WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET № 19791

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

Elevation 1432 KB Formation Miss Eff. Pay ____ Ft.

District Augusta Date 10-3-93 Customer Order No. ____

COMPANY NAME Range Oil Co. Inc

ADDRESS 125 N Market Suite 1120 Wichita Ks 67202

LEASE AND WELL NO. Preheim #1 COUNTY Marion STATE KS Sec. 30 Twp. 22 Rge. 4 E

Mail Invoice To Same #1 Preheim No. Copies Requested 1
Co. Name Address

Mail Charts To Same No. Copies Requested 5
Address

Formation Test No. DST#1 Interval Tested From 2491 ft. to 2505 ft. Total Depth 2505 ft.

Packer Depth 2486 ft. Size 6 5/8 in. Packer Depth — ft. Size — in.

Packer Depth 2491 ft. Size 6 5/8 in. Packer Depth — ft. Size — in.

Depth of Selective Zone Set ____

Top Recorder Depth (Inside) 2498 ft. Recorder Number 10979 Cap. 4100

Bottom Recorder Depth (Outside) 2502 ft. Recorder Number 3354 Cap. 4200

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

Drilling Contractor Glover Rig 1 Drill Collar Length 360 I. D. 2.25 in.

Mud Type Chem Viscosity 40 Weight Pipe Length — I. D. — in.

Weight 9.6 Water Loss 12.0 cc. Drill Pipe Length 2111 I. D. 3.8 in.

Chlorides 1,700 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 OP in.

Jars: Make — Serial Number — Anchor Length 14 ft. Size 5 1/2 OP 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 4 1/2 FH in.

Blow: Weak to Strong blow on on (IFP) 8 in into bucket) Weak blow on (FFP) 3 in into bucket

Recovered 80 ft. of gas in pipe

Recovered 90 ft. of free Oil 43% gravity at 60°

Recovered 160 ft. of gassy Oil cut mud 12% gas 53% Oil 35% mud

Recovered 60 ft. of Oil cut Water 50% oil 50% water

Recovered ____ ft. of ____

Chlorides 36,000 P.P.M. Sample Jars used 2 Remarks: ____

Time On Location 5:00 A.M. P.M. Time Pick Up Tool 6:00 A.M. P.M. Time Off Location ____ A.M. P.M.

Time Set Packer(s) 7:00 A.M. P.M. Time Started Off Bottom 10:00 A.M. P.M. Maximum Temperature 104°F

Initial Hydrostatic Pressure ..... (A) 1285 P.S.I.

Initial Flow Period ..... Minutes 30 (B) 20 P.S.I. to (C) 50 P.S.I.

Initial Closed In Period ..... Minutes 30 (D) 405 P.S.I.

Final Flow Period ..... Minutes 60 (E) 85 P.S.I. to (F) 125 P.S.I.

Final Closed In Period ..... Minutes 60 (G) 385 P.S.I.

Final Hydrostatic Pressure ..... (H) 1275 P.S.I. 10979

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 [signature]
Signature of Customer or his authorized representative

Western Representative [signature]

FIELD INVOICE

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

WESTERN TESTING CO., INC.

Pressure Data

Date 10-2-92 Test Ticket No. 19791

Recorder No. 10929 Capacity _____ Location _____ Ft.

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	1278	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	1222	P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure

Breakdown: _____ Inc. of 5 mins. and a final inc. of 0 Min.

Point	Mins.	Press.
P 1	0	29
P 2	5	5
P 3	10	29
P 4	15	37
P 5	20	44
P 6	25	51
P 7	30	54
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: _____ Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	54
3	261
6	321
9	345
12	364
15	378
18	388
21	396
24	405
27	409
30	417
33	
36	
39	
42	
45	
48	
51	
54	
57	
60	

Second Flow Pressure

Breakdown: _____ Inc. of 5 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	89
5	0
10	6
15	89
20	95
25	100
30	105
35	110
40	115
45	120
50	125
55	130
60	
65	
70	
75	
80	
85	
90	
95	
100	

Final Shut-In

Breakdown: _____ Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	250
3	274
6	284
9	311
12	326
15	341
18	350
21	359
24	365
27	368
30	372
33	379
36	382
39	386
42	389
45	392
48	395
51	397
54	399
57	401
60	402

