

#### 4. FMT SURVEY

In the original plan the Reservoir Characterization Instrument (RCI) was intended used to obtain pressure and fluid samples from the Upper Jurassic reservoir. However, due to lack of hydrocarbon indicators during the coring and logging operations, a FMT tool was run instead to confirm water gradient and secure a water sample for further analysis.

Total 6 pressure points were taken  
In addition two water samples were collected  
Table 3.2 below.

In  
The data is listed in

Table 3.2

Depth MD-RKB	Depth TVD-RKB	Pressure Bara	Fluid & Sample Type
1368m	1368m	137	
1367m	1367m	137	
1359m	1359m	136	Water; 1X4liter + 1X10liter
1295m	1295m	130	
1272m	1272m	127	
1247m	1247m	125	

The measured pressures reflect a perfect water gradient of 0.10 bar/m through the interval. Permeabilities ranging from 200 to 800 MD are indicated from the formation tests and are in good agreement with the core analysis results.

**Table 3.1**

32/4-1-T2 WIRELINE + LWD LOGGING SUMMARY										
Tool String	Run No.	Log Date	Top Logged Interval	Bottom Logged Interval	Bit Size	BHT DegC	Hours Since Circ.	Mud Weight g/cc	Mud Type	Remarks
MWD/LWD; DGR/EWR4		1 Nov 96	399 m	3132 m					KCL/ Drispac/ Glycol	Resistivity/GR/Dir run in 17.5", 12.25" and 8.5" sections
DLL/MLL /MAC/ORIT/DSL	1:1	5 Nov 96	708 m	1138 m	12.25 in.	32	6	1.09	KCL/ Drispac/ Glycol	Caliper from MLL Anomalous SP log Delta T from downlog
DLL/MLL /MAC/ORIT /CN/ZDL/DSL	2:1	27 Nov 96	1137 m	3155 m	8.5 in.	83.3	15.2	1.16	KCL/ Drispac/ Glycol	Anomalous SP log Speed problem; no waveforms 3155-1900 m Delta T from down log ZDL and caliper failed from TD (tool rerun) CBL (w/ MAC) run in 9 5/8" csg. for TOC
VSP/GR	2:1	28 Nov 96	670 m	3170 m	8.5 in. casing		25.5	1.16	KCL/ Drispac/ Glycol	
ZDL/GR	2:1	28 Nov 96	1137 m	3164 m	8.5 in.	47.7	7.5	1.16	KCL/ Drispac/ Glycol	Rerun due to failure in main string. Tag up in washout at 1160m, succesful after 5 attempts and wiper trip
FMT/GR	2:1	28 Nov 96	1247 m	1367 m	8.5 in.	47.7	16.3	1.16	KCL/ Drispac/ Glycol	Pressures: 6 attempted, 6 successful 2 watersamples: 1x10 liter and 1x4 liter
SWC/GR										Failed to RIH due to restriction at 1199m

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 DRILL CONTRACTOR: TRANSOCEAN DRILLING

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 RIG NAME: TRANSOCEAN NO.8

Day #	Depth	Hole Sect.	IN/OUT	Mud Type	MW	Visc	PV	YP	Gels	WL	HPHT	pH	Cl-	Sand	TS	LGS	MBT	%Oil	Tot. Hard.	Tot. Vol.
5	352	00MMIR	IN	SPUD MU	1030.0	98						9.5	1600		2					232
6	395	05C1DR	OUT	SPUD MU	1200.0							9.5			13	331.0			900	129
7	396	05C1DR	OUT	SPUD MU	1200.0	60	8	20		25.0		12.0	2000		7		50.0		1200	58
8	396	05C1DR	OUT	SPUD MU	1200.0	80	2	42	25	25.0		10.5	1300		7		50.0			247
9	556	05C1DR	OUT	SPUD MU	1200.0	80	2	42		25.0		9.4	1300		7	50.0	50.0		20	291
10	723	05C1DR	OUT	SPUD MU	1200.0	80	2	42		25.0		9.3	1300		7		50.0		40	83
11	723	05C1DR	OUT	SPUD MU	1200.0	84	3	40		25.0		9.0	1300		7	50.0	50.0		40	90
12	723	05C1DR	OUT	SPUD MU	1200.0	84		40		25.0		9.0	1300		7		50.0		60	90
13	370	05C1DR	IN	Native	1100.0	96						10.0	950		2		50.0			279
14	399	05C1DR	IN	Native	1200.0	80	2	42		25.0		9.4	1300		7	50.0	50.0		40	222
15	399	05C1RC	OTH	Native	1200.0	86	4	39		25.0		9.5	1300		7	36.0	50.0		4	251
16	720	35I2DR	IN	Native	1200.0	85	8	35	5/ 19/ 26	7.0		8.7	1200		7	36.0	50.0		160	217
	720		OTH	Native	1200.0	88	7	36	5/ 20/ 26	6.6		8.8	1200		7	36.0	50.0		160	217
7	720	35I2RC	OTH	Native	1200.0	86	7	35	5/ 20/	6.8		8.8	1200		7	36.0	50.0		160	69
18	720	40I3DR	OTH	KCL/DRI	1200.0	86	35	31	6/ 8/	12.0		8.4	56000		7	13.0			40	205
19	720	40I3DR	OTH	KCL/DRI	1100.0	85	33	19	4/ 6/	12.0		8.5	56000		6	90.0			60	259
	723		IN	KCL/DRI	1100.0	86	30	20	4/ 8/ 10	7.0		10.0	42000		5	73.0			60	259
20	900	40I3DR	OUT	KCL/DRI	1100.0	100	26	19	4/ 5/ 5	7.0		9.0	42000		5	73.0			200	372
	1,153		OUT	KCL/DRI	1100.0	100	21	11	3/ 4/ 4	6.0		8.4	55000		6	91.0			160	372
	1,153		IN	KCL/DRI	1100.0	67	21	11	3/ 4/ 4	6.6		84.0	55000		6	91.0			240	372
21	1,153	40I3EV	IN	KCL/DRI	1100.0	100	20	12	3/ 4/ 4	5.8		8.3	55000		6	91.0			160	359
	1,153		IN	KCL/DRI	1100.0	100	21	11	3/ 4/ 4	6.0		8.3	55000		6	91.0			160	359
22	1,153	40I3RC	IN	KCL/DRI	1100.0	100	21	11	3/ 4/ 4	6.0		8.3	55000		6	91.0			160	359

