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ORIGINAL

MAY 13 1995

AMOCO PRODUCTION COMPANY LEASE : DAVID TRENT WELL NO.: 1-23 TEST NO.: 1 API#15-187-20761

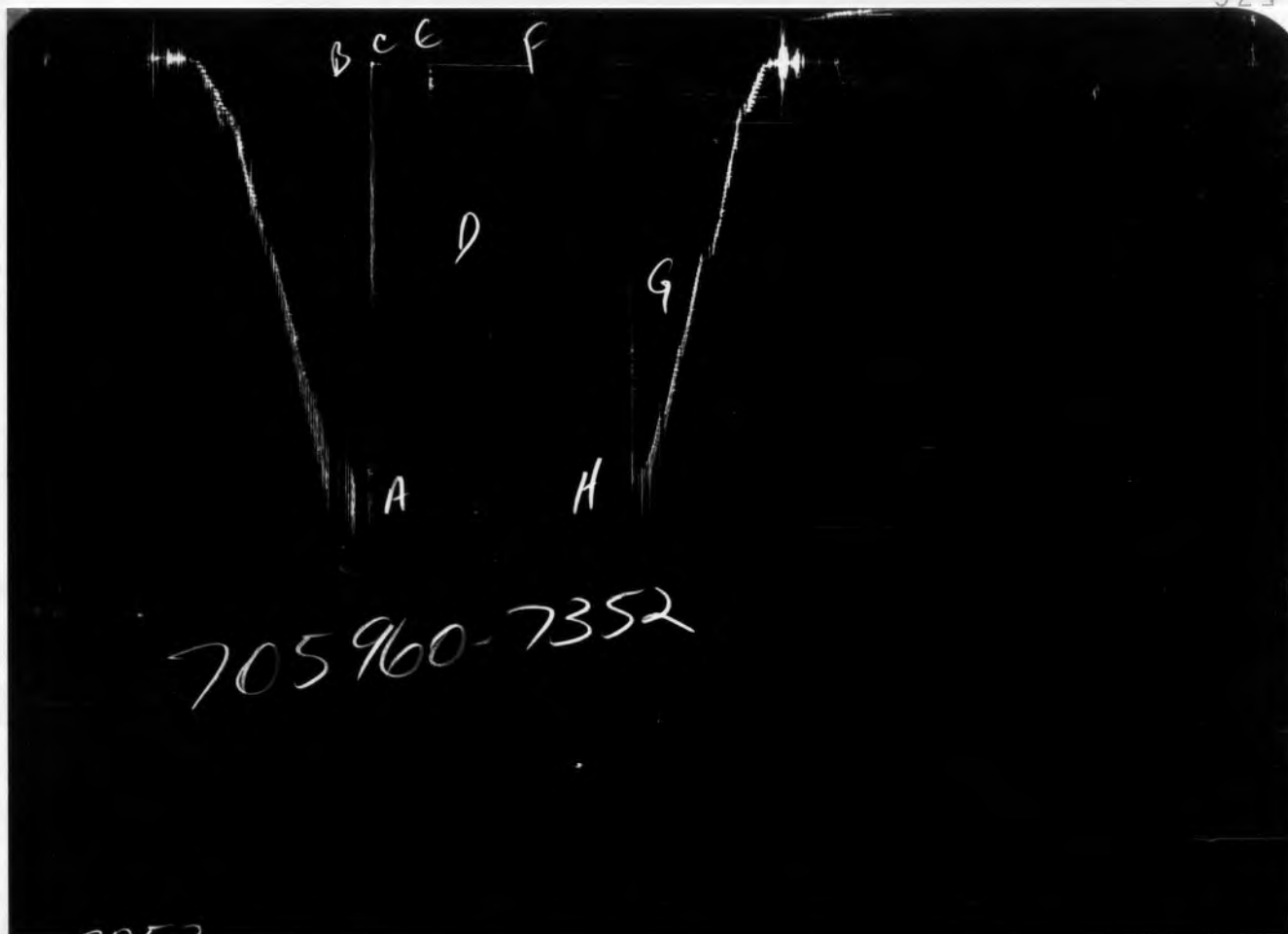
TICKET NO. 70596000
10-JAN-95
LIBERAL

RECEIVED
KANSAS CORPORATION COMMISSION

MAY 05 1995

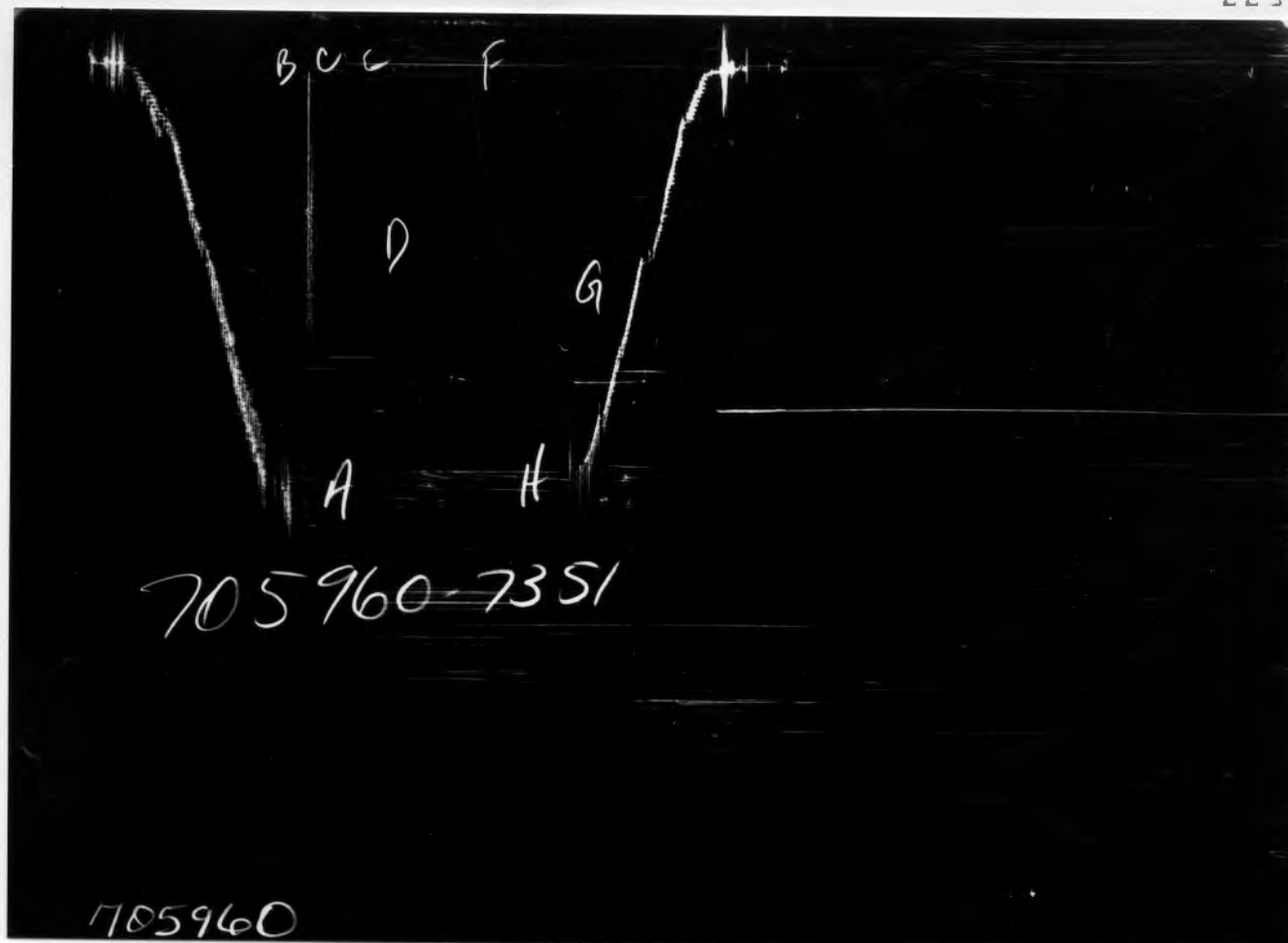
CONSERVATION DIVISION
WICHITA, KS

LEASE NAME	DAVID TRENT	WELL NO.	1-23	TEST NO.	1	TESTED INTERVAL	5581.6 - 5604.0	LEASE OWNER/COMPANY NAME	AMOCO PRODUCTION COMPANY
LEGAL LOCATION	23 - 30 S - 39 W	FIELD AREA	NICHOLAS	COUNTY	STANTON	STATE	KANSAS		
SEC. - TWP. - RNG.									



GAUGE NO: 7352 DEPTH: 5561.0 BLANKED OFF: NQ HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2658	2658.3			
B	INITIAL FIRST FLOW	6	24.3			
C	FINAL FIRST FLOW	6	26.3	10.0	11.4	F
C	INITIAL FIRST CLOSED-IN	6	26.3			
