

TRILOBITE TESTING L.L.C.

OPERATOR : Miller Energy Inc.

DATE 4-7-99

WELL NAME: Zimmerman "1-16"

KB 2765.00 ft

TICKET NO: 10245 DST #1

LOCATION : 16-31S-30W Meade co KS

GR 2760.00 ft

FORMATION: Morrow/Chester

INTERVAL : 5368.00 To 5530.00 ft

TD 5530.00 ft

TEST TYPE: CONVENTIONAL

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 30 Rec.	10242	10242	Alpine			PF Fr. 2355 to 0025 hr
SI 60 Range(Psi)	4100.0	4100.0	5000.0	0.0	0.0	IS Fr. 0025 to 0125 hr
SF 60 Clock(hrs)	12 HR	12 HR	12 HR			SF Fr. 0125 to 0225 hr
FS 120 Depth(ft)	5527.0	5527.0	5370.0	0.0	0.0	FS Fr. 0225 to 0425 hr

	Field	1	2	3	4	
A. Init Hydro	2763.0	2783.0	2654.0	0.0	0.0	T STARTED 2155 hr
B. First Flow	172.0	196.0	52.0	0.0	0.0	T ON BOTM 2352 hr
B1. Final Flow	172.0	196.0	63.0	0.0	0.0	T OPEN 2355 hr
C. In Shut-in	786.0	807.0	687.0	0.0	0.0	T PULLED 0425 hr
D. Init Flow	172.0	196.0	55.0	0.0	0.0	T OUT 0730 hr
E. Final Flow	172.0	196.0	69.0	0.0	0.0	
F. Fl Shut-in	1497.0	1519.0	1402.0	0.0	0.0	TOOL DATA-----
G. Final Hydro	2748.0	2772.0	2645.0	0.0	0.0	Tool Wt. 3800.00 lbs
Inside/Outside	O	O	I			Wt Set On Packer 25000.00 lbs
						Wt Pulled Loose 5000.00 lbs
						Initial Str Wt 80000.00 lbs
						Unseated Str Wt 81000.00 lbs
						Bot Choke 0.75 in
						Hole Size 7.78 in
						D Col. ID 2.25 in
						D. Pipe ID 3.80 in
						D.C. Length 176.00 ft
						D.P. Length 5188.00 ft

RECOVERY

Tot Fluid 135.00 ft of 135.00 ft in DC and 0.00 ft in DP
 135.00 ft of Slight Gas cut Mud 4% Gas 96% Mud
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of

SALINITY 2100.00 P.P.M. A.P.I. Gravity 0.00

BLOW DESCRIPTION

Initial Flow:

Fair 2" built to strong off bottom
 of bucket in 5 mins.

Initial Shut-in:

No blow back

Final Flow:

Strong immediatley cracked 2"
 slightly strong throughout

Final Shut-in:

No blow back

SAMPLES: None

SENT TO:

Test Successful: Y

MUD DATA-----

Mud Type	Chemical
Weight	9.30 lb/cf
Vis.	53.00 S/L
W.L.	8.80 in3
F.C.	0.00 in
Mud Drop Y	20.0 ft
Amt. of fill	0.00 ft
Btm. H. Temp.	122.00 F
Hole Condition	Good
% Porosity	8.00
Packer Size	6.75 in
No. of Packers	2
Cushion Amt.	0.00
Cushion Type	
Reversed Out N	
Tool Chased N	
Tester	Lanny Saloga
Co. Rep.	Tim Pierce
Contr.	Abercrombie
Rig #	4
Unit #	
Pump T.	

*** TOOL DIAGRAM *** CONVENTIONAL

WELL NAME: Zimmerman "1-16"

LOCATION : 16-31S-30W

TICKET No. 10247 D.S.T. No. 3 DATE 4-10-99

TOTAL TOOL TO BOTTOM OF TOP PACKERS 30

INTERVAL TOOL

BOTTOM PACKERS AND ANCHOR 32

TOTAL TOOL 62

DRILL COLLAR ANCHOR IN INTERVAL

D.C. ANCHOR STND.Stands Single Total

D.P. ANCHOR STND.Stands Single Total

TOTAL ASSEMBLY

D.C. ABOVE TOOLS.Stands 3 Single Total 176

D.P. ABOVE TOOLS.Stands 91 Single Total 5650

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 5888

TOTAL DEPTH 5862

TOTAL DRILL PIPE ABOVE K.B. 26

REMARKS:

FLUID SAMPLER DATA

Total Vol. 5000 ML.

Total Vol. Rec. 3500 ML.

Oil 140 ML.

Mud 3360 ML.

Wtr. 0 ML.

Gas 0.75 CF.

Psi. 45

Bht. 127 F.

Pit RW. 2.9 Ohms at 62 F. 2,300 PPM.

Rec RW. 2.5 Ohms at 71 F. 2,350 PPM.

Gravity -- at -- F.

P.O. SUB Cir. sub	5740
C.O. SUB Top of tool	5800
Double pin	5801
S.I. TOOL H&T	5806
Sampler	5809
HMV Sterling	5814
JARS Sterling	5819
SAFETY JOINT Bowen	5821
PACKER Sparton	5826
PACKER Sparton	5830
DEPTH	
STUBB 1 ft.	5831
ANCHOR Rec. sub	5832
Alpine	5832
Pu. sub	5837
AK-1	5859
23 ft. perf	5860
BULLNOSE 2 ft. perf	
T.D.	5862

10245 D.S.T.#1 Zimmerman "1-16" Miller Energy

Flag Points

t(Min.) P(PSig)

A: 0.00 2854.85
B: 0.00 52.96
C: 28.50 63.19
D: 60.50 687.40
E: 0.00 55.32
F: 59.00 69.78
G: 121.00 1402.71
Q: 0.00 2645.74

