
 ENI S.p.A. E&P Division	Date 23.10.2007	Doc. N°. GEBA-2007/0024/b	Rev.	sheet of 1 50
---	--------------------	------------------------------	------	------------------

Goliat Discovery

Well 7122/7- 4S

Geochemical study

D		L. Caldiero <i>L. Caldiero</i>	R. Galimberti <i>R. Galimberti</i>	N. Bevilacqua <i>N. Bevilacqua</i>	23/10/07
REV.	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	DATE

 ENI S.p.A. E&P Division	Date	Doc. N°.	Rev.	sheet	of
	23.10.2007	GEBA-2007/0024/b		17	50

Oils samples

The geochemical analyses have been performed on the following samples:

SAMPLE ID	COUNTRY CODE	WELL NAME	WELL NAME (OFFICIAL)	DEPTH TOP (m)	GEBA Ref. #	SAMPLING TYPE	NOTE
P00884-OIL-0001	128	7122/7-4S	7122/07-04 S (GOLIATH S)	1913	4037	MDT	(from 0698-EA)-KOBBE formation
P00884-OIL-0002	128	7122/7-4S	7122/07-04 S (GOLIATH S)	2045.1	4062		depth as MD RT; Klappmyss; from Bottle n° 0758-EA



NORWAY - OFFSHORE
WELL: 7122/7 - 4S (Goliat South)
T. O. C. and ROCK-EVAL PYROLYSIS

Depth m	Sample type	TOC Wt%	S1 mg/g	S2 mg/g	HI	Tmax °C	PI
1055.00	cuttings	0.57	0.04	0.40	70	427	0.09
1060.00	cuttings	3.55	3.84	7.43	209	293	0.34
1060.00	cuttings-ws	3.37	2.12	4.78	142	293	0.31
1070.00	cuttings	1.17	0.12	1.18	101	415	0.09
1070.00	cuttings-ws	1.06	0.05	0.64	60	419	0.07
1075.00	cuttings	1.18	0.09	1.10	93	315	0.08
1075.00	cuttings-ws	1.01	0.06	0.68	67	418	0.08
1080.00	cuttings	0.92	0.11	1.02	111	417	0.10
1085.00	cuttings	2.17	0.15	4.36	201	427	0.03
1090.00	cuttings	2.38	0.17	4.85	204	425	0.03
1095.00	cuttings	2.15	0.14	4.14	193	428	0.03
1100.00	cuttings	1.67	0.10	2.80	168	426	0.03
1105.00	cuttings	2.76	0.18	6.55	237	427	0.03
1115.00	cuttings	3.57	0.27	9.82	275	424	0.03
1120.00	cuttings	4.80	0.34	16.13	336	421	0.02
1125.00	cuttings	4.69	0.32	15.69	335	421	0.02
1130.00	cuttings	4.93	0.33	16.18	328	420	0.02
1135.00	cuttings	5.65	0.44	18.35	325	421	0.02
1140.00	cuttings	6.07	0.44	19.04	314	417	0.02
1145.00	cuttings	6.88	0.45	19.83	288	415	0.02
1150.00	cuttings	8.74	0.55	22.03	252	414	0.02
1155.00	cuttings	9.49	0.63	25.85	272	414	0.02
1160.00	cuttings	10.36	0.89	28.69	277	414	0.03
1165.00	cuttings	10.64	1.17	29.17	274	416	0.04
1170.00	cuttings	10.47	1.29	25.43	243	415	0.05
1175.00	cuttings	4.56	0.79	10.13	222	416	0.07
1180.00	cuttings	2.75	0.69	6.40	233	417	0.10
1183.60	core	2.40	0.29	1.03	43	429	0.22
1185.00	cuttings	4.49	1.67	9.80	218	418	0.15
1190.00	cuttings	3.66	1.05	6.69	237	420	0.11
1194.00	core	6.26	1.95	9.53	152	428	0.17
1194.00	core-ws	6.02	0.24	6.40	140	429	0.03
1195.00	cuttings	6.80	3.57	16.63	245	417	0.18
1200.00	cuttings	3.03	1.53	6.57	217	421	0.19
1203.50	core	6.74	1.61	8.61	128	429	0.16
1203.50	core-ws	6.63	0.20	7.90	119	431	0.02
1205.00	cuttings	1.94	0.50	4.11	212	422	0.11
1210.00	cuttings	4.89	2.64	9.16	187	421	0.22
1210.00	cuttings-ws	4.46	0.85	6.83	153	425	0.11



NORWAY - OFFSHORE
WELL: 7122/7 - 4S (Goliat South)
T. O. C. and ROCK-EVAL PYROLYSIS

Depth m	Sample type	TOC Wt%	S1 mg/g	S2 mg/g	HI	Tmax °C	PI
1214.00	core	3.91	1.31	5.34	137	425	0.20
1214.00	core-ws	3.82	0.30	4.17	109	427	
1215.00	cuttings	1.99	1.37	3.61	181	423	0.28
1215.00	cuttings-ws	1.89	0.61	2.93	155	423	0.17
1220.00	cuttings	4.87	2.69	6.69	137	424	0.29
1220.00	cuttings-ws	4.56	0.37	4.41	97	427	0.08
1225.00	cuttings	0.99	0.28	0.84	85	432	0.25
1225.00	cuttings-ws	0.94	0.04	0.66	70	433	0.06
1230.00	cuttings	1.01	0.21	0.95	94	430	0.18
1235.00	cuttings	0.89	0.21	0.72	81	433	0.23
1235.00	cuttings-ws	0.87	0.03	0.56	64	434	0.05
1240.00	cuttings	0.83	0.12	0.74	89	432	0.14
1245.00	cuttings	0.83	0.12	0.78	94	432	0.13
1255.00	cuttings	0.60	0.22	0.62	103	428	0.26
1255.00	cuttings-ws	0.59	0.03	0.43	73	431	0.07
1265.00	cuttings	0.34	0.15	0.34	100	426	0.31
1265.00	cuttings-ws	0.30	0.02	0.25	83	427	0.07
1275.00	cuttings	0.21	0.17	0.26	124	423	0.40
1275.00	cuttings-ws	0.18	0.02	0.14	78	N.D.	0.13
1285.00	cuttings	0.40	0.18	0.29	73	424	0.38
1285.00	cuttings-ws	0.21	0.02	0.18	86	N.D.	0.10
1295.00	cuttings	0.09					
1305.00	cuttings	0.34	0.04	0.28	82	430	0.13
1315.00	cuttings	0.22	0.03	0.23	105	430	0.12
1325.00	cuttings	0.29	0.07	0.18	62	N.D.	0.28
1335.00	cuttings	0.13					
1345.00	cuttings	0.32	0.13	0.35	109	419	0.27
1345.00	cuttings-ws	0.28	0.02	0.19	68	N.D.	0.10
1355.00	cuttings	0.18					
1365.00	cuttings	0.13					
1385.00	cuttings	0.65	0.06	0.73	112	432	0.08
1395.00	cuttings	0.28	0.04	0.28	100	431	0.13
1405.00	cuttings	0.18					
1415.00	cuttings	0.24	0.03	0.19	79	434	0.14
1425.00	cuttings	1.22	0.09	2.16	177	439	0.04
1435.00	cuttings	0.92	0.07	1.41	153	435	0.05
1445.00	cuttings	1.48	0.11	2.32	157	433	0.05
1455.00	cuttings	0.56	0.03	0.44	79	435	0.06
1465.00	cuttings	0.42	0.03	0.31	74	433	0.09
1475.00	cuttings	1.04	0.05	1.36	131	436	0.04
1485.00	cuttings	1.02	0.04	1.33	130	437	0.03
1495.00	cuttings	0.64	0.03	0.90	141	436	0.03
1505.00	cuttings	0.55	0.03	0.60	109	439	0.05
1515.00	cuttings	0.33	0.02	0.28	85	434	0.07
1525.00	cuttings	0.52	0.04	0.64	123	440	0.06
1535.00	cuttings	0.51	0.04	0.54	106	439	0.07
1545.00	cuttings	0.54	0.05	0.44	81	433	0.10
1545.00	cuttings-ws	0.50	0.03	0.33	66	435	0.08
1555.00	cuttings	0.53	0.03	0.47	89	437	0.06
1565.00	cuttings	0.60	0.05	0.54	90	435	0.08



Divisione
Exploration & Production

S.Donato M. 15-05-2007

Boll. nr.12

NORWAY - OFFSHORE
WELL: 7122/7 - 4S (Goliat South)
T. O. C. and ROCK-EVAL PYROLYSIS

Depth m	Sample type	TOC Wt%	S1 mg/g	S2 mg/g	HI	Tmax °C	PI
1575.00	cuttings	0.60	0.04	0.50	83	435	0.07
1585.00	cuttings	0.84	0.06	0.84	100	435	0.07
1595.00	cuttings	1.25	0.07	1.45	116	435	0.05
1605.00	cuttings	0.92	0.07	1.14	124	432	0.06
1615.00	cuttings	0.41	0.03	0.31	76	433	0.09
1625.00	cuttings	0.55	0.03	0.51	93	433	0.06
1630.00	cuttings	0.50	0.03	0.30	60	431	0.09
1640.00	cuttings	0.47	0.02	0.26	55	432	0.07
1650.00	cuttings	0.43	0.02	0.25	58	432	0.07
1660.00	cuttings	0.62	0.03	0.38	61	433	0.07
1670.00	cuttings	0.31	0.01	0.16	52	N.D.	0.06
1680.00	cuttings	0.29	0.03	0.16	55	N.D.	0.16
1690.00	cuttings	0.32	0.04	0.18	56	N.D.	0.18
1700.00	cuttings	0.25	0.03	0.16	64	N.D.	0.16
1710.00	cuttings	0.24	0.03	0.13	54	N.D.	0.19
1720.00	cuttings	0.48	0.05	0.56	117	366	0.08
1720.00	cuttings-ws	0.46	0.05	0.51	111	443	0.09
1730.00	cuttings	1.45	0.17	1.28	88	359	0.12
1730.00	cuttings-ws	1.24	0.09	0.94	76	442	0.09
1740.00	cuttings	0.59	0.06	0.42	71	431	0.13
1750.00	cuttings	0.46	0.07	0.38	83	430	0.16
1760.00	cuttings	0.45	0.06	0.25	56	430	0.19
1770.00	cuttings	0.35	0.08	0.34	97	428	0.19
1780.00	cuttings	0.52	0.08	0.34	65	432	0.19
1790.00	cuttings	0.74	0.10	0.57	77	434	0.15
1797.00	core	1.19	0.43	2.16	182	429	0.17
1797.00	core-ws	1.14	0.04	1.70	149	430	0.02
1800.00	cuttings	0.81	0.21	1.03	127	433	0.17
1814.40	core	1.64	0.47	2.23	136	434	0.17
1814.40	core-ws	1.54	0.07	1.86	121	435	0.04
1820.00	cuttings	0.49	0.11	0.47	96	430	0.19
1820.60	core	1.30	0.22	1.01	78	435	0.18
1820.60	core-ws	1.22	0.03	0.78	64	434	0.04
1825.00	cuttings	0.71	0.09	0.52	73	432	0.15
1835.00	cuttings	0.91	0.11	0.70	77	416	0.14
1845.00	cuttings	0.10					
1855.00	cuttings	0.31	0.05	0.21	68	409	0.19
1865.00	cuttings	0.15					
1875.00	cuttings	0.37	0.26	0.49	132	423	0.35



NORWAY - OFFSHORE
WELL: 7122/7 - 4S (Goliat South)
T. O. C. and ROCK-EVAL PYROLYSIS

