

REG

Mobil Oil Corporation

35-33-37W DEN-008 (5/85)

NOV 06 1990

DENVER WEST DIVISION DRILL STEM TEST REPORT FORM

API 15-189-21,26900-00

DST

WELL NAME D.S. McCOLL #1

Test Number DST #1
 Location St. Louis
 Test Interval 6588' - 6602'
 Total Depth 6602'
 Test Company HALLIBURTON

Hole Size 7 7/8"
 Conventional Inflation Straddle
 Top Pkr Set @ 6582 Btm Pkr Set @ 6588
 Type of Cushion Fluid N/A
 Amount of Cushion N/A

TEST DATA:

Tool open at 0007 hours. 12-13-88 Date.
 Initial open period 13 min mins.
 Initial shut-in period 30 min mins.
 Flow period 20 min mins.
 Final shut-in period 60 min mins. FINAL FLOW - 120 min
 Description of blow on initial open period BLOW OFF BOTTOM OF BUCKET IN 10 SEC ; NO GAS

Description of blow during test 2nd FLOW: BOBOB in 8 min ; NO GAS ; 1-8 psi flow - NO GAS
FINAL FLOW: BOBOB in 7 min 1'-2' FLARE 13 min into Final Flow
 G.T.S. 3 min into final flow mins.; O.T.S. - mins.; Bottom hole choke size .75
 Surface choke size 1/4"
 Flow Rate: Gas AVG 22.5 MCF/DAY C.F.P.D. Oil _____ B.P.H. G.O.R. _____
 Gravity of Gas _____ Gravity of Oil _____
 Total fluid recovery 270' GASEY MUD w/ TRACE OF CONDENSATE
2150' SALT WATER
 Resistivity of H₂O 0.078 @ 70°F Chlorides of H₂O 101, 119 P.P.M.
 Depth of top press bomb 6567' & 6563' Bottom bomb 6599

PRESSURE DATA:

Top Bomb:
 I.H.P. 3256.4
 I.F.P. 143.3 to 257.9
 I.S.I.P. 1395.2
 F.F.P. 286.6 to 487.2
 F.S.I.P. 1338.6 F.F.P. : 544.1 - 970.2
 F.H.P. 3143.7
 Temp. _____
 Was S.I.P. building? YES

Bottom Bomb:
 I.H.P. 3238.6
 I.F.P. 147.1 to 235.3
 I.S.I.P. 1399.2
 F.F.P. 294.2 to 500
 F.S.I.P. 1370.4 F.F. : 588.4 to 966.5
 F.H.P. 3138
 Temp. 145° F

RECEIVED
STATE CORPORATION COMMISSION

SAMPLE CHAMBER DATA:

Gas 1.9 C.F.
 Oil 0 C.C.
 H₂O 1500 C.C.
 Mud 0 C.C.
 Sample Chamber Pressure 950 psi

TOP BOMB #2:

I.H.P. 3270.5
 I.F.P. 131.6 to 230.3
 I.S.I.P. 1390.9
 2nd F.F.P. 296.1 to 493.5
 F.S.I.P. 1358.4
 F.F.P. 558.9 to 983.7
 F.H.P. 3139.4

NOV 16 1990
11-06-90
EVALUATION SECTION
DENVER, COLORADO

REMARKS: SAMPLE CHAMBER BREAK DOWN:

65% MUD 34% WATER 1% OIL

D. S. MC COY

LEASE NAME

WELL NO.

TEST NO.

