

4.3. Material Consumption and Costs

4.3.1. Mud volumes and usage

	m³		m³
Transferred from previous well	0	Centrifuges/mud cleaner	95
Volume received/back loaded	0	Desander/desilter	66
Volume built	4373	Left behind casing/well	345
Surface losses	1366	Formation losses	20
Dumped	1868	Unaccountable losses	-8
Shaker losses	306	Transferred to next well	315

(Mud transferred from previous well) + (volume received) + (volume built)
 - (mud transferred to next well) = (0 + 0 + 4,373 - 315) = 4,058 Used

4.3.2. Materials usage

Product	Unit Size	Unit Cost	Units Used	Cost	% Total
Drill water	m ³		1567		
Sea water	m ³		1812		
Barite	t	1,110.00	406	450,660.00	8.69
Bentonite	t	2,660.00	122	324,520.00	6.26
Pot. chloride	t	2,051.00	192	393,792.00	7.59
Lime	20 kg	37.60	600	22,560.00	0.44
Soda ash	25 kg	67.00	640	42,880.00	0.83
Bicarbonate	25 kg	80.00	84	6,720.00	0.13
IDVIS	25 kg	1,775.00	120	213,000.00	4.11
IDF FLR	25 kg	750.00	265	198,750.00	3.83
IDF FLR-XL	25 kg	758.00	1116	845,928.00	16.31
IDFLO HTR	25 kg	419.03	797	333,966.91	6.44
IDCAP	25 kg	1,870.00	302	564,740.00	10.89
IDBOND P	25 kg	875.00	275	240,625.00	4.64
Gluteraldehyde	200 lt.	8,176.00	9	73,584.00	1.42
Defoamer	25 lt.	311.00	75	23,325.00	0.45
HF100/brine	m ³	2,217.00	486	1,077,462.00	20.78
HF100	m ³	13,750.00	4	57,750.00	1.11
IDF HI-TEMP II	25 Kg	404.54	202	81,717.08	1.58
IDF POLYTEMP	25 Kg	2,980.95	3	8,942.85	0.17

Wyoming Bent	25 Kg	72.00	31	2,232.00	0.04
Sodium Chloride	t	1,351.36	163	220,271.68	4.25
CaCO ₃ Fine	25 kg	54.75	20	1,095.00	0.02
CaCO ₃ Medium	25 kg	54.75	20	1,095.00	0.02
Mica Fine	25 kg	97.00	3	291.00	0.01
					100.0

Cost/m	1,185.89 NOK
Cost/day	40,200.83 NOK
Cost/m	1,199.89 NOK
Total cost	5,185,907.52 NOK
Budget cost	7,353,165.71 NOK
% saved	29.5

As stated above in section 0.2.3, mud from the 17 1/2" hole was carried over to the 12 1/4" section. The resultant cost saving can be assessed by calculating the concentrations of chemicals in the KCl/Polymer system:

17 1/2" KCl Mud	Product concentration (kg/m ³)	Mud Volume (m ³)	Units	Cost per Unit (NOK)	Total Cost saved (NOK)
IDBOND P	11.44	467	214	1,870	400,180
KCl	94.40	467	44	2,051	90,244
IDF FLR XL	8.60	467	161	758	122,038
IDVIS	3.00	467	56	1,775	99,400
Barite	143.00	467	67	1,110	74,370
Soda ash	0.75	467	14	67	938
Lime	2.0	467	37	47	1,739
				Total:	788,909

NSEP 94/11

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**GEOCHEMICAL EVALUATION
WELL 7229/11-1**

by
K. Berge EPUX/41
A/S Norske Shell
June 1994

Distribution:

Statoil(1), Amoco(1), Amarada Hess(1), NPD(1) and Norske Shell(1)

2. INTRODUCTION

This report summarizes the results of a standard geochemical evaluation of well 7229/11-1 located in the eastern part of the Barents Sea

In the report the following units have been used; depth records in meters (m rkb), vitrinite measurements in %, hydrogen index (HI) values in mg/g TOC, S2 values in kg/t and total organic carbon (TOC) in %wt. Sulphur index (SI) in mgS/gTOC and thermally extractable sulphur (SS1), pyrolysable organic sulphur (SS2) and mineral sulphur (SS3) all in mgS/g rock.

3. DATABASE

The analytical work has been carried out by Shell Research Lab. (KSEPL) in Holland and Geolab Nor in Trondheim and consisted of the following analyses:

ANALYSIS	Number of Samples
	Total
Lithological Description	339
TOC (Geolab Nor)	332
TOC (KSEPL)	29
RE Pyrolysis (Geolab Nor)	82
RE Pyrolysis (KSEPL)	2
Vitrinite Reflectance	21
Kerogen Description	5
GHM PY-GC	9
GeoSulphur Analyser (GSA)	7

Geochemical Report for Well NOCS 7229/11-1

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Chapter 1

INTRODUCTION

The well NOCS 7229/11-1, analysed on behalf of A.S. Norske Shell is located on the Nordkappbanken in the southern part of the Nordkapp Basin, about some 100 km north-east of Nordkinnhalvøya. The well was drilled to a total depth of 4629 m

The main objectives of the study was

- to conduct a detailed description of the source rock potential of all stratigraphic units in the well
- to evaluate the thermal maturity throughout the well

Both screening analysis and pyrolysis were performed. Samples for analyses were selected in agreement with Norske Shell on a continuous basis. The well was analysed from 1100 - 4629 m (range of samples supplied to Geolab Nor). All analyses were conducted by Geolab Nor on cuttings samples.

1.1 General Comments

The cuttings samples were supplied unwashed in bags. The samples were washed, described and the samples were picked before analyses commenced.

1.2 Analytical Program

In accordance with the clients request and samples availability the following analytical programme was executed fro well NOCs 7229/11-1 in the section 1100 - 4629 m:

<u>Analysis type</u>	<u>No of sample</u>	<u>Figures</u>	<u>Tables</u>
Lithology description	339	2	1
TOC	332	2	1,2
Rock-Eval pyrolysis	82	3-7	2
Pyrolysis GC (GHM, S ₂)	8	8a-b,9a-b	3
GSA bulk pyrolysis	7	10a-b,11	4

