



General information

Lithostrat. unit	ÅRE FM
NPDID lithostrat. unit	197
Level	FORMATION
Lithostrat. unit, parent	BÅT GP

Level below

Lithostrat. unit

Description

Åre Formation

Name

From the Norwegian word for oar. This formation corresponds to the informal term Hitra Formation ("the coal sequence" or H1-1) together with the lower part of the Aldra Formation (H1-2).

Well type section

[6507/12-1](#) (Saga Petroleum), coordinates 65°07'01.62"N, 07°42'42.61"E from 2920 m to 2412 m ([Fig 4.7](#)). Two cores, 26.2 m recovery.

Well reference section

[6407/1-2](#) (Statoil), coordinates 64°47'50.61"N, 07°02'23.76"E, from 4548 m to 4221 m ([Fig 4.8](#)). No cores.

Thickness

508 m in the type well. Generally between 300 m and 500 m.

Lithology

Alternating sandstones and claystones are interbedded with coals and coaly claystones. The claystones are grayish or locally red brown and non-calcareous to very calcareous. The sandstones are grayish, very fine to coarse-grained and predominantly moderately to poorly sorted. The coals in the type well are dark brown to black, vitreous, brittle and locally pyritic.

Basal Stratotype

The base is defined directly underneath the lowermost coal bed identified on the sonic log. In the type well the resistivity log increases slightly and changes to a somewhat less nervous pattern at the transition into the Åre Formation.

Lateral extent and variation

The formation is present in all areas drilled in the Haltenbanken-Trænabanken region but seismic data indicate that it is truncated in positive areas such as the Nordland Ridge. The upper part of the formation contains a laterally continuous mudstone interval; this has a generally uniform thickness, but thins slightly to the north.

Age

Rhaetian to Pliensbachian.



Depositional environment

Costal plain to delta plain deposits with swamps and channels pass upwards into marginal marine facies. Individual coals can be up to 8 m thick. More proximal lithofacies contain less coal and coarser sandstones. Shallow drilling to the east shows conglomerates which are probably laterally equivalent to the Åre Formation (Bugge et al. 1984).

Correlation

The formation is partially equivalent to the [Statfjord Formation](#) in the North Sea, to the combined upper [Fruholmen](#), [Tubåen](#) and [Nordmela](#) formations in the Hammerfest Basin and to the Kap Stewart Formation of eastern Greenland. The Åre Formation has a lower sand content than the [Statfjord Formation](#) in the northern North Sea.

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]
6307/1-1 S	28.12.2018	2433	2775
6406/1-1	10.06.2001	4996	5057
6406/2-1	09.04.1995	5188	5292
6406/2-1 R	07.01.1996	5186	5892
6406/2-2	27.03.1996	5291	5367
6406/2-2 R	03.03.2006	5285	5361
6406/2-3	15.04.1997	5210	5258
6406/2-4 SR	15.02.1999	4950	5080
6406/2-5	29.09.1997	5396	5439
6406/2-6	07.11.1998	5204	5263
6406/2-6 R	23.05.2000	5205	5263
6406/2-8	05.05.2015	4331	4680
6406/3-1	14.08.1984	4380	4758
6406/3-2	22.11.1986	4496	4523
6406/3-3	26.10.1986	4404	4416
6406/3-7	19.09.2006	4473	4520
6406/3-10	05.04.2020	4533	4600
6406/3-10 A	31.08.2021	4862	5190
6406/6-3	09.07.2013	4373	4420
6406/8-1	11.04.1988	4895	4910
6406/9-1	02.06.2005	5024	5080
6406/9-2	01.07.2007	5241	5348
6406/11-1 S	18.02.1991	3985	4134