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Day #	Depth	Hole Sect.	IN/OUT	Mud Type	MW	Visc	PV	YP	Gels	WL	HPHT	pH	Cl-	Sand	TS	LGS	MBT	%Oil	Tot. Hard.
23	1,153	40I3RC	IN	KCL/DRI	1100.0	98	21	11	3/ 4/	6.0		8.3	55000		6	91.0			160
	820		OUT	KCL/DRI	1100.0	114	43	15	6/ 10/	4.6		8.3	55000		6	91.0			160
	920		OUT	KCL/DRI	1100.0	120	46	30	5/ 6/	5.2		8.2	55000		7	91.0			160
24	920	40I3RC	OUT	KCL/DRI	1100.0	112	30	44	7/ 6/	4.4		8.3	55000		6	91.0	7.1		160
	1,153		IN	KCL/DRI	1100.0	143	36	29	6/ 7/	4.0		8.0	55000		6	91.0	14.3		240
	1,153		IN	KCL/DRI	1100.0	140	49	29	5/ 6/	4.2		7.8	55000		6	91.0	14.3		280
25	1,153	40I3RC	IN	KCL/DRI	1100.0	140	46	28	6/ 7/	4.2		8.0	55000		7	139.0	14.9		360
	1,153		IN	KCL/DRI	1100.0	150	42	24	4/ 5/	4.2		8.0	56000		7	138.0	14.3		400
26	1,138	40I3DR	IN	KCL/DRI	1100.0	144	45	24	5/ 5/ 7	4.2		8.0	56000		7	138.0	14.9		320
	1,156		IN	KCL/DRI	1100.0	130	37	21	4/ 5/	4.2		8.2	56000		8	141.0	14.3		80
27	1,215	50PRDR	OUT	KCL/DRI	1100.0	132	35	22	5/ 6/	4.0		8.2	56000		9	144.0	28.5		120
	1,232		OUT	KCL/DRI	1170.0	150	40	21	4/ 5/	3.4		8.3	55000		10	178.0	28.5		80
28	1,237	50PRDR	OUT	KCL/DRI	1170.0	132	37	22	5/ 5/ 9	3.4		8.2	56000	0.5	10	177.0	35.7		80
	1,256		OUT	KCL/DRI	1180.0	120	26	11	3/ 4/	3.4			54000	0.3	10	165.0	20.0		120
29	1,264	50PRDR	OUT	KCL/DRI	1170.0	112	25	11	3/ 4/ 7	3.4		8.1	56000	0.5	10	177.0	35.7		120
	1,274		OUT	KCL/DRI	1180.0	105	24	9	3/ 4/	3.0		8.0	56000	0.5	10	177.0	21.4		80
30	1,525	50PRDR	OUT	KCL/DRI	1180.0	108	27	10	3/ 4/ 6	3.6		8.2	57000	1.0	10	138.0	21.4		80
	1,541		OUT	KCL/DRI	1150.0	150	30	12	3/ 4/	3.8		7.8	52000	0.7	9	164.0	14.3		80
31	1,738	50PRDR	OUT	KCL/DRI	1160.0	107	27	10	3/ 4/	3.6		8.2	55000	1.0	9	146.0	14.3		80
	1,883		OUT	KCL/DRI	1160.0	106	30	8	3/ 4/ 6	3.8		8.3	58500	1.0	9	142.0	14.3		80
	1,915		OUT	KCL/DRI	1160.0	80	24	9	3/ 4/ 6	3.4		7.7	58000	0.8	9	142.0	14.3		120
32	1,928	50PRDR	OUT	KCL/DRI	1170.0	120	26	11	3/ 4/ 6	3.6		7.8	61000	1.0	9	124.0	21.4		240
	1,980		OUT	KCL/DRI	1160.0	119	24	13	3/ 4/	3.8		8.3	55000	0.8	9	146.0	21.4		200
33	2,056	50PRDR	OUT	KCL/DRI	1150.0	112	25	12	3/ 4/	3.8			56000	0.8	9	135.0	21.4		160
	2,072		IN	KCL/DRI	1160.0	95	24	11	3/ 4/	3.8		8.6	59000	0.8	9	141.0	21.4		60
34	2,130	50PRDR	IN	KCL/DRI	1115.0	126	27	17	4/ 5/ 9	3.6		8.3	60000	0.7	9	131.0	25.0		60
	2,033		OUT	KCL/DRI	1160.0	150	28	16	4/ 5/ 9	3.8		8.5	60000	0.7	9	140.0	42.8		200
35	2,196	50PRDR	OUT	KCL/DRI	1115.0	121	26	17	4/ 6/ 9	3.6		8.4	60000	0.7	9	155.0	42.7		120

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Day #	Depth	Hole Sect.	IN/OUT	Mud Type	MW	Visc	PV	YP	Gels	WL	HPHT	pH	Cl-	Sand	TS	LGS	MBT	%Oil	Tot. Hard.	Tot. Vol.	
36	2,284	50PRDR	OUT	KCL/DRI	1150.0	125	26	12	3/ 4/	3.8		8.5	58000	0.3	9	148.0	28.5		160	427	
37	2,425	50PRDR	OUT	KCL/DRI	1150.0	129	31	12	3/ 4/	3.8		8.2	60000	0.5	9	131.0	28.5		240	450	
38	2,530	50PRDR	IN	KCL/DRI	1160.0	168	39	17	3/ 4/	4.0		8.2	59000	0.3	10	165.0	30.0		800	351	
	2,588		IN	KCL/DRI	1150.0	150	36	16	3/ 4/	3.8		8.5	54000	0.4	9	164.0	28.5		400	351	
39	2,839	50PRDR	OUT	KCL/DRI	1170.0	135	32	12	3/ 3/	3.2		8.3	63000	0.2	10	169.0	35.7		400	356	
	2,991		IN	KCL/DRI	1160.0	112	29	10	3/ 3/	3.6		8.2	61000	0.3	10	163.0	35.7		360	356	
40	3,132	50PRDR	OUT	KCL/DRI	1170.0	105	28	11	3/ 3/	3.6		8.8	63000	0.3	10	169.0	35.0		160	328	
	3,132		OTH	KCL/DRI	1160.0	110	26	11	3/ 3/	3.6		8.6	60000	0.3	10	164.0	35.0		160	328	
41	3,140	50PRDR	OUT	KCL/DRI	1180.0	120	29	13	3/ 4/	3.6		8.9	61000	0.3	11	181.0	28.5		160	310	
	3,176		IN	KCL/DRI	1160.0	101	30	15	5/ 8/	3.6		8.3	58000	0.3	10	166.0	28.5		160	310	
42	3,186	50PRDR	OUT	KCL/DRI	1160.0	100	30	15	5/ 8/	3.6		8.3	59000	0.3	10	163.0	28.5		160	264	
43	3,186	50PREV	OUT	KCL/DRI	1160.0	100	30	15	5/ 8/	3.6		8.3	59000	0.3	9	163.0	28.5		160	264	
44	3,186	50PREV	OTH	KCL/DRI	1160.0	105	30	15	4/ 7/	3.6		8.3	59000	0.3	9	163.0	28.5		160	342	
45	3,186	50PREV	OTH	KCL/DRI	1160.0	105	30	15	4/ 7/	3.6		8.3	59000	0.3	9	163.0	28.5		160	311	
46	3,186	60ABNT	OTH	KCL/DRI	1160.0	105	30	15	4/ 7/	3.6		8.3	59000	0.3	9	163.0	28.5		160	311	
47		60ABNT	IN																	311	
48		60ABNT	IN																		290
49		60ABNT	IN																		
50		70DMOB	IN																		

# DATA REPORT

## GEOLAB NOR AS

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**PHILLIPS PETROLEUM  
COMPANY NORWAY**

REF(S)  
Hilde Rasmussen

TITLE

**Geochemical Analysis Well NOCS 32/4-1T2**

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GEOLAB PROJECT NO.

62303

DATE

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**REGISTRERT**

OLJEDIREKTORATET

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The total number of samples was 89, all cuttings.

