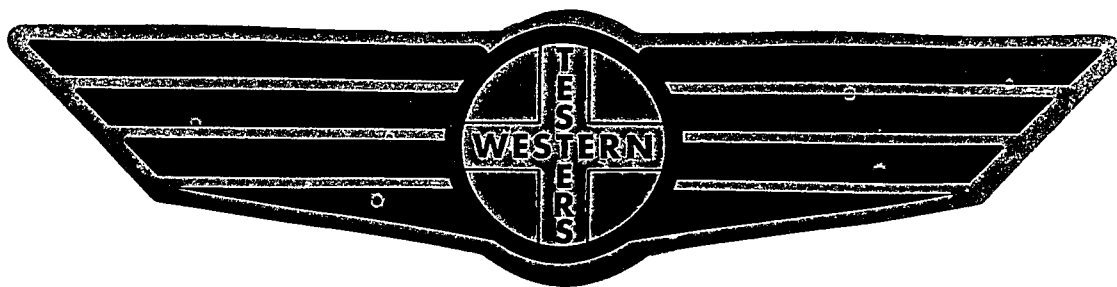


# FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1-800-688-7021

DST REPORT

GENERAL INFORMATION

DATE : 11/12/94  
CUSTOMER : GRAND MESA OPERATING CO.  
WELL : #5-20 TEST: 1  
ELEVATION: 2408KB  
SECTION : 20  
RANGE : 24W COUNTY: NESS  
GAUGE SN#: 1051 RANGE : 4250  
TICKET : 21000  
LEASE : STIAWALT  
GEOLOGIST: FRIEND  
FORMATION: CHEROKEE SAND  
TOWNSHIP : 17S  
STATE : KS  
CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM: 4334.00 ft TO: 4368.00 ft TVD: 4368.0 ft  
DEPTH OF SELECTIVE ZONE: TEST TYPE: OIL  
DEPTH OF RECORDERS: 4357.0 ft 4360.0 ft  
TEMPERATURE: 118.0  
DRILL COLLAR LENGTH: 250.0 ft I.D.: 2.250 in  
WEIGHT PIPE LENGTH : 0.0 ft I.D.: 0.000 in  
DRILL PIPE LENGTH : 4062.0 ft I.D.: 3.800 in  
TEST TOOL LENGTH : 22.0 ft TOOL SIZE : 5.500 in  
ANCHOR LENGTH : 34.0 ft ANCHOR SIZE: 5.500 in  
SURFACE CHOKE SIZE : 0.750 in BOTTOM CHOKE SIZE: 0.750 in  
MAIN HOLE SIZE : 7.875 in TOOL JOINT SIZE : 4.5XH  
PACKER DEPTH: 4329.0 ft SIZE: 6.625 in  
PACKER DEPTH: 4334.0 ft SIZE: 6.625 in  
PACKER DEPTH: 0.0 ft SIZE: 0.000 in  
PACKER DEPTH: 0.0 ft SIZE: 0.000 in

MUD INFORMATION

DRILLING CON. : MALLARD DRILLING  
MUD TYPE : CHEMICAL VISCOSITY : 48.00 cp  
WEIGHT : 9.300 ppg WATER LOSS: 5.800 cc  
CHLORIDES : 5500 ppm  
JARS-MAKE :  
DID WELL FLOW?: NO SERIAL NUMBER:  
REVERSED OUT?: NO

COMMENTS

Comment

INITIAL FLOW: VERY WEAK BLOW FOR 10 MINUTES, AND  
THEN DIED.  
FINAL FLOW: FEW BUBBLES, THEN DIED.

DST REPORT (CONTINUED)

COMMENTS (CONTINUED)

Comment

CLOCK ON OUTSIDE RECORDER STOPPED.

