

FLOPETROL

DIVISION	:	EMR/NSD
BASE	=	NWB
REPORT N	•:	83/2301/37

Well Testing Report

Client :	STATOIL	RIG:	ROSS ISLE
Field :	34/10 ALPHA	Well -	34/10-16 DST NO. 2
Zone :	BRENT	Date :	16 - 18 SEPT. 83

FLOPETROL	ClientSTATOIL	Section <u>- INDEX</u>
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- 5-WELL COMPLETION DATA -
- 6_SEQUENCE OF EVENTS _
- \square \neg _ well testing data _

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DOP 101

С FLOPETROL

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ield	:.	34/10	-	ALPH

Base :___NWB

A Page Well : 34/10-16

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_ TEST PROCEDURE _

OBJECTIVES: ESTIMATE PRODUCTIVITY, OBTAIN FLUID SAMPLES ESTIMATE PRESSURE AND TEMPERATURE EVALUATE RESERVOIR PROPERTIES

F

AFTER SCHLUMBERGER HAD PERFORATED 3177 - 3187 METER AND RUN GAUGE RING AND JUNKBASKET. THE TEST STRING WAS RUN USING HALIBURTON TEST TOOLS, FLOPETROL EZ-TREE, LUBRICATOR, FLOWHEAD AND SURFACE TESTING EQUIPMENT. ONE FLOPETROL SDP, AND ONE SPERRY SUN IN F-NIPPLE, 2 SPERRY SUN IN BUNDLE CARRIER.

GAUGES WAS RUN IN WITH STRING.

AFTER ALL TEST EQUIPMENT WAS PRESSURE TESTED TO 420 BAR. THE PACKER WAS SET AT 3152.39 M RKB.

THE LPR-N VALVE WAS OPENED AT 15:04 HRS AT 16.09.83 AND THE WELL WAS OPENED THROUGH A 52/64" POSITIVE CHOKE TO THE SURGE TANK FOR INITIAL FLOW AT 15:13 HRS ON 16.09.83. A TOTAL FLOW OF 1.2 M³ WATER CUSHION WAS FLOWED BACK BEFORE SHUTTING IN FOR INITIAL BUILD-UP AT 15.14.30.

THE WELL WAS OPENED FOR 2ND FLOW AT 16:21 HRS ON A 52/64" POSITIVE CHOKE. GAS REACHED SURFACE AFTER 4 MIN. THE FLOW WAS DIVERTED THROUGH THE SEPARATOR AFTER 44 MIN ON THIS CHOKE WHEN BSW WAS DOWN TO 0%.

2 SETS OF PVT SAMPLES WERE OBTAINED BEFORE SHUTTING IN THE WELL. THE TOTAL 2ND FLOW WAS 550 MIN AND "THE BUILD-UP WAS 539 MIN. THEN THE WELL WAS OPENED ON A 80/64" POSITIV CHOKE FOR 3RD FLOW. THE FLOW WAS DIVERTED THROUGH THE SEPARATOR AFTER 28 MIN. 2 SETS OF PVT SAMPLES WERE OBTAINED BEFORE SHUTTING IN THE WELL. THE 3RD FLOW WAS 423 MIN AND 3RD BUILD-UP WAS 575 MIN.

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Base :_____NWB

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_ MAIN RESULTS _

Tested interval: <u>BRENDT</u> Perforations: <u>3177-3187 m RKB</u>

OPERATION	DURATION	BOTTOM HOLE PRESSURE	WELL HEAD PRESSURE	OIL PROD. RATE	GAS PROD.RATE	G.O.R
Units	MIN	BARS	BARS	м ³ /м	msm ³ /m	scm/m ³
INITIAL FLOW 52/64" POS. CHOKE	1 MIN 30	SEC	45.81			
INITIAL BUILD-UP	66 MIN 3	30 SEC	138.89			
2ND FLOW 52/64" POS CHOKE	550		232.8	313.8	1.293	4105
2ND BUILD-UP	539		350.3			
3RD FLOW 80/64" POS. CHOKE	423		145.2	371.1	1.647	4438
3RD BUILD-UP	575		352.3			
					M RKB	
Depth of bo	ottom hole	e measuremen	ts:	Refere	nce:	
		at:		80/6/U D	0010111 66	1.
Separator g	as gravit				OSITIV .66	4
STO gravit		oke size	80/64" POSI	TIV .7832 60	/60	
BSW : Water cut :						
REMARKS AND OTHER OPERATIONS						
ALL FIGURES	ARE THOSE	LAST RECORD	ED			
ورواري والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع						

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	vven : <u>34/10-16</u>	Report N : 03/2301/3/
_ OPERATING AND	D MEASURING CONDITION	<u>s _</u>
A <u>TYPE OF (</u>	GAUGE	
<u>BOTTOM HOLE</u> : Pressure : <u>SDP(CR</u> Temperature : <u>SDR(CR</u>	<u>G) MK III S</u> PERRY SUN <u>G) MK III S</u> PERRY SUN	
<u>WELL HEAD</u> : Pressure : <u>DW</u> T, Fo Temperature : <u>FOXBOR</u>	OXBORO, MR. SIX O	
<u>SEPARATOR</u> : Pressure : <u>BARTON</u> Temperature : <u>BARTON</u>		
B PRODUCTION	N RATE CONDITIONS AND SOURCES	
OIL PRODUCTION RATE Tank K Floco Meter Dump K Rotron	Reference conditions. Separator X Atmospheric pressure 60°F	Shrinkage _measurement _ X With tank With shrinkage tester
GAS PRODUCTION RATE	Standard_conditions	-
WATER PRODUCTION RATE Tank Meter	15°C 760 MMHG	
C <u>- well D</u> A	ATA _	
WELL STATE DURING SUR	VEY :	
Main casing size_9 Tubing size_5"VAM Perforations: Zone_BRENDT_Fr	yh: tubing / drill pipe / casing 5/8"set at Total wel set at <u>_3180.95</u> Packer <u>_R</u> rom <u>3177</u> to <u>_3187</u> From omto From	l depth TTSset at <u>3152.39</u> to
WELL STATE BEFORE TEST		
Well closed since_ Well flowing since_	<u>DST NO. 1</u> Producing zone <u>B</u> Choke sıze	

N*: DOP 104

FLO	PET	ROL	(

Client : <u>STATOIL</u>

Section :

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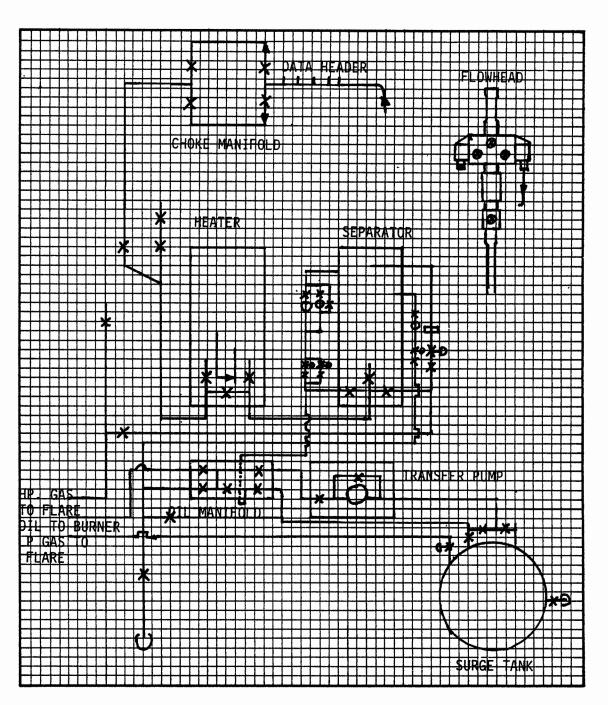
Base :__

Field : <u>34/10 ALPHA</u>

Well : 34/10-10

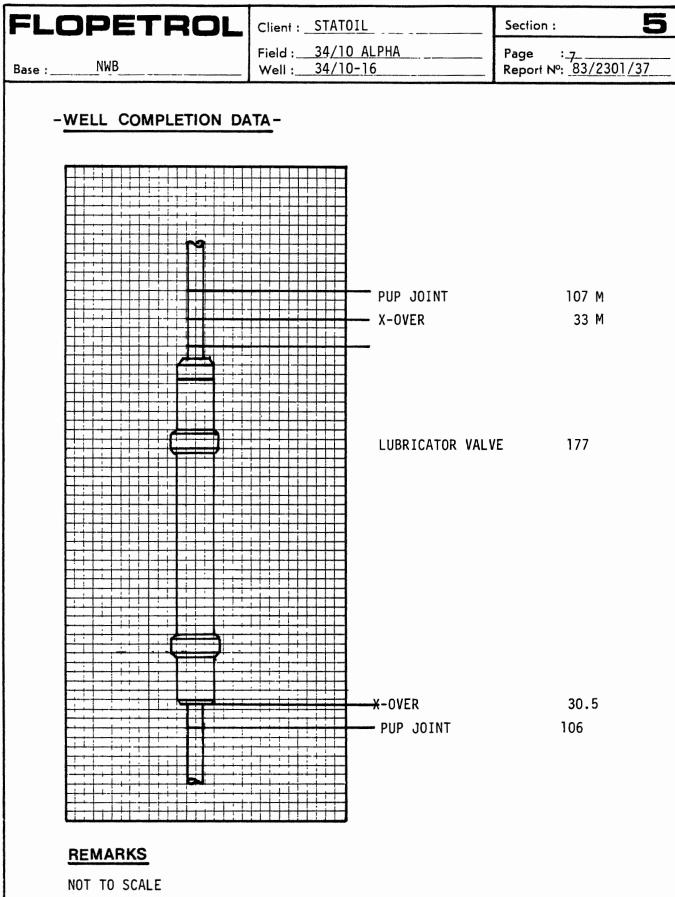
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- SURFACE EQUIPMENT LAYOUT-



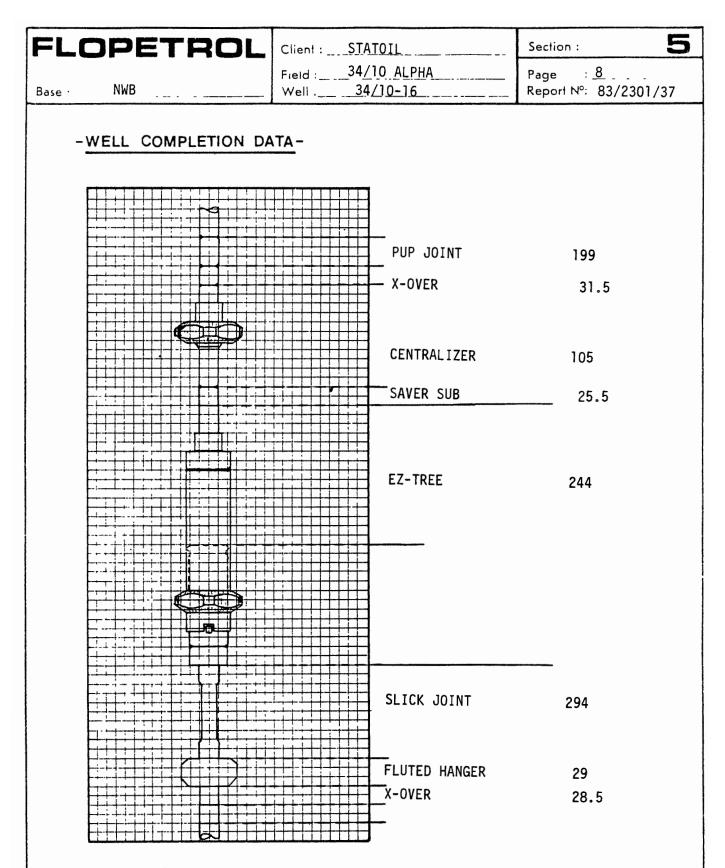
REMARKS:

NOT TO SCALE



ALL MEASUREMENT IN CM

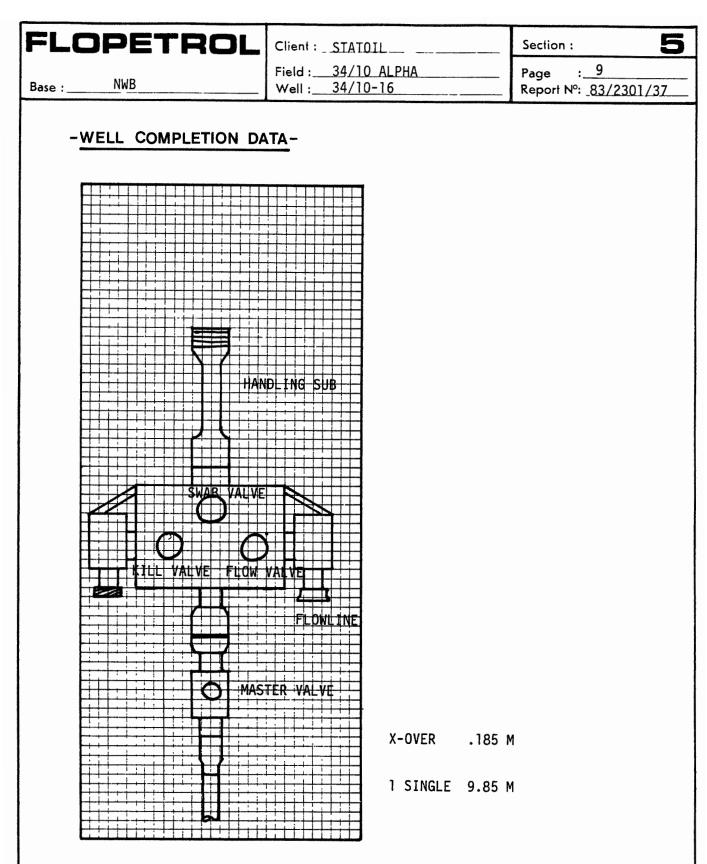
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REMARKS

