

# FLOPETROL

Denne rapport  
tilhører



UND DOK.SENTER

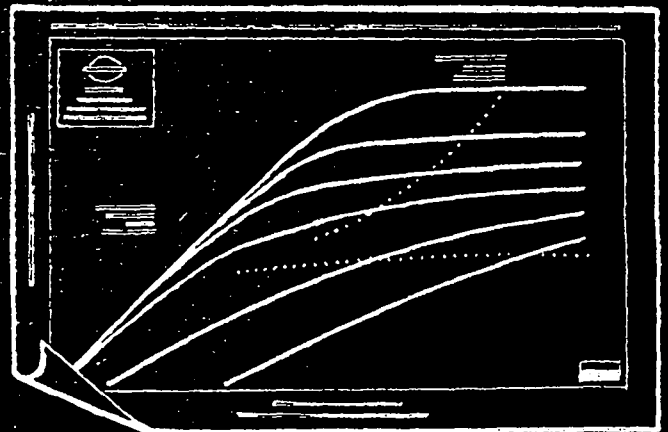
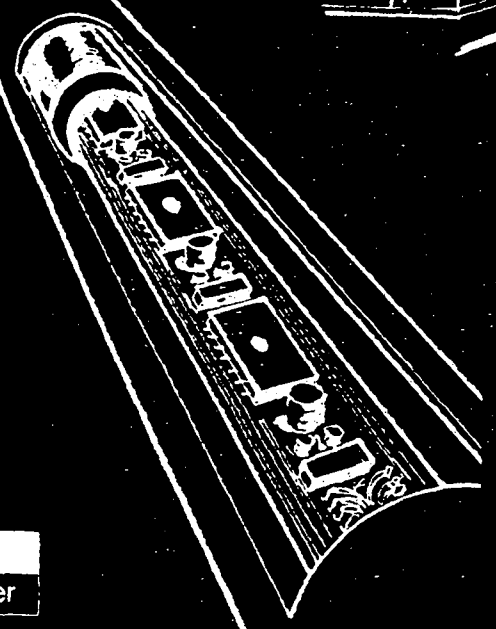
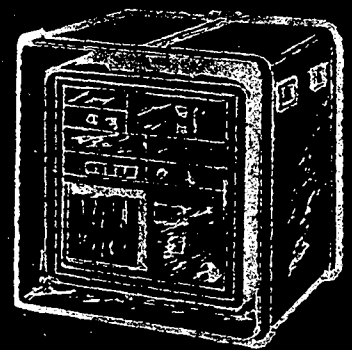
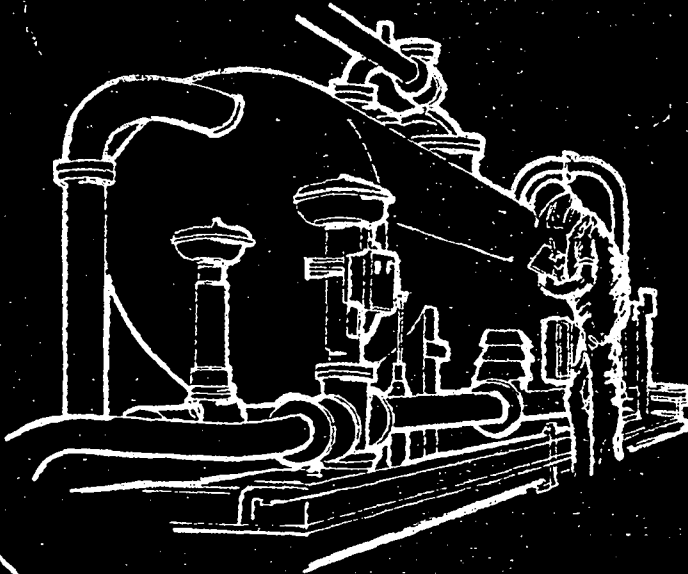
L.NR. 91059078

KODE Well 15/9-11 nr 13

Returneres etter bruk

## HIGH ACCURACY PRESSURE TEMPERATURE MEASUREMENTS

Company:	STATOIL	Country:	NORWAY
Field:	SLEIPNER	Well:	15/9-11
Zone:	GAMMA	Date:	30.11-8



# FLOPETROL

DISTRICT: NUD

BASE : STAVANGER

REPORT N°: ELS-81-08S

## HIGH ACCURACY PRESSURE TEMPERATURE MEASUREMENTS

Company:	STATOIL	Country:	NORWAY
Field:	SLEIPNER	Well:	15/9-11
Zone:	GAMMA	Date:	30.11-81 - 03.12-81

DST No. 1

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- 2 - MEASUREMENT RESULTS
- 3 - SEQUENCE OF EVENTS
- 4 - WELL COMPLETION DATA
- 5 - OPERATING AND MEASURING CONDITIONS
- 6 - EQUIPMENT DATA
- 7 -