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
10.0	2.0	0.0	0.0	98.0	SLIGHTLY OIL CUT MUD

RATE INFORMATION

OIL VOLUME:	0.0010 STB	TOTAL FLOW TIME:	30.0000 min.
GAS VOLUME:	0.0000 SCF	AVERAGE OIL RATE:	2.3604 STB/D
MUD VOLUME:	0.0482 STB	AVERAGE WATER RATE:	0.0000 STB/D
WATER VOLUME:	0.0000 STB		
TOTAL FLUID :	0.0492 STB		

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2241.00

Description	Duration	p1	p End
INITIAL FLOW	20.00	53.00	53.00
INITIAL SHUT-IN	30.00		53.00
FINAL FLOW	15.00	53.00	53.00
FINAL SHUT-IN	30.00		53.00

FINAL HYDROSTATIC PRESSURE: 2187.00

DST REPORT (CONTINUED)

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2219.00

Description	Duration	p1	p End
INITIAL FLOW	15.00	49.00	49.00
INITIAL SHUT-IN	30.00		49.00
FINAL FLOW	15.00	49.00	49.00
FINAL SHUT-IN	30.00		49.00

FINAL HYDROSTATIC PRESSURE: 2147.00

**PRESSURE TRANSIENT REPORT**

**GENERAL INFORMATION**

DATE : 11/12/94	TICKET : 21000
CUSTOMER : GRAND MESA OPERATING CO.	LEASE : STIAWALT
WELL : #5-20 TEST: 1	GEOLOGIST: FRIEND
ELEVATION: 2408KB	FORMATION: CHEROKEE SAND
SECTION : 20	TOWNSHIP : 17S
RANGE : 24W COUNTY: NESS	STATE : KS
GAUGE SN#: 1051 RANGE : 4250	CLOCK : 12

**INITIAL FLOW**

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	49.00	49.00
5.00	49.00	0.00
10.00	49.00	0.00
15.00	49.00	0.00

**INITIAL SHUT IN**

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	49.00	49.00	6.00
6.00	49.00	0.00	3.50
9.00	49.00	0.00	2.67
12.00	49.00	0.00	2.25
15.00	49.00	0.00	2.00
18.00	49.00	0.00	1.83
21.00	49.00	0.00	1.71
24.00	49.00	0.00	1.63
27.00	49.00	0.00	1.56
30.00	49.00	0.00	1.50

**FINAL FLOW**

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	49.00	49.00
5.00	49.00	0.00
10.00	49.00	0.00
15.00	49.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	49.00	49.00	6.00
6.00	49.00	0.00	3.50
9.00	49.00	0.00	2.67
12.00	49.00	0.00	2.25
15.00	49.00	0.00	2.00
18.00	49.00	0.00	1.83
21.00	49.00	0.00	1.71
24.00	49.00	0.00	1.63
27.00	49.00	0.00	1.56
30.00	49.00	0.00	1.50

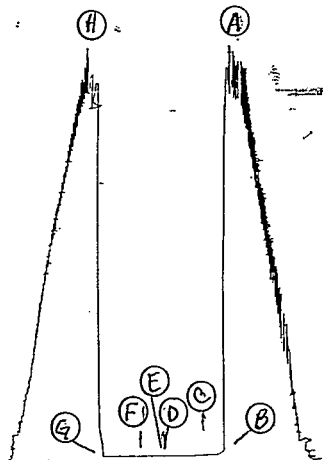
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Ticket # 21000

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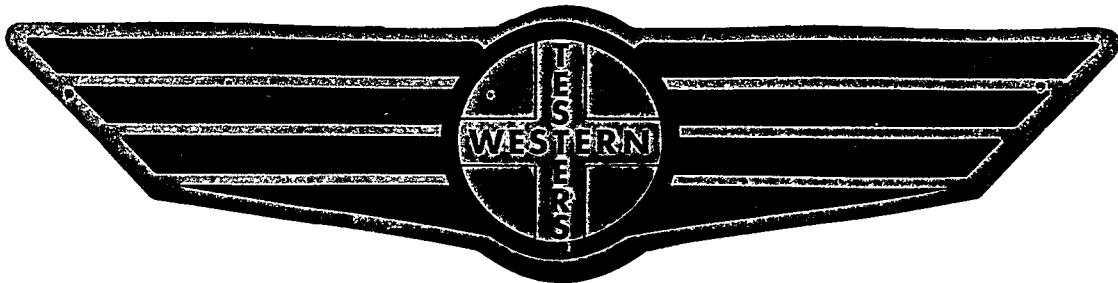


