U-298

Esso Exploration and Production.
Well test report
D.S.T. 4.
Sleipner 15/8-1.

OTIS

SEQUENCE OF OPERATIONS

OEC—872-B

TEST NUMBER	RIG NAME	PAGE	OF
DST 4	Glomar Biscay 11	1	6

CUSTOMER	WELL NAME OR NUMBER	FIELD	AREA
Esso Exploration & Production	15/8-1	Sleipner	North Sea

CUSTOMER REPRESENTED BY	OTIS TEST SUPERVISOR
P. Rogers	A. Buick

	DATE	TIME	OPERATIONS
1	25/12/81	2130	Internal pressure test on choke 500 P.S.I.G then 7500 P.S.I.G
2		2145	Test O.K.
3		2200	Pressure test back two V/VS on choke manifold 500 P.S.I.G and then 5000 P.S.I.G
4		2215	Test O.K.
5		2220	Pressure test front two V/VS on choke manifold 500 P.S.I.G and then 5000 P.S.I.G
6		2238	Test O.K.
7			Pressure test Lub., Valve internal 500 P.S.I.G then 7500 P.S.I.G test witnessed by company man.
8			Pressure test Lub., V/V with ball closed 500 P.S.I,G then 7500 P.S.I.G test witnessed by company man.
9			P.T. S.S.T.T. internal 500 P.S.I.G then 7500 P.S.I.G. Test O.K.
10			P.T. S.S.T.T. against each ball V/V 500 P.S.I.G then 7500 P.S.I.G
11			Test good.
12	26/12/81		Pressure test S.T.T. Test O.K.
13	27/12/81		Maintain equipment in preparation for D.S.T. 4
14	28/12/81	0500	Amerada gauges placed in string (XN Nipple)
15			
16			
17			
18			
19			

OTIS

SEQUENCE OF OPERATIONS

OEC—872-B

TEST NUMBER	RIG NAME	PAGE	OF
DST 4	Glomar Biscay II	2	6

CUSTOMER	WELL NAME OR NUMBER	FIELD	AREA
Esso Exploration & Production	15/8-1	Sleipner	North Sea

CUSTOMER REPRESENTED BY	OTIS TEST SUPERVISOR
P. Rogers	A. Buick

DATE	TIME	OPERATIONS
28/12	1642	S.S.T.T. to rig floor
	1650	S.S.T.T. made up to tubing.
	1800	On unlatching it was found that bottom thread on latch receiver had been pulled through.
		This was corrected by grinding off damaged part of thread.
	1837	S.S.T.T. through rotary
	1910	Lub., V/V in string
	1923	Lub., V/V open
	1945	Lub., V/V through rotary
	1950	String filled with water. Pressure test 500 P.S.I.G and 7500 P.S.I.G
	2023	Test O.K. pressure bled off
	2050	S.T.T. on rig floor
	2100	S.T.T. made up in string
	2119	Close master V/V
	2125	Packer set
	2130	Connect surface lines to S.T.T.
	2215	Choke manifold on rig floor connect surface lines
	2253	Open Failsafe V/V
	2255	Close Failsafe V/V

OTIS

SEQUENCE OF OPERATIONS

OEC—872-B

TEST NUMBER	RIG NAME	PAGE	OF
DST 4	Glomar Biscay II	3	6

CUSTOMER	WELL NAME OR NUMBER	FIELD	AREA
Esso Exploration & Production	15/8-1	Sleipner	North Sea

CUSTOMER REPRESENTED BY	OTIS TEST SUPERVISOR
P. Rogers	A. Buick

DATE	TIME	OPERATIONS
28/12/81	2300	Failsafe V/V open. Flush lines to port burner
	23.10	Stop flushing
	23.13	Close failsafe V/V
	2315	Pressure up against swab V/V, Failsafe V/V and master V/V to 500 P.S.I.G and 7500 P.S.I.G
	2330	Test O.K. Bleed off pressure open master V/V
	2335	Pressure up string against D.P. tester V/V 500 P.S.I.G and 7500 P.S.I.G
	2347	Close ball V/VS on S.S.T.T. Bled pressure off to 500 P.S.I
	2358	Test O.K. Pressure up to 7500 P.S.I open S.S.T.T. balls and close SSLV ball
29/12/81	0003	Bled pressure off to 500 P.S.I above SSLV
	0012	Press. up to 7500 P.S.I. open SSLV ball. Test O.K.
	0017	Close master V/V open failsafe V/V and close upstream choke manifold V/VS. Pressure test
		500 P.S.I.G and 7500 P.S.I.G
	0038	Test O.K. Close down stream V/VS on choke manifold open up stream V/VS
	0102	Test Downstream V/VS 500 P.S.I.G and 7500 P.S.I.G
	0110	Test O.K. Close heater inlet open choke manifold V/VS
	0137	Test O.K.
	0152	Shut in at separator open heater V/V ..Test to 1400 P.S.I.G

OTIS

SEQUENCE OF OPERATIONS

OEC—872-B

TEST NUMBER	RIG NAME	PAGE	OF
DST 4	Glomar Biscay II	4	6

CUSTOMER	WELL NAME OR NUMBER	FIELD	AREA
Esso Exploration & Production	15/8-1	Sleipner	North Sea

CUSTOMER REPRESENTED BY	OTIS TEST SUPERVISOR
P. Rogers	A. Buick

	DATE	TIME	OPERATIONS
1	29/12/81	0210	Test O.K. Open up to tank
2		0215	Open master V/V
3		0221	Open D.P. tester V/V
4		0223	Land off S.S.T.T
5		0224	Close 5" pipe rams
6		0229	Bleed off tubing pressure
7		0230	Close kill V/V
8		0232	Open APR N
9		0245	Open well at choke manifold on 3/8" Adjustable choke to tank
10		0251	Close APR N Open line to gas flare
11		0453	Open APR N
12		0514	Open well 32/64" Adjustable choke to gas flare line
13		0527	Change to 32/64" fixed choke gas to surface
14		0546	Change to 56/64" Adjustable choke
15		0558	Change to 56/64" fixed choke
16		0630	Flow through separator
17		1337	Shut in at choke manifold shut APR N
18		1410	Tubing pressure after shut in 4417 P,S,I,G 81°F
19			

OTIS

SEQUENCE OF OPERATIONS

OEC—872-B

TEST NUMBER	RIG NAME	PAGE	OF
DST 4	Glomar Biscay II	5	6

CUSTOMER	WELL NAME OR NUMBER	FIELD	AREA
Esso Exploration & Production	15/8-1	Sleipner	North Sea

CUSTOMER REPRESENTED BY	OTIS TEST SUPERVISOR
P. Rogers	A. Buick

DATE	TIME	OPERATIONS
29/12/81	1500	T.P. 4415 P.S.I.G 60°F
	1600	T.P. 4410 P.S.I.G 52°F
	1700	T.P. 4404 P.S.I.G 49°F
	1800	T.P. 4401 P.S.I.G 46°F
	1900	T.P. 4375 P.S.I.G 44°F
	2000	T.P. 4355 P.S.I.G 42°F
	2100	T.P. 4342 P.S.I.G 40°F
	2125	Shear APR M
	2130	Commence circulating burn off tubing contents
30/12/81	0020	Close master V/V flush oil and gas lines
	0030	Break out chicksans and all unnecessary equipment
	0255	Kill and master V/VS open failsafe closed circulate mud
	1525	Unseat packer
	1548	Close lower pipe ram
	1635	Commence bull heading then circulate
	2200	Stop circulating
	2250	Disconnect S.T.T
	2328	S.T.T. layed down

OTIS

SEQUENCE OF OPERATIONS

OEC—872-B

TEST NUMBER	RIG NAME	PAGE	OF
DST 4	Glomar Biscay 11	6	6

CUSTOMER	WELL NAME OR NUMBER	FIELD	AREA
Esso Exploration & Production	15/8-1	Sleipner	North Sea

CUSTOMER REPRESENTED BY	OTIS TEST SUPERVISOR
P. Rogers	A. Buick

DATE	TIME	OPERATIONS
31/12/81	0040	Lub. V/V laid down
	0120	S.S.T.T. in rotary break all joints
	0210	S.S.T.T. layed down
		Break out joint of tubing on S.T.T. and cross-overs on S.S.T.T. stow equipment
	0430	Stand crew down

OTIS

SURFACE SAMPLING DATA

OEC-6677-B

TEST NUMBER	RATE NUMBER	AREA	DATE (DAY MO YR.)	PAGE	OF
DST 4	1	North Sea	29/12/81	1	3

CUSTOMER	WELL NAME OR NUMBER	FIELD	FORMATION
Esso Exploration & Production	15/8-1	Sleipner	

ELEVATION (FEET)	STANDARD CONDITIONS	TIME WELL FLOWING OR SHUT IN BEFORE SAMPLING	INTERVAL TESTED (FEET)
	☒ 14.73 psi 60°F ☐ OTHER PRESS. TEMP.		

