FLOPETROL

DIVISION : NAR / NUD

BASE : STAVANGER

REPORT N°: 81/2301/36

Well Testing Report

EZ - TREE AND SURFACE SAMPLING

Client : STATOIL

Field : 15/9 Gamma Well : 15/9-11

Zone : Jura Date :

DST 1 : Nov.30th 81 - Dec.3rd 81

DST 2 : Dec. 6th 81 - Dec.10th 81

DST 3 : Dec.13th 81 - Dec.16th 81

INDEX

- TEST PROCEDURE -

DST 1

Objectives of test : Fluid samples

Reservoir pressure/temperature

Permeability

Gas impurities

Sand stability

The test string was run in with fresh water except for the upper 500m which was air.
The test was performed according to test programme.
3 sets of PVT samples were taken at the separator at the end of the flow period.

- TEST PROCEDURE -

DST 2

Objectives of test : Permeability

Fluid samples

Reservoir pressure/temperature

Sand stability

Determination of trace elements

The test string was run in with fresh water except for the upper 860m which was air.
The test was performed according to test programme.
1 set of PVT sample was taken at the separator at the end of the flow period.

-TEST PROCEDURE-

DST 3

Objectives of test : Permeability

Fluid samples

Reservoir pressure/temperature

Sand stability

Determination of trace elements

The test string was run in with fresh water except for the upper 860m which was air.
The test was performed according to test programme.
Two SSDRs were run together with three Sperry Sun gauges.
2 sets of PVT samples were taken at the separator during first flow period, and 1 set was taken during final flow.

- SEQUENCE OF EVENTS -

DST 1

DATE	TIME	OPERATION
Nov 1st		Pressure tested EZ-tree on deck. Test ok.
Nov 6th		Personell left rig due to strike onboard.
Nov 23rd		Personell arrived on rig after strike finished.
Nov 27th		Torqued up EZ-tree on rig floor, and pressure
		tested tree to 5000 psi. Test ok.
Nov 30th	05.25	Schlumberger perforate test interval. Partial
		misrun. Lower 1/3 of zone only perforated.
	07.15	Run in hole to perforate remainder of zone.
	07.55	Perforated remainder of zone, guns lost in hole.
		Rig up and run junk basket and gauge ring to 2795m.
	11.30	Started to pick up test tools.
	12.35	Gauges in hole, pick up test string.
Dec 1st	09.04	Picked up to extend slip joints.
	09.10	Set packer, land string in wear bushing.
	09.17	Pressure annulus to 1400 psi, no response
		due to DPTV being shut.
	09.21	Bled annulus, pick up and cycle pipe to open DPTV.
	09.34	String landed in wear bushing.
	09.38	Opened APR-N with ca. 800 psi. Initial wellhead
		pressure 24 psia.
	09.40	Wellhead pressure 34 psia. Closed APR-N.
		Estimated production 8.5 bbls.
		Pressure rose to 975 psia then stabilized.
	10.41	Reopened APR-N.
	10.42	Opened choke manifold to flare line.
		Choke size 32/64"

_ SEQUENCE OF EVENTS _(Continuation)

DATE	TIME	OPERATION
Dec 1st	10.45	Increased choke size to 40/64"
	11.00	Gas at surface. WHP 1614 psia.
	11.26	Switched to 42/64" fixed choke.
	13.00	Switched flow through separator. WHP 2379 psia.
	19.00	Commenced sampling. PVT set 1.
		Cond.: 9209-37 Gas: A-1556 Gas: A-7220
	21.10	Commenced sampling. PVT set 2
		Cond.: 8088-86 Gas: A-7636 Gas: A-4286
	22.15	Commenced sampling. PVT set 3
		Cond.: 8088-51 Gas: A-11342 Gas: A-7148
	22.32	Switched burners.
	23.05	Ran meter check to tank.
	23.55	Bypassed separator.
	24.00	Closed APR-N and choke manifold. WHP 2474 psia.
Dec 2nd		Pressure increased to 3171 psia then began decreasing.
	14.57	Began bleeding tubing through flare line on 24/64" ch.
	15.09	Increased choke to 42/64"
	15.11	Shut in to observe well.
	15.18	Continued bleeding tubing on 42/64" choke.
	15.40	Closed failsafe valve on surface test tree.
	15.50	Opened kill valve and pumped to fill tubing
		6 bbls of water followed by mud.
	16.12	Opened APR-N, commenced bullheading.
	16.57	Broke down formation with 3500 psig.
	17.12	Completed bullheading.
	17.27	Sheared APR-M and commenced reverse circulating.
		Released packer and POOH.
		END OF TEST

- SEQUENCE OF EVENTS - DST 2

DATE	TIME	OPERATION
Dec 4th		Pressure tested EZ-tree to 5000 psi. Test ok.
Dec 6th		Schlumberger perforate test interval.
Dec 7th	04.26	SSDR 81049. Battery connected.
	04.41	SSDR 81048. Battery connected.
	04.53	Start run in hole with test string.
	05.07	SSDR 81049 sat in DST hanger.
	05.25	SSDR 81048 sat in XN-nipple.
	19.30	EZ-tree through rotary table.
	20.38	Otis lubricator valve through rotary table.
	21.54	Land string in wear bushing.
	22.00	Pressure test surface equipment.
	23.50	Sat packer, land string in wear bushing.
Dec 8th	00.10	Open APR-N valve. Flow through choke manifold
		on 64/64" ADJ. choke.
	01.17	Change to 48/64" fixed choke. WHP 1600 psia.
	01.37	Change to adjustable choke.
	01.45	Change to 28/64" fixed choke. WHP 1800 psia.
	02.15	WHP 2000 psia.
	03.00	WHP 1993 psia.
	03.35	Change to 32/64" fixed choke. WHP 2004 psia.
	04.20	Flow through separator.
	04.23	WHP 1995 psia.
	05.00	WHP 2015 psia.
	05.30	WHP 2001 psia.
	09.30	Commenced sampling. PVT set 1
		Cond.: 9209/100 Gas: A-10915 Gas: A-4987
	10.50	Leak on Otis heater on low pressure coil.

_ SEQUENCE OF EVENTS _(Continuation)

DATE	TIME	OPERATION
Dec 8th	10.57	Close the choke manifold.
	10.58	Close APR-N valve.
	11.00	Shut in period starts.
Dec 9th	08.20	Shut in period ends.
	08.21	Open choke manifold, bleed off tubing.
	08.48	Close choke manifold
	08.50	Close master valve on flowhead.
	09.00	Kill valve open, master valve open
	10.04	Open APR-N valve commenced bullheading
	10.49	Close master valve on flowhead.
	11.16	Close kill valve.
	11.23	Completed bullheading.
	11.24	Open APR-M valve commenced reverse circulating.
	11.26	Close APR-N valve.
	13.26	Release packer.
	13.30	Start circulating.
	14.15	Close pipe ram.
	14.17	Circulate using choke manifold on rig floor.
	17.13	Open pipe ram.
	18.25	Stop circulating
	18.45	Start POOH
	19.15	Otis lubricator valve out of hole.
	20.05	EZ-tree out of hole.
Dec 10th	03.40	SSDRs out of hole
		END OF TEST

- SEQUENCE OF EVENTS - DST 3

DATE	TIME	OPERATION
Dec 11th		Pressure test EZ-tree. Test ok.
Dec 12th	04.05	Finished perforating.
	04.30	SSDR 81048, battery connected.
	04.50	SSDR 81048 run in hole.
	05.03	SSDR 81049, battery connected.
	05.20	SSDR 81049 run in hole.
	16.40	EZ-tree through rotary table.
	17.35	Otis lubricator valve through rotary table.
	18.58	String landed in wear bushing.
	19.30	Pressure test surface equipment.
	19.30 -	Wait on daylight to open up well.
Dec 13th	09.02	Set packer
	09.05	Leak in RTTS circulating valve
	10.40	Close RTTS.
	10.50	Open kill valve on flowhead and pressure test tubing.
	11.15	Open sleeve over RTTS and pump down mud. Then
		displaced with water.
	11.20	Open RTTS valve and pump down to displace mud.
	14.50	Close RTTS valve.
	15.24	Open APR-N valve
	15.27	Open well on 24/64" choke.
		WHP 195 psig. Start of first flow period.
	15.50	Up-stream choke manifold
	15.58	Change to 48/64" choke. WHP 1470 psig
	16.26	Gas at surface.
	17.50	Stop glycol injection.
	20.37	WHP 1940 psig. Flow through heater.

_ SEQUENCE OF EVENTS _(Continuation)

DATE	TIME	OPERATION
Dec 13th	22.00	Flow through separator.
Dec 14th	04.00	Commenced sampling. PVT set 1
		Cond.: 9214/368 Gas: A-12060 Gas: A-12056
	07.30	Commenced sampling. PVT set 2
		Cond.: 13266/99 Gas: A-10929 Gas: A-11339
	08.02	Bypass separator
	08.04	Close APR-N valve
	08.09	Close choke manifold. Start of first build up.
	08.10	WHP 2540 psig.
Dec 15th	00.01	End of build up period.
	00.07	Open APR-N. Open well on 24/64" ADJ.choke, final flow
	00.08	WHP 2310 psig
	00.10	Open up slowly on adjustable choke to 36/64".
	00.55	Change to 36/64" fixed choke.
	01.55	Flow through separator.
	04.01	Bypass separator. WHP 2372 psig
	04.05	Change to 56/64" ADJ. choke
	04.10	Change to 56/64" fixed choke.
	04.32	Flow through separator.
	08.02	Bypass separator. WHP 1900 psig.
	08.05	Change to 56/64" ADJ. choke.
	08.07	Change to 80/64" ADJ. choke
	08.09	WHP 1447 psig
	08.13	Change to 80/64" fixed choke. WHP 1405 psig.
	08.34	Flow through separator.
	11.00	Commenced sampling. PVT set 3
		Cond.: 9214/371 Gas: A-7327 Gas: A-10033
	12.01	Bypass separator
	12.02	Shut in well at choke manifold.WHP 2163 psig
	12.03	Close APR-N valve. WHP 2345 psig. Final build up.

_ SEQUENCE OF EVENTS _(Continuation)

DATE	TIME	OPERATION
Dec 15th	19.55	Open choke on 24/64" ADJ.
	20.02	Start to inject glycol
	20.04	Set adjustable choke to 36/64"
	20.07	Close choke manifold
	20.15	Close master valve
	20.16	Open adjustable choke
	20.17	Close choke. Master valve was not completely closed.
	20.21	Close master valve properly.
	20.23	Open adjustable choke on 48/64".
	20.25	Close choke. Master valve not completely closed.
	20.29	Close master valve properly.
	20.32	Open and closed choke, chiksan leaking.
	20.48	Fail safe valve closed.
	20.49	Master valve open.
	20.53	Pressure kill line to 2900 psig
	20.54	Open kill valve. Start bullheading.
	21.25	Open APR-N valve
	21.30	Bleed off pressure on chiksan lines
	21.51	Close kill valve
	21.52	Finish bullheading.
	21.56	Open kill valve
	22.00	Open APR-M valve
	22.05	Start reverse circulating.
	23.20	Finished reverse circulating.
	23.30	Release packer.
	23.36	Open master valve. Start circulate long way.
Dec 16th	02.05	Release packer. It was not released on first attemt.
	02.08	Start circulate the long way.
	04.00	Start POOH

_ SEQUENCE OF EVENTS _(Continuation)

DATE	TIME	OPERATION
Dec 16th	04.45	Otis lubricator valve out of hole.
	05.45	EZ-tree out of hole.
	12.30	SSDRs out of hole.
		END OF TEST

FLOPETROL

DIVISION : NAR/NUD

BASE : STAVANGER

REPORT N°: 81/2301/36

Well Testing Report
Annexes

Client : STATOIL

Field : 15/9 Gamma Well : 15/9-11

Zone : Jura Date :

