

15-025-21075

TRILOBITE TESTING COMPANY, L.L.C.

30-325-22w

P.O. Box 362 • Hays, Kansas 67601

Computer Inventoried Drill-Stem Test Data

Well Name FLORENCE MOORE #1 Test No. 1 Date 2/16/92
 Company REEF EXPLORATION INC. Zone Tested VIOLA LIME
 Address 1901 N CENTRAL EXPRESSWAY-#300-RICHARDS Elevation 2090 G.L.
 Co. Rep./Geo. DON HUDGENS Cont. ALLEN DRILLING Est. Ft. of Pay 18
 Location: Sec. 30 Twp. 32S Rge. 22W Co. CLARK State KS

Interval Tested 6593-6615
 Anchor Length 22
 Top Packer Depth 6588
 Bottom Packer Depth 6593
 Total Depth 6615

Drill Pipe Size 4.5 XH
 Wt. Pipe I.D. - 2.7 Ft. Run
 Drill Collar — 2.25 Ft. Run 180

Mud Wt. 8.9 lb / gal. Viscosity 48 Filtrate 9.6

Tool Open @ 11:45 PM Initial Blow VERY GOOD - BOTTOM OF BUCKET IN 10 SECONDS
GOOD BLOW BACK - GAS TO SURFACE ON INITIAL SHUTIN IN 5 MIN
 Final Blow VERY GOOD-BOTTOM OF BUCKET IN 10 SECONDS-SLIGHT DECREAS
THROUGHOUT FLOW PERIOD

Recovery — Total Feet 1104 Flush Tool? NO

Rec. 924 Feet of GASSY OIL

Rec. 180 Feet of MUDDY WATER

Rec. _____ Feet of _____

Rec. _____ Feet of _____

Rec. _____ Feet of _____

BHT 139 °F Gravity 46 °API @ 60 °F Corrected Gravity 46 °API

RW 0.3 @ 55 °F Chlorides 29000 ppm Recovery Chlorides 9000 ppm System

(A) Initial Hydrostatic Mud 3285.8 PSI AK1 Recorder No. 13850 Range 4425

(B) First Initial Flow Pressure 103.3 PSI @ (depth) 6594 w/Clock No. 27585

(C) First Final Flow Pressure 121.1 PSI AK1 Recorder No. 13851 Range 4325

(D) Initial Shut-in Pressure 2097 PSI @ (depth) 6615 w/Clock No. 25813

(E) Second Initial Flow Pressure 146.6 PSI AK1 Recorder No. _____ Range _____

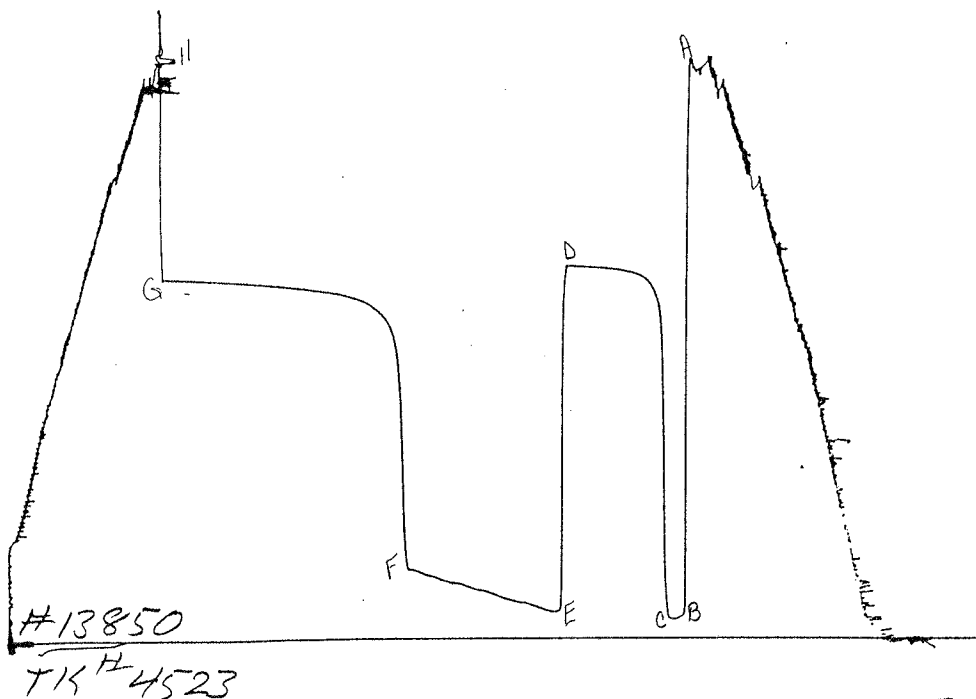
(F) Second Final Flow Pressure 399.9 PSI @ (depth) _____ w/Clock No. _____