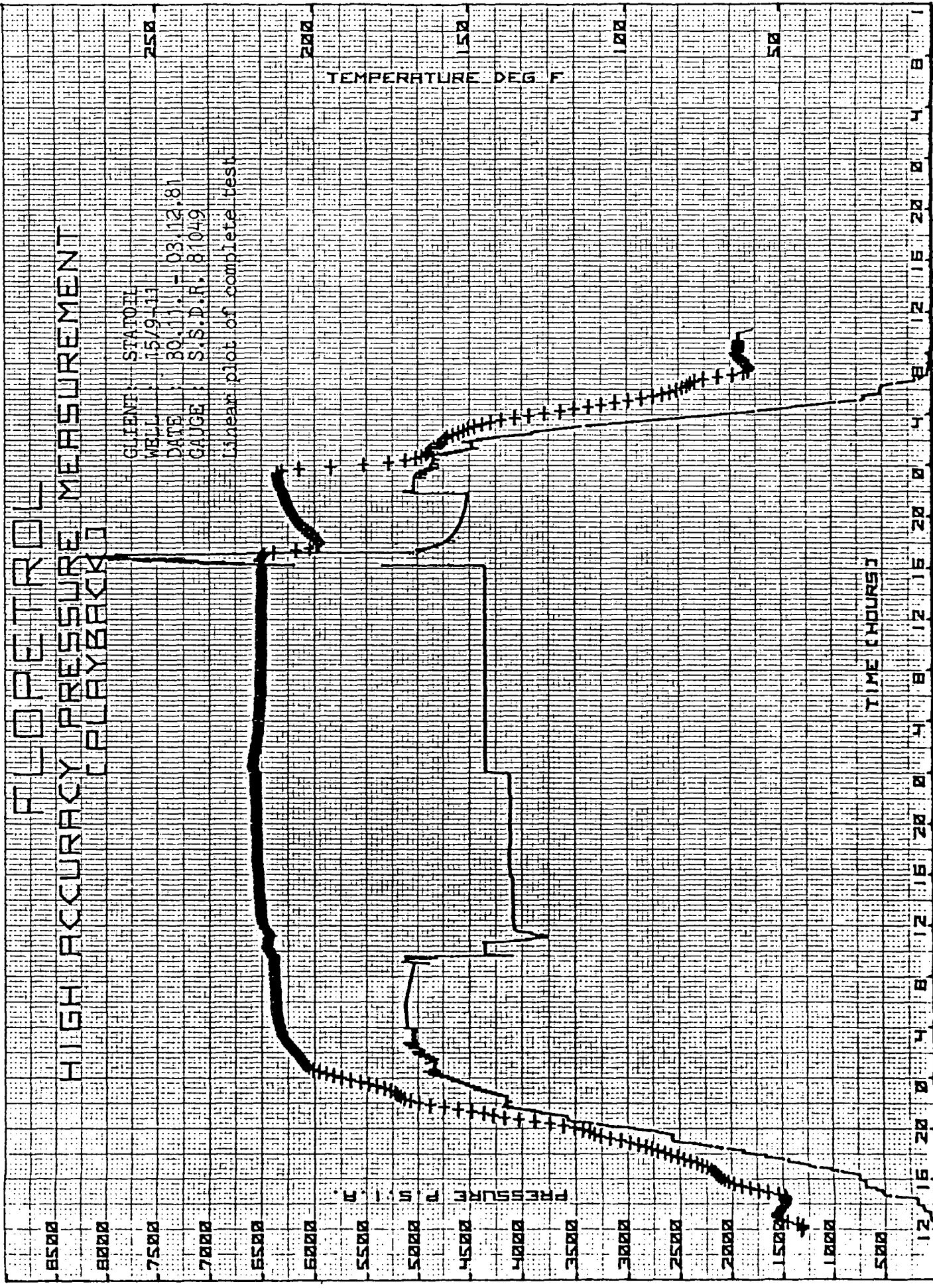
Flopetrol operator:  
Geir-Ole Eikemo

Company representative:  
John Self

# FLOPETROL HIGH ACCURACY PRESSURE MEASUREMENT

CLIENT: STATOIL  
WELL: 15/9-11  
DATE: 80.11.03.12.81  
GAUGE: S.S.D.F. 81049

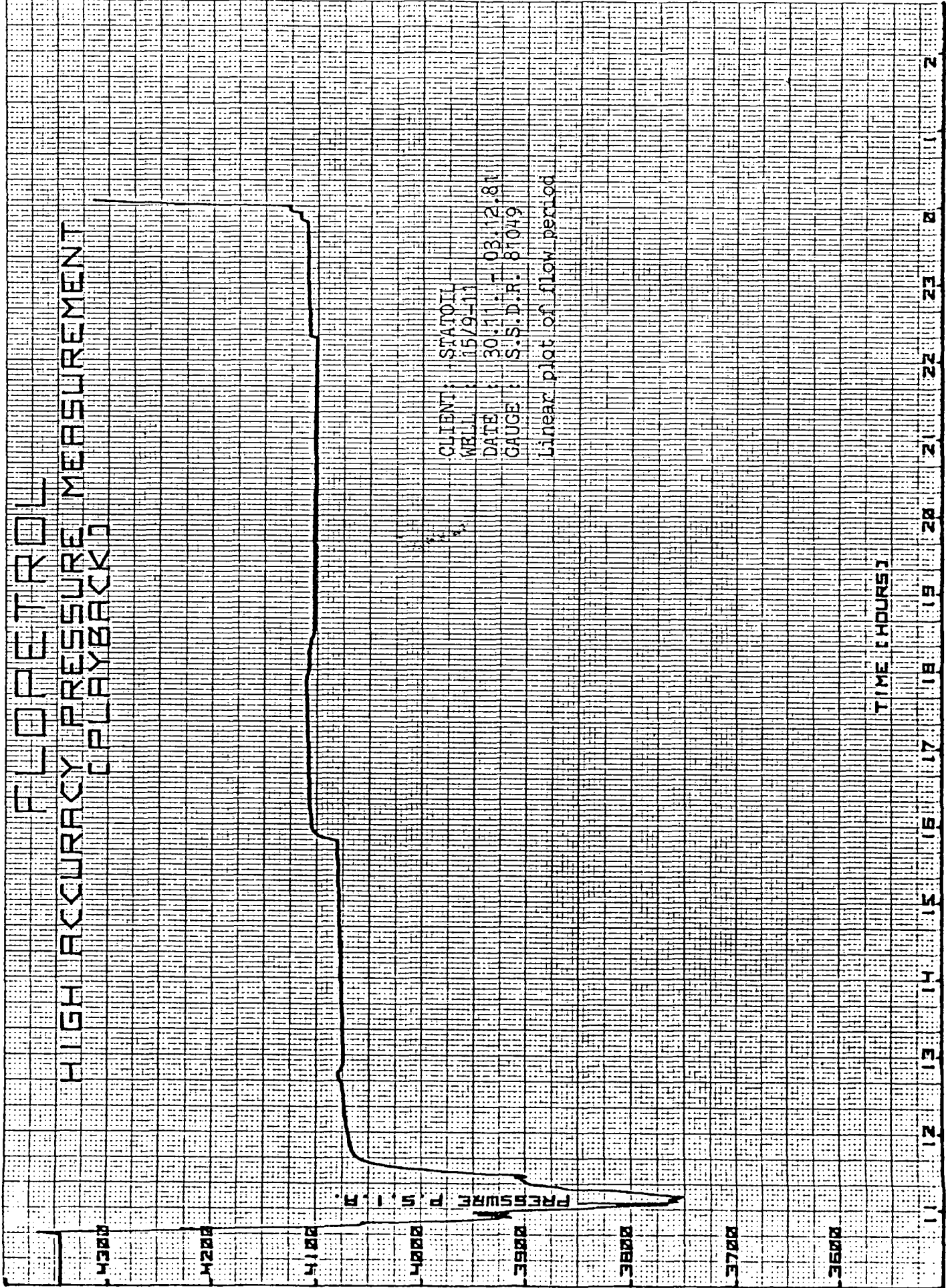
Linear plot of complete test



TEMPERATURE DEG F

TIME (HOURS)

# FLOPETROL HIGH ACCURACY PRESSURE MEASUREMENT PLAYBACK



CLIENT: STATOIL  
 WELL: 15/9-11  
 DATE: 30.11.81  
 GAUGE: S.S.D.R. 81049  
 Linear plot of flow period

TIME (HOURS)

11 12 13 14 15 16 17 18 19 20 21 22 23

# FLOPETROL HIGH ACCURACY PRESSURE MEASUREMENT CAPYBACKS

4500

4540

4600

4650

4700

4250

4200

4150

4100

PRESSURE T U - T

CLIENT: STATOIL  
WELL: 15/9-11  
DATE: 30.11.81  
GAUGE: S.S.D.R. 81049

Horner plot of build up

LOG T + DELTA T  
DELTA T



# FLUORETROL HIGH ACCURACY PRESSURE MEASUREMENT CPU BACKO

CLIENT: STAIOL

WELL: 15/94-11

DATE: 30.11.81 - 03.12.81

GAUGE: S.S.D.R. 87049

Log - Log plot of build up

LOG DELTA P (PSIA)

LOG DELTA T (MINUTES)

FLCPEM101  
 PRESSURE & TEMPERATURE CALCULATIONS

SECTION 1  
 PAGE 1

TIME HR. MIN. SS PRESS. PSIA TEMP. DEG. F DEL. T (MINUTES) LOG DEL. T PSIA DEL. P LOG DEL. P LOG T+DEL. T DEL. T REMARKS

TIME	HR.	MIN.	SS	PRESS.	PSIA	TEMP.	DEG. F	DEL. T	(MINUTES)	LOG DEL. T	PSIA	DEL. P	LOG DEL. P	LOG T+DEL. T	DEL. T	REMARKS
11.45.	0			4.08												S.S.D.R. 81049 DATA 30/11 - 1981,
11.50.	0			10.76												
11.55.	0			10.46		44.1										
12. 0.	0			10.37												
12. 5.	0			10.52		43.7										
12.10.	0			10.57												
12.15.	0			10.16		43.5										
12.20.	0			13.01												
12.25.	0			13.25		45.3										
12.30.	0			12.74												
12.35.	0			45.61		48.6										
12.40.	0			46.16												
12.45.	0			49.61		50.4										
12.50.	0			49.60												
12.55.	0			52.97		51.8										
13. 0.	0			56.60												
13. 5.	0			58.29		52.2										
13.10.	0			59.13												
13.15.	0			62.62		52.0										
13.20.	0			62.50												
13.25.	0			113.56		51.3										
13.30.	0			115.15												
13.35.	0			121.15		50.7										
13.40.	0			127.10												
13.45.	0			131.24		50.0										
13.50.	0			131.52												
13.55.	0			165.92		49.5										
14. 0.	0			166.22												
14. 5.	0			166.08		49.3										
14.10.	0			167.25												
14.15.	0			167.23		49.1										
14.20.	0			169.59												
14.25.	0			207.90		48.9										
14.30.	0			292.59												
14.35.	0			445.10		49.3										
14.40.	0			502.09												
14.45.	0			509.52		51.4										
14.50.	0			510.14												
14.55.	0			520.50		54.9										
15. 0.	0			520.09												
15. 5.	0			575.65		57.9										
15.10.	0			575.60												



LOG SHEET

FLOPETROL  
PRESSURE & TEMPERATURE CALCULATIONS

SECTION 1  
PAGE 2

TIME HR:MIN:SS	PRESS. PSIA	TEMP. DEG.F	DEL.T (MINUTES)	LOG DEL.T	DEL.P PSIA	LOG DEL.P	LOG T+DEL.T DEL.T	REMARKS
15.15.0	627.56	60.6						
15.20.0	679.09							
15.25.0	679.28	63.3						
15.30.0	679.08							
15.35.0	679.08	65.6						9
15.40.0	676.54							
15.45.0	679.26	67.6						
15.50.0	679.29							
15.55.0	734.51	68.5						
16.0.0	734.63							
16.5.0	734.63	70.6						
16.10.0	734.41							
16.15.0	734.33	70.9						
16.20.0	734.46							
16.25.0	790.65	71.6						10
16.30.0	897.92							
16.35.0	953.18	72.1						
16.40.0	1007.17							
16.45.0	1006.18	73.2						
16.50.0	1057.50							
16.55.0	1168.40	74.7						
17.0.0	1225.00							
17.5.0	1225.61	76.3						
17.10.0	1276.56							
17.15.0	1333.96	77.5						
17.20.0	1366.34							
17.25.0	1437.01	79.9						
17.30.0	1457.96							
17.35.0	1482.41	81.5						
17.40.0	1544.74							
17.45.0	1651.76	83.8						
17.50.0	1652.50							
17.55.0	1649.96	86.0						
18.0.0	1783.40							
18.5.0	1869.22	88.0						
18.10.0	1865.42							
18.15.0	1876.76	90.1						
18.20.0	1971.20							
18.25.0	2055.77	91.9						
18.30.0	2083.50							
18.35.0	2203.50	93.9						
18.40.0	2240.79							

FLOPETROL

PRESSURE & TEMPERATURE CALCULATIONS

SECTION 1  
PAGE 3

TIME IN.F.A.S.S. PRESS. PSIA TEMP. DEG.F DEL.T. (MINUTES) LOG DEL.T. DEL.P PSIA LOG DEL.P LOG T+DEL.T DEL.T REMARKS

18.45.	0	2295.64	96.4										
18.50.	0	2346.69											
18.55.	0	2455.43	99.1										
19. 0.	0	2559.63											
19. 5.	0	2501.58	102.2										
19.10.	0	2503.74											
19.15.	0	2563.43	105.6										
19.20.	0	2564.75											
19.25.	0	2564.32	108.7										
19.30.	0	2558.03											
19.35.	0	2590.37	110.7										
19.40.	0	2664.01											
19.45.	0	2696.23	112.3										
19.50.	0	2769.25											
19.55.	0	2858.34	114.3										
20. 0.	0	2928.66											
20. 5.	0	2978.99	117.0										
20.10.	0	3067.54											
20.15.	0	3193.24	120.0										
20.20.	0	3247.14											
20.25.	0	3336.05	124.7										
20.30.	0	3406.24											
20.35.	0	3513.20	129.4										
20.40.	0	3565.24											
20.45.	0	3566.67	134.2										
20.50.	0	3571.12											
20.55.	0	3572.05	136.9										
21. 0.	0	3575.65											
21. 5.	0	3666.73	142.5										
21.10.	0	3720.15											
21.15.	0	3825.79	145.4										
21.20.	0	3827.54											
21.25.	0	3879.90	149.4										
21.30.	0	3974.43											
21.35.	0	4013.25	153.5										
21.40.	0	4091.70											
21.45.	0	4087.80	158.0										
21.50.	0	4141.48											
21.55.	0	4142.13	162.5										
22. 0.	0	4146.17											
22. 5.	0	4144.60	166.5										
22.10.	0	4103.64											

14

15

16

17

FLUORENOL  
PRESSURE & TEMPERATURE CALCULATIONS

SECTION: 1  
PAGE: 4

TIME	PRESS.	TEMP.	DEL.T.	LOG DEL.T.	DEL.P.	LOG DEL.P.	LOG T+DEL.T.	DEL.T.	REMARKS
HR./MIN.	PSIA	DEG.F.	(MINUTES)		PSIA				
22.15	0	4144.49	169.2						
22.20	0	4146.30							
22.25	0	4145.37	171.1						18
22.30	0	4143.99							
22.35	0	4143.65	172.4						
22.40	0	4240.12							
22.45	0	4200.92	173.5						
22.50	0	4249.89							
22.55	0	4293.71	174.2						
23.00	0	4305.07							
23.05	0	4451.62	175.6						
23.10	0	4395.61							
23.15	0	4413.14	177.6						19
23.20	0	4457.05							
23.25	0	4503.44	180.1						
23.30	0	4503.09							
23.35	0	4510.50	182.7						
23.40	0	4592.58							
23.45	0	4568.93	185.4						
23.50	0	4632.32							
23.55	0	4621.20	188.6						
24.00	0	4664.93							
24.05	0	4664.93							
0.50	0	4705.62	191.5						
0.10	0	4707.24							
0.15	0	4839.95	194.0						
0.20	0	4862.37							
0.25	0	4823.68	196.3						
0.30	0	4802.96							
0.35	0	4763.50	198.7						
0.40	0	4817.97							
0.45	0	4846.32	200.5						
0.50	0	4836.99							
0.55	0	4836.83	201.9						
1.00	0	4839.05							
1.05	0	4833.67	202.8						
1.10	0	4830.46							
1.15	0	4914.04	203.7						
1.20	0	4858.46							
1.25	0	4855.96	204.1						
1.30	0	4853.45							
1.35	0	4916.35	204.4						22