JKT 19291

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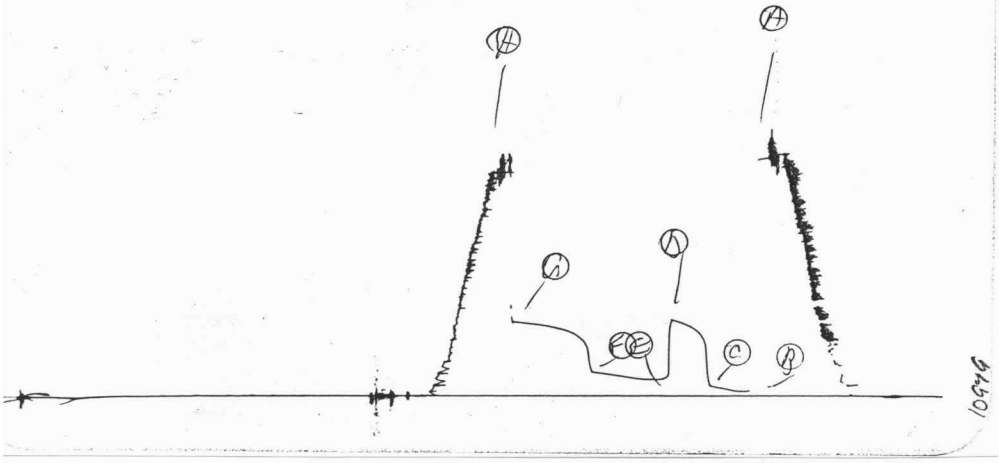

JKT 19291

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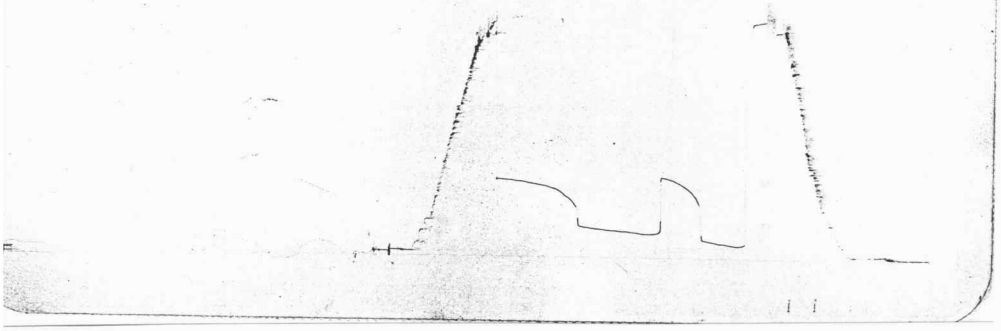

FORMATION TEST REPORT

WESTERN TESTERS

Home Office: Wichita, Kansas 67201

P.O. Box 1599 Phone 1-80 -688-7021

COMPANY RANGE OIL COMPANY, INC. LEASE & WELL NO. #1 PREHEIM SEC. 30 TWP. 22S RGE. 4E TEST NO. 1 DATE 10/3/93

DST REPORT

GENERAL INFORMATION

DATE	: 10-03-93	TICKET	: 19791
CUSTOMER	: RANGE OIL CO., INC.	LEASE	: PREHEIM
WELL	: #1 TEST: 1	GEOLOGIST	: T. BLAIR
ELEVATION	: 1432 K.B.	FORMATION	: MISSISSIPPI
SECTION	: 30	TOWNSHIP	: 22S
RANGE	: 43 COUNTY: MARION	STATE	: KS
GAUGE SN#	: 10979 RANGE : 4100	CLOCK	: 12

WELL INFORMATION

PERFORATION INTERVAL FROM: 2491.00 ft TO: 2505.00 ft TVD: 2505.0 ft
DEPTH OF SELECTIVE ZONE: TEST TYPE: OIL
DEPTH OF RECORDERS: 2498.0 ft 2502.0 ft
TEMPERATURE: 104.0

DRILL COLLAR LENGTH:	360.0 ft	I.D.:	2.250 in
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:	0.000 in
DRILL PIPE LENGTH :	2111.0 ft	I.D.:	3.800 in
TEST TOOL LENGTH :	20.0 ft	TOOL SIZE :	5.500 in
ANCHOR LENGTH :	14.0 ft	ANCHOR SIZE:	5.500 in
SURFACE CHOKE SIZE :	0.750 in	BOTTOM CHOKE SIZE:	0.750 in
MAIN HOLE SIZE :	7.875 in	TOOL JOINT SIZE :	4.5XH
PACKER DEPTH:	2486.0 ft	SIZE:	6.630 in
PACKER DEPTH:	2491.0 ft	SIZE:	6.630 in
PACKER DEPTH:	0.0 ft	SIZE:	0.000 in
PACKER DEPTH:	0.0 ft	SIZE:	0.000 in