Depth m	Sample type	TOC Wt%	S1 mg/g	S2 mg/g	HI	Tmax °C	PI
1875.00	cuttings-ws	0.30	0.01	0.22	73	429	0.04
1885.00	cuttings	0.29	0.07	0.27	93	416	0.21
1885.90	core	0.21	0.03	0.13	62	N.D.	0.19
1895.00	cuttings	0.41	0.07	0.32	78	366	0.18
1895.00	cuttings-ws	0.34	0.04	0.22	65	377	0.15
1905.00	cuttings	0.18					
1915.00	cuttings	0.24	0.06	0.26	108	409	0.19
1925.00	cuttings	0.17					
1935.00	cuttings	0.12					
1945.00	cuttings	0.16					
1955.00	cuttings	0.08					
1965.00	cuttings	0.35	0.07	0.32	91	430	0.18
1975.00	cuttings	0.68	0.13	0.76	112	436	0.15
1980.00	cuttings	0.66	0.13	0.76	115	434	0.15
1980.00	cuttings-ws	0.64	0.03	0.52	81	437	0.05
1990.00	cuttings	0.83	0.18	0.96	116	438	0.16
2000.00	cuttings	0.61	0.13	0.81	133	436	0.14
2010.00	cuttings	0.44	0.09	0.40	91	433	0.18
2020.00	cuttings	0.54	0.10	0.59	109	436	0.14
2030.00	cuttings	0.62	0.12	0.71	115	434	0.14
2040.00	cuttings	0.68	0.11	0.76	112	434	0.13
2050.00	cuttings	1.05	0.16	1.63	155	437	0.09
2057.00	core	0.61	0.18	0.72	118	431	0.20
2060.00	cuttings	0.49	0.16	0.58	118	427	0.22
2060.00	cuttings-ws	0.43	0.03	0.31	72	429	0.09
2062.00	core	0.23	0.04	0.21	91	433	0.16
2070.00	cuttings	0.70	0.27	1.18	169	421	0.19
2080.00	cuttings	0.07					
2090.00	cuttings	0.08					
2100.00	cuttings	0.35	0.15	0.51	146	417	0.23
2100.00	cuttings-ws	0.24	0.05	0.28	117	429	0.15
2120.00	cuttings	0.18					
2130.00	cuttings	0.17					
2140.00	cuttings	0.15					
2150.00	cuttings	0.14					
2160.00	cuttings	0.17					
2170.00	cuttings	0.24	0.04	0.14	58	N.D.	0.22
2180.00	cuttings	1.59	0.83	2.28	143	296	0.27
2180.00	cuttings-ws	1.55	0.85	2.11	136	291	0.29
2190.00	cuttings	1.16	0.54	2.28	197	302	0.19



NORWAY - OFFSHORE
WELL: 7122/7 - 4S (Goliat South)
T. O. C. and ROCK-EVAL PYROLYSIS

Depth m	Sample type	TOC Wt%	S1 mg/g	S2 mg/g	HI	Tmax °C	PI
2200.00	cuttings	0.28	0.04	0.17	61	N.D.	0.19
2210.00	cuttings	0.43	0.08	0.48	112	419	0.14
2220.00	cuttings	0.16					
2230.00	cuttings	0.16					
2240.00	cuttings	0.20	0.13	0.33	165	421	0.28
2240.00	cuttings-ws	0.16	0.03	0.18	113	N.D.	0.14
2255.00	cuttings	0.15					
2265.00	cuttings	0.23	0.08	0.28	122	423	0.22
2275.00	cuttings	0.17					
2285.00	cuttings	0.19					
2295.00	cuttings	0.20	0.13	0.29	145	410	0.31
2305.00	cuttings	0.21	0.21	0.29	138	406	0.42
2305.00	cuttings-ws	0.13	0.02	0.09	69	N.D.	0.18
2315.00	cuttings	0.23	0.29	0.33	143	419	0.47
2315.00	cuttings-ws	0.13	0.01	0.09	69	N.D.	0.10
2325.00	cuttings	0.23	0.36	0.42	183	409	0.46
2325.00	cuttings-ws	0.13	0.01	0.08	62	N.D.	0.11
2335.00	cuttings	0.36	0.31	0.57	158	414	0.35
2335.00	cuttings-ws	0.22	0.02	0.16	73	N.D.	0.11
2345.00	cuttings	0.26	0.33	0.44	169	416	0.43
2345.00	cuttings-ws	0.16	0.01	0.09	56	N.D.	0.10
2355.00	cuttings	0.26	0.28	0.40	154	412	0.41
2355.00	cuttings-ws	0.16	0.02	0.10	63	N.D.	0.17
2360.00	cuttings	0.25	0.22	0.45	180	412	0.33
2370.00	cuttings	0.26	0.26	0.57	219	419	0.31
2370.00	cuttings-ws	0.20	0.02	0.14	70	N.D.	0.13
2380.00	cuttings	0.29	0.26	0.62	214	417	0.30
2390.00	cuttings	0.26	0.23	0.54	208	419	0.30
2390.00	cuttings-ws	0.17	0.02	0.12	71	N.D.	0.14
2400.00	cuttings	0.24	0.22	0.69	288	421	0.24
2410.00	cuttings	0.28	0.16	0.49	175	418	0.25
2420.00	cuttings	0.25	0.10	0.41	164	418	0.20
2430.00	cuttings	0.17					
2440.00	cuttings	0.11					
2450.00	cuttings	0.15					
2460.00	cuttings	0.08					
2470.00	cuttings	0.06					
2480.00	cuttings	0.09					
2490.00	cuttings	0.14					
2500.00	cuttings	0.15					
2510.00	cuttings	0.12					
2520.00	cuttings	0.05					
2530.00	cuttings	0.06					
2540.00	cuttings	0.09					
2550.00	cuttings	0.08					

Note: some samples result to be partially contaminated by organic mudd additives. An important contamination is present in the samples with a Tmax value lower than 400 °C; for these samples the measured data are not reliable.
ws = samples washed with organic solvent; N.D. = Tmax not determinable (S2 <0.2)



Optical Analyses



Exploration & Production
Division

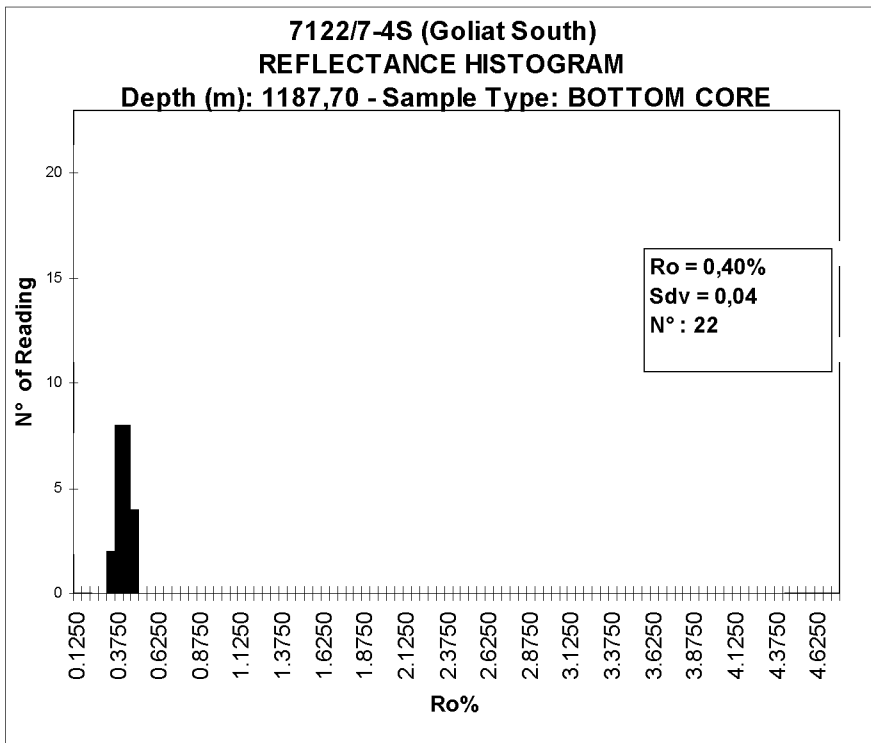
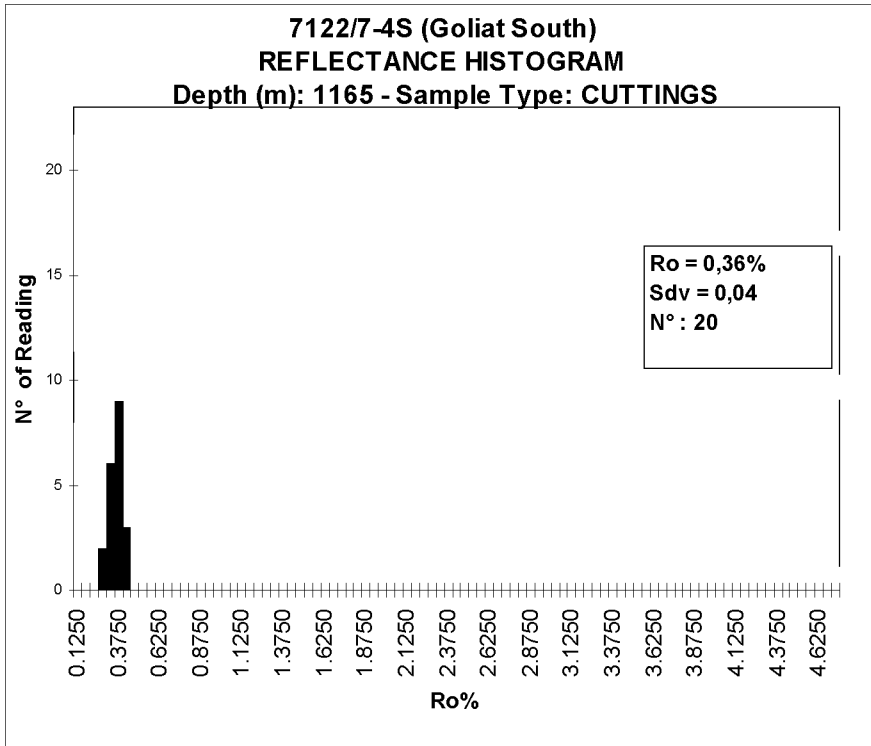
S. Donato 03-04-2007
Bull. n° 6

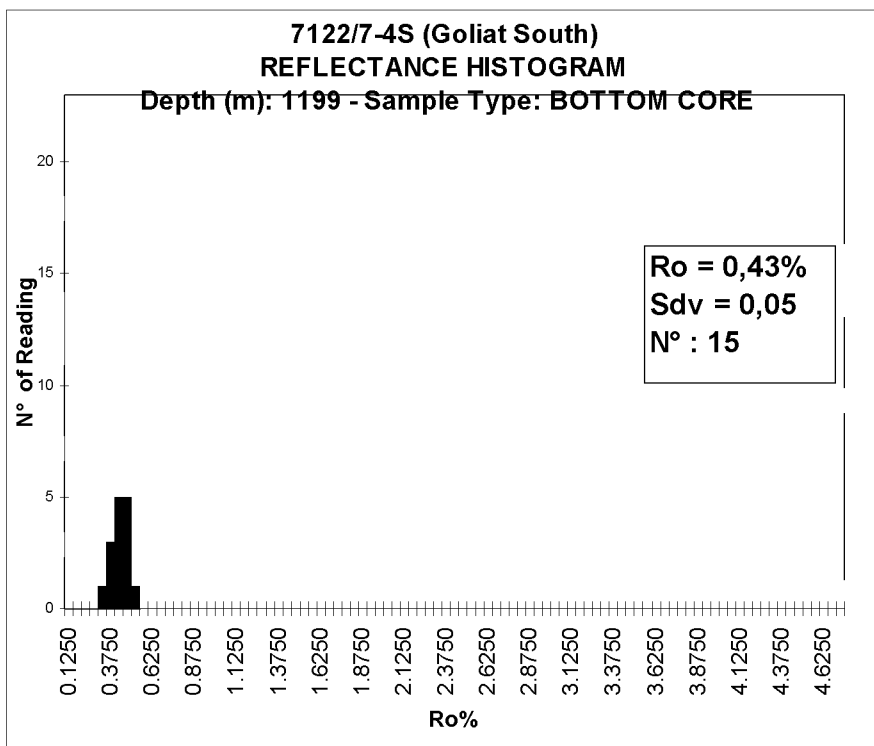
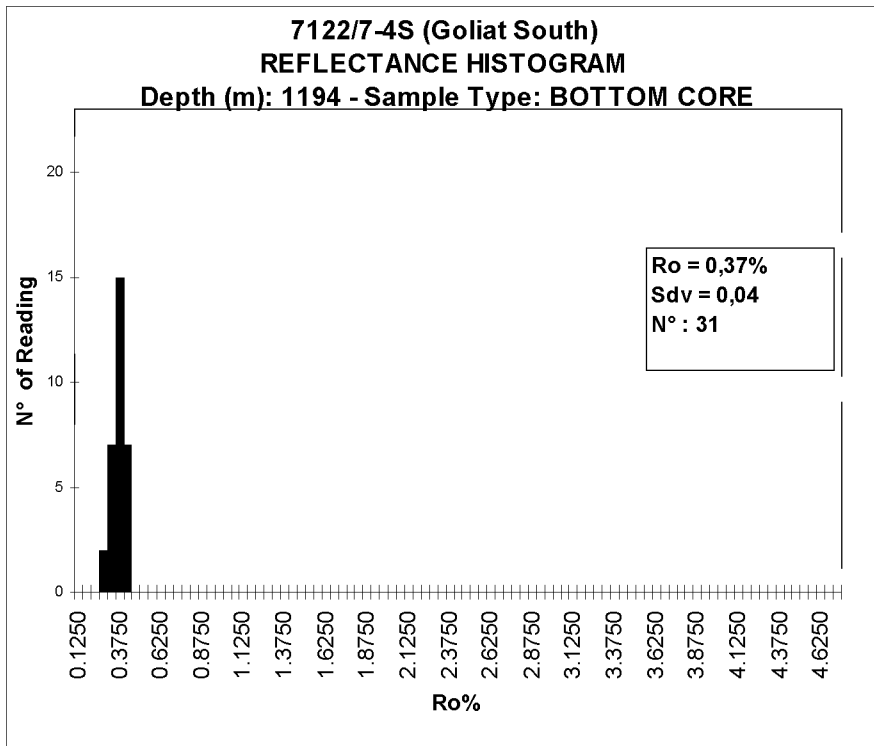
NORWAY - OFFSHORE

