

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name ENGLER #1 Test No. 1 Date 8/26/94
Company VIKING RESOURCES INC Zone MARMATON
Address 105 S BROADWAY #1040 WICHITA KS 67202-4224 Elevation 2373 KB
Co. Rep./Geo. ROB PATTON Cont. MALLARD #2 Est. Ft. of Pay _____
Location: Sec. 25 Twp. 19S Rge. 25W Co. NESS State KS

Interval Tested 4209-4245 Drill Pipe Size 4.5" XH
Anchor Length 36 Wt. Pipe I.D. - 2.7 Ft. Run _____
Top Packer Depth 4204 Drill Collar - 2.25 Ft. Run 250
Bottom Packer Depth 4209 Mud Wt. _____ lb/Gal.
Total Depth 4245 Viscosity _____ Filtrate _____

Tool Open @ 11:50 P.M. Initial Blow WEAK SURFACE BLOW WITH SLIGHT INCREASE BUILT TO 1"

Final Blow SURFACE BLOW BUILT TO 1"

Recovery - Total Feet 70 Flush Tool? NO

Rec. 200 Feet of GAS IN PIPE
Rec. 20 Feet of DRILLING MUD 100% MUD
Rec. 20 Feet of 10%GAS/10%OIL/80%MUD
Rec. 30 Feet of 10%GAS/15%OIL/75%MUD
Rec. _____ Feet of _____

BHT 114 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API
RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides _____ ppm System

(A) Initial Hydrostatic Mud 2098.1 PSI AK1 Recorder No. 13309 Range 4700

(B) First Initial Flow Pressure 40.5 PSI @ (depth) 4235 w / Clock No. 22992

(C) First Final Flow Pressure 40.5 PSI AK1 Recorder No. 13339 Range 4025

(D) Initial Shut-in Pressure 183.9 PSI @ (depth) 4240 w / Clock No. 23934

(E) Second Initial Flow Pressure 45.7 PSI AK1 Recorder No. _____ Range _____

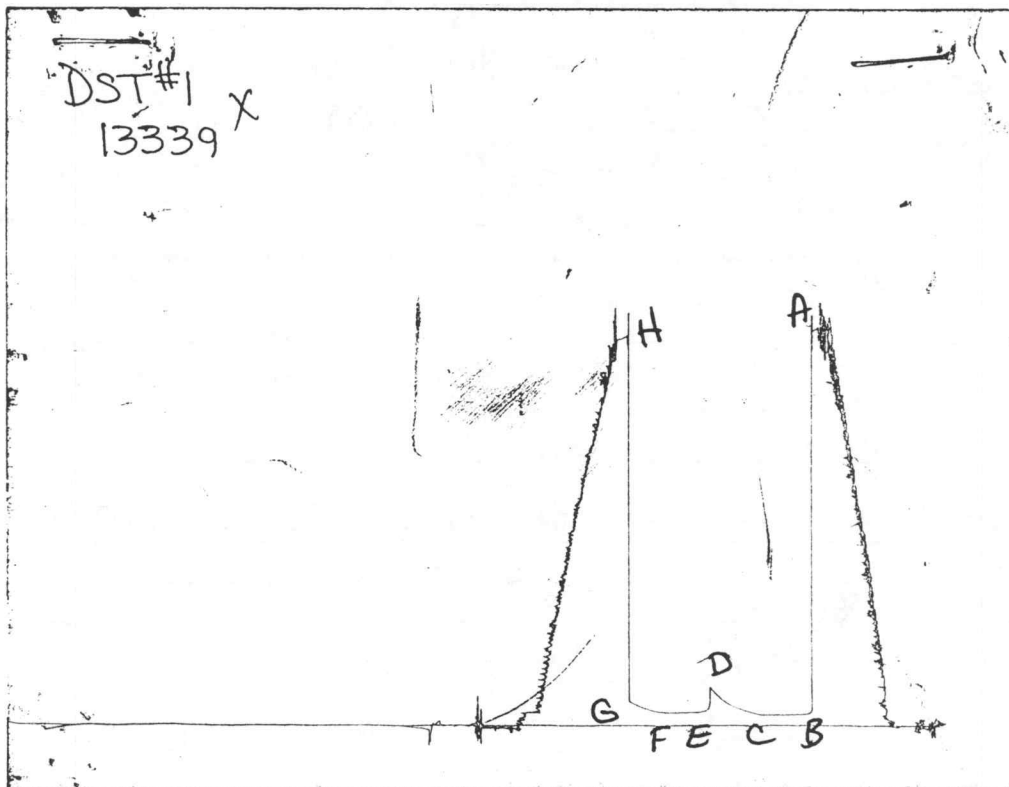
(F) Second Final Flow Pressure 45.7 PSI @ (depth) _____ w / Clock No. _____

(G) Final Shut-in Pressure 108.1 PSI Initial Opening 30 Final Flow 30

(H) Final Hydrostatic Mud 2068.1 PSI Initial Shut-in 45 Final Shut-in 30

Our Representative ROD STEINBRINK

CHART PAGE



This is an actual photograph of recorder chart 13339

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2083	2098.1
(B) FIRST INITIAL FLOW PRESSURE	41	40.5
(C) FIRST FINAL FLOW PRESSURE	41	40.5
(D) INITIAL CLOSED-IN PRESSURE	207	183.9
(E) SECOND INITIAL FLOW PRESSURE	62	45.7
(F) SECOND FINAL FLOW PRESSURE	62	45.7
(G) FINAL CLOSED-IN PRESSURE	124	108.1
(H) FINAL HYDROSTATIC MUD	2053	2068.1