(G) Final Shut-in Pressure 2030.1 PSI Initial Opening 15 Final Flow 120

(H) Final Hydrostatic Mud 3228.6 PSI Initial Shut-in 90 Final Shut-in 180

Our Representative HARRY SCHMIDT

TOTAL PRICE \$ 1050



POINT This is an actual photograph of recorder chart
PRESSURE

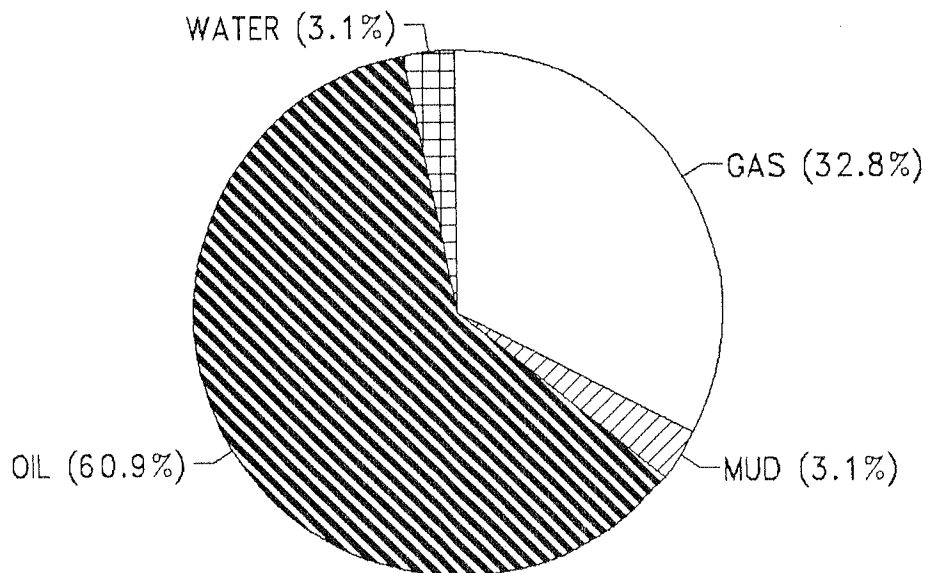
	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	3289	3285.8
(B) FIRST INITIAL FLOW PRESSURE	111	103.3
(C) FIRST FINAL FLOW PRESSURE	144	121.1
(D) INITIAL CLOSED-IN PRESSURE	2095	2097
(E) SECOND INITIAL FLOW PRESSURE	166	146.6
(F) SECOND FINAL FLOW PRESSURE	422	399.9
(G) FINAL CLOSED-IN PRESSURE	2040	2030.1
(H) FINAL HYDROSTATIC MUD	3280	3228.6

CALCULATED RECOVERY ANALYSIS

DST # 1 TICKET # 4544

SAMPLE #	TOTAL FEET	GAS %	GAS FEET	OIL %	OIL FEET	WATER %	WATER FEET	MUD %	MUD FEET
DRILL 1	924	35	323.4	65	600.6	0	0	0	0
PIPE 2			0		0		0		0
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
6			0		0		0		0
WEIGHT 1			0		0		0		0
PIPE 2			0		0		0		0
3			0		0		0		0
4			0		0		0		0
DRILL 1	180	0	0	0	0	50	90	50	90
COLLAR 2			0		0		0		0
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
TOTAL	1104		323.4		600.6		90		90

