

Lithology Descriptions (Table 6)

Well Name	Sample Name	Upper Depth	Lower Depth	Sample Type	Lithology Descriptions
6508/1-1S	99021-115	2462.0	2462.0	Cuttings	Lst, v lt gy + 10% Sh, dk gy + tr Sh, med dk gy + tr Salt (V Sm Sample)
6508/1-1S	99021-116	2471.0	2471.0	Cuttings	Sst, pa yel brn + tr Sh, dk gy + tr Snd + tr Salt (V Sm Sample)
6508/1-1S	99021-117	2480.0	2480.0	Cuttings	Sst, v lt gy + tr Sh, dk gy + tr Sst, pa yel brn + tr Snd + tr Salt (V Sm Sample)
6508/1-1S	99021-118	2489.0	2489.0	Cuttings	Sst, v lt gy + 10% Sh, dk gy + tr Sst, pa yel brn + tr Snd + tr Salt (V Sm Sample)
6508/1-1S	99021-119	2498.0	2498.0	Cuttings	Sst, v lt gy + tr Sh, dk gy + tr Sst, pa yel brn + tr Snd + tr Salt (V Sm Sample)
6508/1-1S	99021-120	2507.0	2507.0	Cuttings	Sst, v lt gy + tr Sh, dk gy + tr Sst, pa yel brn + tr Snd + tr Salt
6508/1-1S	99021-121	2516.0	2516.0	Cuttings	Sst, v lt gy + tr Sh, dk gy + tr Sst, pa yel brn + tr Lst, wht + tr Snd + tr Salt (Sm Sample)
6508/1-1S	99021-122	2525.0	2525.0	Cuttings	Sst, v lt gy + tr Sh, dk gy + tr Sst, pa yel brn + tr Lst, wht + tr Snd + tr Salt (V Sm Sample)
6508/1-1S	99021-123	2534.0	2534.0	Cuttings	Sst, v lt gy + tr Sh, dk gy + tr Sst, pa yel brn + tr Lst, wht + tr Snd + tr Salt (V Sm Sample)
6508/1-1S	99021-124	2543.0	2543.0	Cuttings	Sst, v lt gy + tr Sh, dk gy + tr Sst, pa yel brn + tr Lst, wht + tr Salt (V Sm Sample)
6508/1-1S	99021-125	2552.0	2552.0	Cuttings	Sst, v lt gy + 10% Sh, med dk gy + tr Sst, pa yel brn + tr Sh, dk gy + tr Salt + tr Lst, wht (V Sm Sample)
6508/1-1S	99021-126	2561.0	2561.0	Cuttings	Sst, v lt gy + tr Sh, med dk gy + tr Sst, pa yel brn + tr Salt + tr Salt + tr Lst, wht (V Sm Sample)
6508/1-1S	99021-127	2570.0	2570.0	Cuttings	Sst, v lt gy + tr Sh, med dk gy + tr Sst, pa yel brn + tr Salt + tr Salt + tr Lst, wht (V Sm Sample)
6508/1-1S	99021-128	2579.0	2579.0	Cuttings	Sst, v lt gy + tr Sh, med dk gy + tr Sst, pa yel brn + tr Salt + tr Salt + tr Lst, wht (V Sm Sample)
6508/1-1S	99021-129	2588.0	2588.0	Cuttings	Sst, v lt gy + tr Sh, med dk gy + tr Sst, pa yel brn + tr Lst, wht + tr Salt (V Sm Sample)
6508/1-1S	99021-130	2597.0	2597.0	Cuttings	Sst, v lt gy + tr Sh, med dk gy + tr Sst, pa yel brn + tr Lst, wht + tr Salt (V Sm Sample)
6508/1-1S	99021-131	2606.0	2606.0	Cuttings	Sst, v lt gy + tr Sh, med dk gy + tr Sst, pa yel brn + tr Lst, wht + tr Snd (V Sm Sample)
6508/1-1S	99021-132	2615.0	2615.0	Cuttings	Sst, v lt gy + tr Lst, wht + tr Sst, pa yel brn + tr Sh, med dk gy + tr Snd
6508/1-1S	99021-133	2624.0	2624.0	Cuttings	Sst, v lt gy + tr Sst, pa yel brn + tr Sh, med dk gy + tr Lst, wht + tr Snd
6508/1-1S	99021-134	2633.0	2633.0	Cuttings	Sst, v lt gy + tr Sst, pa yel brn + tr Sh, med dk gy + tr Lst, wht + tr Snd
6508/1-1S	99021-135	2642.0	2642.0	Cuttings	Sst, pa yel brn + 10% Sst, v lt gy + tr Sh, med dk gy + tr Lst, wht + tr Snd
6508/1-1S	99021-136	2651.0	2651.0	Cuttings	Sst, pa yel brn + tr Sst, v lt gy + tr Sh, med dk gy + tr Lst, wht + tr Snd
6508/1-1S	99021-137	2660.0	2660.0	Cuttings	Sst, pa yel brn + mnr Lst, wht + tr Sh, med dk gy + tr Sst, v lt gy + tr Snd
6508/1-1S	99021-138	2669.0	2669.0	Cuttings	Sst, pa yel brn + mnr Sst, v lt gy + tr Sh, med dk gy + tr Lst, wht + tr Snd
6508/1-1S	99021-139	2678.0	2678.0	Cuttings	Sst, pa yel brn + mnr Sst, v lt gy + tr Sh, med dk gy + tr Lst, wht + tr Snd
6508/1-1S	99021-140	2687.0	2687.0	Cuttings	Sst, pa yel brn + mnr Sst, v lt gy + tr Sh, med dk gy + tr Lst, wht + tr Snd
6508/1-1S	99021-141	2696.0	2696.0	Cuttings	Sst, pa yel brn + mnr Sst, v lt gy + tr Sh, med dk gy + tr Lst, wht + tr Snd
6508/1-1S	99021-142	2705.0	2705.0	Cuttings	Sst, pa yel brn + mnr Sst, v lt gy + tr Sh, med dk gy + tr Lst, wht + tr Snd
6508/1-1S	99021-143	2714.0	2714.0	Cuttings	Sst, pa yel brn + mnr Sst, v lt gy + tr Sh, med dk gy + tr Lst, wht + tr Snd
6508/1-1S	99021-144	2723.0	2723.0	Cuttings	Sst, pa yel brn + mnr Sst, v lt gy + tr Sh, med dk gy + tr Lst, wht + tr Snd
6508/1-1S	99021-145	2732.0	2732.0	Cuttings	Sst, pa yel brn + 10% Sh, med dk gy + mnr Sst, v lt gy + tr Lst, wht + tr Snd
6508/1-1S	99021-146	2741.0	2741.0	Cuttings	Sst, pa yel brn + 20% Sh, blk + 10% Sh, med dk gy + tr Lst, wht + tr Snd + tr Sst, v lt gy
6508/1-1S	99021-147	2750.0	2750.0	Cuttings	Sst, pa yel brn + 20% Sh, blk + 10% Sh, med dk gy + tr Lst, wht + tr Snd + tr Sst, v lt gy

