



WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET N° 19834

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

Elevation 1347 KB Formation Viola Eff. Pay Ft.

District Augusta Date 6-19-93 Customer Order No.

COMPANY NAME Bennett Exploration & Production Co

ADDRESS 1580 Lincoln St - Suite 1230 Denver, CO 80203

LEASE AND WELL NO. Houty #1 COUNTY Wabasha STATE KS Sec. 18 Twp. 13 Rge. 9E

Mail Invoice To SA110 Co. Name Address No. Copies Requested 1

Mail Charts To SA110 Co. Name Address No. Copies Requested 5

Formation Test No. AST#1 Interval Tested From 3384 ft. to 3410 ft. Total Depth 3410 ft.

Packer Depth 3379 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Packer Depth 3384 ft. Size 6 5/8 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 3403 ft. Recorder Number 10977 Cap. 4100

Bottom Recorder Depth (Outside) 3407 ft. Recorder Number 3354 Cap. 4200

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

Drilling Contractor Beverly Rig 5 Drill Collar Length 300 I. D. 2.25 in.

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

Weight 9.0 Water Loss 10.8 cc. Drill Pipe Length 3062 I. D. 3.8 in.

Chlorides 600 P.P.M. Test Tool Length 22 ft. Tool Size 5/16 in.

Jars: Make - Serial Number - Anchor Length 26 ft. Size 5/16 in.

Did Well Flow? - 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 x 4 in.

Blow: Very Strong below bottom of deck at 1 min on (FFP) Very Strong below deck at 1 min on (FFP)

Recovered 2402 ft. of Salt water

Recovered - ft. of

Recovered - ft. of

Recovered - ft. of

Recovered - ft. of

Chlorides - P.P.M. Sample Jars used 2 Remarks:

Time On Location 1:00 A.M. Time Pick Up Tool 2:00 A.M. Time Off Location - P.M.

Time Set Packer(s) 3:00 A.M. Time Started Off Bottom 6:15 A.M. Maximum Temperature 103°F P.M.

Initial Hydrostatic Pressure (A) 1675 P.S.I.

Initial Flow Period (B) 35 Minutes (C) 845 P.S.I.

Initial Closed In Period (D) 45 Minutes (E) 1050 P.S.I.

Final Flow Period (F) 60 Minutes (G) 905 P.S.I.

Final Closed In Period (H) 60 Minutes (I) 1070 P.S.I.

Final Hydrostatic Pressure (J) 1665 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 [Signature]

FIELD INVOICE

Table with 2 columns: Item (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) and Amount (\$).

WESTERN TESTING CO., INC.

Pressure Data

Date 6-19-93

Test Ticket No. 19834

Recorder No. _____ Capacity _____ Location _____ Ft.

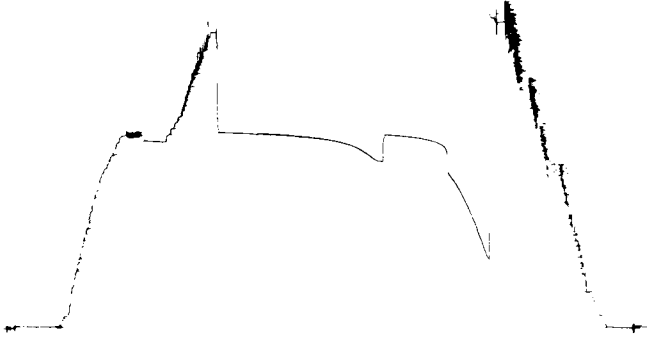
Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1670</u> P.S.I.	Open Tool		M
B First Initial Flow Pressure	P.S.I.	First Flow Pressure	<u>30</u> Mins	<u>30</u> Mins
C First Final Flow Pressure	P.S.I.	Initial Closed-in Pressure	<u>45</u> Mins	<u>45</u> Mins
D Initial Closed-in Pressure	P.S.I.	Second Flow Pressure	<u>60</u> Mins	<u>60</u> Mins
E Second Initial Flow Pressure	P.S.I.	Final Closed-in Pressure	<u>60</u> Mins	<u>66</u> Mins
F Second Final Flow Pressure	P.S.I.			
G Final Closed-in Pressure	P.S.I.			
H Final Hydrostatic Mud	<u>1661</u> P.S.I.			

