WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET No. 3057

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

Elevation 1109 KB Formation Layton Eff. Pay - Ft.

District Augusta Date 12-9-79 Customer Order No. -

COMPANY NAME Range Oil Co Inc

ADDRESS 240 Page Court 2202 Douglas Wichita, Ks 67202

LEASE AND WELL NO. Knoch #1 COUNTY Chautauqua STATE Ks. Sec. 19 Twp. 32S Rge. 11E

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

Mail Charts To Same No. Copies Requested 5
Address

Formation Test No. 1 Interval Tested from 972 ft. to 982 ft. Total Depth 982 ft.

Packer Depth 972 ft.	Size 6 3/4 in.	Packer Depth - ft.	Size - in.
Packer Depth 967 ft.	Size 6 3/4 in.	Packer Depth - ft.	Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside)	976 ft.	Recorder Number 10980	Cap. 4200
Bottom Recorder Depth (Outside)	978 ft.	Recorder Number 1561	Cap. 3200
Below Straddle Recorder Depth	- ft.	Recorder Number -	Cap. -

Drilling Contractor	Range Oil Co #1	Drill Collar Length 220	I. D. 2 1/4 in.
Mud Type Mud	Viscosity 35	Weight Pipe Length -	I. D. - in.
Weight 8.9	Water Loss NC cc.	Drill Pipe Length 732	I. D. 3.8 in.
Chlorides @ 600	P.P.M.	Test Tool Length 30 in.	Tool Size 4 1/2 OD in.
Jars: Make -	Serial Number -	Anchor Length 10 ft.	Size 4 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 3 1/2 IF in.

Blow: Fair diminishing to weak at end of test

Recovered 315 ft. of Saltwater
Recovered ft. of
Recovered ft. of
Recovered ft. of
Recovered ft. of
Remarks:

RECEIVED
DEC 12 1979

~~80 miles from Augusta to location 30 miles @ 75¢ per mile = $22.50~~

Time Set Packer(s) 10:00 ~~A.M.~~ P.M. Time Started Off Bottom 1:30 A.M. ~~P.M.~~ Maximum Temperature 78

Initial Hydrostatic Pressure		(A) 460	P.S.I.	
Initial Flow Period	Minutes 30	(B) 70	P.S.I. to (C) 65	P.S.I.
Initial Closed In Period	Minutes 30	(D) 290	P.S.I.	
Final Flow Period	Minutes 90	(E) 105	P.S.I. to (F) 156	P.S.I.
Final Closed In Period	Minutes 60	(G) 300	P.S.I.	
Final Hydrostatic Pressure		(H) 450	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 Robert Allen
Signature of Customer or his authorized representative

Western Representative Norman Allen

FIELD INVOICE

Open Hole Test	$ 500 00
Misrun	$
Straddle Test	$
Jars	$
Selective Zone	$
Safety Joint	$
Standby	$
Evaluation	$
Extra Packer	$
Circ. Sub.	$
~~Mileage~~	~~$ 22 50~~
Extra Charts	$
TOTAL	~~$ 522 50~~ 500 00

WESTERN TESTING CO., INC.

Pressure Data

Date 12-9-79 Test Ticket No. 3057

Recorder No. 10980 Capacity 4200 Location 975 Ft.

Clock No. — Elevation 4109 KB Well Temperature 98 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	457	P.S.I.	Open Tool 10:00 PM	
B First Initial Flow Pressure	7	P.S.I.	First Flow Pressure 30 Mins.	30 Mins.
C First Final Flow Pressure	64	P.S.I.	Initial Closed-in Pressure 30 Mins.	30 Mins.
D Initial Closed-in Pressure	291	P.S.I.	Second Flow Pressure 90 Mins.	90 Mins.
E Second Initial Flow Pressure	105	P.S.I.	Final Closed-in Pressure 60 Mins.	60 Mins.
F Second Final Flow Pressure	150	P.S.I.		
G Final Closed-in Pressure	296	P.S.I.		
H Final Hydrostatic Mud	444	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	7
P 2 5	19
P 3 10	30
P 4 15	41
P 5 20	51
P 6 25	59
P 7 30	64
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: 10 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	64
3	184 ~~244~~
6	229 ~~254~~
9	248 ~~269~~
12	261 ~~280~~
15	274 ~~285~~
18	276 ~~285~~
21	280
24	284
27	288
30	291
33	
36	
39	
42	
45	
48	
51	
54	
57	
60	

Second Flow Pressure
Breakdown: 18 Inc.
of 5 mins. and a
final inc. of 10 Min.

Point Minutes	Press.
0	105
5	102
10	105
15	109
20	111
25	113
30	115
35	118
40	121
45	124
50	127
55	131
60	134
65	136
70	139
75	141
80	144
85	147
90	150

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

Point Minutes	Press.
0	150
3	205
6	233
9	252
12	263
15	269
18	276
21	280
24	284
27	286
30	287
33	288
36	289
39	291
42	292
45	293
48	294
51	294
54	295
57	295
60	296

Company Range Oil Company, Inc. Lease & Well No. Knox #1

Elevation 1109 Kelly Bushing Formation Layton Effective Pay --- Ft. Ticket No. 3057

Date 12/9/79 Sec. 19 Twp. 32S Range 11E County Chautauqua State Kansas

Test Approved by Robert Olsen Western Representative Norman Allen

Formation Test No. 1 Interval Tested from 972 ft. to 982 ft. Total Depth 982 ft.

Packer Depth 972 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 967 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 975 ft. Recorder Number 10980 Cap. 4200

Bottom Recorder Depth (Outside) 978 ft. Recorder Number 1561 Cap. 3200

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

Drilling Contractor Range Drilling Co. Rig #1 Drill Collar Length 220 I. D. 2¼ in.

Mud Type gel Viscosity 35 Weight Pipe Length - I. D. - in.

Weight 8.9 Water Loss N.C. cc. Drill Pipe Length 732 I. D. 3.8 in.

Chlorides 600 P.P.M. Test Tool Length 30 ft. Tool Size 4½OD in.

Jars: Make -- Serial Number -- Anchor Length 10 ft. Size 4½OD 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 3½IF in.

Blow: Fair diminishing to weak at end of test.

Recovered 315 ft. of salt water

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 10:00 ~~A.M.~~ P.M. Time Started Off Bottom 1:30 A.M. ~~P.M.~~ Maximum Temperature 78°

Initial Hydrostatic Pressure			(A) 457	P.S.I.		
Initial Flow Period	Minutes 30		(B) 7	P.S.I. to (C) 64	P.S.I.	
Initial Closed In Period	Minutes 30		(D) 291	P.S.I.		
Final Flow Period	Minutes 90		(E) 105	P.S.I. to (F) 150	P.S.I.	
Final Closed In Period	Minutes 60		(G) 296	P.S.I.		
Final Hydrostatic Pressure			(H) 444	P.S.I.		

WESTERN TESTING CO., INC.

Pressure Data

Date 12/9/79 Test Ticket No. 3057

Recorder No. 10980 Capacity 4200 Location 975 Ft.

Clock No. --- Elevation 1109 Kelly Bushing Well Temperature 78 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	457 P.S.I.	Open Tool	10:00P M.	
B First Initial Flow Pressure	7 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	64 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	291 P.S.I.	Second Flow Pressure	90 Mins.	90 Mins.
E Second Initial Flow Pressure	105 P.S.I.	Final Closed-in Pressure	60 Mins.	60 Mins.
F Second Final Flow Pressure	150 P.S.I.			
G Final Closed-in Pressure	296 P.S.I.			
H Final Hydrostatic Mud	444 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	7
P 2 5	19
P 3 10	30
P 4 15	41
P 5 20	51
P 6 25	59
P 7 30	64
P 8	
P 9	
P10	
P11	
P12	
P13	
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	64
3	184
6	229
9	248
12	261
15	274
18	276
21	280
24	284
27	288
30	291

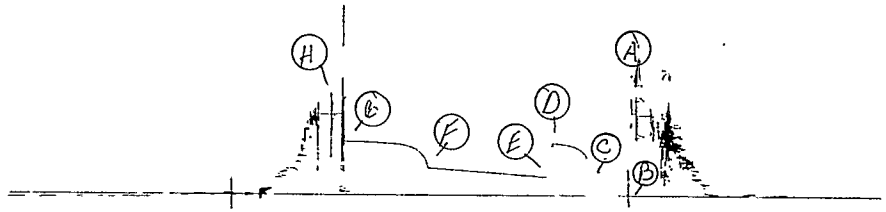
Second Flow Pressure
Breakdown: 18 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	105
5	102
10	105
15	109
20	111
25	113
30	115
35	118
40	121
45	124
50	127
55	131
60	134
65	136
70	139
75	141
80	144
85	147
90	150

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

Point Minutes	Press.
0	150
3	205
6	233
9	252
12	263
15	269
18	276
21	280
24	284
27	286
30	287
33	288
36	289
39	291
42	292
45	293
48	294
51	294
54	295
57	295
60	296

TK#3057
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P. O. BOX 1599 PHONE (316) 838-0601
WICHITA, KANSAS 67201

WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET No. 3058

Elevation 1109 KB Formation K.C. Sand Eff. Pay — Ft.

District Augusta Date 12-10-79 Customer Order No. —

COMPANY NAME Ranae Oil Co. Inc

ADDRESS 240 Page Court 220 W Douglas Wichita, Ks 67202

LEASE AND WELL NO. Knox #1 COUNTY Chautauqua STATE Ks Sec. 19 Twp. 32S Rge. 11E

Mail Invoice To Same (Co. Name) (Address) No. Copies Requested 1

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

Formation Test No. 2 Interval Tested from 1180 ft. to 1217 ft. Total Depth 1217 ft.

Packer Depth 1180 ft. Size 6 3/4 in. Packer Depth — ft. Size — in.

Packer Depth 1175 ft. Size 6 3/4 in. Packer Depth — ft. Size — in.