ROCK EVAL PYROLYSIS DATA (Table 7)

Well Name	Nation	Sample Name	Upper Depth	Lower Depth	Sample Type	S1 mg/g	S2 mg/g	S3 mg/g	Tmax deg C	TOC % wt
6508/1-1S	NOR	99021-1	1210.0	1210.0	Cuttings					0.57
6508/1-1S	NOR	99021-2	1220.0	1220.0	Cuttings					0.51
6508/1-1S	NOR	99021-3	1230.0	1230.0	Cuttings					0.44
6508/1-1S	NOR	99021-4	1240.0	1240.0	Cuttings					0.49
6508/1-1S	NOR	99021-5	1260.0	1260.0	Cuttings					0.51
6508/1-1S	NOR	99021-6	1270.0	1270.0	Cuttings					0.54
6508/1-1S	NOR	99021-7	1290.0	1290.0	Cuttings					0.62
6508/1-1S	NOR	99021-8	1300.0	1300.0	Cuttings					0.55
6508/1-1S	NOR	99021-9	1310.0	1310.0	Cuttings					0.39
6508/1-1S	NOR	99021-10	1320.0	1320.0	Cuttings					0.54
6508/1-1S	NOR	99021-10X	1320.0	1320.0	S.E.Cuttings	0.17	0.49	1.00	412	
6508/1-1S	NOR	99021-11	1330.0	1330.0	Cuttings					0.45
6508/1-1S	NOR	99021-12	1340.0	1340.0	Cuttings					0.72
6508/1-1S	NOR	99021-13	1350.0	1350.0	Cuttings					0.24
6508/1-1S	NOR	99021-14	1360.0	1360.0	Cuttings					0.52
6508/1-1S	NOR	99021-15	1370.0	1370.0	Cuttings					0.37
6508/1-1S	NOR	99021-16	1380.0	1380.0	Cuttings					1.12
6508/1-1S	NOR	99021-16X	1380.0	1380.0	S.E.Cuttings	0.19	0.95	1.05	413	
6508/1-1S	NOR	99021-17	1390.0	1390.0	Cuttings					1.06
6508/1-1S	NOR	99021-17X	1390.0	1390.0	S.E.Cuttings	0.14	0.75	1.07	417	
6508/1-1S	NOR	99021-21	1410.0	1410.0	Cuttings					0.99
6508/1-1S	NOR	99021-19	1420.0	1420.0	Cuttings					1.05
6508/1-1S	NOR	99021-20	1430.0	1430.0	Cuttings					1.47
6508/1-1S	NOR	99021-20X	1430.0	1430.0	S.E.Cuttings	0.22	1.35	1.17	421	
6508/1-1S	NOR	99021-21	1440.0	1440.0	Cuttings					1.40
6508/1-1S	NOR	99021-22	1450.0	1450.0	Cuttings					1.56
6508/1-1S	NOR	99021-23	1460.0	1460.0	Cuttings					1.70
6508/1-1S	NOR	99021-24	1470.0	1470.0	Cuttings					1.77
6508/1-1S	NOR	99021-24X	1470.0	1470.0	S.E.Cuttings	0.17	1.37	1.47	421	
6508/1-1S	NOR	99021-25	1480.0	1480.0	Cuttings					1.72
6508/1-1S	NOR	99021-26	1490.0	1490.0	Cuttings					1.91
6508/1-1S	NOR	99021-27	1500.0	1500.0	Cuttings					1.92
6508/1-1S	NOR	99021-28	1510.0	1510.0	Cuttings					2.29
6508/1-1S	NOR	99021-28X	1510.0	1510.0	S.E.Cuttings	0.27	2.50	1.68	424	
6508/1-1S	NOR	99021-29	1520.0	1520.0	Cuttings					2.04
6508/1-1S	NOR	99021-30	1530.0	1530.0	Cuttings					1.97
6508/1-1S	NOR	99021-31	1540.0	1540.0	Cuttings					2.22
6508/1-1S	NOR	99021-31X	1540.0	1540.0	S.E.Cuttings	0.27	2.30	1.37	422	
6508/1-1S	NOR	99021-32	1550.0	1550.0	Cuttings					2.38
6508/1-1S	NOR	99021-33	1560.0	1560.0	Cuttings					3.01
6508/1-1S	NOR	99021-33X	1560.0	1560.0	S.E.Cuttings	0.42	3.57	2.01	420	
6508/1-1S	NOR	99021-34	1570.0	1570.0	Cuttings					3.72
6508/1-1S	NOR	99021-34X	1570.0	1570.0	S.E.Cuttings	0.49	4.22	2.29	415	
6508/1-1S	NOR	99021-35	1590.0	1590.0	Cuttings					4.88
6508/1-1S	NOR	99021-35X	1590.0	1590.0	S.E.Cuttings	0.56	6.25	3.29	416	
6508/1-1S	NOR	99021-36	1600.0	1600.0	Cuttings					3.92
6508/1-1S	NOR	99021-36X	1600.0	1600.0	S.E.Cuttings	0.50	4.81	2.73	418	
6508/1-1S	NOR	99021-37	1610.0	1610.0	Cuttings					2.56
6508/1-1S	NOR	99021-37X	1610.0	1610.0	S.E.Cuttings	0.36	2.85	2.21	418	
6508/1-1S	NOR	99021-38	1630.0	1630.0	Cuttings					2.47
6508/1-1S	NOR	99021-38X	1630.0	1630.0	S.E.Cuttings	0.42	2.79	2.13	417	
6508/1-1S	NOR	99021-39	1640.0	1640.0	Cuttings					2.11

