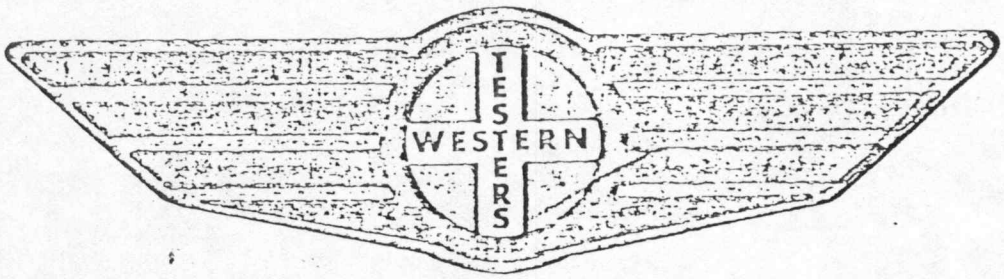
FORMATION TEST REPORT



Home Office: Wichita, Kansas 67201

P.O. Box 1599 Phone (316) 262-5861

mpany RISEDON LIMITED Lease and Well No. #2 KERR Sec. 24 Twp. 29S Rge. 14W Test No. 1

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE: 10/24/84 TICKET #7361
CUSTOMER: RISEDON LIMITED LEASE: KERR
WELL: 2 TEST: 1 GEOLOGIST: PASHAY
ELEVATION (KB): 1965 FORMATION: SIMPSON
SECTION: 24 TOWNSHIP: 29S
RANGE: 14W COUNTY: PRATT STATE: KANSAS
GAUGE SN #6246 RANGE: 5200 CLOCK: 12

INTERVAL TEST FROM: 4336 FT TO: 4369 FT TOTAL DEPTH: 4369 FT
DEPTH OF SELECTIVE ZONE: FT
PACKER DEPTH: 4331 FT SIZE: 6 5/8 IN PACKER DEPTH: 4336 FT SIZE: 6 5/8 IN
PACKER DEPTH: FT SIZE: IN PACKER DEPTH: FT SIZE: IN

DRILLING CONTRACTOR: ALDEBARAN DRLG
MUD TYPE: PRECHEMDRS VISCOSITY: 54
WEIGHT: 9.2 WATER LOSS (CC): 12.4
CHLORIDES (P.P.M.): 12000
JARS - MAKE: SERIAL NUMBER:
DID WELL FLOW? NO REVERSED OUT? NO
DRILL COLLAR LENGTH: 560 FT I.D.: 2.25 IN
WEIGHT PIPE LENGTH: FT I.D.: IN
DRILL PIPE LENGTH: 3756 FT I.D.: 3.8 IN
TEST TOOL LENGTH: 20 FT TOOL SIZE: 5 1/2 IN
ANCHOR LENGTH: 33 FT SIZE: 5 1/2 IN
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: INITIAL FLOW PERIOD STRONG BLOW.
GAS TO SURFACE IN 2 MINUTES AFTER
TOOL SHUT IN. SEE ATTACHED SHEET
FOR GAS MEASUREMENTS.

RECOVERED: 60 FT OF: GAS CUT DRILLING MUD.
RECOVERED: 60 FT OF: VERY SLIGHTLY OIL CUT GASSY MUD.
RECOVERED: FT OF: (LESS THAN 1%)
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:

REMARKS: CLOCK STOPPED ON RECORDER #6074.
READ OUTSIDE CHART.

TIME SET PACKER(S): 9:10 AM TIME STARTED OFF BOTTOM: 12:40 PM
WELL TEMPERATURE: 120 'F
INITIAL HYDROSTATIC PRESSURE: (A) 2151 PSI
INITIAL FLOW PERIOD MIN: 30 (B) 64 PSI TO (C) 64 PSI
INITIAL CLOSED IN PERIOD MIN: 63 (D) 796 PSI
FINAL FLOW PERIOD MIN: 45 (E) 63 PSI TO (F) 69 PSI
FINAL CLOSED IN PERIOD MIN: 60 (G) 791 PSI
FINAL HYDROSTATIC PRESSURE (H) 2005 PSI

WESTERN TESTING CO. INC.

