



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET N° 19839

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

Elevation 1085 KB Formation KC Eff. Pay _____ Ft.

District 7-1-93 Date August Customer Order No. _____

COMPANY NAME Rangel Oil Co

ADDRESS 125 N Market Suite 1120 Wichita KS 67202

LEASE AND WELL NO. Arbuckle #2 COUNTY ELK STATE KS Sec. 30 Twp. 31 Rge. 9E

Mail Invoice To Same Co. Name #2 Arbuckle Address _____ No. Copies Requested 1

Mail Charts To Same Address _____ No. Copies Requested 5

Formation Test No. 12514 Interval Tested From 1628 ft. to 1650 ft. Total Depth 1650 ft.

Packer Depth 1623 ft. Size 6 5/8 in. Packer Depth _____ ft. Size _____ in.

Packer Depth 1628 ft. Size 6 5/8 in. Packer Depth _____ ft. Size _____ in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 1644 ft. Recorder Number 10979 Cap. 4100

Bottom Recorder Depth (Outside) 1647 ft. Recorder Number 3354 Cap. 4200

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

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

Mud Type Chem Viscosity 44 Weight Pipe Length _____ I. D. _____ in.

Weight 9.2 Water Loss 14.4 cc. Drill Pipe Length 1248 I. D. 3.8 in.

Chlorides 600 P.P.M. Test Tool Length 20 ft. Tool Size 5/8 in.

Jars: Make _____ Serial Number _____ Anchor Length 22 ft. Size 5/8 in.

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

Main Hole Size 7/8 in. Tool Joint Size 4 1/2 in

Blow: Very Weak blow thru-out test insert bucket with (FFP) & (FFP)

Recovered 85 ft. of 9 5/8 in pipe

Recovered 5 ft. of nothing mud with a slush of oil on top Tool Trace

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

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

JUL 12 1993

Time On Location 8:30 A.M. Time Pick Up Tool 9:00 A.M. Time Off Location _____ A.M.

Time Set Packer(s) 10:30 A.M. Time Started Off Bottom 1:30 A.M. Maximum Temperature 97°F

Initial Hydrostatic Pressure _____ (A) 760 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) 280 P.S.I.

Final Flow Period _____ Minutes 60 (E) 65 P.S.I. to (F) 65 P.S.I.

Final Closed In Period _____ Minutes 60 (G) 450 P.S.I.

Final Hydrostatic Pressure _____ (H) 750 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 Tim J. Lauer Signature of Customer or his authorized representative

Western Representative Jeffrey A. Pittman

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 7-1-92 Test Ticket No. 15829
 Recorder No. 10979 Capacity _____ Location _____ Ft.
 Clock No. _____ Elevation _____ Well Temperature _____ °F

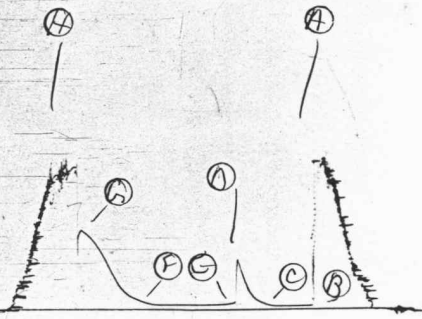
Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>815</u> P.S.I.		M
B First Initial Flow Pressure	<u>29</u> P.S.I.		Mins. <u>20</u> Mins.
C First Final Flow Pressure	<u>29</u> P.S.I.		Mins. <u>27</u> Mins.
D Initial Closed-in Pressure	<u>276</u> P.S.I.		Mins. <u>60</u> Mins.
E Second Initial Flow Pressure	<u>29</u> P.S.I.		Mins. <u>57</u> Mins.
F Second Final Flow Pressure	<u>29</u> P.S.I.		
G Final Closed-in Pressure	<u>434</u> P.S.I.		
H Final Hydrostatic Mud	<u>775</u> P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	<u>29</u>	0	<u>29</u>	0	<u>29</u>	0	<u>29</u>
P 2 5		3	<u>32</u>	5		3	<u>37</u>
P 3 10		6	<u>39</u>	10		6	<u>40</u>
P 4 15		9	<u>47</u>	15		9	<u>48</u>
P 5 20		12	<u>55</u>	20		12	<u>55</u>
P 6 25		15	<u>75</u>	25		15	<u>65</u>
P 7 30	<u>29</u>	18	<u>105</u>	30	<u>29</u>	18	<u>72</u>
P 8 35		21	<u>152</u>	35		21	<u>89</u>
P 9 40		24	<u>200</u>	40		24	<u>111</u>
P10 45		27	<u>276</u>	45		27	<u>139</u>
P11 50		30		50		30	<u>175</u>
P12 55		33		55		33	<u>210</u>
P13 60		36		60	<u>29</u>	36	<u>251</u>
P14 65		39		65		39	<u>294</u>
P15 70		42		70		42	<u>321</u>
P16 75		45		75		45	<u>362</u>
P17 80		48		80		48	<u>389</u>
P18 85		51		85		51	<u>408</u>
P19 90		54		90		54	<u>424</u>
P20 95		57		95		57	<u>434</u>
100		60		100		60	

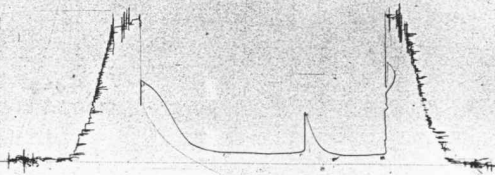
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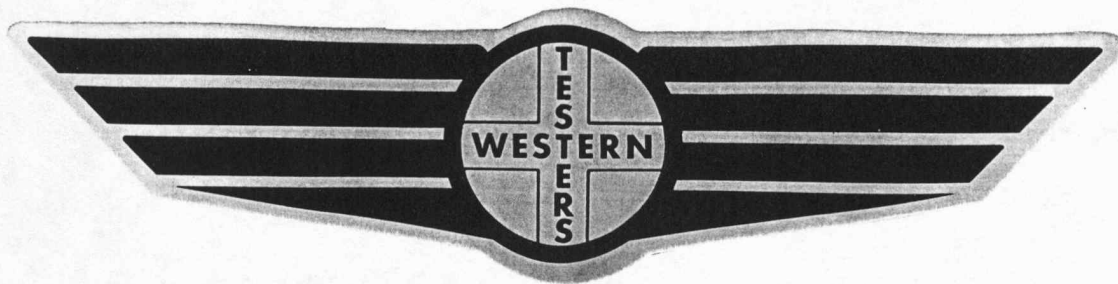


KT 19859

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FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone **1 - 800-688-7021**

COMPANY RANGE OIL COMPANY

LEASE & WELL NO. #2 ARBUCKLE

SEC. 30 TWP. 31S RGE. 9E TEST NO. 1 DATE 7/1/93

DST REPORT

GENERAL INFORMATION

DATE : 7-01-93
CUSTOMER : RANGE OIL CO.
WELL : #2 TEST: 1
ELEVATION: 1085 K.B.
SECTION : 30
RANGE : 9E COUNTY: ELK
GAUGE SN#: 10979 RANGE : 4100

