WESTERN TESTING CO., INC.
FORMATION TESTING

OK

TICKET Nº 10885

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

Elevation 1326 KB Formation Miss Eff. Pay Ft.

District Augusta Date 9-21-85 Customer Order No.

COMPANY NAME R O D Range Oil Co. Inc

ADDRESS c/o Page Ck 220 W. Douglas

LEASE AND WELL NO. Nelson C #2 COUNTY Saline STATE KS Sec. 18 Twp. 16 S Rge. 1 W

Mail Invoice To Same No. Copies Requested 1

Co. Name #2 (C) Nelson Address Same

Mail Charts To No. Copies Requested 5

Address

Formation Test No. 3 Interval Tested From 2580 ft. to 2708 ft. Total Depth 2708 ft.

Packer Depth 2575 ft. Size 6.75 in. Packer Depth — ft. Size — in.

Packer Depth 2580 ft. Size 6.75 in. Packer Depth — ft. Size — in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 2602 ft. Recorder Number 5666 Cap. 5050

Bottom Recorder Depth (Outside) 2607 ft. Recorder Number 3351 Cap. 3925

Below Straddle Recorder Depth ft. Recorder Number Cap.

Drilling Contractor Range #1 Drill Collar Length 145 I. D. 2.25 in.

Mud Type Chem Viscosity 52 Weight Pipe Length I. D. in.

Weight 9.5 Water Loss 12.0 cc. Drill Pipe Length 2415 I. D. 3.8 in.

Chlorides 1600 P.P.M. Test Tool Length 20 ft. Tool Size 5.5 in.

Jars: Make — Serial Number Anchor Length 128 ft. Size 5.5 in.

Did Well Flow? NO Reversed Out NO Surface Choke Size .75 in. Bottom Choke Size .75 in.

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

Blow: Weak thru out

Recovered 90 ft. of Very slight oil cut mud with SKIM of oil on top

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Chlorides P.P.M. Sample Jars used 2 Remarks:

Time On Location 5TDB/DST A.M. P.M. Time Pick Up Tool 12:30 A.M. P.M. Time Off Location 6:30 5TDBY 8:00 A.M. P.M.

Time Set Packer(s) 2:00 A.M. P.M. Time Started Off Bottom 5:00 A.M. P.M. Maximum Temperature 104

Initial Hydrostatic Pressure			(A)	1340	P.S.I.	
Initial Flow Period	Minutes 30		(B)	60	P.S.I. to (C)	70 P.S.I.
Initial Closed In Period	Minutes 30		(D)	490	P.S.I.	
Final Flow Period	Minutes 60		(E)	80	P.S.I. to (F)	100 P.S.I.
Final Closed In Period	Minutes 60		(G)	520	P.S.I.	
Final Hydrostatic Pressure			(H)	1340	P.S.I.	#5666

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 Robert Olsen
Signature of Customer or his authorized representative

Western Representative Allen Edgington

FIELD INVOICE

Open Hole Test	$ 550
Misrun	$
Straddle Test	$
Jars	$
Selective Zone	$
Safety Joint	$
Standby	$
Evaluation	$
Extra Packer	$
Circ. Sub.	$
Mileage	$
Fluid Sampler	$
Extra Charts	$

WESTERN TESTING CO., INC.
Pressure Data

Date 9-21-85 Test Ticket No. 10885

Recorder No. 5666 Capacity 3950 Location F

Clock No. Elevation 1326 KB Well Temperature 104 °

Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	1356	P.S.I.	Open Tool	2:00 PM	
B	First Initial Flow Pressure	61	P.S.I.	First Flow Pressure	30 Mins	30 Min
C	First Final Flow Pressure	68	P.S.I.	Initial Closed-in Pressure	30 Mins	30 Min
D	Initial Closed-in Pressure	487	P.S.I.	Second Flow Pressure	60 Mins	60 Min
E	Second Initial Flow Pressure	82	P.S.I.	Final Closed-in Pressure	60 Mins	60 Min
F	Second Final Flow Pressure	96	P.S.I.			
G	Final Closed-in Pressure	512	P.S.I.			
H	Final Hydrostatic Mud	1326	P.S.I.			