PRESSURE DATA

DATE: 10/24/84 TICKET #7361

CUSTOMER: RISEDON LIMITED LEASE: KERR

WELL: 2 TEST: 1 GEOLOGIST: PASHAY

ELEVATION (KB): 1965 FORMATION: SIMPSON

SECTION: 24 TOWNSHIP: 29S

RANGE: 14W COUNTY: PRATT STATE: KANSAS

GAUGE SN #6246 RANGE: 5200 CLOCK: 12

(A) INITIAL HYDROSTATIC PRESSURE:	2151	PSI
(B) FIRST INITIAL FLOW PRESSURE:	64	PSI
(C) FIRST FINAL FLOW PRESSURE:	64	PSI
(D) INITIAL CLOSED-IN PRESSURE:	796	PSI
(E) SECOND INITIAL FLOW PRESSURE:	63	PSI
(F) SECOND FINAL FLOW PRESSURE:	69	PSI
(G) FINAL CLOSED-IN PRESSURE:	791	PSI
(H) FINAL HYDROSTATIC PRESSURE:	2005	PSI
WELL TEMPERATURE:	120	'F

OPEN TOOL: 9:10 AM

	TIME - GIVEN		TIME - ACTUAL	
FIRST FLOW PRESSURE:	30	MIN	30	MIN
INITIAL CLOSED-IN PRESSURE:	60	MIN	63	MIN
SECOND FLOW PRESSURE:	60	MIN	45	MIN
FINAL CLOSED-IN PRESSURE:	60	MIN	60	MIN

PRESSURE BREAKDOWN

	FIRST FLOW		INITIAL SHUT-IN		SECOND FLOW		FINAL SHUT-IN	
PT	MIN	PRESSURE	MIN	PRESSURE	MIN	PRESSURE	MIN	PRESSURE
1	0	64	0	64	0	63	0	69
2	5	64	3	461	5	63	3	490
3	10	64	6	658	10	63	6	688
4	15	64	9	723	15	63	9	710
5	20	64	12	733	20	64	12	721
6	25	64	15	743	25	65	15	726
7	30	64	18	753	30	66	18	731
8			21	760	35	67	21	736
9			24	764	40	68	24	741
10			27	768	45	69	27	746
11			30	772			30	751
12			33	776			33	756
13			36	780			36	760
14			39	784			39	764
15			42	788			42	768
16			45	792			45	772
17			48	793			48	776
18			51	794			51	780
19			54	795			54	784
20			57	795			57	788
21			60	796			60	791
22			63	796				
23								
24								
25								
26								
27								
28								
29								
30								

WESTERN TESTING CO. INC.
GAS FLOW REPORT

DATE: 10/24/84 TICKET #7361
CUSTOMER: RISEDON LIMITED LEASE: KERR
WELL: 2 TEST: 1 GEOLOGIST: PASHAY
ELEVATION (KB): 1965 FORMATION: SIMPSON
SECTION: 24 TOWNSHIP: 29S
RANGE: 14W COUNTY: PRATT STATE: KANSAS
GAUGE SN #6246 RANGE: 5200 CLOCK: 12

TIME GAUGE (MIN)	TESTER TYPE	ORIFICE SIZE	PRESSURE (PSI)	FLOW DESCRIPTION
			PRE FLOW	
			SECOND FLOW	
10	MERLA	1/4	9 PSIG	29000 CFPD
20			15	39200
30			19	45500
40			22	50200
50			24	53200
60			25	54700

GAS BOTTLE SN #:
DATE BOTTLE FILLED:
DATE TO BE INVOICED:

Gas Production

B.T. Gauge Numbers				Ticket Number	7361
		Time	Pressure		
Initial Hydrostatic			2151	Elevation	1965 KB . ft.
Final Hydrostatic			2005	Production Rate Intial	m cu. ft.
1st Flow	Initial	— — — —	64	Production Rate Final	54.700 m cu. ft.
	Final	30	64	Hole Size	7.875 in.
Initial Closed In Pressure		60	796	Footage Tested	33 ft.
2nd Flow	Initial	— — — —	63	Mud Weight	9.2 lbs. gal.
	Final	60	69	Gas Viscosity	cp
Final Closed In Pressure		60	791	Gas Gravity	—
Extrapolated Static Pressure	Initial		837 - 622	Gas Compressibility	—
	Final		875 - 526		
Slope Psi^2/cycle	Initial		215.862		
	Final		348.670		