TICKET : 19839
LEASE : ARBUCKLE
GEOLOGIST: TIM J. LAUER
FORMATION: KANSAS CITY
TOWNSHIP : 31S
STATE : KS
CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM: 1628.00 ft TO: 1650.00 ft TVD: 1650.0 ft
DEPTH OF SELECTIVE ZONE: TEST TYPE: OIL
DEPTH OF RECORDERS: 1644.0 ft 1647.0 ft
TEMPERATURE: 97.0

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 :	1248.0 ft	I.D.:	3.800 in
TEST TOOL LENGTH :	20.0 ft	TOOL SIZE :	5.500 in
ANCHOR LENGTH :	22.0 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 :	4.5FH
PACKER DEPTH:	1623.0 ft	SIZE:	6.630 in
PACKER DEPTH:	1628.0 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
WEIGHT : 9.200 ppg
CHLORIDES : 600 ppm
JARS-MAKE : NO
DID WELL FLOW?: NO

VISCOSITY : 44.00 cp
WATER LOSS: 14.400 cc

SERIAL NUMBER:
REVERSED OUT?: NO

COMMENTS

Comment

VERY WEAK BLOW THROUGHOUT 1 INCH INTO BUCKET ON
BOTH INITIAL AND FINAL FLOW PERIODS.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
5.0	0.0	0.0	0.0	100.0	DRLG. W/SHOW OF OIL ON
0.0	0.0	0.0	0.0	0.0	TOP OF TOOL W/TRACE OF
0.0	0.0	0.0	0.0	0.0	OIL
0.0	0.0	0.0	0.0	0.0	REC. 85 GAS IN PIPE.

RATE INFORMATION

OIL VOLUME:	0.0000	STB		
GAS VOLUME:	0.0000	SCF	TOTAL FLOW TIME:	90.0000 min.
MUD VOLUME:	0.0246	STB	AVERAGE OIL RATE:	0.0000 STB/D
WATER VOLUME:	0.0000	STB	AVERAGE WATER RATE:	0.0000 STB/D
TOTAL FLUID :	0.0246	STB		

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 760.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	50.00	50.00
INITIAL SHUT-IN	30.00		280.00
FINAL FLOW	60.00	65.00	65.00
FINAL SHUT-IN	60.00		450.00

FINAL HYDROSTATIC PRESSURE: 750.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 815.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	29.00	29.00
INITIAL SHUT-IN	27.00		276.00
FINAL FLOW	60.00	31.00	31.00
FINAL SHUT-IN	57.00		434.00

FINAL HYDROSTATIC PRESSURE: 775.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE	: 7-01-93	TICKET	: 19839
CUSTOMER	: RANGE OIL CO.	LEASE	: ARBUCKLE
WELL	: #2	GEOLOGIST	: TIM J. LAUER
ELEVATION	: 1085 K.B.	FORMATION	: KANSAS CITY
SECTION	: 30	TOWNSHIP	: 31S
RANGE	: 9E	STATE	: KS
GAUGE SN#	: 10979	CLOCK	: 12
	TEST: 1		
	COUNTY: ELK		
	RANGE : 4100		

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	29.00	0.00
20.00	29.00	0.00
25.00	29.00	0.00
30.00	29.00	0.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	33.00	33.00	0.00
6.00	39.00	6.00	0.00
9.00	47.00	8.00	0.00
12.00	59.00	12.00	0.00
15.00	75.00	16.00	0.00
18.00	105.00	30.00	0.00
21.00	152.00	47.00	0.00
24.00	220.00	68.00	0.00
27.00	276.00	56.00	0.00

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	31.00	31.00
5.00	31.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW (CONTINUED)

Time (min)	Pressure	Delta P
10.00	31.00	0.00
15.00	31.00	0.00
20.00	31.00	0.00
25.00	31.00	0.00
30.00	31.00	0.00
35.00	31.00	0.00
40.00	31.00	0.00
45.00	31.00	0.00
50.00	31.00	0.00
55.00	31.00	0.00
60.00	31.00	0.00

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	37.00	37.00	0.00
6.00	40.00	3.00	0.00
9.00	48.00	8.00	0.00
12.00	55.00	7.00	0.00
15.00	65.00	10.00	0.00
18.00	73.00	8.00	0.00
21.00	89.00	16.00	0.00
24.00	111.00	22.00	0.00
27.00	139.00	28.00	0.00
30.00	175.00	36.00	0.00
33.00	210.00	35.00	0.00
36.00	251.00	41.00	0.00
39.00	294.00	43.00	0.00
42.00	331.00	37.00	0.00
45.00	362.00	31.00	0.00
48.00	389.00	27.00	0.00
51.00	408.00	19.00	0.00
54.00	424.00	16.00	0.00
57.00	434.00	10.00	0.00



WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET N° 19840

P. O. BOX 1599 PHONE (316) 262-5861

WICHITA, KANSAS 67201

Elevation 1085 KB Formation Miss Eff. Pay _____ Ft.

District Augusta Date 7-3-93 Customer Order No. _____
COMPANY NAME Range Oil Co
ADDRESS 125 N Market, Suite 1120 Wichita KS 67202
LEASE AND WELL NO Arbuckle #2 COUNTY Elk STATE KS Sec. 30 Twp. 31 Rge. 9E
Mail Invoice To Same #2 Arbuckle No. Copies Requested 1
Co. Name Arbuckle Address _____
Mail Charts To Same No. Copies Requested 5
Address _____

Formation Test No. DST #2 Interval Tested From 2220 ft. to 2241 ft. Total Depth 2241 ft.
Packer Depth 2215 ft. Size 6 5/8 in. Packer Depth _____ ft. Size _____ in.
Packer Depth 2220 ft. Size 6 5/8 in. Packer Depth _____ ft. Size _____ in.
Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 2235 ft. Recorder Number 10979 Cap. 4100
Bottom Recorder Depth (Outside) 2238 ft. Recorder Number 3354 Cap. 4200
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____
Drilling Contractor Steve Ryt 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 11.2 cc. Drill Pipe Length 1840 I. D. 3.8 in.
Chlorides 900 P.P.M. Test Tool Length 20 ft. Tool Size 5 3/8 in.
Jars: Make _____ Serial Number _____ Anchor Length 21 ft. Size 5 3/8 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 1 1/2 in.