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1100.00						0068
			100	Cont : cem, prp		0068-1L
				tr S/Sst : gy w, crs, l		0068-2L
				tr Sh/Clst: m gy		0068-3L
1110.00						0069
	0.74		75	Sh/Clst: m gy to drk gy		0069-3L
			15	Cont : cem, prp		0069-1L
			10	Sltst : gy w to lt gy w		0069-2L
1120.00						0070
	0.47		95	Sh/Clst: m gy to drk gy		0070-1L
			5	Cont : dd, prp		0070-2L
				tr Ca : gy w to or gy		0070-3L
1130.00						0071
	0.44		95	Sh/Clst: m gy to drk gy		0071-1L
			5	Cont : dd, prp		0071-2L
				tr Sh/Clst: lt brn to brn gy		0071-3L
1140.00						0072
	0.45		90	Sh/Clst: m gy to drk gy, slt		0072-1L
			10	Cont : dd, prp		0072-2L
				tr Sh/Clst: lt brn to brn gy		0072-3L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1150.00						0073
	0.47	85	Sh/Clst:	m gy to drk gy, slt		0073-1L
		15	Cont	: dd, prp		0073-2L
1160.00						0074
	0.64	85	Sh/Clst:	m gy to drk gy, slt		0074-1L
		15	Cont	: dd, prp		0074-2L
1170.00						0075
	0.62	85	Sh/Clst:	m gy to drk gy, slt, pyr		0075-1L
		15	Cont	: dd, prp		0075-2L
		tr	Marl	: lt or w		0075-3L
1180.00						0076
	0.54	80	Sh/Clst:	m gy to drk gy, slt, pyr		0076-1L
		15	Cont	: dd, prp		0076-2L
		5	Marl	: lt or w		0076-3L
1190.00						0077
	1.48	45	Sh/Clst:	m gy to drk gy		0077-1L
		45	Sh/Clst:	m brn to pl brn to brn gy		0077-3L
		10	Cont	: dd, prp		0077-2L
1200.00						0078
	1.96	75	Sh/Clst:	m gy to drk gy		0078-1L
		15	Sh/Clst:	m brn to pl brn to brn gy		0078-3L
		10	Cont	: dd, prp		0078-2L
		tr	Ca	: lt gy w to lt or		0078-4L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1210.00						0079
	1.45	45	Sh/Clst:	m gy to drk gy		0079-1L
		30	Ca	: lt gy w to lt or		0079-4L
		15	Sh/Clst:	m brn to pl brn to brn gy		0079-3L
		10	Cont	: dd, prp		0079-2L
1220.00						0080
	4.85	50	Ca	: lt gy w to lt or		0080-4L
		40	Sh/Clst:	m gy to drk gy		0080-1L
		5	Cont	: dd, prp		0080-2L
		5	Sh/Clst:	m brn to pl brn to brn gy		0080-3L
1230.00						0081
	9.84	100	Sh/Clst:	drk brn gy to brn blk		0081-1L
			tr Cont	: dd, prp		0081-2L
			tr Ca	: lt gy w to lt or		0081-3L
1240.00						0082
	8.96	100	Sh/Clst:	drk brn gy to brn blk to gy blk		0082-1L
			tr Cont	: dd, prp		0082-2L
			tr Ca	: lt gy w to lt or		0082-3L
			tr Sh/Clst:	lt gy		0082-4L
1250.00						0083
	11.00	100	Sh/Clst:	drk brn gy to brn blk to gy blk,		0083-1L
				pyr		
			tr Cont	: dd, prp		0083-2L
			tr Coal	: blk, wx		0083-3L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1260.00						0084
	12.20	100	Sh/Clst:	drk brn gy to brn blk to gy blk, pyr		0084-1L
1270.00						0085
	13.70	100	Sh/Clst:	drk brn gy to brn blk to gy blk, pyr		0085-1L
			tr Marl	: or gy		0085-2L
1280.00						0086
	12.50	50	Sh/Clst:	drk brn gy to brn blk to gy blk, pyr		0086-1L
			40 S/Sst	: lt gy w, f, crs, l		0086-4L
			5 Marl	: or gy		0086-2L
			5 Cont	: prp		0086-3L
			tr Sh/Clst:	lt gy to lt bl gy		0086-5L
1290.00						0087
	10.60	70	S/Sst	: lt gy w, f, crs, l		0087-3L
		25	Sh/Clst:	drk brn gy to brn blk to gy blk, pyr		0087-1L
			5 Sh/Clst:	lt gy to lt bl gy		0087-4L
			tr Cont	: prp		0087-2L
1300.00						0088
	11.60	90	S/Sst	: lt gy w, f, crs, l		0088-3L
		10	Sh/Clst:	drk brn gy to brn blk to gy blk, pyr		0088-1L
			tr Cont	: prp		0088-2L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1310.00						0089
	8.94		90	S/Sst : lt gy w, f, crs, l		0089-3L
			10	Sh/Clst: m gy to drk gy to m drk brn gy		0089-1L
				tr Cont : prp		0089-2L
				tr Sh/Clst: lt gy to lt bl gy		0089-4L
1320.00						0090
			100	S/Sst : lt gy w, f, crs, l		0090-3L
				tr Sh/Clst: m gy to drk gy to m drk brn gy		0090-1L
				tr Cont : prp		0090-2L
1330.00						0091
			95	S/Sst : lt gy w to lt y gy, f, crs, l		0091-3L
			5	Cont : prp		0091-2L
				tr Sh/Clst: m gy to drk gy to m drk brn gy		0091-1L
				tr Sh/Clst: lt gy to lt bl gy		0091-4L
1340.00						0092
	5.66		50	Sh/Clst: m gy to drk gy to m drk brn gy		0092-1L
			25	Cont : prp		0092-2L
			25	S/Sst : lt gy w to lt y gy, f, crs, l		0092-3L
1350.00						0093
	7.18		40	Sh/Clst: m gy to drk gy to m drk brn gy		0093-1L
			35	Cont : prp		0093-2L
			25	S/Sst : lt gy w to lt y gy, f, crs, l		0093-3L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1360.00						0094
	4.57	40	Sh/Clst:	m gy to drk gy to m drk brn gy		0094-1L
		35	Cont	: prp		0094-2L
		25	S/Sst	: lt gy w to lt y gy, f, crs, l		0094-3L
1370.00						0095
		55	S/Sst	: lt gy w to gy w, f, crs, l		0095-3L
		30	Cont	: prp, dd		0095-2L
	4.48	15	Sh/Clst:	m gy to drk gy		0095-1L
1380.00						0096
		65	S/Sst	: lt gy w to gy w, f, crs, l		0096-3L
		25	Cont	: prp, dd		0096-2L
	5.55	10	Sh/Clst:	m gy to drk gy		0096-1L
			tr Ca	: or gy		0096-4L
1390.00						0097
		85	S/Sst	: lt gy w to gy w, f, crs, l, kln		0097-3L
		10	Cont	: prp, dd		0097-2L
	4.21	5	Sh/Clst:	m gy to drk gy		0097-1L
			tr Ca	: or gy		0097-4L
1400.00						0098
		100	S/Sst	: lt gy w to gy w, f, crs, l		0098-1L
			tr Cont	: prp, dd		0098-2L
1410.00						0099
		85	S/Sst	: lt gy w to gy w, f, crs, l, kln		0099-1L
	2.55	10	Sh/Clst:	lt gy to m gy		0099-3L
		5	Cont	: prp, dd		0099-2L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1420.00						0100
			95	S/Sst : lt gy w to gy w, f, crs, l, kln		0100-1L
			5	Sh/Clst: lt gy to m gy to drk gy		0100-3L
			tr	Cont : prp, dd		0100-2L
			tr	Coal : brn blk to blk, wx		0100-4L
1430.00						0101
			70	S/Sst : lt gy w to gy w, crs, l, kln		0101-1L
			20	Sltst : lt gy		0101-5L
			5	Sh/Clst: lt gy to m gy to drk gy		0101-3L
			5	Coal : brn blk to blk, wx		0101-4L
			tr	Cont : prp, dd		0101-2L
1440.00						0102
	3.90		30	Sh/Clst: lt gy to m gy to drk gy		0102-3L
			30	Sltst : lt gy		0102-4L
			25	Cont : prp, dd		0102-2L
			15	S/Sst : lt gy w to gy w, crs, l, kln		0102-1L
1450.00						0103
	2.48		45	Sh/Clst: lt gy to m gy to drk gy		0103-3L
			30	Sltst : lt gy		0103-4L
			15	Cont : prp, dd		0103-2L
			10	S/Sst : lt gy w to gy w, crs, l, kln		0103-1L
1460.00						0104
			65	Sltst : lt gy		0104-4L
	4.46		35	Sh/Clst: m gy to drk gy		0104-3L
			tr	S/Sst : lt gy w to gy w, crs, l		0104-1L
			tr	Cont : prp, dd		0104-2L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1470.00						0105
	4.58		55	Sltst : lt gy		0105-2L
			45	Sh/Clst: m gy to drk gy		0105-1L
				tr Ca : or gy		0105-3L
				tr Cont : prp		0105-4L
1480.00						0106
	5.01		80	Sltst : lt gy		0106-2L
			20	Sh/Clst: m gy to drk gy		0106-1L
				tr S/Sst : lt gy w to gy w, f, l		0106-3L
				tr Cont : prp		0106-4L
1490.00						0107
			95	Sltst : lt gy		0107-2L
			5	Sh/Clst: m gy to drk gy		0107-1L
				tr S/Sst : lt gy w to gy w, f, l		0107-3L
				tr Cont : prp		0107-4L
1500.00						0108
			95	Sltst : lt gy		0108-2L
			5	Sh/Clst: m gy to drk gy		0108-1L
				tr S/Sst : lt gy w to gy w, f, l		0108-3L
				tr Cont : prp		0108-4L
1510.00						0109
	4.24		40	Sltst : lt gy		0109-2L
			25	Sh/Clst: m gy to drk gy		0109-1L
			20	Cont : prp		0109-4L
			15	S/Sst : lt gy w to gy w, f, l		0109-3L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1520.00						0110
				70 S/Sst : lt gy w to gy w, f, l, kln		0110-3L
				20 Cont : prp		0110-4L
				10 Sltst : lt gy		0110-2L
				tr Sh/Clst: m gy to drk gy		0110-1L
1530.00						0111
	1.19			60 Sh/Clst: m gy to drk gy		0111-1L
				15 Sltst : gy w to lt gy		0111-2L
				10 Sh/Clst: gy brn to pl brn		0111-3L
				10 Cont : dd, prp		0111-5L
				5 S/Sst : gy w to lt gy w, f, l		0111-4L
1540.00						0112
	2.61			40 Sh/Clst: m gy to drk gy		0112-1L
				25 Sltst : gy w to lt gy		0112-2L
				15 Sh/Clst: gy brn to pl brn		0112-3L
				15 Cont : dd, prp		0112-5L
				5 Ca : or gy		0112-6L
				tr S/Sst : gy w to lt gy w, f, l		0112-4L
1550.00						0113
				70 Cont : dd, prp		0113-5L
				15 Sh/Clst: m gy to drk gy		0113-1L
				10 Sltst : gy w to lt gy		0113-2L
				5 Sh/Clst: gy brn to pl brn		0113-3L
				tr S/Sst : gy w to lt gy w, f, l		0113-4L
1560.00						0114
	0.79			30 Sh/Clst: m gy to brn gy		0114-1L
				30 Sh/Clst: gy brn to pl brn		0114-3L
				20 Cont : prp, dd		0114-6L
				10 Sltst : gy w to lt gy		0114-2L
				10 Sh/Clst: lt bl gy to pl ol, wx		0114-5L
				tr S/Sst : gy w to lt gy w, f, l		0114-4L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1570.00						0115
	0.19	70	Sh/Clst:	lt gy to m gy		0115-1L
		15	Sh/Clst:	gy brn to pl brn		0115-2L
		10	Cont	: prp, dd		0115-5L