6588.0 - 8502.0

TESTED INTERVAL

NOV 6 1990

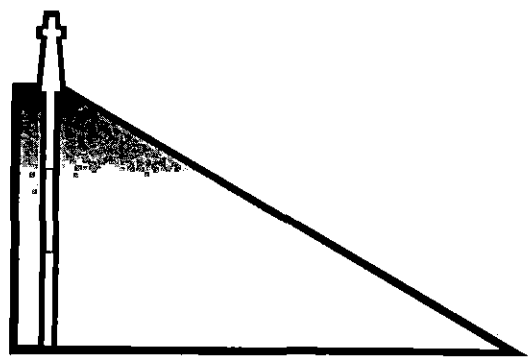
MOBIL OIL CORPORATION

LEASE OWNER/COMPANY NAME

LEGAL LOCATION

FIELD


RECEIVED
STATE OPERATOR REGISTRATION

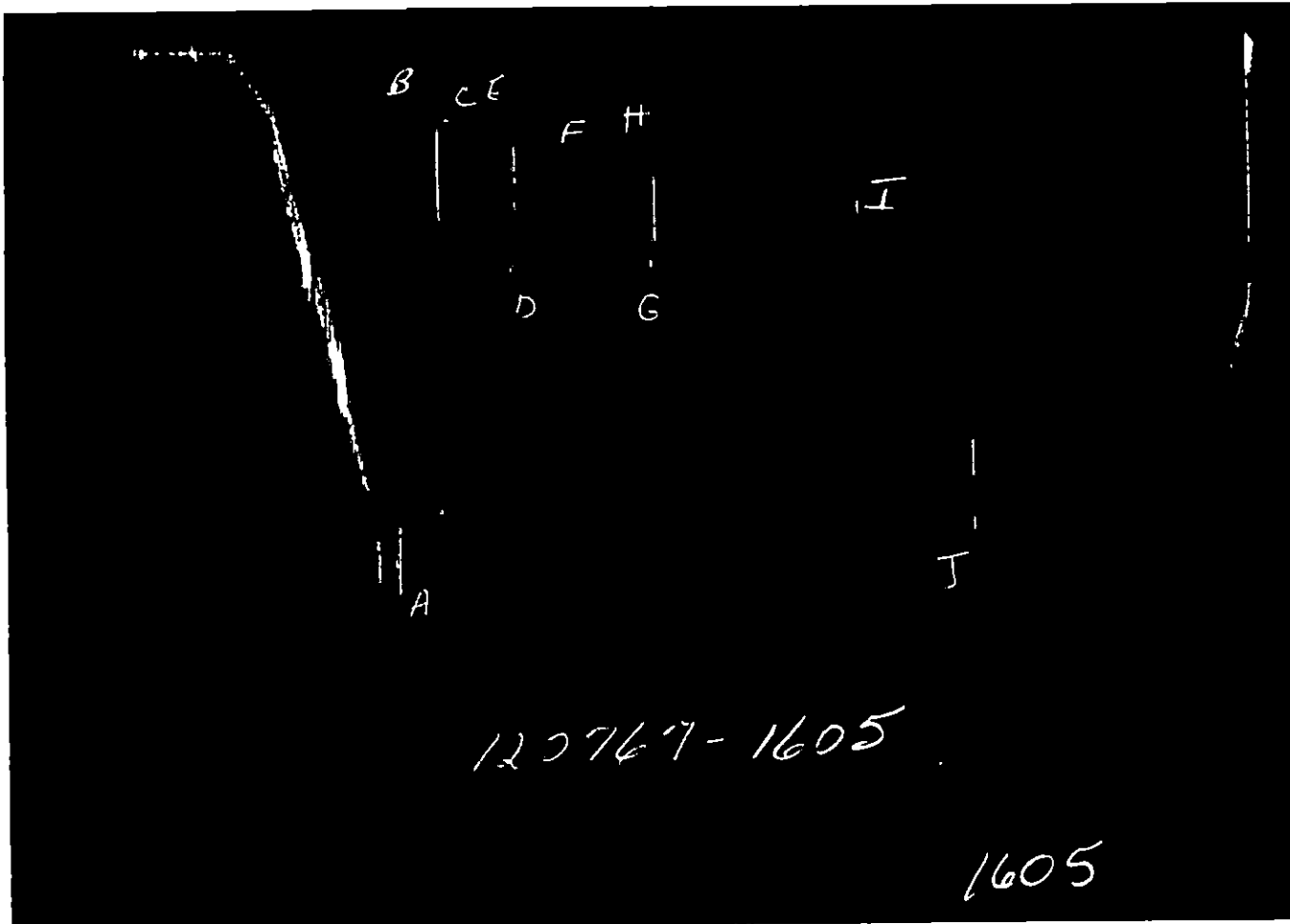


Halliburton Reservoir Evaluation System



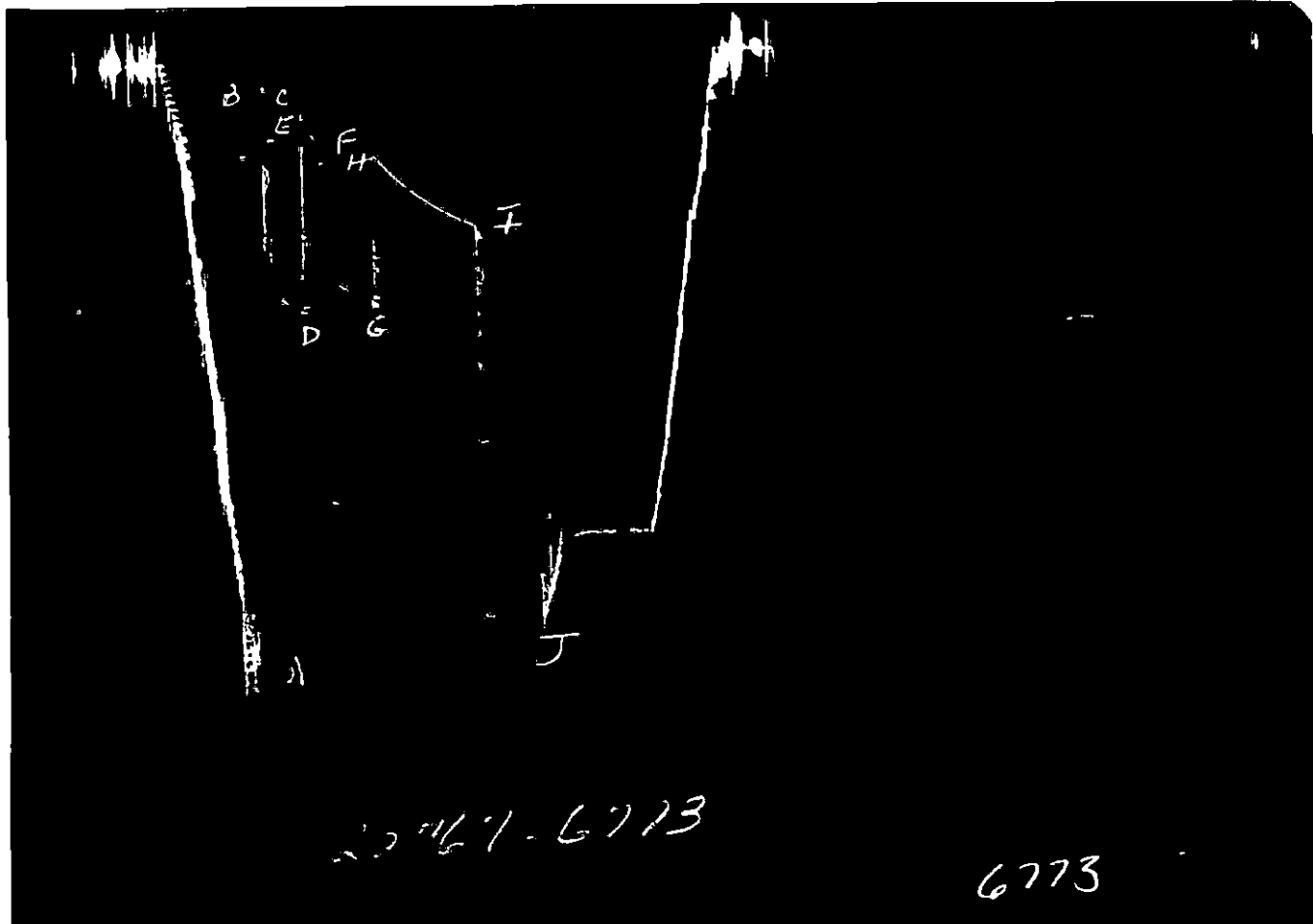
HALLIBURTON SERVICES
Duncan, Oklahoma 73536