01/12 - 1981 ✓

LOG # 100-1186  
Submarine

# PROFETICAL PRESSURE & TEMPERATURE CALCULATIONS

SECTION 1  
PAGE 5

TIME: PRESS. PSIA TEMP. DEL. T (MINUTES) LOG DEL. T DEL. P PSIA LOG T+DEL. T DEL. T REMARKS

1.40. 0	4868.88										
1.45. 0	4970.71	204.8									
1.50. 0	4924.72										
1.55. 0	5027.55	205.3									
2. 0. 0	4947.84										
2. 5. 0	4973.80	205.9									
2.10. 0	4979.71										
2.15. 0	4934.32	206.6									
2.20. 0	4964.56										
2.25. 0	5079.76	207.3									
2.30. 0	5005.01										
2.35. 0	5001.59	207.9									
2.40. 0	5020.50										
2.45. 0	5010.31	208.4									
2.50. 0	5039.00										
2.55. 0	5034.32	208.8									
3. 0. 0	5022.32										
3. 5. 0	5053.23	209.3									
3.10. 0	5035.12										
3.15. 0	5044.42	209.8									
3.20. 0	5024.90										
3.25. 0	5051.50	210.2									
3.30. 0	5052.01										
3.35. 0	5048.61	210.4									
3.40. 0	5030.15										
3.45. 0	5050.12	210.6									
3.50. 0	5039.57										
3.55. 0	5036.61	210.9									
4. 0. 0	5124.04										
4. 5. 0	5100.29	210.9									
4.10. 0	5101.59										
4.15. 0	5102.64	211.1									
4.20. 0	5103.73										
4.25. 0	5104.83	211.5									
4.30. 0	5105.96										
4.35. 0	5107.19	211.6									
4.40. 0	5108.26										
4.45. 0	5109.37	211.6									
4.50. 0	5110.46										
4.55. 0	5111.51	211.6									
5. 0. 0	5112.56										
5. 5. 0	5113.59	212.0									

FLOPLINOL  
 PRESSURE & TEMPERATURE CALCULATIONS

SECTION 1  
 PAGE 6

TIME	PRESS.	TEMP.	DEL.T.	LOG DEL.T.	DEL.P	LOG DEL.P	LOG T+DEL.T.	REMARKS
HR:MIN:SS	PSIA	DEG.F	(MINUTES)		PSIA		DEL.T.	
5.10.0	5114.35							
5.15.0	5115.06	212.0						27
5.20.0	5115.80							
5.25.0	5116.68	212.0						
5.30.0	5117.59							
5.35.0	5118.50	212.2						
5.40.0	5119.44							
5.45.0	5119.10	212.2						
5.50.0	5119.16							
5.55.0	5117.06	212.2						
6.0.0	5115.10							28
6.5.0	5113.39	212.2						
6.10.0	5110.93							
6.15.0	5108.94	212.4						
6.20.0	5106.99							
6.25.0	5106.00	212.4						
6.30.0	5104.95							
6.35.0	5104.05	212.4						
6.40.0	5101.60							
6.45.0	5100.39	212.4						29
6.50.0	5098.67							
6.55.0	5094.97	212.4						
7.0.0	5093.24							
7.5.0	5090.67	212.4						
7.10.0	5088.97							
7.15.0	5086.77	212.5						
7.20.0	5084.68							
7.25.0	5082.86	212.5						
7.30.0	5080.62							30
7.35.0	5078.11	212.5						
7.40.0	5075.64							
7.45.0	5073.22	212.7						
7.50.0	5070.60							
7.55.0	5067.30	212.7						
8.0.0	5064.25							
8.5.0	5061.43	212.7						
8.10.0	5058.61							
8.15.0	5055.64	212.7						31
8.20.0	5052.91							
8.25.0	5050.20	212.7						
8.30.0	5049.44							
8.35.0	5046.27	212.7						

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PRESSURE & TEMPERATURE CALCULATIONS

SECTION 2  
PAGE 7

TIME	PRESS.	TEMP.	DEL.T	LOG DEL.T	DEL.P	LOG DEL.P	LOG T+DEL.T	REMARKS
HR. NR. SS	PSIA	DEG.F	(MINUTES)		PSIA		DEL.T	
6.40. 0	5044.74							
6.45. 0	5043.25	212.7						31
6.50. 0	5041.58							
6.55. 0	5036.48	212.9						
7. 0. 0	5030.37							
7. 5. 0	4867.57	212.9						
7.10. 0	5146.56							
7.15. 0	5160.83	212.9						
7.20. 0	5122.90							
7.25. 0	5109.18	212.7						
7.30. 0	5115.75							
7.31. 0	5142.92	212.7						
7.32. 0	5136.10							
7.33. 0	5129.28							
7.34. 0	5122.46							
7.35. 0	5115.64							
7.36. 0	5115.83							
7.37. 0	5116.08							
7.38. 0	5123.56							
7.39. 0	4082.68							
7.40. 0	4155.37							
7.41. 0	4216.73							
7.42. 0	4216.16							
7.43. 0	4217.17							
7.44. 0	4221.94	212.9						
7.45. 0	4253.26							
7.46. 0	4301.02							
7.47. 0	4338.77							
7.48. 0	4345.20							
7.49. 0	4345.48							
7.50. 0	4345.86							
7.51. 0	4346.04							
7.52. 0	4346.20							
7.53. 0	4346.27							
7.54. 0	4346.41	214.0						
7.55. 0	4346.43							
7.56. 0	4346.42							
7.57. 0	4346.42							
7.58. 0	4346.41							
7.59. 0	4346.45							
10. 0. 0	4346.46							
10. 1. 0	4346.46							

FLOPETROL

PRESSURE & TEMPERATURE CALCULATIONS

SECTION 3  
PAGE 8

TIME HR. MIN. SS PRESS. PSIA TEMP. DEG. F DEL. T (MINUTES) LOG DEL. T PSIA LOG DEL. P LOG T+DEL. T DEL. T REMARKS

33

10. 2. 0	4346.48									
10. 3. 0	4346.53									
10. 4. 0	4346.53									
10. 5. 0	4346.50	214.9								
10. 6. 0	4346.50									
10. 7. 0	4346.50									
10. 8. 0	4346.49									
10. 9. 0	4346.49									
10.10. 0	4346.50									
10.11. 0	4346.48									
10.12. 0	4346.48									
10.13. 0	4346.53									
10.14. 0	4346.49	215.1								
10.15. 0	4346.49									
10.16. 0	4346.51									
10.17. 0	4346.49									
10.18. 0	4346.49									
10.19. 0	4346.49									
10.20. 0	4346.43									
10.21. 0	4346.45									
10.22. 0	4346.47									
10.23. 0	4346.51									
10.24. 0	4346.49	215.1								
10.25. 0	4346.48									
10.26. 0	4346.49									
10.27. 0	4346.39									
10.28. 0	4346.51									
10.29. 0	4346.41									
10.30. 0	4346.38									
10.31. 0	4346.49									
10.32. 0	4346.46									
10.33. 0	4346.46									
10.34. 0	4346.47	214.9								
10.35. 0	4346.42									
10.36. 0	4346.45									
10.37. 0	4346.48									
10.38. 0	4346.46									
10.39. 0	4346.47									
10.40. 0	4346.46									
10.41. 0	4354.24									
10.42. 0	4368.18									
10.43. 0	4316.94									

WELL OPENED  
10.43. 0

SHUT IN PRES.  
4346.46

34

Through choke 32/64" adj.

0.00



FLC PETROL

PRESSURE & TEMPERATURE CALCULATIONS

SECTION 3  
PAGE 9

TIME	HR.	MIN.	SS	PSIA	TEMP. DEG. F	DEL. T (MINUTES)	LOG DEL. T	DEL. P PSIA	LOG DEL. P	T+DEL. T DEL. T	REMARKS
10.44.	0			4207.84	214.9	1.00	0.0000	138.62	2.1418		
10.45.	0			4229.00		2.00	0.3010	117.46	2.0699		
10.46.	0			4149.28		3.00	0.4771	197.18	2.2949		
10.47.	0			4090.34		4.00	0.6021	256.12	2.4084		
10.48.	0			4059.76		5.00	0.6990	286.70	2.4574		
10.49.	0			4054.07		6.00	0.7782	292.39	2.4660		
10.50.	0			4056.77		7.00	0.8451	289.69	2.4619		
10.51.	0			3975.30		8.00	0.9031	371.16	2.5696		
10.52.	0			3958.07		9.00	0.9542	388.39	2.5893		
10.53.	0			3928.60		10.00	1.0000	417.86	2.6210		
10.54.	0			3913.53	214.7	11.00	1.0414	432.93	2.6364		
10.55.	0			3920.41		12.00	1.0792	426.05	2.6295		
10.56.	0			3945.53		13.00	1.1139	400.93	2.6031		
10.57.	0			3916.50		14.00	1.1461	429.96	2.6334		
10.58.	0			3949.46		15.00	1.1761	397.00	2.5988		
10.59.	0			3906.23		16.00	1.2041	440.23	2.6437		
11. 0.	0			3887.68		17.00	1.2304	458.78	2.6616		
11. 1.	0			3836.51		18.00	1.2553	509.95	2.7075		
11. 2.	0			3831.55		19.00	1.2788	514.91	2.7117		
11. 3.	0			3792.50		20.00	1.3010	553.96	2.7435		
11. 4.	0			3766.95	214.5	21.00	1.3222	579.51	2.7631		
11. 5.	0			3849.29		22.00	1.3424	497.17	2.6965		
11. 6.	0			3756.42		23.00	1.3617	590.04	2.7709		
11. 7.	0			3764.42		24.00	1.3802	582.04	2.7650		
11. 8.	0			3764.60		25.00	1.3979	581.86	2.7646		
11. 9.	0			3754.64		26.00	1.4150	591.62	2.7720		
11.10.	0			3752.52		27.00	1.4314	593.94	2.7737		
11.11.	0			3764.04		28.00	1.4472	582.42	2.7652		
11.12.	0			3777.24		29.00	1.4624	569.22	2.7553		
11.13.	0			3769.59		30.00	1.4771	556.87	2.7458		
11.14.	0			3803.84	214.0	31.00	1.4914	542.62	2.7345		
11.15.	0			3816.55		32.00	1.5051	529.91	2.7242		
11.16.	0			3860.35		33.00	1.5185	486.11	2.6867		
11.17.	0			3865.43		34.00	1.5315	481.03	2.6822		
11.18.	0			3871.05		35.00	1.5441	475.41	2.6771		
11.19.	0			3890.49		36.00	1.5563	455.97	2.6589		
11.20.	0			3855.45		37.00	1.5682	451.01	2.6542		
11.21.	0			3898.90		38.00	1.5798	447.56	2.6509		
11.22.	0			3900.43		39.00	1.5911	446.03	2.6494		
11.23.	0			3903.20		40.00	1.6021	443.26	2.6467		
11.24.	0			3904.92	214.3	41.00	1.6128	441.54	2.6450		
11.25.	0			3909.29		42.00	1.6232	437.17	2.6407		