ROCK EVAL PYROLYSIS DATA (Table 7)

Well Name	Nation	Sample Name	Upper Depth	Lower Depth	Sample Type	S1 mg/g	S2 mg/g	S3 mg/g	Tmax deg C	TOC % wt
6508/1-1S	NOR	99021-39X	1640.0	1640.0	S.E.Cuttings	0.94	0.87	1.26	406	
6508/1-1S	NOR	99021-40	1660.0	1660.0	Cuttings					1.56
6508/1-1S	NOR	99021-41	1670.0	1670.0	Cuttings					1.60
6508/1-1S	NOR	99021-41X	1670.0	1670.0	S.E.Cuttings	0.90	0.53	0.91	353	
6508/1-1S	NOR	99021-42	1680.0	1680.0	Cuttings					1.85
6508/1-1S	NOR	99021-43	1690.0	1690.0	Cuttings					1.62
6508/1-1S	NOR	99021-44	1700.0	1700.0	Cuttings					1.16
6508/1-1S	NOR	99021-44X	1700.0	1700.0	S.E.Cuttings	0.72	0.33	1.15	371	
6508/1-1S	NOR	99021-45	1710.0	1710.0	Cuttings					1.46
6508/1-1S	NOR	99021-46	1720.0	1720.0	Cuttings					1.11
6508/1-1S	NOR	99021-47	1730.0	1730.0	Cuttings					1.22
6508/1-1S	NOR	99021-47X	1730.0	1730.0	S.E.Cuttings	0.61	0.21	1.10	369	
6508/1-1S	NOR	99021-48	1740.0	1740.0	Cuttings					1.23
6508/1-1S	NOR	99021-49	1750.0	1750.0	Cuttings					1.59
6508/1-1S	NOR	99021-49X	1750.0	1750.0	S.E.Cuttings	0.19	1.00	1.14	425	
6508/1-1S	NOR	99021-50	1790.0	1790.0	Cuttings					1.48
6508/1-1S	NOR	99021-50X	1790.0	1790.0	S.E.Cuttings	0.25	1.22	1.32	426	
6508/1-1S	NOR	99021-51	1810.0	1810.0	Cuttings					1.11
6508/1-1S	NOR	99021-52	1820.0	1820.0	Cuttings					0.98
6508/1-1S	NOR	99021-53	1830.0	1830.0	Cuttings					1.15
6508/1-1S	NOR	99021-53X	1830.0	1830.0	S.E.Cuttings	0.15	0.79	0.80	427	
6508/1-1S	NOR	99021-54	1840.0	1840.0	Cuttings					0.77
6508/1-1S	NOR	99021-55	1850.0	1850.0	Cuttings					0.68
6508/1-1S	NOR	99021-56	1860.0	1860.0	Cuttings					0.64
6508/1-1S	NOR	99021-57	1870.0	1870.0	Cuttings					0.73
6508/1-1S	NOR	99021-58	1880.0	1880.0	Cuttings					1.02
6508/1-1S	NOR	99021-58X	1880.0	1880.0	S.E.Cuttings	0.15	0.22	1.09	402	
6508/1-1S	NOR	99021-59	1900.0	1900.0	Cuttings					0.80
6508/1-1S	NOR	99021-60	1910.0	1910.0	Cuttings					0.76
6508/1-1S	NOR	99021-61	1920.0	1920.0	Cuttings					0.80
6508/1-1S	NOR	99021-62	1930.0	1930.0	Cuttings					0.81
6508/1-1S	NOR	99021-63	1940.0	1940.0	Cuttings					1.14
6508/1-1S	NOR	99021-63X	1940.0	1940.0	S.E.Cuttings	0.08	0.78	1.44	430	
6508/1-1S	NOR	99021-64	1950.0	1950.0	Cuttings					1.21
6508/1-1S	NOR	99021-65	1960.0	1960.0	Cuttings					1.11
6508/1-1S	NOR	99021-65X	1960.0	1960.0	S.E.Cuttings	0.09	0.64	0.75	421	
6508/1-1S	NOR	99021-66	1970.0	1970.0	Cuttings					1.09
6508/1-1S	NOR	99021-67	1980.0	1980.0	Cuttings					1.07
6508/1-1S	NOR	99021-67X	1980.0	1980.0	S.E.Cuttings	0.06	0.61	0.96	423	
6508/1-1S	NOR	99021-68	1990.0	1990.0	Cuttings					1.16
6508/1-1S	NOR	99021-68X	1990.0	1990.0	S.E.Cuttings	0.11	0.57	0.77	422	
6508/1-1S	NOR	99021-69	2000.0	2000.0	Cuttings					1.19
6508/1-1S	NOR	99021-69X	2000.0	2000.0	S.E.Cuttings	0.09	0.62	0.82	424	
6508/1-1S	NOR	99021-70	2020.0	2020.0	Cuttings					1.18
6508/1-1S	NOR	99021-70X	2020.0	2020.0	S.E.Cuttings	0.13	0.66	0.69	426	
6508/1-1S	NOR	99021-71	2040.0	2040.0	Cuttings					1.13
6508/1-1S	NOR	99021-71X	2040.0	2040.0	S.E.Cuttings	0.11	0.55	0.70	426	
6508/1-1S	NOR	99021-72	2050.0	2050.0	Cuttings					1.13
6508/1-1S	NOR	99021-72X	2050.0	2050.0	S.E.Cuttings	0.08	0.54	0.73	428	
6508/1-1S	NOR	99021-73	2060.0	2060.0	Cuttings					1.13
6508/1-1S	NOR	99021-73X	2060.0	2060.0	S.E.Cuttings	0.04	0.47	0.72	427	
6508/1-1S	NOR	99021-74	2080.0	2080.0	Cuttings					1.17

