Date to be Invoiced 1/11/81

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 Imperial Oil Company

Authorized by Peter J. Stubbs

WESTERN TESTING CO., INC.

Pressure Data

Date 1/11/81 Recorder No. 1566 Capacity 4300 Test Ticket No. 9159
 Clock No. - Elevation 2082 Kelly Bushing Location 4530 Ft. 116
 Well Temperature 116 °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	2271 P.S.I.	12:34P	M
B First Initial Flow Pressure	97 P.S.I.	60 Mins.	70 Mins.
C First Final Flow Pressure	148 P.S.I.	60 Mins.	48 Mins.
D Initial Closed-in Pressure	1139 P.S.I.	60 Mins.	60 Mins.
E Second Initial Flow Pressure	1049 P.S.I.	60 Mins.	57 Mins.
F Second Final Flow Pressure	549 P.S.I.		
G Final Closed-in Pressure	1371 P.S.I.		
H Final Hydrostatic Mud	2271 P.S.I.		

ALL PRESSURES QUESTIONABLE DUE TO HYDRAULIC TOOL FAILURE.

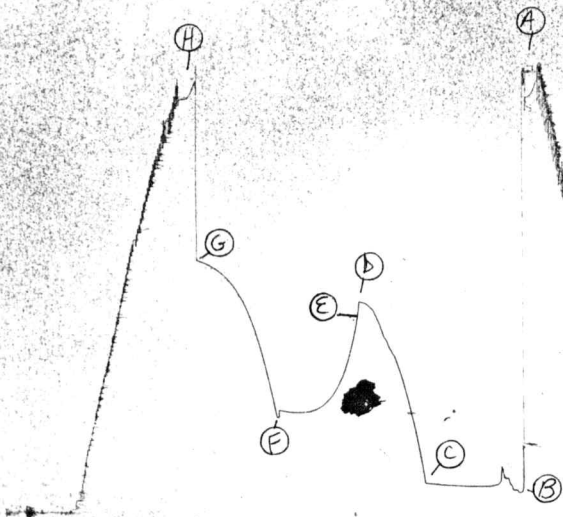
PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: 14 Inc.		Breakdown: 16 Inc.		Breakdown: 12 Inc.		Breakdown: 19 Inc.	
of 5 mins. and a final inc. of 0 Min.		of 3 mins. and a final inc. of 0 Min.		of 5 mins. and a final inc. of 0 Min.		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	97	0	148	0	1049	0	549
P 2 5	110	3	288	5	886	3	654
P 3 10	145	6	404	10	755	6	748
P 4 15	199	9	495	15	675	9	839
P 5 20	139	12	590	20	619	12	914
P 6 25	133	15	678	25	578	15	986
P 7 30	133	18	753	30	558	18	1049
P 8 35	134	21	821	35	543	21	1103
P 9 40	134	24	862	40	539	24	1148
P10 45	134	27	911	45	542	27	1184
P11 50	136	30	952	50	545	30	1218
P12 55	138	33	908	55	547	33	1251
P13 60	140	36	1066	60	549	36	1272
P14 65	145	39	1104			39	1296
P15 70	148	42	1124			42	1313
P16		45	1135			45	1326
P17		48	1139			48	1340
P18						51	1352
P19						54	1360
P20						57	1371

TKT # 9159

1566

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Company Imperial Oil Company Lease & Well No. Barber-Thompson #2-24
Elevation 2082 Kelly Bushing Formation Kinderhook Sand Effective Pay - Ft. Ticket No. 9160
Date 1/12/81 Sec. 24 Twp. 27S Range 16W County Kiowa State Kansas
Test Approved by Peter J. Stubbs Western Representative Rodger A. Mounts

Formation Test No. 8 Interval Tested from 4562 ft. to 4576 ft. Total Depth 4576 ft.

Packer Depth 4557 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Packer Depth 4562 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 4567 ft. Recorder Number 1566 Cap. 4300

Bottom Recorder Depth (Outside) 4576 ft. Recorder Number 3086 Cap. 4500

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

Drilling Contractor Red Tiger Drilling Rig #6 Drill Collar Length - I. D. - in.

Mud Type drispac Viscosity 52 Weight Pipe Length 1512 I. D. 3.2 in.

Weight 9.3 Water Loss 18.4 cc. Drill Pipe Length - I. D. 3.8 in.

Chlorides 24,000 P.P.M. Test Tool Length 27 ft. Tool Size 5 1/2 OD in.

Jars: Make WTC Serial Number 419 Anchor Length 14 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: Good strong blow with good build initial flow period. Good, weak blow dying forty minutes in final flow period.

Recovered 300 ft. of gas in pipe

Recovered 40 ft. of slightly oil and gas cut mud

Recovered - ft. of -

Recovered - ft. of -

Recovered - ft. of -

Remarks: -

Time Set Packer(s) 10:24 A.M. Time Started Off Bottom 5:45 A.M. Maximum Temperature 118°

Initial Hydrostatic Pressure 2319 P.S.I.

