FLOPETROL JOHNSTON
Schlumberger

FLOPETROL INTERNATIONAL S.A.

GAMLE FORUSVEI 49,
P.O. BOX 55
4033 FORUS
NORWAY

TEL.: (04) 57 63 55
or: (04) 57 63 68
TELEX: 33 286 FLOTL N

CONOCO NORWAY INC
P.O. Box 488

4001 STAVANGER

Attn.: Kurt Tomas

CC: E. Myles

Your ref.: Our ref.: NWB/APH/1798 Date: 30.12.83

Subject : Well Testing Report
Well : 7/8-3
Report No. : 83/2301/41
Field : BLOCK 7/8
Zone : JURASSIC SAND

On behalf of Flopetrol Int. S.A. we enclose the original plus 20 copies of the report.

Should you require further copies or have any queries please do not hesitate to contact us.

We would be grateful if you could sign and return the enclosed copy of this letter as confirmation of receipt of the report.

Yours faithfully
FLOPETROL INT. S.A.

Signed: Kurt Tomas

A.P. Hjellen

A.P. Hjellen
Field Service Supervisor

Date : 2 January, 1984

FLOPETROL

DIVISION : NSD

BASE : NWB

REPORT N° : 83/2301/41

Well Testing Report

Client : CONOCO NORWAY INC RIG BORGNY DOLPHIN

Field : BLOCK 7/8 Well : 7/8-3

Zone : JURASSIC SAND Date : 15.11.83 - 07.12.83

DST 1

DST 2

D-22

N° : DOP 100

INDEX

- TEST PROCEDURE -

DST I

WELL OPEN FOR A SIX MINS. INITIAL FLOW TO GAUGE TANK. THEN SHUT IN FOR AN INITIAL BUILD-UP OF 60 MINS. A MAIN FLOW PERIOD FLOWING TO GAUGE TANKS FOR 6 HRS 44 MINS. THE FLOW WAS THEN DIRECTED THROUGH SEPARATOR FOR A PERIOD 5 HRS 26 MINS. A TOTAL FLOW OF 10 HRS 10 MINS. THE WELL WAS SHUT IN FOR A MAIN BUILD-UP PERIOD. 2 SETS OF PVT SAMPLES WERE TAKEN AT SEPARATOR, ALSO 1 BBL DRUM, 5 X 10L JERRY CANS OF WEATHERED OIL. THE CIRCULATING VALVE OPENED, THE WELL CIRCULATED DEAD, THE STRING WAS THEN PULLED OUT OF HOLE.
A 1200 CC BOTTOM HOLE SAMPLE WAS TAKEN IN A DOWELL PCT, BUT DURING REVERSE OUT, THE PCT VALVE REOPENED AND THE SAMPLE WAS REPLACED BY MUD. NO TRANSFER WAS TAKEN.
DST I COMPLETE.

DST II

WELL OPEN FOR A 5 MINS. INITIAL FLOW TO GAUGE TANK. THEN SHUT IN FOR A BUILD-UP OF 40 MINS. A MAIN FLOW PERIOD FLOWING TO GAUGE TANKS FOR 9 HRS 17 MINS. THE WELL WAS SHUT IN FOR A BUILD-UP PERIOD OF 10 HRS 10 MINS. DURING THE SHUT IN THE S.S.A.R.V. REVERSE SUB OPENED AND THE STRING CONTENTS WERE REVERSED OUT TO THE GAUGE TANK.

DURING THE REVERSING SAMPLES WERE TAKEN EVERY 100 STROKES AND A GRIND OUT WAS TAKEN OF EACH SAMPLE TO DETERMINE THE BSW. ALSO 1 BBL DRUM, 2 X 10L JERRY CANS AND 1 X 5L CAN OF WEATHERED SAMPLES TAKEN.

AFTER THE BUILD-UP PERIOD COMPLETED, THE WELL WAS CIRCULATED DEAD AND STRING PULLED OUT OF HOLE.
DST II COMPLETE.

- MAIN RESULTS - DST 1

Tested interval : JURASSIC SAND Perforations : 3762 - 3767 METERS

OPERATION	DURATION	BOTTOM HOLE PRESSURE	WELL HEAD PRESSURE	OIL PROD.RATE	GAS PROD.RATE	G.O.R
Units	MIN		PSIG	BBLS/DAY	MSCF/DAY	SCF/BBL
		CUSHION FLOW WATER				
INITIAL FLOW 2" CHOKE	7		0	WATER 1411		
INITIAL BUILD-UP	60					
MAIN FLOW PERIOD 2" CHOKE	149		1	WATER 1318		
		OIL TO SURFACE				
MAIN FLOW PERIOD 2" CHOKE	346		59	1286	230	181
BUILD-UP	804					

Depth of bottom hole measurements : 12308 FT Reference : RKB

Temperature : 311°F at : 12308 FT depth

Separator gas gravity (air : 1) at choke size : .881 ON 2" FIXED CHOKE

STO gravity at choke size : .8644 ON 2" FIXED CHOKE

BSW : 1% Water cut :

REMARKS AND OTHER OPERATIONS

BOTTOM HOLE PRESSURE AND TEMP FROM SPERRY SUN
ALL RESULTS ARE FROM LAST RECORDED READINGS.

- MAIN RESULTS -

DST II

Tested interval : LOWER JURASSIC Perforations : 3734.5 - 3740.5 M

OPERATION	DURATION	BOTTOM HOLE PRESSURE	WELL HEAD PRESSURE	OIL PROD. RATE	GAS PROD. RATE	G.O.R
Units	MIN		PSIG	TOTAL LIQUID BBLS/DAY		
		WATER CUSHION		WATER		
INITIAL FLOW 2" FIXED CHOKE	5		11	1140		
INTIAL BUILD UP DOWNHOLE	40					
MAIN FLOW 2" FIXED CHOKE	301		17	WATER 387		
		OIL TO SURFACE		WATER AND OIL		
MAIN FLOW 2" FIXED CHOKE	255		20	418		
BUILD UP	610					

Depth of bottom hole measurements : 12213ft Reference : RKB

Temperature : 309 °F at : 12213ft depth

Separator gas gravity (air : 1) at choke size :

STO gravity at choke size :

BSW : 62% Water cut :

REMARKS AND OTHER OPERATIONS

ALL READINGS ARE TAKEN FROM LAST RECORDED.
RESULTS BOTTOM HOLE PRESSURE AND TEMPERATURE FROM SPERRY SUN.

- OPERATING AND MEASURING CONDITIONS - DST I

A - TYPE OF GAUGE -

BOTTOM HOLE :
Pressure : SPERRY-SUN 0-20000 PSI 0-10000 PSI
Temperature : SPERRY-SUN

WELL HEAD :
Pressure : FOXBORO 0-10000 PSI DWT 50-10000 PSI 0-160 PSIG GAUGE
Temperature : FOXBORO 0-200°F

SEPARATOR :
Pressure : BARTON 0-1500 PSIG
Temperature : BARTON 0-200°F
DIFFERENTIAL : BARTON 0-200 HW

B - PRODUCTION RATE CONDITIONS AND SOURCES -

OIL PRODUCTION RATE
- [X] Tank → [X] Floco
- [X] Meter
- [ ] Dump → [ ] Rotron
- [ ] _____

Reference conditions :
- [X] Separator
- [ ] Atmospheric pressure 60°F

Shrinkage measurement :
- [X] With tank
- [X] With shrinkage tester

GAS PRODUCTION RATE
- [X] Orifice meter
- [ ] _____

Standard conditions :
14.73 AT 60°F

WATER PRODUCTION RATE
- [X] Tank
- [ ] Meter
- [ ] _____

C - WELL DATA -

WELL STATE DURING SURVEY :

Well producing through : ~~tubing~~ / drill pipe / ~~casing~~
Main casing size 9 5/8" set at 11660' Total well depth 14174'
DRILL PIPE ~~Tubing~~ size 5" set at 11059.78 Packer POSITEST set at 12283'
Perforations :
- Zone _____ From 3762 to 3767 M From _____ to _____
- Zone _____ From _____ to _____ From _____ to _____
-

WELL STATE BEFORE TEST : NEWLY DRILLED

- [ ] Well closed since _____
- [ ] Well flowing since _____ Producing zone _____
  Choke size _____

DOP 104

- OPERATING AND MEASURING CONDITIONS - DST II

A - TYPE OF GAUGE -

BOTTOM HOLE :
Pressure : SPERRY SUN 0-10.000 PSIG
Temperature : SPERRY SUN

WELL HEAD :
Pressure : DWT 50 - 10.000 PSIG FOXBORO 0-5.000 PSIG 0-160 PSIG GAUGE
Temperature : FOXBORO 0-200°F

SEPARATOR :
Pressure : BARTON STATIC 0-1500 PSIG. DIFFERENTIAL 0-200" HW
Temperature : BARTON 0-200°F

B - PRODUCTION RATE CONDITIONS AND SOURCES -

OIL PRODUCTION RATE
- [X] Tank
- [ ] Meter → [ ] Floco / [ ] Rotron
- [ ] Dump
- [ ] _____

Reference conditions :
- [ ] Separator
- [ ] Atmospheric pressure 60°F

Shrinkage measurement :
- [ ] With tank
- [ ] With shrinkage tester

GAS PRODUCTION RATE
- [ ] Orifice meter
- [ ] _____

Standard conditions :
14.73 PSI
60°F

WATER PRODUCTION RATE
- [X] Tank
- [ ] Meter
- [ ] _____

C - WELL DATA -

WELL STATE DURING SURVEY :

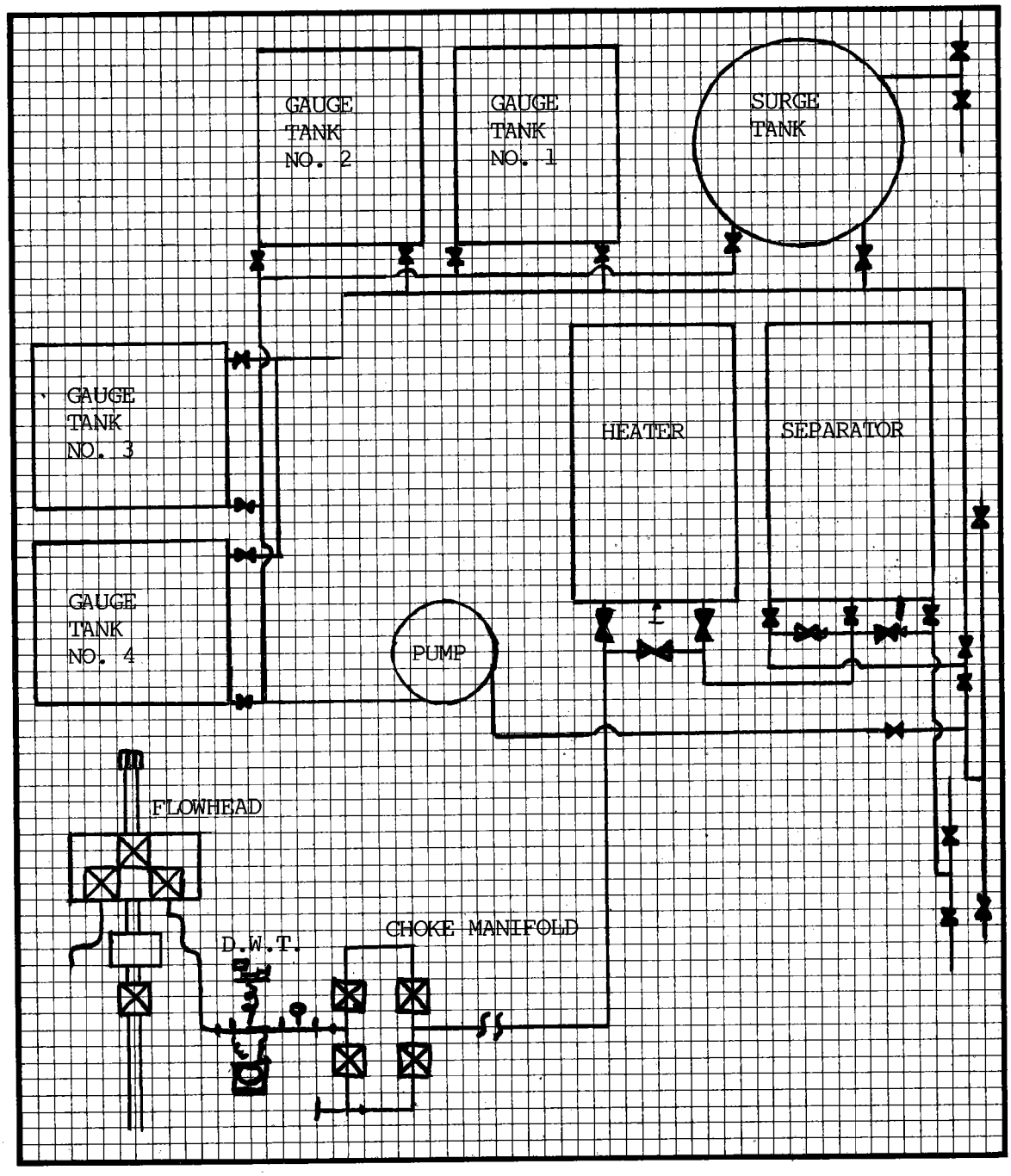
Well producing through : ~~tubing~~ / drill pipe / ~~casing~~
Main casing size 9 5/8 set at 11660' Total well depth 14174'
DRILL PIPE ~~Tubing~~ size 5" set at 10626' Packer POSITEST set at 12188'
Perforations :
- Zone _____ From 3734.5M to 3740.5M From _____ to _____
- Zone _____ From _____ to _____ From _____ to _____
-

