



WESTERN TESTING CO., INC.
FORMATION TESTING

OK

TICKET NO 10743

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

Elevation 1915 K.B Formation Lansing Eff. Pay Ft.

District Pratt Date 5/15/85 Customer Order No.
COMPANY NAME Range Oil Co Inc.

ADDRESS

LEASE AND WELL NO. Ruhn #3 COUNTY Ellis STATE Ks Sec. 4 Twp. 14 Rge. 16W

Mail Invoice To Same #3 KUHN Co. Name Address No. Copies Requested 5

Mail Charts To Same Address No. Copies Requested 5

Formation Test No. 1 Interval Tested From 3155 ft. to 3187 ft. Total Depth 3187 ft.

Packer Depth 3150 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Packer Depth 3155 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 3177 ft. Recorder Number 13552 Cap. 4050

Bottom Recorder Depth (Outside) 3180 ft. Recorder Number 3086 Cap. 4500

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

Drilling Contractor Murfin Rig #7 Drill Collar Length 300 I. D. 2 1/4 in.

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

Weight 9.7 Water Loss 16.2 cc. Drill Pipe Length 2834 I. D. 3.8 in.

Chlorides 72,000 P.P.M. Test Tool Length 21 ft. Tool Size 5/200 in.

Jars: Make - Serial Number No Anchor Length 32 ft. Size 5/200 in.

Did Well Flow? No Reversed Out No Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

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

Blow: Strong blow throughout flow periods

Recovered 2300 ft. of Gas in Pipe

Recovered 210 ft. of Gas Cut Mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

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

Time On Location 11:30 A.M. Time Pick Up Tool 12:30 P.M. Time Off Location A.M. P.M.

Time Set Packer(s) 1:45 P.M. Time Started Off Bottom 4:45 P.M. Maximum Temperature 112°

Initial Hydrostatic Pressure (A) 1641 P.S.I.

Initial Flow Period Minutes 30 (B) 81 P.S.I. to (C) 81 P.S.I.

Initial Closed In Period Minutes 30 (D) 304 P.S.I.

Final Flow Period Minutes 60 (E) 111 P.S.I. to (F) 121 P.S.I.

Final Closed In Period Minutes 60 (G) 294 P.S.I.

Final Hydrostatic Pressure (H) 1620 P.S.I.

COMPANY TERMS MAY 20 1985

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, of its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By H.G. McMAHON, III
Signature of Customer or his authorized representative

Western Representative Jim Wonda Thank You

2376

FIELD INVOICE

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

WESTERN TESTING CO., INC.

Pressure Data

Date 5-15-85

Test Ticket No. 10742

Recorder No. 13552

Capacity _____ Location _____

Clock No. _____ Elevation _____ Well Temperature _____

Point	Pressure	Open Tool	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1621</u> P.S.I.			
B First Initial Flow Pressure	<u>77</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>79</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>300</u> P.S.I.	Second Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>102</u> P.S.I.	Final Closed-in Pressure	<u>60</u> Mins.	<u>60</u> Mins.
F Second Final Flow Pressure	<u>112</u> P.S.I.			
G Final Closed-in Pressure	<u>290</u> P.S.I.			
H Final Hydrostatic Mud	<u>1610</u> P.S.I.			

PRESSURE BREAKDOWN

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

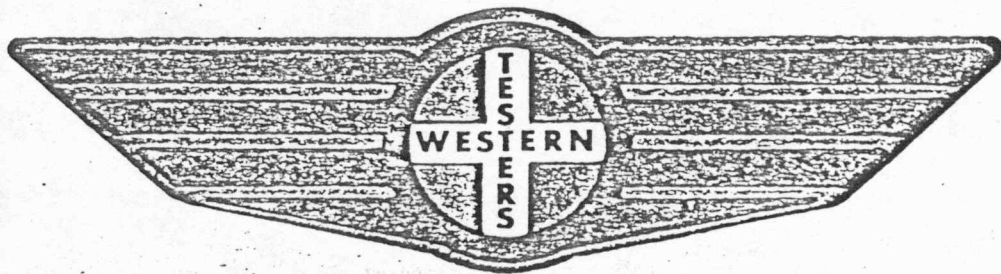
Initial Shut-In
Breakdown: 11 Inc.
of 3 mins. and a
final inc. of 0 Min.

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

Final Shut-In
Breakdown: 21 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 0	<u>77</u>	0	<u>79</u>	0	<u>102</u>	0	<u>112</u>
P 2 5	<u>77</u>	3	<u>124</u>	5	<u>77</u>	3	<u>161</u>
P 3 10	<u>77</u>	6	<u>195</u>	10	<u>77</u>	6	<u>199</u>
P 4 15	<u>77</u>	9	<u>238</u>	15	<u>77</u>	9	<u>226</u>
P 5 20	<u>77</u>	12	<u>262</u>	20	<u>102</u>	12	<u>240</u>
P 6 25	<u>78</u>	15	<u>274</u>	25	<u>77</u>	15	<u>250</u>
P 7 30	<u>79</u>	18	<u>283</u>	30	<u>102</u>	18	<u>258</u>
P 8 35		21	<u>291</u>	35	<u>104</u>	21	<u>263</u>
P 9 40		24	<u>295</u>	40	<u>106</u>	24	<u>267</u>
P10 45		27	<u>298</u>	45	<u>108</u>	27	<u>271</u>
P11 50		30	<u>300</u>	50	<u>110</u>	30	<u>274</u>
P12 55		33		55	<u>111</u>	33	<u>277</u>
P13 60		36		60	<u>112</u>	36	<u>279</u>
P14 65		39		65		39	<u>281</u>
P15 70		42		70		42	<u>283</u>
P16 75		45		75		45	<u>285</u>
P17 80		48		80		48	<u>286</u>
P18 85		51		85		51	<u>287</u>
P19 90		54		90		54	<u>288</u>
P20 95		57		95		57	<u>289</u>
100		60		100		60	<u>290</u>

FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

Company _____
ARRIVED VILL. WICHITA, KAN. _____
Lease & Well No. _____
#3 NUHM _____
Sec. 4 _____
Twp. 14S _____
Rge. _____
16W Test No. 1 _____
Date 5/15/85 _____

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE: 5/15/85 TICKET #10743
CUSTOMER: RANGE OIL COMPANY INC. LEASE: KUHN
WELL: 3 TEST: 1 GEOLOGIST: MCMAHON
ELEVATION (KB): 1915 FORMATION: LANSING
SECTION: 4 TOWNSHIP: 14S
RANGE: 16W COUNTY: ELLIS STATE: KANSAS
GAUGE SN #13552 RANGE: 4050 CLOCK: 12

INTERVAL TEST FROM: 3155 FT TO: 3187 FT TOTAL DEPTH: 3187 FT
DEPTH OF SELECTIVE ZONE: FT
PACKER DEPTH: 3150 FT SIZE: 6 5/8 IN PACKER DEPTH: 3155 FT SIZE: 6 5/8 IN
PACKER DEPTH: FT SIZE: IN PACKER DEPTH: FT SIZE: IN

DRILLING CONTRACTOR: MURFIN DRLG
MUD TYPE: STARCH VISCOSITY: 38
WEIGHT: 9.7 WATER LOSS (CC): 16.2
CHLORIDES (P.P.M.): 72000
JARS - MAKE: SERIAL NUMBER:
DID WELL FLOW? NO REVERSED OUT? NO
DRILL COLLAR LENGTH: 300 FT I.D.: 2.25 IN
WEIGHT PIPE LENGTH: FT I.D.: IN
DRILL PIPE LENGTH: 2834 FT I.D.: 3.8 IN
TEST TOOL LENGTH: 21 FT TOOL SIZE: 5 1/2 OD IN
ANCHOR LENGTH: 32 FT SIZE: 5 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: 4 1/2 FH IN

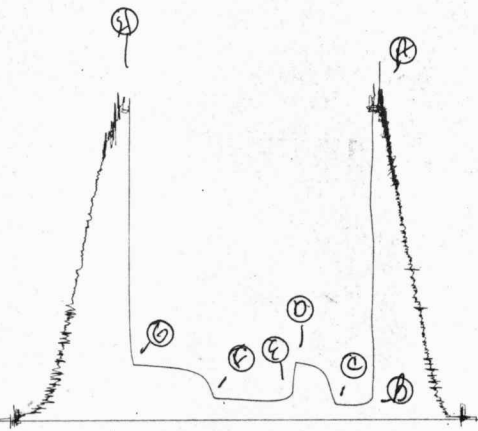
BLOW: STRONG BLOW THROUGHOUT TEST.

RECOVERED: 2300 FT OF: GAS ABOVE FLUID.
RECOVERED: 210 FT OF: GAS CUT MUD.
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:

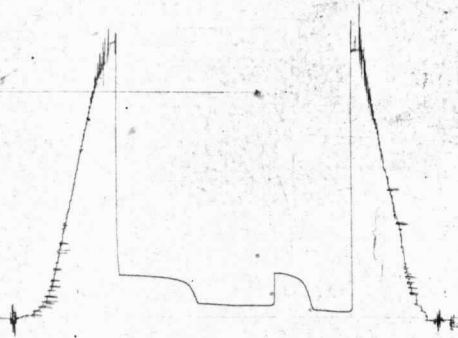
REMARKS:

TIME SET PACKER(S): 1:45 PM TIME STARTED OFF BOTTOM: 4:45 PM
WELL TEMPERATURE: 112 °F
INITIAL HYDROSTATIC PRESSURE: (A) 1621 PSI
INITIAL FLOW PERIOD MIN: 30 (B) 77 PSI TO (C) 79 PSI
INITIAL CLOSED IN PERIOD MIN: 30 (D) 300 PSI
FINAL FLOW PERIOD MIN: 60 (E) 102 PSI TO (F) 112 PSI
FINAL CLOSED IN PERIOD MIN: 60 (G) 290 PSI
FINAL HYDROSTATIC PRESSURE (H) 1610 PSI

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JK # 10743
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WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET N° 10744

OK

P. O. BOX 1599 WICHITA, KANSAS 67201

Elevation 1915 R.B Formation Lansing Eff. Pay Ft.

District Pratt Date 5/16/85 Customer Order No.

