

WELL NAME: Acres #21-5
COMPANY: Conley P Smith
LOCATION: 21-32S-18W
Comanche County Kansas
DATE: 08/17/96

TRILOBITE TESTING L.L.C.

OPERATOR : Conley P Smith Oper. Co.
WELL NAME: Acres #21-5
LOCATION : 21-32S-18W, Comanche KS
INTERVAL : 5647.00 To 5672.00 ft

DATE 8-16-96
KB 2124.00 ft TICKET NO: 9374 DST #1
GR 2119.00 ft FORMATION: Viola
TD 5672.00 ft TEST TYPE: CONVENTIONAL

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 15 Rec.	10248	10248	2351			PF Fr. 0926 to 0941 hr
SI 64 Range(Psi)	4400.0	4400.0	4995.0	0.0	0.0	IS Fr. 0941 to 1045 hr
SF 15 Clock(hrs)	12	12	Alpin			SF Fr. 1045 to 1100 hr
FS 60 Depth(ft)	5669.0	5669.0	5652.0	0.0	0.0	FS Fr. 1100 to 1200 hr

	Field	1	2	3	4	
A. Init Hydro	2823.0	2841.0	0.0	0.0	0.0	T STARTED 0616 hr
B. First Flow	674.0	694.0	0.0	0.0	0.0	T ON BOTM 0922 hr
Bl. Final Flow	756.0	773.0	0.0	0.0	0.0	T OPEN 0926 hr
C. In Shut-in	1940.0	1949.0	0.0	0.0	0.0	T PULLED 1201 hr
D. Init Flow	692.0	690.0	0.0	0.0	0.0	T OUT 1450 hr
E. Final Flow	771.0	764.0	0.0	0.0	0.0	
F. Fl Shut-in	1953.0	1953.0	0.0	0.0	0.0	TOOL DATA-----
G. Final Hydro	2783.0	2779.0	0.0	0.0	0.0	Tool Wt. 2100.00 lbs
Inside/Outside	O	O	I			Wt Set On Packer 22000.00 lbs
						Wt Pulled Loose 105000.00 lbs
						Initial Str Wt 62000.00 lbs
						Unseated Str Wt 69000.00 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 270.00 ft
						D.P. Length 5348.00 ft

RECOVERY

Tot Fluid 150.00 ft of 150.00 ft in DC and 0.00 ft in DP
150.00 ft of Gas cut watery mud 5% Gas, 27% Water, 68% Mud

10.00 ft of Pay (est)

SALINITY 44000.00 P.P.M. A.P.I. Gravity 0.00

BLOW DESCRIPTION

Initial Flow -
Strong blow; Gas to surface in 2 min

Final Flow -
Strong blow

SAMPLES: GAS SAMPLE
SENT TO: CARAWAY/LIBERAL

MUD DATA-----

Mud Type	Chemical
Weight	9.20 lb/cf
Vis.	52.00 S/L
W.L.	16.80 in3
F.C.	0.20 in
Mud Drop N	
Amt. of fill	2.00 ft
Btm. H. Temp.	126.00 F
Hole Condition	GOOD
% Porosity	15.00
Packer Size	6.75 in
No. of Packers	2
Cushion Amt.	0.00 N
Cushion Type	NONE
Reversed Out N	
Tool Chased N	
Tester	GARY PEVOTEAUX
Co. Rep.	ART LEBOLO
Contr.	ABERCROMBIE DRLG
Rig #	5
Unit #	
Pump T.	

Test Successful: Y

GAS RECOVERY

COMPANY: Conley P Smith Oper. Co.

