Xtra

FLOPETROL JOHNSTON

Schlumberger

technical report

COMPANY Tipperary Oil & Gas Corporation WELL Jons State 4-#1 TEST NO. Three COUNTY Lea STATE New Mexico

(Pennsylvanian) 10460' to 10503'

Field Report # 48022E

REPORT NO: 48022E

TEST DATE: 18-Oct- 84

WELL PERFORMANCE TESTING™ REPORT

A Production System Analysis (NODAL™)
Based on Model Verified™ Interpretation

FLOPETROL JOHNSTON
Schlumberger

Company: Tipperary Oil & Gas Corporation

Well: Jons State 4-#1

TEST IDENTIFICATION

Test Type	MFE Open Hole
Test No.	Three
Formation	Pennsylvanain
Test Interval (ft)	10460 to 10503
Reference Depth	Kelly Bushing

WELL LOCATION

Field	Wildcat
County	Lea
State	Texas
Sec/Twn/Rng	4/17s/37e
Elevation (ft)	3783

HOLE CONDITIONS

Total Depth (MD/TVD) (ft)	10503
Hole Size (in)	7 7/8
Csg/Liner I.D. (in)	—
Perf'd Interval/Net Pay (ft)	-/29
Shot Density/Diameter (in)	—

MUD PROPERTIES

Mud Type	Gel/Dispac
Mud Weight (lb/gal)	8.6
Mud Resistivity (OHM-M)	1.91 @ 58°F
Filtrate Resistivity (OHM-M)	—
Filtrate Chlorides (PPM)	2,100

INITIAL TEST CONDITIONS

Initial Hydrostatic (psi)	4736
Gas Cushion Type	None
Surface Pressure (psi)	—
Liquid Cushion Type	None
Cushion Length (ft)	—

TEST STRING CONFIGURATION

Pipe Length (ft)/I.D. (in)	10020 / 3.83
Collar Length (ft)/I.D. (in)	401 / 2.25
Packer Depth(s) (ft)	10454 / 10460
BH Choke Size (in)	15/16
Gauge Depth (ft)/Type	10497 / J-200

NET PIPE RECOVERY

Volume	Fluid Type	Properties
2520 Feet	Oil/ S. Gas Cut	API 35 @ 60°F
400 Feet	Mud Cut/Sulfur Water	Res. .25 @ 60°F
		15,000 PPM

NET SAMPLE CHAMBER RECOVERY

Volume	Fluid Type	Properties
0.75 ft3	Gas	
300 cc	Oil	API 35 @ 60°F
1350 cc	Water	15,000 PPM
Pressure: 250	GOR: 196	GLR: 72

INTERPRETATION RESULTS

Model of Behavior	
Fluid Type Used for Analysis	
Reservoir Pressure (psi)	
Transmissibility (md-ft/cp)	
Effective Permeability (md)	
Skin Factor/Damage Ratio	
Storativity ratio	
Interporosity Flow Coeff	
Distance To An Anomaly (ft)	
Radius of Investigation (ft)	
Potentiometric Surface (ft)	

ROCK/FLUID/WELLBORE PROPERTIES

Oil API	
Basic Solids	
Gas Gravity	
Water Cut (%)	
Viscosity (cp)	
Total Compressibility (1/psi)	
Porosity (%)	6
Reservoir Temperature (F)	160

PRODUCTION RATE DURING TEST:

COMMENTS:

FLOPETROL JOHNSTON

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DST EVENT SUMMARY

Field Report # 48022E

DATE (M/D/Y)	TIME (HR:MIN)	EVENT E.T. (MIN)	EVENT DESCRIPTION	SURFACE PRESSURE (PSIG)	FLOOR MANIFOLD CHOKE SIZE (INCH)
10-18-84	1133	—	SET PACKER	-	-
	1135	—	OPENED TEST TOOL FOR INITIAL FLOW	-	Bubble Hose
	1142			50	"
	1143	—	CLOSED TEST TOOL FOR INITIAL SHUT-IN	-	"
	1148		Gas To Surface	-	"
	1242		Finished Shut-in	-	"
	1243	—	OPENED TEST TOOL FOR FINAL FLOW	25	"
	1245			28	"
	1250			25	"
	1255			23	"
	1300			20	"
	1305			17	"
	1310			15	"
	1315			13	"
	1320			11	"
	1330			11	"
	1345	—	CLOSED TEST TOOL FOR FINAL SHUT-IN	10	"
	1647	—	FINISHED FINAL SHUT-IN	-	-
	1651	—	UNSEATED PACKER	-	-
		—	REVERSED OUT		
		—	BEGAN TRIP OUT OF HOLE		