 A Halliburton Company



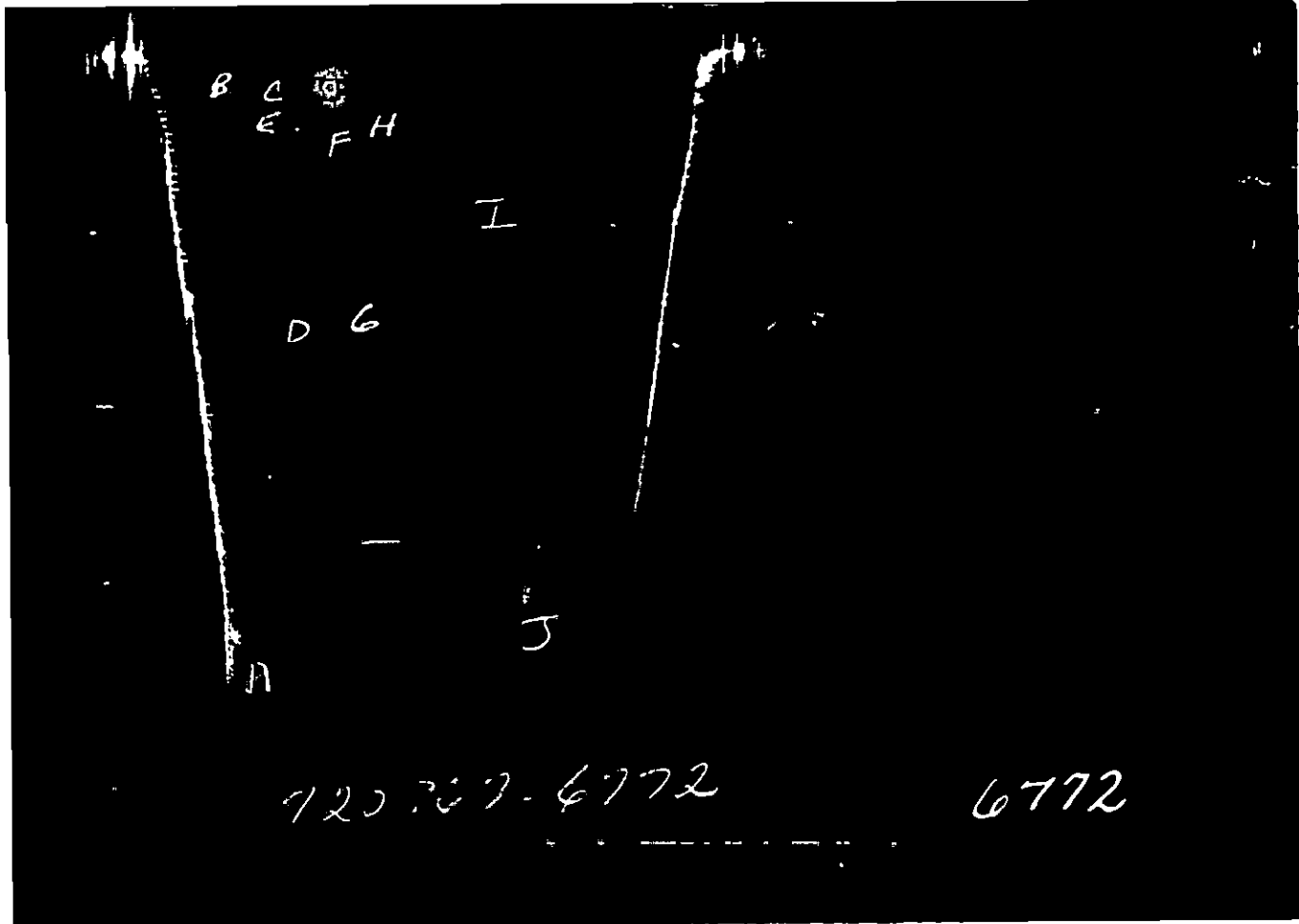
GAUGE NO: 1605 DEPTH: 6563.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	3270	3256.6			
B	INITIAL FIRST FLOW	131	151.7			
C	FINAL FIRST FLOW	230	246.0	13.0	4.8	F
C	INITIAL FIRST CLOSED-IN	230	246.0			
D	FINAL FIRST CLOSED-IN	1390	1406.0	33.0	38.6	C
E	INITIAL SECOND FLOW	296	308.8			
F	FINAL SECOND FLOW	493	511.6	20.0	20.6	F
F	INITIAL SECOND CLOSED-IN	493	511.6			
G	FINAL SECOND CLOSED-IN	1358	1360.7	64.0	61.8	C
H	INITIAL THIRD FLOW	558	565.1			
I	FINAL THIRD FLOW	983	979.0	120.0	121.6	F
J	FINAL HYDROSTATIC	3139 _c	3151.6			



GAUGE NO: 6773 DEPTH: 6567.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	3256	3260.6			
B	INITIAL FIRST FLOW	143	149.6			
C	FINAL FIRST FLOW	257	227.3	13.0	4.8	F
C	INITIAL FIRST CLOSED-IN	257	227.3			
D	FINAL FIRST CLOSED-IN	1395	1401.6	33.0	38.6	C
E	INITIAL SECOND FLOW	286	312.3			
F	FINAL SECOND FLOW	487	500.9	20.0	20.6	F
F	INITIAL SECOND CLOSED-IN	487	500.9			
G	FINAL SECOND CLOSED-IN	1338	1358.8	64.0	61.8	C
H	INITIAL THIRD FLOW	544	568.9			
I	FINAL THIRD FLOW	970	974.6	120.0	121.6	F
J	FINAL HYDROSTATIC	3143	3150.8			



GAUGE NO: 6772 DEPTH: 6599.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	3238	3260.9			
B	INITIAL FIRST FLOW	147	160.8			
C	FINAL FIRST FLOW	235	238.5	13.0	4.8	F
C	INITIAL FIRST CLOSED-IN	235	238.5			
D	FINAL FIRST CLOSED-IN	1399	1409.0	33.0	38.6	C
E	INITIAL SECOND FLOW	294	321.4			
F	FINAL SECOND FLOW	500	510.5	20.0	20.6	F
F	INITIAL SECOND CLOSED-IN	500	510.5			
G	FINAL SECOND CLOSED-IN	1370	1363.7	64.0	61.8	C
H	INITIAL THIRD FLOW	558	578.9			
I	FINAL THIRD FLOW	966	982.5	120.0	121.6	F
J	FINAL HYDROSTATIC	3138	3150.1			

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EQUIPMENT & HOLE DATA

FORMATION TESTED: ST. LOUIS
 NET PAY (ft): _____
 GROSS TESTED FOOTAGE: 14.0
 ALL DEPTHS MEASURED FROM: KELLY BUSHING
 CASING PERFS. (ft): _____
 HOLE OR CASING SIZE (in): 7.875
 ELEVATION (ft): 3109.0
 TOTAL DEPTH (ft): 6602.0
 PACKER DEPTH(S) (ft): 6582. 6588
 FINAL SURFACE CHOKE (in): 0.25000
 BOTTOM HOLE CHOKE (in): 0.750
 MUD WEIGHT (lb/gal): 9.20
 MUD VISCOSITY (sec): 49
 ESTIMATED HOLE TEMP. (°F): _____
 ACTUAL HOLE TEMP. (°F): 140 @ 6597.0 ft

TICKET NUMBER: 72076700
 DATE: 12-13-88 TEST NO: 1
 TYPE DST: OPEN HOLE
 HALLIBURTON CAMP: LIBERAL
 TESTER: ABLA
 WITNESS: MELANIE HILL
 DRILLING CONTRACTOR: _____
 UNIT #19

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
<u>PIT</u>	<u>1.060 @ 62 °F</u>	<u>3246 ppm</u>
<u>TOP</u>	<u>0.096 @ 70 °F</u>	<u>41522 ppm</u>
<u>MIDDLE</u>	<u>0.078 @ 70 °F</u>	<u>101119 ppm</u>
<u>BOTTOM</u>	<u>0.078 @ 68 °F</u>	<u>101119 ppm</u>
<u>SAMPLER</u>	<u>0.078 @ 74 °F</u>	<u>101119 ppm</u>
_____	_____ @ _____ °F	_____ ppm

SAMPLER DATA

Psig AT SURFACE: 950.0
 cu.ft. OF GAS: 1.900
 cc OF OIL: _____
 cc OF WATER: 1500.0
 cc OF MUD: _____
 TOTAL LIQUID cc: 1500.0

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): _____ @ _____ °F
 GAS/OIL RATIO (cu.ft. per bbl): _____
 GAS GRAVITY: _____

CUSHION DATA

TYPE	AMOUNT	WEIGHT
_____	_____	_____
_____	_____	_____

RECOVERED :

270 FEET OF GASSY MUD WITH A TRACE OF CONDENSATE
 2150 FEET OF SALTWATER

MEASURED FROM TESTER VALVE

REMARKS :

THE REQUESTED CALCULATION SERVICE COULD NOT BE PERFORMED DUE TO INSUFFICIENT GAS PRODUCTION AND MARGINAL DEVELOPMENT OF THE CIP BUILDUP CURVES. PLOTS ARE INCLUDED IN THE REPORT FOR YOUR INSPECTION.