EZ-TREE AND SURFACE SAMPLING

DST 1 : Nov 30th 81 - Dec 3rd 81

DST 2 : Dec 6th 81 - Dec 10th 81

DST 3 : Dec 12th 81 - Dec 16th 81

INDEX of ANNEXES

SURFACE SAMPLING

DST 1

1st SET

Condensate	:	9209-37	Dec. 1st 1981	19.20 - 19.45
Gas	:	A-1556	Dec. 1st 1981	19.20 - 19.45
Gas	:	A-7220	Dec. 1st 1981	19.51 - 20.11

2nd SET

Condensate	:	8088-86	Dec. 1st 1981	21.10 - 21.30
Gas	:	A-7636	Dec. 1st 1981	21.10 - 21.30
Gas	:	A-4286	Dec. 1st 1981	21.40 - 22.00

3rd SET

Condensate	:	8088-51	Dec. 1st 1981	22.10 - 22.25
Gas	:	A-11342	Dec. 1st 1981	22.10 - 22.25
Gas	:	A-7148	Dec. 1st 1981	22.29 - 22.45

SURFACE SAMPLING

DST 2 — 1st SET

Condensate	:	9209/100	Dec. 8th 1981	09.30 - 09.55
Gas	:	A-10915	Dec. 8th 1981	09.30 - 09.55
Gas	:	A-4987	Dec. 8th 1981	10.10 - 10.30

SURFACE SAMPLING

DST 3
First flow — 1st SET

Condensate :	9214/368	Dec.14th 1981	03.10 - 03.40
Gas :	A-12060	Dec.14th 1981	03.13 - 03.33
Gas :	A-12056	Dec.14th 1981	03.40 - 04.00

2nd SET

Condensate :	13266/99	Dec.14th 1981	06.10 - 06.40
Gas :	A-10929	Dec.14th 1981	06.10 - 06.35
Gas :	A-11339	Dec.14th 1981	07.00 - 07.25

Final flow — 3rd SET

Condensate :	9214/371	Dec.15th 1981	09.57 - 10.27
Gas :	A-7327	Dec.15th 1981	10.00 - 10.30
Gas :	A-10033	Dec.15th 1981	10.35 - 11.00

FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 Gamma

Well : 15/9-11

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DST 1 PVT SET 1

SURFACE SAMPLING

Date of sampling : Dec.1st 1981 Service order : _____ Sampling No. : 1

Sample nature : Condensate Sampling point : Sep.oil outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Jura Perforations : 2797m-2807m Sampling interval : _____

Depth origin : RKB Tubing Dia. : 5" VAM Casing Dia. : 7" Liner

Surface elevation : 25m Shoe : 2792m Shoe : 2950m

Bottom hole static conditions	Intial pressure	: 4338 PSIA	at depth : 2787.24m	date : 2/12-81
	Latest pressure measured	: 4332 PSIA	at depth : 2787.24m	date : 2/12-81
	Temperature	: 105° C	at depth : 2787.24m	date : 2/12-81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 19.20 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 42/64"	since : 11.26	Well head pressure : 2472psia	Well head temp. : 115°F	
	Bottom hole pressure : 4102 PSIA	at depth : 2783.7m	date : 1/12-81		
	Bottom hole temp. : 103.5 C	at depth : 2783.7m	date : 1/12-81		

Flow measurement of sampled gas - Gravity (air: 1) : 0.73 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0463

Values used for calculations : See Otis report

Separator	Pressure : 440 PSIG Temp. : 95 °F	Rates - Gas : 21.423 MM SCFD Oil (separator cond.) : 1784.2 BOPD B	GOR : 12007 scf/bbl (separator cond.)
Stock tank	Atmosphere : 14.73PSI ~~mmHg~~ 60 °F Tank temperature : _____ °F	Oil at 60°F : 1554.08 BOPD A B C a b	

BSW : - % WLR : - %

Transfering fluid : Mercury Transfer duration : 25 mns.

Final conditions of the shipping bottle : 23cc Hg

Pressure : 270 PSIG Temp. : 46°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : 9209-37 sent on : _____ by : _____ Shipping order No. : _____

Addressee : Statoil lab.

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.		A-1556 A-7220

Measurment conditions.

A Tank - B Meter - C Dump -

a Corrcted with shrinkage tester - b Corrected with tank -

D - REMARKS -

Visa Chief Operator

Knut Nandal

FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 Gamma

Well : 15/9-11

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Report N°: 81/2301/36

DST 1 PVT SET 1

SURFACE SAMPLING

Date of sampling : Dec. 1st 1981 Service order : _____ Sampling No. : 2

Sample nature : Gas Sampling point : Sep. gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Jura Perforations : 2797m-2807m Sampling interval : _____

Depth origin : RKB Tubing Dia. : 5" VAM Casing Dia. : 7" Liner

Surface elevation : 25m Shoe : 2792m Shoe : 2950m

Bottom hole static conditions	Intial pressure	: 4338 PSIA	at depth : 2787.24m	date : 2/12-81
	Latest pressure measured	: 4332 PSIA	at depth : 2787.24m	date : 2/12-81
	Temperature	: 105 °C	at depth : 2787.24m	date : 2/12-81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 19.20 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 42/64" since : 11.26	Well head pressure : 2472PSIA	Well head temp. : 115°F		
	Bottom hole pressure : 4102 PSIA	at depth : 2783.7m	date : 1/12-81		
	Bottom hole temp. : 103.5 °C	at depth : 2783.7m	date : 1/12-81		

Flow measurement of sampled gas - Gravity (air: 1) : 0.73 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0463

Values used for calculations : See Otis report

Separator	Pressure : 440 PSIG Temp. : 95 °F	Rates - Gas : 21.423 MM SCFD Oil (separator cond.) : 1784.2 BOPD [B]	GOR : 12007 scf/bbl (separator cond.)	
Stock tank	Atmosphere : 14.73PSI ~~mmHg~~ 60 °F Tank temperature : _____ °F	Oil at 60°F : 1554.08 BOPD [A] [B] [C] [a] [b]		

BSW : - % WLR : - %

Transfering fluid : Evacuated container Transfer duration : 25 mns.

Final conditions of the shipping bottle :

Pressure : 440 PSIG Temp. : 46°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-1556 sent on : _____ by : _____ Shipping order No. : _____

Addressee : Statoil lab.

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	9209-37	A-7220

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Knut Nerdal

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FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 Gamma

Well : 15/9-11

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Report N°: 81/2301/36

DST 1 PVT SET 1

SURFACE SAMPLING

Date of sampling : Dec. 1st 1981 Service order : _____ Sampling No. : 3

Sample nature : Gas Sampling point : Sep. gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Jura Perforations : 2747m-2807m Sampling interval : _____

Depth origin : RKB Tubing Dia. : 5" VAM Casing Dia. : 7" Liner

Surface elevation : 25m Shoe : 2792m Shoe : 2950m

Bottom hole static conditions	Intial pressure	: 4338 PSIA	at depth : 2787.24m	date : 2/12-81
	Latest pressure measured	: 4332 PSIA	at depth : 2787.24m	date : 2/12-81
	Temperature	: 105 °C	at depth : 2787.24m	date : 2/12-81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 19.51 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 42/64" since : 11.26	Well head pressure 2472PSIA	Well head temp. : 115°F		
	Bottom hole pressure : 4102 PSIA	at depth : 2783.7m	date : 1/12-81		
	Bottom hole temp. : 103.5 °C	at depth : 2783.7m	date : 1/12-81		

Flow measurement of sampled gas - Gravity (air: 1) : 0.73 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0463

Values used for calculations : See Otis report

Separator	Pressure : 440 PSIG	Rates - Gas : 21.423 MM SCFD	GOR : 12007 scf/bbl	
	Temp. : 95 °F	Oil (separator cond.) : 1784.2 BOPD [B]	(separator cond.)	
Stock tank	Atmosphere : 14.73PSI ~~mm Hg~~ 60 °F	Oil at 60°F : 1554.08 BOPD		
	Tank temperature : _____ °F	[A] [B] [C] [a] [b]		

BSW : - % WLR : - %

Transfering fluid : Evacuated container Transfer duration : 20 mns.

Final conditions of the shipping bottle :

Pressure : 440 PSIG Temp. : 46°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-7220 sent on : _____ by : _____ Shipping order No. : _____

Addressee : Statoil lab.

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	9209-37	A-1556

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Knut Nerdal

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FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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Report N°: 81/2301/36

DST No. 1

PVT Set No. 2

SURFACE SAMPLING

Date of sampling : Dec. 1st 1981 Service order : _____ Sampling No. : 4

Sample nature : Condensate Sampling point : Sep. oil outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Jura Perforations : 2797m-2807m Sampling interval : _____

Depth origin : RKB Tubing Dia. : 5" VAM Casing Dia. : 7" Liner

Surface elevation : 25 m ~~Shoe~~ Tail Pipe : 2792 m Shoe : 2950 m

Bottom hole static conditions					
	Intial pressure	: 4338PSIA	at depth : 2787,24m	date :	2.12.81
	Latest pressure measured	: 4332PSIA	at depth : 2787,24m	date :	2.12.81
	Temperature	: 105°C	at depth : 2787,24m	date :	2.12.81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 21.10 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions					
	Choke size : 42/64" since : 11.26	Well head pressure : 2472PSIA		Well head temp. :	118°F
	Bottom hole pressure : 4102 PSIA	at depth : 2783,7m		date :	1.12.81
	Bottom hole temp. : 103.5°C	at depth : 2783,7m		date :	1.12.81

Flow measurement of sampled gas - Gravity (air: 1) : 0.73 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0468

Values used for calculations : See Otis Report

Separator	Pressure : 445 PSIG Temp. : 96 °F	Rates - Gas : 19.931mm SCFD Oil (separator cond.) : 1797.6 BOPD [B]	GCR : 11087.6 SCF/BBL (separator cond.)	
Stock tank	Atmosphere : 14.73PSI ~~mmHg~~. 60 °F Tank temperature : _____ °F	Oil at 60°F : 1564.82 BOPD Oil grav. 57 API [B] [a]		

BSW : ~ % WLR : ~ %

Transfering fluid : Mercury Transfer duration : 20 min.

Final conditions of the shipping bottle : 19 ccHg

Pressure : 280 PSIG Temp. : 46°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : 8088-86 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.		A - 7636 A - 4286

Measurment conditions.

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

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

D - REMARKS -

This is a 620 cc bottle

Visa Chief Operator

Knut Nerdal

FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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Report N°: 81/2301/36

DST No. 1 PVT Set No. 2

SURFACE SAMPLING

Date of sampling : Dec. 1st 1981 Service order : _____ Sampling No. : 5

Sample nature : Gas Sampling point : Sep. Gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Jura Perforations : 2797m-2807m Sampling interval : _____

Depth origin : RKB Tubing Dia. : 5" VAM Casing Dia. : 7" Liner

Surface elevation : 25m ~~Shoe~~ Tail pipe : 2792m Shoe : 2950m

Bottom hole static conditions					
	Intial pressure	: 4338PSIA	at depth : 2787,24m	date : 2.12.81
	Latest pressure measured	: 4332PSIA	at depth : 2787,24m	date : 2.12.81
	Temperature	: 105°C	at depth : 2787,24m	date : 2.12.81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 21.10 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions				
Choke size : 42/64" since : 11.26	Well head pressure : 2472PSIA	Well head temp. : 118°F		
Bottom hole pressure : 4102PSIA	at depth : 2783,7m	date : 1.12.81		
Bottom hole temp. : 103.5°C	at depth : 2783,7m	date : 1.12.81		

Flow measurement of sampled gas - Gravity (air: 1) : 0.73 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0468

Values used for calculations : See Otis Report

Separator	Pressure : 445 PSIG Temp. : 95 °F	Rates - Gas : 19.931 MM SCFD Oil (separator cond.) : 1797.6 BOPD [B]	GCR ~~GOR~~ : 11087.6 SCF/BBL (separator cond.)	
Stock tank	Atmosphere : 14.73PSI ~~mmHg~~. 60 °F Tank temperature : _____ °F	Oil at 60°F : 1564.2 BOPD Oil grav. 57API [B] [a]		

BSW : ~~—~~ % WLR : ~~—~~ %

Transfering fluid : Evacuated container Transfer duration : 20 min.