NOT TO SCALE ALL MEASUREMENT IN CM

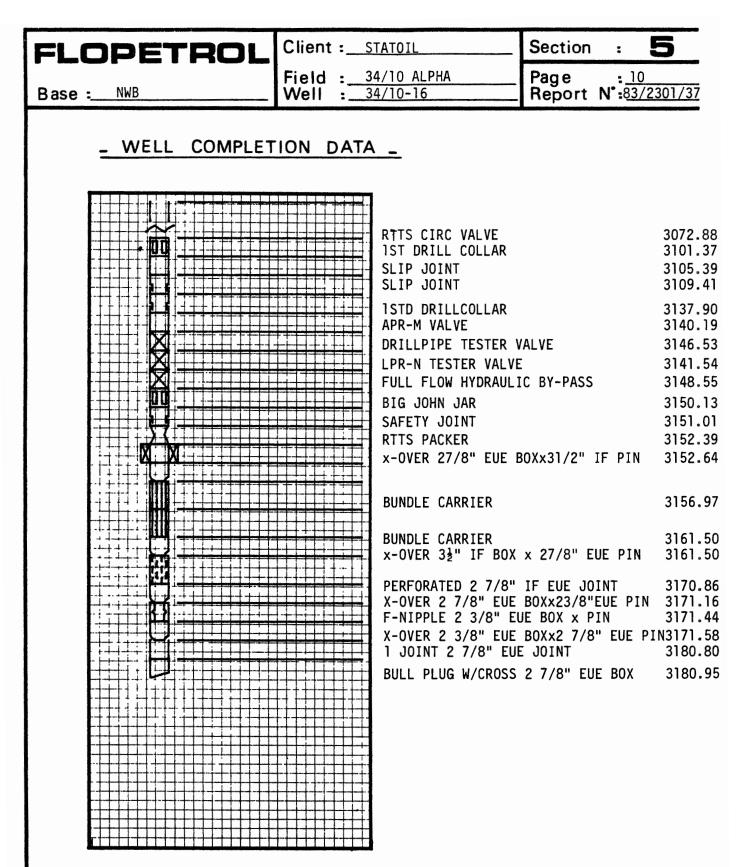
No DOP 106



REMARKS

NOT TO SCALE

Nº: DOP 106



REMARKS :

NOT TO SCALE ALL MEASUREMENT IN METERS

N* : D O P 106

Base :____ NWB

FLOPETROL

_ SEQUENCE OF EVENTS _

Client : STATOIL

Field : 34/10-16 ALPHA Well : 34/10-16

DATE	TIME	OPERATION
12.09.83		PRESSURE TEST LUBRICATOR VALVE TO 6000 PSI, BODY + VALVE.
		PRESSURE TEST EZ-TREE, BODY + VALVE TO 6000 PSI.
		PRESSURE TEST FLOWHEAD, BODY + VALVE TO 6000 PSI.
		PRESSURE TEST CHOKE MANIFOLD BODY TO 6000 PSI, UPSTREAM
		VALVES TO 6000 PSI, DOWNSTREAM VALVES TO 5000 PSI.
		PRESSURE TEST CHIKSANS TO 6000 PSI.
		START TO PRESSURE TEST SURFACE EQUIPMENT.
		PRESSURE TEST HEATER UPSTREAM TO 6000 PSI, DOWNSTREAM TO
		2800 PSI.
		LEAK AT 1400 PSI ON SEPARATOR INLET AND GAS BY-PASS.
		REPAIR AND CHANGE 2 x 3" MAPEGAS VALVES.
13.09.83		PRESSURE GAS AND OIL DIVERTER VALVES TO 1000 PSI.
		PRESSURE TEST OIL MANIFOLD TO 1000 PSI. PRESSURE TEST
		SEPARATOR TO 1200 PSI, AND SEPARATOR INLET TO 1400 PSI.
		PRESSURE TEST BLIND CHOKE ON HEATER CHOKE LINE TO 6000
		PSI. CLEAN OUT BURNERS.
		WORK ON COFLEXIP AND PRESSURE TEST TO 6000 PSI.
		REPAIR LEAKS ON PORT BURNER BOOM AND PRESSURE TEST TO
		1000 PSI.
		GENERAL MAINTENANCE
14.09.83		GENERAL MAINTENANCE
15.09.83		D. BARDIN, P: GULBRANDSEN, S. BRAZINA, K. VARGEVIK, H.
		GEHIN, G. LOTE LEFT RIG.
		Ø. SKAGEN, G. HEITMANN, A. AUSTLID, W. BOSWARVA, M. TOPMS
		ARRIVED RIG.
		GENERAL MAINTENANCE.
		PREPARE SDP NO. 82818 TO RUN IN HOLE.
	17:55	SCHLUMBERGER PERFORATED AT 3177.3187 M RKB.

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Section

=LC	DPET	ROL	Section : E
	_ SEQUEN	CE OF EVENTS _(Continuation)	Page : 12 Report N [:] : 83/2301/3
DATE	TIME	OPERATION	
5.09.83	19:11	POWER ON SDP NO. 82818.	
	19:21	GAUGES IN F-NIPPLE, START R.I.H.	
6.09.83	05:56	PICK UP EZ-TREE.	
	06:15	EZ-TREE MADE UP TO TUBING	
	1	UNLATCH EZ-TREE	
	06:25	RELATCH EZ-TREE	
	06:30	CLOSE EZ-TREE PRESSURE UP B-LINE	
	06:37	OPEN EZ-TREE DRIFT THROUGH WITH SANDLI	NE
	07:05	PICK UP LUBRICATOR VALVE	
	07:17	LUBRICATOR VALVE MADE UP TO TUBING.	
	07:23	FUNCTION TEST LUBRICATOR VALVE AND RIH	•
	07:42	PRESSURE TEST ENTIRE TEST STRING 6100	PSIG.
	08:04	CLOSE EZ-TREE BLEED OFF TO 500 PSIG AB	OVE (40 LTR WATER
		RETURN TO CEMENT UNIT).	
***	08:20	PRESSURE EQUALIZED EZ-TREE OPEN.	
	08:25	BLEED DOWN PRESSURE TO ZERO (500 L RET	URN AT CEMENT UNIT)
	08:33	PRESSURE ENTIRE TEST STRING TO 6100 PS	IG.
		CLOSE LUBRICATOR VALVE	
	08:45	EQUALIZE AND OPEN LUBRIATOR VALVE. BL	EED DOWN TO ZERO,
		(500 L RETURN AT CEMENTUNIT).	
	09:45	RIG UP STATOIL BAIL SLINGS.	
	10:00	FLOWHEAD IN MOUSEHOLE	
	10:15	WEIGHT BEARING EQUIPMENT RIGGED UP	
	10:30	KILL LINE AND FLOWLINE CONNECTED TO FL	OWHEAD
	10:34	FLOWHEAD MADE UP TO TUBING	
	10:38	LAND TEST STRING	
	10:45	CHOKE MANIFOLD ON RIG FLOOR	
		MAKE UP FLOWLINE ETC.	й — 1 — 1 — 2 факция у Македона (по стано стано) — — 4 — 4 — 4 — 4 — 4 — 4 — 4 — 4 — 4
	11:50	PRESSURE TEST AGAINST KILL VALVE TO 42	0 BAR
	12:03	BLEED OFF PRESSURE, OPEN KILL VALVE AN	D MASTER VALVE,

	PETF		Section : E			
	_ SEQUENCE	OF EVENTS _(Continuation)	Report N: <u>83/2301/3</u>			
DATE	TIME	OPERATION				
16.09.83		CLOSE FAILSAFE VALVE.				
	12:10	START PRESSURE TEST AGAINST FAILSAFE, SW	VAB VALVE AND			
		DRILL PIPE TESTER VALVE TO 420 BAR.				
· · · · · · · · · · · · · · · · · · ·	12:35	CLOSE MASTER, BLEED OFF TO 35 BAR TO OBSERV PRESSURE.				
:	12:45	OPEN MASTER TO BLEED OFF STRING, THEN CLOSE MASTER VALVE				
· · · · · ·		AGAIN.				
	12:52	CLOSE HEATER INLET AND BY-PASS, OPEN FAI	ILSAFE TO PRESSURE			
1		TEST LINE TO 345 BAR.				
	12:55	CLOSE CHOKE MANIFOLD DOWNSTREAM VALVES A	AND BLEED OFF			
		PRESSURE UPSTREAM TO 35 BAR TO OBSERVE H	PRESS.			
	13:00	DISCOVER THAT FAILSAFE IS BLEED OFF AND CLOSED.				
	13:02	OPEN FAILSAFE AGAIN AND SECURE HANDLE BY TAPE.				
	13:10	PRESSURE UP TO 345 BAR, OPEN UP DOWNSTREAM VALVES				
13:21		MAKE SURE WE HAD 345 BAR UPSTREAM HEATER.				
		CLOSE DOWNSTREAM VALVES ON CHOKE MANIFOLD AND BLEED OFF				
		TO 35 BAR UPSTREAM TO OBSERVE PRESSURE.				
	13:23	BLEED OFF PRESSURE TO BURNER BOOM, CLOSE	E UPSTREAM VALVES			
		ON CHOKE MANIFOLD AND PRESSURE TEST TO 4	450 BAR.			
	13:35	BLEED OFF PRESSURE, OPEN MASTER AND CLOS	SE KILL VALVE.			
	13:40	PICK UP STRING 5M.				
antanina	13:58	ATTEMPT TO SET PACKER.				
	14:03	TRIED TO OPEN LPR-N BY PRESSURE UP ANNU	LUS.			
	14:12	BLEED OFF ANNULUS PRESSURE.				
	14:17	TRIED TO OPEN LPR-N BY PRESSURE UP ANNU	LUS TO 110 BAR,			
		BUT NO RESPONSE FROM WELL.				
	14:20	BLEED OFF ANNULUS PRESSURE.				
	14:25	PICK UP STRING.				
	15:00	SET PACKER				
+	15:04	OPEN LPR-N VALVE.				
	15:13	OPEN WELL AT CHOKE MANIFOLD ON 32/64" P	OS. CHOKE FOR			

-LO	PETF	- UL	Section : E		
	_ SEQUENCE	E OF EVENTS _(Continuation)	Page : <u>14</u> Report N [:] : <u>83/2301/3</u>		
DATE	TIME	OPERATION			
16.09.83		INITIAL FLOW.			
	15:14:30	CLOSE IN AT CHOKE MANIFOLD. TOTAL VOLU	ME BACK IS ABOUT		
		1.2 M ³			
	15:16	CLOSE LPR-N FOR INITIAL BUILD-UP.			
	16:19	OPEN LPR-N			
	16:21	OPEN WELL AT 52/64" POS CHOKE			
	16:25	GAS TO SURFACE			
	17:03	FLOW THROUGH SEPARATOR.			
	17:30	SWITCH OIL FLOW TO SURGE TANK FOR METER	FACTOR.		
	18:00	SWITCH FLOW BACK TO PORT BURNER, METERFACTOR 0.7994. SWITCH FLOW TO SURGE TANK, START TRANSFERE PUMP.			
	19:15				
	19:20	TANK EMPTY, START FILLING UP TO A METER	FACTOR FOR FLOCO.		
	20:00	SWITCH BACK TO PORT BURNER, METER FACTOR 0.8298.			
21:36 DUMPED 0.466 M ³ OF WATER					
	22:45 SWITCH TO STARBOARD BURNER BOOM.				
	23:01	DUMP 0.320 M ³ OF WATER.			
	23:03	START TAKING FIRST SET OF PVT SAMPLES.			
		COND. BOTTLE NO. 8308922			
		GAS BOTTLE NO. A 14786			
		GAS BOTTLE NO. A 14681			
	23:32	FINISH WITH FIRST SET OF PVT SAMPLES.			
	23:35	DUMP 0.480 M ³ OF WATER			
17.09.83	00:01	DUMP 0.410 M ³ OF WATER			
	00:05	START TAKING SECOND SET OF PVT SAMPLES.			
		COND. BOTTLE NO: 83021217			
		GAS BOTTLE NO. A14695			
		GAS BOTTLE NO. A14761			
	00:35	FINISH SECOND SET OF PVT SAMPLES	······		
	01:00	BY-PASS SEPARATOR			

FLO	PETF	ROL	Section : 6	
		OF EVENTS _(Continuation)	Page : 15 Report N: 83/2301/37	
DATE	TIME	OPERATION		
17.09.83	01:01	SHUT IN WELL AT CHOKE MANIFOLD AND LPR-	N VALVE.	
	01:05	DUMP 0.520 M ³ OF WATER		
		FILLING UP DEAD CONDENSAT,		
		1 x 200 LITER DRUM		
		2 x 10 LITER JERRY CANS		
		6 x 1 LITER GLASSES		
		4 x 1 LITER PLASTIC CANS OF WATER FROM	SEPARATOR.	
4	09:58	OPEN LPR-N VALVE		
	10:00	OPEN WELL AT CHOKE MANIFOLD ON 80/64" F	IXED CHOKE	
	10:28	SWITCH FLOW THROUGH SEPARATOR		
	10:45	SWITCH FLOW TO SURGE TANK FOR METERFACTOR.		
	11:05	SWITCH FLOW BACK TO STARBOARD BURNER, M	ETERFACTOR	
		0.8649		
	11:35	DUMP 0.500 M ³ OF WATER		
	13:25	DUMP 0.810 M ³ OF WATER		
	14:02	DUMP 0.19 M ³ OF WATER		
	14:34	DUMP 0.330 M ³ OF WATER		
	15:00	DUMP 0.320 M ³ OF WATER		
	15:03	START TAKING THIRD SET OF PVT SAMPLES.		
		CONDENSATE BOTTLE NO. 8208308		
		GAS BOTTLE NO. 14668		
		GAS BOTTLE NO. 14751		
	15:40	FINISH TAKING PVT SAMPLES		
	16:02	DUMP 1.040 M ³ OF WATER		
	16:06	START TAKING FOURTH SET OF PVT SAMPLES.		
		CONDENSATE BOTTLE NO. 83021209		
		GAS BOTTLE NO. A14789		
		GAS BOTTLE NO. A14688		
	16:45	FINISH TAKING PVT SAMPLES		
	16:52	DUMP 0.470 M ³ OF WATER		

FLO	PETF	ROL	Section : E
	_ SEQUENCE	OF EVENTS _(Continuation)	Page : <u>16</u> Report N [:] :_83/2301/3
DATE	TIME	OPERATION	
17.09.83	17:01	BY-PASS SEPARATOR	
		SHUT IN WELL AT CHOKE MANIFOLD AND LPR-	N VALVE
	22:04	CLOSE MASTER VALVE	
	22:06	BLEED OFF PRESSURE TO 35 BAR TO CHECK M	ASTER VALVE.
	22:09	BLEED OFF TO 0 PSI	
	22:14	OPEN KILL VALVE FOR FLUSHING SURFACE EQ	UIPMENT.
	23:00	FINISH FLUSHING.	
18.09.83	00:05	OPEN MASTER VALVE	
	00:09	CLOSE KILL VALVE	
	00:11	OPEN CHOKE MANIFOLD TO BURNER.	
	00:14	CLOSE CHOKE MANIFOLD	
	00:16	OPEN CHOKE MANIFOLD ON 28/64" ADJUSTABL	E CHOKE
	00:30	CLOSE CHOKE MANIFOLD, PRESSURE INCREASE	. NOT POSSIBLE
		TO BLEED OFF TUBING PRESSURE.	
	00:35	CLOSE FAILSAFE VALVE	
	00:37	OPEN LPR-VALVE	
	00:39	BLEED OFF FLOWLINE PRESSURE.	
	90:4 0	OPEN KILL VALVE.	
	00:42	START BULLHEADING.	
	02:54	BULLHEAD ANNULUS	
	03:17	CLOSE KILL VALVE LINE UP 2" CHIKSANS TO	SHALE SHAKERS.
	03:21	OPEN KILL VALVE	
	03:25	OPEN APR-M CIRCULATING VALVE. START RES	ERCE CIRCULATION
	04:57	FINISH REVERCE CIRCULATION.	
	05:00	CLOSE MASTER VALVE, LINE UP 2" CHIKSANS	TO MUD PUMPS.
	05:01	OPEN FAILSAFE VALVE	
	05:05	START TO FLUSH LINES TO BURNER	
	05:15	FINISH FLUSHING, CLOSE FAILSAFE VALVE	
	05:23	OPEN MASTER VALVE, START SIRCULATING. R	RIG DOWN CHOKE
		MANIFOLD, FLOWLINE ETC.	

