

WELL NAME: Shirley Trust 1-29
COMPANY: Murfin Drilling
LOCATION: 29-2S-26W
Decatur County, Kansas
DATE: 3/18/98

TRILOBITE TESTING L.L.C.

OPERATOR : Murfin Drlg
 WELL NAME: Shirley Trust#1-29
 LOCATION : S29\25S\26W CO Decatur KS
 INTERVAL : 3470.00 To 3530.00 ft

DATE 3\14\98
 KB 2626.00 ft
 GR 2622.00 ft
 TD 3530.00 ft

TICKET NO: 11304
 FORMATION: Toronto\KC'A'
 DST #1
 TEST TYPE: CONV

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 30 Rec.	13547	13547	3030			PF Fr. 1630 to 1700 hr
SI 45 Range(Psi)	4200.0	4200.0	4950.0	0.0	0.0	IS Fr. 1700 to 1745 hr
SF 45 Clock(hrs)	12hr	12hr	Elect			SF Fr. 1745 to 1830 hr
FS 45 Depth(ft)	3528.0	3528.0	3509.0	0.0	0.0	FS Fr. 1830 to 1915 hr

	Field	1	2	3	4	
A. Init Hydro	1720.0	1740.0	1703.0	0.0	0.0	T STARTED 1500 hr
B. First Flow	74.0	74.0	37.0	0.0	0.0	T ON BOTM 1625 hr
B1. Final Flow	78.0	74.0	63.0	0.0	0.0	T OPEN 1630 hr
C. In Shut-in	1123.0	1115.0	1150.0	0.0	0.0	T PULLED 1915 hr
D. Init Flow	88.0	99.0	67.0	0.0	0.0	T OUT 2100 hr
E. Final Flow	116.0	115.0	105.0	0.0	0.0	
F. Fl Shut-in	1076.0	1086.0	1119.0	0.0	0.0	
G. Final Hydro	1690.0	1656.0	1669.0	0.0	0.0	
Inside/Outside	O	I	I			

RECOVERY

Tot Fluid 140.00 ft of 140.00 ft in DC and 0.00 ft in DP
 20.00 ft of Drilling mud 100% mud
 120.00 ft of Muddy water [40% mud 60% water]
 0.00 ft of
 SALINITY 30000.00 P.P.M. A.P.I. Gravity 0.00

TOOL DATA-----
 Tool Wt. 3000.00 lbs
 Wt Set On Packer 25000.00 lbs
 Wt Pulled Loose 70000.00 lbs
 Initial Str Wt 50000.00 lbs
 Unseated Str Wt 50000.00 lbs
 Bot Choke 0.75 in
 Hole Size 7.88 in
 D Col. ID 2.25 in
 D. Pipe ID 3.80 in
 D.C. Length 480.00 ft
 D.P. Length 2980.00 ft

MUD DATA-----
 Mud Type Chem
 Weight 8.80 lb/c
 Vis. 45.00 S/L
 W.L. 8.60 in3
 F.C. 0.00 in
 Mud Drop

BLOW DESCRIPTION

Initial Flow:
 Weak blow 3" very weak blow back
 Final Flow:
 Very weak blow [surface blow throughout]

Amt. of fill 0.00 ft
 Btm. H. Temp. 104.00 F
 Hole Condition good
 % Porosity 0.00
 Packer Size 6.75 in
 No. of Packers 2
 Cushion Amt. 0.00
 Cushion Type
 Reversed Out N
 Tool Chased N
 Tester John Riedl
 Co. Rep. Paul Gunzelman
 Contr. Murfin Drlg
 Rig # 3
 Unit #
 Pump T.

SAMPLES:
 SENT TO:

Test Successful: Y

*** TOOL DIAGRAM *** CONV

WELL NAME: Shirley Trust#1-29

LOCATION : S29\25S\26W

TICKET No. 11304 D.S.T. No. 1 DATE 3\14\98

TOTAL TOOL TO BOTTOM OF TOP PACKERS 25

INTERVAL TOOL

BOTTOM PACKERS AND ANCHOR 29

TOTAL TOOL 54

DRILL COLLAR ANCHOR IN INTERVAL

D.C. ANCHOR STND.Stands Single 8 Total

D.P. ANCHOR STND.Stands 48 Single 1 Total 31

TOTAL ASSEMBLY 85

D.C. ABOVE TOOLS.Stands 8 Single Total 480

D.P. ABOVE TOOLS.Stands 48 Single Total 2990

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 3555

TOTAL DEPTH 3530

TOTAL DRILL PIPE ABOVE K.B. 25

REMARKS:

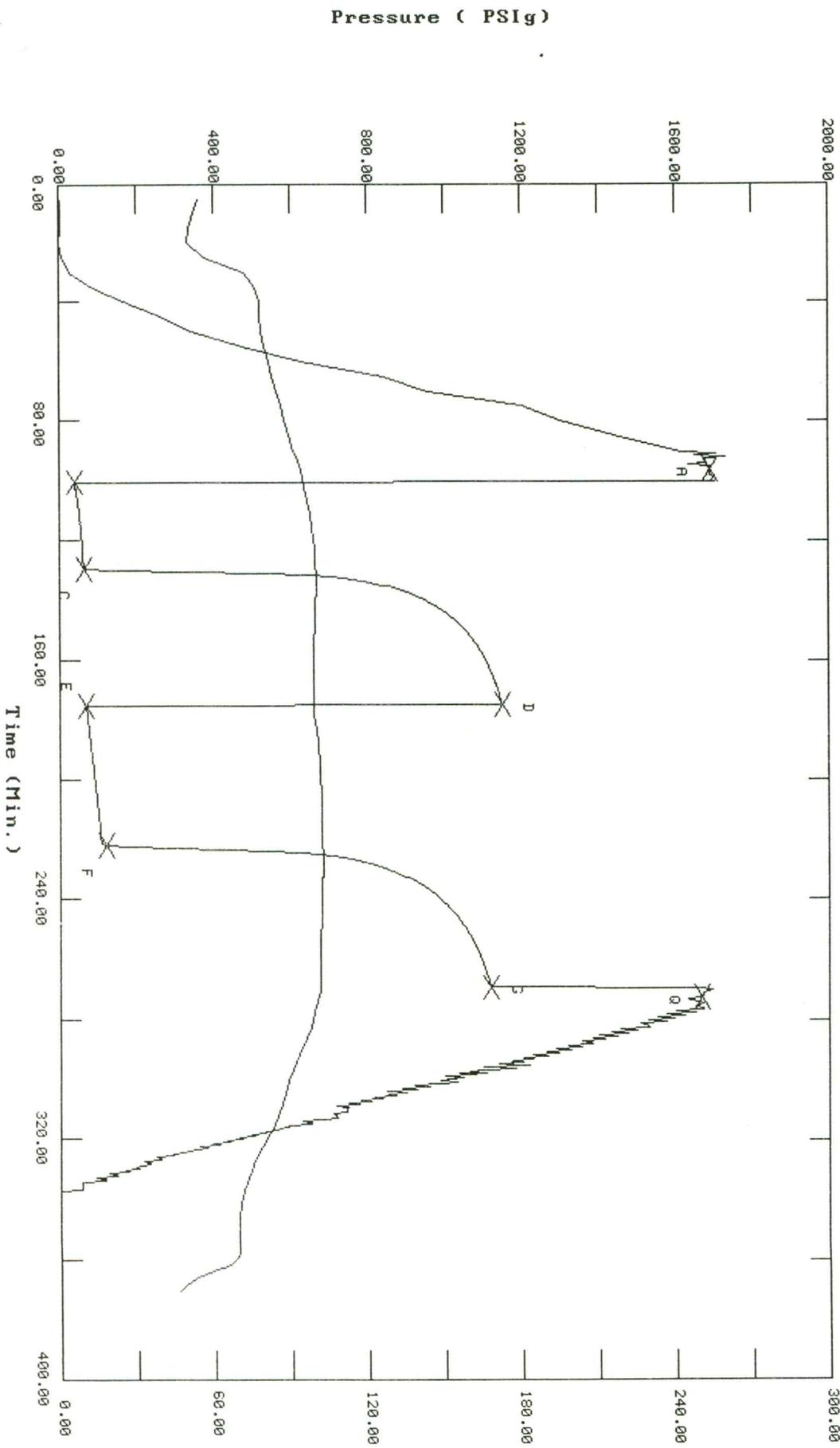
P.O. SUB Circ sub	3330
C.O. SUB	
S.I. TOOL H+T	3450
HMV Sterling	3455
JARS Bowen	3459
SAFETY JOINT 2'	3461
PACKER Top	3465
PACKER Bottom	3470
DEPTH 3470	
STUBB 1'	3471
ANCHOR 4'perf	3475
Co sub	3476
31'drillpipe	3507
Elect rec 3030	
@3509	
T.C.	
DEPTH	
1'Co sub	3508
19' Perfs	3527
BULLNOSE AK1 Rec@3428	
T.D. 3' Perfs	3530