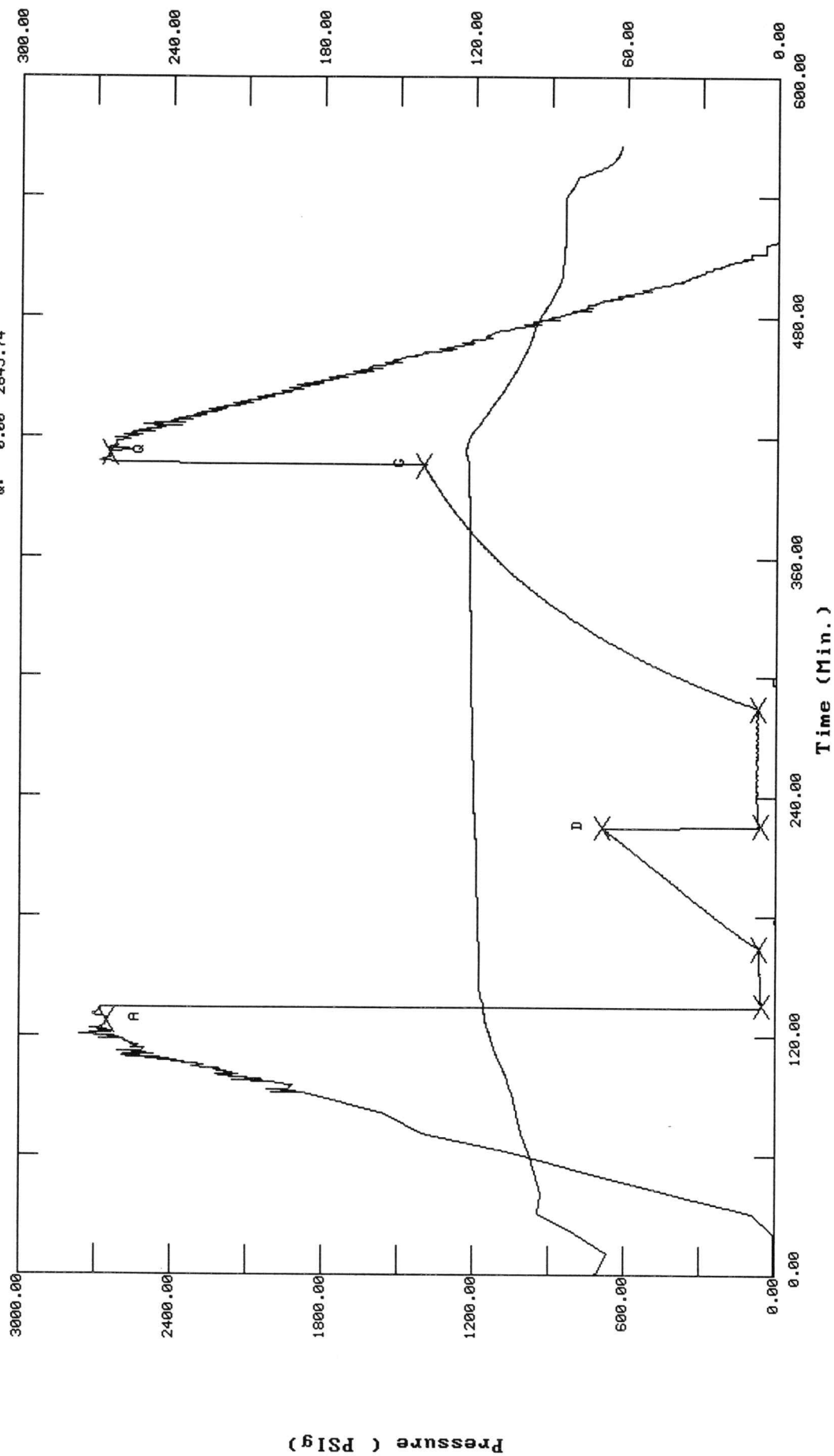
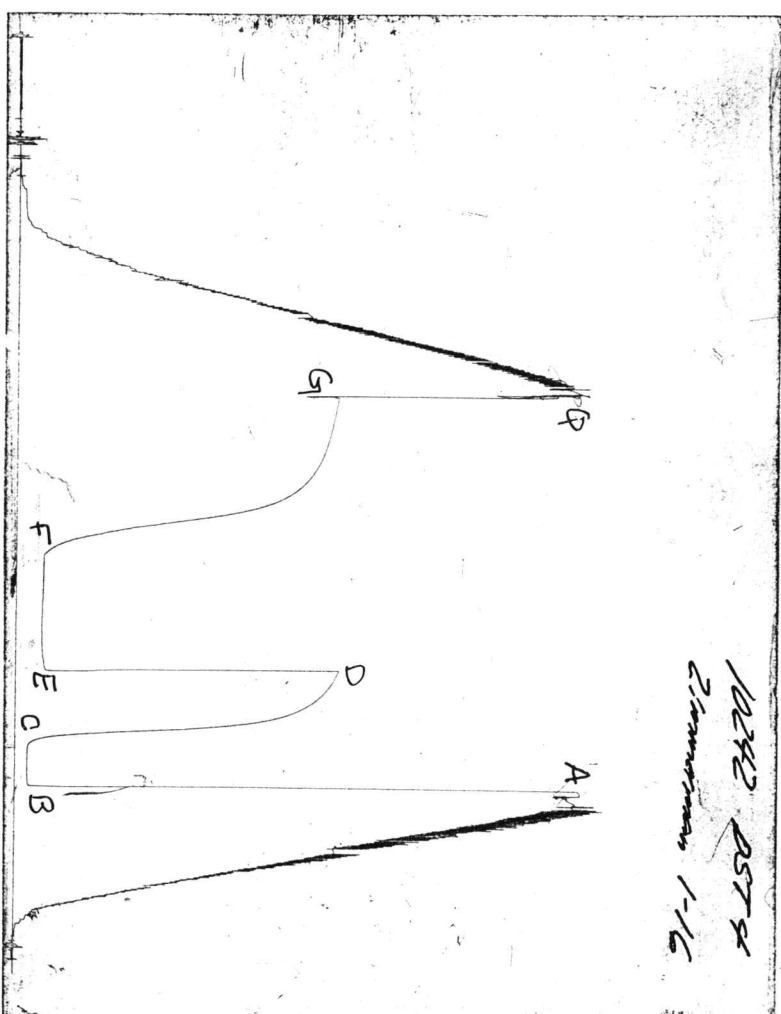


CHART PAGE



This is a photocopy of the actual AK-1 recorder chart

TRILOBITE TESTING L.L.C.

OPERATOR : Miller Energy Inc.

DATE 4-9-99

WELL NAME: Zimmerman "1-16"

KB 2765.00 ft

TICKET NO: 10246 DST #2

LOCATION : 16-31S-30W Meade co KS

GR 2760.00 ft

FORMATION: St. Louis

INTERVAL : 5765.00 To 5790.00 ft

TD 5790.00 ft

TEST TYPE: CONVENTIONAL

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 30 Rec.	13630	13630	Alpine			PF Fr. 1205 to 1235 hr
SI 60 Range(Psi)	4625.0	4625.0	5000.0	0.0	0.0	IS Fr. 1235 to 1335 hr
SF 60 Clock(hrs)	12 HR	12 HR	12 HR			SF Fr. 1335 to 1435 hr
FS 120 Depth(ft)	5787.0	5787.0	5767.0	0.0	0.0	FS Fr. 1435 to 1635 hr

	Field	1	2	3	4	
A. Init Hydro	2833.0	2874.0	2841.0	0.0	0.0	T STARTED 1000 hr
B. First Flow	2.0	4.0	20.0	0.0	0.0	T ON BOTM 1202 hr
B1. Final Flow	9.0	6.0	25.0	0.0	0.0	T OPEN 1205 hr
C. In Shut-in	92.0	107.0	142.0	0.0	0.0	T PULLED 1635 hr
D. Init Flow	13.0	31.0	26.0	0.0	0.0	T OUT 2000 hr
E. Final Flow	22.0	27.0	30.0	0.0	0.0	
F. Fl Shut-in	208.0	228.0	261.0	0.0	0.0	TOOL DATA-----
G. Final Hydro	2761.0	2760.0	2820.0	0.0	0.0	Tool Wt. 1800.00 lbs
Inside/Outside	O	O	I			Wt Set On Packer 24000.00 lbs
						Wt Pulled Loose 5000.00 lbs
						Initial Str Wt 84000.00 lbs
						Unseated Str Wt 85000.00 lbs
						Bot Choke 0.75 in
						Hole Size 7.78 in
						D Col. ID 2.25 in
						D. Pipe ID 3.80 in
						D.C. Length 176.00 ft
						D.P. Length 5588.00 ft

RECOVERY

Tot Fluid 30.00 ft of 30.00 ft in DC and 0.00 ft in DP
 30.00 ft of Slightly Oil cut Mud 5% Oil 95% Mud
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of

SALINITY 2700.00 P.P.M. A.P.I. Gravity 38.00

BLOW DESCRIPTION

Initial Flow:

Very weak surface blow throughout

Initial Shut-in:

No blow-back.

Final Flow:

1/4" blow, built to 1" in 30 min.

Stabilized.

Final Shut-in:

No blow-back.

Remark: Est. 15 ft. of pay.

SAMPLES: None

SENT TO:

MUD DATA-----

Mud Type	Chemical
Weight	9.20 lb/cf
Vis.	54.00 S/L
W.L.	8.00 in3
F.C.	0.00 in
Mud Drop Y	20.0 ft
Amt. of fill	0.00 ft
Btm. H. Temp.	128.00 F
Hole Condition	Good
% Porosity	11.00
Packer Size	6.75 in
No. of Packers	2
Cushion Amt.	0.00
Cushion Type	
Reversed Out N	
Tool Chased N	
Tester	Lanny Saloga
Co. Rep.	Tim Pierce
Contr.	Abercrombie
Rig #	4
Unit #	
Pump T.	

Test Successful: Y

*** TOOL DIAGRAM *** CONVENTIONAL

WELL NAME: Zimmerman "1-16"

LOCATION : 16-31S-30W

TICKET No. 10246 D.S.T. No. 2 DATE 4-9-99

TOTAL TOOL TO BOTTOM OF TOP PACKERS 30

INTERVAL TOOL

BOTTOM PACKERS AND ANCHOR 25

TOTAL TOOL 55

DRILL COLLAR ANCHOR IN INTERVAL

C. ANCHOR STAND.Stands Single Total

P. ANCHOR STAND.Stands Single Total

TOTAL ASSEMBLY

C. ABOVE TOOLS.Stands 3 Single Total 176

P. ABOVE TOOLS.Stands 90 Single Total 5588

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 5819

TOTAL DEPTH 5790

TOTAL DRILL PIPE ABOVE K.B. 29

REMARKS:

FLUID SAMPLER DATA

Total Vol. 5000 ML.