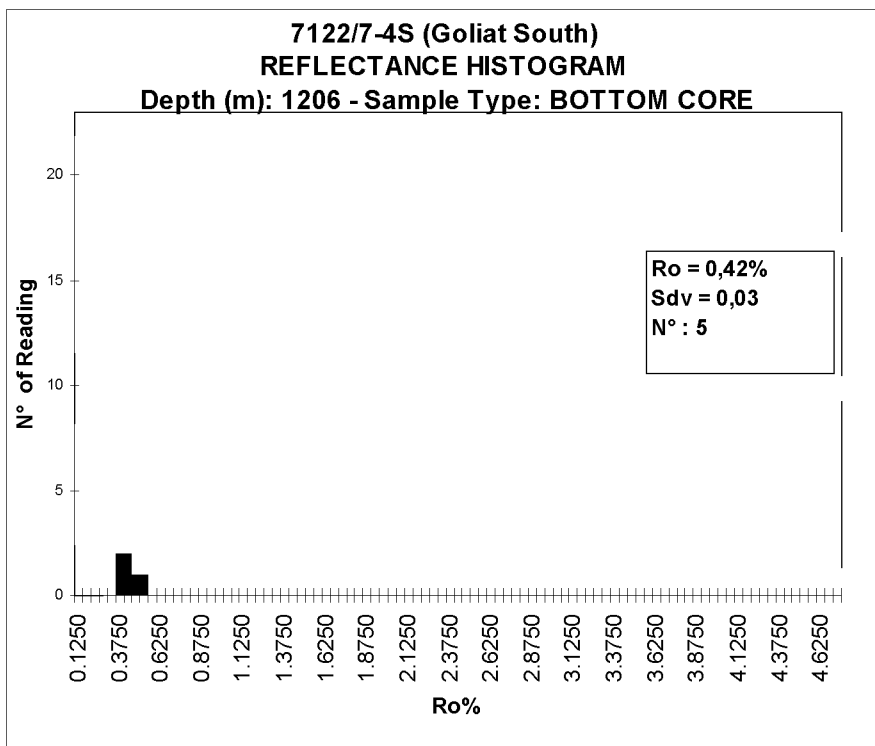
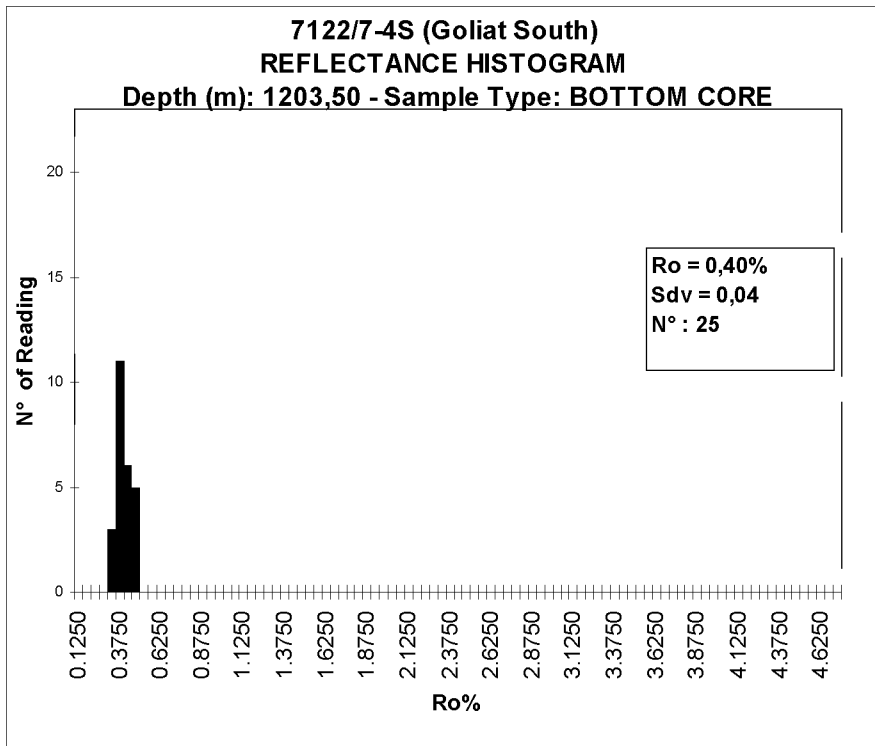
WELL: 7122/7 - 4S (Goliat South)

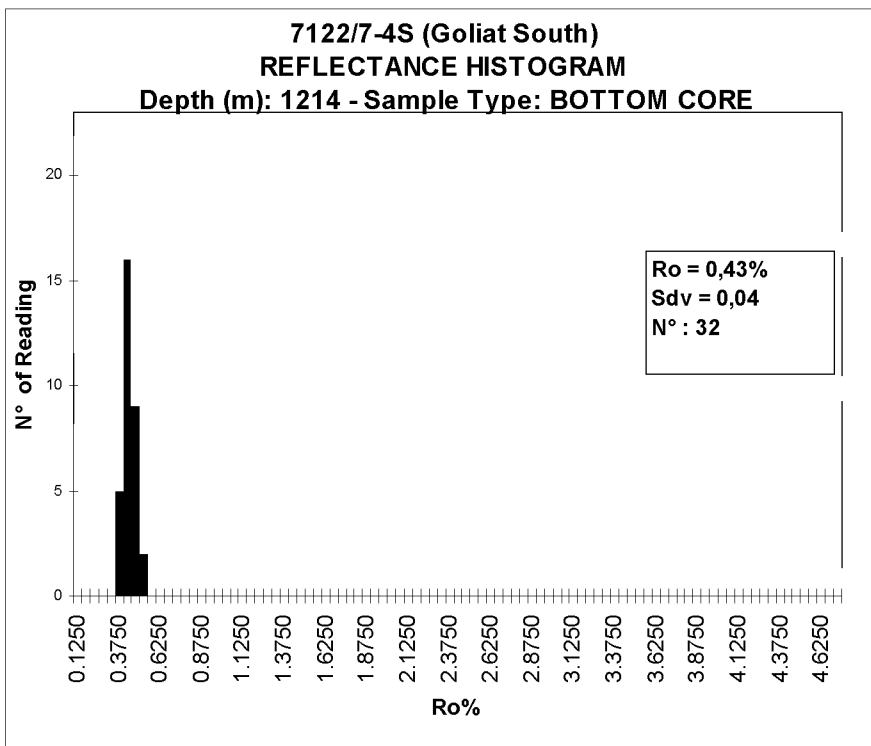
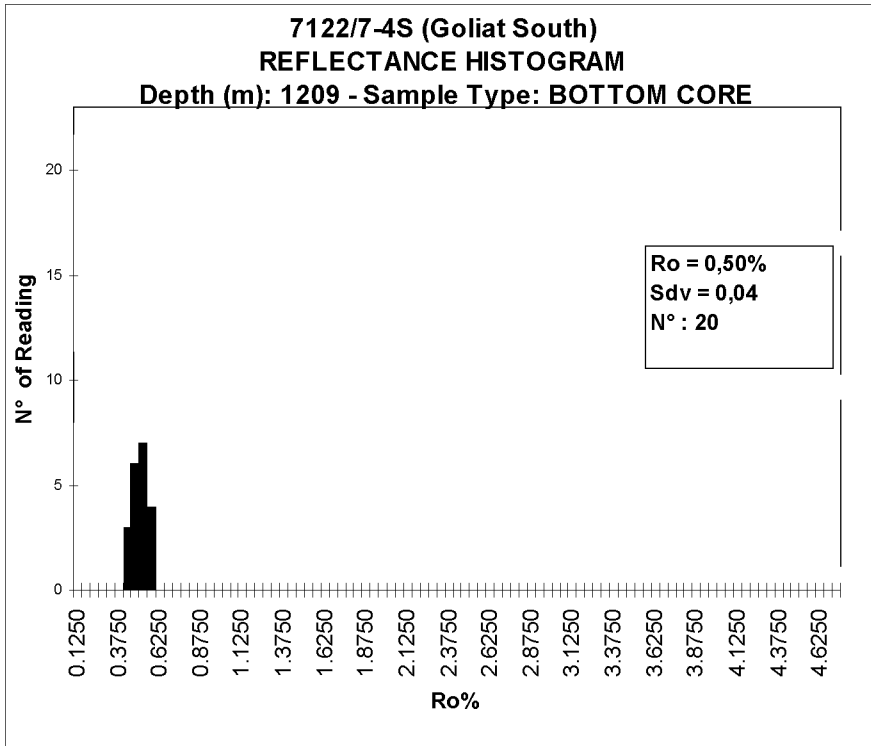
KEROGEN COMPOSITION AND MATURITY DATA