FLC	PETI	ROL	Section : 6
	_ SEQUENO	CE OF EVENTS _(Continuation)	Page : 17 Report N: 83/2301/37
DATE	TIME	OPERATION	
18.09.83	.06:50	FINISH CIRCULATING	
	07:00	UNSEAT PACKER	
	07:01	PUMP DOWN 1 M ³ SLUG.	
	07:18	START CIRCULATING	
	10:30	FINISH CIRCULATING	
	10:42	DISCONNECT FLOWHEAD + SINGLE	
	11:00	FLOWHEAD IN MOUSEHOLE ELS BOP DISCONNEC	CTED.
	11:15	LAY DOWN FLOWHEAD + SINGLE	
	12:08	LUB VALVE OFF STRING.	
	12:15	FLUSHED THROUGH PERMANENT PIPING WITH D	OOWELL SCHLUMBERGER
	13:25	EZ-TREE OFF STRING, START PACKING EQUIP	MENT.
	20:30	SDP ON SURFACE.	
			99 (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (1997) (19
	-		/18/00
	<u> </u>		
	· · · · · · · · · · · ·		

	Client : STATOIL Section : 7	Field : 34/10 ALPHA - WELL TESTING DATA SHEET - Well : 34/10-16	AND TEMPERATURE MEASUREMENTS PROD. RATES AND FLUID PROPERTIES GOR	WELL HEAD SEPARATOR OIL OR CONDENSATE I GAS	Tg.temp Tg. press. Cg. press. Temp. Press. Rate Gravity BSW Rate			VALVE	125.4	125.8	125.8	125.1	125.1	124.9				EASURING CONDITIONS : TESTED INTERVAL : 3177 - 3187
					Cg. press.				125.4	125.8	125.8	125.1	125.1	124.9				S CONDITIONS :
60	FLOPETROL	NWB	PRESSURE	BOT TOM HOLE	Π	170°08'83	SETT PACKER	OPEN LPR-VALVE										LIQUID FLOW RATE MEASURING
No.: DOP 109		Base :_	DATE - TIME		Time C		15:00	15:04	15:05	15:06	15:08	15:08	15:09	15:10				LIQUIE

	Γ			Units																	
Section					111																
Page : 19 Report N ⁻ : 83/2301/37	GOR																				
t N.	IES	S	Gravity	Aır=1																	
Page Repor	ā	ð		MMSCM/D		E															
tion)	RATES AND FLUID	SATE	-+	2		POS CHOKE															
ntinua	ATES AN	CONDENSATE	Gravity BSW			52/64" 7		.2M ³													
SHEET_(Continuation)	PROD. R/	ш	Rate	<u>م/ د</u>		FLOW ON 5.		FLOW BACK													
	VTS	ATOR	Press.	PSIG		INITIAL		CHOKE, FI													
3 DATA	SUREMEI			oF		FOR		АТ													
ESTING	re meas	D	Cg press.			OPEN UP		CLOSE IN													
-WELL TESTING	TEMPERATURE MEASUREMENTS	WELL HEAD	Tg.temp Tg. press. Cg press. Temp.	BAR			45.81		159.58	156.81	155.09	154.06	152.68	151.99	150.96	150.61	149.92	148.89	148.54		
	AND TEM	Ν.	Tg. temp	o O																	
FLOPETROL	PRESSURE AI	BOTTOM HOLE	Temp. Pressure	16.09.83																	
	PRE	BOTTO	Temp.					/0													
	– TIME		<u> </u>	MIN		0	1	15:14:30 1.30/0	• 30	1.30	2.30	3.30	4.30	5.30	6.30	7.30	8.30	9.30	10.30		
	DATE -		Time	HR/MIN		15:13	15:14	15:14:	15:15	15:16	15:17	15:18	15:19	15:20	15:21	15:22	15:23	15:245	15:25		

COPETROL	G DATA SUREMENTS SEPARATO SEPARATO OF PSIO	SHEET_(Continuation)		Page :20 Report N':83/2301/37 Report N':83/2301/37	L : n
- TIME PRESSURE AND TEMPERATURE MEASURE BOTTOM HOLE WELL HEAD Runui Temp. Pressure Tg temp Tg. press. Cg press. c N NIN Temp. Pressure Tg temp Tg. press. c c 11.30 11.30 148.41 148.41 147.20 c c 12.30 13.30 148.20 147.23 147.23 c c 13.30 14.30 147.23 147.23 147.23 c c 15.30 20.30 147.23 147.23 147.23 c c 20.30 14.30 147.23 147.23 c c c 30.30 25.30 147.23 147.23 147.23 c c c 30.30 25.30 147.23 147.23 c c c c c c c c c c c c c c	SUREME SEPAF Temp. oF		1		
BOTTOM HOLE WELL HEAD Cumul Temp. Fressure Tg temp Tg. press. Cg press. MIN Co. BAR Co C 11.30 16.00.83 148.41 1 11.30 148.41 148.20 c 12.30 148.20 148.20 c 13.30 147.51 147.51 1 14.30 147.51 147.51 1 15.30 14.7.23 147.51 1 20.30 147.51 147.51 1 25.30 1447.51 1 1 25.30 1447.53 1 1 30.30 1447.51 1 1 25.30 1447.51 1 1 35.30 1447.53 1 1 25.30 1447.53 1 1 35.30 1443.72 1 1 40.30 140.96 1 1 45.30 140.96 1 1 </th <th>SEPAF Temp. oF</th> <th></th> <th>FLUID PROPERTIES</th> <th>GOR</th> <th></th>	SEPAF Temp. oF		FLUID PROPERTIES	GOR	
NIN Tressure Ig.templig. press. Ug press. 11.30 16.00.83 AR 11.30 146.00.83 148.41 12.30 148.20 148.20 13.30 148.20 147.51 13.30 147.51 147.51 14.30 147.51 147.51 14.30 147.51 147.51 15.30 147.51 147.51 20.30 147.51 147.23 25.30 145.79 147.23 30.30 1447.51 147.23 30.30 1447.51 147.23 40.30 1447.59 1447.51 40.30 1443.72 145.79 45.30 140.96 140.96	OF OF	OIL UN CUNDEN	В В		
MIN 16.00.83 Dot 11.30 148.41 12.30 148.20 13.30 147.86 14.30 147.86 14.30 147.51 15.30 147.51 20.30 145.79 20.30 145.79 30.30 145.79 40.30 142.89 45.30 140.96	5		Rate	LZ	
11.30 148.41 12.30 148.41 12.30 148.20 13.30 147.51 14.30 147.51 14.30 147.51 15.30 147.51 20.30 145.79 20.30 145.79 30.30 145.79 35.30 143.72 35.30 140.96 40.30 140.96 45.30 140.61		2 <u>Q/cW</u>	MMSCM/D AIr=1	1	Units
12.30 13.30 14.30 15.30 20.30 25.30 30.30 35.30 45.30 45.30					
12.30 13.30 14.30 15.30 20.30 25.30 30.30 35.30 40.30 45.30					
13.30 14.30 14.30 15.30 20.30 25.30 25.30 30.30 30.30 36.30 40.30 40.30					
14.30 15.30 20.30 25.30 30.30 30.30 40.30 45.30					
15.30 20.30 25.30 30.30 35.30 40.30 45.30					
20.30 25.30 30.30 35.30 40.30 45.30					
25.30 30.30 35.30 40.30 45.30					
30.30 35.30 40.30 45.30					
35.30 40.30 45.30					
40.30					
45.30					
16:02 20.30					
16:10 55.30 139.58					
16:19 64.30 138.89 OPEN LPR-N VA	OPEN LPR-N VALVE				
16:21 66.30'0 OPEN WELL AT	CHOKE	ANIFOLD ON 52/64" FI	52/64" FIXED CHOKE		
16:22 1 125.10					
16:23 2 83.74					

		FLOPETROL		-WELL TESTING	TESTING	DATA	SHEET_(Continuation)	Continu	ation)	Repo	N. T	Report N:: 83/2301/37	Section :	
DATE -	TIME	PRESSURE	AND TE	MPERATU	IRE MEAS	TEMPERATURE MEASUREMENTS	PROD	RATES AND FLUID	ND FLU	IID PROPERTIES	TIES	GOR		
				WELL HEAD	AD			OIL OR CONDENSATE	SATE		GAS			
Time	Cumul	Temp. Pressure	T	Tg.tempTg. press. Cg press. Temp.	Cg press.			Gravity		Rate	Gravity			
NTW/XH	NTM		<u>у</u> с •	BAR		OF PSIG	1/D		%	MMSCM/D	Air=1			Units
16:23			22 6	C 2										
16:24	e			93.39										
16:25	4			104.42	GAS TO S	SURFACE								
16:26	5			111.31										
16:27	6			137.51										
16:28	7			145.79										
16:29	ø			169.92										
16:30	6		50	190.60										
16:35	14		52	215.42										
16:40	19		52	217.35										
16:45	24		53	219.21										
16:50	29		57	220.94										
16:55	34		59	222.32										
17:00	39		62	224.73										
17:03	42				DIVERTED	DIVERTED FLOW THROUGH	UCH SEPARATOR	TOR						
17:30	69		69	228.18					0	1.282	•655			
17:30	69				SWITCH 0	SWITCH OIL FLOW TO	URGE TANK	K FOR METERFACTOR	TERFAC	ror				
17:45	84		17	229.21			335.3	. 7882	0	1.281	.655			

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	Ū		LOPETROL		. MELL	-WELL TESTING	3 DATA		SHEET_(Continuation)	ntinu	ation)	Page Repo	L N	Page : 22 Report N': 83/2301/37	$\overline{7}$ Section	: uo	
DATE -	TIME	PRES	PRESSURE A	AND TE	T EMPERATURE		MEASUREMENTS	INTS	PROD. R/	RATES A	AND FLUID	JID PROPERTIES	TES	GOR			
		BOTTO	BOTTOM HOLE	5	WELL HEAD		SEPAI	SEPARATOR	OIL OR C	CONDENSATE	SATE	(9 ()	GAS				SHR/SHR
Time	Cumul	Temp.	Pressure	Tg. tem	Tg. temp Tg. press.	Cg press.	ġ	Press.	Rate	Gravity		Rate	Gravity				
HR/MIN	MIM			Do	BAR		oF	PSIG	M ³ /D	60/60	%	MMSCM/D	Air=1	SCM/M ³	CO_2 H ₂ S	CL-PPM	Units
17:45				8	5												
18:00	66						107	006	SWITCH FL	FLOW BACK	\mathbf{TO}	PORT BURNER					
18:00	66			73	229.7		107	900	322.5	.7882	2	1.281	.655	3972			
18:30	129			74	230.3		111	895	318.2	.7882		1.289	.655	4051	1% 0%		
19:00	159			75	230.4		113	890	314.9	.7882	2.5	1.282	.664	4071			
19:15	174			76	230.5		113	870	SWITCH FI	FIOW TO	SURGE	TANK FOR EI	EMPTY TA	NK AND	NEW METER	FACTOR	
19:30	189			77	230.8		113	870	316.4	.7882		1.281	.664	4049	2% 0%		
20:00	219						114	870	SWITCH FI	FLOW BACK	TO	PORT BURNER					
20:00	249			78	231.0		114	870	309.1	.7895	TRACE	1.283	:664	4151			6%/60 ⁰ F
20:30	279			78	231.1		114	875	311.2	.7895		1.293	.660	4155	2% 0%		
21:00	309			79	231.3		117	875	310.0	.7895	TRACE	1.293	.660	4171			
21:30	339			79	231.4		118	875	321.0	.7913		1.294	.660	4031	2% 0%		
21:36	345								DUMPED 2.	93 BBI	WATER						
22:00	369			79	231.6		120	875	320.3	.7910	3	1.292	.660	4034		1700	
22:30	399			79	231.7		120	875	318.7	.7910	3	1.292	.660	4054			
22:45	414								SWITCH TO		ORD BU	STARFORD BURNER BOOM					
23:00	429			80	231.8		120	875	319.3	.7910	3	1.292	.660	4064			
23:05	434								DUMPED 2 01 BBI	01 BBI	WATER						

