OK

P. O. BOX 1599 PHONE (316) 262-5861
WICHITA, KANSAS 67201

WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET № 7620

Elevation 1633 KB (Kelly Bushing) Formation ____ Eff. Pay — Ft.

District Pratt Date 10/11/80 Customer Order No. —

COMPANY NAME Pickrell Drlg Company

ADDRESS Litwin Bldg Suite 205 110 N Market Wichita, Ks 67202

LEASE AND WELL NO. Higgins #2 COUNTY Kingman STATE Ks Sec. 33 Twp 29 Rge 8

Mail Invoice To Same (Co. Name / Address) No. Copies Requested 5

Mail Charts To Same (Address) No. Copies Requested 5

Formation Test No. 1 Interval Tested from 3891 ft. to 3910 ft. Total Depth 3910 ft.

Packer Depth 3886 ft.	Size 6 3/4 in.	Packer Depth — ft.	Size — in.
Packer Depth 3891 ft.	Size 6 3/4 in.	Packer Depth — ft.	Size — in.
Depth of Selective Zone Set —			

Top Recorder Depth (Inside) 3900 ft.	Recorder Number 2607	Cap. 4150	
Bottom Recorder Depth (Outside) 3903 ft.	Recorder Number 3351	Cap. 4000	
Below Straddle Recorder Depth — ft.	Recorder Number —	Cap. —	
Drilling Contractor Pickrell Drlg Rig #10		Drill Collar Length —	I. D. — in.
Mud Type Premix-Drispac	Viscosity 35	Weight Pipe Length 560	I. D. 2.7 in.
Weight 9.0	Water Loss N.C cc.	Drill Pipe Length 3302	I. D. 3.8 in.
Chlorides 14,000 P.P.M.		Test Tool Length 29 ft.	Tool Size 5 1/2 OD in.
Jars: Make WTC	Serial Number 406	Anchor Length 19 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 blow throughout flow periods

Recovered 490 ft. of Salt Water
Recovered ____ ft. of
Recovered ____ ft. of
Recovered ____ ft. of
Recovered ____ ft. of
Remarks:

Time On Location 12:30 P.M. Time Pick Up Tool 2:30 P.M. Time Off Location 11:00 P.M.

Time Set Packer(s) 4:00 P.M. Time Started Off Bottom 8:30 P.M. Maximum Temperature 115°

Initial Hydrostatic Pressure		(A) 1951 P.S.I.		
Initial Flow Period	Minutes 30	(B) 105 P.S.I.	to (C) 116 P.S.I.	
Initial Closed In Period	Minutes 60	(D) 1573 P.S.I.		
Final Flow Period	Minutes 90	(E) 190 P.S.I.	to (F) 285 P.S.I.	
Final Closed In Period	Minutes 90	(G) 1531 P.S.I.		
Final Hydrostatic Pressure		(H) 1930 P.S.I.		

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages 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, of 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 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By Greg Isaughoff
Signature of Customer or his authorized representative

Western Representative Jim Wonder Thank You

FIELD INVOICE

Open Hole Test	$ 550.00
Misrun	$
Straddle Test	$
Jars	$ 300.00
Selective Zone	$
Safety Joint	$ 50.00
Standby	$
Evaluation	$
Extra Packer	$
Circ. Sub.	$
Mileage 48m	$ 36.00
Fluid Sampler	$
Extra Charts	$
Insurance	$
TOTAL	$ 936.00

WESTERN TESTING CO., INC.
Pressure Data

Date 10-11 Test Ticket No. 7620

Recorder No. 2607 Capacity 4150 Location 3900 Ft.

Clock No. — Elevation 1633 KB Well Temperature 115 °F

Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	1936	P.S.I.	Open Tool	4:00P M	
B	First Initial Flow Pressure	105	P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C	First Final Flow Pressure	108	P.S.I.	Initial Closed-in Pressure	60 Mins.	60 Mins.
D	Initial Closed-in Pressure	1562	P.S.I.	Second Flow Pressure	90 Mins.	90 Mins.
E	Second Initial Flow Pressure	198	P.S.I.	Final Closed-in Pressure	90 Mins.	90 Mins.
F	Second Final Flow Pressure	291	P.S.I.			
G	Final Closed-in Pressure	1530	P.S.I.			
H	Final Hydrostatic Mud	1920	P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 6 Inc. of 5 mins. and a final inc. of 0 Min.

Point Mins.	Press.
P 1 0	105
P 2 5	92
P 3 10	92
P 4 15	100
P 5 20	104
P 6 25	108
P 7 30	108
P 8 35	
P 9 40	
P10 45	
P11 50	
P12 55	
P13 60	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 20 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	108
3	1036
6	1221
9	1306
12	1371
15	1407
18	1435
21	1459
24	1474
27	1490
30	1498
33	1510
36	1517
39	1526
42	1534
45	1540
48	1544
51	1550
54	1555
57	1559
60	1562

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

Point Minutes	Press.
0	198
5	183
10	183
15	183
20	188
25	195
30	201
35	205
40	210
45	217
50	227
55	235
60	241
65	252
70	263
75	273
80	280
85	286
90	291