TK#11304 DST#1 Shirley Trust#1-29 Murfin Drig 3/14/98

TEST HISTORY

Flag Points

t (Min.)	P (PSIg)
A: 0.00	1693.75
B: 0.00	36.57
C: 29.00	63.03
D: 45.50	1150.29
E: 0.00	67.24
F: 46.50	116.86
G: 47.00	1119.97
H: 0.00	1669.23



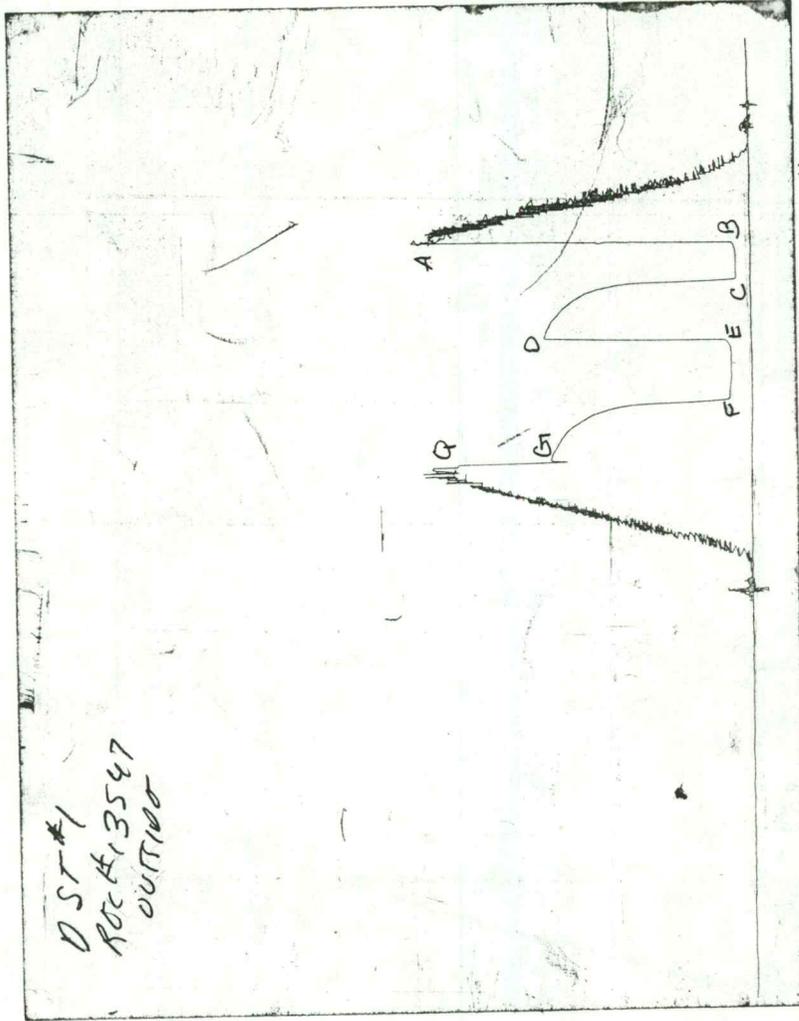
Temperature (DEG F)

Pressure (PSIg)

Time (Min.)

CHART PAGE

DST #1
R02A13547
OUTW00



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

TRILOBITE TESTING L.L.C.

OPERATOR : Murfin Drlg DATE 3\15\98
 WELL NAME: Shirley#1-29 KB 2626.00 ft TICKET NO: 11305 DST #2
 LOCATION : S29\2S\26W CO Decatur KS GR 2621.00 ft FORMATION: KC'B'
 INTERVAL : 3528.00 To 3550.00 ft TD 3550.00 ft TEST TYPE: CONV

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 30 Rec.	13547	13547	3030			PF Fr. 73 to 800 hr
SI 30 Range(Psi)	4200.0	4200.0	4950.0	0.0	0.0	IS Fr. 800 to 830 hr
SF 30 Clock(hrs)	12HR	12 hr	elect			SF Fr. 830 to 900 hr
FS 30 Depth(ft)	3548.0	3548.0	3533.0	0.0	0.0	FS Fr. 900 to 930 hr

	Field	1	2	3	4	
A. Init Hydro	1687.0	1718.0	1703.0	0.0	0.0	T STARTED 0400 hr
B. First Flow	32.0	64.0	20.0	0.0	0.0	T ON BOTM 0525 hr
B1. Final Flow	32.0	56.0	34.0	0.0	0.0	T OPEN 0530 hr
C. In Shut-in	413.0	425.0	430.0	0.0	0.0	T PULLED 0730 hr
D. Init Flow	38.0	75.0	31.0	0.0	0.0	T OUT 0930 hr
E. Final Flow	34.0	65.0	37.0	0.0	0.0	
F. Fl Shut-in	292.0	300.0	319.0	0.0	0.0	
G. Final Hydro	1660.0	1702.0	1691.0	0.0	0.0	
Inside/Outside	o	i	o			