COMPANY NAME Range Oil Co Inc

ADDRESS

LEASE AND WELL NO. Ruhn #3 COUNTY Ellis STATE Ks Sec. 4 Twp. 14 Rge. 16W

Mail Invoice To Same #3 KUHN Co. Name Address No. Copies Requested 5

Mail Charts To Same Address No. Copies Requested 5

Formation Test No. 2 Interval Tested From 3187 ft. to 3204 ft. Total Depth 3204 ft.

Packer Depth 3182 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Packer Depth 3187 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 3194 ft. Recorder Number 13552 Cap. 4050

Bottom Recorder Depth (Outside) 3197 ft. Recorder Number 3086 Cap. 4500

Below Straddle Recorder Depth Recorder Number Cap.

Drilling Contractor Murfin Rig #7 Drill Collar Length 300 I. D. 2 1/4 in.

Mud Type Stanch Viscosity 38 Weight Pipe Length 360 I. D. 2.7 in.

Weight 9.7 Water Loss 16.2 cc. Drill Pipe Length 2508 2506 I. D. 3.8 in.

Chlorides 72,000 P.P.M. Test Tool Length 21 ft. Tool Size 5 1/2 00 in.

Jars: Make Serial Number Anchor Length 15 17 ft. Size 5 1/2 00 in.

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

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

Blow: Weak blow died in 25 min on preflow No blow on second flow period

Recovered 20 ft. of Dng Mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

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

Time On Location A.M. P.M. Time Pick Up Tool 12:30 A.M. P.M. Time Off Location A.M. P.M.

Time Set Packer(s) 2110 A.M. P.M. Time Started Off Bottom 4:10 A.M. P.M. Maximum Temperature 112°

Initial Hydrostatic Pressure (A) 1645 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) 50 P.S.I.

Final Flow Period Minutes 30 (E) 40 P.S.I. to (F) 40 P.S.I.

Final Closed In Period 0.1985 Minutes 30 (G) 40 P.S.I.

Final Hydrostatic Pressure (H) 1620 P.S.I.

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, of its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By H.G. McManon III Signature of Customer or his authorized representative

Western Representative Jim Wondra Thank You

FIELD INVOICE

Table with 2 columns: Item and Price. Items include Open Hole Test, Misrun, Straddle Test, Jars, Selective Zone, Safety Joint, Standby, Evaluation, Extra Packer, Circ. Sub., Mileage, Fluid Sampler, Extra Charts, Insurance, Telecopier, and TOTAL.

2276

WESTERN TESTING CO., INC.
Pressure Data

Date 5-16-85

Test Ticket No. 10744

Recorder No. 13552

Capacity _____ Location _____ Ft

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure		Time Given	Time Computed
A. Initial Hydrostatic Mud	<u>1629</u> P.S.I.	Open Tool		M
B. First Initial Flow Pressure	<u>35</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
C. First Final Flow Pressure	<u>35</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>27</u> Mins.
D. Initial Closed-in Pressure	<u>39</u> P.S.I.	Second Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
E. Second Initial Flow Pressure	<u>35</u> P.S.I.	Final Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
F. Second Final Flow Pressure	<u>35</u> P.S.I.			
G. Final Closed-in Pressure	<u>37</u> P.S.I.			
H. Final Hydrostatic Mud	<u>1610</u> P.S.I.			

PRESSURE BREAKDOWN

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

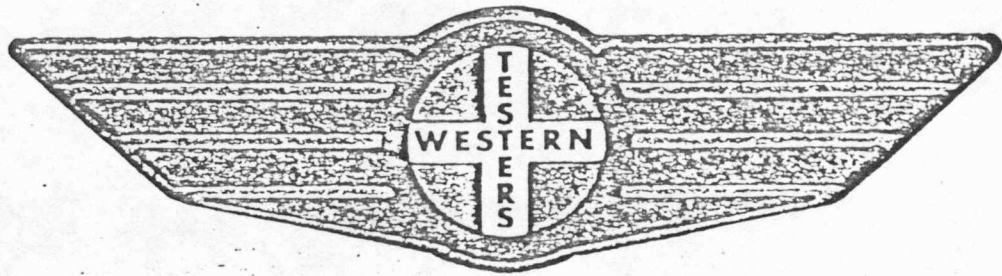
Initial Shut-In
Breakdown: 10 Inc.
of 3 mins. and a
final inc. of 0 Min.

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

Final Shut-In
Breakdown: 11 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 0	<u>35</u>	0	<u>35</u>	0	<u>35</u>	0	<u>35</u>
P 2 5		3	<u>35</u>	5		3	
P 3 10		6	<u>35</u>	10		6	
P 4 15		9	<u>35</u>	15		9	
P 5 20		12	<u>36</u>	20		12	<u>35</u>
P 6 25		15	<u>36</u>	25		15	<u>36</u>
P 7 30	<u>35</u>	18	<u>36</u>	30	<u>35</u>	18	<u>36</u>
P 8 35		21	<u>37</u>	35		21	<u>36</u>
P 9 40		24	<u>38</u>	40		24	<u>37</u>
P10 45		27	<u>39</u>	45		27	<u>37</u>
P11 50		30		50		30	<u>37</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	

FORMATION TEST REPORT



Home Office:

P.O. Box 1599

Wichita, Kansas 67201

Phone (316) 262-5861

Company _____ RANGE OIL COMPANY, INC. Lease & Well No. _____ #3 KUHN Sec. _____ 4 Twp. _____ 14² Rge. _____ 10^W Test No. _____ 4 Date 7/10/00

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE: 5/16/85
CUSTOMER: RANGE OIL COMPANY INC.
WELL: 3 TEST: 2
ELEVATION (KB): 1915 FORMATION: LANSING
SECTION: 4 TOWNSHIP: 14S
RANGE: 16W COUNTY: ELLIS STATE: KANSAS
GAUGE SN #13552 RANGE: 4050 CLOCK: 12

TICKET #10744
LEASE: KUHN
GEOLOGIST: MCMAHON

INTERVAL TEST FROM: 3187 FT TO: 3204 FT TOTAL DEPTH: 3204 FT
DEPTH OF SELECTIVE ZONE: FT
PACKER DEPTH: 3182 FT SIZE: 6 5/8 IN PAKER DEPTH: 3187 FT SIZE: 6 5/8 IN
PACKER DEPTH: FT SIZE: IN PAKER DEPTH: FT SIZE: IN

DRILLING CONTRACTOR: MURFIN DRLG
MUD TYPE: STARCH VISCOSITY: 38
WEIGHT: 9.7 WATER LOSS (CC): 16.2
CHLORIDES (P.P.M.): 72000
JARS - MAKE: SERIAL NUMBER:
DID WELL FLOW? NO REVERSED OUT? NO
DRILL COLLAR LENGTH: 300 FT I.D.: 2.25 IN
WEIGHT PIPE LENGTH: 360 FT I.D.: 2.7 IN
DRILL PIPE LENGTH: 2506 FT I.D.: 3.8 IN
TEST TOOL LENGTH: 21 FT TOOL SIZE: 5 1/2 OD IN
ANCHOR LENGTH: 17 FT SIZE: 5 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: 4 1/2 FH IN

BLOW: INITIAL FLOW PERIOD WEAK BLOW.
DIED IN 25 MINUTES. FINAL FLOW
PERIOD NO BLOW.

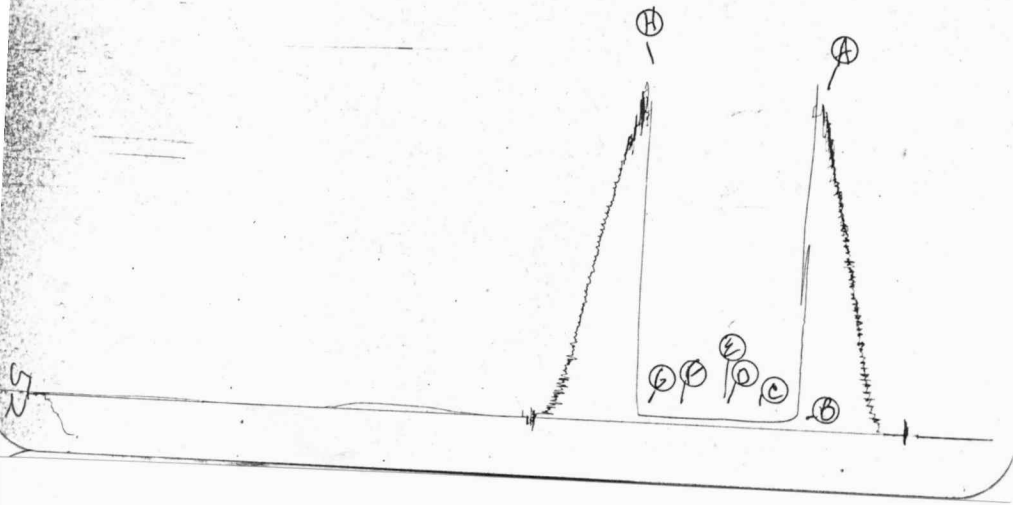
RECOVERED: 20 FT OF: DRILLING MUD.
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:

REMARKS:

TIME SET PACKER(S): 2:10 AM TIME STARTED OFF BOTTOM: 4:10 AM
WELL TEMPERATURE: 112 °F
INITIAL HYDROSTATIC PRESSURE: (A) 1629 PSI
INITIAL FLOW PERIOD MIN: 30 (B) 35 PSI TO (C) 35 PSI
INITIAL CLOSED IN PERIOD MIN: 27 (D) 39 PSI
FINAL FLOW PERIOD MIN: 30 (E) 35 PSI TO (F) 35 PSI
FINAL CLOSED IN PERIOD MIN: 30 (G) 37 PSI
FINAL HYDROSTATIC PRESSURE (H) 1610 PSI