Depth of Selective Zone Set —

Top Recorder Depth (Inside) 1210 ft. Recorder Number 10980 Cap. 4200

Bottom Recorder Depth (Outside) 1213 ft. Recorder Number 1561 Cap. 3200

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

Drilling Contractor Ranae Drlg Co #1

Mud Type Chem Viscosity 40

Weight 9.2 Water Loss 13 cc.

Chlorides 1100 P.P.M.

Jars: Make — Serial Number —

Did Well Flow? No Reversed Out No

Drill Collar Length 220 I. D. 2 1/4 in.

Weight Pipe Length — I. D. — in.

Drill Pipe Length 940 I. D. 3.8 in.

Test Tool Length 57 in. Tool Size 4 1/2 OD in.

Anchor Length 37 ft. Size 4 1/2 OD in.

Surface Choice Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 3 1/2 IF in.

Blow: Fair diminishing to weak at end of test

Recovered 500 ft. of Salt water

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

RECEIVED DEC 12 1979

~~50 miles from Augusta to location 30 miles @ .75 per mile 22.50~~

Time Set Packer(s) 4:30 A.M. P.M. Time Started Off Bottom 7:30 A.M. P.M. Maximum Temperature 81

Initial Hydrostatic Pressure			(A)	565	P.S.I.	
Initial Flow Period	Minutes	30	(B)	55	P.S.I. to (C)	150 P.S.I.
Initial Closed In Period	Minutes	30	(D)	385	P.S.I.	
Final Flow Period	Minutes	60	(E)	180	P.S.I. to (F)	245 P.S.I.
Final Closed In Period	Minutes	60	(G)	395	P.S.I.	
Final Hydrostatic Pressure			(H)	565	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 Robert Olsen
Signature of Customer or his authorized representative

Western Representative Norman Allen

FIELD INVOICE

Open Hole Test	$ 500 00
Misrun	$
Straddle Test	$
Jars	$
Selective Zone	$
Safety Joint	$
Standby	$
Evaluation	$
Extra Packer	$
Circ. Sub.	$
~~Mileage~~	$ 22 50
Extra Charts	$
TOTAL	~~$ 522 50~~ $ 500 00

WESTERN TESTING CO., INC.
Pressure Data

Date 12-10-79 Test Ticket No. 3058

Recorder No. 10980 Capacity 4200 Location 1210 Ft.

Clock No. — Elevation 1109 KB Well Temperature 81 °F

Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	574 P.S.I.		Open Tool	4:30 P M	
B	First Initial Flow Pressure	49 P.S.I.		First Flow Pressure	30 Mins.	30 Mins.
C	First Final Flow Pressure	156 P.S.I.		Initial Closed-in Pressure	30 Mins.	30 Mins.
D	Initial Closed-in Pressure	387 P.S.I.		Second Flow Pressure	60 Mins.	60 Mins.
E	Second Initial Flow Pressure	192 P.S.I.		Final Closed-in Pressure	60 Mins.	60 Mins.
F	Second Final Flow Pressure	256 P.S.I.				
G	Final Closed-in Pressure	395 P.S.I.				
H	Final Hydrostatic Mud	557 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	49
P 2	5	73
P 3	10	105
P 4	15	122
P 5	20	134
P 6	25	145
P 7	30	156
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: 10 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point	Minutes	Press.
	0	156
	3	308
	6	337
	9	358
	12	365
	15	372
	18	376
	21	380
	24	385
	27	386
	30	387
	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	192
	5	192
	10	194
	15	201
	20	207
	25	214
	30	221
	35	227
	40	233
	45	239
	50	245
	55	251
	60	256
	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	256
	3	331
	6	353
	9	361
	12	369
	15	376
	18	378
	21	380
	24	382
	27	384
	30	385
	33	386
	36	389
	39	389
	42	390
	45	391
	48	391
	51	392
	54	393
	57	394
	60	395

Company Range Oil Company, Inc. Lease & Well No. Knox #1

Elevation 1109 Kelly Bushing Formation Kansas City Sand Effective Pay --- Ft. Ticket No. 3058

Date 12/10/79 Sec. 19 Twp. 32S Range 11E County Chautauqua State Kansas

Test Approved by Robert Olsen Western Representative Norman Allen

Formation Test No. 2 Interval Tested from 1180 ft. to 1217 ft. Total Depth 1217 ft.

Packer Depth 1180 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 1175 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 1210 ft. Recorder Number 10980 Cap. 4200

Bottom Recorder Depth (Outside) 1213 ft. Recorder Number 1561 Cap. 3200

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

Drilling Contractor Range Drilling Co. Rig #1 Drill Collar Length 220 I. D. 2¼ in.

Mud Type chemical Viscosity 40 Weight Pipe Length - I. D. - in.

Weight 9.2 Water Loss 13 cc. Drill Pipe Length 940 I. D. 3.8 in.

Chlorides 1,100 P.P.M. Test Tool Length 57 ft. Tool Size 4½OD in.

Jars: Make -- Serial Number -- Anchor Length 37 ft. Size 4½OD 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 3½IF in.

Blow: Fair diminishing to weak at end of test.

Recovered 500 ft. of salt water

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 4:30 ~~A.M.~~ P.M. Time Started Off Bottom 7:30 ~~A.M.~~ P.M. Maximum Temperature 81°

Initial Hydrostatic Pressure ..... (A) 574 P.S.I.

Initial Flow Period ..... Minutes 30 (B) 49 P.S.I. to (C) 156 P.S.I.

Initial Closed In Period ..... Minutes 30 (D) 387 P.S.I.

Final Flow Period ..... Minutes 60 (E) 192 P.S.I. to (F) 256 P.S.I.

Final Closed In Period ..... Minutes 60 (G) 395 P.S.I.

Final Hydrostatic Pressure ..... (H) 557 P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 12/10/79 Test Ticket No. 3058

Recorder No. 10980 Capacity 4200 Location 1210 Ft.

Clock No. --- Elevation 1109 Kelly Bushing Well Temperature 81 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	574 P.S.I.	Open Tool	4:30P M	
B First Initial Flow Pressure	49 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	156 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	387 P.S.I.	Second Flow Pressure	60 Mins.	60 Mins.
E Second Initial Flow Pressure	192 P.S.I.	Final Closed-in Pressure	60 Mins.	60 Mins.
F Second Final Flow Pressure	256 P.S.I.			
G Final Closed-in Pressure	395 P.S.I.			
H Final Hydrostatic Mud	557 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	49
P 2 5	73
P 3 10	105
P 4 15	122
P 5 20	134
P 6 25	145
P 7 30	156
P 8	
P 9	
P10	
P11	
P12	
P13	
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	156
3	308
6	337
9	358
12	365
15	372
18	376
21	380
24	385
27	386
30	387

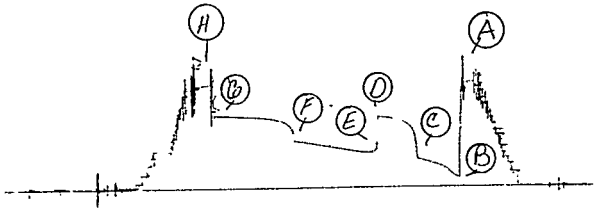
Second Flow Pressure
Breakdown: 12 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	192
5	192
10	194
15	201
20	207
25	214
30	221
35	227
40	233
45	239
50	245
55	251
60	256

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

Point Minutes	Press.
0	256
3	331
6	353
9	361
12	369
15	376
18	378
21	380
24	382
27	384
30	385
33	386
36	387
39	389
42	390
45	391
48	391
51	392
54	393
57	394
60	395

THA 3058
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10980

WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET No. 3059

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

Elevation 1109 KB Formation KC Eff. Pay — Ft.

District Augusta Date 12-11-79 Customer Order No. —

COMPANY NAME Range Oil Co Inc.

ADDRESS 240 Page Court 220 N. Douglas Wichita, Ks

LEASE AND WELL NO. Knox #1 COUNTY Chautauqua STATE Ks Sec. 19 Twp. 32S Rge. 11E

Mail Invoice To Same (Co. Name) (Address) No. Copies Requested 1

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

Formation Test No. 3 Interval Tested from 1260 ft. to 1270 ft. Total Depth 1270 ft.

Packer Depth 1260 ft. - Size 6 3/4 in. Packer Depth — ft. Size — in.

Packer Depth 1255 ft. Size 6 3/4 in. Packer Depth — ft. Size — in.

Depth of Selective Zone Set —

Top Recorder Depth (Inside) 1263 ft. Recorder Number 10980 Cap. 4200

Bottom Recorder Depth (Outside) 1266 ft. Recorder Number 1561 Cap. 3200

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

Drilling Contractor Ranger Drlg Co #1

Mud Type Chem Viscosity 38

Weight 9.1 Water Loss 13.- cc.

Chlorides 1100 P.P.M.

Jars: Make — Serial Number —

Did Well Flow? Yes Reversed Out No

Drill Collar Length 220 I. D. 2 1/4 in.

Weight Pipe Length — I. D. — in.

Drill Pipe Length 1020 I. D. 3.8 in.

Test Tool Length 30 in. Tool Size 4 1/2 OD in.

Anchor Length 10 ft. Size 4 1/2 OD in.

Surface Choke Size 1/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 3 1/2 IF in.

Blow: Strong diminishing to very weak @ end of test
Gas to surface 15 minutes after weak to medium

Recovered 910 ft. of Salt water

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

DEC 12 1979

Remarks:

~~80 miles from Coffeyville to location 30 miles 12-15 [illegible] = 220~~

Time Set Packer(s) 7:00 A.M. P.M. Time Started Off Bottom 10:30 A.M. P.M. Maximum Temperature 83

Initial Hydrostatic Pressure			(A)	590	P.S.I.	
Initial Flow Period	Minutes	30	(B)	150	P.S.I. to (C)	385 P.S.I.
Initial Closed In Period	Minutes	30	(D)	460	P.S.I.	
Final Flow Period	Minutes	60	(E)	425	P.S.I. to (F)	460 P.S.I.
Final Closed In Period	Minutes	90	(G)	460	P.S.I.	
Final Hydrostatic Pressure			(H)	590	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 Robert Olsen
Signature of Customer or his authorized representative

Western Representative Norman Allen

FIELD INVOICE

Open Hole Test	$500 00
Misrun	$
Straddle Test	$
Jars	$
Selective Zone	$
Safety Joint	$
Standby	$
Evaluation	$
Extra Packer	$
Circ. Sub.	$
Mileage	~~$ 22 50~~
Extra Charts	$
TOTAL	~~$ 522 50~~ 500 00

WESTERN TESTING CO., INC.
Pressure Data

Date 12-11-79 Test Ticket No. 3059

Recorder No. 10980 Capacity 4200 Location 1263 Ft.

