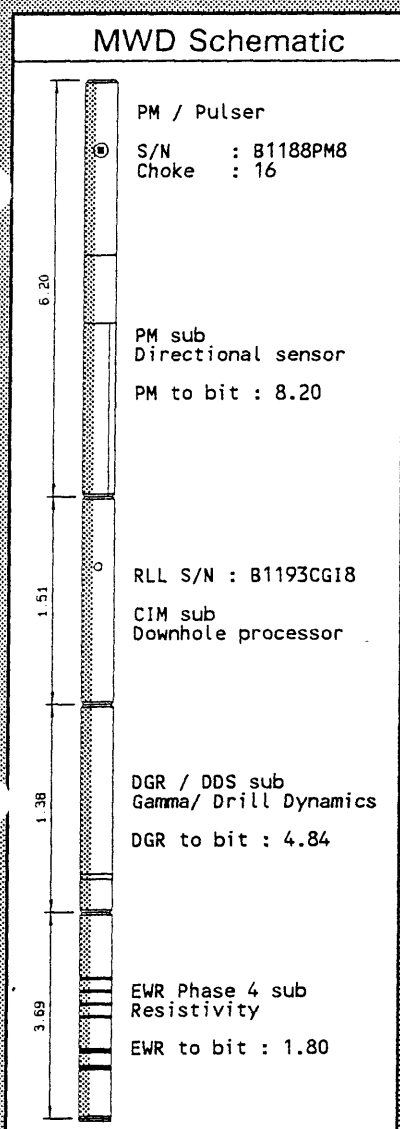


Bitrun Summary

MWD Run Time Data	Drilling Data	Mud Data
MWD Run : 15	Start Depth: 2846.0 m	Mud type : GYPSUM
Rig Bit : 21	End Depth : 2846.0 m	Weight/Visc: 1.35 / 66.0
Hole Size: 12.25 in	Footage : 0.0 m	Chlorides : 5400
Run Start: 08:00 08-AUG-95	Flow Rate : 0.00 lpm	PV / YP : 25 / 18
Run End : 03:51 09-AUG-95	R.P.M. : 0	Solids/Sand: 14.8 / 0.00
BRT hrs : 19.85	W.O.B. : 0 T	%Oil/ O:W : 0 / 00:100
Circ.hrs : 13.22	R.O.P. : 0 m/hr	
Oper.hrs : 20.02	S.P.P : 0 bar	



BHA Schematic

	Component	Length	O.D.	I.D.
13	13. DART SUB	0.70	6.500	2.250
12	12. 15*HWDP	136.42	5.000	2.500
11	11. X/O	1.10	8.000	2.813
10	10. 2*DC	18.45	8.000	2.813
9	9. JAR	10.68	7.750	2.750
8	8. 11*DC	101.23	8.000	2.813
7	7. STABILIZER	1.85	12.250	2.813
6	6. DC	9.00	8.000	2.813
5	5. STABILIZER	1.76	12.250	2.875
4	4. FLOAT SUB	0.52	8.000	2.875
3	3. MPT-TOOL	6.28	8.000	
2	2. RLL-TOOL	6.59	8.000	1.920
1	1. ATX63#B09CK	0.30	12.250	

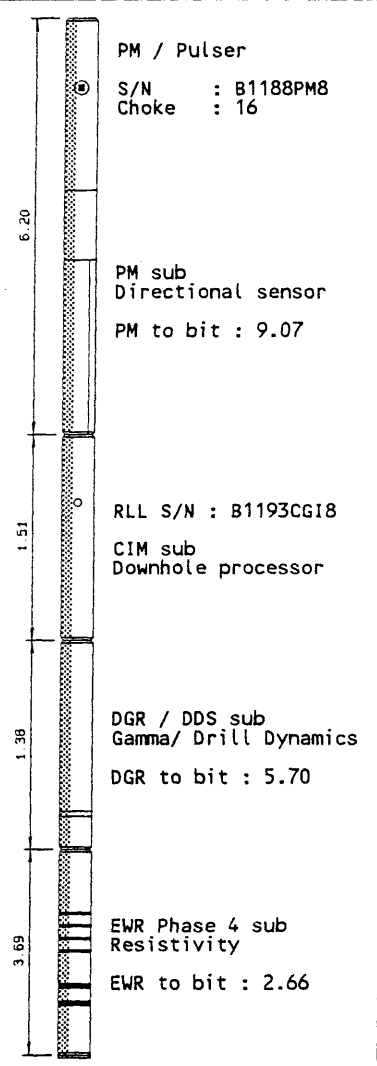
Comments	MWD Performance
CLEANUP TRIP ONLY. NO LOG REQUESTED.	Max. Temp. : 83.0 deg C Survey/ TF%: 100 / 0 DGR RT/Rec%: 0 / 0 EWR RT/Rec%: 0 / 0 CNP RT/Rec%: 0 / 0 SFD RT/Rec%: 0 / 0 SLD RT/Rec%: 0 / 0