WELL STATE BEFORE TEST : NEWLY DRILLED

- [ ] Well closed since _____
- [ ] Well flowing since _____ Producing zone _____
  Choke size _____

N° : DOP 104

- SURFACE EQUIPMENT LAYOUT - DST I & II

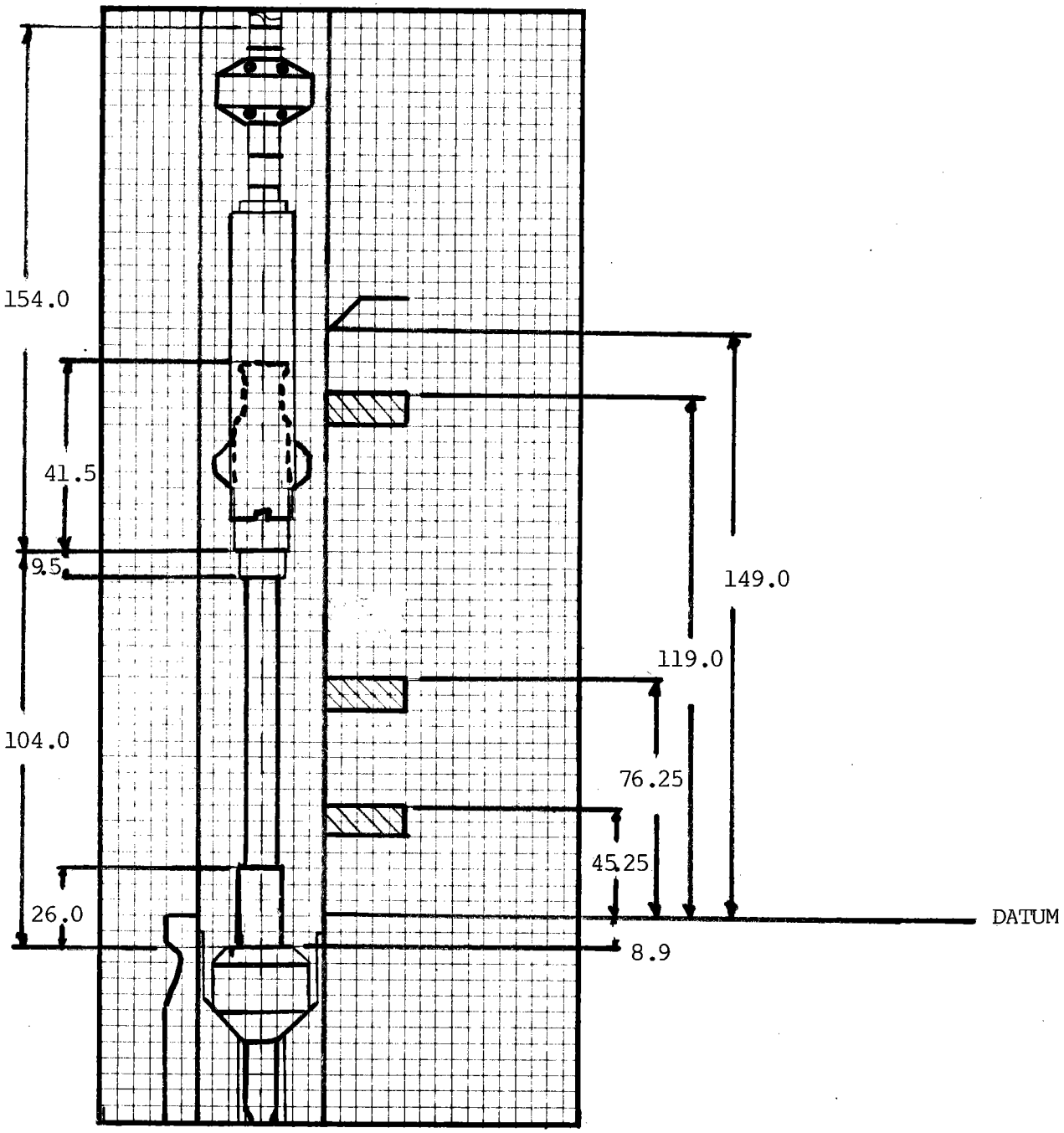


REMARKS :

WATER LINE IS ABLE TO FLOW TO ANY GAUGE TANK OR OVERBOARD.

- WELL COMPLETION DATA -

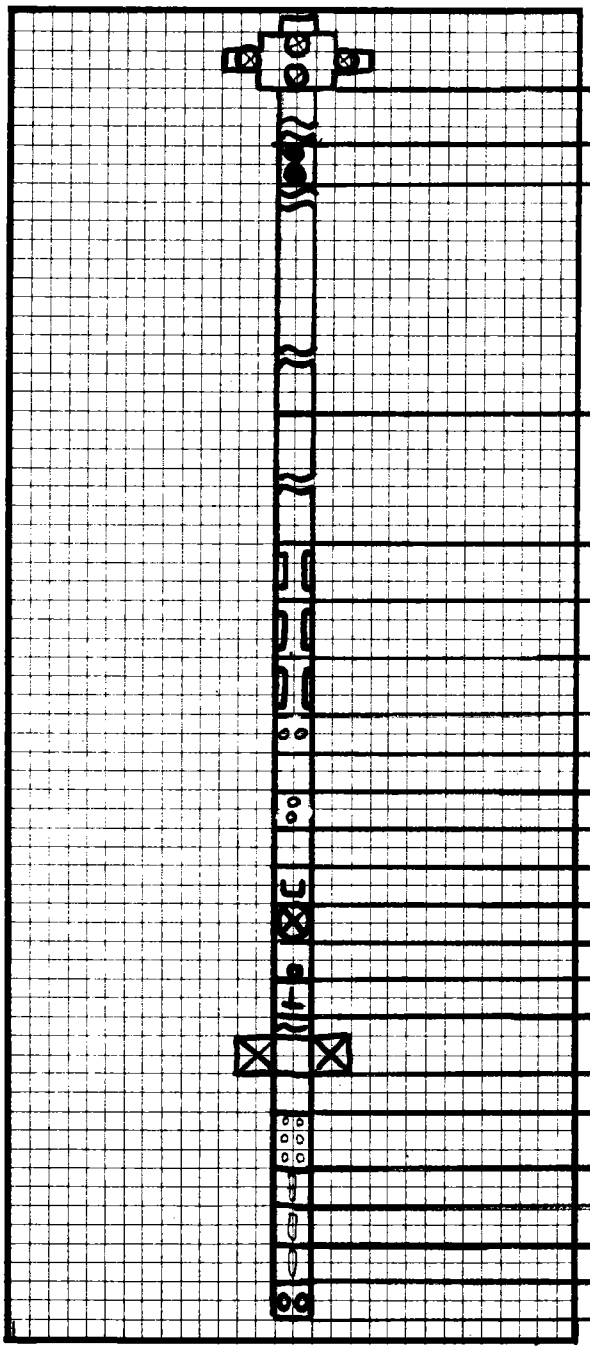
DST I & II



REMARKS :

NOT TO SCALE. MEASUREMENTS IN INCHES.
CLEARANCE BETWEEN TOP VALVE ASSY.
AND BLIND RAMS BOTTOM: 12.4"
CLEARANCE BETWEEN TOP 2ND PIPE RAMS
AND BOTTOM OF SLICKJOINT TOOL SHOULDER: 9.35".
CLEARANCE BETWEEN BOTTOM LOWER PIPE RAMS
AND TOP OF SLICKJOINT TOOL SHOULDER: 16.15"

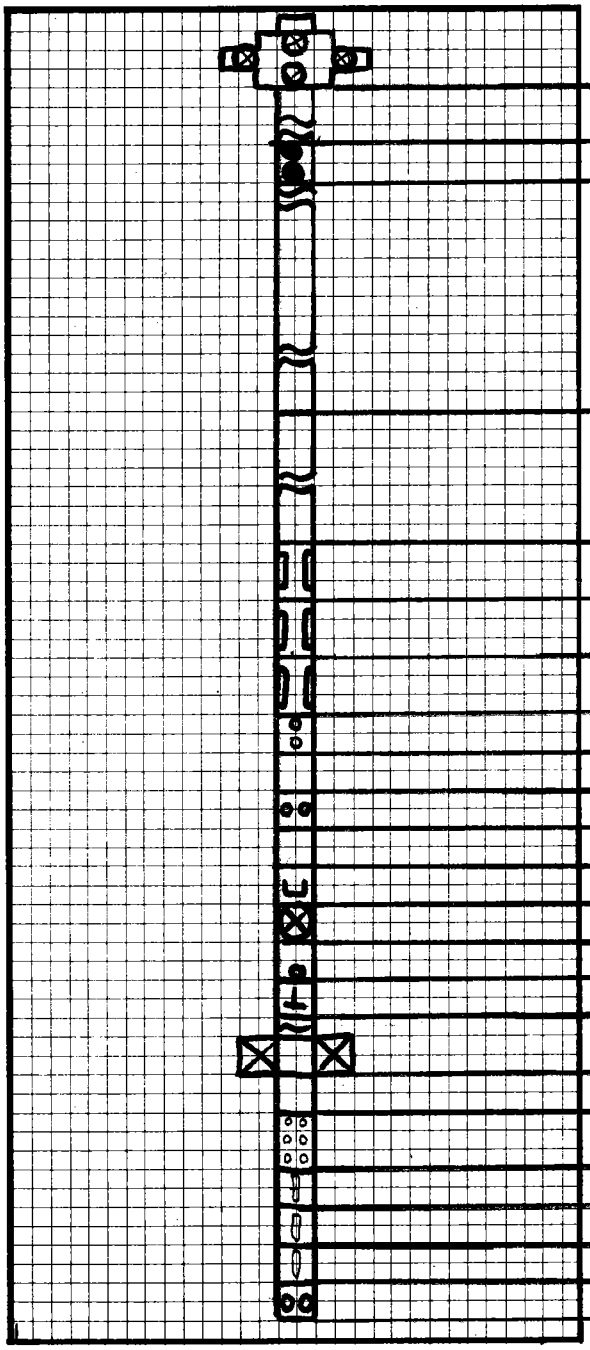
- WELL COMPLETION DATA - DST I



FLOPETROL FLOWHEAD
5" DRILL PIPE
FLOPETROL EZ-TREE
5" DRILL PIPE
3 1/2" DRILL PIPE
SLIP JOINT OPEN
SLIP JOINT 1/2 OPEN
SLIP JOINT CLOSED
S.S. A.R.V.
DRILL COLLAR
IMPACT REVERSE SUB
DRILL COLLAR
BAR CATCHER SUB
P.C.T. VALVE
H.R.T.
HYDAULIC JARS
POSITEST PACKER
PERFORATED ANCHOR
SPERRY SUN GAUGE CARRIER
J-200 GAUGE CARRIER
J-200 GAUGE CARRIER
PORTED BULLNOSE

REMARKS :

- WELL COMPLETION DATA - DST II



REMARKS :

- SEQUENCE OF EVENTS - DST I

DATE	TIME	OPERATION
15.11.83	16:00	NICK MATTHEWS AND OLE SALTE ARRIVE RIG.
		SEPARATOR AND HEATER AWAITING WEATHER TO BE UNLOADED FROM
		BOAT.
16.11.83	07:00	FIX SIGHT GLASS ON SURGE TANK .
	10:00	SEPARATOR AND HEATER UNLOADED FROM BOAT POSITION SEPARATOR
		AND PREPARE RIGGING UP AWAITING ARRIVAL OF PIPING FOR HOOK UP.
17.11.83	12:00	IAN COOPER ARRIVES RIG.
		UNLOAD BOAT COMMENCE HOOK UP.
18.11.83	06:00	CONTINUE HOOK UP.
19.11.83	06:00	CONTINUE HOOK UP CHECK OVER EQUIPMENT WELD HEATER FRAME STRIP
		IGNITION .
	19:30	SYSTEM ON PORT BURNER AND REPAIR.
20.11.83	06:00	CONTINUE HOOK UP UNABLE TO CONNECT HEATER UP DUE TO BAD
		WEATHER. STRIP IGNITION.
	19:30	SYSTEM ON STARBOARD BURNER AND REPAIR.
21.11.83	06:00	CHECK OVER EQUIPMENT. HEATER RIGGED UP. HOOK UP COMPLETE
		REQUIRE GAUGE TANKS START TO PRESSURE TEST HOOK UP, LEAK
		ON DRILL FLOOR. UNABLE TO PRESSURE TEST
	19:30	REQUIRE SEAL RING.
22.11.83	06:00	CHECK OVER EQUIPMENT, PRESSURE TEST FLOWHEAD. LUBRICATOR
		VALVE TO 10.000 PSI. REPLACE TWO MAPAGAS VALVES ON OIL
		MANIFOLD.
	19:30	RIG UP BARTON AND CALIBRATE.
23.11.83	06:00	PRESSURE TEST EZ-TREE VALVE TO 10.000 PSI.
		FUCTION TEST LATCH O.K.
		MAKE UP EZ-TREE, PRESSURE TEST BODY TO 10.000 PSI.