TOOL DATA-----
 Tool Wt. 3000.00 lbs
 Wt Set On Packer 25000.00 lbs
 Wt Pulled Loose 70000.00 lbs
 Initial Str Wt 58000.00 lbs
 Unseated Str Wt 60000.00 lbs
 Bot Choke 0.75 in
 Hole Size 7.88 in
 D Col. ID 2.25 in
 D. Pipe ID 3.80 in
 D.C. Length 480.00 ft
 D.P. Length 3050.00 ft

RECOVERY

Tot Fluid 30.00 ft of 30.00 ft in DC and 0.00 ft in DP
 30.00 ft of Oil cut mud 25%oil 75%mud
 0.00 ft of
 0.00 ft of

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

BLOW DESCRIPTION

Initial Flow:
 Weak blow 3/8" dead in 20 min.
 Final Flow:
 Very weak blow [1\8"] dead in
 10 minutes

MUD DATA-----
 Mud Type Chem
 Weight 8.80 lb/c
 Vis. 45.00 S/L
 W.L. 8.60 in³
 F.C. 0.00 in
 Mud Drop
 Amt. of fill 0.00 ft
 Btm. H. Temp. 0.00 F
 Hole Condition good
 % Porosity 0.00
 Packer Size 6.75 in
 No. of Packers 2
 Cushion Amt. 0.00
 Cushion Type
 Reversed Out N
 Tool Chased N
 Tester John Riedl
 Co. Rep. Paul Gunzelman
 Contr. Murfin Drlg
 Rig # 3
 Unit #
 Pump T.

SAMPLES:
 SENT TO:

Test Successful: Y

*** TOOL DIAGRAM *** CONV

WELL NAME: Shirley#1-29

LOCATION : S29\2S\26W

TICKET No. 11305 D.S.T. No. 2 DATE 3\15\98

TOTAL TOOL TO BOTTOM OF TOP PACKERS 25

INTERVAL TOOL

BOTTOM PACKERS AND ANCHOR 22

TOTAL TOOL 47

DRILL COLLAR ANCHOR IN INTERVAL

D.C. ANCHOR STND.Stands Single Total

D.P. ANCHOR STND.Stands Single Total

TOTAL ASSEMBLY 47

D.C. ABOVE TOOLS.Stands 8 Single Total 480

D.P. ABOVE TOOLS.Stands 49 Single Total 3050

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 3577

TOTAL DEPTH 3550

TOTAL DRILL PIPE ABOVE K.B. 27

REMARKS:

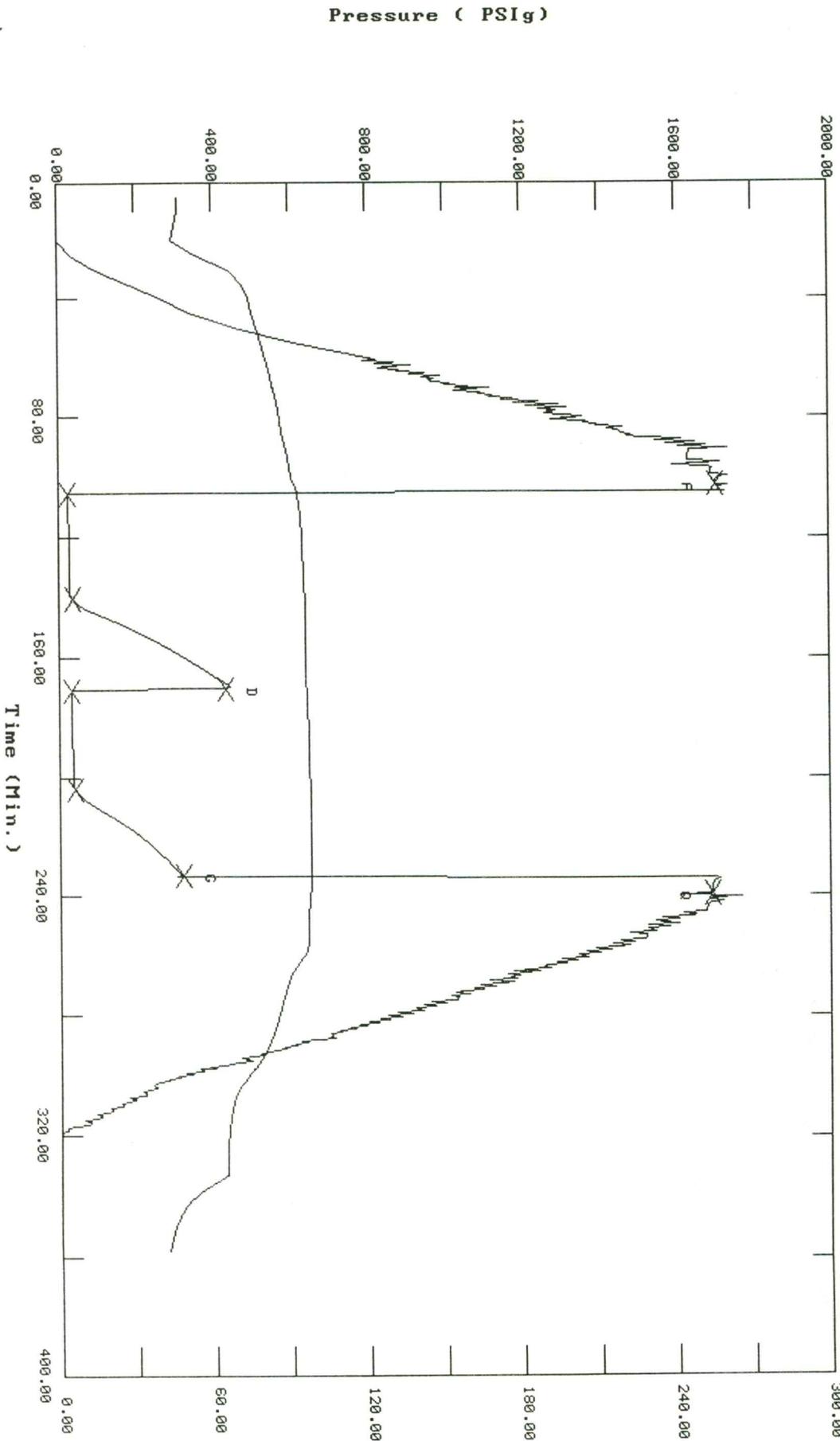
P.O. SUB Circ sub	3388
C.O. SUB NA	
S.I. TOOL H+T	3508
HMV Sterling	3513
JARS Bowen	3517
SAFETY JOINT 2'	3919
PACKER Top	3523
PACKER Btm	3528
DEPTH 3528	
STUBB 1'	3529
ANCHOR	
18' Perfs	3547
Elect rec @ 3533	
T.C. DEPTH	
AK1 rec @ 3548	
BULLNOSE	
T.D. 3' perfed bullplug	3550