6407/1-2	15.05.1983	4220	4548
6407/1-3	16.01.1984	4150	4455
6407/2-1	06.08.1982	3345	3723
6407/2-2	31.07.1983	2892	3275
6407/2-3	23.01.1987	2910	3050
6407/2-5 S	02.09.2009	3311	3408
6407/2-6 S	13.05.2010	3148	3230
6407/3-2 S	05.09.2019	2430	2628
6407/4-1	15.11.1985	4500	4835
6407/6-1	26.10.1984	2457	2848
6407/6-3	16.02.1987	2902	3220
6407/6-4	13.12.1990	3027	3126
6407/6-7 S	27.05.2009	3179	3227
6407/7-1 S	07.04.1986	3017	3183
6407/7-2	21.01.1987	2878	2934
6407/7-2 R	30.04.1990	2880	2936
6407/7-3	18.05.1988	3014	3128
6407/7-4	28.03.1989	3139	3211
6407/7-5	15.02.1991	3496	3725
6407/7-6	16.12.2000	3882	3975
6407/7-7 S	20.09.2007	3712	3886
6407/7-8	14.09.2008	4981	5138
6407/7-8 A	05.11.2008	5145	5227
6407/7-9 A	16.10.2016	4717	4960
6407/7-9 S	20.09.2016	4068	4143
6407/8-2	25.11.1994	1728	1847
6407/8-3	27.05.1997	1935	1960
6407/8-4 A	16.06.2008	2424	2473
6407/8-4 S	21.05.2008	2724	2788
6407/8-5 S	26.05.2009	2731	2905
6407/8-6	20.10.2013	3035	3420
6407/8-6 A	09.12.2013	3351	3537
6407/8-7	12.05.2015	2830	3030
6407/8-7 A	23.05.2015	2927	3178
6407/9-1	07.09.1984	2073	2357
6407/9-7	25.05.1988	2139	2439
6407/10-1	19.06.1987	3155	3319
6407/11-1	07.12.2018	2042	2175
6408/4-1	18.10.1988	2323	2603
6506/6-1	07.12.2000	5302	5491
6506/9-1	15.09.2009	5572	5664



6506/9-2 S	28.04.2010	4699	4805
6506/9-3	27.08.2013	4656	4692
6506/11-1	31.03.1988	4662	4679
6506/11-2	26.10.1991	4705	4813
6506/11-4 S	06.06.1996	5022	5110
6506/11-5 S	10.11.1996	4692	4790
6506/11-6	22.08.1998	5260	5275
6506/11-7	27.07.2001	4927	4978
6506/11-9 S	03.09.2012	5282	5330
6506/12-1	06.02.1985	4437	4924
6506/12-4	13.08.1985	4414	4457
6506/12-5	27.03.1986	4510	4587
6506/12-6	02.08.1986	4735	4741
6506/12-9 S	10.09.1993	4837	4910
6506/12-10	26.06.1995	5024	5097
6506/12-10 A	11.12.1995	5711	6260
6506/12-11 S	07.09.1996	5211	5268
6506/12-11 SR	01.02.1997	5211	5268
6506/12-12 A	01.09.2009	5430	5481
6506/12-12 S	06.08.2009	5496	5508
6507/2-1	29.09.1986	4135	4477
6507/2-2	16.03.1992	3810	3958
6507/3-1	26.10.1990	3976	4757
6507/3-2	27.04.1997	1274	1780
6507/3-3	25.03.1999	3680	3830
6507/3-4	30.04.2004	4047	4092
6507/3-5 S	08.05.2008	4216	4265
6507/3-6	23.06.2009	1422	1650
6507/3-7	22.07.2009	3785	3855
6507/3-10	16.08.2013	3406	3455
6507/3-11 S	15.08.2015	2435	2470
6507/5-1	03.05.1998	3688	4224
6507/5-2	23.09.1999	3855	3897
6507/5-4	15.04.2001	3774	3812
6507/5-5	14.02.2002	3925	3948
6507/5-7	24.06.2014	1447	1598
6507/5-9 A	15.10.2019	2169	2230
6507/5-9 S	27.09.2019	2086	2243
6507/5-10 S	30.12.2020	1796	1903
6507/5-11	26.04.2022	1791	2004
6507/6-1	23.08.1986	1013	1307



6507/6-2	16.07.1991	4014	4354
6507/6-3	24.11.2008	1590	1850
6507/6-4 A	29.01.2012	1040	1209
6507/6-4 S	16.11.2011	1042	1208
6507/7-2	10.06.1985	2482	3262
6507/7-3	18.09.1985	2720	2850
6507/7-6	06.09.1986	2369	2525
6507/7-8	02.08.1987	2787	2855
6507/7-10	29.10.1993	2759	3171
6507/7-13	08.01.2001	2391	2623
6507/7-13 A	21.01.2001	2390	2522
6507/8-1	09.12.1986	2559	2600
6507/8-2	09.09.1987	2123	2690
6507/8-3	20.09.1988	1542	2075
6507/8-4	13.08.1990	2124	2435
6507/8-6	09.10.1993	2275	2656
6507/8-8	20.04.2011	2327	2554
6507/8-9	22.08.2017	2121	2375
6507/8-10 S	23.04.2020	2203	2399
6507/10-1	31.10.1982	3226	3693
6507/10-2 S	10.02.2014	2950	3020
6507/11-1	10.12.1981	2596	3074
6507/11-2	30.05.1982	2290	2761
6507/11-3	15.08.1985	2825	3193
6507/11-6	08.07.2001	3387	3440
6507/11-8	03.07.2007	2701	2773
6507/11-9	18.04.2008	2910	3069
6507/12-1	26.10.1980	2412	2920
6507/12-2	24.11.1981	2193	2605
6507/12-3	13.09.1985	2351	2600
6508/1-1 S	29.08.1999	2714	2750
6508/1-3	11.07.2019	1515	1687
6508/5-1	24.05.1987	1981	2229
6510/2-1	10.10.1997	1945	2236
6510/2-1 R	21.12.1997	1945	2236
6607/12-2 S	25.10.2011	3935	4404
6607/12-3	26.12.2012	4271	4306
6607/12-4	13.10.2020	3863	4062
6607/12-4	13.10.2020	4077	4160
6608/10-1	29.05.1989	3218	3437
6608/10-2	29.01.1992	2819	3678



