WESTERN TESTING CO., INC.

FORMATION TESTING

Called - or

TICKET Nº 8149

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

Elevation 1108 KB Formation Pawnee/Ft Scott Eff. Pay - Ft.

RD 40 13 District Augusta Date 1-26-84 Customer Order No. -

COMPANY NAME Range Oil Co Inc

ADDRESS 240 Page Court 220 W Douglas Wichita, Ks 67202

LEASE AND WELL NO. Osborn A # 1 COUNTY Elk STATE Ks Sec. 5 Twp. 31S Rge. 11E

Mail Invoice To Same #1 "A" OSBORN No. Copies Requested 1
Co Name Address

Mail Charts To Same No. Copies Requested 5
Address

Formation Test No. 1 Interval Tested from 1582 ft. to 1645 ft. Total Depth 1645 ft.

Packer Depth 1582 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 1577 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 1597 ft. Recorder Number 13266 Cap. 4200

Bottom Recorder Depth (Outside) 1600 ft. Recorder Number 13268 Cap. 4225

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

Drilling Contractor Range Drlg Co Inc #2 Drill Collar Length 270 I. D. 2 1/4 in.

Mud Type Chem Viscosity 38 Weight Pipe Length - I. D. - in.

Weight 9.6 Water Loss 13.6 cc. Drill Pipe Length 1292 I. D. 3.8 in.

Chlorides 1200 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 OH in.

Jars: Make - Serial Number - Anchor Length 63 ft. Size 5 1/2 OH DP 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 XH in.

Blow: Weak to very weak 45 minutes

Recovered 65 ft. of Thin drilling mud with very slight show of oil 1400 PPM Chlorides

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks: Slid tool 10' to bottom

2 sample jars

JAN 30 1984

Time On Location 7:45 1-26 A.M. P.M. Time Pick Up Tool 8:45 A.M. P.M. Time Off Location Standby A.M. P.M.

Time Set Packer(s) 10:00 A.M. P.M. Time Started Off Bottom 12:15 A.M. P.M. Maximum Temperature 90

Initial Hydrostatic Pressure		(A) 816	P.S.I.	
Initial Flow Period	Minutes 30	(B) 90	P.S.I. to (C) 60	P.S.I.
Initial Closed In Period	Minutes 30	(D) 495	P.S.I.	
Final Flow Period	Minutes 30	(E) 90	P.S.I. to (F) 70	P.S.I.
Final Closed In Period	Minutes 45	(G) 505	P.S.I.	
Final Hydrostatic Pressure		(H) 800	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 H G McMahon III
Signature of Customer or his authorized representative

Western Representative Norman Allen 0150

FIELD INVOICE

Open Hole Test	$ 550 00
Misrun	$
Straddle Test	$
Jars	$
Selective Zone	$
Safety Joint	$
Standby	$
Evaluation	$
Extra Packer	$
Circ. Sub.	$
Mileage	$
Fluid Sampler	$
Extra Charts	$
Insurance	$
TOTAL	$ 550 00

WESTERN TESTING CO., INC.
Pressure Data

Date 1-26 Test Ticket No. 8149

Recorder No. 13266 Capacity Location

Clock No. — — — — Elevation Well Temperature

Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	805	P.S.I.	Open Tool	M	
B	First Initial Flow Pressure	104	P.S.I.	First Flow Pressure	Mins.	Mir
C	First Final Flow Pressure	62	P.S.I.	Initial Closed-in Pressure	Mins.	Mir
D	Initial Closed-in Pressure	484	P.S.I.	Second Flow Pressure	Mins.	Mir
E	Second Initial Flow Pressure	100	P.S.I.	Final Closed-in Pressure	Mins.	Mir
F	Second Final Flow Pressure	63	P.S.I.			
G	Final Closed-in Pressure	505	P.S.I.			
H	Final Hydrostatic Mud	795	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	104
P 2	5	78
P 3	10	68
P 4	15	64
P 5	20	63
P 6	25	62
P 7	30	62
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: 11 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	62
3	65
6	101
9	169
12	236
15	298
18	347
21	392
24	422
27	450
30	484
33	
36	
39	
42	
45	
48	
51	
54	
57	
60	

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

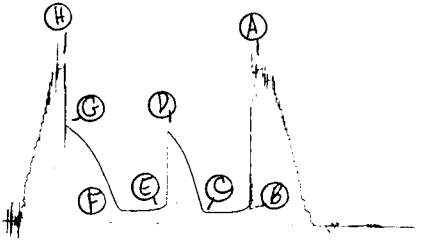
Point Minutes	Press.
0	100
5	78
10	71
15	67
20	65
25	63
30	63
35	
40	
45	
50	
55	
60	
65	
70	
75	
80	
85	
90	

Final Shut-In
Breakdown: 16 Inc.
of 3 mins. and a
final inc. of 0 Min.

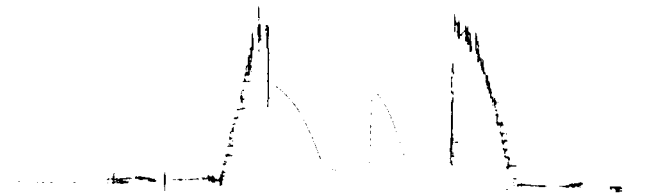
Point Minutes	Press.
0	63
3	65
6	84
9	128
12	180
15	232
18	279
21	320
24	358
27	391
30	417
33	442
36	461
39	480
42	498
45	505
48	
51	
54	
57	
60	