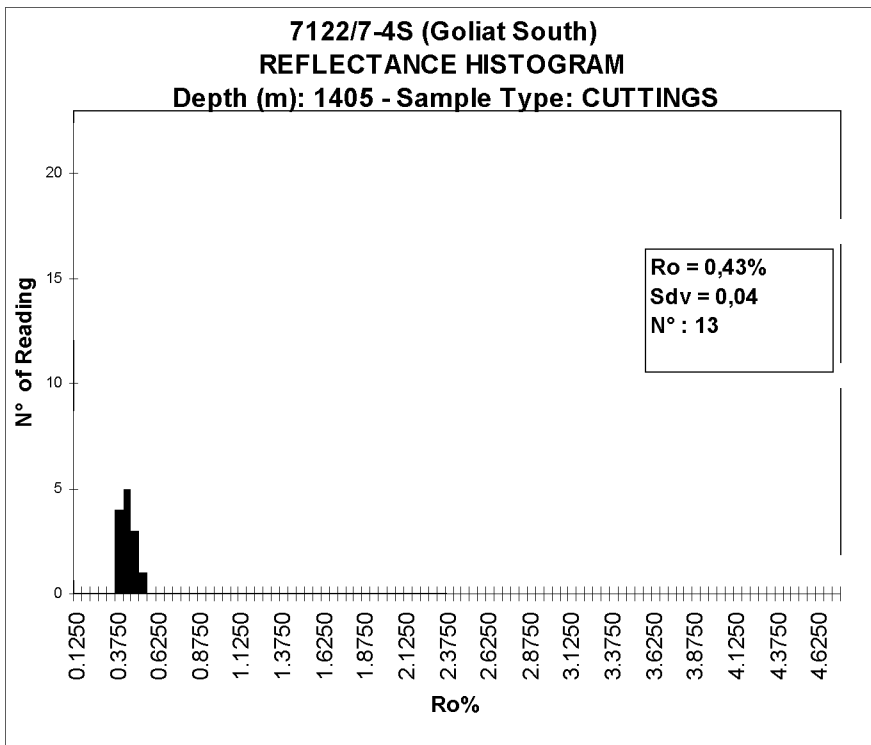
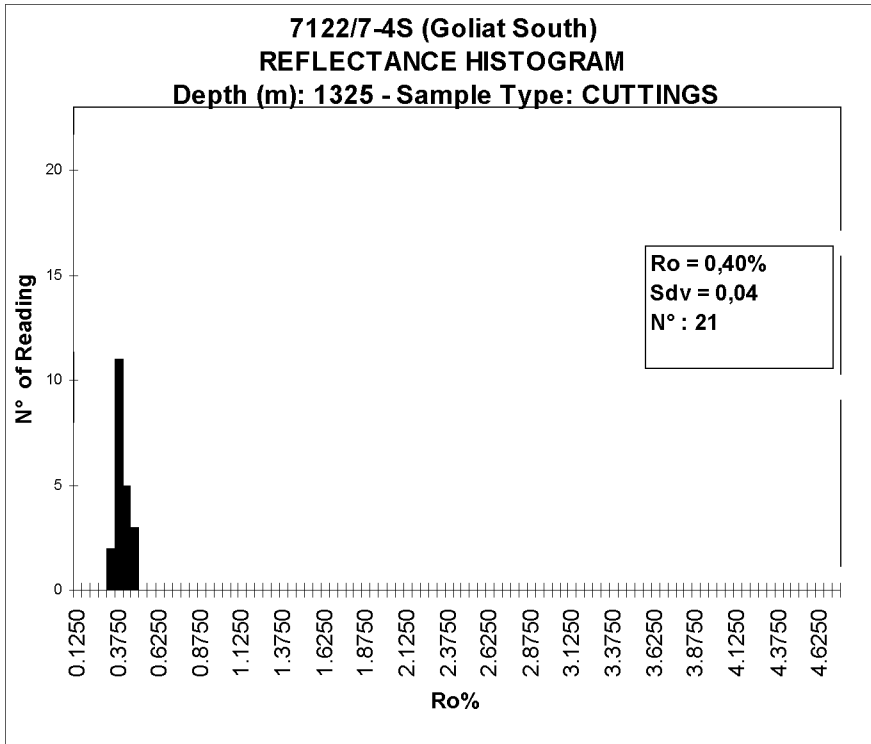
Depth m	Sample Type	AOM %	MPH %	CHF %	CWF %	TAI	Fluor.	Ro %	ST. DEV.	N° Measured Points
1060.00	Cuttings	5	5	45	45	1,2/1,5	Y-DY	V.A.		
1165.00	Cuttings	60	5	10	25	0.0	Y-DY	0.36	0.04	20
1187.70	Bottom Core			25	75	1,5/1,7	Y-DY	0.40	0.04	22
1194.00	Bottom Core			40	60	1,5/1,7	Y-DY	0.37	0.04	31
1199.00	Bottom Core			40	60	1,5/1,7	Y-DY	0.43	0.05	15
1203.50	Bottom Core			30	70	1.5	Y-DY	0.40	0.04	25
1206.00	Bottom Core			20	80	1,5/1,7	Y-DY	0.42	0.03	5
1209.00	Bottom Core			40	60	1.7	Y-DY	0.50	0.04	20
1214.00	Bottom Core			20	80	0.0	Y-DY	0.43	0.04	32
1245.00	Cuttings			45	55	1,2/1,5	Y-DY	V.A.		
1325.00	Cuttings	5	T?	45	50	1.5	Y-DY-O	0.40	0.04	21
1405.00	Cuttings	15		35	50	1.5	Y	0.43	0.04	13
1525.00	Cuttings	5		35	60	1,5/1,7	Y-DY	0.43	0.04	13
1615.00	Cuttings	T	T?	30	70	1,5/1,7	Y-DY	0.41	0.04	13
1700.00	Cuttings	T	T?	30	70	1,5/1,7	Y-DY	0.45	0.04	9
1795.55	Bottom Core			20	80	0.0	Y-DY	0.44	0.04	39
1820.60	Bottom Core			15	85	1,7?	Y-DY	0.47	0.05	22
1825.00	Cuttings			30	70	1.7	DY	0.45	0.02	15
1885.00	Cuttings			35	65	1.7	Y-DY	0.46	0.05	5
1980.00	Cuttings	T		40	60	1.7	Y-DY	0.50	0.02	4
2050.00	Cuttings	5		45	50	1.7	Y-DY	V.A.		
2060.00	Bottom Core			35	65	1,7 to 2,5	Y-DY	0.46	0.05	17
2160.00	Cuttings			60	40	1.7	DY	0.52	0.03	5
2210.00	Cuttings			50	50	1,7/2,0	Y-DY	V.A.		
2335.00	Cuttings	T		60	40	2,0 to 2,7	DY	V.A.		
2450.00	Cuttings			60	40	2,0 to 2,7	DY	V.A.		

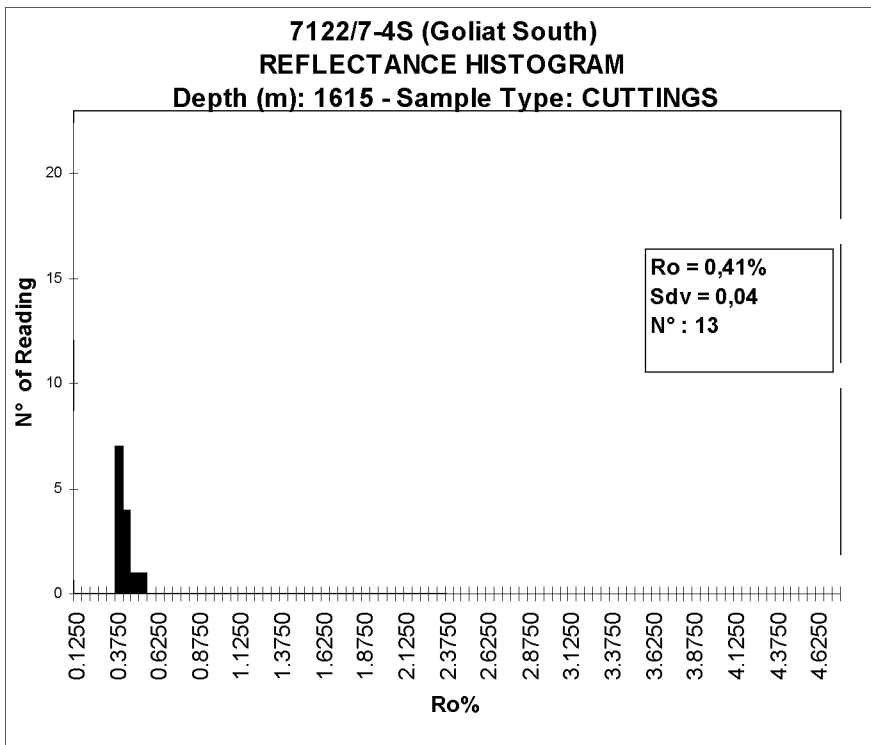
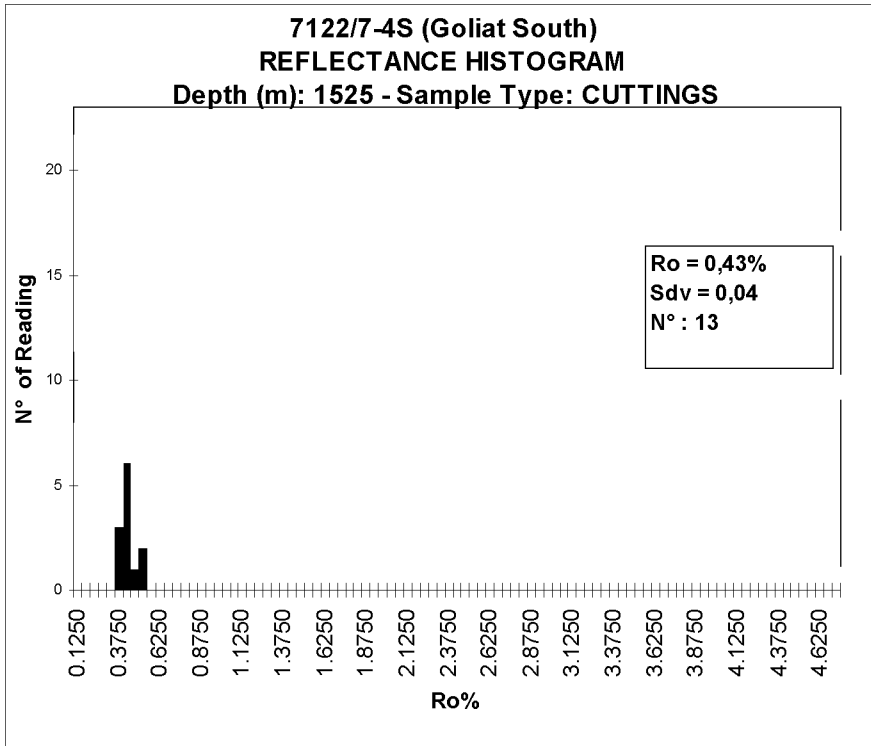


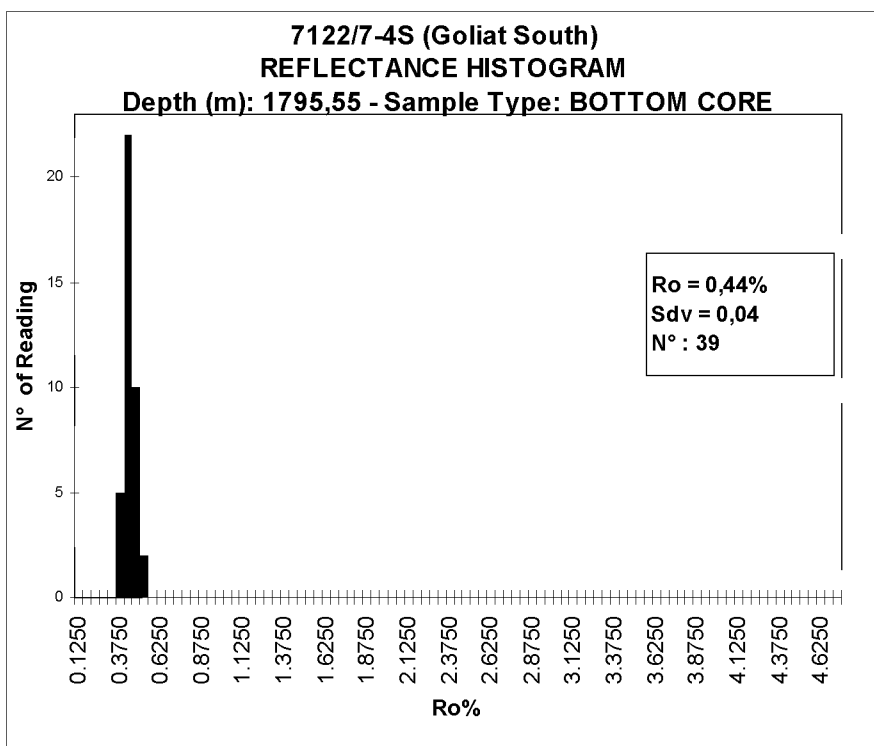
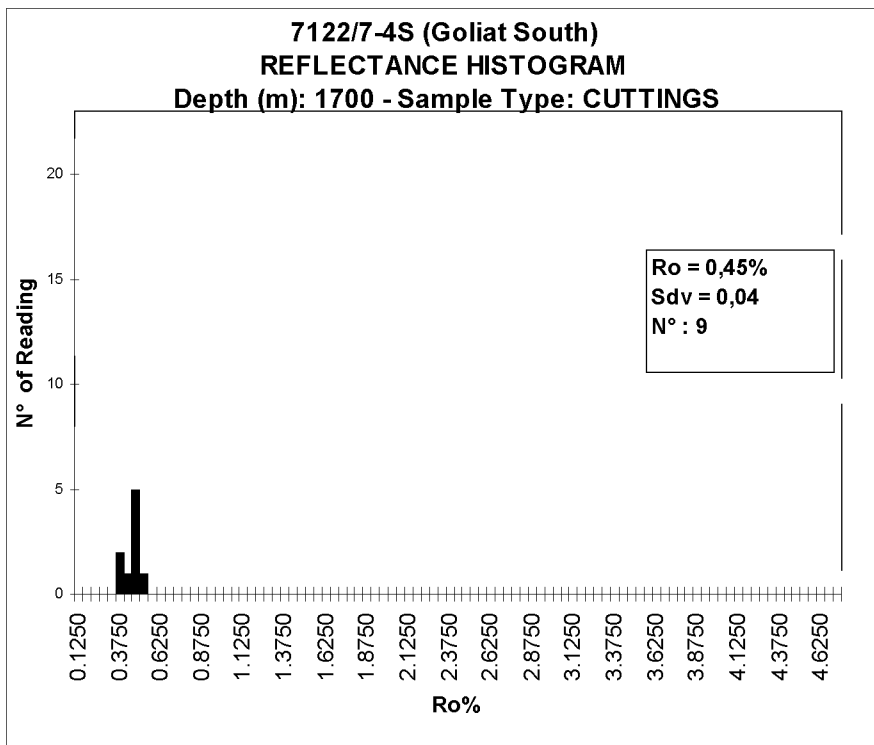