HRS OPEN BBL/DAY
 BBL OIL= 8.540532 * 2.25 91.099
 BBL WATER 0.4401 * 4.6944
 BBL MUD= 0.4401
 BBL GAS =4.598748



COMPUTER EVALUATION BY TRILOBITE TESTING
REEF EXPLORATION INC.
REPORT FOR DST#1 FOR THE FLORENCE MOORE #1
30-32S-22W CLARK KANSAS

TEST PARAMETERS

ELEVATION: 2090 KB EST. PAY: 18 FT
DATUM: -4526 ZONE TESTED: VIOLA LIME
TEST INTERVAL: 6593-6615
TIME INTERVALS: 15-90-120-180
RECORDER DEPTH: 6615 VISCOSITY: 5.057557 CP
BOTTOM HOLE TEMP: 139 HOLE SIZE: 7.875 IN

CALCULATIONS

CUBIC FEET OF GAS IN PIPE: 439.9949
TOTAL FEET OF RECOVERY: 1104
BARRELS IN DRILL PIPE: 13.13928
BARRELS IN DRILL COLLARS: .8802
GAS OIL RATIO: 31.38453 CU.FT./BBL
BUBBLE POINT PRESSURE: ; .9883116
TOTAL BARRELS OF RECOVERY: 14.01948
UNCORR. INIT. PROD.: 149.5411 BBL/DAY
API GRAVITY: 46
FLUID GRADIENT: .345

CORRECTED PIPE FILLUP: 1159.13
CORR. BARRELS OF RECOVERY: 14.80158 BBL
INITIAL PRODUCTION CORRECTED TO FINAL FLOW PRESSURE: 157.8835 BBL/DAY
INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE
130.0169

INITIAL SLOPE 311.1 PSI/CYCLE
INITIAL P* 2123 PSI

FINAL SLOPE 272.09 PSI/CYCLE
FINAL P* 2094 PSI

TRANSMISSIBILITY 94.35062 (MD.-FT./CP.)
PERMEABILITY 26.5102 (MD.)
INDICATED FLOW CAPACITY 477.1836 (MD.FT)
PRODUCTIVITY INDEX .1066162 (BARRELS/DAY/PSI)
DAMAGE RATIO 1.139404
RADIUS OF INVESTIGATION 59.82372 (FT.)
THEORETICAL POTENTIAL FROM FINAL FLOW PRESSURE 179.893 BBL/DAY
THEORETICAL POTENTIAL FROM PSEUDO STEADY FLOW STATE 148.1417 BBL/DAY
POTENTIOMETRIC SURFACE 330.9859 (FT.)
DRAWDOWN FACTOR 1.36599 (%)