PRESSURE BREAKDOWN

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

Point	Mins.	Press.
P 1	0	61
P 2	5	61
P 3	10	61
P 4	15	61
P 5	20	63
P 6	25	66
P 7	30	68
P 8	35	
P 9	40	
P10	45	
P11	50	
P12	55	
P13	60	
P14	65	
P15	70	
P16	75	
P17	80	
P18	85	
P19	90	
P20	95	
	100	

Initial Shut-In
Breakdown: 11 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	68
3	190
6	292
9	357
12	398
15	424
18	447
21	461
24	471
27	480
30	487
33	
36	
39	
42	
45	
48	
51	
54	
57	
60	

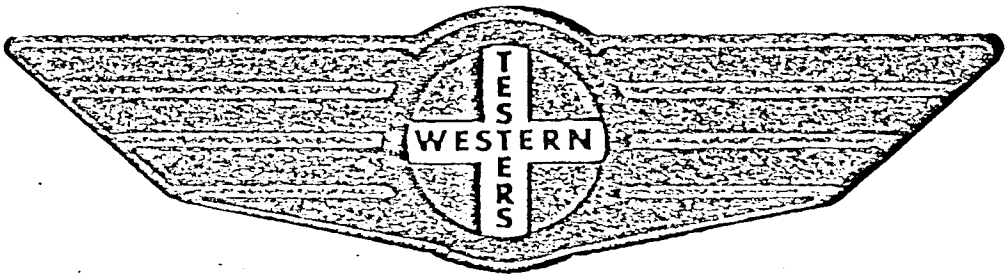
Second Flow Pressure
Breakdown: 13 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	82
5	
10	
15	82
20	83
25	86
30	89
35	91
40	93
45	95
50	95
55	96
60	96
65	
70	
75	
80	
85	
90	
95	
100	

Final Shut-In
Breakdown: 21 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	96
3	190
6	286
9	338
12	379
15	406
18	426
21	441
24	453
27	461
30	469
33	478
36	485
39	489
42	495
45	499
48	504
51	507
54	509
57	511
60	512

FORMATION TEST REPORT



Home Office: Wichita, Kansas 67201

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

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE: 9/21/85 TICKET #10885
CUSTOMER: RANGE OIL COMPANY INC. LEASE: "C" NELSON
WELL: 2 TEST: 3 GEOLOGIST: OLSEN
ELEVATION (KB): 1326 FORMATION: MISSISSIPPI
SECTION: 18 TOWNSHIP: 16S
RANGE: 1W COUNTY: SALINE STATE: KANSAS
GAUGE SN #5666 RANGE: 3950 CLOCK: 12

INTERVAL TEST FROM: 2580 FT TO: 2708 FT TOTAL DEPTH: 2708 FT
DEPTH OF SELECTIVE ZONE: FT
PACKER DEPTH: 2575 FT SIZE: 6 3/4 IN PACKER DEPTH: 2580 FT SIZE: 6 3/4 IN
PACKER DEPTH: FT SIZE: IN PACKER DEPTH: FT SIZE: IN

DRILLING CONTRACTOR: RANGE
MUD TYPE: CHEMICAL VISCOSITY: 52
WEIGHT: 9.8 WATER LOSS (CC): 12.0
CHLORIDES (P.P.M.): 1600
JARS - MAKE: SERIAL NUMBER:
DID WELL FLOW? NO REVERSED OUT? NO
DRILL COLLAR LENGTH: 145 FT I.D.: 2 1/4 IN
WEIGHT PIPE LENGTH: FT I.D.: IN
DRILL PIPE LENGTH: 2415 FT I.D.: 3.8 IN
TEST TOOL LENGTH: 20 FT TOOL SIZE: 5 1/2 IN
ANCHOR LENGTH: 128 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 XH IN

BLOW: WEAK BLOW THROUGHOUT TEST.