Bitrun Summary

sperry-sun
DRILLING SERVICES

MWD Run Time Data	Drilling Data	Mud Data
MWD Run : 16	Start Depth: 2846.0 m	Mud type : GYPSUM
Rig Bit : 21	End Depth : 2849.0 m	Weight/Visc: 1.35 / 62.0
Hole Size: 12.25 in	Footage : 3.0 m	Chlorides : 5600
Run Start: 23:03 09-AUG-95	Flow Rate : 2850.00 lpm	PV / YP : 24 / 15
Run End : 16:00 10-AUG-95	R.P.M. : 90	Solids/Sand: 14.8 / 0.00
BRT hrs : 16.95	W.O.B. : 25 T	%Oil/ O:W : 0 / 00:100
Circ.hrs : 6.59	R.O.P. : 1 m/hr	
Oper.hrs : 17.12	S.P.P : 230 bar	

MWD Schematic



BHA Schematic

	Component	Length	O.D.	I.D.
14	14. DART SUB	0.70	6.500	2.250
13	13. 15*HWDP	136.42	5.000	2.500
12	12. X/O	1.10	8.000	2.813
11	11. 2*DC	18.45	8.000	2.813
10	10. JAR	10.68	7.750	2.750
9	9. 11*DC	101.23	8.000	2.813
8	8. STABILIZER	1.85	12.250	2.813
7	7. DC	9.00	8.000	2.813
6	6. STABILIZER	1.76	12.250	2.875
5	5. FLOAT SUB	0.52	8.000	2.875
4	4. MPT-TOOL	6.28	8.000	
3	3. RLL-TOOL	6.59	8.000	1.920
2	2. JUNK SUB	0.82	7.750	3.500
1	1. READ EHP 51 HL	0.34	12.250	

Comments	MWD Performance
DRILLED 3 METERS. THEN POOH. WELL PLUG AND ABAND.	Max. Temp. : 84.0 deg C Survey/ TF%: 100 / 0 DGR RT/Rec%: 100 / 100 EWR RT/Rec%: 100 / 100 CNP RT/Rec%: 0 / 0 SFD RT/Rec%: 0 / 0 SLD RT/Rec%: 0 / 0

**Norway
WELL 17/3-1**

**Geochemical study of Jurassic
source rocks and MDT samples**

3A-96-557-1

Exploration

Département Genèse et Dynamique Pétrolière

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TABLES

WELL 17/3-1
Reflectance-fluorescence maturation data

depth (m)	samp. type	REFLECTANCE								FLUO.		
		VRo%	S.D.	N.M.	Q.	XRo%	S.D.	N.M.	Q.	eqVRo%	object	Q.
1550		0.45	0.05	30	I					0.45/0.50	Bc	L
1650		0.49	0.06	30	I					0.5	Bc	L
1750		0.51	0.08	28	I					0.5/0.6	Tas/Bc	M
1850		0.53	0.07	30	I					0.5/0.6	Tas/Bc	M
1950		0.61	0.04	29	I					0.5	Tas/Bc	I
2050		0.61	0.04	30	I					0.5	Tas/Bc	I
2150		0.6	0.06	30	I					0.5/0.55	Tas/Bc	I
2250		0.62	0.05	30	I					0.5/0.55	Tas	I
2336	SWC	0.62	0.04	30	I					0.55	Tas	I
2358	SWC	0.63	0.06	30	I					0.65	Bc	M
2377.8	SWC	0.76	0.11	30	L							
2394.6	K2	0.65	0.04	29	I					0.65/0.70	Bc	M
2406.6	K3	0.64	0.03	30	I					0.65/0.70	Bc	L
2408.85	K3	0.64	0.02	30	I							
2415.6315.66	K3	0.67	0.03	30	I							
2430.7	SWC	0.71	0.06	28	I					0.65/0.70	Bc	M
2480		0.76	0.03	30	I					0.75	Bc	L
2565		0.73	0.03	29	I							
2590		0.7	0.05	30	M							
2650		0.79	0.07	50	I					0.75/0.80	Bc	L
2725		0.79	0.04	30	I					0.75	Bc	M
2800		0.75	0.04	40	M							