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Drill-Stem Test Data

Well Name ENGLER #1 Test No. 2 Date 8/27/94
Company VIKING RESOURCES INC Zone FT. SCOTT
Address 105 S BROADWAY #1040 WICHITA KS 67202-4224 Elevation 2373 KB
Co. Rep./Geo. ROB PATTON Cont. MALLARD #2 Est. Ft. of Pay KS
Location: Sec. 25 Twp. 19S Rge. 25W Co. NESS State KS

Interval Tested 4285-4335 Drill Pipe Size 4.5" XH
Anchor Length 50 Wt. Pipe I.D. - 2.7 Ft. Run 250
Top Packer Depth 4280 Drill Collar - 2.25 Ft. Run 250
Bottom Packer Depth 4285 Mud Wt. lb/Gal.
Total Depth 4335 Viscosity Filtrate

Tool Open @ 5:20 P.M. Initial Blow VERY WEAK SURFACE BLOW-DIED IN 5 MINS

Final Blow NO RETURN-FLUSHED TOOL/GOOD SURGE-NO HELP

Recovery - Total Feet 10 Flush Tool? YES

Rec. 10 Feet of DRILLING MUD
Rec. Feet of
Rec. Feet of
Rec. Feet of
Rec. Feet of

BHT 114 °F Gravity °API @ °F Corrected Gravity °API
RW @ °F Chlorides ppm Recovery Chlorides ppm System

(A) Initial Hydrostatic Mud 2148.2 PSI AK1 Recorder No. 13309 Range 4700

(B) First Initial Flow Pressure 47.8 PSI @ (depth) 4325 w / Clock No. 22992

(C) First Final Flow Pressure 47.8 PSI AK1 Recorder No. 13339 Range 4025

(D) Initial Shut-in Pressure 572.2 PSI @ (depth) 4330 w / Clock No. 23934

(E) Second Initial Flow Pressure 68.6 PSI AK1 Recorder No. Range

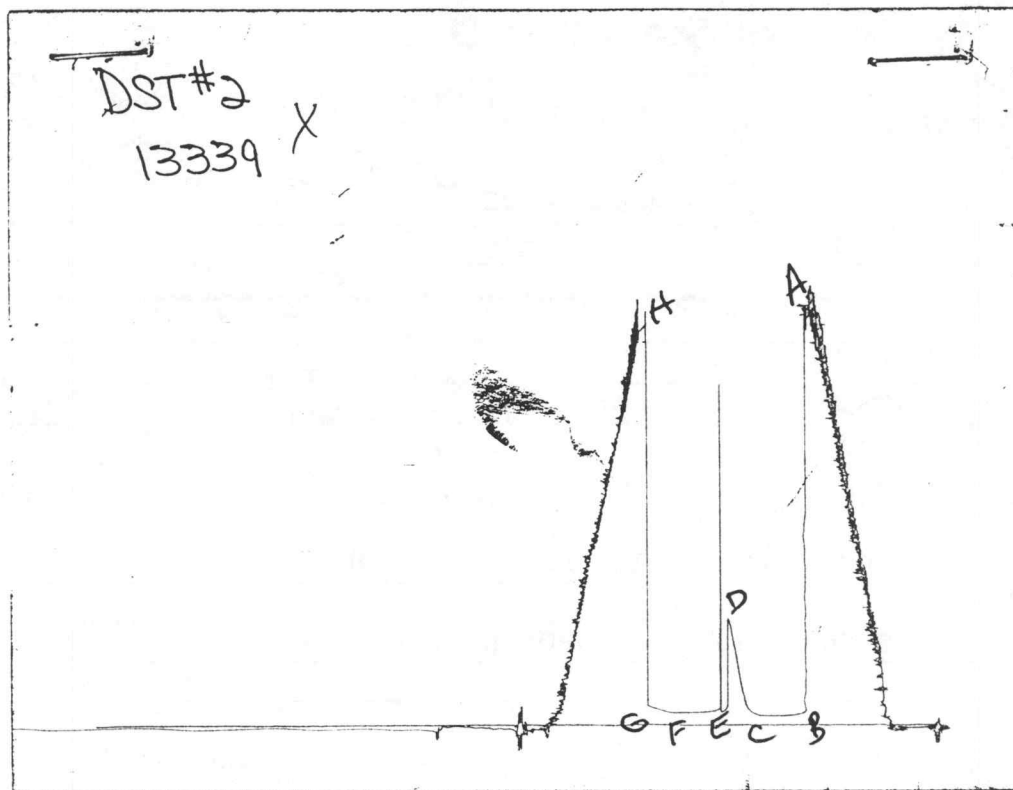
(F) Second Final Flow Pressure 68.6 PSI @ (depth) w / Clock No.