ROCK EVAL PYROLYSIS DATA (Table 7)

Well Name	Nation	Sample Name	Upper Depth	Lower Depth	Sample Type	S1 mg/g	S2 mg/g	S3 mg/g	Tmax deg C	TOC % wt
6508/1-1S	NOR	99021-74X	2080.0	2080.0	S.E.Cuttings	0.08	0.73	0.73	429	
6508/1-1S	NOR	99021-75	2090.0	2090.0	Cuttings					1.20
6508/1-1S	NOR	99021-75X	2090.0	2090.0	S.E.Cuttings	0.09	0.77	0.79	425	
6508/1-1S	NOR	99021-76	2100.0	2100.0	Cuttings					1.23
6508/1-1S	NOR	99021-76X	2100.0	2100.0	S.E.Cuttings	0.08	0.71	0.91	428	
6508/1-1S	NOR	99021-77	2110.0	2110.0	Cuttings					1.14
6508/1-1S	NOR	99021-77X	2110.0	2110.0	S.E.Cuttings	0.09	0.69	1.01	426	
6508/1-1S	NOR	99021-78	2120.0	2120.0	Cuttings					1.47
6508/1-1S	NOR	99021-78X	2120.0	2120.0	S.E.Cuttings	0.25	1.33	2.38	423	
6508/1-1S	NOR	99021-79	2130.0	2130.0	Cuttings					1.05
6508/1-1S	NOR	99021-79X	2130.0	2130.0	S.E.Cuttings	0.22	0.51	1.78	415	
6508/1-1S	NOR	99021-80	2138.0	2138.0	Cuttings					8.56
6508/1-1S	NOR	99021-80X	2138.0	2138.0	S.E.Cuttings	0.39	30.78	1.32	414	
6508/1-1S	NOR	99021-81	2147.0	2147.0	Cuttings					7.75
6508/1-1S	NOR	99021-81X	2147.0	2147.0	S.E.Cuttings	0.48	28.97	1.23	410	
6508/1-1S	NOR	99021-82	2156.0	2156.0	Cuttings					5.99
6508/1-1S	NOR	99021-82X	2156.0	2156.0	S.E.Cuttings	0.39	23.82	1.14	411	
6508/1-1S	NOR	99021-83	2165.0	2165.0	Cuttings					4.57
6508/1-1S	NOR	99021-83X	2165.0	2165.0	S.E.Cuttings	0.31	14.41	1.03	413	
6508/1-1S	NOR	99021-84	2174.0	2174.0	Cuttings					2.11
6508/1-1S	NOR	99021-84X	2174.0	2174.0	S.E.Cuttings	0.22	4.79	1.39	419	
6508/1-1S	NOR	99021-85	2183.0	2183.0	Cuttings					1.70
6508/1-1S	NOR	99021-85X	2183.0	2183.0	S.E.Cuttings	0.18	3.16	1.27	422	
6508/1-1S	NOR	99021-86	2192.0	2192.0	Cuttings					1.38
6508/1-1S	NOR	99021-86X	2192.0	2192.0	S.E.Cuttings	0.13	1.86	1.35	424	
6508/1-1S	NOR	99021-87	2201.0	2201.0	Cuttings					1.04
6508/1-1S	NOR	99021-87X	2201.0	2201.0	S.E.Cuttings	0.12	0.85	1.38	426	
6508/1-1S	NOR	99021-88	2210.0	2210.0	Cuttings					1.56
6508/1-1S	NOR	99021-88X	2210.0	2210.0	S.E.Cuttings	0.14	1.90	1.32	423	
6508/1-1S	NOR	99021-89	2219.0	2219.0	Cuttings					1.37
6508/1-1S	NOR	99021-89X	2219.0	2219.0	S.E.Cuttings	0.22	1.74	1.28	422	
6508/1-1S	NOR	99021-90	2228.0	2228.0	Cuttings					2.09
6508/1-1S	NOR	99021-90X	2228.0	2228.0	S.E.Cuttings	0.35	2.42	1.23	423	
6508/1-1S	NOR	99021-91	2237.0	2237.0	Cuttings					1.48
6508/1-1S	NOR	99021-91X	2237.0	2237.0	S.E.Cuttings	0.11	1.25	1.37	424	
6508/1-1S	NOR	99021-92	2246.0	2246.0	Cuttings					1.66
6508/1-1S	NOR	99021-92X	2246.0	2246.0	S.E.Cuttings	0.20	1.39	1.16	427	
6508/1-1S	NOR	99021-93	2255.0	2255.0	Cuttings					1.86
6508/1-1S	NOR	99021-93X	2255.0	2255.0	S.E.Cuttings	0.15	1.71	1.25	426	
6508/1-1S	NOR	99021-94	2264.0	2264.0	Cuttings					1.55
6508/1-1S	NOR	99021-94X	2264.0	2264.0	S.E.Cuttings	0.22	1.35	1.11	425	
6508/1-1S	NOR	99021-95	2273.0	2273.0	Cuttings					1.18
6508/1-1S	NOR	99021-95X	2273.0	2273.0	S.E.Cuttings	0.10	0.62	1.22	426	
6508/1-1S	NOR	99021-96	2282.0	2282.0	Cuttings					1.54
6508/1-1S	NOR	99021-96X	2282.0	2282.0	S.E.Cuttings	0.19	1.03	1.34	428	
6508/1-1S	NOR	99021-97	2291.0	2291.0	Cuttings					1.25
6508/1-1S	NOR	99021-97X	2291.0	2291.0	S.E.Cuttings	0.14	0.66	1.43	428	
6508/1-1S	NOR	99021-98	2300.0	2300.0	Cuttings					1.08
6508/1-1S	NOR	99021-98X	2300.0	2300.0	S.E.Cuttings	0.58	1.90	3.57	454	
6508/1-1S	NOR	99021-99	2309.0	2309.0	Cuttings					0.99
6508/1-1S	NOR	99021-99X	2309.0	2309.0	S.E.Cuttings	0.51	1.96	4.33	437	
6508/1-1S	NOR	99021-100	2318.0	2318.0	Cuttings					0.69
6508/1-1S	NOR	99021-100X	2318.0	2318.0	S.E.Cuttings	0.57	1.94	4.79	443	
6508/1-1S	NOR	99021-101	2327.0	2327.0	Cuttings					1.31
6508/1-1S	NOR	99021-101X	2327.0	2327.0	S.E.Cuttings	0.39	1.49	3.30	430	
6508/1-1S	NOR	99021-102	2336.0	2336.0	Cuttings					1.37