TK#11305 DDST#2 Shirley Trust#1-29 Murfin Drlg 3\15\98

TEST HISTORY

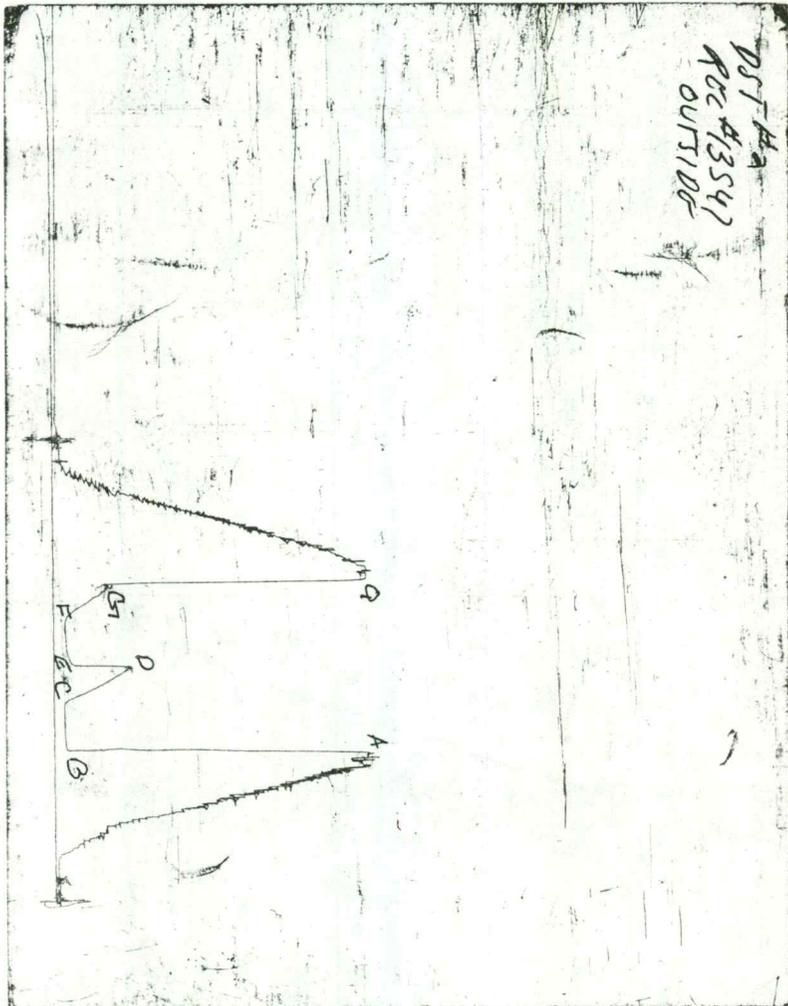
Flag Points

t (Min.)	P (PSig)
A: 0.00	1703.50
B: 0.00	20.85
C: 35.00	34.55
D: 30.00	430.25
E: 0.00	31.59
F: 33.00	37.86
G: 29.00	319.04
Q: 0.00	1691.40



Temperature (DEG F)

CHART PAGE



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

TRILOBITE TESTING L.L.C.

OPERATOR : Murfn Drlg DATE 3\15\98
 WELL NAME: Shirley Trust 1-29 KB 2626.00 ft TICKET NO: 11306 DST #3
 LOCATION : S29\2S\26W CO Decatur KS GR 2621.00 ft FORMATION: LKC 'C,D,E'
 INTERVAL : 3548.00 To 3578.00 ft TD 3578.00 ft TEST TYPE: CONV

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 30 Rec.	13547	13547	3030			PF Fr. 1815 to 1845 hr
SI 45 Range(Psi)	4200.0	4200.0	4950.0	0.0	0.0	IS Fr. 1845 to 1930 hr
SF 60 Clock(hrs)	12HR	12hr	Elect			SF Fr. 1930 to 2030 hr
FS 60 Depth(ft)	3576.0	3576.0	3553.0	0.0	0.0	FS Fr. 2030 to 2130 hr

	Field	1	2	3	4	
A. Init Hydro	1690.0	1739.0	1697.0	0.0	0.0	T STARTED 1700 hr
B. First Flow	78.0	132.0	36.0	0.0	0.0	T ON BOTM 1810 hr
B1. Final Flow	350.0	409.0	435.0	0.0	0.0	T OPEN 1815 hr
C. In Shut-in	1170.0	1188.0	1200.0	0.0	0.0	T PULLED 2130 hr
D. Init Flow	455.0	490.0	436.0	0.0	0.0	T OUT 2330 hr
E. Final Flow	766.0	794.0	825.0	0.0	0.0	
F. Fl Shut-in	1136.0	1176.0	1195.0	0.0	0.0	TOOL DATA-----
G. Final Hydro	1638.0	1644.0	1631.0	0.0	0.0	Tool Wt. 3000.00 lbs
Inside/Outside	o	i	o			Wt Set On Packer 25000.00 lbs

RECOVERY

Tot Fluid 1700.00 ft of 480.00 ft in DC and 1220.00 ft in DP	Unseated Str Wt	66000.00 lbs
200.00 ft of Slightly mud cut water [10% mud 90% water]	Bot Choke	7.50 in
1500.00 ft of Gassy water [10% gas 90% water]	Hole Size	7.88 in
0.00 ft of	D Col. ID	2.25 in
0.00 ft of	D. Pipe ID	3.80 in
0.00 ft of	D.C. Length	480.00 ft
0.00 ft of	D.P. Length	3055.00 ft
0.00 ft of		
SALINITY 60000.00 P.P.M. A.P.I. Gravity 0.00		