DATE: 8-16-96

WELL NAME: Acres #21-5

KB Elev: 2124.00 ft TICKET #9374 DST #1

WELL LOCATION: 21-32S-18W, Comanche KS

GR Elev: 2119.00 ft FORMATION: Viola

INTERVAL Fr.: 5647.00 To 5672.00 T.D.: 5672.00 ft TEST TYPE: CONVENTIONAL

GAS RECOVERY MEASURED WITH MERLA

***** GAS RATES FOR FLOW #1

Time (min)	Orifice (in)	Pressure (Psi)	H2O (in)	Rate (cf/d)
5	1.25	50	0	2341000.0
10	1.25	76	0	3280000.0
15	1.25	82	0	3496000.0

***** GAS RATES FOR FLOW #2

Time (min)	Orifice (in)	Pressure (Psi)	H2O (in)	Rate (cf/d)
5	1.00	100	0	2464000.0
9	1.00	175	0	4781000.0
14	1.00	195	0	5286000.0

Operator.....: Conley P Smith
Well Name.....: Acres #21-5
DST Number.....: 1

Location.: 21-32S-18W, Comanche KS Recorder No...: 2351
Test Type: Conventional Recorder Depth: 5652
Formation: Viola Test Interval.: 5647-5672

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

RESERVOIR PARAMETERS USED:

Net Pay.....: 10.00 ft
Porosity.....: 12.00 %
Bottom Hole Temp.....: 126.00 F
Specific Gravity.....: 0.720
Z factor.....: %7/3f %s
Compressibility.....: 0.013815 /psi
Viscosity.....: 0.0131 cp
Total Flowing Time.....: 30.00 min.
Flow Rate.....: 5286.00
Final Flowing Pressure.....: 764.00 psi
Horner Slope.....: 0.5214 *10⁶ psi²/cycle
Extrapolated Pressure.....: 1037.15 psi
Assumed Drainage Radius.....: 1500.00 ft
Well Bore Radius.....: 3.94 in

RESULTS:

Effective Permeability.....: 12.704694 md
Flow Capacity.....: 127.0469 md.ft
Transmissibility.....: 9698.2394 md.ft/cp
Skin Factor.....: -0.1197
Pressure Drop Across Skin.....: -36.3684 psi
Radius of Investigation.....: 15.6844 ft
Damage Ratio.....: 0.3339
Absolute Open Flow.....: 11557.6543
Absolute Open Flow W/O Damage.: 11557.6543
Estimated Stabilized AOF.....: 1041.2162

[illegible]

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

ACRES #21-5
INITIAL

DST #1
SHUTIN

SLOP 372555.89 PSI/CYCLE
P* 1040.36 PSI

15 INITIAL FLOW TIME

	TIME(MIN	Pws (psi)	Log Horn	<> PRESSURE	Horn T
	-----	-----	-----	-----	-----
	3	1914.0	0.778	1914.0	6
	6	1924.0	0.544	10.0	4
	9	1935.0	0.426	11.0	3
	12	1938.0	0.352	3.0	2
	15	1941.0	0.301	3.0	2
	18	1942.0	0.263	1.0	2
Q	21	1944.0	0.234	2.0	2
	24	1944.0	0.211	0.0	2
	27	1944.0	0.192	0.0	2
	30	1944.0	0.176	0.0	2
	33	1945.0	0.163	1.0	1
	36	1945.0	0.151	0.0	1
	39	1947.0	0.141	2.0	1
	42	1947.0	0.133	0.0	1
	45	1947.0	0.125	0.0	1
	48	1947.0	0.118	0.0	1
	51	1947.0	0.112	0.0	1
	54	1947.0	0.106	0.0	1
	57	1947.0	0.101	0.0	1
	60	1947.0	0.097	0.0	1
	63	1947.0	0.093	0.0	1
X	66	1949.0	0.089	2.0	1