Final conditions of the shipping bottle :
Pressure : 445 PSIG Temp. : 46°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A - 7636 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	8088.86	A - 4286

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Knut Nerdal

FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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Report N°: 81/2301/36

DST No. 1 PVT Set No. 2

SURFACE SAMPLING

Date of sampling : Dec. 1st 1981 Service order : _____ Sampling No. : 6

Sample nature : Gas Sampling point : Sep. gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Jura Perforations : 2797m-2807m Sampling interval : _____

Depth origin : RKB Tubing Dia. : 5" VAM Casing Dia. : 7" Liner

Surface elevation : 25m Shoe : 2792m Shoe : 2950m

Tail pipe

Bottom hole static conditions	Intial pressure : 4338PSIA	at depth : 2787,24m	date : 2.12.81
	Latest pressure measured : 4332PSIA	at depth : 2787,24m	date : 2.12.81
	Temperature : 105°C	at depth : 2787,24m	date : 2.12.81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 21.40 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 42/64" since : 11.26	Well head pressure : 2472PSIA	Well head temp. : 118°F	
	Bottom hole pressure : 4101 PSIA	at depth : 2783,7m	date : 1.12.81	
	Bottom hole temp. : 103.6°C	at depth : 2783,7m	date : 1.12.81	

Flow measurement of sampled gas - Gravity (air: 1) : 0.73 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0468

Values used for calculations : See Otis Report

Separator	Pressure : 445 PSIG Temp. : 95 °F	Rates - Gas : 20.061 SCFD Oil (separator cond.) : 1792.8 BOPD B	GCR SCF/BBL [illegible] : 1189.8 (separator cond.)	
Stock tank	Atmosphere : 14.73PSI mmHg. 60 °F Tank temperature : _____ °F	Oil at 60°F : 1560.64 BOPD B a Oil grav. 57 API		

BSW : — % WLR : — %

Transfering fluid : Evacuated container Transfer duration : 20 min.

Final conditions of the shipping bottle :
Pressure : 445 PSIG Temp. : 46°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-4286 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	8088-86	A - 7636

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Knut Nerdal

DQP 127

FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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Report N° : 81/2301/36

DST No. 1 — SURFACE SAMPLING — PVT Set No. 3

Date of sampling : Dec. 1st 1981 Service order : _____ Sampling No. : 7

Sample nature : Condensate Sampling point : Sep. oil outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Jura Perforations : 2797m-2807 Sampling interval : _____

Depth origin : RKB Tubing Dia. : 5" VAM Casing Dia. : 7" Liner

Surface elevation : 25m ~~Shoe~~ Tail pipe : 2792m Shoe : 2950m

Bottom hole static conditions						
	Intial pressure	: 4338PSIA	at depth : 2787,24m	date : 2.12.81
	Latest pressure measured	: 4332PSIA	at depth : 2787,24m	date : 2.12.81
	Temperature	: 105 °C	at depth : 2787,24m	date : 2.12.81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 22.10 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions						
	Choke size : 42/64"	since : 11.26	Well head pressure : 2473PSIA	Well head temp. : 118°F		
	Bottom hole pressure : 4107PSIA	at depth : 2783.7m	date : 1.12.81			
	Bottom hole temp. : 103.6°C	at depth : 2783,7m	date : 1.12.81			

Flow measurement of sampled gas - Gravity (air: 1) : 0.73 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0460

Values used for calculations : See Otis Report

Separator	Pressure : 440 PSIG Temp. : 96 °F	Rates - Gas : 19.918mm SCFD Oil (separator cond.) : 1790.4 BOPD [B]	GCR : 11124.9 SCF/BBL (separator cond.)	
Stock tank	Atmosphere : 14.73PSI ~~mmHg~~ 60 °F Tank temperature : _____ °F	Oil at 60°F : 1558.56 BOPD Oil grav. 57API [B] [a]		

BSW : / % WLR : / %

Transfering fluid : Mercury Transfer duration : 15 min.

Final conditions of the shipping bottle : 20 ccHg

Pressure : _____ Temp. : 46°F Amb

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : 8088-51 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.		A - 11342 A - 7148

Measurment conditions.

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

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

D - REMARKS -

This is a 610 cc bottle

Visa Chief Operator

Knut Nerdal

FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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Report N°: 81/2301/36

DST No. 1

SURFACE SAMPLING

PVT Set No. 3

Date of sampling : Dec. 1st 1981 Service order : _____ Sampling No. : 8

Sample nature : Gas Sampling point : Sep. gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Jura Perforations : 2797m-2807 Sampling interval : _____

Depth origin : RKB Tubing Dia. : 5" VAM Casing Dia. : 7" Liner

Surface elevation : 25m ~~Shoe~~ Tail pipe : 2792m Shoe : 2950m

Bottom hole static conditions	Intial pressure	: 4338PSIA	at depth : 2787,24m	date : 1.12.81
	Latest pressure measured	: 4332PSIA	at depth : 2787,24m	date : 1.12.81
	Temperature	: 105°C	at depth : 2787.24m	date : 1.12.81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 22.10 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 42/64" since : 11.26	Well head pressure : 2473PSIA	Well head temp. : 118°F		
	Bottom hole pressure : 4107PSIA	at depth : 2783,7m	date : 1-12-81		
	Bottom hole temp. : 103.6 °C	at depth : 2783.7m	date : 1-12-81		

Flow measurement of sampled gas - Gravity (air: 1) : 0.73 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0460

Values used for calculations : See Otis Report

GCR SCF/BBL

Separator	Pressure : 440 PSIG Temp. : 96 °F	Rates - Gas : 19.918 mm SCFD Oil (separator cond.) : 1790.4 BOPD [B]	~~GOR~~ : 11124.9 (separator cond.)	
Stock tank	Atmosphere : 14.73PSI ~~normlg~~. 60 °F Tank temperature : _____ °F	Oil at 60°F : 1558.56 BOPD [B] [a] Oil grav. 57 API		

BSW : — % WLR : — %

Transfering fluid : Evacuated container Transfer duration : 15 min.

Final conditions of the shipping bottle :
Pressure : 440PSIG Temp. : 46°F

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A - 11342 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	8088-51	A - 7148

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Knut Nerdal

FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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DST No. 1

SURFACE SAMPLING

PVT Set No. 3

Date of sampling : Dec. 1st 1981 Service order : _____ Sampling No. : 9

Sample nature : Gas Sampling point : Sep. gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Jura Perforations : 2797m-2807m Sampling interval : _____

Depth origin : RKB Tubing Dia. : 5" VAM Casing Dia. : 7" Liner

Surface elevation : 25m Shoe : 2792m Shoe : 2950m

Tail pipe

Bottom hole static conditions					
	Intial pressure	: 4338PSIA	at depth : 2787.24m	date : 2.12.81
	Latest pressure measured	: 4332PSIA	at depth : 2787.24m	date : 2.12.81
	Temperature	: 105°C	at depth : 2787.24m	date : 2.12.81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 22.29 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions					
	Choke size : 42/64"	since : 11.26	Well head pressure : 2474PSIA	Well head temp. : 120°F	
	Bottom hole pressure : 4107PSIA	at depth : 2783.7m	date : 1.12.81		
	Bottom hole temp. : 103.6°C	at depth : 27803.7m	date : 1.12.81		

Flow measurement of sampled gas - Gravity (air: 1) : 0.73 Factor Fpv $= \frac{1}{\sqrt{Z}}$: 1.0462

Values used for calculations : See Otis Report

Separator	Pressure : 445 PSIG Temp. : 97 °F	Rates - Gas : 20.268 mm SCFD Oil (separator cond.) : 1796.16 BOPD [B]	GCR SCF/BBL GOR : 11284.1 (separator cond.)	
Stock tank	Atmosphere : 14.73PSI Ambient 60 °F Tank temperature : _____ °F	Oil at 60°F : 1563.6 BOPD Oil grav. 57 API	[B] [a]	

BSW : — % WLR : — %

Transfering fluid : Evacauted container Transfer duration : 16 min.

Final conditions of the shipping bottle :

Pressure : 445 PSIG Temp. : 46°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-7148 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	8088-51	A - 11342

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Knut Nerdal

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FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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DST No. 2

PVT Set No. 1

SURFACE SAMPLING

Date of sampling : Dec. 8th 1981 Service order : _____ Sampling No. : 1

Sample nature : Condensate Sampling point : Sep. oil outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Paleocene Perforations : 2432m-2440m Sampling interval : _____

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

Surface elevation : 25m Shoe : 2426.42m Shoe : 2575m

Bottom hole static conditions	Intial pressure	: 3539PSIA	at depth : 2406.3m	date : 9.12.81
	Latest pressure measured	: 3539PSIA	at depth : 2406.3m	date : 9.12.81
	Temperature	: 186°F	at depth : 2406.3m	date : 9.12.81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 09.30 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 32/64"	since : 03.35	Well head pressure : 2095PSIA	Well head temp. : 86°F		
	Bottom hole pressure : 3434PSIA		at depth : 2406.36m	date : 8.12.81		
	Bottom hole temp. : 200.1°F I		at depth : 2406.36m	date : 8.12.81		

Flow measurement of sampled gas - Gravity (air: 1) : 0.72 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0183

Values used for calculations : See Otis Report

GCR SCF/BBL

Separator	Pressure : 144 PSIG	Rates - Gas	: 8.202mm SCFD	GOR : 11866		
	Temp. : 65 °F	Oil (separator cond.) : 691.2 BOPD	B	(separator cond.)		
Stock tank	Atmosphere : 14.73PSI mmHg.	60 °F	Oil at 60°F : 643.7 BOPD			
	Tank temperature : _____ °F		Oil grav. 57 API	B a		

BSW : ~ % WLR : ~ %

Transfering fluid : Mercury Transfer duration : 25 min.

Final conditions of the shipping bottle : 23 cc Hg

Pressure : 120 PSIG Temp. : 36°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : 9209/100 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.		A - 10915 A - 4987

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Jan Øyre

DQB 127

FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : m15/9 - GAMMA

Well : 15/9 - 11

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DST No. 2 PVT Set No. 1

SURFACE SAMPLING

Date of sampling : Dec. 8th 1981 Service order : _____ Sampling No. : 2

Sample nature : Gas Sampling point : Sep. gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Paleocene Perforations : 2432-2440m Sampling interval : _____

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

Surface elevation : 25m Shoe : 2426.42 Shoe : 2575m

Bottom hole static conditions	Intial pressure	: 3539PSIA	at depth : 2406.36m	date : 9.12.81
	Latest pressure measured	: 3539PSIA	at depth : 2406.36m	date : 9.12.18
	Temperature	: 186°F	at depth : 2406.36m	date : 9.12.81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 09.30 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 32/64"	since : 03.35	Well head pressure : 2095PSIA	Well head temp. : 86°F	
	Bottom hole pressure : 3434PSIA	at depth : 2406.36m	date : 8.12.81		
	Bottom hole temp. : 200.1°F	at depth : 2406.36m	date : 8.12.81		

Flow measurement of sampled gas - Gravity (air: 1) : 0.72 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0183

Values used for calculations : See Otis Report

GCR SCF/BBL

Separator	Pressure : 144 PSIG Temp. : 65 °F	Rates - Gas : 8.202 mm SCFD Oil (separator cond.) : 691.2 BOPD [B]	GOR 11866 (separator cond.)	
Stock tank	Atmosphere : 14.73PSI 60 °F Tank temperature : _____ °F	Oil at 60°F : 643.7 BOPD Oil grav. 57 API	[B] [a]	

BSW : ✓ % WLR : ✓ %

Transfering fluid : Evacuated Container Transfer duration : 25 min.