JKT # 8149

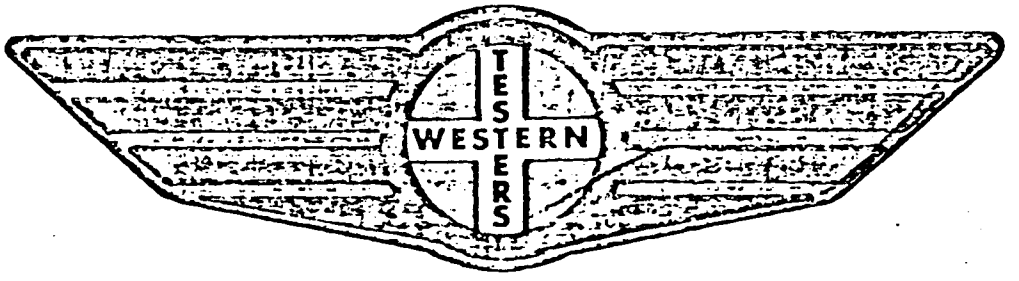
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TKT # 8149



FORMATION TEST REPORT



Home Office: Wichita, Kansas 67201

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

mpany RANGE OIL CO., INC. Lease and Well No. #1 "A" OSBORN Sec. 5 Twp. 31S Rge. 11E Test No. 1 Date 1/26/8

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE: 1/26/84 TICKET #8149
CUSTOMER: RANGE OIL COMPANY INC. LEASE: "A" OSBORN
WELL: 1 TEST: 1 GEOLOGIST: MCMAHON
ELEVATION (KB): 1108 FORMATION: PAWNEE/FT SCOTT
SECTION: 5 TOWNSHIP: 31S
RANGE: 11E COUNTY: ELK STATE: KANSAS
GAUGE SN #13266 RANGE: 4200 CLOCK: 12

INTERVAL TEST FROM: 1582 FT TO: 1645 FT TOTAL DEPTH: 1645 FT
DEPTH OF SELECTIVE ZONE: FT
PACKER DEPTH: 1582 FT SIZE: 6 3/4 IN PACKER DEPTH: 1577 FT SIZE: 6 3/4 IN
PACKER DEPTH: FT SIZE: IN PACKER DEPTH: FT SIZE: IN

DRILLING CONTRACTOR: R.D.C. #2
MUD TYPE: CHEM VISCOSITY: 38
WEIGHT: 9.6 WATER LOSS (CC): 13.6
CHLORIDES (P.P.M.): 1200
JARS - MAKE: SERIAL NUMBER:
DID WELL FLOW? NO REVERSED OUT? NO
DRILL COLLAR LENGTH: 270 FT I.D.: 2.25 IN
WEIGHT PIPE LENGTH: FT I.D.: IN
DRILL PIPE LENGTH: 1292 FT I.D.: 3.8 IN
TEST TOOL LENGTH: 20 FT TOOL SIZE: 5 1/2 O.D. IN
ANCHOR LENGTH: 63 FT SIZE: 5.5 OD+DP 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 TO VERY WEAK IN 45 MINUTES.

RECOVERED: 65 FT OF: THIN DRLG MUD WITH SLIGHT SHOW OF OIL.
RECOVERED: FT OF: CHLORIDES 1400 P.P.M.
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:

REMARKS: SLID TOOL 10' TO BOTTOM.

TIME SET PACKER(S): 10:00 A.M. TIME STARTED OFF BOTTOM: 12:15 P.M.
WELL TEMPERATURE: 90 'F
INITIAL HYDROSTATIC PRESSURE: (A) 805 PSI
INITIAL FLOW PERIOD MIN: 30 (B) 104 PSI TO (C) 62 PSI
INITIAL CLOSED IN PERIOD MIN: 30 (D) 484 PSI
FINAL FLOW PERIOD MIN: 30 (E) 100 PSI TO (F) 63 PSI
FINAL CLOSED IN PERIOD MIN: 45 (G) 505 PSI
FINAL HYDROSTATIC PRESSURE (H) 795 PSI

WESTERN TESTING CO. INC.
PRESSURE DATA

DATE: 1/26/84 TICKET #8149
CUSTOMER: RANGE OIL COMPANY INC. LEASE: "A" OSBORN
WELL: 1 TEST: 1 GEOLOGIST: MCMAHON
ELEVATION (KB): 1108 FORMATION: PAWNEE/FT SCOTT
SECTION: 5 TOWNSHIP: 31S
RANGE: 11E COUNTY: ELK STATE: KANSAS
GAUGE SN #13266 RANGE: 4200 CLOCK: 12

(A)	INITIAL HYDROSTATIC PRESSURE:	805	PSI
(B)	FIRST INITIAL FLOW PRESSURE:	104	PSI
(C)	FIRST FINAL FLOW PRESSURE:	62	PSI
(D)	INITIAL CLOSED-IN PRESSURE:	484	PSI
(E)	SECOND INITIAL FLOW PRESSURE:	100	PSI
(F)	SECOND FINAL FLOW PRESSURE:	63	PSI
(G)	FINAL CLOSED-IN PRESSURE:	505	PSI
(H)	FINAL HYDROSTATIC PRESSURE:	795	PSI
WELL TEMPERATURE:		90	°F

OPEN TOOL: 10:00 A.M.

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

PRESSURE BREAKDOWN

	FIRST FLOW		INITIAL SHUT-IN		SECOND FLOW		FINAL SHUT-IN	
PT	MIN	PRESSURE	MIN	PRESSURE	MIN	PRESSURE	MIN	PRESSURE
1	0	104	0	62	0	100	0	63
2	5	78	3	65	5	78	3	65
3	10	68	6	101	10	71	6	84
4	15	64	9	169	15	67	9	128
5	20	63	12	236	20	65	12	180
6	25	62	15	298	25	63	15	232
7	30	62	18	347	30	63	18	279
8			21	392			21	320
9			24	422			24	358
10			27	450			27	391
11			30	484			30	417
12							33	442
13							36	461
14							39	480
15							42	498
16							45	505
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

WESTERN TESTING CO., INC.
FORMATION TESTING

Called-in

TICKET Nº 8150

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

Elevation 1108 KB Formation Miss Eff. Pay - Ft.