(G) Final Shut-in Pressure 106.0 PSI Initial Opening 30 Final Flow 30

(H) Final Hydrostatic Mud 2090.1 PSI Initial Shut-in 30 Final Shut-in 30

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CHART PAGE



This is an actual photograph of recorder chart 13339

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2123	2148.2
(B) FIRST INITIAL FLOW PRESSURE	31	47.8
(C) FIRST FINAL FLOW PRESSURE	31	47.8
(D) INITIAL CLOSED-IN PRESSURE	549	572.2
(E) SECOND INITIAL FLOW PRESSURE	41	68.6
(F) SECOND FINAL FLOW PRESSURE	41	68.6
(G) FINAL CLOSED-IN PRESSURE	83	106
(H) FINAL HYDROSTATIC MUD	2083	2090.1

TRILOBITE TESTING, L.L.C.

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Drill-Stem Test Data

Well Name ENGLER #1 Test No. 3 Date 8/28/94
Company VIKING RESOURCES INC Zone MISSISSIPPIA
Address 105 S BROADWAY #1040 WICHITA KS 67202-4224 Elevation 2373 KB
Co. Rep./Geo. ROB PATTON Cont. MALLARD #2 Est. Ft. of Pay _____
Location: Sec. 25 Twp. 19S Rge. 25W Co. NESS State KS

Interval Tested 4380-4415 Drill Pipe Size 4.5" XH
Anchor Length 35 Wt. Pipe I.D. - 2.7 Ft. Run _____
Top Packer Depth 4375 Drill Collar - 2.25 Ft. Run 250
Bottom Packer Depth 4380 Mud Wt. 9.1 lb/Gal.
Total Depth 4415 Viscosity 46 Filtrate 7.2

Tool Open @ 1:53 P.M. Initial Blow WEAK 1/4" BLOW STEADY THROUGHOUT

Final Blow NO RETURN BLOW-FLUSHED WOOL/GOOD SURGE-NO HELP

Recovery - Total Feet 120 Flush Tool? YES

Rec. 10 Feet of FREE OIL
Rec. 110 Feet of OIL WATER CUT MUD 20% OIL/10%WATER/70%MUD
Rec. _____ Feet of _____
Rec. _____ Feet of _____
Rec. _____ Feet of _____

BHT 115 °F Gravity 38 °API @ 86 °F Corrected Gravity 35.4 °API
RW 0.2 @ 80 °F Chlorides 30000 ppm Recovery Chlorides 8000 ppm System

(A) Initial Hydrostatic Mud 2188.3 PSI AK1 Recorder No. 13309 Range 4700

(B) First Initial Flow Pressure 64.4 PSI @ (depth) 4405 w / Clock No. 22992

(C) First Final Flow Pressure 64.4 PSI AK1 Recorder No. 13339 Range 4025

(D) Initial Shut-in Pressure 1227.8 PSI @ (depth) 4410 w / Clock No. 23934

(E) Second Initial Flow Pressure 91.5 PSI AK1 Recorder No. _____ Range _____

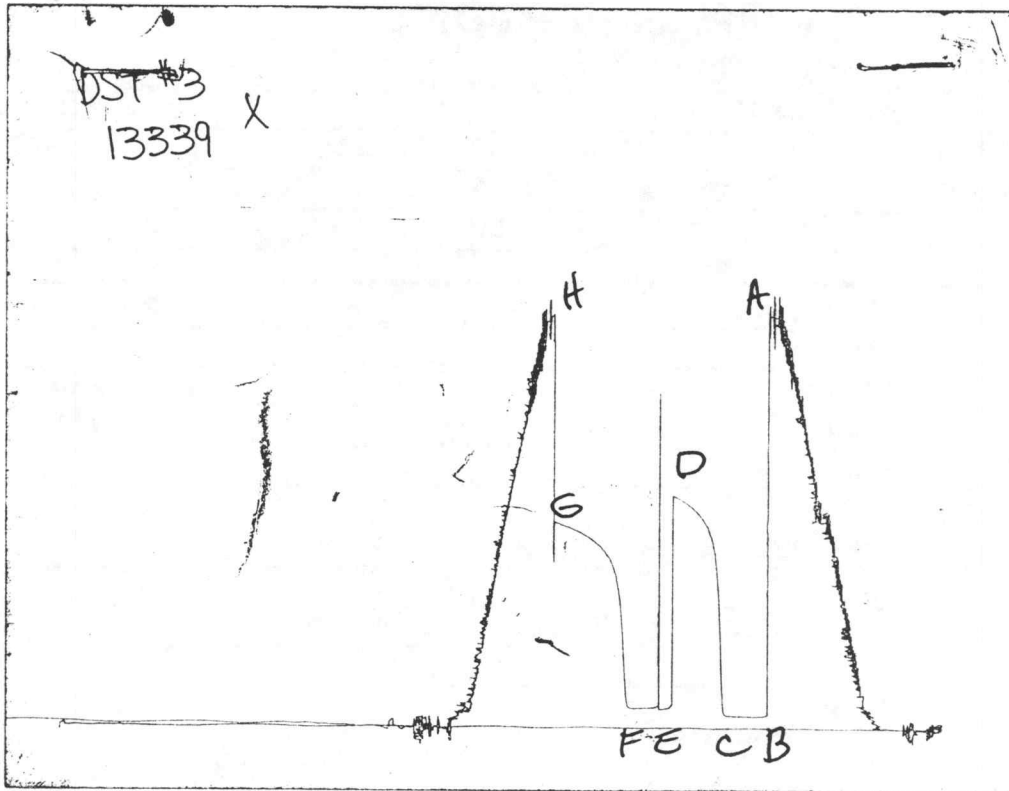
(F) Second Final Flow Pressure 91.5 PSI @ (depth) _____ w / Clock No. _____

