



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET NO 15740

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

Elevation 1870 GL 1875 KB Formation KC O.E.F. 2011ES Eff. Pay - Ft.

District G.T. Bend Date 2-27-90 Customer Order No. -

COMPANY NAME #230 Hutchinson Oil Co.

ADDRESS 105 S. Broadway, Suite #470 Wichita, Ks 67202

LEASE AND WELL NO. Krankenberg #4-19 COUNTY STAFFORD STATE Ks Sec. 19 Twp. 22 Rge. 12W

Mail Invoice To SAME Co. Name SAME Address Krankenberg #4-19 No. Copies Requested Reg

Mail Charts To SAME Address Krankenberg #4-19 No. Copies Requested Reg

Formation Test No. 1 Interval Tested From 3375 ft. to 3416 ft. Total Depth 3416 ft.

Packer Depth 3370 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Packer Depth 3375 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 3378 ft. Recorder Number 10270 Cap. 4150

Bottom Recorder Depth (Outside) 3381 ft. Recorder Number 13268 Cap. 4225

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

Drilling Contractor H-30 rig #7 Drill Collar Length - I. D. - in.

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

Weight 9.2 Water Loss 11 cc. Drill Pipe Length 3355 I. D. 3.8 in.

Chlorides 4000 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 in.

Jars: Make - Serial Number - Anchor Length 41 ft. Size 5 1/2 in.

Did Well Flow? GAS Reversed Out - Surface Choke Size 7/8 in. Bottom Choke Size 3/4 in.

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

Blow: IF - STRONG BLOW GAS TO SURFACE in 2 min

FF - GAS TO SURFACE

Recovered 480 ft. of Muddy gassy oil 40% oil 30% GAS 5% WATER 25% mud

Recovered 90 ft. of Muddy gassy oil 50% oil 28% GAS 20% WATER 2% mud

Recovered 30 ft. of oil cut water 5% oil 95% WATER

Recovered - ft. of

Recovered - ft. of

Chlorides 7000 P.P.M. Sample Jars used 5 Remarks: 238.50' oil 70.50' w

Time On Location 3:40 A.M. Time Pick Up Tool 4:30 A.M. Time Off Location 11:15 A.M.

Time Set Packer(s) 5:45 A.M. Time Started Off Bottom 8:15 A.M. Maximum Temperature 106 P.M.

Initial Hydrostatic Pressure (A) 1630 P.S.I.

Initial Flow Period Minutes 15 (B) 343 P.S.I. to (C) 343 P.S.I.

Initial Closed In Period Minutes 30 (D) 1257 P.S.I.

Final Flow Period Minutes 45 (E) 375 P.S.I. to (F) 437 P.S.I.

Final Closed In Period Minutes 60 (G) 1246 P.S.I.

Final Hydrostatic Pressure (H) 1630 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 [Signature] Signature of Customer or his authorized representative

Western Representative Ray Schwager 1995 Thank you

FIELD INVOICE

Table with 2 columns: Item Name and Amount. Includes Open Hole Test (400), Misrun, Straddle Test, Jars, Selective Zone, Safety Joint, Standby, Evaluation, Extra Packer, Circ. Sub., Mileage, Fluid Sampler, Extra Charts, Insurance, Telecopier, and TOTAL (400).



GAS FLOW REPORT

No 4681

Date 2-27-90 Ticket _____ Company HUTCHINSON OIL Co.
 Well Name and No. KRANKENBURG #4-19 Dst No. 1 Interval Tested 3375-3416
 County STAFFORD State Ks Sec. 19 Twp. 22^s Rg. 12^w

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 GAS TO SURFACE in 2min					
<u>5</u>	<u>20 Lb.</u>	<u>1"</u>			<u>725,000 CFPD</u>
<u>10</u>	<u>24 Lb.</u>	<u>1"</u>			<u>817,000 "</u>
<u>15</u>	<u>25 Lb.</u>	<u>1"</u>			<u>840,000 "</u>

SECOND FLOW					
<u>5</u>	<u>19 Lb.</u>	<u>1"</u>			<u>699,000 CFPD</u>
<u>15</u>	<u>24 Lb.</u>	<u>"</u>			<u>817,000 "</u>
<u>25</u>	<u>24 Lb.</u>	<u>"</u>			<u>817,000 "</u>
<u>35</u>	<u>25 Lb.</u>	<u>"</u>			<u>840,000 "</u>
<u>45</u>	<u>25 Lb.</u>	<u>"</u>			<u>840,000 "</u>

GAS BOTTLE

Serial No. 818 Date Bottle Filled 2-27-90 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 1/2% 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 _____

Authorized by _____

WESTERN TESTING CO., INC.
Pressure Data

Date 2-27-90 Test Ticket No. 15740
 Recorder No. 10270 Capacity 4150 Location _____ Ft.
 Clock No. _____ Elevation _____ Well Temperature 106 °F

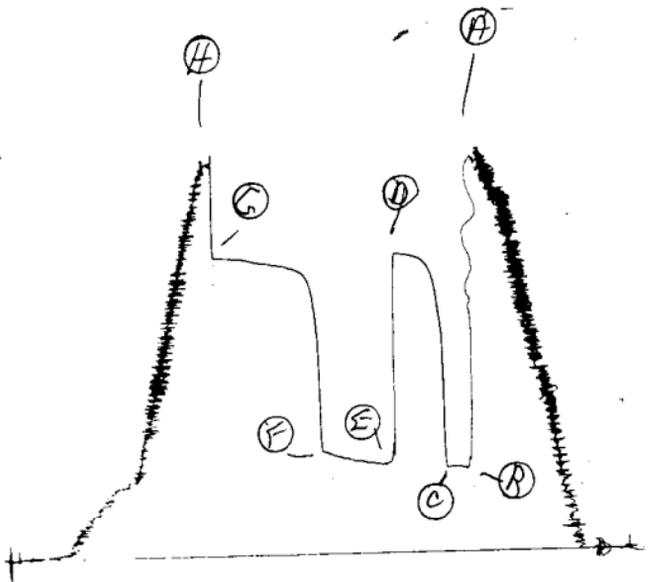
Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>11605</u>	P.S.I.	<u>5:45 P</u>	M
B First Initial Flow Pressure	<u>357</u>	P.S.I.	<u>15</u> Mins	<u>15</u> Mins
C First Final Flow Pressure	<u>362</u>	P.S.I.	<u>30</u> Mins	<u>30</u> Mins
D Initial Closed-in Pressure	<u>1267</u>	P.S.I.	<u>45</u> Mins	<u>45</u> Mins
E Second Initial Flow Pressure	<u>378</u>	P.S.I.	<u>60</u> Mins	<u>60</u> Mins
F Second Final Flow Pressure	<u>427</u>	P.S.I.		
G Final Closed-in Pressure	<u>1261</u>	P.S.I.		
H Final Hydrostatic Mud	<u>1261</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>257</u>	0	<u>1262</u>	0	<u>378</u>	0	<u>427</u>
P 2 5	<u>357</u>	3	<u>965</u>	5	<u>378</u>	3	<u>1000</u>
P 3 10	<u>357</u>	6	<u>1098</u>	10	<u>380</u>	6	<u>1126</u>
P 4 15	<u>362</u>	9	<u>1186</u>	15	<u>384</u>	9	<u>1176</u>
P 5 20		12	<u>1267</u>	20	<u>392</u>	12	<u>1195</u>
P 6 25		15	<u>1243</u>	25	<u>399</u>	15	<u>1207</u>
P 7 30		18	<u>1253</u>	30	<u>407</u>	18	<u>1214</u>
P 8 35		21	<u>1258</u>	35	<u>418</u>	21	<u>1221</u>
P 9 40		24	<u>1262</u>	40	<u>430</u>	24	<u>1226</u>
P 10 45		27	<u>1265</u>	45	<u>427</u>	27	<u>1229</u>
P 11 50		30	<u>1267</u>	50		30	<u>1234</u>
P 12 55		33		55		33	<u>1236</u>
P 13 60		36		60		36	<u>1240</u>
P 14 65		39		65		39	<u>1242</u>
P 15 70		42		70		42	<u>1248</u>
P 16 75		45		75		45	<u>1254</u>
P 17 80		48		80		48	<u>1256</u>
P 18 85		51		85		51	<u>1258</u>
P 19 90		54		90		54	<u>1259</u>
P 20 95		57		95		57	<u>1260</u>
100		60		100		60	<u>1261</u>