Final conditions of the shipping bottle :

Pressure : 144 PSIG Temp. : 36°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A - 10915 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	9209/100	A - 4987

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Jan Øvre

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FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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DST No. 2 PVT Set No. 1

SURFACE SAMPLING

Date of sampling : Dec. 8th 1981 Service order : _____ Sampling No. : 3

Sample nature : Gas Sampling point : Sep. Gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Palecene Perforations : 2432-2440 m Sampling interval : _____

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

Surface elevation : 25 m Shoe : 2426.42m Shoe : 2575m

Bottom hole static conditions	Intial pressure	: 3539PSIA	at depth : 2406.36m	date : 9.12.81
	Latest pressure measured	: 3593PSIA	at depth : 2406.36m	date : 9.12.81
	Temperature	: 186°F	at depth : 2406.36m	date : 9.12.81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 10.10 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 32/64"	since : 03.35	Well head pressure : 2100PSIA	Well head temp. : 84°F		
	Bottom hole pressure : 3435PSIA	at depth : 2406.36m	date : 8.12.81			
	Bottom hole temp. : 200.3°F	at depth : 24.06.36m	date : 8.12.81			

Flow measurement of sampled gas - Gravity (air: 1) : 0.72 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0188

Values used for calculations : See Otis Report

Separator	Pressure : 146 PSIG	Rates - Gas : 8.272 mm SCFD		GCR SCF/BBL		
	Temp. : 63 °F	Oil (separator cond.) : 691 BOPD	B	GOR : 11971 (separator cond.)		
Stock tank	Atmosphere : 14.73PSI mmHg. 60 °F	Oil at 60°F : 650.4 BOPD				
	Tank temperature : _____ °F	B a				
		Oil grac. 57 API				

BSW : ✓ % WLR : ✓ %

Transfering fluid : Evacuated Container Transfer duration : 25 min.

Final conditions of the shipping bottle :

Pressure : 146PSIG Temp. : 36 °F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-4987 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	9209/100	A - 10915

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Jan Øyre

FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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Report N°: 81/2301/36

DST No. 3 — SURFACE SAMPLING — PVT Set No. I

Date of sampling : Dec. 14th 1981 Service order : _____ Sampling No. : 1

Sample nature : Condensate Sampling point : Sep. oil outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Paleocene Perforations : 2395m-2415m Sampling interval : _____

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

Surface elevation : 25m Shoe : 2391m Shoe : 2575m

Bottom hole static conditions	Intial pressure	: 3521PSIA	at depth : 2370,9m	date : 14.12.81
	Latest pressure measured	: 3520PSIA	at depth : 2370,9m	date : 14.12.81
	Temperature	: 186°F	at depth : 2370,9m	date : 14.12.81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 03.10 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 48/64"	Dec. 13th since : 15.58	Well head pressure : 2004PSIA	Well head temp. : 110°F		
	Bottom hole pressure : 3433PSIA	at depth : 2370.9m	date : 14.12.81			
	Bottom hole temp. : 197°F	at depth : 2370.9m	date : 14.12.81			

Flow measurement of sampled gas - Gravity (air: 1) : 0.734 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0536

Values used for calculations : See Otis Report

				GCR	SCF/BBL
Separator	Pressure : 485 PSIG	Rates - Gas : 20.684MM SCFD	B	GOR : 12944	
	Temp. : 90 °F	Oil (separator cond.) : 1598 BOPD		(separator cond.)	
Stock tank	Atmosphere : 14.73PSI manwg. 60 °F	Oil at 60°F : _____ BOPD			
	Tank temperature : _____ °F	Oil Grav. 57.2 API	B a		

BSW : ⌣ % WLR : ⌣ %

Transfering fluid : Mercury Transfer duration : 30 min.

Final conditions of the shipping bottle : 23 cc

Pressure : 285PSIG Temp. : 35°F Amb

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : 9214/368 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.		A - 12060 A - 12056

Measurment conditions.

A Tank - B Meter - C Dump -

a Corrcted with shrinkage tester - b Corrected with tank -

D - REMARKS -

Visa Chief Operator

Jan Øyre

FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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Report N°: 81/2301/36

DST No. 3

SURFACE SAMPLING

PVT Set No. 1

Date of sampling : Dec. 14th 1981 Service order : _____ Sampling No. : 2

Sample nature : Gas Sampling point : Sep. gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Paleocene Perforations : 2395m-2415m Sampling interval : _____

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

Surface elevation : 25m Shoe : 2391m Shoe : 2575m

Bottom hole static conditions	Intial pressure	: 3521PSIA	at depth : 2370.9m	date : 14-12-81
	Latest pressure measured	: 3520PSIA	at depth : 2370.9m	date : 14.12-81
	Temperature	: 186oF	at depth : 2370.9m	date : 14.12-81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 03.40 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 48/64"	since : 15.58	Well head pressure : 2004PSIA	Well head temp. : 110 °F	
	Bottom hole pressure : 3433PSIA	at depth : 2370.9m	date : 14.12.81		
	Bottom hole temp. : 147 °F	at depth : 2370.9m	date : 14.12.81		

Flow measurement of sampled gas - Gravity (air: 1) : 0.734 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0536

Values used for calculations : See Otis Report

Separator	Pressure : 485 PSIG Temp. : 90 °F	Rates - Gas : 20.684 MM SCFD Oil (separator cond.) : 1598 BOPD [B]	GCR : 12944 SCF/BBL (separator cond.)	
Stock tank	Atmosphere : 14.73PSI 60 °F Tank temperature : _____ °F	Oil at 60°F : _____ BOPD Oil grav. 57.2 API [B] [a]		

BSW : ⌣ % WLR : ⌣ %

Transfering fluid : Vacuum Transfer duration : 20 min.

Final conditions of the shipping bottle :
Pressure : 485 PSIG Temp. : 35oF Amb

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-12056 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	9214/368	A - 12060

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Jan Øyre

FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9-11

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DST No. 3 PVT Set No 1

SURFACE SAMPLING

Date of sampling : Dec. 14th 1981 Service order : _____ Sampling No. : 3

Sample nature : Gas Sampling point : Sep. gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Paleocene Perforations : 2395m-2415m Sampling interval : _____

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

Surface elevation : 25m Shoe : 2391m Shoe : 2575m

Bottom hole static conditions	Intial pressure : 3521PSIA	at depth : 2370.9m	date : 14.12.81
	Latest pressure measured : 3520PSIA	at depth : 2370.9m	date : 14.12.81
	Temperature : 186 °F	at depth : 2370.9m	date : 14.12.81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 03.13 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 48/64" since Dec. 13th : 15.58	Well head pressure : 2007PSIA	Well head temp. : 109°F	
	Bottom hole pressure : 3433PSIA	at depth : 2370.9m	date : 14.12.81	
	Bottom hole temp. : 197°F	at depth : 2370.9m	date : 14.12.81	

Flow measurement of sampled gas - Gravity (air: 1) : 0.734 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0536

Values used for calculations : See Otis Report

Separator	Pressure : 485 PSIG Temp. : 90 °F	Rates - Gas : 20.684 mm SCFD Oil (separator cond.) : 1598 BOPD B	GCR SCF/BBL GOR : 12944 (separator cond.)
Stock tank	Atmosphere : 14.73PSI ~~mmHg~~ 60 °F Tank temperature : _____ °F	Oil at 60°F : _____ BOPD Oil grav. 57.2 API	B a

BSW : ~ % WLR : ~ %

Transfering fluid : Vacuum Transfer duration : 20 min.

Final conditions of the shipping bottle :
Pressure : 485 PSIG Temp. : 35°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-12060 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	9214/368	A - 12056

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Jan Øyre

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FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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Report N°: 81/2301/36

DST No. 3 — SURFACE SAMPLING — PVT Set No. 2

Date of sampling : Dec. 14th 1981 Service order : _____ Sampling No. : 4

Sample nature : Condensate Sampling point : Sep. oil outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Paleocene Perforations : 2395m-2415m Sampling interval : _____

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

Surface elevation : 25m Shoe : 2391m Shoe : 2575m

Bottom hole static conditions	Intial pressure	: 3521PSIA	at depth : 2370.9m	date : 14.12.81
	Latest pressure measured	: 3520PSIA	at depth : 2370.9m	date : 14.12.81
	Temperature	: 186°F	at depth : 2370.9m	date : 14.12.81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 06.10 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 48/64"	since Dec. 13th : 15.58	Well head pressure : 2007 PSIA	Well head temp. : 109°F		
	Bottom hole pressure : 3434PSIA	at depth : 2370.9m	date : 14.12.81			
	Bottom hole temp. : 198°F	at depth : 2370.9m	date : 14.12.81			

Flow measurement of sampled gas - Gravity (air: 1) : 0.734 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0534

Values used for calculations : See Otis Report

GCR SCF/BBL

Separator	Pressure : 480 PSIG Temp. : 89 °F	Rates - Gas : 19.982 mm SCFD Oil (separator cond.) : 1602 BOPD [B]	GOR : 12473.7 (separator cond.)	
Stock tank	Atmosphere : 14.73PSI mm Hg. 60 °F Tank temperature : _____ °F	Oil at 60°F : _____ BOPD Oil grav. 57.2 API [B] [a]		

BSW : ⌣ % WLR : ⌣ %

Transfering fluid : Mercury Transfer duration : 30 min.

Final conditions of the shipping bottle : 23 cc Hg

Pressure : 80PSIG Temp. : 35°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : 13266/99 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.		A- 10929 A- 11339

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Jan Øyre

D 127

FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

Section : ANNEX **42**

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Report N°: 81/2301/36

DST No. 3 — SURFACE SAMPLING — PVT Set No. 2

Date of sampling : Dec. 14th 1981 Service order : _____ Sampling No. : 5

Sample nature : Gas Sampling point : Sep. gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Paleocene Perforations : 2395m-2415m Sampling interval : _____

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

Surface elevation : 25m Shoe : 2391m Shoe : 2575m

Bottom hole static conditions

Intial pressure	: 3521PSiA	at depth : 2370.9m	date : 14.12.81
Latest pressure measured	: 3520PSIA	at depth : 2370.9m	date : 14.12.81
Temperature	: 186°F	at depth : 2370.9m	date : 14.12.81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 07.00 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions

Choke size : 48/64" since Dec. 13th : 15.58 Well head pressure : 2005PSIH Well head temp. : 109°F

Bottom hole pressure : 3435PSIA at depth : 2370.9m date : 14.12.81

Bottom hole temp. : 198°F at depth : 2370.9m date : 14.12.81

Flow measurement of sampled gas - Gravity (air: 1) : 0.734 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0534

Values used for calculations : See Otis Report GCR 12411.7 SCF/BBL

Separator

Pressure : 480 PSIG Temp. : 89 °F

Rates - Gas : 19 982 mm SCFD

Oil (separator cond.) : 1610 BOPD [B]

GWOR : _____ (separator cond.)

Stock tank

Atmosphere : 14.73PSI mmHg 60 °F

Tank temperature : _____ °F

Oil at 60°F : _____ BOPD [B] [a]

Oil grav. 57.2 API

BSW : ~ % WLR : — %

Transfering fluid : Vacuum Transfer duration : 25 min.