		5	Sh/Clst:	lt bl gy to pl ol, wx		0115-4L
		tr	S/Sst	: gy w to lt gy w, f, l		0115-3L
1580.00						0116
	0.30	60	Sh/Clst:	lt gy to m gy		0116-1L
		20	Cont	: prp, dd		0116-5L
		10	S/Sst	: gy w to lt gy w, f, l		0116-3L
		5	Sh/Clst:	gy brn to pl brn		0116-2L
		5	Sh/Clst:	lt bl gy to pl ol, wx		0116-4L
1590.00						0117
	0.30	60	Sh/Clst:	lt gy to m gy		0117-1L
		20	Cont	: prp, dd		0117-5L
		10	S/Sst	: gy w to lt gy w, f, l		0117-3L
		5	Sh/Clst:	gy brn to pl brn		0117-2L
		5	Sh/Clst:	lt bl gy to pl ol, wx		0117-4L
1600.00						0118
	0.28	55	Sh/Clst:	lt gy to m gy		0118-1L
		20	Sh/Clst:	gy brn to pl brn		0118-2L
		15	S/Sst	: gy w to lt gy w, f, l		0118-3L
		5	Sh/Clst:	lt bl gy to pl ol, wx		0118-4L
		5	Cont	: prp, dd		0118-5L
1610.00						0119
	0.34	60	Sh/Clst:	lt gy to m gy		0119-1L
		10	S/Sst	: gy w to lt gy w, f, l		0119-3L
		10	Sh/Clst:	lt bl gy to pl ol, wx		0119-4L
		10	Sltst	: lt gy		0119-6L
		5	Sh/Clst:	gy brn to pl brn		0119-2L
		5	Cont	: prp, dd		0119-5L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1620.00						0120
	0.29		35	Sh/Clst: lt gy to bl gy		0120-1L
			30	Sltst : gy w to lt gy		0120-3L
			25	Sh/Clst: brn blk, carb		0120-2L
			10	Cont : prp, dd		0120-4L
			tr	Sh/Clst: m brn to pl brn		0120-5L
1630.00						0121
	0.18		60	Sh/Clst: lt gy to bl gy		0121-1L
			30	Sltst : gy w to lt gy		0121-3L
			5	Cont : prp, dd		0121-4L
			5	Sh/Clst: m brn to pl brn		0121-5L
			tr	Sh/Clst: brn blk, carb		0121-2L
1640.00						0122
	0.34		50	Sh/Clst: lt gy to m gy to bl gy to pl ol		0122-1L
				gy		
			35	Sltst : gy w to lt gy, s		0122-2L
			10	Cont : dd		0122-4L
			5	Sh/Clst: brn blk to blk, wx		0122-3L
1650.00						0123
	0.31		55	Sltst : gy w to lt gy, s		0123-2L
			35	Sh/Clst: lt gy to m gy to bl gy to pl ol		0123-1L
				gy		
			5	Sh/Clst: m brn to pl brn		0123-4L
			5	Cont : dd, prp		0123-5L
			tr	Sh/Clst: brn blk to blk, wx		0123-3L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1660.00						0124
	0.38		65	Sltst : gy w to lt gy, s		0124-2L
			25	Sh/Clst: lt gy to m gy to bl gy to pl ol gy		0124-1L
			10	Cont : dd, prp		0124-4L
			tr	Sh/Clst: m brn to pl brn		0124-3L
			tr	Ca : lt or gy		0124-5L
1670.00						0125
	0.57		65	S/Sst : lt gy w to gy w, f, crs, l		0125-1L
			25	Sh/Clst: lt gy to m gy to pl ol gy		0125-2L
			5	Coal : blk, wx		0125-3L
			5	Cont : dd, prp		0125-4L
1680.00						0126
	0.59		70	S/Sst : lt gy w to gy w, f, crs, l		0126-1L
			20	Sh/Clst: lt gy to m gy to pl ol gy		0126-2L
			10	Cont : dd, prp		0126-4L
			tr	Coal : blk, wx		0126-3L
			tr	Ca : lt or gy		0126-5L
1690.00						0127
	4.03		45	S/Sst : gy w, f, l		0127-1L
			35	Sh/Clst: m gy to drk gy to brn gy to dsk brn		0127-2L
			10	Sltst : gy w to lt gy, s		0127-3L
			10	Cont : dd, prp		0127-4L
1700.00						0128
	1.03		65	Sh/Clst: m gy to drk gy to brn gy to dsk brn		0128-2L
			25	S/Sst : gy w, f, l		0128-1L
			10	Cont : dd, prp		0128-3L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1710.00						0129
	0.75	50	Sh/Clst:	m gy to drk gy to brn gy to dsk brn		0129-1L
		40	Sltst	: gy w to lt gy		0129-3L
		5	Cont	: dd, prp		0129-2L
		5	Ca	: or gy		0129-4L
1720.00						0130
	0.89	60	Sltst	: gy w to lt gy, l, kln		0130-3L
		35	Sh/Clst:	m gy to drk gy to lt brn gy		0130-1L
		5	Cont	: dd, prp		0130-2L
		tr	Ca	: or gy		0130-4L
1730.00						0131
	0.69	70	S/Sst	: gy w to lt gy, slt, l, kln		0131-3L
		30	Sh/Clst:	m gy to drk gy to lt brn gy		0131-1L
		tr	Cont	: dd, prp		0131-2L
1740.00						0132
	0.67	80	Sh/Clst:	m gy to drk gy to lt brn gy		0132-1L
		20	S/Sst	: gy w to lt gy, slt, l, kln		0132-3L
		tr	Cont	: dd, prp		0132-2L
		tr	Sh/Clst:	m brn to pl brn		0132-4L
1750.00						0133
	0.94	85	Sh/Clst:	m gy to drk gy to lt brn gy		0133-1L
		15	S/Sst	: gy w to lt gy, slt, l, kln		0133-3L
		tr	Cont	: dd, prp		0133-2L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1760.00						0134
	0.70	85	Sh/Clst:	m gy to drk gy to lt brn gy		0134-1L
		10	S/Sst	: gy w to lt gy, slt, l, kln		0134-3L
		5	Cont	: dd, prp		0134-2L
1770.00						0135
	0.83	60	Sh/Clst:	m gy to drk gy to lt brn gy		0135-1L
		15	S/Sst	: gy w to lt gy, slt, l, kln		0135-3L
		15	Ca	: or gy		0135-4L
		10	Cont	: dd, prp		0135-2L
1780.00						0136
	0.90	75	Sh/Clst:	m gy to drk gy to lt brn gy		0136-1L
		15	Slstst	: gy w to lt gy, s		0136-3L
		5	Cont	: dd, prp		0136-2L
		5	Ca	: or gy		0136-4L
1790.00						0137
	0.73	80	Sh/Clst:	m gy to drk gy to lt brn gy		0137-1L
		15	Slstst	: gy w to lt gy, s		0137-3L
		5	Cont	: dd, prp		0137-2L
1800.00						0138
	2.54	80	Sh/Clst:	m gy to drk gy to lt brn gy		0138-1L
		15	Slstst	: gy w to lt gy, s		0138-3L
		5	Cont	: dd, prp		0138-2L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1810.00						0139
	0.89	85	Sh/Clst:	m gy to drk gy to lt brn gy		0139-1L
		10	Sltst	: gy w to lt gy, s		0139-3L
		5	Cont	: dd, prp		0139-2L
1820.00						0140
	1.17	90	Sh/Clst:	m gy to drk gy		0140-1L
		10	Sltst	: gy w to lt gy, s		0140-3L
		tr	Cont	: dd, prp		0140-2L
1830.00						0141
	1.26	90	Sh/Clst:	m gy to drk gy		0141-1L
		5	Cont	: dd, prp		0141-2L
		5	Sltst	: gy w to lt gy, s		0141-3L
1840.00						0142
	1.45	90	Sh/Clst:	m gy to drk gy		0142-1L
		5	Cont	: dd, prp		0142-2L
		5	Sltst	: gy w to lt gy, s		0142-3L
1850.00						0143
	1.30	90	Sh/Clst:	m gy to drk gy		0143-1L
		5	Cont	: dd, prp		0143-2L
		5	Sltst	: gy w to lt gy, s		0143-3L
1860.00						0144
	1.39	75	Sh/Clst:	m gy to drk gy		0144-1L
		15	Cont	: dd, prp		0144-2L
		10	Sltst	: gy w to lt gy, s		0144-3L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1870.00						0001
	1.01	50	Sh/Clst:	m gy to drk gy		0001-1L
		30	Cont	: prp, dd		0001-3L
		20	Sltst	: lt gy w		0001-2L
1880.00						0002
	1.06	70	Sh/Clst:	m gy to drk gy		0002-1L
		20	Sltst	: lt gy w		0002-2L
		10	Cont	: prp, dd		0002-3L
		tr	S/Sst	: lt gy w, f, l		0002-4L
1890.00						0003
	0.92	70	S/Sst	: lt gy w, f, l		0003-4L
		30	Sh/Clst:	m gy		0003-1L
		tr	Sltst	: lt gy w		0003-2L
		tr	Cont	: prp, dd		0003-3L
1900.00						0004
	0.92	35	Sh/Clst:	m gy		0004-1L
		35	Sltst	: lt gy w, l		0004-2L
		20	S/Sst	: lt gy w, f, crs, l		0004-4L
		10	Cont	: prp, dd		0004-3L
1910.00						0005
	1.14	50	Sh/Clst:	m gy to lt brn gy		0005-1L
		30	Sltst	: lt gy w, l		0005-2L
		20	Cont	: prp, dd		0005-3L
		tr	Sh/Clst:	gy brn to drk y brn		0005-4L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1920.00						0006
	1.60			55 Sltst : lt gy w to lt gy, l, cly 30 Sh/Clst: m gy to lt brn gy 15 Cont : prp, dd tr Sh/Clst: gy brn to drk y brn		0006-2L 0006-1L 0006-3L 0006-4L
1930.00						0007
	1.48			30 Sltst : lt gy w to lt gy, l, cly 30 Sh/Clst: gy brn to drk y brn 25 Sh/Clst: m gy to lt brn gy 15 Cont : prp, dd		0007-2L 0007-4L 0007-1L 0007-3L
1940.00						0008
	1.14			65 Sltst : lt gy w to lt gy, l, calc 35 Sh/Clst: lt gy to m gy to lt brn gy tr Cont : prp, dd tr Sh/Clst: gy brn		0008-2L 0008-1L 0008-3L 0008-4L
1950.00						0009
	0.75			45 Sh/Clst: lt gy to m gy to lt brn gy 35 Sltst : lt gy w to lt gy, l, calc 15 Cont : prp, dd 5 Sh/Clst: gy brn		0009-1L 0009-2L 0009-3L 0009-4L
1960.00						0010
	1.09			45 Sh/Clst: lt gy to m gy to lt brn gy to brn gy 35 Sltst : lt gy w to lt gy, l, s 10 Cont : prp, dd 10 Sh/Clst: gy brn to pl brn to lt pu		0010-1L 0010-2L 0010-3L 0010-4L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
1970.00						0011	
	1.07	50	Sh/Clst: lt gy to m gy to lt brn gy to brn gy			0011-1L	
		40	Sltst : lt gy w to lt gy, l, s			0011-2L	
		5	Cont : prp, dd			0011-3L	
		5	Sh/Clst: gy brn to pl brn to lt pu			0011-4L	
1980.00						0012	
	1.39	40	Sh/Clst: lt gy to m gy to lt brn gy to brn gy			0012-1L	
		35	Cont : prp, dd			0012-3L	
		25	Sltst : lt gy w to lt gy, l, s			0012-2L	
		tr	Sh/Clst: gy brn to pl brn to lt pu			0012-4L	
1990.00						0013	
	0.96	55	Sltst : lt gy w to lt gy, l, s			0013-2L	
		45	Sh/Clst: lt gy to m gy to lt brn gy			0013-1L	
		tr	Cont : prp, dd			0013-3L	
		tr	Sh/Clst: gy brn to pl brn to lt pu			0013-4L	
2000.00						0014	
	0.86	50	Sh/Clst: m gy to lt brn gy to brn gy			0014-1L	
		30	Sltst : lt gy, l, s			0014-2L	
		20	Cont : dd, prp			0014-3L	
		tr	Ca : or w			0014-4L	
		tr	Sh/Clst: lt bl gn, wx			0014-5L	
2010.00						0015	
	0.76	65	Sh/Clst: lt gy to m gy to lt brn gy			0015-1L	
		25	Sltst : lt gy, l, s			0015-2L	
		10	Cont : dd, prp			0015-3L	