D	FINAL FIRST CLOSED-IN	1002	1015.7	60.0	58.5	C
E	INITIAL SECOND FLOW	6	23.7			
F	FINAL SECOND FLOW	9	32.3	122.0	123.1	F
F	INITIAL SECOND CLOSED-IN	9	32.3			
G	FINAL SECOND CLOSED-IN	1404	1431.8	120.0	119.0	C
H	FINAL HYDROSTATIC	2658	2638.0			


GAUGE NO: 7351 DEPTH: 5601.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2638	2676.0			
B	INITIAL FIRST FLOW	32	63.3			
C	FINAL FIRST FLOW	96	105.9	10.0	11.4	F
C	INITIAL FIRST CLOSED-IN	96	105.9			
D	FINAL FIRST CLOSED-IN	1057	1030.7	60.0	58.5	C
E	INITIAL SECOND FLOW	96	88.4			
F	FINAL SECOND FLOW	58	44.1	122.0	123.1	F
F	INITIAL SECOND CLOSED-IN	58	44.1			
G	FINAL SECOND CLOSED-IN	1447	1443.1	120.0	119.0	C
H	FINAL HYDROSTATIC	2638	2655.0			

ORIGINAL

EQUIPMENT & HOLE DATA

FORMATION TESTED: LOWER MORROW

NET PAY (ft): 20.0

GROSS TESTED FOOTAGE: 22.4 PACKER TO T.D.