(G) Final Shut-in Pressure 1084.2 PSI Initial Opening 30 Final Flow 30

(H) Final Hydrostatic Mud 2172.3 PSI Initial Shut-in 45 Final Shut-in 60

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CHART PAGE



This is an actual photograph of recorder chart 13339

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2163	2188.3
(B) FIRST INITIAL FLOW PRESSURE	52	64.4
(C) FIRST FINAL FLOW PRESSURE	542	64.4
(D) INITIAL CLOSED-IN PRESSURE	1220	1227.8
(E) SECOND INITIAL FLOW PRESSURE	72	91.5
(F) SECOND FINAL FLOW PRESSURE	72	91.5
(G) FINAL CLOSED-IN PRESSURE	1080	1084.2
(H) FINAL HYDROSTATIC MUD	2153	2172.3

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2163	2188.3
(B) FIRST INITIAL FLOW PRESSURE	52	64.4
(C) FIRST FINAL FLOW PRESSURE	542	64.4
(D) INITIAL CLOSED-IN PRESSURE	1220	1227.8
(E) SECOND INITIAL FLOW PRESSURE	72	91.5
(F) SECOND FINAL FLOW PRESSURE	72	91.5
(G) FINAL CLOSED-IN PRESSURE	1080	1084.2
(H) FINAL HYDROSTATIC MUD	2153	2172.3

TRILOBITE TESTING, L.L.C.

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Drill-Stem Test Data

Well Name ENGLER #1 Test No. 4 Date 8/29/94
Company VIKING RESOURCES INC Zone MISSISSIPPIA
Address 105 S BROADWAY #1040 WICHITA KS 67202-4224 Elevation 2373 KB
Co. Rep./Geo. ROB PATTON Cont. MALLARD #2 Est. Ft. of Pay _____
Location: Sec. 25 Twp. 19S Rge. 25W Co. NESS State KS

Interval Tested 4415-4422 Drill Pipe Size 4.5" XH
Anchor Length 7 Wt. Pipe I.D. - 2.7 Ft. Run _____
Top Packer Depth 4410 Drill Collar - 2.25 Ft. Run 250
Bottom Packer Depth 4415 Mud Wt. _____ lb/Gal.
Total Depth 4422 Viscosity _____ Filtrate _____

Tool Open @ 4:02 A.M. Initial Blow WEAK SURFACE BLOW DIED IN 9 MIN

Final Blow NO RETURN BLOW

Recovery - Total Feet 11 Flush Tool? NO

Rec. 1 Feet of FREE OIL
Rec. 10 Feet of SLIGHT OIL WATER CUT MUD 5%OIL/45%WATER/50%MUD
Rec. _____ Feet of _____
Rec. _____ Feet of _____
Rec. _____ Feet of _____

BHT 120 °F Gravity 38 °API @ 86 °F Corrected Gravity 35.4 °API
RW 0.35 @ 70 °F Chlorides 20000 ppm Recovery Chlorides _____ ppm System

(A) Initial Hydrostatic Mud 2190.3 PSI AK1 Recorder No. 13309 Range 4700

(B) First Initial Flow Pressure 11.4 PSI @ (depth) 4400 w / Clock No. 22992

(C) First Final Flow Pressure 11.4 PSI AK1 Recorder No. 13339 Range 4025

(D) Initial Shut-in Pressure 1298.1 PSI @ (depth) 4417 w / Clock No. 23934

(E) Second Initial Flow Pressure 45.7 PSI AK1 Recorder No. _____ Range _____

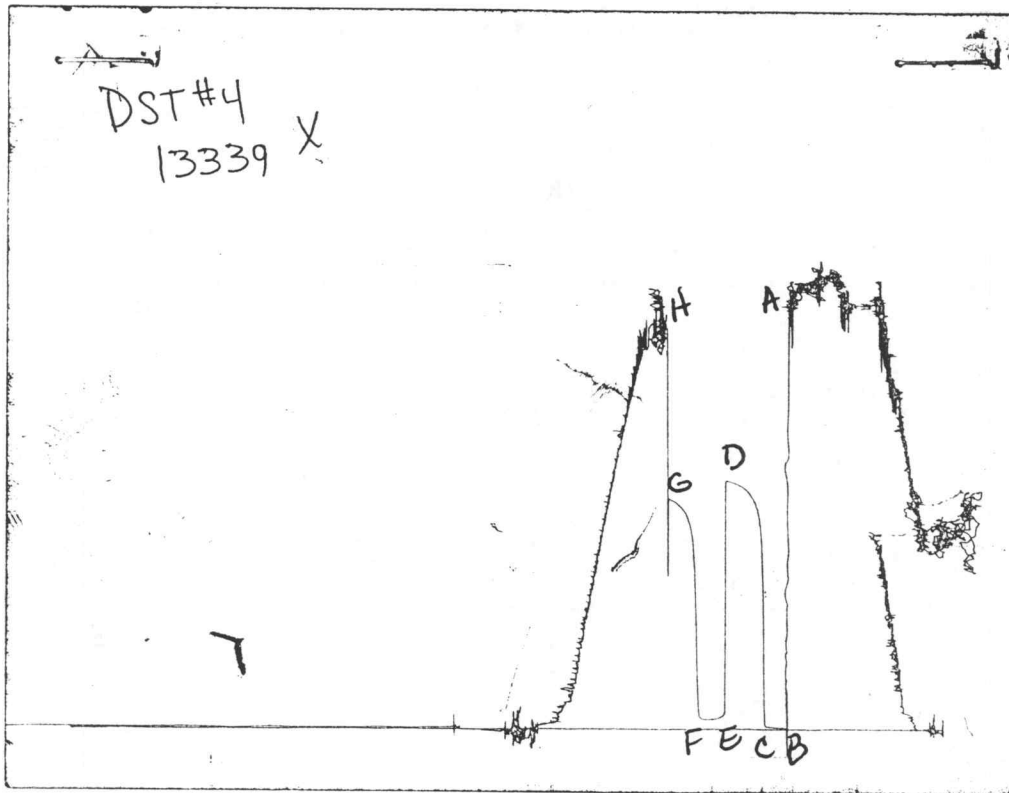
(F) Second Final Flow Pressure 45.7 PSI @ (depth) _____ w / Clock No. _____

