



General information

Lithostrat. unit	HEKKINGEN FM
NPDID lithostrat. unit	63
Level	FORMATION
Lithostrat. unit, parent	ADVENTDALEN GP

Level below

Lithostrat. unit
ALGE MBR
KRILL MBR

Description



Hekkingen Formation

Name

The formation name is taken from Hekkingen Lighthouse at 69°30'N and 17°40'E on the northern tip of Senja. The formation corresponds to T3-2 or Olderfjord Formation of earlier usage.

Well type section

Well [7120/12-1](#) (Norsk Hydro), coordinates 71°06'48.7"N, 20°45'20.1"E, from 2019 m to 1660 m ([Fig 4.50](#)). Two short cores have been taken between 1661 and 1668 m and between 1702.6 and 1707.6 m.

Well reference section

Well [7119/12-1](#) (Statoil), coordinates 71°06'08.00"N, 19°47'40.29"E, from 2610 to 2497 m ([Fig 4.51](#)).

Thickness

359 m in the type well and 113 m in the reference well.

Lithology

The formation consists of brownish-grey to very dark grey shale and claystone with occasional thin interbeds of limestone, dolomite, siltstone and sandstone. These minor clastic components are most common towards basinal margins. Lower parts of the formation show especially high gamma ray readings. This is used to differentiate the lower [Alge](#) from the upper [Krill Member](#) in the formation ([Fig 4.50, 4.51](#)).

Basal Stratotype

The base is defined by the transition from carbonate cemented and pyritic mudstones to poorly consolidated shales, producing a sudden increase in interval transit time and an abrupt decrease in bulk density values.

Lateral extent and variation

The formation is thickest in its type well. It thins northwards to less than 100 m towards the axis of the Hammerfest Basin. This pattern reflects the development of semigrabens along basin margins while doming was active along the basin axis.

Age

Palynomorphs suggest an age span of late Oxfordian/early Kimmeridgian to Ryazanian. There are local breaks in deposition at the base and top, probably most developed near the basinal axis.

Depositional environment

Marine, deep water with anoxic conditions resulted from the formation of local barriers to circulation by Kimmerian movements.

Source

- Dalland, A., Worsley, D. and Ofstad, K. (eds.) 1988: A lithostratigraphic scheme for the Mesozoic and Cenozoic succession offshore mid- and northern Norway. NPD-Bulletin No. 4, 65 pp.

Wellbores penetrating



Wellbore name	Wellbore completion date	Top depth [m]	Bottom depth [m]
7018/5-1	27.11.2020	698	734
7019/1-1	03.12.2000	2345	2377
7119/9-1	25.09.1984	2702	2719
7119/12-1	10.10.1980	2498	2610
7119/12-2	26.06.1981	1163	1322
7119/12-3	12.09.1983	3026	3107
7119/12-4	17.02.2011	2058	2238
7120/1-2	28.03.1989	1984	1986
7120/1-2	28.03.1989	2138	2158
7120/2-2	23.03.1991	2503	2656
7120/2-3 S	09.07.2011	2000	2018
7120/5-1	06.06.1985	2248	2271
7120/6-1	02.05.1985	2285	2367
7120/6-2 S	22.07.2007	2470	2550
7120/6-3 S	30.11.2012	2811	2893
7120/7-1	08.10.1982	2248	2390
7120/7-2	21.08.1983	2017	2141
7120/7-3	09.06.1984	2759	2863
7120/8-1	10.09.1981	1990	2086
7120/8-2	29.07.1982	1955	2078
7120/8-3	24.05.1983	2104	2187
7120/8-4	10.12.2007	2179	2250
7120/9-1	26.09.1982	1813	1840
7120/9-2	20.10.1984	1906	1965
7120/10-1	08.09.1984	1394	1533
7120/10-2	05.09.1990	2303	2500
7120/12-1	12.10.1980	1660	2019
7120/12-2	11.09.1981	1700	1875
7120/12-3	05.05.1983	1946	2142
7120/12-5	03.01.2011	1963	2153
7121/1-2 S	02.03.2019	3061	3285
7121/4-1	27.10.1984	2237	2307
7121/4-2	14.04.1985	2338	2450
7121/5-1	28.09.1985	2292	2357
7121/5-2	06.07.1986	2260	2305
7121/5-3	09.03.2001	1832	1880
7121/7-1	05.08.1984	1793	1848
7121/7-2	12.08.1986	1806	1880