Final conditions of the shipping bottle :

Pressure : 480PSIG Temp. : 35°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-11339 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	13266/99	A-10929

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Jan Øyre

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FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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Report N°: 81/2301/36

DST No. 3 — SURFACE SAMPLING — PVT Set No. 2

Date of sampling : Dec. 14th 1981 Service order : _____ Sampling No. : 6

Sample nature : Gas Sampling point : Sep. gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Paleocene Perforations : 2395m-2415m Sampling interval : _____

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

Surface elevation : 25 m Shoe : 2391m Shoe : 2575m

Bottom hole static conditions	Intial pressure	: 3521PSIA	at depth : 2370.9m	date : 14.12.81
	Latest pressure measured	: 3520PSIA	at depth : 2370.9m	date : 14.12.81
	Temperature	: 186°F	at depth : 2370.9m	date : 14.12.81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 06.10 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 48/64"	since Dec. 13th : 15.58	Well head pressure : 2007PSIA	Well head temp. : 109°F		
	Bottom hole pressure : 3434PSIA	at depth : 2370.9m	date : 14.12.81			
	Bottom hole temp. : 198°F	at depth : 2370.9m	date : 14.12.81			

Flow measurement of sampled gas - Gravity (air: 1) : 0.734 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0534

Values used for calculations : See Otis Reprot GCR SCF/BBL

Separator	Pressure : 480 PSIG Temp. : 89 °F	Rates - Gas : 19.982 mm SCFD Oil (separator cond.) : 1602 BOPD B	GOR : 12437.7 (separator cond.)	
Stock tank	Atmosphere : 14.73PSI manom. 60 °F Tank temperature : _____ °F	Oil at 60°F : _____ BOPD Oil grav. 57.2 API B a		

BSW : ~ % WLR : ~ %

Transfering fluid : Vacuum Transfer duration : 25 min.

Final conditions of the shipping bottle :

Pressure : 480 PSIG Temp. : 35°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-10929 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	13266/99	A-11339

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Jan Øyre

P 1

FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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Report N°: 81/2301/36

DST No. 3

SURFACE SAMPLING

PVT Set No. 3

Date of sampling : Dec. 14th 1981 Service order : _____ Sampling No. : 7

Sample nature : Condensate Sampling point : Sep. oil outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Paleocene Perforations : 2395m-2415m Sampling interval : _____

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

Surface elevation : 25m Shoe : 2391m Shoe : 2575m

Bottom hole static conditions	Intial pressure	: 3521PSIA	at depth : 2370.9m	date : 14.12.81
	Latest pressure measured	: 3520PSIA	at depth : 2370.9m	date : 14.12.81
	Temperature	: 186°F	at depth : 2370.9m	date : 14.12.81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 09.57 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 80/64"	since : 08.13	Well head pressure : 1454PSIA	Well head temp. : 118°F		
	Bottom hole pressure : 3520PSIA	at depth : 2370.9m	date : 14.12.81			
	Bottom hole temp. : 193°F	at depth : 2370.9m	date : 14.12.81			

Flow measurement of sampled gas - Gravity (air: 1) : 0.732 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0578

Values used for calculations : See Otis Report

Separator	Pressure : 555 PSIG Temp. : 93 °F	Rates - Gas : 31.212 MM SCFD Oil (separator cond.) : 2360 BOPD [B]	~~GCR~~ GOR : 13225.4 SCF/BBL (separator cond.)
Stock tank	Atmosphere : 14.73PSI ~~mmHg~~ 60 °F Tank temperature : _____ °F	Oil at 60°F : _____ BOPD Oil Grav. 60.5 API	[B] [a]

BSW : ✓ % WLR : ✓ %

Transfering fluid : Mercury Transfer duration : 30 min.

Final conditions of the shipping bottle : 23 cc HG

Pressure : 175PSIG Temp. : 40°F

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : 9214/371 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.		A - 7327 A - 10033

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Jan Øyre

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FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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Report N°: 81/2301/36

DST No. 3 PVT SEt No. 3

SURFACE SAMPLING

Date of sampling : Dec. 15th 1981 Service order : _____ Sampling No. : 8

Sample nature : Gas Sampling point : Gas Line outlet sep.

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Paleocene Perforations : 2395m-2415m Sampling interval : _____

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

Surface elevation : 25m Shoe : 2391m Shoe : 2575m

Bottom hole static conditions	Intial pressure	: 3521PSIA	at depth : 2370.9m	date : 14.12.81
	Latest pressure measured	: 3520PSIA	at depth : 2370.9m	date : 14.12.81
	Temperature	: 186°F	at depth : 2370.9m	date : 14.12.81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 10.00 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 80/64"	since : 08.13	Well head pressure : 1454PSIA	Well head temp. : 118°F		
	Bottom hole pressure : 3520PSIA	at depth : 2370.9m	date : 14.12.81			
	Bottom hole temp. : 193°F	at depth : 2370.9m	date : 14.12.81			

Flow measurement of sampled gas - Gravity (air: 1) : 0.732 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0578

Values used for calculations : See Otis report

GCR SCF/BBL

Separator	Pressure : 555 PSIG	Rates - Gas : 31.212 mm SCFD	~~GOR~~ : 13225.4	
	Temp. : 93 °F	Oil (separator cond.) : 2360 BOPD	B	(separator cond.)
Stock tank	Atmosphere : 14.73PSI ~~mmHg~~ 60 °F	Oil at 60°F : _____ BOPD		
	Tank temperature : _____ °F	Oil gravi. 60.5 API	B a	

BSW : ⌣ % WLR : ⌣ %

Transfering fluid : Vacuum Transfer duration : 30 min.

Final conditions of the shipping bottle :

Pressure : 555 PSIG Temp. : 40°F Amb

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-7327 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	9214/371	A - 10033

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Jan Øyre

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FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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Report N°: 81/2301/36

DST No. 3 PVT Set NO. 3

SURFACE SAMPLING

Date of sampling : Dec. 15th 1981 Service order : _____ Sampling No. : 9

Sample nature : Gas Sampling point : Sep. gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Paleocene Perforations : 2395m-2415m Sampling interval : _____

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

Surface elevation : 25m Shoe : 2391m Shoe : 2575m

Bottom hole static conditions	Intial pressure	: 3521PSIA	at depth : 2370.9m	date : 14.12.81
	Latest pressure measured	: 3520PSIA	at depth : 2370.9m	date : 14.12.81
	Temperature	: 186°F	at depth : 2370.9m	date : 14.12.81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 10.35 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 80/64" since : 08.13	Well head pressure : 1457PSIA	Well head temp. : 110°F	
	Bottom hole pressure : 3520PSIA	at depth : 2370.9m	date : 14.12.81	
	Bottom hole temp. : 192°F	at depth : 2370.9m	date : 14.12.81	

Flow measurement of sampled gas - Gravity (air: 1) : 0.734 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0578

Values used for calculations : See Otis Report

GCR SCF/BBL

Separator	Pressure : 555 PSIG	Rates - Gas : 31.212 mm SCFD	GOR : 13147.4	
	Temp. : 93 °F	Oil (separator cond.) : 2374 BOPD	B	(separator cond.)
Stock tank	Atmosphere : 14.73 ~~mmHg~~	60 °F	Oil at 60°F : _____ BOPD	
	Tank temperature : _____	°F	Oil gravity 60.5 API	B a

BSW : ~ % WLR : ~ %

Transfering fluid : Vacuum Transfer duration : 25 min.

Final conditions of the shipping bottle :

Pressure : 555 PSIG Temp. : 40°F Amb

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-10033 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	9214/371	A-7327

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Jan Øyre

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FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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Report N° :

DST # 1

SURFACE SAMPLING

PVT set # 2

Date of sampling : Dec 15th 14 Service order : Sampling No. : 4

Sample nature : Condensate Sampling point : Sep. oil outlet

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : Jura. Perforations : 2797 m : 2807 m Sampling interval :

Depth origin : EKB Tubing Dia. : 5" VAM Casing Dia. : 7" Liner

Surface elevation : ~~111 m~~ 25 m Shoe ~~tail pipe~~ : 2792 m Shoe : 2950 m

Bottom hole static conditions

Intial pressure : 4325 PSIA at depth : 2787,21m date : 9/12 - 81

Latest pressure measured : 4332 PSIA at depth : 2787,21m date : 9/12 - 81

Temperature : 105°C at depth : 2787,21m date : 9/12 - 81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 21.10 Time elapsed since stabilisation : -

Bottom hole dynamic conditions

Choke size : 42/64" since : 11.26 Well head pressure : 2472 PSIG Well head temp. : 118°F

Bottom hole pressure : 4102 PSIA at depth : 2783,7 m date : 1/12 - 81

Bottom hole temp. : 103,5 °C at depth : 2783,7 m date : 1/12 - 81

Flow measurement of sampled gas - Gravity (air: 1) : 0.73 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0468

Values used for calculations : see C this report.

Separator

Pressure : 445 PSIG Temp. : 96 °F

Rates - Gas : 19.431 MM SCFD

Oil (separator cond.) : 1797.6 BOPD [B]

GOR : 11087.6 SCF/BBL (separator cond.)

Stock tank

Atmosphere : 14.73 PSI ~~mmHg~~ 60 °F

Tank temperature : °F

Oil at 60°F : 1564.82 BOPD [B] [a]

Oil grav. 57 API

BSW : - % WLR : - %

Transfering fluid : Mercury Transfer duration : 20 min

Final conditions of the shipping bottle : 19 cc Hg

Pressure : 280 PSIG Temp. : 46°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : 8088 86 sent on : by : Shipping order No. :

Addressee :

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.		A-7636 A-4286

Measurment conditions.

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

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

D - REMARKS -

This is a 620 cc bottle. except

Visa Chief Operator

Knut Nerdal.

DOP 127

FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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Report N° :

DST # 1 — SURFACE SAMPLING — PVT set # 2

Date of sampling : Dec. 1st 1981 Service order : Sampling No. : 5

Sample nature : Gas Sampling point : Sep. gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : Jura Perforations : 2797m - 2807m Sampling interval :

Depth origin : RKB Tubing Dia. : 5" VAM Casing Dia. : 7" Liner

Surface elevation : 111 m 25m ~~Shoe~~ Tail pipe : 2792 m Shoe : 2950 m

Bottom hole static conditions					
Intial pressure	: 4338 PSIA	at depth : 2787,24m	date : 3/12-81
Latest pressure measured	: 4332 PSIA	at depth : 2787,24m	date : 3/12-81
Temperature	: 105 °C	at depth : 2787,24m	date : 3/12-81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 21.10 Time elapsed since stabilisation : -

Bottom hole dynamic conditions					
Choke size : 42/64"	since : 11.26	Well head pressure : 2472 PSIA	Well head temp. : 118°F		
Bottom hole pressure : 4102 PSIA	at depth : 2783,7m	date : 1/12-81			
Bottom hole temp. : 103.5 °C	at depth : 2783,7m	date : 1/12 81			

Flow measurement of sampled gas - Gravity (air: 1) : 0.73 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0468

Values used for calculations : see Otis report

Separator					
Pressure : 445 PSIG	Rates - Gas : 19.931 MM SCFD		GOR : 11087.6 SCF/BBL (separator cond.)
Temp. : 45 °F	Oil (separator cond.) : 1797.6 BOPD	B	

Stock tank		
Atmosphere : 14.73 PSI ~~mmHg~~ 60 °F	Oil at 60°F : 1564.82 BOPD	B a
Tank temperature : °F	0.1 grav. 57 API	

BSW : — % WLR : — %

Transfering fluid : Evacuated container Transfer duration : 20 min.

Final conditions of the shipping bottle :
Pressure : 445 PSIG Temp. : 46°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-7636 sent on : by : Shipping order No. :

Addressee :

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	8088 86	A-4286

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Kurt Nerdal.

DOP 127

FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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Report N° :

DST #1

SURFACE SAMPLING

PVT set # 2.

Date of sampling : Dec. 1st 1981 Service order : _____ Sampling No. : 6

Sample nature : Gas Sampling point : Sep. gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : Jura Perforations : 2797 m - 2807 m Sampling interval : _____

Depth origin : RKB Tubing Dia. : 5" VAM Casing Dia. : 7" Liner

Surface elevation : ~~111 m~~ 25 m Shoe : 2792 m Shoe : 2950 m

Bottom hole static conditions	Intial pressure	: 4338 PSIA (tail pipe)	at depth : 2787,21m	date : 2/12 - 81
	Latest pressure measured	: 4332 PSIA	at depth : 2787,21m	date : 2/12 - 81
	Temperature	: 105°C	at depth : 2787,21m	date : 2/12 - 81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 21.40 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 42/64"	since : 11.26	Well head pressure : 2472 PSIA	Well head temp. : 118°F	
	Bottom hole pressure : 4101 PSIA	at depth : 2783,7 m	date : 1/12 - 81		
	Bottom hole temp. : 103,6°C	at depth : 2783,7 m	date : 1/12 - 81		

Flow measurement of sampled gas - Gravity (air: 1) : 0.73 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0468

Values used for calculations : See Otis report.

