WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE: 6/26/83
TICKET #19065
CUSTOMER: GRAVES DRILLING CO. INC.
LEASE: LINDHOLM
WELL: 2
TEST: 1
GEOLOGIST: F W STUMP
ELEVATION (KB): 1397
FORMATION:
SECTION: 14
TOWNSHIP: 28S
RANGE: 5W
COUNTY: KINGMAN
STATE: KANSAS
GAUGE SN #2606
RANGE: 4150
CLOCK: 12

INTERVAL TEST FROM: 3811 FT TO: 3828 FT TOTAL DEPTH: 3828 FT
DEPTH OF SELECTIVE ZONE: FT
PACKER DEPTH: 3806 FT SIZE: 6 3/4 IN PACKER DEPTH: 3811 FT SIZE: 6 3/4 IN
PACKER DEPTH: FT SIZE: IN PACKER DEPTH: FT SIZE: IN

DRILLING CONTRACTOR: GRAVES DRLG
MUD TYPE: PREMIX VISCOSITY: 40
WEIGHT: 9.6 WATER LOSS (CC): 18.0
CHLORIDES (P.P.M.): 41000
JARS - MAKE: NO SERIAL NUMBER:
DID WELL FLOW? NO REVERSED OUT? NO

DRILL COLLAR LENGTH:	124	FT	I.D.:	2 1/4	IN
WEIGHT PIPE LENGTH:		FT	I.D.:		IN
DRILL PIPE LENGTH:	3667	FT	I.D.:	3.8	IN
TEST TOOL LENGTH:	20	FT	TOOL SIZE:	5 1/2 OD	IN
ANCHOR LENGTH:	17	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: INITIAL FLOW PERIOD WEAK BLOW BUILDING TO
A GOOD (5 INCH) BLOW.
FINAL FLOW PERIOD GOOD TO STRONG BLOW.
NO GAS TO SURFACE.

RECOVERED:	424	FT	OF: GAS IN PIPE
RECOVERED:	120	FT	OF: SLIGHTLY OIL & GAS CUT MUD
RECOVERED:	60	FT	OF: SLIGHTLY OIL & GAS CUT WATER MUD
RECOVERED:		FT	OF:
RECOVERED:		FT	OF:
RECOVERED:		FT	OF:
RECOVERED:		FT	OF:
RECOVERED:		FT	OF:
RECOVERED:		FT	OF:

REMARKS:

TIME SET PACKER(S): 12:00 PM TIME STARTED OFF BOTTOM: 2:45 PM
WELL TEMPERATURE: 125 'F

INITIAL HYDROSTATIC PRESSURE:		(A) 1991	PSI
INITIAL FLOW PERIOD	MIN: 15	(B) 68	PSI TO (C) 72 PSI
INITIAL CLOSED IN PERIOD	MIN: 42	(D) 1052	PSI
FINAL FLOW PERIOD	MIN: 60	(E) 94	PSI TO (F) 94 PSI
FINAL CLOSED IN PERIOD	MIN: 48	(G) 1025	PSI
FINAL HYDROSTATIC PRESSURE		(H) 1914	PSI

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PRESSURE DATA

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WELL: 2 TEST: 1
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RANGE: 5W
GAUGE SN #2606

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COUNTY: KINGMAN
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RANGE: 4150
CLOCK: 12

(A)	INITIAL HYDROSTATIC PRESSURE:	1991	PSI
(B)	FIRST INITIAL FLOW PRESSURE:	68	PSI
(C)	FIRST FINAL FLOW PRESSURE:	72	PSI
(D)	INITIAL CLOSED-IN PRESSURE:	1052	PSI
(E)	SECOND INITIAL FLOW PRESSURE:	94	PSI
(F)	SECOND FINAL FLOW PRESSURE:	94	PSI
(G)	FINAL CLOSED-IN PRESSURE:	1025	PSI
(H)	FINAL HYDROSTATIC PRESSURE:	1914	PSI
WELL TEMPERATURE:		125	'F

OPEN TOOL: 12:00 PM

	TIME - GIVEN		TIME - ACTUAL	
FIRST FLOW PRESSURE:	15	MIN	15	MIN
INITIAL CLOSED-IN PRESSURE:	45	MIN	42	MIN
SECOND FLOW PRESSURE:	60	MIN	60	MIN
FINAL CLOSED-IN PRESSURE:	45	MIN	48	MIN