Lithology Descriptions:	89
TOC and Rock-Eval Analysis:	89
Thermal Extraction and Pyrolysis GC:	10
Extraction and Separation:	2
Saturated Hydrocarbon GC:	2
Vitrinite Reflection:	15
Visual Kerogen Composition:	15
Carbon Isotope Composition	
(of Saturated and Aromatic HC):	2
Gas Chromatography - Mass Spectrometry	
(of Saturated Fraction):	2

Table 1 : Lithology description for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
730.00						0001
		1.35		30 Sh/Clst: lt gy, calc 30 Ca : w, chk 30 Sh/Clst: drk gy, calc 10 Sh/Clst: brn gy, calc		0001-1L 0001-2L 0001-3L 0001-4L
760.00						0002
		1.37		30 Sh/Clst: lt gy, calc 30 Ca : w, chk 30 Sh/Clst: drk gy, calc 10 Sh/Clst: brn gy, calc		0002-1L 0002-2L 0002-3L 0002-4L
800.00						0003
		0.32		80 S/Sst : lt gy to lt gn gy, calc, f, cem, bar 20 Sh/Clst: m gy to drk gy, calc tr Ca : w, chk		0003-1L 0003-3L 0003-2L
820.00						0004
		0.28		80 S/Sst : lt gy to lt gn gy, calc, f, cem, bar 20 Sh/Clst: m gy to drk gy, calc tr Ca : w, chk		0004-1L 0004-3L 0004-2L
850.00						0005
		0.33		60 Sh/Clst: lt gy, calc 20 Ca : w, chk 20 Sh/Clst: m gy to drk gy, calc		0005-1L 0005-2L 0005-3L
880.00						0006
		0.31		80 S/Sst : lt gy to lt gn gy, calc, f, cem, glauc 20 Sh/Clst: m gy to drk gy, calc tr Ca : w, chk		0006-1L 0006-3L 0006-2L



Table 1 : Lithology description for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
910.00						0007	
	0.87	100	Sh/Clst: m gy, calc			0007-1L	
			tr Ca : w, chk			0007-2L	
			tr Cont : cem			0007-3L	
			tr S/Sst : lt gy to lt gn gy, calc, f, cem, glauc			0007-4L	
940.00						0008	
	1.19	100	Sh/Clst: m gy, calc			0008-1L	
			tr Ca : w, chk			0008-2L	
980.00						0009	
	0.33	70	Sh/Clst: lt gy, calc			0009-2L	
		30	Sh/Clst: m gy, calc			0009-1L	
1000.00						0010	
	0.34	90	Sltst : lt gy, calc			0010-2L	
		10	Sh/Clst: m gy, calc			0010-1L	
1030.00						0011	
	0.16	100	Sltst : lt gy, calc			0011-2L	
			tr Sh/Clst: m gy, calc			0011-1L	
1050.00						0012	
	0.31	90	Sltst : lt gy, calc, s			0012-2L	
		10	Sh/Clst: m gy, calc			0012-1L	
1070.00						0013	
	0.82	70	Sltst : lt gy, calc, s			0013-2L	
		30	Sh/Clst: m gy, calc			0013-1L	

Table 1 : Lithology description for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1090.00						0014
	0.62	80		Sh/Clst: m gy, calc		0014-1L
		20		Sltst : lt gy, calc, s		0014-2L
1100.00						0015
	0.74	100		Sh/Clst: m gy, calc		0015-1L
1120.00						0016
	0.69	90		Sh/Clst: m gy, calc		0016-1L
		5		Sh/Clst: brn gy, red brn		0016-2L
		5		Sltst : y brn		0016-3L
				tr Ca : w, chk		0016-4L
				tr S/Sst : lt gy to lt gn gy, calc, f, cem, glauc		0016-5L
1140.00						0017
	1.86	60		Sh/Clst: m gy, calc		0017-2L
		30		Sh/Clst: drk gy, calc		0017-1L
		5		Sh/Clst: lt gy, calc		0017-3L
		5		Sh/Clst: brn gy, red brn, y brn		0017-4L
				tr S/Sst : lt gy to lt gn gy, calc, f, cem, glauc		0017-5L
1150.00						0018
	2.14	100		Sh/Clst: brn blk		0018-1L
				tr Sh/Clst: lt gy to m gy, calc		0018-2L
				tr S/Sst : lt gy to lt gn gy		0018-3L
1160.00						0019
	2.32	100		Sh/Clst: brn blk to drk gy		0019-1L
				tr Sh/Clst: lt gy to m gy, calc		0019-2L
				tr S/Sst : lt gy to lt gn gy		0019-3L

Table 1 : Lithology description for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
1170.00						0020	
	2.35	100	Sh/Clst: brn blk to drk gy			0020-1L	
			tr Sh/Clst: lt gy to m gy, calc			0020-2L	
			tr S/Sst : lt gy to lt gn gy			0020-3L	
1180.00						0021	
	2.31	100	Sh/Clst: brn blk to drk gy			0021-1L	
			tr Ca : w, chk			0021-2L	
1190.00						0022	
	2.59	100	Sh/Clst: brn blk to drk gy			0022-1L	
			tr Ca : w, chk			0022-2L	
1200.00						0023	
	3.05	100	Sh/Clst: brn blk			0023-1L	
			tr Ca : w, chk			0023-2L	
1210.00						0024	
	2.78	100	Sh/Clst: brn blk			0024-1L	
			tr Ca : w, chk			0024-2L	
1220.00						0025	
	2.83	100	Sh/Clst: brn blk			0025-1L	
			tr Ca : w, chk			0025-2L	
			tr S/Sst : w			0025-3L	
1230.00						0026	
	2.84	100	Sh/Clst: brn blk			0026-1L	
			tr Ca : w, chk			0026-2L	
			tr S/Sst : w			0026-3L	
			tr Cont : cem			0026-4L	

Table 1 : Lithology description for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1240.00						0027
	2.88	95	Sh/Clst:	brn blk		0027-1L
		5	S/Sst	: w, glauc		0027-3L
			tr Ca	: w, chk		0027-2L
			tr Cont	: cem		0027-4L
1280.00						0028
	0.25	80	S/Sst	: w, l		0028-2L
		20	Sh/Clst:	brn blk		0028-1L
1290.00						0029
	0.17	90	S/Sst	: w, l		0029-2L
		10	Sh/Clst:	brn blk		0029-1L
1300.00						0030
	0.19	50	Sh/Clst:	brn blk		0030-1L
		40	S/Sst	: w, l		0030-2L
		10	Ca	: w, chk		0030-3L
1310.00						0031
	2.37	80	S/Sst	: w, l		0031-2L
		20	Sh/Clst:	brn blk to drk gy		0031-1L
			tr Ca	: w, chk		0031-3L
1320.00						0032
	2.59	90	S/Sst	: w, l		0032-2L
		10	Sh/Clst:	brn blk to drk gy		0032-1L
			tr Ca	: w, chk		0032-3L
1330.00						0033
	2.72	90	S/Sst	: w, l		0033-2L
		10	Sh/Clst:	brn blk to drk gy		0033-1L
			tr Ca	: w, chk		0033-3L

Table 1 : Lithology description for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1340.00						0034
		2.60		90 S/Sst : w, l 10 Sh/Clst: brn blk to drk gy tr Ca : w, chk		0034-2L 0034-1L 0034-3L
1370.00						0035
		0.45		90 S/Sst : w, l 10 Sh/Clst: brn blk to drk gy		0035-2L 0035-1L
1380.00						0036
		0.27		100 S/Sst : w, l tr Sh/Clst: brn blk to drk gy		0036-2L 0036-1L
1390.00						0037
		0.12		100 S/Sst : w, l tr Sh/Clst: brn blk to drk gy		0037-2L 0037-1L
1400.00						0038
		0.09		100 S/Sst : w, l tr Sh/Clst: brn blk to drk gy		0038-2L 0038-1L
1410.00						0039
		0.10		100 S/Sst : w, l tr Sh/Clst: brn blk to drk gy		0039-2L 0039-1L
1420.00						0040
		0.29		100 S/Sst : w, l tr Sh/Clst: brn blk to drk gy		0040-2L 0040-1L
1430.00						0041
		0.34		100 S/Sst : w, l tr Sh/Clst: brn blk to drk gy		0041-2L 0041-1L