ROCK EVAL PYROLYSIS DATA (Table 7)

Well Name	Nation	Sample Name	Upper Depth	Lower Depth	Sample Type	S1 mg/g	S2 mg/g	S3 mg/g	Tmax deg C	TOC % wt
6508/1-1S	NOR	99021-102X	2336.0	2336.0	S.E.Cuttings	0.27	1.14	2.06	428	
6508/1-1S	NOR	99021-103	2345.0	2345.0	Cuttings					0.86
6508/1-1S	NOR	99021-103X	2345.0	2345.0	S.E.Cuttings	0.12	0.65	1.74	431	
6508/1-1S	NOR	99021-104	2354.0	2354.0	Cuttings					1.21
6508/1-1S	NOR	99021-104X	2354.0	2354.0	S.E.Cuttings	0.33	1.22	3.12	426	
6508/1-1S	NOR	99021-105	2363.0	2363.0	Cuttings					1.26
6508/1-1S	NOR	99021-105X	2363.0	2363.0	S.E.Cuttings	0.28	1.05	2.06	428	
6508/1-1S	NOR	99021-106	2372.0	2372.0	Cuttings					1.27
6508/1-1S	NOR	99021-106X	2372.0	2372.0	S.E.Cuttings	0.26	1.06	1.94	429	
6508/1-1S	NOR	99021-107	2381.0	2381.0	Cuttings					1.09
6508/1-1S	NOR	99021-107X	2381.0	2381.0	S.E.Cuttings	0.18	0.81	1.71	429	
6508/1-1S	NOR	99021-108	2390.0	2390.0	Cuttings					1.55
6508/1-1S	NOR	99021-108X	2390.0	2390.0	S.E.Cuttings	0.27	1.09	1.59	432	
6508/1-1S	NOR	99021-109	2399.0	2399.0	Cuttings					1.49
6508/1-1S	NOR	99021-109X	2399.0	2399.0	S.E.Cuttings	0.17	1.17	1.74	435	
6508/1-1S	NOR	99021-110	2408.0	2408.0	Cuttings					0.94
6508/1-1S	NOR	99021-110X	2408.0	2408.0	S.E.Cuttings	0.19	0.86	1.84	433	
6508/1-1S	NOR	99021-111	2417.0	2417.0	Cuttings					0.54
6508/1-1S	NOR	99021-111X	2417.0	2417.0	S.E.Cuttings	0.16	0.42	1.31	431	
6508/1-1S	NOR	99021-112	2426.0	2426.0	Cuttings					0.42
6508/1-1S	NOR	99021-112X	2426.0	2426.0	S.E.Cuttings	0.20	0.29	1.06	425	
6508/1-1S	NOR	99021-113	2435.0	2435.0	Cuttings					0.40
6508/1-1S	NOR	99021-113X	2435.0	2435.0	S.E.Cuttings	0.13	0.21	0.97	421	
6508/1-1S	NOR	99021-114	2444.0	2444.0	Cuttings					0.46
6508/1-1S	NOR	99021-114X	2444.0	2444.0	S.E.Cuttings	0.10	0.14	0.80	423	
6508/1-1S	NOR	99021-115	2462.0	2462.0	Cuttings					0.32
6508/1-1S	NOR	99021-115X	2462.0	2462.0	S.E.Cuttings	0.13	0.19	1.06	420	
6508/1-1S	NOR	99021-116	2471.0	2471.0	Cuttings					0.81
6508/1-1S	NOR	99021-116X	2471.0	2471.0	S.E.Cuttings	0.92	1.12	4.67	423	
6508/1-1S	NOR	99021-117	2480.0	2480.0	Cuttings					0.50
6508/1-1S	NOR	99021-117X	2480.0	2480.0	S.E.Cuttings	0.20	0.43	1.81	416	
6508/1-1S	NOR	99021-118	2489.0	2489.0	Cuttings					0.77
6508/1-1S	NOR	99021-118X	2489.0	2489.0	S.E.Cuttings	0.18	0.81	1.49	422	
6508/1-1S	NOR	99021-119	2498.0	2498.0	Cuttings					0.48
6508/1-1S	NOR	99021-119X	2498.0	2498.0	S.E.Cuttings	0.24	0.47	1.68	418	
6508/1-1S	NOR	99021-120	2507.0	2507.0	Cuttings					0.44
6508/1-1S	NOR	99021-120X	2507.0	2507.0	S.E.Cuttings	0.20	0.41	1.65	419	
6508/1-1S	NOR	99021-121	2516.0	2516.0	Cuttings					0.31
6508/1-1S	NOR	99021-121X	2516.0	2516.0	S.E.Cuttings	0.13	0.28	1.05	423	
6508/1-1S	NOR	99021-122	2525.0	2525.0	Cuttings					0.43
6508/1-1S	NOR	99021-122X	2525.0	2525.0	S.E.Cuttings	0.14	0.46	0.93	425	
6508/1-1S	NOR	99021-123	2534.0	2534.0	Cuttings					0.40
6508/1-1S	NOR	99021-123X	2534.0	2534.0	S.E.Cuttings	0.10	0.40	1.63	426	
6508/1-1S	NOR	99021-124	2543.0	2543.0	Cuttings					0.47
6508/1-1S	NOR	99021-124X	2543.0	2543.0	S.E.Cuttings	0.13	0.40	1.25	425	
6508/1-1S	NOR	99021-125	2552.0	2552.0	Cuttings					0.51
6508/1-1S	NOR	99021-125X	2552.0	2552.0	S.E.Cuttings	0.10	0.38	1.10	427	
6508/1-1S	NOR	99021-126	2561.0	2561.0	Cuttings					0.49
6508/1-1S	NOR	99021-126X	2561.0	2561.0	S.E.Cuttings	0.17	0.37	1.43	426	
6508/1-1S	NOR	99021-127	2570.0	2570.0	Cuttings					0.47
6508/1-1S	NOR	99021-127X	2570.0	2570.0	S.E.Cuttings	0.11	0.42	1.95	428	
6508/1-1S	NOR	99021-128	2579.0	2579.0	Cuttings					0.39
6508/1-1S	NOR	99021-128X	2579.0	2579.0	S.E.Cuttings	0.10	0.25	1.32	431	
6508/1-1S	NOR	99021-129	2588.0	2588.0	Cuttings					0.44
6508/1-1S	NOR	99021-129X	2588.0	2588.0	S.E.Cuttings	0.17	0.32	0.35	430	
6508/1-1S	NOR	99021-130	2597.0	2597.0	Cuttings					0.40