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Ĩ	Ö	Ĕ	OPETROL		. MELL	-WELL TESTING	5 DATA		SHEET_(Continuation)	ntinu	ation)		LT N	Page :23 Report N ^{:83/2301/37}	- Section	ion :	r
DATE -	- TIME	PRE	PRESSURE A	AND TE	EMPERATL	TEMPERATURE MEASUREMENTS	UREME	NTS	PROD. R/	RATES A	AND FLUID	- 6	TIES	GOR			T
•			BOTTOM HOLE	>	WELL HEAD	AD	SEPAF	SEPARATOR	OIL OR C	CONDENSATE	SATE		GAS				
I IME	Cumul	Temp.	Pressure	Tg. tem	pTg. press.	Cg. press.		Press.		Gravity	BSW	Rate	Gravity				
NTW/MH				20	^{JC} BAR			PSIG	M ³ /D	60/60	%	MMSCM/D	Air=1	SCM/M ³	CO ₂ H ₂ S	S CL-PPM	Units
23:05	3				50										111111		
23:30	459			81	231.9		121	875	313.9	.7919		1.296	.660	4129			
23:35	464						DUMPED	2.99	BBLS WATER								
24:00	489			81	232		123	875	316.2	.7893	3	1.293	.660	4088	2% 0%	1800	
				17.09	83												
00:30	519			81	232.5		123	875	314.9	.7893		1.293	.660	4105			
01:00	549			81	232.8		123	875	313.8	.7893	e.	1.293	.660	4120			
01:00							BYPASS	SEPA	ATOR								
01:01	550/0				297.5		SHUT I	IN WELL	AT CHOKE I	MANIFCLD	LD AND	LPR-N VALVE	/E				
01:02	1				321.6												
01:03	2				345.7												
01:04	3				356.1												
01:05	4				359.5												
01:15	14				358.8												
01:30	29				357.5												
01:45	44				357.0												
02:00	59			58	356.1												
02:15	74			53	355.5												

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Ľ	۵ O	FLOPETROL		-WELL TESTING	ESTING	DATA		SHEET_(Continuation)	ntinua	tion)	Page Repo	rt N* <u>8</u>	Page :24 Report N': <u>83/2301/37</u>	Section	- 	
DATE -	TIME	PRESSURE	AND T	T EMPERATURE		MEASUREMENTS	TS	PROD. RA	RATES AN	AND FLUID	ID PROPERTIES	TIES	GOR			
				WELL HEAD	Q		TOR	R C	ONDENS	ATE		GAS				
Time HR/MIN	Cumul	Temp. Pressure		Tg. temp Tg. press Cg. press.	Cg. press.		Ś	Rate w3/h	Gravity	BSW *	Rate MMc/M/D	Gravity	crw/m3	o n cu	rt -DDM	
02:15				17,09,83		I.	ATCI			9		AILEI	SUN/ M ⁻	11.200	11111111	Units
02:30	89		47	355.4												
02:45	104		44	354.7												
03:00	119		42	354.4												
03:15	134		40	354.3												
03:30	149		37	353.7												
03 : 45	164		36	353.6												
04:00	179		33	353.3												
04:15	194		32	352.8												
04:30	209		31	352.4												
04:45	224		30	352.3												
05:00	239		29	352.2												
05:15	254		28	352.1												
05:30	269		27	351.9												
05:45	284		26	351.7												
00:90	299		25	351.6												
06:15	314		24	351.4												
06:30	329		24	351.2			-		_							

OPETROL WELL TESTING DATA SHEET_(Continuation) -TIME PRESSURE AND TEMPERATURE MERATURE MERATURE MERATURE PROD RATES AND FLUID FT NIN PROD PRESSURE TAND TEMPERATURE PROD RATES AND FLUID FT Cumul Immo Pressure Tay VIL PROD RATES AND FLUID FT Cumul Immo Pressure Tay VIL PROD RATES AND FLUID FT Cumul Immo Pressure Tay VIL PROD RATES RATE ANN Pressure Tay VIL PROD RATES RATE PROD RATES RATE ANN Pressure Tay VIL PROD RATES RATE VIL VIL PROD RATE	No.: DOP 110	10																
- TIME PRESSURE AND TEMPERATURE MELL HEAD SEPARATOR OLL <or< th=""> CONDENSATE RUNUI Houre WELL WELL MELL FESSURE OLL OR ONDENSATE A NUN Fensure Remain Ressure Remain Ressure Goldol 2 Mate 344 22 351.0 Pass Rate Goldol 2 Mate 359 22 350.9 Pass Rate Goldol 2 Mate 374 22 350.9 Pass Rate Goldol 2 Mate 404 21 350.9 Pass Pass Pass Pass Pass Pass 419 19 350.5 Pass Pass</or<>	FLC			С С		MELL 7	TESTINC			HEET_(Co	ontinué	ition)	Page Repo	rt N:	Page : <u>25</u> Report N': <u>83/2301/37</u>	- Section	: uo	
		IME	PRE	SSURE A		MPERATL	IRE MEAS	UREME	NTS		ATES AI	ND FLUI	l a	ries	GOR			
Number Currine Intrine. Rescur A Rate of Condition Rate of Condit		_	BOTTO	M HOLE	5	/ELL HE.	AD	SEPAI	ATOR		ONDEN:		ອ	٩S				
NUM Definition NUM NUM Definition NUM NUM <th></th> <th>_</th> <th>Temp.</th> <th></th> <th>Tg. temp</th> <th>Tg. press.</th> <th>Cg press.</th> <th>Temp.</th> <th>Press.</th> <th></th> <th>Gravity</th> <th>BSW</th> <th>Rate</th> <th>Gravity</th> <th></th> <th></th> <th></th> <th></th>		_	Temp.		Tg. temp	Tg. press.	Cg press.	Temp.	Press.		Gravity	BSW	Rate	Gravity				
344 22 351.0 359 22 350.9 354 21 350.9 374 21 350.9 374 21 350.9 389 21 350.9 <th>-</th> <th>976</th> <th></th> <th></th> <th>60°2</th> <th>BAR 83</th> <th></th> <th>oF</th> <th>PSIG</th> <th></th> <th>60/60</th> <th>%</th> <th>MMSCM/D</th> <th>Ar=1</th> <th>cW/W2</th> <th>CO₂ H₂S</th> <th>CL-PPM</th> <th>Units</th>	-	976			60°2	BAR 83		oF	PSIG		60/60	%	MMSCM/D	Ar=1	cW/W2	CO ₂ H ₂ S	CL-PPM	Units
344 22 351.0 359 22 350.9 374 2 350.9 374 2 350.9 374 2 21 350.9 389 21 350.9 404 20 21 350.8 419 20 350.7 449 19 350.6 479 19 350.4 539 19 350.4 539 19																		
359 22 350.9 374 21 350.9 389 21 350.9 404 21 350.9 404 21 350.8 404 21 350.7 419 20 350.7 434 19 350.6 449 19 350.5 <		344			22	351.0												
374 21 350.9 389 21 350.9 404 21 350.8 419 21 350.7 419 20 350.7 419 20 350.6 434 19 350.6 449 19 350.6 479 19 350.4 537 537		359			22	350.9												
389 21 350.9 <		374			21	350.9												
404 21 350.8 1 1 419 20 350.7 1 1 434 19 350.6 1 1 1 434 19 350.6 1 1 1 449 19 350.5 1 1 1 479 19 350.5 1 1 1 509 19 350.3 1 1 1 537 19 350.3 1 1 1 539/0 19 350.3 0FEN MELN VALVE 1 539/0 1 2 1 1 1 539/0 1 2 1 1 1 539/0 1 2 1 1 1 539/0 1 2 1 1 1 539/0 1 2 2 1 1 1 539/0 1 2 2 2 2		389			21	350.9												
419 20 350.7 19 350.6 19 434 19 350.6 19 350.6 10 449 19 350.5 19 19 350.4 10 479 19 350.4 19 350.4 10 10 509 19 350.3 0FEN LPR-N VALVE 10 10 537 19 350.3 0FEN LPR-N VALVE 11 539/0 19 350.3 0FEN WELL ON 80/64" POSITIV 239/0 19 350.3 0FEN WELL ON 80/64" POSITIV 33 1 183.7 183.7 1 1 4 159.6 159.6 1 1 1		404			21	350.8												
434 19 350.6 449 19 350.5 479 19 350.4 479 19 350.4 509 19 350.3 537 0 NALP 539/0 19 350.3 0PEN LPR-N VALVE 1 239/0 1 26EN WELL ON \$0/64" POSITIV 239/0 1 245.8 0PEN WELL ON \$0/64" POSITIV 2 183.7 0PEN WELL ON \$0/64" POSITIV		419			20	350.7												
449 19 350.5 479 19 350.4 509 19 350.3 509 19 350.3 537 0 19 350.3		434			19	350.6												
479 19 350.4 19 350.4 19 509 19 350.3 0PEN LPR-N VALVE 10 537 0 0PEN WELL ON \$0/64" POSITIV 539/0 2 245.8 7 1 1 22 183.7 183.7 7 3 169.9 169.9 1 1 4 159.6 159.6 7 7	+	449			19	350.5												
509 19 350.3 NALVE 537 0		479			19	350.4												
537 539/0 OPEN LPR-N VALVE 539/0 0PEN WELL ON \$0/64" POSITIV 1 .245.8 0PEN WELL ON \$0/64" POSITIV 2 .245.8 .245.8 3 183.7 .245.9 4 159.6 159.6		509			19	350.3												
539/0 539/0 OPEN WE_L ON \$0/64" POSITIV 1 .245.8 POPEN WE_L ON \$0/64" POSITIV 2 .245.8 POPEN WE_L ON \$0/64" POSITIV 3 .245.8 POPEN WE_L ON \$0/64" POSITIV 4 .245.8 POPEN WE_L ON \$0/64" POSITIV		537					OPEN LPR	-N VAL	VE									
1 2 3 4		539/0					OPEN WEL				IOKE							
2 3 4		1				.245.8												
3 4		2				183.7												
4						169.9												
		4				159.6												
5	10:05	5				152.7												

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			OPETRO		MELL	-WELL TESTING		DATA Sł	SHEET_(Continuation)	ontinu	ation)	Page Repc	irt N':	Page : <u>26</u> Report N': <u>83/2301/37</u>	Section		
DATE -	– TIME	PRE	PRESSURE A	AND TE	TEMPERATURE		MEASUREMENTS	ENTS	PROD R	RATES AND FLUID	ND FLU	JID PROPERTIES	TIES	GOR			
ŀ			BOTTOM HOLE	>	WELL HEAD	AD	SEPA	SEPARATOR	Ŭ	CONDEN	SATE		GAS				
l me	Cumul	Temp.	Pressure	Tg. tem	o Tg. press.	Tg.tempTg. press. Cg press. Temp.	Temp.	Press.	_	Gravity	BSW	Rate	Gravity				
10:05	NTW			U BAR	BAR		oF	PSIG	Q/c₩	60/60	%	MMSCM/D	Air=1	SCM/M ³	11	CL-PPM U	Units
C0.01																	
10:06	6				147.2												
10:07	7				143.0												
10:08	8				135.4												
10:09	6				134.1												
10:10	10			38	132.8												
10:11	11				132.8												
10:12	12				132.7												
10:13	13				132.7												
10:14	14				132.9												
10:15	15			45	133.0												
10:20	20			57	134.8						5				1.5/0		
10:25	25			62	136.1												
10:28	28					SWITCH F	FLOW TH	THROUGH	SEPARATOR								
10:30	30			63	137.0												
10:35	35			66	139.6						2.5				1/0		
10:40	40			67	142.9												
10:45	45			68	142.9		114	920				1.637	.663				

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Ц Ц	Д О	Ē	OPETROL		WELL T	-WELL TESTING	DATA		SHEET_(Continuation)	intinu	ation)	Page Repo	rt N ⁻	Page : <u>27</u> Report N': <u>83/2301/37</u>	Section	: uo	
DATE -	TIME	PRES	PRESSURE A	AND TE	TEMPERATURE		MEASUREMENTS	NTS	PROD. R/	RATES AND FLUID	ND FLU	UD PROPERTIES	ries	GOR			
Time		BOT TO	BOTTOM HOLE		WELL HEAD	AD Connece		Proce	OIL OR CONDENSATE	ONDEN	SATE	G, G,	GAS				SHR/SHR
HR/MIN			2000001	Do Do	OC RAR		or dinia	PSIG	M ³ /D	01 4 VII V		MMSCM/D	Air=1	SCM/M ³	CO, H,S	CL-PPM	Units
10:45				60.11	50		IOLINS INTERNE	FLOW	TO BURGE TANK FO	ANK FO	atan b	RACTOR			1/4/1		
11:00	60			71	142.9		117	925	400.3	.7932	2	1.647	.663	4114	1/0		
11:05	65						SWITCH	FLOW 1	BACK TO ST	STARBOARD	D BURNER	ER					
11:15	75			72	143.0	-	120	920	401.6	.7932		1.647	.663	4101			
11:30	90			72	143.7		123	920	401.6	.7932		1.639	.665	4081			
11:45	105			72	143.9						1.5						
12:00	120			73	144.2		125	915	387.2	.7932	1	1.640	.665	4236	2/0		
12:30	150			74	144.4	-	126	910	381.3	.7932		1.638	.665	4296			11.3% 64°F
13:00	180			74	144.6	-	128	910	387.9	.7932	1.5	1.643	.663	4236			
13:30	210			74	144.5	-	128	905	384.6	.7932		1.642	.663	4269		1300/7.0	
14:00	240			75	144.6		129	905	378.7	.7932	2	1.640	.663	4331			
14:30	270			75	144.7	-	129	905	386.5	.7932		1.639	.664	4241	2/0		
15:00	300			75	144.7		130	910	382.3	.7932	2	1.642	.664	4295			
15:30	330			76	145.1		130	910	375.5	.7932		1.647	.664	4386			
16:00	360			76	145.1		131	910	374.5	.7931	2	1.646	.663	4395			
16:30	390			76	145.1		131	910	370.8	.7931		1.649	.663	4447			
17:00	420			77	145.2		132	910	371.1	.7942		1.647	.663	4438	2/0		
17:01	421						BY-PASSED		SEPARATOR								