SAMPLE # 1

TIME TAKEN	CONTAINER #	CONTAINER VOL. (cc) or (gal)	INITIALLY FILLED WITH (a)	VOL. OF FILL REMAINING WITH (b) SAMPLE	SAMPLE TYPE	SAMPLE TAKEN AT	SAMPLING PRESSURE (psig)	SAMPLING TEMP. (°F)	ATMOSPHERIC PRESS. (psi)	ATMOS. TEMP. (°F)	TIME TO TAKE SAMPLE (min.)
1230	001 AN	510	Brine	25.5	Cond.	Separator	600	60.0	14.76		10

FIELD READINGS AND FACTORS USED

WELL HEAD PRESS (psig)	WELL HEAD TEMP (°F)	CHOKE SIZE (64th INCH)	HI STAGE SEP. PRESS. (psig)	HI STAGE SEP. TEMP. (°F)	LO STAGE SEP. PRESS. (psig)	LO STAGE SEP. TEMP. (°F)	BOTTOM HOLE PRESS. (psig) @ FT	BOTTOM HOLE TEMP. (°F) @ FT	OIL GRAVITY @ 60 °F (°API)	OIL BSW (%)	OIL C_f (c)	OIL W_f (c)	GAS GRAVITY (AIR=1)	GAS F_{PV}	TOTAL GAS/OIL FLOW RATE AT ☐ STOCK TANK ☒ SEP. COND. (BPD) (MMCF/D)	☒ GOR ☐ OGR ☒ STOCK TANK ☐ SEP. COND. (MCF/BBL) (BBL/MMCF)	WATER FLOW RATE (BPD)
1563	106	56	600	60					42.3	-	.90 comb		.84	1.1193	1846.5	10642	

SAMPLE # 2

TIME TAKEN	CONTAINER #	CONTAINER VOL. (cc) or (gal)	INITIALLY FILLED WITH (a)	VOL. OF FILL REMAINING WITH (b) SAMPLE	SAMPLE TYPE	SAMPLE TAKEN AT	SAMPLING PRESSURE (psig)	SAMPLING TEMP. (°F)	ATMOSPHERIC PRESS. (psi)	ATMOS. TEMP. (°F)	TIME TO TAKE SAMPLE (min.)
1245	001 AQ	515	Brine	25.75	Cond.	Separator	635	57	14.76		16

FIELD READINGS AND FACTORS USED

WELL HEAD PRESS (psig)	WELL HEAD TEMP (°F)	CHOKE SIZE (64th INCH)	HI STAGE SEP. PRESS. (psig)	HI STAGE SEP. TEMP. (°F)	LO STAGE SEP. PRESS. (psig)	LO STAGE SEP. TEMP. (°F)	BOTTOM HOLE PRESS. (psig) @ FT	BOTTOM HOLE TEMP. (°F) @ FT	OIL GRAVITY @ 60 °F (°API)	OIL BSW (%)	OIL C_f (c)	OIL W_f (c)	GAS GRAVITY (AIR=1)	GAS F_{PV}	TOTAL GAS/OIL FLOW RATE AT ☐ STOCK TANK ☒ SEP. COND. (BPD) (MMCF/D)	☒ GOR ☐ OGR ☒ STOCK TANK ☐ SEP. COND. (MCF/BBL) (BBL/MMCF)	WATER FLOW RATE (BPD)
1565	106	56	600	60.0					42.3	-	.90 comb		.84	1.1193	1846.5	10642	

SAMPLE # -

TIME TAKEN	CONTAINER #	CONTAINER VOL. (cc) or (gal)	INITIALLY FILLED WITH (a)	VOL. OF FILL REMAINING WITH (b) SAMPLE	SAMPLE TYPE	SAMPLE TAKEN AT	SAMPLING PRESSURE (psig)	SAMPLING TEMP. (°F)	ATMOSPHERIC PRESS. (psi)	ATMOS. TEMP. (°F)	TIME TO TAKE SAMPLE (min.)

FIELD READINGS AND FACTORS USED

WELL HEAD PRESS (psig)	WELL HEAD TEMP (°F)	CHOKE SIZE (64th INCH)	HI STAGE SEP. PRESS. (psig)	HI STAGE SEP. TEMP. (°F)	LO STAGE SEP. PRESS. (psig)	LO STAGE SEP. TEMP. (°F)	BOTTOM HOLE PRESS. (psig) @ FT	BOTTOM HOLE TEMP. (°F) @ FT	OIL GRAVITY @ 60 °F (°API)	OIL BSW (%)	OIL C_f (c)	OIL W_f (c)	GAS GRAVITY (AIR=1)	GAS F_{PV}	TOTAL GAS/OIL FLOW RATE AT ☐ STOCK TANK ☐ SEP. COND. (BPD) (MMCF/D)	☐ GOR ☐ OGR ☐ STOCK TANK ☐ SEP. COND. (MCF/BBL) (BBL/MMCF)	WATER FLOW RATE (BPD)

(a) CONTAINER MAY BE INITIALLY FILLED WITH WATER OR MERCURY (Hg) OR BE EVACUATED (VACUUM).
(b) VOLUME OF WATER OR MERCURY LEFT WITH WELL EFFLUENT SAMPLE.
(c) C_f IS MEASURED CORRECTION FACTOR FOR CORRECTING OIL VOLUME FROM SEPARATOR TO STOCK TANK CONDITIONS. IT INCLUDES WEATHERING FACTOR, W_f, AND METER NONLINEARITY EFFECTS, M. $C_f = M \cdot W_f$.

SAMPLED BY

OTIS

SURFACE SAMPLING DATA

OEC—877-B

TEST NUMBER	RATE NUMBER	AREA	DATE (DAY MO YR.)	PAGE	OF
DST 4	1	North Sea	29/12/81	2	3

CUSTOMER	WELL NAME OR NUMBER	FIELD	FORMATION
Esso Exploration & Production	15/8-1	Sleipner	

ELEVATION (FEET)	STANDARD CONDITIONS	TIME WELL FLOWING OR SHUT IN BEFORE SAMPLING	INTERVAL TESTED (FEET)
	[X] 14.73 psi 60°F [ ] OTHER PRESS. TEMP.		