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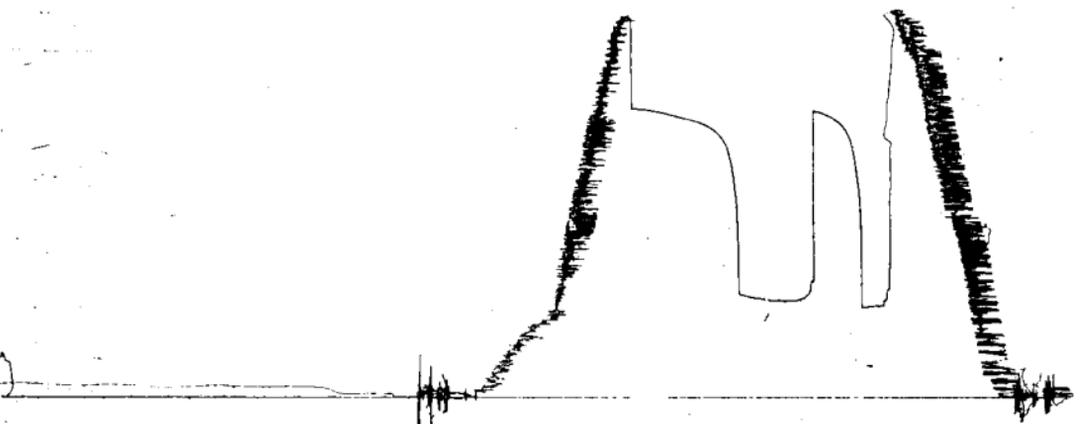


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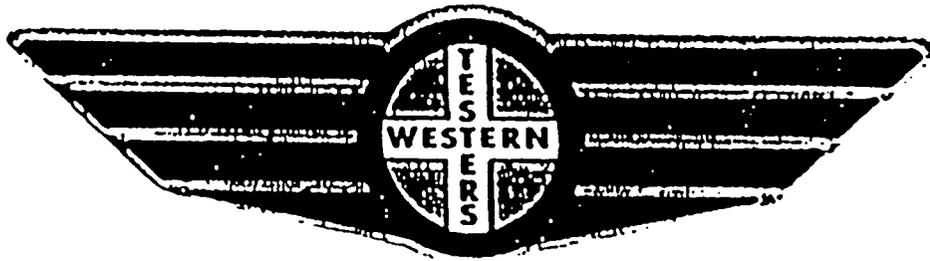
KT 15740

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OST#1
13268



FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE : 2/27/90 TICKET : 15740
CUSTOMER : HUTCHINSON OIL COMPANY LEASE : KRANKENBERG
WELL : 4-19 TEST: 1 GEOLOGIST : BURKE
ELEVATION : 1875 KB FORMATION : KC DEF
SECTION : 19 TOWNSHIP : 22S
RANGE : 12W COUNTY : STAFFORD STATE : KANSAS
GAUGE SN# : 10270 RANGE : 4150 CLOCK : 12

INTERVAL FROM : 3375 TO : 3416 TOTAL DEPTH : 3416
DEPTH OF SELECTIVE ZONE :
PACKER DEPTH : 3370 SIZE : 6.63
PACKER DEPTH : 3375 SIZE : 6.63
PACKER DEPTH : SIZE :
PACKER DEPTH : SIZE :

DRILLING CON. : H-30 DRILLING RIG #7
MUD TYPE : CHEMICAL VISCOSITY : 42
WEIGHT : 9.2 WATER LOSS (CC) : 11.
CHLORIDES (PPM) : 4000
JARS-MAKE : SERIAL NUMBER :
DID WELL FLOW ? : GAS REVERSED OUT ? : NL

DRILL COLLAR LENGTH : 0 FT I.D. inch : 0.00
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00
DRILL PIPE LENGTH : 3355 FT I.D. inch : 3.80
TEST TOOL LENGTH : 20 FT TOOL SIZE : 5.50
ANCHOR LENGTH : 41 FT ANCHOR SIZE : 5.50
SURFACE CHOKE SIZE : .75 IN BOTTOM CHOKE SIZE : .75
MAIN HOLE SIZE : 7.875 IN TOOL JOINT SIZE : 4.5 X

BLOW COMMENT #1 : INITIAL FLOW PERIOD-STRONG BLOW GAS TO SURFACE IN
BLOW COMMENT #2 : 2 MINUTES
BLOW COMMENT #3 : FINAL FLOW PERIOD-GAS TO SURFACE
BLOW COMMENT #4 :

RECOVERED : 480 FT OF: MUDDY GASSY OIL
RECOVERED : 0 FT OF: 40% OIL 30% GAS 5% WATER 25% MUD
RECOVERED : 90 FT OF: MUDDY GASSY OIL 50% OIL 28% GAS
RECOVERED : 0 FT OF: 20% WATER 2% MUD
RECOVERED : 30 FT OF: OIL CUT WATER 5% OIL 95% WATER
RECOVERED : 0 FT OF: CHLORIDES 70000 PPM

Total Barrels Fluid = 8.42
Total Fluid Prod Rate = 201.98 BFPD
Indicated Oil Rate = 80.29 BOPD
Indicated Wtr Rate = 23.73 BWPD
Corrected Oil Rate = 71.87 BOPD
Corrected Wtr Rate = 21.24 BWPD

REMARK 1 :
REMARK 2 :
REMARK 3 :
REMARK 4 :

SET PACKER(S) : 5:45 PM TIME STARTED OFF BOTTOM : 8:15 PM
WELL TEMPERATURE : 106
INITIAL HYDROSTATIC PRESSURE (A) 1663
INITIAL FLOW PERIOD MIN: 15 (B) 357 PSI TO (C) : 362
INITIAL CLOSED IN PERIOD MIN: 30 (D) 1267
FINAL FLOW PERIOD MIN: 45 (E) 378 PSI TO (F) : 437
FINAL CLOSED IN PERIOD MIN: 60 (G) 1261
FINAL HYDROSTATIC PRESSURE (H) 1661

WESTERN TESTING CO. INC.
WICHITA-KANSAS

Pressure Transient Report

COMPANY : HUTCHINSON OIL COMPANY
RIG : STAFFORD-KANSAS
FIELD : KRANKENBERG
WELL : 4-19
DATE : 2/27/90
GAUGE NO : 10270

OPERATIONAL COMMENTS

COMPANY : HUTCHINSON OIL COMPANY
 WELL : 4-19
 GAUGE # : 10270
 DATE : 27/ 2/90

FIELD : KRANKENBERG
 JOB # : 15740
 DEPTH : 3416
 TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
INITIAL FLOW PERIOD					
2	5:45: 0	0.000	357.000	106.00	0.000
3	5:49:59	0.083	357.000	106.00	0.000
4	5:55: 0	0.167	359.000	106.00	2.000
5	6: 0: 0	0.250	362.000	106.00	3.000
INITIAL SHUT-IN PERIOD					
6	6: 3: 0	0.300	965.000	106.00	603.000
7	6: 6: 0	0.350	1098.000	106.00	133.000
8	6: 9: 0	0.400	1186.000	106.00	88.000
9	6:12: 0	0.450	1226.000	106.00	40.000
10	6:15: 0	0.500	1243.000	106.00	17.000
11	6:18: 0	0.550	1253.000	106.00	10.000
12	6:21: 0	0.600	1258.000	106.00	5.000
13	6:24: 0	0.650	1262.000	106.00	4.000
14	6:27: 0	0.700	1265.000	106.00	3.000
15	6:30: 0	0.750	1267.000	106.00	2.000
FINAL FLOW PERIOD					
16	6:31: 0	0.767	378.000	106.00	-889.000
17	6:34:59	0.833	378.000	106.00	0.000
18	6:40: 0	0.917	380.000	106.00	2.000
19	6:45: 0	1.000	384.000	106.00	4.000
20	6:49:59	1.083	393.000	106.00	9.000
21	6:55: 0	1.167	399.000	106.00	6.000
22	7: 0: 0	1.250	407.000	106.00	8.000
23	7: 4:59	1.333	418.000	106.00	11.000
24	7:10: 0	1.417	430.000	106.00	12.000
25	7:15: 0	1.500	437.000	106.00	7.000
FINAL SHUT-IN PERIOD					
26	7:18: 0	1.550	1000.000	106.00	563.000
27	7:21: 0	1.600	1126.000	106.00	126.000
28	7:24: 0	1.650	1176.000	106.00	50.000
29	7:27: 0	1.700	1195.000	106.00	19.000
30	7:30: 0	1.750	1207.000	106.00	12.000
31	7:33: 0	1.800	1214.000	106.00	7.000
32	7:36: 0	1.850	1221.000	106.00	7.000
33	7:39: 0	1.900	1226.000	106.00	5.000
34	7:42: 0	1.950	1229.000	106.00	3.000
35	7:45: 0	2.000	1234.000	106.00	5.000
36	7:48: 0	2.050	1236.000	106.00	2.000
37	7:51: 0	2.100	1240.000	106.00	4.000
38	7:54: 0	2.150	1243.000	106.00	3.000
39	7:57: 0	2.200	1248.000	106.00	5.000
40	8: 0: 0	2.250	1254.000	106.00	6.000
41	8: 3: 0	2.300	1256.000	106.00	2.000
42	8: 6: 0	2.350	1258.000	106.00	2.000
43	8: 9: 0	2.400	1259.000	106.00	1.000
44	8:12: 0	2.450	1260.000	106.00	1.000
45	8:15: 0	2.500	1261.000	106.00	1.000

GAS FLOW REPORT

Date : 2/27/90
 Customer : HUTCHINSON OIL COMPANY
 Well : 4-19 Test : 1
 Elevation (KB) : 1875 KB Formation : KC DEF
 Section : 19 Township : 22S
 Range : 12W County : STAFFORD State : KANSAS
 Gauge SN # : 10270 Range : 4150 Clock : 12
 Ticket # : 15740
 Lease : KRANKENBERG
 Geologist : BURKE

TIME GAUGE (MIN)	TESTER TYPE	ORFICE SIZE	PRESSURE (PSI)	FLOW DESCRIPTION
PRE FLOW =====				
02	MERLA	1		
05	MERLA	1		GAS TO SURFACE
10	MERLA	1	20 PSIG	725000 CFPD
15	MERLA	1	24 PSIG	817000 CFPD
			25 PSIG	840000 CFPD

SECOND FLOW =====				
5	MERLA	1		
15	MERLA	1	19 PSIG	699000 CFPD
25	MERLA	1	24 PSIG	817000 CFPD
35	MERLA	1	24 PSIG	817000 CFPD
45	MERLA	1	25 PSIG	840000 CFPD
			25 PSIG	840000 CFPD

Gas Bottle SN # : 818
 Date Bottle Filled : 2-27-90
 Date to be Invoiced :



WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET No 15741

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

Elevation 1870 GL 1875 KB Formation KC, HI 20105 Eff. Pay Ft.