Net # 10744

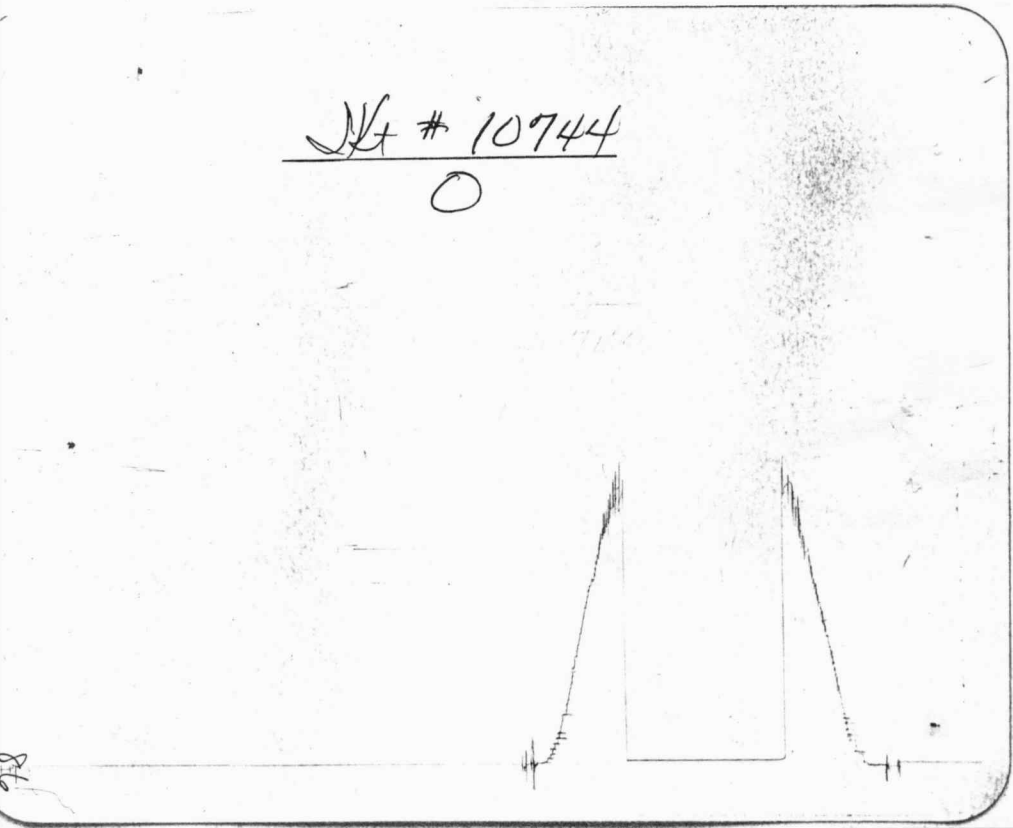
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Net # 10744

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86



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET N° 10745

OK

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

Elevation 1915 MB Formation Lansing Eff. Pay Ft.

District Pratt Date 5/16/85 Customer Order No.
COMPANY NAME Range Oil Co Inc.

ADDRESS
LEASE AND WELL NO. Kuhn #3 COUNTY Ellis STATE KS Sec. 4 Twp. 14 Rge. 16W

Mail Invoice To Same #3 KUHN No. Copies Requested 5
Co. Name Address
Mail Charts To Same No. Copies Requested 5
Address

Formation Test No. 3 Interval Tested From 3229 ft. to 3250 ft. Total Depth 3250 ft.
Packer Depth 3224 ft. Size 6 7/8 in. Packer Depth - ft. Size - in.
Packer Depth 3229 ft. Size 6 7/8 in. Packer Depth - ft. Size - in.
Depth of Selective Zone Set -

Top Recorder Depth (Inside) 3240 ft. Recorder Number 13552 Cap. 4050
Bottom Recorder Depth (Outside) 3243 ft. Recorder Number 3086 Cap. 4500
Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Murfin Rig #7 Drill Collar Length 300 I. D. 2 1/4 in.
Mud Type Starch Viscosity 40 Weight Pipe Length 360 I. D. 2.7 in.
Weight 9.7 Water Loss 12.8 cc. Drill Pipe Length 2548 I. D. 3.8 in.
Chlorides 64,000 P.P.M. Test Tool Length 21 ft. Tool Size 5 1/2 OD in.
Jars: Make No Serial Number No Anchor Length 21 ft. Size 5 1/2 OD in.
Did Well Flow? No Reversed Out No Surface Choke Size 3 1/4 in. Bottom Choke Size 3 1/4 in.
Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 FH in.

Blow: Weak blow died in 15 min on first flow period
No blow on second flow period

Recovered 2 ft. of Dry Mud
Recovered ft. of
Recovered ft. of
Recovered ft. of
Recovered ft. of
Chlorides P.P.M. Sample Jars used Remarks:

Time On Location A.M. P.M. Time Pick Up Tool 4:00 A.M. P.M. Time Off Location A.M. P.M.
Time Set Packer(s) 5:15 A.M. P.M. Time Started Off Bottom 7:15 A.M. P.M. Maximum Temperature 112°
Initial Hydrostatic Pressure (A) 1661 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) 50 P.S.I.
Final Flow Period Minutes 30 (E) 50 P.S.I. to (F) 50 P.S.I.
Final Closed In Period Minutes 30 (G) 50 P.S.I.
Final Hydrostatic Pressure (H) 1641 P.S.I.

COMPANY TERMS
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All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.
Test Approved By H.G. Murphy III
Signature of Customer or his authorized representative
Western Representative Jim Woods

FIELD INVOICE table with items: 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

2376

WESTERN TESTING CO., INC.