_ SEQUENCE OF EVENTS _(Continuation)

DATE	TIME	OPERATION
23.11.83		LEAK OF 50 PSI IN 30 MINS. LEAKING BETWEEN LATCH AND
		BALL VALVE.
		PRESSURE TEST GAS VALVES, OIL VALVES, TO 1000 PSI.SEPARATOR
		1300 PSI, INLET, OIL BYPASS, GAS BYPASS ON SEPARATOR TO
		1500 PSI, HEATER LOW PRESSURE COILS TO 2000 PSI, HIGH
		PRESSURE COILS TO 5000 PSI CHOKE MANIFOLD UPSTREAM AND
	19:30	DOWNSTREAM VALVES TO 5000 PSI ALL TESTS GOOD
24.11.83	06:00	STRIP OIL FLOCO AND ROTRON METERS ASSEMBLE FLOCO. STRIP
		EZ TREE LATCH REPLACE ALL
	23:30	O-RINGS START ASSEMBLE
25.11.83	07:00	ASSEMBLE EZ TREE LATCH TEST LATCH ASSEMBLE MAKE UP
		EZ TREE TEST BODY TO 8000 PSI TEST O.K.
	21:00	CHECK OVER EQUIPMENT
26.11.83	07:00	CHECK OVER EQUIPMENT REPLACE METERS ON SEPARATOR
27.11.83	06:00	RIGGING UP GAUGE TANKS MAKE UP SECOND EZ TREE WHICH HAD
		ARRIVED AT MY REQUEST PRESSURE TEST BODY TO 8000 PSI O.K.
		PRESSURE TEST BALL VALVES ASSEMBLY TO 8000 PSI SMALL LEAK
		500 PSI IN 2 HRS
		REST OF CREW ARRIVE RIG.
28.11.83	00:00	STRIP AND REDRESS BALL VALVE ASSEMBLY PRESSURE TEST BALL
		VALVE TO 8000 PSI TEST GOOD
		ASSEMBLE EZ TREE TEST TO 8000 PSI TEST GOOD
	24:00	GAUGE TANK HOOK UP COMPLETE
29.11.83	00:10	CHECKING OVER EQUIPMENT
		NICK MATTHEWS AND OLE SALTE LEAVE RIG, GUS WEYER,
		TERJE AASLAND ARRIVE RIG
	24:00	PRESSURE TEST CHICKSANS TO 8000 PSI
30.11.83	00:00	PAINTING HOOK UP, CHECK OVER EQUIPMENT. MAKE WATER LINE
		HOOK UP TO GAUGE TANKS SWING OUT BOOMS CHECK WATER SPRAY
		CHECK PROSERVE GAS AND OIL BOTTLES

_ SEQUENCE OF EVENTS _(Continuation)

DATE	TIME	OPERATION
01.12.83		GAS BOTTLES VACCUMED, CHECK OVER EQUIPMENT
		EZ TREE AND FLOWHEAD ON DRILL FLOOR TORQUED UP
		SCHLUMBERGER RUN IN HOLE PERF. 3762 - 3767 M.
		METER FACTION ON 3" ROTRON METER FLOWHEAD39.86 IN TO
		GUAGE TANK 38.8 THROUGH METER 3 1/2 BBLS/MIN = 1.027 METER
		FACTOR. METER FACTOR ON 2" FLOCO METER FLOWED 31.68 BBLS
		INTO GAUGE TANK 30.6 BBLS THROUGH METER 1 BBL/MIN =
		1.035 METER FACTOR.
	20:10	EZ TREE ON DRILL FLOOR
	20:24	UNLATCH EZ TREE
	20:27	RELATCH CHECK CONNECTIONS OPEN BALL
	20:35	RUN IN HOLE WITH EZ TREE
	21:15	PICK UP FLOW HEAD
	21:45	FLOW HEAD ON STRING
	21:56	SET PACKER
	22:05	CLOSE MASTER VALVE, CLOSE SWAB VALVE, OPEN KILL AND
		FAIL SAFE VALVE
	23:00	SURFACE LINES AND GAUGES ETC RIGGED UP
		PRESSURE TEST SURFACE LINES AND TEST STRING ACCORDING
		TO CLIENTS INSTRUCTIONS.
02.12.83	06:50	PRESSURE UP ANNULUS TO OPEN P.C.T. VALVE
	06:54	OPEN P.C.T. VALVE
	06:55	OPEN THROUGH 2" FIXED CHOKE TO GAUGE TANK
02.12.83	07:01	BLEED OFF ANNULUS CLOSE P.C.T.
	07:04	CLOSE CHOKE MANIFOLD
	08:01	PCT OPEN WELL OPEN ON 2" FIXED CHOKE
		FLOW CUSHION TO SURGE TANK FOR RATE MEASUREMENT.
	10:25	GAS TO SURFACE
	10:30	TRACES OF OIL TO SURFACE
	12:03	CHANGE CHOKE TO 1" ADJUSTABLE

_ SEQUENCE OF EVENTS _(Continuation)

DATE	TIME	OPERATION
02.12.83	12:09	CHANGE CHOKE TO 16/64" ADJUSTABLE
	12:21	CHANGE TO 16/64" FIXED CHOKE
	12:24	CHANGE TO 2" FIXED CHOKE
	12:45	DIRECT FLOW THROUGH SEPARATOR
	13:45	START METER CORRECTION FACTOR IN GAUGE TANK
	14:45	METER CORRECTION FACTOR = 1.0021
	15:00	SHRINGAGE TAKEN AT SEPARATOR = .75% AT 50°F
	16:00	START 1ST SET P.V.T. SAMPLES OIL NO. 83081909, GAS NO A14741
	16:30	FINISH 1ST SET P.V.T. SAMPLES
	16:40	START2ND SET P.V.T. SAMPLES OIL NO. 8207321, GAS NO. A14796
	17:10	FINISH 2ND SET P.V.T. SAMPLES
	17:30	START TAKING WEATHERED SAMPLES FROM SEPARATOR
	18:00	BY PASS SEPARATOR
	18:11	SHUT IN WELL AT P.C.T. VALVE FOR BUILD UP
	18:20	CLOSE CHOKE MANIFOLD
	18:30	COMPLETE TAKEN WEATHERED SAMPLES FROM SEPARATOR
		1 x 200 L DRUM, 5 x 10 L JERRY CANS.
03.12.83	06:50	MASTER VALVE CLOSED
	07:01	PRESSURE BLED OFF CHOKE MANIFOLD
	07:10	DROP BAR ON MASTER VALVE
		CAP ON FLOW HEAD
	07:17	CHOKE CLOSED
	07:19	OPEN MASTER VALVE, DROP BAR, SWAB CLOSED
03.12.83	07:35	DROP BAR DID NOT SHEAR SUB
	07:37	PRESSURE UP ANNULUS TO OPEN CIRCULATING VALVE
	07:40	175 PSI SLOW INCREASE
	07:45	1500 PSI OPEN CHOKE MANIFOLD CIRCULATE OUT
		TO BURNERS
	08:16	MUD AT CHOKE MANIFOLD BY-PASS TO GAS FLARE
	08:30	CLOSE CHOKE

_ SEQUENCE OF EVENTS _(Continuation)

DATE	TIME	OPERATION
03.12.83	08:40	OPEN KILL VALVE
	08:41	CIRCULATE THROUGH SHALE SHAKERS.
	09:13	CLOSE MASTER VALVE. FLUSH LINES
	09:38	STOP FLUSHING CLOSE FAILSAFE VALVE
	09:34	OPEN MASTER VALVE
	09:40	RIG DOWN FLOW LINE AND CHOKE MANIFOLD
	09:55	UNSET PACKER
	10:03	PUMPING SLUG
	10:30	RIG DOWN FLOWHEAD
	11:55	PULL OUT OF HOLE WITH TEST STRING
	11:20	EZ TREE THROUGH ROTARY
	11:50	EZ TREE OFF STRING
		P.C.T. SAMPLE FULL OF MUD. NO TRANSFER
		END OF DST 1

- SEQUENCE OF EVENTS -

DATE	TIME	OPERATION
		DST II
03.12.83	12:00	START TO PRESSURE TEST FLOWHEAD, EZ TREE, CHOKE
		MANIFOLD TO 8000 PSI
	24:00	ALL TESTS GOOD
04.12.83	00:00	PRESSURE TEST CHIKSANS TO 8000 PSI O.K.
		CLEAN UP SEPARATOR AND GAUGE TANKS CHANGE OUT O-RINGS
		SEAL ON PORT BURNER. RECALIBRATE PRESSURE GAUGES
	24:00	CHECK FOXBORO AND BARTON CHECK OVER EQUIPMENT
05.12.83	00:00	CHECK OVER EQUIPMENT
	10:15	PICK UP EZ TREE
	10:25	EZ TREE ON STRING
	10:50	UNLATCH EZ TREE RELATCH
	11:05	EZ TREE THROUGH ROTARY
	11:30	PICK UP FLOW HEAD
	12;00	FLOWHEAD ON TEST STRING, CHOKE ON FLOOR
	12:15	SET PACKER
	12:25	FLOWLINE TO CHOKE HOOKED UP
	12:30	FLUSH LINES
	12:32	CLOSE MASTER VALVE AND KILL VALVE
	12:35	PRESSURE TEST KILL VALVE TO 7500 PSI
	12:45	PRESSURE TEST CHOKE TO 7500 PSI
	12:55	PRESSURE TEST FLOWLINE TO HEATER 1000 PSI
	13:05	PRESSURE TEST STRING TO 7500 PSI
	13:28	PCT OPEN CHOKE MANIFOLD OPEN FLOW TO GAUGE TANK
		FOR INITIAL FLOW ON 2" FIXED CHOKE
	13:33	WELL SHUT IN AT CHOKE MANIFOLD AND DOWN HOLE PCT
		FOR INITIAL BUILD UP.
05.12.83	14:13	OPEN P.C.T.

_ SEQUENCE OF EVENTS _(Continuation)

DATE	TIME	OPERATION
05.12.83	14:14	OPEN CHOKE MANIFOLD ON 2" FIXED CHOKE TO GAUGE TANK
		FOR MEASUREMENTS
	19:10	TRACE GAS TO SURFACE
	19:15	OIL TO SURFACE
	23:30	PRESSURE UP ANNULUS TO SHEAR P.C.T. VALVE. PRESSURE AT
		CHOKE MANIFOLD INDICATES THAT S.S.A.R.V. ALSO SHEARED.
	23:33	SHUT CHOKE MANIFOLD
	23:38	OPEN CHOKE MANIFOLD. START REVERSE OUT STRING
		CONTENTS TO GAUGE TANKS
	23:40	START COLLECTING SAMPLES EVERY 100 STROKES
06.12.83	00:00	BY-PASS GAUGE TANKS REVERSE TO BURNERS
	00:10	1450 STROKES MUD TO SURFACE
	00:15	BY-PASS TO GAS FLARE
	00:24	CHOKE MANIFOLD CLOSED
	08:12	OPEN KILL VALVE
	08:30	START CIRCULATING
	09:00	STOP CIRCULATING. CLOSE MASTER VALVE
	09:02	FLUSH LINES TO BURNER
	09:25	RIG DOWN CHOKE MANIFOLD
	09:40	UNSET PACKER
	09:47	OPEN MASTER VALVE. CLOSE FAIL SAFE VALVE
	09:50	TRY TO CIRCULATE THE LONG WAY. NO RETURNS
	10:08	CLOSE MASTER VALVE OPEN SWAB BALVE
	10:18	INSERT DOWELL DROP BAR ON TOP OF MASTER VALVE
	10:20	CLOSE SWAB VALVE. OPEN MASTER VALVE TO DROP BAR
	10:35	TRY TO SET PACKER. NO SUCCESS
	10:45	START CIRCULATE
	12:46	FINNISHED CIRCULATING 7400 STROKES
	12:47	PUMP SLUGS
	12:50	P.O.O.H.