Final Shut-In
Breakdown: 30 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	24
3	1167
6	1259
9	1307
12	1341
15	1368
18	1387
21	1403
24	1415
27	1427
30	1437
33	1447
36	1456
39	1464
42	1471
45	1477
48	1483
51	1492
54	1496
57	1498
60	1502

WTC - 4

rart

WESTERN TESTING CO., INC.
Pressure Data

ate _____ Test Ticket No. 7620

corder No. _____ Capacity _____ Location _____ Ft

ock No. _____ Elevation _____ Well Temperature _____ °I

oint	Pressure		Time Given	Time Computed
Initial Hydrostatic Mud	P.S.I.	Open Tool	M	
First Initial Flow Pressure	P.S.I.	First Flow Pressure	Mins.	Mins
First Final Flow Pressure	P.S.I.	Initial Closed-in Pressure	Mins.	Mins
Initial Closed-in Pressure	P.S.I.	Second Flow Pressure	Mins.	Mins
Second Initial Flow Pressure	P.S.I.	Final Closed-in Pressure	Mins.	Mins
Second Final Flow Pressure	P.S.I.			
Final Closed-in Pressure	P.S.I.			
Final Hydrostatic Mud	P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: ____ Inc.		Breakdown: ____ Inc.		Breakdown: ____ Inc.		Breakdown: ____ Inc.	
of 5 mins. and a		of 3 mins. and a		of 5 mins. and a		of 3 mins. and a	
final inc. of 0 Min.		final inc. of 0 Min.		final inc. of 0 Min.		final inc. of 0 Min.	
oint ins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
1		63				63	1506
2		66				66	1511
3		69				69	1515
4		72				72	1518
5		75				75	1522
6		78				78	1525
7		81				81	1527
8		84				84	1528
9		87				87	1527
0		90				90	1530
1		93				93	
2		96				96	
3		99				99	
4		102				102	
5		105				105	
6		108				108	
7		111				111	
8		114				114	
9		117				117	
0		120				120	

Company Pickrell Drilling Company Lease & Well No. Higgins #2

Elevation 1633 Kelly Bushing Formation ----- Effective Pay ---- Ft. Ticket No. 7620

Date 10/11/80 Sec. 33 Twp. 29S Range 8W County Kingman State Kansas

Test Approved by Greg Issinghoff Western Representative Jim Wondra

Formation Test No. 1 Interval Tested from 3891 ft. to 3910 ft. Total Depth 3910 ft.

Packer Depth 3886 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 3891 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 3900 ft. Recorder Number 2607 Cap. 4150

Bottom Recorder Depth (Outside) 3903 ft. Recorder Number 3351 Cap. 4000

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

Drilling Contractor Pickrell Drilling Rig #10 Drill Collar Length - I. D. - in.

Mud Type premix-drispac Viscosity 35 Weight Pipe Length 560 I. D. 2.7 in.

Weight 9.0 Water Loss N/C cc. Drill Pipe Length 3302 I. D. 3.8 in.

Chlorides 14,000 P.P.M. Test Tool Length 29 ft. Tool Size 5½OD in.

Jars: Make WTC Serial Number 406 Anchor Length 19 ft. Size 5½OD 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 4½FH in.

Blow: Fair blow throughout flow periods.

Recovered 490 ft. of salt water

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 4:00 ~~A.M.~~ P.M. Time Started Off Bottom 8:30 ~~A.M.~~ P.M. Maximum Temperature 115°

Initial Hydrostatic Pressure ..... (A) 1936 P.S.I.

Initial Flow Period ..... Minutes 30 (B) 105 P.S.I. to (C) 108 P.S.I.

Initial Closed In Period ..... Minutes 60 (D) 1562 P.S.I.

Final Flow Period ..... Minutes 90 (E) 198 P.S.I. to (F) 291 P.S.I.

Final Closed In Period ..... Minutes 90 (G) 1530 P.S.I.

Final Hydrostatic Pressure ..... (H) 1920 P.S.I.

WESTERN TESTING CO., INC.
Pressure Data

Date 10/11/80 Test Ticket No. 7620

Recorder No. 2607 Capacity 4150 Location 3900 Ft.

Clock No. ----- Elevation 1633 Kelly Bushing Well Temperature 115 °F

Point		Pressure	
A	Initial Hydrostatic Mud	1936	P.S.I.
B	First Initial Flow Pressure	105	P.S.I.
C	First Final Flow Pressure	108	P.S.I.
D	Initial Closed-in Pressure	1562	P.S.I.
E	Second Initial Flow Pressure	198	P.S.I.
F	Second Final Flow Pressure	291	P.S.I.
G	Final Closed-in Pressure	1530	P.S.I.
H	Final Hydrostatic Mud	1920	P.S.I.

	Time Given	Time Computed
Open Tool	4:00P M	
First Flow Pressure	30 Mins	30 Mins.
Initial Closed-in Pressure	60 Mins	60 Mins.
Second Flow Pressure	90 Mins	90 Mins.
Final Closed-in Pressure	90 Mins	90 Mins.

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 6 Inc. of 5 mins. and a final inc. of 0 Min.