ALL DEPTHS MEASURED FROM: K.B. (11' AGL)

CASING PERFS. (ft):

HOLE OR CASING SIZE (in): 7.875

ELEVATION (ft): 3178.7 AT KELLY BUSHING

TOTAL DEPTH (ft): 5604.0

PACKER DEPTH(S) (ft): 5576, 5582

FINAL SURFACE CHOKE (in): 0.25000

BOTTOM HOLE CHOKE (in): 0.750

MUD WEIGHT (lb/gal): 9.00

MUD VISCOSITY (sec): 55

ESTIMATED HOLE TEMP. (°F):

ACTUAL HOLE TEMP. (°F): 134 @ 5599.1 ft

TICKET NUMBER: 70596000

DATE: 01-08-95 TEST NO: 1

TYPE DST: OPEN HOLE

FIELD CAMP:

LIBERAL

TESTER: JEFF CLARK

WITNESS: SAM CARMACK

DRILLING CONTRACTOR:

CHEYENNE DRILLING RIG #3

FLUID PROPERTIES FOR
RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
PIT	10.000 @ 59 °F	4980 ppm
SAMPLER	10.000 @ 59 °F	4980 ppm
RECOVERY	10.000 @ 59 °F	4980 ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm

SAMPLER DATA

Psig AT SURFACE:

cu.ft. OF GAS:

cc OF OIL:

cc OF WATER:

cc OF MUD:

TOTAL LIQUID cc:

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): @ °F

GAS/OIL RATIO (cu.ft. per bbl):

GAS GRAVITY:

CUSHION DATA

TYPE AMOUNT WEIGHT

RECOVERED:

50 FT. OF GAS CUT DRILLING MUD

MEASURED FROM
TESTER VALVE

REMARKS:

CHARTS INDICATE PARTIAL PLUGGING OF THE ANCHOR PERFORATIONS DURING THE INITIAL FLOW PERIOD.

TYPE & SIZE MEASURING DEVICE: 6" POSITIVE CHOKE					TICKET NO: 70595000
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
01-08-95					
0700					CALLED OUT; RIG READY NOW
1030					ON LOCATION
1125					PICKED UP TOOLS
1150					TOOLS MADE UP AND AT K.B.; RUN IN
					HOLE; RABBIT DRILL COLLARS AND PIPE
					DUE TO STRAIGHT HOLE TOOL BEING LOST
					IN PIPE
1500					FOUND STRAIGHT HOLE TOOL 14 JOINTS
					FROM THE TOP; CHANGED OUT ONE JOINT
1520					RIGGED UP SURFACE EQUIPMENT
1531					STRING WEIGHT = 96000 LBS.
					ON BOTTOM WEIGHT = 41000 LBS.
1533	B.H.				HYDROSPRING OPENED AND SLID DOWN
					HOLE FOR 3 FT.
1534	B.H.				BLOW OFF BOTTOM OF BUCKET
1543	B.H.				CLOSED TOOL
1643	B.H.				OPENED TOOL WITH BLOW OFF BOTTOM
					OF BUCKET IN 30 SECONDS
1645	B.H.	8.0 OZ			
1700	B.H.	10.0 OZ			
1715	B.H.	12.5 OZ			
1730	B.H.	13.5 OZ			
1740	B.H.	13.5 OZ			TURNED TO PIT THRU 1/4" CHOKE
1745	1/4	15.19			REPORTED PRESSURES ARE PSIA
1750	1/4	15.13			NO GAS
1755	1/4	15.09			ORIGINAL
1800	1/4	15.09			
1805	1/4	15.08			
1810	1/4	15.06			
1815	1/4	15.06			
1820	1/4	15.06			
1825	1/4	15.06			
1830	1/4	15.06			
1835	1/4	15.06			
1840	1/4	15.06			
1845	1/4	15.06			CLOSED TOOL; NO GAS

TICKET NO: 70596000

GAUGE NO: 7352

CLOCK NO: 17532 HOUR: 24

DEPTH: 5561.0

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta P}{t + \Delta P}$	$\log \frac{t + \Delta P}{\Delta P}$
FIRST FLOW					
B 1	0.0	24.3			
2	2.0	24.3	0.0		
3	4.0	24.9	0.6		
4	6.0	25.1	0.2		
5	8.0	25.1	0.0		
6	10.0	25.1	0.0		
C 7	11.4	26.3	1.2		
FIRST CLOSED-IN					
C 1	0.0	26.3			
2	1.0	80.7	54.4	0.9	1.088
3	2.0	127.0	100.7	1.7	0.821
4	3.0	162.1	135.8	2.4	0.687
5	4.0	199.1	172.8	3.0	0.586
6	5.0	225.2	198.9	3.5	0.519
7	6.0	250.1	223.8	3.9	0.464
8	7.0	275.7	249.4	4.3	0.422
9	8.0	299.5	273.2	4.7	0.385
10	9.0	319.8	293.5	5.0	0.355
11	10.0	337.6	311.3	5.3	0.331
12	12.0	372.7	346.4	5.8	0.291
13	14.0	402.3	376.0	6.3	0.259
14	16.0	430.0	403.7	6.7	0.234
15	18.0	458.4	432.1	7.0	0.213
16	20.0	484.4	458.1	7.3	0.196
17	22.0	514.5	488.2	7.5	0.182
18	24.0	545.7	519.4	7.7	0.169
19	26.0	572.9	546.6	7.9	0.158
20	28.0	604.4	578.1	8.1	0.149
21	30.0	630.6	604.3	8.3	0.140
22	35.0	699.2	672.9	8.6	0.123
23	40.0	771.2	744.9	8.9	0.109
24	45.0	837.1	810.8	9.1	0.098
25	50.0	903.5	877.2	9.3	0.089
26	55.0	968.4	942.1	9.5	0.082
D 27	58.5	1015.7	989.4	9.6	0.077
SECOND FLOW					
E 1	0.0	23.7			
2	10.0	26.0	2.3		
3	20.0	26.6	0.6		
4	30.0	26.8	0.2		
5	40.0	27.4	0.6		
6	50.0	28.0	0.6		
7	60.0	28.2	0.2		
8	70.0	28.5	0.3		
9	80.0	28.8	0.3		
10	90.0	29.6	0.8		