_ SEQUENCE OF EVENTS _(Continuation)

DATE	TIME	OPERATION
06.12.83	12:55	FLOWHEAD OFF TEST STRING
	13:15	LAY DOWN FLOWHEAD
	13:33	EZ TREE THROUGH ROTARY
	13:55	EZ TREE OF TEST STRING
	13:58	LAY DOWN EZ TREE
		PULL OUT OF HOLE
		ONE BBL OF WEATHERED OIL SAMPLE AND TWO JERRY CANS
		TAKEN FROM GAUGE TANK
	20:00	TOOLS OUT CHECK GAUGES VALID TEST START TO PACK
	24:00	EQUIPMENT TO RETURN TO BASE
07.12.83	00:00	TRANSFER BOTTOM HOLE SAMPLE TO OIL BOTTLE NO. 20112/106.
		AND 9214/182
		PACK EQUIPMENT TO RETURN TO BASE SIX OF THE EIGHT MAN
		CREW RETURNED TO BASE.
		DST II COMPLETED

No.: DOP 109

FLOPETROL

Client : CONOCO

Field :

Well : 7/8-3

Base : NWB

- WELL TESTING DATA SHEET -

DST I

Section : 7

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Report N°: 83/2301/41

DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR			
		BOTTOM HOLE		WELL HEAD			SEPARATOR		WATER CUSHION			GAS					
Time	Cumul	Temp.	Pressure	Tg.temp	Tg.press.	Cg.press.	Temp.	Press.	Rate	Gravity	BSW	Rate	Gravity				
HRS/MIN	MIN				°F	PSIG			BBLS				Air = 1				Units
									02.12.83								
						1ST DECEMBER 1983											
21:56							SET PACKER										
							PRESSURE TEST EQUIPMENT ACCORDING TO CLIENTS INSTRUCTIONS										
						2ND DECEMBER 1983											
							PRESSURE TEST EQUIPMENT ACCORDING TO CLIENTS INSTRUCTIONS										
06:50							PRESSURE UP ANNULUS TO OPEN P.C.T. VALVE										
06:54	0					400	P.C.T. VALVE OPEN BUBBLE HOSE OPEN										
06:55	1					0	OPEN THROUGH 2" FIXED CHOKE TO GAUGE TANK										
07:00	6					0	AIR AT BUBBLE HOSE										
07:01	7/0					0	BLEED OFF ANNULUS CLOSE P.C.T. TANK LEVEL INCREASE 6.86 BBLS										
07:04	3					0	CLOSE CHOKE MANIFOLD										
08:01	0						P.C.T. OPEN WELL OPEN ON 2" FIXED CHOKE FLOW TO GAUGE TANK										
08:05	4				46	0											
08:15	14				48	0			1276								

LIQUID FLOW RATE MEASURING CONDITIONS :

14.73 at 60°F

TESTED INTERVAL : JURASSIC SAND (3762 - 3767 M)

DEPTH REFERENCE : RKB

DEPTH OF B.H. MEASUREMENTS : 12308 ft.

No. : DOP 110

FLOPETROL _WELL TESTING DATA SHEET_(Continuation)

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Section : 7

DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR			
		BOTTOM HOLE		WELL HEAD			SEPARATOR		WATER CUSHION			GAS					
Time	Cumul	Temp.	Pressure	Tg. temp.	Tg. press.	Cg. press.	Temp.	Press.	Rate	Gravity	BSW	Rate	Gravity				
HRS/MIN	MIN			°F	PSIG				BBLS/DAY		%		Air=1				Units
08:15							02.12.83										
08:30	29			52	2				1369								
08:45	44			55	2				1318								
09:00	59			56	2				1318								
09:15	74			59	0				1267								
09:30	89			61	2				1293								
09:45	104			63	2				1267								
10:00	119			65	1				1318								
10:15	134			67	1				1369								
10:25	144			70	1					GAS TO SURFACE							
10:30	149			70	1				1318	OIL TO SURFACE							
10:45	164			72	10												
11:00	179			74	42							CL=	22000	PPM	PH = 6		
11:15	194			79	90				1952		45	CL=	35000	PPM			
11:30	209			78	75						2						
11:45	224			75	70				1673		1						
12:00	239			68	70						2						
12:03	242/0					CHANGE CHOKE TO 1"			ADJUSTABLE								

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FLOPETROL — WELL TESTING DATA SHEET (Continuation)

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Section : 7

DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR			
		BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS		SCF/			
Time	Cumul	Temp.	Pressure	Tg. temp	Tg. press.	Cg. press.	Temp.	Press.	Rate	Gravity	BSW	Rate	Gravity	BBL			
HRS:MIN	MIN			°F	PSIG		°F	PSIG	BBLS/DAY	SG	%	MSCF/DAY	Air=1				Units
12:03						02.12.83											
12:09	6/0					CHANGE CHOKE TO 16/64 ADJ.											
12:15	6			68	100				1191								
12:21	12/0			65	170	CHANGE TO 16/64 FIXED.											
12:24	3/0					CHANGE TO 2" FIXED CHOKE.											
12:25	1				118												
12:30	6			67	99												
12:45	21			70	74				1457		FLOW DIRECTED THROUGH SEPARATOR.						
13:00	36			70	55		56	40				263.3	.890				
13:15	51			69	54		57	40	1396.4	.8688	2	238.1	.890	171	CO_2= 7%	H_2S=0	
13:30	66			67	55		57	40	1438.9	.8688	2	225.1	.890	156			
13:45	81			68	55		58	40	1276.0	.8688	5	234.9	.890	184			
13:45						FLOW INTO GAUGE TANK FOR METER CORRECTION FACTOR.											
14:00	96			67	56		59	40	1346.4	.8688	2	231.7	.890	172			
14:15	111			67	56												
14:30	126			67	57		60	45	1340.3	.8651	2	229.3	.881	171	CO_2=5%	H_2S=0	
14:30				67	57	METER FACTOR 1.0021											
14:45	141			67	57												

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FLOPETROL — _WELL TESTING DATA SHEET_(Continuation)

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DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR			
2.12.83		BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS					
Time	Cumul	Temp.	Pressure	Tg. temp	Tg. press.	Cg. press.	Temp.	Press.	Rate	Gravity	BSW	Rate	Gravity	SCF/BBL			
HRS:MIN	MIN			°F	PSIG		°F	PSIG	BBLS/DAY	SG	%	M SCF/DAY	Air=1				Units
14:45						02.12.83											
15:00	156			67	57		62	45	1284.9	.8651	1	229.3	.881	179	SHRINKAGE TAKEN		
15:15	171			67	57										AT SEPARATOR .75% 50°F		
15:30	186			67	57		62	45									
15:45	201			67	57												
16:00	216			67	57		62	45	1308.5	.8644	0	228.4	.881	175			
16:00							START 1ST SET P.V.T. SAMPLES. OIL NO. 83081909. GAS NO. A 14741.										
16:30	246			67	57		62	45	1294.4	.8644	1	228.4	.881	176			
16:40	261						START 2ND SET P.V.T. SAMPLES. OIL NO. 8207321. GAS NO. A 14796										
17:00	276			67	57		62	45	1277.3	.8644	1	228.4	.881	179			
17:15	291			67	57												
17:30	306			67	59		62	50	1285.8	.8644	1	230.2	.881	179			
17:45	321			67	59		62	50	1251.5	.8644	1	226.3	.881	181			
18:00							BY-PASS SEPARATOR.										
18:11	347/0						CLOSE WELL IN DOWN HOLE AT PCT.										
18:20	17			67	30		SHUT IN AT CHOKE MANIFOLD.										
18:25	22			65	30												

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FLOPETROL _WELL TESTING DATA SHEET_(Continuation)

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DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR			
		BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS					
Time	Cumul	Temp.	Pressure	Tg. temp	Tg. press.	Cg. press.	Temp.	Press.	Rate	Gravity	BSW	Rate	Gravity				
HRS:MIN	MIN			°F	PSIG								Air=1				Units
18:25						02.12.83											
18:30	27			64	35												
18:45	42			59	50												
19:00	57			57	59												
19:15	72			56	67												
19:30	87			54	77												
19:45	92			53	82												
20:00	107			52	90												
20:30	137			51	100												
21:00	167			51	107												
22:00	227			50	122												
23:00	287			49	132												
24:00	347			48	139												
						03.12.83											
01:00	407			48	140												
02:00	467			48	140												
03:00	527			46	140												
04:00	587			46	140												

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FLOPETROL _WELL TESTING DATA SHEET_(Continuation)

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DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR			
		BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS					
Time	Cumul	Temp.	Pressure	Tg. temp	Tg. press.	Cg. press.	Temp.	Press.	Rate	Gravity	BSW	Rate	Gravity				
HRS:MIN	MIN			°F	PSIG								Air=1				Units
04:00						03.12.83											
05:00	647			45	139												
06:00	707			46	138												
06:30	737			46	138												
06:50	757					CLOSE MASTER VALVE.											
07:01	768					PRESSURE BLED OFF.											
07:18	785					OPEN MASTER VALVE. DROP BAR.											
07:37	804					DROP BAR. DID NOT SHEAR SUB PRESSURE UP ANNULUS TO OPEN CIRCULATING VALVE.											
07:45	-					OPEN CHOKE MANIFOLD.											
08:41						CIRCULATE TO SHALE SHAKERS.											
09:13						CLOSE MASTER VALVE FLUSH LINES. RIG DOWN SURFACE EQUIPMENT.											
09:55						UNSET PACKER.											
10:30						RIG DOWN FLOWHEAD.											
10:55						PULL OUT OF HOLE WITH TEST STRING.											
11:50						EZ-TREE OFF STRING.											
						END OF DST I.											

No.: DOP 109

FLOPETROL

Base : NWB

Client : CONOCO NORWAY INC

Field :

Well : 7/8-3

- WELL TESTING DATA SHEET -

Section : 7

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DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR			
5/12-83		BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS					
Time	Cumul	Temp.	Pressure	Tg.temp	Tg. press.	Cg. press.	Temp.	Press.	Rate	Gravity	BSW	Rate	Gravity				
HRS:MIN	MIN			°F	PSIG								Air = 1				Units
						05.12.83			DST II								
12:15						SET PACKER											
13:28	0				40	P.C.T. OPEN. OPEN CHOKE MANIFOLD 2" FIXED CHOKE TO GAUGE TANK.											
13:29	1				11												
13:30	2				11												
13:31	3				11												
13:32	4				11												
13:33	5/=				11	SHUT IN WELL AT P.C.T. AND CHOKE MANIFOLD 3.96 BBLS PRODUCED.											
14:00	27			45	67												
14:13	40/0				80	OPEN P.C.T. VALVE.											
14:14	1/0				130	OPEN UP ON 2" FIXED CHOKE TO GAUGE TANK FOR MEASUREMENT.											
14:15	1			45	12												
14:16	2				13												
14:17	3				13												

LIQUID FLOW RATE MEASURING CONDITIONS :

14.73 at 60°F

TESTED INTERVAL : JURASSIC SAND (3734.5 - 3740.5M)

DEPTH REFERENCE : RKB

DEPTH OF B.H. MEASUREMENTS : 12213'

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FLOPETROL _WELL TESTING DATA SHEET_(Continuation)

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DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR			
5/12-83		BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS					
Time	Cumul	Temp.	Pressure	Tg. temp	Tg. press.	Cg. press.	Temp.	Press.	Rate	Gravity	BSW	Rate	Gravity				
HRS:MIN	MIN			°F	PSIG				BBLS/DAJ				Air=1				Units
14:17						05.12.83											
14:18	4			45	14												
14:19	5			45	14												
14:20	6			45	15												
14:25	11			45	15												
14:30	16			45	15				520								
14:35	21			45	15												
14:40	26			45	15												
14:45	31			45	14				545								
14:50	36			45	12												
14:55	41			45	12												
15:00	46			45	13												
15:15	61			45	12				282								
15:30	76			45	13				380								
15:45	91			45	15												
16:00	106			45	16				380								
16:15	121			45	16												
16:30	136			45	16				374								

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FLOPETROL _WELL TESTING DATA SHEET_(Continuation)

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DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR			
5.12.83		BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS					
Time	Cumul	Temp.	Pressure	Tg. temp	Tg. press.	Cg. press.	Temp.	Press.	Rate	Gravity	BSW	Rate	Gravity				
HRS:MIN	MIN			°F	PSIG				BBLS/DAY		%		Air=1				Units
16:30																	
16:45	151			45	16												
17:00	166			45	16				387								
17:15	181			45	16												
17:30	196			46	15				393								
17:45	211			46	15												
18:00	226			46	16				399								
18:15	241			46	16												
18:30	256			46	16				393								
18:45	271			47	16												
19:00	286			47	17				387								
19:10	296			47	15	TRACE GAS TO SURFACE.											
19:15	301			47	15	OIL TO SURFACE.											
19:30	316			47	15				406		85	CL = 20.000		PPM	PH = 5.5		
19:45	331			47	15												
20:00	346			47	15				425		85	CL = 24.000		PPM	PH = 6		
20:15	361			47	18												
20:30	376			47	14				551		75	CL = 23.000		PPM	PH = 5.8		

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FLOPETROL _WELL TESTING DATA SHEET_(Continuation)

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DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR			
5/12-83		BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS					
Time	Cumul	Temp.	Pressure	Tg. temp	Tg. press.	Cg. press.	Temp.	Press.	Rate	Gravity	BSW	Rate	Gravity				
HRS:MIN	MIN			°F	PSIG				BBLS/DAY		%		Air=1				Units
20:30							05.12.83										
20:45	391			47	14				486								
21:00	406			47	15						70						
21:30	436			47	16				372		65			CL = 18.000 PPM		PH = 6	
22:00	466			47	16				456		65						
22:30	496			47	19				450		52	H_2O 2% SOLIDS		CL = 20.000 PPM		PH = 6	
23:00	526			47	20				393		58	H_2O 2% SOLIDS		CL = 19.000 PPM		PH = 6.5	
23:30	556			47	20				418		62	H_2O 2% SOLIDS		CL = 21.000 PPM		PH = 6.5	
23:30	0					PRESSURE UP ANNULUS TO SHEAR P.C.T. VALVE. S.S.A.R.V. SHEARED AT SAME TIME											
23:33	3				80	SHUT CHOKE MANIFOLD											
23:38	8				3900	OPEN CHOKE MANIFOLD. START REVERSE OUT STRING CONTENTS											
23:39	9					1. SAMPLE TAKEN AT			100 STROKES		70						
23:40	10					2. SAMPLE TAKEN AT			200 STROKES		65						
23:42	12					3. SAMPLE TAKEN AT			300 STROKES		56						
23:44	14					4. SAMPLE TAKEN AT			400 STROKES		43						
23:45	15					5. SAMPLE TAKEN AT			500 STROKES		24						
23:47	17					6. SAMPLE TAKEN AT			600 STROKES		20						
23:49	19					7. SAMPLE TAKEN AT			700 STROKES		14						