Clock No. — Elevation 1109 KB Well Temperature 83 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	596 P.S.I.	Open Tool	7:00 A M	
B First Initial Flow Pressure	145 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	374 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	450 P.S.I.	Second Flow Pressure	60 Mins.	60 Mins.
E Second Initial Flow Pressure	419 P.S.I.	Final Closed-in Pressure	90 Mins.	90 Mins.
F Second Final Flow Pressure	457 P.S.I.			
G Final Closed-in Pressure	461 P.S.I.			
H Final Hydrostatic Mud	577 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	145
P 2	5	179
P 3	10	244
P 4	15	291
P 5	20	331
P 6	25	352
P 7	30	374
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: 10 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	374
3	436
6	443
9	447
12	450
15	
18	
21	
24	
27	
30	450
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	419
5	419
10	427
15	438
20	447
25	451
30	454
35	455
40	456
45	457
50	
55	
60	457
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	457
3	459
6	461
9	
12	
15	
18	
21	
24	
27	
30	
33	
36	
39	
42	
45	
48	
51	
54	
57	
60	461

WTC - 4

cont

WESTERN TESTING CO., INC.

Pressure Data

Test Ticket No. 3059

rder No. _____ Capacity _____ Location _____ Ft.

t No. _____ Elevation _____ Well Temperature _____ °F

	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

Breakdown: _____ Inc.

of 5 mins. and a

final inc. of 0 Min.

Point Mins.	Press.
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

Initial Shut-In

Breakdown: _____ Inc.

of 3 mins. and a

final inc. of 0 Min.

Point Minutes	Press.
63	
66	
69	
72	
75	
78	
81	
84	
87	
90	
93	
96	
99	
102	
105	
108	
111	
114	
117	
120	

Second Flow Pressure

Breakdown: _____ Inc.

of 5 mins. and a

final inc. of 0 Min.

Point Minutes	Press.

Final Shut-In

Breakdown: _____ Inc.

of 3 mins. and a

final inc. of 0 Min.

Point Minutes	Press.
63	461
66	
69	
72	
75	
78	
81	
84	
87	
90	467
93	
96	
99	
102	
105	
108	
111	
114	
117	
120	

Company Range Oil Company, Inc. Lease & Well No. Knox #1

Elevation 1109 Kelly Bushing Formation Kansas City Effective Pay ---- Ft. Ticket No. 3059

Date 12/11/79 Sec. 19 Twp. 32S Range 11E County Chautauqua State Kansas

Test Approved by Robert Olsen Western Representative Norman Allen

Formation Test No. 3 Interval Tested from 1260 ft. to 1270 ft. Total Depth 1270 ft.

Packer Depth 1260 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 1255 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 1263 ft. Recorder Number 10980 Cap. 4200

Bottom Recorder Depth (Outside) 1266 ft. Recorder Number 1561 Cap. 3200

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

Drilling Contractor Range Drilling Co. Rig #1 Drill Collar Length 220 I. D. 2¼ in.

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

Weight 9.1 Water Loss 13. cc. Drill Pipe Length 1020 I. D. 3.8 in.

Chlorides 1,100 P.P.M. Test Tool Length 30 ft. Tool Size 4½OD in.

Jars: Make -- Serial Number -- Anchor Length 10 ft. Size 4½OD in.

Did Well Flow? Gas 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 3½IF in.

Blow: Strong diminishing to very weak at end of test. Gas to surface fifteen minutes(too weak to measure.)

Recovered 910 ft. of salt water

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 7:00 ~~A.M.~~ ~~P.M.~~ Time Started Off Bottom 10:30 ~~A.M.~~ ~~P.M.~~ Maximum Temperature 83°

Initial Hydrostatic Pressure ..... (A) 596 P.S.I.

Initial Flow Period ..... Minutes 30 (B) 145 P.S.I. to (C) 374 P.S.I.

Initial Closed In Period ..... Minutes 30 (D) 450 P.S.I.

Final Flow Period ..... Minutes 60 (E) 419 P.S.I. to (F) 457 P.S.I.

Final Closed In Period ..... Minutes 90 (G) 461 P.S.I.

Final Hydrostatic Pressure ..... (H) 577 P.S.I.

WESTERN TESTING CO., INC.
Pressure Data

Date 12/11/79 Test Ticket No. 3059

Recorder No. 10980 Capacity 4200 Location 1263 Ft.

Clock No. --- Elevation 1109 Kelly Bushing Well Temperature 83 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	596 P.S.I.	Open Tool	7:00A M	
B First Initial Flow Pressure	145 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	374 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	450 P.S.I.	Second Flow Pressure	60 Mins.	60 Mins.
E Second Initial Flow Pressure	419 P.S.I.	Final Closed-in Pressure	90 Mins.	90 Mins.
F Second Final Flow Pressure	457 P.S.I.			
G Final Closed-in Pressure	461 P.S.I.			
H Final Hydrostatic Mud	577 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	145
P 2 5	179
P 3 10	244
P 4 15	291
P 5 20	331
P 6 25	352
P 7 30	374
P 8	
P 9	
P10	
P11	
P12	
P13	
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	374
3	436
6	443
9	447
12	450
15	450
18	450
21	450
24	450
27	450
30	450

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

Point Minutes	Press.
0	419
5	419
10	427
15	438
20	447
25	451
30	454
35	455
40	456
45	457
50	457
55	457
60	457

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

Point Minutes	Press.
0	457
3	459
6	461
9	461
12	461
15	461
18	461
21	461
24	461
27	461
30	461
33	461
36	461
39	461
42	461
45	461
48	461
51	461
54	461
57	461
60	461

continued next page

WESTERN TESTING CO., INC.
Pressure Data

Date 12/11/79 Test Ticket No. 3059

Recorder No. 10980 Capacity 4200 Location 1263 Ft.

Clock No. --- Elevation 1109 Kelly Bushing Well Temperature 83 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	596 P.S.I.	Open Tool	7:00A M	
B First Initial Flow Pressure	145 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	374 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	450 P.S.I.	Second Flow Pressure	60 Mins.	60 Mins.
E Second Initial Flow Pressure	419 P.S.I.	Final Closed-in Pressure	90 Mins.	90 Mins.
F Second Final Flow Pressure	457 P.S.I.			
G Final Closed-in Pressure	461 P.S.I.			
H Final Hydrostatic Mud	577 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: 10 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 30
Breakdown: 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	461
P 2						66	461
P 3						69	461
P 4						72	461
P 5						75	461
P 6						78	461
P 7						81	461
P 8						84	461
P 9						87	461
P10						90	461
P11							
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

A
B
C
D
E
F
G
H

WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET No. 3060

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

Elevation 1109 KB Formation Cattleman Sand Eff. Pay - Ft.

District Anaustas Date 12-13-79 Customer Order No. -

COMPANY NAME Range Oil Co Inc

ADDRESS 240 Page Court 220 w Douglas Wichita, Ks 67202

LEASE AND WELL NO. Knox #1 COUNTY Chautauqua STATE Ks Sec. 19 Twp. 32S Rge. 11E

Mail Invoice To Same (Co. Name) (Address) No. Copies Requested 1

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

Formation Test No. 4 Interval Tested from 1729 ft. to 1762 ft. Total Depth 1762 ft.

Packer Depth 1729 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 1724 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 1755 ft. Recorder Number 10980 Cap. 4200

Bottom Recorder Depth (Outside) 1758 ft. Recorder Number 1561 Cap. 3200

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

Drilling Contractor Range Drlg Co #1

Mud Type Chem Viscosity 41

Weight 9.4 Water Loss 13 cc.

Chlorides 3100 P.P.M.

Jars: Make - Serial Number -

Did Well Flow? No Reversed Out No

Drill Collar Length 90 I. D. 2 1/4 in.

Weight Pipe Length - I. D. - in.

Drill Pipe Length 1619 I. D. 3.8 in.

Test Tool Length 53 in. Tool Size 4 1/2 OD in.

Anchor Length 33 ft. Size 4 1/2 OD in.

Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 3 1/2 IF in.

Blow: Weak 5 minutes Flushed tool twice

Recovered 10 ft. of Drilling mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

RECEIVED DEC 17 1979

Remarks: On location @ 5:30 PM 12-13-79 ~~complete 9:30 PM 12-13-79~~ 80 miles from Anaustas to location 30 min @ 75 per hr = 1 22 50

Time Set Packer(s) 5:45 A.M. P.M. Time Started Off Bottom 6:45 A.M. P.M. Maximum Temperature 90

Initial Hydrostatic Pressure		(A)	885	P.S.I.		
Initial Flow Period	Minutes 30	(B)	50	P.S.I. to (C)	50	P.S.I.
Initial Closed In Period	Minutes 30	(D)	75	P.S.I.		
Final Flow Period	Minutes 30	(E)	65	P.S.I. to (F)	65	P.S.I.
Final Closed In Period	Minutes 30	(G)	95	P.S.I.		
Final Hydrostatic Pressure		(H)	865	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 Robert Olsen
Signature of Customer or his authorized representative

Western Representative Norman Allen

FIELD INVOICE

Open Hole Test	$ 500 00
Misrun	$
Straddle Test	$
Jars	$
Selective Zone	$
Safety Joint	$
Standby	$
Evaluation	$
Extra Packer	$
Circ. Sub.	$
Mileage	$
Extra Charts	$
TOTAL	$ 500 00

WESTERN TESTING CO., INC.
Pressure Data

Date 12-13-79 Test Ticket No. 3060

Recorder No. 10980 Capacity 4500 Location 7755 Ft.