SAMPLE # 1

TIME TAKEN	CONTAINER #	CONTAINER VOL. (cc) or (gal)	INITIALLY FILLED WITH (a)	VOL. OF FILL REMAINING WITH SAMPLE (b)	SAMPLE TYPE	SAMPLE TAKEN AT	SAMPLING PRESSURE (psig)	SAMPLING TEMP. (°F)	ATMOSPHERIC PRESS. (psi)	ATMOS. TEMP. (°F)	TIME TO TAKE SAMPLE (min)
1230	0.0.1 132	201	Evacuated		Gas	Separator	600	60	14.76		10

FIELD READINGS AND FACTORS USED

WELL HEAD PRESS. (psig)	WELL HEAD TEMP (°F)	CHOKE SIZE (64th INCH)	HI STAGE SEP. PRESS. (psig)	HI STAGE SEP. TEMP. (°F)	LO STAGE SEP. PRESS. (psig)	LO STAGE SEP. TEMP. (°F)	BOTTOM HOLE PRESS. (psig) @ FT	BOTTOM HOLE TEMP. (°F) @ FT	OIL GRAVITY @ 60 °F (°API)	OIL BSW (%)	OIL C_f (c)	OIL W_f (c)	GAS GRAVITY (AIR=1)	GAS F_{PV}	TOTAL GAS/OIL FLOW RATE AT [ ] STOCK TANK [X] SEP. COND. (BPD) (MMCF/D)	[X] GOR [ ] OGR [X] STOCK TANK [ ] SEP. COND. (MCF/BBL) (BBL/MMCF)	WATER FLOW RATE (BPD)
1563	106	56	600	60					42.3		0.9 comb		.84	1.1193	19.65	10643	

SAMPLE # 2

TIME TAKEN	CONTAINER #	CONTAINER VOL. (cc) or (gal)	INITIALLY FILLED WITH (a)	VOL. OF FILL REMAINING WITH SAMPLE (b)	SAMPLE TYPE	SAMPLE TAKEN AT	SAMPLING PRESSURE (psig)	SAMPLING TEMP. (°F)	ATMOSPHERIC PRESS. (psi)	ATMOS. TEMP. (°F)	TIME TO TAKE SAMPLE (min)
1240	0.0.1 169	201	Evacuated		Gas	Separator	600	60	14.76		10

FIELD READINGS AND FACTORS USED

WELL HEAD PRESS. (psig)	WELL HEAD TEMP (°F)	CHOKE SIZE (64th INCH)	HI STAGE SEP. PRESS. (psig)	HI STAGE SEP. TEMP. (°F)	LO STAGE SEP. PRESS. (psig)	LO STAGE SEP. TEMP. (°F)	BOTTOM HOLE PRESS. (psig) @ FT	BOTTOM HOLE TEMP. (°F) @ FT	OIL GRAVITY @ 60 °F (°API)	OIL BSW (%)	OIL C_f (c)	OIL W_f (c)	GAS GRAVITY (AIR=1)	GAS F_{PV}	TOTAL GAS/OIL FLOW RATE AT [ ] STOCK TANK [X] SEP. COND. (BPD) (MMCF/D)	[X] GOR [ ] OGR [X] STOCK TANK [ ] SEP. COND. (MCF/BBL) (BBL/MMCF)	WATER FLOW RATE (BPD)
1563	106	56	600	60					42.3		0.9 comb		0.84	1.1193	19.65	10643	

SAMPLE # 3

TIME TAKEN	CONTAINER #	CONTAINER VOL. (cc) or (gal)	INITIALLY FILLED WITH (a)	VOL. OF FILL REMAINING WITH SAMPLE (b)	SAMPLE TYPE	SAMPLE TAKEN AT	SAMPLING PRESSURE (psig)	SAMPLING TEMP. (°F)	ATMOSPHERIC PRESS. (psi)	ATMOS. TEMP. (°F)	TIME TO TAKE SAMPLE (min)
1255	0.0.1 122	201	Evacuated		Gas	Separator	620	72	14.76		10

FIELD READINGS AND FACTORS USED

WELL HEAD PRESS. (psig)	WELL HEAD TEMP (°F)	CHOKE SIZE (64th INCH)	HI STAGE SEP. PRESS. (psig)	HI STAGE SEP. TEMP. (°F)	LO STAGE SEP. PRESS. (psig)	LO STAGE SEP. TEMP. (°F)	BOTTOM HOLE PRESS. (psig) @ FT	BOTTOM HOLE TEMP. (°F) @ FT	OIL GRAVITY @ 60 °F (°API)	OIL BSW (%)	OIL C_f (c)	OIL W_f (c)	GAS GRAVITY (AIR=1)	GAS F_{PV}	TOTAL GAS/OIL FLOW RATE AT [ ] STOCK TANK [X] SEP. COND. (BPD) (MMCF/D)	[X] GOR [ ] OGR [X] STOCK TANK [ ] SEP. COND. (MCF/BBL) (BBL/MMCF)	WATER FLOW RATE (BPD)
1565	106	56	620	72					42.3		0.9 comb		0.84	1.1194	19.77	10609	

(a) CONTAINER MAY BE INITIALLY FILLED WITH WATER OR MERCURY (Hg) OR BE EVACUATED (VACUUM).
(b) VOLUME OF WATER OR MERCURY LEFT WITH WELL EFFLUENT SAMPLE.
(c) C_f IS MEASURED CORRECTION FACTOR FOR CORRECTING OIL VOLUME FROM SEPARATOR TO STOCK TANK CONDITIONS. IT INCLUDES WEATHERING FACTOR, W_f, AND METER NONLINEARITY EFFECTS, M. $C_f = M\ W_f$.

SAMPLED BY

OTIS

SURFACE SAMPLING DATA

OEC—877-B

TEST NUMBER	RATE NUMBER	AREA	DATE (DAY MO YR.)	PAGE	OF
DST 4	1	North Sea	29/12/81	3	3

CUSTOMER	WELL NAME OR NUMBER	FIELD	FORMATION
Esso Exploration & Production	15/8-1	Sleipner	

ELEVATION (FEET)	STANDARD CONDITIONS	TIME WELL FLOWING OR SHUT IN BEFORE SAMPLING	INTERVAL TESTED (FEET)
	☒ 14.73 psi 60°F ☐ OTHER PRESS. TEMP.		

SAMPLE # 4

TIME TAKEN	CONTAINER #	CONTAINER VOL. (cc) or (gal)	INITIALLY FILLED WITH (a)	VOL. OF FILL REMAINING WITH SAMPLE (b)	SAMPLE TYPE	SAMPLE TAKEN AT	SAMPLING PRESSURE (psig)	SAMPLING TEMP. (°F)	ATMOSPHERIC PRESS. (psi)	ATMOS. TEMP. (°F)	TIME TO TAKE SAMPLE (min)
1330	0.0.1 121	201	Evacuated		Gas	Separator	620	72	14.76		10

FIELD READINGS AND FACTORS USED

WELL HEAD PRESS. (psig)	WELL HEAD TEMP (°F)	CHOKE SIZE (64th INCH)	HI STAGE SEP. PRESS. (psig)	HI STAGE SEP. TEMP. (°F)	LO STAGE SEP. PRESS. (psig)	LO STAGE SEP. TEMP. (°F)	BOTTOM HOLE PRESS. (psig) @ FT	BOTTOM HOLE TEMP. (°F) @ FT	OIL GRAVITY @ 60 °F (°API)	OIL BSW (%)	OIL C_f (c)	OIL W_f (c)	GAS GRAVITY (AIR=1)	GAS F_{PV}	TOTAL GAS/OIL FLOW RATE AT ☐ STOCK TANK ☒ SEP. COND. (BPD) (MMCF/D)	☒ GOR ☐ OGR ☒ STOCK TANK ☐ SEP. COND. (MCF/BBL) (BBL/MMCF)	WATER FLOW RATE (BPD)
1572	106	56	620	72					42.3		0.9 comb		0.84	1.1194	19.65	10353	

SAMPLE #__

TIME TAKEN	CONTAINER #	CONTAINER VOL. (cc) or (gal)	INITIALLY FILLED WITH (a)	VOL. OF FILL REMAINING WITH SAMPLE (b)	SAMPLE TYPE	SAMPLE TAKEN AT	SAMPLING PRESSURE (psig)	SAMPLING TEMP. (°F)	ATMOSPHERIC PRESS. (psi)	ATMOS. TEMP. (°F)	TIME TO TAKE SAMPLE (min)