Increase choke to 40/64" adj

FLOPETROL  
PRESSURE & TEMPERATURE CALCULATIONS

SECTION 3  
PAGE 10

TIME HR. MIN. SS	PRESS. PSIA	TEMP. DEG. F.	DEL. T. (MINUTES)	LOG DEL. T	DEL. P. PSIA	LOG DEL. P	REMARKS
11.26.0	3899.59		43.00	1.6335	446.87	2.6502	
11.27.0	3903.85		44.00	1.6435	442.61	2.6460	
11.28.0	3932.21		45.00	1.6532	414.25	2.6173	
11.29.0	3956.78		46.00	1.6628	389.68	2.5907	
11.30.0	3975.45		47.00	1.6721	371.01	2.5694	
11.31.0	3992.43		48.00	1.6812	354.03	2.5490	
11.32.0	4007.68		49.00	1.6902	338.78	2.5299	
11.33.0	4019.86		50.00	1.6990	326.60	2.5140	
11.34.0	4029.99	214.7	51.00	1.7076	316.47	2.5003	
11.35.0	4038.35		52.00	1.7160	308.11	2.4887	
11.36.0	4044.75		53.00	1.7243	301.71	2.4796	
11.37.0	4050.23		54.00	1.7324	296.23	2.4716	
11.38.0	4054.07		55.00	1.7404	292.39	2.4660	
11.39.0	4057.27		56.00	1.7482	289.19	2.4612	
11.40.0	4059.94		57.00	1.7559	286.52	2.4572	
11.41.0	4062.07		58.00	1.7634	284.39	2.4539	
11.42.0	4063.31		59.00	1.7709	283.15	2.4520	
11.43.0	4064.52		60.00	1.7782	281.94	2.4502	
11.44.0	4065.39	215.4	61.00	1.7853	281.07	2.4488	
11.45.0	4066.03		62.00	1.7924	280.43	2.4478	
11.46.0	4066.79		63.00	1.7993	279.67	2.4466	
11.47.0	4067.18		64.00	1.8062	279.28	2.4460	
11.48.0	4067.68		65.00	1.8129	278.78	2.4453	
11.49.0	4067.80		66.00	1.8195	278.66	2.4451	
11.50.0	4068.32		67.00	1.8261	278.14	2.4443	
11.51.0	4068.85		68.00	1.8325	277.61	2.4434	
11.52.0	4068.90		69.00	1.8388	277.56	2.4434	
11.53.0	4069.10		70.00	1.8451	277.36	2.4430	
11.54.0	4069.37	216.0	71.00	1.8513	277.09	2.4426	
11.55.0	4069.51		72.00	1.8573	276.95	2.4424	
11.56.0	4069.57		73.00	1.8633	276.89	2.4423	
11.57.0	4069.83		74.00	1.8692	276.63	2.4419	
11.58.0	4070.14		75.00	1.8751	276.32	2.4414	
11.59.0	4070.52		76.00	1.8808	275.94	2.4408	
12.0.0	4070.99		77.00	1.8865	275.47	2.4401	
12.1.0	4071.24		78.00	1.8921	275.22	2.4397	
12.2.0	4071.34		79.00	1.8976	275.12	2.4395	
12.3.0	4071.41		80.00	1.9031	275.05	2.4394	
12.4.0	4071.72	216.3	81.00	1.9085	274.74	2.4389	
12.5.0	4072.05		82.00	1.9138	274.41	2.4384	
12.6.0	4072.39		83.00	1.9191	274.07	2.4379	
12.7.0	4072.29		84.00	1.9243	274.17	2.4380	

Switch to choke 42/64" fixe

FLCPEIKOL  
PRESSURE & TEMPERATURE CALCULATIONS

SECTION 3  
PAGE 11

TIME	IR.N.N.SS	PRESS. PSIA	TEMP. DEG.F	DEL.T (MINUTES)	LOG DEL.T	DEL.P PSIA	LOG DEL.P	LOG T+DEL.T DEL.T	REMARKS
12. 8. 0		4072.48		85.00	1.9294	273.98	2.4377		
12. 9. 0		4072.73		86.00	1.9345	273.73	2.4373		
12.10. 0		4072.98		87.00	1.9395	273.48	2.4369		
12.11. 0		4073.40		88.00	1.9445	273.06	2.4363		
12.12. 0		4073.42		89.00	1.9494	273.04	2.4362		
12.13. 0		4073.66		90.00	1.9542	272.80	2.4358		
12.14. 0		4073.66	216.5	91.00	1.9590	272.80	2.4358		
12.15. 0		4073.90		92.00	1.9638	272.56	2.4355		
12.16. 0		4074.10		93.00	1.9685	272.36	2.4351		
12.17. 0		4074.32		94.00	1.9731	272.14	2.4348		
12.18. 0		4074.37		95.00	1.9777	272.09	2.4347		
12.19. 0		4074.48		96.00	1.9823	271.98	2.4345		
12.20. 0		4074.31		97.00	1.9868	272.15	2.4348		
12.21. 0		4074.53		98.00	1.9912	271.93	2.4345		
12.22. 0		4074.69		99.00	1.9956	271.77	2.4342		
12.23. 0		4074.70		100.00	2.0000	271.76	2.4342		
12.24. 0		4075.12	216.7	101.00	2.0043	271.34	2.4335		
12.25. 0		4075.22		102.00	2.0086	271.24	2.4334		
12.26. 0		4075.31		103.00	2.0128	271.15	2.4332		
12.27. 0		4075.41		104.00	2.0170	271.05	2.4330		
12.28. 0		4075.28		105.00	2.0212	271.18	2.4333		
12.29. 0		4075.33		106.00	2.0253	271.13	2.4332		
12.30. 0		4075.30		107.00	2.0294	271.16	2.4332		
12.31. 0		4075.77		108.00	2.0334	270.69	2.4325		
12.32. 0		4075.96		109.00	2.0374	270.50	2.4322		
12.33. 0		4076.22		110.00	2.0414	270.24	2.4317		
12.34. 0		4076.40		111.00	2.0453	270.06	2.4315		
12.35. 0		4076.54	216.7	112.00	2.0492	269.92	2.4312		
12.36. 0		4076.63		113.00	2.0531	269.83	2.4311		
12.37. 0		4076.75		114.00	2.0569	269.71	2.4309		
12.38. 0		4076.76		115.00	2.0607	269.70	2.4309		
12.39. 0		4077.23		116.00	2.0645	269.23	2.4301		
12.40. 0		4077.96		117.00	2.0682	268.50	2.4289		
12.41. 0		4078.82		118.00	2.0719	267.64	2.4276		
12.42. 0		4079.43		119.00	2.0755	267.03	2.4266		
12.43. 0		4079.79		120.00	2.0792	266.67	2.4260		
12.44. 0		4080.14	216.9	121.00	2.0828	266.32	2.4254		
12.45. 0		4080.42		122.00	2.0864	266.04	2.4249		
12.46. 0		4080.43		123.00	2.0899	266.03	2.4249		
12.47. 0		4080.59		124.00	2.0934	265.87	2.4247		
12.48. 0		4079.15		125.00	2.0969	267.31	2.4270		
12.49. 0		4077.69		126.00	2.1004	268.57	2.4291		

FLOPETROL  
PRESSURE & TEMPERATURE CALCULATIONS

SECTION 3  
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TIME HR. MIN. SS PRESS. PSIA TEMP. DEG. F DEL. T (MINUTES) LOG DEL. T LOG DEL. P DEL. P PSIA REMARKS DEL. T

12.50.0	4076.97		127.00	2.1038	269.49	2.4305
12.51.0	4076.40		128.00	2.1072	270.06	2.4315
12.52.0	4076.00		129.00	2.1106	270.46	2.4321
12.53.0	4075.34		130.00	2.1139	271.12	2.4332
12.54.0	4075.33	217.0	131.00	2.1173	271.13	2.4332
12.55.0	4075.40		132.00	2.1206	271.06	2.4331
12.56.0	4075.31		133.00	2.1239	271.15	2.4332
12.57.0	4075.36		134.00	2.1271	271.10	2.4331
12.58.0	4075.46		135.00	2.1303	271.00	2.4330
12.59.0	4075.29		136.00	2.1335	271.17	2.4332
13.0.0	4075.30		137.00	2.1367	271.16	2.4332
13.1.0	4075.33		138.00	2.1399	271.13	2.4332
13.2.0	4075.42		139.00	2.1430	271.04	2.4330
13.3.0	4075.25		140.00	2.1461	271.21	2.4333
13.4.0	4075.24	217.0	141.00	2.1492	271.22	2.4333
13.5.0	4075.26		142.00	2.1523	271.20	2.4333
13.6.0	4075.33		143.00	2.1553	271.13	2.4332
13.7.0	4075.64		144.00	2.1584	270.82	2.4327
13.8.0	4075.43		145.00	2.1614	271.03	2.4330
13.9.0	4075.53		146.00	2.1644	270.93	2.4329
13.10.0	4075.92		147.00	2.1673	270.54	2.4322
13.11.0	4075.68		148.00	2.1703	270.78	2.4326
13.12.0	4076.03		149.00	2.1732	270.43	2.4321
13.13.0	4075.94		150.00	2.1761	270.52	2.4322
13.14.0	4075.84	217.0	151.00	2.1790	270.62	2.4324
13.15.0	4076.02		152.00	2.1818	270.44	2.4321
13.20.0	4076.41		157.00	2.1959	270.05	2.4314
13.25.0	4076.03	217.2	162.00	2.2095	270.43	2.4321
13.30.0	4076.07		167.00	2.2227	270.39	2.4320
13.35.0	4076.68	217.2	172.00	2.2355	269.78	2.4310
13.40.0	4076.90		177.00	2.2480	269.56	2.4307
13.45.0	4077.22	217.2	182.00	2.2601	269.24	2.4301
13.50.0	4077.35		187.00	2.2718	269.11	2.4299
13.55.0	4077.43	217.2	192.00	2.2833	269.03	2.4298
14.0.0	4077.78		197.00	2.2945	268.68	2.4292
14.5.0	4077.65	217.2	202.00	2.3054	268.61	2.4291
14.10.0	4077.73		207.00	2.3160	268.73	2.4293
14.15.0	4077.65	217.4	212.00	2.3263	268.61	2.4294
14.20.0	4077.94		217.00	2.3365	268.52	2.4290
14.25.0	4078.34	217.4	222.00	2.3464	268.12	2.4283
14.30.0	4078.40		227.00	2.3560	268.06	2.4282
14.35.0	4078.59	217.4	232.00	2.3655	267.87	2.4279