RECOVERED: 90 FT OF: VERY SLIGHTLY OIL CUT MUD WITH SKIM OF OIL ON T
OP
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:

REMARKS:

TIME SET PACKER(S): 2:00 PM TIME STARTED OFF BOTTOM: 5:00 PM
WELL TEMPERATURE: 104 °F
INITIAL HYDROSTATIC PRESSURE: (A) 1356 PSI
INITIAL FLOW PERIOD MIN: 30 (B) 61 PSI TO (C) 68 PSI
INITIAL CLOSED IN PERIOD MIN: 30 (D) 487 PSI
FINAL FLOW PERIOD MIN: 60 (E) 82 PSI TO (F) 96 PSI
FINAL CLOSED IN PERIOD MIN: 60 (G) 512 PSI
FINAL HYDROSTATIC PRESSURE (H) 1326 PSI

WESTERN TESTING CO. INC.
PRESSURE DATA

DATE: 9/21/85 TICKET #10885
CUSTOMER: RANGE OIL COMPANY INC. LEASE: "C" NELSON
WELL: 2 TEST: 3 GEOLOGIST: OLSEN
ELEVATION (KB): 1326 FORMATION: MISSISSIPPI
SECTION: 18 TOWNSHIP: 16S
RANGE: 1W COUNTY: SALINE STATE: KANSAS
GAUGE SN #5666 RANGE: 3950 CLOCK: 12

(A) INITIAL HYDROSTATIC PRESSURE:	1356	PSI
(B) FIRST INITIAL FLOW PRESSURE:	61	PSI
(C) FIRST FINAL FLOW PRESSURE:	68	PSI
(D) INITIAL CLOSED-IN PRESSURE:	487	PSI
(E) SECOND INITIAL FLOW PRESSURE:	82	PSI
(F) SECOND FINAL FLOW PRESSURE:	96	PSI
(G) FINAL CLOSED-IN PRESSURE:	512	PSI
(H) FINAL HYDROSTATIC PRESSURE:	1326	PSI
WELL TEMPERATURE:	104	'F

OPEN TOOL: 2:00 PM

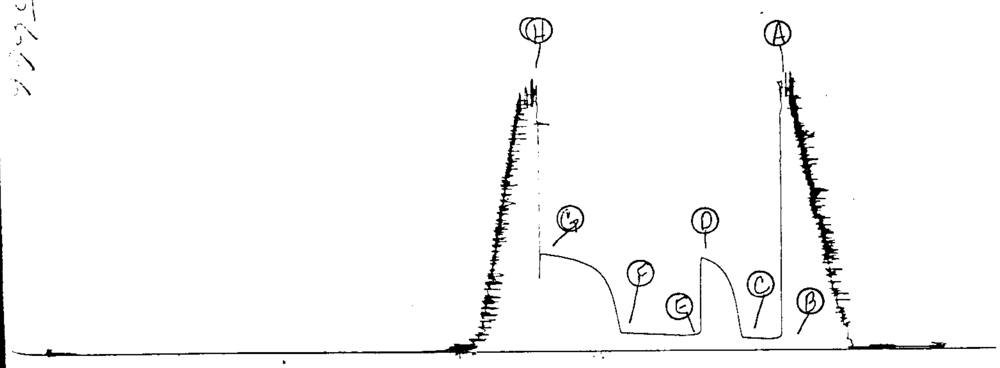
	TIME - GIVEN		TIME - ACTUAL	
FIRST FLOW PRESSURE:	30	MIN	30	MIN
INITIAL CLOSED-IN PRESSURE:	30	MIN	30	MIN
SECOND FLOW PRESSURE:	60	MIN	60	MIN
FINAL CLOSED-IN PRESSURE:	60	MIN	60	MIN

PRESSURE BREAKDOWN

	FIRST FLOW		INITIAL SHUT-IN		SECOND FLOW		FINAL SHUT-IN	
PT	MIN	PRESSURE	MIN	PRESSURE	MIN	PRESSURE	MIN	PRESSURE
1	0	61	0	68	0	82	0	96
2	5	61	3	190	5	82	3	190
3	10	61	6	292	10	82	6	286
4	15	61	9	357	15	82	9	338
5	20	63	12	398	20	83	12	379
6	25	66	15	424	25	86	15	406
7	30	68	18	447	30	89	18	426
8			21	461	35	91	21	441
9			24	471	40	93	24	453
10			27	480	45	95	27	461
11			30	487	50	95	30	469
12					55	96	33	478
13					60	96	36	485
14							39	489
15							42	495
16							45	499
17							48	504
18							51	507
19							54	509
20							57	511
21							60	512
22								
23								
24								
25								
26								
27								
28								
29								
30								

TK# 10885
I

DST#3
10885
5666



Tk# 10885

0.

10885 DST #3 3351