INITIAL FLOW

RECORDER # 13851
DST #1

DT(MIN)	PRESSURE	<> PRESSURE
0	103.3	103.3
3	104.4	1.099999
6	105.5	1.099999
9	114.4	8.900001
12	121.1	6.699997

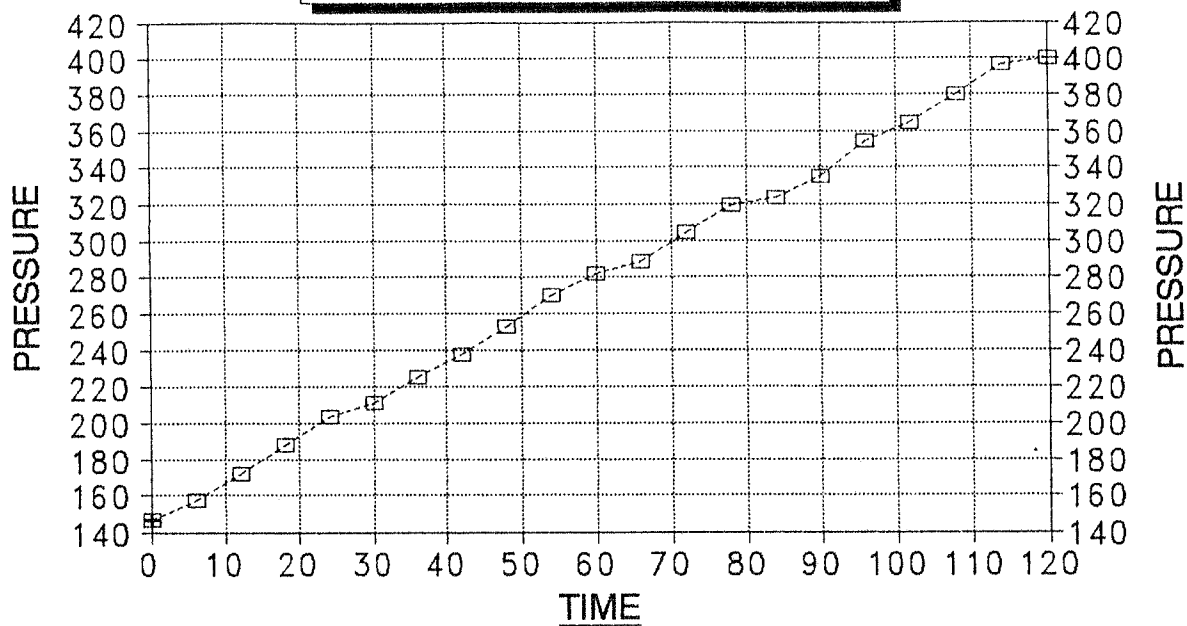
FINAL FLOW

RECORDER # 13851
DST #1

DT(MIN)	PRESSURE	<> PRESSURE
0	146.6	146.6
6	157.7	11.099999
12	172.2	14.5
18	187.7	15.5
24	203.3	15.600001
30	211.1	7.800003
36	225.5	14.399999
42	237.7	12.2
48	253.3	15.600001
54	269.9	16.599999
60	282.2	12.300002
66	288.8	6.599976
72	304.4	15.600001
78	318.8	14.399999
84	323.3	4.5
90	335.5	12.200001
96	354.4	18.899999
102	364.4	10
108	379.9	15.5
114	396.6	16.700001
120	399.9	3.299988

DELTA T DELTA P

FINAL FLOW - DST #1



---□--- FLORENCE MOORE #1

INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE 130.0169 BBL/DAY

FLORENCE MOORE DST #1
INITIAL SHUTIN

15 INITIAL FLOW TIME

Slope -311.10 psi/cycle
P * 2,123 psi

	TIME(MIN)	Pws (psi)	Horn	T	Log Horn T	<> PRESSURE
	9	1976.7	3		0.426	1976.7
	18	2032.4	2		0.263	55.7
	27	2063.6	2		0.192	31.2
	36	2077.0	1		0.151	13.4
X	45	2083.7	1		0.125	6.7
	54	2089.2	1		0.106	5.5
	63	2094.8	1		0.093	5.6
X	72	2097.0	1		0.082	2.2