Clock No. — Elevation 7109 KB Well Temperature 90 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	887 P.S.I.	Open Tool	5145 PM	
B First Initial Flow Pressure	53 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	51 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	71 P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
E Second Initial Flow Pressure	62 P.S.I.	Final Closed-in Pressure	30 Mins.	30 Mins.
F Second Final Flow Pressure	53 P.S.I.			
G Final Closed-in Pressure	96 P.S.I.			
H Final Hydrostatic Mud	853 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	53
P 2 5	51
P 3 10	
P 4 15	
P 5 20	
P 6 25	
P 7 30	51
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: 10 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	51
3	
6	
9	
12	51
15	56
18	59
21	63
24	66
27	68
30	71
33	
36	
39	
42	
45	
48	
51	
54	
57	
60	

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

Point Minutes	Press.
0	62
5	56
10	Flushed Tool 59
15	53
20	53
25	53
30	Flushed Tool
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	53
3	59
6	64
9	68
12	71
15	73
18	78
21	83
24	88
27	92
30	96
33	
36	
39	
42	
45	
48	
51	
54	
57	
60	

Company Range Oil Company, Inc., Lease & Well No. Knox #1

Elevation 1109 Kelly Bushing Formation Cattleman Sand Effective Pay --- Ft. Ticket No. 3060

Date 12/13/79 Sec. 19 Twp. 32S Range 11E County Chautauqua State Kansas

Test Approved by Robert Olsen Western Representative Norman Allen

Formation Test No. 4 Interval Tested from 1729 ft. to 1762 ft. Total Depth 1762 ft.

Packer Depth 1729 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 1724 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set 0

Top Recorder Depth (Inside) 1755 ft. Recorder Number 10980 Cap. 4200

Bottom Recorder Depth (Outside) 1758 ft. Recorder Number 1561 Cap. 3200

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

Drilling Contractor Range Drilling Co. Rig #1 Drill Collar Length 90 I. D. 2¼ in.

Mud Type chemical Viscosity 41 Weight Pipe Length - I. D. - in.

Weight 9.4 Water Loss 13 cc. Drill Pipe Length 1619 I. D. 3.8 in.

Chlorides 3,100 P.P.M. Test Tool Length 53 ft. Tool Size 4½OD in.

Jars: Make -- Serial Number -- Anchor Length 33 ft. Size 4½OD 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 3½IF in.

Blow: Weak five minutes. Flushed tool twice.

Recovered 10 ft. of drilling mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 5:45 ~~A.M.~~ P.M. Time Started Off Bottom 6:45 ~~A.M.~~ P.M. Maximum Temperature 90°

Initial Hydrostatic Pressure ..... (A) 887 P.S.I.

Initial Flow Period ..... Minutes 30 (B) 53 P.S.I. to (C) 51 P.S.I.

Initial Closed In Period ..... Minutes 30 (D) 71 P.S.I.

Final Flow Period ..... Minutes 30 (E) 62 P.S.I. to (F) 53 P.S.I.

Final Closed In Period ..... Minutes 30 (G) 96 P.S.I.

Final Hydrostatic Pressure ..... (H) 853 P.S.I.

WESTERN TESTING CO., INC.
Pressure Data

Date 12-13-79 Test Ticket No. 3060

Recorder No. 10980 Capacity 4200 Location 1755 Ft.

Clock No. ----- Elevation 1109 Kelly Bushing Well Temperature 90 °F

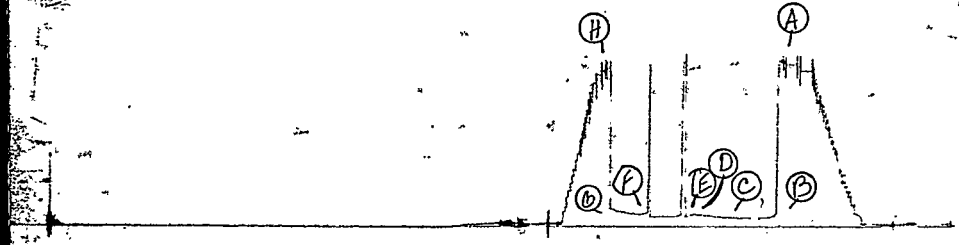
Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	887 P.S.I.	Open Tool	5:45 P. M	
B First Initial Flow Pressure	53 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	51 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	71 P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
E Second Initial Flow Pressure	62 P.S.I.	Final Closed-in Pressure	30 Mins.	30 Mins.
F Second Final Flow Pressure	53 P.S.I.			
G Final Closed-in Pressure	96 P.S.I.			
H Final Hydrostatic Mud	853 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure	Initial Shut-In	Second Flow Pressure	Final Shut-In
Breakdown: 6 Inc.	Breakdown: 10 Inc.	Breakdown: 6 Inc.	Breakdown: 10 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 0	53	0	51	0	62	0	53
P 2 5	51	3	51	5	56	3	59
P 3 10	51	6	51	10	59 Flushed Tool	6	64
P 4 15	51	9	51	15	53	9	68
P 5 20	51	12	51	20	53	12	71
P 6 25	51	15	56	25	53	15	73
P 7 30	51	18	59	30	Flushed Tool	18	78
P 8		21	63			21	83
P 9		24	66			24	88
P10		27	68			27	92
P11		30	71			30	96
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

TH# 3060
I



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

WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET No. 3061

Elevation 1109 KB Formation Penn Sand. Eff. Pay Ft.

District Augusta Date 12-14-79 Customer Order No.

COMPANY NAME Range Oil Co. Inc.

ADDRESS 240 Page Court 220 W Douglas Wichita, Ks 67202

LEASE AND WELL NO. Knox # 1 COUNTY Chautauqua STATE Ks Sec. 19 Twp. 32S Rge. 11E

Mail Invoice To Same (Co. Name) Address No. Copies Requested 1

Mail Charts To Same Address No. Copies Requested 5

Formation Test No. 5 Interval Tested from 1885 ft. to 1919 ft. Total Depth 1919 ft.

Packer Depth 1885 ft. Size 6 3/4 in. Packer Depth — ft. Size — in.

Packer Depth 1880 ft. Size 6 3/4 in. Packer Depth — ft. Size — in.

Depth of Selective Zone Set —

Top Recorder Depth (Inside) 1912 ft. Recorder Number 10980 Cap. 4200

Bottom Recorder Depth (Outside) 1915 ft. Recorder Number 1561 Cap. 3200

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

Drilling Contractor Range Drlg. Co. # 1 Drill Collar Length 90 I. D. 2 1/4 in.

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

Weight 9.6 Water Loss 13.6 cc. Drill Pipe Length 1775 I. D. 3.8 in.

Chlorides 3000 P.P.M. Test Tool Length 54 in. Tool Size 4 1/2 OD in.

Jars: Make — Serial Number — Anchor Length 34 ft. Size 4 1/2 OD in.

Did Well Flow? Gas Reversed Out — Surface Choke Size 1/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 3 1/2 IF in.

Blow: Strong thruout Test Gas to surface 15 minutes
See Gas sheet attached

Recovered 30 ft. of Gas cut Dlg mud.

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks: Gas gauged 5,320 CFPD & 11:40 AM & 6,100 CFPD @ 1:45 PM
Took gas sample bottle # 636 - Left with operator

Time Set Packer(s) 11:15 A.M. P.M. Time Started Off Bottom 2:45 A.M. P.M. Maximum Temperature 93

Initial Hydrostatic Pressure			(A) 960	P.S.I.		
Initial Flow Period	Minutes 30	(B) 40	P.S.I. to	(C) 40	P.S.I.	
Initial Closed In Period	Minutes 30	(D) 670	P.S.I.			
Final Flow Period	Minutes 90	(E) 40	P.S.I. to	(F) 40	P.S.I.	
Final Closed In Period	Minutes 60	(G) 640	P.S.I.			
Final Hydrostatic Pressure		(H) 940	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 Robert Olsen
Signature of Customer or his authorized representative

DEC 17 1979

Western Representative Norman Olson

FIELD INVOICE

Open Hole Test	$ 500 00
Misrun	$
Straddle Test	$
Jars	$
Selective Zone	$
Safety Joint	$
Standby	$
Evaluation	$
Extra Packer	$
Circ. Sub.	$
Mileage	$ 22 50
Extra Charts	$
TOTAL	$ 522 50
	500 00

Phone 316 838-0601

WESTERN TESTERS

P. O. Box 1599
WICHITA, KANSAS 67201

GAS FLOW REPORT

No. 1242

Date 12-14-79 Ticket 3061 Company Range Oil Co Inc.

Well Name and No. Knox #1 Dst No. 5 Interval Tested 1885 - 1919

County Chautauqua State Ks Sec. 19 Twp. 32S Rg. 11E

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
Dool on bottom & open @ 11:15AM PRE FLOW					
Had to surface 10 minutes					
25	10 Inches	orate.	1/4" Choke		5,320 CFPD Mcf
30	14 "	"	" "		6,330 " "
Dool closed in	11:45	to	12:15 PM		
SECOND FLOW					
35	20 Inches	1/4	inch Choke		7510 CFPD Mcf
40	22 "	"	" "		7880 " "
45	23 "	"	" "		8006 " "
50	24 "	"	" "		8220 " "
55	22 "	"	" "		7880 " "
60	22 "	"	" "		7880 " "
65	20 "	"	" "		7510 " "
75	18 "	"	" "		7120 " "
85	17 "	"	" "		6930 " "
90	16 "	"	" "		6720 " "
95	15 "	"	" "		6550 " "
105	14 "	"	" "		6330 " "
120	13 "	"	" "		6100 " "

GAS BOTTLE

Serial No. 636 Date Bottle Filled 12-14-79 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 1% per month, equal to 12% 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 Range Oil Co.

Authorized by Robert Olsen

FORM WTC 9

WESTERN TESTING CO., INC.
Pressure Data

Date 12-14-79 Test Ticket No. 3061

Recorder No. 10980 Capacity 4200 Location 1912 Ft.