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FLOPETROL — WELL TESTING DATA SHEET (Continuation)

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DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR			
5/12-83		BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS					
Time	Cumul	Temp.	Pressure	Tg. temp	Tg. press.	Cg. press.	Temp.	Press.	Rate	Gravity	BSW	Rate	Gravity				
HR :MIN	MIN			°F	PSIG				BBLS/DAY		%		Air=1				Units
23:49							05.12.83										
23:50	20					8. SAMPLE TAKEN AT			800 STROKES		14						
23:52	22					9. SAMPLE TAKEN AT			900 STROKES		14						
23:54	24					10. SAMPLE TAKEN AT			1000 STROKES		12						
23:56	26	1 X 10 L JERRY CAN			SAMPLED	11. SAMPLE TAKEN AT			1100 STROKES		8	OIL GRAVITY .902 at 60°		F GRAVITY HAD 8%			H_2O
23:58	28					12. SAMPLE TAKEN AT			1200 STROKES		8						
							06.12.83				10						
00:00	30					BY-PASS GAUGE TANKS			TO BURNER						CO_2 = 4 %		
00:01	31	1 X 10 L JERRY CAN			SAMPLED	13. SAMPLE TAKEN AT			1300 STROKES		10	OIL GRAVITY .9036 at 60°		F GRAVITY HAD 10%			H_2O
00:04	34					14. SAMPLE TAKEN AT			1400 STROKES		9						
00:08	38	1 X 5 L CAN SAMPLED				15. SAMPLE TAKEN AT			1500 STROKES		15	OIL GRAVITY .9018 AT 60°		F GRAVITY HAD 15%			H_2O
00:10	40					16. SAMPLE TAKEN AT			1570 STROKES		15						
00:11	41	MUD TO SURFACE				17. SAMPLE TAKEN AT			1575 STOKES		99						
		TOTAL CUM. OIL FROM REVERSE OUT 153 BBLS TOTAL WATER FROM REVERSE OUT 51 BBLS															
00:15	45					FLOW DIRECTED THROUGH GAS FLAME											
00:24	54				0	CLOSE CHOKE MANIFOLD											
00:30	60				0		*"NOTE ALL GRAVITYS WOULD HAVE BEEN HIGHER IF WATER HAD BEEN										
00:40	70			70	0		ABLE TO BE WITH DRAWEN FROM OIL SAMPLES"										

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FLOPETROL — WELL TESTING DATA SHEET (Continuation)

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DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR			
6/12-83		BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS					
Time	Cumul	Temp.	Pressure	Tg. temp	Tg. press.	Cg. press.	Temp.	Press.	Rate	Gravity	BSW	Rate	Gravity				
HRS:MIN	MIN			°F	PSIG						%		Air=1				Units
00:40						06.12.83											
01:00	90			60	0												
01:30	120			50	0												
02:00	150			46	0												
03:00	210			44	0												
04:00	270			42	0												
05:00	330			42	0												
06:00	390			42	0												
07:00	450			42	0												
08:00	510			42	0												
08:12	522					OPEN KILL VALVE											
08:30	540					START CIRCULATING											
09:00	570		STOP	CIRCULATING		CLOSE MASTER VALVE											
09:02	572					FLUSH LINES TO BURNER AND FLAME											
09:25	595					RIG DOWN. CHOKE MANIFOLD											
09:40	610					UNSET PACKER. END OF BUILD UP											
09:47						OPEN MASTER VALVE. CLOSE FAILSAFE											
09:50						CIRCULATE THE LONG WAY. NO RETURNS											

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FLOPETROL _WELL TESTING DATA SHEET_(Continuation)

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DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR			
		BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS					
Time	Cumul	Temp.	Pressure	Tg. temp	Tg. press.	Cg. press.	Temp.	Press.	Rate	Gravity	BSW	Rate	Gravity				
HRS:MIN	MIN			°F	PSIG								Air=1				Units
09:50						06.12.83											
10:08						CLOSE MASTER. OPEN SWAB.											
10:18						DROP BAR ON MASTER VALVE.											
10:21						SWAB CLOSED. OPEN MASTER VALVE. DROP BAR.											
10:35						TRY TO SET PACKER FAILED.											
10:45						START RECIRCULATING.											
12:46						CIRCULATING COMPLETE.											
12:47						START TO PUMP SLUG.											
12:55						FLOW HEAD RIGGED DOWN. PULL OUT OF HOLE.											
13:15						FLOW HEAD LAID DOWN. PULL OUT OF HOLE											
13:33						EZ-TREE THROUGH ROTARY.											
13:58						EZ-TREE LAID DOWN.											
14:10						PULL OUT OF HOLE.											
						END OF DST II.											

FLOPETROL

DIVISION : NSD

BASE : NWB

REPORT N° : 83/2301/41

Well Testing Report
Annexes

Client : CONOCO NORWAY INC

Field : Well : 7/8-3

Zone : JURASSIC SAND Date : 02.12.83

DST I

DST II

INDEX of ANNEXES

- LIQUID PRODUCTION RATE MEASUREMENT -

2.1 - MEASUREMENT WITH TANK -

$$V_o = V \times K \times (1 - BSW)$$

V_o : Net oil volume at 60°F and atmospheric pressure.
V : Gross oil volume measured by tank gauging.
K : Volume correction factor to be applied between the tank temperature during gauging and 60°F.
BSW : Basic sediments and water.

2.2 - MEASUREMENT WITH METER -

a) Shrinkage factor is measured by shrinkage tester.

$$V_o = V_S \times f \times (1 - Shr) \times K \times (1 - BSW)$$

V_o : Net oil volume at 60°F and atmospheric pressure.
V_S : Gross oil volume measured by meter under separator conditions.
f : Meter correction factor = $\frac{\text{Volume measured in tank}}{\text{Volume measured by meter}}$
Shr : Percentage of oil volume reduction between separator and tank conditions, reported to oil volume at separator conditions.
K : Volume correction factor to be applied between the final temperature during shrinkage measurement and 60°F.
BSW : Basic sediments and water.

b) Shrinkage factor is measured with tank.

$$V_o = V_S \times (1 - Shr') \times K \times (1 - BSW)$$

V_o, V_S, K and BSW : Same meaning as in a).
$(1 - Shr')$: Shrinkage factor including meter correction factor.

No DOP 120

FLOPETROL

Base : NWB

Client : CONOCO NORWAY INC

Field :

Well : 7/8-3

WATER CUSHION RATE

- MEASUREMENT WITH TANK -

DST I

Section : Annex **2.1**

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Report N° : 83/2301/41

Date - Time		Gauge graduation	Tank volume		STO Gravity			K	BSW	Net volume of STO V_o	Net STO product. rate	Cumulative production	
Time	Interval		Volume V	Temp.	Gravity	Temp.	Grav. 60°F						
HRS:MIN	MIN	CM	BBL						%	BBL	BBLS /day	CUSHION	Units
					02.12.83							FLOW	
08:01		33		WELL OPEN ON 2" FIXED CHOKE									
08:15	14	80	12.4							12.4	1276	12.4	
08:30	15	134	14.3							14.3	1369	26.7	
08:45	15	186	13.7							13.7	1318	40.4	
08:45		49		CHANGE TANK									
09:00	15	101	13.7							13.7	1318	54.1	
09:15	15	151	13.2							13.2	1267	67.3	
09:15		9		CHANGE TANK									
09:30	15	60	13.5							13.5	1293	80.8	
09:45	15	110	13.2							13.2	1267	94.0	
10:00	15	162/8	13.7	CHANGE TANK						13.7	1318	107.7	
10:15	15	62	14.3							14.3	1369	122.0	
10:25				GAS TO SURFACE									
10:30	15	114	13.7	OIL TO SURFACE						13.7	1318	135.7	
10:45	15	168											

Tested interval : JURASSIC SAND

Perforations : 3762 - 3767 METERS

No.: DOP 121

FLOPETROL | MEASUREMENT WITH TANK _ (Continuation) | Page : 35 Report N°: 83/2301/41 | Section : ANNEX 2.1

DATE - TIME		Gauge	TANK VOLUME		STO GRAVITY			K	BSW	Net volume of STO V_o	Net STO product. rate	Cumulative production	
Time	Interval	graduation	Volume V	Temp.	Gravity	Temp.	Grav. 60°F						
HRS:MIN	MIN	CM	BBLS						%	BBLS	BBLS / day	TOTAL	Units
10:45		8										LIQUID BBLS	
11:15	30	162	40.656							40.656	1952	176.4	
11:15		8											
11:45	30	140	34.848							34.848	1673	211.2	
11:45		7											
12:15	30	101	24.816							24.816	1191	236.0	
12:15		12											
12:45	30	127	30.36							30.36	1457	166.4	
				FLOW DIRECTED TO SEPARATOR									

No DOP 120

FLOPETROL

Base : NWB

Client : CONOCO NORWAY INC

Field :

Well : 7/8-3

WATER CUSHION RATE

- MEASUREMENT WITH TANK -

DST II

Section : Annex **2.1**

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Report N° : 83/2301/41

Date - Time		Gauge graduation	Tank volume		STO Gravity			K	BSW	Net volume of STO V_o	Net STO product. rate	Cumulative production	
Time	Interval		Volume V	Temp.	Gravity	Temp.	Grav. 60°F						
HRS:MIN	MIN	CM	BBLS						%	BBLS	BBLS /day	BBLS	Units
				05.12.83									
14:14		30		OPEN CHOKE MANIFOLD 2" FIXED CHOKE. FLOW CUSHION TO GAUGE TANK.									
14:15		32											
14:30	15	52.5	5.4							5.4	519.6	5.4	
14:45	15	73	5.7							5.7	544.9	11.1	
14:46		40			CHANGE	TANK							
15:15	15	61.5	5.7							5.7	282	16.8	
15:15		20			CHANGE	TANK							
15:30	15	35	3.96							3.96	380	20.8	
16:00	30	65	7.92							7.92	380.2	28.8	
16:30	30	94.5	7.79							7.79	373.8	36.6	
17:00	30	125.0	8.05							8.05	386.5	44.7	
17:30	30	156.0	8.18							8.18	392.8	52.9	
17:30	30	60			CHANGE	TANK							
18:00	30	91.5	8.32							8.32	399.2	61.2	

Tested interval : JURASSIC SAND

Perforations : 3734.5 - 3740.5 METERS

No.: DOP 122

FLOPETROL

Base : NWB

Client : CONOCO NORWAY INC

Field :

Well : 7/8-3

- OIL PRODUCTION RATE -
- MEASUREMENT WITH METER -
DST I

Section: ANNEX 2.2

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Report N°: 83/2301/41

DATE - TIME		Meter	V_S	BSW	V_o'*	1 - Shr		OIL GRAVITY			K	Net volume	Net STO	Cumulative	
Time	Interval	reading				Factor	Temp.	Gravity	Temp.	Grav. 60°F		of STO: V_o	product. rate	production	
HRS:MIN	MIN	BBLS	BBLS	%	BBLS		°F	S.G.	°F			BBLS	BBLS /day	BBLS	Units
					02.12.83										
					SWITCH FLOW THROUGH SEPARATOR										
13:00		49.0	0	2											
13:15		63.8	14.8	2	14.53		58	.871	53	.8688	1.0009	14.5	1396.4	14.5	
13:30		79.05	15.25	2	14.98		58	.871	53	.8688	1.0009	15.0	1438.9	29.5	
13:45		93.00	13.95	5	13.28		58	.871	53	.8688	1.0009	13.3	1276.0	42.8	
13:45					FLOW INTO GAUGE TANK FOR METER CORRECTION FACTOR										
14:00		107.27	14.27	2	14.01		58	.871	53	.8688	1.0009	14.0	1346.4	56.9	
14:30		135.68	28.41	2	27.90		58	.867	54	.8651	1.0009	27.9	1340.3	84.8	
14:30					METER FACTOR 1.0021 FLOWED 42.77 BBLS INTO TANK 42.68 THROUGH METER										
15:00		162.64	26.96	1	26.75		58	.867	54	.8651	1.0009	26.8	1284.9	111.5	
15:30		191.13	28.49	1	28.26		58	.867	54	.8651	1.0009	28.3	1357.8	139.8	
16:00		218.31	27.18	0	27.24		58	.867	52	.8644	1.0009	27.3	1308.5	167.1	
16:30		245.47	27.16	1	26.94		58	.867	52	.8644	1.0009	27.0	1294.4	194.1	
17:00		272.27	26.80	1	26.59		58	.867	52	.8644	1.0009	26.6	1277.3	220.7	