(G) Final Shut-in Pressure 1210.7 PSI Initial Opening 15 Final Flow 15

(H) Final Hydrostatic Mud 2157.2 PSI Initial Shut-in 30 Final Shut-in 30

Our Representative ROD STEINBRINK

CHART PAGE



This is an actual photograph of recorder chart 13339

FIELD
READING

OFFICE
READING

(A) INITIAL HYDROSTATIC MUD	2183	2190.3
(B) FIRST INITIAL FLOW PRESSURE	20	11.4
(C) FIRST FINAL FLOW PRESSURE	20	11.4
(D) INITIAL CLOSED-IN PRESSURE	1311	1298.1
(E) SECOND INITIAL FLOW PRESSURE	41	45.7
(F) SECOND FINAL FLOW PRESSURE	41	45.7
(G) FINAL CLOSED-IN PRESSURE	1220	1210.7
(H) FINAL HYDROSTATIC MUD	2123	2157.2

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Drill-Stem Test Data

Well Name ENGLER #1 Test No. 5 Date 8/29/94
Company VIKING RESOURCES INC Zone MISSISSIPPIA
Address 105 S BROADWAY #1040 WICHITA KS 67202-4224 Elevation 2373 KB
Co. Rep./Geo. ROB PATTON Cont. MALLARD #2 Est. Ft. of Pay 5
Location: Sec. 25 Twp. 19S Rge. 25W Co. NESS State KS

Interval Tested 4422-4432 Drill Pipe Size 4.5" XH
Anchor Length 10 Wt. Pipe I.D. - 2.7 Ft. Run _____
Top Packer Depth 4417 Drill Collar - 2.25 Ft. Run 250
Bottom Packer Depth 4422 Mud Wt. _____ lb/Gal.
Total Depth 4432 Viscosity _____ Filtrate _____

Tool Open @ 8:30 P.M. Initial Blow WEAK TO FAIR BLOW BUILT OFF BOTTOM IN 10 MIN ISI: BLED
OFF BLOW-SURFACE RETURN BUILT TO 1 1/2"
Final Blow SURFACE RETURN BUILT TO BOTTOM IN 11 MIN- FSI: BLED OFF BLOW-NO RE

Recovery - Total Feet 730 Flush Tool? NO

Rec. 110 Feet of GAS IN PIPE
Rec. 490 Feet of CUT GAS OIL 15%GAS/85% OIL
Rec. 240 Feet of SLIGHT GAS OIL CUT MUD 5%GAS/15%OIL/80%MUD
Rec. _____ Feet of _____
Rec. _____ Feet of _____

BHT 120 °F Gravity 37 °API @ 70 °F Corrected Gravity 36 °API
RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides _____ ppm System

