

CROWN TESTING CO.
120 S. MARKET, SUITE 300
WICHITA, KS 67202

DRILL-STEM TEST DATA

Well Name	Spruill	Test No.	2
Well Number	1	Zone Tested	Fort Scott
Company	Viking Resources, Inc.	Date	4/03/93
Comp. Rep.	S. A. Oatsdean	Tester	Greg Saffa
Contractor	Mallard Drilling	Ticket No.	13005
Location	Sec. 4 Twp. 19 Rg. 25 Ness County	Elevation	2442 KB

Recorder No. 13810 Clock Range 12 hr Blow _____
 Depth 4370 Initial Flow Very strong off bottom
 Initial Hydro Mud Press. 2123 bucket 1½ min.
 Initial Flow Press. 133-178
 Initial Shut-in Press. 491 Final Flow Very strong
 Final Flow Press. 214-250
 Final Shut-in Press. 517
 Final Hydro Mud Press. 2077
 Temperature 120° Initial Flow 30 Mins.
 Mud Weight 9.3 Viscosity 60 Initial Shut-in 45 Mins.
 Fluid Loss 7.4 Final Flow 30 Mins.
 Interval Tested 4322-4370 48 ft. anchor Final Shut-in 60 Mins.
 Top Packer Depth 4317 Surface Choke Size ½
 Bottom Packer Depth 4322 Bottom Choke Size ½
 Total Depth 4370 Main Hole Size 7 7/8
 Drill Pipe Size 4½ X H Wt. Rubber Size 6 5/8
 Drill Collar I.D. _____ Ft. Run _____
 Recovery—Total Feet 450
 Recovered 2684 Feet Of Gas in pipe
 Recovered 450 Feet Of Clean gasy oil (38 GA @ 60°)
 Recovered _____ Feet Of
 Recovered _____ Feet Of
 Remarks (14.2)(.45) [6.4 Bbl/hr]

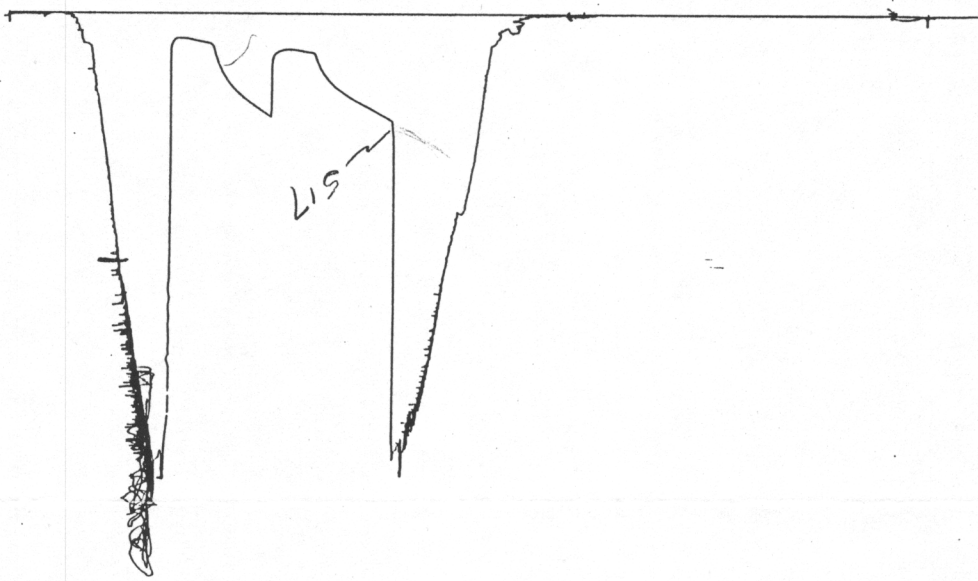
CROWN TESTING COMPANY shall not be liable for damage of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, or its statement or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid for by the party for whom the test is made.

By Scott A. Oatsdean
Owner, Operator or his Agent

12000 - 12005 12/1/10 H15



12005 - 13005 12/1/10 H15



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DST REPORT

GENERAL INFORMATION

DATE : 4/3/93
 CUSTOMER : VIKING RESOURCES INC
 WELL : #1 TEST: 2
 ELEVATION: 2442 KB
 SECTION : 4
 RANGE : 25W COUNTY: NESS
 GAUGE SN#: 13810 RANGE :

TICKET : 13005
 LEASE : SPRUILL
 GEOLOGIST:
 FORMATION: FT SCOTT
 TOWNSHIP : 19S
 STATE : KS
 CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM: 4322.00 ft TO: 4370.00 ft TVD: 4370.0 ft
 DEPTH OF SELECTIVE ZONE: TEST TYPE: OIL

DEPTH OF RECORDERS: 0.0 ft 0.0 ft
 TEMPERATURE: 120.0

DRILL COLLAR LENGTH:	0.0 ft	I.D.:	0.000 in
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:	0.000 in
DRILL PIPE LENGTH :	0.0 ft	I.D.:	0.000 in
TEST TOOL LENGTH :	0.0 ft	TOOL SIZE :	0.000 in
ANCHOR LENGTH :	0.0 ft	ANCHOR SIZE:	0.000 in
SURFACE CHOKE SIZE :	0.500 in	BOTTOM CHOKE SIZE:	0.500 in
MAIN HOLE SIZE :	7.875 in	TOOL JOINT SIZE :	4.5XH
PACKER DEPTH:	4317.0 ft	SIZE:	6.630 in
PACKER DEPTH:	4322.0 ft	SIZE:	6.630 in
PACKER DEPTH:	0.0 ft	SIZE:	0.000 in
PACKER DEPTH:	0.0 ft	SIZE:	0.000 in