PRESSURE BREAKDOWN

	FIRST FLOW		INITIAL SHUT-IN		SECOND FLOW		FINAL SHUT-IN	
PT	MIN	PRESSURE	MIN	PRESSURE	MIN	PRESSURE	MIN	PRESSURE
1	0	68	0	72	0	94	0	94
2	5	68	3	96	5	94	3	112
3	10	68	6	151	10	94	6	158
4	15	72	9	245	15	94	9	233
5			12	368	20	94	12	333
6			15	523	25	94	15	437
7			18	699	30	94	18	553
8			21	827	35	94	21	666
9			24	912	40	94	24	767
10			27	955	45	94	27	842
11			30	987	50	94	30	887
12			33	1010	55	94	33	931
13			36	1026	60	94	36	960
14			39	1042			39	983
15			42	1052			42	1002
16							45	1018
17							48	1025
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2606 D 5/11

TKT # 19065

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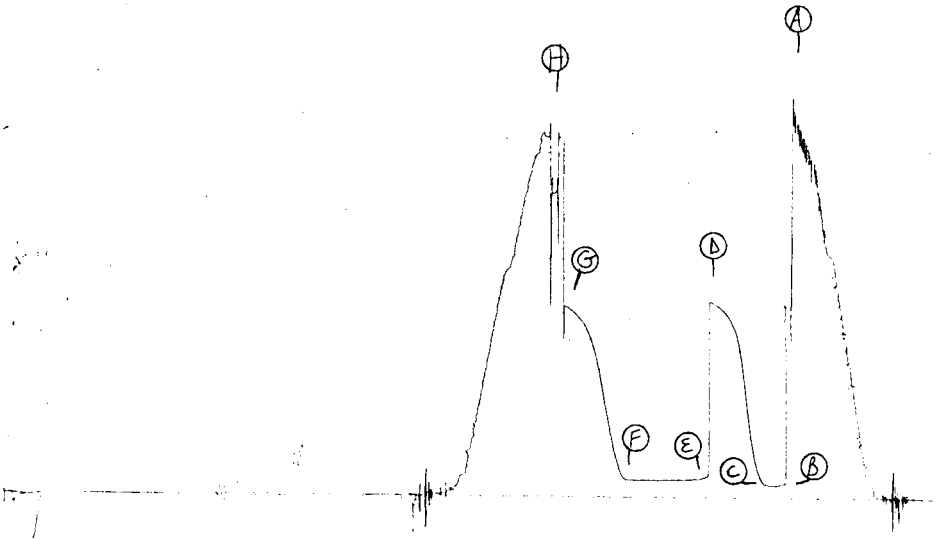

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WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET № 19065

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

Elevation 1397 KB Formation _____ Eff. Pay _____ Ft.

District PRATT Date 6-26-83 Customer Order No. _____

COMPANY NAME GRAVES ~~Exp~~ Drlg Co., Inc.

ADDRESS 910 UNION CENTER Wichita, KANSAS 67202

LEASE AND WELL NO. 2 Lindholm COUNTY Lingman STATE Kansas Sec. 14 Twp. 28 Rge. 5 W

Mail Invoice To #2 LINDHOLM SAME No. Copies Requested 5
Co. Name Address

Mail Charts To SAME No. Copies Requested 5
Address

Formation Test No. 1 Interval Tested From 3811 ft. to 3828 ft. Total Depth 3828 ft.

Packer Depth 3806 ft. Size 6 3/4 in. Packer Depth — ft. Size — in.

Packer Depth 3811 ft. Size 6 3/4 in. Packer Depth — ft. Size — in.

Depth of Selective Zone Set —

Top Recorder Depth (Inside) 3814 ft. Recorder Number 2606 Cap. 4150

Bottom Recorder Depth (Outside) 3817 ft. Recorder Number 13267 Cap. 4050

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

Drilling Contractor GRAVES DRILLING Drill Collar Length 124 I. D. 2 1/4 in.

Mud Type Chemical Viscosity 40 Weight Pipe Length — I. D. — in.

Weight 9.6 Water Loss 18.0 cc. Drill Pipe Length 3667 I. D. 3.8 in.

