



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET No. 1777

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

Elevation 1832 C.R. Formation Miss Eff. Pay — Ft.

District Pratt Date 9/24/83 Customer Order No. —

COMPANY NAME Frontier Oil Co.

ADDRESS 1220 Kansas State Bank Bldg Wichita, KS 67202

LEASE AND WELL NO. Einsel #1 COUNTY Comanche STATE KS Sec. 16 Twp. 32S Rge. 16W

Mail Invoice To Same Co. Name Address No. Copies Requested 5

Mail Charts To Same #1 Einsel Address No. Copies Requested 5

Formation Test No. 2 Interval Tested From 4719 ft. to 4788 ft. Total Depth 4788 ft.

Packer Depth 4719 ft. Size 6 5/8 in. Packer Depth — ft. Size — in.

Packer Depth 4719 ft. Size 6 5/8 in. Packer Depth — ft. Size — in.

Depth of Selective Zone Set —

Top Recorder Depth (Inside) 4779 ft. Recorder Number 13547 Cap. 4225

Bottom Recorder Depth (Outside) 4780 ft. Recorder Number 13552 Cap. 4050

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

Drilling Contractor Red Tiger Rig #6 Drill Collar Length — I. D. — in.

Mud Type Chemical-Driscap Viscosity 50 Weight Pipe Length 4690 I. D. — in.

Weight 9.5 Water Loss 11.2 cc. Drill Pipe Length 29 I. D. 3.8 in.

Chlorides 24,000 P.P.M. Test Tool Length 69 ft. Tool Size 5/200 in.

Jars: Make WTC Serial Number 410 Anchor Length 314 ft. Size 5/200 in.

Did Well Flow? No Reversed Out No Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

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

Blow: Weak blow throughout flow periods

Recovered 60 ft. of Only Mud

Recovered — ft. of —

Recovered — ft. of —

Recovered — ft. of —

Recovered — ft. of —

Chlorides — P.P.M. Sample Jars used — Remarks: —

Time On Location 2:00 P.M. Time Pick Up Tool 2:30 P.M. Time Off Location 9:00 P.M.

Time Set Packer(s) 4:30 P.M. Time Started Off Bottom 6:30 P.M. Maximum Temperature 127°

Initial Hydrostatic Pressure (A) 2400 P.S.I.

Initial Flow Period Minutes 30 (B) 95 P.S.I. to (C) 95 P.S.I.

Initial Closed In Period Minutes 30 (D) 137 P.S.I.

Final Flow Period Minutes 30 (E) 116 P.S.I. to (F) 116 P.S.I.

Final Closed In Period Minutes 30 (G) 158 P.S.I.

Final Hydrostatic Pressure (H) 2379 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

Open Hole Test \$ 1575.00
Misrun \$
Straddle Test \$
Jars \$ 1300.00
Selective Zone \$
Safety Joint \$ 165.00
Standby \$
Evaluation \$
Extra Packer \$
Circ. Sub. \$
Mileage \$
Fluid Sampler \$
Extra Charts \$
Insurance \$ 150.00
Telecopier \$
TOTAL \$ 1010.00

WESTERN TESTING CO., INC.

Pressure Data

Date 9/24/83 Test Ticket No. 1772

Recorder No. _____ Capacity _____ Location _____ Ft. _____

Clock No. _____ Elevation _____ Well Temperature _____ °F

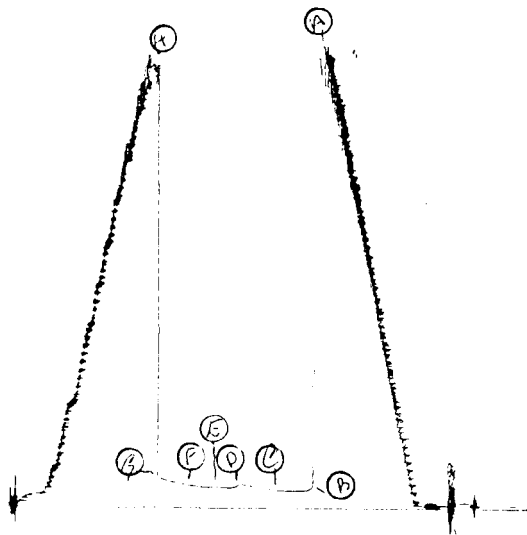
Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2400</u> P.S.I.		M
B First Initial Flow Pressure	<u>89</u> P.S.I.		Mins.
C First Final Flow Pressure	<u>100</u> P.S.I.		Mins.
D Initial Closed-in Pressure	<u>132</u> P.S.I.		Mins.
E Second Initial Flow Pressure	<u>111</u> P.S.I.		Mins.
F Second Final Flow Pressure	<u>117</u> P.S.I.		Mins.
G Final Closed-in Pressure	<u>167</u> P.S.I.		Mins.
H Final Hydrostatic Mud	<u>2351</u> P.S.I.		Mins.