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta P}{t + \Delta P}$	$\log \frac{t + \Delta P}{\Delta P}$
SECOND FLOW - CONTINUED					
11	100.0	30.3	0.8		
12	110.0	31.1	0.8		
F 13	123.1	32.3	1.2		
SECOND CLOSED-IN					
F 1	0.0	32.3			
2	1.0	96.2	63.9	1.0	2.122
3	2.0	142.0	109.6	2.0	1.830
4	3.0	185.9	153.6	3.0	1.655
5	4.0	226.2	193.8	3.9	1.536
6	5.0	265.0	232.7	4.8	1.448
7	6.0	305.3	272.9	5.7	1.372
8	7.0	343.2	310.9	6.6	1.308
9	8.0	385.5	353.2	7.6	1.249
10	9.0	418.2	385.9	8.4	1.204
11	10.0	451.6	419.2	9.3	1.161
12	12.0	519.8	487.5	11.0	1.088
13	14.0	580.6	548.3	12.7	1.026
14	16.0	637.7	605.4	14.3	0.974
15	18.0	688.8	656.5	15.9	0.928
16	20.0	741.0	708.7	17.4	0.887
17	22.0	790.0	757.6	18.9	0.852
18	24.0	835.1	802.7	20.3	0.820
19	26.0	873.8	841.4	21.8	0.791
20	28.0	912.2	879.9	23.2	0.764
21	30.0	950.8	918.4	24.5	0.739
22	35.0	1025.2	992.8	27.7	0.686
23	40.0	1090.7	1058.4	30.8	0.640
24	45.0	1153.4	1121.0	33.7	0.601
25	50.0	1199.8	1167.5	36.4	0.567
26	55.0	1237.7	1205.3	39.0	0.537
27	60.0	1267.9	1235.6	41.5	0.511
28	70.0	1317.8	1285.5	46.1	0.465
29	80.0	1351.5	1319.2	50.2	0.428
30	90.0	1379.5	1347.1	53.9	0.397
31	100.0	1400.5	1368.2	57.4	0.370
32	110.0	1416.2	1383.8	60.5	0.347
G 33	119.0	1431.8	1399.4	63.1	0.329

ORIGINAL

REMARKS:

TICKET NO: 70596000

CLOCK NO: 13833 HOUR: 24

GAUGE NO: 7351

DEPTH: 5601.0

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta P}{t + \Delta P}$	$\log \frac{t + \Delta P}{\Delta P}$
FIRST FLOW					
B 1	0.0	63.3			
2	2.0	73.0	9.7		
3	4.0	100.2	27.1		
4	6.0	106.5	6.3		
5	8.0	110.3	3.8		
6	10.0	103.5	-6.8		
C 7	11.4	105.9	2.4		
FIRST CLOSED-IN					
C 1	0.0	105.9			
2	1.0	114.6	8.7	0.9	1.092
3	2.0	134.6	28.7	1.7	0.819
4	3.0	170.7	64.8	2.4	0.687
5	4.0	205.3	99.4	3.0	0.587
6	5.0	236.6	130.7	3.5	0.516
7	6.0	260.6	154.7	3.9	0.463
8	7.0	286.7	180.8	4.3	0.421
9	8.0	307.5	201.6	4.7	0.385
10	9.0	328.2	222.3	5.0	0.356
11	10.0	346.6	240.7	5.3	0.331
12	12.0	380.5	274.6	5.9	0.290
13	14.0	411.8	306.0	6.3	0.259
14	16.0	439.4	333.5	6.7	0.235
15	18.0	468.0	362.2	7.0	0.213
16	20.0	495.7	389.9	7.3	0.196
17	22.0	520.9	415.0	7.5	0.182
18	24.0	547.0	441.2	7.7	0.169
19	26.0	574.8	468.9	7.9	0.158
20	28.0	602.6	496.8	8.1	0.149
21	30.0	631.5	525.6	8.3	0.140
22	35.0	703.4	597.6	8.6	0.123
23	40.0	774.6	668.7	8.9	0.109
24	45.0	844.2	738.3	9.1	0.098
25	50.0	916.6	810.7	9.3	0.089
26	55.0	985.0	879.1	9.5	0.082
D 27	58.5	1030.7	924.9	9.6	0.077
SECOND FLOW					
E 1	0.0	88.4			
2	10.0	84.6	-3.8		
3	20.0	70.6	-13.9		
4	30.0	65.2	-5.4		
5	40.0	60.0	-5.2		
6	50.0	56.5	-3.5		
7	60.0	55.9	-0.6		
8	70.0	54.0	-1.9		
9	80.0	51.7	-2.4		
10	90.0	50.1	-1.6		