Clock No. Elevation 1109 KB Well Temperature 93 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	977 P.S.I.	Open Tool	11:15 A M	
B First Initial Flow Pressure	43 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	43 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	697 P.S.I.	Second Flow Pressure	90 Mins.	90 Mins.
E Second Initial Flow Pressure	43 P.S.I.	Final Closed-in Pressure	60 Mins.	60 Mins.
F Second Final Flow Pressure	41 P.S.I.			
G Final Closed-in Pressure	651 P.S.I.			
H Final Hydrostatic Mud	953 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	43
P 2	5	
P 3	10	
P 4	15	
P 5	20	
P 6	25	
P 7	30	43
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: 10 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	43
3	235
6	429
9	562
12	628
15	653
18	659
21	664
24	668
27	673
30	677
33	
36	
39	
42	
45	
48	
51	
54	
57	
60	

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

Point Minutes	Press.
0	43
5	43
10	41
15	
20	
25	
30	
35	
40	
45	
50	
55	
60	
65	
70	
75	
80	
85	
90	41

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

Point Minutes	Press.
0	41
3	156
6	280
9	400
12	487
15	547
18	583
21	602
24	613
27	621
30	626
33	630
36	633
39	636
42	639
45	642
48	644
51	646
54	648
57	650
60	651

WTC - 4

Company Range Oil Company, Inc. Lease & Well No. Knox #1

Elevation 1109 Kelly Bushing Formation Pennsylvanian Sand Effective Pay -- Ft. Ticket No. 3061

Date 12/14/79 Sec. 19 Twp. 32S Range 11E County Chautauqua State Kansas

Test Approved by Robert Olsen Western Representative Norman Allen

Formation Test No. 5 Interval Tested from 1885 ft. to 1919 ft. Total Depth 1919 ft.

Packer Depth 1885 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 1880 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set --

Top Recorder Depth (Inside) 1912 ft. Recorder Number 10980 Cap. 4200

Bottom Recorder Depth (Outside) 1915 ft. Recorder Number 1561 Cap. 4300

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

Drilling Contractor Range Drilling Co. Rig #1 Drill Collar Length 90 I. D. 2¼ in.

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

Weight 9.6 Water Loss 13.6 cc. Drill Pipe Length 1775 I. D. 3.8 in.

Chlorides 3,000 P.P.M. Test Tool Length 54 ft. Tool Size 4½OD in.

Jars: Make -- Serial Number -- Anchor Length 34 ft. Size 4½OD in.

Did Well Flow? Gas Reversed Out --- Surface Choke Size 1/4 in. Bottom Choke Size 3/4 in.

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

Blow: Strong throughout test. Gas to surface fifteen minutes. See attached sheet for gas measurements.

Recovered 30 ft. of gas cut drilling mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks: Left gas sample bottle #636 with operator.

Time Set Packer(s) 11:15 A.M. P.M. Time Started Off Bottom 2:45 A.M. P.M. Maximum Temperature 93°

Initial Hydrostatic Pressure ..... (A) 977 P.S.I.

Initial Flow Period ..... Minutes 30 (B) 43 P.S.I. to (C) 43 P.S.I.

Initial Closed In Period ..... Minutes 30 (D) 677 P.S.I.

Final Flow Period ..... Minutes 60 (E) 43 P.S.I. to (F) 41 P.S.I.

Final Closed In Period ..... Minutes 60 (G) 651 P.S.I.

Final Hydrostatic Pressure ..... (H) 953 P.S.I.

GAS FLOW REPORT

Date 12/14/79 Ticket 3061 Company Range Oil Company, Inc.

Well Name and No. Knox #1 Dst No. 5 Interval Tested 1885'-1919'

County Chautauqua State Kansas Sec. 19 Twp. 32S Rg. 11E

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
Tool on bottom and open @ 11:15AM				**PRE FLOW**		
Gas to surface ten minutes.						
	25 min.	10" of water	1/4" orifice			5,320 CFPD
	30 min.	14" of water	1/4" orifice			6,330 CFPD
	Tool closed in	11:45 to 12:15 PM				
				SECOND FLOW		
	35 min.	20" of water	1/4" orifice			7,510 CFPD
	40 min.	22" of water	1/4" orifice			7,880 CFPD
	45 min.	23" of water	1/4" orifice			8,000 CFPD
	50 min.	24" of water	1/4" orifice			8,220 CFPD
	~~55 min.~~	~~22" of water~~	~~1/4" orifice~~			~~7,880 CFPD~~
	60 min.	22" of water	1/4" orifice			7,880 CFPD
	65 min.	20" of water	1/4" orifice			7,510 CFPD
	~~75 min.~~	~~18" of water~~	~~1/4" orifice~~			~~7,120 CFPD~~
	85 min.	17" of water	1/4" orifice			6,930 CFPD
	90 min.	16" of water	1/4" orifice			6,720 CFPD
	~~95 min.~~	~~15" of water~~	~~1/4" orifice~~			~~6,550 CFPD~~
	105 min.	14" of water	1/4" orifice			6,330 CFPD
	120 min.	13" of water	1/4" orifice			6,100 CFPD

GAS BOTTLE

Serial No. 636 Date Bottle Filled 12/14/79 Date to be Invoiced 12/14/79

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 Range Oil Company, Inc.

Authorized by Robert Olsen

FORM WTC 6

WESTERN TESTING CO., INC.
Pressure Data

Date 12-14-79 Test Ticket No. 3061

Recorder No. 10980 Capacity 4200 Location 1912 Ft.

Clock No. ------ Elevation 1109 Kelly Bushing Well Temperature 93 °F

Point		Pressure	
A	Initial Hydrostatic Mud	977	P.S.I.
B	First Initial Flow Pressure	43	P.S.I.
C	First Final Flow Pressure	43	P.S.I.
D	Initial Closed-in Pressure	677	P.S.I.
E	Second Initial Flow Pressure	43	P.S.I.
F	Second Final Flow Pressure	41	P.S.I.
G	Final Closed-in Pressure	651	P.S.I.
H	Final Hydrostatic Mud	953	P.S.I.

	Time Given		Time Computed	
Open Tool	11:15	M		
First Flow Pressure	30	Mins.	30	Mins.
Initial Closed-in Pressure	30	Mins.	30	Mins.
Second Flow Pressure	90	Mins.	90	Mins.
Final Closed-in Pressure	60	Mins.	60	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	43
P 2 5	43
P 3 10	43
P 4 15	43
P 5 20	43
P 6 25	43
P 7 30	43
P 8	
P 9	
P10	
P11	
P12	
P13	
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	43
3	235
6	427
9	562
12	628
15	653
18	659
21	664
24	668
27	673
30	677

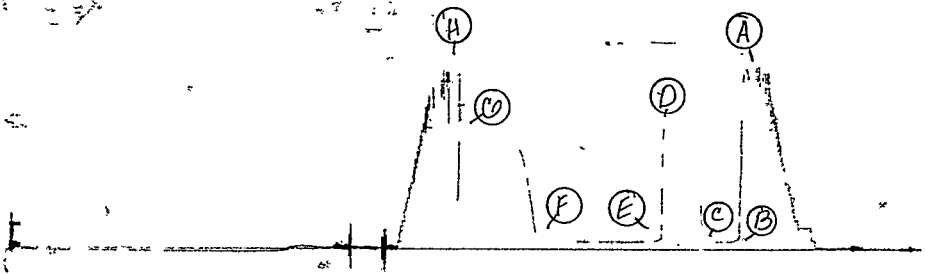
Second Flow Pressure
Breakdown: 18 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	43
5	43
10	41
15	41
20	41
25	41
30	41
35	41
40	41
45	41
50	41
55	41
60	41
65	41
70	41
75	41
80	41
85	41
90	41

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

Point Minutes	Press.
0	41
3	156
6	280
9	400
12	487
15	547
18	583
21	602
24	613
27	621
30	626
33	630
36	633
39	636
42	639
45	642
48	644
51	646
54	648
57	650
60	651

TK#3061
I



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

WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET No. 3062

Elevation 1109 KB Formation Miss Lime Eff. Pay — Ft.

District Augusta Date 12-14-79 Customer Order No. —

COMPANY NAME Ranae Oil Co Inc

ADDRESS 240 Page Court 220 W Douglas Wichita, Ks 67202

LEASE AND WELL NO. Knoll #1 COUNTY Chautauqua STATE Ks Sec. 19 Twp. 32S Rge. 11E

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

Mail Charts To Same No. Copies Requested 5
Address

Formation Test No. 6 Interval Tested from 1922 ft. to 1935 ft. Total Depth 1935 ft.

Packer Depth 1922 ft. Size 6 3/4 in. Packer Depth — ft. Size — in.

Packer Depth 1917 ft. Size 6 3/4 in. Packer Depth — ft. Size — in.

Depth of Selective Zone Set —

Top Recorder Depth (Inside) 1928 ft. Recorder Number 10980 Cap. 4200

Bottom Recorder Depth (Outside) 1931 ft. Recorder Number 1561 Cap. 3200

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

Drilling Contractor Ranae Drlg Co #1 Drill Collar Length 90 I. D. 2 1/4 in.

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

Weight 9.6 Water Loss 13.6 cc. Drill Pipe Length 1812 I. D. 3.8 in.

Chlorides 3000 P.P.M. Test Tool Length 33 in. Tool Size 4 1/2 OD in.

Jars: Make — Serial Number — Anchor Length 13 ft. Size 4 1/2 OD in.

Did Well Flow? Gas Reversed Out — Surface Choke Size 1/4 & 1/2 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 3 1/2 IF in.