Blow: Strong flow 750 lbs strong below 30 min to bottom of bucket on (FFP) 5 min to bottom of
bucket on (FFP) 900 to surface in 55 min on (FFP)
Recovered 85 ft. of free oil 40% gravity at 60°
Recovered 265 ft. of 990 oil cut mud 53% gas 27% oil 20% mud
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Chlorides _____ P.P.M. Sample Jars used _____ Remarks: _____

JUL 12 1993

Time On Location Stand by A.M. P.M. Time Pick Up Tool 10:00 A.M. P.M. Time Off Location _____ A.M. P.M.
Time Set Packer(s) 11:00 A.M. P.M. Time Started Off Bottom 2:00 A.M. P.M. Maximum Temperature 108°E
Initial Hydrostatic Pressure _____ (A) 1150 P.S.I.
Initial Flow Period _____ Minutes 30 (B) 30 P.S.I. to (C) 65 P.S.I.
Initial Closed In Period _____ Minutes 30 (D) 655 P.S.I.
Final Flow Period _____ Minutes 60 (E) 85 P.S.I. to (F) 135 P.S.I.
Final Closed In Period _____ Minutes 60 (G) 655 P.S.I.
Final Hydrostatic Pressure _____ (H) 1140 P.S.I. 10979

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 Tim J. Lauer
Signature of Customer or his authorized representative

Western Representative Jerry A. Roth

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	\$ _____

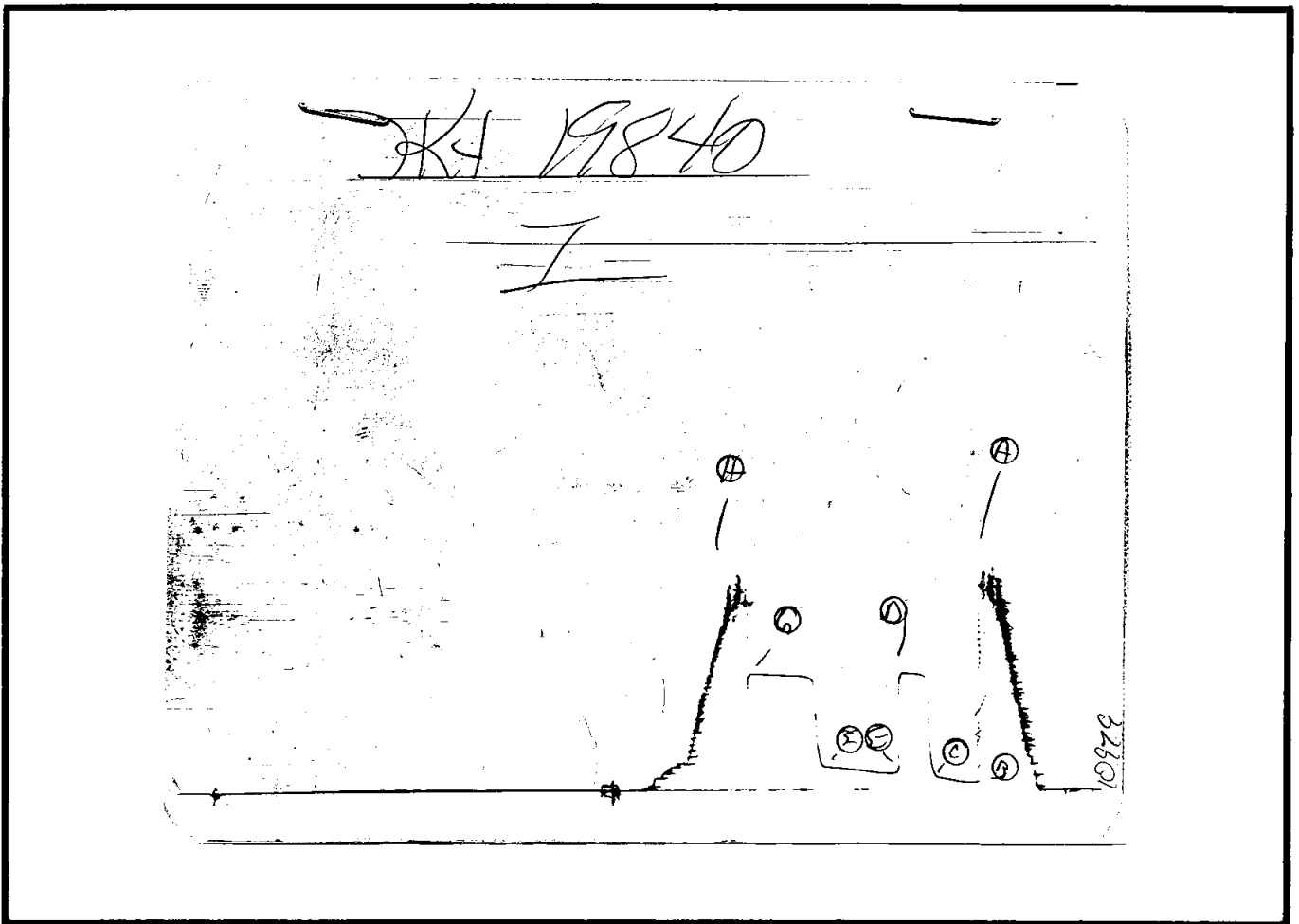
WESTERN TESTING CO., INC. Pressure Data

Date 7-5-52 Test Ticket No. 19840
Recorder No. 10979 Capacity _____ Location _____ Ft.
Clock No. _____ Elevation _____ Well Temperature _____ °F