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
2020.00						0016	
	1.23	70	Sh/Clst: lt gy to m gy to lt brn gy			0016-1L	
		25	Sltst : lt gy, l, s			0016-2L	
		5	Cont : dd, prp			0016-3L	
		tr	Sh/Clst: gy brn to m brn			0016-4L	
2030.00						0017	
	0.90	65	Sh/Clst: lt gy to m gy to lt brn gy			0017-1L	
		20	Sltst : lt gy, l, s			0017-2L	
		10	Cont : dd, prp			0017-3L	
		5	Sh/Clst: gy brn to m brn			0017-4L	
		tr	Coal : blk, wx			0017-5L	
2040.00						0018	
		60	Sltst : lt gy, l, s			0018-2L	
	1.11	30	Sh/Clst: lt gy to m gy to lt brn gy to brn gy			0018-1L	
		10	Cont : dd, prp			0018-3L	
2050.00						0019	
	1.98	55	Sh/Clst: m gy to lt brn gy to brn gy			0019-1L	
		40	Sltst : lt gy, l, s			0019-2L	
		5	Cont : dd, prp			0019-3L	
2060.00						0020	
	1.20	55	Sh/Clst: m gy to lt brn gy to brn gy			0020-1L	
		40	Sltst : lt gy, l, s			0020-2L	
		5	Cont : dd, prp			0020-3L	