Total Vol. Rec. 5000 ML.

Oil 2000 ML.

Mud 3000 ML.

Water. 0 ML.

Gas 2.9 CF.

Pressure. 200

Depth. 128 F.

Spot RW. 2.2 Ohms at 68 F. 2,800 PPM.

Rec RW. 2.4 Ohms at 64 F. 2,700 PPM.

Gravity 38 at 60 F.

P.O. SUB Cir. sub	5675
C.O. SUB Top of tool	5735
Double pin	5736
S.I. TOOL H&T	5741
Sampler	5744
HMV Sterling	5749
JARS Bowen	5754
SAFETY JOINT Bowen	5756
PACKER Sparton	5761
PACKER Sparton	5765
DEPTH	
STUBB 1 ft.	5766
ANCHOR Rec. sub	5767
Alpine	5767
T.C.	
DEPTH	
Pu. sub	5772
AK-1	5787
16 ft. perfs	5788
BULLNOSE 2 ft. perf	
T.D.	5790

TEST HISTORY

Flag Points
t(Min.) P(PSig)

A: 0.00 2841.89
B: 0.00 20.97
C: 30.50 25.96
D: 60.00 142.60
E: 0.00 26.32
F: 60.00 30.37
G: 121.00 261.62
Q: 0.00 2820.80

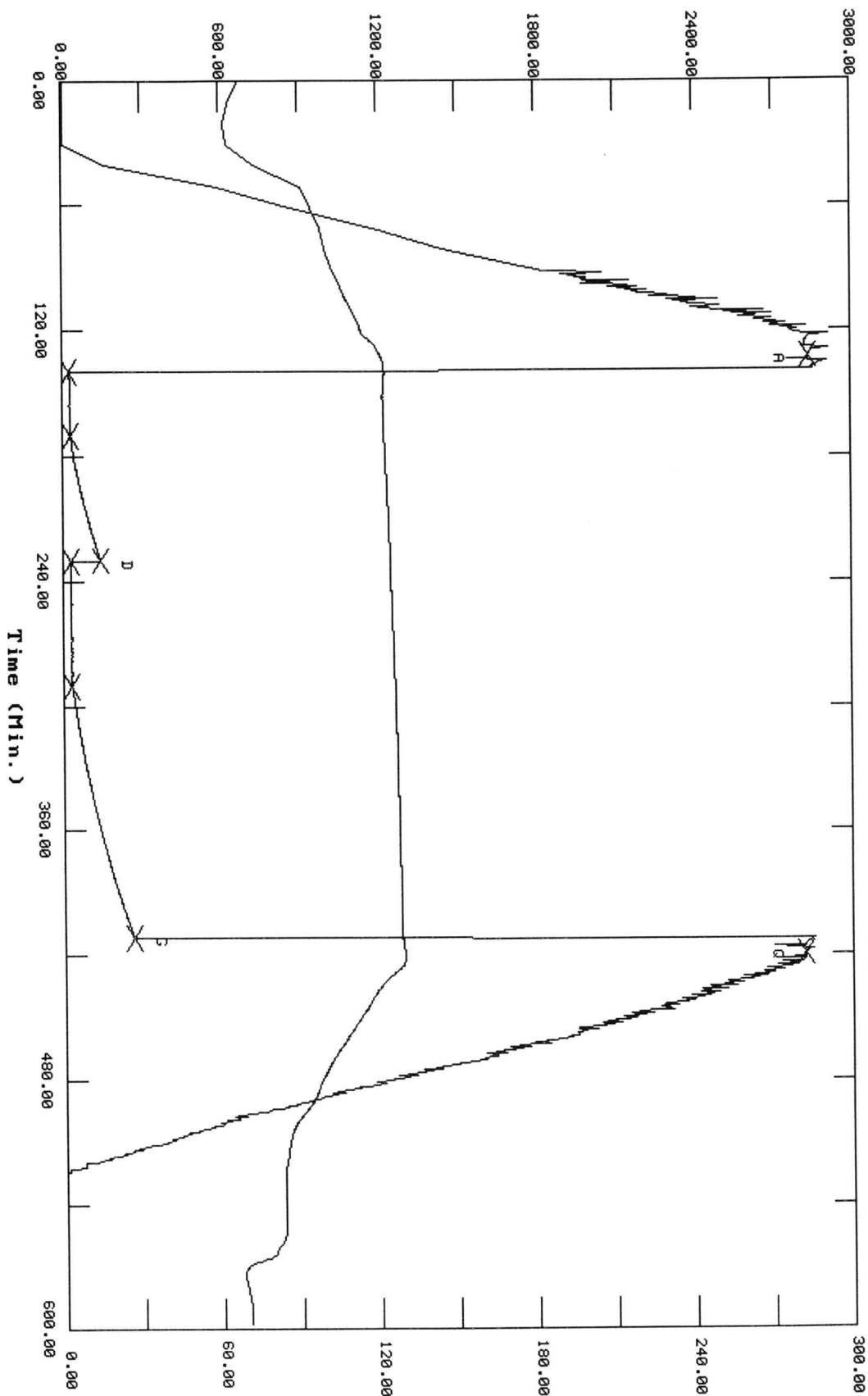
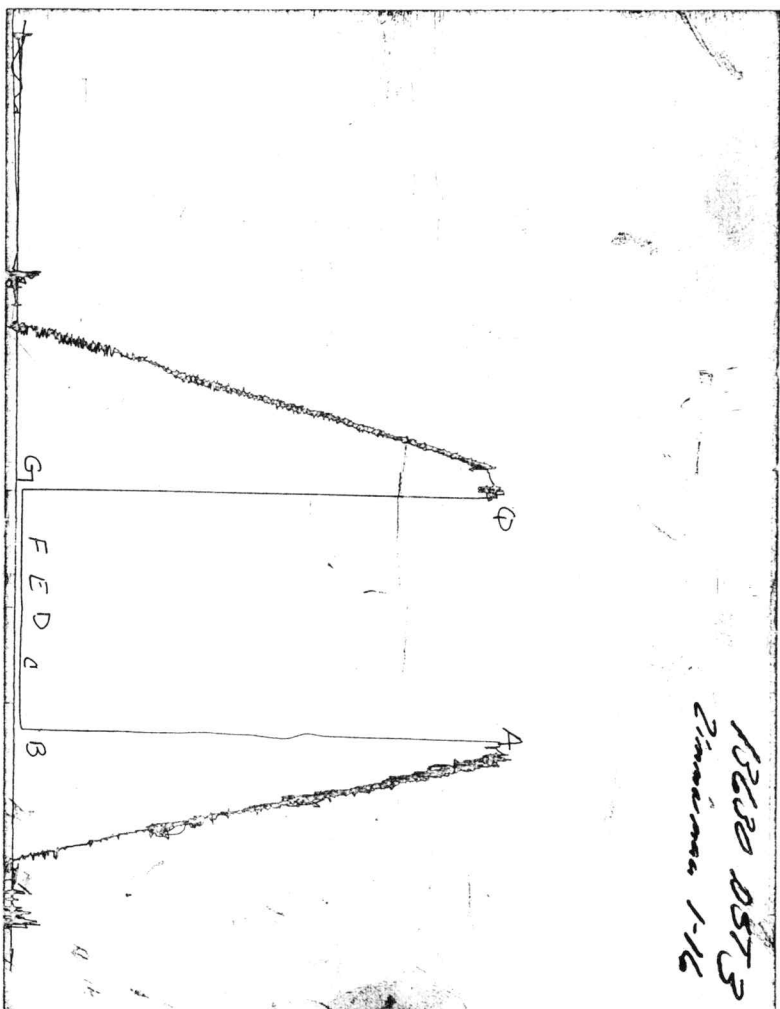


CHART PAGE



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TRILOBITE TESTING L.L.C.