Separator	Pressure : 445 PSIG	Rates - Gas : 20.061 MM SCFD	[B]	GOR : 11189.8 SCF/STB (separator cond.)	
	Temp. : 95 °F	Oil (separator cond.) : 1792.8 BOPD			
Stock tank	Atmosphere : 14.73 PSI mmHg. 60 °F	Oil at 60°F : 1560.64 BOPD	[B] [a]		
	Tank temperature : _____ °F	Oil grav. 57 API			

BSW : — % WLR : _____ %

Transfering fluid : Evacuated container Transfer duration : 20 min

Final conditions of the shipping bottle :

Pressure : 445 PSIG Temp. : 76° F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-4286 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	8088 86	A-7636

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Knut Nerdal.

DOP 127

FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

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Report N° :

DST # 1. SURFACE SAMPLING PVT set # 3.

Date of sampling : Dec. 1st 1981 Service order : Sampling No. : 7

Sample nature : Condensate Sampling point : Sep. gas outlet oil

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : Jura Perforations : 2797m - 2810m Sampling interval :

Depth origin : RKB Tubing Dia. : 5" VAM Casing Dia. : 7" Liner

Surface elevation : ~~Ht m~~ 25m Shoe : 2792 m Shoe : 2950 m
Tail pipe

Bottom hole static conditions

Intial pressure : 4338 PSIA at depth : 2787.24m date : 3/12-81

Latest pressure measured : 4332 PSIA at depth : 2787.24m date : 3/12-81

Temperature : 125°C at depth : 2787.24m date : 3/12-81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 22.10 Time elapsed since stabilisation :

Bottom hole dynamic conditions

Choke size : 42/64" since : 11.26 Well head pressure 2473 PSIA Well head temp. : 118°F

Bottom hole pressure : 4127 PSIA at depth : 2783.7m date : 1/12 - 81

Bottom hole temp. : 103,6 °C at depth : 2783.7m date : 1/12 - 81

Flow measurement of sampled gas - Gravity (air: 1) : 0.73 Factor Fpv $\frac{1}{\sqrt{Z}}$: 1.0460

Values used for calculations : See Otis report.

Separator

Pressure : 440 PSIG Temp. : 96 °F

Rates - Gas : 19.918 MM SCFD

Oil (separator cond.) : 1790.4 BOPD [B]

GOR (GCR) : 11124.9 SCF/BBL (separator cond.)

Stock tank

Atmosphere : 14.73 PSI mmHg. 60 °F

Tank temperature : °F

Oil at 60°F : 1558.56 BOPD [B] [a]

Oil grav. 57 API

BSW : - % WLR : -- %

Transfering fluid : Mercury Transfer duration : 15 min.

Final conditions of the shipping bottle : 20 cc Hg

Pressure : 280 PSIG Temp. : 46°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : 8088 51 sent on : by : Shipping order No. :

Addressee :

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.		A-11342 A-7148

Measurment conditions.

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

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

D - REMARKS -

This is a 610 cc bottle.

Visa Chief Operator

Knut Nordal.

POR 127

FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9-11

Section : ANNEX 42

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Report N° :

DST #1

SURFACE SAMPLING

PVT set #3

Date of sampling : Dec. 1st 1981 Service order : Sampling No. : 8

Sample nature : Gas Sampling point : Sep. gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : Jura Perforations : 2797m - 2807m Sampling interval :

Depth origin : RKB Tubing Dia. : 5" Casing Dia. : 7" Liner

Surface elevation : 111m 25m Shoe : 2792 m Shoe : 2950 m

Tail pipe

Bottom hole static conditions

Intial pressure	: 4338 PSIA	at depth : 2787.24m	date : 2/12-81
Latest pressure measured	: 4332 PSIA	at depth : 2787.24m	date : 2/12-81
Temperature	: 105°C	at depth : 2787.24m	date : 2/12-81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 22.10 Time elapsed since stabilisation :

Bottom hole dynamic conditions

Choke size : 42/64" since : 11.26 Well head pressure : 2473 PSIA Well head temp. : 118°F

Bottom hole pressure : 4107 PSIA at depth : 2783.7m date : 1/12-81

Bottom hole temp. : 103.6°C at depth : 2783.7m date : 1/12-81

Flow measurement of sampled gas - Gravity (air: 1) : 0.73 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0460

Values used for calculations : see Otis report.

Separator

Pressure : 440 PSIG Temp. : 96 °F

Rates - Gas : 19.918 MM SCFD

Oil (separator cond.) : 1790.4 BOPD [B]

GOR (separator cond.) : 11124.9 SCF/BBL

Stock tank

Atmosphere : 14.73 PSI mmHg. 60 °F

Tank temperature : °F

Oil at 60°F : 1558.56 BOPD [B] [a]

Oil grav. 57 API

BSW : -- % WLR : -- %

Transfering fluid : Evacuated container Transfer duration : 15 min.

Final conditions of the shipping bottle :

Pressure : 440 PSIG Temp. : 46°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-11342 sent on : by : Shipping order No. :

Addressee :

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	8088 S1	A 7148

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Knut Nundal

POP 127

FLOPETROL

Base : STAVANGER

Client : STATOIL

Field : 15/9 - GAMMA

Well : 15/9 - 11

Section : ANNEX 42

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Report N° :

DST # 1 SURFACE SAMPLING PVT set # 3.

Date of sampling : Dec. 1st 1981 Service order : Sampling No. : 9

Sample nature : Gas Sampling point : Sep. gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : Jura Perforations : 2797 m - 2807 m Sampling interval :

Depth origin : EKB Tubing Dia. : 5" VAM Casing Dia. : 7" Liner

Surface elevation : 111 m 25 m Shoe : 2792 m (tail pipe) Shoe : 2950 m

Bottom hole static conditions				
Intial pressure	: 4338 PSIA	at depth : 2787.24m	date : 2/12 - 81
Latest pressure measured	: 4332 PSIA	at depth : 2787.24m	date : 2/12 - 81
Temperature	: 105 °C	at depth : 2787.24m	date : 2/12 - 81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 22.29 Time elapsed since stabilisation :

Bottom hole dynamic conditions				
Choke size : 42/64"	since : 11.26	Well head pressure : 2474 PSIA	Well head temp. : 120° F	
Bottom hole pressure : 4137 PSIA	at depth : 2783.4m	date : 1/12 - 81		
Bottom hole temp. : 101.5°C	at depth : 2783.4m	date : 1/12 - 81		

Flow measurement of sampled gas - Gravity (air: 1) : 0.73 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0462

Values used for calculations : see Otis report.

Separator			
Pressure : 445 PSIG	Rates - Gas : 20.268 MM SCFD	GOR : 11284.1 SCF/BBL (separator cond.)	B
Temp. : 97 °F	Oil (separator cond.) : 1796.16 BOPD		

Stock tank		
Atmosphere : 14.73 PSI mmHg. 60 °F	Oil at 60°F : 1563.6 BOPD	B a
Tank temperature : °F	Oil grav. 57 API	

BSW : % WLR : %

Transfering fluid : Evacuated container Transfer duration : 16 min

Final conditions of the shipping bottle :

Pressure : 445 PSIG Temp. : 46° F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-7148 sent on : by : Shipping order No. :

Addressee :

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	8088 51	A-11342

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Knut Nerdal.

DOP 127

FLOPETROL

Base : Stavanger

Client : STATOIL

Field : 15/9 - Gamma

Well : 15/9-11

Section : ANNEX 42

Page :

Report N°:

DST #2 DVT scf #1

SURFACE SAMPLING

Date of sampling : Dec 8th 1991 Service order : _____ Sampling No. : 1

Sample nature : Condensate Sampling point : Separator

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Paleocene Perforations : 2932m-2946m Sampling interval : _____

Depth origin : R.K.B Tubing Dia. : 5" VAM Casing Dia. : 9 5/8"

Surface elevation : ~~146.25m~~ Shoe : 2926.42m Shoe : 4556m

Bottom hole static conditions				
Intial pressure	: 3539 PSIA	at depth : 2906.36m	date : 9/12-87
Latest pressure measured	: 3539 PSIA	at depth : 2906.36m	date : 9/12-87
Temperature	: 186°F	at depth : 2906.36m	date : 9/12-87

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 04.30 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions				
Choke size : 32/64"	since : 03.35	Well head pressure : 1095 PSIA	Well head temp. : 51°F	
Bottom hole pressure : 3434 PSIA	at depth : 2906.36m	date : 9/12-87		
Bottom hole temp. : 200.1°F	at depth : 2906.36m	date : 9/12-87		

Flow measurement of sampled gas - Gravity (air: 1) : 0.70 Factor Fpv = $\frac{1}{VZ}$: 1.0153

Values used for calculations : See Otis report GOR 11866 SCF/BBL

Separator					
Pressure : 144 PSIG	Rates - Gas : 9.900 MM SCFD	B	GOR : 11770		
Temp. : 65 °F	Oil (separator cond.) : 841.2 BOPD	C	(separator cond.)		

Stock tank		
Atmosphere : 1013.1 mmHg. 60 °F	Oil at 60°F : 843.7 BOPD	A B C a b
Tank temperature : _____ °F	Oil grav. 57°API	

BSW : — % WLR : — %

Transfering fluid : Mercury Transfer duration : 3-5 min

Final conditions of the shipping bottle : 3.3 cc Hg

Pressure : 120 PSIG Temp. : 36°F Amb

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : 9309/100 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.		A - 10913 A - 4987

Measurment conditions.

A Tank - B Meter - C Dump -

a Corrcted with shrinkage tester - b Corrected with tank -

D - REMARKS -

Visa Chief Operator

127

FLOPETROL

Base : Stavanger

Client : STATOIL

Field : 15/9 - Gamma

Well : 15/9-11

Section : ANNEX 42

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Report N°:

DST No 2

PVT set No 1

SURFACE SAMPLING

Date of sampling : Dec 9th 1981 Service order : _____ Sampling No. : 2

Sample nature : Gas Sampling point : Separator outlet

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : Paleocene Perforations : 2432 m - 2440 m Sampling interval : _____

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

Surface elevation : ~~114.25~~ m Shoe : 2426.42 m Shoe : 2575 m

Bottom hole static conditions

Initial pressure : 3559 PSIA at depth : 2406.36m date : 9/12-81

Latest pressure measured : 3539 PSIA at depth : 2406.36m date : 9/12-81

Temperature : 186 °F at depth : 2406.36m date : 9/12-81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 0550 Time elapsed since stabilisation : ~

Bottom hole dynamic conditions

Choke size : 32/64" since 05:55 Well head pressure : 2099PSIA Well head temp. : 91°F

Bottom hole pressure : 3434 PSIA at depth : 2406.36m date : 8/12-81

Bottom hole temp. : 200.1 °F at depth : 2406.36m date : 8/12-81

Flow measurement of sampled gas - Gravity (air: 1) : 0.730 Factor Fpv = $\frac{1}{VZ}$: 1.0193

Values used for calculations : See Otis report GCR 11866 SCF/BBL

Separator

Pressure : 114 PSIG Temp. : 65 °F

Rates - Gas : 8.302MM SCFD Oil (separator cond.) : 6412 BOPD [B] [C]

GOR : 12779 (separator cond.)

Stock tank

Atmosphere : 14.75 PSI mmHg. 20 °F Tank temperature : _____ °F

Oil at 60°F : 6413.7 BOPD [A] [B] [C] [a]

Oil grav. 57° API

BSW : ~ % WLR : ~ %

Transfering fluid : Internal Container Transfer duration : 2-5 min.