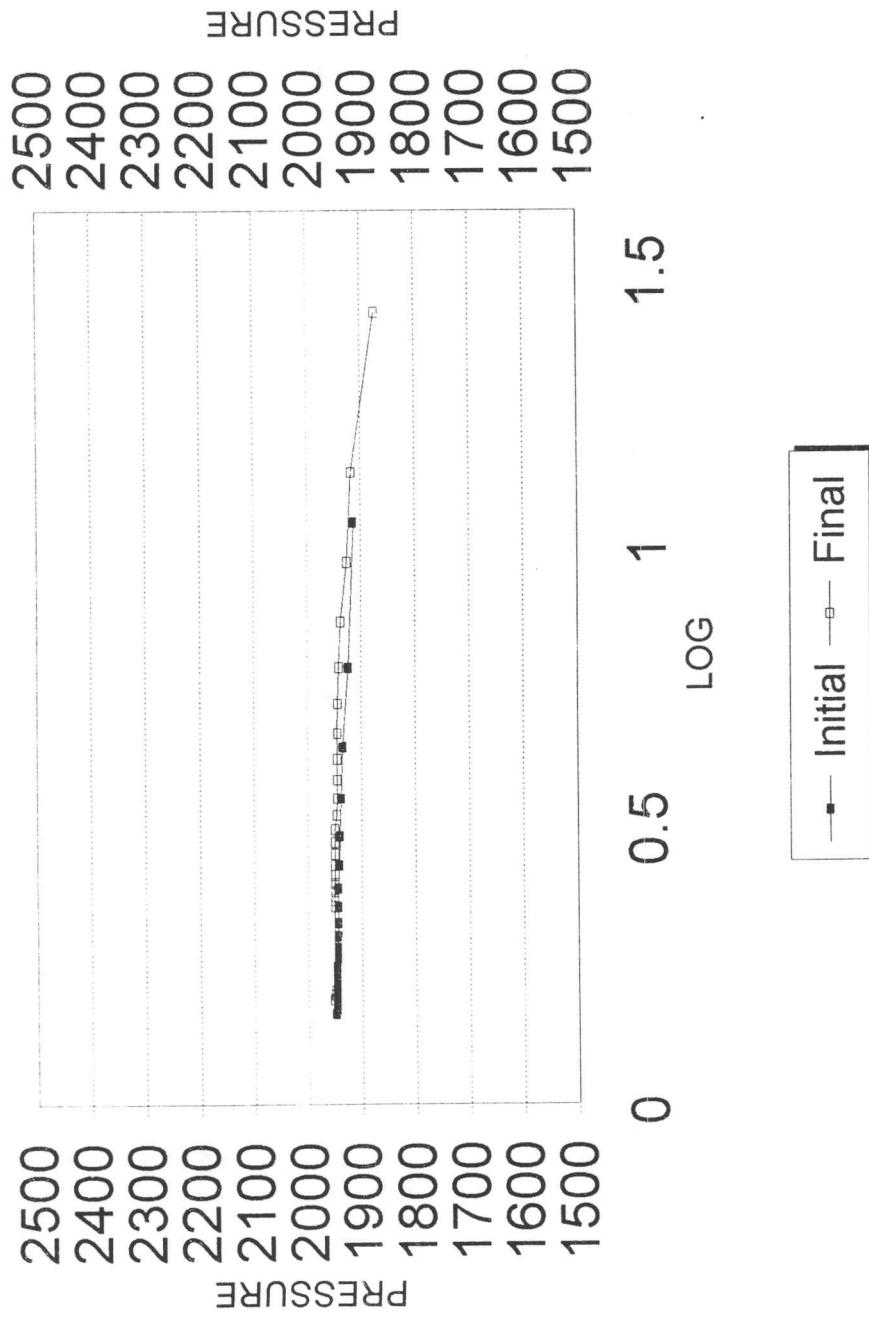
ACRES #21-5
FINAL

DST #1
SHUTIN
30 TOTAL FLOW TIME

SLOPE 521448.82 PSI/CY
P* 1037.15 PSI

		Log	<>	
	TIME(MIN	Pws(psi)	Horn T	PRESSURE HORN T
	-----	-----	-----	-----
	3	1874.0	1.041	1874.0 11
	6	1918.0	0.778	44.0 6
	9	1927.0	0.637	9.0 4
	12	1938.0	0.544	11.0 4
	15	1942.0	0.477	4.0 3
	18	1944.0	0.426	2.0 3
	21	1945.0	0.385	1.0 2
	24	1946.0	0.352	1.0 2
	27	1946.0	0.325	0.0 2
	30	1946.0	0.301	0.0 2
	33	1947.0	0.281	1.0 2
Q	36	1950.0	0.263	3.0 2
	39	1950.0	0.248	0.0 2
	42	1950.0	0.234	0.0 2
	45	1950.0	0.222	0.0 2
	48	1950.0	0.211	0.0 2
	51	1950.0	0.201	0.0 2
	54	1951.0	0.192	1.0 2
	57	1951.0	0.184	0.0 2
	60	1951.0	0.176	0.0 2
	63	1951.0	0.169	0.0 1
	66	1951.0	0.163	0.0 1
X	69	1953.0	0.157	2.0 1