BLOW DESCRIPTION

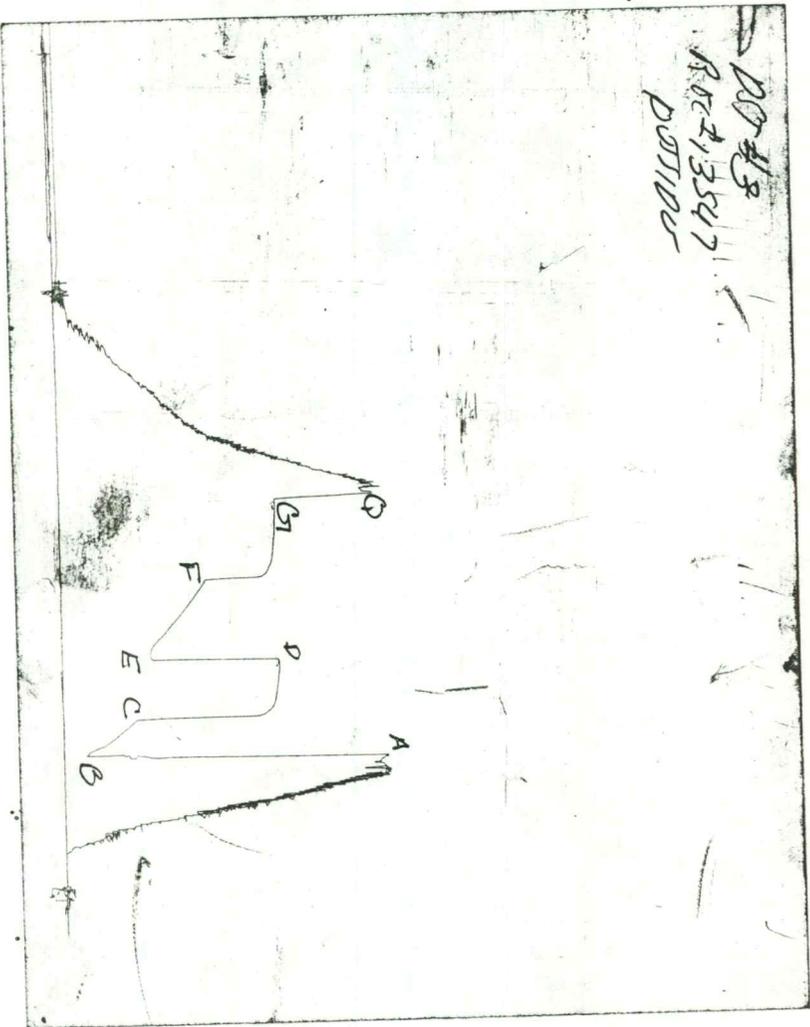
Initial Flow:
 Strong blow bottom of bucket in 4 min
 no blow back
 Final Flow:
 Strong blow bottom of bucket in 4 min
 no blow back

SAMPLES:
 SENT TO:

MUD DATA-----
 Mud Type Chem
 Weight 8.90 lb/c
 Vis. 46.00 S/L
 W.L. 8.60 in3
 F.C. 0.00 in
 Mud Drop
 Amt. of fill 0.00 ft
 Btm. H. Temp. 0.00 F
 Hole Condition good
 % Porosity 0.00
 Packer Size 6.75 in
 No. of Packers 2
 Cushion Amt. 0.00
 Cushion Type
 Reversed Out N
 Tool Chased N
 Tester John Riedl
 Co. Rep. Paul Gunzelman
 Contr. Murfin Drlg
 Rig # 3
 Unit #
 Pump T.

Test Successful:

CHART PAGE



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

*** TOOL DIAGRAM *** CONV

WELL NAME: Shirley Trust 1-29

LOCATION : S29\2S\26W

TICKET No. 11306 D.S.T. No. 3 DATE 3\15\98

TOTAL TOOL TO BOTTOM OF TOP PACKERS 25

INTERVAL TOOL

BOTTOM PACKERS AND ANCHOR 30

TOTAL TOOL 55

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 8 Single Total 480

D.P. ABOVE TOOLS.Stands 49 Single Total 3055

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 3590

TOTAL DEPTH 3578

TOTAL DRILL PIPE ABOVE K.B. 12

REMARKS:

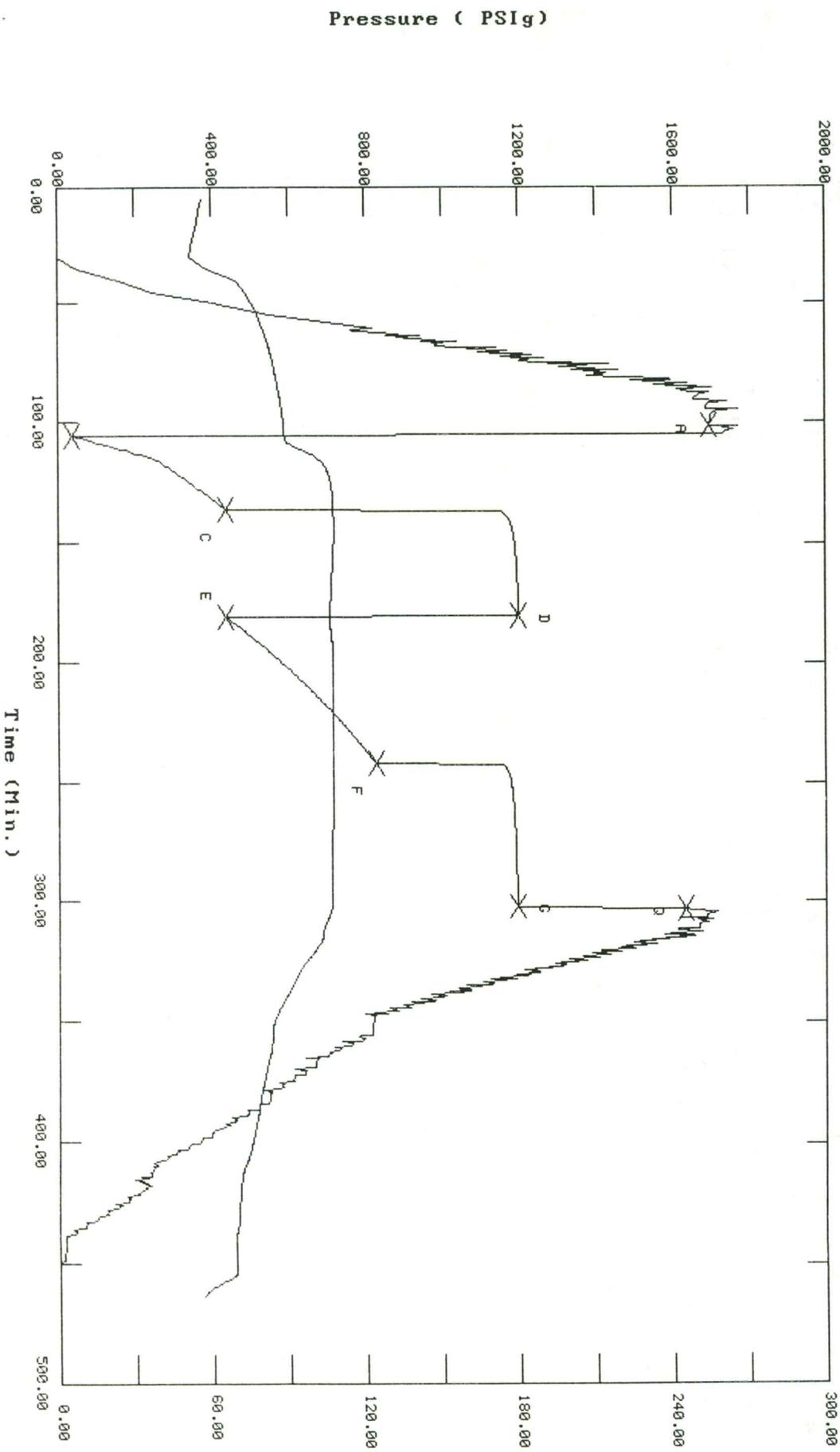
P.O. SUB Circ subb	3408
C.O. SUB NA	
S.I. TOOL H+T	3528
HMV Sterling	3533
JARS Bowen	3537
SAFETY JOINT 2'	3539
PACKER Top	3543
PACKER Btm	3548
DEPTH 3548	
STUBB 1'	3549
ANCHOR	
Elect rec @ 3553	
26'Perfs	3575
T.C. DEPTH	
AK1 @ 3576	
BULLNOSE	
T.D. 3'Perfed bullplug	3578

TK#11306 DST#3 Shirley Trust#1-29 Murfin Dr Ig 3\15\98

TEST HISTORY

Flag Points

Flag Points	t (Min.)	P (PSig)
A:	0.00	1697.97
B:	0.00	36.01
C:	30.50	435.24
D:	44.50	1200.74
E:	0.00	436.36
F:	61.00	825.55
G:	60.00	1195.65
Q:	0.00	1631.80



Temperature (DEG F)

TRILOBITE TESTING L.L.C.