PRESSURE & TEMPERATURE CALCULATIONS

TIME PRESS. TEMP. DEL.T (MINUTES) LOG DEL.T DEL.P PSIA LOG DEL.P-LOG T+DEL.T DEL.T REMARKS

HR. MN. SS	PSIA	TEMP. DEG.F	DEL.T (MINUTES)	LOG DEL.T	DEL.P PSIA	LOG DEL.P-LOG T+DEL.T	DEL.T	REMARKS
14.40.0	4079.13		237.00	2.3747	267.33		2.4270	
14.45.0	4079.78	217.6	242.00	2.3838	266.68		2.4260	
14.50.0	4079.53		247.00	2.3927	266.93		2.4264	
14.55.0	4079.92	217.6	252.00	2.4014	266.54		2.4258	
15.0.0	4079.82		257.00	2.4099	266.64		2.4259	
15.5.0	4079.50	217.6	262.00	2.4183	266.96		2.4264	40
15.10.0	4079.50		267.00	2.4265	266.96		2.4264	
15.15.0	4080.42	217.6	272.00	2.4346	266.04		2.4249	
15.20.0	4080.52		277.00	2.4425	265.94		2.4248	
15.25.0	4079.92	217.6	282.00	2.4502	266.54		2.4258	
15.30.0	4080.46		287.00	2.4579	266.00		2.4249	
15.35.0	4081.16	217.6	292.00	2.4654	265.30		2.4237	
15.40.0	4081.28		297.00	2.4728	265.18		2.4235	
15.45.0	4081.13	217.6	302.00	2.4800	265.33		2.4238	
15.50.0	4093.62		307.00	2.4871	252.84		2.4028	41
15.55.0	4103.43	217.6	312.00	2.4942	243.03		2.3857	
16.0.0	4105.56		317.00	2.5011	240.50		2.3811	
16.5.0	4106.29	217.8	322.00	2.5079	240.17		2.3805	
16.10.0	4107.01		327.00	2.5145	239.45		2.3792	
16.15.0	4107.73	217.8	332.00	2.5211	238.73		2.3779	
16.20.0	4107.56		337.00	2.5276	238.90		2.3782	
16.25.0	4107.90	217.9	342.00	2.5340	238.56		2.3776	
16.30.0	4107.84		347.00	2.5403	238.62		2.3777	
16.35.0	4108.17	217.9	352.00	2.5465	238.29		2.3771	42
16.40.0	4108.56		357.00	2.5527	237.88		2.3764	
16.45.0	4108.35	217.9	362.00	2.5587	238.11		2.3768	
16.50.0	4108.48		367.00	2.5647	237.98		2.3765	
16.55.0	4108.51	217.9	372.00	2.5705	237.95		2.3765	
17.0.0	4108.61		377.00	2.5763	237.85		2.3763	
17.5.0	4109.07	218.1	382.00	2.5821	237.39		2.3755	
17.10.0	4109.63		387.00	2.5877	236.83		2.3744	
17.15.0	4109.55	218.1	392.00	2.5933	236.91		2.3746	
17.20.0	4109.92		397.00	2.5988	236.54		2.3739	43
17.25.0	4109.82	218.1	402.00	2.6042	236.64		2.3741	
17.30.0	4109.98		407.00	2.6096	236.48		2.3738	
17.35.0	4109.84	218.1	412.00	2.6149	236.62		2.3741	
17.40.0	4110.15		417.00	2.6201	236.31		2.3735	
17.45.0	4110.53	218.1	422.00	2.6253	235.93		2.3728	
17.50.0	4110.82		427.00	2.6304	235.64		2.3722	
17.55.0	4110.27	218.1	432.00	2.6355	236.19		2.3733	
18.0.0	4108.21		437.00	2.6405	238.25		2.3770	
18.5.0	4108.06	218.1	442.00	2.6454	238.38		2.3773	44

FLOPETROL  
PRESSURE & TEMPERATURE CALCULATIONS

SECTION 3  
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TIME	HR. NN. SS	PRESS. PSIA	TEMP. DEG. F	DEL. T (MINUTES)	LOG DEL. T	DEL. P PSIA	LOG DEL. P	T+DEL. T DEL. T	REMARKS
18.10.0	0	4107.94		447.00	2.6503	238.52	2.3775		
18.15.0	0	4108.02	218.1	452.00	2.6551	238.44	2.3774		
18.20.0	0	4106.74		457.00	2.6599	239.72	2.3797		
18.25.0	0	4105.42	218.1	462.00	2.6646	241.04	2.3821		
18.30.0	0	4103.34		467.00	2.6693	243.12	2.3858		
18.35.0	0	4102.56	218.1	472.00	2.6739	243.50	2.3865		
18.40.0	0	4102.94		477.00	2.6785	243.52	2.3865		
18.45.0	0	4102.98	218.1	482.00	2.6830	243.48	2.3865		
18.50.0	0	4102.56		487.00	2.6875	243.50	2.3865		45
18.55.0	0	4103.13	216.1	492.00	2.6920	243.33	2.3862		
19.0.0	0	4103.09		497.00	2.6964	243.37	2.3863		
19.5.0	0	4103.25	218.1	502.00	2.7007	243.21	2.3860		
19.10.0	0	4103.26		507.00	2.7050	243.18	2.3859		
19.15.0	0	4103.21	218.3	512.00	2.7093	243.25	2.3861		
19.20.0	0	4103.00		517.00	2.7135	243.46	2.3864		
19.25.0	0	4103.13	218.3	522.00	2.7177	243.33	2.3862		
19.30.0	0	4103.21		527.00	2.7218	243.25	2.3861		
19.35.0	0	4103.09	218.3	532.00	2.7259	243.37	2.3863		46
19.40.0	0	4103.21		537.00	2.7300	243.25	2.3861		
19.45.0	0	4102.92	218.3	542.00	2.7340	243.54	2.3866		
19.50.0	0	4102.92		547.00	2.7380	243.54	2.3866		
19.55.0	0	4102.78	218.3	552.00	2.7419	243.68	2.3868		
20.0.0	0	4102.88		557.00	2.7459	243.58	2.3866		
20.5.0	0	4102.72	218.3	562.00	2.7497	243.74	2.3869		
20.10.0	0	4102.63		567.00	2.7536	243.83	2.3871		
20.15.0	0	4102.69	218.3	572.00	2.7574	243.77	2.3870		
20.20.0	0	4102.34		577.00	2.7612	244.12	2.3876		
20.25.0	0	4101.96	218.3	582.00	2.7649	244.50	2.3883		
20.30.0	0	4102.09		587.00	2.7686	244.37	2.3880		
20.35.0	0	4102.28	218.3	592.00	2.7723	244.18	2.3877		
20.40.0	0	4102.20		597.00	2.7760	244.26	2.3879		
20.45.0	0	4102.14	218.3	602.00	2.7796	244.32	2.3880		
20.50.0	0	4102.22		607.00	2.7832	244.24	2.3878		
20.55.0	0	4102.28	218.3	612.00	2.7868	244.18	2.3877		
21.0.0	0	4102.36		617.00	2.7903	244.10	2.3876		
21.5.0	0	4102.26	218.3	622.00	2.7938	244.20	2.3877		
21.10.0	0	4102.26		627.00	2.7973	244.20	2.3877		
21.15.0	0	4102.30	216.3	632.00	2.8007	244.16	2.3877		
21.20.0	0	4102.20		637.00	2.8041	244.26	2.3879		
21.25.0	0	4102.11	218.3	642.00	2.8075	244.35	2.3880		
21.30.0	0	4102.03		647.00	2.8109	244.43	2.3882		
21.35.0	0	4101.96	218.3	652.00	2.8142	244.50	2.3883		

FLOPETROL

PRESSURE & TEMPERATURE CALCULATIONS

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TIME HR. MIN. SS PRESS. PSIA TEMP. DEG. F DEL. T (MINUTES) LOG DEL. T LOG DEL. P DEL. P PSIA LOG DEL. T DEL. T REMARKS

21.40.	0	4101.73		657.00	2.8176	244.73	2.3887		
21.45.	0	4101.74	218.5	662.00	2.8209	244.72	2.3887		
21.50.	0	4101.68		667.00	2.8241	244.78	2.3888		
21.55.	0	4101.66	218.5	672.00	2.8274	244.80	2.3888		45
22. 0.	0	4101.59		677.00	2.8306	245.07	2.3893		
22. 5.	0	4101.22	218.5	682.00	2.8338	245.24	2.3896		
22.10.	0	4100.96		687.00	2.8370	245.50	2.3901		
22.15.	0	4100.63	218.5	692.00	2.8401	245.63	2.3903		
22.20.	0	4107.31		697.00	2.8432	239.15	2.3787		
22.25.	0	4107.58	218.5	702.00	2.8463	238.88	2.3782		
22.30.	0	4107.66		707.00	2.8494	238.78	2.3780		
22.35.	0	4107.73	218.5	712.00	2.8525	238.73	2.3779		
22.40.	0	4107.77		717.00	2.8555	238.69	2.3778		50
22.45.	0	4106.51	218.5	722.00	2.8585	237.95	2.3765		
22.50.	0	4108.88		727.00	2.8615	237.58	2.3758		
22.55.	0	4109.02	218.5	732.00	2.8645	237.44	2.3756		
23. 0.	0	4109.22		737.00	2.8675	237.24	2.3752		
23. 5.	0	4109.35	218.7	742.00	2.8704	237.11	2.3749		
23.10.	0	4109.19		747.00	2.8733	237.27	2.3752		
23.15.	0	4109.19	218.7	752.00	2.8762	237.27	2.3752		
23.20.	0	4109.02		757.00	2.8791	237.44	2.3756		
23.25.	0	4109.09	218.7	762.00	2.8820	237.37	2.3754		51
23.30.	0	4109.44		767.00	2.8848	237.02	2.3748		
23.35.	0	4109.62	218.7	772.00	2.8876	236.84	2.3745		
23.40.	0	4109.74		777.00	2.8904	236.72	2.3742		
23.45.	0	4110.03	218.7	782.00	2.8932	236.43	2.3737		
23.46.	0	4110.10		783.00	2.8938	236.36	2.3736		
23.47.	0	4110.07		784.00	2.8943	236.39	2.3736		
23.48.	0	4110.08		785.00	2.8949	236.38	2.3736		
23.49.	0	4113.69		786.00	2.8954	232.77	2.3669		
23.50.	0	4116.31		787.00	2.8960	230.15	2.3620		
23.51.	0	4116.43		788.00	2.8965	230.03	2.3618		
23.52.	0	4116.45		789.00	2.8971	230.01	2.3617		
23.53.	0	4116.64		790.00	2.8976	229.82	2.3614		
23.54.	0	4116.84	218.7	791.00	2.8982	229.62	2.3610		
23.55.	0	4116.88		792.00	2.8987	229.58	2.3609		SHUT IN TIME 0. 1. 0
23.56.	0	4125.18		793.00	2.8993	221.28	2.3449		
23.57.	0	4126.65		794.00	2.8998	219.61	2.3417		FLOWING PRES. 4126.57
23.58.	0	4127.03		795.00	2.9004	219.43	2.3413		
23.59.	0	4126.98		796.00	2.9009	219.48	2.3414		
24. 0.	0	4126.57		797.00	2.9015	219.89	2.3422		
0. 1. 0				0.00					FLOW TIME T 02/12 - 1981 [HOURS]