13

RD 40 District Augusta Date 1-27-84 Customer Order No. -

COMPANY NAME Range Oil Co Inc

ADDRESS 240 Page Court 220W Douglas Wichita, Ks

LEASE AND WELL NO. Osborn A # 1 COUNTY Elk STATE Ks Sec. 5 Twp. 31S Rge. 11E

Mail Invoice To Same #1 "A" OSBORN No. Copies Requested 1
Co. Name Address

Mail Charts To Same No. Copies Requested 5
Address

Formation Test No. 2 Interval Tested from 1962 ft. to 1990 ft. Total Depth 1990 ft.

Packer Depth 1962 ft.	Size 6 3/4 in.	Packer Depth - ft.	Size - in.
Packer Depth 1957 ft.	Size 6 3/4 in.	Packer Depth - ft.	Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside)	1982 ft.	Recorder Number 13266	Cap. 4200
Bottom Recorder Depth (Outside)	1985 ft.	Recorder Number 13268	Cap. 4225
Below Straddle Recorder Depth	- ft.	Recorder Number -	Cap. -

Drilling Contractor Range Drlg Co Inc #2		Drill Collar Length 270	I. D. 2 1/4 in.
Mud Type Chem	Viscosity 38	Weight Pipe Length -	I. D. - in.
Weight 9.6	Water Loss 13.6 cc.	Drill Pipe Length 1672	I. D. 3.8 in.
Chlorides 1200 P.P.M.		Test Tool Length 20 ft.	Tool Size 5 1/2 OD in.
Jars: Make -	Serial Number -	Anchor Length 28 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 XH in.

Blow: Fair thruout test

Recovered 30 ft. of Drilling mud 1500 PPM Chlorides
Recovered ft. of
Recovered ft. of
Recovered ft. of
Recovered ft. of
Remarks:

1 sample jar

RECEIVED JAN 30 1984

Time On Location 8:00 1-27 A.M. Time Pick Up Tool 11:20 A.M. Time Off Location Standby A.M. P.M.
Time Set Packer(s) 12:30 P.M. Time Started Off Bottom 3:30 A.M. P.M. Maximum Temperature 98

Initial Hydrostatic Pressure		(A) 1015	P.S.I.
Initial Flow Period	Minutes 30	(B) 70	P.S.I. to (C) 40 P.S.I.
Initial Closed In Period	Minutes 30	(D) 575	P.S.I.
Final Flow Period	Minutes 60	(E) 70	P.S.I. to (F) 40 P.S.I.
Final Closed In Period	Minutes 60	(G) 560	P.S.I.
Final Hydrostatic Pressure		(H) 1000	P.S.I.

COMPANY TERMS

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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 H.G. McMahon III
Signature of Customer or his authorized representative

Western Representative Norman Allen 0150

FIELD INVOICE 50

Open Hole Test	$ 550
Misrun	$
Straddle Test	$
Jars	$
Selective Zone	$
Safety Joint	$
Standby	$
Evaluation	$
Extra Packer	$
Circ. Sub.	$
Mileage	$
Fluid Sampler	$
Extra Charts	$
Insurance	$
TOTAL	$ 550 50

WESTERN TESTING CO., INC.
Pressure Data

Date 1-27 Test Ticket No. 8150

Recorder No. 13266 Capacity Location Ft

Clock No. — — — — Elevation Well Temperature °

Point		Pressure	
A	Initial Hydrostatic Mud	1005	P.S.I.
B	First Initial Flow Pressure	84	P.S.I.
C	First Final Flow Pressure	44	P.S.I.
D	Initial Closed-in Pressure	576	P.S.I.
E	Second Initial Flow Pressure	89	P.S.I.
F	Second Final Flow Pressure	45	P.S.I.
G	Final Closed-in Pressure	554	P.S.I.
H	Final Hydrostatic Mud	990	P.S.I.

	Time Given	Time Computed
Open Tool	M	
First Flow Pressure	30 Mins.	30 Min
Initial Closed-in Pressure	30 Mins.	Min
Second Flow Pressure	60 Mins.	Min
Final Closed-in Pressure	60 Mins.	Min

PRESSURE BREAKDOWN

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

Point	Mins.	Press.
P 1	0	84
P 2	5	57
P 3	10	49
P 4	15	46
P 5	20	45
P 6	25	44
P 7	30	44
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: 11 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	44
3	339
6	452
9	502
12	529
15	543
18	555
21	564
24	569
27	574
30	576
33	
36	
39	
42	
45	
48	
51	
54	
57	
60	

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

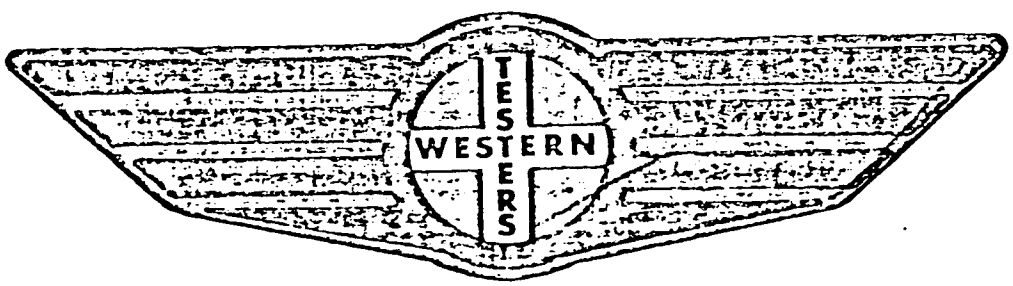
Point Minutes	Press.
0	89
5	63
10	53
15	48
20	46
25	46
30	45
35	)
40	
45	45
50	45
55	45
60	
65	
70	
75	
80	
85	
90	