Blow: Strong throughout test Gas to surface 30 minutes
(See sheet attached)

Recovered 40 ft. of Gas cut Drilling mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks: Gas gauged 8,000 CFPD @ 12:35 & 10,900 CFPD @ 1:00 thru 1:30 AM
Good sampled gas bottle #43 left with operator

Time Set Packer(s) 11:30 ~~A.M.~~ P.M. Time Started Off Bottom 2:30 ~~A.M.~~ P.M. Maximum Temperature 93

Initial Hydrostatic Pressure			(A) 980	P.S.I.		
Initial Flow Period	Minutes 30	(B) 40	P.S.I. to	(C) 55	P.S.I.	
Initial Closed In Period	Minutes 30	(D) 640	P.S.I.			
Final Flow Period	Minutes 60	(E) 30	P.S.I. to	(F) 30	P.S.I.	
Final Closed In Period	Minutes 60	(G) 590	P.S.I.			
Final Hydrostatic Pressure		(H) 960	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 Robert Olsen
Signature of Customer or his authorized representative

RECEIVED DEC 17 1979 KCC

Western Representative Norman Allen

FIELD INVOICE

Open Hole Test	$ 500 00
Misrun	$
Straddle Test	$
Jars	$
Selective Zone	$
Safety Joint	$
Standby	$
Evaluation	$
Extra Packer	$
Circ. Sub.	$
Mileage	$
Extra Charts	$
TOTAL	$ 500 00

Phone 316 838-0601

WESTERN TESTING

P. O. Box 1599
WICHITA, KANSAS 67201

GAS FLOW REPORT

No. 1169

Date 12-14-79 Ticket 3062 Company Range Oil Co Inc.

Well Name and No. Knox #1 Dst No. 6 Interval Tested 1922-1935

County Chautauqua State Ks. Sec. 19 Twp. 32S Rg. 11E

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
					Tool open @ 11:30 PM 12-14-79
					Mud to surface 30 minutes
					Tool closed in 12:00 to 12:30 AM (ICIP) **SECOND FLOW**
35	24 inches water		1/4 inch	Choke	8,000 CFPD Gas
40	5 "	"	1/2 "	"	14,000 " "
50	4 "	"	" "	"	12,000 " "
60	3 "	"	" "	"	10,900 " "
70	3 "	"	" "	"	" " "
80	3 "	"	" "	"	" " "
90	3 "	"	" "	"	10,900 " "
					Tool closed in 1130 to 2:30 AM 12-15-79 (FCIP)

GAS BOTTLE

Serial No. 43 Date Bottle Filled 12-15-79 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 1% per month, equal to 12% 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 Robert O Lay

FORM WTC 9

WESTERN TESTING CO., INC.
Pressure Data

Date 12-14-79 Test Ticket No. 3062

Recorder No. 10980 Capacity 4200 Location 1928 Ft.

Clock No. — Elevation 1109 KB Well Temperature 93 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	987 P.S.I.	Open Tool	11:30 P M	
B First Initial Flow Pressure	43 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	51 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	645 P.S.I.	Second Flow Pressure	60 Mins.	60 Mins.
E Second Initial Flow Pressure	38 P.S.I.	Final Closed-in Pressure	60 Mins.	60 Mins.
F Second Final Flow Pressure	34 P.S.I.			
G Final Closed-in Pressure	581 P.S.I.			
H Final Hydrostatic Mud	964 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	43
P 2 5	43
P 3 10	45
P 4 15	47
P 5 20	49
P 6 25	50
P 7 30	51
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: 10 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	51
3	355
6	470
9	543
12	585
15	606
18	619
21	630
24	636
27	640
30	645
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	38
5	38
10	34
15	
20	
25	
30	
35	
40	
45	
50	
55	
60	34
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	34
3	274
6	423
9	502
12	530
15	543
18	547
21	561
24	555
27	559
30	562
33	565
36	567
39	568
42	569
45	570
48	572
51	574
54	577
57	579
60	581

WTC - 4

Company Range Oil Company, Inc. Lease & Well No. Knox #1

Elevation 1109 Kelly Bushing Formation Mississippi Lime Effective Pay --- Ft. Ticket No. 3062

Date 12/14/79 Sec. 19 Twp. 32S Range 11E County Chautauqua State Kansas

Test Approved by Robert Olsen Western Representative Norman Allen

Formation Test No. 6 Interval Tested from 1922 ft. to 1935 ft. Total Depth 1935 ft.

Packer Depth 1922 ft. Size 6 3/4 in. Packer Depth --- ft. Size -- in.

Packer Depth 1917 ft. Size 6 3/4 in. Packer Depth --- ft. Size -- in.

Depth of Selective Zone Set --

Top Recorder Depth (Inside) 1928 ft. Recorder Number 10980 Cap. 4200

Bottom Recorder Depth (Outside) 1931 ft. Recorder Number 1561 Cap. 3200

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

Drilling Contractor Range Drilling Co. Rig #1 Drill Collar Length 90 I. D. 2¼ in.

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

Weight 9.6 Water Loss 13.6 cc. Drill Pipe Length 1812 I. D. 3.8 in.

Chlorides 3,000 P.P.M. Test Tool Length 33 ft. Tool Size 4½OD in.

Jars: Make --- Serial Number --- Anchor Length 13 ft. Size 4½OD in.

Did Well Flow? Gas Reversed Out -- Surface Choke Size 1/4 & 1/2 in. Bottom Choke Size 3/4 in.

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

Blow: Strong throughout test. Gas to surface thirty minutes. See attached sheet for gas measurements.

Recovered 40 ft. of gas cut drilling mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks: Left sample and gas bottle #43 with operator.

Time Set Packer(s) 11:30 ~~A.M.~~ P.M. Time Started Off Bottom 2:30 ~~A.M.~~ P.M. Maximum Temperature 93°

Initial Hydrostatic Pressure ..... (A) 987 P.S.I.

Initial Flow Period ..... Minutes 30 (B) 43 P.S.I. to (C) 51 P.S.I.

Initial Closed In Period ..... Minutes 30 (D) 645 P.S.I.

Final Flow Period ..... Minutes 60 (E) 38 P.S.I. to (F) 34 P.S.I.

Final Closed In Period ..... Minutes 60 (G) 581 P.S.I.

Final Hydrostatic Pressure ..... (H) 964 P.S.I.

GAS FLOW REPORT

Date 12/41/79 Ticket 3062 Company Range Oil Company, Inc.

Well Name and No. Knox #1 Dst No. 6 Interval Tested 1922'-1935'

County Chautauqua State Kansas Sec. 19 Twp. 32S Rg. 11E

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
Tool open @ 11:30PM 12/14/79						**PRE FLOW**
	GAS TO	SURFACE THIRTY MINUTES.				
TOOL CLOSED IN 12:00 to 12:30 A, (ICIP)						**SECOND FLOW**
	35 min.	24" of water	1/4" orifice			8,000 CFPD
	40 min.	5" of water	1/4" orifice			14,000 CFPD
	50 min.	4" of water	1/4" orifice			12,000 CFPD
	60 min.	3" of water	1/4" orifice			10,900 CFPD
	70 min.	3" of water	1/4" orifice			10,900 CFPD
	80 min.	3" of water	1/4" orifice			10,900 CFPD
	90 min.	3" of water	1/4" orifice			10,900 CFPD
			TOOL CLOSED IN 1:30	to 2:30 A,	12/15/79 (FCIP)	

GAS BOTTLE

Serial No. 43 Date Bottle Filled 12/14/79 Date to be Invoiced 12/14/79

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 Range Oil Company, Inc.

Authorized by Robert Olsen

FORM WTC 6

WESTERN TESTING CO., INC.
Pressure Data

Date 12/14/79 Test Ticket No. 3062

Recorder No. 10980 Capacity 4200 Location 1928 Ft.

Clock No. --- Elevation 1109' Kelly Bushing Well Temperature 93° °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	987 P.S.I.	Open Tool	11:30P M	
B First Initial Flow Pressure	43 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	51 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	645 P.S.I.	Second Flow Pressure	60 Mins.	60 Mins.
E Second Initial Flow Pressure	38 P.S.I.	Final Closed-in Pressure	60 Mins.	60 Mins.
F Second Final Flow Pressure	34 P.S.I.			
G Final Closed-in Pressure	581 P.S.I.			
H Final Hydrostatic Mud	964 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	43
P 2 5	43
P 3 10	45
P 4 15	47
P 5 20	49
P 6 25	50
P 7 30	51
P 8	
P 9	
P10	
P11	
P12	
P13	
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	51
3	355
6	470
9	543
12	585
15	606
18	619
21	630
24	636
27	640
30	645

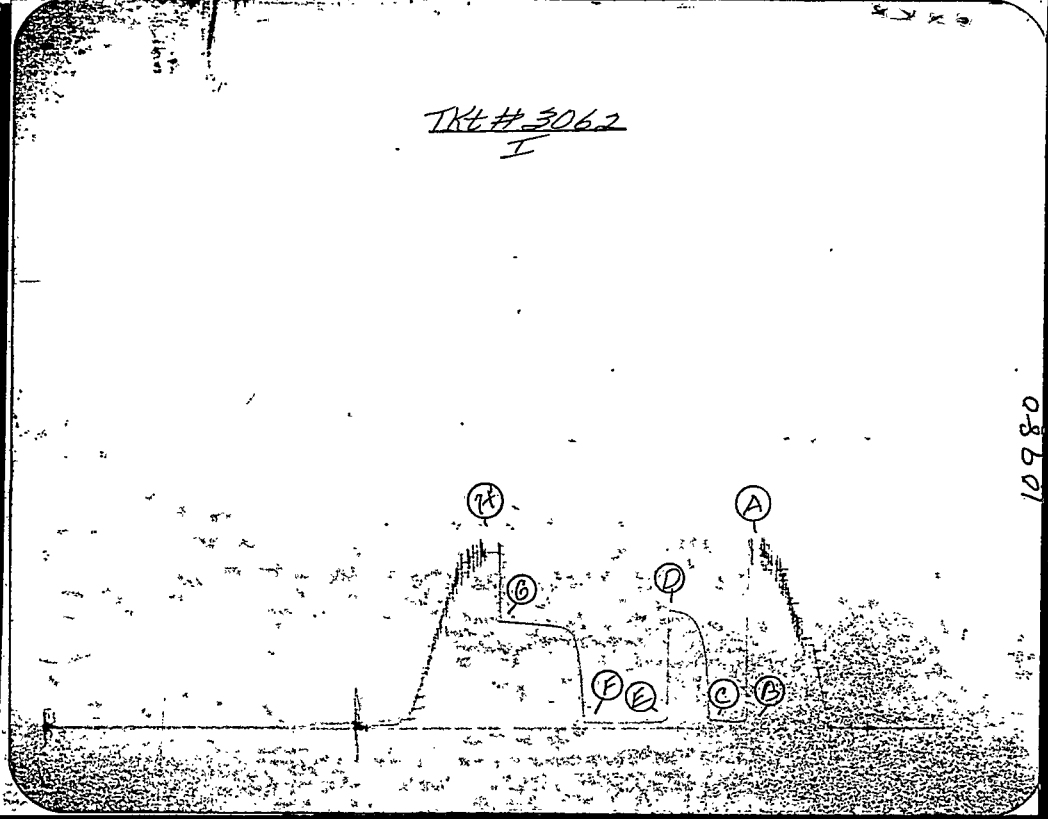
Second Flow Pressure
Breakdown: 12 Inc.
of 5 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	38
5	38
10	34
15	34
20	34
25	34
30	34
35	34
40	34
45	34
50	34
55	34
60	34