WELL TEST DATA PRINTOUT

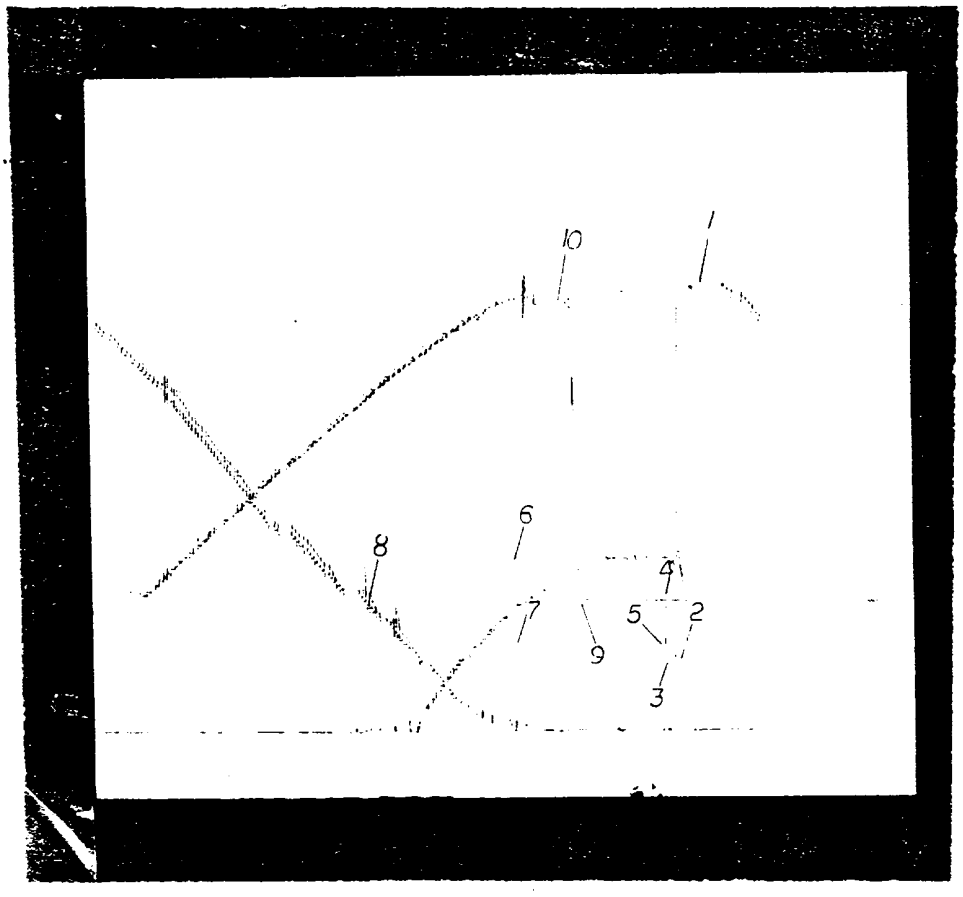
FIELD REPORT # : 480226

COMPANY : TIPPERARY OIL & GAS COMPANY
WELL : JOKU STATE # #1

INSTRUMENT # : J-2159
CAPACITY [PSI] : 6400.
DEPTH [FT] : 10497.0
PORT OPENING : INSIDE
TEMPERATURE [DEG F] : 160.0

MNEMONICS : ET = ELAPSED TIME ..... [MIN]
PW = BOTTOMHOLE PRESSURE ..... [PSIA]