P.O. Box 362 - Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 10246 Date 4-9-99
Company Name Miller Energy Inc.
Lease Zimmerman "1-16" Test No. 2
County Maize KS. Sec. 16 Twp. 31S Rng. 30W

SAMPLER RECOVERY

Gas 2.9 C.F.T.
Oil 2000 ML
Mud 3000 ML
Water 0 ML
Other 0 ML
Pressure 200 PSI
Total Vol. Rec. = 5000 ML
Total Vol. of Chamber = 5000 ML

SAMPLER ANALYSIS

Resistivity 2.4 ohms @ 64 F
Chlorides 2,700 ppm.
Gravity 38 corrected @ 60 F

PIT MUD ANALYSIS

Chlorides 2,800 ppm.
Resistivity 2.2 ohms @ 68 F
Viscosity 54
Mud Weight 9.2
Filtrate 8.0
Other 2# L.C.M.

PIPE RECOVERY

TOP
Resistivity / ohms @ / F
Chlorides / ppm.
MIDDLE
Resistivity / ohms @ / F
Chlorides / ppm.
BOTTOM
Resistivity 2.4 ohms @ 64 F
Chlorides 2,700 ppm.

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

N^o 10247

Well Name & No. <u>Zimmerman "1-16"</u>	Test No. <u>3</u>	Date <u>4-10-99</u>
Company <u>Miller Energy Inc.</u>	Zone Tested <u>St. Louis "D"</u>	
Address <u>Portage Mi. 49024</u>	Elevation <u>2765</u> KB <u>2760</u> GL	
Co. Rep / Geo. <u>Tim Pierce</u>	Cont. <u>Abercrombie Rig 4</u>	Est. Ft. of Pay <u>4</u> Por. <u>12</u> %
Location: Sec. <u>16</u> Twp. <u>31 S.</u> Rge. <u>30 W.</u> Co. <u>Moore</u> State <u>KS.</u>		
No. of Copies <u>See</u> Distribution Sheet (Y, N) <u>Y</u>	Turnkey (Y, N) <u>N</u>	Evaluation (Y, N) <u></u>

Interval Tested <u>5830-5862</u>	Initial Str Wt./Lbs. <u>84000</u>	Unseated Str Wt./Lbs. <u>84000</u>
Anchor Length <u>32'</u> <u>Tool = 30'</u>	Wt. Set Lbs. <u>24000</u>	Wt. Pulled Loose/Lbs. <u>6000</u>
Top Packer Depth <u>5825</u>	Tool Weight <u>1800</u>	
Bottom Packer Depth <u>5830</u>	Hole Size — <u>7 7/8"</u>	Rubber Size — <u>6 3/4"</u>
Total Depth <u>5862</u>	Wt. Pipe Run <u>91</u>	Drill Collar Run <u>176</u>
Mud Wt. <u>9.3</u> LCM <u>4#</u> Vis. <u>50</u> WL <u>8.8</u>	Drill Pipe Size <u>4 1/2 XH.</u>	Ft. Run <u>5650 26' up</u>
Blow Description <u>Weak surface blow. Died in 12 min. T.F.P.</u>		
<u>No blow-back. T.S.T.P.</u>		
<u>No blow. F.F.P.</u>		

Recovery — Total Feet <u>10</u>	GIP <u>0</u>	Ft. in DC <u>10</u>	Ft. in DP <u>0</u>
Rec. <u>10</u> Feet Of <u>Very Sh. Oil cut Mud</u>	%gas <u>1</u>	%oil <u></u>	%water <u>99</u> %mud <u></u>
Rec. <u></u> Feet Of <u></u>	%gas <u></u>	%oil <u></u>	%water <u></u> %mud <u></u>
Rec. <u></u> Feet Of <u></u>	%gas <u></u>	%oil <u></u>	%water <u></u> %mud <u></u>
Rec. <u></u> Feet Of <u></u>	%gas <u></u>	%oil <u></u>	%water <u></u> %mud <u></u>
Rec. <u></u> Feet Of <u></u>	%gas <u></u>	%oil <u></u>	%water <u></u> %mud <u></u>

BHT 127 °F Gravity — °API D@ — °F Corrected Gravity — °API

RW 2.5 @ 71 °F Chlorides 2,350 ppm Recovery Chlorides 2,300 ppm System

(A) Initial Hydrostatic Mud <u>2887</u> <u>2895</u> PSI	Recorder No. <u>3017 "09:28"</u>	T-Started <u>9:50 A.M.</u>
(B) First Initial Flow Pressure <u>22</u> <u>22</u> PSI	(depth) <u>5832</u>	T-Open <u>11:40 A.M.</u>
(C) First Final Flow Pressure <u>22</u> <u>27</u> PSI	Recorder No. <u>13630</u>	T-Pulled <u>2:40 P.M.</u>
(D) Initial Shut-in Pressure <u>45</u> <u>56</u> PSI	(depth) <u>5859</u>	T-Out <u>6:15 P.M.</u>
(E) Second Initial Flow Pressure <u>22</u> <u>27</u> PSI	Recorder No. <u>—</u>	
(F) Second Final Flow Pressure <u>22</u> <u>29</u> PSI	(depth) <u>—</u>	
(G) Final Shut-in Pressure <u>31</u> <u>42</u> PSI	Initial Opening <u>30</u>	Test <u>800</u> ✓
(H) Final Hydrostatic Mud <u>2857</u> <u>2850</u> PSI	Initial Shut-in <u>60</u>	Jars <u>200</u> ✓
<u>41090928.017</u>	Final Flow <u>30</u>	Safety Joint <u>50</u> ✓
<u>AK-1 Alpine</u>	Final Shut-in <u>60</u>	Straddle <u>—</u>
		Circ. Sub <u>1</u>
		Sampler <u>200</u> ✓
		Extra Packer <u>—</u>
		Elect. Rec. <u>150</u> ✓
		Other <u>—</u>

TRILOBITE TESTING L.L.C. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF 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, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Approved By Tim Pierce

Our Representative Ernest S. Salo

TOTAL PRICE \$ 1400

TRILOBITE TESTING L.L.C.

OPERATOR : Miller Energy Inc.

DATE 4-10-99

WELL NAME: Zimmerman "1-16"

KB 2765.00 ft

TICKET NO: 10247 DST #3

LOCATION : 16-31S-30W Meade co KS

GR 2760.00 ft

FORMATION: St. Louis "D"

INTERVAL : 5830.00 To 5862.00 ft

TD 5862.00 ft

TEST TYPE: CONVENTIONAL

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 30 Rec.	13630	13630	Alpine			PF Fr. 1140 to 1210 hr
SI 60 Range(Psi)	4625.0	4625.0	5000.0	0.0	0.0	IS Fr. 1210 to 1310 hr
SF 30 Clock(hrs)	12 HR	12 HR	12 HR			SF Fr. 1310 to 1340 hr
FS 60 Depth(ft)	5859.0	5859.0	5832.0	0.0	0.0	FS Fr. 1340 to 1440 hr

	Field	1	2	3	4	
A. Init Hydro	2887.0	2900.0	2895.0	0.0	0.0	T STARTED 0950 hr
B. First Flow	22.0	40.0	22.0	0.0	0.0	T ON BOTM 1137 hr
B1. Final Flow	22.0	40.0	27.0	0.0	0.0	T OPEN 1140 hr
C. In Shut-in	45.0	47.0	56.0	0.0	0.0	T PULLED 1440 hr
D. Init Flow	22.0	40.0	27.0	0.0	0.0	T OUT 1815 hr
E. Final Flow	22.0	40.0	29.0	0.0	0.0	
F. Fl Shut-in	31.0	40.0	42.0	0.0	0.0	TOOL DATA-----
G. Final Hydro	2857.0	2886.0	2850.0	0.0	0.0	Tool Wt. 1800.00 lbs
Inside/Outside	O	O	I			Wt Set On Packer 24000.00 lbs
						Wt Pulled Loose 6000.00 lbs
						Initial Str Wt 84000.00 lbs
						Unseated Str Wt 84000.00 lbs
						Bot Choke 0.75 in
						Hole Size 7.78 in
						D Col. ID 2.25 in
						D. Pipe ID 3.80 in
						D.C. Length 176.00 ft
						D.P. Length 5650.00 ft

RECOVERY

Tot Fluid 10.00 ft of 10.00 ft in DC and 0.00 ft in DP
 10.00 ft of Very slight Oil cut Mud 1% Oil 99% Mud
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of
 0.00 ft of

SALINITY 2350.00 P.P.M. A.P.I. Gravity 0.00

BLOW DESCRIPTION

Initial Flow:

Weak surface blow died in 12 mins.