PRESSURE BREAKDOWN

Point Mins.	First Flow Pressure Breakdown: _____ Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Initial Shut-In Breakdown: _____ Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.		Second Flow Pressure Breakdown: _____ Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Final Shut-In Breakdown: _____ Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	
	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes
P 1	<u>382</u>	<u>0</u>	<u>854</u>	<u>0</u>	<u>925</u>	<u>0</u>	<u>1031</u>	<u>0</u>
P 2	<u>460</u>	<u>3</u>	<u>1006</u>	<u>3</u>	<u>954</u>	<u>3</u>	<u>1052</u>	<u>3</u>
P 3	<u>570</u>	<u>6</u>	<u>1018</u>	<u>6</u>	<u>979</u>	<u>6</u>	<u>1053</u>	<u>6</u>
P 4	<u>663</u>	<u>9</u>	<u>1026</u>	<u>9</u>	<u>1000</u>	<u>9</u>	<u>1054</u>	<u>9</u>
P 5	<u>734</u>	<u>12</u>	<u>1032</u>	<u>12</u>	<u>1014</u>	<u>12</u>	<u>1055</u>	<u>12</u>
P 6	<u>798</u>	<u>15</u>	<u>1040</u>	<u>15</u>	<u>1022</u>	<u>15</u>	<u>1056</u>	<u>15</u>
P 7	<u>854</u>	<u>18</u>	<u>1044</u>	<u>18</u>	<u>1030</u>	<u>18</u>	<u>1057</u>	<u>18</u>
P 8		<u>21</u>	<u>1047</u>	<u>21</u>	<u>1032</u>	<u>21</u>	<u>1058</u>	<u>21</u>
P 9		<u>24</u>	<u>1053</u>	<u>24</u>	<u>1036</u>	<u>24</u>	<u>1059</u>	<u>24</u>
P10		<u>27</u>	<u>1058</u>	<u>27</u>	<u>1040</u>	<u>27</u>	<u>1060</u>	<u>27</u>
P11		<u>30</u>	<u>1059</u> ¹⁰⁵⁷	<u>30</u>	<u>1043</u>	<u>30</u>	<u>1061</u>	<u>30</u>
P12		<u>33</u>	<u>1058</u>	<u>33</u>	<u>1047</u>	<u>33</u>	<u>1062</u>	<u>33</u>
P13		<u>36</u>	<u>1059</u>	<u>36</u>	<u>1051</u>	<u>36</u>	<u>1063</u>	<u>36</u>
P14		<u>39</u>	<u>1060</u>	<u>39</u>		<u>39</u>	<u>1064</u>	<u>39</u>
P15		<u>42</u>	<u>1061</u>	<u>42</u>		<u>42</u>	<u>1065</u>	<u>42</u>
P16		<u>45</u>	<u>1062</u>	<u>45</u>		<u>45</u>	<u>1066</u>	<u>45</u>
P17		<u>48</u>		<u>48</u>		<u>48</u>	<u>1067</u>	<u>48</u>
P18		<u>51</u>		<u>51</u>		<u>51</u>	<u>1068</u>	<u>51</u>
P19		<u>54</u>		<u>54</u>		<u>54</u>	<u>1069</u>	<u>54</u>
P20		<u>57</u>		<u>57</u>		<u>57</u>	<u>1070</u>	<u>57</u>
		<u>60</u>		<u>60</u>		<u>60</u>	<u>1071</u>	<u>60</u>

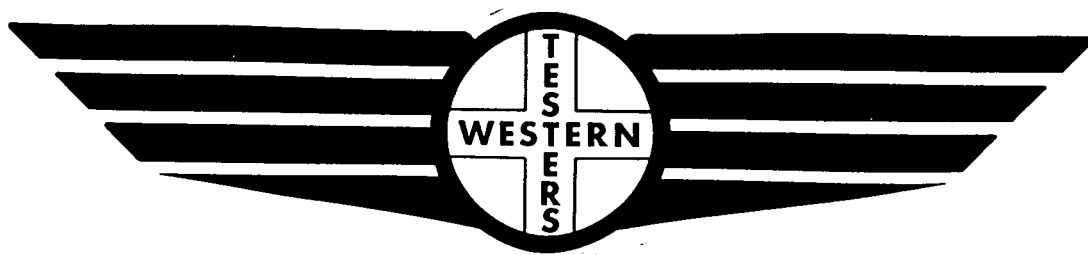
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FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1 - 800-688-7021

DST REPORT

GENERAL INFORMATION

DATE : 6-19-93	TICKET : 19834
CUSTOMER : BENNETT EXPLORATION & PRO	LEASE : HOUTZ
WELL : 1 TEST: 1	GEOLOGIST:
ELEVATION: 1347 K.B.	FORMATION: VIOLA
SECTION : 18	TOWNSHIP : 13
RANGE : 9E COUNTY: WABAUNSEE	STATE : KS
GAUGE SN#: 10979 RANGE : 4100	CLOCK : 12HR