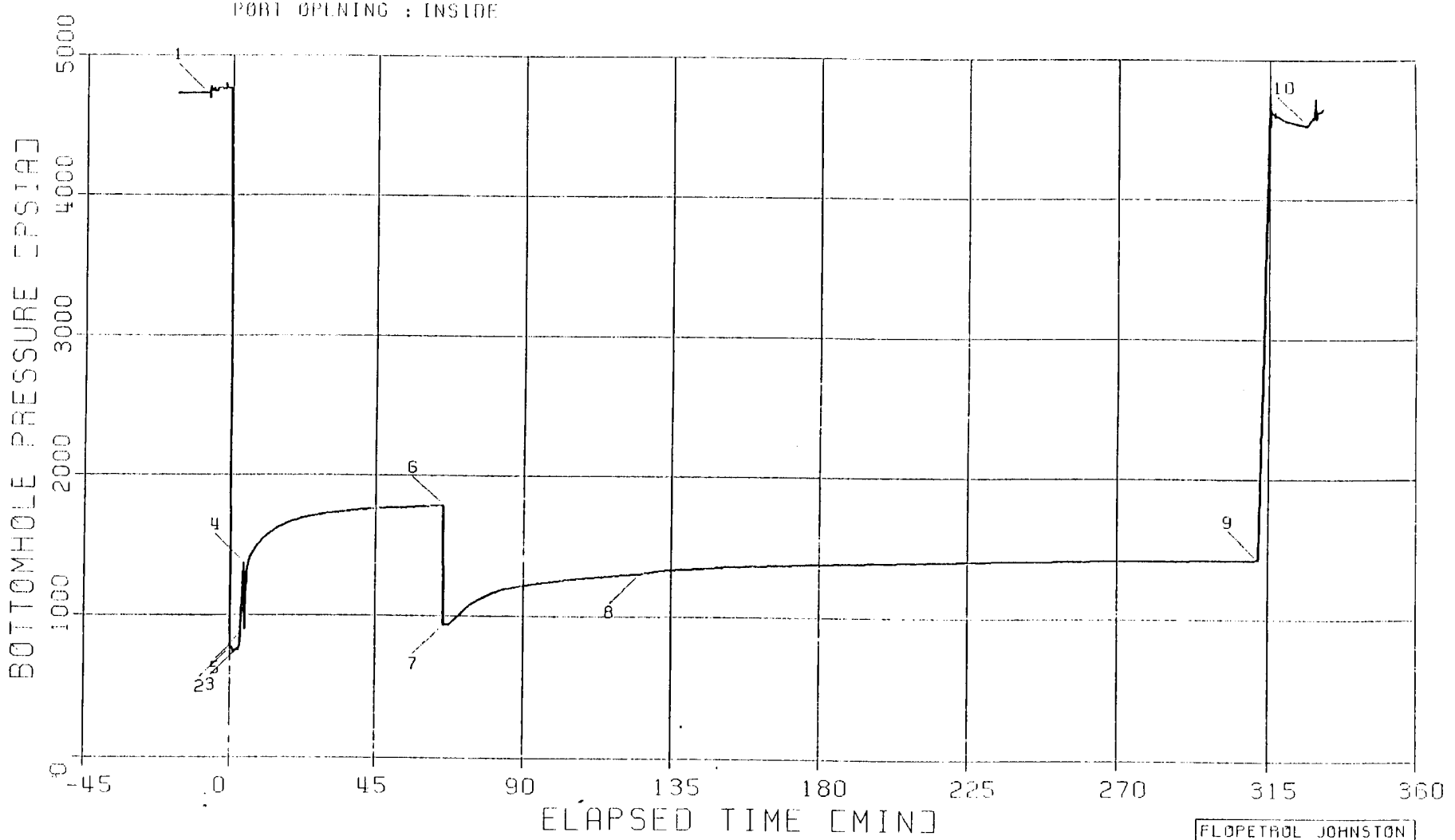
#	CODE	EXPLANATION	ET	PW
1	1	HYDROSTATIC MUD	-6.31	4735.55
2	2	START FLOW	0.00	773.01
3	3	END FLOW	3.26	786.09
4	20	CYCLED TOOL	4.36	1377.13
5	4	START SHUT-IN	4.63	901.23
6	5	END SHUT-IN	65.51	1787.01
7	2	START FLOW	65.76	940.15
8	6	END FLOW & START SHUT-IN	125.69	1306.32
9	5	END SHUT-IN	312.00	1427.53
10	1	HYDROSTATIC MUD	326.56	4535.88