VRo% = vitrinite reflectance

S.D. = standard deviation

N.M. = number of measurements

Q. = reliability of values (based on size, aspect, abundance, homogeneity of used particles ..) : (I=important, M=medium, L=low)

XRo% = reflectance determined on : V=second pop. of vitrinite, B=bitumen, BA=anisotropic bitumen, XX=undetermined particles

eqVRo% = équivalent VRo% by visual estimation of fluorescence colors

object = nature of the particles used for fluorescence estimations (Tas=Tasmanacea, Bc=Botryococcus, Al=alginite, Grd=groundmass)



Well 17/3-1
Geochemical analytical results (TOC-Rock Eval-Vitrinite reflectivity-DX mineralogy)

SAMPLE			DEPTH m	LITHO	TOC %	ROCK EVAL ANALYSIS							VR		DX MINERALOGICAL COMP.							
Lab ref	Type					Tmax °C	S1	S2	S1+S2	S3	PI	HI	OI	Ro %	Alb %	Ort %	Anh %	Qrz %	Cal %	Dol %	Sid %	ND %
B76445	SWC		2324.00	Sh dk gr	9.51	429	3.34	38.57	41.91	0.57	0.08	406	6		0	0	2	21	12	3	0	62
B76446	SWC		2324.40	Sh dk gr	9.19	430	2.77	34.45	37.22	0.66	0.07	375	7		0	0	0	22	4	4	0	70
B76447	SWC		2326.00	Sh dk gr	6.97	429	2.08	25.96	28.04	0.42	0.07	372	6		0	0	2	19	3	3	0	73
B76448	SWC		2328.00	Sh dk gr	10.14	428	3.55	40.07	43.62	0.81	0.08	395	8		0	0	2	22	12	3	0	61
B76449	SWC		2330.00	Sh dk gr	8.57	430	3.03	37.23	40.26	0.62	0.08	434	7		0	0	2	22	11	3	1	61
B76450	SWC		2330.60	Sh dk gr	8.94	424	3.24	36.16	39.40	0.76	0.08	404	9		0	0	0	21	5	4	1	69
B76451	SWC		2332.60	Sh dk gr	5.16	432	1.41	22.24	23.65	0.46	0.06	431	9		0	0	0	19	3	3	1	74
B76452	SWC		2336.00	Sh dk gr	6.01	434	1.65	26.31	27.96	0.61	0.06	438	10	0.63	0	0	0	21	0	3	1	75
B76453	SWC		2338.20	Sh dk gr	6.34	433	1.69	20.88	22.57	0.58	0.07	329	9		0	0	0	14	2	4	1	79
				Average	7.87	430	2.53	31.32	33.85	0.61	0.07	398	8									
				deviation	1.67	3	0.78	7.01	7.77	0.12	0.01	33	1									
B76454	SWC		2342.30	Sh dk gr	3.43	436	0.71	9.43	10.14	0.32	0.07	275	9		0	0	0	11	2	0	0	87
B76455	SWC		2345.20	Sh dk gr	3.96	436	0.80	8.69	9.49	0.62	0.08	219	16		0	0	2	11	3	3	0	81
B76456	SWC		2348.70	Sh dk gr	4.75	435	0.95	16.03	16.98	0.19	0.06	337	4		0	0	0	14	2	2	0	82
B76457	SWC		2351.00	Sh dk gr	3.92	437	0.69	7.77	8.46	0.44	0.08	198	11		0	0	0	14	0	3	0	83
B76458	SWC		2358.00	Sh dk gr	7.47	436	1.02	14.44	15.46	0.34	0.07	193	5	0.63	0	0	0	17	0	2	1	80
B76459	SWC		2362.00	Sh dk gr	10.36	432	1.47	24.67	26.14	0.32	0.06	238	3		0	0	0	15	2	3	0	80
B76460	SWC		2368.30	Sh dk gr	4.67	438	0.71	8.08	8.79	0.52	0.08	173	11		0	0	0	23	2	5	0	70