Table 1 : Lithology description for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1440.00						0042
	0.17	100	S/Sst	: w, l		0042-2L
			tr Sh/Clst:	brn blk to drk gy		0042-1L
1460.00						0043
	0.22	100	S/Sst	: w, l		0043-2L
			tr Sh/Clst:	brn blk to drk gy		0043-1L
1470.00						0044
	0.20	100	S/Sst	: w, l		0044-2L
			tr Sh/Clst:	brn blk to drk gy		0044-1L
1480.00						0045
	0.35	100	S/Sst	: w, l		0045-2L
			tr Sh/Clst:	brn blk to drk gy		0045-1L
1500.00						0046
	0.30	100	S/Sst	: w, l		0046-2L
			tr Sh/Clst:	brn blk to drk gy		0046-1L
1510.00						0047
	0.21	100	S/Sst	: w, l		0047-2L
			tr Sh/Clst:	brn blk to drk gy		0047-1L
1520.00						0048
	0.40	100	S/Sst	: w to lt gy		0048-2L
			tr Sh/Clst:	brn blk to drk gy		0048-1L
1530.00						0049
	0.38	100	S/Sst	: w to lt gy		0049-2L
			tr Sh/Clst:	brn blk to drk gy		0049-1L

Table 1 : Lithology description for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1540.00						0050
	0.26	100	S/Sst	: w to lt gy		0050-2L
			tr Sh/Clst:	brn blk to drk gy		0050-1L
1550.00						0051
	0.23	100	S/Sst	: w to lt gy		0051-2L
			tr Sh/Clst:	brn blk to drk gy		0051-1L
1560.00						0052
	0.53	100	S/Sst	: w to lt gy		0052-2L
			tr Sh/Clst:	brn blk to drk gy		0052-1L
1570.00						0053
	2.52	100	S/Sst	: w to lt gy		0053-2L
			tr Sh/Clst:	brn blk to drk gy		0053-1L
1580.00						0054
	2.58	100	S/Sst	: w to lt gy		0054-2L
			tr Sh/Clst:	brn blk to drk gy		0054-1L
1590.00						0055
	2.50	100	S/Sst	: w to lt gy		0055-2L
			tr Sh/Clst:	brn blk to drk gy		0055-1L
1600.00						0056
	2.28	100	S/Sst	: w to lt gy		0056-2L
			tr Sh/Clst:	brn blk to drk gy		0056-1L
1610.00						0057
	2.34	100	S/Sst	: w to lt gy		0057-2L
			tr Sh/Clst:	brn blk to drk gy		0057-1L

Table 1 : Lithology description for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1620.00						0058
	2.61		100	S/Sst : w to lt gy tr Sh/Clst: brn blk to drk gy		0058-2L 0058-1L
1630.00						0059
	2.72		100	S/Sst : w to lt gy tr Sh/Clst: brn blk to drk gy		0059-2L 0059-1L
1640.00						0060
	2.46		100	S/Sst : w to lt gy tr Sh/Clst: brn blk to drk gy		0060-2L 0060-1L
1650.00						0061
	0.14		100	S/Sst : w to lt gy tr Sh/Clst: brn blk to drk gy		0061-2L 0061-1L
1660.00						0062
	55.10		60	Coal : gn brn to blk		0062-1L
			20	Sh/Clst: m gy, mic		0062-3L
			10	S/Sst : w to lt gy		0062-2L
			10	Sh/Clst: dsk y brn, wx		0062-4L
1670.00						0063
	57.90		80	Coal : gn brn to blk		0063-1L
			10	Sh/Clst: m gy, mic		0063-3L
			10	Sh/Clst: dsk y brn, wx		0063-4L
			tr	S/Sst : w to lt gy		0063-2L
1680.00						0064
	0.16		75	S/Sst : w to lt gy		0064-2L
			25	Coal : gn brn to blk		0064-1L
			tr	Sh/Clst: m gy, mic		0064-3L
			tr	Sh/Clst: dsk y brn, wx		0064-4L



Table 1 : Lithology description for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1690.00						0065
	0.33	80	S/Sst	: w to lt gy		0065-2L
		20	Coal	: gn brn to blk		0065-1L
1700.00						0066
	0.59	100	S/Sst	: w to lt gy		0066-2L
			tr Coal	: gn brn to blk		0066-1L
1710.00						0067
	0.45	100	S/Sst	: lt gy		0067-2L
			tr Coal	: gn brn to blk		0067-1L
1720.00						0068
	0.45	100	S/Sst	: w to lt gy		0068-2L
			tr Coal	: gn brn to blk		0068-1L
1730.00						0069
			100 S/Sst	: lt gy		0069-2L
	2.63		tr Sh/Clst:	gy blk		0069-1L
1740.00						0070
	0.93	100	S/Sst	: lt gy		0070-2L
			tr Sh/Clst:	gy blk		0070-1L
1750.00						0071
	0.73	100	S/Sst	: w to lt gy		0071-2L
			tr Sh/Clst:	gy blk		0071-1L
1770.00						0072
	0.39	100	S/Sst	: w to lt gy		0072-2L
			tr Sh/Clst:	gy blk		0072-1L

Table 1 : Lithology description for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int Cvd	TOC%	%	Lithology description			
1780.00						0073
	0.08	100	S/Sst : w to lt gy tr Sh/Clst: drk gy to gy blk			0073-2L 0073-1L
1790.00						0074
	0.07	100	S/Sst : w to lt gy tr Sh/Clst: drk gy to gy blk			0074-2L 0074-1L
1800.00						0075
	2.64	90	S/Sst : w to lt gy 10 Sh/Clst: drk gy to gy blk			0075-2L 0075-1L
1810.00						0076
	2.68	90	S/Sst : w to lt gy 10 Sh/Clst: drk gy to gy blk			0076-2L 0076-1L
1820.00						0077
	0.40	90	S/Sst : w to lt gy 10 Sh/Clst: drk gy to gy blk			0077-2L 0077-1L
1830.00						0078
	2.31	50	Sh/Clst: drk gy to gy blk 50 S/Sst : w to lt gy			0078-1L 0078-2L
1840.00						0079
	0.05	90	S/Sst : w to lt gy 10 Sh/Clst: drk gy to gy blk tr Sh/Clst: red brn			0079-2L 0079-1L 0079-3L
1900.00						0080
	0.20	60	S/Sst : w to lt gy 40 Sltst : lt gn gy, s tr Sh/Clst: drk gy to gy blk			0080-2L 0080-3L 0080-1L

Table 1 : Lithology description for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2050.00						0081
	0.09		70 Sltst	: gy red, s		0081-2L
			30 S/Sst	: w to lt gy		0081-1L
2200.00						0082
	0.12		50 Ca	: lt gy to gy red, chk		0082-1L
			50 Sltst	: gy red		0082-2L
2350.00						0083
	0.11		45 Ca	: lt gy to gy red to gn gy, chk		0083-1L
			45 Sltst	: gy red		0083-2L
			10 Sh/Clst	: gy blk		0083-3L
2500.00						0084
	0.18		50 Ca	: lt gy to gy red to gn gy, chk		0084-1L
			50 Sltst	: gy red to red brn		0084-2L
			tr Sh/Clst	: gy blk		0084-3L
2650.00						0085
	0.11		70 Sltst	: gy red to red brn		0085-2L
			30 Ca	: lt gy to gy red to gn gy, chk		0085-1L
			tr Sh/Clst	: gy blk		0085-3L
2800.00						0086
	0.10		70 Sltst	: gy red to red brn		0086-2L
			30 Ca	: lt gy to gy red to gn gy, chk		0086-1L
			tr Sh/Clst	: gy blk		0086-3L
2950.00						0087
	0.20		100 Sh/Clst	: red brn		0087-1L
			tr Ca	: lt gy to gn gy to gy red, chk		0087-2L