Shrinkage factor measured by Shrinkage tester ☐ Tank ☐

*$V_o' = V_S \times f \times (1 - BSW)$ = Net oil volume at separator conditions. f = 1.0021

TESTED INTERVAL :

PERFORATIONS : 3762 - 3767 M RKB

No.: DOP 121

FLOPETROL | MEASUREMENT WITH TANK _ (Continuation) | Page : 37 Report N°: 83/2301/41 | Section : ANNEX 2.1

DATE - TIME		Gauge	TANK VOLUME		STO GRAVITY			K	BSW	Net volume of STO V_o	Net STO product. rate	Cumulative production	
Time	Interval	graduation	Volume V	Temp.	Gravity	Temp.	Grav. 60°F						
HRS:MIN	MIN	CM	BBLS						%	BBLS	BBLS /day	BBLS	Units
05.12.83						05.12.83				TOTAL LIQUID			
18:30	30	122.5	8.184							8.184	392.8	69.4	
19:00	30	153.0	8.052							8.052	386.5	77.4	
19:00		10.5			CHANGE	TANK							
19:15					OIL TO SURFACE								
19:30	30	42.5	8.448							8.45	405.5	85.9	
20:00	30	76	8.844							8.844	424.5	94.7	
20:45	45	133.5	15.180							15.180	485.8	109.9	
20:45	0	14.5			CHANGE	TANK							
21:30	45	58.5	11.616							11.616	371.7	121.5	
21:30	0	11.5			CHANGE	TANK							
22:00	30	47.5	9.504							9.504	456.2	131.0	
22:00	0	58.5			CHANGE	TANK							
22:30	30	94.0	9.372							9.372	449.9	140.4	
22:30	0	47.5			CHANGE	TANK							
23:00	30	78.5	8.184							8.184	392.8	148.6	
23:00	0	94.0			CHANGE	TANK							
23:30	30	127.0	8.712							8.712	418.2	157.3	

No.: DOP 123

FLOPETROL | MEASUREMENT WITH METER -(Continuation) | Page : 39 | Report N : 83/2301/41 | Section : ANNEX 2.2

DATE - TIME		Meter reading	V_S	BSW	V_o'	1 - Shr		OIL GRAVITY			K	Net volume of STO: V_o	Net STO product. rate	Cumulative production	
Time	Interval					Factor	Temp.	Gravity	Temp.	Grav. 60°F					
HRS:MIN	MIN	BBLS		%	BBLS		°F	SG	°F	SG		BBLS	BBLS /day	BBLS	Units
17:00		272.27				02.12.83									
17:30	30	299.25	26.98	1	26.77		58	.867	52	.8644	1.0009	26.8	1285.8	247.5	
18:00	30	325.51	26.26	1	26.05		58	.867	52	.8644	1.0009	26.1	1251.5	273.6	
18:00					BY PASS SEPARATOR TO SURGE TANK										

- GAS PRODUCTION RATE MEASUREMENT by orifice meter -

Reference is made to the rules and coefficients given in AGA gas measurement Comitee Report No. 3 for orifice metering.

a) Equations -

$$Q = C\sqrt{hw \times Pf}$$

Q : Production rate at reference conditions.
C : Orifice flow coefficient.
hw : Differential pressure in inches of water.
Pf : Flowing pressure in psia

$$C = Fu \times Fb \times Fg \times Y \times Ftf \times Fpv$$

Fu : Unit conversion factor in desired reference conditions.
Fb : Basic orifice factor (Q in Cu. ft/hour).
Fg : Specific gravity factor.
Y : Expension factor.
Ftf : Flowing temperature factor.
Fpv : Supercompressibility factor (estimated).

Remarks

Fm : Manometer factor is equal one since only bellows type meters are used.
Fr : Reynolds factor is considered to be one.

TABLE OF Fu FACTOR				
UNITS	REFERENCE CONDITIONS			
	60° F 14.73 psia	0° C 760 mm Hg *	15° C 760 mm Hg*	15° C 760 mm Hg*
Cu. ft/hour	1	0.9483	1.0004	1.0137
Cu. ft/day	24	22.760	24.009	24.329
m3/hour	0.02832	0.02685	0.02833	0.02870
m3/day	0.6796	0.6445	0.6799	0.6889

* Mercury at 32 F

b) Meter data -

Meter type : DANIEL SENIOR Flange taps - Pf taken down/upx stream
Flow recorder type : BARTON ID of meter tube : 5.761

c) Specific gravity source -

Sampling point : SEPARATOR GAS LINE Gravitometer type : KIMRAY

d) Supercompressibility factor Fpv -

All coefficients are from AGA NX 19 manual for natural gas free of air, CO^2 and H_2S. More accurate values could only be determined by laboratory measurement.

No. DOP 125

FLOPETROL

Base : NWB

Client : CONOCO NORWAY INC

Field :

Well : 7/8-3

- GAS PRODUCT. RATE MEASUREMENT -

DST I

Section : ANNEX 3

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Report N : 83/2301/41

DATE - TIME		Flowing	P_f	h_w	$\sqrt{h_w \times P_f}$	Orifice	Gas	F_b	F_g	Y	F_{tf}	F_{pv}	C	Gas production	Cumulative
Time	Interval	Temp.	absolute			diameter	gravity							rate : Q	Production
HRS:MIN	MIN	°F	psia	"of wat.		Inches	(air=1)							MSCF/DAY	MSCF
12:45		02.12.83					FLOW DIRECTED INTO SEPARATOR FOR FLOW RATE MEASUREMENT								
13:00		51	55	46	50.299	1.00	.890	200.96	1.0600	1.0056	1.0088	1.0063	5219	262.5	2.734
13:15	15	55	55	38	45.717	1.00	.890	200.96	1.0600	1.0046	1.0048	1.0062	5193	237.4	5.207
13:30	15	55	55	34	43.243	1.00	.890	200.96	1.0600	1.0041	1.0048	1.0062	5190	224.4	7.545
13:45	15	55	55	37	45.111	1.00	.890	200.96	1.0600	1.0045	1.0048	1.0062	5192	234.2	9.985
14:00	15	55	55	36	44.497	1.00	.890	200.96	1.0600	1.0044	1.0048	1.0062	5191	231.0	12.39
14:30	30	55	60	32	43.818	1.00	.881	200.96	1.0654	1.0036	1.0048	1.0068	5217	228.6	17.15
15:00	30	55	60	32	43.818	1.00	.881	200.96	1.0654	1.0036	1.0048	1.0068	5217	228.6	21.92
15:30	30	56	60	32	43.818	1.00	.881	200.96	1.0654	1.0036	1.0039	1.0068	5212	228.4	26.67
16:00	30	56	60	32	43.818	1.00	.881	200.96	1.0654	1.0036	1.0039	1.0068	5212	228.4	31.43
16:30	30	56	60	32	43.818	1.00	.881	200.96	1.0654	1.0036	1.0039	1.0068	5212	228.4	36.20
17:00	30	56	60	32	43.818	1.00	.881	200.96	1.0654	1.0036	1.0039	1.0068	5212	228.4	40.95
17:30	30	56	65	30	44.159	1.00	.881	200.96	1.0654	1.0031	1.0039	1.0075	5213	230.2	45.74
18:00	30	56	65	30	43.417	1.00	.881	200.96	1.0654	1.0030	1.0039	1.0075	5213	226.3	50.46
18:00							BY-PASS SEPARATOR								

F_u = 24

Recorder ranges : P_f = 0-1500

h_w = 0-200 Temp. = 0-200°F

TESTED INTERVAL : JURASSIC SAND

PERFORATIONS : 3762 - 3767 METERS RKB

- TEST PROCEDURE -

SAMPLING ON DST I

RECOMBINATION	BOTTLE NO.	TAKEN AT	
OIL 700 CC	83081909	SEPARATOR	PROSERV
GAS 20 L	A 14741	SEPARATOR	PROSERV
OIL 700 CC	8207321	SEPARATOR	PROSERV
GAS 20 L	A 14716	SEPARATOR	PROSERV
OIL 1 BBL	WEATHERED	SEPARATOR	
OIL 5 X 10 L	WEATHERED	SEPARATOR	

SAMPLING ON DST II

TYPE		TAKEN AT	REVERSE OUT
OIL 1 X 10 L		CHOKE MANIFOLD	1100 STROKES
OIL 1 X 10 L		BY-SEPARATOR	1300 STROKES
OIL 1 X 5 L		BY-SEPARATOR	1500 STROKES
OIL 1 BBL		GAUGE TANK	
OIL 2 X 10 L		GAUGE TANK	
	BOTTLE NO.		
OIL 628 CC	20112/106	BOTTOM HOLE	FLOPETROL
OIL 628 CC	9214/182	BOTTOM HOLE	FLOPETROL

FLOPETROL

Base : NWB

Client : CONOCO NORWAY INC

Field :

Well : 7/8-3

Section : ANNEX 4.1

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Report N° : 83/2301/41

BOTTOM HOLE SAMPLING — DST II

Date of sampling : 5/12-83 Service order : Sampling No. : 1

Sample nature : OIL Sampling depth :

A — RESERVOIR AND WELL CHARACTERISTICS

Producing zone : Perforations : 3734.5-3740.5M Sampling interval :

Depth origin : RKB Tubing Dia. : 5" DP Casing Dia. : 9 5/8

Surface elevation : Shoe : Shoe :

Bottom hole static conditions

Initial pressure : at depth : date :

Latest pressure measured : at depth : date :

Temperature : at depth : date :

B — SAMPLING AND TRANSFER CHARACTERISTICS

Sampler : Type and No. . DOWELL SCHLUMBERGER P.C.T. Capacity : 1200 CC

Time at which sample was taken : 2330 05.12.83

Test duration : Running start :

Pulling end :

☐ Well shut in since :

☒ Well flowing through choke : 14 14 HRS 2"

Time elapsed since closing well :

Production duration through this choke :

Production cond during sampling or before closing

Bottom hole ft. pressure : temp. :

Well head pressure : 20 PSIG temp. : 47 °F

Separator pressure : temp. :

Flow rates : SCFD BOPD

W.L.R. :

Prod.G.O.R. :

Specific gravity : Gas (air:1) : Oil :

Opening pressure of the first valve (if necessary) : 740 PSIG

Estimated bubble point under bottom hole conditions :

Temp. : Pressure :

Transfer conditions. ☐ By gravity ☒ By pumping

Temp. : 47°F Pressure : 3500 PSIG

Hg volume : collected at transfering end : 550 CC

remaining in the shipping bottle : 8 CC

Final conditions of shipping bottle after decompression :

Temp. : 47°F Pressure : 550 PSIG

Hg volume withdrawn for bottle decompression :

70 CC

C — IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : 20112/106 sent on : by : Shipping order No. :

Addressee :

Coupled with	LIQUID	GAS
Bottom hole samples No.	9214/182	
Surface samples No.		

D — REMARKS

BOTTOM HOLE PRESSURE AND TEMPERATURE FROM SPERRY SUN

P.C.T. VOLUME > 628 CC

TRANSFERRED INTO TWO FLOPETROL BOTTLES

Visa Chief operator

ATLE BERGESEN

No. : DOP 128

FLOPETROL

Base : NWB

Client : CONOCO NORWAY INC

Field :

Well : 7/8-3

Section : ANNEX 4.1

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Report N° : 83/2301/41

BOTTOM HOLE SAMPLING — DST II

Date of sampling : 05.12.83 Service order : _____ Sampling No. : 1

Sample nature : OIL Sampling depth : _____

A — RESERVOIR AND WELL CHARACTERISTICS

Producing zone : _____ Perforations : 3734.5-3740.5 Sampling interval : _____

Depth origin : RKB Tubing Dia. : 5" DP Casing Dia. : 9 5/8

Surface elevation : _____ Shoe : _____ Shoe : _____

Bottom hole static conditions				
	Initial pressure : _____	at depth : _____	date : _____
	Latest pressure measured : _____	at depth : _____	date : _____
	Temperature : _____	at depth : _____	date : _____

B — SAMPLING AND TRANSFER CHARACTERISTICS

Sampler : Type and No. : DOWELL SCHLUMBERGER P.C.T. Capacity : 1200 CC

Time at which sample was taken : 2330 05.12.83

Test duration — Running start : _____ Pulling end : _____

☐ Well shut in since : _____

☒ Well flowing through choke : 1414 HRS

Time elapsed since closing well : _____

Production cond during sampling or before closing.

Bottom hole _____ ft.	pressure : _____ temp. : _____	Well head	pressure : 20 PSIG temp. : 47°F	Separator	pressure : _____ temp. : _____
Flow rates : _____ SCFD _____ BOPD		W.L.R. : _____ Prod.G.O.R. : _____		Specific gravity	Gas (air:1) : _____ Oil : _____

Opening pressure of the first valve (if necessary) : 740 PSIG

Estimated bubble point under bottom hole conditions : Temp. : _____ Pressure : _____

Transfer conditions. ☐ By gravity ☒ By pumping

Temp. : 47°F Pressure : 3500 PSIG

Hg volume — collected at transfering end : 550 CC; remaining in the shipping bottle : 8 CC

Final conditions of shipping bottle after decompression : Temp. : 47°F Pressure : 450 PSIG

Hg volume withdrawn for bottle decompression : _____

C — IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : 9214/182 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.	20112/106	
Surface samples No.		