Remarks: _____

SUMMARY

BT Gauge Number Depth

Product	Equation	Initial	Final	Units
Transmissability	$\frac{Kh}{\mu} = \frac{1637\ Q_g\ ZT}{m}$		87.0992	$\frac{md.\ ft.}{cp}$
Theoretical Flow Capacity	$Kh = \frac{Kh}{\mu}\ \mu$		1.567	md. ft.
Average Effective	$K = \frac{Kh}{h}$		.195	md.
Permeability	$K_1 = \frac{Kh}{h_1}$			md.
Indicated Flow Capacity	$(Kh)_g = \frac{3200\ Q_g\ \mu\ ZT\ \mathrm{Log}(0.472\ b/r_w)}{P_s^2 - P_f^2}$		1.267	md. ft.
Damage Ratio	$DR = \frac{\text{Theo. Flow Cap}}{\text{Indicated Flow Cap}}\ \frac{Kh}{(Kh)_g}$		2.813	—
Indicated Flow Rate	$OF_1 = \frac{Q_g\ \ P_s^2}{P_s^2 - P_f^2}$		55,042	MCFD
			54,870	MCFD
Theoretical Potential Rate	$OF_3 = OF_1\ DR$ Max.		154,879	MCFD
	$OF_4 = OF_2\ DR$ Min.		154,396	MCFD
Approx. Radius of Investigation	$b \backsimeq \sqrt{Kt}$ or $\sqrt{Kt_0}$		2.969	ft.
	$b_1 \backsimeq \sqrt{K_1 t}$ or $\sqrt{K_1 t_0}$		-	ft.
Potentiometric Surface *	$Pot. = (El - GD) + (2.319\ Ps)$		344.875	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.

INTERPRETATIONS AND CALCULATIONS

Gas Production

B.T. Gauge Numbers			Ticket Number		7361
		Pressure			
Initial Hydrostatic		2151	Elevation		1965 KB. ft.
Final Hydrostatic		2005	Production Rate	Intial	m cu. ft.
	Time			Final	54,700 m cu. ft.
1st Flow Initial	— — — —	64			
1st Flow Final	30	64	Hole Size		7.875 in.
Initial Closed In Pressure	60	796	Footage Tested		33 ft.
2nd Flow Initial	— — — —	63	Mud Weight		9.2 lbs. gal.
2nd Flow Final	60	69	Gas Viscosity		cp
Final Closed In Pressure	60	791	Gas Gravity		—
Extrapolated Static Pressure Initial		837-622	Gas Compressibility		—
Extrapolated Static Pressure Final		875-526			
Slope Psi^2/cycle Initial		215.862			
Slope Psi^2/cycle Final		348.670			

Remarks:

SUMMARY

Product	Equation	BT Gauge Number Depth Initial	Final	Units
Transmissability	$\frac{Kh}{\mu} = \frac{1637\ Q_g\ ZT}{m}$		87.0992	$\frac{md.\ ft.}{cp}$
Theoretical Flow Capacity	$Kh = \frac{Kh}{\mu}\ \mu$		1.567	md. ft.
Average Effective Permeability	$K = \frac{Kh}{h}$		.195	md.
	$K_1 = \frac{Kh}{h_1}$			md.
Indicated Flow Capacity	$(Kh)_2 = \frac{3200\ Q_g\ \mu\ ZT\ \mathrm{Log}(0.472\ b/r_w)}{P_s^2 - P_f^2}$		1.267	md. ft.
Damage Ratio	$DR = \frac{\text{Theo. Flow Cap}}{\text{Indicated Flow Cap}}\ \frac{Kh}{(Kh)_2}$		2.813	—
Indicated Flow Rate	$OF_1 = \frac{Q_g\ \ P_s^2}{P_s^2 - P_f^2}$		55,042	MCFD
			54,870	MCFD
Theoretical Potential Rate	$OF_3 = OF_1\ DR$ Max.		154,879	MCFD
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Approx. Radius of Investigation	$b \leftrightarrows \sqrt{Kt}$ or $\sqrt{Kt_0}$		2.969	ft.
	$b_1 \leftrightarrows \sqrt{K_1 t}$ or $\sqrt{K_1 t_0}$		←	ft.
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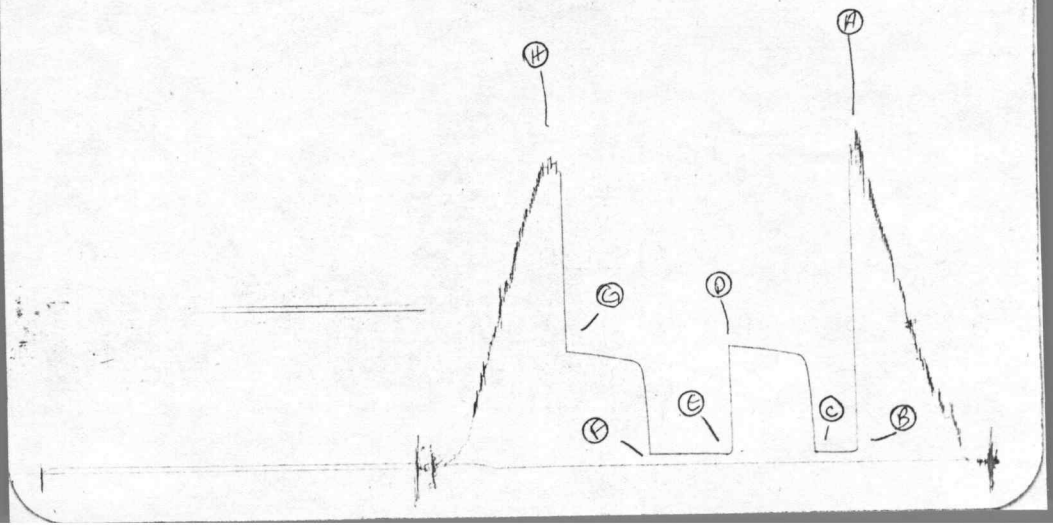
INTERPRETATIONS AND CALCULATIONS