FLORENCE MOORE DST #1
FINAL SHUTIN

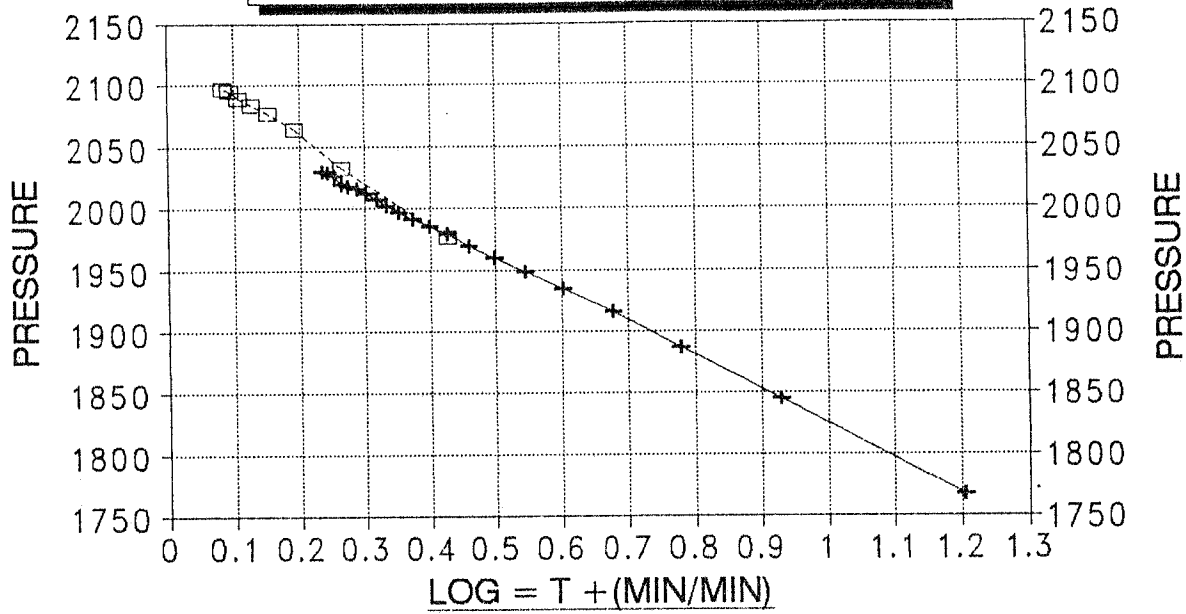
135 TOTAL FLOW TIME

Slope -272.09 psi/cycle
P * 2,094 psi

	TIME(MIN)	Pws (psi)	Horn	T	Log Horn T	<> PRESSURE
	9	1767.6	16		1.204	1767.6
	18	1845.1	9		0.929	77.5
	27	1887.1	6		0.778	42.0
	36	1915.9	5		0.677	28.8
	45	1934.7	4		0.602	18.8
	54	1948.0	4		0.544	13.3
	63	1960.1	3		0.497	12.1
X	72	1969.0	3		0.459	8.9
	81	1978.9	3		0.426	9.9
	90	1985.6	3		0.398	6.7
	99	1991.1	2		0.374	5.5
	108	1996.7	2		0.352	5.6
	117	2002.3	2		0.333	5.6
	126	2006.7	2		0.316	4.4
	135	2012.3	2		0.301	5.6
	144	2015.7	2		0.287	3.4
	153	2017.9	2		0.275	2.2
	162	2020.1	2		0.263	2.2
	171	2025.7	2		0.253	5.6
	180	2029.0	2		0.243	3.3
X	189	2030.1	2		0.234	1.1