District G.T. Bond Date 2-28-90 Customer Order No.

COMPANY NAME #230 HUTCHINSON OIL Co.

ADDRESS 105 S. BROADWAY, SUITE #470 WICHITA, KS 67202

LEASE AND WELL NO. KRANKENBERG #4-19 COUNTY STAFFORD STATE KS Sec. 19 Twp. 22 Rge. 12

Mail Invoice To SAME Co. Name Address KRANKENBERG #4-19 No. Copies Requested Reg

Mail Charts To SAME Address KRANKENBERG #4-19 No. Copies Requested Reg

Formation Test No. 2 Interval Tested From 3461 ft. to 3500 ft. Total Depth 3500 ft.

Packer Depth 3456 ft. Size 6 5/8 in. Packer Depth ft. Size in.

Packer Depth 3461 ft. Size 6 5/8 in. Packer Depth ft. Size in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 3464 ft. Recorder Number 10270 Cap. 4000

Bottom Recorder Depth (Outside) 3467 ft. Recorder Number 13268 Cap. 4225

Below Straddle Recorder Depth ft. Recorder Number Cap.

Drilling Contractor H-30 rig 7 Drill Collar Length I. D. in.

Mud Type CHEMICAL Viscosity 44 Weight Pipe Length I. D. in.

Weight 9 Water Loss 11.6 cc. Drill Pipe Length 3441 I. D. 3.8 in.

Chlorides 400 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 in.

Jars: Make Serial Number Anchor Length 39 ft. Size 5 1/2 in.

Did Well Flow? GAS & OIL Reversed Out YES Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

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

Blow: IF - STRONG BLOW GAS TO SURFACE IN 3 MIN

FF - GAS TO SURFACE

Recovered 3450 ft. of GASSY OIL

Recovered ft. of 3450.00

Recovered ft. of

Recovered ft. of

Chlorides P.P.M. Sample Jars used Remarks: OIL SURFACED 105 MIN. INTO TEST

Time On Location 7:15 AM P.M. Time Pick Up Tool 7:30 AM P.M. Time Off Location 4:20 AM P.M.

Time Set Packer(s) 8:45 AM P.M. Time Started Off Bottom 11:35 AM P.M. Maximum Temperature 106°

Initial Hydrostatic Pressure (A) 1703 P.S.I.

Initial Flow Period Minutes 30 (B) 302 P.S.I. to (C) 354 P.S.I.

Initial Closed In Period Minutes 45 (D) 1226 P.S.I.

Final Flow Period Minutes 30 (E) 447 P.S.I. to (F) 582 P.S.I.

Final Closed In Period Minutes 65 (G) 1226 P.S.I.

Final Hydrostatic Pressure (H) 1692 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 Signature of Customer or his authorized representative

Western Representative Signature THANK YOU 1925

FIELD INVOICE

Table with 2 columns: Item, Amount. Includes Open Hole Test (40), Misrun, Straddle Test, Jars, Selective Zone, Safety Joint, Standby, Evaluation, Extra Packer, Circ. Sub. (2), Mileage, Fluid Sampler, Extra Charts, Insurance, Telecopier, TOTAL.



No. 4682

GAS FLOW REPORT

Date 2-28-90 Ticket _____ Company Hutchinson Oil Co.
Well Name and No. Krankenberg #4-19 Dst No. 2 Interval Tested 3461-3500
County Stafford State Ko Sec. 19 Twp. 22^s Rg. 12^w

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 ^{gas to surface in 3 min.}					
5	9 Lb	3/4"			245,000 CFPD
15	7 Lb	"			211,000 "
25	5 Lb	"			175,000 "
30	3 Lb	"			133,000 "

SECOND FLOW					
5	4 Lb.	1/4"			18,500 CFPD
10	6 Lb.	1/4"			22,900 "
15	5 Lb.	1/4"			20,700
25	3 Lb.	1/4"			15,700

GAS BOTTLE

Serial No. _____ Date Bottle Filled _____ 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 1/2% 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 _____
Authorized by _____

WESTERN TESTING CO., INC.
Pressure Data

Date 2-28-90 Test Ticket No. 15741
 Recorder No. 10270 Capacity 4150 Location _____ Ft.
 Clock No. _____ Elevation _____ Well Temperature 106 °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mod	<u>1713</u> P.S.I.	<u>8:45 A.M.</u>	
B First Initial Flow Pressure	<u>302</u> P.S.I.	<u>30</u> Mins	<u>30</u> Mins
C First Final Flow Pressure	<u>362</u> P.S.I.	<u>45</u> Mins	<u>45</u> Mins
D Initial Closed-in Pressure	<u>1220</u> P.S.I.	<u>30</u> Mins	<u>30</u> Mins
E Second Initial Flow Pressure	<u>445</u> P.S.I.	<u>25</u> Mins	<u>60</u> Mins
F Second Final Flow Pressure	<u>585</u> P.S.I.		
G Final Closed-in Pressure	<u>1222</u> P.S.I.		
H Final Hydrostatic Mod	<u>1694</u> P.S.I.		

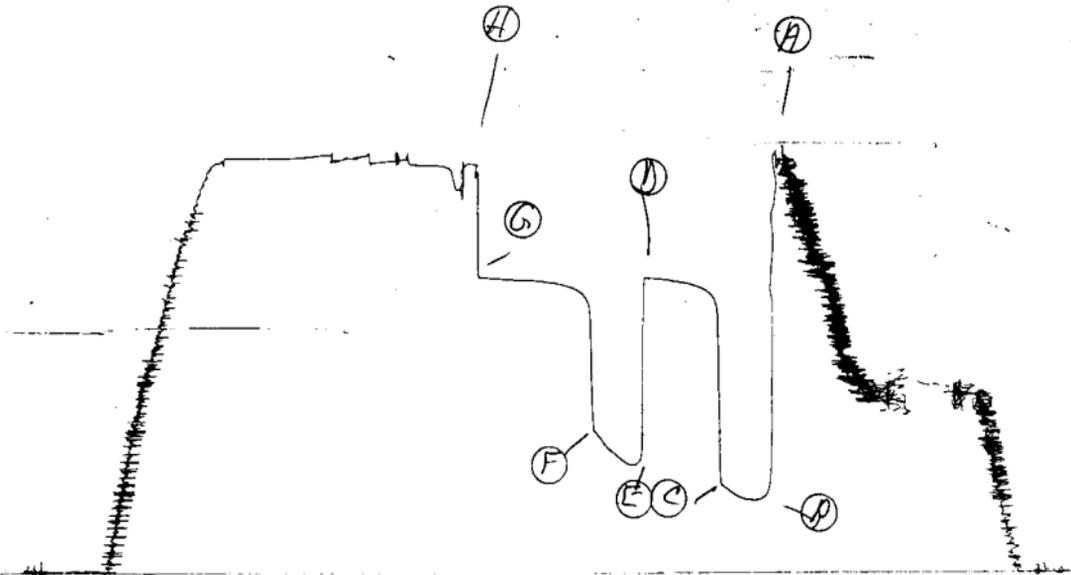
PRESSURE BREAKDOWN

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	Press.	Point	Press.	Point	Press.	Point	Press.
Minutes		Minutes		Minutes		Minutes	
P 1 0	<u>302</u>	0	<u>362</u>	0	<u>445</u>	0	<u>585</u>
P 2 5	<u>5</u>	3	<u>1082</u>	5	<u>445</u>	3	<u>1113</u>
P 3 10	<u>302</u>	6	<u>1145</u>	10	<u>485</u>	6	<u>1150</u>
P 4 15	<u>304</u>	9	<u>1167</u>	15	<u>484</u>	9	<u>1168</u>
P 5 20	<u>319</u>	12	<u>1178</u>	20	<u>514</u>	12	<u>1180</u>
P 6 25	<u>346</u>	15	<u>1186</u>	25	<u>559</u>	15	<u>1187</u>
P 7 30	<u>362</u>	18	<u>1192</u>	30	<u>585</u>	18	<u>1191</u>
P 8 35		21	<u>1198</u>	35		21	<u>1198</u>
P 9 40		24	<u>1202</u>	40		24	<u>1201</u>
P10 45		27	<u>1205</u>	45		27	<u>1204</u>
P11 50		30	<u>1210</u>	50		30	<u>1207</u>
P12 55		33	<u>1212</u>	55		33	<u>1209</u>
P13 60		36	<u>1215</u>	60		36	<u>1211</u>
P14 65		39	<u>1217</u>	65		39	<u>1212</u>
P15 70		42	<u>1219</u>	70		42	<u>1213</u>
P16 75		45	<u>1220</u>	75		45	<u>1214</u>
P17 80		48		80		48	<u>1215</u>
P18 85		51		85		51	<u>1216</u>
P19 90		54		90		54	<u>1217</u>
P20 95		57		95		57	<u>1219</u>
100		60		100		60	<u>1221</u>