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Ц Ц		FLOPETROL		-WELL	-WELL TESTING		DATA Sł	SHEET_(Continuation)	ontinu	ation). 11 N :	Page : <u>28</u> Report N': <u>83/2301/37</u>	- Section	ion :	~
DATE -	– TIME	PRESSURE	ND	EMPERAT	TEMPERATURE MEASUREMENTS	SUREM	ENTS	PROD F	RATES /	AND FLI	FLUID PROPERTIES	TIES	GOR			
F				MELL HI	HEAD	SEPA			CONDENSATE	VSATE		GAS				
	Cumul	Temp. Pressure	Т	p Tg. pres:	To temp To press. Co press. Temp.	. Temp.	Press.		Gravity	V BSW	Rate	Gravity				
1 7 • 01	NIIN		с. С	C BAR		OF	PSIG	M ³ /D	60/60		MMSCM/D	Air=1	scm/m ³	CO ₂ H ₂ S	CL-PPM	Units
1/:/1																
17:02	422			142.3												
17:03	423/0			142.3	SHUT IN	IN WELL A	AT CHOR	E MANIFOLD	AND	LPR-N V	VALVE					
17:04	1			235.4												
17:05	2			283.7												
17:06	e			321.6												
17:07	4			345.7												
17:08	2			356.8												
17:09	9			358.5												
17:10	7			358.8												
17:15	12		74	378.8												
17:20	17		71	357.7												
17:25	22		68	357.6												
17:30	27		63	357.5												
17:35	32		61	357.2												
17:40	37		58	357.1												
17:45	42		57	357.0												
17:50	47		55	3570												

No.: DOP 110	110																
Ĩ		FLOPETROL	Ĩ		-WELL TESTING	ESTIN	G DATA	1	SHEET_(Continuation)	ntinu	ation)	Page Repo	rt N ^{:22}	Page :29 Report N':83/2301/37	- Section	- c	
DATE -	– TIME	PRESSURE	JRE AND		TEMPERATURE		MEASUREMENTS	NTS	PROD R	RATES A	AND FLUID	ID PROPERTIES	S3I.	GOR			
				3	WELL HEAD	٩D		SEPARATOR	æ	CONDENSATE	SATE		GAS				
Time HR/MIN	Cumul	Temp. Pre	Pressure	Tg. temp oC	Tg.tempTg.press oC BAD	Cg. press.	Temp. or	Press.	Rate M3/h	Gravity 60/60	BSW %	Rate MMS/D	Gravity Air-1	scm/m3	COn Hos (CT - DPM	Inte
17:50	N			17.09 33	83 83		3	OTCI		20/00	9	d lincimi	111111111	H /IIOC			
17:55	52			54	356.9												
18:00	57			52	356.1												
18:15	72			49	355.4												
18:30	102			45	355.2												
19:00	132			39	354.7												
19:30	162			35	354.0												
20:00	192			32	353.3												
20:30	222			28	353.0												
21:00	252			26	352.6												
21:30	282			23	352.3												
22:00	312				352.3												
22:04	316					CLOSED MASTER		VALVE									
22:06	318					BLEED OI	OFF PRES	PRESSURE C	O 500 PSI	TO CHE	CK MAS	CHECK MASTER VALVE					
22:09	321					BLEED OFF	F TO 0	IS4 (
22:14	326					OPEN KILL VALVE FOR	L VALV		FLUSHING S	SURFACE	EQUIPMENT	VENT					
23:00	372					FINISH FLUSHING	THSULT	U U									

FLOPETROL

DIVISION	:	EMR/NSD
BASE	2	NWB
REPORT	N°:	83/2301/37

Well Testing Report Annexes ___

Client	=	STATOIL	
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Field	:	34/10 ALPHA	Well	8	34/10-16
Zone	=	BRENDT	Date	=	16 - 18 SEPT. 83

FLOPETROL	Client :	Section : ANNEX
Base :NWB	Field : <u>34/10 ALPHA</u> Well : <u>34/10-16</u>	Page : <u>32</u> Report N [°] : <u>83/2301/37</u>
	X of ANNE>	
		(23
MEASUI [] 1.1 _ E [] 1.2 _ E	M HOLE PRESSURE AND T REMENT - 3.H. gauge calibration - 3.H. pressure calculation - 3.H. temperature calculatior	
☑ 2.1 - 1	PRODUCTION RATE MEASU Measurements with tank _ Measurements with meter _	REMENT _
I 3. GAS PR	RODUCTION RATE MEASURE	MENT _
4.1 _ I	ING SHEETS _ Bottom hole sampling _ Gurface sampling _	
	S AND MISCELLANEOUS	_
N DOP 112		

FLOPETRO	Client : <u>ST</u> ATOIL	······	Section : Annex 2
Base NWB	Field : <u>34/10_</u> Well :34/10_1		Page : <u>33</u> Report Nº:83/2301/37
Base :NWB	Well : <u>34/10-1</u>	0	Report Nº:03/2301/37
-LIQU	D PRODUCTION RATE	AEASUREMENT -	
2.1 - MEASUREA	NENT WITH TANK -		
Vo =	V x K 5 (1 - BSW)		
1	Net oil volume at 60°F and	• •	ure.
K : V	ross oil volume measured plume correction factor to	be applied betwee	en the
	nk temperature during g Basic sediments and wat		
	NENT WITH METER -		
a) <u>Shr</u>	inkage factor is measured	by <u>shrinkage</u> tester	<u>'-</u>
Vo =	Vs x f x (1 - Shr) x K x (1 -	BSW)	
	Net oil volume at 60° F and		
	Fross oil volume measure Aeter correction factor =	Volume measured	in tank
Shr :			veen separator and tank
к	conditions, reported to a Volume correction factor	r to be applied betv	veen the finale
BSW	temperature during shrin Basic sediments and wat		and 60°F.
b <u>) Sh</u>	rinkage factor is measured	d with tank.	
Vo =	Vs x (1 - Shr') x K x (1 - B	ŚWI	
	s, K and BSW : Same mea ') : Shrinkage factor inclu		on factor.
©			
0 02			

No DOP 120

No DOP 122														
FLOPETROL	DETE		Client :	STATOIL						- OII PRODUCTION RATE -	2 ATE -	Ā	Section : Annex	ณ ณ
Base :	NWB		Field : Well :	34/10 ALPHA 34/10-16	HA			71	MEASUREA	- MEASUREMENT WITH METER	I METER -	<u> </u>	Page : <u>3</u> 5 Report Nº: 83 <u>/</u> 2	<u>35</u> 83 <u>/</u> 2301/37
Date - time	Meter	*	Mod		1 - Shr		0	Oil Gravity			Net volume	Net STO	Cumulative	
Time Interval	-	\$	W CB	20.A	Factor	Temp.	Gravity	Temp.	Grav. 60 ^o F	×	of STO: Vo	product. rate	production	
HR/MIN MIN	N BBL	BBLS	0/0	BBLS		оF		оF			BBL.	M3 /day	M3	Units
			16.09.83	83										
													+	
!	1											5		
1	1												4 3 1 4	ł
17:30	98.20	ESTIMA	TED CUMU	ESTIMATED CUMULATIVE OIL PRODUCTION	PRODUCT		DURING CLEAN UP	AN UP					17.5	.7994
17:45	125.75	27.55	0	22.02	1	65	.786	66	.7882	0.9974	22.0	335.3	21.0	
18:00	152.25	26.50	0	21.18	1	65	.786	99	.7882	0.9975	21.1	322.5	24.7	,
18:30	204.55	52.30	0	41.81	1	65	.786	99	.7882	0.9974	41.7	318.2	31.3	,
19:00	256.3	51.76	0	41.37	1	65	.786	99	.7882	0.9974	41.3	314.9	37.9	1
19:30	304.20	52.00	0	41.57	1	65	.789	64	.7905	0.9974	41.5	316.4	44.5	
20:00	355.00	50.80	0	40.61	1	65	.785	72	.7895	0.9974	40.5	309.1	50.9	
20:30	406.14	51.14	0	40.88	П	65	.785	72	.7895	0.9974	40.8	311.2	57.4	
21:00	457.08	50.94	0	40.72	1	65	.785	72	.7895	0.9974	40.6	310.0	63.9	
21:30	507.90	50.82	0	42.17	1	65	.788	69	. 7913	.9974	42.1	321.0	70.6	.8298
22:00	555.90	50.93	0	42.26	1	73	.785	76	.7910	0.9933	42.0	320.3	773	
Shrinkage factor measured by Shrinkage tester \Box Tank $ X $ • $\overline{V'o} = Vs \times f \times (1 - BSW) = Net oil volume at separator conditions. f =$	measured by Shri - BSW) = Net oi	inkage tester 🗌	Tank 🕅 arator condi		.7994				Tested interval : _ Perforations :	srval :				;

No · DOP	123														
Ц Ц			BOL	ME	MEASUREMENT	MITH	H METER	ER -(Co	-(Continuation)	tion)	Page Report	" z	<u>36.</u> 83/2301/37	Section - ANNEX	ณ ณ
DATE -	- TIME	Meter	>	W J	`>	5-6	Shr	011	GRAVITY	×	2	Net volume	Net STO	Cumulative	
Time	Interval	reading	SA		0	Factor	Temp.	Gravity	Temp.	Grav. 60°F	2	of STO· Vo	fuct.		-
22:00	NTM	555.90	27199	0, 03 (0) 16, 03 (0)	BBLS		J.		4			BBL	Abdy CM	M3	Units
22:30	30	606.57	50.67	0	42.04	1	73	.785	76	.7910	.9933	41.8	318.7	83.9	.8298
23:00	30	657.83	50.76	0	42.12	1	73	.785	76	.7910	.9933	41.8	319.3	90.5	.8298
23:30	30	705.72	49.90	0	41.41	1	73	.786	76	.7919	.9933	41.1	313.9	97.1	.8298
24:00	30	753.0	50.27	0	41.71	-	73	.786	69	.7893	.9932	41.4	316.2	103.7	.8298
	•			17.09.83	~~~~]	
00:30	30	800.47	50.07	0	41.55	1	73	. 786	69	.7893	.9932	41.3	314.9	110.2	.8298
01:00	30	850.36	49.89	0	41.40	1	73	.786	69	.7893	.9932	41.1	313.8	116.8	.8298
01:00			BYPASS 5	SEPARATOR	<u>e</u>								1 2 2	1	1 1
01:01			WELL SHUT	UT IN AT	CHOKE MANIFOLD	FOLD AND	D LPR							2 1 2 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	r
			THIRD FI	FLOW										, ,	1
10:45			ESTIMATI	D CONDE	ESTIMATED CONDENSATE PRODUCTION		DURING C	CLEAN-UP				0.06		131.1	
10:45		6392.4													
11:00	15	6422.9	30.50	0	26.38	1	71	.785	82	.7932	.9943	26.2	400.3	135.3	.8649
11:15	15	6453.5	30.60	0	26.46	1	71	.785	82	.7932	.9943	26.3	401.6	139.5	.8649
11:30	15	6484.1	30.60	0	26.46	1	71	.785	82	.7932	.9943	26.3	401.6	143.7	.8649
12:00	30	6540.0	59.00	0	51.03	-	71	. 785	82	.7932	.9943	50.7	387.2	151.8	.8649
12:30	30	6598.1	58.10	0	50.25	1		.785	82	. 7932	.9943	50.0	381.3	159.7	.8649

ณ ณ		,	Units	.8649	.8649	.8649	.8649	.8649	.8649	.8649	.8649	.8649	1	1	1		,				
Section - ANNEX	Cumulative	production	M3	167.8	175.8	183.7	191.7	199.7	207.5	215.3	223.0	230.8	1	1]	 				,	+ +
1 1	Net STO	uct. rate	Vady Vady	387.9	384.6	378.7	386.5	382.3	375.5	374.5	370.8	371.1	- - - - -							1	
t N = $\frac{37}{83/2301/37}$	Net volume	of STO: Vo	BBL	50.8	50.4	49.6	50.6	50.1	49.2	49.1	48.6	48.6									· · · · · · · · · · · · · · · · · · ·
Page Report	5	۷		.9943	.9943	.9943	.9943	.9943	.9943	.9943	.9943	.9944								1	1
ation)	۲۲	Grav. 60°F		.7932	.7932	.7932	.7932	.7932	.7932	.7931	.7931	.7942		, ; ; ;					1	1	
ontinua	GRAVITY	Temp. От	4	82	82	82	82	82	82	79	79	82									
METER -(Continuation)	011	Gravity		. 785	.785	.785	.785	.785	.785	.786	.786	.786			3				1		
	Shr	Temp. Оъ		γl	71	71	71	71	71	71	71	71							,		-+-
WITH	1 - SI	Factor		1	1	1	1	1	1	1	1	I							; ; ; ;		
MEASUREMENT	`>	RI C	0000	51.11	50.68	49.90	50.93	50.38	49.49	49.36	48.86	48.90	R								+-
MEA	N N	-70 -70	1 100 183 T	0	0	0	0	0	0	0	0	0	SEPARATOR								
Р	٨c			59.10	58.60	57.70	58.89	58.25	57.22	57.07	56.50	56.54	BY-PASS						 	I	
OPETROL	Meter	reading RRI.	6598.1	6657.2	6710.7	6768.4	6826.1	6882.3	6937.5	6988.0	7044.5	7098.1									
	- TIME	Interval MTN		30	30	30	30	30	30	30	30	30			1		t t	,			
FLO		Time HR/MTN	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:01					1			

No DOP 122														
FLOPETROL	DETE		Client :	STATOIL				- WATED		PPODIICTION RATE -	RATF -	Ň	Section : Annex	ณุ
			Field :	34/10 ALPHA	НА				MEASURE	- MEASUREMENT WITH METER	H METER -		Page : 38	1
Base :	NWB		Well :	34/10-16				1				×	Report N°: <u>83/2</u> 301/37	301/37
Date - time	Meter	×7	BSW	۰,v*	1 - Shr		0	Oil Gravity		×	Net volume	Net STO	Cumulative	
Time Interval	reading		7/0		Factor	Temp.	Gravily	Temp.	Grav. 60°F		of STO: Vo	product. rate	production	- Thite
HR/MIN		BBLS	B/_									(ap)		
			16.09.83	5										
21:30	55.59													
21:36	58.52	2.93	WATER DUMPED	DUMPED									, , , ,	
23:00														, , ,
23:01	60.53	2.01	WATER 1	DUMPER										
23:30													,	
23:35	63.52	2.99	WATER	DUMPED										
1			17.09.83	83				•						
00:01	66.10	2.6	WATER DUMPED	DUMPED										
01:05	69.35	3.25	WATER DUMPED	DUMPED										
11:30	-													1 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
11:35	72.51	3,16	WATER DUMPED	DUMPED									4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
13:23	1													
13:25	77.59	5.08	WATER 1	DUMPED								A.		
, ,														
Shrinkage factor	measured by Shrii	nkage tester	Tank						Tested interval :	terval :				
$\cdot \overline{V} o = V_{s} \times f \times (1 - BSW) = Net oil volume at separator conditions. f =$	- BSW) = Net oil	l volume at sep	barator cond	ilions. f =					Perforations	i suo	-			t t