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2070.00						0021
	1.64		70	Sltst : lt gy, l, s		0021-2L
			30	Sh/Clst: m gy to lt brn gy to brn gy		0021-1L
				tr Cont : dd, prp		0021-3L
2080.00						0022
	2.11		50	Sltst : lt gy, l, s		0022-2L
			35	Sh/Clst: m gy to lt brn gy to brn gy		0022-1L
			15	Cont : dd, prp		0022-3L
				tr Coal : blk, wx		0022-4L
2090.00						0023
	2.17		75	Sltst : lt gy, l, s		0023-2L
			20	Sh/Clst: m gy to brn gy to m brn gy		0023-1L
			5	Cont : dd, prp		0023-3L
2100.00						0024
	1.81		65	Sh/Clst: lt brn gy to m gy to drk gy		0024-1L
			35	Sltst : gy w to lt gy, s		0024-2L
				tr Cont : dd		0024-3L
2110.00						0025
	1.45		50	Sh/Clst: lt brn gy to m gy to drk gy		0025-1L
			50	Sltst : gy w to lt gy, s		0025-2L
				tr Cont : dd		0025-3L
2120.00						0026
	1.80		50	Sh/Clst: lt brn gy to m gy to drk gy		0026-1L
			40	Sltst : gy w to lt gy, s		0026-2L
			10	Cont : dd		0026-3L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2130.00						0027
	1.30	70	Sh/Clst:	lt gy to m gy to lt brn gy		0027-1L
		30	Sltst	: gy w to lt gy, s		0027-2L
			tr Cont	: dd		0027-3L
2140.00						0028
	1.45	75	Sh/Clst:	lt gy to m gy to lt brn gy		0028-1L
		15	Sltst	: gy w to lt gy, s		0028-2L
		10	Cont	: prp		0028-3L
2150.00						0029
	2.99	80	Sh/Clst:	lt gy to m gy to lt brn gy		0029-1L
		15	Cont	: prp		0029-3L
		5	Sltst	: gy w to lt gy, s		0029-2L
2160.00						0030
	2.48	70	Sh/Clst:	lt gy to m gy to lt brn gy		0030-1L
		25	Sltst	: gy w to lt gy, cly		0030-2L
		5	Cont	: prp, dd		0030-3L
2170.00						0031
	3.23	70	Sh/Clst:	lt gy to m gy to lt brn gy		0031-1L
		25	Sltst	: gy w to lt gy, cly		0031-2L
		5	Cont	: prp, dd		0031-3L
2180.00						0032
	2.18	70	Sh/Clst:	lt gy to m gy to lt brn gy		0032-1L
		25	Sltst	: gy w to lt gy, cly		0032-2L
		5	Cont	: prp, dd		0032-3L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2190.00						0033
	0.97	80	Sh/Clst:	lt gy to m gy to lt brn gy		0033-1L
		20	Sltst :	gy w to lt gy, cly, s		0033-2L
			tr Cont :	prp, dd		0033-3L
2200.00						0034
	1.02	100	Sh/Clst:	lt gy to m gy to lt brn gy, slt		0034-1L
			tr Cont :	prp, dd		0034-2L
2210.00						0035
	1.08	75	Sh/Clst:	lt gy to m gy to lt brn gy, slt		0035-1L
		25	Sltst :	lt gy, s		0035-3L
			tr Cont :	prp, dd		0035-2L
2220.00						0036
	0.64	85	Sh/Clst:	lt gy to m gy to lt brn gy, slt		0036-1L
		15	Sltst :	lt gy, s		0036-3L
			tr Cont :	prp, dd		0036-2L
2230.00						0037
	0.59	85	Sh/Clst:	lt gy to m gy to lt brn gy, slt		0037-1L
		15	Sltst :	lt gy, s		0037-3L
			tr Cont :	prp, dd		0037-2L
2240.00						0038
	0.63	90	Sh/Clst:	lt gy to m gy to lt brn gy, slt		0038-1L
		10	Sltst :	lt gy, s		0038-3L
			tr Cont :	prp, dd		0038-2L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
2250.00						0039	
	0.60	70	Sh/Clst:	lt gy to m gy to lt brn gy, slt		0039-1L	
		30	Marl	: lt brn gy		0039-4L	
			tr Cont	: prp, dd		0039-2L	
			tr Sltst	: lt gy		0039-3L	
2260.00						0040	
	0.53	80	Sh/Clst:	lt gy to m gy to lt brn gy		0040-1L	
		15	Marl	: lt gy		0040-4L	
		5	Sltst	: lt gy		0040-3L	
			tr Cont	: prp, dd		0040-2L	
			tr Sh/Clst:	gy brn to m brn		0040-5L	
2270.00						0041	
	0.44	85	Sh/Clst:	lt gy to m gy to lt brn gy		0041-1L	
		10	Cont	: prp, dd		0041-2L	
		5	Sltst	: lt gy		0041-3L	
			tr Sh/Clst:	gy brn to m brn		0041-4L	
2280.00						0042	
	0.42	90	Sh/Clst:	lt gy to m gy		0042-1L	
		5	Cont	: prp, dd		0042-2L	
		5	Sltst	: lt gy		0042-3L	
2290.00						0043	
	0.40	95	Sh/Clst:	lt gy to m gy		0043-1L	
		5	Sltst	: lt gy		0043-3L	
			tr Cont	: prp, dd		0043-2L	