KT 15741

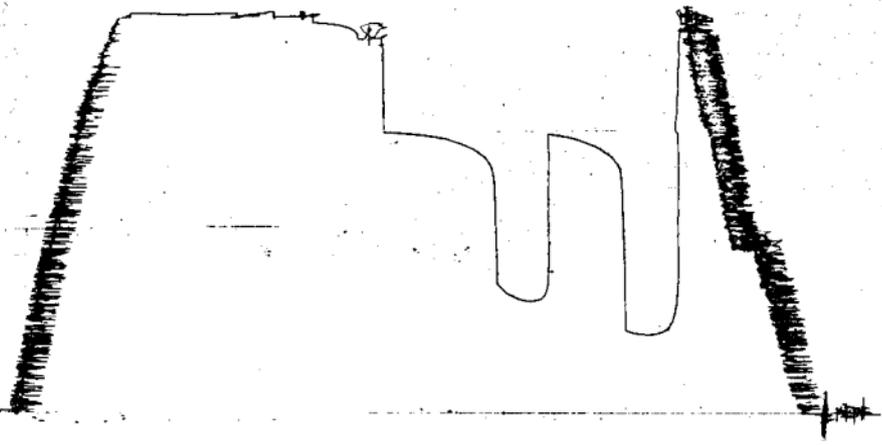
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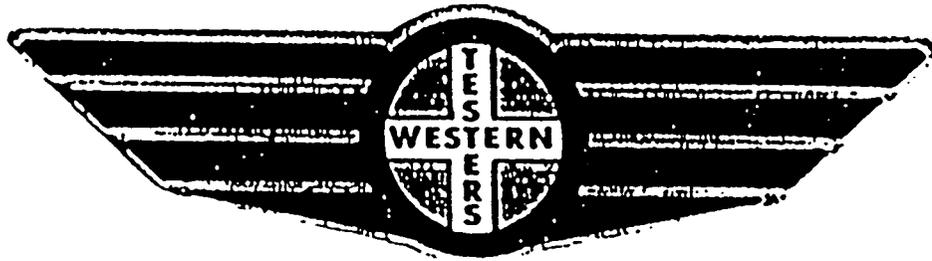
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FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE : 2/28/90 TICKET : 15741
CUSTOMER : HUTCHINSON OIL COMPANY LEASE : KRANKERBERG
WELL : 4-19 TEST: 2 GEOLOGIST : BURKE
ELEVATION : 1875 KB FORMATION : KC HI ZONES
SECTION : 19 TOWNSHIP : 22S
RANGE : 12W COUNTY : STAFFORD STATE : KANSAS
GAUGE SN# : 10270 RANGE : 4100 CLOCK : 12

INTERVAL FROM : 3461 TO : 3500 TOTAL DEPTH : 3500
DEPTH OF SELECTIVE ZONE :
PACKER DEPTH : 3456 SIZE : 6.63
PACKER DEPTH : 3461 SIZE : 6.63
PACKER DEPTH : SIZE :
PACKER DEPTH : SIZE :

DRILLING CON. : H-30 DRILLING RIG 7
MUD TYPE : CHEMICAL VISCOSITY : 44
WEIGHT : 9 WATER LOSS (CC) : 11.6
CHLORIDES (PPM) : 4000
JARS-MAKE : SERIAL NUMBER :
DID WELL FLOW ? : GAS&OIL REVERSED OUT ? : YES

DRILL COLLAR LENGTH : 0 FT I.D. inch : 0.00
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00
DRILL PIPE LENGTH : 3441 FT I.D. inch : 3.80
TEST TOOL LENGTH : 20 FT TOOL SIZE : 5.50
ANCHOR LENGTH : 39 FT ANCHOR SIZE : 5.50
SURFACE CHOKE SIZE : .75 IN BOTTOM CHOKE SIZE : .75
MAIN HOLE SIZE : 7.875 IN TOOL JOINT SIZE : 4.5 XH

BLOW COMMENT #1 : INITIAL FLOW PERIOD-STRONG BLOW GAS TO SURFACE
BLOW COMMENT #2 : IN 3 MINUTES
BLOW COMMENT #3 : FINAL FLOW PERIOD-GAS TO SURFACE
BLOW COMMENT #4 :

RECOVERED : 3450 FT OF: GASSY OIL

Total Barrels Fluid = 48.39
Total Fluid Prod Rate = 1161.38 BFPD
Indicated Oil Rate = 1161.38 BOPD
Corrected Oil Rate = 254.22 BOPD

REMARK 1 :
REMARK 2 :
REMARK 3 : OIL SURFACED 105 MINUTES INTO TEST
REMARK 4 :

SET PACKER(S) :	8:45 AM	TIME STARTED OFF BOTTOM :	11:35 AM
WELL TEMPERATURE :	106		
INITIAL HYDROSTATIC PRESSURE		(A)	1713
INITIAL FLOW PERIOD MIN:	30	(B)	302 PSI TO (C) : 362
INITIAL CLOSED IN PERIOD MIN:	45	(D)	1220
FINAL FLOW PERIOD MIN:	30	(E)	445 PSI TO (F) : 585
FINAL CLOSED IN PERIOD MIN:	66	(G)	1223
FINAL HYDROSTATIC PRESSURE		(H)	1694

WESTERN TESTING CO. INC.
WICHITA-KANSAS

Pressure Transient Report

COMPANY : HUTCHINSON OIL COMPANY
RIG : STAFFORD-KANSAS
FIELD : KRANKERBERG
WELL : 4-19
DATE : 2/28/90
GAUGE NO : 10270

OPERATIONAL COMMENTS

OIL SURFACED 105 MINUTES INTO TEST

COMPANY : HUTCHINSON OIL COMPANY
 WELL : 4-19
 GAUGE # : 10270
 DATE : 28/ 2/90

FIELD : KRANKERBERG
 JOB # : 15741
 DEPTH : 3500
 TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
INITIAL FLOW PERIOD					
2	8:45: 0	0.000	302.000	106.00	0.000
3	8:49:59	0.083	302.000	106.00	0.000
4	8:55: 0	0.167	302.000	106.00	0.000
5	9: 0: 0	0.250	304.000	106.00	2.000
6	9: 4:59	0.333	319.000	106.00	15.000
7	9:10: 0	0.417	346.000	106.00	27.000
8	9:15: 0	0.500	362.000	106.00	16.000
INITIAL SHUT-IN PERIOD					
9	9:18: 0	0.550	1082.000	106.00	720.000
10	9:21: 0	0.600	1145.000	106.00	63.000
11	9:24: 0	0.650	1167.000	106.00	22.000
12	9:27: 0	0.700	1178.000	106.00	11.000
13	9:30: 0	0.750	1186.000	106.00	8.000
14	9:33: 0	0.800	1192.000	106.00	6.000
15	9:36: 0	0.850	1198.000	106.00	6.000
16	9:39: 0	0.900	1202.000	106.00	4.000
17	9:42: 0	0.950	1205.000	106.00	3.000
18	9:45: 0	1.000	1210.000	106.00	5.000
19	9:48: 0	1.050	1213.000	106.00	3.000
20	9:51: 0	1.100	1215.000	106.00	2.000
21	9:54: 0	1.150	1217.000	106.00	2.000
22	9:57: 0	1.200	1219.000	106.00	2.000
23	10: 0: 0	1.250	1220.000	106.00	1.000
FINAL FLOW PERIOD					
24	10: 1: 0	1.267	445.000	106.00	-775.000
25	10: 4:59	1.333	445.000	106.00	0.000
26	10:10: 0	1.417	453.000	106.00	8.000
27	10:15: 0	1.500	484.000	106.00	31.000
28	10:19:59	1.583	512.000	106.00	28.000
29	10:25: 0	1.667	559.000	106.00	47.000
30	10:30: 0	1.750	585.000	106.00	26.000
FINAL SHUT-IN PERIOD					
31	10:33: 0	1.800	1113.000	106.00	528.000
32	10:36: 0	1.850	1150.000	106.00	37.000
33	10:39: 0	1.900	1168.000	106.00	18.000
34	10:42: 0	1.950	1180.000	106.00	12.000
35	10:45: 0	2.000	1187.000	106.00	7.000
36	10:48: 0	2.050	1191.000	106.00	4.000
37	10:51: 0	2.100	1198.000	106.00	7.000
38	10:54: 0	2.150	1201.000	106.00	3.000
39	10:57: 0	2.200	1204.000	106.00	3.000
40	11: 0: 0	2.250	1207.000	106.00	3.000
41	11: 3: 0	2.300	1209.000	106.00	2.000
42	11: 6: 0	2.350	1211.000	106.00	2.000
43	11: 9: 0	2.400	1212.000	106.00	1.000
44	11:12: 0	2.450	1213.000	106.00	1.000
45	11:15: 0	2.500	1214.000	106.00	1.000
46	11:18: 0	2.550	1215.000	106.00	1.000
47	11:21: 0	2.600	1216.000	106.00	1.000
48	11:24: 0	2.650	1217.000	106.00	1.000

COMPANY : HUTCHINSON OIL COMPANY
WELL : 4-19
GAUGE # : 10270
DATE : 28/ 2/90

FIELD : KRANKERBERG
JOB # : 15741
DEPTH : 3500
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
49	11:27: 0	2.700	1219.000	106.00	2.000
50	11:30: 0	2.750	1221.000	106.00	2.000
51	11:33: 0	2.800	1222.000	106.00	1.000
52	11:36: 0	2.850	1223.000	106.00	1.000

WESTERN TESTING CO. INC.