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

Point Minutes	Press.
0	45
3	272
6	368
9	420
12	441
15	458
18	473
21	485
24	496
27	505
30	511
33	518
36	524
39	530
42	534
45	538
48	542
51	546
54	550
57	554
60	

mpany RANGE OIL CO., INC. Lease and Well No. #1 "A" USBURN Sec. 5 Twp. 31S Rge. 11W Test No. 1 Date 7/7/7

FORMATION TEST REPORT



Home Office: Wichita, Kansas 67201

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

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE: 1/27/84 TICKET #8150
CUSTOMER: RANGE OIL COMPANY INC. LEASE: "A" OSBORN
WELL: 1 TEST: 2 GEOLOGIST: MCMAHON
ELEVATION (KB): 1108 FORMATION: MISS
SECTION: 5 TOWNSHIP: 31S
RANGE: 11E COUNTY: ELK STATE: KANSAS
GAUGE SN #13266 RANGE: 4200 CLOCK: 12

INTERVAL TEST FROM: 1962 FT TO: 1990 FT TOTAL DEPTH: 1990 FT
DEPTH OF SELECTIVE ZONE: FT
PACKER DEPTH: 1962 FT SIZE: 6 3/4 IN PACKER DEPTH: 1957 FT SIZE: 6 3/4 IN
PACKER DEPTH: FT SIZE: IN PACKER DEPTH: FT SIZE: IN

DRILLING CONTRACTOR: R.D.C. #2
MUD TYPE: CHEM VISCOSITY: 38
WEIGHT: 9.6 WATER LOSS (CC): 13.6
CHLORIDES (P.P.M.): 1200
JARS - MAKE: SERIAL NUMBER:
DID WELL FLOW? NO REVERSED OUT? NO
DRILL COLLAR LENGTH: 270 FT I.D.: 2.25 IN
WEIGHT PIPE LENGTH: FT I.D.: IN
DRILL PIPE LENGTH: 1672 FT I.D.: 3.8 IN
TEST TOOL LENGTH: 20 FT TOOL SIZE: 5 1/2 O.D. IN
ANCHOR LENGTH: 28 FT SIZE: 5 1/2 O.D. 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: FAIR BLOW THROUGHOUT TEST.

RECOVERED: 30 FT OF: DRLG MUD; CHLORIDES 1500 P.P.M.
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): 12:30 P.M. TIME STARTED OFF BOTTOM: 3:30 P.M.
WELL TEMPERATURE: 98 'F
INITIAL HYDROSTATIC PRESSURE: (A) 1005 PSI
INITIAL FLOW PERIOD MIN: 30 (B) 84 PSI TO (C) 44 PSI
INITIAL CLOSED IN PERIOD MIN: 30 (D) 576 PSI
FINAL FLOW PERIOD MIN: 55 (E) 89 PSI TO (F) 45 PSI
FINAL CLOSED IN PERIOD MIN: 57 (G) 554 PSI
FINAL HYDROSTATIC PRESSURE (H) 990 PSI

WESTERN TESTING CO. INC.
PRESSURE DATA

DATE: 1/27/84 TICKET #8150
CUSTOMER: RANGE OIL COMPANY INC. LEASE: "A" OSBORN
WELL: 1 TEST: 2 GEOLOGIST: MCMAHON
ELEVATION (KB): 1108 FORMATION: MISS
SECTION: 5 TOWNSHIP: 31S
RANGE: 11E COUNTY: ELK STATE: KANSAS
GAUGE SN #13266 RANGE: 4200 CLOCK: 12

(A)	INITIAL HYDROSTATIC PRESSURE:	1005	PSI
(B)	FIRST INITIAL FLOW PRESSURE:	84	PSI
(C)	FIRST FINAL FLOW PRESSURE:	44	PSI
(D)	INITIAL CLOSED-IN PRESSURE:	576	PSI
(E)	SECOND INITIAL FLOW PRESSURE:	89	PSI
(F)	SECOND FINAL FLOW PRESSURE:	45	PSI
(G)	FINAL CLOSED-IN PRESSURE:	554	PSI
(H)	FINAL HYDROSTATIC PRESSURE:	990	PSI
WELL TEMPERATURE:		98	°F

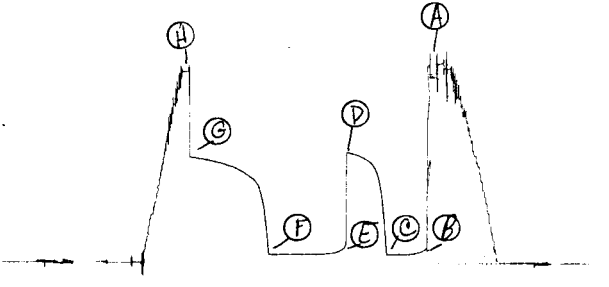
OPEN TOOL: 12:30 P.M.

	TIME - GIVEN		TIME - ACTUAL	
FIRST FLOW PRESSURE:	30	MIN	30	MIN
INITIAL CLOSED-IN PRESSURE:	30	MIN	30	MIN
SECOND FLOW PRESSURE:	60	MIN	55	MIN
FINAL CLOSED-IN PRESSURE:	60	MIN	57	MIN

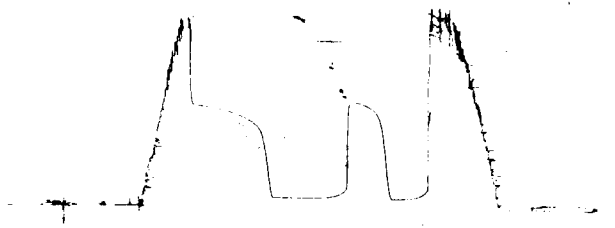
PRESSURE BREAKDOWN

	FIRST FLOW		INITIAL SHUT-IN		SECOND FLOW		FINAL SHUT-IN	
PT	MIN	PRESSURE	MIN	PRESSURE	MIN	PRESSURE	MIN	PRESSURE
1	0	84	0	44	0	89	0	45
2	5	57	3	339	5	63	3	272
3	10	49	6	452	10	53	6	368
4	15	46	9	502	15	48	9	420
5	20	45	12	529	20	46	12	441
6	25	44	15	543	25	46	15	458
7	30	44	18	555	30	45	18	473
8			21	564	35	45	21	485
9			24	569	40	45	24	496
10			27	574	45	45	27	505
11			30	576	50	45	30	511
12					55	45	33	518
13							36	524
14							39	530
15							42	534
16							45	538
17							48	542
18							51	546
19							54	550
20							57	554
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

TKT # 8150



TKT #8150



WESTERN TESTING CO., INC.
FORMATION TESTING TICKET No. 4126

Called - ph

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

Elevation 1108 KB Formation Miss Comp Eff. Pay - Ft.