ROCK EVAL PYROLYSIS DATA (Table 7)

Well Name	Nation	Sample Name	Upper Depth	Lower Depth	Sample Type	S1 mg/g	S2 mg/g	S3 mg/g	Tmax deg C	TOC % wt
6508/1-1S	NOR	99021-130X	2597.0	2597.0	S.E.Cuttings	0.17	0.38	2.96	427	
6508/1-1S	NOR	99021-131	2606.0	2606.0	Cuttings					0.50
6508/1-1S	NOR	99021-131X	2606.0	2606.0	S.E.Cuttings	0.20	0.47	2.38	427	
6508/1-1S	NOR	99021-132	2615.0	2615.0	Cuttings					0.38
6508/1-1S	NOR	99021-132X	2615.0	2615.0	S.E.Cuttings	0.14	0.34	2.44	426	
6508/1-1S	NOR	99021-133	2624.0	2624.0	Cuttings					0.50
6508/1-1S	NOR	99021-133X	2624.0	2624.0	S.E.Cuttings	0.27	0.66	2.07	428	
6508/1-1S	NOR	99021-134	2633.0	2633.0	Cuttings					0.61
6508/1-1S	NOR	99021-134X	2633.0	2633.0	S.E.Cuttings	0.30	0.67	2.43	428	
6508/1-1S	NOR	99021-135	2642.0	2642.0	Cuttings					0.66
6508/1-1S	NOR	99021-135X	2642.0	2642.0	S.E.Cuttings	0.28	0.57	2.51	430	
6508/1-1S	NOR	99021-136	2651.0	2651.0	Cuttings					0.74
6508/1-1S	NOR	99021-136X	2651.0	2651.0	S.E.Cuttings	0.21	0.85	2.03	431	
6508/1-1S	NOR	99021-137	2660.0	2660.0	Cuttings					0.74
6508/1-1S	NOR	99021-137X	2660.0	2660.0	S.E.Cuttings	0.25	0.72	1.60	428	
6508/1-1S	NOR	99021-138	2669.0	2669.0	Cuttings					0.64
6508/1-1S	NOR	99021-138X	2669.0	2669.0	S.E.Cuttings	0.31	0.71	1.37	430	
6508/1-1S	NOR	99021-139	2678.0	2678.0	Cuttings					0.69
6508/1-1S	NOR	99021-139X	2678.0	2678.0	S.E.Cuttings	0.29	0.73	1.49	430	
6508/1-1S	NOR	99021-140	2687.0	2687.0	Cuttings					0.54
6508/1-1S	NOR	99021-140X	2687.0	2687.0	S.E.Cuttings	0.35	0.66	1.59	426	
6508/1-1S	NOR	99021-141	2696.0	2696.0	Cuttings					0.50
6508/1-1S	NOR	99021-141X	2696.0	2696.0	S.E.Cuttings	0.30	0.49	1.42	422	
6508/1-1S	NOR	99021-142	2705.0	2705.0	Cuttings					0.53
6508/1-1S	NOR	99021-142X	2705.0	2705.0	S.E.Cuttings	0.29	0.48	1.35	423	
6508/1-1S	NOR	99021-143	2714.0	2714.0	Cuttings					0.67
6508/1-1S	NOR	99021-143X	2714.0	2714.0	S.E.Cuttings	0.33	0.65	1.63	423	
6508/1-1S	NOR	99021-144	2723.0	2723.0	Cuttings					0.63
6508/1-1S	NOR	99021-144X	2723.0	2723.0	S.E.Cuttings	0.28	0.63	1.46	424	
6508/1-1S	NOR	99021-145	2732.0	2732.0	Cuttings					0.89
6508/1-1S	NOR	99021-145X	2732.0	2732.0	S.E.Cuttings	0.16	0.55	1.27	429	
6508/1-1S	NOR	99021-146	2741.0	2741.0	Cuttings					5.78
6508/1-1S	NOR	99021-146X	2741.0	2741.0	S.E.Cuttings	0.36	5.76	1.46	428	
6508/1-1S	NOR	99021-147	2750.0	2750.0	Cuttings					2.69
6508/1-1S	NOR	99021-147X	2750.0	2750.0	S.E.Cuttings	0.28	2.56	1.53	432	

