



Home Office: Wichita, Kansas 67201

P.O. Box 1599

(316) 262-5861

Company Graves Drilling Company, Inc. Lease & Well No. #1 Snyder
 Elevation 1628 Derrick Floor Formation Mississippi Effective Pay - Ft. Ticket No. 16111
 Date 8/12/82 Sec. 21 Twp. 32S Range 12W County Barber State Kansas
 Test Approved by Ken Hamlin Western Representative Rod Tritt

Formation Test No. 1 Interval Tested from 4444 ft. to 4476 ft. Total Depth 4476 ft.

Packer Depth 4439 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 4444 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 4447 ft. Recorder Number 2606 Cap 4150

Bottom Recorder Depth (Outside) 4450 ft. Recorder Number 4332 Cap 4200

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

Drilling Contractor Graves Drilling Drill Collar Length 120 I. D. 2 1/4 in.

Mud Type Chemical Viscosity 46 Weight Pipe Length - I. D. - in.

Weight 9.6 Water Loss 22.0 cc. Drill Pipe Length 4304 I. D. 3.8 in.

Chlorides 24,000 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 in.

Jars: Make No Serial Number - Anchor Length 32 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: Weak blow on initial flow period.

Weak blow to very weak blow - died in 40 minutes on final flow period.

Recovered 60 ft. of slightly oil cut mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s)	<u>11:15</u>	<u>A.M.</u> P.M.	Time Started Off Bottom	<u>2:00</u>	<u>A.M.</u> P.M.	Maximum Temperature	<u>-</u>
Initial Hydrostatic Pressure			(A)	<u>2330</u>		P.S.I.	
Initial Flow Period		Minutes		<u>15</u>	(B)	P.S.I. to (C)	<u>42</u> P.S.I.
Initial Closed In Period		Minutes		<u>42</u>	(D)	P.S.I.	
Final Flow Period		Minutes		<u>60</u>	(E)	P.S.I. to (F)	<u>48</u> P.S.I.
Final Closed In Period		Minutes		<u>51</u>	(G)	P.S.I.	
Final Hydrostatic Pressure			(H)	<u>2276</u>		P.S.I.	

WESTERN TESTING CO., INC.