13

District Augusta Date 1-28-84 Customer Order No. -

R040

COMPANY NAME Range Oil Co Inc.

ADDRESS 240 Page Court 220 W Douglas Wichita, Ks 67202

LEASE AND WELL NO. Osborn A #1 COUNTY Elk STATE Ks Sec. 5 Twp. 31S Rge. 11E

Mail Invoice To Same #1 "A" OSBORN No. Copies Requested 1
Co. Name Address

Mail Charts To Same No. Copies Requested 5
Address

Formation Test No. 3 Interval Tested From 2188 ft. to 2214 ft. Total Depth 2214 ft.

Packer Depth 2188 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 2183 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 2216 ft. Recorder Number 13266 Cap. 4200

Bottom Recorder Depth (Outside) 2219 ft. Recorder Number 13268 Cap. 4225

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

Drilling Contractor Range Drlg Co Inc #2 Drill Collar Length 270 I. D. 2 1/4 in.

Mud Type Chem Viscosity 43 Weight Pipe Length - I. D. - in.

Weight 9.6 Water Loss 12 cc. Drill Pipe Length 1828 I. D. 3.8 in.

Chlorides 1050 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 OD in.

Jars: Make - Serial Number - Anchor Length 26 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 XH in.

Blow: Fair blow diminishing to weak @ end of test

Recovered 460 ft. of Salt water 42,000 PPM Chlorides

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Chlorides P.P.M. Sample Jars used 1 Remarks:

RECEIVED
JAN 30 1984

Time On Location 8:00 A.M. 1-27 P.M. Time Pick Up Tool 10:45 A.M. P.M. Time Off Location Standby A.M. P.M.

Time Set Packer(s) 11:45 A.M. P.M. Time Started Off Bottom 2:15 P.M. Maximum Temperature 100

Initial Hydrostatic Pressure		(A)	1105	P.S.I.	
Initial Flow Period	Minutes 30	(B)	60	P.S.I. to (C)	130 P.S.I.
Initial Closed In Period	Minutes 30	(D)	680	P.S.I.	
Final Flow Period	Minutes 45	(E)	205	P.S.I. to (F)	225 P.S.I.
Final Closed In Period	Minutes 45	(G)	680	P.S.I.	
Final Hydrostatic Pressure		(H)	1085	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 H.G McMahon, III
Signature of Customer or his authorized representative

Western Representative Norman Allen 0150

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	$
Insurance	$
Telecopier	$
TOTAL	$ 550 00

WESTERN TESTING CO., INC.

Pressure Data

Date 1-28 Test Ticket No. 4126

Recorder No. 13266 Capacity Location

Clock No. — — — — Elevation Well Temperature

Point		Pressure		Time Given	Time Computed
A	Initial Hydrostatic Mud	1104 P.S.I.	Open Tool	M	
B	First Initial Flow Pressure	56 P.S.I.	First Flow Pressure	Mins.	Min
C	First Final Flow Pressure	130 P.S.I.	Initial Closed-in Pressure	Mins.	Min
D	Initial Closed-in Pressure	672 P.S.I.	Second Flow Pressure	Mins.	Min
E	Second Initial Flow Pressure	178 P.S.I.	Final Closed-in Pressure	Mins.	Min
F	Second Final Flow Pressure	213 P.S.I.			
G	Final Closed-in Pressure	671 P.S.I.			
H	Final Hydrostatic Mud	1054 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	56
P 2	5	56
P 3	10	61
P 4	15	78
P 5	20	102
P 6	25	120
P 7	30	130
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: 11 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	130
3	476
6	550
9	584
12	610
15	630
18	643
21	653
24	662
27	667
30	672
33	
36	
39	
42	
45	
48	
51	
54	
57	
60	

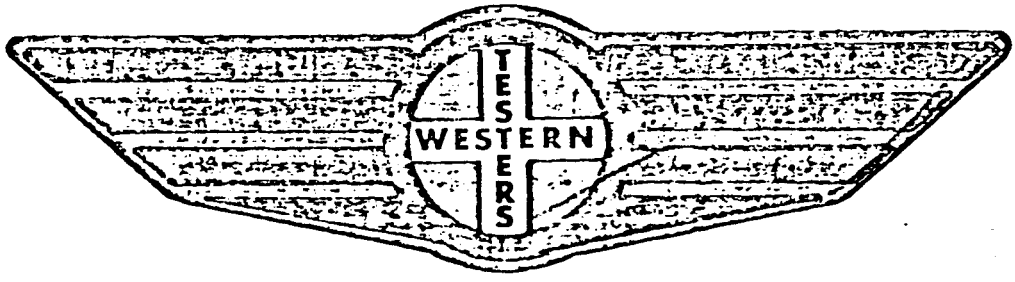
Second Flow Pressure
Breakdown: 10 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	178
5	178
10	178
15	182
20	188
25	192
30	197
35	203
40	209
45	213
50	
55	
60	
65	
70	
75	
80	
85	
90	