Table 1 : Lithology description for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
3100.00						0088
	0.08	100	Sh/Clst:	red brn		0088-1L
		tr Ca		: lt gy to gn gy to gy red, chk		0088-2L
3186.00						0089
	0.06	50	Sh/Clst:	red brn		0089-1L
		50	S/Sst	: red brn, w, crs		0089-3L
		tr Ca		: lt gy to gn gy to gy red, chk		0089-2L

Table 2: Rock-Eval table for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
730.00	cut	Sh/Clst: drk gy	0.44	1.23	1.19	1.03	1.35	91	88	1.7	0.26	355	0001-3L
760.00	cut	Sh/Clst: drk gy	0.49	1.64	1.42	1.15	1.37	120	104	2.1	0.23	358	0002-3L
800.00	cut	S/Sst : lt gy to lt gn gy	0.17	0.38	1.27	0.30	0.32	119	397	0.6	0.31	356	0003-1L
820.00	cut	S/Sst : lt gy to lt gn gy	0.20	0.43	1.39	0.31	0.28	154	496	0.6	0.32	358	0004-1L
850.00	cut	Sh/Clst: lt gy	0.20	0.54	1.64	0.33	0.33	164	497	0.7	0.27	362	0005-1L
880.00	cut	S/Sst : lt gy to lt gn gy	0.32	0.53	1.27	0.42	0.31	171	410	0.8	0.38	353	0006-1L
910.00	cut	Sh/Clst: m gy	0.42	0.87	1.53	0.57	0.87	100	176	1.3	0.33	353	0007-1L
940.00	cut	Sh/Clst: m gy	0.51	1.07	1.44	0.74	1.19	90	121	1.6	0.32	353	0008-1L
980.00	cut	Sh/Clst: lt gy	0.30	0.50	1.39	0.36	0.33	152	421	0.8	0.37	351	0009-2L
1000.00	cut	Sltst : lt gy	0.28	0.39	1.31	0.30	0.34	115	385	0.7	0.42	346	0010-2L
1030.00	cut	Sltst : lt gy	0.25	0.35	1.11	0.32	0.16	219	694	0.6	0.42	350	0011-2L
1050.00	cut	Sltst : lt gy	0.30	0.69	1.39	0.50	0.31	223	448	1.0	0.30	352	0012-2L
1070.00	cut	Sh/Clst: m gy	0.65	1.15	1.66	0.69	0.82	140	202	1.8	0.36	350	0013-1L
1090.00	cut	Sh/Clst: m gy	0.51	1.00	1.60	0.63	0.62	161	258	1.5	0.34	352	0014-1L
1100.00	cut	Sh/Clst: m gy	0.51	1.04	1.43	0.73	0.74	141	193	1.5	0.33	351	0015-1L
1120.00	cut	Sh/Clst: m gy	0.57	1.58	1.50	1.05	0.69	229	217	2.2	0.27	355	0016-1L

Table 2: Rock-Eval table for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
1140.00	cut	Sh/Clst: drk gy	0.68	4.98	1.09	4.57	1.86	268	59	5.7	0.12	425	0017-1L
1150.00	cut	Sh/Clst: brn blk	0.37	6.46	1.68	3.85	2.14	302	79	6.8	0.05	430	0018-1L
1160.00	cut	Sh/Clst: brn blk to drk gy	0.39	7.87	2.24	3.51	2.32	339	97	8.3	0.05	431	0019-1L
1170.00	cut	Sh/Clst: brn blk to drk gy	0.62	9.08	2.36	3.85	2.35	386	100	9.7	0.06	429	0020-1L
1180.00	cut	Sh/Clst: brn blk to drk gy	0.46	8.55	2.02	4.23	2.31	370	87	9.0	0.05	434	0021-1L
1190.00	cut	Sh/Clst: brn blk to drk gy	0.67	9.34	2.71	3.45	2.59	361	105	10.0	0.07	430	0022-1L
1200.00	cut	Sh/Clst: brn blk	0.76	11.10	2.20	5.05	3.05	364	72	11.9	0.06	429	0023-1L
1210.00	cut	Sh/Clst: brn blk	0.99	10.87	2.39	4.55	2.78	391	86	11.9	0.08	428	0024-1L
1220.00	cut	Sh/Clst: brn blk	0.77	11.53	2.26	5.10	2.83	407	80	12.3	0.06	429	0025-1L
1230.00	cut	Sh/Clst: brn blk	0.78	10.89	2.42	4.50	2.84	383	85	11.7	0.07	430	0026-1L
1240.00	cut	Sh/Clst: brn blk	1.13	12.07	2.58	4.68	2.88	419	90	13.2	0.09	427	0027-1L
1280.00	cut	S/Sst : w	0.27	1.11	3.37	0.33	0.25	444	1348	1.4	0.20	352	0028-2L
1290.00	cut	S/Sst : w	0.10	0.29	1.66	0.17	0.17	171	976	0.4	0.26	352	0029-2L
1300.00	cut	S/Sst : w	0.02	0.08	0.47	0.17	0.19	42	247	0.1	0.20	423	0030-2L
1310.00	cut	Sh/Clst: brn blk to drk gy	0.14	5.97	0.79	7.56	2.37	252	33	6.1	0.02	426	0031-1L
1320.00	cut	Sh/Clst: brn blk to drk gy	0.65	9.12	2.14	4.26	2.59	352	83	9.8	0.07	429	0032-1L

Table 2: Rock-Eval table for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
1330.00	cut	Sh/Clst: brn blk to drk gy	0.18	7.80	1.41	5.53	2.72	287	52	8.0	0.02	430	0033-1L
1340.00	cut	Sh/Clst: brn blk to drk gy	0.22	7.58	1.57	4.83	2.60	292	60	7.8	0.03	429	0034-1L
1370.00	cut	S/Sst : w	0.70	1.49	1.60	0.93	0.45	331	356	2.2	0.32	361	0035-2L
1380.00	cut	S/Sst : w	0.31	0.59	1.47	0.40	0.27	219	544	0.9	0.34	357	0036-2L
1390.00	cut	S/Sst : w	0.03	0.10	0.40	0.25	0.12	83	333	0.1	0.23	365	0037-2L
1400.00	cut	S/Sst : w	0.03	0.07	0.38	0.18	0.09	78	422	0.1	0.30	413	0038-2L
1410.00	cut	S/Sst : w	0.06	0.10	0.43	0.23	0.10	100	430	0.2	0.37	428	0039-2L
1420.00	cut	S/Sst : w	0.14	0.22	0.55	0.40	0.29	76	190	0.4	0.39	425	0040-2L
1430.00	cut	S/Sst : w	0.09	0.27	0.47	0.57	0.34	79	138	0.4	0.25	424	0041-2L
1440.00	cut	S/Sst : w	0.17	0.22	0.66	0.33	0.17	129	388	0.4	0.44	402	0042-2L
1460.00	cut	S/Sst : w	0.06	0.27	0.56	0.48	0.22	123	255	0.3	0.18	427	0043-2L
1470.00	cut	S/Sst : w	0.19	0.31	0.72	0.43	0.20	155	360	0.5	0.38	386	0044-2L
1480.00	cut	S/Sst : w	0.29	0.58	0.82	0.71	0.35	166	234	0.9	0.33	422	0045-2L
1500.00	cut	S/Sst : w	0.15	0.34	0.63	0.54	0.30	113	210	0.5	0.31	419	0046-2L
1510.00	cut	S/Sst : w	0.23	0.28	0.96	0.29	0.21	133	457	0.5	0.45	387	0047-2L
1520.00	cut	S/Sst : w to lt gy	0.31	0.69	0.54	1.28	0.40	173	135	1.0	0.31	423	0048-2L