Pressure Data

Date 5-16-85

Test Ticket No. 10745

Recorder No. 13552

Capacity _____ Location _____ Ft _____

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure		Time Given	Time Computed
A. Initial Hydrostatic Mud	<u>1651</u>	P.S.I.		M
B. First Initial Flow Pressure	<u>49</u>	P.S.I.	<u>30</u> Mins	<u>30</u> Mins
C. First Final Flow Pressure	<u>49</u>	P.S.I.	<u>30</u> Mins	<u>30</u> Mins
D. Initial Closed-in Pressure	<u>49</u>	P.S.I.	<u>30</u> Mins	<u>30</u> Mins
E. Second Initial Flow Pressure	<u>48</u>	P.S.I.	<u>30</u> Mins	<u>30</u> Mins
F. Second Final Flow Pressure	<u>48</u>	P.S.I.	<u>30</u> Mins	<u>27</u> Mins
G. Final Closed-in Pressure	<u>48</u>	P.S.I.		
H. Final Hydrostatic Mud	<u>1631</u>	P.S.I.		

PRESSURE BREAKDOWN

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

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

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

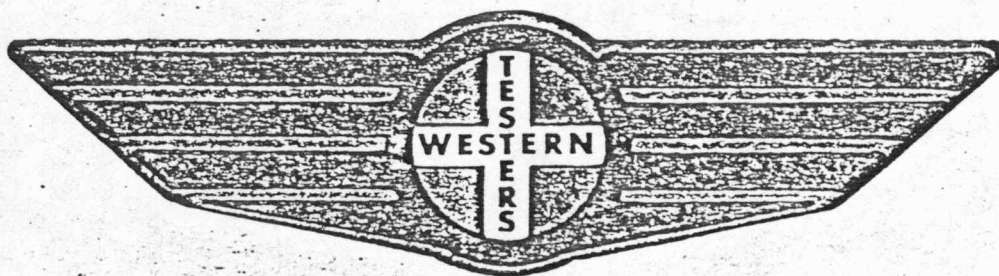
Final Shut-In
Breakdown: 10 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	<u>49</u>	0	<u>49</u>	0	<u>48</u>	0	<u>48</u>
P 2 5		3		5		3	
P 3 10		6		10		6	
P 4 15		9		15		9	
P 5 20		12		20		12	
P 6 25		15	<u>49</u>	25		15	<u>48</u>
P 7 30	<u>49</u>	18		30	<u>48</u>	18	
P 8 35		21		35		21	
P 9 40		24		40		24	
P 10 45		27		45		27	<u>48</u>
P 11 50		30	<u>49</u>	50		30	
P 12 55		33		55		33	
P 13 60		36		60		36	
P 14 65		39		65		39	
P 15 70		42		70		42	
P 16 75		45		75		45	
P 17 80		48		80		48	
P 18 85		51		85		51	
P 19 90		54		90		54	
P 20 95		57		95		57	
100		60		100		60	

FORMATION

TEST

REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

Company _____ Lease & Well No. _____ Sec. _____ Twp. _____ Rge. _____ Test No. _____ 3 Date 5/16/85

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE: 5/16/85 TICKET #10745
 CUSTOMER: RANGE OIL COMPANY INC. LEASE: KUHN
 WELL: 3 TEST: 3 GEOLOGIST: MCMAHON
 ELEVATION (KB): 1915 FORMATION: LANSING
 SECTION: 4 TOWNSHIP: 14S
 RANGE: 16W COUNTY: ELLIS STATE: KANSAS
 GAUGE SN #13552 RANGE: 4050 CLOCK: 12

INTERVAL TEST FROM: 3229 FT TO: 3250 FT TOTAL DEPTH: 3250 FT
 DEPTH OF SELECTIVE ZONE: FT
 PACKER DEPTH: 3224 FT SIZE: 6 5/8 IN PACKER DEPTH: 3229 FT SIZE: 6 5/8 IN
 PACKER DEPTH: FT SIZE: IN PACKER DEPTH: FT SIZE: IN

DRILLING CONTRACTOR: MURFIN DRLG
 MUD TYPE: STARCH VISCOSITY: 40
 WEIGHT: 9.7 WATER LOSS (CC): 12.8
 CHLORIDES (P.P.M.): 61000
 JARS - MAKE: SERIAL NUMBER:
 DID WELL FLOW? NO REVERSED OUT? NO
 DRILL COLLAR LENGTH: 300 FT I.D.: 2.25 IN
 WEIGHT PIPE LENGTH: 360 FT I.D.: 2.7 IN
 DRILL PIPE LENGTH: 2548 FT I.D.: 3.8 IN
 TEST TOOL LENGTH: 21 FT TOOL SIZE: 5 1/2 OD IN
 ANCHOR LENGTH: 21 FT SIZE: 5 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: 4 1/2 FH IN

BLOW: INITIAL FLOW PERIOD WEAK BLOW.
 DIED IN 15 MINUTES. FINAL FLOW
 PERIOD NO BLOW.