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta P}{t + \Delta P}$	$\log \frac{t + \Delta P}{\Delta P}$
SECOND FLOW - CONTINUED					
11	100.0	44.5	-5.5		
12	110.0	43.9	-0.6		
F 13	123.1	44.1	0.2		
SECOND CLOSED-IN					
F 1	0.0	44.1			
2	1.0	105.6	61.6	1.0	2.117
3	2.0	152.5	108.4	2.0	1.838
4	3.0	195.5	151.4	2.9	1.667
5	4.0	236.8	192.8	3.9	1.543
6	5.0	281.3	237.3	4.8	1.448
7	6.0	317.3	273.2	5.7	1.371
8	7.0	359.9	315.8	6.7	1.305
9	8.0	395.0	351.0	7.5	1.251
10	9.0	433.2	389.2	8.4	1.203
11	10.0	468.1	424.0	9.3	1.158
12	12.0	532.0	487.9	11.0	1.088
13	14.0	593.9	549.9	12.7	1.026
14	16.0	648.9	604.9	14.3	0.975
15	18.0	701.7	657.7	15.9	0.928
16	20.0	749.1	705.1	17.4	0.889
17	22.0	795.1	751.0	18.9	0.852
18	24.0	834.4	790.3	20.3	0.820
19	26.0	874.8	830.7	21.8	0.790
20	28.0	912.8	868.7	23.2	0.763
21	30.0	947.5	903.4	24.5	0.740
22	35.0	1027.3	983.2	27.8	0.685
23	40.0	1093.2	1049.1	30.8	0.640
24	45.0	1150.0	1105.9	33.7	0.601
25	50.0	1199.6	1155.5	36.4	0.567
26	55.0	1242.1	1198.0	39.0	0.537
27	60.0	1273.6	1229.5	41.5	0.511
28	70.0	1325.2	1281.1	46.0	0.466
29	80.0	1361.0	1316.9	50.2	0.428
30	90.0	1388.7	1344.6	53.9	0.397
31	100.0	1410.4	1366.3	57.4	0.370
32	110.0	1428.8	1384.7	60.5	0.347
G 33	119.0	1443.1	1399.0	63.1	0.329

REMARKS:

TICKET NO. 70596000

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	4821.4	
3		DRILL COLLARS.....	6.000	2.250	630.2	
50		IMPACT REVERSING SUB.....	6.000	3.000	1.3	5452.3
3		DRILL COLLARS.....	6.000	2.250	89.5	
5		CROSSOVER.....	6.000	2.250	1.0	
11		HANDLING SUB & CHOKE ASSEMBLY...	4.500	3.500	4.7	
13		DUAL CIP SAMPLER.....	5.000	0.750	6.8	
60		HYDROSPRING TESTER.....	5.000	0.750	5.0	5558.9
80		AP RUNNING CASE.....	5.000	2.250	4.1	5561.0
15		JAR.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	2.8	
70		OPEN HOLE PACKER.....	6.750	1.530	5.8	5575.8
70		OPEN HOLE PACKER.....	6.750	1.530	5.8	5581.6
20		FLUSH JOINT ANCHOR.....	5.000	2.370	15.0	
83		HT-500 TEMPERATURE CASE.....	5.000		1.5	5599.1
81		BLANKED-OFF RUNNING CASE.....	5.000		4.1	5601.0
TOTAL DEPTH					5604.0	