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

Point Minutes	Press.
0	34
3	274
6	423
9	502
12	530
15	543
18	547
21	551
24	555
27	559
30	562
33	565
36	567
39	568
42	569
45	570
48	572
51	574
54	577
57	579
60	581

TKt#3062
I



10980

WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET No. 3063

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

Elevation 1109 KB Formation Miss Lime Eff. Pay - Ft.

District Augusta Date 12-15-79 Customer Order No. -

COMPANY NAME Range Oil Co Inc.

ADDRESS 240 Page Court 220 W Douglas Wichita, Ks 67202

LEASE AND WELL NO. Knox #1 COUNTY Chautauqua STATE Ks Sec. 19 Twp. 32S Rge. 11E

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

Mail Charts To Same No. Copies Requested 5
Address

Formation Test No. 7 Interval Tested from 1935 ft. to 1966 ft. Total Depth 1966 ft.

Packer Depth 1935 ft.	Size 6 3/4 in.	Packer Depth - ft.	Size - in.
Packer Depth 1930 ft.	Size 6 3/4 in.	Packer Depth - ft.	Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside)	1958 ft.	Recorder Number 10980	Cap. 4200
Bottom Recorder Depth (Outside)	1962 ft.	Recorder Number 1561	Cap. 3200
Below Straddle Recorder Depth	- ft.	Recorder Number -	Cap. -

Drilling Contractor Rango Drlg Co #1		Drill Collar Length 90	I. D. 2 1/4 in.
Mud Type Chem	Viscosity 40	Weight Pipe Length -	I. D. - in.
Weight 9.5	Water Loss 15.2 cc.	Drill Pipe Length 1825	I. D. 3.8 in.
Chlorides 3100 P.P.M.		Test Tool Length 51 in.	Tool Size 4 1/2 OD in.
Jars: Make -	Serial Number -	Anchor Length 31 ft.	Size 4 1/2 OD in.
Did Well Flow? Gas	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 3 1/2 IF in.

Blow: Strong 1hr out test Gas to surface 30 minutes
See sheet attached

Recovered 270 ft. of Free oil (36 Gravity corrected)
Recovered 60 ft. of Oil & gas cut mud 30% oil 70% mud.
Recovered 60 ft. of Slightly oil & gas cut mud 10% oil 90% mud
Recovered ft. of
Recovered ft. of

Remarks: Gas gauged 7,510 CFPD @ 3:35 PM & 7,120 CFPD @ 4:20 & 4:30 PM
Took sample gas bottle #12854

Time Set Packer(s) 2:30 ~~A.M.~~ P.M. Time Started Off Bottom 5:30 ~~A.M.~~ P.M. Maximum Temperature 95

Initial Hydrostatic Pressure			(A) 970	P.S.I.		
Initial Flow Period	Minutes 30	(B) 85	P.S.I. to	(C) 115	P.S.I.	
Initial Closed In Period	Minutes 30	(D) 415	P.S.I.			
Final Flow Period	Minutes 60	(E) 140	P.S.I. to	(F) 150	P.S.I.	
Final Closed In Period	Minutes 60	(G) 385	P.S.I.			
Final Hydrostatic Pressure		(H) 970	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 Robert Olen
Signature of Customer or his authorized representative

Western Representative Norman Allen

RECEIVED
DEC 17 1979

FIELD INVOICE

Open Hole Test	$ 500 00
Misrun	$
Straddle Test	$
Jars	$
Selective Zone	$
Safety Joint	$
Standby	$
Evaluation	$
Extra Packer	$
Circ. Sub.	$
Mileage	$
Extra Charts	$
TOTAL	$ 500 00

Phone 316 838-0601

WESTERN TESTERS

P. O. Box 1599
WICHITA, KANSAS 67201

GAS FLOW REPORT

Nº 1240

Date 12-15-79 Ticket 3063 Company Range Oil Co Inc.

Well Name and No. Knox #1 Dst No. 7 Interval Tested 1935-1966

County Chautauqua State Ks. Sec. 19 Twp. 32s Rg. 11E

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
Tool open @ 2:30 PM 12-15-79					
Tool closed in	3:00	to	3:30	ICIP	
Gas to surface 30 min.					
					SECOND FLOW
35	20 inches water	1/4 inch	choke		7510 CFPD Gas
45	24 "	"	"	"	8220 " "
55	22 "	"	"	"	7880 " "
60	20 "	"	"	"	7510 " "
70	20 "	"	"	"	7510 " "
80	18 "	"	"	"	7120 " "
90	18 "	"	"	"	7120 " "
Tool closed in		4:30	to	5:30	FCIP

GAS BOTTLE

Serial No. 12854 Date Bottle Filled 12-15-79 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 1% per month, equal to 12% 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 RANGE OIL.

Authorized by Robert Dean

FORM WTC 9

WESTERN TESTING CO., INC.
Pressure Data

Date 12-15-79 Test Ticket No. 3063

Recorder No. 10980 Capacity 4500 Location 1958 Ft.

Clock No. ____ Elevation 1109 KB Well Temperature 95 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	4000 P.S.I.	Open Tool	2:30 P M	
B First Initial Flow Pressure	79 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	112 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	425 P.S.I.	Second Flow Pressure	60 Mins.	60 Mins.
E Second Initial Flow Pressure	143 P.S.I.	Final Closed-in Pressure	60 Mins.	60 Mins.
F Second Final Flow Pressure	154 P.S.I.			
G Final Closed-in Pressure	384 P.S.I.			
H Final Hydrostatic Mud	977 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	79
P 2 5	79
P 3 10	83
P 4 15	92
P 5 20	103
P 6 25	107
P 7 30	112
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: 10 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	112
3	184
6	284
9	342
12	373
15	389
18	401
21	408
24	412
27	419
30	425
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	143
5	132
10	132
15	135
20	139
25	143
30	144
35	146
40	148
45	150
50	152
55	153
60	154
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	154
3	209
6	263
9	299
12	316
15	327
18	333
21	342
24	348
27	353
30	357
33	361
36	363
39	365
42	368
45	370
48 376	~~380~~
51	378
54	380
57	382
60	384

WTC - 4

Company Range Oil Company, Inc. Lease & Well No. Knox #1

Elevation 1109 Kelly Bushing Formation Mississippi Lime Effective Pay -- Ft. Ticket No. 3063

Date 12/15/79 Sec. 19 Twp. 32S Range 11E County Chautaugua State Kansas

Test Approved by Robert Olsen Western Representative Norman Allen

Formation Test No. 7 Interval Tested from 1935 ft. to 1966 ft. Total Depth 1966 ft.

Packer Depth 1935 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 1940 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 1958 ft. Recorder Number 10980 Cap. 4200

Bottom Recorder Depth (Outside) 1962 ft. Recorder Number 1561 Cap. 3200

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

Drilling Contractor Range Drilling Co. Rig #1 Drill Collar Length 90 I. D. 2¼ in.

Mud Type chemical Viscosity 40 Weight Pipe Length - I. D. - in.

Weight 9.5 Water Loss 15.2 cc. Drill Pipe Length 1825 I. D. 3.8 in.

Chlorides 3,100 P.P.M. Test Tool Length 51 ft. Tool Size 4½OD in.

Jars: Make -- Serial Number -- Anchor Length 31 ft. Size 4½OD in.

Did Well Flow? Gas 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 3½IF in.

Blow: Strong throughout test. Gas to surface thirty minutes. See attached sheet for gas measurements.

Recovered 270 ft. of free oil (36° gravity corrected)

Recovered 60 ft. of oil and gas cut mud (30% oil;70% mud)

Recovered 60 ft. of slightly oil and gas cut mud (10% oil;90% mud)

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 2:30 ~~A.M.~~ P.M. Time Started Off Bottom 5:30 ~~A.M.~~ P.M. Maximum Temperature 95°

Initial Hydrostatic Pressure		(A) 1000	P.S.I.	
Initial Flow Period	Minutes 30	(B) 79	P.S.I. to (C) 112	P.S.I.
Initial Closed In Period	Minutes 30	(D) 425	P.S.I.	
Final Flow Period	Minutes 60	(E) 143	P.S.I. to (F) 154	P.S.I.
Final Closed In Period	Minutes 60	(G) 384	P.S.I.	
Final Hydrostatic Pressure		(H) 977	P.S.I.	

GAS FLOW REPORT

Date 12/15/79 Ticket 3063 Company Range Oil Company, Inc.