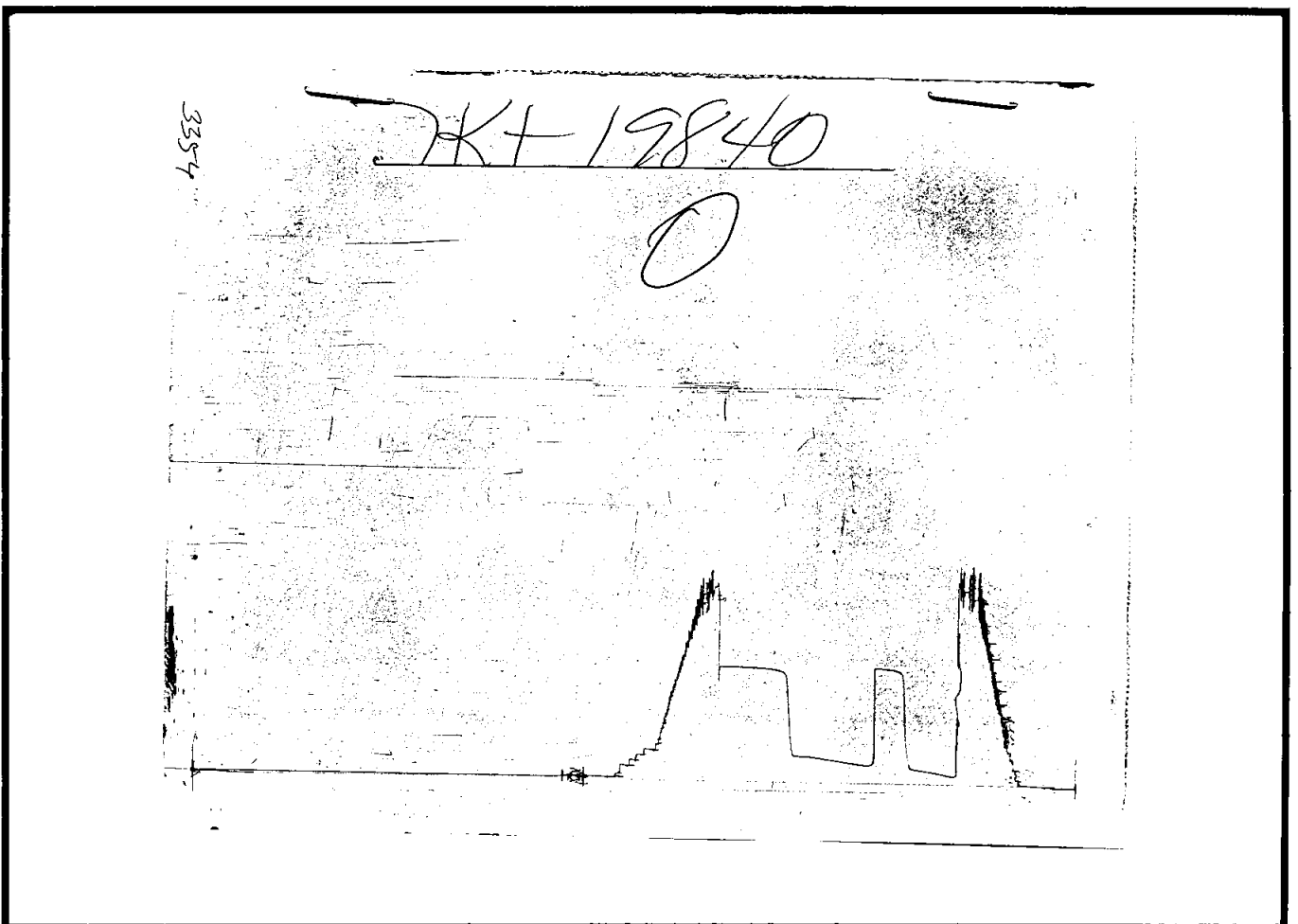
Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1164</u> P.S.I.		M
B First Initial Flow Pressure	<u>49</u> P.S.I.		
C First Final Flow Pressure	<u>71</u> P.S.I.		
D Initial Closed-in Pressure	<u>670</u> P.S.I.		
E Second Initial Flow Pressure	<u>98</u> P.S.I.		
F Second Final Flow Pressure	<u>136</u> P.S.I.		
G Final Closed-in Pressure	<u>664</u> P.S.I.		
H Final Hydrostatic Mud	<u>1135</u> P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	<u>49</u>	0	<u>71</u>	0	<u>98</u>	0	<u>136</u>
P 2 5	<u>5</u>	3	<u>82</u>	5	<u>5</u>	3	<u>167</u>
P 3 10	<u>49</u>	6	<u>154</u>	10	<u>98</u>	6	<u>272</u>
P 4 15	<u>52</u>	9	<u>351</u>	15	<u>100</u>	9	<u>522</u>
P 5 20	<u>59</u>	12	<u>608</u>	20	<u>103</u>	12	<u>627</u>
P 6 25	<u>66</u>	15	<u>649</u>	25	<u>109</u>	15	<u>642</u>
P 7 30	<u>71</u>	18	<u>661</u>	30	<u>114</u>	18	<u>649</u>
P 8 35		21	<u>664</u>	35	<u>119</u>	21	<u>652</u>
P 9 40		24	<u>666</u>	40	<u>125</u>	24	<u>653</u>
P10 45		27	<u>668</u>	45	<u>126</u>	27	<u>655</u>
P11 50		30	<u>669</u>	50	<u>129</u>	30	<u>656</u>
P12 55		33	<u>670</u>	55	<u>133</u>	33	<u>657</u>
P13 60		36		60	<u>136</u>	36	<u>658</u>
P14 65		39		65		39	<u>659</u>
P15 70		42		70		42	<u>660</u>
P16 75		45		75		45	<u>660</u>
P17 80		48		80		48	<u>661</u>
P18 85		51		85		51	<u>661</u>
P19 90		54		90		54	<u>662</u>
P20 95		57		95		57	<u>662</u>
100		60		100		60	<u>664</u>

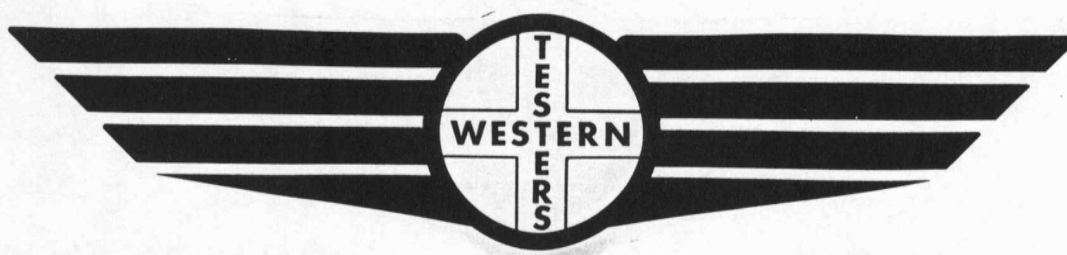


Inside Recorder



Outside Recorder

FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1 - 800-688-7021

COMPANY RANGE OIL COMPANY

LEASE & WELL NO. #2 ARBUCKLE

SEC. 30 TWP. 31S RGE. 9E TEST NO. 2 DATE 7/3/93

DST REPORT

GENERAL INFORMATION

DATE : 7/3/93
CUSTOMER : RANGE OIL CO.
WELL : #2 TEST: 2
ELEVATION: 1085 K.B.
SECTION : 30
RANGE : 9E COUNTY: ELK
GAUGE SN#: 10979 RANGE : 4100

TICKET : 19840
LEASE : ARBUCKLE
GEOLOGIST: TIM J. LAUER
FORMATION: MISSISSIPPI
TOWNSHIP : 31S
STATE : KS
CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM: 2220.00 ft TO: 2241.00 ft TVD: 2241.0 ft
DEPTH OF SELECTIVE ZONE: TEST TYPE: OIL
DEPTH OF RECORDERS: 2235.0 ft 2238.0 ft
TEMPERATURE: 108.0

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 :	1840.0 ft	I.D.:	3.800 in
TEST TOOL LENGTH :	20.0 ft	TOOL SIZE :	5.500 in
ANCHOR LENGTH :	21.0 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 :	4.5FH
PACKER DEPTH:	2215.0 ft	SIZE:	6.630 in
PACKER DEPTH:	2220.0 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
WEIGHT : 9.600 ppg
CHLORIDES : 800 ppm
JARS-MAKE : NO
DID WELL FLOW?: NO

VISCOSITY : 40.00 cp
WATER LOSS: 11.200 cc

SERIAL NUMBER:
REVERSED OUT?: NO

COMMENTS

Comment

INITIAL FLOW PERIOD STRONG BLOW TO VERY STRONG
BLOW- 3 MINUTES TO BOTTOM OF BUCKET. FINAL FLOW
PERIOD 5 MINUTES TO BOTTOM OF BUCKET. GAS TO

DST REPORT (CONTINUED)

COMMENTS (CONTINUED)

Comment

SURFACE IN 55 MINUTES ON FINAL FLOW PERIOD.