GAS FLOW REPORT

Date : 2/28/90	Ticket # : 15741
Customer : HUTCHINSON OIL COMPANY	Lease : KRANKENBERG
Well : 4-19 Test : 2	Geologist : BURKE
Elevation (KB) : 1875 KB	Formation : KC HI ZONES
Section : 19	Township : 22S
Range : 12W	County : STAFFORD
Gauge SN # : 10270	State : KANSAS
	Range : 4150
	Clock : 12

TIME GAUGE (MIN)	TESTER TYPE	ORFICE SIZE	PRESSURE (PSI)	FLOW DESCRIPTION
---------------------	-------------	----------------	-------------------	------------------

PRE FLOW
=====

5	MERLA	3/4	9 PSIG	245000 CFPD
15	MERLA	3/4	7 PSIG	211000 CFPD
25	MERLA	3/4	5 PSIG	175000 CFPD
30	MERLA	3/4	3 PSIG	133000 CFPD

SECOND FLOW
=====

5	MERLA	1/4	4 PSIG	18500 CFPD
10	MERLA	1/4	6 PSIG	22900 CFPD
15	MERLA	1/4	5 PSIG	20700 CFPD
25	MERLA	1/4	3 PSIG	15700 CFPD

Gas Bottle SN # :
 Date Bottle Filled :
 Date to be Invoiced :



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET No 15742

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

Elevation 1870 GL 1875 KB Formation KC Eff. Pay Ft.

District GT. Bend Date 3-1-90 Customer Order No.

COMPANY NAME #230 Hutchinson Oil Co.

ADDRESS 105 S. BROADWAY-SUITE #470 WICHITA, KS 67202

LEASE AND WELL NO. Frankenberg #4-19 COUNTY Stafford STATE KS. Sec. 19 Twp. 22 Rge. 12

Mail Invoice To SAME Co. Name Address K Frankenberg #4-19 No. Copies Requested Reg

Mail Charts To SAME Address K Frankenberg #4-19 No. Copies Requested Reg

Formation Test No. 3 Interval Tested From 3499 ft. to 3544 ft. Total Depth 3544 ft.

Packer Depth 3494 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Packer Depth 3499 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 3502 ft. Recorder Number 10270 Cap. 4150

Bottom Recorder Depth (Outside) 3503 ft. Recorder Number 13268 Cap. 4225

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

Drilling Contractor H-30 rig 7 Drill Collar Length - I. D. - in.

Mud Type Chemical Viscosity 46 Weight Pipe Length - I. D. - in.

Weight 9.2 Water Loss 11.2 cc. Drill Pipe Length 3479 I. D. 3.8 in.

Chlorides 5,000 P.P.M. Test Tool Length 20 ft. Tool Size 5/2 in.

Jars: Make - Serial Number - Anchor Length 45 ft. Size 3/2 in.

Did Well Flow? GAS 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 XH in.

Blow: TF - Strong Blow GAS to surface in 12 min

FF - GAS to surface

Recovered 60 ft. of Oil + GAS cut mud 5% oil 5% GAS 90% mud

Recovered 120 ft. of Gassy muddy oil 25% oil 38% GAS 15% WATER 22% mud

Recovered 60 ft. of GAS + water cut muddy oil 27% oil 38% GAS 25% WATER

Recovered - ft. of 49.200 oil 10% mud

Recovered - ft. of 33.400 W

Chlorides 42,000 P.P.M. Sample Jars used 4 Remarks: GAS to WEAK to gauge

Time On Location 12:10 AM Time Pick Up Tool 1:00 PM Time Off Location 7:20 AM

Time Set Packer(s) 2:25 PM Time Started Off Bottom 5:10 PM Maximum Temperature 105

Initial Hydrostatic Pressure (A) 1734 P.S.I.

Initial Flow Period Minutes 30 (B) 52 P.S.I. to (C) 72 P.S.I.

Initial Closed In Period Minutes 45 (D) 863 P.S.I.

Final Flow Period Minutes 30 (E) 93 P.S.I. to (F) 104 P.S.I.

Final Closed In Period Minutes 60 (G) 883 P.S.I.

Final Hydrostatic Pressure (H) 1734 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 [Signature] Signature of Customer or his authorized representative

Western Representative Ray Schwager 1925 THANK YOU

FIELD INVOICE

Table with 2 columns: Item Name and Amount. 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.

WESTERN TESTING CO., INC.
Pressure Data

Date 3-1-90 Test Ticket No. 15742
 Recorder No. 10270 Capacity 4/50 Location _____ Ft.
 Clock No. _____ Elevation _____ Well Temperature 105 °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mod	<u>1742</u> P.S.I.	<u>2:25 A</u>	
B First Initial Flow Pressure	<u>47</u> P.S.I.	<u>30</u> Mins	<u>30</u> Mins
C First Final Flow Pressure	<u>64</u> P.S.I.	<u>45</u> Mins	<u>45</u> Mins
D Initial Closed-in Pressure	<u>859</u> P.S.I.	<u>30</u> Mins	<u>30</u> Mins
E Second Initial Flow Pressure	<u>95</u> P.S.I.	<u>60</u> Mins	<u>63</u> Mins
F Second Final Flow Pressure	<u>102</u> P.S.I.		
G Final Closed-in Pressure	<u>879</u> P.S.I.		
H Final Hydrostatic Mod	<u>1739</u> P.S.I.		

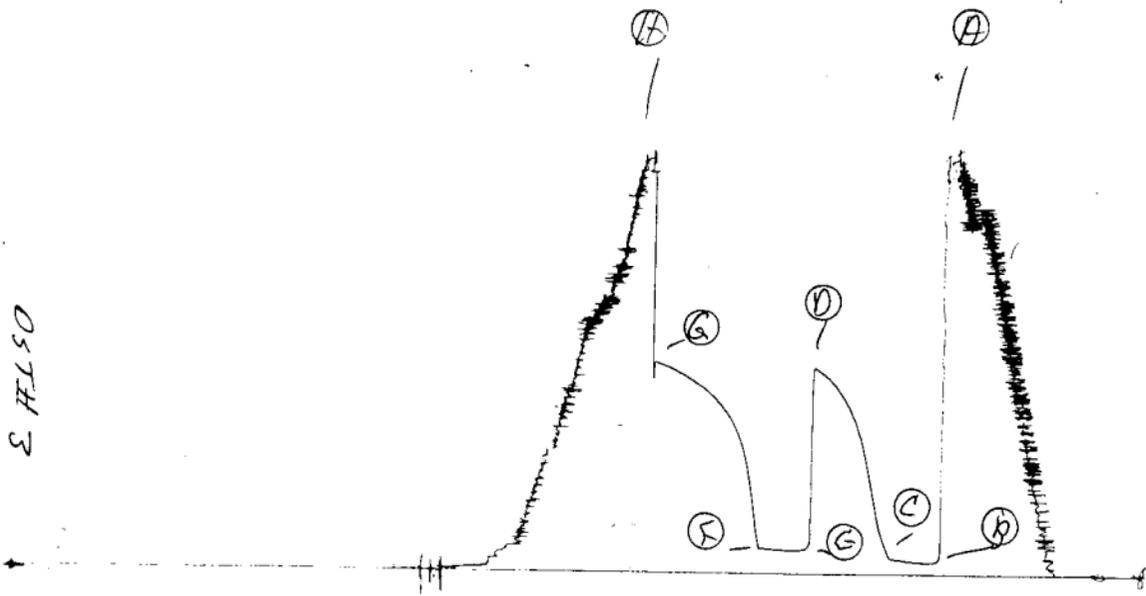
PRESSURE BREAKDOWN

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>47</u>	0	<u>64</u>	0	<u>95</u>	0	<u>102</u>
P 2 5	<u>5</u>	3	<u>76</u>	5	<u>97</u>	3	<u>112</u>
P 3 10	<u>47</u>	6	<u>152</u>	10	<u>97</u>	6	<u>354</u>
P 4 15	<u>51</u>	9	<u>246</u>	15	<u>95</u>	9	<u>474</u>
P 5 20	<u>55</u>	12	<u>349</u>	20	<u>97</u>	12	<u>549</u>
P 6 25	<u>59</u>	15	<u>453</u>	25	<u>99</u>	15	<u>602</u>
P 7 30	<u>64</u>	18	<u>550</u>	30	<u>102</u>	18	<u>643</u>
P 8 35		21	<u>611</u>	35		21	<u>676</u>
P 9 40		24	<u>668</u>	40		24	<u>705</u>
P 10 45		27	<u>710</u>	45		27	<u>726</u>
P 11 50		30	<u>745</u>	50		30	<u>751</u>
P 12 55		33	<u>778</u>	55		33	<u>769</u>
P 13 60		36	<u>797</u>	60		36	<u>782</u>
P 14 65		39	<u>821</u>	65		39	<u>799</u>
P 15 70		42	<u>836</u>	70		42	<u>812</u>
P 16 75		45	<u>859</u>	75		45	<u>826</u>
P 17 80		48		80		48	<u>835</u>
P 18 85		51		85		51	<u>848</u>
P 19 90		54		90		54	<u>858</u>
P 20 95		57		95		57	<u>866</u>
100		60		100		60	<u>872</u>
						<u>63</u>	<u>879</u>