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PRESSURE & TEMPERATURE CALCULATIONS

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REMARKS

TIME	IN. H <sub>2</sub> O	TEMP. DEG. F	DEL. T (MINUTES)	LOG DEL. T	DEL. P FSIA	LOG DEL. P	LOG T+DEL. T	DEL. T
0. 2. 0	4246.93		1.00	-0.0000	120.36	2.0805	2.9090	
0. 3. 0	4265.07		2.00	0.3010	158.50	2.2000	2.6085	
0. 4. 0	4314.95		3.00	0.4771	188.38	2.2750	2.4330	
0. 5. 0	4337.69	218.7	4.00	0.6021	211.12	2.3245	2.3086	
0. 6. 0	4340.69		5.00	0.6990	214.12	2.3307	2.2122	
0. 7. 0	4340.82		6.00	0.7782	214.25	2.3309	2.1335	
0. 8. 0	4340.85		7.00	0.8451	214.28	2.3310	2.0671	
0. 9. 0	4340.90		8.00	0.9031	214.33	2.3311	2.0097	
0.10. 0	4340.95		9.00	0.9542	214.38	2.3312	1.9590	
0.11. 0	4340.98		10.00	1.0000	214.41	2.3312	1.9138	
0.12. 0	4341.00		11.00	1.0414	214.43	2.3313	1.8730	
0.13. 0	4341.03		12.00	1.0792	214.46	2.3313	1.8357	
0.14. 0	4341.06	219.2	13.00	1.1139	214.49	2.3314	1.8015	
0.15. 0	4341.09		14.00	1.1461	214.52	2.3315	1.7698	
0.16. 0	4341.11		15.00	1.1761	214.54	2.3315	1.7404	
0.17. 0	4341.12		16.00	1.2041	214.55	2.3315	1.7129	
0.18. 0	4341.14		17.00	1.2304	214.57	2.3316	1.6871	
0.19. 0	4341.16		18.00	1.2553	214.59	2.3316	1.6628	
0.20. 0	4341.19		19.00	1.2788	214.62	2.3317	1.6398	
0.21. 0	4341.23		20.00	1.3010	214.66	2.3318	1.6180	
0.22. 0	4341.26		21.00	1.3222	214.69	2.3318	1.5974	
0.23. 0	4341.30		22.00	1.3424	214.73	2.3319	1.5777	
0.24. 0	4341.32	219.4	23.00	1.3617	214.75	2.3319	1.5589	
0.25. 0	4341.35		24.00	1.3802	214.78	2.3320	1.5410	
0.26. 0	4341.36		25.00	1.3979	214.79	2.3320	1.5237	
0.27. 0	4341.39		26.00	1.4150	214.82	2.3321	1.5072	
0.28. 0	4341.41		27.00	1.4314	214.84	2.3321	1.4914	
0.29. 0	4341.42		28.00	1.4472	214.85	2.3321	1.4761	
0.30. 0	4341.47		29.00	1.4624	214.90	2.3322	1.4614	
0.31. 0	4341.50		30.00	1.4771	214.93	2.3323	1.4472	
0.32. 0	4341.51		31.00	1.4914	214.94	2.3323	1.4334	
0.33. 0	4341.53		32.00	1.5051	214.96	2.3324	1.4202	
0.34. 0	4341.56	219.6	33.00	1.5185	214.99	2.3324	1.4073	
0.35. 0	4341.57		34.00	1.5315	215.00	2.3324	1.3949	
0.36. 0	4341.58		35.00	1.5441	215.01	2.3325	1.3828	
0.37. 0	4341.59		36.00	1.5563	215.02	2.3325	1.3711	
0.38. 0	4341.59		37.00	1.5682	215.02	2.3325	1.3597	
0.39. 0	4341.60		38.00	1.5798	215.03	2.3325	1.3486	
0.40. 0	4341.61		39.00	1.5911	215.04	2.3325	1.3378	
0.50. 0	4341.92	219.4	49.00	1.6902	215.35	2.3331	1.2438	
1. 0. 0	4341.97	219.4	59.00	1.7709	215.40	2.3332	1.1682	
1.10. 0	4342.05	219.2	69.00	1.8388	215.48	2.3334	1.1051	

PRESSURE & TEMPERATURE CALCULATIONS

TIME HR.MN.SS	PRESS. PSIA	TEMP. DEG.F	DEL.T (MINUTES)	LOG DEL.T	DEL.P PSIA	LOG DEL.P	LOG T+DEL.T DEL.T	REMARKS
1.20.0	4342.12	219.2	79.00	1.8976	215.55	2.3335	1.0513	
1.30.0	4342.15	219.0	89.00	1.9494	215.58	2.3336	1.0044	
1.40.0	4342.17	218.8	99.00	1.9956	215.60	2.3336	0.9629	54
1.50.0	4342.18	218.7	109.00	2.0374	215.61	2.3337	0.9259	
2.0.0	4342.25	218.5	119.00	2.0755	215.68	2.3338	0.8925	
2.10.0	4342.27	218.5	129.00	2.1106	215.70	2.3339	0.8621	
2.20.0	4342.25	218.3	139.00	2.1430	215.68	2.3338	0.8343	
2.30.0	4342.34	218.1	149.00	2.1732	215.77	2.3340	0.8086	55
2.40.0	4342.37	218.1	159.00	2.2014	215.80	2.3341	0.7849	
2.50.0	4342.36	218.1	169.00	2.2279	215.79	2.3340	0.7629	
3.0.0	4342.38	217.9	179.00	2.2529	215.81	2.3341	0.7423	
3.10.0	4342.43	217.8	189.00	2.2765	215.86	2.3342	0.7231	56
3.20.0	4342.48	217.8	199.00	2.2989	215.91	2.3343	0.7050	
3.30.0	4342.48	217.8	209.00	2.3201	215.91	2.3343	0.6880	
3.40.0	4342.51	217.8	219.00	2.3404	215.94	2.3343	0.6720	
3.50.0	4342.54	217.6	229.00	2.3598	215.97	2.3344	0.6568	57
4.0.0	4342.55	217.6	239.00	2.3784	215.98	2.3344	0.6424	
4.10.0	4342.58	217.6	249.00	2.3962	216.01	2.3345	0.6287	
4.20.0	4342.57	217.6	259.00	2.4133	216.00	2.3345	0.6157	
4.30.0	4342.59	217.4	269.00	2.4298	216.02	2.3345	0.6033	
4.40.0	4342.63	217.4	279.00	2.4456	216.06	2.3346	0.5914	58
4.50.0	4342.62	217.4	289.00	2.4609	216.05	2.3346	0.5801	
5.0.0	4342.65	217.2	299.00	2.4757	216.08	2.3346	0.5693	
5.10.0	4342.69	217.2	309.00	2.4900	216.12	2.3347	0.5589	
5.20.0	4342.70	217.2	319.00	2.5038	216.13	2.3347	0.5489	
5.30.0	4342.69	217.2	329.00	2.5172	216.12	2.3347	0.5393	
5.40.0	4342.73	217.2	339.00	2.5302	216.16	2.3348	0.5301	59
5.50.0	4342.76	217.2	349.00	2.5428	216.19	2.3348	0.5213	
6.0.0	4342.74	217.2	359.00	2.5551	216.17	2.3348	0.5127	
6.10.0	4342.74	217.0	369.00	2.5670	216.17	2.3348	0.5045	60
6.20.0	4342.78	217.0	379.00	2.5786	216.21	2.3349	0.4965	
6.30.0	4342.82	217.0	389.00	2.5899	216.25	2.3350	0.4889	
6.40.0	4342.79	217.0	399.00	2.6010	216.22	2.3349	0.4815	
6.50.0	4342.80	217.0	409.00	2.6117	216.23	2.3349	0.4743	
7.0.0	4342.82	217.0	419.00	2.6222	216.25	2.3350	0.4673	61
7.10.0	4342.86	217.0	429.00	2.6325	216.29	2.3350	0.4606	
7.20.0	4342.88	217.0	439.00	2.6425	216.31	2.3351	0.4541	
7.30.0	4342.85	217.0	449.00	2.6522	216.28	2.3350	0.4478	
7.40.0	4342.84	216.9	459.00	2.6618	216.27	2.3350	0.4416	
7.50.0	4342.86	216.9	469.00	2.6712	216.29	2.3350	0.4357	62
8.0.0	4342.89	216.9	479.00	2.6803	216.32	2.3351	0.4299	
8.10.0	4342.89	216.9	489.00	2.6893	216.32	2.3351	0.4243	