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2300.00						0044
	0.39	50	Sh/Clst:	m gy to lt brn gy		0044-1L
		20	Sh/Clst:	m brn		0044-2L
		20	Sltst	: gy w to lt gy, s		0044-3L
		10	Ca	: lt or gy		0044-4L
		tr	Cont	: dd		0044-5L
2310.00						0045
	0.34	50	Sh/Clst:	m gy to lt brn gy		0045-1L
		20	Sh/Clst:	m brn		0045-2L
		20	Sltst	: gy w to lt gy, s		0045-3L
		10	Ca	: lt or gy		0045-4L
		tr	Cont	: dd		0045-5L
2320.00						0046
	0.49	70	Sh/Clst:	m gy to lt brn gy		0046-1L
		20	Sltst	: gy w to lt gy, s		0046-3L
		10	Sh/Clst:	m brn to pl brn		0046-2L
		tr	Ca	: lt or gy		0046-4L
		tr	Cont	: dd		0046-5L
2330.00						0047
	0.44	70	Sh/Clst:	m gy to lt brn gy		0047-1L
		25	Sltst	: gy w to lt gy, s		0047-3L
		5	Sh/Clst:	m brn to pl brn		0047-2L
		tr	Ca	: lt or gy		0047-4L
2340.00						0048
	0.43	70	Sh/Clst:	m gy to lt brn gy, slt		0048-1L
		20	Sh/Clst:	m brn to pl brn		0048-2L
		10	Sltst	: gy w to lt gy, s		0048-3L
		tr	Ca	: lt or gy		0048-4L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2350.00						0049
	0.50		45	Sh/Clst: m gy to lt brn gy, slt		0049-1L
			35	Sltst : gy w to lt gy, s, kln		0049-3L
			20	Sh/Clst: m brn to pl brn		0049-2L
			tr	Ca : lt or gy		0049-4L
2360.00						0050
	0.39		60	Sltst : gy w to lt gy, s, l, kln		0050-3L
			30	Sh/Clst: m gy to lt brn gy, slt		0050-1L
			10	Sh/Clst: m brn to pl brn		0050-2L
			tr	Cont : prp		0050-4L
2370.00						0051
	0.33		55	Sltst : gy w to lt gy, s, l, kln		0051-3L
			35	Sh/Clst: m gy to lt brn gy, slt		0051-1L
			10	Cont : prp		0051-4L
			tr	Sh/Clst: m brn to pl brn		0051-2L
			tr	Coal : blk, wx		0051-5L
2380.00						0052
	0.59		70	Sh/Clst: m gy to lt brn gy, slt		0052-1L
			25	Sltst : gy w to lt gy, s, l, kln		0052-3L
			5	Cont : prp		0052-4L
			tr	Sh/Clst: m brn to pl brn		0052-2L
2390.00						0053
	0.37		80	Sh/Clst: m gy to lt brn gy, slt		0053-1L
			20	Sltst : gy w to lt gy, s, l, kln		0053-2L
			tr	Cont : prp		0053-3L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2400.00						0054
	0.52	80	Sh/Clst:	m gy to lt brn gy, slt		0054-1L
		20	Sltst	: gy w to lt gy, s, l, kln		0054-2L
			tr Cont	: prp		0054-3L
2410.00						0055
	0.46	80	Sh/Clst:	m gy to lt brn gy, slt		0055-1L
		20	Sltst	: gy w to lt gy, s, l, kln		0055-2L
			tr Cont	: prp		0055-3L
2420.00						0056
	0.51	90	Sh/Clst:	m gy to lt brn gy, slt		0056-1L
		10	Sltst	: gy w to lt gy, s, l, kln		0056-2L
2430.00						0057
	0.41	85	Sh/Clst:	m gy to lt brn gy, slt		0057-1L
		10	Cont	: prp, dd		0057-3L
		5	Sltst	: gy w to lt gy, l, kln		0057-2L
			tr Coal	: brn blk to blk, cly		0057-4L
2440.00						0058
	0.35	75	Sh/Clst:	m gy, sft		0058-1L
		20	Cont	: prp, dd		0058-3L
		5	Sltst	: gy w to lt gy, l, kln		0058-2L
2450.00						0059
	0.61	55	Sh/Clst:	m gy, sft		0059-1L
		40	Cont	: prp, dd		0059-3L
		5	Sltst	: gy w to lt gy, l, calc		0059-2L
			tr Sh/Clst:	brn blk, carb, wx, trbofgs		0059-4L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2460.00						0060
	0.90		50	Cont	: prp, dd	0060-3L
			45	Sh/Clst:	m gy, sft	0060-1L
			5	Sltst	: gy w to lt gy, l, calc	0060-2L
			tr	Sh/Clst:	brn blk, carb, wx, trbofgs	0060-4L
2470.00						0061
	0.36		60	Sh/Clst:	m gy to lt brn gy, sft	0061-1L
			35	Cont	: prp, dd	0061-3L
			5	Sltst	: gy w to lt gy, l, calc	0061-2L
			tr	Sh/Clst:	gy brn to m brn	0061-4L
2480.00						0062
	0.38		55	Sltst	: gy w to lt gy, s, kln	0062-2L
			40	Sh/Clst:	m gy to lt brn gy, sft	0062-1L
			5	Cont	: prp, dd	0062-3L
			tr	Sh/Clst:	gy brn to m brn	0062-4L
2490.00						0063
	0.87		75	Sh/Clst:	m gy to lt brn gy, sft	0063-1L
			20	Sltst	: gy w to lt gy, s, kln	0063-2L
			5	Cont	: prp, dd	0063-3L
			tr	Marl	: lt or brn	0063-4L
2500.00						0064
	0.56		80	Sh/Clst:	m gy to lt brn gy to gy gn	0064-1L
			15	Sltst	: gy w to lt gy, s, kln	0064-2L
			5	Cont	: prp, dd, sft	0064-3L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2510.00						0065
	0.43	60	Sh/Clst:	m gy to lt brn gy to gy gn		0065-1L
		20	Sltst	: gy w to lt gy, s, kln		0065-2L
		20	Cont	: prp, dd, sft		0065-3L
2520.00						0066
	0.49	50	Sh/Clst:	m gy to lt brn gy to gy gn		0066-1L
		30	Cont	: prp, dd, sft		0066-3L
		20	Sltst	: gy w to lt gy, s, kln		0066-2L
2530.00						0067
	0.31	85	Sh/Clst:	m gy to lt brn gy to gy gn		0067-1L
		15	Cont	: prp, dd, sft		0067-3L
		tr	Sltst	: gy w to lt gy, s, kln		0067-2L
2540.00						0145
	0.37	90	Sh/Clst:	m gy		0145-1L
		10	Cont	: prp, dd		0145-2L
		tr	Sltst	: gy w to lt gy, s, kln		0145-3L
2550.00						0146
	0.39	85	Sh/Clst:	m gy		0146-1L
		10	Cont	: prp, dd		0146-2L
		5	Sltst	: gy w to lt gy, s, kln		0146-3L
		tr	Kaolin	: lt gy w		0146-4L
2560.00						0147
		50	Sh/Clst:	m gy		0147-1L
		30	Cont	: prp, dd		0147-2L
		10	Sltst	: gy w to lt gy, s, kln		0147-3L
		10	Sh/Clst:	pl brn		0147-4L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2570.00						0148
	0.36		75	Sh/Clst: m gy		0148-1L
			10	Cont : prp, dd		0148-2L
			10	Sltst : gy w to lt gy, s, kln		0148-3L
			5	Sh/Clst: pl brn		0148-4L
2580.00						0149
	0.33		85	Sh/Clst: m gy		0149-1L
			10	Cont : prp, dd		0149-2L
			5	Sltst : gy w to lt gy, s, kln		0149-3L
2590.00						0150
			75	Sh/Clst: m gy		0150-1L
			15	Kaolin : lt gy w		0150-4L
			5	Cont : prp, dd		0150-2L
			5	Sltst : gy w to lt gy, s, kln		0150-3L
2600.00						0151
			70	Sh/Clst: m gy		0151-1L
			15	Cont : prp, dd, trbofgs		0151-2L
			15	Kaolin : lt gy w		0151-4L
			tr	Sltst : gy w to lt gy, s, kln		0151-3L
2610.00						0152
	0.41		85	Sh/Clst: m gy		0152-1L
			10	Cont : dd, prp		0152-2L
			5	Sltst : lt gy		0152-3L
			tr	Sh/Clst: pl brn		0152-4L
			tr	Coal : blk, wx		0152-5L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2620.00						0153
	0.38	80	Sh/Clst:	m gy		0153-1L
		10	Cont	: dd, prp		0153-2L
		10	Sltst	: lt gy		0153-3L
		tr	Sh/Clst:	pl brn		0153-4L
2630.00						0154
	0.34	60	Sh/Clst:	m gy		0154-1L
		30	Sltst	: lt gy, mic, pyr		0154-3L
		10	Cont	: dd, prp		0154-2L
		tr	Coal	: blk, wx		0154-4L
2640.00						0155
	0.32	70	Sh/Clst:	m gy		0155-1L
		20	Sltst	: lt gy, mic, pyr, kln		0155-3L
		10	Cont	: dd, prp		0155-2L
2650.00						0156
	0.30	75	Sh/Clst:	m gy		0156-1L
		15	Cont	: dd, prp		0156-2L
		10	Sltst	: lt gy, mic, pyr, kln		0156-3L
2660.00						0157
	0.28	60	Sh/Clst:	m gy		0157-1L
		25	Cont	: dd, prp		0157-2L
		15	Sltst	: lt gy, mic, kln		0157-3L
		tr	Sh/Clst:	m brn to pl brn		0157-4L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
2670.00						0158	
	0.28	60	Sh/Clst:	m gy		0158-1L	
		30	Cont	: dd, prp		0158-2L	
		10	Sltst	: lt gy, mic, kln		0158-3L	
2680.00						0159	
	0.25	60	Sh/Clst:	m gy		0159-1L	
		25	Sltst	: lt gy, mic, kln		0159-3L	
		15	Cont	: dd, prp		0159-2L	
2690.00						0160	
	0.28	60	Sh/Clst:	m gy		0160-1L	
		25	Sltst	: gy w to lt gy, mic, kln		0160-3L	
		15	Cont	: dd, prp		0160-2L	
2700.00						0161	
	0.24	75	Sh/Clst:	m gy		0161-1L	
		15	Sltst	: gy w to lt gy, mic, kln, s		0161-3L	
		10	Cont	: dd, prp		0161-2L	
2710.00						0162	
	0.30	60	Sh/Clst:	m gy, fis		0162-1L	
		25	Cont	: dd, prp		0162-2L	
		15	Sltst	: gy w to lt gy, mic, kln, s		0162-3L	
2720.00						0163	
	0.37	55	Sh/Clst:	m gy, fis		0163-1L	
		35	Cont	: dd, prp		0163-2L	
		10	Sltst	: gy w to lt gy, mic, kln, s		0163-3L	