BOTTOMHOLE PRESSURE LOG

FIELD REPORT NO. 48022L
INSTRUMENT NO. J-2159
DEPTH : 10497FT
CAPACITY : 6400 PSI
PORT OPENING : INSIDE

COMPANY : TIPPERARY OIL & GAS COMPANY
WELL : JONS STATE 4 #1



FLOPETROL JOHNSTON
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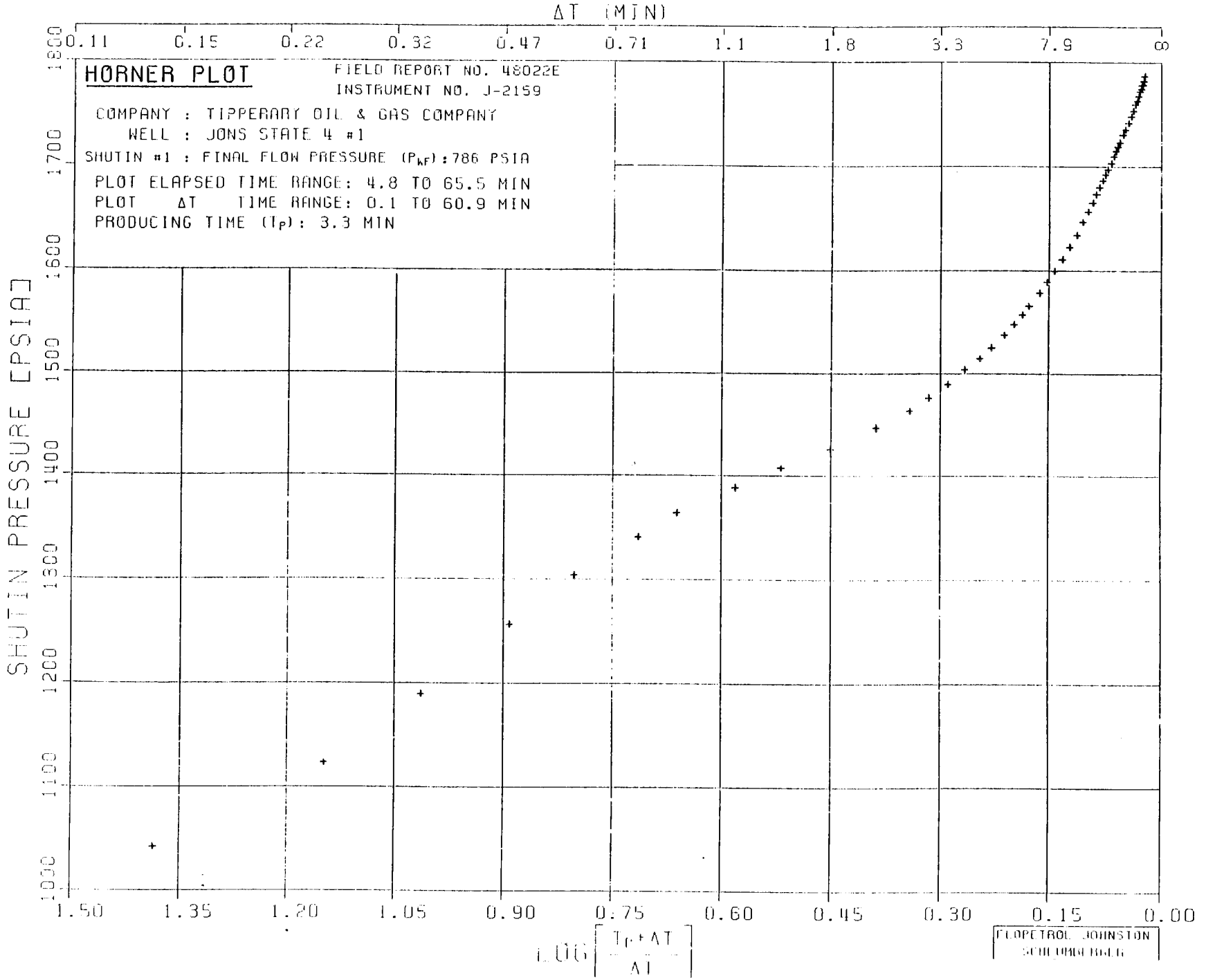
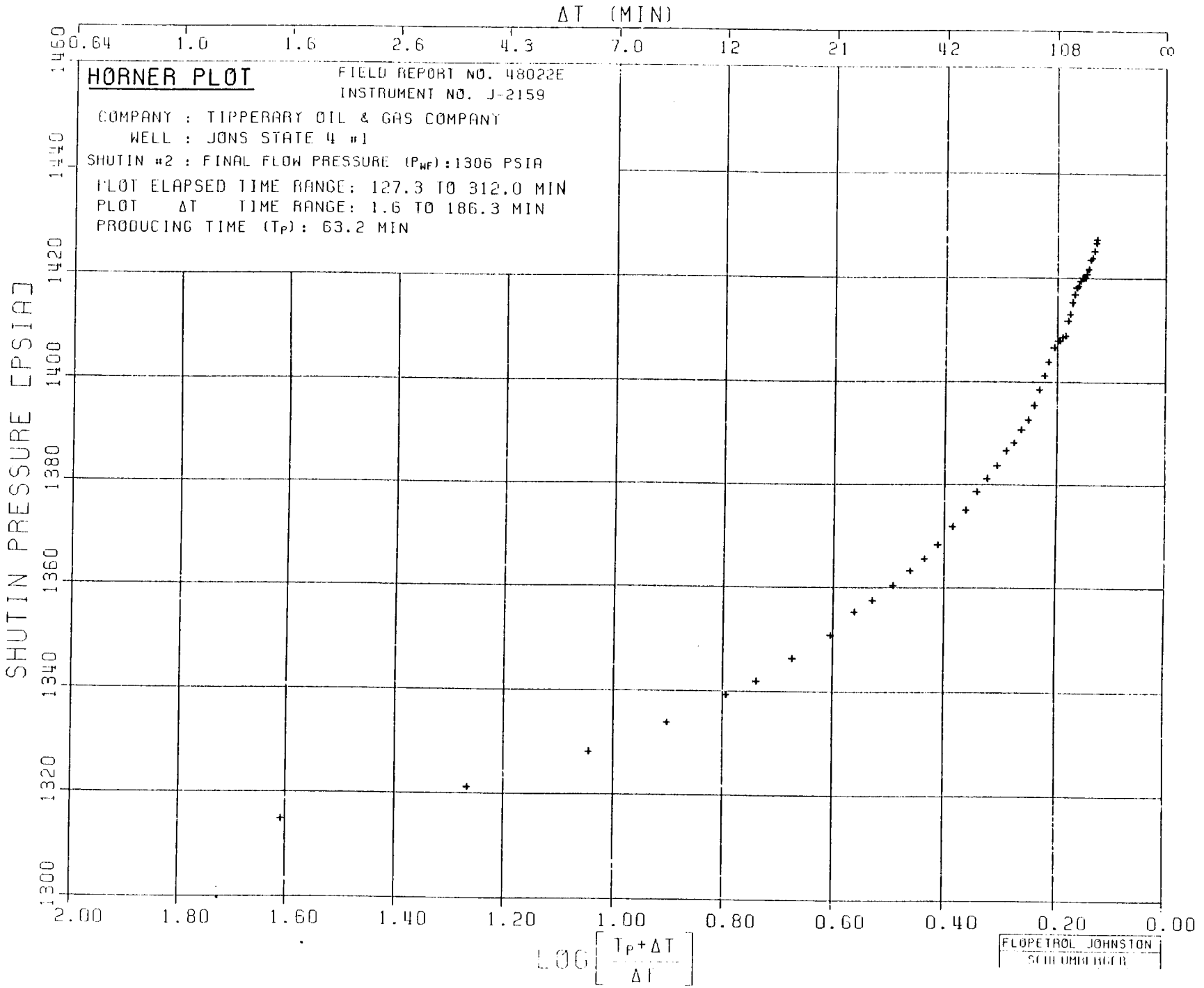
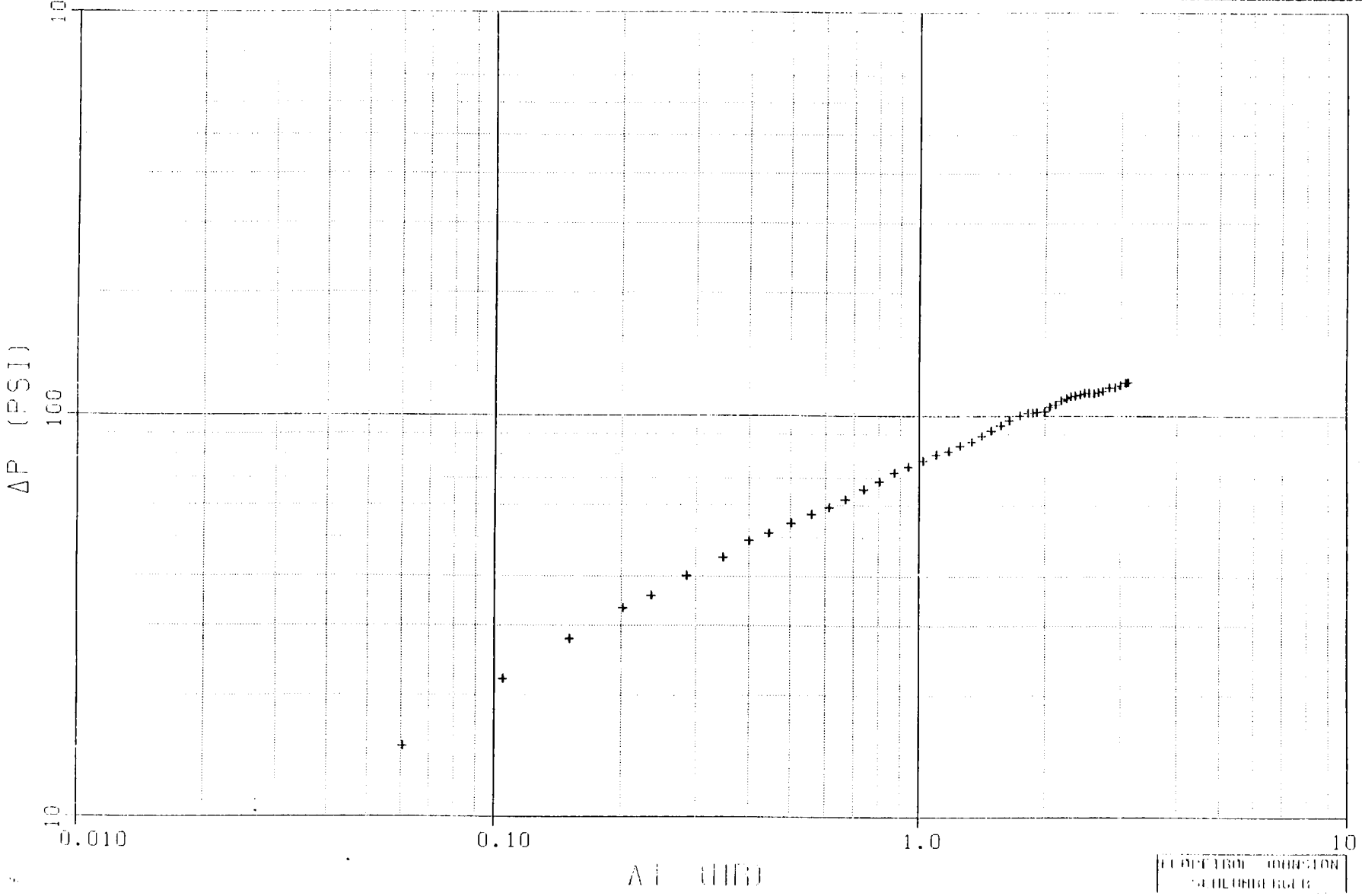