Point Mins.	Press.
P 1 0	105
P 2 5	92
P 3 10	92
P 4 15	100
P 5 20	104
P 6 25	108
P 7 30	108
P 8	
P 9	
P10	
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 20 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	108
3	1036
6	1221
9	1306
12	1371
15	1407
18	1435
21	1459
24	1474
27	1490
30	1498
33	1510
36	1517
39	1526
42	1534
45	1540
48	1544
51	1550
54	1555
57	1559
60	1562

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

Point Minutes	Press.
0	198
5	183
10	183
15	183
20	188
25	195
30	201
35	205
40	210
45	217
50	227
55	235
60	241
65	252
70	263
75	273
80	280
85	286
90	291

Final Shut-In
Breakdown: 30 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	291
3	1167
6	1259
9	1307
12	1341
15	1368
18	1387
21	1403
24	1415
27	1427
30	1437
33	1447
36	1456
39	1464
42	1471
45	1477
48	1483
51	1492
54	1496
57	1498
60	1502

continued next page

WESTERN TESTING CO., INC.

Pressure Data

Date 10/11/80 Test Ticket No. 7620

Recorder No. 2607 Capacity 4150 Location 3900 Ft.

Clock No. ----- Elevation 1633 Kelly Bushing Well Temperature 115 °F

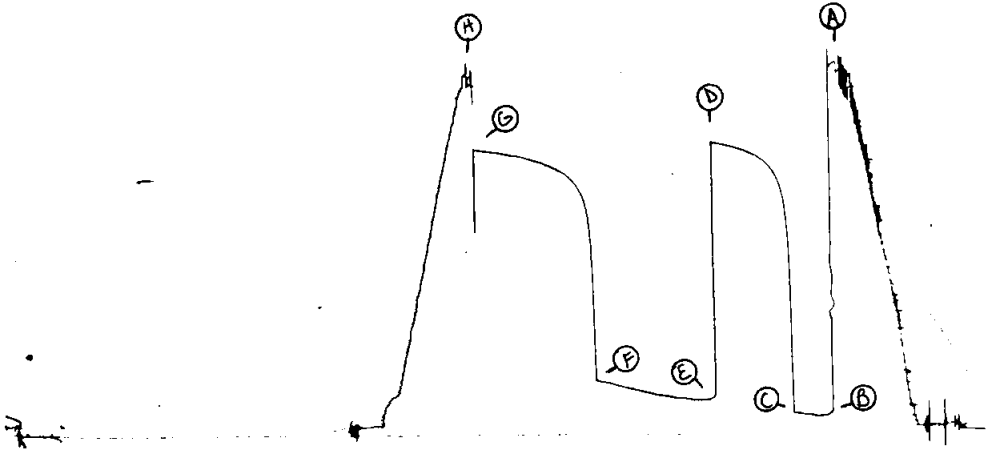
Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	1936 P.S.I.	Open Tool		4:00P M	
B	First Initial Flow Pressure	105 P.S.I.	First Flow Pressure		30 Mins	30 Mins.
C	First Final Flow Pressure	108 P.S.I.	Initial Closed-in Pressure		60 Mins	60 Mins.
D	Initial Closed-in Pressure	1562 P.S.I.	Second Flow Pressure		90 Mins	90 Mins.
E	Second Initial Flow Pressure	198 P.S.I.	Final Closed-in Pressure		90 Mins	90 Mins.
F	Second Final Flow Pressure	291 P.S.I.				
G	Final Closed-in Pressure	1530 P.S.I.				
H	Final Hydrostatic Mud	1920 P.S.I.				

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: 6 Inc.		Breakdown: 20 Inc.		Breakdown: 18 Inc.		Breakdown: 30 Inc.	
of 5 mins. and a		of 3 mins. and a		of 5 mins. and a		of 3 mins. and a	
final inc. of 0 Min.		final inc. of 0 Min.		final inc. of 0 Min.		final inc. of 0 Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1						63	1506
P 2						66	1511
P 3						69	1515
P 4						72	1518
P 5						75	1522
P 6						78	1525
P 7						81	1527
P 8						84	1528
P 9						87	1529
P10						90	1530
P11							
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

JKT #7620

I



OK

WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET Nº 7689

P. O. BOX 1599 PHONE (316) 262-5861
WICHITA, KANSAS 67201

Kelly Bashing

Elevation 1633 K. B. Formation Mississippi Eff. Pay Ft.

District PRATT Date 10-13-80 Customer Order No.

COMPANY NAME Pick Rell ~~Drlg Co~~. Drilling Company

ADDRESS LiTwin Bld. - Suite 205 - 110 N. Market - Wichita, Ks. 67202

LEASE AND WELL NO. #2 Higgins. COUNTY Kingman STATE Ks. Sec 33 Twp 29S Rge 8W

Mail Invoice To Same Co. Name Address No. Copies Requested Reg.

Mail Charts To Same Address No. Copies Requested Reg.

Formation Test No. 2 Interval Tested from 4226 ft. to 4260 ft. Total Depth 4260 ft.

Packer Depth 4221 ft. Size 6 3/4 in. Packer Depth ft. Size in.