FIELD READINGS AND FACTORS USED

WELL HEAD PRESS. (psig)	WELL HEAD TEMP (°F)	CHOKE SIZE (64th INCH)	HI STAGE SEP. PRESS. (psig)	HI STAGE SEP. TEMP. (°F)	LO STAGE SEP. PRESS. (psig)	LO STAGE SEP. TEMP. (°F)	BOTTOM HOLE PRESS. (psig) @ FT	BOTTOM HOLE TEMP. (°F) @ FT	OIL GRAVITY @ 60 °F (°API)	OIL BSW (%)	OIL C_f (c)	OIL W_f (c)	GAS GRAVITY (AIR=1)	GAS F_{PV}	TOTAL GAS/OIL FLOW RATE AT ☐ STOCK TANK ☐ SEP. COND. (BPD) (MMCF/D)	☐ GOR ☐ OGR ☐ STOCK TANK ☐ SEP. COND. (MCF/BBL) (BBL/MMCF)	WATER FLOW RATE (BPD)

SAMPLE #__

TIME TAKEN	CONTAINER #	CONTAINER VOL. (cc) or (gal)	INITIALLY FILLED WITH (a)	VOL. OF FILL REMAINING WITH SAMPLE (b)	SAMPLE TYPE	SAMPLE TAKEN AT	SAMPLING PRESSURE (psig)	SAMPLING TEMP. (°F)	ATMOSPHERIC PRESS. (psi)	ATMOS. TEMP. (°F)	TIME TO TAKE SAMPLE (min)

FIELD READINGS AND FACTORS USED

WELL HEAD PRESS. (psig)	WELL HEAD TEMP (°F)	CHOKE SIZE (64th INCH)	HI STAGE SEP. PRESS. (psig)	HI STAGE SEP. TEMP. (°F)	LO STAGE SEP. PRESS. (psig)	LO STAGE SEP. TEMP. (°F)	BOTTOM HOLE PRESS. (psig) @ FT	BOTTOM HOLE TEMP. (°F) @ FT	OIL GRAVITY @ 60 °F (°API)	OIL BSW (%)	OIL C_f (c)	OIL W_f (c)	GAS GRAVITY (AIR=1)	GAS F_{PV}	TOTAL GAS/OIL FLOW RATE AT ☐ STOCK TANK ☐ SEP. COND. (BPD) (MMCF/D)	☐ GOR ☐ OGR ☐ STOCK TANK ☐ SEP. COND. (MCF/BBL) (BBL/MMCF)	WATER FLOW RATE (BPD)

(a) CONTAINER MAY BE INITIALLY FILLED WITH WATER OR MERCURY (Hg) OR BE EVACUATED (VACUUM).
(b) VOLUME OF WATER OR MERCURY LEFT WITH WELL EFFLUENT SAMPLE.
(c) C_f IS MEASURED CORRECTION FACTOR FOR CORRECTING OIL VOLUME FROM SEPARATOR TO STOCK TANK CONDITIONS. IT INCLUDES WEATHERING FACTOR, W_f, AND METER NONLINEARITY EFFECTS, M. $C_f = M \cdot W_f$.

SAMPLED BY

WELL NUMBER 15/8-1
WELL NAME

Otis Field Readings

DATE 29.12.81
DST No. 4

ENGR:

TIME	CHOKE SIZE	FLOWING CONDITIONS: SEPARATOR SAMPLES	WELLHEAD: PRESS	WELLHEAD: TEMP	SEPARATOR: PRESS DIFF	SEPARATOR: SHRINKAGE	SEPARATOR: OIL T / GAS T	SAMPLES: OIL GRAVITY	SAMPLES: GAS GRAVITY	SAMPLES: CO_2	SAMPLES: H_2S	SAMPLES: MERCAPTANS	SAMPLES: BS & W	SAMPLES: CHLORIDES / PH.	OIL: METERED	GAS: SEPARATOR FLOW RATE	WATER: METERED	GOR
HOURS	64th IN.	TYPE	PSIG	° F	PSIG	FACTOR	° F	° API	S.G.	%	PPM	PPM	%	mg/l	BOPD	MSCFD	BWPD	SCF/bbl
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
0453					Open APR N													
0457			1537	40														
0459			1552	39														
0501			1559	38														
0503			1563	38														
0505			1565	38														
0507			1568	38														
0509			1573	38														
0511			1578	38														
0513			1579	38														
0514	32				Well opened through 32/64" Adjustable choke to gas flare line.													
0517	32		575															
0520	32		675															
0527	32		Changed to fixed choke.															
0535	32		2200	100									15					

PERFORATED INTERVAL:

WELL NUMBER 15/8-1
WELL NAME

Otis Field Readings

DATE 29/12/81
DST No. 4

ENGR:		FLOWING CONDITIONS						SAMPLES							OIL	GAS	WATER	GOR
TIME	CHOKE SIZE	SEPARATOR SAMPLES	WELLHEAD PRESS	WELLHEAD TEMP	SEPARATOR PRESS DIFF	SEPARATOR SHRINKAGE	SEPARATOR OIL T GAS T	OIL GRAVITY	GAS GRAVITY	CO_2	H_2S	MERCAPTANS	BS & W	CHLORIDES PH.	METERED	SEPARATOR FLOW RATE MSCFD	METERED	SCF/bbl
HOURS	64th IN.	TYPE	PSIG	° F	PSIG	FACTOR	° F	° API	S.G.	%	PPM	PPM	%	mg/l	BOPD		BWPD	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
0537	32		2300	99														
0539	32		2500	90														
0541	32		2350	86														
0543	32		2300	80														
0545	32		2280	80														
0546	56	Change to 56/64" Adjuarable choke.																
0547	56		1500	78														
0549	56		1200	78														
0551	56		1190	76														
0556	56		1284	77														
0558	56	Changed to 56/66" fixed choke.																
0600	56		1249	79									1 % water					
0601	56		1249	80						17								
0615	56		1282	84						15			5					
0630	56		1458	80						16								

PERFORATED INTERVAL:

AKTIETRYKKERIET I STAVANGER

WELL NUMBER 15/8-1

WELL NAME

Otis Field Readings

DATE 29/12/81

DST No. 4

ENGR:		FLOWING CONDITIONS						SAMPLES							OIL	GAS	WATER	GOR
TIME	CHOKE SIZE	SEPA-RATOR SAMPLES	WELLHEAD		SEPARATOR			OIL GRAV-ITY	GAS GRAV-ITY	CO_2	H_2S	MER-CAP-TANS	BS & W	CHLOR-IDES P.H.	METERED	SEPARATOR FLOW RATE MSCFD	METERED	SCF/bbl
			PRESS	TEMP	PRESS DIFF	SHRINK-AGE	OIL T GAS T											
HOURS	64th IN.	TYPE	PSIG	° F	PSIG	FACTOR	° F	° API	S.G.	%	PPM	PPM	%	mg/l	BOPD		BWPD	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
0645	56		1480	92						16			1.5					

PERFORMED INTERVAL:

WELL NUMBER 15/8-1
WELL NAME

Otis Field Readings

DATE 29/12/81
DST No. 4

ENGR:

FLOWING CONDITIONS								SAMPLES							OIL	GAS	WATER	GOR
TIME	CHOKE SIZE	SEPARATOR SAMPLES	WELLHEAD PRESS	WELLHEAD TEMP	SEPARATOR PRESS / DIFF	SEPARATOR SHRINKAGE	SEPARATOR OIL T / GAS T	OIL GRAVITY	GAS GRAVITY	CO_2	H_2S	MERCAPTANS	BS & W	CHLORIDES / PH.	METERED	SEPARATOR FLOW RATE MSCFD	METERED	SCF/bbl
HOURS	64th IN.	TYPE	PSIG	° F	PSIG	FACTOR	° F	° API	S.G.	%	PPM	PPM	%	mg/l	BOPD		BWPD	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
0700	56		1492	96	550 / 141		52 / 56	47.4	.814	16						18.99		
0730	56		1506	99	570 / 140		56 / 60	47.4	.814						1853.9	19.19		10351
0800	56		1515	100	580 / 138		60 / 66	47.4	.814	14					1836.8	19.06		10377
0830	56		1522	102	580 / 140		60 / 64	47.4	.814	4					1776.8	19.26		10840
0900	56		1532	104	600 / 138		64 / 68	45.7	.832	3					1765.4	19.29		10927
0930	56		1538	105	600 / 138		65 / 70	45.7	.832	10 at	sep.				1803.8	19.23		10661
1000	56		1546	106	610 / 134		65 / 70	45.7	.832	1 at	c.m.				1829.4	19.13		10457
1030	56		1549	106	610 / 168		66 / 72	45.7	.832						1786.7	19.58		10959
1100	56		1551	105	615 / 164		66 / 72	46.9	.84	5					1855	19.40		10460
1130	56		1555	106	630 / 166		66 / 70								1786.3	19.86		11121
1200	56		1558	104	625 / 162		66 / 70			3.5					1842.2	19.53		10603
1230	56		1563	106	625 / 164		67 / 70	at 60° 42.3							1846.5	19.65		10643
1300	56		1565	106	635 / 164		68 / 72								1863.6	19.77		10609
1330	56		1572	106	635 / 162		68 / 72								1898.0	19.65		10353
1337	56		Shut well in at choke manifold.															