(A) Initial Hydrostatic Mud 2170.3 PSI AK1 Recorder No. 13309 Range 4700

(B) First Initial Flow Pressure 32.2 PSI @ (depth) _____ w / Clock No. 22992

(C) First Final Flow Pressure 136.1 PSI AK1 Recorder No. 13339 Range 4025

(D) Initial Shut-in Pressure 1297.1 PSI @ (depth) 4427 w / Clock No. 23934

(E) Second Initial Flow Pressure 235.9 PSI AK1 Recorder No. _____ Range _____

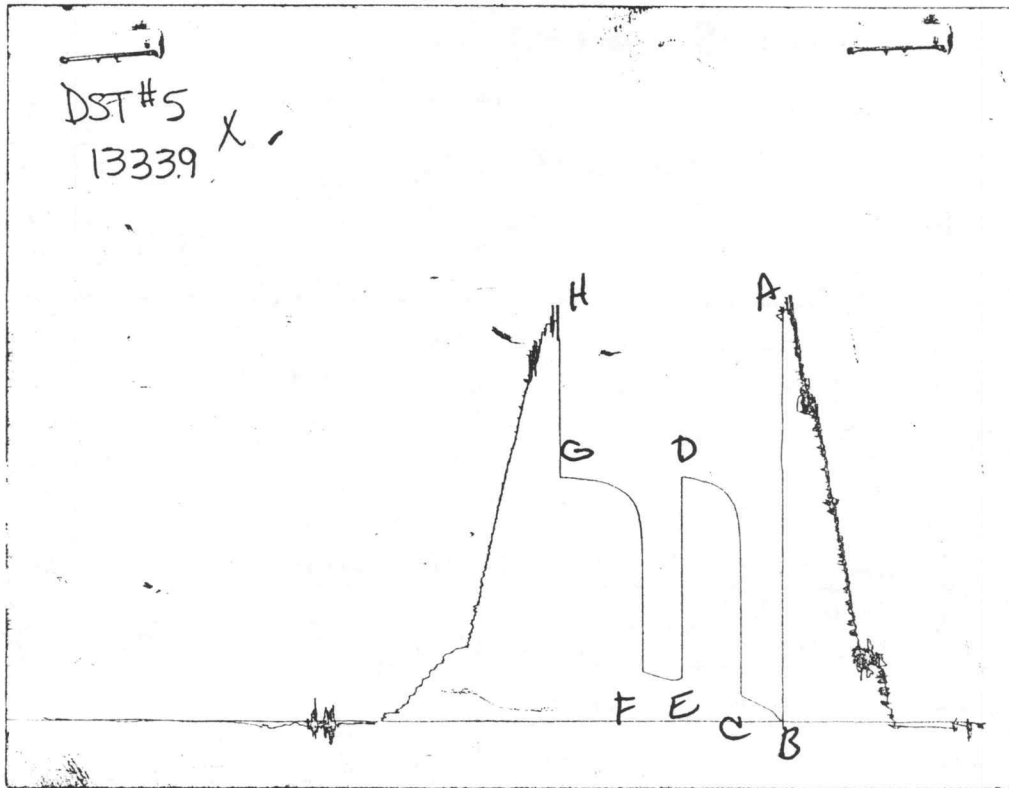
(F) Second Final Flow Pressure 274.4 PSI @ (depth) _____ w / Clock No. _____

(G) Final Shut-in Pressure 1293.1 PSI Initial Opening 30 Final Flow 30

(H) Final Hydrostatic Mud 2103.1 PSI Initial Shut-in 45 Final Shut-in 60

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CHART PAGE



This is an actual photograph of recorder chart 13339

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2173	2170.3
(B) FIRST INITIAL FLOW PRESSURE	20	32.2
(C) FIRST FINAL FLOW PRESSURE	135	136.1
(D) INITIAL CLOSED-IN PRESSURE	1301	1297.1
(E) SECOND INITIAL FLOW PRESSURE	218	235.9
(F) SECOND FINAL FLOW PRESSURE	270	274.4
(G) FINAL CLOSED-IN PRESSURE	1291	1293.1
(H) FINAL HYDROSTATIC MUD	2103	2103.1

COMPUTER OIL EVALUATION BY TRILOBITE TESTING, L.L.C.

VIKING RESOURCES INC

ENGLER #1

DST 5

25

19S

25W

NESS KS

ELEVATION: 2373 KB EST. PAY 5 FT

DATUM: -2055 ZONE TESTED: MISS

TEST INTERVAL: 4422-4432 TIME INTERVALS: 30-45-30-60

RECORDER DEPTH: 4427 VISCOSITY: 9.33 CP

BOTTOM HOLE TEMP: 120 HOLE SIZE: 7.875 IN

CUBIC FEET OF GAS IN PIPE: 3

TOTAL FEET OF RECOVERY: 730.00 CORRECTED PIPE FILLUP: 749.727

TOTAL BARRELS OF RECOVERY: 8.05 CORR. BARRELS OF RECOVERY: 3.666

BARRELS IN DRILL PIPE: 6.83 API GRAVITY: 36

BARRELS IN WEIGHT PIPE: 0.00 FLUID GRADIENT: 0.366

BARRELS IN DRILL COLLARS: 1.22

GAS OIL RATIO: 0.38 CU.FT/BBL

BUBBLE POINT PRESSURE: 5

UNCORRECTED INITIAL PRODUCTION: 193.15

INITIAL PRODUCTION CORRECTED TO FINAL FLOW PRESSURE: 87.98

INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE: 117.960

INITIAL SLOPE 195.69 PSI/CYCLE FINAL SLOPE 135.93 PSI/CYCLE

INITIAL P* 1340.51 PSI FINAL P* 1334.02 PSI

TRANSMISSIBILITY 105.25 (MD.-FT./

PERMEABILITY 196.34 (MD.)

INDICATED FLOW CAPACITY 981.72 (MD.FT)

PRODUCTIVITY INDEX 0.12 (BARREL/D

DAMAGE RATIO 1.43

RADIUS OF INVESTIGATION 108.54 (FT,)

POTENTIOMETRIC SURFACE 1039.59 (FT.)