24
 (PE)
 F
 C
 F
 C
 F

TYPE & SIZE MEASURING DEVICE :

6" CHOKE NIPPLE

TICKET NO: 72076700

TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
12-12-88					
1430					CALLED OUT
2045					ON LOCATION
2130					PICKED UP AND MADE UP TOOLS
2200					WENT IN HOLE
12-13-88					
0002					ON BOTTOM
0007	BH				OPENED TOOL WITH BLOW OFF
					BOTTOM OF BUCKET IN 10 SECONDS -
					NO GAS
0020					CLOSED TOOL
0053					OPENED TOOL
0056	BH				BLOW OFF BOTTOM OF BUCKET - NO
					GAS
0113					CLOSED TOOL
0217					OPENED TOOL
0224	BH				BLOW OFF BOTTOM OF BUCKET - NO
					GAS
0230					GAS TO SURFACE
0240	.25	2.5			NOTE: ALL SURFACE PRESSURE
					WAS GAUGED IN DUNCES
0245		4			
0250		5.5			
0255		6.5			
0300		7			
0305		7			
0310		6.5			
0315		6.5			
0320		6			
0325		6			
0330		6			
0335		6			
0340		5.5			
0345		5			
0350		4			
0355		3.5			
0400		3			

TICKET NO: 72076700

CLOCK NO: 13668 HOUR: 12



GAUGE NO: 1605

DEPTH: 6563.0

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REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW					
B 1	0.0	151.7			
2	1.0	153.2	1.5		
3	2.0	172.1	18.9		
4	3.0	198.5	26.3		
5	4.0	225.6	27.2		
C 6	4.8	246.0	20.4		
FIRST CLOSED-IN					
C 1	0.0	246.0			
2	1.0	745.8	499.7	0.8	0.758
3	2.0	951.8	705.7	1.4	0.522
4	3.0	1076.6	830.6	1.9	0.408
5	4.0	1153.4	907.3	2.2	0.338
6	5.0	1198.0	952.0	2.4	0.291
7	6.0	1237.3	991.3	2.6	0.254
8	7.0	1268.0	1021.9	2.8	0.225
9	8.0	1289.0	1042.9	3.0	0.202
10	9.0	1308.4	1062.3	3.1	0.184
11	10.0	1320.8	1074.7	3.2	0.169
12	12.0	1338.9	1092.8	3.4	0.145
13	14.0	1353.9	1107.8	3.5	0.127
14	16.0	1365.1	1119.1	3.7	0.113
15	18.0	1373.6	1127.5	3.8	0.102
16	20.0	1379.4	1133.4	3.8	0.093
17	22.0	1384.8	1138.8	3.9	0.085
18	24.0	1389.2	1143.2	4.0	0.078
19	26.0	1391.8	1145.8	4.0	0.073
20	28.0	1394.6	1148.6	4.1	0.068
21	30.0	1397.5	1151.5	4.1	0.064
22	35.0	1404.1	1158.0	4.2	0.055
D 23	38.6	1406.0	1160.0	4.2	0.050
SECOND FLOW					
E 1	0.0	308.8			
2	2.0	351.3	42.5		
3	4.0	387.8	36.6		
4	6.0	399.4	11.5		
5	8.0	410.6	11.2		
6	10.0	422.4	11.9		
7	12.0	439.7	17.3		
8	14.0	459.8	20.1		
9	16.0	476.8	17.0		
10	18.0	493.9	17.1		
11	20.0	507.0	13.1		
F 12	20.6	511.6	4.6		

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED-IN					
F 1	0.0	511.6			
2	1.0	842.8	331.2	1.0	1.412
3	2.0	940.2	428.6	1.9	1.128
4	3.0	1004.0	492.4	2.6	0.981
5	4.0	1052.4	540.8	3.4	0.867
6	5.0	1095.1	583.5	4.2	0.784
7	6.0	1123.5	611.9	4.9	0.717
8	7.0	1148.1	636.5	5.5	0.665
9	8.0	1171.0	659.4	6.1	0.620
10	9.0	1187.3	675.7	6.7	0.581
11	10.0	1202.3	690.7	7.2	0.548
12	12.0	1226.9	715.3	8.1	0.494
13	14.0	1246.5	734.9	9.0	0.449
14	16.0	1262.2	750.5	9.8	0.413
15	18.0	1274.5	762.9	10.5	0.382
16	20.0	1285.0	773.4	11.2	0.355
17	22.0	1294.1	782.5	11.8	0.333
18	24.0	1302.4	790.8	12.3	0.313
19	26.0	1309.0	797.4	12.8	0.295
20	28.0	1314.7	803.1	13.3	0.280
21	30.0	1319.9	808.3	13.7	0.266
22	35.0	1330.0	818.4	14.7	0.237
23	40.0	1338.0	826.4	15.5	0.213
24	45.0	1346.0	834.4	16.2	0.194
25	50.0	1351.4	839.8	16.8	0.178
26	55.0	1356.4	844.8	17.4	0.165
27	60.0	1359.7	848.1	17.8	0.153
G 28	61.8	1360.7	849.1	18.0	0.149
THIRD FLOW					
H 1	0.0	565.1			
2	5.0	593.2	28.0		
3	10.0	622.0	28.8		
4	15.0	647.4	25.4		
5	20.0	672.8	25.4		
6	25.0	697.8	25.1		
7	30.0	721.8	23.9		
8	35.0	741.1	19.3		
9	40.0	760.1	19.0		
10	45.0	777.3	17.2		
11	50.0	793.9	16.5		
12	55.0	810.1	16.2		
13	60.0	827.4	17.4		
14	65.1	843.8	16.4		
15	70.0	859.1	15.2		
16	75.0	874.0	14.9		
17	80.0	887.9	13.9		
18	85.0	900.5	12.6		
19	90.0	911.8	11.3		
20	95.0	923.1	11.3		

I

REM

REMARKS:

TICKET NO: 72076700

CLOCK NO: 13668 HOUR: 12



GAUGE NO: 1605

DEPTH: 6563.0

*At
At

412
128
981
867
784
717
665
620
581
548
494
449
413
382
356
333
313
296
280
266
237
213
194
178
165
153
149

REF	MINUTES	PRESSURE	AP	$\frac{t \times At}{t + At}$	$\log \frac{t + At}{At}$
THIRD FLOW - CONTINUED					
	21	100.0	934.4	11.3	
	22	105.0	943.8	9.3	
	23	110.0	955.6	11.8	
	24	115.0	965.1	9.5	
	25	120.0	976.2	11.1	
I	26	121.6	979.0	2.8	

REF	MINUTES	PRESSURE	AP	$\frac{t \times At}{t + At}$	$\log \frac{t + At}{At}$

REMARKS:

TICKET NO: 72076700
 CLOCK NO: 17529 HOUR: 24



GAUGE NO: 6773
 DEPTH: 6567.0

TICKET NO:
 CLOCK NO:

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW					
B 1	0.0	149.6			
2	1.0	150.8	1.1		
3	2.0	159.1	8.3		
4	3.0	185.1	27.0		
5	4.0	212.4	26.4		
C 6	4.8	227.3	14.9		
FIRST CLOSED-IN					
C 1	0.0	227.3			
2	1.0	814.7	587.4	0.8	0.772
3	2.0	992.8	765.5	1.4	0.529
4	3.0	1054.0	836.6	1.8	0.413
5	4.0	1149.2	921.8	2.2	0.339
6	5.0	1206.3	978.9	2.4	0.290
7	6.0	1241.0	1013.7	2.6	0.254
8	7.0	1267.2	1039.9	2.8	0.225
9	8.0	1286.1	1058.7	3.0	0.203
10	9.0	1302.8	1075.5	3.1	0.184
11	10.0	1315.8	1088.5	3.2	0.169
12	12.0	1331.7	1104.4	3.4	0.145
13	14.0	1349.0	1121.7	3.5	0.127
14	16.0	1359.8	1132.4	3.7	0.113
15	18.0	1367.9	1140.5	3.8	0.102
16	20.0	1374.1	1146.8	3.8	0.092
17	22.0	1380.2	1152.8	3.9	0.085
18	24.0	1384.7	1157.4	4.0	0.078
19	26.0	1388.1	1160.8	4.0	0.073
20	28.0	1391.2	1163.9	4.1	0.068
21	30.0	1394.2	1166.9	4.1	0.064
22	35.0	1399.0	1171.7	4.2	0.055
D 23	38.6	1401.6	1174.2	4.2	0.050
SECOND FLOW					
E 1	0.0	312.3			
2	2.0	338.4	26.1		
3	4.0	372.7	34.3		
4	6.0	387.9	15.2		
5	8.0	394.9	7.0		
6	10.0	409.6	14.6		
7	12.0	425.3	15.8		
8	14.0	445.3	19.9		
9	16.0	453.9	18.7		
10	18.0	482.6	18.7		
11	20.0	496.5	13.9		
F 12	20.6	500.9	4.4		

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$	REF
SECOND CLOSED-IN						
F 1	0.0	500.9				
2	1.0	842.4	341.5	0.9	1.43	
3	2.0	951.3	450.3	1.9	1.13	
4	3.0	1009.5	508.6	2.7	0.97	
5	4.0	1051.4	550.5	3.5	0.86	
6	5.0	1089.0	588.1	4.2	0.78	
7	6.0	1119.2	618.3	4.8	0.71	
8	7.0	1137.8	636.9	5.5	0.66	
9	8.0	1161.3	660.4	6.1	0.62	
10	9.0	1180.6	679.7	6.6	0.58	
11	10.0	1198.5	697.6	7.2	0.55	
12	12.0	1223.9	722.9	8.2	0.49	
13	14.0	1244.7	743.8	9.0	0.44	
14	16.0	1257.1	756.1	9.8	0.41	
15	18.0	1269.3	768.3	10.5	0.38	
16	20.0	1279.2	778.3	11.2	0.35	
17	22.0	1289.1	788.2	11.8	0.33	
18	24.0	1295.2	794.3	12.3	0.31	
19	26.0	1301.7	800.8	12.8	0.29	
20	28.0	1308.5	807.6	13.3	0.28	
21	30.0	1313.1	812.2	13.7	0.26	
22	35.0	1324.0	823.1	14.7	0.23	
23	40.0	1332.9	832.0	15.5	0.21	
24	45.0	1340.9	840.0	16.2	0.19	
25	50.0	1347.1	846.2	16.8	0.17	
26	55.0	1352.1	851.2	17.4	0.15	
27	60.0	1356.6	855.7	17.8	0.15	
G 28	61.8	1358.8	857.8	18.0	0.14	
THIRD FLOW						
H 1	0.0	568.9				
2	5.0	583.0	14.1			
3	10.0	611.3	28.3			
4	15.0	635.5	24.2			
5	20.0	660.3	24.8			
6	25.0	685.1	24.8			
7	30.0	708.7	23.6			
8	35.0	729.9	21.2			
9	40.0	749.0	19.1			
10	45.0	768.1	19.1			
11	50.0	786.7	18.7			
12	55.0	802.7	15.9			
13	60.0	819.5	16.8			
14	65.0	836.2	16.7			
15	70.0	852.7	16.5			
16	75.0	866.9	14.2			
17	80.0	879.6	12.7			
18	85.0	892.7	13.1			
19	90.0	906.1	13.4			
20	95.0	917.9	11.8			

TICKET NO:
 CLOCK NO:
 I :

REMARKS:

REMARKS:

021

TICKET NO: 72076700
CLOCK NO: 17529 HOUR: 24



GAUGE NO: 6773
DEPTH: 6567.0

log $\frac{t}{t+\Delta t}$	REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	log $\frac{t + \Delta t}{\Delta t}$	REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	log $\frac{t + \Delta t}{\Delta t}$	
	THIRD FLOW - CONTINUED												
	21	100.0	929.9	12.0									
	22	105.0	941.3	11.4									
	23	110.0	951.1	9.8									
1.431	24	115.0	961.9	10.8									
1.133	25	120.0	971.6	9.7									
0.976	I 26	121.6	974.6	3.0									
0.865													
0.780													
0.719													
0.666													
0.621													
0.582													
0.550													
0.492													
0.448													
0.413													
0.382													
0.355													
0.333													
0.313													
0.296													
0.280													
0.265													
0.237													
0.213													
0.194													
0.178													
0.165													
0.153													
0.149													

REMARKS:

TICKET NO: 72076700

CLOCK NO: 17524 HOUR: 24



GAUGE NO: 6772

DEPTH: 6599.0

TICKET

CLOCK

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{t}$
FIRST FLOW					
B 1	0.0	160.8			
2	1.0	161.7	0.9		
3	2.0	167.9	6.2		
4	3.0	194.4	26.5		
5	4.0	225.1	30.8		
C 6	4.8	238.5	13.4		
FIRST CLOSED-IN					
C 1	0.0	238.5			
2	1.0	862.6	624.1	0.8	0.757
3	2.0	1009.4	770.9	1.4	0.526
4	3.0	1104.3	865.7	1.8	0.413
5	4.0	1164.5	926.0	2.2	0.340
6	5.0	1206.2	967.7	2.4	0.290
7	6.0	1245.3	1006.8	2.6	0.254
8	7.0	1268.9	1030.4	2.8	0.225
9	8.0	1291.2	1052.6	3.0	0.202
10	9.0	1307.4	1068.9	3.1	0.184
11	10.0	1321.1	1082.6	3.2	0.169
12	12.0	1336.1	1097.6	3.4	0.145
13	14.0	1354.8	1116.2	3.5	0.127
14	16.0	1365.6	1127.1	3.7	0.113
15	18.0	1376.4	1137.9	3.8	0.102
16	20.0	1382.9	1144.4	3.8	0.092
17	22.0	1386.5	1148.0	3.9	0.085
18	24.0	1391.7	1153.2	4.0	0.078
19	26.0	1395.4	1156.9	4.0	0.073
20	28.0	1398.4	1159.9	4.1	0.068
21	30.0	1401.6	1163.1	4.1	0.064
22	35.0	1407.1	1168.6	4.2	0.055
D 23	38.6	1409.0	1170.5	4.2	0.050
SECOND FLOW					
E 1	0.0	321.4			
2	2.0	349.5	28.1		
3	4.0	384.7	35.2		
4	6.0	397.2	12.5		
5	8.0	410.8	13.6		
6	10.0	418.6	7.8		
7	12.0	437.0	18.4		
8	14.0	455.3	18.3		
9	16.0	472.6	17.4		
10	18.0	490.9	18.3		
11	20.0	505.6	14.7		
F 12	20.6	510.5	5.0		