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2730.00						0164
	0.36	70	Sh/Clst:	m gy, fis		0164-1L
		20	Cont	: dd, prp		0164-2L
		10	Sltst	: gy w to lt gy, kln		0164-3L
		tr	Sh/Clst:	drk gy to brn blk, carb		0164-4L
2750.00						0165
	0.32	60	Sh/Clst:	m gy		0165-1L
		35	Cont	: dd, prp		0165-2L
		5	Sltst	: gy w to lt gy, kln, mic		0165-3L
		tr	Sh/Clst:	drk gy to brn blk, carb		0165-4L
2760.00						0167
	0.32	70	Sh/Clst:	m gy		0167-1L
		15	Sltst	: gy w to lt gy, s		0167-2L
		15	Cont	: prp, dd, trbofgs		0167-3L
		tr	Sh/Clst:	m brn		0167-4L
		tr	Coal	: blk, wx		0167-5L
2770.00						0168
	0.40	85	Sh/Clst:	m gy		0168-1L
		10	Cont	: prp, dd, trbofgs		0168-3L
		5	Sltst	: gy w to lt gy, s		0168-2L
		tr	Sh/Clst:	m brn to pl brn		0168-4L
2780.00						0169
	0.35	60	Sh/Clst:	m gy		0169-1L
		30	Sltst	: gy w to lt gy, s, kln		0169-2L
		10	Cont	: prp, dd, trbofgs		0169-3L
		tr	Sh/Clst:	m brn to pl brn		0169-4L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2790.00						0170
	0.41	70	Sh/Clst:	m gy to brn gy		0170-1L
		20	Sltst	: gy w to lt gy, mic, s, kln		0170-2L
		10	Cont	: prp, dd, trbofgs		0170-3L
		tr	Sh/Clst:	m brn to pl brn		0170-4L
2800.00						0171
	0.37	65	Sh/Clst:	m gy to brn gy		0171-1L
		20	Cont	: prp, dd, trbofgs		0171-3L
		15	Sltst	: gy w to lt gy, mic, s, kln		0171-2L
2810.00						0172
	0.38	75	Sh/Clst:	lt bl gy to m gy		0172-1L
		15	Cont	: prp, dd, trbofgs		0172-3L
		10	Sltst	: gy w to lt gy, mic, s, kln		0172-2L
2820.00						0173
	0.30	70	Sh/Clst:	m brn to drk brn		0173-1L
		15	S/Sst	: gy w to gy pi, f, slt, kln		0173-3L
		10	Sh/Clst:	m gy		0173-2L
		5	Cont	: prp, dd		0173-4L
2830.00						0174
	0.21	55	Sh/Clst:	m brn to drk brn		0174-1L
		15	S/Sst	: gy w to gy pi, f, slt, kln		0174-3L
		15	Sltst	: gy pi to pl brn		0174-5L
		10	Sh/Clst:	m gy		0174-2L
		5	Cont	: prp, dd		0174-4L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2840.00						0175
	0.13	60	Sh/Clst:	m brn to drk brn		0175-1L
		15	Cont	: prp, dd		0175-4L
		10	Sh/Clst:	m gy		0175-2L
		10	Sltst	: gy pi to pl brn		0175-5L
		5	S/Sst	: gy w to gy pi, f, slt, kln		0175-3L
2850.00						0176
	0.17	35	Sltst	: gy pi to pl brn, mic		0176-5L
		30	Sh/Clst:	m brn to drk brn		0176-1L
		15	S/Sst	: gy w to gy pi, f, slt, kln		0176-3L
		10	Sh/Clst:	m gy		0176-2L
		10	Cont	: prp, dd		0176-4L
2860.00						0177
	0.15	65	Sh/Clst:	m brn to drk brn		0177-1L
		20	Sh/Clst:	m gy		0177-2L
		10	Sltst	: gy pi to pl brn, mic		0177-4L
		5	Cont	: prp, dd		0177-3L
2870.00						0178
	0.10	75	Sh/Clst:	m brn to drk brn		0178-1L
		10	Sh/Clst:	m gy		0178-2L
		10	Sltst	: gy pi to pl brn, mic		0178-4L
		5	Cont	: prp, dd		0178-3L
2880.00						0179
	0.20	40	Sh/Clst:	m gy, hd, mic		0179-2L
		40	Cont	: prp, dd		0179-3L
		10	Sh/Clst:	m brn to drk brn		0179-1L
		10	Sltst	: gy w to lt gy, mic		0179-4L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2890.00						0180
				95 S/Sst : gy w to brn gy to pl brn, f, kln		0180-1L
				5 Sh/Clst: lt bl gy to m gy		0180-2L
				tr Cont : prp		0180-3L
2910.00						0181
				75 S/Sst : gy w to brn gy to pl brn to gy		0181-1L
				pi, f, crs, kln		
	0.15			20 Sh/Clst: m brn to drk brn		0181-4L
				5 Sh/Clst: lt bl gy to m gy		0181-2L
				tr Cont : prp		0181-3L
2920.00						0182
	0.12			75 Sh/Clst: m brn to drk brn		0182-1L
				15 Sltst : pl brn, mic, cly		0182-2L
				5 S/Sst : gy w to gy w to pl brn, f, crs,		0182-3L
				kln		
				5 Sh/Clst: m brn		0182-4L
2930.00						0183
	0.12			45 Sh/Clst: m brn to drk brn		0183-1L
				25 Sltst : pl brn, mic, cly		0183-2L
				20 Sh/Clst: lt gy to m gy		0183-4L
				5 S/Sst : gy w to gy w to pl brn, f, crs,		0183-3L
				kln		
				5 Kaolin : w to lt or w		0183-5L
				tr Cont : prp		0183-6L
2940.00						0184
	0.24			65 Sh/Clst: lt gy to m gy, mic, slt		0184-4L
				20 Sh/Clst: m brn to drk brn		0184-1L
				5 Sltst : pl brn, mic, cly		0184-2L
				5 S/Sst : gy w to gy w to pl brn, f, crs,		0184-3L
				kln		
				5 Kaolin : w to lt or w		0184-5L
				tr Cont : prp		0184-6L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2950.00						0185
	0.20		60	Sh/Clst: lt gy to m gy, mic, slt		0185-3L
			15	Sh/Clst: m brn to drk brn		0185-1L
			15	S/Sst : gy w to lt gy, f, crs, kln		0185-6L
			5	Slstst : pl brn, mic, cly		0185-2L
			5	Kaolin : w to lt or w		0185-4L
			tr	Cont : prp		0185-5L
2960.00						0186
	0.12		45	Sh/Clst: m brn to drk brn		0186-1L
			20	Slstst : pl brn, mic, cly		0186-2L
			20	Sh/Clst: lt gy to m gy, mic, slt		0186-3L
			15	S/Sst : gy w to lt gy, f, crs, kln		0186-6L
			tr	Kaolin : w to lt or w		0186-4L
			tr	Cont : prp		0186-5L
2970.00						0187
	0.11		40	Sh/Clst: m brn to drk brn		0187-1L
			20	Slstst : pl brn, mic, cly		0187-2L
			20	Sh/Clst: lt gy to m gy, mic, slt		0187-3L
			10	Cont : prp, dd		0187-4L
			10	S/Sst : gy w to lt gy, f, crs, kln		0187-5L
2980.00						0188
	0.10		70	Sh/Clst: m brn to drk brn		0188-1L
			20	Slstst : pl brn, mic, cly		0188-2L
			10	S/Sst : gy w to lt gy, f, crs, kln		0188-4L
			tr	Cont : prp, dd		0188-3L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
2990.00						0189	
	0.10	80	Sh/Clst: m brn to drk brn			0189-1L	
		10	Slstst : pl brn, mic, cly			0189-2L	
		10	S/Sst : gy w to lt gy, f, crs, kln			0189-4L	
			tr Cont : prp, dd			0189-3L	
3000.00						0190	
	0.11	90	Sh/Clst: m brn to drk brn			0190-1L	
		5	Slstst : pl brn, mic, cly			0190-2L	
		5	S/Sst : gy w to lt gy, f, crs, kln			0190-4L	
			tr Cont : prp, dd			0190-3L	
3010.00						0191	
	0.14	50	Sh/Clst: m brn to drk brn			0191-1L	
		25	Slstst : pl brn, mic, cly			0191-2L	
		20	Sh/Clst: lt gy			0191-5L	
		5	S/Sst : gy w to lt gy, f, kln			0191-4L	
			tr Cont : prp, dd			0191-3L	
3020.00						0192	
	0.32	55	Cont : cem, prp			0192-1L	
		35	Sh/Clst: m gy to drk gy			0192-2L	
		10	Sh/Clst: m brn to drk brn			0192-3L	
3030.00						0193	
	0.09	45	Slstst : m gy to drk gy, mic, cly			0193-2L	
		35	Sh/Clst: m brn to drk brn			0193-3L	
		10	Cont : cem, prp			0193-1L	
		10	Slstst : pl brn, mic			0193-4L	