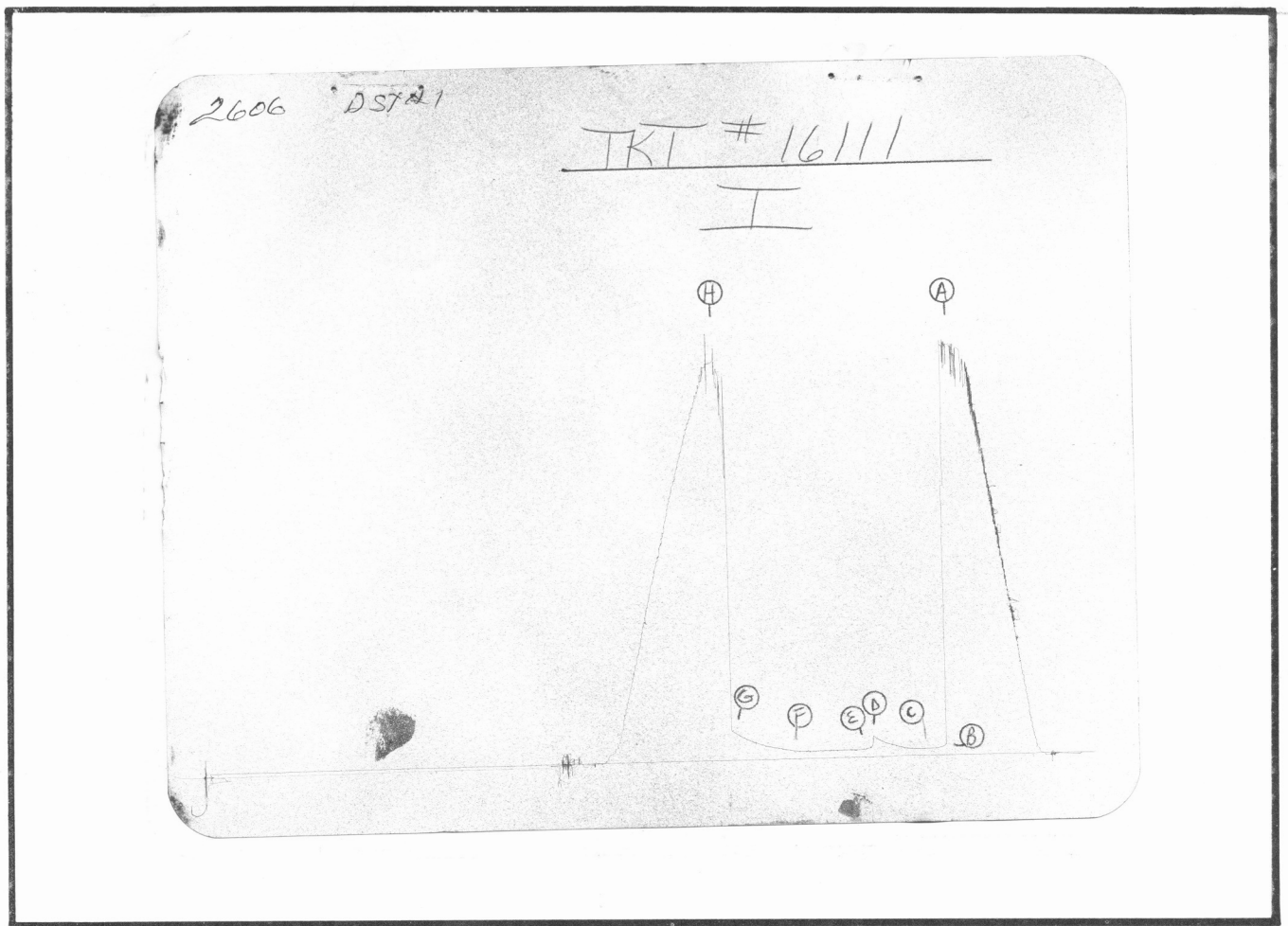
Pressure Data

Date 8/12/82 Test Ticket No. 16111
 Recorder No. 2606 Capacity 4150 Location 4447 Ft.
 Clock No. - Elevation 1628 Derrick Floor Well Temperature - °F