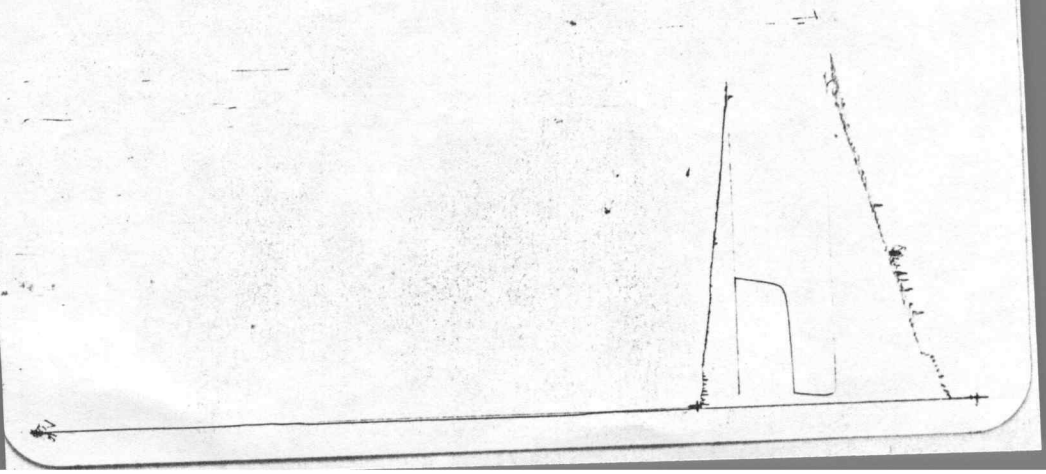
ACC# 7361

DST #1



TC# 7361

DST#1



Company Price Oil Company — Lease & Well No. Hall #1

Elevation 1340 Kelly Bushing Formation Est. Mississippi — Effective Pay --- Ft. — Ticket No. 3830

Date 10/29/79 — Sec. 29 — Twp. 29S — Range 6E — County Butler — State Kansas

Test Approved by Ernest Price, Jr. — Western Representative Norman Allen

Formation Test No. 1 — Interval Tested from 2800 ft. to 2820 ft. — Total Depth 2820 ft.

Packer Depth 2800 ft. — Size 6 3/4 in. — Packer Depth - ft. — Size - in.

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

Depth of Selective Zone Set --

Top Recorder Depth (Inside) 2813 ft. — Recorder Number 1561 — Cap. 3200

Bottom Recorder Depth (Outside) 2816 ft. — Recorder Number 10980 — Cap. 4200

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

Drilling Contractor Triangle Drilling Co. — Drill Collar Length 360 — I. D. 2¼ in.