Initial Shut-in:

No blow-back.

Final Flow:

No blow.

Remark: Est. 4 ft. of pay.

SAMPLES: None

SENT TO:

MUD DATA-----

Mud Type	Chemical
Weight	9.30 lb/cf
Vis.	50.00 S/L
W.L.	8.80 in3
F.C.	0.00 in
Mud Drop Y	20.0 ft

Amt. of fill	0.00 ft
Btm. H. Temp.	127.00 F
Hole Condition	Good
% Porosity	12.00
Packer Size	6.75 in
No. of Packers	2
Cushion Amt.	0.00
Cushion Type	
Reversed Out N	
Tool Chased N	
Tester	Lanny Saloga
Co. Rep.	Tim Pierce
Contr.	Abercrombie
Rig #	4
Unit #	
Pump T.	

Test Successful: Y

*** TOOL DIAGRAM *** CONV-STRADDLE

WELL NAME: Zimmerman "1-16"

LOCATION : 16-31S-30W

TICKET No. 10248 D.S.T. No. 4 DATE 4-12-99

TOTAL TOOL TO BOTTOM OF TOP PACKERS 30

INTERVAL TOOL 7

BOTTOM PACKERS AND ANCHOR 16

TOTAL TOOL 53

DRILL COLLAR ANCHOR IN INTERVAL

D.C. ANCHOR STND.Stands Single Total

D.P. ANCHOR STND.Stands 1 Single 1 Total 91

TOTAL ASSEMBLY 144

D.C. ABOVE TOOLS.Stands 3 Single Total 176

D.P. ABOVE TOOLS.Stands 92 Single Total 5714

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 6034

TOTAL DEPTH 6002

TOTAL DRILL PIPE ABOVE K.B. 32

REMARKS:

FLUID SAMPLER DATA

Total Vol. 5000 ML.
Total Vol. Rec. 5000 ML.
Oil 100 ML.
Mud 0 ML.
Wtr. 4900 ML.
Gas 5.6 CF.
Psi. 380
Bht. 133 F.
Pit RW. 2.8 Ohms at 56 F. 2,600 PPM.
Rec RW. 0.23 Ohms at 64 F. 34,000 PPM.
Gravity -- at -- F.

P.O. SUB Cir. sub	5798
C.O. SUB Top of tool	5858
Double pin	5859
S.I. TOOL H&T	5864
Sampler	5867
HMV Sterling	5872
JARS Bowen	5877
SAFETY JOINT Bowen	5879
PACKER Sparton	5884
PACKER Sparton	5888
DEPTH	
STUBB 1 ft.	5889
ANCHOR 5 ft. perf	5894
Co. sub	5895
Alpine	5895
1 jt. DP	5926
Co.sub	5927
AK-1	5929
5 ft. perf	5932
Blank	5932
3 ft. of packer	5935
T.C.	
DEPTH	
PACKER Sparton "Center"	5935
2 ft. of packer	5937
1 ft. perf	5938
Co. sub	5939
1 std. DP	5999
AK-1	5999
Co. sub	6000
BULLNOSE 2 ft. perf	
T.D.	6002

TEST HISTORY

10247 D.S.T.#3 Zimmerman "1-16" Miller Energy Inc.

Flag Points

t (Min.)	P (PSig)
A: 0.00	2895.36
B: 0.00	22.29
C: 30.50	27.82
D: 60.00	56.64
E: 0.00	27.90
F: 30.00	29.82
G: 60.00	42.56
H: 0.00	2850.36

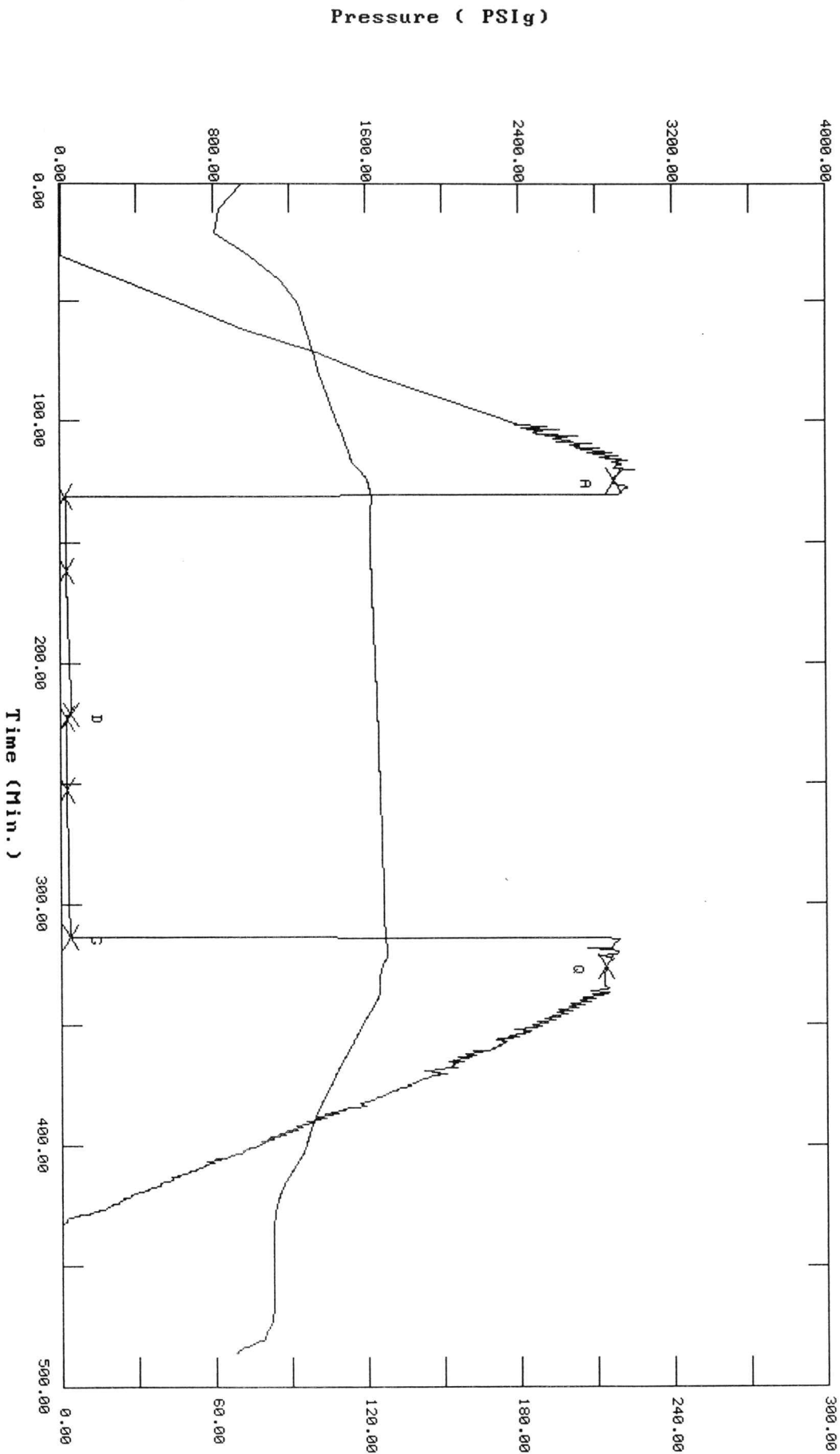
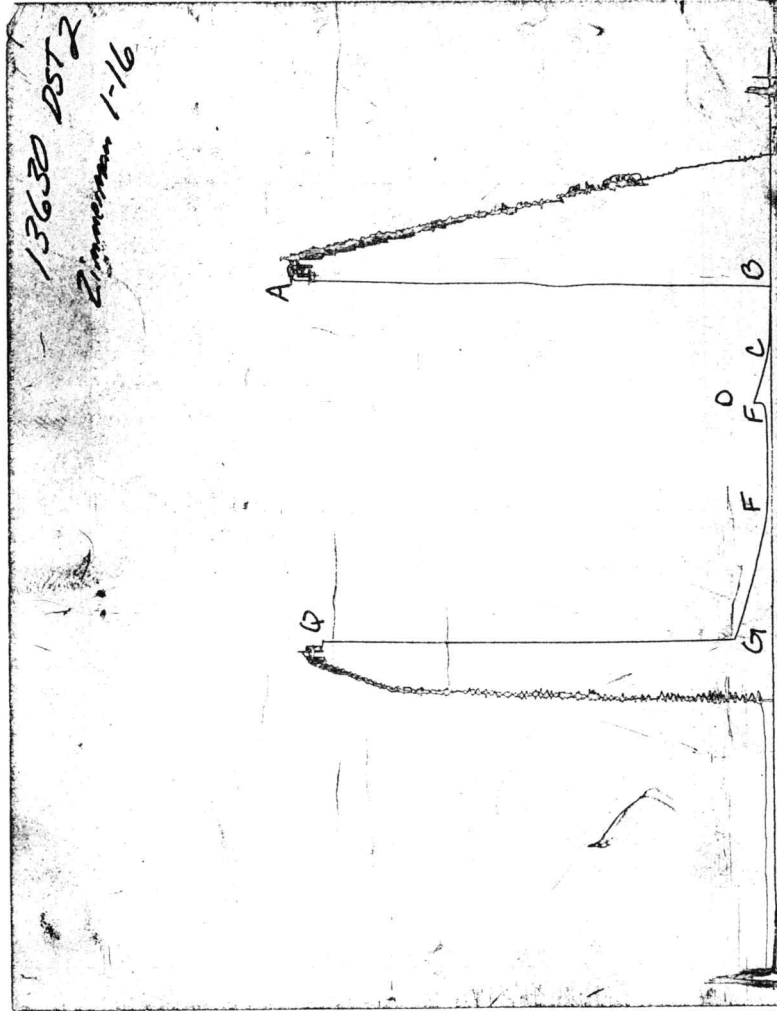