HORNER PLOT

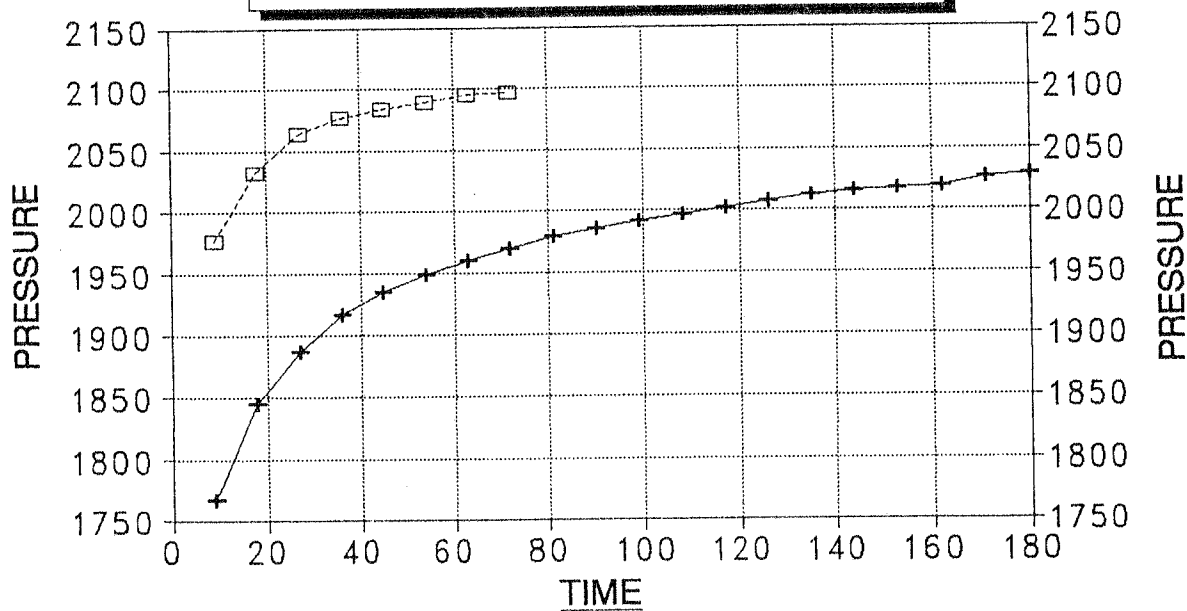
DST #1 / FLORENCE MOORE #1



---□--- INITIAL +--- FINAL

DELTA T DELTA P

DST #1 / FLORENCE MOORE #1



---□--- INITIAL +--- FINAL

0.109	121.1106
1.793	1976.765
1.843	2032.426
1.871	2063.64
1.883	2077.021
1.889	2083.712
1.894	2089.288
1.899	2094.865
1.901	2097.095

0.36	399.996
1.604	1767.694
1.674	1845.124
1.712	1887.162
1.738	1915.92
1.755	1934.726
1.767	1948.001
1.778	1960.17
1.786	1969.021
1.795	1978.978
1.801	1985.624
1.806	1991.195
1.811	1996.765
1.816	2002.337
1.82	2006.794
1.825	2012.365
1.828	2015.709
1.83	2017.938
1.832	2020.166
1.837	2025.739
1.84	2029.083
1.841	2030.197

~~0.093~~

~~103.3331~~

~~p< >> i p x i i x~~

Flow

0.093	103.3331
0.094	104.4441
0.095	105.5551
0.103	114.4435
0.109	121.1106

0.132	146.668
0.142	157.7802
0.155	172.2252
0.169	187.7794
0.183	203.3334
0.19	211.1103
0.203	225.5533
0.214	237.7754
0.228	253.3308
0.243	269.9973
0.254	282.2194
0.26	288.886
0.274	304.4414
0.287	318.8857
0.291	323.3301
0.302	335.5522
0.319	354.4409
0.328	364.4408
0.342	379.9962
0.357	396.6627
0.36	399.996

Ref

WELL NAME

DST #

RECORDER #

13851

INIT. HYD. MUD

2967

3285.8

FINAL HYD. MUD

2916

3228.6

INITIAL FLOW

MINUTES

15

INTERVAL

3

INITIAL SHUTIN

MINUTES

90

INTERVAL

9

FINAL FLOW

MINUTES

120

INTERVAL

6

FINAL SHUTIN

MINUTES

180

INTERVAL

9

.093	1033	.109	—	1	.132	146.6	.360	—
.094		1.793		2	.142		1.604	
.095		1.843		3	.155		1.674	
.103		1.871		4	.169		1.712	
.109	12.1	1.883		5	.183		1.738	
		1.889		6	.190		1.755	
		1.894		7	.203		1.767	
		1.899		8	.214		1.778	
		1.901	2097.0	9	.228		1.786	
				10	.243		1.795	
				11	.254		1.801	
				12	.260		1.806	
				13	.274		1.811	
				14	.287		1.816	
				15	.291		1.820	
				16	.302		1.825	
				17	.319		1.828	
				18	.328		1.830	
				19	.342		1.832	
				20	.357		1.837	
				21	.360	399.9	1.840	
				22			1.841	2030.1
				23				
				24				
				25				
				26				
				27				

TRILOBITE TESTING COMPANY L.L.C.