PERFORATED INTERVAL:

AKTIETRYKKERIET I STAVANGER

WELL NUMBER 15/8-1
WELL NAME

Otis Field Readings

DATE 29/12/81
DST No. 4

ENGR:		FLOWING CONDITIONS						SAMPLES							OIL	GAS	WATER	GOR
TIME	CHOKE SIZE	SEPA-RATOR SAMPLES	WELLHEAD		SEPARATOR			OIL GRAV-ITY	GAS GRAV-ITY	CO_2	H_2S	MER-CAP-TANS	BS & W	CHLOR-IDES	METERED	SEPARATOR FLOW RATE MSCFD	METERED	SCF/bbl
			PRESS	TEMP	PRESS DIFF	SHRINK-AGE	OIL T GAS T							P.H.				
HOURS	64th IN.	TYPE	PSIG	° F	PSIG	FACTOR	° F	° API	S.G.	%	PPM	PPM	%	mg/l	BOPD		BWPD	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1340			3320	118	Shut well in at APR-N													
1341			3640	118														
1342			3820	114														
1343			3950	113														
1344			4105	110														
1345			4200	108														
1346			4247	107														
1347			4277	106														
1348			4320	105														
1349			4325	104														
1350			4335	102														
1355			4370	97														
1400			4409	90														
1405			4417	86														

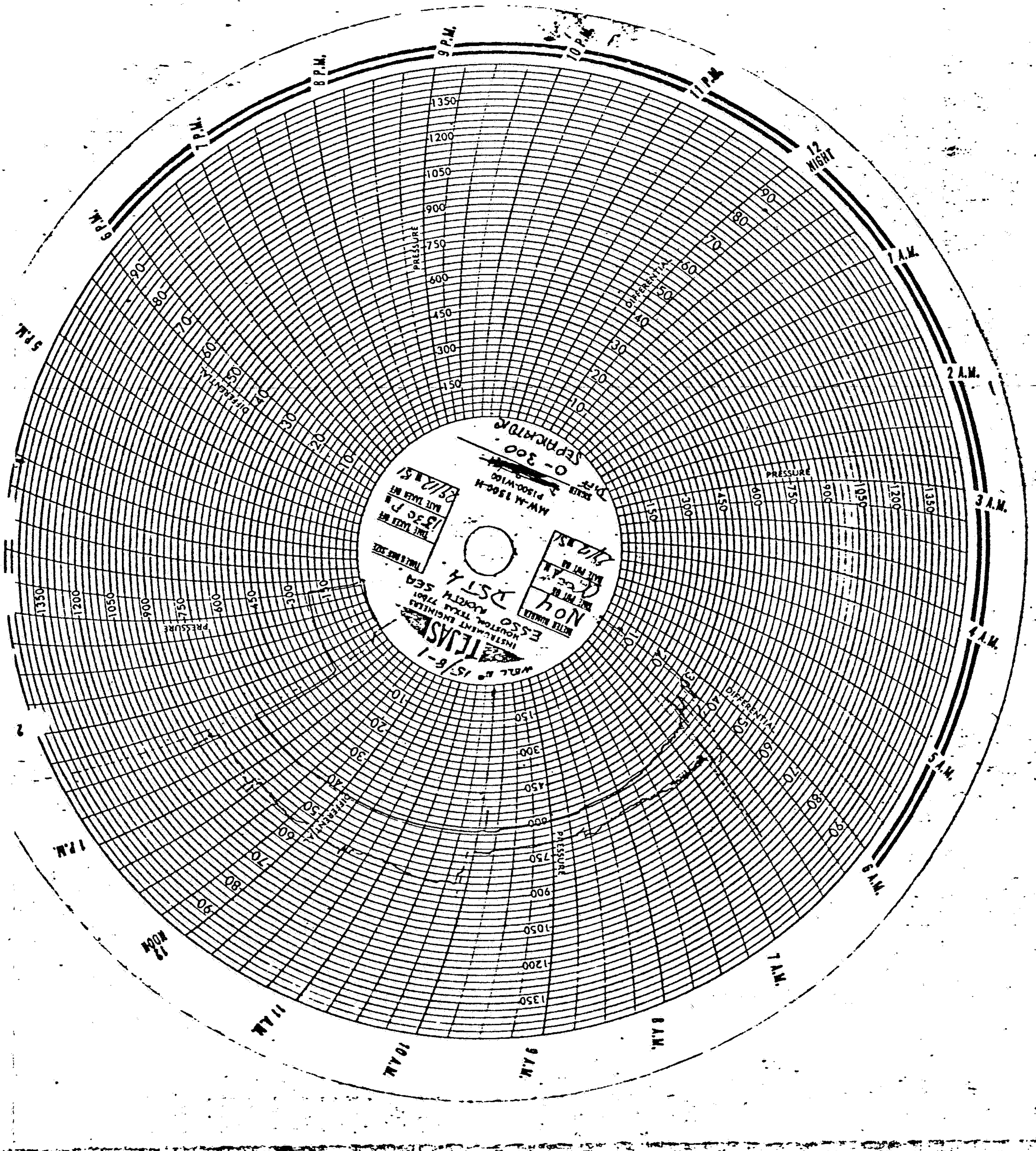
PERFORATED INTERVAL:

SEPARATOR CHARTS

RANGE

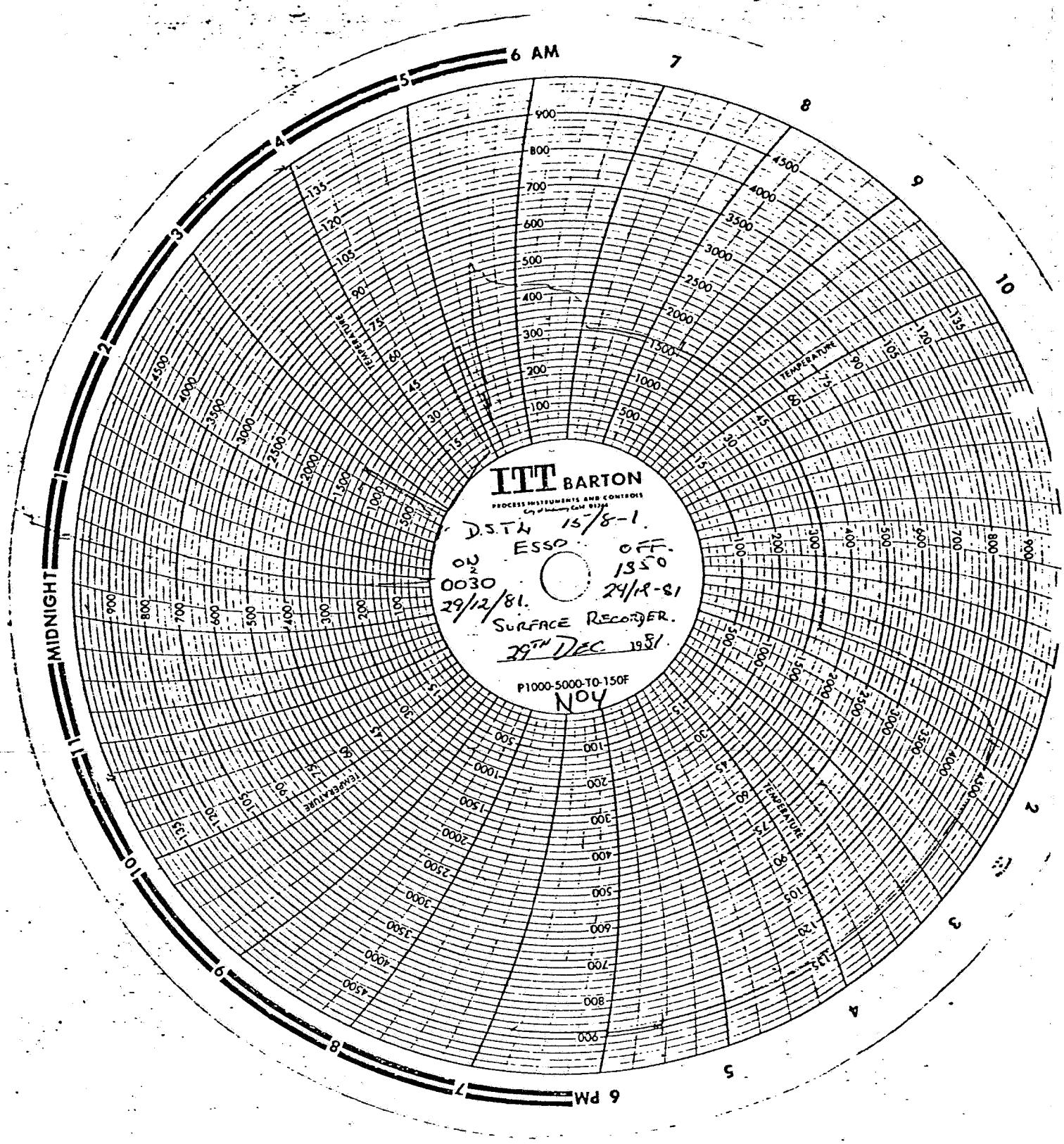
hw: 0-300" H_2O

Pf: 0-1500 PSI


12 NIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
12 NOON
1 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
PRESSURE
DIFFERENTIAL
TEJAS
INSTRUMENT ENGINEERS
HOUSTON, TEXAS 77601
E-550
MW-M 1500-H
P1500-W100
NORTH SEA
SEPARATOR

SURFACE RECORDER CHARTS

	RANGE
PRESSURE:	0-5000 PSI
TEMPERATURE:	0- 200 ^{o}F


ITT BARTON
PROCESS INSTRUMENTS AND CONTROLS
D.S.T. No 15/8-1.
ESSO OFF.
0030 1350
29/12/81. 24/12-81
SURFACE RECORDER.
29TH DEC 1981
P1000-5000-TO-150F
NOV
MIDNIGHT
6 AM
6 PM
TEMPERATURE

OTIS

OIL FLOW RATE CALCULATIONS – METER MEASUREMENTS

OEC-967

TEST NUMBER	RATE NUMBER	AREA	DATE (DAY MO YR)	PAGE OF
DST 4		North Sea	29/12/81	1

CUSTOMER	WELL NAME OR NUMBER	STO GRAVITY (°API) @ 60°F	METER CALIBRATED WITH TANK DURING TEST
Esso Exploration	15/8-1	47.4	[X] YES [ ] NO GIVE DETAILS OF CALIBRATION

	DAY / TIME (24 hr CLOCK)	FLOW TIME (HOURS)	TOTAL OF FIELD METER READINGS #1 + #2 (BBLS)	VOLUME BY METER(S) SINCE LAST READING V_m (BBLS)	MEASURED CORRECTION FACTOR C_f, $C_f = M W_f$	METER FACTOR M	WEATHERING FACTOR W_f	OIL METER TEMP. (°F)	k FROM ASTM TABLES	BSW (%)	CORRECTED VOLUME $V_o = V_m C_f k (1 - BSW/100)$ (STO BBLS)	CORRECTED OIL FLOW RATE Q_o (STO BPD)	CORRECTED GAS FLOW RATE FROM GAS FLOW RATE CALC. FORM Q_g $\dot{M}$ (MSCF/D)	GOR ($\frac{MSCF}{STO\ BBL}$)	
1	0700	---	25.1		.90	-	-	52	.9911	-			18.99		1
2	0730	.50	68.4	43.3	.90			56	.9911	-	38.62	1853.9	19.19	10351	2
3	0800	1.00	111.3	42.9	.90			60	.9911	-	38.27	1836.8	19.06	10377	3
4	0830	1.50	152.8	41.5	.90			60	.9911	-	37.0	1776.8	19.26	10840	4
5	0900	2.00	194.2	41.4	.90			64	.9871	-	36.78	1765.4	19.29	10927	5
6	0930	2.5	236.5	42.3	.90			65	.9871	-	37.58	1803.8	19.23	10661	6
7	1000	3.0	279.4	42.9	.90			65	.9871	-	38.1	1829.4	19.13	10457	7
8	1030	3.5	321.3	41.9	.90			66	.9871	-	37.2	1786.7	19.58	10959	8
9	1100	4.0	364.5	43.2	.90			66	.9940	-	38.6	1855	19.40	10460	9
10	1130	4.5	406.1	41.6	.90			66	.9940	-	37.2	1786.3	19.86	11121	10
11	1200	5.0	479	42.9	.90			66	.9940	-	38.4	1842.2	19.53	10603	11
12	1230	5.5	492	43.0	.90			67	.9940		38.47	1846.5	19.65	10643	12
13	1300	6.0	535.4	43.4	.90			68	.9940		38.83	1863.6	19.77	10609	13
14	1330	6.5	579.6	44.2	.90			68	.9940		39.54	1898.0	19.65	10353	14
15															15
16															16
17															17
18															18
19															19

GAS FLOW RATE CALCULATIONS

OEC—862-B

TEST NUMBER	RATE NUMBER	AREA	WELL NAME OR NUMBER	DATE (DAY, MO, YR)	PAGE OF
DST 4		North Sea	15/8-1	29/12/81	1

CUSTOMER	STANDARD CONDITIONS	ATM. PRESS	P_c =	T_c =	GAS SPECIFIC GRAVITY-G
Esso Exploration	☐ 14.73 psi 60°F ☐ OTHER			MEAS. ☐ EST. ☐	.814

METER TYPE	METER RUN SIZE (INCHES)	FLOW RECORDER TYPE	h_w RANGE (INCHES WATER)	STATIC PRESS RANGE (psi)	F_U TABLE PREV. PAGE	$F_g = \sqrt{1/G}$	$C_1 = F_U \times F_g$
Daniels	5.761	Barton	0-300	0-1500	24	1.108	26.60

DAY / TIME (24 HR CLOCK)	FLOW TIME (HOURS)	STATIC PRESSURE P_f (psia)	DIFFERENTIAL PRESSURE h_w (INCHES WATER)	DOWN STREAM GAS TEMP. (°F)	$\sqrt{h_w P_f}$	ORIFICE SIZE d (INCHES)	$C_2 = F_b \times F_{tf} \times F_{pv} \times Y_2$				C_2	C ($C = C_1 \times C_2$)	CORRECTED GAS FLOW RATE $Q_g = C\sqrt{h_w P_f}$ MSCF/D
							F_b	F_{tf}	F_{pv}	Y_2			
1 0700	0	565	141	56	282.25	3.25	2276.5	1.0039	1.1052	1.0014	2529.29	67281.7	18.99
2 0730	0.50	585	140	60	286.18	3.25	2276.5	1.0000	1.1058	1.0014	2520.79	67055.8	19.19
3 0800	1.00	595	138	66	286.55	3.25	2276.5	.9943	1.1032	1.0013	2500.28	66510.1	19.06
4 0830	1.50	595	140	64	288.62	3.25	2276.5	.9962	1.1046	1.0013	2508.38	66725.5	19.26
5 0900	2.00	615	138	68	291.32	3.25	2276.5	.9924	1.1128	1.0013	2517.15	66230.6	19.29
6 0930	2.50	615	138	70	291.32	3.25	2276.5	.9905	1.1112	1.0013	2508.92	66014.0	19.23
7 1000	3.0	625	134	70	289.40	3.25	2276.5	.9905	1.1130	1.0012	2512.75	66114.7	19.13
8 1030	3.5	625	168	72	324.0	3.125	2086.4	.9887	1.1114	1.0016	2296.22	60417.5	19.58
9 1100	4.0	630	164	72	321.43	3.125	2086.4	.9887	1.1159	1.0015	2305.27	60366.09	19.40
10 1130	4.5	645	166	70	327.22	3.125	2086.4	.9905	1.1202	1.0015	2318.48	60712.17	19.86
11 1200	5.0	640	162	70	321.99	3.125	2086.4	.9905	1.1193	1.0015	2316.56	60661.74	19.53
12 1230	5.5	640	164	70	323.97	3.125	2086.4	.9905	1.1193	1.0015	2316.60	60662.85	19.65
13 1300	6.0	650	164	72	326.50	3.125	2086.4	.9887	1.1194	1.0015	2312.52	60556.12	19.77
14 1330	6.5	650	162	72	324.50	3.125	2086.4	.9887	1.1194	1.0015	2312.48	60555.03	19.65
15 0900		Gas gravity changed 0.832											
16 1100		Gas gravity changed 0.84											
17													
18													