Table 2: Rock-Eval table for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
1530.00	cut	S/Sst : w to lt gy	0.58	1.02	1.31	0.78	0.38	268	345	1.6	0.36	397	0049-2L
1540.00	cut	S/Sst : w to lt gy	0.37	0.72	0.96	0.75	0.26	277	369	1.1	0.34	405	0050-2L
1550.00	cut	S/Sst : w to lt gy	0.20	0.29	0.63	0.46	0.23	126	274	0.5	0.41	400	0051-2L
1560.00	cut	S/Sst : w to lt gy	0.50	1.06	0.89	1.19	0.53	200	168	1.6	0.32	422	0052-2L
1570.00	cut	Sh/Clst: brn blk to drk gy	0.52	7.01	1.61	4.35	2.52	278	64	7.5	0.07	429	0053-1L
1580.00	cut	Sh/Clst: brn blk to drk gy	0.62	8.75	1.38	6.34	2.58	339	53	9.4	0.07	422	0054-1L
1590.00	cut	Sh/Clst: brn blk to drk gy	0.42	7.77	1.65	4.71	2.50	311	66	8.2	0.05	427	0055-1L
1600.00	cut	Sh/Clst: brn blk to drk gy	0.39	6.69	1.78	3.76	2.28	293	78	7.1	0.06	431	0056-1L
1610.00	cut	Sh/Clst: brn blk to drk gy	0.28	6.25	1.83	3.42	2.34	267	78	6.5	0.04	430	0057-1L
1620.00	cut	Sh/Clst: brn blk to drk gy	0.80	8.67	1.22	7.11	2.61	332	47	9.5	0.08	428	0058-1L
1630.00	cut	Sh/Clst: brn blk to drk gy	0.46	8.46	1.57	5.39	2.72	311	58	8.9	0.05	427	0059-1L
1640.00	cut	Sh/Clst: brn blk to drk gy	0.28	6.49	1.38	4.70	2.46	264	56	6.8	0.04	426	0060-1L
1650.00	cut	S/Sst : w to lt gy	0.02	0.05	0.26	0.19	0.14	36	186	0.1	0.29	420	0061-2L
1660.00	cut	Coal : gn brn to blk	20.00	93.84	10.89	8.62	55.10	170	20	113.8	0.18	422	0062-1L
1670.00	cut	Coal : gn brn to blk	19.63	76.62	10.84	7.07	57.90	132	19	96.3	0.20	431	0063-1L
1680.00	cut	S/Sst : w to lt gy	0.04	0.05	0.31	0.16	0.16	31	194	0.1	0.44	411	0064-2L



Table 2: Rock-Eval table for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
1690.00	cut	S/Sst : w to lt gy	0.31	0.44	1.29	0.34	0.33	133	391	0.8	0.41	428	0065-2L
1700.00	cut	S/Sst : w to lt gy	0.38	1.12	1.18	0.95	0.59	190	200	1.5	0.25	429	0066-2L
1710.00	cut	S/Sst : lt gy	0.30	0.66	0.86	0.77	0.45	147	191	1.0	0.31	431	0067-2L
1720.00	cut	S/Sst : w to lt gy	0.16	0.49	0.72	0.68	0.45	109	160	0.7	0.25	426	0068-2L
1730.00	cut	Sh/Clst: gy blk	0.41	7.86	1.51	5.21	2.63	299	57	8.3	0.05	432	0069-1L
1740.00	cut	S/Sst : lt gy	0.54	3.09	0.99	3.12	0.93	332	106	3.6	0.15	423	0070-2L
1750.00	cut	S/Sst : w to lt gy	0.23	1.69	0.79	2.14	0.73	232	108	1.9	0.12	426	0071-2L
1770.00	cut	S/Sst : w to lt gy	0.09	0.66	0.79	0.84	0.39	169	203	0.8	0.12	425	0072-2L
1780.00	cut	S/Sst : w to lt gy	0.11	0.07	0.80	0.09	0.08	88	1000	0.2	0.61	383	0073-2L
1790.00	cut	S/Sst : w to lt gy	0.01	-	0.23	-	0.07	-	329	0.0	1.00	-	0074-2L
1800.00	cut	Sh/Clst: drk gy to gy blk	1.43	10.20	1.69	6.04	2.64	386	64	11.6	0.12	430	0075-1L
1810.00	cut	Sh/Clst: drk gy to gy blk	0.98	9.39	1.51	6.22	2.68	350	56	10.4	0.09	427	0076-1L
1820.00	cut	S/Sst : w to lt gy	0.28	0.61	0.56	1.09	0.40	153	140	0.9	0.31	418	0077-2L
1830.00	cut	Sh/Clst: drk gy to gy blk	0.54	6.87	1.13	6.08	2.31	297	49	7.4	0.07	429	0078-1L
1840.00	cut	S/Sst : w to lt gy	0.04	0.12	0.17	0.71	0.05	240	340	0.2	0.25	399	0079-2L
1900.00	cut	Sltst : lt gn gy	1.26	1.82	1.35	1.35	0.20	910	675	3.1	0.41	348	0080-3L

Table 2: Rock-Eval table for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
2050.00	cut	Sltst : gy red	0.67	1.17	0.89	1.31	0.09	1300	989	1.8	0.36	350	0081-2L
2200.00	cut	Sltst : gy red	0.43	0.84	1.12	0.75	0.12	700	933	1.3	0.34	381	0082-2L
2350.00	cut	Sltst : gy red	0.27	0.57	0.92	0.62	0.11	518	836	0.8	0.32	353	0083-2L
2500.00	cut	Sltst : gy red to red brn	0.94	1.38	1.28	1.08	0.18	767	711	2.3	0.41	350	0084-2L
2650.00	cut	Sltst : gy red to red brn	0.17	0.23	0.84	0.27	0.11	209	764	0.4	0.43	350	0085-2L
2800.00	cut	Sltst : gy red to red brn	0.09	0.18	0.60	0.30	0.10	180	600	0.3	0.33	356	0086-2L
2950.00	cut	Sh/Clst: red brn	0.14	0.32	0.64	0.50	0.20	160	320	0.5	0.30	352	0087-1L
3100.00	cut	Sh/Clst: red brn	0.06	0.14	0.35	0.40	0.08	175	438	0.2	0.30	350	0088-1L
3186.00	cut	S/Sst : red brn, w	0.03	0.07	0.15	0.47	0.06	117	250	0.1	0.30	350	0089-3L

Table 3 : Pyrolysis GC Data (S2 peak) as Percentage of Total Area for Well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Typ	Lithology	C1	C2-C5	C6-C14	C15+	S2 from Rock-Eval	Sample
1170.00	cut	Sh/Clst: brn blk to drk gy	4.05	22.54	42.87	30.54	-	0020-1L
1200.00	cut	Sh/Clst: brn blk	4.67	24.17	43.85	27.30	-	0023-1L
1230.00	cut	Sh/Clst: brn blk	4.22	21.42	41.95	32.41	-	0026-1L
1320.00	cut	Sh/Clst: brn blk to drk gy	4.15	22.51	42.98	30.37	-	0032-1L
1610.00	cut	Sh/Clst: brn blk to drk gy	4.33	19.80	43.03	32.85	-	0057-1L
1660.00	cut	Coal : gn brn to blk	12.89	18.42	29.57	39.12	-	0062-1L
1670.00	cut	Coal : gn brn to blk	19.59	28.49	36.78	15.14	-	0063-1L
1730.00	cut	Sh/Clst: gy blk	4.76	19.20	41.70	34.34	-	0069-1L
1800.00	cut	Sh/Clst: drk gy to gy blk	4.34	23.82	43.01	28.84	-	0075-1L
1830.00	cut	Sh/Clst: drk gy to gy blk	4.77	20.06	42.59	32.58	-	0078-1L