D — REMARKS

P.C.T. VOLUME > 628 CC
TRANSFERRED INTO TWO FLOPETROL BOTTLES
BOTTOM HOLE PRESSURE AND TEMPERATURE FROM SPERRY SUN

Visa Chief operator

ATLE BERGESEN

No. : DOP 128

FLOPETROL

Base : NWB

Client : CONOCO NORWAY INC.

Field :

Well : 7/8-3

Section : ANNEX 42

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Report N° : 83/2301/41

- SURFACE SAMPLING - DST I

Date of sampling : 02.12.83 Service order : Sampling No. : I

Sample nature : OIL Sampling point : SEPARATOR

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : Perforations : 3762 - 3767 Sampling interval :

Depth origin : RKB Tubing Dia. : 5" DP Casing Dia. : 9 5/8

Surface elevation : Shoe : 12557 FT Shoe :

Bottom hole static conditions

Initial pressure : at depth : date :

Latest pressure measured : at depth : date :

Temperature : at depth : date :

B - MEASUREMENT AND SAMPLING CONDITIONS -

Time at which sample was taken : 1600 - 1630 Time elapsed since stabilisation : 2 HR

Bottom hole dynamic conditions

Choke size : 2" since : 1224 Well head pressure : 57 PSIG Well head temp : 67°F

Bottom hole pressure : at depth : date :

Bottom hole temp. : at depth : date :

Flow measurement of sampled gas - Gravity (air 1) : .881 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0068

Values used for calculations : Fb, Fg, V, F,

Separator

Pressure : 45 PSIG Temp. : 56 °F

Rates - Gas : 228,4 M SCFD

Oil (separator cond.) : 1304 BOPD (B) (C)

GOR : 175 (separator cond.)

Stock tank

Atmosphere : mmHg - °F

Tank temperature : °F

Oil at 60 °F : 1294 BOPD (A) (B) a

BSW : 1 % WLR : %

Transfering fluid : MERCURY

Transfer duration : 30 MIN

Final conditions of the shipping bottle : 50 CC HG

Pressure : 21 PSIG Temp : 48°F

C - IDENTIFICATION OF THE SAMPLE -

Shipping bottle No. : 83081909 sent on : by : Shipping order No. :

Addressee :

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samples No.		A-14741

Measurement conditions,

(A) - Tank. (B) - Meter. (C) - Dump.

[a] - Corrected with shrinkage tester. [b] - Corrected with tank.

D - REMARKS -

0,7 LTR BOTTLES

0,6 LTR SAMPLE

0.05 GASCAP

READING TAKEN AT 16:30

SHRINKAGE .75% 54°F

Visa Chief Operator

ATLE BERGESEN

No. : DOP 127

FLOPETROL

Base : NWB

Client : CONOCO NORWAY INC

Field :

Well : 7/8-3

Section : ANNEX 42

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Report N° : 83/2301/41

- SURFACE SAMPLING - DST I

Date of sampling : 02.12.83 Service order : Sampling No. : I

Sample nature : GAS Sampling point : SEPARATOR

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : Perforations : 3762-3767 Sampling interval :

Depth origin : RKB Tubing Dia. : 5" DP Casing Dia. : 9 5/8

Surface elevation : Shoe : 12557 FT Shoe :

Bottom hole static conditions

Initial pressure : at depth : date :

Latest pressure measured : at depth : date :

Temperature : at depth : date :

B - MEASUREMENT AND SAMPLING CONDITIONS -

Time at which sample was taken : 16:00 - 16:30 Time elapsed since stabilisation : 2 HRS

Bottom hole dynamic conditions

Choke size : 2" since : 1224 Well head pressure : 57 Well head temp. : 67

Bottom hole pressure : at depth : date :

Bottom hole temp. : at depth : date :

Flow measurement of sampled gas - Gravity (air 1) : 9,881 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1,0068

Values used for calculations : Fb, Fs, Y, Fh

Separator

Pressure : 45 PSIG Temp. : 56 °F

Rates - Gas : 228,4 SCFD

Oil (separator cond.) : 1304 BOPD [B] [C]

GOR : 175 (separator cond.)

Stock tank

Atmosphere : mmHg - °F

Tank temperature : °F

Oil at 60 °F : 1294 BOPD [A] [B] [a]

BSW : 1 % WLR : %

Transfering fluid : VACCUM

Transfer duration : 30 MIN

Final conditions of the shipping bottle :

Pressure : 45 PSIG Temp : 98°F

C - IDENTIFICATION OF THE SAMPLE -

Shipping bottle No. : A 14741 sent on : by : Shipping order No. :

Addressee :

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samples No.	83081909	

Measurement conditions,

[A] - Tank. [B] - Meter. [C] - Dump.

[a] - Corrected with shrinkage tester. [b] - Corrected with tank.

D - REMARKS -

READINGS TAKEN 16:30

BOTTOM HOLE PRESSURE FROM SPERRY SUN

Visa Chief Operator

ATLE BERGESEN

No. : DOP 127

FLOPETROL

Base : NWB

Client : CONOCO NORWAY INC

Field :

Well : 7/8-3

Section : ANNEX 42

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Report N° : 83/2301/41

- SURFACE SAMPLING -

Date of sampling : 02.12.83 Service order : Sampling No. : II

Sample nature : OIL Sampling point : SEPARATOR

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : Perforations : 3762-3767 Sampling interval :

Depth origin : RKB Tubing Dia. : 5" DP Casing Dia. : 9 5/8

Surface elevation : Shoe : 12557 FT Shoe :

Bottom hole static conditions

Initial pressure : at depth : date :

Latest pressure measured : at depth : date :

Temperature : at depth : date :

B - MEASUREMENT AND SAMPLING CONDITIONS -

Time at which sample was taken : 1640-1710 Time elapsed since stabilisation : 2 1/2 HR

Bottom hole dynamic conditions

Choke size : 2" since : 1224 Well head pressure : 59 Well head temp. : 67

Bottom hole pressure : at depth : date :

Bottom hole temp. : at depth : date :

Flow measurement of sampled gas - Gravity (air: 1) : 0,881 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1,0068

Values used for calculations :

Separator

Pressure : 45 PSIG

Temp. : 56 °F

Rates - Gas : 228,4 SCFD

Oil (separator cond.) : 1286 BOPD [B] [C]

GOR : 178 (separator cond.)

Stock tank

Atmosphere : mmHg - °F

Tank temperature : °F

Oil at 60 °F : 1277 BOPD [A] [B] [a]

BSW : 1 % WLR : %

Transfering fluid : MERCURY

Transfer duration : 30 MIN

Final conditions of the shipping bottle : 50 CC HG

Pressure : 18 PSIG Temp : 48°F

C - IDENTIFICATION OF THE SAMPLE -

Shipping bottle No. : 8207321 sent on : by : Shipping order No. :

Addressee :

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samples No.		A 14716

Measurement conditions,

[A] - Tank. [B] - Meter. [C] - Dump.

[a] - Corrected with shrinkage tester. [b] - Corrected with tank.

D - REMARKS -

0,7 LTR BOTTLES READINGS TAKEN AT 17:00

0,6 LTR SAMPLE SHRINKAGE .75% 54°F

0,05 LTR GASCAP

Visa Chief Operator

ATLE BERGESEN

No. : DOP 127

FLOPETROL

Base : NWB

Client : CONOCO NORWAY INC

Field :

Well : 7/8-3

Section : ANNEX 4.2

Page : 48

Report N° : 83/2301/41

- SURFACE SAMPLING - DST I

Date of sampling : 02.12.83 Service order : Sampling No. : II

Sample nature : GAS Sampling point : SEPARATOR

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : Perforations : 3762-3767 Sampling interval :

Depth origin : RKB Tubing Dia. : 5" DP Casing Dia. : 9 5/8

Surface elevation : Shoe : 12557 FT Shoe :

Bottom hole static conditions

Initial pressure : at depth : date :

Latest pressure measured : at depth : date :

Temperature : at depth : date :

B - MEASUREMENT AND SAMPLING CONDITIONS -

Time at which sample was taken : 1690-1710 Time elapsed since stabilisation : 2 1/2 HR

Bottom hole dynamic conditions

Choke size : 2" since : 1224 Well head pressure : 59 Well head temp. : 67

Bottom hole pressure : at depth : date :

Bottom hole temp. : at depth : date :

Flow measurement of sampled gas - Gravity (air 1) : 0,881 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1,0068

Values used for calculations : Fb, Fg, Y, Ft

Separator

Pressure : 45 PSIG Temp. : 56 °F

Rates - Gas : 228,4 SCFD [B] [C]

Oil (separator cond.) : 1286 BOPD

GOR : 178 (separator cond.)

Stock tank

Atmosphere : mmHg - °F

Tank temperature : °F

Oil at 60 °F : 1277 BOPD [A] [B] [C] [a] [b]

BSW : 1 % WLR : %

Transfering fluid : VACCUM

Transfer duration : 30 MIN

Final conditions of the shipping bottle :

Pressure : 45 PSIG Temp : 48°F

C - IDENTIFICATION OF THE SAMPLE -

Shipping bottle No. : A 14716 sent on : by : Shipping order No. :

Addressee :

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samples No.	8207321	

Measurement conditions,

[A] - Tank. [B] - Meter. [C] - Dump.

[a] - Corrected with shrinkage tester. [b] - Corrected with tank.