Point	Pressure		Time Given	Time Computed
A. Initial Hydrostatic Mud	<u>2330</u> P.S.I.	Open Tool	<u>11:15A</u> M	
B. First Initial Flow Pressure	<u>42</u> P.S.I.	First Flow Pressure	<u>15</u> Mins.	<u>15</u> Mins.
C. First Final Flow Pressure	<u>42</u> P.S.I.	Initial Closed-in Pressure	<u>45</u> Mins.	<u>42</u> Mins.
D. Initial Closed-in Pressure	<u>120</u> P.S.I.	Second Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
E. Second Initial Flow Pressure	<u>45</u> P.S.I.	Final Closed-in Pressure	<u>45</u> Mins.	<u>51</u> Mins.
F. Second Final Flow Pressure	<u>48</u> P.S.I.			
G. Final Closed-in Pressure	<u>168</u> P.S.I.			
H. Final Hydrostatic Mud	<u>2276</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: <u>3</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Initial Shut-In Breakdown: <u>14</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.		Second Flow Pressure Breakdown: <u>12</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Final Shut-In Breakdown: <u>17</u> Inc. of <u>3</u> mins. and a 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>42</u>	<u>0</u> <u>42</u>	<u>0</u> <u>42</u>	<u>0</u> <u>45</u>	<u>45</u>	<u>0</u> <u>48</u>	<u>48</u>
P 2	<u>5</u> <u>42</u>	<u>3</u> <u>43</u>	<u>3</u> <u>43</u>	<u>5</u> <u>45</u>	<u>45</u>	<u>3</u> <u>50</u>	<u>50</u>
P 3	<u>10</u> <u>42</u>	<u>6</u> <u>44</u>	<u>6</u> <u>44</u>	<u>10</u> <u>45</u>	<u>45</u>	<u>6</u> <u>55</u>	<u>55</u>
P 4	<u>15</u> <u>42</u>	<u>9</u> <u>45</u>	<u>9</u> <u>45</u>	<u>15</u> <u>45</u>	<u>45</u>	<u>9</u> <u>60</u>	<u>60</u>
P 5	<u> </u> <u> </u>	<u>12</u> <u>47</u>	<u>12</u> <u>47</u>	<u>20</u> <u>45</u>	<u>45</u>	<u>12</u> <u>65</u>	<u>65</u>
P 6	<u> </u> <u> </u>	<u>15</u> <u>49</u>	<u>15</u> <u>49</u>	<u>25</u> <u>45</u>	<u>45</u>	<u>15</u> <u>69</u>	<u>69</u>
P 7	<u> </u> <u> </u>	<u>18</u> <u>53</u>	<u>18</u> <u>53</u>	<u>30</u> <u>45</u>	<u>45</u>	<u>18</u> <u>72</u>	<u>72</u>
P 8	<u> </u> <u> </u>	<u>21</u> <u>59</u>	<u>21</u> <u>59</u>	<u>35</u> <u>45</u>	<u>45</u>	<u>21</u> <u>76</u>	<u>76</u>
P 9	<u> </u> <u> </u>	<u>24</u> <u>67</u>	<u>24</u> <u>67</u>	<u>40</u> <u>45</u>	<u>45</u>	<u>24</u> <u>81</u>	<u>81</u>
P10	<u> </u> <u> </u>	<u>27</u> <u>72</u>	<u>27</u> <u>72</u>	<u>45</u> <u>45</u>	<u>45</u>	<u>27</u> <u>87</u>	<u>87</u>
P11	<u> </u> <u> </u>	<u>30</u> <u>78</u>	<u>30</u> <u>78</u>	<u>50</u> <u>45</u>	<u>45</u>	<u>30</u> <u>96</u>	<u>96</u>
P12	<u> </u> <u> </u>	<u>33</u> <u>88</u>	<u>33</u> <u>88</u>	<u>55</u> <u>45</u>	<u>45</u>	<u>33</u> <u>103</u>	<u>103</u>
P13	<u> </u> <u> </u>	<u>36</u> <u>100</u>	<u>36</u> <u>100</u>	<u>60</u> <u>48</u>	<u>48</u>	<u>36</u> <u>114</u>	<u>114</u>
P14	<u> </u> <u> </u>	<u>39</u> <u>114</u>	<u>39</u> <u>114</u>	<u> </u> <u> </u>	<u> </u>	<u>39</u> <u>124</u>	<u>124</u>
P15	<u> </u> <u> </u>	<u>42</u> <u>120</u>	<u>42</u> <u>120</u>	<u> </u> <u> </u>	<u> </u>	<u>42</u> <u>134</u>	<u>134</u>
P16	<u> </u> <u> </u>	<u> </u> <u> </u>	<u> </u> <u> </u>	<u> </u> <u> </u>	<u> </u>	<u>45</u> <u>144</u>	<u>144</u>
P17	<u> </u> <u> </u>	<u> </u> <u> </u>	<u> </u> <u> </u>	<u> </u> <u> </u>	<u> </u>	<u>48</u> <u>160</u>	<u>160</u>
P18	<u> </u> <u> </u>	<u> </u> <u> </u>	<u> </u> <u> </u>	<u> </u> <u> </u>	<u> </u>	<u>51</u> <u>168</u>	<u>168</u>
P19	<u> </u> <u> </u>	<u> </u> <u> </u>	<u> </u> <u> </u>	<u> </u> <u> </u>	<u> </u>	<u> </u> <u> </u>	<u> </u>
P20	<u> </u> <u> </u>	<u> </u> <u> </u>	<u> </u> <u> </u>	<u> </u> <u> </u>	<u> </u>	<u> </u> <u> </u>	<u> </u>

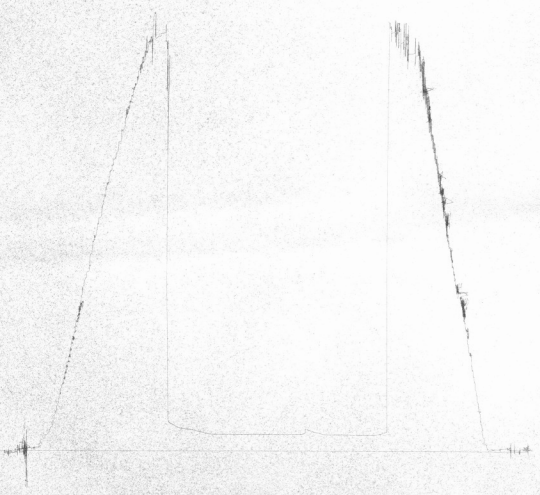


This is an actual photograph of recorder chart.