KT 15742

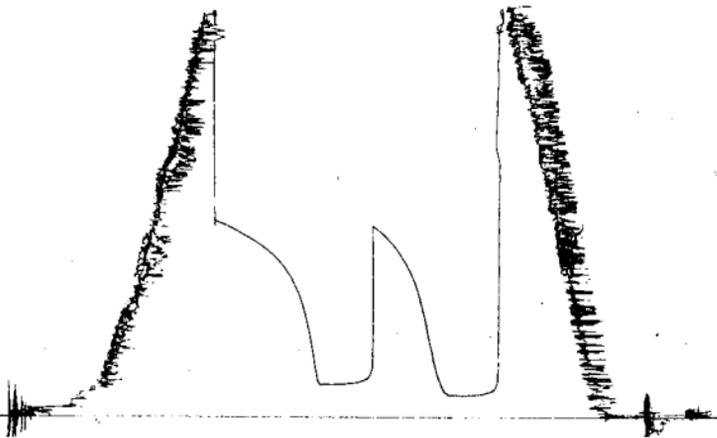
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KT 15742

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OSTM 3

FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE : 3/1/90 TICKET : 15742
CUSTOMER : HUTCHINSON OIL COMPANY LEASE : KRANKENBERG
WELL : 4-19 TEST: 3 GEOLOGIST : BURKE
ELEVATION : 1875 KB FORMATION : KC
SECTION : 19 TOWNSHIP : 22S
RANGE : 12W COUNTY : STAFFORD STATE : KANSAS
GAUGE SN# : 10270 RANGE : 4150 CLOCK : 12

INTERVAL FROM : 3499 TO : 3544 TOTAL DEPTH : 3544

DEPTH OF SELECTIVE ZONE :

PACKER DEPTH : 3494 SIZE : 6.63

PACKER DEPTH : 3499 SIZE : 6.63

PACKER DEPTH : SIZE :

PACKER DEPTH : SIZE :

DRILLING CON. : H-30 DRILLING RIG #7

MUD TYPE : CHEMICAL VISCOSITY : 46

WEIGHT : 9.2 WATER LOSS (CC) : 11.2

CHLORIDES (PPM) : 5000

JARS-MAKE : SERIAL NUMBER :

DID WELL FLOW ? : GAS REVERSED OUT ? : NO

DRILL COLLAR LENGTH : 0 FT I.D. inch : 0.00

WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00

DRILL PIPE LENGTH : 3479 FT I.D. inch : 3.80

TEST TOOL LENGTH : 20 FT TOOL SIZE : 5.50

ANCHOR LENGTH : 45 FT ANCHOR SIZE : 5.50

SURFACE CHOKE SIZE : .75 IN BOTTOM CHOKE SIZE : .75

MAIN HOLE SIZE : 7.875 IN TOOL JOINT SIZE : 4.5 XH

BLOW COMMENT #1 : INITIAL FLOW PERIOD-STRONG BLOW GAS TO SURFACE

BLOW COMMENT #2 : IN 12 MINUTES

BLOW COMMENT #3 : FINAL FLOW PERIOD-GAS TO SURFACE

BLOW COMMENT #4 :

RECOVERED : 60 FT OF: OIL & GAS CUT MUD
 RECOVERED : 0 FT OF: 5% OIL 5% GAS 90% MUD
 RECOVERED : 120 FT OF: GASSY MUDDY OIL
 RECOVERED : 0 FT OF: 25% OIL 38% GAS 15% WATER 22% MUD
 RECOVERED : 60 FT OF: GAS & WATER CUT MUDDY OIL
 RECOVERED : 0 FT OF: 27% OIL 38% GAS 25% WATER 10% MUD
 RECOVERED : 0 FT OF: CHLORIDES 42000 PPM

Total Barrels Fluid = 3.37
 Total Fluid Prod Rate = 80.79 BFPD
 Indicated Oil Rate = 16.56 BOPD
 Indicated Wtr Rate = 11.31 BWPD
 Corrected Oil Rate = 1.96 BOPD
 Corrected Wtr Rate = 1.34 BWPD

REMARK 1 :
 REMARK 2 : GAS TOO WEAK TO GAUGE
 REMARK 3 :
 REMARK 4 :

SET PACKER(S) : 2:25 AM TIME STARTED OFF BOTTOM : 5:10 AM
 WELL TEMPERATURE : 105
 INITIAL HYDROSTATIC PRESSURE (A) 1743
 INITIAL FLOW PERIOD MIN: 30 (B) 47 PSI TO (C) : 64
 INITIAL CLOSED IN PERIOD MIN: 45 (D) 859
 FINAL FLOW PERIOD MIN: 30 (E) 95 PSI TO (F) : 102
 FINAL CLOSED IN PERIOD MIN: 63 (G) 879
 FINAL HYDROSTATIC PRESSURE (H) 1739

WESTERN TESTING CO. INC.
WICHITA-KANSAS

Pressure Transient Report

COMPANY : HUTCHINSON OIL COMPANY
RIG : STAFFORD-KANSAS
FIELD : KRANKENBERG
WELL : 4-19
DATE : 3/1/90
GAUGE NO : 10270

OPERATIONAL COMMENTS

GAS TOO WEAK TO GAUGE

COMPANY : HUTCHINSON OIL COMPANY
WELL : 4-19
GAUGE # : 10270
DATE : 1/ 3/90

FIELD : KRANKENBERG
JOB # : 15742
DEPTH : 3544
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
INITIAL FLOW PERIOD					
2	2:25: 0	0.000	47.000	105.00	0.000
3	2:29:59	0.083	47.000	105.00	0.000
4	2:35: 0	0.167	47.000	105.00	0.000
5	2:40: 0	0.250	51.000	105.00	4.000
6	2:44:59	0.333	55.000	105.00	4.000
7	2:50: 0	0.417	59.000	105.00	4.000
8	2:55: 0	0.500	64.000	105.00	5.000
INITIAL SHUT-IN PERIOD					
9	2:58: 0	0.550	96.000	105.00	32.000
10	3: 1: 0	0.600	153.000	105.00	57.000
11	3: 4: 0	0.650	246.000	105.00	93.000
12	3: 7: 0	0.700	349.000	105.00	103.000
13	3:10: 0	0.750	453.000	105.00	104.000
14	3:13: 0	0.800	550.000	105.00	97.000
15	3:16: 0	0.850	611.000	105.00	61.000
16	3:19: 0	0.900	668.000	105.00	57.000
17	3:22: 0	0.950	710.000	105.00	42.000
18	3:25: 0	1.000	745.000	105.00	35.000
19	3:28: 0	1.050	778.000	105.00	33.000
20	3:31: 0	1.100	797.000	105.00	19.000
21	3:34: 0	1.150	821.000	105.00	24.000
22	3:37: 0	1.200	836.000	105.00	15.000
23	3:40: 0	1.250	859.000	105.00	23.000
FINAL FLOW PERIOD					
24	3:41: 0	1.267	95.000	105.00	-764.000
25	3:44:59	1.333	95.000	105.00	0.000
26	3:50: 0	1.417	95.000	105.00	0.000
27	3:55: 0	1.500	95.000	105.00	0.000
28	3:59:59	1.583	97.000	105.00	2.000
29	4: 5: 0	1.667	99.000	105.00	2.000
30	4:10: 0	1.750	102.000	105.00	3.000
FINAL SHUT-IN PERIOD					
31	4:13: 0	1.800	213.000	105.00	111.000
32	4:16: 0	1.850	354.000	105.00	141.000
33	4:19: 0	1.900	474.000	105.00	120.000
34	4:22: 0	1.950	549.000	105.00	75.000
35	4:25: 0	2.000	602.000	105.00	53.000
36	4:28: 0	2.050	643.000	105.00	41.000
37	4:31: 0	2.100	676.000	105.00	33.000
38	4:34: 0	2.150	705.000	105.00	29.000
39	4:37: 0	2.200	726.000	105.00	21.000
40	4:40: 0	2.250	751.000	105.00	25.000
41	4:43: 0	2.300	769.000	105.00	18.000
42	4:46: 0	2.350	783.000	105.00	14.000
43	4:49: 0	2.400	799.000	105.00	16.000
44	4:52: 0	2.450	812.000	105.00	13.000
45	4:55: 0	2.500	826.000	105.00	14.000
46	4:58: 0	2.550	835.000	105.00	9.000
47	5: 1: 0	2.600	848.000	105.00	13.000
48	5: 4: 0	2.650	858.000	105.00	10.000

COMPANY : HUTCHINSON OIL COMPANY
WELL : 4-19
GAUGE # : 10270
DATE : 1/ 3/90

FIELD : KRANKENBERG
JOB # : 15742
DEPTH : 3544
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
49	5: 7: 0	2.700	866.000	105.00	8.000
50	5:10: 0	2.750	872.000	105.00	6.000
51	5:13: 0	2.800	879.000	105.00	7.000

WESTERN TESTING CO. INC.