CHART PAGE



This is a photocopy of the actual AK-1 recorder chart

TRILOBITE TESTING L.L.C.

P.O. Box 362 - Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 10247 Date 4-10-99
Company Name Miller Energy, Inc.
Lease Zimmerman "1-16" Test No. 3
County Maude KS. Sec. 16 Twp. 31S Rng. 30W.

SAMPLER RECOVERY

Gas 0.75 ~~CF~~ ~~ML~~
Oil 140 ML
Mud 3360 ML
Water 0 ML
Other 0 ML
Pressure 45 PSI
Total Vol. Rec. = 3500 ML
Total Vol. of Chamber = 5000 ML.

SAMPLER ANALYSIS

Resistivity 2.5 ohms @ 71 F
Chlorides 2,350 ppm.
Gravity corrected @ 60 F

PIT MUD ANALYSIS

Chlorides 2,300 ppm.
Resistivity 2.9 ohms @ 62 F
Viscosity 50
Mud Weight 9.3
Filtrate 8.8
Other 4# L.C.M.

PIPE RECOVERY

TOP
Resistivity ohms @ F
Chlorides ppm.

MIDDLE
Resistivity ohms @ F
Chlorides ppm.

BOTTOM
Resistivity ohms @ F
Chlorides ppm.

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

Nº 10246

Well Name & No. Zimmerman "1-16" Test No. 2 Date 4-9-99
Company Miller Energy Inc. Zone Tested St. Louis
Address Portage Mo. 49024 Elevation 2765 KB 2760 GL
Co. Rep / Geo. Tim Pierce Cont. Abercrombie 4 Est. Ft. of Pay 15 Por. 11 %
Location: Sec. 16 Twp. 31S Rge. 30W Co. Meade State Ks.
No. of Copies See Distribution Sheet (Y, N) Y Turnkey (Y, N) N Evaluation (Y, N)

Interval Tested 5765-5790
Anchor Length 25' Ted = 30'
Top Packer Depth 5760
Bottom Packer Depth 5765
Total Depth 5790
Mud Wt. 9.2 LCM 2# Vis. 54 WL 8.0

Initial Str Wt./Lbs. 84000 Unseated Str Wt./Lbs. 85000
Wt. Set Lbs. 24000 Wt. Pulled Loose/Lbs. 5000
Tool Weight 1800
Hole Size — 7 7/8" — Rubber Size — 6 3/4" —
Wt. Pipe Run — Drill Collar Run 176
Drill Pipe Size 4 1/2 XH Ft. Run 5588 29' up

Blow Description Very weak surface blow, throughout. I.F.P.
No blow-back. I.S.I.P.
1/4" blow, built to 1" in 30 min. Stabilized. F.F.P.
No blow-back. F.S.I.P.

Recovery — Total Feet	GIP	Ft. in DC	Ft. in DP
<u>30</u>	<u>0</u>	<u>30</u>	<u>0</u>
Rec. <u>30</u> Feet Of <u>511 Oil cut mud</u>	%gas <u>5</u> %oil <u>95</u> %water <u>0</u> %mud <u>0</u>		
Rec. <u> </u> Feet Of <u> </u>	%gas <u> </u> %oil <u> </u> %water <u> </u> %mud <u> </u>		
Rec. <u> </u> Feet Of <u> </u>	%gas <u> </u> %oil <u> </u> %water <u> </u> %mud <u> </u>		
Rec. <u> </u> Feet Of <u> </u>	%gas <u> </u> %oil <u> </u> %water <u> </u> %mud <u> </u>		
Rec. <u> </u> Feet Of <u> </u>	%gas <u> </u> %oil <u> </u> %water <u> </u> %mud <u> </u>		

BHT 128 °F Gravity 0.38 °API D@ 60 °F Corrected Gravity 0.38 °API

RW 2.4 @ 64 °F Chlorides 2,700 ppm Recovery Chlorides 2,800 ppm System

(A) Initial Hydrostatic Mud	PSI	Recorder No.	T-Started
<u>2833</u> <u>2841</u>	<u>3017</u>	<u>"09:45"</u>	<u>10:00 A.M.</u>
(B) First Initial Flow Pressure <u>2</u> <u>20</u>	PSI	(depth) <u>5767</u>	T-Open <u>12:05 P.M.</u>
(C) First Final Flow Pressure <u>9</u> <u>25</u>	PSI	Recorder No. <u>13630</u>	T-Pulled <u>4:35 P.M.</u>
(D) Initial Shut-in Pressure <u>92</u> <u>142</u>	PSI	(depth) <u>5787</u>	T-Out <u>8:00 P.M.</u>
(E) Second Initial Flow Pressure <u>13</u> <u>26</u>	PSI	Recorder No. <u> </u>	
(F) Second Final Flow Pressure <u>22</u> <u>30</u>	PSI	(depth) <u> </u>	
(G) Final Shut-in Pressure <u>208</u> <u>261</u>	PSI	Initial Opening <u>30</u>	Test <u>800</u> ✓
(H) Final Hydrostatic Mud <u>2761</u> <u>2820</u>	PSI	Initial Shut-in <u>60</u>	Jars <u>200</u> ✓

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TRILOBITE TESTING L.L.C. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF 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, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Approved By Timothy A. Pierce

Our Representative Larry S. Salazar

Final Flow 60 Safety Joint 50 ✓
Final Shut-in 120 Straddle
Circ. Sub 1
Sampler 200 ✓
Extra Packer
Elect. Rec 150 ✓
Other
TOTAL PRICE \$ 1400

TRILOBITE TESTING L.L.C.

OPERATOR : Miller Energy Inc.