OPERATOR : Murfin Drlg DATE 3\16\98
 WELL NAME: Shirley Trust 1-29 KB 2626.00 ft TICKET NO: 11307 DST #4
 LOCATION : 29 2S 26W CO Decatur KS GR 2621.00 ft FORMATION: KC [All formations]
 INTERVAL : 3606.00 To 3718.00 ft TD 3718.00 ft TEST TYPE: CONV

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 30	Rec.	13547	13547	3030		PF Fr. 1800 to 1830 hr
SI 45	Range(Psi)	4200.0	4200.0	4950.0	0.0	0.0 IS Fr. 1830 to 1915 hr
SF 60	Clock(hrs)	12HR	12HR	Elect		SF Fr. 1915 to 2015 hr
FS 60	Depth(ft)	3609.0	3609.0	3705.0	0.0	0.0 FS Fr. 2015 to 2115 hr

	Field	1	2	3	4	
A. Init Hydro	1784.0	1797.0	1809.0	0.0	0.0	T STARTED 1630 hr
B. First Flow	95.0	111.0	83.0	0.0	0.0	T ON BOTM 1755 hr
B1. Final Flow	160.0	168.0	256.0	0.0	0.0	T OPEN 1800 hr
C. In Shut-in	1154.0	1176.0	1246.0	0.0	0.0	T PULLED 2115 hr
D. Init Flow	234.0	233.0	239.0	0.0	0.0	T OUT 2300 hr
E. Final Flow	268.0	262.0	305.0	0.0	0.0	
F. Fl Shut-in	1148.0	1154.0	1214.0	0.0	0.0	TOOL DATA-----
G. Final Hydro	1751.0	1747.0	1770.0	0.0	0.0	Tool Wt. 3000.00 lbs
Inside/Outside	i		i			Wt Set On Packer 25000.00 lbs
						Wt Pulled Loose 80000.00 lbs
						Initial Str Wt 62000.00 lbs
						Unseated Str Wt 64000.00 lbs
						Bot Choke 0.75 in
						Hole Size 7.88 in
						D Col. ID 2.25 in
						D. Pipe ID 3.80 in
						D.C. Length 480.00 ft
						D.P. Length 3110.00 ft

RECOVERY

Tot Fluid	660.00 ft of	480.00 ft in DC and	180.00 ft in DP
500.00	ft of Gas in pipe		
240.00	ft of Gassy oil 20% gas 80% oil		
420.00	ft of Mud and gas cut oil 15% gas 50% oil 35% mud		
0.00	ft of		

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

BLOW DESCRIPTION

Initial Flow:
 Strong blow bottom og bucket in
 9 mins. weak blow back

Final Flow:
 Strong blow bottom fo bucket in 14
 mins. weak blow back

MUD DATA-----

Mud Type	Chem
Weight	8.90 lb/cf
Vis.	57.00 S/L
W.L.	7.20 in3
F.C.	0.00 in
Mud Drop	
Amt. of fill	0.00 ft
Btm. H. Temp.	102.00 F
Hole Condition	good
% Porosity	0.00
Packer Size	6.75 in
No. of Packers	0
Cushion Amt.	0.00
Cushion Type	
Reversed Out N	
Tool Chased N	
Tester	John Riedl
Co. Rep.	Paul Gunzelman
Contr.	Murfin Drlg
Rig #	3
Unit #	
Pump T.	

SAMPLES:
 SENT TO:

Test Successful: Y

Operator.....: Murfin Drilling Company
Well Name.....: Shirley Trust 1-29
DST Number.....: 4

Location.: 29-2S-26W Decatur Co KS Recorder No...: 3030
Test Type: conv Recorder Depth: 3705
Formation: KC Test Interval.: 3606-3718

RESERVOIR CALCULATIONS: Fluid calculations based on shut-in #2

RESERVOIR PARAMETERS USED:

Net Pay.....:	4.00 ft
Porosity.....:	8.00 %
Bottom Hole Temp.....:	102.00 F
Specific Gravity.....:	0.030
API Gravity.....:	36.00
Compressibility.....:	0.000001 /psi
Viscosity.....:	9.5120 cp
Total Recovery.....:	660.00 ft
Total Flowing Time.....:	90.00 min.
Flow Rate.....:	52.95 bbls/d
Final Flowing Pressure.....:	305.00 psi
Horner Slope.....:	16.9495 psi/cycle
Extrapolated Pressure.....:	1221.74 psi
Formation Volume Factor.....:	1.04 Reservoir/Surface
Well Bore Radius.....:	3.94 in

RESULTS:

Effective Permeability.....:	1256.246324 md
Flow Capacity.....:	5024.9853 md.ft
Transmissibility.....:	528.2785 md.ft/cp
Skin Factor.....:	54.4805
Radius of Investigation.....:	1443.11226 ft
Damage Ratio.....:	8.0088
Productivity Index.....:	0.0578 bbls/psi.d
Productivity Index W/O Damage..:	0.4626 bbls/psi.d