7121/8-1	15.07.2017	1822	1909
7121/9-1	29.11.2011	2081	2318
7122/2-1	11.11.1992	1955	2025
7122/4-1	13.01.1992	2225	2297
7122/6-1	11.11.1987	1931	2015
7122/6-2	19.09.2006	1936	2048
7122/6-3 S	10.10.2021	1834	1891
7122/7-1	05.10.2000	1022	1088
7122/7-2	19.10.2001	1021	1067
7122/7-3	08.01.2006	1018	1073
7122/7-4 S	25.11.2006	1075	1162
7122/7-5	23.12.2006	1083	1168
7122/7-5 A	13.01.2007	1080	1168
7122/7-6	04.01.2013	1046	1110
7122/7-7 S	26.12.2018	1109	1157
7122/10-1 S	28.09.2017	544	616
7123/4-1 A	14.05.2008	2001	2091
7123/4-1 S	21.04.2008	2005	2095
7124/3-1	20.10.1987	1233	1285
7124/4-1 S	12.10.2011	1209	1252
7125/1-1	30.12.1988	1344	1399
7125/4-1	07.03.2007	817	869
7125/4-2	01.12.2008	891	930
7125/4-3	07.09.2014	983	1033
7130/4-1	08.01.2016	575	601
7131/4-1	13.05.2005	839	878
7132/2-1	09.02.2019	662	687
7132/2-2	07.04.2019	716	742
7219/8-1 S	26.12.1992	3472	4328
7219/8-2	30.09.2013	2789	2798
7219/9-1	25.02.1988	1893	1919
7219/9-2	02.07.2017	2230	2396
7219/12-1	19.01.2017	1499	1501
7219/12-3 S	17.01.2018	2169	2202
7220/5-1	24.03.2012	1296	1312
7220/5-2	08.07.2013	1391	1464
7220/10-1	16.10.2012	1484	1499
7224/2-1	04.03.2016	657	669
7224/6-1	21.08.2008	906	974
7224/7-1	19.06.1988	792	861
7225/3-1	25.09.2011	670	695



7225/3-2	07.08.2013	674	702
7226/2-1	19.07.2008	754	864
7226/11-1	11.04.1988	1147	1194
7227/10-1	10.11.2014	1473	1537
7227/11-1 A	24.03.2006	1091	1142
7227/11-1 S	22.02.2006	1091	1142
7228/1-1	26.04.2012	881	928
7228/2-1 S	20.12.1989	1168	1236
7228/7-1 A	02.02.2001	1314	1347
7228/7-1 B	10.02.2001	1314	1347
7228/7-1 S	08.01.2001	1314	1348
7228/9-1 S	07.05.1990	1030	1069
7229/11-1	15.12.1993	1212	1267
7234/6-1	19.07.2021	682	708
7317/9-1	07.10.2017	793	893
7318/12-2	22.03.2017	2864	3380
7321/4-1	01.10.2018	1120	1270
7321/7-1	22.10.1988	1918	1965
7321/8-1	03.09.1987	1383	1427
7321/8-2 S	01.07.2020	1558	1610
7321/9-1	28.11.1988	1317	1367
7322/6-1 S	28.05.2021	651	679
7324/2-1	18.06.2014	755	757
7324/3-1	21.11.2018	779	784
7324/6-1	31.07.2019	714	746
7324/7-1 S	03.11.2013	697	733
7324/7-2	06.07.2014	630	666
7324/7-3 S	14.04.2016	635	691
7324/8-1	17.09.2013	590	621
7324/8-2	16.05.2015	613	632
7324/8-3	17.09.2017	596	626
7324/9-1	07.08.2014	671	675
7325/1-1	21.07.2014	776	779
7325/4-1	03.08.2017	692	732
7335/3-1	15.06.2019	496	543
7435/12-1	01.09.2017	498	539

Wellbores with cores



Wellbore name	Wellbore completion date	Core length [m]
7120/2-2	23.03.1991	10
7120/2-3 S	09.07.2011	15
7120/12-1	12.10.1980	13
7125/1-1	30.12.1988	8
7219/8-1 S	26.12.1992	7
7226/11-1	11.04.1988	1
7228/9-1 S	07.05.1990	8
7321/9-1	28.11.1988	2