ORIGINAL

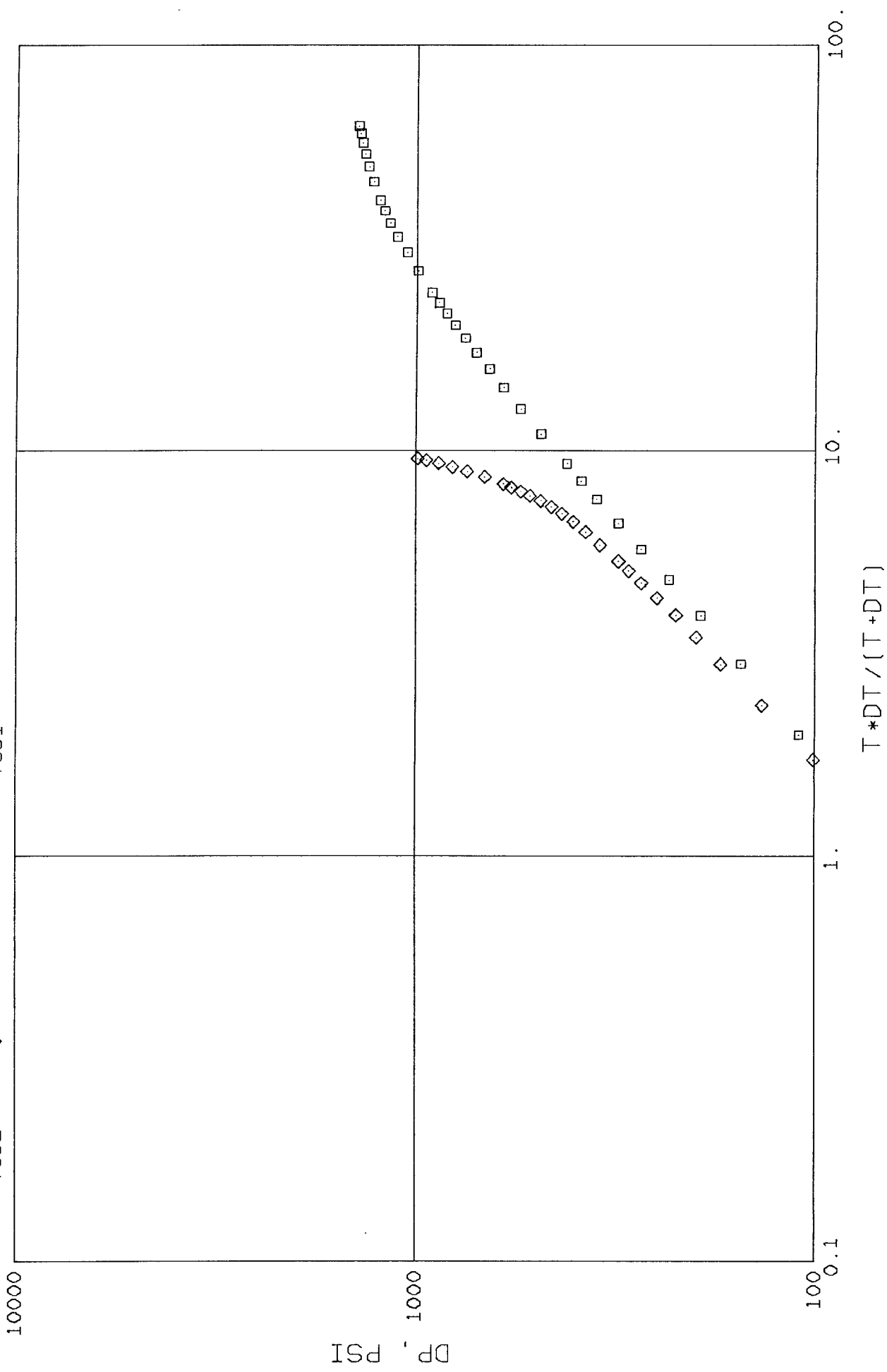
EQUIPMENT DATA

11-10

TICKET NO 70596000

GAUGE NO 7352 CIP 1 2 $\diamond$ $\square$

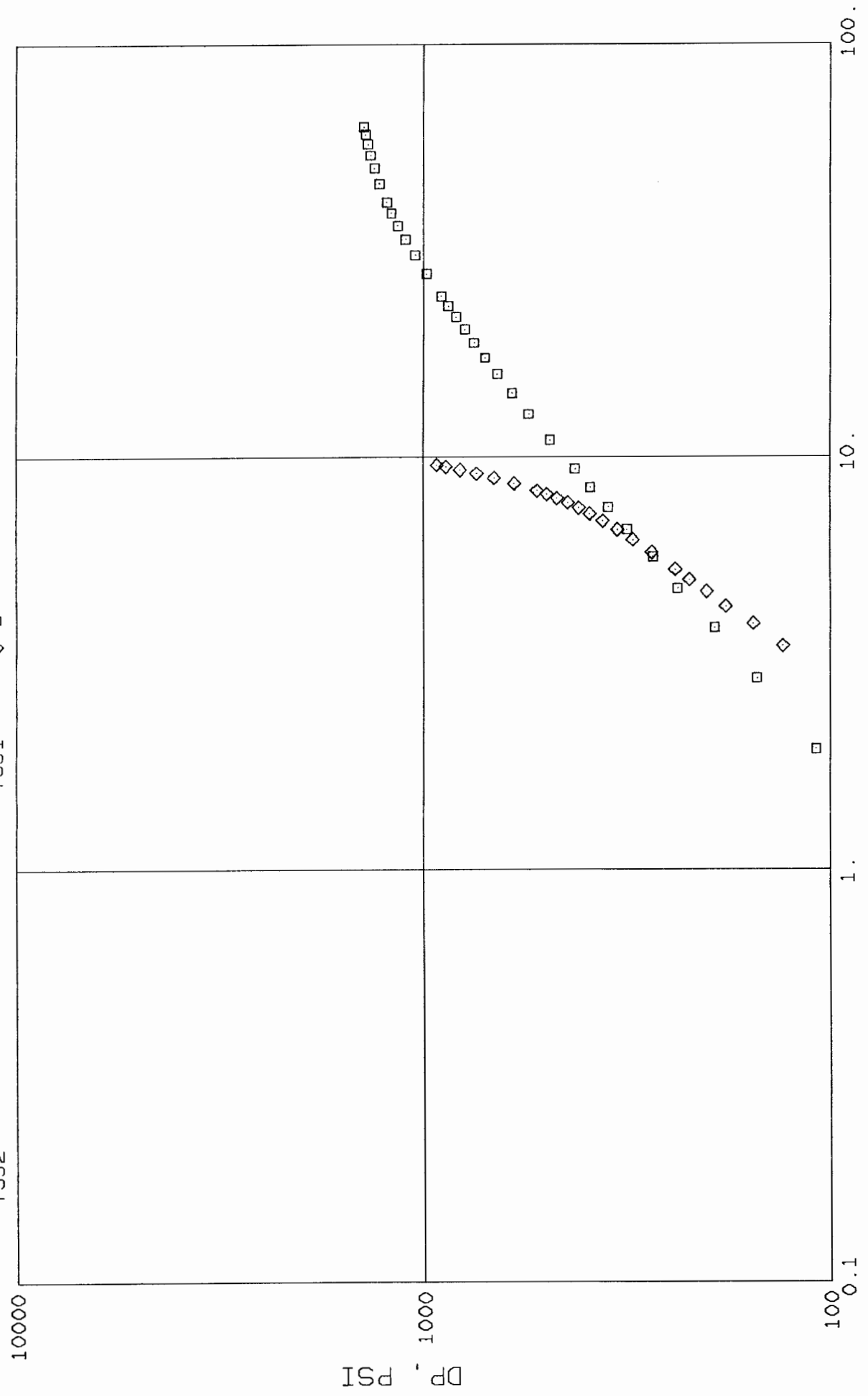
GAUGE NO 7351 CIP 1 2



TICKET NO 70596000

GAUGE NO CIP 1 2
7351

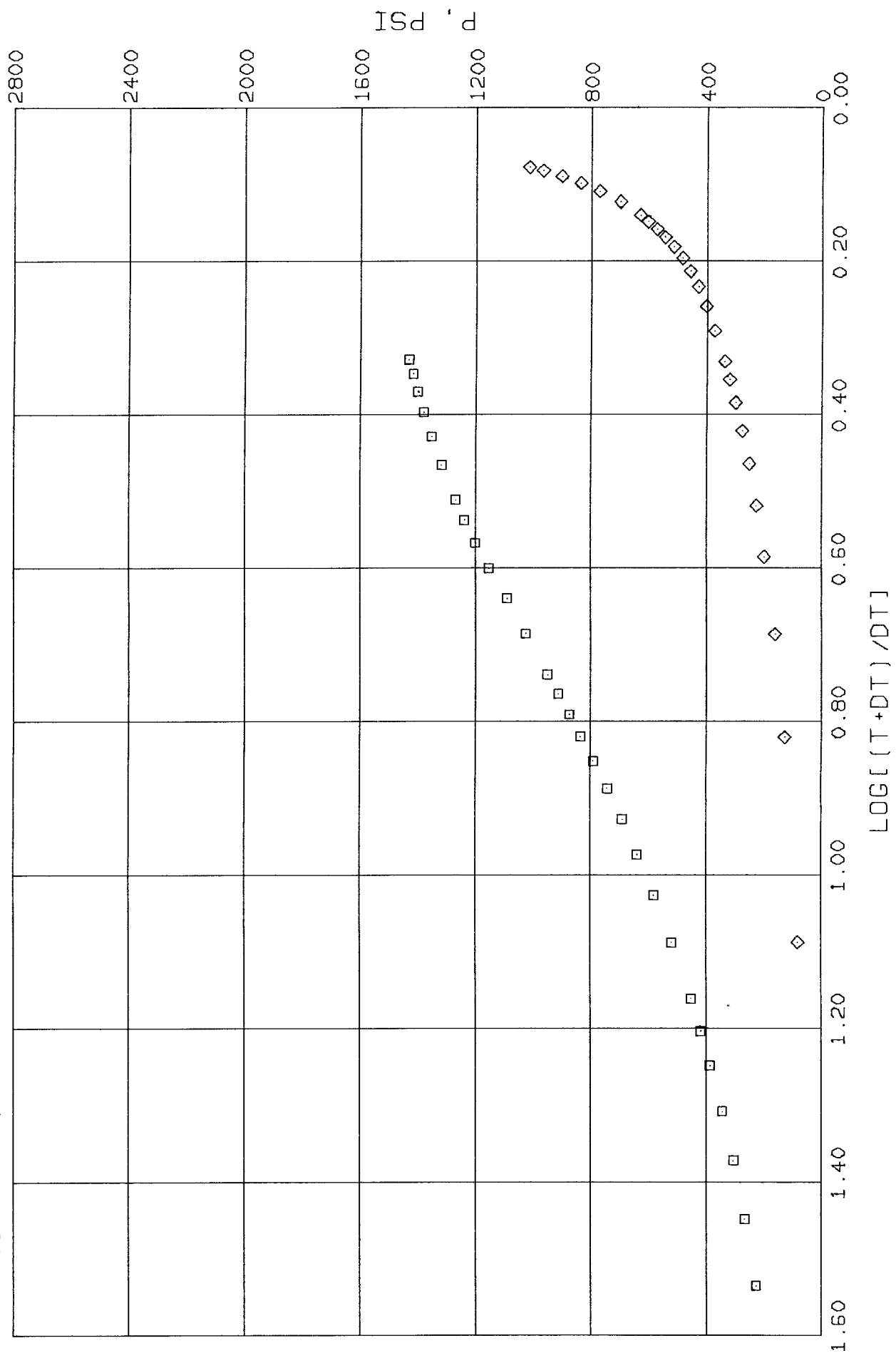
GAUGE NO CIP 1 2
7352



ORIGINAL

TICKET NO 70596000

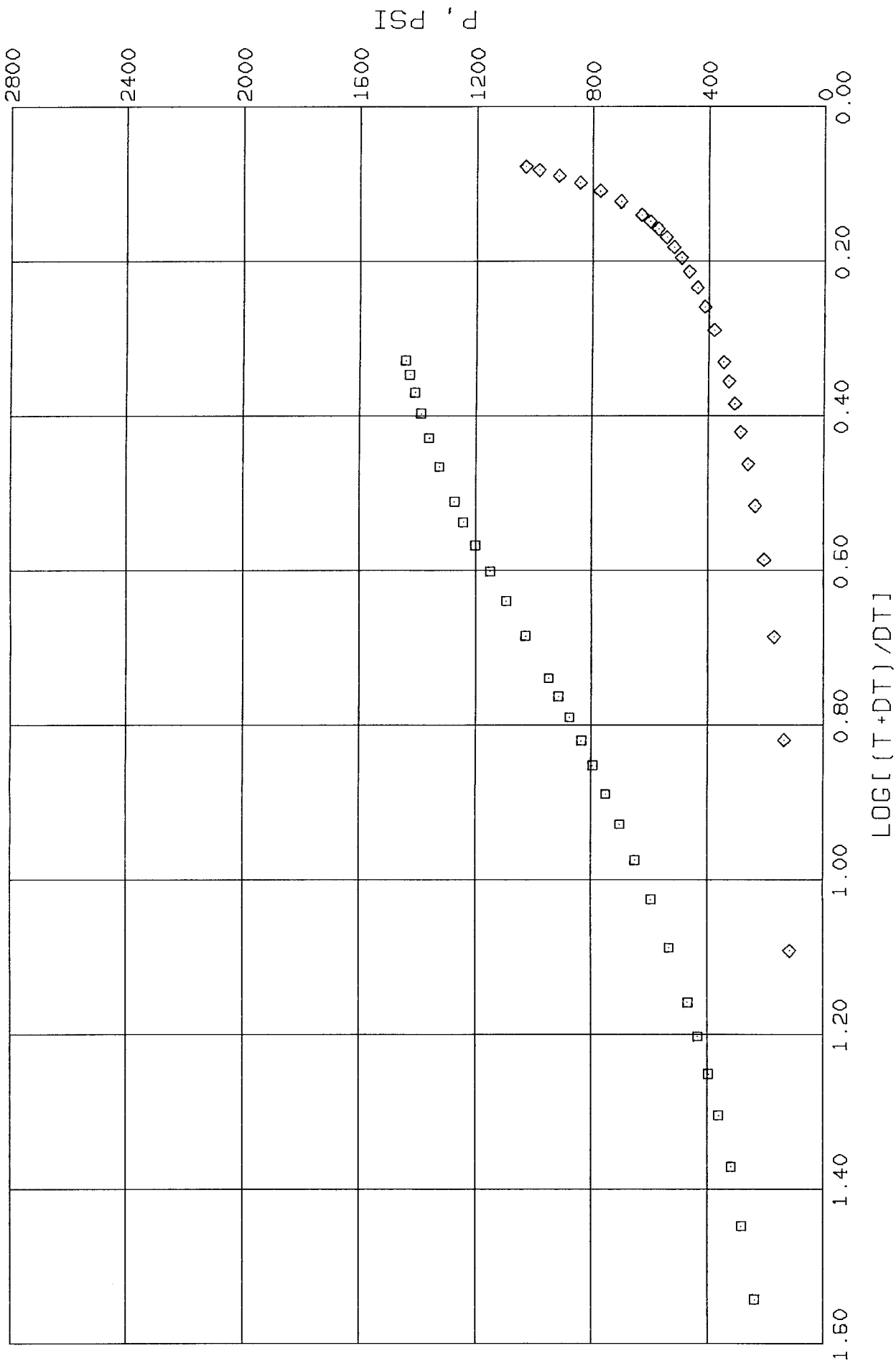
GAUGE NO CIP 1 2 GAUGE NO CIP 1 2
7352 7351



TICKET NO 70596000

GAUGE NO CIP 1 2
7351

GAUGE NO CIP 1 2
7352



ORIGINAL

TEMPERATURE RECORDER CHART



10° each circle

EQUATIONS FOR DST GAS WELL ANALYSIS

Indicated Flow
Capacity