Packer Depth 4226 ft. Size 6 3/4 in. Packer Depth ft. Size in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 4238 ft. Recorder Number 2604 Cap. 4150

Bottom Recorder Depth (Outside) 4245 ft. Recorder Number 6246 Cap. 5200

Below Straddle Recorder Depth ft. Recorder Number Cap.

Drilling Contractor Co-Tools #10 Drill Collar Length — I. D. — in.

Mud Type Dris Pac Viscosity 45 Weight Pipe Length 540 I. D. 3.2 in.

Weight 9.1 Water Loss 14.6 cc. Drill Pipe Length 3666 I. D. 3.8 in.

Chlorides 12,000 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 O.D. in.

Jars: Make — Serial Number — Anchor Length 34 ft. Size 5 1/2 O.D. in.

Did Well Flow? NO Reversed Out NO Surface Choke Size 1/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4½ FH in.

Blow: STRONG - Gas To Surface 8 min. INITIAL Flow period
See Attached Gas Flow Sheet

Recovered 210 ft. of GAS & WATER cut mud Chlorides 36,000 ppm

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks: Took one hr. To Pull Tool Loose

Time On Location 2:00 A.M. P.M. Time Pick Up Tool 2:15 A.M. P.M. Time Off Location 12:00 A.M. P.M.

Time Set Packer(s) 4:00 A.M. P.M. Time Started Off Bottom 8:00 A.M. P.M. Maximum Temperature 121

Initial Hydrostatic Pressure			(A)	2126	P.S.I.	
Initial Flow Period	Minutes	30	(B)	63	P.S.I. to (C)	74 P.S.I.
Initial Closed In Period	Minutes	60	(D)	277	P.S.I.	
Final Flow Period	Minutes	60	(E)	85	P.S.I. to (F)	95 P.S.I.
Final Closed In Period	Minutes	90	(G)	256	P.S.I.	
Final Hydrostatic Pressure			(H)	2115	P.S.I.	

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages 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, of 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 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By Greg Dassinghoff
Signature of Customer or his authorized representative

Western Representative Dave Sloan

Thank you

FIELD INVOICE

Open Hole Test	$ 600.00
Misrun	$
Straddle Test	$
Jars	$
Selective Zone	$
Safety Joint	$
Standby	$
Evaluation	$
Extra Packer	$
Circ. Sub.	$
Mileage 50	$ 37.50
Fluid Sampler	$
Extra Charts	$
Insurance	$
TOTAL	$ 637.50

Phone 316 262-5861

P. O. Box 1599

WICHITA, KANSAS 67201

GAS FLOW REPORT

Nº 2189

Date 10-13-80 Ticket 7689 Company Pickrell Drlg. Co.

Well Name and No. #2 Higgins Dst No. 2 Interval Tested 4226-4260

County Kingman State KS Sec. 33 Twp. 29S Rg. 8W

Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	Size of Orifice	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	Description of Flow
PRE FLOW Gas To Surface 8 min. Cubic Foot Gas Per Day					
10	5	½"			78,100 C.F.P.D.
20	10	½"			116,000 C.F.P.D.
30	11	½"			121,000 C.F.P.D.
SECOND FLOW Cubic Foot Gas Per Day					
10	12	½"			129,000 C.F.P.D.
20	13	½"			134,000 C.F.P.D.
30	13	½"			134,000 C.F.P.D.
40	13	½"			134,000 C.F.P.D.
50	13	½"			134,000 C.F.P.D.
60	13	½"			134,000 C.F.P.D.

GAS BOTTLE

Serial No. _____ Date Bottle Filled _____ Date to be Invoiced _____

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 _____

Authorized by _____

FORM WTC 9

WESTERN TESTING CO., INC.
Pressure Data

Date 10-13 Test Ticket No. 7689

Recorder No. 2604 Capacity 4150 Location 4238 Ft.

Clock No. — Elevation 1633 KB Well Temperature 121 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2122 P.S.I.	Open Tool	4:00 PM	
B First Initial Flow Pressure	75 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	83 P.S.I.	Initial Closed-in Pressure	60 Mins.	60 Mins.
D Initial Closed-in Pressure	284 P.S.I.	Second Flow Pressure	60 Mins.	60 Mins.
E Second Initial Flow Pressure	102 P.S.I.	Final Closed-in Pressure	90 Mins.	90 Mins.
F Second Final Flow Pressure	107 P.S.I.			
G Final Closed-in Pressure	274 P.S.I.			
H Final Hydrostatic Mud	2122 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 6 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Mins.	Press.
P 1 0	75
P 2 5	75
P 3 10	75
P 4 15	75
P 5 20	79
P 6 25	81
P 7 30	83
P 8 35	
P 9 40	
P10 45	
P11 50	
P12 55	
P13 60	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 20 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	83
3	224
6	254
9	265
12	270
15	273
18	275
21	277
24	278
27	279
30	280
33	280
36	281
39	282
42	283
45	284
48	
51	
54	
57	
60	284

Second Flow Pressure
Breakdown: 12 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	102
5	
10	
15	102
20	102
25	102
30	104
35	
40	
45	104
50	105
55	106
60	107
65	
70	
75	
80	
85	
90	