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>7</u> Inc.		Breakdown: <u>10</u> Inc.		Breakdown: <u>7</u> Inc.		Breakdown: <u>11</u> 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	89	0	100	0	111	0	117
P 2 5	89	3	102	5	111	3	119
P 3 10	89	6	106	10	111	6	123
P 4 15	89	9	112	15	111	9	127
P 5 20	93	12	113	20	111	12	131
P 6 25	95	15	119	25	111	15	136
P 7 30	100	18	122	30	117	18	140
P 8 35		21	125	35		21	146
P 9 40		24	126	40		24	151
P10 45		27	132	45		27	155
P11 50		30		50		30	167
P12 55		33		55		33	
P13 60		36		60		36	
P14		39		65		39	
P15		42		70		42	
P16		45		75		45	
P17		48		80		48	
P18		51		85		51	
P19		54		90		54	
P20		57				57	
		60				60	

tbl # (777)

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WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE: 9/24/83
CUSTOMER: FRONTIER OIL COMPANY
WELL: 1 TEST: 2
ELEVATION (KB): 1837 FORMATION: MISSISSIPPI
SECTION: 16 TOWNSHIP: 32S
RANGE: 16W COUNTY: COMANCHE STATE: KANSAS
GAUGE SN #13547 RANGE: 4225 CLOCK: 12

TICKET #1777

LEASE: EINSEL

GEOLOGIST: ALBERTS

FORMATION: MISSISSIPPI

TOWNSHIP: 32S

STATE: KANSAS

CLOCK: 12

INTERVAL TEST FROM: 4719 FT TO: 4788 FT TOTAL DEPTH: 4788 FT
DEPTH OF SELECTIVE ZONE: FT
PACKER DEPTH: 4714 FT SIZE: 6 5/8 IN PACKER DEPTH: 4719 FT SIZE: 6 5/8 IN
PACKER DEPTH: FT SIZE: IN PACKER DEPTH: FT SIZE: IN

DRILLING CONTRACTOR: RED TIGER

MUD TYPE: CHEM-DRIS.

VISCOSITY: 50

WEIGHT: 9.5

WATER LOSS (CC): 11.2

CHLORIDES (P.P.M.): 24000

JARS - MAKE: WTC

SERIAL NUMBER: 410

DID WELL FLOW? NO

REVERSED OUT? NO

DRILL COLLAR LENGTH:

FT I.D.: IN

WEIGHT PIPE LENGTH:

FT I.D.: IN

DRILL PIPE LENGTH: 4690

FT I.D.: 3.8 IN

TEST TOOL LENGTH: 29

FT TOOL SIZE: 5 1/2 OD IN

ANCHOR LENGTH: 69

FT SIZE: 5 1/2 OD IN

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 FH IN

BLOW: WEAK BLOW THROUGHOUT TEST.

RECOVERED: 60 FT OF: DRILLING MUD
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:
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RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:

REMARKS:

TIME SET PACKER(S): 4:30 PM

TIME STARTED OFF BOTTOM: 6:30 PM

WELL TEMPERATURE: 127 °F

INITIAL HYDROSTATIC PRESSURE:

INITIAL FLOW PERIOD MIN: 30

(A) 2400 PSI

INITIAL CLOSED IN PERIOD MIN: 27

(B) 89 PSI TO (C) 100 PSI

FINAL FLOW PERIOD MIN: 30

(D) 132 PSI

FINAL CLOSED IN PERIOD MIN: 30

(E) 111 PSI TO (F) 117 PSI

FINAL HYDROSTATIC PRESSURE

(G) 167 PSI

(H) 2351 PSI