DRAWDOWN FACTOR 0.484 (%)

THEORETICAL POTENTIAL FROM FINAL FLOW PRESSURE 125.52

THEORETICAL POTENTIAL FROM PSEUDO STEADY FLOW STATE 168.28

FINAL FLOW

RECORDER 13339

DST # 5

TIME(MIN) PRESSURE <> PRESSURE

3	235.9	235.9
6	226.6	-9.3
9	224.5	-2.1
12	228.6	4.1
15	232.8	4.2
18	239.0	6.2
21	246.3	7.3
24	251.5	5.2
27	259.8	8.3
30	269.2	9.4
33	274.4	5.2

INITIAL FLOW

RECORDER 13339

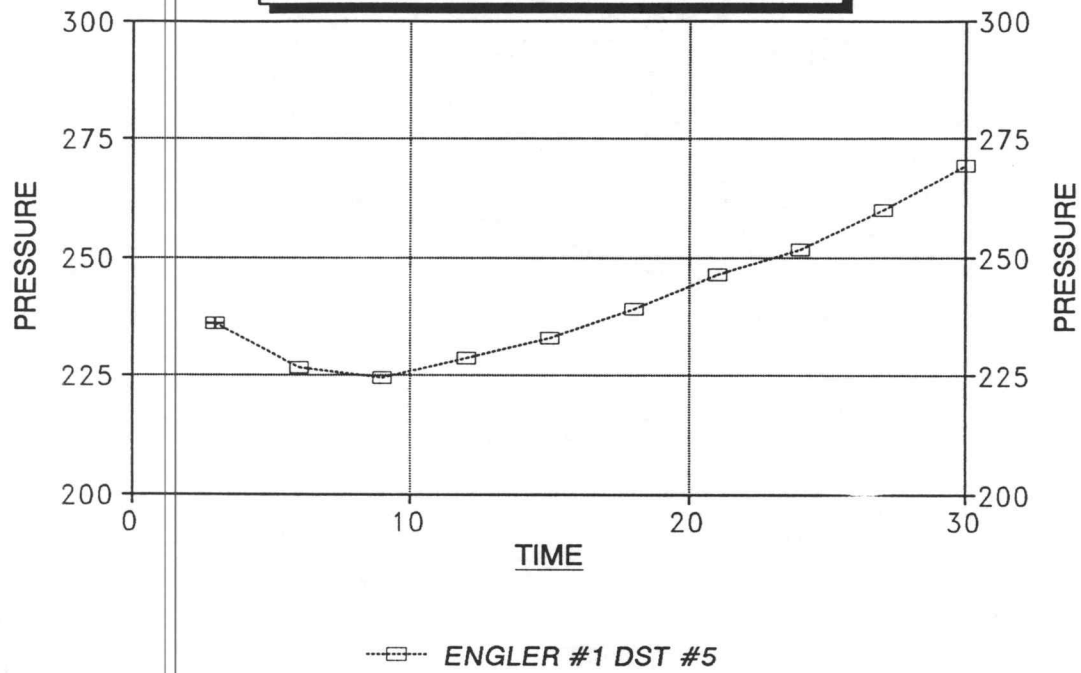
DST # 5

TIME(MIN) PRESSURE <> PRESSURE

0	32.2	32.2
3	54.0	21.8
6	71.7	17.7
9	79.0	7.3
12	90.4	11.4
15	100.8	10.4
18	110.2	9.4
21	119.5	9.3
24	124.1	4.6
27	136.1	12.0