POINT	PRESSURE		
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	2344	2330	PSI
(B) First Initial Flow Pressure	52	42	PSI
(C) First Final Flow Pressure	31	42	PSI
(D) Initial Closed-in Pressure	104	120	PSI
(E) Second Initial Flow Pressure	52	45	PSI
(F) Second Final Flow Pressure	52	48	PSI
(G) Final Closed-in Pressure	156	168	PSI
(H) Final Hydrostatic Mud	2292	2276	PSI

TKT # 16111

0





Home Office: Wichita, Kansas 67201
P.O. Box 1599 (316) 262-5861

Company Graves Drilling Company, Inc. Lease & Well No. #1 Snyder
Elevation 1628 Derrick Floor Formation Simpson Effective Pay -- Ft. Ticket No. 16112
Date 8/14/82 Sec 21 Twp 32S Range 12W County Barber State Kansas
Test Approved by Frederick Stump Western Representative Rod Tritt

Formation Test No. 2 Interval Tested from 4802 ft. to 4847 ft. Total Depth 4847 ft.
Packer Depth 4797 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
Packer Depth 4802 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
Depth of Selective Zone Set -

Top Recorder Depth (Inside) 4806 ft. Recorder Number 2606 Cap. 4150
Bottom Recorder Depth (Outside) 4809 ft. Recorder Number 4332 Cap. 4200
Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Graves Drilling Drill Collar Length 420 I. D. 2 1/4 in.
Mud Type chemical Viscosity 44 Weight Pipe Length - I. D. - in.
Weight 9.4 Water Loss 16.8 cc. Drill Pipe Length 4362 I. D. 3.8 in.
Chlorides 21,000 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 OD in.
Jars: Make = Serial Number = Anchor Length 45 ft. Size 5 1/2 OD
Did Well Flow? No Reversed Out No Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.
Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 FH in.

Blow: Strong blow in twelve minutes on initial flow period. Strong blow throughout final flow period. Would not maintain two inch blow.

Recovered 900 ft. of water
Recovered ft. of
Recovered ft. of
Recovered ft. of
Recovered ft. of

Remarks:

Time Set Packer(s) 12:30 AM P.M. Time Started Off Bottom 3:15 AM P.M. Maximum Temperature 129°
Initial Hydrostatic Pressure 2571 P.S.I. (A)
Initial Flow Period 10 Minutes (B) 112 P.S.I. to (C) 189 P.S.I.
Initial Closed In Period 45 Minutes (D) 1550 P.S.I.
Final Flow Period 60 Minutes (E) 270 P.S.I. to (F) 413 P.S.I.
Final Closed In Period 48 Minutes (G) 1454 P.S.I.
Final Hydrostatic Pressure 2397 P.S.I. (H)