100	2
N	2

ณ ณ			Units					1										1				
Section=ANNEX	Cumulative	production								 		,			r 1							
2301/36	Net STO	product. rate	/day		1		1															
- 39 N - 83/	Net volume	ofSTO Vo																				
Page Report	ч	۷																		, , , ,		
ation)	TΥ	Grav.60 [°] F																			}	
ontinu	L GRAVITY	Temp.															1	I		1		
METER -(Continuation)	OIL	Gravity																			4 T	
	hr	Temp.]	
- WITH	1 - Shr	Factor																				
MEASUREMENT	`>	•		33	WATER			WATER		WATER		WATER		WATER] 3 7	
MEA	M S G	N O	0/0	68. 60. 11	DUMPED WATER			DUMPED WATER		DUMPED		DUMPED		DUMPED								
D	7	۶۸	BBLS		1.20			2.05		2.02		6.57		2.94								
FLOPETROI	Meter	reading			77.59	78.78	, ,	80.83	5	82.85		89.42		92.36		1 1 1			1			
	TIME	Interval							3	1		ţ	4			1	1	1	1	1		
	DATE - TIME	Time	HR/MIN		14:02	14:04	14:32	14:34	15:00	15:03	16:02	16:04	16:48	16:52	1	1	1	1	1			

FLOPETROL	Client : <u>STATOIL</u> Field : <u>34/10 ALPHA</u>	Section : Annex 3 Page : 40
Base :NWB	Well :34/10-16	Report Nº : <u>83/2301/37</u>
- GAS PRODUC	CTION RATE MEASUREMENT by orifice me	eter -

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

a) Equations -

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

- : Production rate at reference conditions. 0
- С : Orifice flow coefficient.
- hw : Differential pressure in inches of water.
- Pf : Flowing pressure in psia

$$C = Fu x Fb x Fg x Y x Ftf X Fpv$$

- 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.

	TABL	E OF Fu FACTOR		
		REFERENCE	CONDITIONS	
UNITS	60° F	0° C	15 ⁰ C	15 ⁰ C
	14.73 psia	760 mm Hg *	760 mm Hg*	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 :		_ Flange taps - Pf tal	ken down/up stream
Flow recorder type :	BARTON	_ID of meter tube :	

c) Specific gravity source -

Sampling point : <u>TOP_SEPARATOR_OUTLE</u> Gravitometer type : <u>KIMRAY</u>

d) Supercompressibility factor Fpv -

All coefficients are from AGA NX 19 manual for natural gas free of air, CO² and H₂S. More accurate values could only be determined by laboratory measurement.

No DOP	125														
Ц Ц	OPETRO			L	Client :	STATOIL								Section : ANNEX	: ANNEX 3
Base :		NWB			Field : Well :	34/10- AL 34/10-16	ALPHA -16		- GAS I	PRODUC	CT. RAI	E MEA	GAS PRODUCT. RATE MEASUREMENT	- Page Report	. <u>41</u> N : <u>83/2301/37</u>
DATE - Time	- TIME Interval	Flowing Temp.	P _∱ absolute	hw	$\sqrt{h_w \times P_f}$	Orifice diameter	Gas gravity	Ъ ^р	F _g	7	F _{tf}	F _{pv}	J	Gas production rate : Q	Cumulative Production
HR/MIN	MIN	OF	psia	"of wat.		Inches									MSCM
			16.0	16.09,83										1 3	
			ZND FLOW	MOT											
17:30			ESTI	ESTIMATED C	CUMULATIVE	CAS PROD	PRODUCTION D	DURING CI	CLEAN UP						53.42
17:30	15	102	930	324	548.926	3.5	.655	2695.1	1.2356	1.0019	.9619	1.0703	2335	1.282	53.42
17:45	15	105	925	328	550.818	3.5	.655	2695.1	1.2356	1.0019	.9594	1.0684	2325	1.281	66.76
18:00	15	107	915	334	552.820	3.5	.655	2695.1	1.2356	1.0020	.9577	1.0666	2317	1.281	80.11
18:30	30	111	910	344	559.500	3.5	.655	2695.1	1.2356	1.0020	.9543	1.0644	2304	1.289	106.96
19:00	30	113	905	348	561.195	3.5	.664	2695.1	1.2272	1.0021	.9526	1.0647	2285	1.282	133.67
19:30	30	113	885	356	561.302	3.5	.664	2695.1	1.2272	1.0022	.9526	1.0632	2282	1.281	160.36
20:00	30	114	885	358	562.877	3.5	.664	2695.1	1.2272	1.0022	.9518	1.0628	2279	1.283	187.09
20:30	30	114	890	360	566.039	3.5	.660	2695.1	1.2309	1.0022	.9815	1.0618	2284	1.293	214.03
21:00	30	117	890	363	568.392	3.5	.660	2695.1	1.2309	1.0022	.9493	1.0605	2276	1.293	240.96
21:30	30	118	890	364	569.174	3.5	.660	2695.1	1.2309	1.0022	.9485	1.0601	2273	1.294	267.92
22:00	30	120	890	365	569.956	3.5	.660	2695.1	1.2309	1.0022	.9469	1.0593	2267	1.292	294.84
22:30	30	120	890	365	569.956	3.5	.660	2695.1	1.2309	1.0022	.9469	1.0593	2267	1.292	321.75
Eu Eu	.6799		Record hw =	der rang 0-40	Recorder ranges : Pf = <u>C</u> hw = 0-400 IN H ₂ 0 _ T	0-1500 P: Temp. = _(PSIG 0-300°F		- TESTED	1 7	INTERVAL :	3177-3187	87		
		1													

No.: DOP	126														
Ц Ц		ретро		٦L	GAS PRODUC. RATE MEA	DUC. R	ATE MI	EASURE	SUREMENT-(Continuation)	(Continu	ation)	Page Report	Page : 42 Report N ⁻ : 83/2301/37	Section : ANNEX	
DATE - Time	- TIME Interval	Flowing Temp.	P _f absolute		√h _w × P _f	Orifice diameter	Gas gravity	F _b	F _g	7	F _{tf}	F _{pv}	C	Gas production rate Q	Cumulative Production
HR/MIN	MIM	OF	psia	"of wat.		Inches	(air = 1)							MMSCM/O	MSCM
22:30			16.0	16.09.83			1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	and the second a	2 2 2	4 4 2	× *				
23:00	30	120	890	368	572.294	3.5	• 660 •	2695.1	1.2309	1.0022	.9469	1.0593	2267	1.297	348.67
23:30	30	121	890	368	572.294	3.5	.660	2695.1	1.2309	1.0022	.9460	1.0589	2264	1.296	375.7
24:00	30	123	890	368	572.294	3.5	.660	2695.1	1.2309	1.0022	.9444	1.0580	2259	1.293	402.6
			17.0	17.09.83											
00:30	30	123	890	368	572.294	3.5	.660	2695.1	1.2309	1.0022	.9444	1.0580	2259	1.293	429.5
01:00	30	123	890	368	572.294	3.5	. 668	2695.1	1.2309	1.0022	.9444	1.0580	2259	1.293	456.5
01:00			BYPASS		SEPARATOR										
01:01			WELL	SHUT	IN AT CHOKE	MANIFOLD	D AND LPR	R							
			3RD	FLOW											
			ESTI	ESTIMATED	CUMULATIVE	GAS PROD	PRODUCTION I	DURING C	CLEAN-UP					51.16x10 ³	
10:45		114	935	288	518.922	4.0	.663	3718.2	1.2281	1.0014	:9518	1.0662	3155	1.637	507.6
11:00	15	117	940	292	523.908	4.0	.663	3718.2	1.2281	1.0014	.9493	1.0651	3143	1.647	524.8
11:15	15	120	935	296	526.808	4.0	.663	3718.2	1.2281	1.0014	.9469	1.0634	3130	1.647	542.0
11:30	15	123	935	296	526.080	4.0	.665	3718.2	1.2263	1.0014	.9444	1.0624	3115	1.639	559.0
12:00	30	125	930	300	528.205	4.0	.665	3718.2	1.2263	1.0014	.94282	1.0606	3104	1.640	593.2
12:30	30	126	925	302	528.536	4.0	.665	3718.2	1.2263	1.0014	.9420	1.0598	3099	1.638	627.3
13:00	30	127	925	304	530.283	4.0	.663	3718.2	1.2281	1.0015	.9412	1.0591	3099	1.643	661.5

	M	Cumulative Production			.7	6.	0	.2	.6	6	.2	.5						
	- ANN		MSCM		695.	729.	764.0	798.	832.	866.9	901.	935.						
	Section : ANNEX 3	Gas production rate : O	MMSCM/0		1.642	1.640	1.639	1.642	1.647	1.646	1.649	1.647						
	Page	ູ ບ			3095	3091	3089	3086	3086	3084	3084	3080						
	Page Report N	F _{pv}			1.0584	1.0580	1.0581	1.0581	1.0581	1.0575	1.0575	1.0571						
	ation)	F _{tf}			.9404	.9396	.9396	.9388	.9388	.9380	.9380	.9372						
	Continu	۲			1.0015	1.0015	1.0015	1.0015	1.0015	1.0015	1.0015	1.0015						
	MENT–(F _g			1.2281	1.2281	1.2272	1.2272	1.2272	1.2281	1.2281	1.2281						-
	ASURE	ц ц		У 	3718.2	3718.2	3718.2	3718.2	3718.2	3718.2	3718.2	3718.2						
	ATE ME	Gas gravity	(air = 1)	A . W .	.663	.663	.664	.664	•664	.663	.663	.663						
	DDUC. R	Orifice diameter	+	1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0						
	GAS PRODUC. RATE MEASUREMENT-(Continuation)	V ^h w×P _f		×	530.585	530.585	530.585	532.024	533.760	533.760	534.626	534.626	ARATOR					
	Ľ	hw V	"of wat.	9,83	306	306	306	306	308	308	309	309	BY-PASS SEPARATOR					
		P _f absolute	psia	17.09.83	920	920	920	925	925	925	925	925	вҮ-Р/					
	OPETROL	Flowing Temp. 8	_		128	129	129	130	130	131	131	132						
126	D D	- TIME Interval			30	30	30	30	30	30	30	30						
No : DOP		DATE - Time	IN	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:01					

FLOPETROL

Client : STATOIL Field : 34/10 ALPHA Well : 34/10-16

____Section : ____Page : 44

Report Nº: 83/2301/37

1

Base :

NWB

SURFACE SAMPLING

2ND FLOW 52/64" POSITIV CHOKE

16.09.83

23:03 START SAMPLING 1ST SET PVT SAMPLE

OIL BOTTLE NO. 8308922 GAS BOTTLE NO. A 14786 GAS BOTTLE NO. A 14681

17.09.83

00:05 START SAMPLING 2ND SET PVT SAMPLE

OIL BOTTLE NO. 83021217 GAS BOTTLE NO. A 14695 GAS BOTTLE NO. A 14761

DEAD OIL SAMPLES

- 1 x 200 LITER DRUM OF CONDENSATE
- 6 x 1 LITER GLASS OF CONDENSATE

2 x 10 LITER JERRY CANS OF CONDENSATE

4 x 1 LITER PLASTIC CANS OF WATER

3RD FLOW 80/64" POSITIV CHOKE

START TAKING 3RD SET PVT SAMPLE

OIL BOTTLE NO. 8208308 GAS BOTTLE NO. A 14668 GAS BOTTLE NO. A 14751

START TAKING 4TH SET PVT SAMPLE

OIL BOTTLE NO. 83021209 GAS BOTTLE NO. A 14789 GAS BOTTLE NO. A 14688

FLO	PETRO	Client :SI	ATOIL		Section						
Base _{NWB}		Field : <u>34</u> Well : <u>34</u>	/10 ALPHA /10-16		Page Report	: <u>45</u> №3/2301/37					
	-	SURFACE SA				_					
Date of sam Sample nati	pling: <u>16.09.83</u> ure : <u>CONDENSATE</u>	Service ord	er : Sampling poir	nt: <u>SIG</u>	HT GLASS	OUTLET					
	zone BRENT		3177-3187M	Samplir	-						
Depth origi Surface ele	n : <u>RKB</u> vation1 <u>60 m</u>	Tubing Dia : Shoe :	5" VAM 3180.95m	Casing Shoe	Dia : :	5/8"					
Bottom hole static conditions	Initiai pressure Latest prassure mea Temperature	sured :	at depth:		date						
Time at which	<u>B – MEASU</u> ch sample was taken:	REMENT AND SA	MPLING CONE Time elapsed	DITIONS _	sation:	5 hr 30 min					
Bottomhole dynamic conditions	Choke size :52/6 Bottom hole pressure Bottom hole temp	•	_ at depth:		date :	-					
Flow measur Values used	rement of sampled gas for calculations : Fb=										
<u>Separator</u>	Fb= Pressure : <u>875</u> P3 Temp : <u>121</u>	F Oil (separator c	ond): <u>3808.</u>	<u>83 m</u> -600P	D B (sep	arator con:)					
<u>Stock</u> tank	Atmosphere : Tank temperature :	mmHg •		91 60 F:_	313.9 M ³	L®OPD ABCat					
	% WLR:_	<u> 3 </u> %	Transfer duration		29 MIN						
Final conditi	luid : <u>Hg</u>	<u>tle :</u>	Vol on	bottle 7	700cc	Ore He is het					
	620 PSI Temp:			Сар	50 cc	Occ Hg in bot					
C_IDENTIFICATION OF THE SAMPLE _ Shipping bottle No: 8308922 sent on : STATOIL Shipping order No: Addressee :											
Coupled with	h	LIQUID			GAS						
Bottom he	ble samples No										
Surface s	amples No				- <u>14786</u> -14681						
<u>Measuremen</u> Al Tark	t conditions,	B_ Meter_ with shrinkage te	ster. D . Cor		_Dump_ h_tank_						
<u></u>	D _ REMAR	KS _			V sa	Chief Operator					
ALL READIN	GS FROM 23:30				А.	BERGENSEN					