DELTA T DELTA P

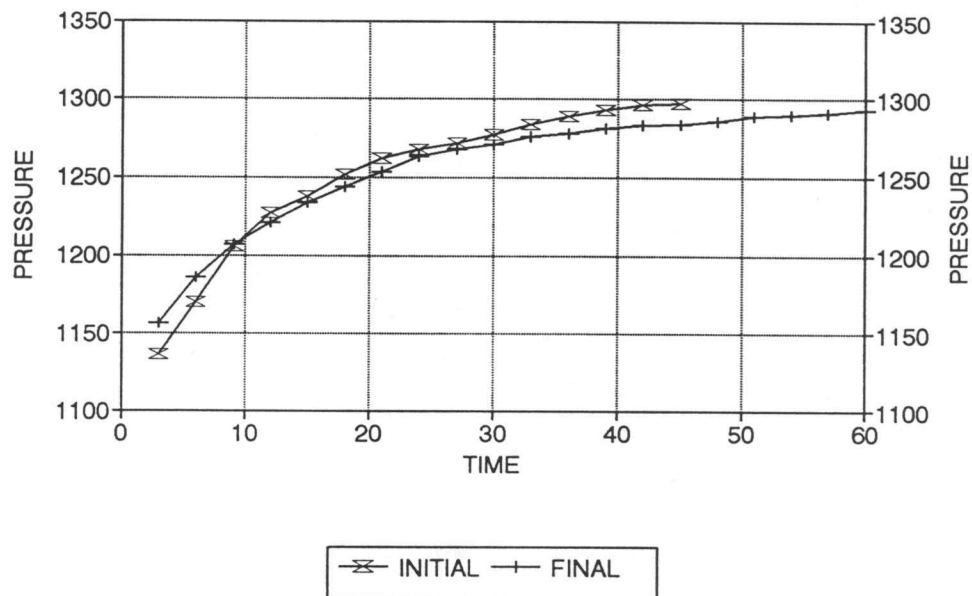
FINAL FLOW / DST #5



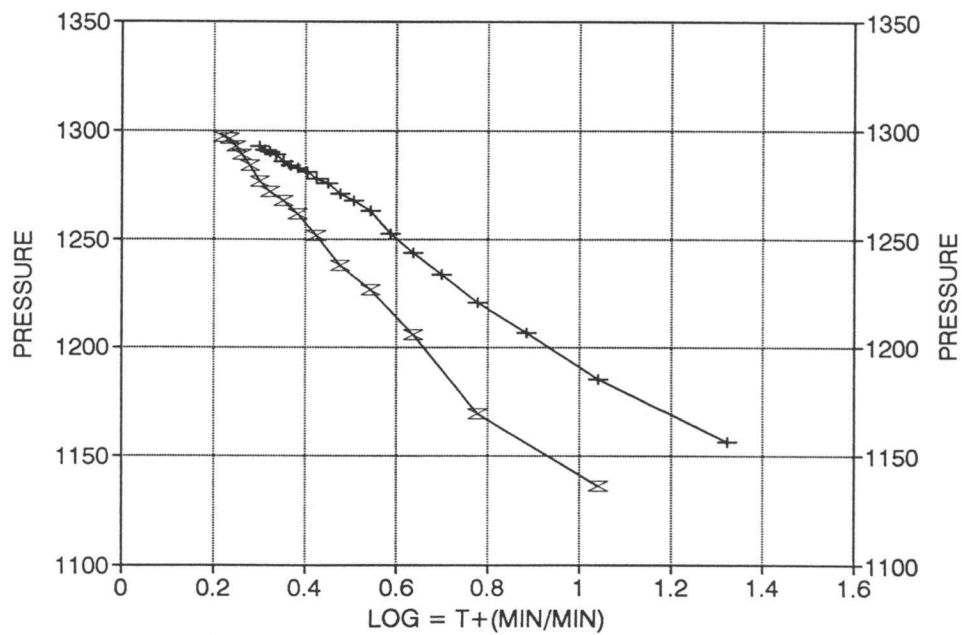
INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE:

117.960

ENGLER #1 DST #5 DELTA T DELTA P / DST #7



HORNER PLOT



ENGLER #1
INITIAL

		DST #5			
		SHUTIN			
30	INITIAL FLOW TIME	SLOPE	195.69	PSI/CYCLE	
		P*	1340.51	PSI	
		Log	<>		
	TIME(MIN)	Pws (psi)	Horn T	PRESSURE	Horn T
	3	1136.4	1.041	1136.4	11
	6	1169.6	0.778	33.2	6
	9	1205.7	0.637	36.1	4
	12	1226.8	0.544	21.1	4
	15	1237.8	0.477	11.0	3
	18	1251.9	0.426	14.1	3
	21	1261.9	0.385	10.0	2
	24	1268.0	0.352	6.1	2
	27	1272.0	0.325	4.0	2
	30	1277.0	0.301	5.0	2
	33	1284.0	0.281	7.0	2
X	36	1289.0	0.263	5.0	2
	39	1293.1	0.248	4.1	2
	42	1296.1	0.234	3.0	2
X	45	1297.1	0.222	1.0	2

ENGLER #1
FINAL

DST #5
SHUTIN

60 TOTAL FLOW TIME

SLOPE 135.93 PSI/CYCLE
P* 1334.02 PSI

	TIME(MIN)	Pws(psi)	Log Horn T	<> PRESSURE	Horn T
	3	1156.5	1.322	1156.5	21
	6	1185.6	1.041	29.1	11
	9	1206.7	0.885	21.1	8
	12	1220.8	0.778	14.1	6
	15	1233.8	0.699	13.0	5
	18	1243.9	0.637	10.1	4
	21	1252.9	0.586	9.0	4
	24	1262.9	0.544	10.0	4
	27	1268.0	0.508	5.1	3
	30	1271.0	0.477	3.0	3
	33	1276.0	0.450	5.0	3
	36	1278.0	0.426	2.0	3
	39	1281.0	0.405	3.0	3
	42	1283.0	0.385	2.0	2
	45	1284.0	0.368	1.0	2
	48	1286.0	0.352	2.0	2
X	51	1289.0	0.338	3.0	2
	54	1290.0	0.325	1.0	2
	57	1291.1	0.312	1.1	2
X	60	1293.1	0.301	2.0	2

CALCULATED RECOVERY ANALYSIS

DST

5

TICKET #

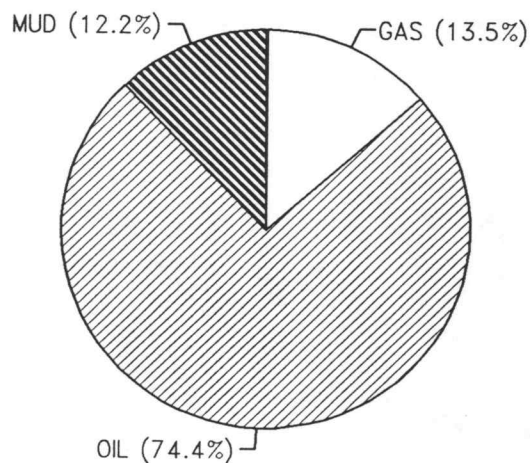
7263

SAMPLE #	TOTAL FEET	GAS		OIL		WATER		MUD	
		%	FEET	%	FEET	%	FEET	%	FEET
DRILL 1	480	15	72	85	408		0		0
PIPE 2			0		0		0		0
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
6			0		0		0		0
WEIGHT 1			0		0		0		0
PIPE 2			0		0		0		0
3			0		0		0		0
4			0		0		0		0
DRILL 1	250	5	12.5	15	37.5		0	80	200
COLLAR 2			0		0		0		0
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
TOTAL	730		84.5		445.5		0		200

BBL OIL= 5.985135
 BBL WATER= 0
 BBL MUD= 0.978
 BBL GAS = 1.084965

HRS OPEN BBL/DAY

* 1 143.64324
 * 0



656254