Final conditions of the shipping bottle :

Pressure : 114 PSIG Temp. : 32°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-16915 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	13041/100	A2985

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

P 127

FLOPETROL

Base : Stavanger

Client : STATOIL

Field : 15/6 Gamma

Well : 15/6-11

Section : ANNEX 42

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Report N°:

DST #2 — SURFACE SAMPLING — PVT sep #1

Date of sampling : 10th Feb 91 Service order : Sampling No. : 3

Sample nature : Gas Sampling point : Sep Gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Paleocene Perforations : Sampling interval :

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

Surface elevation : 25 m Shoe : 2426.42 m Shoe : 2575 m

Bottom hole static conditions	Intial pressure	: 3539 PSIA	at depth : 2406.5 SS m	date : 9/11-91
	Latest pressure measured	: 3539 PSIA	at depth : 2406.5 SS m	date : 9/11-91
	Temperature	: 186°F	at depth : 2406.5 SS m	date : 9/11-91

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 10.16 Time elapsed since stabilisation : -

Bottom hole dynamic conditions	Choke size : 32/64"	since : 05:35	Well head pressure : 2100 PSIA	Well head temp. : 84°F	
	Bottom hole pressure	: 3435 PSIA	at depth : 2406.5 SS m	date : 9/11-91	
	Bottom hole temp.	: 200.3°F	at depth : 2406.5 SS m	date : 9/11-91	

Flow measurement of sampled gas - Gravity (air: 1) : 0.70 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0155

Values used for calculations : See Output GOR 11971 SCF/BBL

Separator	Pressure : 146 PSIG	Rates - Gas	: 8.372 MM SCFD	GOR : 12710	
	Temp. : 63 °F	Oil (separator cond.)	: 691 BOPD	B Q	(separator cond.)
Stock tank	Atmosphere : 14.7 PSI mmHg 60 °F	Oil at 60°F	: 6504 BOPD	A B C a b	
	Tank temperature : °F	Oilgrav. 57° API			

BSW : - % WLR : - %

Transfering fluid : Evacuated Container Transfer duration : 75 min

Final conditions of the shipping bottle :

Pressure : 14.7 PSIG Temp. : 36°F Amb.

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-4987 sent on : by : Shipping order No. :

Addressee :

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	9209/100	A-10915

Measurment conditions.

A Tank - B Meter - C Dump -

a Corrcted with shrinkage tester - b Corrected with tank -

D - REMARKS -

Visa Chief Operator

Jean Rive

SOP 127

FLOPETROL	Client : STATOIL	Section : ANNEX 42
Base : Stavanger	Field : 16/4-Gamma Well : 16/4-11	Page : Report N° :

DST #3 PVT Sep. I

SURFACE SAMPLING

Date of sampling : Dec 14th 1981 Service order : _____ Sampling No. : 1
Sample nature : Condensate Sampling point : Sep. oil outlet

A - RESERVOIR AND WELL CHARACTERISTICS

Producing zone : Valhall Perforations : 3965 - 3975 Sampling interval : _____
Depth origin : RKB Tubing Dia. : 5" VAM Casing Dia. : 9 5/8"
Surface elevation : 111 m 25 m Shoe : 3991 m Shoe : 3975 m

Bottom hole static conditions				
Intial pressure	: 5584 PSIA	at depth : 3910 m	date : Dec 14th-81
Latest pressure measured	: 5520 PSIA	at depth : 3930 m	date : Dec 14th-81
Temperature	: 186°F	at depth : 3970 m	date : Dec 14th-81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 03 : 10 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions				
Choke size : 48/64"	since : 6 hrs	Well head pressure : 2000 PSIG	Well head temp. : 200°F
Bottom hole pressure : 5585 PSIA	at depth : 3925 m	date : Dec 14th-81	
Bottom hole temp. : 197°F	at depth : 3970 m	date : Dec 14th-81	

Flow measurement of sampled gas - Gravity (air: 1) : 0.734 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0558
Values used for calculations : See Flo report GOR 12944 SCF/BBL

Separator			
Pressure : 455 PSIG Temp. : 90 °F	Rates - Gas : 20657 MMSCFD Oil (separator cond.) : 1598 BOPD [B] [G]	GOR : 12558 (separator cond.)

Stock tank		
Atmosphere : 14.7 PSI mmHg. 60 °F Tank temperature : _____ °F	Oil at 60°F : _____ BOPD [A] [B] [C] [a] [b] Oil gravity 52.2 API

BSW : - % WLR : - %

Transfering fluid : Mercury Transfer duration : 230 min.

Final conditions of the shipping bottle : 0 psig
Pressure : 1200 PSIG Temp. : 85°F Amb

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : 9949/568 sent on : _____ by : _____ Shipping order No. : _____
Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.		A-1010 A-1051

Measurment conditions.
[A] Tank - [B] Meter - [C] Dump -
[a] Corrcted with shrinkage tester - [b] Corrected with tank -

D - REMARKS -

Visa Chief Operator
Tom Dore

OP 127

FLOPETROL	Client : Statoil	Section : ANNEX 42
Base : Stavanger	Field : [illegible]	Page :
	Well : [illegible]	Report N°:

PST 7? PST ?

SURFACE SAMPLING

Date of sampling : Dec 19th 198? Service order : ______ Sampling No. : 2

Sample nature : gas Sampling point : Sep gas outlet

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Paleocene Perforations : 2395 2415 m Sampling interval : ______

Depth origin : RKB Tubing Dia. : 5" [illegible] Casing Dia. : 9 5/8"

Surface elevation : [illegible] Shoe : 2351 m Shoe : 2370 m

Bottom hole static conditions			
Intial pressure : 3521 PSIA	at depth : 2370.9 m	date : Dec 14th 81
Latest pressure measured : 3520 PSIA	at depth : 2370.9 m	date : Dec 14th 81
Temperature : 186° F	at depth : 2370.9 m	date : Dec 14th 81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 03.40 Time elapsed since stabilisation : ______

Bottom hole dynamic conditions			
Choke size : 48/64" since : 15-5?	Well head pressure : 2004 PSI	Well head temp. : 110°F
Bottom hole pressure : 3423 PSIA	at depth : 2370.9 m	date : Dec 14th 81
Bottom hole temp. : 147°F	at depth : 2370.9 m	date : Dec 14th 81

Flow measurement of sampled gas - Gravity (air: 1) : 0.734 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0?3?

Values used for calculations : See CBJs report. GOR 12944 SCF/BBL

Separator			
Pressure : 4?5 PSIG	Rates - Gas : 2?33 MMSCFD	B	GOR : 1?5?4
Temp. : 90 °F	Oil (separator cond.) : 1?9? BOPD	C	(separator cond.)

Stock tank		
Atmosphere : 14.73 PSI mmHg. 60 °F	Oil at 60°F : ______ BOPD	A B C a b
Tank temperature : ______ °F	Oil gravity 57.3 API	

BSW : ______ % WLR : - %

Transfering fluid : Vacuum Transfer duration : 20 min.

Final conditions of the shipping bottle :

Pressure : 455 PSI Temp. : 35°F Amb

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-12056 sent on : ______ by : ______ Shipping order No. : ______

Addressee : ______

Coupled with	LIQUID		GAS	
Bottom hole samples No.				
Surface samlpes No.	9214 / 365		A-1206?	

Measurment conditions.

A Tank - B Meter - C Dump -

a Corrcted with shrinkage-tester - b Corrected with tank -

D - REMARKS -

Visa Chief Operator: [signature]

OP 127

FLOPETROL

Base : Stavanger

Client : Statoil

Field : Tor - Gamma 4

Well : 15/6 - 11

Section : ANNEX 42

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Report N°:

DST #3 PVT Sample 1.

SURFACE SAMPLING

Date of sampling : 12 Jan 1988 Service order : Sampling No. : 3

Sample nature : gas Sampling point : separator

A - RESERVOIR AND WELL CHARACTERISTICS

Producing zone : Balder Perforations : 2385 - 2415 Sampling interval :

Depth origin : RTB Tubing Dia. : 5 1/2" Casing Dia. : 9 5/8"

Surface elevation : 44m 25m Shoe : 2401 m Shoe : 3575 m

Bottom hole static conditions	Intial pressure : 5021 PSIA	at depth : 2370.5 m	date : 12 Jan 88
	Latest pressure measured : 5220 PSIA	at depth : 2370.5 m	date : 12 Jan 88
	Temperature : 191.5°F	at depth : 2370.5 m	date : 12 Jan 88

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 03.13 Time elapsed since stabilisation :

Bottom hole dynamic conditions	Choke size : 48/64" since : 12 hrs	Well head pressure : 3000 PSIG	Well head temp. : 120°F
	Bottom hole pressure : 5213 PSIA	at depth : 2370.5 m	date : 12 Jan 88
	Bottom hole temp. : 197°F	at depth : 2370.5 m	date : 12 Jan 88

Flow measurement of sampled gas - Gravity (air: 1) : 0.734 Factor Fpv = $\frac{1}{VZ}$: 1.0056

Values used for calculations : See Core report. GCR 12944 SCF/BBL

Separator	Pressure : 485 PSIG Temp. : 92 °F	Rates - Gas : 20654.88 MMSCFD Oil (separator cond.) : 1598 BOPD [B] [C]	GOR : 12925 (separator cond.)
Stock tank	Atmosphere : 14.73 PSI mmHg. 60 °F Tank temperature : °F	Oil at 60°F : BOPD [A] [B] [C] [a] [b]	

Oil gravity 37.2 API

BSW : - % WLR : - %

Transfering fluid : Seawater Transfer duration : 20 min.

Final conditions of the shipping bottle :

Pressure : 485 PSI Temp. : 357 - 9mA

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-12051 sent on : by : Shipping order No. :

Addressee :

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	2214/365	A-12051

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

Jan Vik

OP 127

FLOPETROL

Base : Stavanger

Client : Statoil

Field : [illegible]

Well : [illegible]

Section : ANNEX 42

Page :

Report N°:

PVT sep 2

PVT sep 2

SURFACE SAMPLING

Date of sampling : 12th Nov 1991 Service order : _____ Sampling No. : 4

Sample nature : Condensate. Sampling point : Separator outlet

A - RESERVOIR AND WELL CHARACTERISTICS

Producing zone : Brent Perforations : 2365-2405 Sampling interval : _____

Depth origin : RKB Tubing Dia. : 5" 4.5" Casing Dia. : 9 5/8"

Surface elevation : 111.25 m Shoe : 2311 m Shoe : 2535 m

Bottom hole static conditions	Intial pressure : 3521 PSIA	at depth : 2370.9 m	date : 12th Nov 91
	Latest pressure measured : 3511 PSIA	at depth : 2370.9 m	date : 12th Nov 91
	Temperature : 181°F	at depth : 2370.9 m	date : 12th Nov 91

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 06.10 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 48/64" 250 BPD since : 12:55	Well head pressure : 2200 PSIA	Well head temp. : 160°F
	Bottom hole pressure : 3511 PSIA	at depth : 2370.9 m	date : 12th Nov 91
	Bottom hole temp. : 183°F	at depth : 2370.9 m	date : 12th Nov 91

Flow measurement of sampled gas - Gravity (air: 1) : 0.734 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0554

Values used for calculations : See Otis report GOR : 12473.7 SCF/BBL

Separator	Pressure : 480 PSIG Temp. : 89 °F	Rates - Gas : 16752.39 SCFD	B C	GOR : 12434 (separator cond.)
		Oil (separator cond.) : 1602 BOPD		
Stock tank	Atmosphere : 14.73 PSI mmHg. 60 °F Tank temperature : _____ °F	Oil at 60°F : _____ BOPD	A B C a b
		Oil gravity 57.2 API	

BSW : ~ % WLR : ~ %

Transfering fluid : Separator Transfer duration : 30 min

Final conditions of the shipping bottle : 25°C Amb

Pressure : 5 PSIG Temp. : 80°F Amb

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : 132206/99 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		A - 10929
Surface samlpes No.		A - 11334

Measurment conditions.