Well Name and No. Knox #1 Dst No. 7 Interval Tested 1935'-1966'

County Chautaugua State Kansas Sec. 19 Twp. 32S Rg. 11E

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
Tool open @ 2:30 PM 12/15/79						**PRE FLOW**
Tool closed in 3:00 to 3:30 ICIP						
Gas to surface thirty minutes.						
						SECOND FLOW
	35 min.	20" of water	1/4" orifice			7,510 CFPD Gas
	45 min.	24" of water	1/4" orifice			8,220 CFPD Gas
	55 min.	22" of water	1/4" orifice			7,880 CFPD Gas
	60 min.	20" of water	1/4" orifice			7,510 CFPD Gas
	70 min.	20" of water	1/4" orifice			7,510 CFPD Gas
	80 min.	18" of water	1/4" orifice			7,120 CFPD Gas
	90 min.	18" of water	1/4" orifice			7,120 CFPD Gas
	TOOL CLOSED IN 4:30 to 5:30 FCOP					

GAS BOTTLE

Serial No. 12854 Date Bottle Filled 12/15/79 Date to be Invoiced 12/15/79

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 Range Oil Company, Inc.

Authorized by Robert Olsen

FORM WTC 6

WESTERN TESTING CO., INC.
Pressure Data

Date 12-15-79 Test Ticket No. 3063

Recorder No. 10980 Capacity 4200 Location 1958 Ft.

Clock No. ------- Elevation 1109 Kelly Bushing Well Temperature 95 °F

Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	1000 P.S.I.		Open Tool	2:30 P. M	
B	First Initial Flow Pressure	79 P.S.I.		First Flow Pressure	30 Mins.	30 Mins.
C	First Final Flow Pressure	112 P.S.I.		Initial Closed-in Pressure	30 Mins.	30 Mins.
D	Initial Closed-in Pressure	425 P.S.I.		Second Flow Pressure	60 Mins.	60 Mins.
E	Second Initial Flow Pressure	143 P.S.I.		Final Closed-in Pressure	60 Mins.	60 Mins.
F	Second Final Flow Pressure	154 P.S.I.				
G	Final Closed-in Pressure	384 P.S.I.				
H	Final Hydrostatic Mud	977 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	79
P 2	5	79
P 3	10	83
P 4	15	92
P 5	20	103
P 6	25	107
P 7	30	112
P 8		
P 9		
P10		
P11		
P12		
P13		
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	112
	3	184
	6	284
	9	342
	12	372
	15	389
	18	401
	21	408
	24	412
	27	419
	30	425

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

Point	Minutes	Press.
	0	143
	5	132
	10	132
	15	135
	20	139
	25	143
	30	144
	35	146
	40	148
	45	150
	50	152
	55	153
	60	154

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

Point	Minutes	Press.
	0	154
	3	209
	6	263
	9	299
	12	316
	15	327
	18	333
	21	342
	24	348
	27	353
	30	357
	33	361
	36	363
	39	365
	42	368
	45	370
	58	376
	51	378
	54	380
	57	382
	60	384

TK#3063



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET No. 3064

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

Elevation 1109 KB Formation Miss Eff. Pay — Ft.

District Augusta Date 12-16-79 Customer Order No. —

COMPANY NAME Range Oil Co. Inc.

ADDRESS 240 Page Court 220 W Douglas Wichita, Ks 67202

LEASE AND WELL NO. Knox #1 COUNTY Chautauqua STATE Ks Sec. 19 Twp. 32S Rge. 11E

Mail Invoice To Same (Co. Name) (Address) No. Copies Requested 1

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

Formation Test No. 8 Interval Tested from 1974 ft. to 1991 ft. Total Depth 1991 ft.

Packer Depth 1974 ft. Size 6 3/4 in. Packer Depth — ft. Size — in.

Packer Depth 1969 ft. Size 6 3/4 in. Packer Depth — ft. Size — in.

Depth of Selective Zone Set —

Top Recorder Depth (Inside) 1985 ft. Recorder Number 10980 Cap. 4200

Bottom Recorder Depth (Outside) 1988 ft. Recorder Number 1561 Cap. 3200

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

Drilling Contractor Range Drlg Co #1 Drill Collar Length 90 I. D. 2 1/4 in.

Mud Type Chem Viscosity 42 Weight Pipe Length — I. D. — in.

Weight 9.6 Water Loss 13.2 cc. Drill Pipe Length 1864 I. D. 3.8 in.

Chlorides 3100 P.P.M. Test Tool Length 37 in. Tool Size 4 1/2 OD in.

Jars: Make — Serial Number — Anchor Length 17 ft. Size 4 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 3 1/2 IF in.

Blow: Weak 5 minutes Flushed tool once

Recovered 5 ft. of Drilling mud

Recovered — ft. of —

Recovered — ft. of —

Recovered — ft. of —

Recovered — ft. of —

Remarks: —

DEC 17 1979

Time Set Packer(s) 8:00 A.M. P.M. Time Started Off Bottom 10:00 A.M. P.M. Maximum Temperature 95

Initial Hydrostatic Pressure			(A)	980	P.S.I.	
Initial Flow Period	Minutes 30		(B)	20	P.S.I. to (C) 20	P.S.I.
Initial Closed In Period	Minutes 30		(D)	20	P.S.I.	
Final Flow Period	Minutes 30		(E)	20	P.S.I. to (F) 30	P.S.I.
Final Closed In Period	Minutes 30		(G)	30	P.S.I.	
Final Hydrostatic Pressure			(H)	970	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 Robert Olsen
Signature of Customer or his authorized representative

Western Representative Norman Allen

FIELD INVOICE

Open Hole Test	$ 500 00
Misrun	$ —
Straddle Test	$ —
Jars	$ —
Selective Zone	$ —
Safety Joint	$ —
Standby	$ —
Evaluation	$ —
Extra Packer	$ —
Circ. Sub.	$ —
Mileage	$ —
Extra Charts	$ —
TOTAL	$ 500 00

WESTERN TESTING CO., INC.

Pressure Data

Date 12-16-79 Test Ticket No. 3064

Recorder No. 10780 Capacity 4200 Location 1985 Ft.

Clock No. ——— Elevation 1109 KB Well Temperature 95 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	985 P.S.I.	Open Tool	8:00 AM	
B First Initial Flow Pressure	26 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	26 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	26 P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
E Second Initial Flow Pressure	26 P.S.I.	Final Closed-in Pressure	30 Mins.	30 Mins.
F Second Final Flow Pressure	26 P.S.I.			
G Final Closed-in Pressure	30 P.S.I.			
H Final Hydrostatic Mud	960 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	26
P 2	5	26
P 3	10	21
P 4	15	
P 5	20	
P 6	25	24
P 7	30	26
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: 10 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Minutes	Press.
0	26
3	
6	
9	
12	
15	
18	
21	
24	
27	
30	26
33	
36	
39	
42	
45	
48	
51	
54	
57	
60	

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

Point Minutes	Press.
0	26
5	26
10	26
15	Flushed Tool 26
20	
25	
30	26
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	26
3	
6	
9	
12	
15	
18	26
21	28
24	30
27	30
30	30
33	
36	
39	
42	
45	
48	
51	
54	
57	
60	

Company Range Oil Company, Inc. Lease & Well No. Knox #1

Elevation 1109 Kelly Bushing Formation Mississippi Effective Pay --- Ft. Ticket No. 3064

Date 12/16/79 Sec. 19 Twp. 32S Range 11E County Chautauqua State Kansas

Test Approved by Robert Olsen Western Representative Norman Allen

Formation Test No. 8 Interval Tested from 1974 ft. to 1991 ft. Total Depth 1991 ft.

Packer Depth 1974 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 1969 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 1985 ft. Recorder Number 10980 Cap. 4200

Bottom Recorder Depth (Outside) 1988 ft. Recorder Number 1561 Cap. 3200

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

Drilling Contractor Range Drilling Co. Rig #1 Drill Collar Length 90 I. D. 2¼ in.

Mud Type chemical Viscosity 42 Weight Pipe Length - I. D. - in.

Weight 9.6 Water Loss 13.2 cc. Drill Pipe Length 1864 I. D. 3.8 in.

Chlorides 3,100 P.P.M. Test Tool Length 37 ft. Tool Size 4½OD in.

Jars: Make -- Serial Number -- Anchor Length 17 ft. Size 4½ODin.

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 3½IFin.

Blow: Weak five minutes. Flushed tool once.

Recovered 5 ft. of drilling mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 8:00 A.M. ~~P.M.~~ Time Started Off Bottom 10:00 A.M. ~~P.M.~~ Maximum Temperature 95°

Initial Hydrostatic Pressure ..... (A) 985 P.S.I.

Initial Flow Period ..... Minutes 30 (B) 26 P.S.I. to (C) 26 P.S.I.

Initial Closed In Period ..... Minutes 30 (D) 26 P.S.I.

Final Flow Period ..... Minutes 30 (E) 26 P.S.I. to (F) 26 P.S.I.

Final Closed In Period ..... Minutes 30 (G) 30 P.S.I.

Final Hydrostatic Pressure ..... (H) 960 P.S.I.

WESTERN TESTING CO., INC.
Pressure Data

Date 12/16/79 Test Ticket No. 3064

Recorder No. 10980 Capacity 4200 Location 1985 Ft.

Clock No. -- Elevation 1109 Kelly Bushing Well Temperature 95 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	985 P.S.I.	Open Tool	8:00A M	
B First Initial Flow Pressure	26 P.S.I.	First Flow Pressure	30 Mins.	30 Mins.
C First Final Flow Pressure	26 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D Initial Closed-in Pressure	26 P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
E Second Initial Flow Pressure	26 P.S.I.	Final Closed-in Pressure	30 Mins.	30 Mins.
F Second Final Flow Pressure	26 P.S.I.			
G Final Closed-in Pressure	30 P.S.I.			
H Final Hydrostatic Mud	960 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: 6 Inc.		Breakdown: 10 Inc.		Breakdown: 6 Inc.		Breakdown: 10 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 0	26	0	26	0	26	0	26
P 2 5	26	3	26	5	26	3	26
P 3 10	21	6	26	10	26	6	26
P 4 15	21	9	26	15	26 flushed tool	9	26
P 5 20	21	12	26	20	26	12	26
P 6 25	24	15	26	25	26	15	26
P 7 30	26	18	26	30	26	18	26
P 8		21	26			21	28
P 9		24	26			24	30
P10		27	26			27	30
P11		30	26			30	30
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

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