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET N^o 15743

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

Elevation 1870 GL 1875 KB Formation Arbuckle Eff. Pay — Ft.

District GT Bend Date 3-1-90 Customer Order No. —

COMPANY NAME H²⁰ H²⁰⁰⁰ Hutchinson Oil Co.

ADDRESS 105 S. BROADWAY - SUITE #470 WICHITA, KS 67202

LEASE AND WELL NO. KRANKENBERG #4-19 COUNTY STAFFORD STATE Ks Sec. 19 Twp. 22 Rge. 12

Mail Invoice To SAME Co. Name SAME Address KRANKENBERG #4-19 No. Copies Requested Reg

Mail Charts To SAME Address KRANKENBERG #4-19 No. Copies Requested Reg

Formation Test No. 4 Interval Tested From 3710 ft. to 3750 ft. Total Depth 3750 ft.

Packer Depth 3705 ft. Size 6 5/8 in. Packer Depth — ft. Size — in.

Packer Depth 3710 ft. Size 6 5/8 in. Packer Depth — ft. Size — in.

Depth of Selective Zone Set —

Top Recorder Depth (Inside) 3713 ft. Recorder Number 10270 Cap. 4150

Bottom Recorder Depth (Outside) 3716 ft. Recorder Number 13268 Cap. 4225

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

Drilling Contractor H-30 rig? Drill Collar Length — I. D. — in.

Mud Type Chemical Viscosity 51 Weight Pipe Length — I. D. — in.

Weight 9.4 Water Loss 10.4 cc. Drill Pipe Length 3690 I. D. 3.8 in.

Chlorides 9,000 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 in.

Jars: Make — Serial Number — Anchor Length 40 ft. Size 5 1/2 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 XH in.

Blow: IF - WEAK building to a strong blow in 6 min.

FF - WEAK building to a strong blow in 15 min.

Recovered 60 ft. of oil cut watery mud 87% oil 43% water 48% mud

Recovered 120 ft. of oil gas cut muddy water 67% oil 7% gas 42% mud 55% water

Recovered 60 ft. of water w/ scum of oil

Recovered 540 ft. of water

Recovered — ft. of 60% oil (91.20w)

Chlorides 16,000 P.P.M. Sample Jars used 4 Remarks: —

Time On Location 11:30 A.M. Time Pick Up Tool 12:45 P.M. Time Off Location 8:15 P.M.

Time Set Packer(s) 2:25 P.M. Time Started Off Bottom 5:25 P.M. Maximum Temperature 117°

Initial Hydrostatic Pressure (A) 1879 P.S.I.

Initial Flow Period (B) 30 Minutes (C) 62 P.S.I. to (D) 145 P.S.I.

Initial Closed In Period (E) 45 Minutes (F) 1267 P.S.I.

Final Flow Period (G) 60 Minutes (H) 187 P.S.I. to (I) 375 P.S.I.

Final Closed In Period (J) 45 Minutes (K) 1257 P.S.I.

Final Hydrostatic Pressure (L) 1879 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 [Signature]
Signature of Customer or his authorized representative

Western Representative Ray Schwager 1925 Thank you

FIELD INVOICE

Open Hole Test ✓ 4
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 3-1-90 Test Ticket No. 15742
 Recorder No. 10420 Capacity 4150 Location _____ Ft.
 Clock No. _____ Elevation _____ Well Temperature 117 °F

Point	Pressure	Open Tool	Time Given	Time Computed
A Initial Hydrostatic Mod	<u>1882</u> P.S.I.		<u>2:25 AM</u>	
B First Initial Flow Pressure	<u>58</u> P.S.I.	First Flow Pressure	<u>30</u> Mins	<u>30</u> Mins
C First Final Flow Pressure	<u>145</u> P.S.I.	Initial Closed-in Pressure	<u>45</u> Mins	<u>45</u> Mins
D Initial Closed-in Pressure	<u>1268</u> P.S.I.	Second Flow Pressure	<u>60</u> Mins	<u>60</u> Mins
E Second Initial Flow Pressure	<u>190</u> P.S.I.	Final Closed-in Pressure	<u>45</u> Mins	<u>48</u> Mins
F Second Final Flow Pressure	<u>271</u> P.S.I.			
G Final Closed-in Pressure	<u>1256</u> P.S.I.			
H Final Hydrostatic Mod	<u>1882</u> P.S.I.			

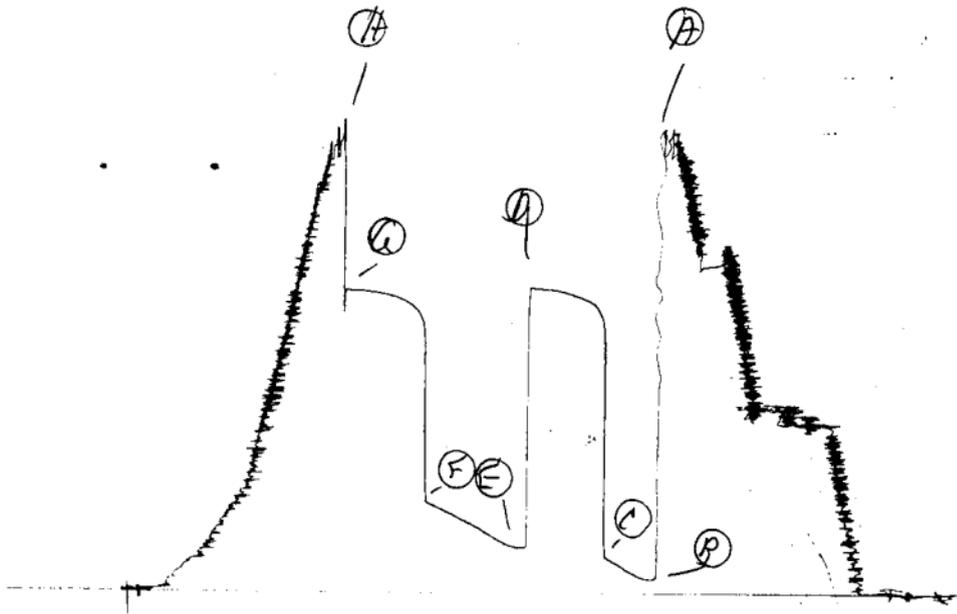
PRESSURE BREAKDOWN

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>58</u>	0	<u>145</u>	0	<u>190</u>	0	<u>271</u>
P 2 5	<u>58</u>	3	<u>1147</u>	5	<u>190</u>	3	<u>1222</u>
P 3 10	<u>69</u>	6	<u>1184</u>	10	<u>197</u>	6	<u>1166</u>
P 4 15	<u>89</u>	9	<u>1202</u>	15	<u>214</u>	9	<u>1187</u>
P 5 20	<u>112</u>	12	<u>1217</u>	20	<u>234</u>	12	<u>1203</u>
P 6 25	<u>130</u>	15	<u>1226</u>	25	<u>254</u>	15	<u>1212</u>
P 7 30	<u>145</u>	18	<u>1234</u>	30	<u>276</u>	18	<u>1225</u>
P 8 35		21	<u>1241</u>	35	<u>294</u>	21	<u>1232</u>
P 9 40		24	<u>1246</u>	40	<u>213</u>	24	<u>1236</u>
P10 45		27	<u>1252</u>	45	<u>221</u>	27	<u>1241</u>
P11 50		30	<u>1257</u>	50	<u>248</u>	30	<u>1245</u>
P12 55		33	<u>1259</u>	55	<u>262</u>	33	<u>1248</u>
P13 60		36	<u>1261</u>	60	<u>271</u>	36	<u>1251</u>
P14 65		39	<u>1263</u>	65		39	<u>1252</u>
P15 70		42	<u>1265</u>	70		42	<u>1254</u>
P16 75		45	<u>1268</u>	75		45	<u>1255</u>
P17 80		48		80		48	<u>1256</u>
P18 85		51		85		51	
P19 90		54		90		54	
P20 95		57		95		57	
100		60		100		60	