Final Shut-In
Breakdown: 30 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	107
3	203
6	228
9	245
12	251
15	255
18	257
21	258
24	259
27	260
30	267
33	267
36	268
39	268
42	269
45	270
48	
51	
54	
57	
60	270

CON'T

WESTERN TESTING CO., INC.
Pressure Data

Date _____ Test Ticket No. 7689

Recorder No. _____ Capacity _____ Location _____ Ft

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	P.S.I.	Open Tool	M	
B First Initial Flow Pressure	P.S.I.	First Flow Pressure	Mins.	Mins
C First Final Flow Pressure	P.S.I.	Initial Closed-in Pressure	Mins.	Mins
D Initial Closed-in Pressure	P.S.I.	Second Flow Pressure	Mins.	Mins
E Second Initial Flow Pressure	P.S.I.	Final Closed-in Pressure	Mins.	Mins
F Second Final Flow Pressure	P.S.I.			
G Final Closed-in Pressure	P.S.I.			
H Final Hydrostatic Mud	P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: ____ Inc.		Breakdown: ____ Inc.		Breakdown: ____ Inc.		Breakdown: ____ Inc.	
of 5 mins. and a		of 3 mins. and a		of 5 mins. and a		of 3 mins. and a	
final inc. of 0 Min.		final inc. of 0 Min.		final inc. of 0 Min.		final inc. of 0 Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1		63				63	271
P 2		66				66	272
P 3		69				69	273
P 4		72				72	273
P 5		75				75	274
P 6		78				78	
P 7		81				81	
P 8		84				84	
P 9		87				87	
P10		90				90	274
P11		93				93	
P12		96				96	
P13		99				99	
P14		102				102	
P15		105				105	
P16		108				108	
P17		111				111	
P18		114				114	
P19		117				117	
P20		120				120	

WTC - 4

Company Pickrell Drilling Company — Lease & Well No. #2 Higgins

Elevation 1633 Kelly Bushing — Formation Mississippi — Effective Pay - Ft. — Ticket No. 7689

Date 10-13-80 — Sec. 33 — Twp. 29S — Range 8W — County Kingman — State Kansas

Test Approved by Greg Issinghoff — Western Representative Dave Sloan

Formation Test No. 2 — Interval Tested from 4226 ft. to 4260 ft. — Total Depth 4260 ft.

Packer Depth 4221 ft. — Size 6 3/4 in. — Packer Depth - ft. — Size - in.

Packer Depth 4226 ft. — Size 6 3/4 in. — Packer Depth - ft. — Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 4238 ft. — Recorder Number 2604 — Cap. 4150

Bottom Recorder Depth (Outside) 4245 ft. — Recorder Number 6246 — Cap. 5200

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

Drilling Contractor Pickrell Drilling Co. Rig #10 — Drill Collar Length - — I. D. - in.

Mud Type Drispac — Viscosity 45 — Weight Pipe Length 540 — I. D. 3.2 in.

Weight 9.1 — Water Loss 14.6 cc. — Drill Pipe Length 3666 — I. D. 3.8 in.

Chlorides 12,000 P.P.M. — Test Tool Length 20 ft. — Tool Size 5½ OD in.

Jars: Make - — Serial Number - — Anchor Length 34 ft. — Size 5½ 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 4½ FH in.

Blow: Strong gas to surface 8 minutes initial flow period.
see attached sheet for gas measurements.

Recovered 210 ft. of gas & water cut mud Chlorides 36,000 PPM

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 4:00 ~~A.M.~~ P.M. — Time Started Off Bottom 8:00 ~~A.M.~~ P.M. — Maximum Temperature 121

Initial Hydrostatic Pressure		(A) 2122 P.S.I.		
Initial Flow Period	Minutes 30	(B) 75 P.S.I.	to (C) 83 P.S.I.	
Initial Closed In Period	Minutes 60	(D) 284 P.S.I.		
Final Flow Period	Minutes 60	(E) 102 P.S.I.	to (F) 107 P.S.I.	
Final Closed In Period	Minutes 90	(G) 274 P.S.I.		
Final Hydrostatic Pressure		(H) 2122 P.S.I.		

GAS FLOW REPORT

Date 10-13-80 Ticket 7689 Company Pickrell Drilling Company

Well Name and No. #2 Higgins Dst No. 2 Interval Tested 4226-4260

County Kingman State Kansas Sec. 33 Twp. 29S 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
			PRE FLOW			
Gas to surface 8 Minutes						
	10 Min.	5 PSIG	½" Orifice			78,100 C.F.P.D.
	20 Min.	10 PSIG	½" Orifice			116,000 C.F.P.D.
	30 Min.	11 PSIG	½" Orifice			121,000 C.F.P.D.
			SECOND FLOW			
	10 Min.	12 PSIG	½" Orifice			129,000 C.F.P.D.
	20 Min.	13 PSIG	½" Orifice			134,000 C.F.P.D.
	30 Min.	13 PSIG	½" Orifice			134,000 C.F.P.D.
	40 Min.	13 PSIG	½" Orifice			134,000 C.F.P.D.
	50 Min.	13 PSIG	½" Orifice			134,000 C.F.P.D.
	60 Min.	13 PSIG	½" Orifice			134,000 C.F.P.D.