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
85.0	100.0	0.0	0.0	0.0	FREE OIL
0.0	0.0	0.0	0.0	0.0	40 GRAVITY @ 60 DEGREES F
265.0	27.0	53.0	0.0	20.0	GAS & OIL CUT MUD

RATE INFORMATION

OIL VOLUME:	0.7698	STB		
GAS VOLUME:	3.8781	SCF		
MUD VOLUME:	0.2606	STB		
WATER VOLUME:	0.0000	STB		
TOTAL FLUID :	1.0305	STB		
			TOTAL FLOW TIME:	90.0000 min.
			AVERAGE OIL RATE:	16.4873 STB/D
			AVERAGE WATER RATE:	0.0000 STB/D

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1150.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	30.00	65.00
INITIAL SHUT-IN	30.00		655.00
FINAL FLOW	60.00	85.00	135.00
FINAL SHUT-IN	60.00		655.00

FINAL HYDROSTATIC PRESSURE: 1140.00

DST REPORT (CONTINUED)

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1166.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	49.00	71.00
INITIAL SHUT-IN	33.00		670.00
FINAL FLOW	60.00	98.00	136.00
FINAL SHUT-IN	60.00		664.00

FINAL HYDROSTATIC PRESSURE: 1135.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE	: 7/3/93	TICKET	: 19840
CUSTOMER	: RANGE OIL CO.	LEASE	: ARBUCKLE
WELL	: #2	GEOLOGIST	: TIM J. LAUER
ELEVATION	: 1085 K.B.	FORMATION	: MISSISSIPPI
SECTION	: 30	TOWNSHIP	: 31S
RANGE	: 9E	STATE	: KS
GAUGE SN#	: 10979	CLOCK	: 12
	TEST: 2		
	COUNTY: ELK		
	RANGE : 4100		

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	49.00	49.00
5.00	49.00	0.00
10.00	49.00	0.00
15.00	52.00	3.00
20.00	59.00	7.00
25.00	66.00	7.00
30.00	71.00	5.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	82.00	82.00	0.00
6.00	154.00	72.00	0.00
9.00	351.00	197.00	0.00
12.00	608.00	257.00	0.00
15.00	649.00	41.00	0.00
18.00	661.00	12.00	0.00
21.00	664.00	3.00	0.00
24.00	666.00	2.00	0.00
27.00	668.00	2.00	0.00
30.00	669.00	1.00	0.00
33.00	670.00	1.00	0.00

FINAL FLOW

Time (min)	Pressure	Delta P
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PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	98.00	98.00
5.00	98.00	0.00
10.00	98.00	0.00
15.00	100.00	2.00
20.00	103.00	3.00
25.00	109.00	6.00
30.00	114.00	5.00
35.00	119.00	5.00
40.00	123.00	4.00
45.00	126.00	3.00
50.00	129.00	3.00
55.00	133.00	4.00
60.00	136.00	3.00

FINAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	167.00	167.00	0.00
6.00	272.00	105.00	0.00
9.00	523.00	251.00	0.00
12.00	627.00	104.00	0.00
15.00	642.00	15.00	0.00
18.00	649.00	7.00	0.00
21.00	652.00	3.00	0.00
24.00	654.00	2.00	0.00
27.00	655.00	1.00	0.00
30.00	656.00	1.00	0.00
33.00	657.00	1.00	0.00
36.00	658.00	1.00	0.00
39.00	659.00	1.00	0.00
42.00	660.00	1.00	0.00
45.00	660.00	0.00	0.00
48.00	661.00	1.00	0.00
51.00	661.00	0.00	0.00
54.00	662.00	1.00	0.00
57.00	663.00	1.00	0.00
60.00	664.00	1.00	0.00



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET N^o 19841

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

Elevation 1085 KB Formation Miss Eff. Pay _____ Ft.

District Augusta Date 7-4-93 Customer Order No. _____

COMPANY NAME Range Oil Co

ADDRESS 125 N Market Suite 1120 Wichita KS 67202

LEASE AND WELL NO. Arbuckle #2 COUNTY Elk STATE KS Sec. 30 Twp. 31S Rge. 9E

Mail Invoice To Same Co. Name #2 Arbuckle Address _____ No. Copies Requested _____

Mail Charts To Same Address _____ No. Copies Requested _____

Formation Test No. DIST #3 Interval Tested From 2241 ft. to 2261 ft. Total Depth 2261 ft.

Packer Depth 2236 ft. Size 658 in. Packer Depth _____ ft. Size _____ in.

Packer Depth 2241 ft. Size 658 in. Packer Depth _____ ft. Size _____ in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 2255 ft. Recorder Number 10979 Cap. 41100

Bottom Recorder Depth (Outside) 2258 ft. Recorder Number 3354 Cap. 4200

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

Drilling Contractor Steve King Drill Collar Length 360 I. D. 2.25 in.

Mud Type _____ Viscosity 46 Weight Pipe Length _____ I. D. _____ in.

Weight 9.4 Water Loss 10° Drill Pipe Length 1861 I. D. 3.8 in.

Chlorides 900 P.P.M. Test Tool Length 20 ft. Tool Size 5/1600 in.

Jars: Make _____ Serial Number _____ Anchor Length 20 ft. Size 5/1600 in.

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

Main Hole Size 1 1/2 in. Tool Joint Size 4 1/2 FH in.

Blow: No blow thru test on (IFP & EFP) Flashed Tool IFP

Recovered 5 ft. of drill mud

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

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

JUL 12 1993

Time On Location Standby A.M. Time Pick Up Tool 11:00 A.M. Time Off Location _____ A.M.

Time Set Packer(s) 1201 A.M. Time Started Off Bottom 201 A.M. Maximum Temperature 107° P.M.

Initial Hydrostatic Pressure _____ (A) 1100 P.S.I.

Initial Flow Period _____ Minutes 30 (B) 10 P.S.I. to (C) 10 P.S.I.

Initial Closed In Period _____ Minutes 30 (D) 75 P.S.I.

Final Flow Period _____ Minutes 30 (E) 10 P.S.I. to (F) 10 P.S.I.

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

Final Hydrostatic Pressure _____ (H) 1090 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 Tim J. Lauer
Signature of Customer or his authorized representative

Western Representative Jeff M. Pitt

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 7-4-52 Test Ticket No. 19841
 Recorder No. 10979 Capacity _____ Location _____ Ft.
 Clock No. _____ Elevation _____ Well Temperature _____ °F