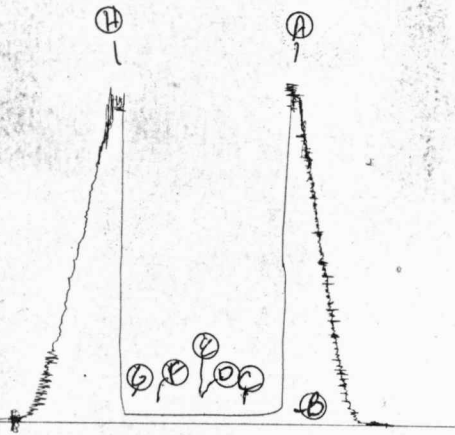
RECOVERED: 2 FT OF: DRILLING MUD.
 RECOVERED: FT OF:
 RECOVERED: FT OF:
 RECOVERED: FT OF:
 RECOVERED: FT OF:
 RECOVERED: FT OF:
 RECOVERED: FT OF:
 RECOVERED: FT OF:
 RECOVERED: FT OF:

REMARKS:

TIME SET PACKER(S): 5:15 PM TIME STARTED OFF BOTTOM: 7:15 PM
 WELL TEMPERATURE: 112 °F
 INITIAL HYDROSTATIC PRESSURE: (A) 1651 PSI
 INITIAL FLOW PERIOD MIN: 30 (B) 49 PSI TO (C) 49 PSI
 INITIAL CLOSED IN PERIOD MIN: 30 (D) 49 PSI
 FINAL FLOW PERIOD MIN: 30 (E) 48 PSI TO (F) 48 PSI
 FINAL CLOSED IN PERIOD MIN: 27 (G) 48 PSI
 FINAL HYDROSTATIC PRESSURE (H) 1631 PSI

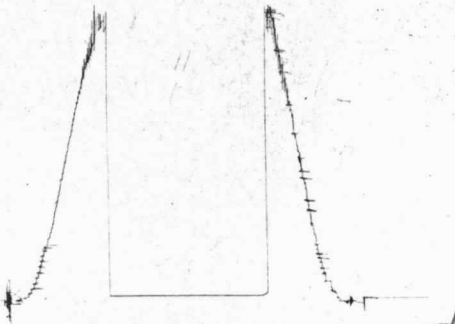
JK # 10745

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JK # 10745

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WESTERN TESTING CO., INC.
FORMATION TESTING

OK

TICKET NO 10746

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

Elevation 1915 K.B Formation Lansing Eff. Pay _____ Ft.

District Pratt Date 5/17/85 Customer Order No. _____

COMPANY NAME Range Oil Co Inc.

ADDRESS _____

LEASE AND WELL NO. Ruhn #3 COUNTY Ellis STATE Ks Sec 4 Twp 14 Rge 16W

Mail Invoice To Same #3 KUHN Co. Name Address No. Copies Requested 5

Mail Charts To Same Address No. Copies Requested 5

Formation Test No. 4 Interval Tested From 3325 ft. to 3370 ft. Total Depth 3370 ft.

Packer Depth 3320 ft. Size 6 9/8 in. Packer Depth - ft. Size - in.

Packer Depth 3325 ft. Size 6 9/8 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 3360 ft. Recorder Number 13552 Cap. 4050

Bottom Recorder Depth (Outside) 3363 ft. Recorder Number 3086 Cap. 4500

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

Drilling Contractor Murfin Rig #7 Drill Collar Length 300 I. D. 2 1/4 in.

Mud Type Starch Viscosity 39 Weight Pipe Length 360 I. D. 2.7 in.

Weight 9.6 Water Loss 13.6 cc. Drill Pipe Length 2644 I. D. 3.8 in.

Chlorides 72,000 P.P.M. Test Tool Length 21 ft. Tool Size 5 1/2 OD in.

Jars: Make - Serial Number T Anchor Length 45 ft. Size 5 1/2 OD in.

Did Well Flow? No Reversed Out No Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

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

Blow: Weak blow throughout flow periods

Recovered 55 ft. of Oil & Gas Cut Mud (40% oil)

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

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

Time On Location _____ A.M. P.M. Time Pick Up Tool 2:00 A.M. P.M. Time Off Location 7:30 A.M. P.M.

Time Set Packer(s) 3:25 A.M. P.M. Time Started Off Bottom 5:40 A.M. P.M. Maximum Temperature 113°

Initial Hydrostatic Pressure _____ (A) 1731 P.S.I.

Initial Flow Period _____ Minutes 30 (B) 71 P.S.I. to (C) 71 P.S.I.

Initial Closed In Period _____ Minutes 30 (D) 121 P.S.I.

Final Flow Period _____ Minutes 30 (E) 81 P.S.I. to (F) 81 P.S.I.

Final Closed In Period _____ Minutes 45 (G) 162 P.S.I.

Final Hydrostatic Pressure _____ (H) 1711 P.S.I.

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, of its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By H.G. McMAHON, III
Signature of Customer or his authorized representative

Western Representative Jim Wondethard

FIELD INVOICE

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

2376

WESTERN TESTING CO., INC.

Pressure Data

Date 5-17-85

Test Ticket No. 10746

Recorder No. 13552

Capacity _____ Location _____ Ft. _____

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure		Time Given	Time Computed
A. Initial Hydrostatic Mud	<u>1736</u>	P.S.I.		M
B. First Initial Flow Pressure	<u>71</u>	P.S.I.	<u>30</u> Mins.	<u>25</u> Mins.
C. First Final Flow Pressure	<u>71</u>	P.S.I.	<u>30</u> Mins.	<u>30</u> Mins.
D. Initial Closed-in Pressure	<u>122</u>	P.S.I.	<u>30</u> Mins.	<u>30</u> Mins.
E. Second Initial Flow Pressure	<u>77</u>	P.S.I.	<u>45</u> Mins.	<u>45</u> Mins.
F. Second Final Flow Pressure	<u>77</u>	P.S.I.		
G. Final Closed-in Pressure	<u>161</u>	P.S.I.		
H. Final Hydrostatic Mud	<u>1732</u>	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: 11 Inc.
of 3 mins. and a
final inc. of 0 Min.