FLC PETROL

PRESSURE & TEMPERATURE CALCULATIONS

TIME	IR.P.N.SS	PRESS. PSIA	TEMP. DEG.F	DEL.T (MINUTES)	LOG DEL.T	DEL.P PSIA	LOG DEL.P	LOG T-DEL.T	DEL.T	REMARKS
8.20.0	0	4342.91	216.9	499.00	2.6981	216.34	2.3351	0.4188	63	
8.30.0	0	4342.93	216.9	509.00	2.7067	216.36	2.3352	0.4135		
8.40.0	0	4342.95	216.9	519.00	2.7152	216.38	2.3352	0.4084		
8.50.0	0	4342.92	216.9	529.00	2.7235	216.35	2.3352	0.4033		
9.0.0	0	4342.91	216.7	539.00	2.7316	216.34	2.3351	0.3984		
9.10.0	0	4342.93	216.7	549.00	2.7396	216.36	2.3352	0.3936		
9.20.0	0	4342.95	216.7	559.00	2.7474	216.38	2.3352	0.3890	64	
9.30.0	0	4342.97	216.7	569.00	2.7551	216.40	2.3353	0.3845		
9.40.0	0	4342.97	216.7	579.00	2.7627	216.40	2.3353	0.3800		
9.50.0	0	4342.99	216.7	589.00	2.7701	216.42	2.3353	0.3757		
10.0.0	0	4342.99	216.7	599.00	2.7774	216.42	2.3353	0.3715	65	
10.10.0	0	4343.03	216.7	609.00	2.7846	216.46	2.3354	0.3674		
10.20.0	0	4343.03	216.7	619.00	2.7917	216.46	2.3354	0.3633		
10.30.0	0	4342.98	216.7	629.00	2.7987	216.41	2.3353	0.3594		
10.40.0	0	4342.97	216.7	639.00	2.8055	216.40	2.3353	0.3556		
10.50.0	0	4342.99	216.7	649.00	2.8122	216.42	2.3353	0.3518	66	
11.0.0	0	4342.99	216.7	659.00	2.8189	216.42	2.3353	0.3481		
11.10.0	0	4343.01	216.7	669.00	2.8254	216.44	2.3353	0.3445		
11.20.0	0	4343.03	216.7	679.00	2.8319	216.46	2.3354	0.3410		
11.30.0	0	4343.03	216.7	689.00	2.8382	216.46	2.3354	0.3376	67	
11.40.0	0	4343.05	216.7	699.00	2.8445	216.48	2.3354	0.3342		
11.50.0	0	4343.05	216.7	709.00	2.8506	216.48	2.3354	0.3309		
12.0.0	0	4343.05	216.7	719.00	2.8567	216.48	2.3354	0.3277		
12.10.0	0	4343.07	216.7	729.00	2.8627	216.50	2.3355	0.3245		
12.20.0	0	4343.07	216.7	739.00	2.8686	216.50	2.3355	0.3214	68	
12.30.0	0	4343.09	216.7	749.00	2.8745	216.52	2.3355	0.3184		
12.40.0	0	4343.09	216.7	759.00	2.8802	216.52	2.3355	0.3154		
12.50.0	0	4343.11	216.7	769.00	2.8859	216.54	2.3355	0.3125		
13.0.0	0	4343.11	216.7	779.00	2.8915	216.54	2.3355	0.3096	69	
13.10.0	0	4343.11	216.7	789.00	2.8971	216.54	2.3355	0.3068		
13.20.0	0	4343.08	216.7	799.00	2.9025	216.51	2.3355	0.3040		
13.30.0	0	4343.09	216.5	809.00	2.9079	216.52	2.3355	0.3013		
13.40.0	0	4343.08	216.7	819.00	2.9133	216.51	2.3355	0.2986	70	
13.50.0	0	4343.07	216.5	829.00	2.9186	216.50	2.3355	0.2960		
14.0.0	0	4343.07	216.5	839.00	2.9238	216.50	2.3355	0.2935		
14.10.0	0	4343.08	216.5	849.00	2.9289	216.51	2.3355	0.2909		
14.20.0	0	4343.08	216.5	859.00	2.9340	216.51	2.3355	0.2885		
14.30.0	0	4343.08	216.5	869.00	2.9390	216.51	2.3355	0.2860	71	
14.40.0	0	4343.08	216.5	879.00	2.9440	216.51	2.3355	0.2836		
14.41.0	0	4343.08		880.00	2.9445	216.51	2.3355	0.2834		
14.42.0	0	4343.10		881.00	2.9450	216.53	2.3355	0.2832		
14.43.0	0	4343.08		882.00	2.9455	216.51	2.3355	0.2829		

FLOPETROL  
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REMARKS

TIME HR. MIN. SS PRESS. PSIA TEMP. DEG. F DEL. T. (MINUTES) LOG DEL. T. LOG DEL. P. PSIA LOG DEL. P. LOG T+DEL. T. DEL. T.

14.44.	0	4343.08	216.5	883.00	2.9460	216.51	2.3355	0.2827
14.45.	0	4343.10		884.00	2.9465	216.53	2.3355	0.2825
14.46.	0	4343.10		885.00	2.9469	216.53	2.3355	0.2822
14.47.	0	4343.10		886.00	2.9474	216.53	2.3355	0.2820
14.48.	0	4343.08		887.00	2.9479	216.51	2.3355	0.2818
14.49.	0	4343.08		888.00	2.9484	216.51	2.3355	0.2815
14.50.	0	4343.08		889.00	2.9489	216.51	2.3355	0.2813
14.51.	0	4343.10		890.00	2.9494	216.53	2.3355	0.2811
14.52.	0	4343.10		891.00	2.9499	216.53	2.3355	0.2808
14.53.	0	4343.10		892.00	2.9504	216.53	2.3355	0.2806
14.54.	0	4343.10	216.5	893.00	2.9509	216.53	2.3355	0.2804
14.55.	0	4343.10		894.00	2.9513	216.53	2.3355	0.2801
14.56.	0	4343.10		895.00	2.9518	216.53	2.3355	0.2799
14.57.	0	4343.10		896.00	2.9523	216.53	2.3355	0.2797
14.58.	0	4343.08		897.00	2.9528	216.51	2.3355	0.2794
14.59.	0	4343.08		898.00	2.9533	216.51	2.3355	0.2792
15. 0.	0	4343.08		899.00	2.9538	216.51	2.3355	0.2790
15. 1.	0	4343.10		900.00	2.9542	216.53	2.3355	0.2788
15. 2.	0	4343.10		901.00	2.9547	216.53	2.3355	0.2785
15. 3.	0	4343.08		902.00	2.9552	216.51	2.3355	0.2783
15. 4.	0	4343.10	216.5	903.00	2.9557	216.53	2.3355	0.2781
15. 5.	0	4343.10		904.00	2.9562	216.53	2.3355	0.2778
15. 6.	0	4343.10		905.00	2.9566	216.53	2.3355	0.2776
15. 7.	0	4343.10		906.00	2.9571	216.53	2.3355	0.2774
15. 8.	0	4343.08		907.00	2.9576	216.51	2.3355	0.2772
15. 9.	0	4343.10		908.00	2.9581	216.53	2.3355	0.2769
15.10.	0	4343.10		909.00	2.9586	216.53	2.3355	0.2767
15.11.	0	4343.10		910.00	2.9590	216.53	2.3355	0.2765
15.12.	0	4343.08		911.00	2.9595	216.51	2.3355	0.2763
15.13.	0	4343.10		912.00	2.9600	216.53	2.3355	0.2760
15.14.	0	4343.10	216.5	913.00	2.9605	216.53	2.3355	0.2758
15.15.	0	4343.12		914.00	2.9609	216.55	2.3356	0.2756
15.16.	0	4343.08		915.00	2.9614	216.51	2.3355	0.2754
15.17.	0	4343.06		916.00	2.9619	216.51	2.3355	0.2751
15.18.	0	4343.08		917.00	2.9624	216.51	2.3355	0.2749
15.19.	0	4343.07		918.00	2.9628	216.50	2.3355	0.2747
15.20.	0	4343.07		919.00	2.9633	216.50	2.3355	0.2745
15.21.	0	4343.07		920.00	2.9638	216.50	2.3355	0.2743
15.22.	0	4343.07		921.00	2.9643	216.50	2.3355	0.2740
15.23.	0	4343.08		922.00	2.9647	216.51	2.3355	0.2738
15.24.	0	4343.08	216.5	923.00	2.9652	216.51	2.3355	0.2736
15.25.	0	4343.08		924.00	2.9657	216.51	2.3355	0.2734

FLOPETROL

PRESSURE & TEMPERATURE CALCULATIONS

SECTION 3  
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REMARKS

TIME	IR. FN. SS	PRESS. PSIA	TEMP. DEG. F	DEL. T (MINUTES)	LOG DEL. T	DEL. P PSIA	LOG DEL. P	LOG T+DEL. T	DEL. T
15.26.	0	4343.07		925.00	2.9661	216.50	2.3355	0.2732	0.2732
15.27.	0	4343.10		926.00	2.9666	216.53	2.3355	0.2729	0.2729
15.28.	0	4343.07		927.00	2.9671	216.50	2.3355	0.2727	0.2727
15.29.	0	4343.07		928.00	2.9675	216.50	2.3355	0.2725	0.2725
15.30.	0	4343.07		929.00	2.9680	216.50	2.3355	0.2723	0.2723
15.31.	0	4343.08		930.00	2.9685	216.51	2.3355	0.2721	0.2721
15.32.	0	4343.08		931.00	2.9689	216.51	2.3355	0.2718	0.2718
15.33.	0	4343.07		932.00	2.9694	216.50	2.3355	0.2716	0.2716
15.34.	0	4343.08	216.5	933.00	2.9699	216.51	2.3355	0.2714	0.2714
15.35.	0	4343.08		934.00	2.9703	216.51	2.3355	0.2712	0.2712
15.36.	0	4343.08		935.00	2.9708	216.51	2.3355	0.2710	0.2710
15.37.	0	4343.07		936.00	2.9713	216.50	2.3355	0.2708	0.2708
15.38.	0	4343.08		937.00	2.9717	216.51	2.3355	0.2706	0.2706
15.39.	0	4343.08		938.00	2.9722	216.51	2.3355	0.2703	0.2703
15.40.	0	4343.08		939.00	2.9727	216.51	2.3355	0.2701	0.2701
15.41.	0	4343.08		940.00	2.9731	216.51	2.3355	0.2699	0.2699
15.42.	0	4343.08		941.00	2.9736	216.51	2.3355	0.2697	0.2697
15.43.	0	4343.08		942.00	2.9741	216.51	2.3355	0.2695	0.2695
15.44.	0	4343.08	216.5	943.00	2.9745	216.51	2.3355	0.2693	0.2693
15.45.	0	4343.08		944.00	2.9750	216.51	2.3355	0.2691	0.2691
15.46.	0	4343.08		945.00	2.9754	216.51	2.3355	0.2688	0.2688
15.47.	0	4343.05		946.00	2.9759	216.48	2.3354	0.2686	0.2686
15.48.	0	4343.03		947.00	2.9763	216.46	2.3354	0.2684	0.2684
15.49.	0	4343.10		948.00	2.9768	216.53	2.3355	0.2682	0.2682
15.50.	0	4343.10		949.00	2.9773	216.53	2.3355	0.2680	0.2680
15.51.	0	4343.05		950.00	2.9777	216.48	2.3354	0.2678	0.2678
15.52.	0	4343.03		951.00	2.9782	216.46	2.3354	0.2676	0.2676
15.53.	0	4343.05		952.00	2.9786	216.48	2.3354	0.2674	0.2674
15.54.	0	4343.05	216.5	953.00	2.9791	216.48	2.3354	0.2672	0.2672
15.55.	0	4343.08		954.00	2.9795	216.51	2.3355	0.2670	0.2670
15.56.	0	4343.12		955.00	2.9800	216.55	2.3356	0.2667	0.2667
15.57.	0	4343.12		956.00	2.9805	216.55	2.3356	0.2665	0.2665
15.58.	0	4343.10		957.00	2.9809	216.53	2.3355	0.2663	0.2663
15.59.	0	4343.12		958.00	2.9814	216.55	2.3356	0.2661	0.2661
16.0.	0	4343.12		959.00	2.9818	216.55	2.3356	0.2659	0.2659
16.1.	0	4343.14		960.00	2.9823	216.57	2.3356	0.2657	0.2657
16.2.	0	4343.12		961.00	2.9827	216.55	2.3356	0.2655	0.2655
16.3.	0	4343.12		962.00	2.9832	216.55	2.3356	0.2653	0.2653
16.4.	0	4343.12	216.5	963.00	2.9836	216.55	2.3356	0.2651	0.2651
16.5.	0	4343.16		964.00	2.9841	216.59	2.3356	0.2649	0.2649
16.6.	0	4343.14		965.00	2.9845	216.57	2.3356	0.2647	0.2647
16.7.	0	4343.12		966.00	2.9850	216.55	2.3356	0.2645	0.2645