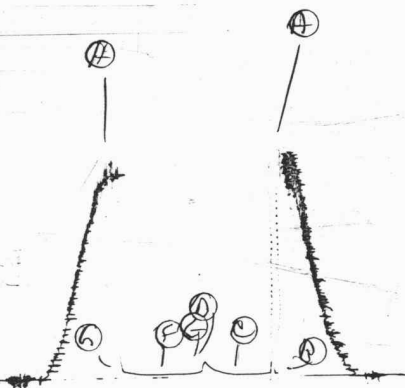
Point	Pressure	Open Tool	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1148</u> P.S.I.			M
B First Initial Flow Pressure	<u>29</u> P.S.I.	First Flow Pressure	Mins. <u>20</u>	Mins
C First Final Flow Pressure	<u>21</u> P.S.I.	Initial Closed-in Pressure	Mins. <u>27</u>	Mins
D Initial Closed-in Pressure	<u>27</u> P.S.I.	Second Flow Pressure	Mins. <u>28</u>	Mins
E Second Initial Flow Pressure	<u>23</u> P.S.I.	Final Closed-in Pressure	Mins. <u>20</u>	Mins
F Second Final Flow Pressure	<u>23</u> P.S.I.			
G Final Closed-in Pressure	<u>28</u> P.S.I.			
H Final Hydrostatic Mud	<u>1113</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	<u>19</u>	0	<u>21</u>	0	<u>23</u>	0	<u>23</u>
P 2 5	<u>29</u>	3	<u>21</u>	5	<u>23</u>	3	<u>23</u>
P 3 10	<u>23</u>	6	<u>21</u>	10	<u>23</u>	6	<u>23</u>
P 4 15	<u>21</u>	9	<u>24</u>	15	<u>23</u>	9	<u>23</u>
P 5 20	<u>21</u>	12	<u>28</u>	20	<u>23</u>	12	<u>23</u>
P 6 25	<u>21</u>	15	<u>35</u>	25	<u>23</u>	15	<u>23</u>
P 7 30	<u>21</u>	18	<u>42</u>	30	<u>23</u>	18	<u>24</u>
P 8 35		21	<u>54</u>	35		21	<u>27</u>
P 9 40		24	<u>72</u>	40		24	<u>27</u>
P10 45		27	<u>87</u>	45		27	<u>27</u>
P11 50		30		50		30	<u>28</u>
P12 55		33		55		33	
P13 60		36		60		36	
P14 65		39		65		39	
P15 70		42		70		42	
P16 75		45		75		45	
P17 80		48		80		48	
P18 85		51		85		51	
P19 90		54		90		54	
P20 95		57		95		57	
100		60		100		60	

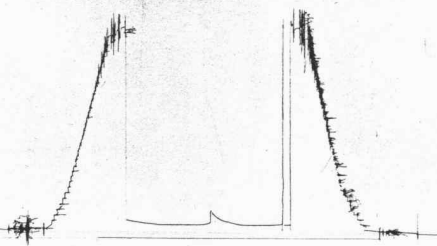
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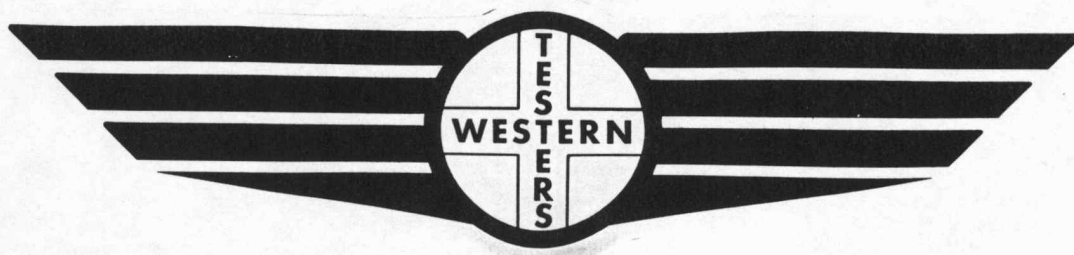
KT 19841

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3354

FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1 - 800-688- 7021

COMPANY RANGE OIL COMPANY

LEASE & WELL NO.

#2 ARBUCKLE

SEC. 30 TWP. 31S RGE. 9E TEST NO.

DATE 7/4/93

DST REPORT

GENERAL INFORMATION

DATE : 7/4/93
CUSTOMER : RANGE OIL CO.
WELL : #2 TEST: 3
ELEVATION: 1085 K.B.
SECTION : 30
RANGE : 9E COUNTY: ELK
GAUGE SN#: 10979 RANGE : 4100

TICKET : 19841
LEASE : ARBUCKLE
GEOLOGIST: TIM J. LAUER
FORMATION: MISSISSIPPI
TOWNSHIP : 31S
STATE : KS
CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM: 2241.00 ft TO: 2261.00 ft TVD: 2261.0 ft
DEPTH OF SELECTIVE ZONE: TEST TYPE: OIL
DEPTH OF RECORDERS: 2255.0 ft 2258.0 ft
TEMPERATURE: 107.0

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 :	1861.0 ft	I.D.:	3.800 in
TEST TOOL LENGTH :	20.0 ft	TOOL SIZE :	5.500 in
ANCHOR LENGTH :	20.0 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 :	4.5FH
PACKER DEPTH:	2236.0 ft	SIZE:	6.630 in
PACKER DEPTH:	2241.0 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
WEIGHT : 9.400 ppg
CHLORIDES : 900 ppm
JARS-MAKE : NO
DID WELL FLOW?: NO

VISCOSITY : 46.00 cp
WATER LOSS: 10.000 cc

SERIAL NUMBER:
REVERSED OUT?: NO

COMMENTS

Comment

NO BLOW THROUGHOUT TEST. FLUSHED TOOL ON INITIAL
FLOW PERIOD.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
5.0	0.0	0.0	0.0	100.0	DRILLING MUD

RATE INFORMATION

OIL VOLUME:	0.0000	STB	TOTAL FLOW TIME:	60.0000	min.
GAS VOLUME:	0.0000	SCF	AVERAGE OIL RATE:	0.0000	STB/D
MUD VOLUME:	0.0246	STB	AVERAGE WATER RATE:	0.0000	STB/D
WATER VOLUME:	0.0000	STB			
TOTAL FLUID :	0.0246	STB			

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1100.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	10.00	10.00
INITIAL SHUT-IN	30.00		75.00
FINAL FLOW	30.00	10.00	10.00
FINAL SHUT-IN	30.00		30.00

FINAL HYDROSTATIC PRESSURE: 1090.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1148.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	19.00	21.00
INITIAL SHUT-IN	27.00		87.00
FINAL FLOW	30.00	23.00	23.00
FINAL SHUT-IN	30.00		38.00

FINAL HYDROSTATIC PRESSURE: 1113.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE	: 7/4/93	TICKET	: 19841
CUSTOMER	: RANGE OIL CO.	LEASE	: ARBUCKLE
WELL	: #2	GEOLOGIST	: TIM J. LAUER
ELEVATION	: 1085 K.B.	FORMATION	: MISSISSIPPI
SECTION	: 30	TOWNSHIP	: 31S
RANGE	: 9E	STATE	: KS
GAUGE SN#	: 10979	CLOCK	: 12
	TEST: 3		
	COUNTY: ELK		
	RANGE : 4100		

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	19.00	19.00
5.00	79.00	60.00
10.00	23.00	-56.00
15.00	21.00	-2.00
20.00	21.00	0.00
25.00	21.00	0.00
30.00	21.00	0.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	21.00	21.00	0.00
6.00	21.00	0.00	0.00
9.00	24.00	3.00	0.00
12.00	28.00	4.00	0.00
15.00	35.00	7.00	0.00
18.00	43.00	8.00	0.00
21.00	54.00	11.00	0.00
24.00	73.00	19.00	0.00
27.00	87.00	14.00	0.00

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	23.00	23.00
5.00	23.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
10.00	23.00	0.00
15.00	23.00	0.00
20.00	23.00	0.00
25.00	23.00	0.00
30.00	23.00	0.00

FINAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	23.00	23.00	0.00
6.00	23.00	0.00	0.00
9.00	23.00	0.00	0.00
12.00	23.00	0.00	0.00
15.00	23.00	0.00	0.00
18.00	24.00	1.00	0.00
21.00	27.00	3.00	0.00
24.00	31.00	4.00	0.00
27.00	33.00	2.00	0.00
30.00	38.00	5.00	0.00



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

WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET N° 19842

Elevation 1085 KB Formation Arb Eff. Pay _____ Ft.