Initial Flow Period 60 Minutes (B) 41 P.S.I. to (C) 27 P.S.I.

Initial Closed In Period 267 Minutes (D) 1543 P.S.I.

Final Flow Period 60 Minutes (E) 106 P.S.I. to (F) 770 P.S.I.

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

Final Hydrostatic Pressure 2286 P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 1/12/81

Recorder No. 1566

Capacity 4300

Test Ticket No. 9160

Clock No. - Elevation 2082 Kelly Bushing

Location 4567 Ft.

Well Temperature 118 °F

Point	Pressure
A Initial Hydrostatic Mud	2319 P.S.I.
B First Initial Flow Pressure	41 P.S.I.
C First Final Flow Pressure	27 P.S.I.
D Initial Closed-in Pressure	1543 P.S.I.
E Second Initial Flow Pressure	106 P.S.I.
F Second Final Flow Pressure	770 P.S.I.
G Final Closed-in Pressure	- P.S.I.
H Final Hydrostatic Mud	2286 P.S.I.

Time Given	Time Computed
10:24A	M
60	60 Mins.
120	267 Mins.
141	60 Mins.
120	- Mins.

ALL PRESSURES QUESTIONABLE DUE TO HYDRAULIC TOOL FAILURE.

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>12</u> Inc.		Breakdown: <u>89</u> Inc.		Breakdown: <u>12</u> Inc.		Breakdown: <u>0</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>41</u>	<u>0</u>	<u>27</u>	<u>0</u>	<u>106</u>		
P 2 <u>5</u>	<u>24</u>	<u>3</u>	<u>27</u>	<u>5</u>	<u>270</u>		
P 3 <u>10</u>	<u>23</u>	<u>6</u>	<u>28</u>	<u>10</u>	<u>282</u>		
P 4 <u>15</u>	<u>23</u>	<u>9</u>	<u>28</u>	<u>15</u>	<u>335</u>		
P 5 <u>20</u>	<u>23</u>	<u>12</u>	<u>28</u>	<u>20</u>	<u>383</u>		
P 6 <u>25</u>	<u>23</u>	<u>15</u>	<u>29</u>	<u>25</u>	<u>426</u>		
P 7 <u>30</u>	<u>23</u>	<u>18</u>	<u>34</u>	<u>30</u>	<u>472</u>		
P 8 <u>35</u>	<u>23</u>	<u>21</u>	<u>37</u>	<u>35</u>	<u>519</u>		
P 9 <u>40</u>	<u>23</u>	<u>24</u>	<u>38</u>	<u>40</u>	<u>565</u>		
P10 <u>45</u>	<u>23</u>	<u>27</u>	<u>40</u>	<u>45</u>	<u>613</u>		
P11 <u>50</u>	<u>24</u>	<u>30</u>	<u>47</u>	<u>50</u>	<u>658</u>		
P12 <u>55</u>	<u>25</u>	<u>33</u>	<u>55</u>	<u>55</u>	<u>703</u>		
P13 <u>60</u>	<u>27</u>	<u>36</u>	<u>67</u>	<u>60</u>	<u>770</u>		
P14		<u>39</u>	<u>81</u>				
P15		<u>42</u>	<u>96</u>				
P16		<u>45</u>	<u>111</u>				
P17		<u>48</u>	<u>127</u>				
P18		<u>51</u>	<u>147</u>				
P19		<u>54</u>	<u>166</u>				
P20		<u>57</u>	<u>189</u>				
		<u>60</u>	<u>213</u>				

WTC - 4

CONT'D NEXT PAGE

WESTERN TESTING CO., INC.

Pressure Data

Date 1/12/81 Recorder No. 1566 Capacity 4300 Test Ticket No. 9160
 Clock No. - Elevation 2082 Kelly Bushing Location 4567 Ft. 118
 Well Temperature 118 °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	2319 P.S.I.	10:24A	M
B First Initial Flow Pressure	41 P.S.I.	60 Mins.	60 Mins.
C First Final Flow Pressure	27 P.S.I.	120 Mins.	267 Mins.
D Initial Closed-in Pressure	1543 P.S.I.	141 Mins.	60 Mins.
E Second Initial Flow Pressure	106 P.S.I.	120 Mins.	- Mins.
F Second Final Flow Pressure	770 P.S.I.		
G Final Closed-in Pressure	- P.S.I.		
H Final Hydrostatic Mud	2286 P.S.I.		

ALL PRESSURES QUESTIONABLE DUE TO HYDRAULIC TOOL FAILURE.

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.
P 1		63	233				
P 2		66	256				
P 3		69	281				
P 4		72	305				
P 5		75	330				
P 6		78	356				
P 7		81	383				
P 8		84	411				
P 9		87	441				
P10		90	472				
P11		93	501				
P12		96	530				
P13		99	562				
P14		102	596				
P15		105	632				
P16		108	666				
P17		111	698				
P18		114	730				
P19		117	761				
P20		120	797				

WESTERN TESTING CO., INC.