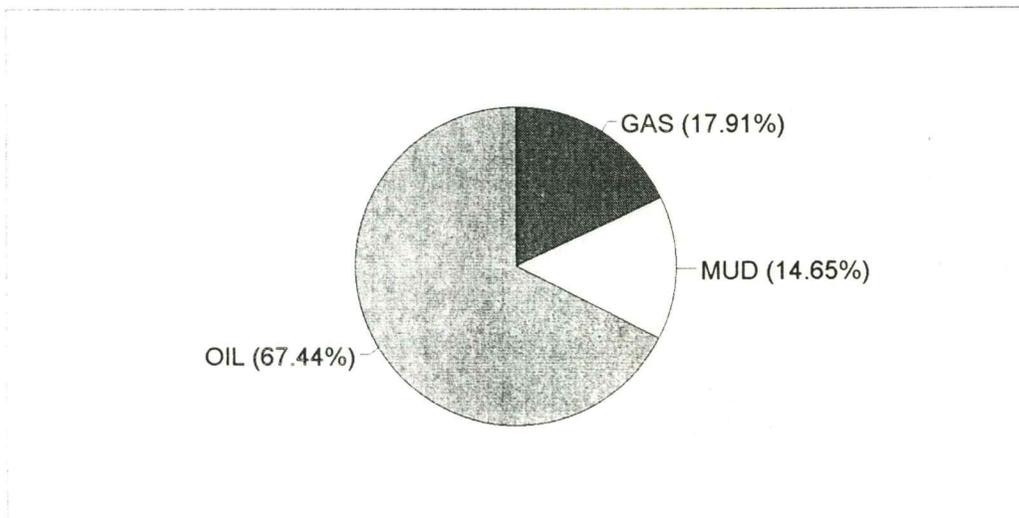
CALCULATED RECOVERY ANALYSIS

DST 4

TICKET 11307

SAMPLE #	TOTAL FEET	GAS		OIL		WATER		MUD	
		%	FEET	%	FEET	%	FEET	%	FEET
DRILL 1	180	20	36	80	144		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	60	20	12	80	48		0		0
COLLARS 2	420	15	63	50	210		0	35	147
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
TOTAL	660		111		402		0		147

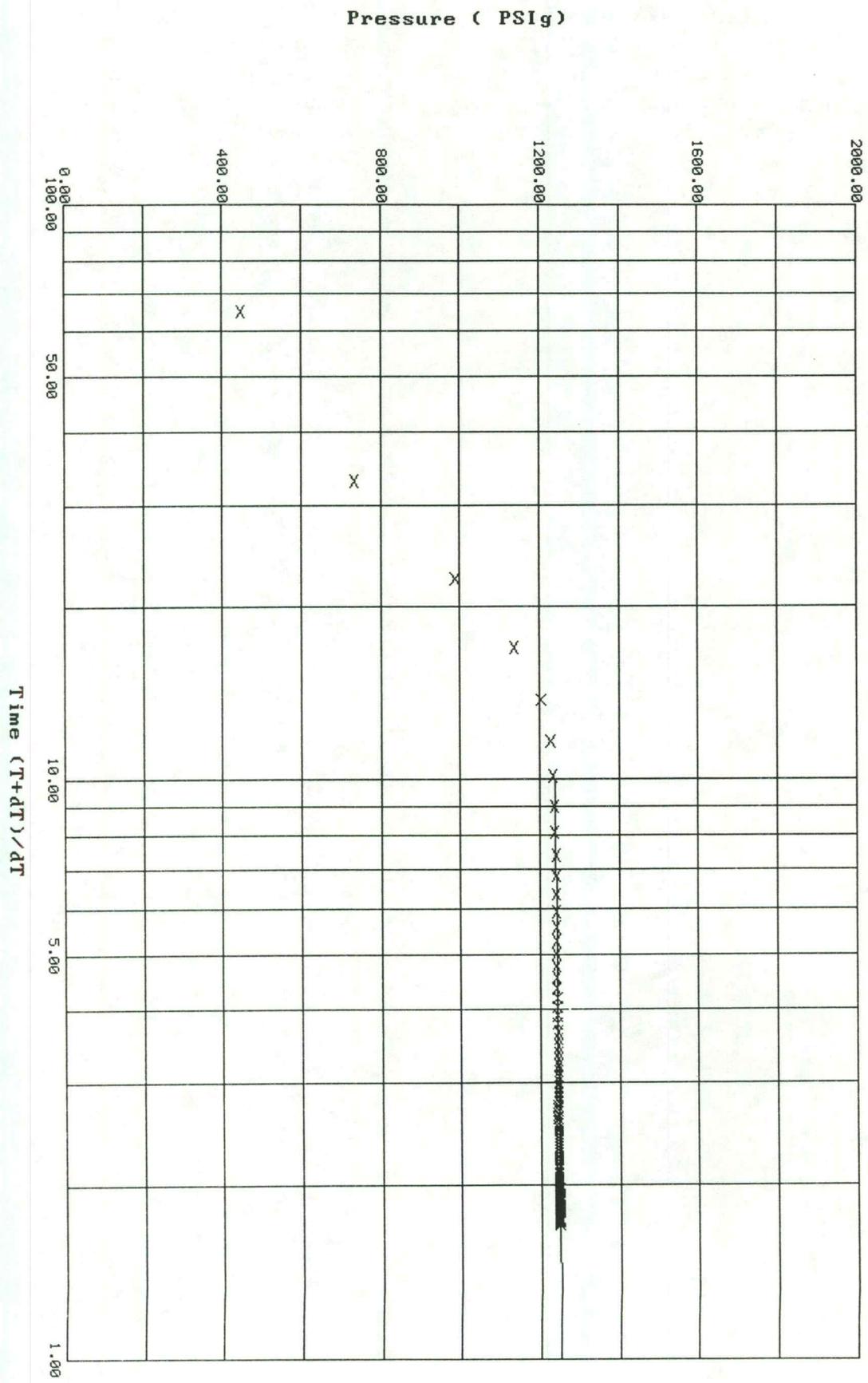
BBL OIL =	3.3093	*	HRS OPEN	=	BBL/DAY
BBL WATER =	0	*	1.5	=	52.9488
BBL MUD =	0.71883				
BBL GAS =	0.87867				