District Augusta Date 7-5-93 Customer Order No. _____

COMPANY NAME Range Oil Co

ADDRESS 125 N Market Suite 1120 Wichita KS 67202

LEASE AND WELL NO. Abuckle #2 COUNTY Elk STATE KS Sec. 30 Twp. 31 Rge. 9E

Mail Invoice To Same Co. Name #2 Abuckle Address _____ No. Copies Requested 1

Mail Charts To Same Address _____ No. Copies Requested 5

Formation Test No. DST #49 Interval Tested From 2530 ft. to 2550 ft. Total Depth 2550 ft.

Packer Depth 2525 ft. Size 6 5/8 in. Packer Depth _____ ft. Size _____ in.

Packer Depth 2530 ft. Size 6 5/8 in. Packer Depth _____ ft. Size _____ in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 2543 ft. Recorder Number 10979 Cap. 4100

Bottom Recorder Depth (Outside) 2547 ft. Recorder Number 3354 Cap. 4200

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

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

Mud Type Chem Viscosity 41 Weight Pipe Length _____ I. D. _____ in.

Weight 97 Water Loss 9.2 cc. Drill Pipe Length 2150 I. D. 3.8 in.

Chlorides 1400 P.P.M. Test Tool Length 20 ft. Tool Size 5/1600 in.

Jars: Make _____ Serial Number _____ Anchor Length 20 ft. Size 5/1600 in.

Did Well Flow? NO Reversed Out _____ Surface Choke Size 1/2 in. Bottom Choke Size 3/4 in.

Main Hole Size 1 1/2 in. Tool Joint Size 4 1/2 RF4 in.

Blow: Very Strong below 4 min to bottom of bucket on (FFP) & 9 min on (FFP)

Recovered 490 ft. of Gas in Pipe

Recovered 1160 ft. of free Oil 34% gravity at 60°

Recovered 60 ft. of Oil Cut mud 15% 10% gas 75% mud

Recovered 120 ft. of _____

Recovered _____ ft. of _____

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

JUL 12 1993

Time On Location Stand-by A.M. Time Pick Up Tool 5:00 A.M. Time Off Location _____ A.M.

Time Set Packer(s) 6:00 A.M. Time Started Off Bottom 9:00 A.M. Maximum Temperature 108° P.M.

Initial Hydrostatic Pressure _____ (A) 1330 P.S.I.

Initial Flow Period _____ Minutes 30 (B) 75 P.S.I. to (C) 250 P.S.I.

Initial Closed In Period _____ Minutes 30 (D) 950 P.S.I.

Final Flow Period _____ Minutes 60 (E) 290 P.S.I. to (F) 480 P.S.I.

Final Closed In Period _____ Minutes 20 (G) 950 P.S.I.

Final Hydrostatic Pressure _____ (H) 1320 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 Tim J. Lauer 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 7-5-52 Test Ticket No. 10842
 Recorder No. 10979 Capacity _____ Location _____ Ft. _____
 Clock No. _____ Elevation _____ Well Temperature _____ °F

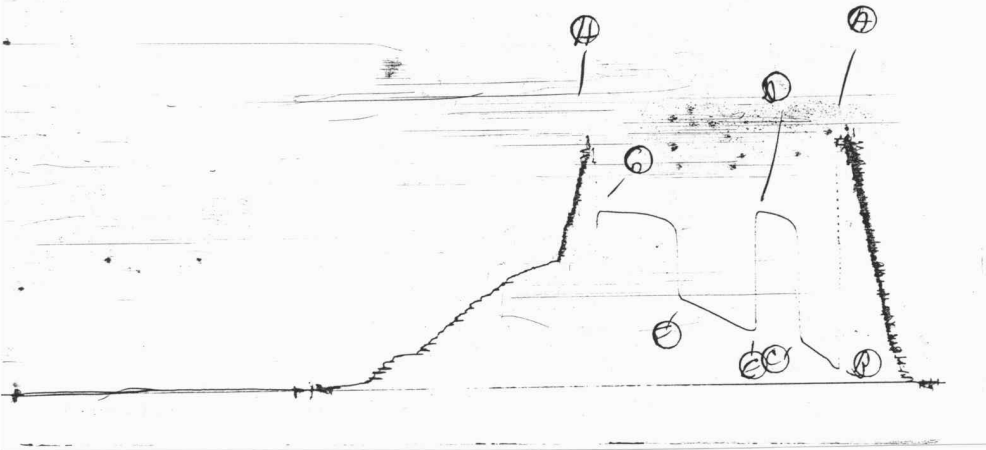
Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1349</u> P.S.I.		M
B First Initial Flow Pressure	<u>84</u> P.S.I.		Mins <u>30</u> Mins
C First Final Flow Pressure	<u>251</u> P.S.I.		Mins <u>36</u> Mins
D Initial Closed-in Pressure	<u>949</u> P.S.I.		Mins <u>55</u> Mins
E Second Initial Flow Pressure	<u>302</u> P.S.I.		Mins <u>60</u> Mins
F Second Final Flow Pressure	<u>422</u> P.S.I.		
G Final Closed-in Pressure	<u>954</u> P.S.I.		
H Final Hydrostatic Mud	<u>1291</u> P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	<u>84</u>	0	<u>251</u>	0	<u>302</u>	0	<u>422</u>
P 2 5	<u>105</u>	3	<u>302</u>	5	<u>302</u>	3	<u>622</u>
P 3 10	<u>125</u>	6	<u>227</u>	10	<u>314</u>	6	<u>859</u>
P 4 15	<u>167</u>	9	<u>867</u>	15	<u>332</u>	9	<u>886</u>
P 5 20	<u>192</u>	12	<u>893</u>	20	<u>349</u>	12	<u>904</u>
P 6 25	<u>219</u>	15	<u>908</u>	25	<u>367</u>	15	<u>915</u>
P 7 30	<u>251</u>	18	<u>917</u>	30	<u>389</u>	18	<u>922</u>
P 8 35		21	<u>927</u>	35	<u>407</u>	21	<u>928</u>
P 9 40		24	<u>934</u>	40	<u>414</u>	24	<u>935</u>
P10 45		27	<u>939</u>	45	<u>429</u>	27	<u>939</u>
P11 50		30	<u>944</u>	50	<u>458</u>	30	<u>942</u>
P12 55		33	<u>947</u>	55	<u>422</u>	33	<u>944</u>
P13 60		36	<u>949</u>	60		36	<u>946</u>
P14 65		39		65		39	<u>948</u>
P15 70		42		70		42	<u>949</u>
P16 75		45		75		45	<u>950</u>
P17 80		48		80		48	<u>951</u>
P18 85		51		85		51	<u>952</u>
P19 90		54		90		54	<u>952</u>
P20 95		57		95		57	<u>954</u>
100		60		100		60	<u>956</u>