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
3040.00						0194
	0.14	80	Sltst	: lt gy to m gy, mic, cly		0194-1L
		10	Sltst	: pl brn, mic		0194-3L
		5	Sh/Clst:	m brn to drk brn		0194-2L
		5	Cont	: prp		0194-4L
3050.00						0195
	0.12	75	Sh/Clst:	m brn to drk brn to pl brn, slt, mic		0195-2L
		20	Sltst	: lt gy to m gy, mic, cly, s		0195-1L
		5	Cont	: prp		0195-3L
3060.00						0196
	0.10	90	Sh/Clst:	m brn to drk brn to pl brn, slt, mic		0196-1L
		5	Sltst	: lt gy, mic		0196-3L
		5	Sh/Clst:	lt gy to m gy		0196-4L
		tr	Cont	: prp		0196-2L
3070.00						0197
	0.10	65	Sh/Clst:	m brn to drk brn to pl brn, slt, mic		0197-1L
		15	Sh/Clst:	lt gy to m gy		0197-4L
		10	Cont	: prp		0197-2L
		10	Sltst	: lt gy, mic		0197-3L
3080.00						0198
	0.16	70	Sh/Clst:	m brn to drk brn to pl brn, slt, mic		0198-1L
		25	Sh/Clst:	lt gy to m gy		0198-4L
		5	Cont	: prp, dd		0198-2L
		tr	Sltst	: lt gy, mic		0198-3L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
3090.00						0199
	0.13	95	Sh/Clst:	lt gy to m gy, mic, slt		0199-3L
		5	Cont	: prp, dd		0199-2L
		tr	Sh/Clst:	m brn to drk brn		0199-1L
3100.00						0200
	0.16	80	Sh/Clst:	lt gy to m gy, mic, slt		0200-3L
		15	Sh/Clst:	m brn to drk brn to pl brn, slt, mic		0200-1L
		5	Cont	: prp, dd		0200-2L
3110.00						0201
	0.17	65	Sltst	: lt gy, kln		0201-4L
		35	Sh/Clst:	lt gy to m gy, mic, slt		0201-3L
		tr	Sh/Clst:	m brn to drk brn to pl brn, slt, mic		0201-1L
		tr	Cont	: prp		0201-2L
3120.00						0202
	0.12	50	Sh/Clst:	m brn to drk brn to pl brn, slt, mic		0202-1L
		35	Sh/Clst:	lt gy to m gy, mic, slt		0202-3L
		15	Sltst	: lt gy, kln		0202-4L
		tr	Cont	: prp		0202-2L
		tr	Ca	: lt or w		0202-5L
3130.00						0203
	0.12	90	Sh/Clst:	m brn to drk brn to pl brn, slt		0203-1L
		5	Cont	: prp		0203-2L
		5	Sh/Clst:	lt gy to m gy, mic, slt		0203-3L
		tr	Sltst	: lt gy, kln		0203-4L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
3140.00						0204
	0.19		40	Sltst : lt gy, kln		0204-4L
			35	Sh/Clst: m brn to drk brn to pl brn, slt		0204-1L
			25	Sh/Clst: lt gy to m gy, mic, slt		0204-3L
				tr Cont : prp		0204-2L
3150.00						0205
	0.18		70	Sh/Clst: m brn to drk brn to pl brn, slt, mic		0205-1L
			30	Sltst : lt gy, kln		0205-4L
				tr Cont : prp		0205-2L
				tr Sh/Clst: lt gy to m gy, mic, slt		0205-3L
3160.00						0206
	0.19		80	Sh/Clst: m brn to drk brn to pl brn, slt, mic		0206-1L
			10	Sh/Clst: lt gy to m gy, mic, slt		0206-3L
			10	Sltst : lt gy, kln		0206-4L
				tr Cont : prp		0206-2L
3170.00						0207
	0.23		60	Sh/Clst: lt gy to m gy, mic, slt		0207-3L
			40	Sltst : lt gy, kln		0207-4L
				tr Sh/Clst: m brn to drk brn to pl brn, slt, mic		0207-1L
				tr Cont : prp		0207-2L
3180.00						0208
	0.17		95	Sltst : lt gy to m gy, cly, kln		0208-3L
			5	Cont : prp		0208-2L
				tr Sh/Clst: m brn to drk brn to pl brn, slt, mic		0208-1L

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Table 1 : Lithology description for well NOCS 7229/11-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
3190.00						0209
	0.27	95	Sh/Clst:	lt gy to m gy, slt, kln		0209-3L
		5	Cont	: prp		0209-2L
		tr	Sh/Clst:	m brn to drk brn to pl brn, slt, mic		0209-1L
3200.00						0210
	0.23	55	Sh/Clst:	brn gy to m gy to drk gy, slt, mic		0210-2L
		40	Sltst	: lt gy		0210-3L
		5	Cont	: prp		0210-1L
3210.00						0211
	0.17	70	Sh/Clst:	lt gy to m gy, slt		0211-1L
		25	Ca	: or w to lt or gy		0211-2L
		5	Cont	: prp		0211-3L
3220.00						0212
	0.76	85	Ca	: or w to lt or gy		0212-2L
	0.23	10	Sh/Clst:	lt gy to m gy to drk gy		0212-1L
		5	Cont	: prp		0212-3L
3230.00						0213
	0.60	70	Ca	: or w to lt or gy		0213-2L
	0.20	25	Sh/Clst:	lt gy to m gy to drk gy		0213-1L
		5	Cont	: prp		0213-3L