BOTTOM HOLE PRESSURE REPORT

OEC-984

TEST NUMBER	RUN NUMBER	AREA	DEVIATED HOLE?	DATE (DAY MO. YR.)	PAGE OF
D.S.T. 4	1	NORTH SEA	☐ YES ☒ NO	29.12.81	1 | 4

CUSTOMER	WELL NAME OR NUMBER	INTERVAL TESTED (FT.)	KB ELEV. (FT.)	GRN ELEV. (FT.) / WATER DEPTH	REF. ELEV. (FT.)
ESSO EXPLORATION & PROD. NORWAY	SLEIPNER 15/8-1				R.T.K.B.

UPPER GAUGE

PRESS. ELEMENT NO.	PRESS. ELEMENT RANGE (PSI)	INNER HOUSING NO.	CHART TIME RANGE (HRS.)	CALIBRATION NO.	CALIBRATION MODULUS - K	CALIBRATION a + P_e	DEPTH SET (FEET)
34427	0 - 15000 PSI	38029	120 Hrs.	001	7597.53628	+ 115.2	

LOWER GAUGE

PRESS. ELEMENT NO.	PRESS. ELEMENT RANGE (PSI)	INNER HOUSING NO.	CHART TIME RANGE (HRS.)	CALIBRATION NO.	CALIBRATION MODULUS - K	CALIBRATION a + P_e	DEPTH SET (FEET)
30797	0 - 15000 PSI	10640	120 Hrs.	002	7694.2887	- 7.7	

BOTTOM HOLE PRESSURES

TIME		UPPER GAUGE				LOWER GAUGE				SURFACE CONDITIONS		REMARKS
DAY TIME (24 HR CLOCK)	FLOW OR SHUT-IN DURATION (HOURS)	TIME DEFLECTION (INCHES)	PRESSURE DEFLECTION Y (INCHES)	NON-LINEAR CORRECTION C_L * (PSI)	BOTTOM HOLE PRESSURE $P=KY+a+P_e+C_L$ (PSIG)	TIME DEFLECTION (INCHES)	PRESSURE DEFLECTION Y (INCHES)	NON-LINEAR CORRECTION C_L * (PSI)	BOTTOM HOLE PRESSURE $P=KY+a+P_e+C_L$ (PSIG)	WELLHEAD PRESSURE ☐ DWT (PSIG)	CHOKE SIZE (64th INCH)	
		0	0.891	0	6885	0	0.873	0	6709			1 INITIAL HYDROSTATIC.
02.32		0	0.712	0	5525	0	0.707	0	5432			2 OPEN APR-N.
02.51		0	0.712	0	5525	0	0.707	0	5432			3 SHUT IN APR-N.
		0	0.838	0	6482	0	0.831	0	6386			4 INITIAL BUILD UP.
04.53		0.081	0.838	0	6482	0.081	0.832	0	6394			5 END OF BUILD UP.
04.53		0.081	0.836	0	6467	0.081	0.829	0	6371			6 OPEN APR-N.
05.14		0.096	0.836	0	6467	0.095	0.829	0	6371		32 A	7 OPEN THROUGH CHOKE.
05.15		0.097	0.672	0	5221	0.096	0.699	0	5371	-	32 A	8
05.16		0.097	0.672	0	5221	0.097	0.662	0	5086	-	32 A	9
05.17		0.098	0.660	0	5130	0.097	0.662	0	5086	575	32 A	10
05.18		0.098	0.660	0	5130	0.098	0.622	0	4778	-	32 A	11
05.19		0.099	0.640	0	4978	0.099	0.612	0	4701	-	32 A	12
05.20		0.100	0.629	0	4894	0.099	0.612	0	4701	675	32 A	13
05.21		0.101	0.620	0	4826	0.100	0.532	0	4086	-	32 A	14
05.22		0.101	0.620	0	4826	0.101	0.532	0	4086			15

BOTTOM HOLE PRESSURE REPORT

OEC-984

TEST NUMBER	RUN NUMBER	AREA	DEVIATED HOLE?	DATE (DAY MO. YR.)	PAGE OF
D.S.T. 4	1	NORTH SEA	☐ YES ☒ NO	29.12.81	2 | 4

CUSTOMER	WELL NAME OR NUMBER	INTERVAL TESTED (FT.)	KB ELEV. (FT.)	GRN ELEV. (FT.) / WATER DEPTH	REF. ELEV. (FT.)
ESSO EXPLORATION & PROD. NORWAY	SLEIPNER 15/8-1				R.T.K.B.

UPPER GAUGE

PRESS. ELEMENT NO.	PRESS. ELEMENT RANGE (PSI)	INNER HOUSING NO.	CHART TIME RANGE (HRS.)	CALIBRATION NO.	CALIBRATION MODULUS - K	CALIBRATION a + P_a	DEPTH SET (FEET)
34427	0 - 15000 PSI	38029	120 Hrs.	001	7597.53628	+ 115.2	

LOWER GAUGE

PRESS. ELEMENT NO.	PRESS. ELEMENT RANGE (PSI)	INNER HOUSING NO.	CHART TIME RANGE (HRS.)	CALIBRATION NO.	CALIBRATION MODULUS - K	CALIBRATION a + P_a	DEPTH SET (FEET)
30797	0 - 15000 PSI	10640	120 Hrs.	002	7694.2887	- 7.7	

BOTTOM HOLE PRESSURES

TIME		UPPER GAUGE				LOWER GAUGE				SURFACE CONDITIONS		REMARKS
DAY / TIME (24 HR CLOCK)	FLOW OR SHUT-IN DURATION (HOURS)	TIME DEFLECTION (INCHES)	PRESSURE DEFLECTION Y (INCHES)	NON-LINEAR CORRECTION C_L * (PSI)	BOTTOM HOLE PRESSURE $P=KY+a+P_a+C_L$ (PSIG)	TIME DEFLECTION (INCHES)	PRESSURE DEFLECTION Y (INCHES)	NON-LINEAR CORRECTION C_L * (PSI)	BOTTOM HOLE PRESSURE $P=KY+a+P_a+C_L$ (PSIG)	WELLHEAD PRESSURE ☐ DWT (PSIG)	CHOKE SIZE (64th INCH)	
05.25		0.104	0.631	0	4909	0.103	0.622	0	4778	-	32 A	
05.30		0.108	0.647	0	5031	0.106	0.638	0	4901	-	32 P	
05.35		0.111	0.625	0	4868	0.110	0.619	0	4755	2200	32 P	
05.40		0.114	0.611	0	4757	0.113	0.598	0	4593	-	32 P	
05.45		0.118	0.547	0	4271	0.117	0.532	0	4086	-	32 P	
05.50		0.121	0.561	0	4377	0.120	0.540	0	4147	-	56 A	
05.55		0.125	0.572	0	4461	0.123	0.553	0	4247	-	56 A	
06.00		0.128	0.577	0	4499	0.127	0.559	0	4293	1249	56 P	
06.15		0.138	0.587	0	4575	0.137	0.571	0	4386	1282	56 P	
06.30		0.148	0.591	0	4605	0.148	0.577	0	4432	1458	56 P	
06.45		0.158	0.592	0	4613	0.158	0.578	0	4440	1480	56 P	
07.00		0.168	0.596	0	4643	0.168	0.583	0	4478	1492	56 P	
07.30		0.189	0.597	0	4651	0.189	0.584	0	4486	1506	56 P	
08.00		0.209	0.601	0	4681	0.209	0.587	0	4509	1515	56 P	