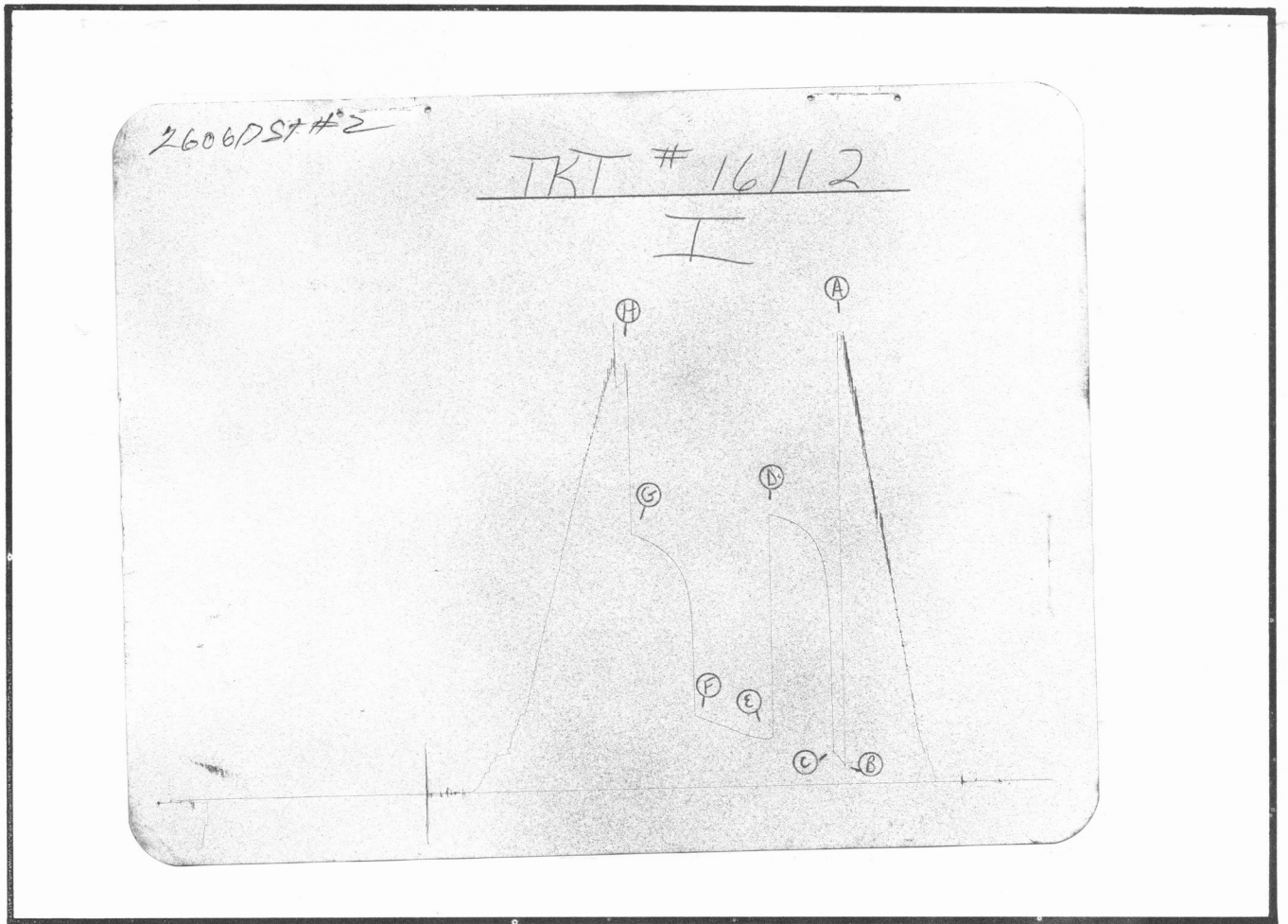
WESTERN TESTING CO., INC.
Pressure Data

Date 8/14/82 Test Ticket No. 16112
 Recorder No. 2606 Capacity 4150 Location 4806 Ft.
 Clock No. - Elevation 1628 Derrick Floor Well Temperature 129 °F