HORNER PLOT



*** TOOL DIAGRAM *** CONVENTIONAL

WELL NAME: Acres #21-5

LOCATION : 21-32S-18W, Comanche KS

TICKET No. 9374 D.S.T. No. 1 DATE 8-16-96

TOTAL TOOL TO BOTTOM OF TOP PACKERS 31

INTERVAL TOOL

BOTTOM PACKERS AND ANCHOR 25

TOTAL TOOL 56

DRILL COLLAR ANCHOR IN INTERVAL

D.C. ANCHOR STND.Stands Single Total

D.P. ANCHOR STND.Stands Single Total

TOTAL ASSEMBLY 56

D.C. ABOVE TOOLS.Stands 3 Single 0 Total 270

D.P. ABOVE TOOLS.Stands 57 Single 2 Total 5348

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 5684

TOTAL DEPTH 5672

TOTAL DRILL PIPE ABOVE K.B. 12

REMARKS:

FLUID SAMPLER DATA

SAMPLER RECOVERY -

Gas .8 cu ft, Pressure 75 PSI, Total 4000 ml

PIT MUD ANALYSIS -

Chlorides 9500 ppm, Resist 2.09 ohms @ 70 F
Viscosity 52, Mud Weight 9.2, Filtrate 16.8,
LCM 3#/bbl

P.O. SUB	
C.O. SUB @TOP OF TOOL	5616
S.I. TOOL	5622
Sampler	5625
HMV	5630
JARS	5636
SAFETY JOINT	5638
PACKER	5642
PACKER	5647
DEPTH 5647	4618
STUBB 1 FT.	5648
ANCHOR	
perfs	
ALPINE REC.@	5652
T.C.	
DEPTH	
19 ft.perfs to	5667
AK-1 REC.@	5669
BULLNOSE 5 FT.PERFORATED	
T.D.	5672

TRILOBITE TESTING L.L.C.

OPERATOR : Conley P Smith Oper Co
WELL NAME: Acres #21-5
LOCATION : 21-32S-18W, Comanache KS
INTERVAL : 5678.00 To 5694.00 ft

DATE 08/17/96
KB 2124.00 ft TICKET NO: 9375 DST #2
GR 2119.00 ft FORMATION: Viola
TD 5694.00 ft TEST TYPE: CONV

RECORDER DATA

Mins		Field	1	2	3	4	TIME DATA-----
PF 15	Rec.	10248	10248	3024			PF Fr. 0741 to 1756 hr
SI 60	Range(Psi)	4400.0	4400.0	4995.0	0.0	0.0	IS Fr. 0756 to 0856 hr
SF 60	Clock(hrs)	12	12	Alpin			SF Fr. 0856 to 0956 hr
FS 120	Depth(ft)	5691.0	5691.0	5683.0	0.0	0.0	FS Fr. 0956 to 1156 hr

	Field	1	2	3	4	
A. Init Hydro	2814.0	2821.0	0.0	0.0	0.0	T STARTED 0426 hr
B. First Flow	216.0	220.0	0.0	0.0	0.0	T ON BOTM 0739 hr
B1. Final Flow	308.0	302.0	0.0	0.0	0.0	T OPEN 0741 hr
C. In Shut-in	1975.0	1960.0	0.0	0.0	0.0	T PULLED 1158 hr
D. Init Flow	384.0	384.0	0.0	0.0	0.0	T OUT 1700 hr
E. Final Flow	914.0	890.0	0.0	0.0	0.0	
F. Fl Shut-in	1962.0	1956.0	0.0	0.0	0.0	TOOL DATA-----
G. Final Hydro	2790.0	2801.0	0.0	0.0	0.0	Tool Wt. 0.00 lbs
Inside/Outside	0	0	I			Wt Set On Packer 22000.00 lbs
						Wt Pulled Loose 86000.00 lbs
						Initial Str Wt 64000.00 lbs
						Unseated Str Wt 72000.00 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 270.00 ft
						D.P. Length 5390.00 ft