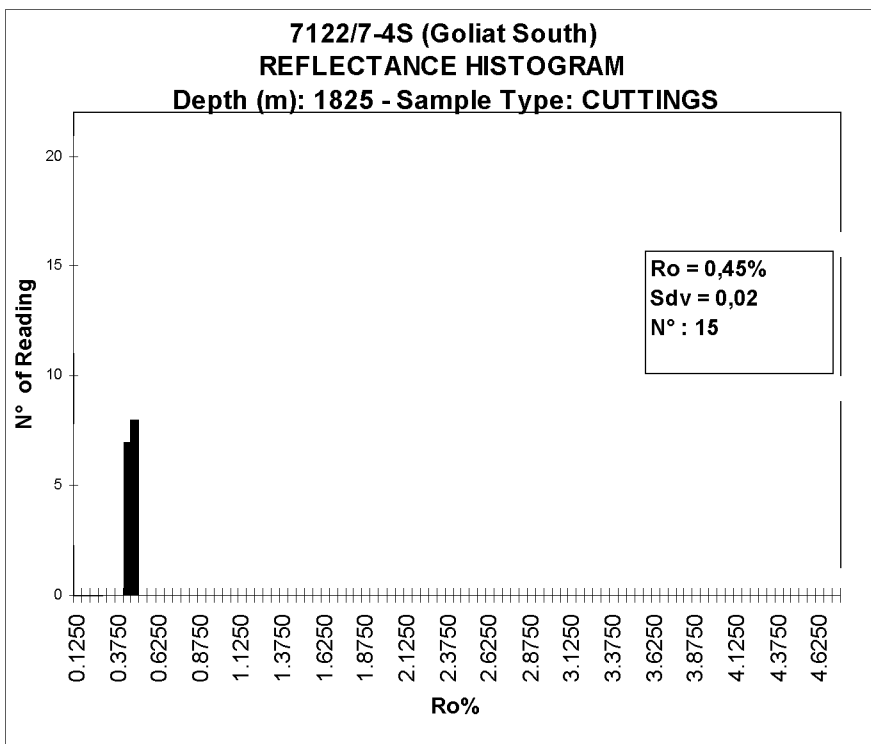
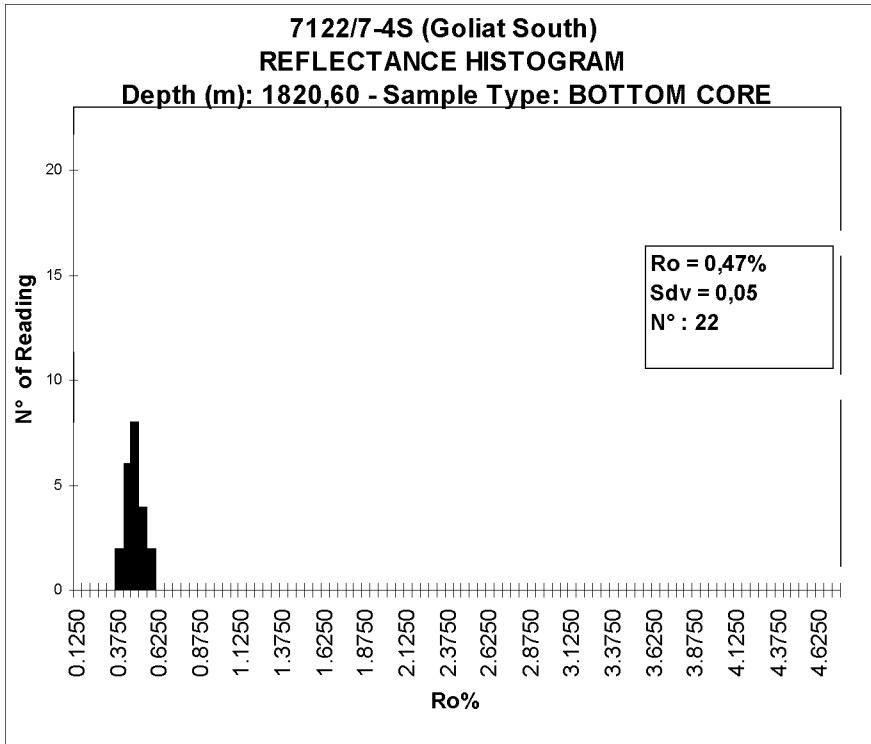


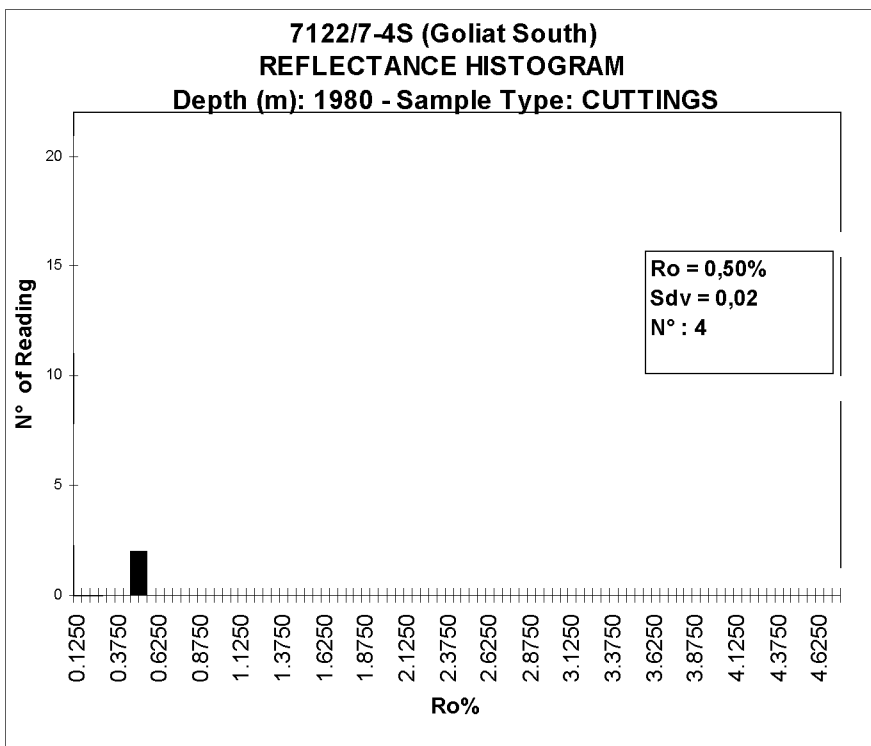
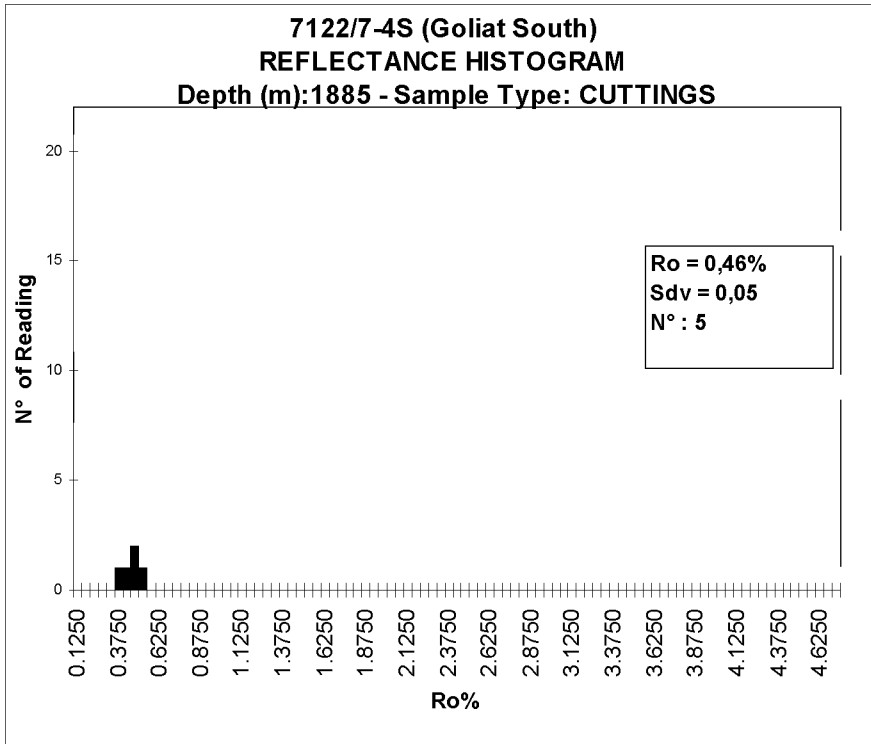


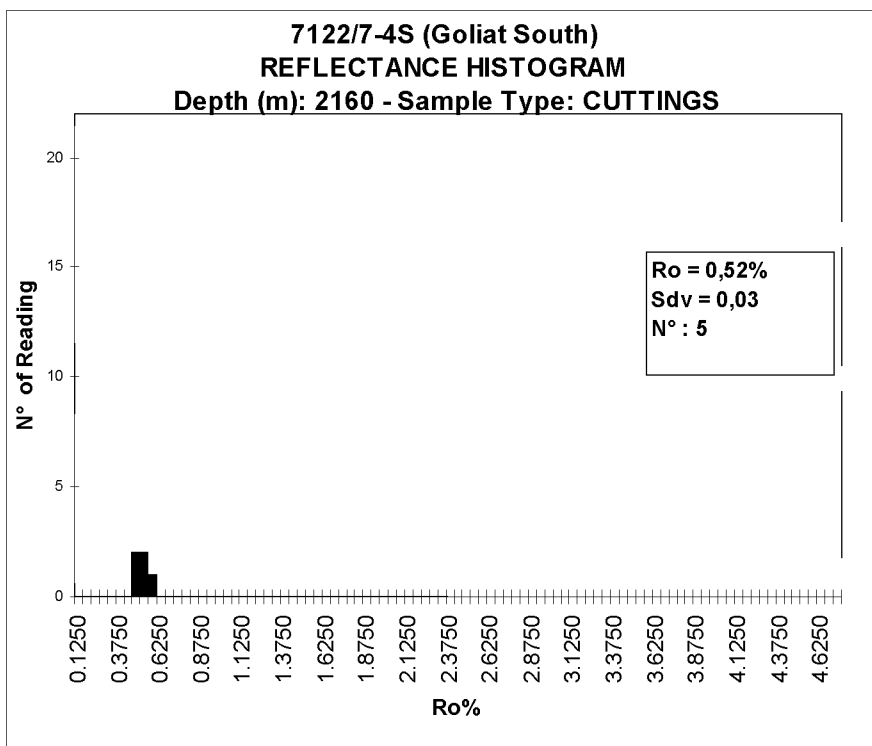
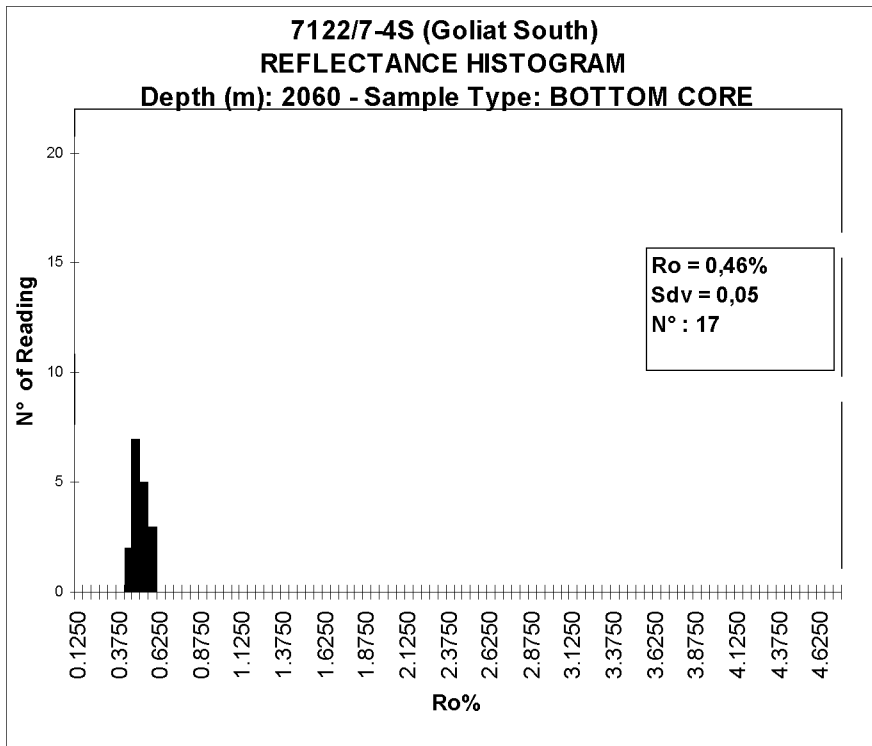