	FLO	PETR	OL	Client	:STATOIL		Section			
	Base _{NWB}			Field Well	: <u>34/10_ALP</u> : <u>34/10-16</u>	на	Page Report	: _46 N:: <u>83/2301/37</u>		
			<u>_</u> SU	RFACE	SAMPLIN	<u>G _</u>				
	Date of sam Sample natu	pling : <u>16.09.8:</u> ure : <u>GAS</u>	3	Service	order : Samplı	ng point :GA	mpling No : S OUTLET	2 SEPARATOR		
	Producing	<u>A – RES</u> zone B <u>RENT</u>	ERVOIR	AND WE Perforation	ELL CHARACT	<u>TERISTICS</u> 187M Sampli	ing interval	;		
	Depth origi Surface ele	n : <u>RKB</u> vation1 <u>60 m</u>		Tubing D Shoe	bia.: <u>5" VAM</u> : <u>3180.9</u>	5m Casing 5m Shoe	g D:a : <u>9</u> :	5/8"		
	Bottom hole static conditions	Initial pressure Latest pressure Temperature	measured	ı :	at o	depth: depth: depth:	date	:		
	Time at whic	<u>B – ME</u> ch sample was tal	ASUREME ken :23	NT AND	SAMPLING	CONDITIONS apsed since stabi	- lisation:	5 hr 30 min		
	Bottomhole dynamic conditions	Bottom hole pres	sure :		at depth:	pressure: <u>230.9</u>	date :			
	Flow measur Values used f	rement of sampled for calculations :								
	<u>Separator</u>	Pressure : 875 Temp : 121	PSIG R C F C	lates - Gas In (separat	s :1	.296 MMSCM SCF 3808.83 m ³ / 50 F	D GOR	0 : <u>3395,2 m³/m³</u> arator conc)		
	<u>Stock</u> <u>tank</u>	Atmosphere Tank temperature				Oil at 60 °F :_	313.9 M ³			
		⁰₀ ₩l								
		uid: <u>Hg</u>				duration :	<u>29 MIN</u>			
		ons of the shipping 875 PSI Ter								
<u>C_IDENTIFICATION OF THE SAMPLE</u> Shipping bottle No: <u>17-14786</u> sent on :by:Shipping order No:. Addressee :										
	Coupled with	1 L		LIQUID			GAS			
	Bottom ho	le samples No	-		•					
	<u>Surface sa</u>	imp l es No	83089	922	-	A	-14681			
	Measurement AL Tank .		ted with	B_ Mete shrinkage	er. e tester. b	C - Corrected wit	_ Dump _ h tank _			
		<u>D _ RE</u>	MARKS -				Visa	Chief Operator		
No DOP 127	ALL READING	S FROM 23:30					А.	BERGENSEN		

FLO	PETR		ATOIL	S(
Base : _{NWB}		Field : <u>34</u> Well : <u>34</u>	/10 ALPHA /10-16	P	age : 47 eport N*:83/2301/37	
		_SURFACE SA	MPLING -			
Date of sam Sample nate	pling: <u>16.09.83</u> ure : <u>GAS</u>	Service ord	er:Sampling poin	t : <u>GAS</u>	Ung No :3	
Producing	<u>A – RESI</u> zone B <u>RENT</u>	ERVOIR AND WELL Perforations:	CHARACTERISTI 3177-3187M	<u>CS _</u> Sampling	interval :	
Depth origi Surface ele	n : <u>RKB</u> vation1 <u>60 m</u>	Tubing Dia: Shoe :	5" VAM 3180.95m	Casing 1 Shoe	Dia :5/8" :	
Bottom hole static conditions	Latest pressure	: measured : :	at depth:		date :	
Time at which	<u>B – MEA</u> ch sample was tak	SUREMENT AND SA en:	MPLING COND Time elapsed s	ITIONS _ since stabilisa	5 hr 30 min	
Bottom hole dynamic conditions	Bottom hole press	2/64"since: <u>16:21</u> sure:	_ at depth:		Well head temp :81°C date : date :	
Flow measur Values used	rement of sampled for calculations :	$gas = Gravity(air 1):$ $F_r = 2695 1 F_r = 1$.660 F	actor $Fpv = -$	$\frac{1}{\sqrt{2}}$: <u>1.0589</u> = 0.9460	
<u>Separator</u>	Pressure : 875 Temp : 1210	PSIG <u>Rates</u> – Gas C F Oil (separator ci	: <u>1.296 1</u> ond): <u>3808.8</u>	MMSCMSCFD 33 m ³ 60 PD	= 0.9460 GCR: <u>3395,2 m³/m³</u> B (separator cond)	
<u>Stock</u> tank	Atmosphere Tank temperature	:mmHg		t 60 °F : <u>3</u>	<u>13.9 М³/</u> ВОР <u>D</u> [А]В]С[а] b	
		R:3%º/o				
	luid :VACCIIM		Transfer duratio	on:29	MIN	
	ons of the shipping 875_PSTTen					
				Sh	ipping order No :	
Coupled with	h [LIQUID			GAS	
Bottom ho	ole samples No					
Surface si	Surface samples No A-14786					
Measuremen Al Tank -	t conditions, a_Correc	B_ Meter . ted with shrinkage te	ster. D_ Corr	C_ C	Dump _ tank _	
	<u>D –</u> REN	1ARKS -			Visa Chief Operator	
ALL READIN	GS FROM 23:30				A. BERGENSEN	
				alat a tight and a time to a time to a time out		

FLOPETROL	Client :SI	CATOIL							
Base NWB	Field : 34 Well : 34		Page : 48 Report N 83/2301/37						
		MPLING _							
Date of sampling : <u>17.09.83</u> Sample nature : <u>CONDENSATE</u>	_ Service ord	er:Sampling point:SI	GH GLAS SEPARATOR						
Producing zone <u>BRENT</u>	_ Perforations:		-						
Depth origin : <u>RKB</u> Surface elevation: <u>160 m</u>	_ Tubing Dia: _ Shoe :	5" VAM Casin 3180.95m Shoe	g Dia :9 5/8" :						
Bottom hole Initial pressure		at depth :							
<u>static</u> Latest prassure measure <u>conditions</u> Temperature		at depth : at depth :							
B – MEASUBEM	ENT AND SA	MPLING CONDITIONS							
$\frac{B - MEASUREM}{Time at which sample was taken:$									
		Well head pressure: 231.8							
		_ at depth: _ at depth:							
Flow measurement of sampled gas - G Values used for calculations :	ravity(air 1):	.660 Factor Fpv	$=\frac{1}{\sqrt{Z}}:$ 1.0589						
$F_b = 26$ Separator Pressure: 875 PSIG	95.1, F _g = 1 Rates - Gas Oil (separator c	.2309, $y = 1.0022$, F_{L} : <u>1.293 MMSCM scr</u> ond): <u>380:76 m³/</u> BOR	f = 0.9444 = D GOR: <u>3395, 2 m³/m³</u> = D B (separator cond)						
<u>Stock</u> Atmosphere : <u>tank</u> Tank temperature :	mmHg •	F Oil at 60 °F : . 	<u>313.9 М³/Лворр</u> Авсар						
BSW:% WLR:	<u>3%</u> º/o								
Transfering fluid : <u>HG</u>		Transfer duration :	30 MIN						
Final conditions of the shipping bottle : Pressure : 620 PSI Temp : 5	7°F	BOTTLE 700cc SAMPLE 600cc 50 GAS 50 cc	Hg left in bottle						
<u>C_IDENTIFICA</u> Shipping bottle No: <u>8302127</u> sen Addressee:		SAMPLE _	Shipping order No :						
Coupled with	LIQUID		GAS						
Bottom hole samples No									
A-14695									
Surface samples No A-14761									
Measurement conditions. A. Tank B. Meter C. C. Dump a a. Corrected with shrinkage tester. b. Corrected with tank a									
D - REMARKS	D _ REMARKS _ Visa Chief Operato								
ALL READINGS FROM 01:00			A. BERGENSEN						

No DOP 127

FLO	PETR	DL Client	: STATOIL						
Base : _{NWB}		Field Well	= <u>34/10 ALPHA</u> = <u>34/10-16</u>		Page : <u>49</u> Report N::8 <u>3/2301/37</u>				
	_SURFACE SAMPLING _								
Date of sam Sample natu	Date of sampling : 17.09.83 Service order : Sampling No :5 Sample nature : GAS Sampling point :GAS								
Producing	<u>A – RESE</u> zone B <u>RENT</u>	RVOIR AND WE	LL CHARACTER ns:3177-3187	ISTICS _ MSamplin	g interval :				
Depth origi Surface ele	n : <u>RKB</u> vation1 <u>60 m</u>	Tubing Di Shoe	a: <u>5" VAM</u> : <u>3180.95</u> m	Casing Shoe	Dia :9 5/8" :				
Bottom hole static conditions	· · ·	neasured :	at dep	th:	date : date : date : date :				
Time at which	<u>B- MEAS</u> ch sample was take	DUREMENT AND	SAMPLING CO	ONDITIONS _ ed since stabili	6 hr 30 min				
Bottom hole dynamic conditions	Bottom hole press	ure :	at depth:		ARVell head temp :81°C _ date : _ date :				
Flow measur Values used t					$\frac{1}{\sqrt{Z}}$: <u>1.0589</u>				
<u>Separator</u>	Pressure : 875 Temp : 1230	_PSIG <u>Rates</u> _ Gas C F Oil (separato		93 MMSCMSCF	= 0.9444 $GOR: 3395, 8 m^3/m^3$ B (separator cond)				
<u>Stock</u> tank	Atmosphere : Tank temperature :	mmHg .	·`F (Dil at 60 °F :	313.8 M ³ /BOPD [A]B]C]a]b				
	%o WLF		_º/o						
	buid : VACCUM		Transfer du	ration :3	0 MIN				
Pressure :	<u>875 PSI</u> Tem	p: <u>57°F</u>	_						
				S	hipping order No :				
Coupled with	<u> </u>	LIQUID			GAS				
Bottom ho	<u>ble samples No</u>								
Surface sa	Surface samples No A-14761								
Measuremen A. Tank .	Measurement conditions, A. Tank B. Meter C. C. Dump - a. Corrected with shrinkage tester. b. Corrected with tank .								
	D _ REM	ARKS -			Visa Chief Operator				
	GS FROM 01:00				A. BERGENSEN				

FLOPETE		ATOIL	Se	ction:ANNEX 42					
Base _{NWB}		/10 ALPHA /10-16	Pa	age : 50 eport N*8 <u>3/2301/37</u>					
Date of sampling : <u>17.09.8</u> Sample nature : CAS	_ SURFACE SAMPLING _ Date of sampling : <u>17.09.83</u> Service order : Sampling No :6 Sample nature : <u>GAS</u> Sampling point : <u>GAS</u> OUTLET SEPARATOR								
A _ RE	SERVOIR AND WELL	CHARACTERISTIC	:s _						
Producing zoneBRENT Perforations: 3177-3187M Sampling interval: Depth origin : RKB Tubing Dia : 5'' VAM Casing Dia : 9 5/8'' Surface elevation: 60 m Shoe : 3180.95m Shoe : 3180.95m									
Bottomhole Initial pressure		at depth:							
	e measured :			date :					
$\frac{B - M}{T_{\text{Ime}}}$	ASUREMENT AND SA	MPLING CONDI Time elapsed si	TIONS _ nce stabilisat	tion:6 hr 30 min					
dynamic Bottom hole pre	52/64"since: 16:21 essure:	_ at depth:	(date :					
	np :								
Flow measurement of sample Values used for calculations :				-					
Separator Pressure : 875 Temp : 123	$F_{b} = 2695.1, F_{g} = 1,$ $F_{b} = 2695.1$: <u>1.293 MM</u> ond): <u>380.76</u>	<u>ISCM</u> SCFD m ³ /DBOPD	GOR: <u>3395,8 m³/m³</u> (separator cond) C					
<u>Stock</u> Atmosphere <u>tank</u> Tank temperatu	:mmHg re :	F Oil at	60 F : <u>31</u>	3.8 M ³ /DBOPD ABCab					
BSW:º/o W	/LR: <u>3%</u> 0/0								
Transfering fluid :VACCU	۹	Transfer duration	1: <u>30</u>	MIN					
Final conditions of the shippin Pressure : 875 PSI T									
<u>C_ID</u> Shipping bottle No: <u>1476</u> Addressee:			Shij	oping order No :					
Coupled with	LIQUID	1		GAS					
Bottom hole samples No									
Surface samples No	5								
Measurement conditions, A_ Tank . B_ Meter . C_ Dump . a_ Corrected with shrinkage tester. b_ Corrected with tank .									
<u>D _ R</u>	EMARKS -			Visa Chief Operator					
ALL READINGS FROM 01:00		A. BERGENSEN							

No - DOP 127

FLO	PETR		ATOIL						
Base _{NWB}		Field :34 Well :34		Page :_51 Report N*83/2301/37					
	_SURFACE SAMPLING _								
Date of sam Sample nate	pling: <u>17.09.83</u> ure : <u>CONDENS</u>	Service orde	er:Sampling point:Sa	GHT GLASS CONDENSATE					
Producing	<u>A – RES</u> zone <u>BRENT</u>	ERVOIR AND WELL (CHARACTERISTICS _ 3177-3187M Samp	ling interval:					
Depth origi Surface ele	n : <u>RKB</u> vation <u>160 m</u>	Tubing Dia : . Shoe : .	5" VAM Casır 3180.95m Shoe	ng Dia : 5/8" :					
Bottom hole static	· ·		at depth : at depth :						
conditions	Temperature		at depth:						
Time at whit			MPLING CONDITIONS Time elapsed since stab						
Bottom hole	Choke size :	80/64"_since:10:00	Well head pressure: 145.1	BARA 76°C					
dynamic conditions			at depth:	date : date :					
Flow measured Values used	I rement of sampled for calculations :	$\frac{1}{2} \frac{gas}{a} = Gravity(air 1):$.664 Factor Fpv 2272, y = 1.0015, F _t	$r = \frac{1}{\sqrt{2}}$: <u>1.0581</u> r = 0.9388					
<u>Separator</u>		1		FD GOR: 3795 PD B (separator cond)					
<u>Stock</u> <u>tank</u>	Atmosphere Tank temperature	:mmHg		3/5:5 M ³ /B _{OPD} [A]B]C[a]D					
BSW:	2.0_% W	LR:%							
Transfering f	luid :MERCUR	Y	Transfer duration :	37 MIN					
Final conditi Pressure :	ons of the shippin 41.4 BAR Te	g <u>bottle :</u> mp :20°F	VOL OF BOTTLE SAMPLE 600 cc CAS CAP 50 cc	700 cc 50 Hg left in bottle					
Shipping bo Addressee : .	ttle No : 82083	NTIFICATION OF THE S	<u>SAMPLE _</u> by:	Shipping order No :					
Coupled wit	h	LIQUID	T	GAS					
Bottom ho	<u>pie samples No</u>								
l									
Surface samples No A=14668									
Measurement conditions, A_ Tank . B_ Meter . C_ Dump . a_ Corrected with shrinkage tester. b_ Corrected with tank .									
D _ REMARKS _ Visa CHier Operator									
ALL READINGS FROM 15:30									