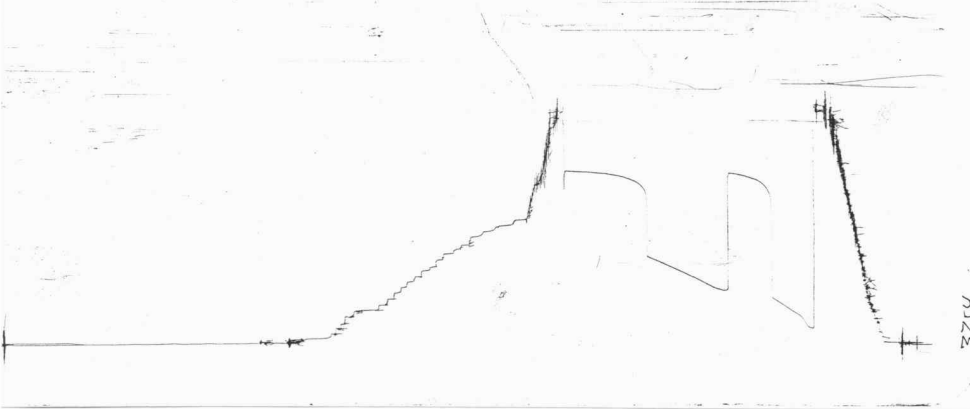
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FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone **1 - 800-688- 7021**

COMPANY RANGE OIL COMPANY LEASE & WELL NO. #2 ARBUCKLE SEC. 30 TWP. 31S RGE. 9E TEST NO. 4 DATE 7/5/93

DST REPORT

GENERAL INFORMATION

DATE	: 7/5/93	TICKET	: 19842
CUSTOMER	: RANGE OIL CO.	LEASE	: ARBUCKLE
WELL	: #2	TEST:	4
ELEVATION	: 1085 K.B.	GEOLOGIST	: TIM J. LAUER
SECTION	: 30	FORMATION	: ARBUCKLE
RANGE	: 9E	TOWNSHIP	: 31S
GAUGE SN#	: 10979	STATE	: KS
		CLOCK	: 12
	COUNTY: ELK		
	RANGE : 4100		

WELL INFORMATION

PERFORATION INTERVAL FROM:	2530.00 ft	TO:	2550.00 ft	TVD:	2550.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	OIL
DEPTH OF RECORDERS:	2543.0 ft		2547.0 ft		
TEMPERATURE:	108.0				
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 :	2150.0 ft	I.D.:		3.800 in	
TEST TOOL LENGTH :	20.0 ft	TOOL SIZE :		5.500 in	
ANCHOR LENGTH :	20.0 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 :		4.5FH	
PACKER DEPTH:	2525.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	2530.0 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	VISCOSITY :	41.00 cp
MUD TYPE :	CHEMICAL	WATER LOSS:	9.200 cc
WEIGHT :	9.700 ppq		
CHLORIDES :	1400 ppm	SERIAL NUMBER:	
JARS-MAKE :	NO	REVERSED OUT?:	NO
DID WELL FLOW?:	NO		

COMMENTS

Comment

INITIAL FLOW PERIOD VERY STRONG BLOW - 4 MINUTES
TO BOTTOM OF BUCKET. FINAL FLOW PERIOD 9 MINUTES
TO BOTTOM OF BUCKET.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
1160.0	100.0	0.0	0.0	0.0	FREE OIL
0.0	0.0	0.0	0.0	0.0	34 GRAVITY @ 60 DEGREES F
120.0	15.0	10.0	0.0	75.0	OIL CUT MUD
0.0	0.0	0.0	0.0	0.0	490 FT GAS ABOVE FLUID

RATE INFORMATION

OIL VOLUME:	14.1730	STB	TOTAL FLOW TIME:	85.0000	min.
GAS VOLUME:	0.3313	SCF	AVERAGE OIL RATE:	247.6043	STB/D
MUD VOLUME:	0.4426	STB	AVERAGE WATER RATE:	0.0000	STB/D
WATER VOLUME:	0.0000	STB			
TOTAL FLUID :	14.6155	STB			

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1330.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	75.00	250.00
INITIAL SHUT-IN	30.00		950.00
FINAL FLOW	60.00	290.00	480.00
FINAL SHUT-IN	60.00		950.00

FINAL HYDROSTATIC PRESSURE: 1320.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1339.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	84.00	231.00
INITIAL SHUT-IN	36.00		949.00
FINAL FLOW	55.00	302.00	473.00
FINAL SHUT-IN	60.00		956.00

FINAL HYDROSTATIC PRESSURE: 1291.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE	: 7/5/93	TICKET	: 19842
CUSTOMER	: RANGE OIL CO.	LEASE	: ARBUCKLE
WELL	: #2	GEOLOGIST	: TIM J. LAUER
ELEVATION	: 1085 K.B.	FORMATION	: ARBUCKLE
SECTION	: 30	TOWNSHIP	: 31S
RANGE	: 9E	STATE	: KS
GAUGE SN#	: 10979	CLOCK	: 12
	TEST: 4		
	COUNTY: ELK		
	RANGE : 4100		

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	84.00	84.00
5.00	105.00	21.00
10.00	145.00	40.00
15.00	167.00	22.00
20.00	192.00	25.00
25.00	219.00	27.00
30.00	231.00	12.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	323.00	323.00	0.00
6.00	777.00	454.00	0.00
9.00	867.00	90.00	0.00
12.00	893.00	26.00	0.00
15.00	908.00	15.00	0.00
18.00	917.00	9.00	0.00
21.00	927.00	10.00	0.00
24.00	934.00	7.00	0.00
27.00	939.00	5.00	0.00
30.00	944.00	5.00	0.00
33.00	947.00	3.00	0.00
36.00	949.00	2.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	302.00	302.00
5.00	302.00	0.00
10.00	314.00	12.00
15.00	332.00	18.00
20.00	349.00	17.00
25.00	367.00	18.00
30.00	389.00	22.00
35.00	407.00	18.00
40.00	424.00	17.00
45.00	439.00	15.00
50.00	458.00	19.00
55.00	473.00	15.00

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	673.00	673.00	0.00
6.00	859.00	186.00	0.00
9.00	886.00	27.00	0.00
12.00	904.00	18.00	0.00
15.00	915.00	11.00	0.00
18.00	923.00	8.00	0.00
21.00	928.00	5.00	0.00
24.00	935.00	7.00	0.00
27.00	939.00	4.00	0.00
30.00	943.00	4.00	0.00
33.00	944.00	1.00	0.00
36.00	946.00	2.00	0.00
39.00	948.00	2.00	0.00
42.00	949.00	1.00	0.00
45.00	950.00	1.00	0.00
48.00	951.00	1.00	0.00
51.00	952.00	1.00	0.00
54.00	953.00	1.00	0.00
57.00	954.00	1.00	0.00
60.00	956.00	2.00	0.00