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Ticket #21000

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# FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1-800-688-7021

DST REPORT

GENERAL INFORMATION

DATE : 11/13/94  
CUSTOMER : GRAND MESA OPERATING CO.  
WELL : #5-20 TEST: 2  
ELEVATION: 2408KB  
SECTION : 20  
RANGE : 24W COUNTY: NESS  
GAUGE SN#: 1051 RANGE : 4250  
TICKET : 20626  
LEASE : STIAWALT  
GEOLOGIST: FRIEND  
FORMATION: MISSISSIPPIAN  
TOWNSHIP : 17S  
STATE : KS  
CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM: 4363.00 ft TO: 4380.00 ft TVD: 4380.0 ft  
DEPTH OF SELECTIVE ZONE: TEST TYPE: OIL  
DEPTH OF RECORDERS: 4372.0 ft 4375.0 ft  
TEMPERATURE: 119.0  
DRILL COLLAR LENGTH: 250.0 ft I.D.: 2.250 in  
WEIGHT PIPE LENGTH : 0.0 ft I.D.: 0.000 in  
DRILL PIPE LENGTH : 4088.0 ft I.D.: 3.800 in  
TEST TOOL LENGTH : 22.0 ft TOOL SIZE : 5.500 in  
ANCHOR LENGTH : 20.0 ft ANCHOR SIZE: 5.500 in  
SURFACE CHOKE SIZE : 0.750 in BOTTOM CHOKE SIZE: 0.750 in  
MAIN HOLE SIZE : 7.875 in TOOL JOINT SIZE : 4.5XH  
PACKER DEPTH: 4358.0 ft SIZE: 6.625 in  
PACKER DEPTH: 4363.0 ft SIZE: 6.625 in  
PACKER DEPTH: 0.0 ft SIZE: 0.000 in  
PACKER DEPTH: 0.0 ft SIZE: 0.000 in

MUD INFORMATION

DRILLING CON. : MALLARD DRILLING  
MUD TYPE : CHEMICAL  
WEIGHT : 9.200 ppg  
CHLORIDES : 5500 ppm  
JARS-MAKE :  
DID WELL FLOW?: NO  
VISCOSITY : 48.00 cp  
WATER LOSS: 5.800 cc  
SERIAL NUMBER:  
REVERSED OUT?: NO

COMMENTS

Comment

INITIAL FLOW: VERY WEAK 1/4 INCH BLOW.  
FINAL FLOW: VERY WEAK 1/4 INCH BLOW.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
140.0	100.0	0.0	0.0	0.0	FREE OIL
30.0	50.0	0.0	0.0	50.0	MUDDY OIL

RATE INFORMATION

OIL VOLUME:	0.7622	STB	TOTAL FLOW TIME:	105.0000	min.
GAS VOLUME:	0.0000	SCF	AVERAGE OIL RATE:	11.4648	STB/D
MUD VOLUME:	0.0738	STB	AVERAGE WATER RATE:	0.0000	STB/D
WATER VOLUME:	0.0000	STB			
TOTAL FLUID :	0.8360	STB			

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2241.00

Description	Duration	p1	p End
INITIAL FLOW	45.00	86.00	86.00
INITIAL SHUT-IN	60.00		1069.00
FINAL FLOW	60.00	86.00	86.00
FINAL SHUT-IN	60.00		1048.00

FINAL HYDROSTATIC PRESSURE: 2187.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2237.00

Description	Duration	p1	p End
INITIAL FLOW	45.00	68.00	68.00
INITIAL SHUT-IN	57.00		1047.00
FINAL FLOW	60.00	87.00	87.00
FINAL SHUT-IN	60.00		1041.00