B76461	SWC		2370.00	Sh dk gr	7.68	433	1.17	16.12	17.29	0.43	0.07	210	6		0	0	0	26	2	2	1	69
B76462	SWC		2373.60	Sh dk gr	2.62	442	0.35	1.73	2.08	0.75	0.17	66	29		0	0	0	21	12	3	0	64
B76463	SWC		2375.00	Sh dk gr	3.37	439	0.60	3.13	3.73	0.63	0.16	93	19		0	0	0	21	3	2	0	74
B76464	SWC		2377.80	Sh dk gr	3.84	430	0.62	4.55	5.17	0.42	0.12	118	11	0.76	1	0	0	18	3	2	1	75
B76465	SWC		2379.20	Sh dk gr	2.32	442	0.27	1.67	1.94	0.50	0.14	72	22		0	0	0	15	13	2	1	69
B76466	SWC		2384.50	Sh dk gr	1.12	431	0.20	1.47	1.67	0.20	0.12	131	18		1	0	0	16	0	0	0	83
				Average	4.58	436	0.74	9.06	9.80	0.44	0.10	179	13									
				deviation	2.43	4	0.34	6.77	7.10	0.16	0.04	78	7									
B76692	K1		2388.50	Sandst	0.24		0.09	0.39	0.48	0.86	0.19				2	0	2	67	4	4	0	21
B76693	K2		2392.30	Sandst	0.28		0.19	0.48	0.67	1.12	0.28				2	0	3	67	3	5	0	20
B76694	K2		2394.60	Coaly sh	16.77	435	4.27	39.38	43.65	0.00	0.10	235	0	0.65	0	0	0	4	0	2	0	94
B76695	K2		2396.90	Sandst	0.12		0.07	0.30	0.37	0.34	0.19				0	0	3	89	2	0	0	6
B76696	K2		2399.50	Sandst	0.28		0.35	0.84	1.19	0.23	0.29				0	0	3	83	0	0	0	14
B76697	K3		2401.80	Sandst	0.22		0.19	1.18	1.37	0.44	0.14				0	0	0	82	2	0	0	16
B76698	K3		2404.50	Sandst	0.18		0.09	0.30	0.39	1.40	0.23				0	0	0	66	19	5	0	10
B76699	K3		2406.60	Coaly sh	11.11	434	2.58	20.00	22.58	0.00	0.11	180	0	0.64	0	0	0	11	2	0	0	87
B76700	K3		2408.85	Coal	64.19	437	21.27	135.06	156.33	1.31	0.14	210	2	0.64	0	0	2	12	2	0	0	84
B76701	K3		2409.05	Sandst	0.71		0.22	0.67	0.89	0.24	0.25				0	0	3	79	2	0	0	16
B76702	K3		2415.63	Coal	70.51	437	21.48	170.64	192.12	1.17	0.11	242	2	0.67	0	0	0	1	0	0	0	99
B76467	SWC		2430.70	Sh dk gr	1.64	434	0.41	2.36	2.77	1.06	0.15	144	65	0.70	0	0	0	17	2	0	2	79

EPI/EXP/TIS 95-519RP/GO

Well 17/3-1
Analytical results of MDT gas samples

Lab reference	B76765	B76766
Sampling device	MDT	MDT
Sample type recovered	Gas	Water
Depth (m)	2388.4	2406.1

Reservoir lithology	sandstone	sandstone
GROSS COMPOSITION		
N2	4.78	7.36
CO2	0.58	3.02
C1	85.36	88.89
C2	2.62	0.73
C3	4.45	na
iC4	0.78	na
nC4	1.20	na
iC5	0.17	na
nC5	0.07	na
MOLECULAR RATIOS		
C1/C1-C4	0.90	0.99
C1/C2+C3	12.07	na
iC4/nC4	0.65	na
iC5/nC5	2.43	na
CARBON ISOTOPES (‰ PDB)		
Delta C of C1	-62.2	-61.3
Delta C of C2	-45.0	-45.1
Delta C of C3	-34.3	-35.6
Delta C of iC4	-32.4	-33.7
Delta C of nC4	-32.7	-33.9
Delta C of iC5	-31.1	na
Delta C of nC5	-32.9	na
Delta C of CO2		
HYDROGEN ISOTOPES (‰ SMOW)		
Delta D of C1	-202.0	-203.0
OXYGEN ISOTOPES (‰ SMOW)		
Delta O of CO2	na	29.1