Horner Plot: shut-in #1

TK#11307 DST#4 Shirley#1-29 Murfin Dr1g

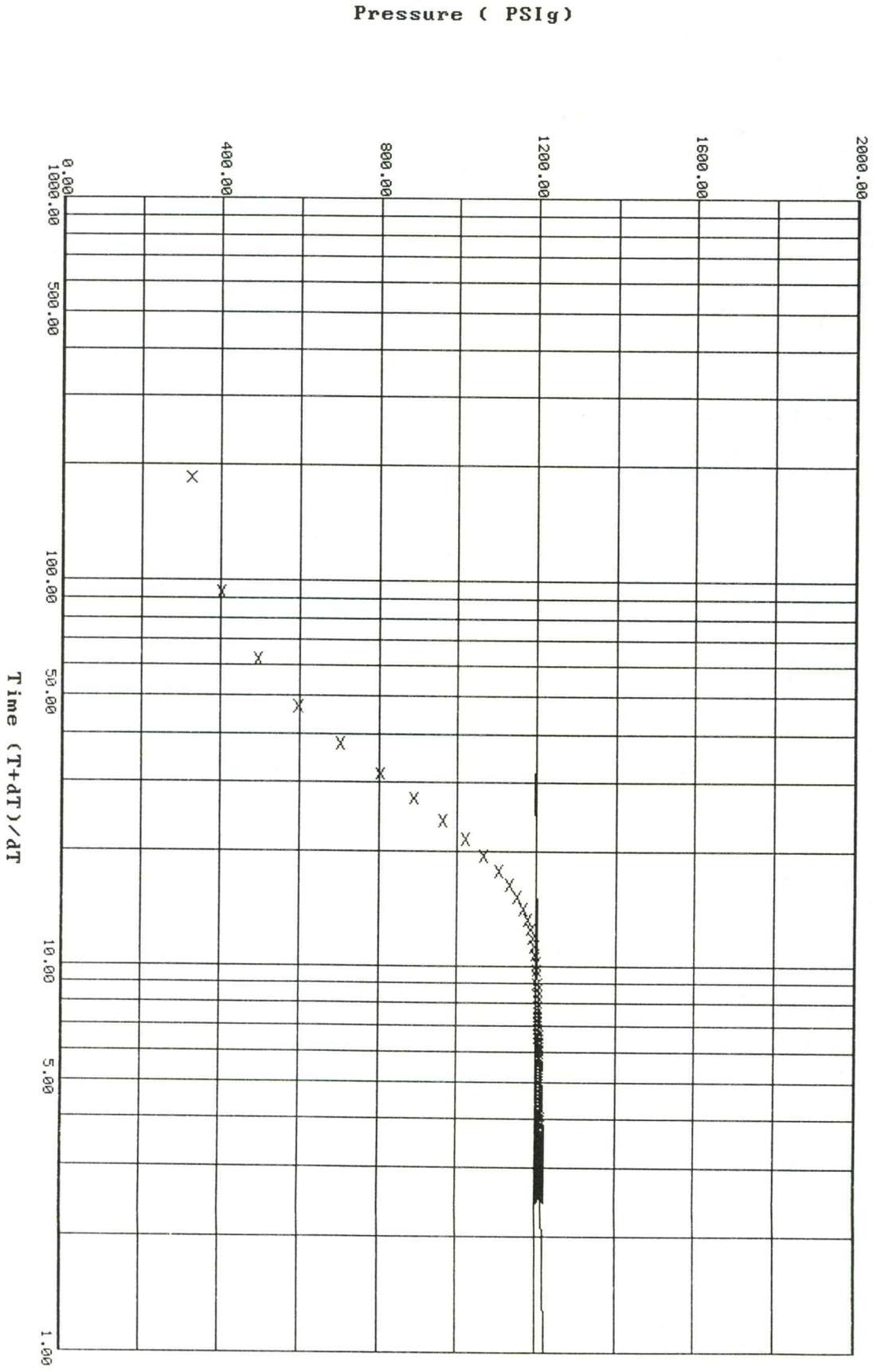
Slope: 11.4033 PSig/cycle
Ext. Pressure: 1249.3187 PSig



Horner Plot: shut-in #2

TK#11307 DST#4 Shirley#1-29 Murfin Dr Ig

Slope: 16.9495 PSig/cycle
Ext. Pressure: 1221.7406 PSig



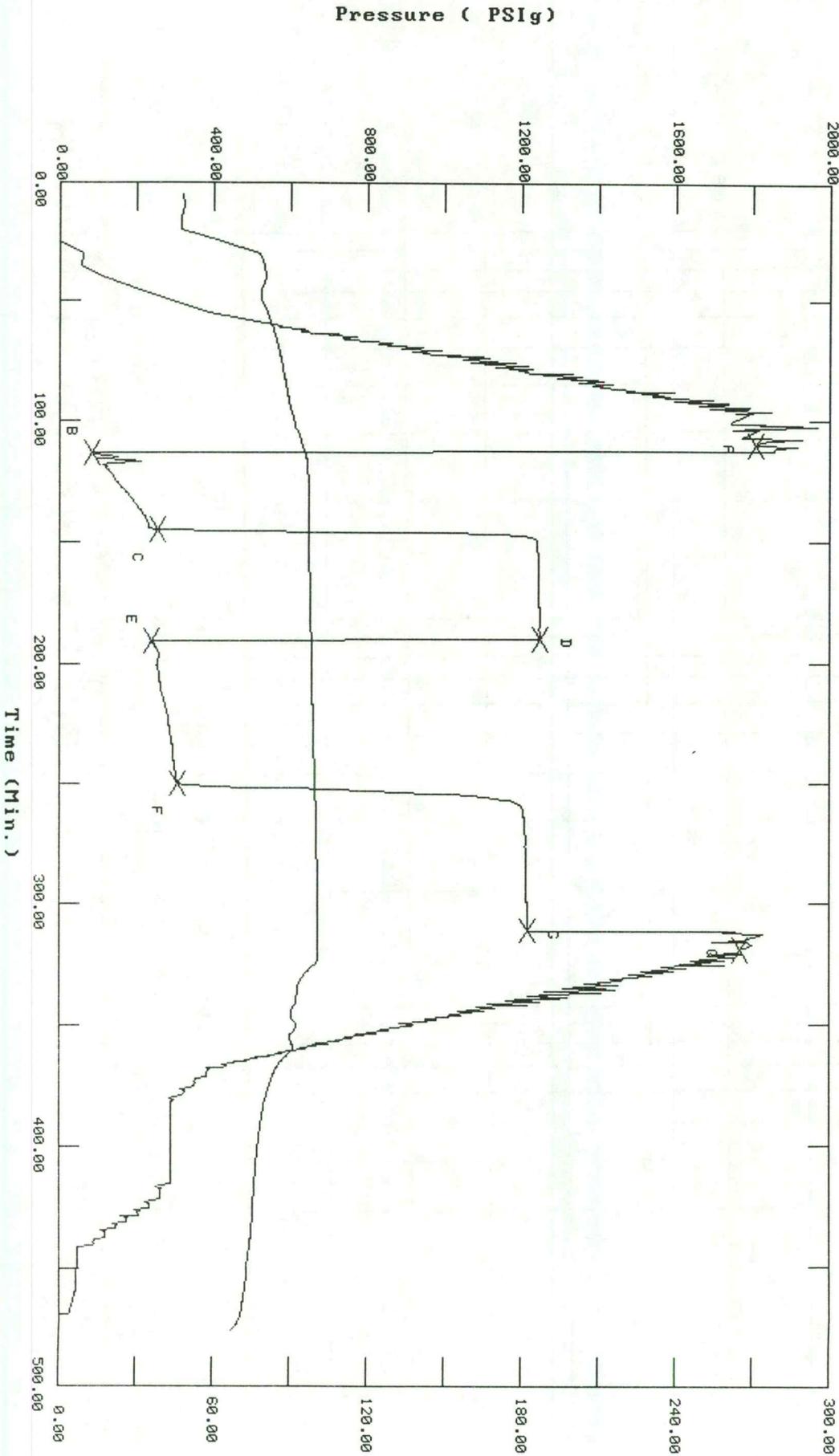
TK#11307 DST#4 Shirley#1-29 Murfin Dr Ig

TEST HISTORY

t (Min.) P (PSIg)

Flag Points

A:	0.00	1809.81
B:	0.00	83.72
C:	32.00	256.23
D:	45.00	1246.64
E:	0.00	239.71
F:	60.00	305.06
G:	60.50	1214.68
H:	0.00	1770.33



Temperature (DEG F)

Pressure (PSIg)

Time (Min.)