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{t}$
SECOND CLOSED-IN					
F 1	0.0	510.5			
2	1.0	832.9	322.4	1.0	1.42
3	2.0	947.0	436.4	1.8	1.13
4	3.0	1017.1	506.6	2.7	0.97
5	4.0	1061.0	550.5	3.4	0.86
6	5.0	1098.7	588.1	4.2	0.78
7	6.0	1129.7	619.2	4.8	0.71
8	7.0	1156.1	645.6	5.5	0.66
9	8.0	1175.3	664.8	6.1	0.61
10	9.0	1194.9	684.4	6.7	0.58
11	10.0	1208.6	698.3	7.2	0.54
12	12.0	1230.1	719.6	8.2	0.49
13	14.0	1251.8	741.3	9.0	0.44
14	16.0	1265.4	754.8	9.8	0.41
15	18.0	1276.5	766.0	10.5	0.38
16	20.0	1287.6	777.1	11.2	0.35
17	22.0	1296.3	785.7	11.8	0.33
18	24.0	1304.2	793.7	12.3	0.31
19	26.0	1310.5	800.0	12.8	0.29
20	28.0	1316.3	805.8	13.3	0.28
21	30.0	1321.9	811.4	13.7	0.26
22	35.0	1331.6	821.1	14.7	0.23
23	40.0	1340.3	829.7	15.5	0.21
24	45.0	1347.3	836.8	16.2	0.19
25	50.0	1354.1	843.6	16.8	0.17
26	55.0	1358.0	847.5	17.4	0.16
27	60.0	1361.9	851.4	17.8	0.15
G 28	61.8	1363.7	853.1	18.0	0.14
THIRD FLOW					
H 1	0.0	578.9			
2	5.0	594.3	15.5		
3	10.0	621.5	27.2		
4	15.0	645.8	24.3		
5	20.0	671.4	25.6		
6	25.0	695.2	23.8		
7	30.0	719.2	24.0		
8	35.0	742.0	22.8		
9	40.0	761.5	19.4		
10	45.0	780.8	19.3		
11	50.0	796.1	15.4		
12	55.0	812.9	16.8		
13	60.0	829.2	16.2		
14	65.0	845.2	16.1		
15	70.0	860.9	15.6		
16	75.0	874.5	13.6		
17	80.0	889.2	14.8		
18	85.0	903.1	13.9		
19	90.0	914.8	11.7		
20	95.0	926.8	12.0		

TH: 21
22
23
24
25
I 26

REMARKS:

REMARK

TICKET NO: 72076700

CLOCK NO: 17524 HOUR: 24























GAUGE NO: 6772

DEPTH: 6599.0

$\log \frac{t+\Delta t}{\Delta t}$	REF	MINUTES	PRESSURE	ΔP	$\frac{t+\Delta t}{t+\Delta t}$	$\log \frac{t+\Delta t}{\Delta t}$	REF	MINUTES	PRESSURE	ΔP	$\frac{t+\Delta t}{t+\Delta t}$	$\log \frac{t+\Delta t}{\Delta t}$	
	THIRD FLOW - CONTINUED												
	21	100.0	937.9	11.1									
	22	105.0	948.8	10.8									
	23	110.0	960.6	11.8									
1.422	24	115.0	968.6	8.0									
1.137	25	120.0	978.4	9.8									
0.973	I 26	121.6	982.5	4.1									
0.867													
0.788													
0.719													
0.663													
0.619													
0.581													
0.548													
0.493													
0.449													
0.412													
0.382													
0.356													
0.333													
0.313													
0.296													
0.280													
0.266													
0.237													
0.213													
0.194													
0.178													
0.165													
0.153													
0.148													

REMARKS:

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	5736.0	
3		DRILL COLLARS.....	6.250	2.250	705.0	
50		IMPACT REVERSING SUB.....	6.250		1.0	6442.0
3		DRILL COLLARS.....	6.250	2.250	93.0	
5		CROSSOVER.....	6.250	2.250	1.0	
11		HANDLING SUB & CHOKE ASSEMBLY...	4.500	3.826	5.0	
5		CROSSOVER.....	6.250	2.250	1.0	
62		MULTIPLE CIP SAMPLER.....	5.000	0.750	9.0	6547.0
14		EXTENSION JOINT.....	5.000	1.000	4.6	
14		EXTENSION JOINT.....	5.000	1.000	4.6	
80		AP RUNNING CASE.....	5.000	2.250	4.1	6563.0
80		AP RUNNING CASE.....	5.000	2.250	4.1	6567.0
15		JAR.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	2.7	
70		OPEN HOLE PACKER.....	6.750	1.530	5.8	6582.0
70		OPEN HOLE PACKER.....	6.750	1.530	5.8	6588.0
20		FLUSH JOINT ANCHOR.....	5.000	2.370	6.0	
83		HT-500 TEMPERATURE CASE.....	5.000		1.0	6596.0
83		HT-500 TEMPERATURE CASE.....	5.000		1.0	6597.0
81		BLANKED-OFF RUNNING CASE.....	5.000		4.3	6599.0
TOTAL DEPTH					6602.0	

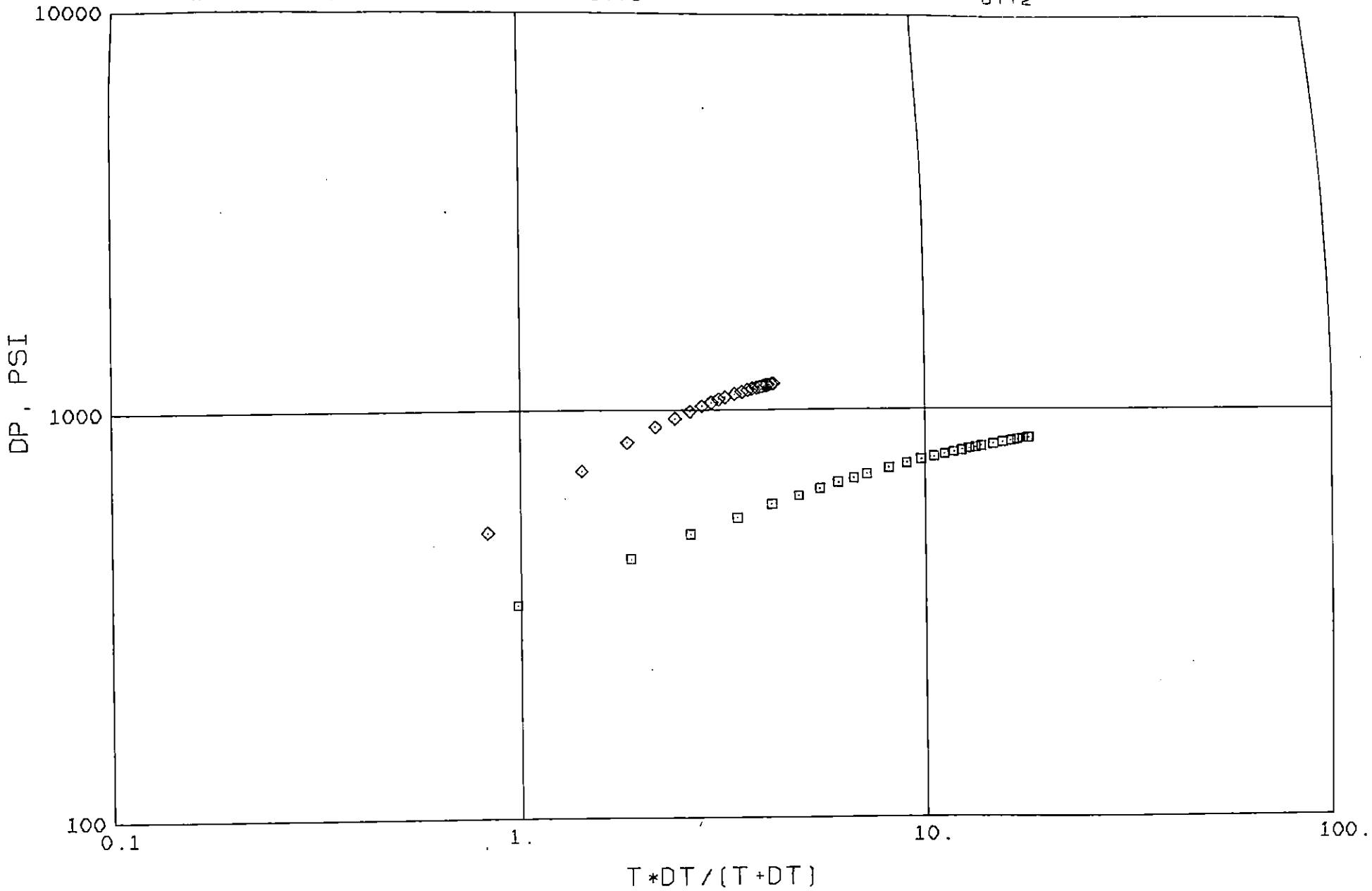
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8760
17-6