WELL INFORMATION

PERFORATION INTERVAL FROM: 3384.00 ft	TO: 3410.00 ft	TVD: 3410.0 ft
DEPTH OF SELECTIVE ZONE:		TEST TYPE: OIL
DEPTH OF RECORDERS: 3403.0 ft	3407.0 ft	
TEMPERATURE: 103.0		
DRILL COLLAR LENGTH: 300.0 ft	I.D.: 2.250 in	
WEIGHT PIPE LENGTH : 0.0 ft	I.D.: 0.000 in	
DRILL PIPE LENGTH : 3062.0 ft	I.D.: 3.800 in	
TEST TOOL LENGTH : 22.0 ft	TOOL SIZE : 5.500 in	
ANCHOR LENGTH : 26.0 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: 3379.0 ft	SIZE: 6.625 in	
PACKER DEPTH: 3384.0 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. : BEBERENTZ RIG #5	VISCOSITY : 42.00 cp
MUD TYPE : CHEMICAL	WATER LOSS: 10.800 cc
WEIGHT : 9.000 ppg	
CHLORIDES : 600 ppm	SERIAL NUMBER:
JARS-MAKE : NONE	REVERSED OUT?: NO
DID WELL FLOW?: NO	

COMMENTS

Comment

INITIAL FLOW PERIOD VERY STRONG BLOW OFF BUTTOM OF
 BUCKET IN 1 MIN
 FINAL FLOW PERIOD STRONG BLOW

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
2400.0	0.0	0.0	100.0	0.0	SALT WATER

RATE INFORMATION

OIL VOLUME: 0.0000 STB	TOTAL FLOW TIME: 90.0000 min.
GAS VOLUME: 0.0000 SCF	AVERAGE OIL RATE: 0.0000 STB/D
MUD VOLUME: 0.0000 STB	AVERAGE WATER RATE: 494.8894 STB/D
WATER VOLUME: 30.9306 STB	
TOTAL FLUID : 30.9306 STB	

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1675.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	385.00	845.00
INITIAL SHUT-IN	45.00		1050.00
FINAL FLOW	60.00	905.00	1050.00
FINAL SHUT-IN	60.00		1070.00

FINAL HYDROSTATIC PRESSURE: 1665.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1670.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	382.00	854.00
INITIAL SHUT-IN	45.00		1062.00
FINAL FLOW	60.00	925.00	1051.00
FINAL SHUT-IN	60.00		1071.00

FINAL HYDROSTATIC PRESSURE: 1661.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 6-19-93	TICKET : 19834
CUSTOMER : BENNETT EXPLORATION & PRO	LEASE : HOUTZ
WELL : 1 TEST: 1	GEOLOGIST:
ELEVATION: 1347 K.B.	FORMATION: VIOLA
SECTION : 18	TOWNSHIP : 13
RANGE : 9E COUNTY: WABAUNSEE	STATE : KS
GAUGE SN#: 10979 RANGE : 4100	CLOCK : 12HR

INITIAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	382.00	382.00
5.00	460.00	78.00
10.00	570.00	110.00
15.00	663.00	93.00
20.00	734.00	71.00
25.00	798.00	64.00
30.00	854.00	56.00

INITIAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	1006.00	1006.00	0.00
6.00	1018.00	12.00	0.00
9.00	1026.00	8.00	0.00
12.00	1032.00	6.00	0.00
15.00	1040.00	8.00	0.00
18.00	1044.00	4.00	0.00
21.00	1047.00	3.00	0.00
24.00	1053.00	6.00	0.00
27.00	1055.00	2.00	0.00
30.00	1057.00	2.00	0.00
33.00	1058.00	1.00	0.00
36.00	1059.00	1.00	0.00
39.00	1060.00	1.00	0.00
42.00	1061.00	1.00	0.00
45.00	1062.00	1.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	925.00	925.00
5.00	954.00	29.00
10.00	979.00	25.00
15.00	1000.00	21.00
20.00	1014.00	14.00
25.00	1022.00	8.00
30.00	1030.00	8.00
35.00	1032.00	2.00
40.00	1036.00	4.00
45.00	1040.00	4.00
50.00	1043.00	3.00
55.00	1047.00	4.00
60.00	1051.00	4.00

FINAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	1052.00	1052.00	0.00
6.00	1053.00	1.00	0.00
9.00	1054.00	1.00	0.00
12.00	1055.00	1.00	0.00
15.00	1056.00	1.00	0.00
18.00	1057.00	1.00	0.00
21.00	1058.00	1.00	0.00
24.00	1059.00	1.00	0.00
27.00	1060.00	1.00	0.00
30.00	1061.00	1.00	0.00
33.00	1062.00	1.00	0.00
36.00	1063.00	1.00	0.00
39.00	1064.00	1.00	0.00
42.00	1065.00	1.00	0.00
45.00	1066.00	1.00	0.00
48.00	1067.00	1.00	0.00
51.00	1068.00	1.00	0.00
54.00	1069.00	1.00	0.00
57.00	1070.00	1.00	0.00
60.00	1071.00	1.00	0.00