Table 4 a: MPLC Bulk Composition: Weight of EOM and Fraction for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Typ	Lithology	Rock Extracted (g)	EOM (mg)	Sat (mg)	Aro (mg)	Asph (mg)	NSO (mg)	HC (mg)	Non-HC (mg)	TOC (e) (%)	Sample
1170.00	cut	Sh/Clst: brn blk to drk gy	10.1	4.6	0.2	0.2	0.1	4.2	0.3	4.3	2.25	0020-1L
1320.00	com	Composite sample - see table 4 e	8.6	2.3	0.2	0.2	0.1	1.9	0.3	2.0	2.61	0090-0B

Table 4 b: MPLC Bulk Composition: Concentration of EOM and Fraction (wt ppm rock) for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Typ	Lithology	EOM	Sat	Aro	Asph	NSO	HC	Non-HC	Sample
1170.00	cut	Sh/Clst: brn blk to drk gy	453	14	14	9	413	29	423	0020-1L
1320.00	com	Composite sample - see table 4 e	273	17	17	11	226	34	238	0090-0B

Table 4 c: MPLC Bulk Composition: Concentration of EOM and Fraction (mg/g TOC(e)) for well NOCS 32/4-1T2.

Depth unit of measure: m

Depth	Typ	Lithology	EOM	Sat	Aro	Asph	NSO	HC	Non-HC	Sample
1170.00	cut	Sh/Clst: brn blk to drk gy	20.14	0.66	0.66	0.44	18.39	1.31	18.83	0020-1L
1320.00	com	Composite sample - see table 4 e	10.47	0.67	0.67	0.45	8.69	1.34	9.13	0090-0B

Depth unit of measure: m

Depth	Typ	Lithology	Sat	Aro	Asph	NSO	HC	Non-HC	Sat	HC	Sample
			EOM	EOM	EOM	EOM	EOM	EOM	EOM	Aro	
1170.00	cut	Sh/Clst: brn blk to drk gy	3.26	3.26	2.17	91.30	6.52	93.48	100.00	6.98	0020-1L
1320.00	com	Composite sample - see table 4 e	6.38	6.38	4.26	82.98	12.77	87.23	100.00	14.63	0090-0B

Depth unit of measure: m

NOTE: Depths shown in tables 4 a to d correspond to the composite samples' lower depth.

<u>Upper depth</u>	<u>Lower depth</u>	<u>Typ</u>	<u>Sample</u>	<u>Depth</u>	<u>Typ</u>	<u>Lithology</u>	<u>Sample</u>
1310.00	1320.00	com	0090-0B is composed of:	1310.00	cut	Sh/Clst: brn blk to drk gy	0031-1L
				1320.00	cut	Sh/Clst: brn blk to drk gy	0032-1L



Table 5: Saturated Hydrocarbon Ratios (peak area) for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Typ	Lithology	<u>Pristane</u>	<u>Pristane</u>	<u>Pristane/nC17</u>	<u>Phytane</u>	<u>nC17</u>	Sample	
			nC17	Phytane	Phytane/nC18	nC18	CPI1		nC17+nC27
1170.00	cut	Sh/Clst: brn blk to drk gy	1.66	0.99	0.85	1.95	2.47	0.36	0020-1L
1320.00	com	bulk	1.58	0.89	1.07	1.48	2.34	0.46	0090-0B

Table 6 : Thermal Maturity Data for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Typ	Lithology	Vitrinite Reflectance (%)	Number of Readings	Standard Deviation (%)	Spore Fluorescence Colour	SCI	Tmax (°C)	Sample
730.00	cut	Sh/Clst: drk gy	0.39	20	0.04	3	-	355	0001-3L
850.00	cut	Sh/Clst: lt gy	0.35	4	0.06	0	-	362	0005-1L
910.00	cut	Sh/Clst: m gy	0.41	8	0.05	3	-	353	0007-1L
980.00	cut	Sh/Clst: lt gy	0.41	1	0.00	0	-	351	0009-2L
1050.00	cut	Sltst : lt gy	NDP	-	-	0	-	352	0012-2L
1140.00	cut	Sh/Clst: drk gy	0.43	6	0.05	4	-	425	0017-1L
1240.00	cut	Sh/Clst: brn blk	0.40	20	0.05	3-4	-	427	0027-1L
1340.00	cut	Sh/Clst: brn blk to drk gy	0.41	11	0.05	3+4	-	429	0034-1L
1570.00	cut	Sh/Clst: brn blk to drk gy	0.41	9	0.05	3+4	-	429	0053-1L
1610.00	cut	Sh/Clst: brn blk to drk gy	0.46	7	0.06	4	-	430	0057-1L
1660.00	cut	Coal : gn brn to blk	0.42	20	0.05	4	-	422	0062-1L
1670.00	cut	Coal : gn brn to blk	0.44	20	0.04	4	-	431	0063-1L
1740.00	cut	Sh/Clst: gy blk	0.43	20	0.05	4	-	-	0070-1L
1800.00	cut	Sh/Clst: drk gy to gy blk	0.39	8	0.04	4	-	430	0075-1L
1830.00	cut	Sh/Clst: drk gy to gy blk	0.46	20	0.04	4	-	429	0078-1L

Table 7: Visual Kerogen Composition Data for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Typ	Lithology	Amorphous			Algal/Phytoplankton					Herbaceous				Woody			Coaly			SCI	Sample				
			AM%	FA	HA	AP%	Cy	Ta	Bo	Di	De	HE%	SP	Cu	De	WO%	FL	NF	De	CO%			FS	De		
1120.00	cut	Sh/Clst	60	*		TR	*		*	*			5	*	*			15	**	*		20	**	*	3.5-4.0	0016-1L
1140.00	cut	Sh/Clst	30	*	**	TR	*		*	*			25	**	*			20	**	*		25	**	*	3.5-4.0	0017-1L
1160.00	cut	Sh/Clst	40	*	**	10	**		**	*			20	**	*			10	**	*		20	**	*	3.5-4.0(?)	0019-1L
1170.00	cut	Sh/Clst	65	*	**	TR	*			*			15	*	*			5	*	*		15	*	*	4.0(?)	0020-1L
1190.00	cut	Sh/Clst	35	*	**	TR	*		*	*	*		30	**	*			15	**	*		20	**	*	4.5(?)	0022-1L
1200.00	cut	Sh/Clst	50	*	**	TR	*		*	*			20	**	*	*		15	**	*		15	**	*	4.0(?)	0023-1L
1210.00	cut	Sh/Clst	35	*	*	10	*		*	*			30	**	*			10	**	*		15	**	*	4.0-4.5	0024-1L
1220.00	cut	Sh/Clst	25	*	**	5	*		*	*			25	**	*			25	**	*		20	**	*	4.5(?)	0025-1L
1240.00	cut	Sh/Clst	25	*	**	5	*		*	*			25	**	*			20	**	*		25	**	*	4.0	0027-1L
1320.00	cut	Sh/Clst	30	*	**	5	*		*	*			25	**	*			25	**	*		15	**	*	4.0-4.5	0032-1L
1340.00	cut	Sh/Clst	35	*	**	TR	*		*	*			20	*	*	*		30	**	*		15	**	*	4.0-4.5(?)	0034-1L
1570.00	cut	Sh/Clst	40	*		TR	*		*	*			10	*	**			30	*	**		20	*	**	4.5	0053-1L
1610.00	cut	Sh/Clst	40	*		TR	*		*	*			20	*	**			20	**	*		20	**	*	5.0-5.5(?)	0057-1L
1630.00	cut	Sh/Clst	50	*		TR	*		*	*			25	*	*	**		10	**	*		15	**	*	5.0	0059-1L
1660.00	cut	Coal	10	*		TR	*		*	*			10	**	**	*		60	**	*		20	*	*	5.5(??)	0062-1L