**Extraction and Iatroscan Fractionation Data (Table 8)**

Well Name	Nation	Sample Name	Upper Depth	Lower Depth	Sample Type	Rock Wt (Gm)	Extract Yield (mg/g)	Sats (mg/g)	Aroms (mg/g)	Polar (mg/g)
6508/1-1S	NOR	99021-39	1640.0	1640.0	Cuttings	2.0	15.25	0.31	0.59	14.35
6508/1-1S	NOR	99021-41	1670.0	1670.0	Cuttings	2.0	14.90	0.28	0.39	14.23
6508/1-1S	NOR	99021-44	1700.0	1700.0	Cuttings	2.0	14.05	0.24	0.32	13.49
6508/1-1S	NOR	99021-47	1730.0	1730.0	Cuttings	2.0	11.90	0.26	0.36	11.28
6508/1-1S	NOR	99021-104	2354.0	2354.0	Cuttings	2.0	3.95	0.37	0.46	3.12
6508/1-1S	NOR	99021-105	2363.0	2363.0	Cuttings	2.0	5.95	0.30	0.50	5.15
6508/1-1S	NOR	99021-106	2372.0	2372.0	Cuttings	2.0	6.15	0.42	0.49	5.24
6508/1-1S	NOR	99021-107	2381.0	2381.0	Cuttings	2.0	5.80	0.57	0.57	4.65
6508/1-1S	NOR	99021-108	2390.0	2390.0	Cuttings	2.0	8.55	0.73	1.01	6.81
6508/1-1S	NOR	99021-109	2399.0	2399.0	Cuttings	2.0	7.05	0.47	0.74	5.84
6508/1-1S	NOR	99021-110	2408.0	2408.0	Cuttings	2.0	6.25	0.44	0.64	5.18
6508/1-1S	NOR	99021-111	2417.0	2417.0	Cuttings	2.0	5.80	0.45	0.55	4.80
6508/1-1S	NOR	99021-112	2426.0	2426.0	Cuttings	2.0	3.90	0.33	0.48	3.08
6508/1-1S	NOR	99021-113	2435.0	2435.0	Cuttings	2.0	3.90	0.28	0.40	3.22
6508/1-1S	NOR	99021-114	2444.0	2444.0	Cuttings	2.0	2.80	0.23	0.44	2.13
6508/1-1S	NOR	99021-115	2462.0	2462.0	Cuttings	2.0	3.70	0.23	0.45	3.02
6508/1-1S	NOR	99021-116	2471.0	2471.0	Cuttings	2.0	10.50	0.61	0.61	9.28
6508/1-1S	NOR	99021-117	2480.0	2480.0	Cuttings	2.0	5.50	0.44	0.70	4.36
6508/1-1S	NOR	99021-118	2489.0	2489.0	Cuttings	2.0	5.50	0.58	0.68	4.25
6508/1-1S	NOR	99021-119	2498.0	2498.0	Cuttings	2.0	5.00	0.33	0.41	4.27
6508/1-1S	NOR	99021-120	2507.0	2507.0	Cuttings	2.0	4.50	0.38	0.58	3.54
6508/1-1S	NOR	99021-121	2516.0	2516.0	Cuttings	2.0	4.75	0.38	0.38	3.98
6508/1-1S	NOR	99021-122	2525.0	2525.0	Cuttings	2.0	4.40	0.49	0.55	3.36
6508/1-1S	NOR	99021-123	2534.0	2534.0	Cuttings	2.0	3.20	0.33	0.47	2.41
6508/1-1S	NOR	99021-124	2543.0	2543.0	Cuttings	2.0	4.15	0.45	0.59	3.11
6508/1-1S	NOR	99021-125	2552.0	2552.0	Cuttings	2.0	4.00	0.28	0.66	3.06
6508/1-1S	NOR	99021-126	2561.0	2561.0	Cuttings	2.0	3.25	0.42	0.54	2.28
6508/1-1S	NOR	99021-127	2570.0	2570.0	Cuttings	2.0	3.55	0.51	0.61	2.43
6508/1-1S	NOR	99021-128	2579.0	2579.0	Cuttings	2.0	1.30	0.32	0.34	0.64
6508/1-1S	NOR	99021-129	2588.0	2588.0	Cuttings	2.0	2.00	0.34	0.47	1.18
6508/1-1S	NOR	99021-130	2597.0	2597.0	Cuttings	2.0	3.00	0.56	0.52	1.92
6508/1-1S	NOR	99021-131	2606.0	2606.0	Cuttings	2.0	4.50	0.60	0.52	3.38
6508/1-1S	NOR	99021-132	2615.0	2615.0	Cuttings	2.0	3.90	0.67	0.75	2.48
6508/1-1S	NOR	99021-133	2624.0	2624.0	Cuttings	2.0	4.20	0.60	0.79	2.80
6508/1-1S	NOR	99021-134	2633.0	2633.0	Cuttings	2.0	4.85	0.78	0.86	3.21
6508/1-1S	NOR	99021-135	2642.0	2642.0	Cuttings	2.0	5.70	0.48	0.72	4.50
6508/1-1S	NOR	99021-136	2651.0	2651.0	Cuttings	2.0	4.75	0.40	0.52	3.83
6508/1-1S	NOR	99021-137	2660.0	2660.0	Cuttings	2.0	6.60	1.07	0.51	5.02
6508/1-1S	NOR	99021-138	2669.0	2669.0	Cuttings	2.0	5.15	0.49	0.52	4.14
6508/1-1S	NOR	99021-139	2678.0	2678.0	Cuttings	2.0	5.35	0.56	0.56	4.23
6508/1-1S	NOR	99021-140	2687.0	2687.0	Cuttings	2.0	5.40	0.43	0.47	4.50
6508/1-1S	NOR	99021-141	2696.0	2696.0	Cuttings	2.0	6.25	0.46	0.46	5.33
6508/1-1S	NOR	99021-142	2705.0	2705.0	Cuttings	2.0	6.85	0.52	0.64	5.69
6508/1-1S	NOR	99021-143	2714.0	2714.0	Cuttings	2.0	6.45	0.51	0.47	5.47
6508/1-1S	NOR	99021-144	2723.0	2723.0	Cuttings	2.0	5.75	0.41	0.56	4.78
6508/1-1S	NOR	99021-145	2732.0	2732.0	Cuttings	2.0	2.70	0.45	0.49	1.76
6508/1-1S	NOR	99021-146	2741.0	2741.0	Cuttings	2.0	15.40	0.94	0.94	13.52
6508/1-1S	NOR	99021-147	2750.0	2750.0	Cuttings	2.0	10.55	1.37	0.92	8.26