Nn DOP 127

FLOPETROL	Client	STATOIL	
Base NWB	Field Well	=3 <u>4/10_ALPHA</u> =3 <u>4/10-16</u>	Page : <u>52</u> Report N [*] 83/2301/37
<u>_ SL</u>	JRFACE	SAMPLING _	
Date of sampling : <u>17,09,83</u> Sample nature : <u>GAS</u>	_ Service	order : Sampling po	Sampling No : 8
<u>A - RESERVOIR</u> Producing zoneBR <u>ENT</u>	AND W	ELL CHARACTERIS ons: <u>3177-3187M</u>	TICS _ Sampling interval :
Depth origin : <u>RKB</u> Surface elevation160 m			
	d :	at depth	: date : : date : : date :
Time at which sample was taken :	:03		since stabilisation: 4 hr
dynamic Bottom hole pressure :		at depth:	date :
Flow measurement of sampled gas = G Values used for calculations : Fb= 371	iravity(air 1 18.2, Fat	= 1.2272, y = 1.	Factor Fpv = $\frac{1}{\sqrt{2}}$: 1.0581 0015, Ftf = 0.9388
Separator Pressure : 910 PSIG Temp : 130°C *F	Rates - Ga Oil (separat	s . <u>1.647</u> for cond): <u>434</u> m	0015, F _{tf} = 0.9388 <u>MMSCM/D</u> CFD GOE: <u>3795</u> <u>137D</u> BOPD B Separator cond 1
<u>Stock</u> Atmosphere : <u>tank</u> Tank temperature :	mmHg	•`FOıl	at 60 F : <u>375.5 M³/D_{BOPD}</u>
BSW: 2.0 % WLR:		_0/0	
Transfering fluid : <u>VACUUM</u>		Transfer durat	ion: 37 MIN
Final conditions of the shipping bottle : Pressure : 63.7 BAR Temp : 20	0 ⁰ F		
<u>C_ IDENTIFICAT</u> Shipping bottle No : <u>8208308</u> sen Addressee :	TION OF 1	HE SAMPLE _ by:	Shipping order No :
Coupled with	LIQUID		GAS
Bottom hole samples No			
Surface samples No		• • • • • • • • • • • • • • • • • • •	A-14668 A-14751
Measurement conditions. A. Tank . a. Corrected with	B_ Meti n shrinkag	er. e tester. D. Co	C_ Dump
<u>D _ REMARKS</u> .	=		Visal Chief Operator
ALL READINGS FROM 15:30			
900			

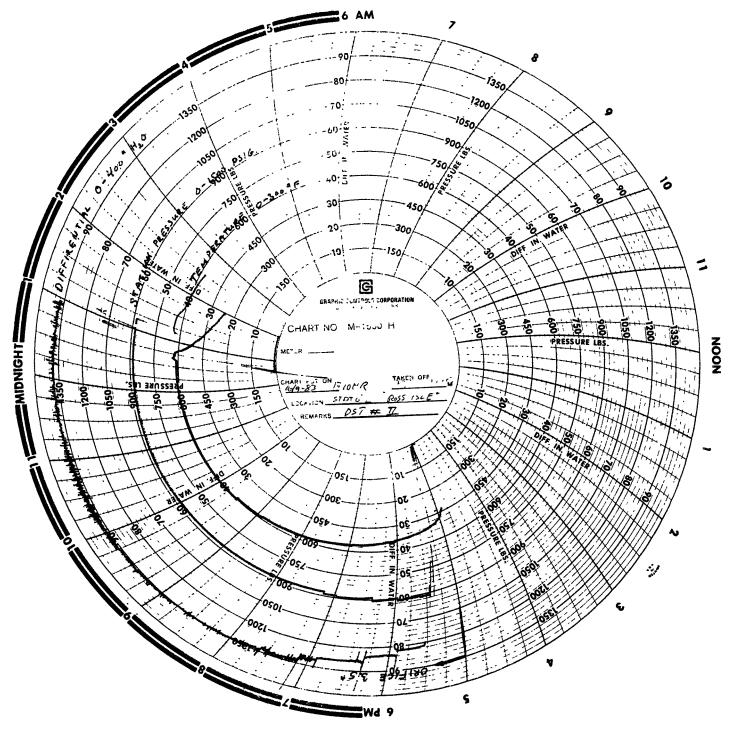
FLOPETR	Client STATOIL	Section:ANNEX
Base NWB	Field <u>34/10 ALP</u> Well <u>34/10-16</u>	
	SURFACE SAMPLI	NG
Date of sampling : <u>17.09.83</u> Sample nature : <u>GAS</u>	Service order : Samp	Sampling No :9
<u>A – RE</u> Producing zone ^{B<u>RENT</u>}	SERVOIR AND WELL CHARAC Perforations: 3177-3	TERISTICS
Depth origin : <u>RKB</u> Surface elevation46 <u>0 m</u>	Tubing Dia : <u>5" VAM</u> Shoe : <u>3180.9</u>	1 Casing Dia : 9 5/8" 15m Shoe :
Bottom holeInitial pressurestaticLatest pressureconditionsTemperature	measured :at	depth:
$\frac{B - ME}{T_{I}me \text{ at which sample was ta}}$	ASUREMENT AND SAMPLING ken:	B CONDITIONS _ 4 hr
dynamic Bottom hole pre	ssure : at dept!	145.1 BARA 76°C d pressure:
Flow measurement of sample Values used for calculations :	$\frac{1}{2} gas = Gravity(air 1):$	Factor Fpv = $\frac{1}{\sqrt{2}}$: $\frac{1.0581}{\sqrt{2}}$
<u>Separator</u> Pressure : 910 Temp : 130	PSIG Rates - Gas : C *F Oil (separator cond):	$VZ = 1.0015, F_{tf} = 0.9388$.647 MMSCM/D 434 m³/D SCFD GOR: 3795 (separator cond) C
Stock Atmosphere	:mmHg*	F Oil at 60 F : 375.5 M3/DBOPD
BSW: <u>2.0</u> % W	LR:%	
Transfering fluid :VACUUM	Transfe	er duration:37 MIN
<u>Final conditions of the shippin</u> Pressure : <u>63.7 BAR</u> Te	g <u>bottle :</u> mp :	
C_IDE Shipping bottle No: Addressee:	NTIFICATION OF THE SAMPLE	Shipping order No :
Coupled with	LIQUID	GAS
Bottom hole samples No		
Surface samples No	8208308	A-14668
Measurement conditions,	B_ Meter . cted with shrinkage tester.	C_ Dump .
ALL READINGS FROM 15:30	MARKS _	Visa Chief Operation
400		
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FLO	PETR	Client :51	ATOIL			
Base _{NWB}		Field :34 Well :34	/10 ALPHA /10-16		Page Report	: <u>54</u> N°8 <u>3/2301/37</u>
Date of sam Sample nati	pling: <u>17,09,83</u>	<u>_SURFACE</u>	ler :	Sam	ipling No : OUTLET S	<u> </u>
Producing Depth origi	<u>A – RESE</u> zoneB <u>RENT</u> n : <u>RKB</u>	RVOIR AND WELL Perforations	CHARACTER :_3177-3187 -5" VAM	RISTICS _ /M Samplin Casing	ig interval Dia : <u>9</u>	5/8''
Surface ele	vation <u>#60_m</u> Initial pressure Latest prassure m	Shoe :	at depat depat dep	Shoe	: date : date :	·
Time at which	ch sample was take	DREMENT AND SA	_ Time_elaps	sed since stabili	sation:	
Bottom hole dynamic conditions	Bottom hole pressu	/64"since:10:00 ure:	at depth:		date :	
Flow measure Values used	ement of sampled g for calculations : F	$gas = Gravity(air 1):_{b} = 3718.2, F_g = 1$ PSIG Rates = Gas	.663 .2281, y =	Factor Fpv = 1.0015, Ftf	$\frac{1}{\sqrt{2}}$: = 0.9380	1.0575
<u>Separator</u>	Temp : <u>131°C</u>	F Oil (separator o	ond 1: 42	8.5 ³ /D 50P	D B (sep	arator cond)
<u>Stock</u> <u>tank</u>	Atmosphere : Tank temperature :	mmHg	[•] F	Dil at 60 °F :	370.8 MJ	
		۵::%		uration :3	9 MIN	
Final condition	ons of the shipping t 63.7 BAR Temp	ottle : o:20°F	-			
		Sent on :		S	hipping or	der No :
Coupled with Bottom ho	le samples No _				GAS	
Surface se	Surface samples No A-14688					
<u>Measuremen</u> A Tank	a_Correcto	B_ Meter . ed with shrinkage te			.Dump. h tank.	
ALL READING	<u>D _ REM</u> GS FROM 16:30	ARKS _			Visa	Chief Operator

FLOPETROL	Client :ST	ATOII.	Section: ANNEX 42					
Base :	Field :34 Well :34	/10_ALPHA/10_16	Page : 55 Report N°8 <u>3/2301/37</u>					
_SURFACE SAMPLING _								
Date of sampling : <u>17.09.83</u> Service order : Sampling No :11 Sample nature : <u>GAS</u> Sampling point : <u>GAS_OUTLET_SEPARATOR</u>								
<u>A – RESERVOIR</u> Producing zone <u>BRENT</u>		CHARACTERISTICS _ 3177-3187M Samp	ling interval :					
Depth origin : <u>RKB</u> Surface elevation <u>1:60 m</u>								
Bottom holeInitial pressurestaticLatest pressureconditionsTemperature	d :	at depth: at depth: at depth:	date :					
<u>BMEASUREM</u> Time at which sample was taken : <u>1</u> 0	ENT AND SA	MPLING CONDITIONS Time elapsed since stat	5 hr					
gynamic Bottom hole pressure :			BARA temp : date : date :					
Flow measurement of sampled gas _ G Values used for calculations :			12					
Separator Pressure : <u>910</u> PSIG Temp : <u>1310C</u> F	Rates - Gas Oil (separator c	.2281, y = 1.0015, F : <u>1.649 MMSCM/30</u> ond): <u>428.5³/D</u> BC	CFD GOR: <u>3848</u> OPD B (separator cond.)					
<u>Stock</u> Atmosphere : <u>tank</u> Tank temperature :	mmHg		- 370.8.M ³ /IBOPD ABCab					
BSW:		Transfer duration:	20 MTN					
Transfering fluid : VACUUM Final conditions of the shipping bottle : Pressure :			<u> </u>					
Pressure : <u>63.7 BAR</u> Temp : <u>2</u> <u>C IDENTIFICA</u>	ION OF THE							
Shipping bottle No : <u>A-14789</u> sen Addressee :	it on :	by:	Shipping order No :					
Coupled with	LIQUID		GAS					
Bottom hole samples No	Bottom hole samples No							
Surface samples No A-14789								
Measurement conditions, A_ Tank _ B_ Meter . C_ Dump . a_ Corrected with shrinkage tester. b_ Corrected with tank .								
D _ REMARKS _ Visa Chief Operator								
ALL READINGS FROM 16:30								

No DOP 127

FLO	PETROL	Client	STATOIL		Section: ANNEX 42
Base _{NWB}			:3 <u>4/10 ALPH4</u> :3 <u>4/10-16</u>		Page : <u>56</u> Report N*8 <u>3/2301/37</u>
Date of sam	pling: 17.09.83	_ Service	SAMPLINC	Sa	
	zo neBRENT	AND WE		ERISTICS _	
Depth origi Surface ele	n : <u>RKB</u> vation1:50 m	_ Tubing D _ Shoe	ia.: <u>5" VAM</u> : <u>3180.95</u>	Casing	g Dia : <u>9 5/8"</u> :
static	Initial pressure Latest prassure measured Temperature	d :	at de	epth:	date : date : date :
Time at whit	$\frac{B - MEASUREM}{16}$				
Bottom hole dynamic conditions	Choke size :80764" sir Bottom hole pressure : Bottom hole temp :		at depth: .		
Flow measured Values used	rement of sampled gas $_$ Gr for calculations : $F_L = 371$				
<u>Separator</u>	F _b = 371 Pressure : <u>910</u> PSIG <u>F</u> Temp : <u>131°C</u> F	<u>lates</u> _ Gas Dil (separati	s : <u>1.</u> or cond): <u>4</u>	649 MMSCM/90CF 28.5 ³ /D BOF	D GOR: <u>3848</u> 2D B (separator cond.) C
<u>Stock</u> <u>tank</u>	Atmosphere : Tank temperature :				370.8 M ³ /IBOPD ABCab
	م WLR:			duration :	39 MIN
Final condition	ons of the shipping bottle:_ 41.0 BARTemp:20		VOL SAM	OF BOTTLE 7	00cc 50 cc Hg left in bottle
	C_IDENTIFICAT ttie No: <u>83021209</u> sent				Shipping order No :
<u>Coupled with</u> Bottom ho	nie samples No	LIQUID			GAS
<u>Surface sa</u>	amples No				14789 14688
<u>Measuremen</u> A Tank .	a_Corrected with	B_ Mete shrinkage			_ Dump _ h tank _
ALL READING	<u>D _ REMARKS _</u> S FROM 16:30				Visa Chief Operator
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