A Tank - B Meter - C Dump -

a Corrcted with shrinkage tester - b Corrected with tank -

D - REMARKS -

Visa Chief Operator

Tom Moore

SP 127

FLOPETROL

Base : Stavanger

Client : Statoil

Field : 15/9 - Gamma

Well : 15/9-11

Section : ANNEX 42

Page :

Report N° :

DST #3 — PWT Well 2

SURFACE SAMPLING

Date of sampling : 20/4th 1991 Service order : Sampling No. : 5

Sample nature : gas Sampling point : Separator outlet

A - RESERVOIR AND WELL CHARACTERISTICS

Producing zone : Paleocene Perforations : 2375-2413 Sampling interval :

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

Surface elevation : 25m Shoe : 2391 m Shoe : 2375 m

Bottom hole static conditions	Intial pressure : 3501 PSIA	at depth : 2370.9 m	date : 20/4-91
	Latest pressure measured : 3520 PSIA	at depth : 2370.9m	date : 20/4-91
	Temperature : 196°F	at depth : 2370.9m	date : 20/4-91

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 0700 Time elapsed since stabilisation :

Bottom hole dynamic conditions	Choke size : 4/64" since : 1958	Well head pressure : 2005	Well head temp. : 70°F
	Bottom hole pressure : 3435 PSIA	at depth : 2370.9 m	date : 20/4-91
	Bottom hole temp. : 195°F	at depth : 2370.9 m	date : 20/4-91

Flow measurement of sampled gas - Gravity (air: 1) : 0.734 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0534

Values used for calculations : See other report GCR 12411.7

Separator	Pressure : 480 PSIG Temp. : 89 °F	Rates - Gas : 19858.39 MMSCFD Oil (separator cond.) : 1610 BOPD	B / G	GOR : 12442 (separator cond.)
Stock tank	Atmosphere : 14.73131 mmHg. 60 °F Tank temperature : °F	Oil at 60°F : BOPD A B C a b		

0.1 gravity 57.2 API

BSW : - % WLR : - %

Transfering fluid : Vacuum Transfer duration : 25 min

Final conditions of the shipping bottle :

Pressure : 480 PSI Temp. : 85°F Amb

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-11339 sent on : by : Shipping order No. :

Addressee :

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	1326/99	A-10929

Measurment conditions.

A Tank - B Meter - C Dump -

a Corrcted with shrinkage tester - b Corrected with tank -

D - REMARKS -

Visa Chief Operator

Jan Olyr

FLOPETROL

Base : Stavanger

Client : Statoil

Field : [illegible]

Well : [illegible]

Section : ANNEX 42

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Report N° :

D.S.T. #5

PVT Set 2

SURFACE SAMPLING

Date of sampling : Dec 14th 1987 Service order : Sampling No. : 6

Sample nature : gas Sampling point : Cameron separator

A - RESERVOIR AND WELL CHARACTERISTICS

Producing zone : Paleocene Perforations : [illegible] Sampling interval :

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

Surface elevation : 111.25 m Shoe : 2391 m Shoe : [illegible]

Bottom hole static conditions	Intial pressure	[illegible] PSIA	at depth : [illegible]	date : [illegible]
	Latest pressure measured	[illegible] PSIA	at depth : [illegible]	date : [illegible]
	Temperature	[illegible] °F	at depth : [illegible]	date : [illegible]

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 16:10 Time elapsed since stabilisation :

Bottom hole dynamic conditions	Choke size : 48/64" since : 12:05	Well head pressure : [illegible]	Well head temp. : [illegible]	
	Bottom hole pressure : [illegible] PSIA	at depth : [illegible]	date : [illegible]	
	Bottom hole temp. : [illegible] °F	at depth : [illegible]	date : [illegible]	

Flow measurement of sampled gas - Gravity (air: 1) : 0.734 Factor Fpv = $\frac{1}{VZ}$: [illegible]

Values used for calculations : See Chs report. GCR 1473.1 SCF

Separator	Pressure : 480 PSIG Temp. : 59 °F	Rates - Gas : 19982 [illegible] SCFD Oil (separator cond.) : 1602 BOPD [B] [C]	GOR : 12475 (separator cond.)	
Stock tank	Atmosphere : 14.73 PSI mmHg. 60 °F Tank temperature : °F	Oil at 60°F : BOPD [A] [B] [C] [a] [b]	Oil gravity 57.2 API	

BSW : - % WLR : - %

Transfering fluid : Vacuum Transfer duration : 25 min.

Final conditions of the shipping bottle :

Pressure : 450 PSI Temp. : 32°F Amb

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. A-10229 sent on : by : Shipping order No. :

Addressee :

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	13260/99	A-11337

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

OP 127

FLOPETROL

Base : Stavanger

Client : Statoil

Field : S/F Gullfaks

Well : 33/9-11

Section : ANNEX 42

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Report N°:

DST #3 PCT's-H 5.

SURFACE SAMPLING

Date of sampling : Dec 14th 1981 Service order : _____ Sampling No. : 7

Sample nature : Condensate Sampling point : out outlet sep.

A - RESERVOIR AND WELL CHARACTERISTICS

Producing zone : Paleocene Perforations : 2350 - 2415 Sampling interval : _____

Depth origin : RKB Tubing Dia. : 5" 4 MM Casing Dia. : 9 5/8"

Surface elevation : 141.25m Shoe : 2391 m Shoe : 2382.5 m

Bottom hole static conditions	Intial pressure	: 5501 PSIA	at depth : 2390.9 m	date : Dec 11th 81
	Latest pressure measured	: 5510 PSIA	at depth : 2390.9 m	date : Dec 11th 81
	Temperature	: 186°F	at depth : 2390.9 m	date : Dec 11th 81

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 07.27 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : 5/64" 23/15th	since : 03:13	Well head pressure : 1455 PSIA	Well head temp. : 177°F
	Bottom hole pressure : 3510 PSIA	at depth : 2390.9 m		date : Dec 14th 81
	Bottom hole temp. : 195°F	at depth : 2390.9 m		date : Dec 14th 81

Flow measurement of sampled gas - Gravity (air: 1) : 0.783 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0575

Values used for calculations : See Otis report GCR 13225.4 SCF

Separator	Pressure : 555 PSIG Temp. : 93 °F	Rates - Gas : 31212.0 MMSCFD Oil (separator cond.) : 2386 BOPD	B Q	GOR : 13225 (separator cond.)
Stock tank	Atmosphere : 1473 PSI mmHg. 60 °F Tank temperature : _____ °F	Oil at 60°F : _____ BOPD Oil gravity 60.5 API	A B C a b	

BSW : _____ % WLR : _____ %

Transfering fluid : Separator Transfer duration : 30 min

Final conditions of the shipping bottle : 2300 mg

Pressure : 125 PSI Temp. : 95°F 11 mbs

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : 9214/371 sent on : _____ by : _____ Shipping order No. : _____

Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.		A-9327 A-10053

Measurment conditions.

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

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

D - REMARKS -

Visa Chief Operator

OP 127

FLOPETROL

Base : Stavanger

Client : Statoil

Field : Statfjord

Well : 33/9-11

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Report N°:

DST #3 — Perf Coil #3

SURFACE SAMPLING

Date of sampling : Dec 15th 1991 — Service order : — Sampling No. : 3

Sample nature : gas — Sampling point : gas at outlet sep.

A - RESERVOIR AND WELL CHARACTERISTICS-

Producing zone : Tarbert — Perforations : 2335 - 2340 m — Sampling interval :

Depth origin : RKB — Tubing Dia. : 5" 19.5# — Casing Dia. : 9 5/8"

Surface elevation : 144.25 m — Shoe : 2391 m — Shoe : 2575 m

Bottom hole static conditions	Intial pressure : 5172 PSIG	at depth : 2330.9 m	date : 14-12-91
	Latest pressure measured : 5210 PSIG	at depth : 2330.9 m	date : 16 DEC 91
	Temperature : 196.6°F	at depth : 2330.9 m	date : 16 DEC 91

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 10.00 — Time elapsed since stabilisation :

Bottom hole dynamic conditions	Choke size : 32/64" since : 08:13	Well head pressure : 1455 PSIG	Well head temp. : 115°F
	Bottom hole pressure : 5210 PSIG	at depth : 2330.9m	date : Dec 16 91
	Bottom hole temp. : 196°F	at depth : 2330.9m	date : Dec 16 91

Flow measurement of sampled gas - Gravity (air: 1) : 0.732 — Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0510

Values used for calculations : See this report. GOR 1382.7 Scf/bbl

Separator	Pressure : 555 PSIG Temp. : 93 °F	Rates - Gas : 3122 e3m SCFD Oil (separator cond.) : 236 e BOPD	B C	GOR : 1325 (separator cond.)
Stock tank	Atmosphere : 14.75 mmHg. 66 °F Tank temperature : °F	Oil at 60°F : BOPD	A B C a b

53.1 gravity. 60.5 API -

BSW : - % WLR : - %

Transfering fluid : Vacuum — Transfer duration : 30 min.

Final conditions of the shipping bottle :
Pressure : 555 Temp. : 40°F Amb

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A-7327 — sent on : — by : — Shipping order No. :

Addressee :

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	9214/371	A-10953

Measurment conditions.

A Tank - B Meter - C Dump -

a Corrcted with shrinkage tester - b Corrected with tank -

D - REMARKS -

Visa Chief Operator

Jan Aker

OP 127

FLOPETROL

Base : Stavanger

Client : Statoil

Field : N/S - Gamma

Well : 30/6-11

Section : ANNEX 42

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Report N°:

DST #3 PVT sect 5.

SURFACE SAMPLING

Date of sampling : 20th April 91 Service order : Sampling No. : 9

Sample nature : gas Sampling point : separator outlet

A - RESERVOIR AND WELL CHARACTERISTICS

Producing zone : Palaeocene Perforations : 3325-3345 Sampling interval :

Depth origin : RKB Tubing Dia. : 5" 19.5# Casing Dia. : 9 5/8"

Surface elevation : 111.25 m Shoe : 3321 m Shoe : 3533 m

Bottom hole static conditions	Intial pressure	5511 PSIA	at depth : 3330.9 m	date : 20 APR 91
	Latest pressure measured	5511 PSIA	at depth : 3330.9 m	date : 20 APR 91
	Temperature	179 °F	at depth : 3330.9 m	date : 20 APR 91

B - MEASUREMENT AND SAMPLING CONDITIONS

Time at which sample was taken : 16 35 Time elapsed since stabilisation :

Bottom hole dynamic conditions	Choke size : 8/64"	since : 05:13	Well head pressure : 1457 PSIA	Well head temp. : 116°F	
	Bottom hole pressure : 5511 PSIA	at depth : 3330.9 m	date : 20 APR 91		
	Bottom hole temp. : 179 °F	at depth : 3330.9 m	date : 20 APR 91		

Flow measurement of sampled gas - Gravity (air: 1) : 0.734 Factor Fpv = $\frac{1}{VZ}$: 1.0578

Values used for calculations : See this report. GOR 2/3147.1 SCF/BBL

Separator	Pressure : 552 PSIG	Rates - Gas : 3312.03 mm SCFD		GOR : 1345 T	
	Temp. : 93 °F	Oil (separator cond.) : 2374 BOPD	B C	(separator cond.)	
Stock tank	Atmosphere : 14.73 PSI mmHg. 60 °F		Oil at 60°F : BOPD		
	Tank temperature : °F		A B C a b		

Oil gravity 60.5 API

BSW : - % WLR : - %

Transfering fluid : brine Transfer duration : 25 min.

Final conditions of the shipping bottle :

Pressure : 555 PSIG Temp. : 60 °F AMB

C - IDENTIFICATION OF THE SAMPLE

Shipping bottle No. : A 10033 sent on : by : Shipping order No. :

Addressee :

Coupled with	LIQUID	GAS
Bottom hole samples No.		
Surface samlpes No.	9214/371	A-2375

Measurment conditions.

A Tank - B Meter - C Dump -

a Corrcted with shrinkage tester - b Corrected with tank -

D - REMARKS -

Visa Chief Operator

Ian Watt

OP 127