L-961

IFE/KR/F-99/152

**DATAREPORT ON STABLE ISOTOPES, GAS  
SAMPLES (CUTTINGS) FROM WELL 6508/1-1S**

**REGISTRERT**  
OLJEDIREKTORATET

25 NOV. 1999

BA 99-1809-1



**Institutt for energiteknikk**  
*Institute for Energy Technology*





## 1 Introduction

Seven gas samples (cuttings) from Saga Petroleum well 6508/1-1S, ranging in depth from 1260 m to 2750 m, are analysed for isotopic composition. The gas composition is given by Robertson Laboratories.

A complete analysis of all components has not been possible due to low hydrocarbon concentration in some of the samples. The hydrogen isotope composition of methane and oxygen isotope composition of CO<sub>2</sub> is not determined due to low gas concentration.

## 2 Analytical procedures

Aliquots are sampled with a syringe and analysed on a VG Isochrom connected on line to a VG Optima Mass spectrometer. A HP 5890 II with a Poraplot Q column is used for the separation and helium is used as a carrier gas. The injections are performed in splitless mode. No hydrogen or oxygen isotopic composition is included in the analytical procedure.

Based on repeated analysis of a laboratory standard gas mixture, the reproducibility in the  $\delta^{13}\text{C}$  value is better than 1.0 ‰ for methane and 0.5‰ for the higher hydrocarbons.

## 3 Results

The gas composition of the headspace gas is shown in Table 1 (determined by Robertson Laboratories), and the stable isotope composition is shown in Table 2.

The sample from 1260 m (IFE no 991844) did not contain enough gas for isotope determination with the exception of carbon dioxide.

Table 1 Gas composition of samples from well 6508/1-1S

Sample	Depth (m)	IFE no GEO	C <sub>1</sub> ppm	C <sub>2</sub> ppm	C <sub>3</sub> ppm	iC <sub>4</sub> ppm	nC <sub>4</sub> ppm	C <sub>5+</sub> ppm
99021-5	1260.0	991844	504.6	1.9	3.7	0.1	1.9	19.4
99021-28	1510.0	991845	13539.3	119.9	182.2	34.2	17.1	53.7
99021-45	1710.0	991846	7629.7	178.0	51.5	7.6	19.2	31.1
99021-65	1960.0	991847	5341.0	838.9	757.8	531.9	741.7	3101.2
99021-80	2138.0	991848	15276.1	8396.0	6206.2	2139.2	3169.0	4227.9
99021-101	2327.0	991849	2440.3	645.8	483.3	121.7	150.6	327.1
99021-147	2750.0	991850	8392.2	1781.1	1210.5	279.1	315.1	400.8

Table 2 Isotopic composition of gas samples from well 6508/1-1S

Sample	Depth	IFE no GEO	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	iC <sub>4</sub>	nC <sub>4</sub>	iC <sub>5</sub>	nC <sub>5</sub>	CO <sub>2</sub>
			$\delta^{13}\text{C}$ ‰ PDB	$\delta^{13}\text{C}$ ‰ PDB	$\delta^{13}\text{C}$ ‰ PDB	$\delta^{13}\text{C}$ ‰ PDB	$\delta^{13}\text{C}$ ‰ PDB	$\delta^{13}\text{C}$ ‰ PDB	$\delta^{13}\text{C}$ ‰ PDB	$\delta^{13}\text{C}$ ‰ PDB
99021-5	1260.0	991844	-	-	-	-	-	-	-	-16.2
99021-28	1510.0	991845	-66.4	-44.4	-35.0	-	-	-	-	-17.1
99021-45	1710.0	991846	-59.1	-53.2	-	-	-	-	-	-20.4
99021-65	1960.0	991847	-41.2	-28.2	-28.8	-28.3	-27.4	-26.9	-25.1	-15.6
99021-80	2138.0	991848	-38.2	-28.1	-28.7	-28.2	-28.6	-26.3	-25.0	-16.5
99021-101	2327.0	991849	-35.4	-28.2	-29.9	-28.4	-27.9	-	-	-22.4
99021-147	2750.0	991850	-36.5	-28.9	-30.8	-29.9	-30.0	-25.3	-	-31.0