Table 7: Visual Kerogen Composition Data for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Typ	Lithology	Amorphous			Algal/Phytoplankton					Herbaceous				Woody				Coaly			SCI	Sample
			AM%	FA	HA	AP%	Cy	Ta	Bo	Di	De	HE%	SP	Cu	De	WO%	FL	NF	De	CO%	FS		
1670.00	cut	Coal	10	*		TR	*			*	TR	*	*	*	50	**	*		40	*	*	5.0-5.5(??)	0063-1L
1730.00	cut	Sh/Clst	35	*	**	TR	*			*	25	*	*	*	15	**	*		25	**	*	5.5(?)	0069-1L
1800.00	cut	Sh/Clst	40	*	**	TR	*		*	*	30	*		*	10	**	*		20	**	*	6.0	0075-1L
1830.00	cut	Sh/Clst	50	*	**	TR	*			*	15	**	*	*	10		*	*	25	*	*	5.5-6.0	0078-1L

Table 8A: Tabulation of carbon isotope data for EOM/EOM - fractions for well NOCS 32/4-1T2

Depth unit of measure: m

<u>Depth</u>	<u>Typ</u>	<u>Lithology</u>	<u>EOM</u>	<u>Saturated</u>	<u>Aromatic</u>	<u>NSO</u>	<u>Asphaltenes</u>	<u>Kerogen</u>	<u>Sample</u>
1170.00	cut	Sh/Clst	-	-30.17	-30.75	-	-	-	0020-1
1320.00	com	Composite sample	-	-31.27	-31.39	-	-	-	0090-0

Table 8B: Tabulation of cv values from carbon isotope data for well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Typ	Lithology	Saturated	Aromatic	cv value	Interpretation	Sample
1170.00	cut	Sh/Clst	-30.17	-30.75	-3.58	Marine	0020-1
1320.00	com	Composite sample	-31.27	-31.39	-2.22	Marine	0090-0

Depth unit of measure: m

Depth	Lithology	Ratio1	Ratio2	Ratio3	Ratio4	Ratio5	Ratio6	Ratio7	Ratio8	Ratio9	Rat.10	Rat.11	Rat.12	Rat.13	Rat.14	Sample
1170.00	Sh/Clst	9.09	0.90	0.22	2.94	0.75	0.02	-	-	-	0.02	0.69	0.70	0.23	9.67	0020-1
1340.00	Sh/Clst	8.31	0.89	0.23	3.00	0.75	0.03	-	-	-	0.02	0.67	0.69	0.22	9.72	0034-1

List of Triterpane Distribution Ratios

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Ratio 1:  $B / A$

Ratio 2:  $B / B+A$

Ratio 3:  $B / B+E+F$

Ratio 4:  $C / E$

Ratio 5:  $C / C+E$

Ratio 6:  $X / E$

Ratio 7:  $Z / E$

Ratio 8:  $Z / C$

Ratio 9:  $Z / Z+E$

Ratio 10:  $Q / E$

Ratio 11:  $E / E+F$

Ratio 12:  $C+D / C+D+E+F$

Ratio 13:  $D+F / C+E$

Ratio 14:  $J1 / J1+J2$  (%)



Table 9b: Variation in Sterane Distribution (peak height) SIR for Well NOCS 32/4-1T2

Depth unit of measure: m

<u>Depth</u>	<u>Lithology</u>	<u>Ratio1</u>	<u>Ratio2</u>	<u>Ratio3</u>	<u>Ratio4</u>	<u>Ratio5</u>	<u>Ratio6</u>	<u>Ratio7</u>	<u>Ratio8</u>	<u>Ratio9</u>	<u>Ratio10</u>	<u>Sample</u>
1170.00	Sh/Clst	0.04	2.11	44.32	0.39	0.95	0.14	0.11	0.28	0.02	0.41	0020-1
1340.00	Sh/Clst	0.05	2.29	44.40	0.41	0.95	0.15	0.12	0.29	0.02	0.41	0034-1

List of Sterane Distribution Ratios

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Ratio 1:  $a / a+j$

Ratio 2:  $q / q+t$  (%)

Ratio 3:  $2*(r+s) / (q+t + 2*(r+s))$  (%)

Ratio 4:  $a+b+c+d / h+k+l+n$

Ratio 5:  $r+s / r+s+q$

Ratio 6:  $u+v / u+v+q+r+s+t$

Ratio 7:  $u+v / u+v+i+m+n+q+r+s+t$

Ratio 8:  $r+s / q+r+s+t$

Ratio 9:  $q / t$

Ratio 10:  $r+s / t$

Table 9c: Raw triterpane data (peak height) m/z 191 SIR for Well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Lithology	P	Q	R	S	T	A	B	Z	C	Sample
		X	D	E	F	G	H	I	J1	J2	
		K1	K2	L1	L2	M1	M2				
1170.00	Sh/Clst	9384.4	6234.0	10582.4	19475.5	4558.7	13342.7	121328.5	0.0	847637.4	0020-1
		5977.6	128245.8	288577.9	131798.6	34234.5	385744.6	145260.5	8890.8	83031.9	
		4177.9	18171.3	3337.4	8504.0	1690.6	5612.9				
1340.00	Sh/Clst	15779.0	9213.3	14125.7	32221.5	11333.5	24378.9	202589.0	0.0	1345908.0	0034-1
		12279.6	177280.8	449009.8	219654.5	57900.6	600970.9	228567.7	13448.5	124890.7	
		5570.0	30524.9	4154.7	11933.1	0.0	9130.2				

Table 9d: Raw sterane data (peak height) m/z 217 SIR for Well NOCS 32/4-1T2

Depth unit of measure: m

Depth	Lithology	u	v	a	b	c	d	e	f	g	Sample
		h	i	j	k	l	m	n	o		
		p	q	r	s	t					
1170.00	Sh/Clst	67574.6	18436.5	17241.8	18446.5	14814.5	18825.7	12895.1	15084.8	122299.0	0020-1
		50393.1	28322.8	417000.0	22893.7	12127.0	18924.7	90495.4	32100.2		
		135864.0	7973.7	123227.3	26930.3	369298.3					
1340.00	Sh/Clst	109156.6	31817.3	29986.5	29093.2	24362.7	30231.0	21345.4	26295.4	171527.7	0034-1
		72245.8	49374.7	593807.4	35530.2	23391.5	35235.4	147720.2	52224.3		
		232569.9	12586.2	179654.2	39840.5	537121.5					

Depth unit of measure: m

Depth	Lithology	h	i	n	o	r	s	x	y	Sample
1170.00	Sh/Clst	61660.3	35837.0	73053.1	40267.6	62905.8	40751.6	33989.6	18699.6	0020-1
1340.00	Sh/Clst	89232.9	61435.5	120691.6	66911.1	91481.1	60884.4	72318.1	29992.3	0034-1

Table 9f: Raw triterpane data (peak height) m/z 177 SIR for Well NOCS 32/4-1T2

Depth unit of measure: m

<u>Depth</u>	<u>Lithology</u>	<u>25nor28aß</u>	<u>25nor30aß</u>	<u>Sample</u>
1170.00	Sh/Clst	13209.9	14407.2	0020-1
1340.00	Sh/Clst	22825.1	29605.7	0034-1