GAS BOTTLE

Serial No. _____ Date Bottle Filled _____ Date to be Invoiced 10-13-80

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 Pickrell Drilling Company

Authorized by Greg Issinghoff

FORM WTC 6

WESTERN TESTING CO., INC.
Pressure Data

Date 10-13-80 Test Ticket No. 7689

Recorder No. 2604 Capacity 4150 Location 4238 Ft.

Clock No. ---- Elevation 1633 Kelly Bushing Well Temperature 121 °F

Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	2122 P.S.I.		Open Tool	4:00 P M	
B	First Initial Flow Pressure	75 P.S.I.		First Flow Pressure	30 Mins.	30 Mins.
C	First Final Flow Pressure	83 P.S.I.		Initial Closed-in Pressure	60 Mins.	60 Mins.
D	Initial Closed-in Pressure	284 P.S.I.		Second Flow Pressure	60 Mins.	60 Mins.
E	Second Initial Flow Pressure	102 P.S.I.		Final Closed-in Pressure	90 Mins.	90 Mins.
F	Second Final Flow Pressure	107 P.S.I.				
G	Final Closed-in Pressure	274 P.S.I.				
H	Final Hydrostatic Mud	2122 P.S.I.				

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 6 Inc. of 5 mins. and a final inc. of 0 Min.

Point Mins.	Press.
P 1 0	75
P 2 5	75
P 3 10	75
P 4 15	75
P 5 20	79
P 6 25	81
P 7 30	83
P 8	
P 9	
P10	
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 20 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	83
3	224
6	254
9	265
12	270
15	273
18	275
21	277
24	278
27	279
30	280
33	280
36	281
39	282
42	283
45	284
48	284
51	284
54	284
57	284
60	284

Second Flow Pressure
Breakdown: 12 Inc. of 5 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	102
5	102
10	102
15	102
20	102
25	102
30	104
35	104
40	104
45	104
50	105
55	106
60	107

Final Shut-In
Breakdown: 30 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	107
3	203
6	228
9	245
12	251
15	255
18	257
21	258
24	259
27	260
30	267
33	267
36	268
39	268
42	269
45	270
48	270
51	270
54	270
57	270
60	270

Continued on next page.

WESTERN TESTING CO., INC.
Pressure Data

Date 10-13-80 Test Ticket No. 7689

Recorder No. 2604 Capacity 4150 Location 4238 Ft

Clock No. ---- Elevation 1633 Kelly Bushing Well Temperature 121 °F

Point		Pressure		Time Given	Time Computed
A	Initial Hydrostatic Mud	2122 P.S.I.	Open Tool	4:00 P M	
B	First Initial Flow Pressure	75 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C	First Final Flow Pressure	83 P.S.I.	Initial Closed-in Pressure	60 Mins.	60 Mins.
D	Initial Closed-in Pressure	284 P.S.I.	Second Flow Pressure	60 Mins.	60 Mins.
E	Second Initial Flow Pressure	102 P.S.I.	Final Closed-in Pressure	90 Mins.	90 Mins.
F	Second Final Flow Pressure	107 P.S.I.			
G	Final Closed-in Pressure	274 P.S.I.			
H	Final Hydrostatic Mud	2122 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 6 Inc. of 5 mins. and a final inc. of 0 Min.

Initial Shut-In
Breakdown: 20 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: 30 Inc. of 3 mins. and a final inc. of 0 Min.

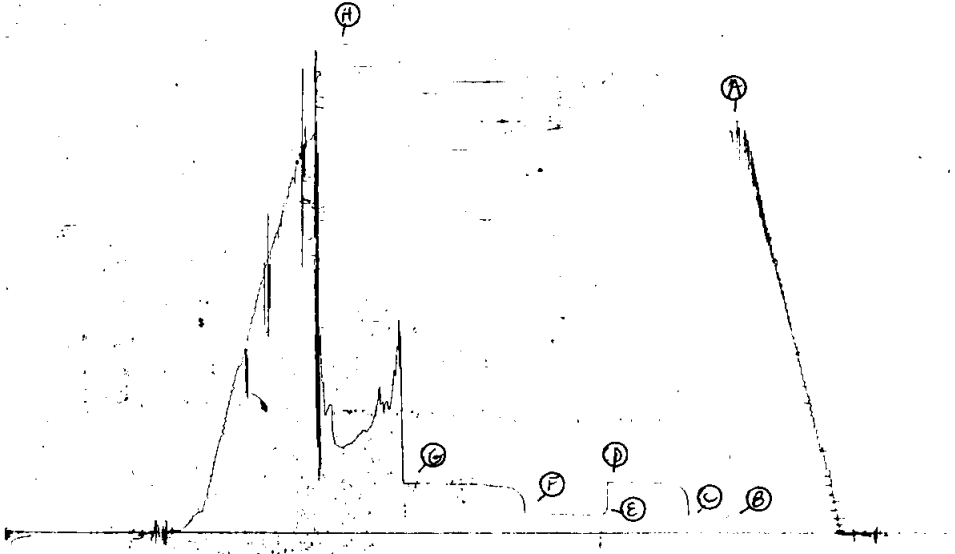
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1						63	271
P 2						66	272
P 3						69	273
P 4						72	273
P 5						75	274
P 6						78	274
P 7						81	274
P 8						84	274
P 9						87	274
P10						90	274
P11							
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

2609

IKT # 7689.