ΔT (MIN)
0.11
0.15
0.22
0.32
0.47
0.71
1.1
1.8
3.3
7.9
∞
HORNER PLOT
FIELD REPORT NO. 48022E
INSTRUMENT NO. J-2159
COMPANY : TIPPERARY OIL & GAS COMPANY
WELL : JONS STATE 4 #1
SHUTIN #1 : FINAL FLOW PRESSURE (P_{WF}) : 786 PSIA
PLOT ELAPSED TIME RANGE: 4.8 TO 65.5 MIN
PLOT ΔT TIME RANGE: 0.1 TO 60.9 MIN
PRODUCING TIME (T_P): 3.3 MIN
SHUTIN PRESSURE [PSIA]
1800
1700
1600
1500
1400
1300
1200
1100
1000
1.50
1.35
1.20
1.05
0.90
0.75
0.60
0.45
0.30
0.15
0.00
LOG [(Tp+ΔT)/ΔT]
FLOPETROL JOHNSTON
SCHLUMBERGER


ΔT (MIN)
0.64
1.0
1.6
2.6
4.3
7.0
12
21
42
108
∞
HORNER PLOT
FIELD REPORT NO. 48022E
INSTRUMENT NO. J-2159
COMPANY : TIPPERARY OIL & GAS COMPANY
WELL : JONS STATE 4 #1
SHUTIN #2 : FINAL FLOW PRESSURE (P_{WF}) : 1306 PSIA
PLOT ELAPSED TIME RANGE: 127.3 TO 312.0 MIN
PLOT ΔT TIME RANGE: 1.6 TO 186.3 MIN
PRODUCING TIME (T_P): 63.2 MIN
SHUTIN PRESSURE [PSIA]
1460
1440
1420
1400
1380
1360
1340
1320
1300
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
LOG [(Tp+ΔT)/ΔT]
FLOPETROL JOHNSTON
SCHLUMBERGER

LOG LOG PLOT

COMPANY : TIPPERARY OIL & GAS COMPANY
WELL : JONS STATE 4 #1
FIELD REPORT NO. 48022E
INSTRUMENT NO. J-2159

SHUTIN #2 :
FINAL FLOW PRESSURE (P_{WF}): 1306 PSIA
PLOT ELAPSED TIME RANGE: 2.16 TO 5.20 HR
PLOT ΔT TIME RANGE: 0.06 TO 3.11 HR