D - REMARKS -

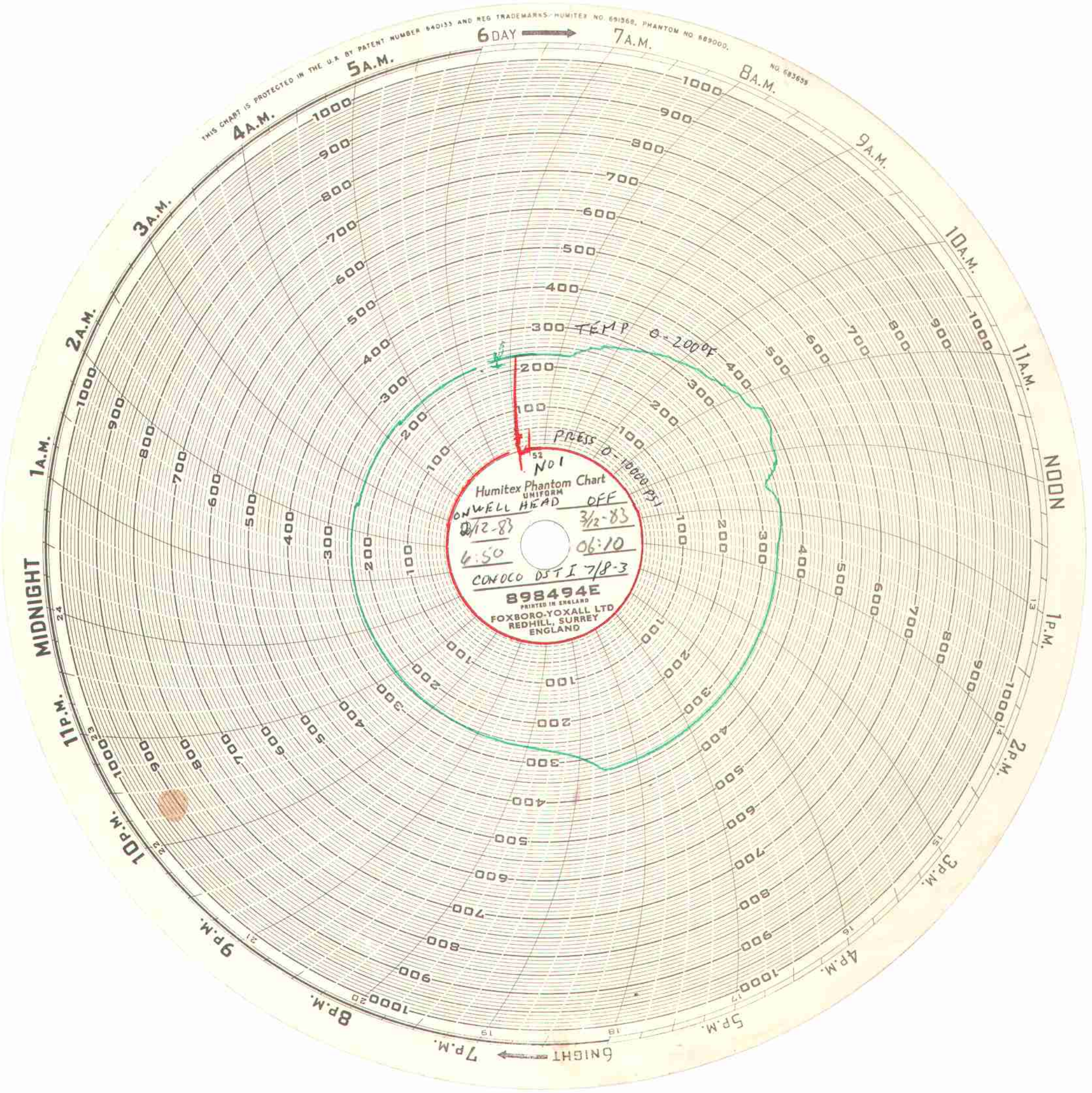
READINGS TAKEN AT 17:00

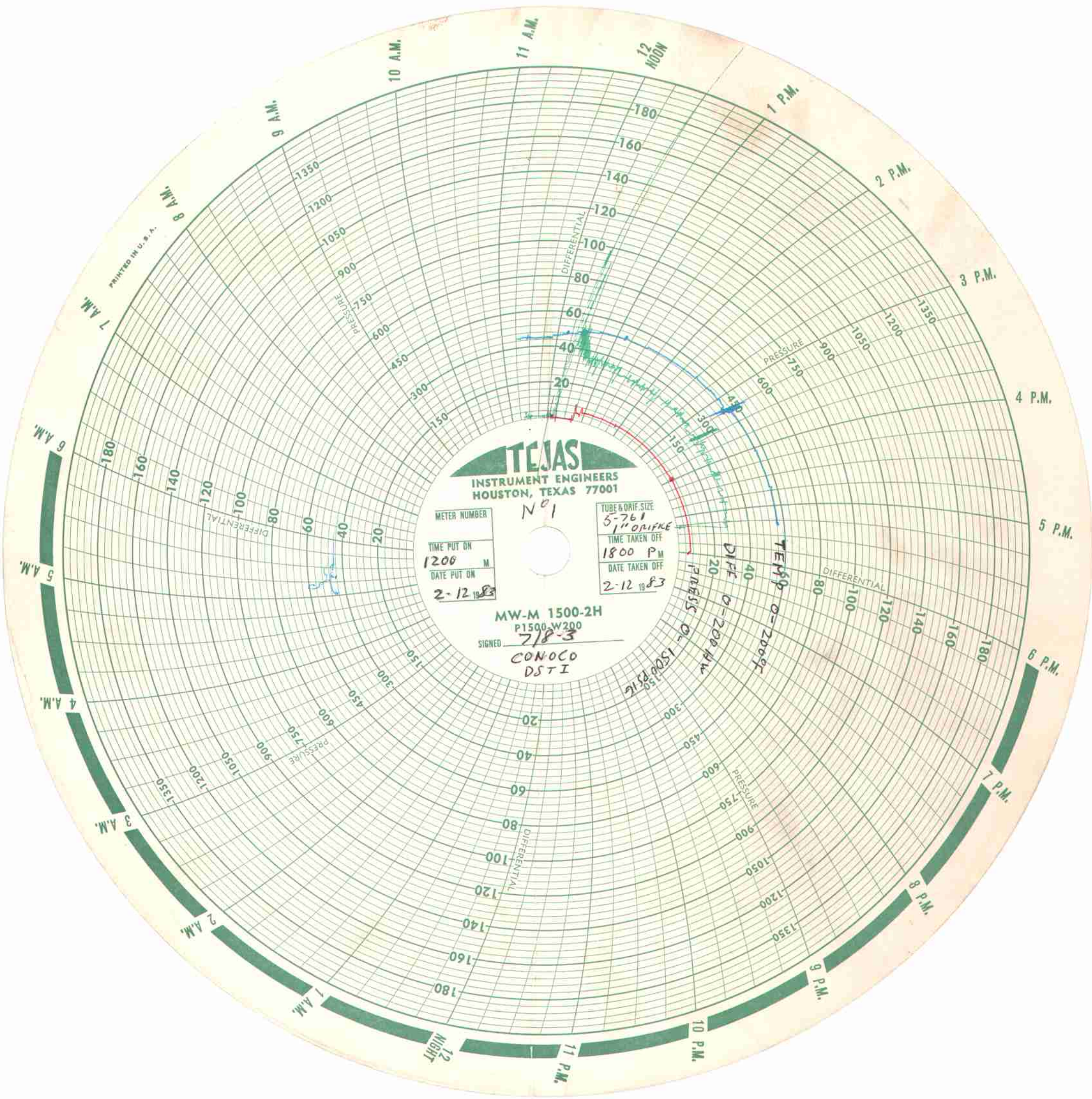
BOTTOM HOLE PRESSURE FROM SPERRY SUN

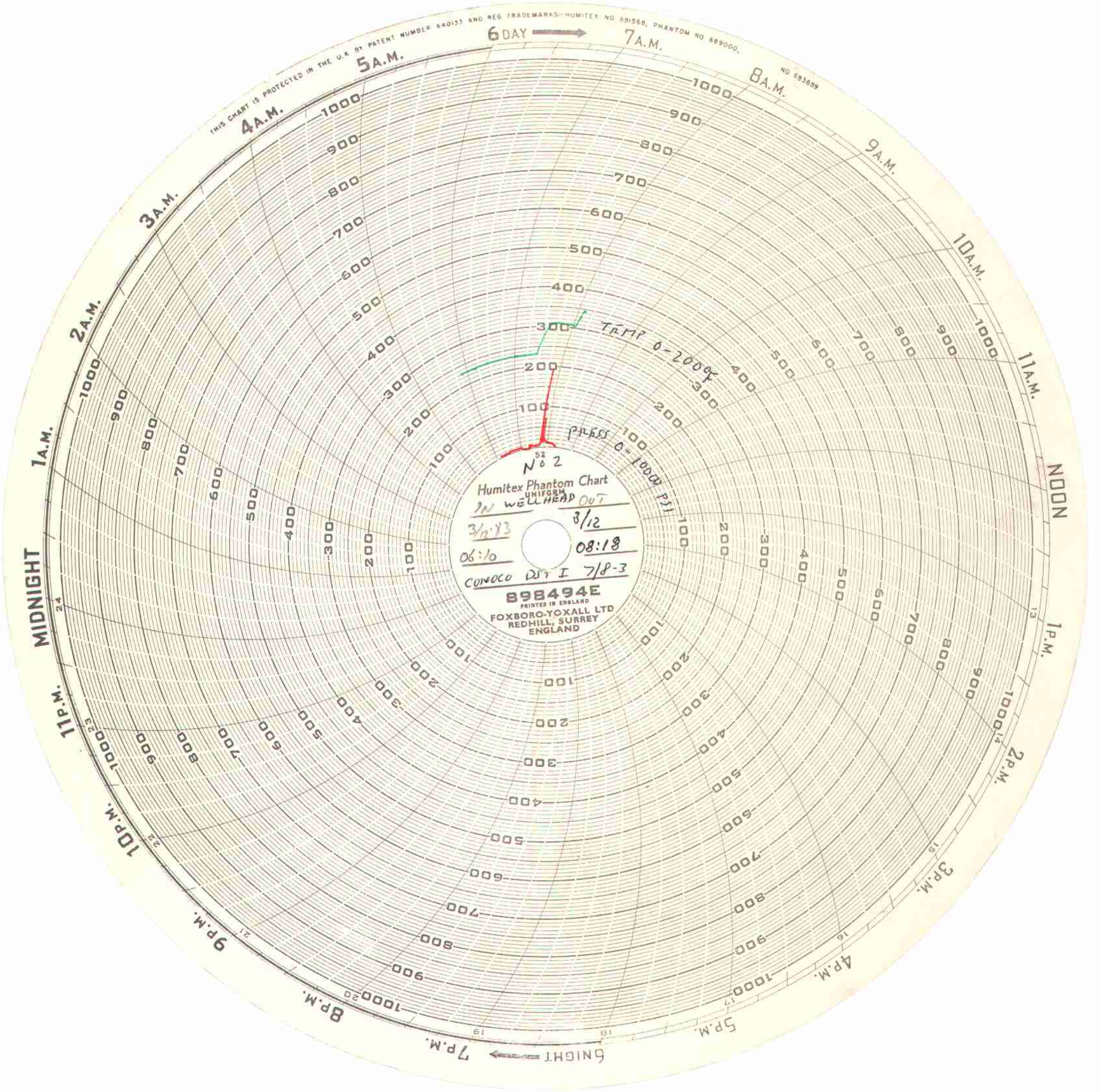
Visa Chief Operator

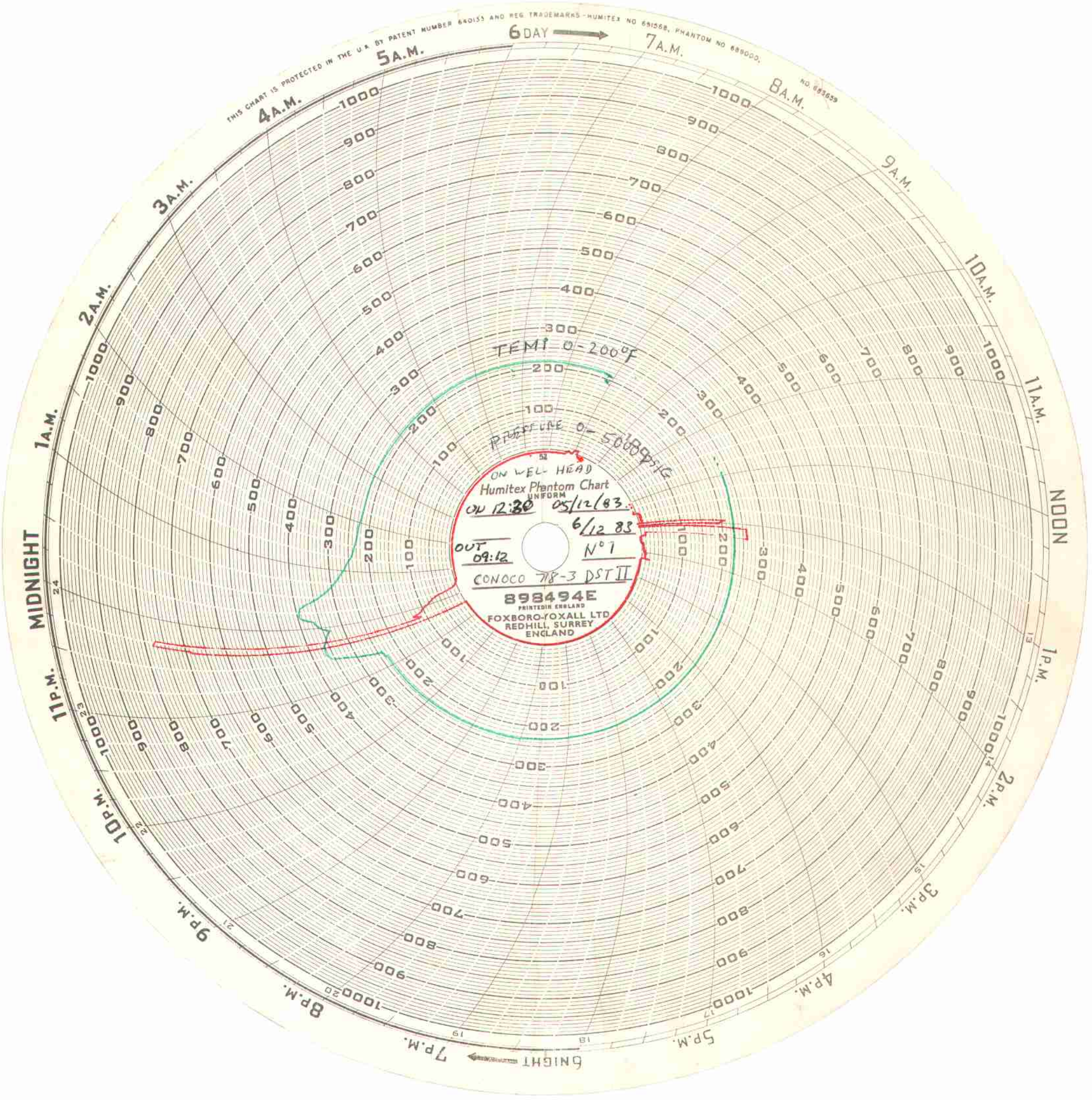
ATLE BERGESEN

No. : DOP 127




TEJAS
INSTRUMENT ENGINEERS
HOUSTON, TEXAS 77001
METER NUMBER
Nº 1
TUBE & ORIF. SIZE
5-761
1" ORIFICE
TIME PUT ON
1200 M
TIME TAKEN OFF
1800 PM
DATE PUT ON
2-12 1983
DATE TAKEN OFF
2-12 1983
MW-M 1500-2H
P1500-W200
SIGNED
7/8-3
CONOCO
DST I
PRESSURE
DIFFERENTIAL
TEMP 0-200°F
DIFF 0-200" H2O
PRESS 0-1500 PSIG
PRINTED IN U.S.A.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.




THIS CHART IS PROTECTED IN THE U.S. BY PATENT NUMBER 640153 AND REG. TRADEMARKS - HUMITEX NO 691568, PHANTOM NO 689000, NO. 683659
6 DAY
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 NIGHT
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
MIDNIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
TEMP 0-200°F
PRESSURE 0-5000 PSIG
ON WEL- HEAD
Humitex Phantom Chart
UNIFORM
ON 12:30
05/12/83
6/12 83
OUT
09:12
N°1
CONOCO 718-3 DST II
898494E
PRINTED IN ENGLAND
FOXBORO-YOXALL LTD
REDHILL, SURREY
ENGLAND