I

PICKRELL
#2 Higgins
Pool



P. O. BOX 1599 PHONE (316) 838-0601
WICHITA, KANSAS 67201

WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET No. 6925

Elevation 1633' K.B. Formation Mississippi Eff. Pay Ft.

District Pratt Date 10-14-80 Customer Order No.

COMPANY NAME Pickrell Drlg. Co.

ADDRESS Litwin Bldg, 110 N. Market, Suite 205, Wichita, Ks. 67202

LEASE AND WELL NO. Higgins #2 COUNTY Kingman STATE Kans. Sec. 33 Twp. 29s Rge. 6W

Mail Invoice To Same as above No. Copies Requested Keyline
Co. Name Address

Mail Charts To Same as above No. Copies Requested Keyline
Address

Formation Test No. #3 Interval Tested from 4261 ft. to 4285 ft. Total Depth 4285 ft.

Packer Depth 4256 ft. Size 6 3/4 in. Packer Depth — ft. Size — in.

Packer Depth 4261 ft. Size 6 3/4 in. Packer Depth — ft. Size — in.

Depth of Selective Zone Set —

Top Recorder Depth (Inside) 4268 ft. Recorder Number 1566 Cap. 4300

Bottom Recorder Depth (Outside) 4271 ft. Recorder Number 3086 Cap. 4500

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

Drilling Contractor Pickrell Drlg. Rig #10 Drill Collar Length 0 I. D. — in.

Mud Type DRISPAC Viscosity 45 Weight Pipe Length 540 I. D. 3.2 in.

Weight 9.1 Water Loss 14.6 cc. Drill Pipe Length 3796' I. D. 3.8 in.

Chlorides 12,000 P.P.M. Test Tool Length 25 ft. Tool Size 5 1/2 O.D. in.

Jars: Make W.T.C. Serial Number 407 Anchor Length 24 ft. Size 5 1/2 O.D. in.

Did Well Flow? NO Reversed Out NO Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Initial Flow Period Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 FH in.

Blow: Good strong blow 1st F.P. (no G.T.S.) weak blow 2nd F.P. (no G.T.S.)
No Gas to Surface Final Flow Period

Recovered 3700 ft. of GAS in pipe

Recovered 180 ft. of OEGC watery mud 35% water 25% gas 25% oil

Recovered 420 ft. of salt water 186,000 ppm chlorides

Recovered ft. of

Recovered ft. of

Remarks:

Chart stopped on bottom outside Recorder

RECEIVED
OCT 16 1980

Time Set Packer(s) 11:17 A.M. Time Started Off Bottom 2:17 P.M. Maximum Temperature 128°F

Initial Hydrostatic Pressure			(A) 2134	P.S.I.		
Initial Flow Period	Minutes 30		(B) 140	P.S.I. to	(C) 259	P.S.I.
Initial Closed In Period	Minutes 60		(D) 313	P.S.I.		
Final Flow Period	Minutes ~~90~~ 30		(E) 302	P.S.I. to	(F) 302	P.S.I.
Final Closed In Period	Minutes ~~90~~ 60		(G) 313	P.S.I.		
Final Hydrostatic Pressure			(H) 2134	P.S.I.		

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages 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, of 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 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By Greg Dasenbrock
Signature of Customer or his authorized representative

Western Representative Ralph A. Mansfield

Thank you

FIELD INVOICE

Open Hole Test	$ 600.00
Misrun	$ —
Straddle Test	$ —
Jars	$ 300.00
Selective Zone	$ —
Safety Joint	$ 150.00
Standby	$ —
Evaluation	$ —
Extra Packer	$ —
Circ. Sub.	$ —
Mileage 50	$ 37.50
Fluid Sampler	$ 40.00
Extra Charts	$ —
TOTAL	$ ~~1027.50~~ 1027.50

WESTERN TESTING CO., INC.
Pressure Data

Date 10-14 Test Ticket No. 6925

Recorder No. 1566 Capacity 4300 Location 4268 Ft.

Clock No. — Elevation 1633 KB Well Temperature 128 °F

Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	2132	P.S.I.	Open Tool	11:17 AM	
B	First Initial Flow Pressure	124	P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C	First Final Flow Pressure	253	P.S.I.	Initial Closed-in Pressure	60 Mins.	60 Mins.
D	Initial Closed-in Pressure	320	P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
E	Second Initial Flow Pressure	313	P.S.I.	Final Closed-in Pressure	60 Mins.	54 Mins.
F	Second Final Flow Pressure	323	P.S.I.			
G	Final Closed-in Pressure	326	P.S.I.			
H	Final Hydrostatic Mud	2121	P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 6 Inc. of 5 mins. and a final inc. of 0 Min.