RECOVERY

Tot Fluid 2132.00 ft of 270.00 ft in DC and 1862.00 ft in DP
110.00 ft of Gassy oil cut watery mud -
15% gas, 15% oil, 5% water, 65% mud
462.00 ft of Clean gassy oil - 15% gas, 85% oil
1560.00 ft of Slightly gassy oil specked water -
3% gas, 2% oil, 95% water

RW .059 @ 88 F

SALINITY 122000.00 P.P.M. A.P.I. Gravity 42.00

BLOW DESCRIPTION

Initial Flow -
Strong blow, gas to surface in 6 min

Final Flow -
Strong blow

SAMPLES:
SENT TO:

MUD DATA-----
Mud Type Chemical
Weight 8.90 lb/cu
Vis. 49.00 S/L
W.L. 10.40 in3
F.C. 0.00 in
Mud Drop

Amt. of fill 0.00 ft
Btm. H. Temp. 137.00 F
Hole Condition
% Porosity 0.00
Packer Size 6.75 in
No. of Packers 2
Cushion Amt. 0.00
Cushion Type
Reversed Out
Tool Chased
Tester Gary Pevoteaux
Co. Rep. Art Lebold
Contr. Abercrombie
Rig # 5
Unit #
Pump T.

Test Successful: Y

GAS RECOVERY

COMPANY: Conley P Smith Oper Co

DATE: 08/17/96

WELL NAME: Acres #21-5

KB Elev: 2124.00 ft TICKET #9375 DST #2

WELL LOCATION: 21-32S-18W, Comanache KS

GR Elev: 2119.00 ft FORMATION: Viola

INTERVAL Fr.: 5678.00 To 5694.00 T.D.: 5694.00 ft TEST TYPE: CONV

GAS RECOVERY MEASURED WITH Merla

***** GAS RATES FOR FLOW #1

Time (min)	Orifice (in)	Pressure (Psi)	H2O (in)	Rate (cf/d)
6	0.75	2.5	0	121000.0
10	0.50	3.5	0	64000.0
15	0.75	0	20	63500.0

***** GAS RATES FOR FLOW #2

Time (min)	Orifice (in)	Pressure (Psi)	H2O (in)	Rate (cf/d)
5	0.12	0	8	1500.0
10	0.12	0	54	3880.0
20	0.25	0	98	16600.0
30	0.25	0	96	16400.0
40	0.25	0	100	16800.0
50	0.25	6	0	22900.0
55	0.25	6.5	0	23900.0
60	0.25	7	0	25000.0

CALCULATED RECOVERY ANALYSIS

DST 2

TICKE 9375

SAMPLE #	TOTAL FEET	GAS		OIL		WATER		MUD	
		%	FEET	%	FEET	%	FEET	%	FEET
DRILL	1	15	16.5	15	16.5	5	5.5	65	71.5
PIPE	2	15	24	85	136		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	15	45.3	85	256.7		0		0
COLLAR	2	3	46.8	2	31.2	95	1482		0
	3		0		0		0		0
	4		0		0		0		0
	5		0		0		0		0
TOTAL			132.6		440.4		1487.5		71.5