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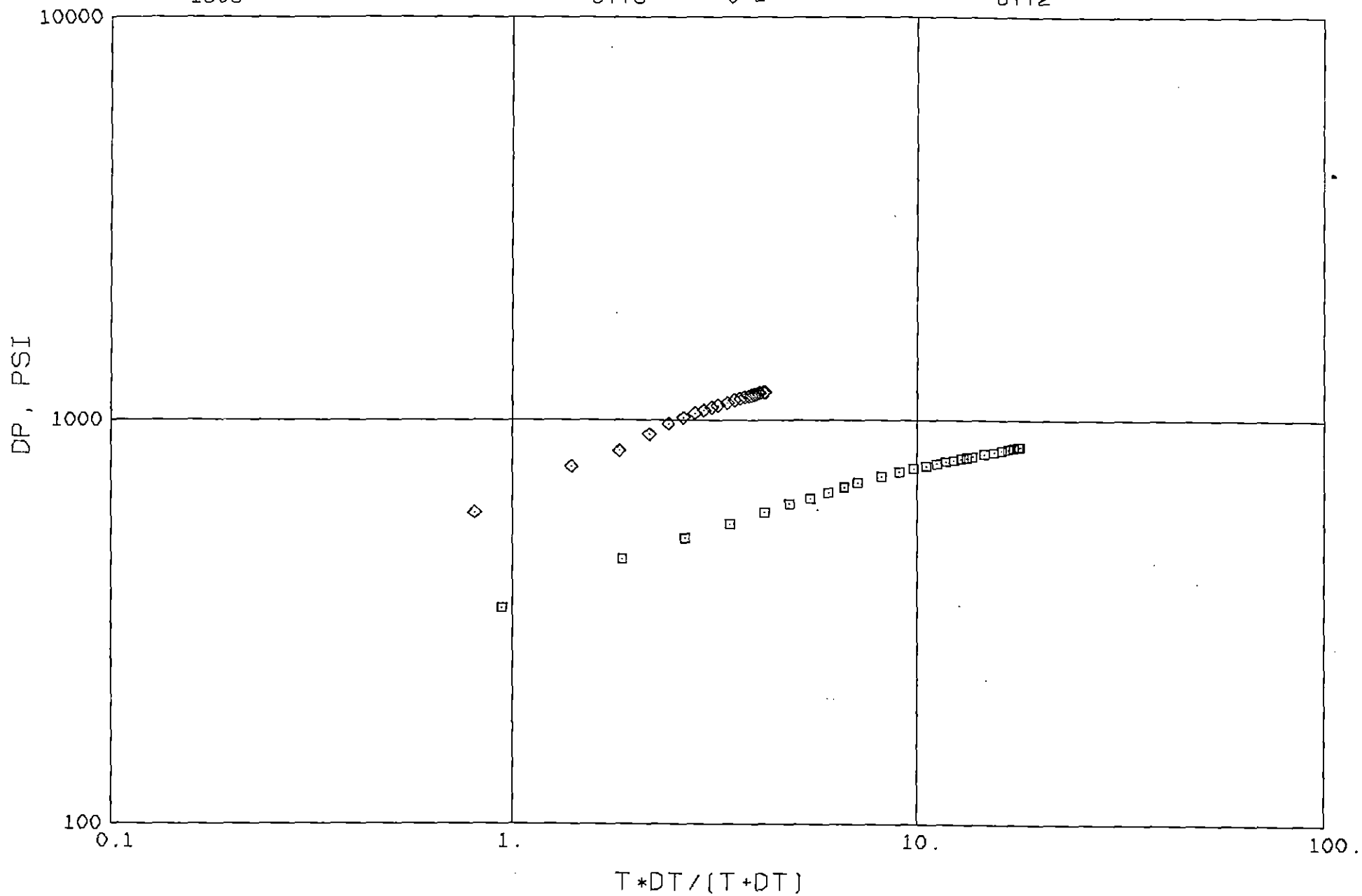
TICKET NO 72076700
GAUGE NO 6772 CIP 1 2