MUD INFORMATION

DRILLING CON.	: GLAVES #1		
MUD TYPE	: CHEMICAL	VISCOSITY :	40.00 cp
WEIGHT	: 9.600 ppg	WATER LOSS:	12.000 cc
CHLORIDES	: 1700 ppm		
JARS-MAKE	:	SERIAL NUMBER:	00000
DID WELL FLOW?	: NO	REVERSED OUT?:	NO

COMMENTS

Comment

WEAK TO STRONG BLOW ON INITIAL FLOW PERIOD 8" INTO BUCKET. WEAK BLOW ON FINAL FLOW PERIOD 3" INTO BUCKET.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
90.0	100.0	0.0	0.0	0.0	FREE OIL
0.0	0.0	0.0	0.0	0.0	43 GRAVITY AT 60 DEG. F.
160.0	53.0	12.0	0.0	35.0	GASSY OIL CUT MUD
60.0	50.0	0.0	50.0	0.0	OIL CUT WATER
0.0	0.0	0.0	0.0	0.0	CHLORIDES 36000 PPM
0.0	0.0	0.0	0.0	0.0	80 FT. OF GAS ABOVE FLUID

RATE INFORMATION

OIL VOLUME:	1.0071 STB		
GAS VOLUME:	0.5301 SCF	TOTAL FLOW TIME:	85.0000 min.
MUD VOLUME:	0.2754 STB	AVERAGE OIL RATE:	21.7267 STB/D
WATER VOLUME:	0.1475 STB	AVERAGE WATER RATE:	2.4992 STB/D
TOTAL FLUID :	1.4300 STB		

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1285.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	20.00	50.00
INITIAL SHUT-IN	30.00		405.00
FINAL FLOW	60.00	85.00	125.00
FINAL SHUT-IN	60.00		385.00

FINAL HYDROSTATIC PRESSURE: 1275.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1278.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	29.00	54.00
INITIAL SHUT-IN	30.00		417.00
FINAL FLOW	55.00	89.00	130.00
FINAL SHUT-IN	60.00		403.00

FINAL HYDROSTATIC PRESSURE: 1223.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE	: 10-03-93	TICKET	: 19791
CUSTOMER	: RANGE OIL CO., INC.	LEASE	: PREHEIM
WELL	: #1 TEST: 1	GEOLOGIST	: T. BLAIR
ELEVATION	: 1432 K.B.	FORMATION	: MISSISSIPPI
SECTION	: 30	TOWNSHIP	: 22S
RANGE	: 43 COUNTY: MARION	STATE	: KS
GAUGE SN#	: 10979 RANGE : 4100	CLOCK	: 12

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	29.00	29.00
5.00	29.00	0.00
10.00	29.00	0.00
15.00	37.00	8.00
20.00	44.00	7.00
25.00	51.00	7.00
30.00	54.00	3.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	261.00	261.00	0.00
6.00	321.00	60.00	0.00
9.00	345.00	24.00	0.00
12.00	364.00	19.00	0.00
15.00	378.00	14.00	0.00
18.00	388.00	10.00	0.00
21.00	396.00	8.00	0.00
24.00	405.00	9.00	0.00
27.00	409.00	4.00	0.00
30.00	417.00	8.00	0.00

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	89.00	89.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW (CONTINUED)

Time (min)	Pressure	Delta P
5.00	89.00	0.00
10.00	89.00	0.00
15.00	89.00	0.00
20.00	95.00	6.00
25.00	100.00	5.00
30.00	105.00	5.00
35.00	110.00	5.00
40.00	115.00	5.00
45.00	120.00	5.00
50.00	123.00	3.00
55.00	130.00	7.00

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	214.00	214.00	0.00
6.00	284.00	70.00	0.00
9.00	311.00	27.00	0.00
12.00	326.00	15.00	0.00
15.00	341.00	15.00	0.00
18.00	350.00	9.00	0.00
21.00	359.00	9.00	0.00
24.00	363.00	4.00	0.00
27.00	368.00	5.00	0.00
30.00	373.00	5.00	0.00
33.00	379.00	6.00	0.00
36.00	382.00	3.00	0.00
39.00	386.00	4.00	0.00
42.00	389.00	3.00	0.00
45.00	392.00	3.00	0.00
48.00	395.00	3.00	0.00
51.00	397.00	2.00	0.00
54.00	399.00	2.00	0.00
57.00	401.00	2.00	0.00
60.00	403.00	2.00	0.00