$$kh = \frac{.001637 Q_g T}{m}$$

md-ft

Average Effective
Permeability

$$kh = \frac{kh}{h}$$

md

Skin Factor

$$S = 1.151 \left[\frac{m(P^*) - m(P_i)}{m} - \text{LOG} \left(\frac{k (t/60)}{\phi \mu c_i r_w^2} \right) + 3.23 \right]$$

Damage Ratio

$$DR = \frac{m(P^*) - m(P_i)}{m(P^*) - m(P_i) - 0.87 \text{ mS}}$$

ORIGINAL

Indicated Flow
Rate (Maximum)

$$AQF_1 = \frac{Q_g m(P^*)}{m(P^*) - m(P_i)}$$

MCFD

Indicated Flow
Rate (Minimum)

$$AOF_2 = Q_g \sqrt{\frac{m(P^*)}{m(P^*) - m(P_i)}}$$

MCFD

Approx. Radius of
Investigation

$$r_i = 0.032 \sqrt{\frac{k (t/60)}{\phi \mu c_i}}$$

ft

Because of the uncertainty of variable well conditions and the necessity of relying on facts and supporting services furnished by others, Halliburton is unable to guarantee the accuracy of any chart interpretation, research analysis, job recommendation or other data furnished by Halliburton. Halliburton personnel will use their best efforts in gathering such information and their best judgment in interpreting it but customer agrees that Halliburton shall not be responsible for any damages arising from the use of such information except where due to Halliburton gross negligence or willful misconduct in the preparation of furnishing of information.