Final Shut-In
Breakdown: 16 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	213
3	472
6	533
9	564
12	584
15	603
18	617
21	629
24	639
27	646
30	651
33	656
36	660
39	664
42	668
45	671
48	
51	
54	
57	
60	

FORMATION TEST REPORT



Home Office: Wichita, Kansas 67201

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

Company RANGE OIL CO., INC. Lease and Well No. #1 "A" OSBORN Sec. 5 Twp. 31S Rge. 11E Test No. 3 Date 1/28/84

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE: 1/28/84 TICKET #4126
CUSTOMER: RANGE OIL COMPANY INC. LEASE: "A" OSBORN
WELL: 1 TEST: 3 GEOLOGIST: MCMAHON
ELEVATION (KB): 1108 FORMATION: MISS COMP
SECTION: 5 TOWNSHIP: 31S
RANGE: 11E COUNTY: ELK STATE: KANSAS
GAUGE SN #13266 RANGE: 4200 CLOCK: 12

INTERVAL TEST FROM: 2188 FT TO: 2214 FT TOTAL DEPTH: 2214 FT
DEPTH OF SELECTIVE ZONE: FT
PACKER DEPTH: 2188 FT SIZE: 6 3/4 IN PACKER DEPTH: 2183 FT SIZE: 6 3/4 IN
PACKER DEPTH: FT SIZE: IN PACKER DEPTH: FT SIZE: IN

DRILLING CONTRACTOR: R.D.C. #2
MUD TYPE: CHEM VISCOSITY: 43
WEIGHT: 9.6 WATER LOSS (CC): 12
CHLORIDES (P.P.M.): 1050
JARS - MAKE: SERIAL NUMBER:
DID WELL FLOW? NO REVERSED OUT? NO
DRILL COLLAR LENGTH: 270 FT I.D.: 2.25 IN
WEIGHT PIPE LENGTH: FT I.D.: IN
DRILL PIPE LENGTH: 1828 FT I.D.: 3.8 IN
TEST TOOL LENGTH: 20 FT TOOL SIZE: 5 1/2 O.D. IN
ANCHOR LENGTH: 26 FT SIZE: 5 1/2 O.D. 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: FAIR BLOW DIMINISHING TO WEAK AT
END OF TEST.

RECOVERED: 460 FT OF: SALT WATER CHLORIDES 42000 P.P.M.
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): 11:45 A.M. TIME STARTED OFF BOTTOM: 2:15 P.M.
WELL TEMPERATURE: 100 'F
INITIAL HYDROSTATIC PRESSURE: (A) 1104 PSI
INITIAL FLOW PERIOD MIN: 30 (B) 56 PSI TO (C) 130 PSI
INITIAL CLOSED IN PERIOD MIN: 30 (D) 672 PSI
FINAL FLOW PERIOD MIN: 45 (E) 178 PSI TO (F) 213 PSI
FINAL CLOSED IN PERIOD MIN: 45 (G) 671 PSI
FINAL HYDROSTATIC PRESSURE (H) 1054 PSI

WESTERN TESTING CO. INC.
PRESSURE DATA

DATE: 1/28/84 TICKET #4126
CUSTOMER: RANGE OIL COMPANY INC. LEASE: "A" OSBORN
WELL: 1 TEST: 3 GEOLOGIST: MCMAHON
ELEVATION (KB): 1108 FORMATION: MISS COMP
SECTION: 5 TOWNSHIP: 31S
RANGE: 11E COUNTY: ELK STATE: KANSAS
GAUGE SN #13266 RANGE: 4200 CLOCK: 12

(A)	INITIAL HYDROSTATIC PRESSURE:	1104	PSI
(B)	FIRST INITIAL FLOW PRESSURE:	56	PSI
(C)	FIRST FINAL FLOW PRESSURE:	130	PSI
(D)	INITIAL CLOSED-IN PRESSURE:	672	PSI
(E)	SECOND INITIAL FLOW PRESSURE:	178	PSI
(F)	SECOND FINAL FLOW PRESSURE:	213	PSI
(G)	FINAL CLOSED-IN PRESSURE:	671	PSI
(H)	FINAL HYDROSTATIC PRESSURE:	1054	PSI
WELL TEMPERATURE:		100	°F

OPEN TOOL: 11:45 A.M.

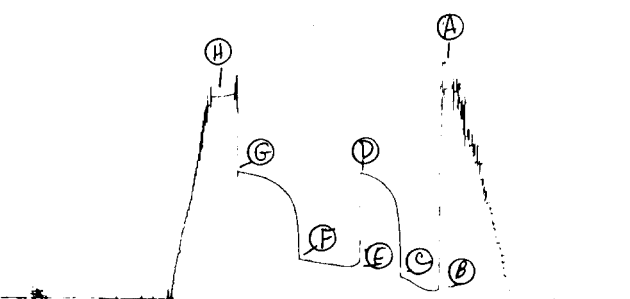
	TIME - GIVEN		TIME - ACTUAL	
FIRST FLOW PRESSURE:	30	MIN	30	MIN
INITIAL CLOSED-IN PRESSURE:	30	MIN	30	MIN
SECOND FLOW PRESSURE:	45	MIN	45	MIN
FINAL CLOSED-IN PRESSURE:	45	MIN	45	MIN

PRESSURE BREAKDOWN

	FIRST FLOW		INITIAL SHUT-IN		SECOND FLOW		FINAL SHUT-IN	
PT	MIN	PRESSURE	MIN	PRESSURE	MIN	PRESSURE	MIN	PRESSURE
1	0	56	0	130	0	178	0	213
2	5	56	3	476	5	178	3	472
3	10	61	6	550	10	178	6	533
4	15	78	9	584	15	182	9	564
5	20	102	12	610	20	188	12	584
6	25	120	15	630	25	192	15	603
7	30	130	18	643	30	197	18	617
8			21	653	35	203	21	629
9			24	662	40	209	24	639
10			27	667	45	213	27	646
11			30	672			30	651
12							33	656
13							36	660
14							39	664
15							42	668
16							45	671
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TKT # 4126

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TKT # 4126



WESTERN TESTING CO., INC.
FORMATION TESTING TICKET Nº 4127

Lakeside Dr

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

Elevation 1108 KB Formation Arb Eff. Pay — Ft.