DATE 4-12-99

WELL NAME: Zimmerman "1-16"

KB 2765.00 ft

TICKET NO: 10248 DST #4

LOCATION : 16-31S-30W Meade co KS

GR 2760.00 ft

FORMATION: St. Louis "D"

INTERVAL : 5888.00 To 5935.00 ft

TD 6002.00 ft

TEST TYPE: CONV-STRADDLE

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 30 Rec.	10242	10242	Alpine	13630		PF Fr. 0325 to 0355 hr
SI 60 Range(Psi)	4100.0	4100.0	5000.0	4625.0	0.0	IS Fr. 0355 to 0455 hr
SF 90 Clock(hrs)	12 HR	12 HR	12 HR	12 HR		SF Fr. 0455 to 0625 hr
FS 120 Depth(ft)	5929.0	5929.0	5895.0	5999.0	0.0	FS Fr. 0625 to 0825 hr

	Field	1	2	3	4	
A. Init Hydro	3008.0	3007.0	2954.0	0.0	0.0	T STARTED 0130 hr
B. First Flow	60.0	75.0	28.0	0.0	0.0	T ON BOTM 0321 hr
B1. Final Flow	70.0	75.0	56.0	0.0	0.0	T OPEN 0325 hr
C. In Shut-in	1781.0	1794.0	1758.0	0.0	0.0	T PULLED 0825 hr
D. Init Flow	140.0	166.0	63.0	0.0	0.0	T OUT 1230 hr
E. Final Flow	154.0	166.0	102.0	0.0	0.0	
F. Fl Shut-in	1777.0	1786.0	1741.0	0.0	0.0	TOOL DATA-----
G. Final Hydro	3004.0	3007.0	2949.0	0.0	0.0	Tool Wt. 3300.00 lbs
Inside/Outside	O	O	I	S		Wt Set On Packer 30000.00 lbs
						Wt Pulled Loose 16000.00 lbs
						Initial Str Wt 84000.00 lbs
						Unseated Str Wt 84000.00 lbs
						Bot Choke 0.75 in
						Hole Size 7.78 in
						D Col. ID 2.25 in
						D. Pipe ID 3.80 in
						D.C. Length 176.00 ft
						D.P. Length 5714.00 ft

RECOVERY

Tot Fluid 140.00 ft of 140.00 ft in DC and 0.00 ft in DP
 220.00 ft of Gas in pipe
 80.00 ft of Oil and gas cut water mud
 0.00 ft of 5% gas 23% oil 15% water 57% mud
 60.00 ft of Slight oil and mud cut water
 0.00 ft of 2% oil 70% water 28% mud
 0.00 ft of
 0.00 ft of
 0.00 ft of

SALINITY 34000.00 P.P.M. A.P.I. Gravity 0.00

BLOW DESCRIPTION

Initial Flow:

Surface blow built to 1 1/4" in
 30 mins.

Initial Shut-in:

No blow back

Final Flow:

No blow for 5 mins. surface blow
 built to 4 1/2" in 90 mins.

Final Shut-in:

No blow back

Remark: 8 ft. of pay.

SAMPLES: None

SENT TO:

MUD DATA-----

Mud Type	Chemical
Weight	9.20 lb/cf
Vis.	52.00 S/L
W.L.	8.80 in3
F.C.	0.00 in
Mud Drop Y	20.0 ft

Amt. of fill	0.00 ft
Btm. H. Temp.	133.00 F
Hole Condition	Good
% Porosity	10.00
Packer Size	6.75 in
No. of Packers	3
Cushion Amt.	0.00
Cushion Type	
Reversed Out N	
Tool Chased N	

Tester	Lanny Saloga
Co. Rep.	Tim Pierce
Contr.	Abercrombie
Rig #	4
Unit #	
Pump T.	

Test Successful: Y

*** TOOL DIAGRAM *** CONVENTIONAL

ELL NAME: Zimmerman "1-16"

LOCATION : 16-31S-30W

CKET No. 10245 D.S.T. No. 1 DATE 4-7-99

TOTAL TOOL TO BOTTOM OF TOP PACKERS 27

INTERVAL TOOL

OTTOM PACKERS AND ANCHOR 40

DIAL TOOL 67

BILL COLLAR ANCHOR IN INTERVAL

C. ANCHOR STND.Stands	Single	Total

P. ANCHOR STND.Stands	2 Single	Total 122
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TOTAL ASSEMBLY 189

C. ABOVE TOOLS.Stands	3 Single	Total 176
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P. ABOVE TOOLS.Stands 83 Single 1 Total 5188

TAL DRILL COLLARS DRILL PIPE & TOOLS .. 5553

TOTAL DEPTH 5530

TAL DRILL PIPE ABOVE K.B. 23

MARKS:

0 ft. of pay.

it chlorides 2,000 PPM

P.O. SUB Cir. sub	5281
C.O. SUB Top of tool	5341
Double pin	5342
S.I. TOOL H&T	5347

HMV Sterling	5352
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JARS Bowen	5357
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SAFETY JOINT Bowen 5359

PACKER Sparton 5364

PACKER Sparton 5368

DEPTH

STUBB 1 ft. 5369

ANCHOR Rec. sub 5370

Alpine	5370
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Pu. sub 5375

29 ft. perfs 5404

Co. sub 5405

T.C.
DEPTH

2 stds DP 5527

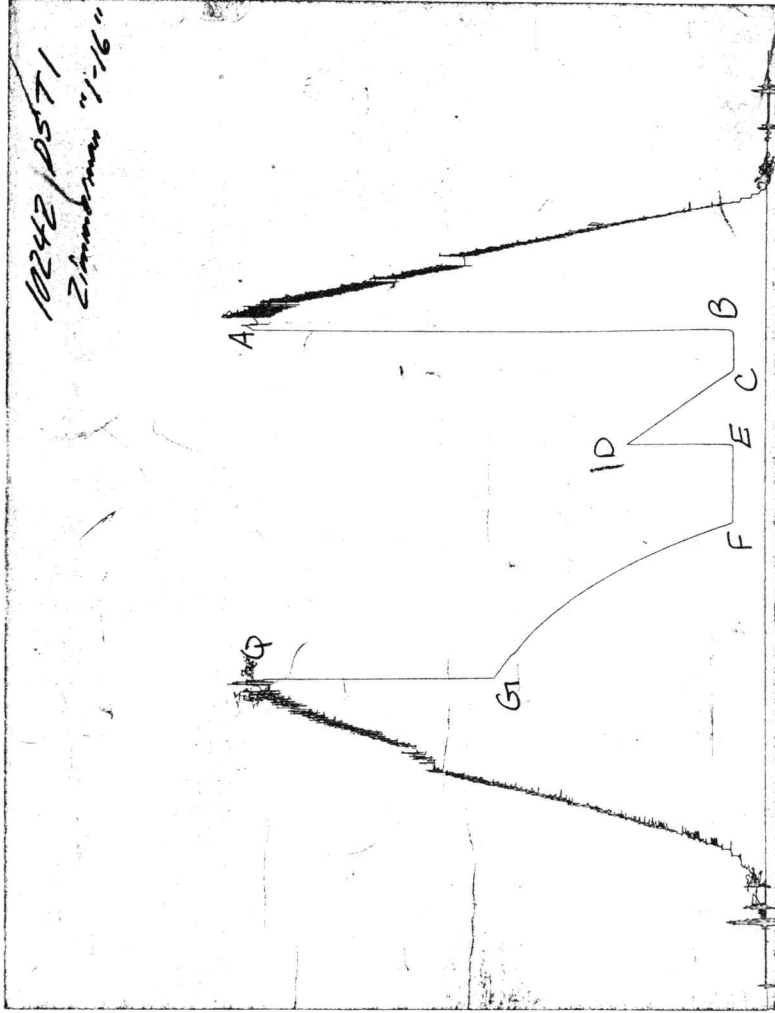
AK-1 5527

Co. sub 5528

BULLNOSE 2 ft. perf

T.D. 5530

CHART PAGE



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TEST HISTORY

10248 D.S.T. #4 Zimmerman "1-16" Miller Energy Inc.

	Flag Points
t (Min.)	P (PSig)
A: 0.00	2954.36
B: 0.00	28.74
C: 30.00	56.62
D: 61.50	1758.14
E: 0.00	63.43
F: 91.00	102.18
G: 121.00	1741.07
Q: 0.00	2949.58