FINAL HYDROSTATIC PRESSURE: 2188.00

**PRESSURE TRANSIENT REPORT**

**GENERAL INFORMATION**

DATE : 11/13/94	TICKET : 20626
CUSTOMER : GRAND MESA OPERATING CO.	LEASE : STIAWALT
WELL : #5-20 TEST: 2	GEOLOGIST: FRIEND
ELEVATION: 2408KB	FORMATION: MISSISSIPPIAN
SECTION : 20	TOWNSHIP : 17S
RANGE : 24W COUNTY: NESS	STATE : KS
GAUGE SN#: 1051 RANGE : 4250	CLOCK : 12

**INITIAL FLOW**

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	68.00	68.00
5.00	68.00	0.00
10.00	68.00	0.00
15.00	68.00	0.00
20.00	68.00	0.00
25.00	68.00	0.00
30.00	68.00	0.00
35.00	68.00	0.00
40.00	68.00	0.00
45.00	68.00	0.00

**INITIAL SHUT IN**

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	84.00	84.00	16.00
6.00	159.00	75.00	8.50
9.00	379.00	220.00	6.00
12.00	565.00	186.00	4.75
15.00	680.00	115.00	4.00
18.00	747.00	67.00	3.50
21.00	793.00	46.00	3.14
24.00	831.00	38.00	2.88
27.00	860.00	29.00	2.67
30.00	889.00	29.00	2.50
33.00	914.00	25.00	2.36
36.00	940.00	26.00	2.25
39.00	959.00	19.00	2.15
42.00	978.00	19.00	2.07
45.00	993.00	15.00	2.00
48.00	1008.00	15.00	1.94

**PRESSURE TRANSIENT REPORT (CONTINUED)**

**INITIAL SHUT IN (CONTINUED)**

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
51.00	1022.00	14.00	1.88
54.00	1036.00	14.00	1.83
57.00	1047.00	11.00	1.79

**FINAL FLOW**

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	87.00	87.00
5.00	87.00	0.00
10.00	87.00	0.00
15.00	87.00	0.00
20.00	87.00	0.00
25.00	87.00	0.00
30.00	87.00	0.00
35.00	87.00	0.00
40.00	87.00	0.00
45.00	87.00	0.00
50.00	87.00	0.00
55.00	87.00	0.00
60.00	87.00	0.00

**FINAL SHUT IN**

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	164.00	164.00	21.00
6.00	366.00	202.00	11.00
9.00	524.00	158.00	7.67
12.00	638.00	114.00	6.00
15.00	700.00	62.00	5.00
18.00	746.00	46.00	4.33
21.00	788.00	42.00	3.86
24.00	821.00	33.00	3.50
27.00	845.00	24.00	3.22
30.00	869.00	24.00	3.00
33.00	893.00	24.00	2.82
36.00	917.00	24.00	2.67
39.00	937.00	20.00	2.54
42.00	953.00	16.00	2.43

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
45.00	969.00	16.00	2.33
48.00	985.00	16.00	2.25
51.00	996.00	11.00	2.18
54.00	1007.00	11.00	2.11
57.00	1024.00	17.00	2.05
60.00	1041.00	17.00	2.00

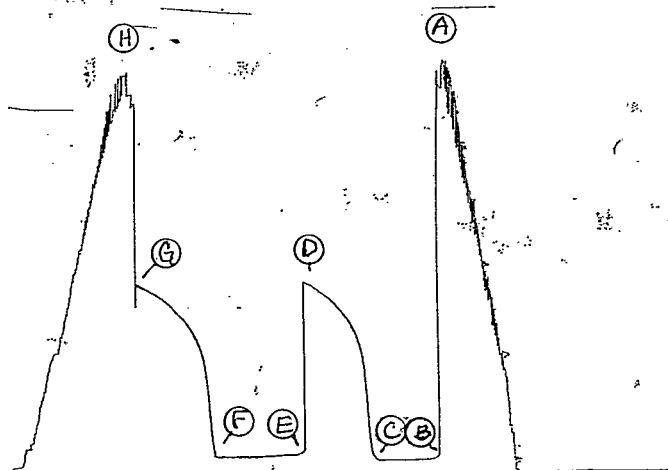
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