District 12 Augusta Date 1-29-84 Customer Order No. —

COMPANY NAME R040 Range Oil Co Inc

ADDRESS 240 Page Court 220 W Douglas Wichita, Ks 67202

LEASE AND WELL NO. Osborn A #1 COUNTY Clk STATE Ks Sec. 5 Twp. 31S Rge. 11E

Mail Invoice To Same #1 "A" OSBORN No. Copies Requested 1
Co. Name Address

Mail Charts To Same No. Copies Requested 5
Address

Formation Test No. 4 Interval Tested From 2250 ft. to 2263 ft. Total Depth 2263 ft.

Packer Depth 2250 ft. Size 6 3/4 in. Packer Depth — ft. Size — in.

Packer Depth 2245 ft. Size 6 3/4 in. Packer Depth — ft. Size — in.

Depth of Selective Zone Set —

Top Recorder Depth (Inside) 2255 ft. Recorder Number 13266 Cap. 4200

Bottom Recorder Depth (Outside) 2258 ft. Recorder Number 13268 Cap. 4225

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

Drilling Contractor Range Drlg Co Inc # 2 Drill Collar Length 270 I. D. 2 1/4 in.

Mud Type Chem Viscosity 45 Weight Pipe Length — I. D. — in.

Weight 9.6 Water Loss 11 cc. Drill Pipe Length 1960 I. D. 3.5 in.

Chlorides 1050 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 OD in.

Jars: Make — Serial Number — Anchor Length 13 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 XH in.

Blow: Weak to very weak @ end of test

Recovered 75 ft. of Sulphur cut muddy water 53,000 PPM Chlorides

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Chlorides P.P.M. Sample Jars used 1 Remarks:

RECEIVED JAN 30 1984

Press Chart # 13268

Time On Location 8:00 1-27 A.M. P.M. Time Pick Up Tool 10:55 1-25 A.M. P.M. Time Off Location Standby A.M. P.M.

Time Set Packer(s) 12:15 A.M. P.M. Time Started Off Bottom 2:15 A.M. P.M. Maximum Temperature 104

Initial Hydrostatic Pressure			(A)	1140	P.S.I.	
Initial Flow Period	Minutes	30	(B)	20	P.S.I. to (C)	30 P.S.I.
Initial Closed In Period	Minutes	30	(D)	565	P.S.I.	
Final Flow Period	Minutes	30	(E)	70	P.S.I. to (F)	40 P.S.I.
Final Closed In Period	Minutes	30	(G)	500	P.S.I.	
Final Hydrostatic Pressure			(H)	1140	P.S.I.	13268

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 H. G. McMahon III
Signature of Customer or his authorized representative

Western Representative Norman Allen 0150

FIELD INVOICE

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

WESTERN TESTING CO., INC.

Pressure Data

Date 1-29 Test Ticket No. 4127

Recorder No. 13268 Capacity Location

Clock No. — — — — Elevation Well Temperature

Point		Pressure	
A	Initial Hydrostatic Mud	1143	P.S.I.
B	First Initial Flow Pressure	18	P.S.I.
C	First Final Flow Pressure	27	P.S.I.
D	Initial Closed-in Pressure	570	P.S.I.
E	Second Initial Flow Pressure	85	P.S.I.
F	Second Final Flow Pressure	43	P.S.I.
G	Final Closed-in Pressure	507	P.S.I.
H	Final Hydrostatic Mud	1114	P.S.I.

	Time Given	Time Computed
Open Tool	M	
First Flow Pressure	Mins.	Min
Initial Closed-in Pressure	Mins.	Min
Second Flow Pressure	Mins.	Min
Final Closed-in Pressure	Mins.	Min

PRESSURE BREAKDOWN

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

Point	Mins.	Press.
P 1	0	18
P 2	5	18
P 3	10	20
P 4	15	22
P 5	20	24
P 6	25	26
P 7	30	27
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: 11 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	27
3	105
6	304
9	391
12	437
15	473
18	501
21	524
24	546
27	563
30	570
33	
36	
39	
42	
45	
48	
51	
54	
57	
60	

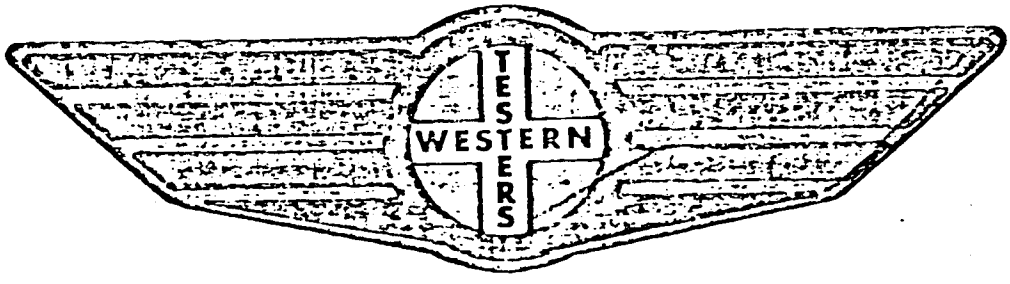
Second Flow Pressure
Breakdown: 7 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	85
5	59
10	47
15	43
20	43
25	43
30	43
35	
40	
45	
50	
55	
60	
65	
70	
75	
80	
85	
90	

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

Point Minutes	Press.
0	43
3	165
6	291
9	356
12	396
15	428
18	452
21	475
24	498
27	507
30	
33	
36	
39	
42	
45	
48	
51	
54	
57	
60	