BOTTOM HOLE PRESSURE REPORT

OEC-984

TEST NUMBER	RUN NUMBER	AREA	DEVIATED HOLE?	DATE (DAY MO. YR.)	PAGE OF
D.S.T. 4	1	NORTH SEA	YES [X] NO	29.12.81	3 | 4

CUSTOMER	WELL NAME OR NUMBER	INTERVAL TESTED (FT.)	KB ELEV. (FT.)	GRN ELEV. (FT.) / WATER DEPTH	REF. ELEV. (FT.)
ESSO EXPLORATION & PROD. NORWAY	SLEIPNER 15/8-1				R.T.K.B.

UPPER GAUGE

PRESS. ELEMENT NO.	PRESS. ELEMENT RANGE (PSI)	INNER HOUSING NO.	CHART TIME RANGE (HRS.)	CALIBRATION NO.	CALIBRATION MODULUS - K	CALIBRATION a + P_a	DEPTH SET (FEET)
34427	0 - 15000 PSI	38029	120 Hrs.	001	7597.53628	+ 115.2	

LOWER GAUGE

PRESS. ELEMENT NO.	PRESS. ELEMENT RANGE (PSI)	INNER HOUSING NO.	CHART TIME RANGE (HRS.)	CALIBRATION NO.	CALIBRATION MODULUS - K	CALIBRATION a + P_a	DEPTH SET (FEET)
30797	0 - 15000 PSI	10640	120 Hrs.	002	7694.2887	- 7.7	

BOTTOM HOLE PRESSURES

TIME		UPPER GAUGE				LOWER GAUGE				SURFACE CONDITIONS		REMARKS
DAY TIME (HR CLOCK)	FLOW OR SHUT-IN DURATION (HOURS)	TIME DEFLECTION (INCHES)	PRESSURE DEFLECTION Y (INCHES)	NON-LINEAR CORRECTION C_L * (PSI)	BOTTOM HOLE PRESSURE $P=KY+a+P_a+C_L$ (PSIG)	TIME DEFLECTION (INCHES)	PRESSURE DEFLECTION Y (INCHES)	NON-LINEAR CORRECTION C_L * (PSI)	BOTTOM HOLE PRESSURE $P=KY+a+P_a+C_L$ (PSIG)	WELLHEAD PRESSURE ☐ DWT (PSIG)	CHOKE SIZE (64th INCH)	
09.00		0.249	0.602	0	4689	0.250	0.590	0	4532	1532	56 P	
10.00		0.290	0.604	0	4704	0.291	0.595	0	4570	1546	56 P	
11.00		0.330	0.607	0	4727	0.332	0.597	0	4586	1551	56 P	
12.00		0.371	0.612	0	4765	0.373	0.599	0	4601	1558	56 P	
13.00		0.411	0.618	0	4810	0.415	0.602	0	4624	1565	56 P	
13.37		0.435	0.619	0	4818	0.440	0.603	0	4632	-	56 P	SHUT CHOKE MANIFOLD.
13.38		0.437	0.706	0	5479	0.442	0.711	0	5463	-	-	COMMENCE FINAL BUILD UP.
13.39		0.440	0.789	0	6110	0.444	0.774	0	5948	-	-	
13.40		0.442	0.809	0	6262	0.447	0.806	0	6194	3320	-	SHUT APR-N.
13.45		0.453	0.836	0	6467	0.458	0.821	0	6309	-	-	
13.50		0.465	0.837	0	6474	0.469	0.827	0	6355	-	-	
13.55		0.476	0.838	0	6482	0.480	0.828	0	6363	-	-	
14.00		0.487	0.838	0	6482	0.491	0.830	0	6379	4409	-	
04.15		0.521	0.838	0	6482	0.525	0.832	0	6394	-	-	

BOTTOM HOLE PRESSURE REPORT

OEC-984

TEST NUMBER	RUN NUMBER	AREA	DEVIATED HOLE?	DATE (DAY MO. YR.)	PAGE	OF
D.S.T. 4	1	NORTH SEA	YES [ ] NO [X]	29.12.81	4	4

CUSTOMER	WELL NAME OR NUMBER	INTERVAL TESTED (FT.)	KB ELEV. (FT.)	GRN ELEV. (FT.) / WATER DEPTH	REF. ELEV. (FT.)
ESSO EXPLORATION & PROD. NORWAY	SLEIPNER 15/8-1				R.T.K.B.

UPPER GAUGE

PRESS. ELEMENT NO.	PRESS. ELEMENT RANGE (PSI)	INNER HOUSING NO.	CHART TIME RANGE (HRS.)	CALIBRATION NO.	CALIBRATION MODULUS - K	CALIBRATION a + P_e	DEPTH SET (FEET)
34427	0 - 15000 PSI	38029	120 Hrs.	001	7597.53628	+ 115.2	

LOWER GAUGE

PRESS. ELEMENT NO.	PRESS. ELEMENT RANGE (PSI)	INNER HOUSING NO.	CHART TIME RANGE (HRS.)	CALIBRATION NO.	CALIBRATION MODULUS - K	CALIBRATION a + P_e	DEPTH SET (FEET)
30797	0 - 15000 PSI	10640	120 Hrs.	002	7694.2887	- 7.7	

BOTTOM HOLE PRESSURES

	TIME		UPPER GAUGE				LOWER GAUGE				SURFACE CONDITIONS		REMARKS
	DAY / TIME (24 HR. CLOCK)	FLOW OR SHUT-IN DURATION (HOURS)	TIME DEFLECTION (INCHES)	PRESSURE DEFLECTION Y (INCHES)	NON-LINEAR CORRECTION C_L * (PSI)	BOTTOM HOLE PRESSURE $P=KY+a+P_e+C_L$ (PSIG)	TIME DEFLECTION (INCHES)	PRESSURE DEFLECTION Y (INCHES)	NON-LINEAR CORRECTION C_L * (PSI)	BOTTOM HOLE PRESSURE $P=KY+a+P_e+C_L$ (PSIG)	WELLHEAD PRESSURE ☐ DWT (PSIG)	CHOKE SIZE (64th INCH)	
1	14.45		0.589	0.840	0	6497	0.592	0.832	0	6394	-	-	1
2	15.00		0.623	0.840	0	6497	0.625	0.832	0	6394	4415	-	2
3	15.30		0.691	0.841	0	6505	0.692	0.832	0	6394	-	-	3
4	16.00		0.759	0.842	0	6512	0.759	0.832	0	6394	4410	-	4
5	16.30		0.827	0.842	0	6512	0.826	0.832	0	6394	-	-	5
6	17.00		0.895	0.842	0	6512	0.89	0.832	0	6394	4404	-	6
7	18.00		1.031	0.842	0	6512	1.028	0.832	0	6394	4401	-	7
8	19.00		1.166	0.842	0	6512	1.162	0.832	0	6394	4375	-	8
9	20.00		1.302	0.842	0	6512	1.297	0.832	0	6394	4355	-	9
10	21.00		1.404	0.842	0	6512	1.431	0.832	0	6394	4342	-	10
11	21.35		1.488	0.842	0	6512	1.509	0.832	0	6394	-	-	FINAL BUILD UP COMPLETE. 11
12						COMMENCE KILL WELL. 12							12
13						D.S.T. 4 COMPLETE. 13							13
14						14							14
15						15							15