WELL TEST DATA PRINTOUT

FIELD REPORT # : 460826

INSTRUMENT # : J-2159
CAPACITY [PSI] : 6400.
DEPTH [FT] : 10497.0
PORT OPENING : INSIDE
TEMPERATURE [DEG F] : 160.0

COMPANY : TIPPERARY OIL & GAS COMPANY
WELL : JOHS STATE 4 #1

LABEL POINT INFORMATION

#	TIME OF DAY HR:MN:SS	DATE MO-DA	EXPLANATION	ELAPSED TIME,MIN	BOT HOLE PRESSURE PSIA
1	11:26:47	10-00	HYDROSTATIC MUD	-3.21	4736
2	11:35: 0	10-00	START FLOW	0.00	773
3	11:38:16	10-00	END FLOW	3.26	786
4	11:39:22	10-00	CYCLED TOOL	4.36	1377
5	11:39:38	10-00	START SHUT-IN	4.63	901
6	13:40:31	10-00	END SHUT-IN	65.51	1787
7	13:40:46	10-00	START FLOW	65.76	940
8	13:46:41	10-00	END FLOW & START SHUT-IN	125.69	1306
9	16:47: 0	10-00	END SHUT-IN	312.00	1428
10	17: 1:34	10-00	HYDROSTATIC MUD	326.56	4536

SUMMARY OF FLOW PERIODS

PERIOD	START ELAPSED TIME,MIN	END ELAPSED TIME,MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA
1	0.00	3.26	3.26	773	786
2	65.76	125.69	59.93	940	1306

SUMMARY OF SHUTIN PERIODS

PERIOD	START ELAPSED TIME,MIN	END ELAPSED TIME,MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA	FINAL FLOW PRESSURE PSIA	PRODUCING TIME, MIN
1	4.63	65.51	60.88	901	1787	786	3.26
2	125.69	312.00	186.31	1306	1428	1306	63.19

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA
11:35: 0	18-DC	0.00	0.00	773
11:38:16	18-DC	3.26	3.26	786

TEST PHASE : SHUTIN PERIOD # 1
FINAL FLOW PRESSURE [PSIA] = 786
PRODUCING TIME [MIN] = 3.26

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
11:39:38	18-DC	4.63	0.00	901	115	
11:40:38	18-DC	5.63	1.00	1373	587	0.629
11:41:38	18-DC	6.63	2.00	1436	650	0.420
11:42:38	18-DC	7.63	3.00	1475	689	0.319
11:43:38	18-DC	8.63	4.00	1508	722	0.259
11:44:38	18-DC	9.63	5.00	1533	747	0.218
11:45:38	18-DC	10.63	6.00	1556	770	0.188
11:46:38	18-DC	11.63	7.00	1576	790	0.166
11:47:38	18-DC	12.63	8.00	1594	807	0.148
11:48:38	18-DC	13.63	9.00	1609	823	0.134
11:49:38	18-DC	14.63	10.00	1623	837	0.123
11:51:38	18-DC	16.63	12.00	1648	862	0.104
11:53:38	18-DC	18.63	14.00	1667	881	0.091
11:55:38	18-DC	20.63	16.00	1684	898	0.081
11:57:38	18-DC	22.63	18.00	1696	910	0.072
11:59:38	18-DC	24.63	20.00	1706	920	0.066
12: 1:38	18-DC	26.63	22.00	1715	929	0.060
12: 3:38	18-DC	28.63	24.00	1723	937	0.055
12: 5:38	18-DC	30.63	26.00	1731	945	0.051
12: 7:38	18-DC	32.63	28.00	1735	949	0.048
12: 9:38	18-DC	34.63	30.00	1740	954	0.045
12:14:38	18-DC	39.63	35.00	1751	965	0.039
12:19:38	18-DC	44.63	40.00	1760	974	0.034
12:24:38	18-DC	49.63	45.00	1768	982	0.030
12:29:38	18-DC	54.63	50.00	1774	988	0.027
12:34:38	18-DC	59.63	55.00	1779	993	0.025
12:39:38	18-DC	64.63	60.00	1786	1000	0.023
12:40:31	18-DC	65.51	60.88	1787	1001	0.023

TEST PHASE : FLOW PERIOD # 2

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA
12:40:41	18-0C	65.76	0.00	940
12:45:46	18-0C	70.76	5.00	1013
12:50:46	18-0C	75.76	10.00	1108
12:55:46	18-0C	80.76	15.00	1167
13: 0:46	18-0C	85.76	20.00	1203
13: 5:46	18-0C	90.76	25.00	1226
13:10:46	18-0C	95.76	30.00	1244
13:15:46	18-0C	100.76	35.00	1258
13:20:46	18-0C	105.76	40.00	1271
13:25:46	18-0C	110.76	45.00	1282
13:30:46	18-0C	115.76	50.00	1291
13:35:46	18-0C	120.76	55.00	1299
13:40:41	18-0C	125.69	59.93	1306