Point	Mins.	Press.
P 1	0	124
P 2	5	124
P 3	10	137
P 4	15	170
P 5	20	203
P 6	25	229
P 7	30	253
P 8	35	
P 9	40	
P10	45	
P11	50	
P12	55	
P13	60	
P14		
P15		
P16		
P17		
P18		
P19		
P20		

Initial Shut-In
Breakdown: 20 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	253
3	296
6	295
9	300
12	305
15	311
18	313
21	315
24	317
27	319
30	320
33	33
36	36
39	39
42	42
45	45 320
48	48
51	51
54	54
57	57
60	60 320

Second Flow Pressure
Breakdown: 6 Inc. of 5 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	313
5	316
10	318
15	320
20	321
25	322
30	323
35	
40	
45	
50	
55	
60	
65	
70	
75	
80	
85	
90	

Final Shut-In
Breakdown: 18 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	323
3	323
6	323
9	324
12	325
15	326
18	
21	
24	
27	
30	326
33	
36	
39	
42	
45	326
48	
51	
54	326
57	
60	

Company Pickrell Drilling Company Lease & Well No. Higgins #2

Elevation 1633 Kelly Bushing Formation Mississippi Effective Pay --- Ft. Ticket No. 6925

Date 10/14/80 Sec. 33 Twp. 29S Range 8W County Kingman State Kansas

Test Approved by Greg Issinghoff Western Representative Roger A. Mounts

Formation Test No. 3 Interval Tested from 4261 ft. to 4285 ft. Total Depth 4285 ft.

Packer Depth 4256 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 4261 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 4268 ft. Recorder Number 1566 Cap. 4300

Bottom Recorder Depth (Outside) 4271 ft. Recorder Number 3086 Cap. 4500

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

Drilling Contractor Pickrell Drilling Rig #10 Drill Collar Length - I. D. - in.

Mud Type drispac Viscosity 45 Weight Pipe Length 540 I. D. 3.2 in.

Weight 9.1 Water Loss 14.6 cc. Drill Pipe Length 3796 I. D. 3.8 in.

Chlorides 12,000 P.P.M. Test Tool Length 25 ft. Tool Size 5½OD in.

Jars: Make WTC Serial Number 407 Anchor Length 24 ft. Size 5½OD 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 4½FH in.

Blow: Good strong blow initial flow period. No gas to surface. Weak blow final flow period.

Recovered 3900 ft. of gas in pipe

Recovered 180 ft. of oil and gas cut watery mud 35% mud;15% water;25% gas;25% oil

Recovered 420 ft. of salt water 126,000 ppm chlorides

Recovered ft. of

Recovered ft. of

Remarks:

Clock stopped on bottom outside recorder

Time Set Packer(s) 11:17 ~~A.M.~~ P.M. Time Started Off Bottom 2:17 ~~A.M.~~ P.M. Maximum Temperature 128°

Initial Hydrostatic Pressure			(A)	2132	P.S.I.	
Initial Flow Period	Minutes	30	(B)	124	P.S.I. to (C)	253 P.S.I.
Initial Closed In Period	Minutes	60	(D)	320	P.S.I.	
Final Flow Period	Minutes	30	(E)	313	P.S.I. to (F)	323 P.S.I.
Final Closed In Period	Minutes	54	(G)	326	P.S.I.	
Final Hydrostatic Pressure			(H)	2121	P.S.I.	

WESTERN TESTING CO., INC.

Pressure Data

Date 10/14/80 Test Ticket No. 6925

Recorder No. 1566 Capacity 4300 Location 4268 Ft.

Clock No. --- Elevation 1633 Kelly Bushing Well Temperature 128 °F

Point		Pressure	
A	Initial Hydrostatic Mud	2132	P.S.I.
B	First Initial Flow Pressure	124	P.S.I.
C	First Final Flow Pressure	253	P.S.I.
D	Initial Closed-in Pressure	320	P.S.I.
E	Second Initial Flow Pressure	313	P.S.I.
F	Second Final Flow Pressure	323	P.S.I.
G	Final Closed-in Pressure	326	P.S.I.
H	Final Hydrostatic Mud	2121	P.S.I.

	Time Given	Time Computed
Open Tool	11:17A M	
First Flow Pressure	30 Mins.	30 Mins.
Initial Closed-in Pressure	60 Mins.	60 Mins.
Second Flow Pressure	30 Mins.	30 Mins.
Final Closed-in Pressure	60 Mins.	54 Mins.

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 6 Inc. of 5 mins. and a final inc. of 0 Min.

Point Mins.	Press.
P 1 0	124
P 2 5	124
P 3 10	137
P 4 15	170
P 5 20	203
P 6 25	229
P 7 30	253
P 8	
P 9	
P10	
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 20 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	253
3	296
6	299
9	300
12	305
15	311
18	313
21	315
24	317
27	319
30	320
33	320
36	320
39	320
42	320
45	320
48	320
51	320
54	320
57	320
60	320

Second Flow Pressure
Breakdown: 6 Inc. of 5 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	313
5	316
10	318
15	320
20	321
25	322
30	323

Final Shut-In
Breakdown: 18 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	323
3	323
6	323
9	324
12	325
15	326
18	326
21	326
24	326
27	326
30	326
33	326
36	326
39	326
42	326
45	326
48	326
51	326
54	326

IKT # 6925

I