Pressure Data

Date 1/12/81 Recorder No. 1566 Capacity 4300 Test Ticket No. 9160
 Location 4567 Ft. 118
 Clock No. - Elevation 2082 Kelly Bushing Well Temperature 118 °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	2319 P.S.I.	10:24A	M
B First Initial Flow Pressure	41 P.S.I.	60 Mins.	60 Mins.
C First Final Flow Pressure	27 P.S.I.	120 Mins.	267 Mins.
D Initial Closed-in Pressure	1543 P.S.I.	141 Mins.	60 Mins.
E Second Initial Flow Pressure	106 P.S.I.	120 Mins.	- Mins.
F Second Final Flow Pressure	770 P.S.I.		
G Final Closed-in Pressure	- P.S.I.		
H Final Hydrostatic Mud	2286 P.S.I.		

ALL PRESSURES QUESTIONABLE DUE TO HYDRAULIC TOOL FAILURE.

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.
P 1		123	830				
P 2		126	851				
P 3		129	883				
P 4		132	914				
P 5		135	946				
P 6		138	973				
P 7		141	998				
P 8		144	1023				
P 9		147	1048				
P10		150	1076				
P11		153	1102				
P12		156	1128				
P13		159	1150				
P14		162	1173				
P15		165	1194				
P16		168	1218				
P17		171	1237				
P18		174	1255				
P19		177	1276				
P20		180	1296				

WESTERN TESTING CO., INC.
Pressure Data

Date 1/12/81 Recorder No. 1566 Capacity 4300 Test Ticket No. 9160
Clock No. - Elevation 2082 Kelly Bushing Location 4567 Ft. -
Well Temperature 118 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2319</u> P.S.I.	Open Tool	<u>10:24A</u>	<u>M</u>
B First Initial Flow Pressure	<u>41</u> P.S.I.	First Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
C First Final Flow Pressure	<u>27</u> P.S.I.	Initial Closed-in Pressure	<u>120</u> Mins.	<u>267</u> Mins.
D Initial Closed-in Pressure	<u>1543</u> P.S.I.	Second Flow Pressure	<u>141</u> Mins.	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>106</u> P.S.I.	Final Closed-in Pressure	<u>120</u> Mins.	<u>-</u> Mins.
F Second Final Flow Pressure	<u>770</u> P.S.I.			
G Final Closed-in Pressure	<u>-</u> P.S.I.			
H Final Hydrostatic Mud	<u>2286</u> P.S.I.			

ALL PRESSURES QUESTIONABLE DUE TO HYDRAULIC TOOL FAILURE.

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>12</u> Inc.		Breakdown: <u>89</u> Inc.		Breakdown: <u>12</u> Inc.		Breakdown: <u>0</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		183	1314				
P 2		186	1331				
P 3		189	1347				
P 4		192	1361				
P 5		195	1376				
P 6		198	1390				
P 7		201	1404				
P 8		204	1417				
P 9		207	1429				
P10		210	1441				
P11		213	1451				
P12		216	1461				
P13		219	1469				
P14		222	1478				
P15		225	1485				
P16		228	1494				
P17		231	1500				
P18		234	1506				
P19		237	1512				
P20		240	1517				

WESTERN TESTING CO., INC.

Pressure Data

Date 1/12/81 Test Ticket No. 9160
 Recorder No. 1566 Capacity 4300 Location 4567 Ft.
 Clock No. - Elevation 2082 Kelly Bushing Well Temperature 118 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2319</u>	P.S.I.	<u>10:24A</u>	<u>M</u>
B First Initial Flow Pressure	<u>41</u>	P.S.I.	<u>60</u>	<u>60</u> Mins.
C First Final Flow Pressure	<u>27</u>	P.S.I.	<u>120</u>	<u>267</u> Mins.
D Initial Closed-in Pressure	<u>1543</u>	P.S.I.	<u>141</u>	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>106</u>	P.S.I.	<u>120</u>	<u>-</u> Mins.
F Second Final Flow Pressure	<u>770</u>	P.S.I.		
G Final Closed-in Pressure	<u>-</u>	P.S.I.		
H Final Hydrostatic Mud	<u>2286</u>	P.S.I.		

ALL PRESSURES QUESTIONABLE DUE TO HYDRAULIC TOOL FAILURE.

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.
P 1		243	1522				
P 2		246	1526				
P 3		249	1530				
P 4		252	1534				
P 5		255	1536				
P 6		258	1538				
P 7		261	1540				
P 8		264	1542				
P 9		267	1543				
P10							
P11							
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

TKT # 9160

15-66

I

(H)

(A)

(D)

(F)

(E)

(C)

(B)