MUD INFORMATION

DRILLING CON. : MALLARD DRLG
 MUD TYPE :
 WEIGHT : 9.300 ppg
 CHLORIDES : 0 ppm
 JARS-MAKE :
 DID WELL FLOW?: NO

VISCOSITY : 60.00 cp
 WATER LOSS: 7.400 cc

SERIAL NUMBER:
 REVERSED OUT?: NO

COMMENTS

Comment

INITIAL FLOW PERIOD VERY STRONG BLOW - OFF BOTTOM
 OF BUCKET IN 1 1/2 MINUTES.
 FINAL FLOW PERIOD VERY STRONG BLOW.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
0.0	0.0	0.0	0.0	0.0	2684 FT GAS ABOVE FLUID
450.0	100.0	0.0	0.0	0.0	CLEAN GASSY OIL
0.0	0.0	0.0	0.0	0.0	38 GRAVITY @ 60 DEGREES F

RATE INFORMATION

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

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2123.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	133.00	178.00
INITIAL SHUT-IN	45.00		491.00
FINAL FLOW	30.00	214.00	250.00
FINAL SHUT-IN	60.00		517.00

FINAL HYDROSTATIC PRESSURE: 2077.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2312.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	128.00	158.00
INITIAL SHUT-IN	45.00		535.00
FINAL FLOW	30.00	210.00	200.00
FINAL SHUT-IN	60.00		559.00

FINAL HYDROSTATIC PRESSURE: 2260.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 4/3/93
 CUSTOMER : VIKING RESOURCES INC
 WELL : #1 TEST: 2
 ELEVATION: 2442 KB
 SECTION : 4
 RANGE : 25W COUNTY: NESS
 GAUGE SN#: 13810 RANGE :

TICKET : 13005
 LEASE : SPRUILL
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 FORMATION: FT SCOTT
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 STATE : KS
 CLOCK : 12

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	128.00	128.00
5.00	128.00	0.00
10.00	128.00	0.00
15.00	134.00	6.00
20.00	142.00	8.00
25.00	152.00	10.00
30.00	158.00	6.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	200.00	200.00	0.00
6.00	262.00	62.00	0.00
9.00	312.00	50.00	0.00
12.00	346.00	34.00	0.00
15.00	374.00	28.00	0.00
18.00	398.00	24.00	0.00
21.00	418.00	20.00	0.00
24.00	436.00	18.00	0.00
27.00	452.00	16.00	0.00
30.00	470.00	18.00	0.00
33.00	484.00	14.00	0.00
36.00	500.00	16.00	0.00
39.00	513.00	13.00	0.00
42.00	525.00	12.00	0.00
45.00	535.00	10.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	210.00	210.00
5.00	190.00	-20.00
10.00	182.00	-8.00
15.00	184.00	2.00
20.00	188.00	4.00
25.00	194.00	6.00
30.00	200.00	6.00

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	242.00	242.00	0.00
6.00	286.00	44.00	0.00
9.00	320.00	34.00	0.00
12.00	352.00	32.00	0.00
15.00	370.00	18.00	0.00
18.00	386.00	16.00	0.00
21.00	402.00	16.00	0.00
24.00	418.00	16.00	0.00
27.00	432.00	14.00	0.00
30.00	446.00	14.00	0.00
33.00	456.00	10.00	0.00
36.00	468.00	12.00	0.00
39.00	480.00	12.00	0.00
42.00	490.00	10.00	0.00
45.00	501.00	11.00	0.00
48.00	513.00	12.00	0.00
51.00	525.00	12.00	0.00
54.00	535.00	10.00	0.00
57.00	545.00	10.00	0.00
60.00	559.00	14.00	0.00

WESTERN TESTING CO., INC.

Pressure Data

Date _____ Test Ticket No. _____

Recorder No. _____ Capacity _____ Location _____ Ft.

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud <u>2312</u> P.S.I.	Open Tool		M
B First Initial Flow Pressure _____ P.S.I.	First Flow Pressure	Mins. <u>30</u>	Mins.
C First Final Flow Pressure _____ P.S.I.	Initial Closed-in Pressure	Mins. <u>45</u>	Mins.
D Initial Closed-in Pressure _____ P.S.I.	Second Flow Pressure	Mins. <u>30</u>	Mins.
E Second Initial Flow Pressure _____ P.S.I.	Final Closed-in Pressure	Mins. <u>40</u>	Mins.
F Second Final Flow Pressure _____ P.S.I.			
G Final Closed-in Pressure _____ P.S.I.			
H Final Hydrostatic Mud <u>2260</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	128	0	158	0	210	0	200
P 2 5	128	3	200	5	190	3	242
P 3 10	128	6	262	10	182	6	286
P 4 15	134	9	312	15	184	9	320
P 5 20	142	12	346	20	188	12	352
P 6 25	152	15	374	25	194	15	370
P 7 30	158	18	398	30	200	18	386
P 8 35		21	418	35		21	402
P 9 40		24	436	40		24	418
P10 45		27	452	45		27	432
P11 50		30	470	50		30	446
P12 55		33	484	55		33	456
P13 60		36	500	60		36	468
P14 65		39	513	65		39	480
P15 70		42	525	70		42	490
P16 75		45	535	75		45	501
P17 80		48		80		48	513
P18 85		51		85		51	525
P19 90		54		90		54	535
P20 95		57		95		57	545
100		60		100		60	559