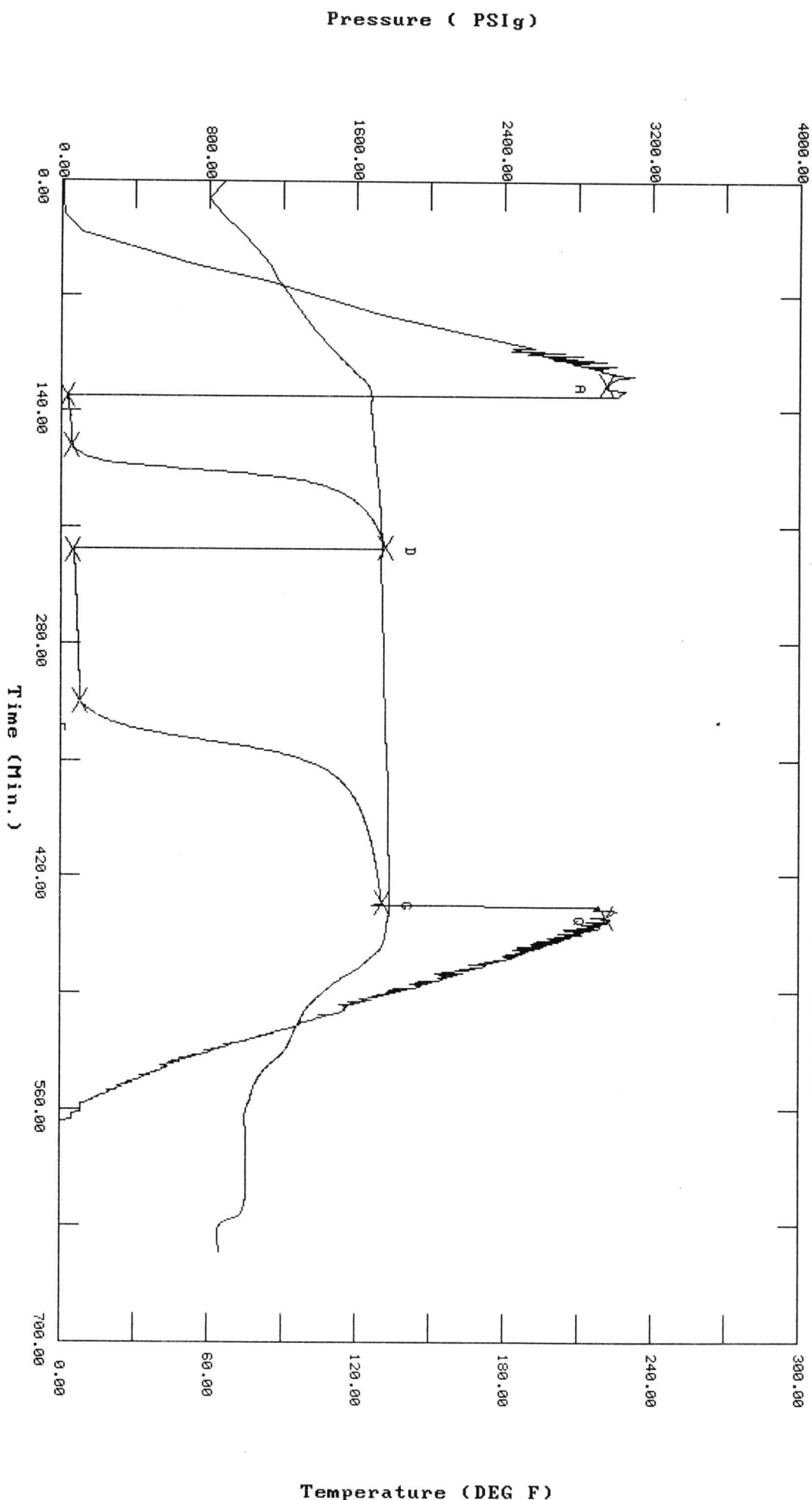
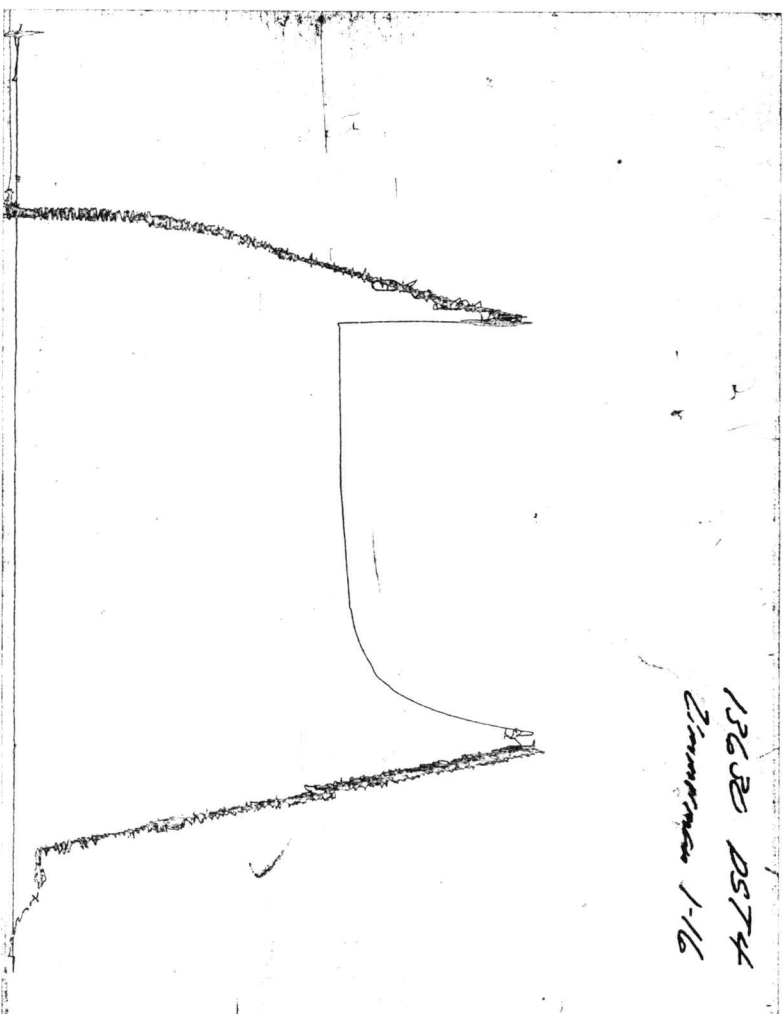


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P.O. Box 362 - Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 10248 Date 4-12-99
Company Name Miller Energy
Lease Zimmerman "1-16" Test No. 4
County Meade KS. Sec. 16 Twp. 31S Rng. 30W.

SAMPLER RECOVERY

Gas 5.6 G.E. #1
Oil 100 ML
Mud 0 ML
Water 4900 ML
Other 0 ML
Pressure 380 PSI
Total Vol. Rec. = 5000 ML
Total Vol. of chamber = 5000 ML

SAMPLER ANALYSIS

Resistivity 0.23 ohms @ 64 F
Chlorides 34,000 ppm.
Gravity — corrected @ 60 F

PIT MUD ANALYSIS

Chlorides 2,600 ppm.
Resistivity 2.8 ohms @ 56 F
Viscosity 52
Mud Weight 9.2
Filtrate 8.8
Other 3# LeCaMo

PIPE RECOVERY

TOP
Resistivity — ohms @ — F
Chlorides — ppm.

MIDDLE
Resistivity — ohms @ — F
Chlorides — ppm.

BOTTOM
Resistivity 0.23 ohms @ 64 F
Chlorides 34,000 ppm.

Well Name Zimmerman 1-116

DST Number 2

Recorder Number 131230

A: 2.506 2874

B: .004 4

C: .006 6

D: .095 107

E: .028 31

F: .024 27

G: .202 228

Q: 2.409 2760

Well Name Zimmerman 1-16

DST Number 3

Recorder Number 13630

A: 2.539 2900

B: .036 40

C: .036 40

D: .042 47

E: .036 46

F: .036 40

G: .036 40

Q: 2317 2886

Well Name Zimmerman 1-16

DST Number 4

Recorder Number 10242

A: 2.871 3007

B: .065 75

C: .065 75

D: 1.686 1794

E: .143 166

F: .143 166

G: 1.678 1786

Q: 2.871 3007

Well Name Zimmerman 1-14
DST Number 1
Recorder Number 10242

A: 2.653 2783

B: .168 196

C: .168 196

D: .727 807

E: .168 196

F: .168 196

G: 1.418 1519

Q: 2.642 2772