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

Final Shut-In
Breakdown: 16 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 0	<u>71</u>	0	<u>71</u>	0	<u>77</u>	0	<u>77</u>
P 2 5		3	<u>72</u>	5		3	<u>79</u>
P 3 10		6	<u>73</u>	10		6	<u>81</u>
P 4 15		9	<u>75</u>	15		9	<u>83</u>
P 5 20		12	<u>79</u>	20		12	<u>86</u>
P 6 25	<u>71</u>	15	<u>84</u>	25		15	<u>89</u>
P 7 30		18	<u>91</u>	30	<u>77</u>	18	<u>96</u>
P 8 35		21	<u>97</u>	35		21	<u>100</u>
P 9 40		24	<u>102</u>	40		24	<u>107</u>
P10 45		27	<u>111</u>	45		27	<u>114</u>
P11 50		30	<u>122</u>	50		30	<u>120</u>
P12 55		33		55		33	<u>126</u>
P13 60		36		60		36	<u>134</u>
P14 65		39		65		39	<u>144</u>
P15 70		42		70		42	<u>154</u>
P16 75		45		75		45	<u>161</u>
P17 80		48		80		48	
P18 85		51		85		51	
P19 90		54		90		54	
P20 95		57		95		57	
100		60		100		60	

FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

Company _____ RANGE OIL COMPANY, INC. _____ Lease & Well No. _____ #3 KUHN _____ Sec. 4 _____ Twp. 14S _____ Rge. 16W _____ Test No. 4 _____ Date 5/11/85

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE: 5/17/85 TICKET #10746
CUSTOMER: RANGE OIL COMPANY INC. LEASE: KUHN
WELL: 3 TEST: 4 GEOLOGIST: MCMAHON
ELEVATION (KB): 1915 FORMATION: LANSING
SECTION: 4 TOWNSHIP: 14S
RANGE: 16W COUNTY: ELLIS STATE: KANSAS
GAUGE SN #13552 RANGE: 4050 CLOCK: 12

INTERVAL TEST FROM: 3325 FT TO: 3370 FT TOTAL DEPTH: 3370 FT
DEPTH OF SELECTIVE ZONE: FT
PACKER DEPTH: 3320 FT SIZE: 6 5/8 IN PAKER DEPTH: 3325 FT SIZE: 6 5/8 IN
PACKER DEPTH: FT SIZE: IN PAKER DEPTH: FT SIZE: IN

DRILLING CONTRACTOR: MURFIN DRLG
MUD TYPE: STARCH VISCOSITY: 39
WEIGHT: 9.6 WATER LOSS (CC): 13.6
CHLORIDES (P.P.M.): 72000
JARS - MAKE: SERIAL NUMBER:
DID WELL FLOW? NO REVERSED OUT? NO
DRILL COLLAR LENGTH: 300 FT I.D.: 2.25 IN
WEIGHT PIPE LENGTH: 360 FT I.D.: 2.7 IN
DRILL PIPE LENGTH: 2644 FT I.D.: 3.8 IN
TEST TOOL LENGTH: 21 FT TOOL SIZE: 5 1/2 OD IN
ANCHOR LENGTH: 45 FT SIZE: 5 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: 4 1/2 FH IN

BLOW: WEAK BLOW THROUGHOUT TEST.

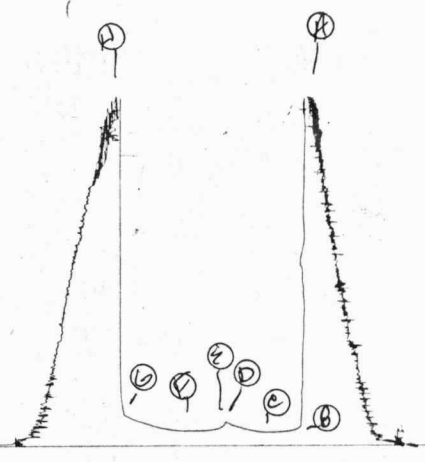
RECOVERED: 55 FT OF: OIL & GAS CUT MUD (40% OIL).
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:

REMARKS:

TIME SET PACKER(S): 3:25 PM TIME STARTED OFF BOTTOM: 5:40 PM
WELL TEMPERATURE: 113 °F
INITIAL HYDROSTATIC PRESSURE: (A) 1736 PSI
INITIAL FLOW PERIOD MIN: 25 (B) 71 PSI TO (C) 71 PSI
INITIAL CLOSED IN PERIOD MIN: 30 (D) 122 PSI
FINAL FLOW PERIOD MIN: 30 (E) 77 PSI TO (F) 77 PSI
FINAL CLOSED IN PERIOD MIN: 45 (G) 161 PSI
FINAL HYDROSTATIC PRESSURE (H) 1732 PSI

St # 10746

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St # 10746

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