P.O. Box 362 • Hays, Kansas 67601

1-800-422-1606

Test Ticket

No 4523

Fax - 214-994-0369

FAX 915-677-5641

Well Name & No. <u>FLORENCE MOORE #1</u>	Test No. <u>ONE</u>	Date <u>2-16-92</u>
Company <u>REEF EXPL. INC.</u>	Zone Tested <u>WOLA UNIT</u>	
Address <u>1901 N. CENTRAL EXPRESSWAY SUITE 300</u>	Elevation <u>2090 G.L.</u>	
Co. Rep./Geo. <u>RICHARDSON TX. 75080</u>	Cont.	Est. Ft. of Pay <u>18</u>
Location: Sec. <u>30</u>	Twp. <u>32 S</u>	Rge. <u>22 W</u>
	Co. <u>CLARK</u>	State <u>KS</u>
No. of Copies <u>5</u>	Distribution Sheet <u>Yes</u>	No Turnkey <u>Yes</u>
		Evaluation <u>NO</u>

Interval Tested <u>6593 TO 6615</u>	Drill Pipe Size <u>4 1/2" X 17</u>
Anchor Length <u>22</u>	Top Choke — 1" Bottom Choke — 3/4"
Top Packer Depth <u>6588</u>	Hole Size — 7 7/8" Rubber Size — 6 3/4"
Bottom Packer Depth <u>6593</u>	Wt. Pipe I.D. — 2.7 Ft. Run
Total Depth <u>6615</u>	Drill Collar — 2.25 Ft. Run <u>180'</u>
Mud Wt. <u>8.95</u> lb/gal.	Viscosity <u>48</u> Filtrate <u>9.6</u>
Tool Open @ <u>11:45 P</u>	Initial Blow <u>VERY GOOD BOT. BUCKET IN 10 SEC.</u>
	<u>GOOD BLOW BACK G.T.S. ON 1.51 IN 5 MIN.</u>
Final Blow <u>VERY GOOD BOT. OF BUCKET IN 10 SEC. SLIGHT DECREASING</u>	<u>THROUGHOUT F.P.</u>

Recovery — Total Feet <u>1104</u>	Feet of Gas in Pipe <u>G.T.S.</u>	Flush Tool? <u>NO</u>
Rec. <u>924</u> Feet Of	<u>GAS Y OIL</u> 35% gas 65% oil	%water %mud
Rec. _____ Feet Of	%gas %oil	%water %mud
Rec. <u>180'</u> Feet Of	<u>MUDY WATER</u> %gas %oil 50% water 50% mud	%water %mud
Rec. _____ Feet Of	%gas %oil	%water %mud
Rec. _____ Feet Of	%gas %oil	%water %mud

BHT <u>139</u> °F Gravity <u>46</u> °API @ <u>60</u>	°F Corrected Gravity <u>46</u> °API
RW <u>0.3</u> @ <u>55</u> °F Chlorides <u>29,000</u> ppm Recovery	Chlorides <u>9,000</u> ppm System

(A) Initial Hydrostatic Mud <u>3289</u>	PSI AK1 Recorder No. <u>13850</u>	Range <u>4425</u>
(B) First Initial Flow Pressure <u>111</u>	PSI @ (depth) <u>6594</u>	w/Clock No. <u>27585</u>
(C) First Final Flow Pressure <u>144</u>	PSI AK1 Recorder No. <u>13851</u>	Range <u>4325</u>
(D) Initial Shut-In Pressure <u>2095</u>	PSI @ (depth) <u>6615</u>	w/Clock No. <u>25813</u>
(E) Second Initial Flow Pressure <u>166</u>	PSI AK1 Recorder No. _____	Range _____
(F) Second Final Flow Pressure <u>422</u>	PSI @ (depth) _____	w/Clock No. _____
(G) Final Shut-In Pressure <u>2040</u>	PSI Initial Opening <u>15</u>	Test <u>750</u> <u>00</u>
(H) Final Hydrostatic Mud <u>3280</u>	PSI Initial Shut-In <u>90</u>	Jars <u>200</u> <u>00</u>

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Final Flow <u>120</u>	Safety Joint <u>50</u> <u>00</u>
Final Shut-In <u>180</u>	Straddle _____
	Circ. Sub _____
	Sampler _____

Approved By Don A. Hudson

Our Representative Thom Schmitt

Extra Packer _____

Other _____

TOTAL PRICE \$ 1,000 00