6608/10-3	11.03.1993	2791	2921
6608/10-3 R	17.08.1995	2791	2921
6608/10-4	06.03.1994	2697	2800
6608/10-5	06.08.1995	2792	3200
6608/10-6	14.05.2000	1873	2115
6608/10-6 R	02.12.2000	1873	2115
6608/10-6 R2	29.08.2001	1868	2108
6608/10-7	23.05.2001	2018	2319
6608/10-8	12.04.2002	2403	2652
6608/10-9	18.02.2003	2228	2400
6608/10-10	07.08.2003	2567	2800
6608/10-12	21.12.2008	2770	3060
6608/10-12 A	25.01.2009	2934	3075
6608/10-13	07.11.2009	1281	1442
6608/10-14 S	01.04.2010	2592	2880
6608/10-15	12.09.2013	1934	2030
6608/10-16	13.06.2014	3993	4025
6608/11-1	13.08.1986	1233	1318
6608/11-2	24.11.2000	1736	2064
6608/11-3	15.12.2002	1530	1940
6608/11-4	23.05.2004	1668	2153
6608/11-5	14.07.2006	1550	1641
6608/11-6	06.08.2008	1630	1850
6608/11-7 S	24.10.2011	1657	2000
6608/11-8	21.06.2013	1823	1970
6609/10-1	29.08.1983	1733	1993
6609/10-2	03.10.2009	2142	2418
6609/11-1	07.07.1983	2735	3068
6610/2-1 S	28.09.1996	2278	2541
6610/3-1 R	11.12.1993	3935	4147
6610/3-1 R2	07.10.1996	3937	4149
6610/7-1	19.06.1983	2855	3193
6610/7-2	14.03.1984	1533	1726
6610/10-1	03.02.2013	2657	2930
6611/1-1	24.11.2019	1387	1584

Wellbores with cores

Wellbore name	Wellbore completion date	Core length [m]
6406/2-1	09.04.1995	95



6406/2-1 R	07.01.1996	9
6406/2-4 SR	15.02.1999	97
6406/2-8	05.05.2015	18
6406/3-1	14.08.1984	11
6406/3-10 A	31.08.2021	13
6407/2-1	06.08.1982	18
6407/4-1	15.11.1985	14
6407/6-4	13.12.1990	13
6407/7-1 S	07.04.1986	80
6407/7-2	21.01.1987	35
6407/7-3	18.05.1988	85
6407/7-4	28.03.1989	1
6407/7-7 S	20.09.2007	3
6407/8-2	25.11.1994	17
6407/8-6	20.10.2013	6
6506/9-1	15.09.2009	42
6506/11-2	26.10.1991	12
6506/11-4 S	06.06.1996	64
6506/11-5 S	10.11.1996	27
6506/12-9 S	10.09.1993	10
6506/12-10	26.06.1995	71
6506/12-10 A	11.12.1995	139
6506/12-11 S	07.09.1996	26
6507/2-2	16.03.1992	8
6507/3-1	26.10.1990	28
6507/3-2	27.04.1997	8
6507/5-1	03.05.1998	11
6507/5-9 S	27.09.2019	78
6507/5-10 S	30.12.2020	18
6507/6-1	23.08.1986	29
6507/7-6	06.09.1986	84
6507/7-13 A	21.01.2001	69
6507/8-4	13.08.1990	170
6507/8-9	22.08.2017	27
6507/12-1	26.10.1980	26
6507/12-3	13.09.1985	16
6510/2-1	10.10.1997	16
6608/10-4	06.03.1994	10
6608/10-6	14.05.2000	89
6608/10-7	23.05.2001	83
6608/10-8	12.04.2002	39



6608/10-12	21.12.2008	92
6608/10-14 S	01.04.2010	138
6608/11-2	24.11.2000	23
6608/11-4	23.05.2004	39
6608/11-5	14.07.2006	13
6609/10-1	29.08.1983	9
6609/11-1	07.07.1983	0
6610/2-1 S	28.09.1996	30