Mud Type chemical — Viscosity 44 — Weight Pipe Length - — I. D. - in.

Weight 9.5 — Water Loss 11. cc. — Drill Pipe Length 2425 — I. D. 3.8 in.

Chlorides 1,000 P.P.M. — Test Tool Length 35 ft. — Tool Size 4½OD in.

Jars: Make -- — Serial Number -- — Anchor Length 20 ft. — Size 4½OD in.

Did Well Flow? - — Reversed Out - — Surface Choke Size 3/4 in. — Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. — Tool Joint Size 3½IF in.

Blow: Weak throughout test.

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks: PRESSURES READ FROM RECORDER #10980

Time Set Packer(s) 9:45 A.M. ~~P.M.~~ — Time Started Off Bottom 12:45 ~~A.M.~~ P.M. — Maximum Temperature 106°

Initial Hydrostatic Pressure			(A)	1379	P.S.I.	
Initial Flow Period	Minutes	60	(B)	11	P.S.I. to (C)	53 P.S.I.
Initial Closed In Period	Minutes	30	(D)	915	P.S.I.	
Final Flow Period	Minutes	35	(E)	79	P.S.I. to (F)	89 P.S.I.
Final Closed In Period	Minutes	60	(G)	951	P.S.I.	
Final Hydrostatic Pressure			(H)	1356	P.S.I.	

WESTERN TESTING CO., INC.

Pressure Data

Date 10/29/79 Test Ticket No. 3830

Recorder No. 10980 Capacity 4200 Location 2816 Ft.

Clock No. -- Elevation 1340 Kelly Bushing Well Temperature 106 °F

Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	1379 P.S.I.		Open Tool	9:45A M	
B	First Initial Flow Pressure	11 P.S.I.		First Flow Pressure	60 Mins.	60 Mins.
C	First Final Flow Pressure	53 P.S.I.		Initial Closed-in Pressure	30 Mins.	30 Mins.
D	Initial Closed-in Pressure	915 P.S.I.		Second Flow Pressure	30 Mins.	35 Mins.
E	Second Initial Flow Pressure	79 P.S.I.		Final Closed-in Pressure	60 Mins.	60 Mins.
F	Second Final Flow Pressure	89 P.S.I.				
G	Final Closed-in Pressure	951 P.S.I.				
H	Final Hydrostatic Mud	1356 P.S.I.				

PRESSURE BREAKDOWN

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

Point Mins.	Press.
P 1 0	11
P 2 5	19
P 3 10	45
P 4 15	56
P 5 20	45
P 6 25	45
P 7 30	45
P 8 35	45
P 9 40	47
P10 45	48
P11 50	49
P12 55	51
P13 60	53
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 10 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	53
3	214
6	536
9	728
12	791
15	834
18	857
21	879
24	891
27	904
30	915

Second Flow Pressure
Breakdown: 7 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	79
5	77
10	77
15	77
20	81
25	88
30	88
35	89

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

Point Minutes	Press.
0	89
3	274
6	583
9	732
12	798
15	834
18	862
21	879
24	891
27	902
30	911
33	919
36	926
39	932
42	934
45	938
48	943
51	947
54	949
57	950
60	951

TKL# 3830
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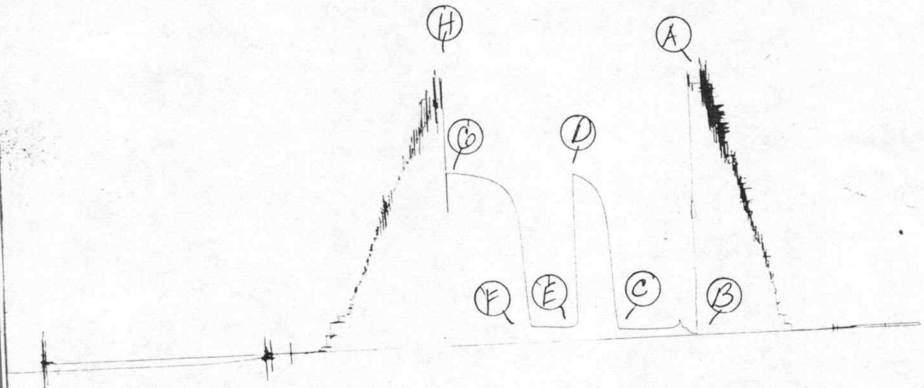

10980