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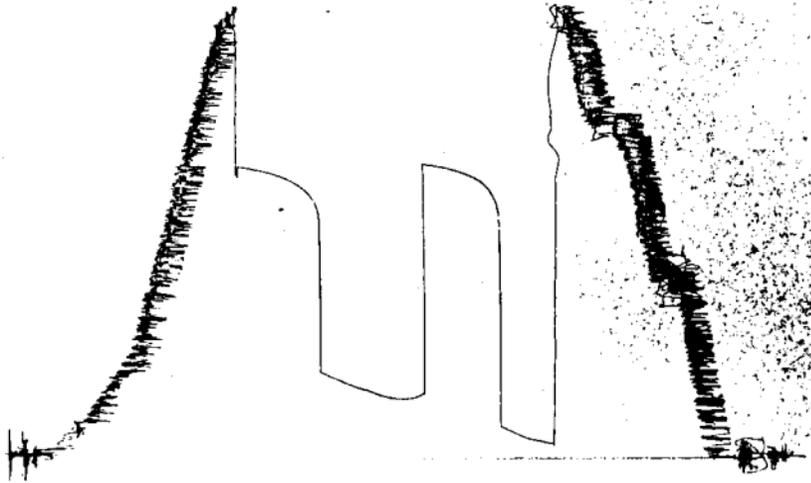
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KT 15742

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13268



FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE : 3/1/90 TICKET : 15743
CUSTOMER : HUTCHINSON OIL COMPANY LEASE : KRANKENBERG
WELL : 4-19 TEST: 4 GEOLOGIST : BURKE
ELEVATION : 1875 KB FORMATION : ARBUCKLE
SECTION : 19 TOWNSHIP : 22S
RANGE : 12W COUNTY : STAFFORD STATE : KANSAS
GAUGE SN# : 10270 RANGE : 4150 CLOCK : 12

INTERVAL FROM : 3710 TO : 3750 TOTAL DEPTH : 3750
DEPTH OF SELECTIVE ZONE :
PACKER DEPTH : 3705 SIZE : 6.63
PACKER DEPTH : 3710 SIZE : 6.63
PACKER DEPTH : SIZE :
PACKER DEPTH : SIZE :

DRILLING CON. : H-30 DRILLING RIG #7
MUD TYPE : CHEMICAL VISCOSITY : 51
WEIGHT : 9.4 WATER LOSS (CC) : 10.4
CHLORIDES (PPM) : 9000
JARS-MAKE : SERIAL NUMBER :
DID WELL FLOW ? : NO REVERSED OUT ? : NO

DRILL COLLAR LENGTH : 0 FT I.D. inch : 0.00
WEIGHT PIPE LENGTH : 0 FT I.D. inch : 0.00
DRILL PIPE LENGTH : 3690 FT I.D. inch : 3.80
TEST TOOL LENGTH : 20 FT TOOL SIZE : 5.50
ANCHOR LENGTH : 40 FT ANCHOR SIZE : 5.50
SURFACE CHOKE SIZE : .75 IN BOTTOM CHOKE SIZE : .75
MAIN HOLE SIZE : 7.875 IN TOOL JOINT SIZE : 4.5 XH

BLOW COMMENT #1 : INITIAL FLOW PERIOD-WEAK BUILDING TO A STRONG BLOW
BLOW COMMENT #2 : IN 6 MINUTES.
BLOW COMMENT #3 : FINAL FLOW PERIOD-WEAK BUILDING TO A STRONG BLOW
BLOW COMMENT #4 : IN 15 MINUTES.

RECOVERED : 60 FT OF: OIL CUT WATERY MUD
RECOVERED : 0 FT OF: 8% OIL 43% WATER 48% MUD
RECOVERED : 120 FT OF: OIL & GAS CUT MUDDY WATER
RECOVERED : 0 FT OF: 6% OIL 7% GAS 42% MUD 55% WATER
RECOVERED : 60 FT OF: WATER WITH SCUM OF OIL
RECOVERED : 540 FT OF: WATER
RECOVERED : 0 FT OF: CHLORIDES 16000 PPM

Total Barrels Fluid = 10.94
Total Fluid Prod Rate = 175.05 BFPD
Indicated Oil Rate = 13.47 BOPD
Indicated Wtr Rate = 155.12 BWPD
Corrected Oil Rate = 187.45 BOPD
Corrected Wtr Rate = 2159.41 BWPD

REMARK 1 :
REMARK 2 :
REMARK 3 :
REMARK 4 :

SET PACKER(S) : 2:25 AM TIME STARTED OFF BOTTOM : 5:25 AM
WELL TEMPERATURE : 117
INITIAL HYDROSTATIC PRESSURE (A) 1883
INITIAL FLOW PERIOD MIN: 30 (B) 58 PSI TO (C) : 145
INITIAL CLOSED IN PERIOD MIN: 60 (D) 1268
FINAL FLOW PERIOD MIN: 60 (E) 190 PSI TO (F) : 371
FINAL CLOSED IN PERIOD MIN: 48 (G) 1256
FINAL HYDROSTATIC PRESSURE (H) 1883

WESTERN TESTING CO. INC.
WICHITA-KANSAS

Pressure Transient Report

COMPANY : HUTCHINSON OIL COMPANY
RIG : STAFFORD-KANSAS
FIELD : KRANKENBERG
WELL : 4-19
DATE : 3/1/90
GAUGE NO : 10270

OPERATIONAL COMMENTS

COMPANY : HUTCHINSON OIL COMPANY
 WELL : 4-19
 GAUGE # : 10270
 DATE : 1/ 3/90

FIELD : KRANKENBERG
 JOB # : 15743
 DEPTH : 3750
 TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
INITIAL FLOW PERIOD					
2	2:25: 0	0.000	58.000	117.00	0.000
3	2:29:59	0.083	58.000	117.00	0.000
4	2:35: 0	0.167	69.000	117.00	11.000
5	2:40: 0	0.250	89.000	117.00	20.000
6	2:44:59	0.333	112.000	117.00	23.000
7	2:50: 0	0.417	130.000	117.00	18.000
8	2:55: 0	0.500	145.000	117.00	15.000
INITIAL SHUT-IN PERIOD					
9	2:58: 0	0.550	1147.000	117.00	1002.000
10	3: 1: 0	0.600	1186.000	117.00	39.000
11	3: 4: 0	0.650	1207.000	117.00	21.000
12	3: 7: 0	0.700	1217.000	117.00	10.000
13	3:10: 0	0.750	1226.000	117.00	9.000
14	3:13: 0	0.800	1234.000	117.00	8.000
15	3:16: 0	0.850	1241.000	117.00	7.000
16	3:19: 0	0.900	1246.000	117.00	5.000
17	3:22: 0	0.950	1252.000	117.00	6.000
18	3:25: 0	1.000	1257.000	117.00	5.000
19	3:28: 0	1.050	1259.000	117.00	2.000
20	3:31: 0	1.100	1261.000	117.00	2.000
21	3:34: 0	1.150	1263.000	117.00	2.000
22	3:37: 0	1.200	1265.000	117.00	2.000
23	3:40: 0	1.250	1268.000	117.00	3.000
FINAL FLOW PERIOD					
24	3:41: 0	1.267	190.000	117.00	-1078.000
25	3:44:59	1.333	190.000	117.00	0.000
26	3:50: 0	1.417	197.000	117.00	7.000
27	3:55: 0	1.500	214.000	117.00	17.000
28	3:59:59	1.583	234.000	117.00	20.000
29	4: 5: 0	1.667	254.000	117.00	20.000
30	4:10: 0	1.750	276.000	117.00	22.000
31	4:14:59	1.833	294.000	117.00	18.000
32	4:20: 0	1.917	313.000	117.00	19.000
33	4:25: 0	2.000	331.000	117.00	18.000
34	4:29:59	2.083	348.000	117.00	17.000
35	4:35: 0	2.167	362.000	117.00	14.000
36	4:40: 0	2.250	371.000	117.00	9.000
FINAL SHUT-IN PERIOD					
37	4:43: 0	2.300	1123.000	117.00	752.000
38	4:46: 0	2.350	1166.000	117.00	43.000
39	4:49: 0	2.400	1189.000	117.00	23.000
40	4:52: 0	2.450	1203.000	117.00	14.000
41	4:55: 0	2.500	1213.000	117.00	10.000
42	4:58: 0	2.550	1225.000	117.00	12.000
43	5: 1: 0	2.600	1232.000	117.00	7.000
44	5: 4: 0	2.650	1236.000	117.00	4.000
45	5: 7: 0	2.700	1241.000	117.00	5.000
46	5:10: 0	2.750	1245.000	117.00	4.000
47	5:13: 0	2.800	1248.000	117.00	3.000
48	5:16: 0	2.850	1251.000	117.00	3.000

COMPANY : HUTCHINSON OIL COMPANY
WELL : 4-19
GAUGE # : 10270
DATE : 1/ 3/90

FIELD : KRANKENBERG
JOB # : 15743
DEPTH : 3750
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
49	5:19: 0	2.900	1253.000	117.00	2.000
50	5:22: 0	2.950	1254.000	117.00	1.000
51	5:25: 0	3.000	1255.000	117.00	1.000
52	5:28: 0	3.050	1256.000	117.00	1.000

WESTERN TESTING CO. INC.