Chlorides 41,000 P.P.M. Test Tool Length 20 ft. Tool Size 5 1/2 OD in.

Jars: Make NO Serial Number — Anchor Length 17 ft. Size 5 1/2 OD in.

Did Well Flow? NO Reversed Out NO 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 building to a good (5 inch) blow on initial flow good to strong blow on final flow No gas to surface

Recovered 424 ft. of gas in pipe

Recovered 120 ft. of slightly oil & gas cut mud

Recovered 60 ft. of slightly oil & gas cut watery mud

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Remarks: _____

RECEIVED JUN 28 1983

Time On Location 8:30 A.M. P.M. Time Pick Up Tool 9:00 A.M. P.M. Time Off Location 5:30 A.M. P.M.

Time Set Packer(s) 12:00 A.M. P.M. Time Started Off Bottom 2:45 A.M. P.M. Maximum Temperature 125°F

Initial Hydrostatic Pressure		(A) 2031 P.S.I.		
Initial Flow Period	Minutes 15	(B) 83 P.S.I.	to (C) 72 P.S.I.	
Initial Closed In Period	Minutes 45	(D) 1039 P.S.I.		
Final Flow Period	Minutes 60	(E) 104 P.S.I.	to (F) 104 P.S.I.	
Final Closed In Period	Minutes 45	(G) 1039 P.S.I.		
Final Hydrostatic Pressure		(H) 1926 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 Fredrich W Stump
Signature of Customer or his authorized representative

Western Representative Rod Tritt Thank you

FIELD INVOICE

Open Hole Test	$ 550.00
Misrun	$
Straddle Test	$
Jars	$
Selective Zone	$
Safety Joint	$
Standby	$
Evaluation	$
Extra Packer	$
Circ. Sub.	$
Mileage	$
Fluid Sampler	$
Extra Charts	$
Insurance	$
Telecopier	$
TOTAL	$ 550.00

WESTERN TESTING CO., INC.
Pressure Data

Date 6-26 | Test Ticket No. 19065

Recorder No. 2606 | Capacity 4150 | Location 3814 Ft.

Clock No. — — — — | Elevation 1397 KB | Well Temperature 125 °F

Point		Pressure			Time Given	Time Computed
A	Initial Hydrostatic Mud	1991 P.S.I.		Open Tool	12:00 PM	
B	First Initial Flow Pressure	68 P.S.I.		First Flow Pressure	15 Mins.	15 Mins.
C	First Final Flow Pressure	72 P.S.I.		Initial Closed-in Pressure	45 Mins.	42 Mins.
D	Initial Closed-in Pressure	1052 P.S.I.		Second Flow Pressure	60 Mins.	60 Mins.
E	Second Initial Flow Pressure	94 P.S.I.		Final Closed-in Pressure	45 Mins.	48 Mins.
F	Second Final Flow Pressure	94 P.S.I.				
G	Final Closed-in Pressure	1025 P.S.I.				
H	Final Hydrostatic Mud	1914 P.S.I.				

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 4 Inc. of 5 mins. and a final inc. of 0 Min.

Point Mins.		Press.
P 1	0	68
P 2	5	68
P 3	10	68
P 4	15	72
P 5	20	
P 6	25	
P 7	30	
P 8	35	
P 9	40	
P10	45	
P11	50	
P12	55	
P13	60	
P14		
P15		
P16		
P17		
P18		
P19		
P20		

Initial Shut-In
Breakdown: 15 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	72
3	96
6	151
9	245
12	368
15	523
18	699
21	827
24	912
27	955
30	987
33	1010
36	1026
39	1042
42	1052
45	
48	
51	
54	
57	
60	

Second Flow Pressure
Breakdown: 13 Inc. of 5 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	94
5	
10	
15	
20	
25	
30	
35	
40	
45	
50	
55	
60	94
65	
70	
75	
80	
85	
90	

Final Shut-In
Breakdown: 17 Inc. of 3 mins. and a final inc. of 0 Min.

Point Minutes	Press.
0	94
3	112
6	158
9	233
12	333
15	437
18	553
21	666
24	767
27	842
30	887
33	931
36	960
39	983
42	1002
45	1018
48	1025
51	
54	
57	
60	

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