TEST PHASE : SHUTIN PERIOD # 2
FINAL FLOW PRESSURE [PSIA] = 1306
PRODUCING TIME [MIN] = 63.19

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
13:40:41	18-0C	125.69	0.00	1306	0	
13:41:41	18-0C	126.69	1.00	1312	5	1.807
13:42:41	18-0C	127.69	2.00	1316	10	1.513
13:43:41	18-0C	128.69	3.00	1319	13	1.344
13:44:41	18-0C	129.69	4.00	1322	16	1.228
13:45:41	18-0C	130.69	5.00	1325	19	1.138
13:46:41	18-0C	131.69	6.00	1328	21	1.062
13:47:41	18-0C	132.69	7.00	1330	23	1.001
13:48:41	18-0C	133.69	8.00	1332	26	0.949
13:49:41	18-0C	134.69	9.00	1334	28	0.904
13:50:41	18-0C	135.69	10.00	1336	29	0.864
13:52:41	18-0C	137.69	12.00	1339	33	0.797
13:54:41	18-0C	139.69	14.00	1342	36	0.741
13:56:41	18-0C	141.69	16.00	1345	39	0.693
13:58:41	18-0C	143.69	18.00	1348	41	0.654
14: 0:41	18-0C	145.69	20.00	1350	44	0.619
14: 2:41	18-0C	147.69	22.00	1353	46	0.588
14: 4:41	18-0C	149.69	24.00	1355	49	0.560
14: 6:41	18-0C	151.69	26.00	1357	51	0.535
14: 8:41	18-0C	153.69	28.00	1359	52	0.513
14:10:41	18-0C	155.69	30.00	1360	54	0.492
14:15:41	18-0C	160.69	35.00	1364	58	0.448
14:20:41	18-0C	165.69	40.00	1368	62	0.412
14:25:41	18-0C	170.69	45.00	1373	66	0.381
14:30:41	18-0C	175.69	50.00	1377	70	0.355

[illegible] SHUT-IN PERIOD # 2
FINAL FLOW PRESSURE [PSIA] = 1306
PRODUCING TIME [MIN] = 63.19

TIME OF DAY HH:MM:SS	DATE DD-MM	ELAPSED TIME,MIN	DELTA TIME,MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14:55:41	18-00	180.69	55.00	1380	74	0.332
15:00:41	18-00	185.69	60.00	1383	77	0.312
15:05:41	18-00	190.69	65.00	1386	80	0.295
15:10:41	18-00	195.69	70.00	1388	82	0.279
15:15:41	18-00	200.69	75.00	1391	84	0.265
15: 0:41	18-00	205.69	80.00	1393	86	0.253
15: 5:41	18-00	210.69	85.00	1394	89	0.241
15:10:41	18-00	215.69	90.00	1397	93	0.231
15:15:41	18-00	220.69	95.00	1402	96	0.221
15:20:41	18-00	225.69	100.00	1403	98	0.213
15:25:41	18-00	230.69	105.00	1407	101	0.205
15:30:41	18-00	235.69	110.00	1408	102	0.197
15:35:41	18-00	240.69	115.00	1409	102	0.190
15:40:41	18-00	245.69	120.00	1409	103	0.184
15:45:41	18-00	250.69	125.00	1413	106	0.178
15:50:41	18-00	255.69	130.00	1415	109	0.172
15:55:41	18-00	260.69	135.00	1417	111	0.167
16: 0:41	18-00	265.69	140.00	1418	112	0.162
16: 5:41	18-00	270.69	145.00	1420	113	0.157
16:10:41	18-00	275.69	150.00	1420	114	0.153
16:15:41	18-00	280.69	155.00	1420	114	0.149
16:20:41	18-00	285.69	160.00	1421	115	0.145
16:25:41	18-00	290.69	165.00	1423	116	0.141
16:30:41	18-00	295.69	170.00	1424	117	0.137
16:35:41	18-00	300.69	175.00	1424	118	0.134
16:40:41	18-00	305.69	180.00	1426	119	0.131
16:45:41	18-00	310.69	185.00	1427	121	0.128
16:47: 0	18-00	312.00	186.31	1428	121	0.127