FLUETROL  
PRESSURE & TEMPERATURE CALCULATIONS

TIME	PRESS. PSIA	TEMP. DEG.F	DEL.T (MINUTES)	LOG DEL.T	DEL.P PSIA	LOG DEL.P	LOG T+DEL.T	DEL.T	REMARKS
10.00	4343.14		567.00	2.5654	216.57	2.3356		0.2643	75
10.05	4343.14		568.00	2.5655	216.57	2.3356		0.2641	
10.10	4343.12		569.00	2.5663	216.55	2.3356		0.2639	
10.11	4343.10		570.00	2.5668	216.55	2.3356		0.2636	End of build up Start bullheading

FLCETROL  
PRESSURE & TEMPERATURE CALCULATIONS

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TIME --- PRESS. --- TEMP. --- DEL.T --- LOG DEL.T --- DEL.P --- LOG DEL.P --- LOG T+DEL.T --- REMARKS ---  
 HK.NIN.SS --- PSIA --- DEG.F --- (MINUTES) --- PSIA --- DEL.T ---

16.12.	0	4359.04								
16.13.	0	4485.67								
16.14.	0	5346.86	216.5							
16.15.	0	6189.50								
16.16.	0	6365.09								
16.17.	0	6518.05								
16.18.	0	6367.07								
16.19.	0	6355.54								
16.20.	0	6754.37								
16.21.	0	6583.66								
16.22.	0	6855.59								
16.23.	0	7001.45								
16.24.	0	7047.81	217.0							
16.25.	0	6820.46								
16.26.	0	6658.12								
16.27.	0	7028.35								
16.28.	0	7209.18								
16.29.	0	7208.72								
16.30.	0	7055.26								
16.31.	0	6840.42								
16.32.	0	6848.65								
16.33.	0	7203.12								
16.34.	0	7406.61	217.2							
16.35.	0	7561.66								
16.36.	0	7637.07								
16.37.	0	7675.63								
16.38.	0	7451.35								
16.39.	0	7098.24								
16.40.	0	7177.60								
16.41.	0	7504.83								
16.42.	0	7600.94								
16.43.	0	7739.26								
16.44.	0	7517.47	217.0							
16.45.	0	7973.57								
16.46.	0	7884.66								
16.47.	0	7613.35								
16.48.	0	7430.76								
16.49.	0	7300.94								
16.50.	0	7242.85								
16.51.	0	7799.52								
16.52.	0	6034.19								
16.53.	0	6047.70								



FLOPETROL

PRESSURE & TEMPERATURE CALCULATIONS

SECTION 3  
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TIME HR. MIN. SS PRESS. PSIA TEMP. DEG. F DEL. T. (MINUTES) LOG DEL. T. PSIA DEL. P LOG DEL. P LOG T-H DEL. T DEL. T. REMARKS

16.54.	0	8147.72	216.5											
16.55.	0	7798.36												
16.56.	0	7953.84												
16.57.	0	8265.90												
16.58.	0	8232.62												
16.59.	0	8096.36												
17. 0.	0	7872.38												
17. 1.	0	7808.72												
17. 2.	0	7818.41												
17. 3.	0	7863.42												
17. 4.	0	7836.72	215.8											
17. 5.	0	7852.03												
17. 6.	0	7507.43												
17. 7.	0	7444.91												
17. 8.	0	7010.04												
17. 9.	0	6746.45												
17.10.	0	6764.36												
17.11.	0	6573.01												
17.12.	0	6505.07												
17.13.	0	6324.19												
17.14.	0	5034.58	212.7											
17.15.	0	4569.58												
17.16.	0	4991.32												
17.17.	0	4991.41												
17.18.	0	4966.40												
17.19.	0	4979.62												
17.20.	0	4565.39												
17.21.	0	4959.65												
17.22.	0	4949.22												
17.23.	0	4949.00												
17.24.	0	4945.02	205.7											
17.25.	0	4936.29												
17.26.	0	4956.47												
17.27.	0	5002.83												
17.28.	0	4992.39												
17.29.	0	4966.05												
17.30.	0	4945.13												
17.40.	0	4841.95	201.4											
17.50.	0	4764.86	199.2											
18. 0.	0	4741.06	198.5											
18.10.	0	4707.08	198.5											
18.20.	0	4682.60	196.9											

FLOPETROL  
PRESSURE & TEMPERATURE CALCULATIONS

SECTION 3  
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TIME	PRESS.	TEMP.	DEL.T.	LOG DEL.T.	DEL.P	LOG DEL.P	LOG T+DEL.T	DEL.T	REMARKS
HR.MN.SS	PSIA	DEG.F	(MINUTES)		PSIA			DEL.T	
18.30.0	4662.61	199.6							
18.40.0	4647.43	200.3							
18.50.0	4629.71	201.0							
19.0.0	4613.92	201.9							
19.10.0	4601.16	202.8							77
19.20.0	4591.63	203.7							
19.30.0	4581.20	204.4							
19.40.0	4570.99	205.0							
19.50.0	4567.57	205.7							78
20.0.0	4558.87	206.1							
20.10.0	4550.37	206.6							
20.20.0	4543.68	207.0							
20.30.0	4539.46	207.3							
20.40.0	4534.07	207.7							79
20.50.0	4529.07	208.0							
21.0.0	4523.37	208.4							
21.10.0	4518.76	208.6							
21.20.0	4515.92	208.8							80
21.30.0	4512.53	209.1							
21.40.0	4509.30	209.3							
21.50.0	5016.44	209.5							
22.0.0	5071.77	209.8							
22.10.0	5026.48	210.2							81
22.20.0	5032.34	210.6							
22.30.0	5033.04	210.9							
22.40.0	5028.91	211.1							
22.50.0	5027.27	211.1							82
23.0.0	5036.18	211.5							
23.10.0	5012.38	211.5							
23.20.0	4909.09	211.6							
23.30.0	4980.08	211.5							
23.40.0	4840.95	210.0							83
23.50.0	4861.13	204.6							
24.0.0	4859.59	194.5							
0.10.0	4846.31	183.9							
0.20.0	4839.12	175.8							
0.30.0	4810.69	170.4							84
0.40.0	4843.57	167.0							
0.50.0	4817.63	165.0							
1.0.0	4734.85	163.6							
1.10.0	4625.45	162.9							85
1.20.0	4437.89	162.0							

FLOPETROL  
 PRESSURE & TEMPERATURE CALCULATIONS

SECTION 3  
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TIME	HR.	MIN.	SS	PRESS.	TEMP.	DEL.T	LOG DEL.T	DEL.P	LOG DEL.P	LOG T+DEL.T	DEL.T	REMARKS
				PSIA	DEG.F	(MINUTES)		PSIA				
1.30	0			4475.24	161.1							
1.40	0			4483.47	159.8							
1.50	0			4538.60	158.7							
2.00	0			4410.73	158.2							86
2.10	0			4311.99	157.6							
2.20	0			4111.74	156.7							
2.30	0			3900.02	154.9							
2.40	0			3795.80	153.1							87
2.50	0			3682.48	151.5							
3.00	0			3456.19	150.1							
3.10	0			3250.75	148.1							
3.20	0			3046.72	145.6							
3.30	0			2777.61	142.9							
3.40	0			2493.96	139.5							88
3.50	0			2253.48	135.1							
4.00	0			2030.63	130.6							
4.10	0			1803.05	125.8							
4.20	0			1593.22	120.7							89
4.30	0			1379.74	116.4							
4.40	0			1223.51	111.9							
4.50	0			1008.74	107.8							
5.00	0			822.36	103.5							90
5.10	0			662.64	99.0							
5.20	0			662.24	94.8							
5.30	0			610.69	91.0							
5.40	0			503.26	88.2							91
5.50	0			502.21	85.6							
6.00	0			501.63	83.5							
6.10	0			484.34	81.7							
6.20	0			432.37	80.2							
6.30	0			276.70	79.2							92
6.40	0			166.80	77.7							
6.50	0			107.71	74.8							
7.00	0			87.68	70.2							
7.10	0			43.56	65.3							93
7.20	0			42.21	61.7							
7.30	0			38.41	60.3							
7.40	0			32.60	59.9							
7.50	0			26.68	60.1							
8.00	0			23.62	60.8							94
8.10	0			24.03	61.7							
8.20	0			16.94	62.4							

FLOPETROL

PRESSURE & TEMPERATURE CALCULATIONS

SECTION 3

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TIME	PRESS.	TEMP.	DEL.T.	LOG DEL.T.	DEL.P	LOG DEL.P	LOG T-DEL.T	REMARKS
HR.MN.SS	PSIA	DEG.F	(MINUTES)		PSIA		DEL.T	

8.30.0	16.55	63.3						
8.40.0	15.66	64.0						
		64.6						

## - SEQUENCE OF EVENTS - DST No. 1

DATE	TIME	OPERATION
		Perforation at 2797 - 2807m
30.11.81	04.00	Start to prepare tools for test
	11.41	Battery connected S.S.D.R. 81048
	11.44	Battery connected S.S.D.R. 81049
	12.01	S.S.D.R. 81049 set in tail pipe with DST hanging kit
	12.13	S.S.D.R. 81048 set in X-N nipple in tail pipe
	12.32	Start to Rr.I.H with tools
01.12.81	09.10	On depth 81048-2774.11 m 81049-2783.73 m. Set packer
	09.38	Open APR-N tester valve for initial flow.
	09.40	Close APR-N tester valve for initial build up.
	10.41	Open APR-N tester valve for final flow
	10.42	Through choke 32/64" adj.
	10.45	Increase choke to 40/64" adj.
	11.26	Switch over to fixed choke 42/64"
	13.00	Through separator
02.12.81	00.00	Close choke manifold and APR-N tester valve for final built up.
	14.57	Bleed of tubing through 24/64" choke.
	15.09	Increase choke to 42/64"
	16.12	Start bullheading
	17.27	Released packer and start to P.O.O.H.
03.12.81	08.30	Tools on surface