BBL OIL= 3.57638 * HRS OPEN 1.25 = 68.6665
 BBL WATER 7.32519 * = 140.644
 BBL MUD= 1.01673
 BBL GAS = 1.02628

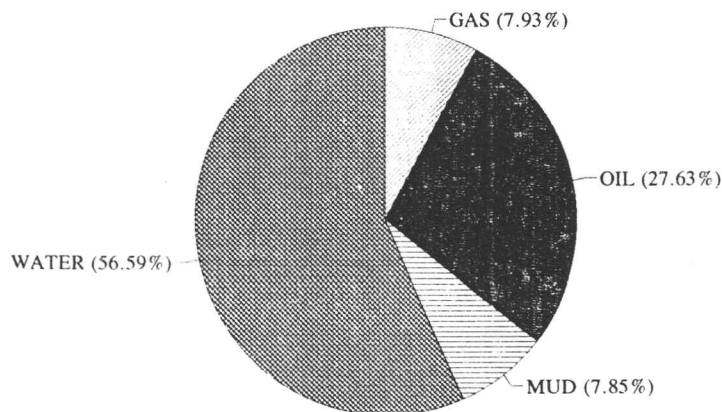
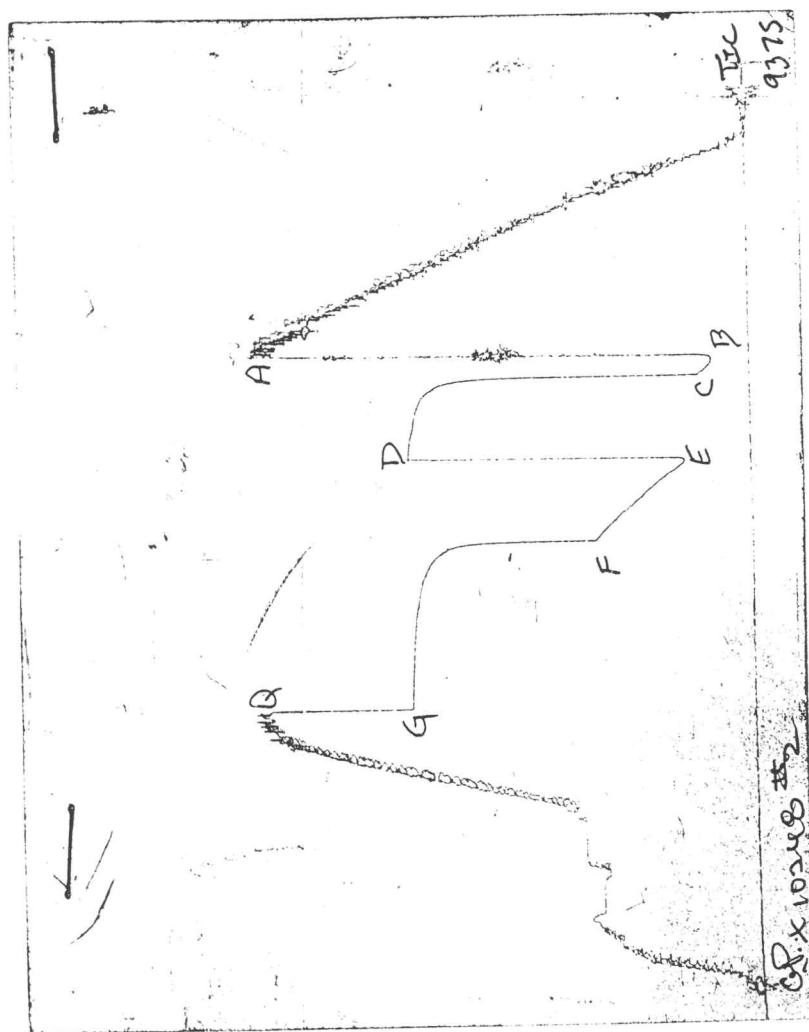