**Well 17/3-1 MDT Gas condensate
Analytical results**

Lab reference	B76765	Carbon isotope composition					
Sample	MDT	Whole oil	-26.9				
Nature of fluid	Gas cond.	Topped oil	-26.0				
Depth (m)	2388.4	C15+ saturates	-27.4				
		C15+ aromatics	-26.0				
Reservoir lithology	Sandstone						
Bulk properties of whole oil		Carbon isotope of individual HC (whole oil)					
API gravity	nd	Ref	Components	Delta C	Ref	Components	
% Sulphur	0.017	1	iC4		37	2MNon	
% Residue of distillation	23.77	2	nC4		38	o-EtTol	
Gross composition of whole oil		3	iC5		39	3,6DMOct	
% Distillate	76.23	4	nC5		40	IPC10	
% "C15+" Saturated HC	16.69	5	CYPent		41	nC10	
% "C15+" Aromatic HC	6.19	6	2,3DMBut		42	4MC10	
% Resins	0.89	7	2MPent	-28.60	43	IPC11	
% Asphaltenes	0.00	8	3MPent	-28.16	44	nC11	
Gross composition of oil residue		9	nC6	-30.03	45	4MC11	
% "C15+" Saturated HC	70.22	10	MCP	-25.54	46	IPC12	
% "C15+" Aromatic HC	26.03	11	Bz	-30.33	47	nC12	
% Resins	3.75	12	CH	-27.81	48	IPC13	
% Asphaltenes	0.00	13	2MHex	-28.90	49	IPC14	
Saturates/Aromatics	2.70	14	3MHex	-28.52	50	nC13	
% Hydrocarbons	96.25	15	1,3 trDMCyPent	-22.65	51	IPC15	
% n-alkanes (in saturates)	17.01	16	1,3 ciDMCyPent	-22.52	52	nC14	
CPI (C20 to C30)	1.16	17	1,2 trDMCyPent	-25.82	53	IPC16	
GC ratios on C15-		18	nC7	-28.74	54	nC15	
nC6/MCP	0.99	19	MCH	-25.71	55	nC16	
nC7/DMCP	1.88	20	Tol	-28.54	56	IPC18	
nC7/Toluene	1.77	21	2MHept	-25.48	57	nC17	
GC ratios on C15+		22	3MHept	-26.44	58	Pr	
Pr/Ph	4.63	23	1tr2DMCHex	-25.71	59	nC18	
Pr/nC17 (A)	1.19	24	nC8	-26.94	60	Ph	
Ph/nC18 (B)	0.42	25	n-PrCyPent	-24.64	61	nC19	
A/B	2.82	26	1-cis-2 DMCyHex		62	nC20	
MNR	1.43	27	1,1,3 TMCyHex		63	nC21	
DNR	11.58	28	EtBz	-24.35	64	nC22	
TNR	na	29	p+m-Xyl	-25.48	65	nC23	
MPI1	1.61	30	2MOct		66	nC24	
MPI2	-2.93	31	3MOct		67	nC25	
MPI3	3.04	32	o-Xyl		68	nC26	
MP_P	2.21	33	nC9	-26.22	69	nC27	
MPR	9.94	34	TeBuCyPent		70	nC28	
MDBT11	na	35	SeBuCyPent		71	nC29	
MDBT13	na	36	n-PrCyHex		72	nC30	
Gas gross composition		Gas isotope composition					
% C1	85.36	C1	-62.2	δH C1		na	
% C2	2.62	C2	-45.0				
% C3	4.45	C3	-34.3				
% iC4	0.78	iC4	-32.4				
% nC4	1.20	nC4	-32.7				
% iC5	0.17	iC5	-31.1				
% nC5	0.07	nC5	-32.9				
% CO2	0.58	CO2	na	δO CO2		na	
% N2	4.78						
% H2S	nd						
C1/C1-C4	0.90						
C1/C2+C3	12.07						
iC4/nC4	0.17						
iC5/nC5	2.43						