GAUGE NO CIP 1 2
1605

GAUGE NO CIP 1 2
6773

TICKET NO 72076700
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6772



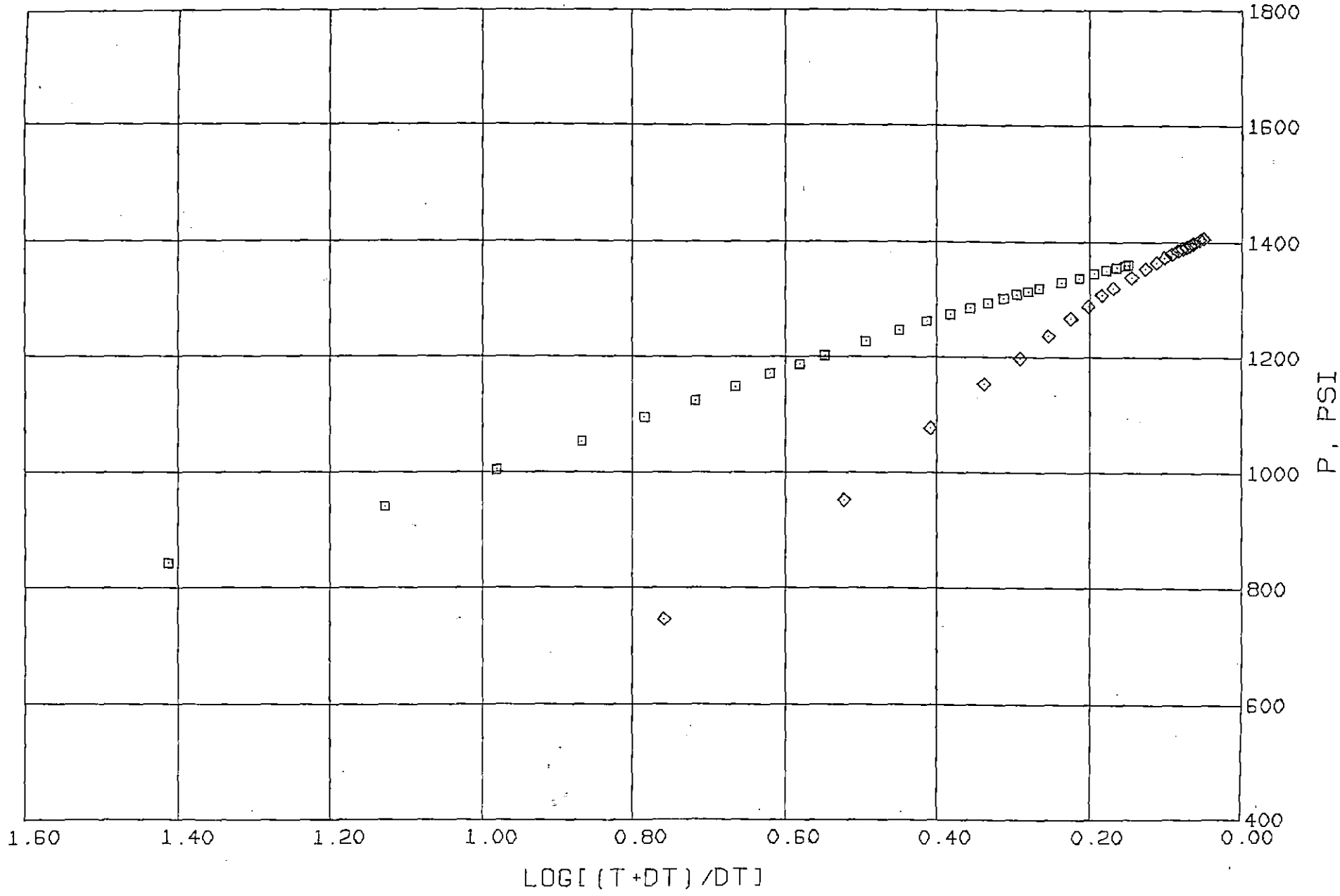
$$T \cdot DT / (T + DT)$$

TICKET NO 72076700

GAUGE NO 1605
CIP 1 2
◇ □

GAUGE NO 6773
CIP 1 2

GAUGE NO 6772
CIP 1 2

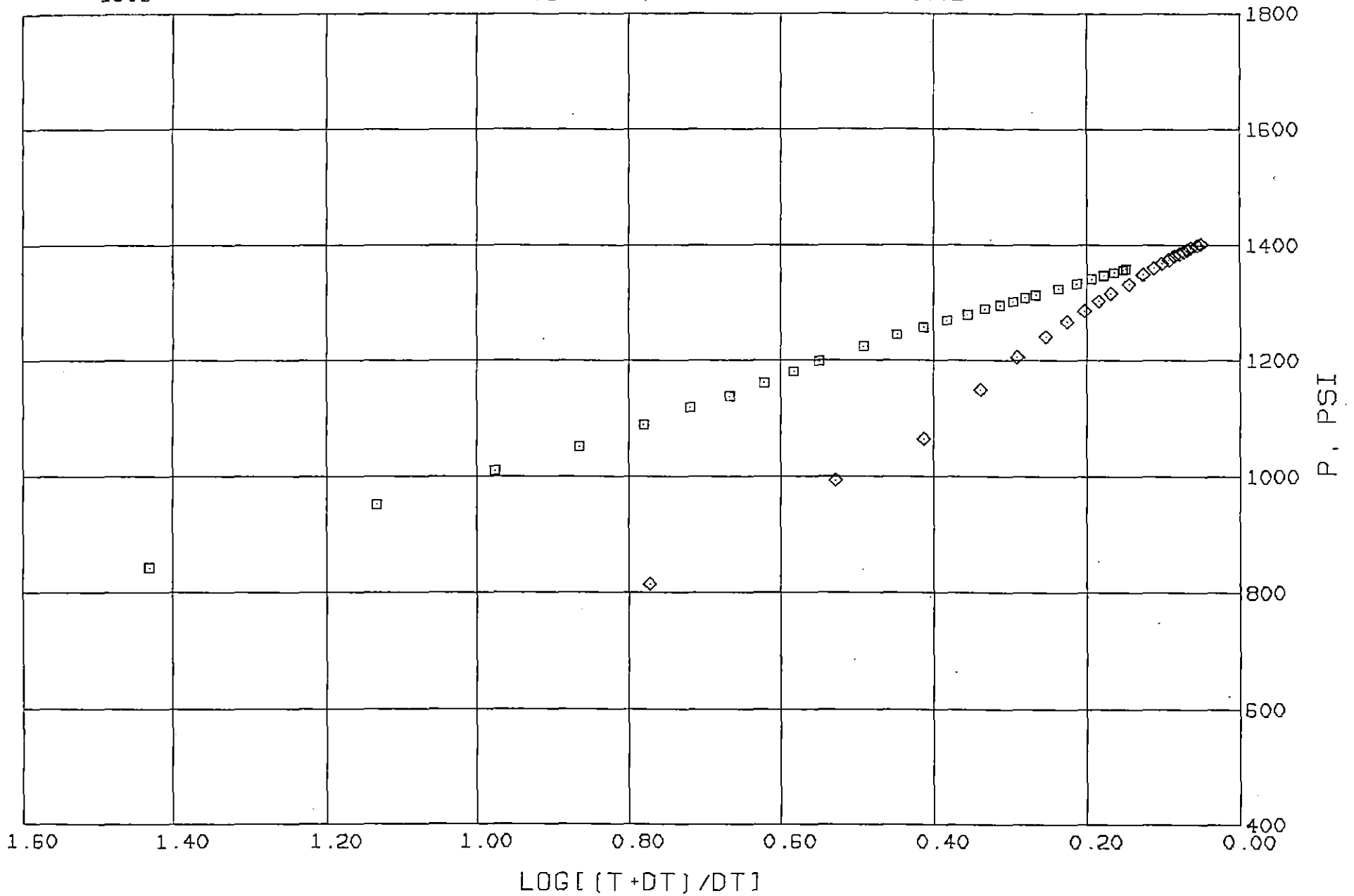


TICKET NO 72076700

GAUGE NO CIP 1 2
1605

GAUGE NO CIP 1 2
6773 \diamond \square

GAUGE NO CIP 1 2
6772



TEMPERATURE RECORDER CHART

720767

145°

10° each circle

EQUATIONS FOR DST GAS WELL ANALYSIS

Indicated Flow Capacity	$kh = \frac{.001637 Q_g T}{m}$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	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	$DR = \frac{m(P^*) - m(P_i)}{m(P^*) - m(P_i) - 0.87 mS}$	
Indicated Flow Rate (Maximum)	$AOF_1 = \frac{Q_g m(P^*)}{m(P^*) - m(P_i)}$	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

LOG[(T+DT)/DT]