CHART PAGE



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

ACRES #21-5 DST #2
 INITIAL SHUTIN
 15 INITIAL FLOW TIME

 SLOPE 677.18 PSI/CY
 P* 2020.81 PSI

	TIME(MIN	Pws (psi)	Log Horn T	<> PRESSURE	Horn T
	-----	-----	-----	-----	-----
	3	1629.0	0.778	1629.0	6
	6	1740.0	0.544	111.0	4
	9	1797.0	0.426	57.0	3
	12	1828.0	0.352	31.0	2
	15	1856.0	0.301	28.0	2
	18	1878.0	0.263	22.0	2
	21	1889.0	0.234	11.0	2
	24	1900.0	0.211	11.0	2
	27	1909.0	0.192	9.0	2
	30	1916.0	0.176	7.0	2
	33	1922.0	0.163	6.0	1
	36	1924.0	0.151	2.0	1
	39	1929.0	0.141	5.0	1
Q	42	1931.0	0.133	2.0	1
	45	1936.0	0.125	5.0	1
	48	1942.0	0.118	6.0	1
	51	1946.0	0.112	4.0	1
	54	1951.0	0.106	5.0	1
	57	1955.0	0.101	4.0	1
	60	1957.0	0.097	2.0	1
	63	1958.0	0.093	1.0	1
X	66	1960.0	0.089	2.0	1