Point	Pressure		Time Given	Time Computed
A. Initial Hydrostatic Mud	<u>2571</u> P.S.I.	Open Tool	<u>12:30P</u>	<u>M</u>
B. First Initial Flow Pressure	<u>112</u> P.S.I.	First Flow Pressure	<u>15</u> Mins.	<u>10</u> Mins.
C. First Final Flow Pressure	<u>189</u> P.S.I.	Initial Closed-in Pressure	<u>45</u> Mins.	<u>45</u> Mins.
D. Initial Closed-in Pressure	<u>1550</u> P.S.I.	Second Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
E. Second Initial Flow Pressure	<u>270</u> P.S.I.	Final Closed-in Pressure	<u>45</u> Mins.	<u>48</u> Mins.
F. Second Final Flow Pressure	<u>413</u> P.S.I.			
G. Final Closed-in Pressure	<u>1454</u> P.S.I.			
H. Final Hydrostatic Mud	<u>2397</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>2</u> mins. and a		of <u>15</u> mins. and a		of <u>12</u> mins. and a		of <u>6</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>112</u>	<u>0</u>	<u>189</u>	<u>0</u>	<u>270</u>	<u>0</u>	<u>413</u>	
P 2 <u>5</u>	<u>158</u>	<u>3</u>	<u>1188</u>	<u>5</u>	<u>270</u>	<u>3</u>	<u>1029</u>	
P 3 <u>10</u>	<u>189</u>	<u>6</u>	<u>1300</u>	<u>10</u>	<u>277</u>	<u>6</u>	<u>1170</u>	
P 4		<u>9</u>	<u>1373</u>	<u>15</u>	<u>282</u>	<u>9</u>	<u>1222</u>	
P 5		<u>12</u>	<u>1404</u>	<u>20</u>	<u>293</u>	<u>12</u>	<u>1265</u>	
P 6		<u>15</u>	<u>1435</u>	<u>25</u>	<u>309</u>	<u>15</u>	<u>1296</u>	
P 7		<u>18</u>	<u>1455</u>	<u>30</u>	<u>324</u>	<u>18</u>	<u>1323</u>	
P 8		<u>21</u>	<u>1474</u>	<u>35</u>	<u>341</u>	<u>21</u>	<u>1346</u>	
P 9		<u>24</u>	<u>1490</u>	<u>40</u>	<u>356</u>	<u>24</u>	<u>1366</u>	
P10		<u>27</u>	<u>1503</u>	<u>45</u>	<u>370</u>	<u>27</u>	<u>1382</u>	
P11		<u>30</u>	<u>1514</u>	<u>50</u>	<u>383</u>	<u>30</u>	<u>1399</u>	
P12		<u>33</u>	<u>1524</u>	<u>55</u>	<u>397</u>	<u>33</u>	<u>1409</u>	
P13		<u>36</u>	<u>1531</u>	<u>60</u>	<u>413</u>	<u>36</u>	<u>1422</u>	
P14		<u>39</u>	<u>1539</u>			<u>39</u>	<u>1432</u>	
P15		<u>42</u>	<u>1545</u>			<u>42</u>	<u>1442</u>	
P16		<u>45</u>	<u>1550</u>			<u>45</u>	<u>1451</u>	
P17						<u>48</u>	<u>1454</u>	
P18								
P19								
P20								



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	2554	2571	PSI
(B) First Initial Flow Pressure	104	112	PSI
(C) First Final Flow Pressure	170	189	PSI
(D) Initial Closed-in Pressure	1558	1550	PSI
(E) Second Initial Flow Pressure	260	270	PSI
(F) Second Final Flow Pressure	416	413	PSI
(G) Final Closed-in Pressure	1454	1454	PSI
(H) Final Hydrostatic Mud	2397	2397	PSI

TKT # 16112



NOMENCLATURE

b	= Approximate Radius of Investigation	Feet
b¹	= Approximate Radius of Investigation (Net Pay Zone h ¹)	Feet
D.R.	= Damage Ratio	—
EI	= Elevation	Feet
GD	= B.T. Gauge Depth (From Surface Reference)	Feet
h	= Interval Tested	Feet
h¹	= Net Pay Thickness	Feet
K	= Permeability	md
K¹	= Permeability (From Net Pay Zone h ¹)	md
m	= Slope Extrapolated Pressure Plot (Psi ² /cycle Gas)	psi/cycle
OF¹	= Maximum Indicated Flow Rate	MCF/D
OF²	= Minimum Indicated Flow Rate	MCF/D
OF³	= Theoretical Open Flow Potential with/Damage Removed Max.	MCF/D
OF⁴	= Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
P^S	= Extrapolated Static Pressure	Psi _g .
P^F	= Final Flow Pressure	Psi _g .
P^{RT}	= Potentiometric Surface (Fresh Water*)	Feet
Q	= Average Adjusted Production Rate During Test	bbls/day
Q¹	= Theoretical Production w/Damage Removed	bbls/day
Q^g	= Measured Gas Production Rate	MCF/D
R	= Corrected Recovery	bbls
r^w	= Radius of Well Bore	Feet
t	= Flow Time	Minutes
t^o	= Total Flow Time	Minutes
T	= Temperature Rankine	°R
Z	= Compressibility Factor	—
u	= Viscosity Gas or Liquid	CP
Log	= Common Log	

* Potentiometric Surface Reference to Rotary Table When Elevation Not Given, Fresh Water Corrected to 100° F.