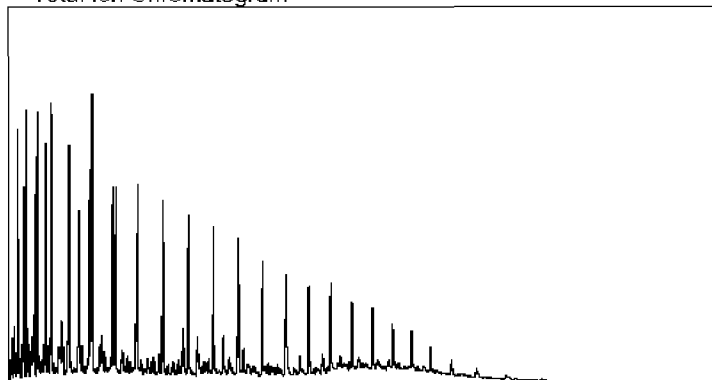
GC-MS Analysis



Summary Report

Country: NORVEGIA	Site Name: 7122/7-4S (GOLIAT S)	Sample_ID: P00884-OIL-0001
Age:	Basin:	Depth: 1913(M)
Form Name:	Oil N.: 4037	S_Type: OIL

Total Ion Chromatogram



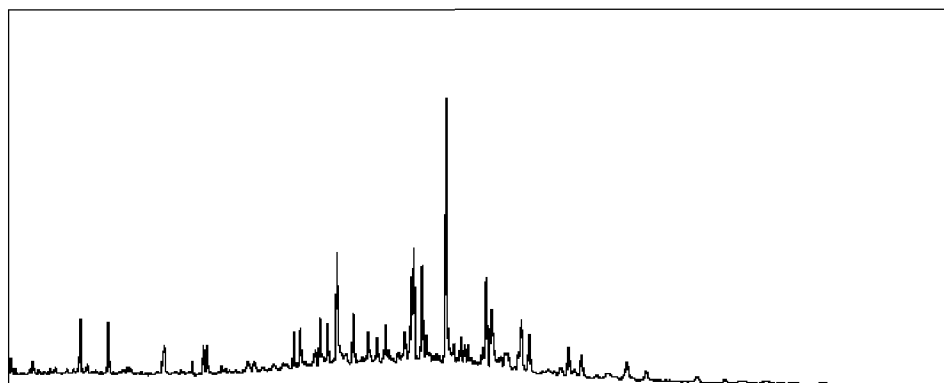
Bulk Parameters

API Gravity:	
% Sulfur:	
delt C13 Whole Crude:	
delt C13 Saturates:	-30.51
delt C13 Aromatics:	-29.60
% Saturates:	
% Aromatics:	
% NONHCPC:	
OEP:	1.02

GCMS Para 1

PrPh:	1.43
Tri:	0.20
Tet:	0.05
Trit:	4.10
TsTm:	2.25
C29Hop/C30Hop:	0.32
C30Lin:	
C29Ts/C30Hop:	0.44
C30*/C30Hop:	0.36
Gam/C30:	
Dia:	0.71

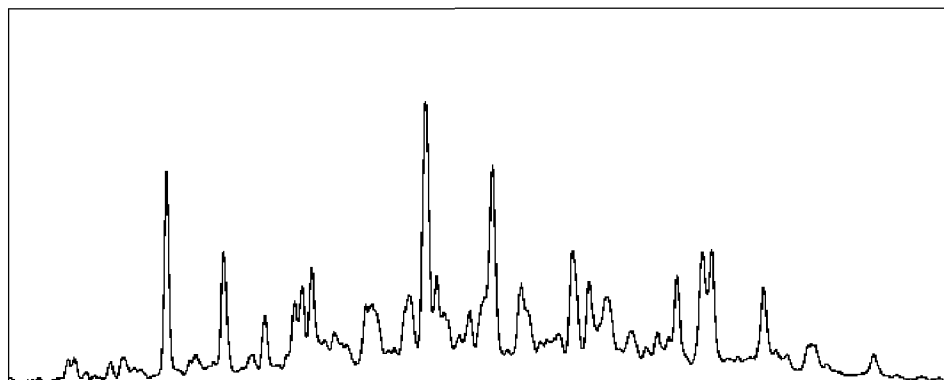
TERPANES(m/z 191)



GCMS Para 2

Organic Matter Parameters:	
C27/C29 Sterane:	0.78
%27:	33.05
%28:	24.33
%29:	42.62
Sterani/Hopani:	0.13
Maturity Parameters:	
PrC17:	1.43
PhC18:	1.01
S/S+R Terpanes:	0.61
S/S+R Steranes:	0.55
TsTm:	2.25
BB/aa:	0.66
T/TM:	0.49
MPI:	0.57
Age Parameters:	
Oleanane/30Hop:	
Baccarane:	
Other Parameters:	
31/30:	0.55
Methylhopane:	0.82

STERANES(m/z 217)





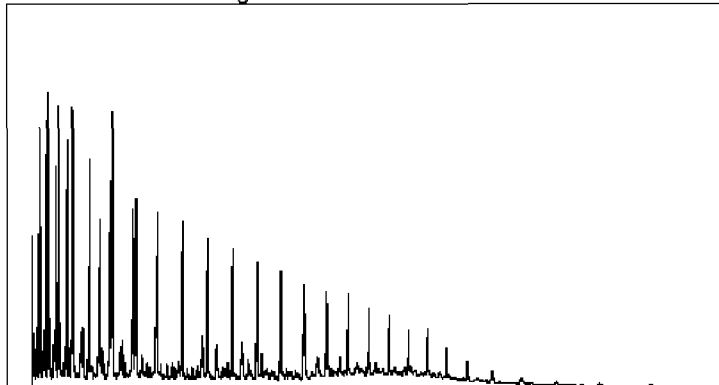
Summary Report

Country: NORVEGIA
Age:
Form Name: Klappmyss

Site Name: 7122/7-4S
Basin:
Oil N.: 4062

Sample_ID: P00884-OIL-0002
Depth: 2045.1(M)
S_Type: OIL

Total Ion Chromatogram



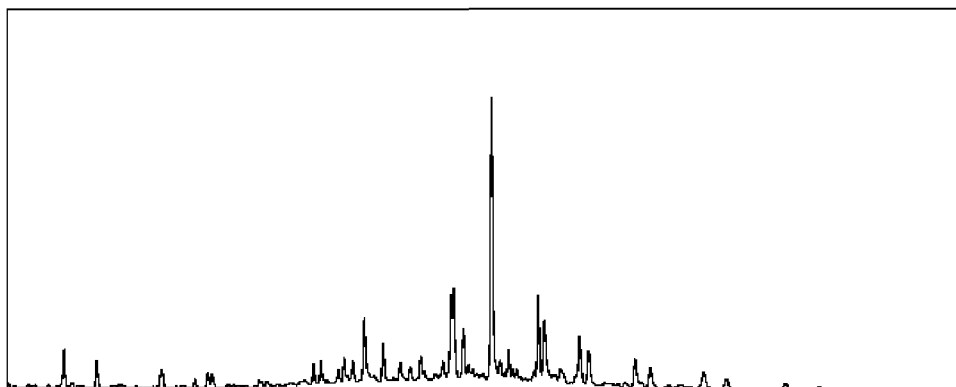
Bulk Parameters

API Gravity:
% Sulfur:
delt C13 Whole Crude:
delt C13 Saturates: -30.12
delt C13 Aromatics: -29.89
% Saturates:
% Aromatics:
% NONHCPC:
OEP: 1.04

GCMS Para 1

PrPh: 1.35
Tri: 0.14
Tet: 0.03
Trit: 4.20
TsTm: 1.56
C29Hop/C30Hop: 0.30
C30Lin:
C29Ts/C30Hop: 0.32
C30*/C30Hop: 0.18
Gam/C30:
Dia: 0.69

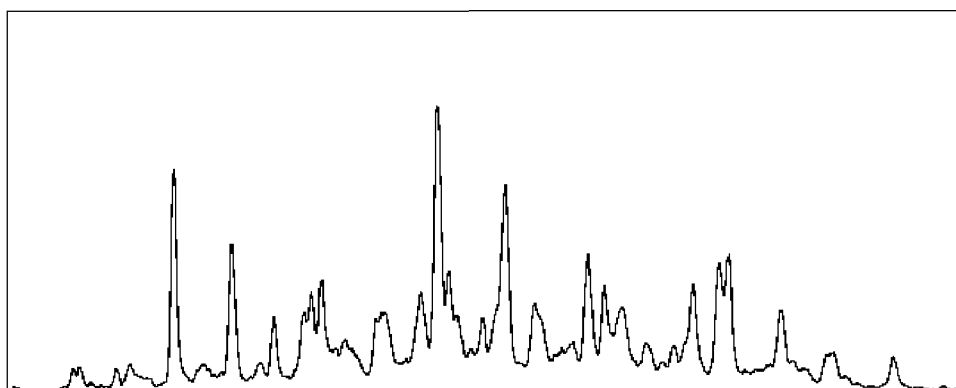
TERPANES(m/z 191)



GCMS Para 2

Organic Matter Parameters:
C27/C29 Sterane: 0.91
%27: 36.32
%28: 23.56
%29: 40.12
Sterani/Hopani: 0.09
Maturity Parameters:
PrC17: 1.35
PhC18: 1.04
S/S+R Terpanes: 0.59
S/S+R Steranes: 0.57
TsTm: 1.56
BB/aa: 0.68
T/TM: 0.54
MPI: 0.61

STERANES(m/z 217)



Age Parameters:

Oleanane/30Hop:

Baccarane:

Other Parameters:

31/30: 0.52

Methylhopane: 1.14



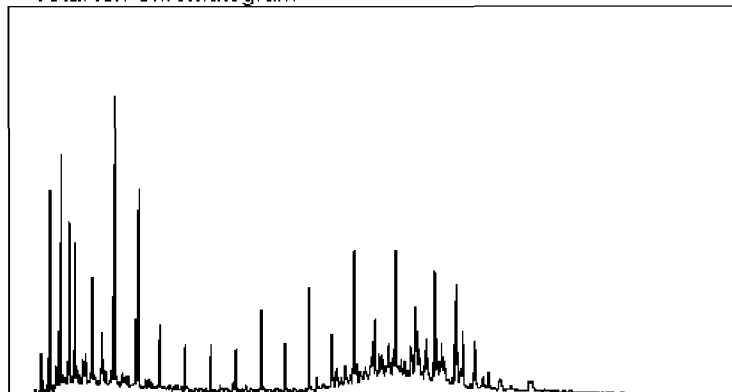
Summary Report

Country: NORVEGIA
Age:
Form Name: Hekkingen

Site Name: 7122/7-4S
Basin:
Oil N.:

Sample_ID: P00884-CUT-0012
Depth: 1120(M)
S_Type: CUTTING/TQ

Total Ion Chromatogram



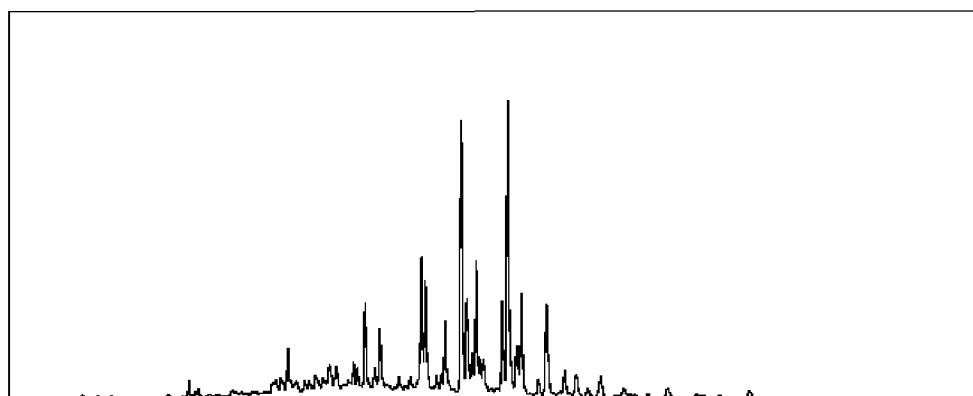
Bulk Parameters

API Gravity:
% Sulfur:
delt C13 Whole Crude:
delt C13 Saturates: -30.55
delt C13 Aromatics: -30.54
% Saturates:
% Aromatics:
% NONHCPC:
OEP: 1.72

GCMS Para 1

PrPh: 1.36
Tri:
Tet:
Trit:
TsTm: 7.41
C29Hop/C30Hop:
C30Lin:
C29Ts/C30Hop:
C30*/C30Hop:
Gam/C30:
Dia: 0.62

TERPANES(m/z 191)

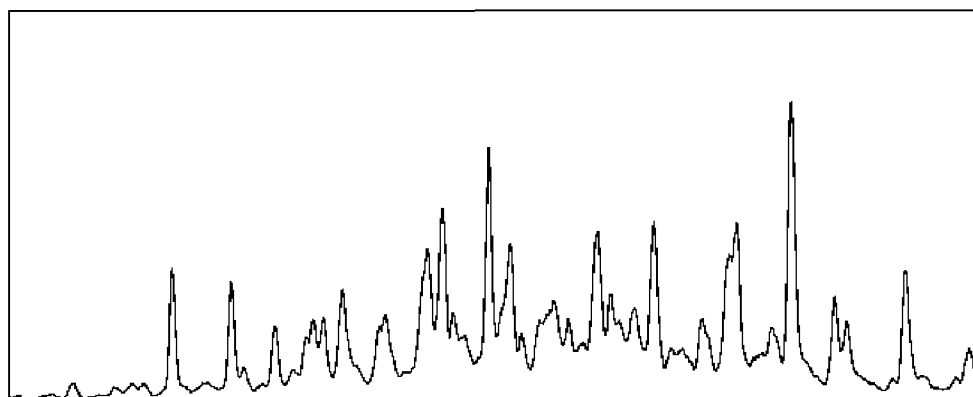


GCMS Para 2

Organic Matter Parameters:

C27/C29 Sterane: 0.63
%27: 28.25
%28: 26.52
%29: 45.23
Sterani/Hopani: 1.28
Maturity Parameters:
PrC17: 3.25
PhC18: 2.89
S/S+R Terpanes:
S/S+R Steranes: 0.17
TsTm: 7.41
BB/aa: 0.51
T/TM: 0.07
MPI: 0.44

STERANES(m/z 217)



Age Parameters:

Oleanane/30Hop:
Baccarane:
Other Parameters:
31/30:
Methylhopane:



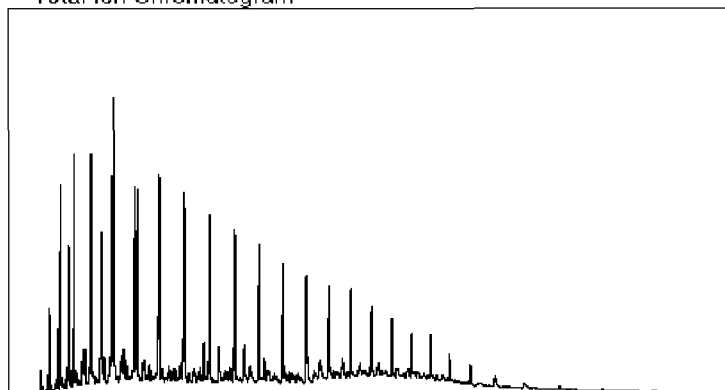
Summary Report

Country: NORVEGIA
Age:
Form Name: Kobbe

Site Name: 7122/7-4S 1
Basin:
Oil N.:

Sample_ID: P00884-CUT-0099
Depth: 1875(M)
S_Type: CUTTING/TQ

Total Ion Chromatogram



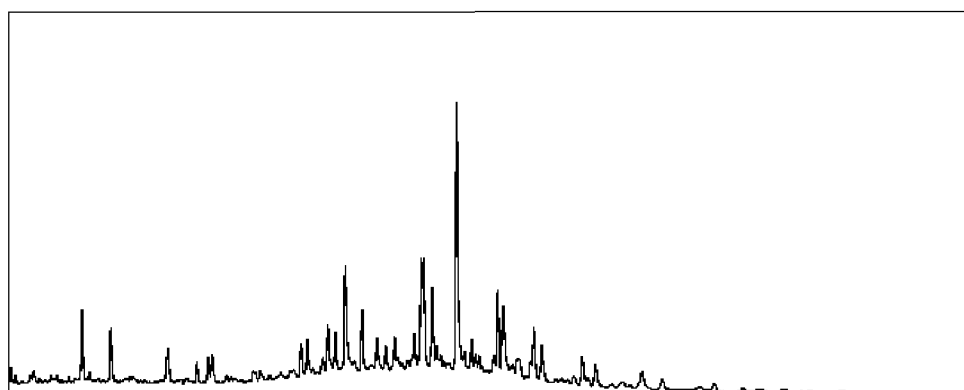
Bulk Parameters

API Gravity:
% Sulfur:
delt C13 Whole Crude:
delt C13 Saturates: -30.58
delt C13 Aromatics: -29.25
% Saturates:
% Aromatics:
% NONHCPC:
OEP: 0.99

GCMS Para 1

PrPh: 1.43
Tri: 0.27
Tet: 0.08
Trit: 3.64
TsTm: 1.70
C29Hop/C30Hop: 0.41
C30Lin:
C29Ts/C30Hop: 0.41
C30*/C30Hop: 0.30
Gam/C30:
Dia: 0.65

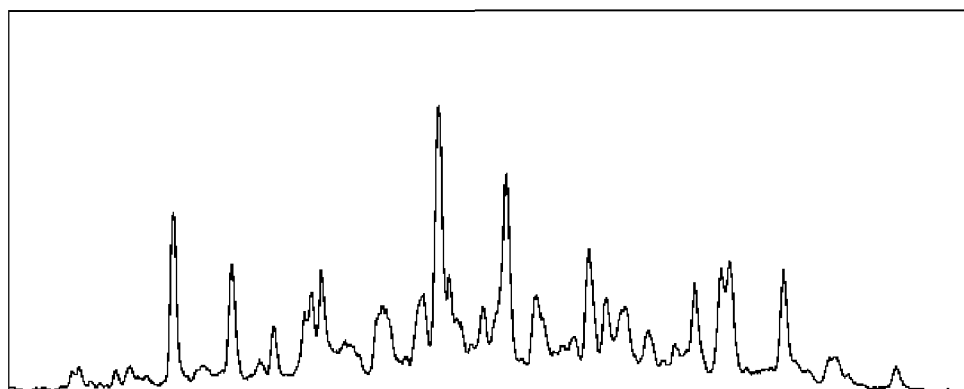
TERPANES(m/z 191)



GCMS Para 2

Organic Matter Parameters:
C27/C29 Sterane: 0.67
%27: 35.10
%28: 24.55
%29: 40.35
Sterani/Hopani: 0.16
Maturity Parameters:
PrC17: 1.45
PhC18: 0.99
S/S+R Terpanes: 0.56
S/S+R Steranes: 0.47
TsTm: 1.70
BB/aa: 0.61
T/TM: 0.38
MPI: 0.52

STERANES(m/z 217)





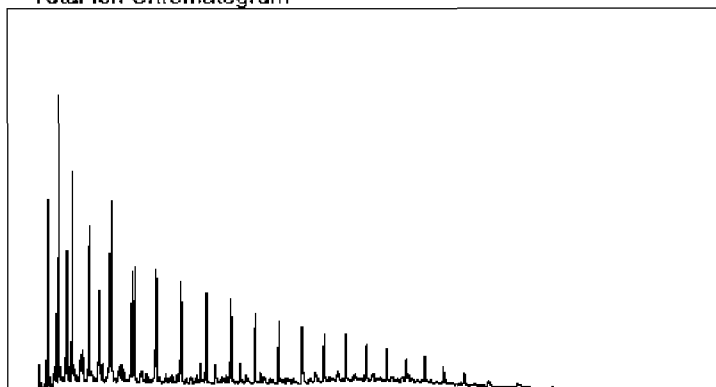
Summary Report

Country: NORVEGIA
Age:
Form Name: Klappmyss

Site Name: 7122/7-4S
Basin:
Oil N.:

Sample_ID: P00884-CUT-0118
Depth: 2060(M)
S_Type: CUTTING/TQ

Total Ion Chromatogram



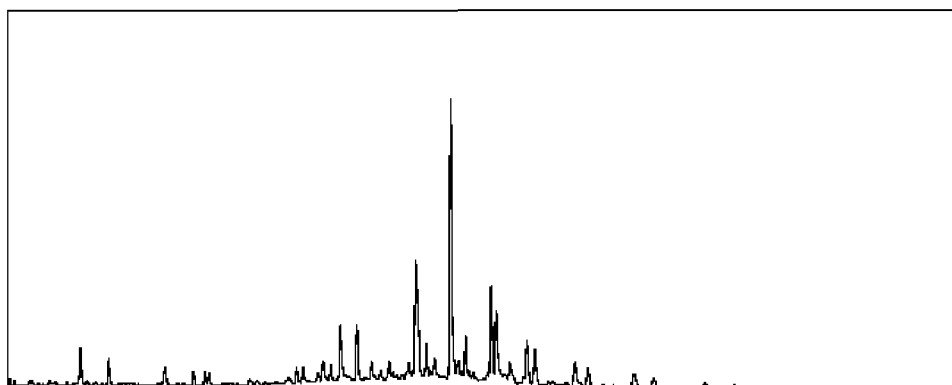
Bulk Parameters

API Gravity:
% Sulfur:
delt C13 Whole Crude:
delt C13 Saturates: -29.96
delt C13 Aromatics: -29.40
% Saturates:
% Aromatics:
% NONHCPC:
QEP: 1.02

GCMS Para 1

PrPh: 1.40
Tri: 0.13
Tet: 0.05
Trit: 2.55
TsTm: 0.98
C29Hop/C30Hop: 0.42
C30Lin:
C29Ts/C30Hop: 0.31
C30*/C30Hop: 0.12
Gam/C30:
Dia: 0.71

TERPANES(m/z 191)



GCMS Para 2

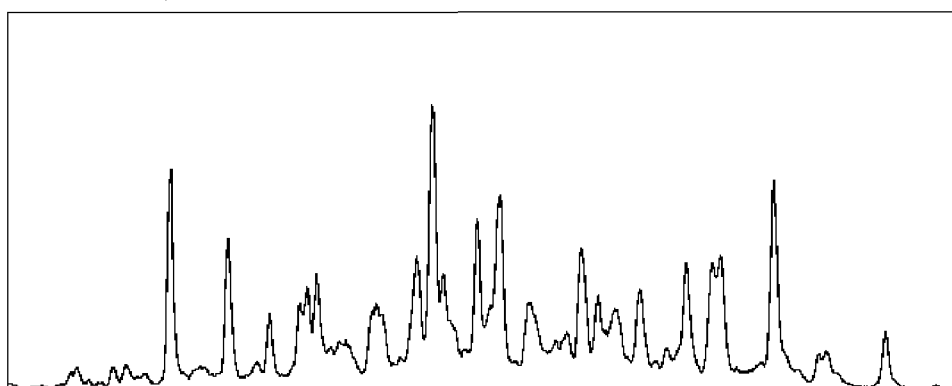
Organic Matter Parameters:

C27/C29 Sterane: 0.95
%27: 37.27
%28: 23.31
%29: 39.42
Sterani/Hopani: 0.13

Maturity Parameters:

PrC17: 1.40
PhC18: 1.05
S/S+R Terpanes: 0.59
S/S+R Steranes: 0.36
TsTm: 0.98
BB/aa: 0.50
T/TM: 0.44
MPI: 0.53

STERANES(m/z 217)



Age Parameters:

Oleanane/30Hop:

Baccarane:

Other Parameters:

31/30: 0.57
Methylhopane: 1.12



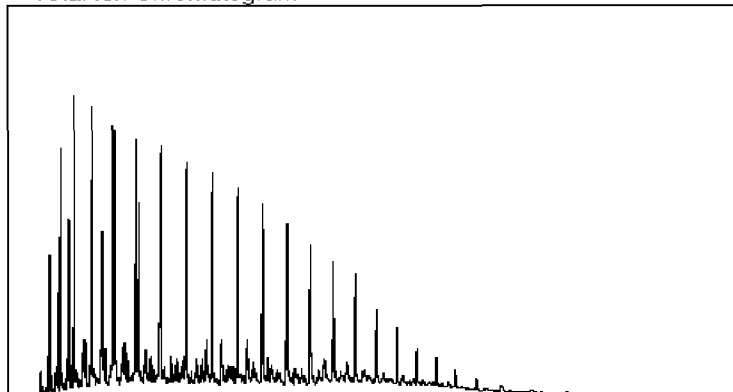
Summary Report

Country: NORVEGIA
Age:
Form Name: Havert

Site Name: 7122/7-4S
Basin:
Oil N.:

Sample_ID: P00884-CUT-0143
Depth: 2325(M)
S_Type: CUTTING/TQ

Total Ion Chromatogram



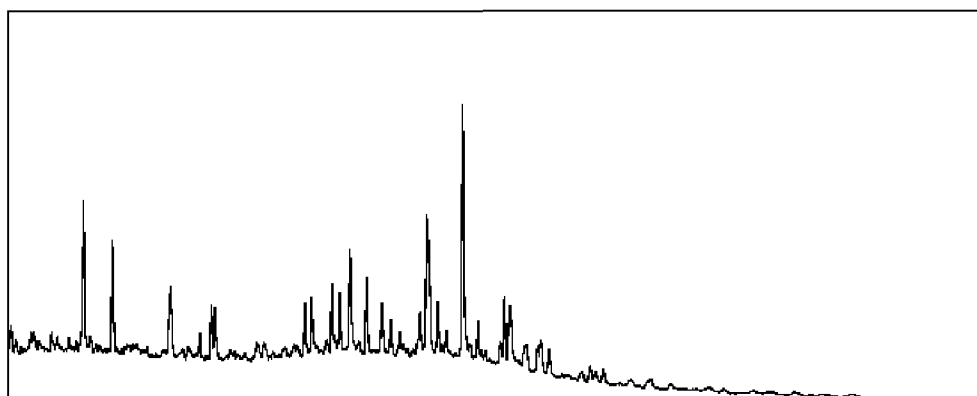
Bulk Parameters

API Gravity:
% Sulfur:
delt C13 Whole Crude:
delt C13 Saturates: -29.55
delt C13 Aromatics: -29.31
% Saturates:
% Aromatics:
% NONHCPC:
OEP: 0.99

GCMS Para 1

PrPh: 1.31
Tri: 0.61
Tet: 0.10
Trit: 6.22
TsTm: 1.32
C29Hop/C30Hop: 0.57
C30Lin:
C29Ts/C30Hop: 0.46
C30*/C30Hop: 0.21
Gam/C30: 0.23
Dia: 0.77

TERPANES(m/z 191)



GCMS Para 2

Organic Matter Parameters:

C27/C29 Sterane: 1.12
%27: 39.23
%28: 25.83
%29: 34.96
Sterani/Hopani: 0.18

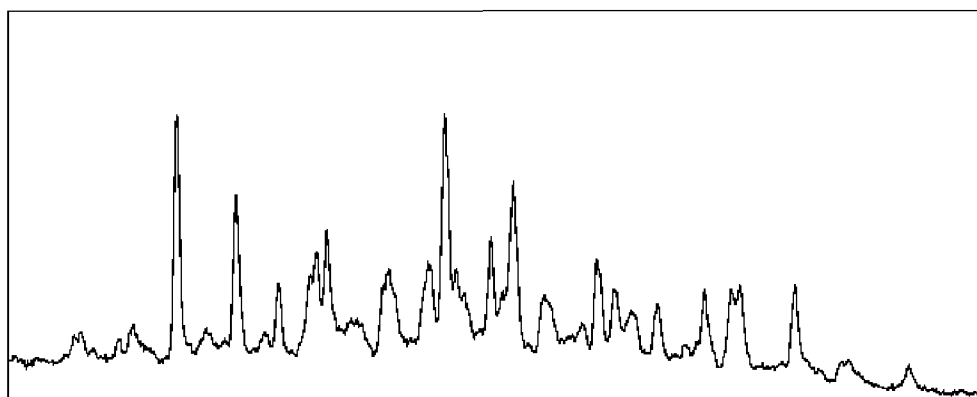
Maturity Parameters:

PrC17: 1.00
PhC18: 0.74
S/S+R Terpanes: 0.54
S/S+R Steranes: 0.49
TsTm: 1.32
BB/aa: 0.57
T/TM: 0.42
MPI: 0.50

Age Parameters:

Oleanane/30Hop:
Baccarane:
Other Parameters:
31/30: 0.49
Methylhopane: 0.93

STERANES(m/z 217)





Head Space analysis



CHEMICAL ANALYSIS OF MINI HEAD SPACE

WELL

GOLIAT | 7122/7-45

Depth (m)	C1 %	C2 %	C3 %	i-C4 %	n-C4 %	i-C5 %	n-C5 %	C6+ %	%CH ₄ Vol. tot.	ppb	i/n C4
1055	71.99	15.60	2.93	2.86	2.14	1.47	0.75	2.26	3.40	1.92	1.34
1100	82.19	13.71	2.75	0.57	0.37	0.15	0.08	0.18	11.23	1.95	1.54
1150	87.69	10.13	1.83	0.20	0.15				8.69	7.12	1.33
1200	76.76	18.84	1.44	0.73	0.29	0.22	0.10	1.62	4.79	0.91	2.52
1250	63.00	11.63	8.78	2.80	5.89	3.70	4.20		0.42	0.83	0.48
1300	86.29	9.66	1.42	1.54	1.09				0.52	0.60	1.41
1350	85.10	10.67	1.40	1.36	0.66	0.44	0.37		0.94	0.16	2.06
1400	70.03	10.81	10.01	2.60	4.46	1.13	0.96		0.44	0.05	0.58
1450	72.76	17.00	7.60	1.15	1.49				2.84	1.03	0.77
1500	80.29	12.17	5.72	0.96	0.86				4.03	0.41	1.12
1550	73.50	16.91	7.48	1.21	0.90				0.42	0.71	1.34
1600	65.19	19.89	11.25	1.83	1.84				0.36	0.96	0.99
1650	53.88	21.14	16.32	2.82	4.21	0.86	0.77		0.14	0.13	0.67
1750	12.42	8.04	20.81	9.34	16.57	7.50	7.16	18.16	0.09	0.17	0.56
1800	50.11	13.54	16.22	4.30	6.43	2.54	1.99	4.87	2.27	2.44	0.67
1850	30.76	10.86	22.21	7.07	11.70	4.69	3.80	8.91	0.29	0.44	0.60
1900	31.78	9.01	22.57	7.59	12.33	4.80	3.79	8.13	0.50	0.30	0.62
1950	31.70	7.75	21.12	7.49	13.00	5.20	4.24	9.50	0.24	0.33	0.58
2000	39.63	19.30	21.40	4.59	7.07	2.36	1.66	3.99	0.58	0.50	0.65
2050	55.21	17.90	13.60	3.06	4.94	1.52	1.15	2.62	1.51	3.03	0.62
2101.5	63.06	7.94	9.82	3.58	5.82	2.42	2.06	5.30	1.41	0.58	0.62
2150	63.43	6.57	8.42	3.32	6.02	2.70	2.44	7.10	0.68	0.57	0.55
2200	55.32	7.07	9.96	4.30	7.17	3.23	2.83	10.12	0.26	0.40	0.60
2250	62.57	5.70	8.41	4.07	6.43	3.07	2.71	7.04	0.85	0.21	0.63
2300	48.35	7.13	13.05	6.24	9.33	3.99	3.59	8.32	0.57	0.26	0.67
2350	48.58	6.49	12.40	6.54	9.13	4.13	3.70	9.03	0.55	0.21	0.72
2400	49.74	7.43	13.56	6.62	8.92	3.74	3.15	6.84	0.62	0.36	0.74
2450	69.36	7.29	8.64	3.23	4.50	1.76	1.43	3.79	0.71	0.26	0.72
2500	90.49	2.77	1.78	0.61	0.99	0.53	0.51	2.32	1.14	0.66	0.62
2550	84.23	2.87	2.69	1.06	1.85	1.05	1.02	5.23	0.32	0.22	0.57



ISOTOPIC ANALYSIS OF MINI HEAD SPACE

WELL

GOLIAT 7122/7-4S

Depth (m)	$\delta^{13}\text{C}$ C1	$\delta^{13}\text{C}$ C2	$\delta^{13}\text{C}$ C3	$\delta^{13}\text{C}$ i-C4	$\delta^{13}\text{C}$ n-C4	$\delta^{13}\text{C}$ i-C5	$\delta^{13}\text{C}$ n-C5	$\delta^{13}\text{C}$ CO2
1055	-43.16	-32.26	-28.88	-29.41	-29.24	-29.48	-28.80	
1100	-47.21	-33.92	-32.08	-32.27	-32.05			-47.21
1150	-45.94	-33.96	-32.48	-32.48	-31.80	-32.11		-44.34
1200	-49.58	-33.33	-28.91	-28.91	-24.32			
1250	-46.73	-30.41	-30.92	-30.92		-31.45		-53.04
1300	-45.37	-30.85						-33.67
1350	-49.07	-31.00	-30.13					-36.75
1400	-46.51	-31.42	-31.55	-30.04	-31.52			-38.62
1450	-47.48	-33.24	-31.45	-29.35	-28.04			-38.93
1500	-50.19	-34.17	-31.91	-29.12	-30.14			-40.24
1550	-49.24	-33.38	-30.94					
1600	-49.38	-33.48	-30.71					
1650	-49.16	-33.76	-31.22					
1750	-47.17	-33.15	-31.97	-28.72	-29.49	-27.63		
1800	-46.31	-34.28	-31.95	-31.85	-31.33	-30.36	-30.91	
1850	-45.46	-33.61	-31.18	-30.99	-30.69	-29.86		
1900	-47.22	-34.39	-31.44	-31.77	-31.17	-30.06	-30.41	
1950	-48.41	-33.64	-31.31	-31.79	-31.07	-29.67		
2000	-45.14	-34.03	-31.55	-31.52	-31.38	-29.70		
2050	-41.66	-32.00	-30.46	-30.89	-30.29	-29.11		
2101.5	-44.83	-32.70	-30.43	-30.68	-30.00	-29.29	-30.03	-37.53
2150	-43.71	-32.28	-29.57	-29.48	-29.10	-27.76		
2200	-43.20	-31.19	-28.66	-29.97	-28.77			
2250	-42.57	-31.52	-28.68	-29.89	-28.72	-27.44	-26.89	
2300	-41.80							
2350	-41.04	-31.15	-27.50	-29.32	-28.04	-27.49	-27.98	
2400	-41.38							
2450	-40.50	-32.16	-27.26	-26.65	-27.77			
2500	-40.66							
2550	-39.87							-30.96

n.d. = not determinable
n.m. = not measured