ACRES #21-5
FINAL

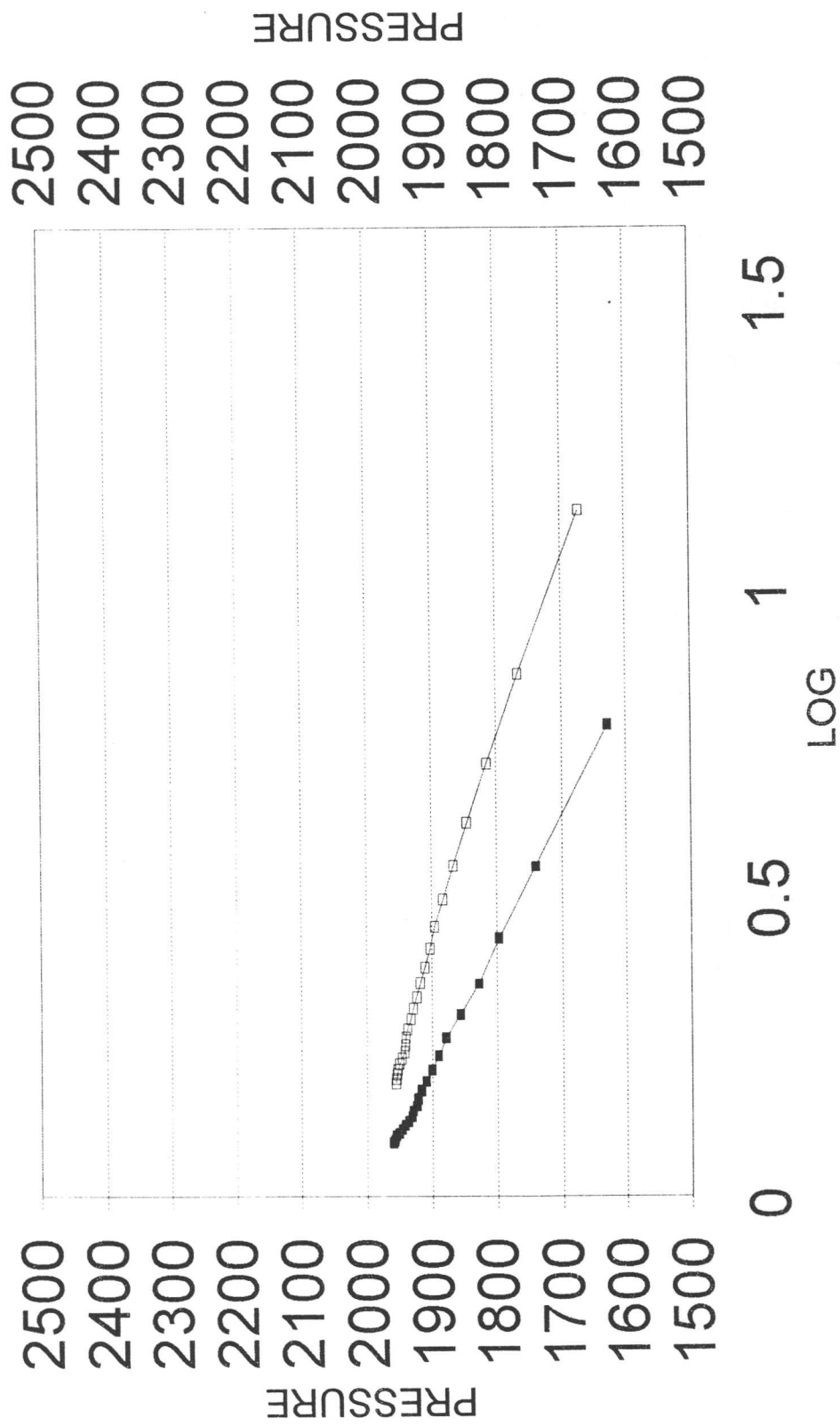
DST #2
SHUTIN
75 TOTAL FLOW TIME

SLOPE
P*

229.79 PSI/CYCLE
2001.45 PSI

	TIME(MIN	Pws(psi)	Log Horn T	<> PRESSURE	HORN T
	6	1672.0	1.130	1672.0	14
	12	1767.0	0.860	95.0	7
	18	1815.0	0.713	48.0	5
	24	1846.0	0.615	31.0	4
	30	1867.0	0.544	21.0	4
	36	1883.0	0.489	16.0	3
	42	1896.0	0.445	13.0	3
	48	1903.0	0.409	7.0	3
	54	1911.0	0.378	8.0	2
	60	1918.0	0.352	7.0	2
	66	1924.0	0.330	6.0	2
	72	1929.0	0.310	5.0	2
	78	1933.0	0.293	4.0	2
	84	1938.0	0.277	5.0	2
	90	1941.0	0.263	3.0	2
	96	1942.0	0.251	1.0	2
	102	1943.0	0.239	1.0	2
	108	1947.0	0.229	4.0	2
Q	114	1951.0	0.220	4.0	2
	120	1953.0	0.211	2.0	2
	126	1954.0	0.203	1.0	2
	132	1955.0	0.195	1.0	2
X	138	1956.0	0.189	1.0	2

HORNER PLOT



*** TOOL DIAGRAM *** CONV

WELL NAME: Acres #21-5	P.O. SUB	
	C.O. SUB	5647
LOCATION : 21-32S-18W, Comanache KS	S.I. TOOL	5653
TICKET No. 9375 D.S.T. No. 2 DATE 08/17/96	Sampler	5656
TOTAL TOOL TO BOTTOM OF TOP PACKERS 31	HMV	5661
INTERVAL TOOL	JARS	5667
BOTTOM PACKERS AND ANCHOR 16		
TOTAL TOOL 47		
DRILL COLLAR ANCHOR IN INTERVAL		
D.C. ANCHOR STND.Stands Single Total	SAFETY JOINT	5669
D.P. ANCHOR STND.Stands Single Total	PACKER	5673
TOTAL ASSEMBLY 47	PACKER	5678
D.C. ABOVE TOOLS.Stands Single Total 270	DEPTH 5678	
D.P. ABOVE TOOLS.Stands Single Total 5390	STUBB	5679
TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 5707	ANCHOR	
	perf	
TOTAL DEPTH 5694	Alpine recorder	5683
TOTAL DRILL PIPE ABOVE K.B. 13		
REMARKS:	perf	
FLUID SAMPLER RECOVERY		
SAMPLER RECOVERY -		
Gas 7.75 cu ft, Oil 1875 ml, Water 625 ml,		
Pressure 115 PSI, Total 4000 ml		
SAMPLER ANALYSIS -	T.C.	
Resist .059 ohms @ 88 F, Chlor 122000 ppm,	DEPTH	
Gravity 42 corrected @ 60 F		
PIT MUD ANALYSIS -		
Chlor 10000 ppm, Resist 2.24 ohms @ 73 F,		
Vis 49, Mud Wt 8.9, Filt 10.4, LCM 5#/bbl	AK-1 recorder	5691
PIPE RECOVERY - Bottom		
Resist .059 ohms @ 88 F, Chlor 122000 ppm		
	BULLNOSE bull plug	
	T.D.	5694