FORMATION TEST REPORT



Home Office: Wichita, Kansas 67201

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

Company RANGE OIL CO., INC. Lease and Well No. #1 "A" OSBORN Sec. 5 Twp. 31S Rge. 11E Test No. 4 Date 4/27/8

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE: 1/29/84 TICKET #4127
CUSTOMER: RANGE OIL COMPANY INC. LEASE: "A" OSBORN
WELL: 1 TEST: 4 GEOLOGIST: MCMAHON
ELEVATION (KB): 1108 FORMATION: ARB
SECTION: 5 TOWNSHIP: 31S
RANGE: 11E COUNTY: ELK STATE: KANSAS
GAUGE SN #13268 RANGE: 4225 CLOCK: 12

INTERVAL TEST FROM: 2250 FT TO: 2263 FT TOTAL DEPTH: 2263 FT
DEPTH OF SELECTIVE ZONE: FT
PACKER DEPTH: 2250 FT SIZE: 6 3/4 IN PACKER DEPTH: 2245 FT SIZE: 6 3/4 IN
PACKER DEPTH: FT SIZE: IN PACKER DEPTH: FT SIZE: IN

DRILLING CONTRACTOR: R.D.C. #2
MUD TYPE: CHEM VISCOSITY: 45
WEIGHT: 9.6 WATER LOSS (CC): 11
CHLORIDES (P.P.M.): 1050
JARS - MAKE: SERIAL NUMBER:
DID WELL FLOW? NO REVERSED OUT? NO
DRILL COLLAR LENGTH: 270 FT I.D.: 2.25 IN
WEIGHT PIPE LENGTH: FT I.D.: IN
DRILL PIPE LENGTH: 1960 FT I.D.: 3.8 IN
TEST TOOL LENGTH: 20 FT TOOL SIZE: 5 1/2 O.D. IN
ANCHOR LENGTH: 13 FT SIZE: 5 1/2 O.D. 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 TO VERY WEAK AT END OF TEST.

RECOVERED: 75 FT OF: SULPHUR CUT MUDDY WATER.
RECOVERED: FT OF: CHLORIDES 53000 P.P.M.
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:

REMARKS: READ OUTSIDE CHART.

TIME SET PACKER(S): 12:15 A.M. TIME STARTED OFF BOTTOM: 2:15 A.M.
WELL TEMPERATURE: 104 °F
INITIAL HYDROSTATIC PRESSURE: (A) 1143 PSI
INITIAL FLOW PERIOD MIN: 30 (B) 18 PSI TO (C) 27 PSI
INITIAL CLOSED IN PERIOD MIN: 30 (D) 570 PSI
FINAL FLOW PERIOD MIN: 30 (E) 85 PSI TO (F) 43 PSI
FINAL CLOSED IN PERIOD MIN: 27 (G) 507 PSI
FINAL HYDROSTATIC PRESSURE (H) 1114 PSI

WESTERN TESTING CO. INC.
PRESSURE DATA

DATE: 1/29/84 TICKET #4127
CUSTOMER: RANGE OIL COMPANY INC. LEASE: "A" OSBORN
WELL: 1 TEST: 4 GEOLOGIST: MCMAHON
ELEVATION (KB): 1108 FORMATION: ARB
SECTION: 5 TOWNSHIP: 31S
RANGE: 11E COUNTY: ELK STATE: KANSAS
GAUGE SN #13268 RANGE: 4225 CLOCK: 12

(A) INITIAL HYDROSTATIC PRESSURE:	1143	PSI
(B) FIRST INITIAL FLOW PRESSURE:	18	PSI
(C) FIRST FINAL FLOW PRESSURE:	27	PSI
(D) INITIAL CLOSED-IN PRESSURE:	570	PSI
(E) SECOND INITIAL FLOW PRESSURE:	85	PSI
(F) SECOND FINAL FLOW PRESSURE:	43	PSI
(G) FINAL CLOSED-IN PRESSURE:	507	PSI
(H) FINAL HYDROSTATIC PRESSURE:	1114	PSI
WELL TEMPERATURE:	104	'F

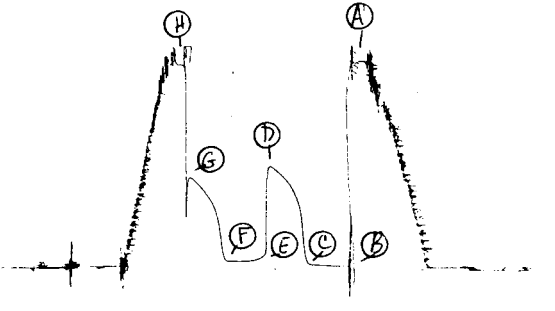
OPEN TOOL: 12:15 A.M.

	TIME - GIVEN		TIME - ACTUAL	
FIRST FLOW PRESSURE:	30	MIN	30	MIN
INITIAL CLOSED-IN PRESSURE:	30	MIN	30	MIN
SECOND FLOW PRESSURE:	30	MIN	30	MIN
FINAL CLOSED-IN PRESSURE:	30	MIN	27	MIN

PRESSURE BREAKDOWN

	FIRST FLOW		INITIAL SHUT-IN		SECOND FLOW		FINAL SHUT-IN	
PT	MIN	PRESSURE	MIN	PRESSURE	MIN	PRESSURE	MIN	PRESSURE
1	0	18	0	27	0	85	0	43
2	5	18	3	105	5	59	3	165
3	10	20	6	304	10	47	6	291
4	15	22	9	391	15	43	9	356
5	20	24	12	437	20	43	12	396
6	25	26	15	473	25	43	15	428
7	30	27	18	501	30	43	18	452
8			21	524			21	475
9			24	546			24	498
10			27	563			27	507
11			30	570				
12								
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TKT # 427



TKT. # 4127

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