Generell informasjon

Litostrat. enhet	LUNDE FM
NPDID for litostrat. enhet	97
Nivå	FORMATION
Litostrat. enhet, forelder	HEGRE GP

Nivå under

Litostrat. enhet

Beskrivelse

Lunde Formation

Name

From the bird (English: puffin) of the same name.

Well type section

Norwegian well 33/12-2 (Mobil) from 2951 m to 4048 m, coord N 61°13'31.38", E 01°51'25.97", (Fig 3.4).

Well reference section

UK well 211/29-5 (Shell) from 3003 m to 4055 m, coord N 61°04'43.0", E 01°45'46.5" (Fig 3.5).

Thickness

1079 m in the type well, 1052 m in the reference well.

Lithology

The formation is an interbedded sequence of very fine to very coarse-grained sandstones (2 to 10 m thick), claystones, marls and shales.
The sandstones are mainly white, pink or grey and cemented to a variable degree with kaolinite, anhydrite and carbonate. Fine-grained sandstones from the upper portion of the formation (core data from UK well 211/13-1) display small scale ripple cross stratification, bioturbation and incorporated mud clasts and mud balls. This part of the formation may also have small fining upward sequences.
The interbedded argillaceous units are dominantly red-brown claystones, siltstones and shales with thin limestones (possibly caliche). Tuff horizons are present in the lower half of the formation in the Statfjord Field area. The lowermost part of the Lunde Formation consists in the Statfjord Field area (and westward into UK waters), of a sequence which is very uniform both in lithology and thickness. It is around 300 thick and consists mainly of brick red to red brown calcareous claystones grading to marls which are normally soft, silty and micaceous. This lower sequence is easily recognisable and may eventually be separated out and assigned formation status.

Boundaries

The base of the formation is picked at the base of the first thick claystone unit. This boundary is marked by sonic and gamma ray log breaks. The alternating lithologies of the Lunde Formation result in an irregular gamma ray response. On structural highs the top of the formation is represented by a hiatus, with Jurassic or younger strata resting on the Triassic sequence. Where the Statfjord Formation is present, the upper boundary of

the Lunde Formation is placed at the change to the relatively massive clean standstone of the overlying Statfjord Formation. In the Statfjord Field area, this transition often occurs via a coarsening upward unit, clearly defined on gamma ray and sonic logs. The base of this unit is the top of the Lunde Formation. (See also the description of the Statfjord Formation).

Distribution

The formation is assumed to be present throughout the northern North Sea Area, although major parts may be missing on structural highs owing to erosion or non-deposition.

Age

Late Triassic, possibly Norian to early Rhaetian age.

Depositional environment

The Lunde Formation is dominantly of continental origin, deposited in lacustrine and fluvial environments.

Source

- Vollset, J. and Doré, A. G. (eds.) 1984: A revised Triassic and Jurassic lithostratigraphic nomenclature for the Norwegian North Sea. NPD-Bulletin No. 3, 53 pp.

Brønnbaner som penetrerer

Brønnbane navn	Dato for boreslutt	Topp dyp [m]	Bunn dyp [m]
29/6-1	09.05.1982	4786	4832
30/3-2 R	16.02.1981	3298	3308
30/3-7 S	12.12.1995	5322	5581
30/5-3 S	12.04.2009	3396	3809
30/6-1	22.09.1979	3003	3175
30/6-9	16.12.1982	3389	3476
30/6-9 R	12.05.1990	3387	3476
30/6-24 S	06.12.1991	3940	3986
30/6-28 S	29.03.2012	2754	3960
30/9-3 A	20.05.1984	4249	4300
30/9-24	17.10.2009	3718	3767
31/4-8	11.05.1986	2438	2611
31/11-1 S	28.06.2021	3120	3284
32/2-1	01.07.2008	1247	1300
32/4-3 S	26.10.2019	1847	2017
33/2-2 S	10.06.2015	2946	3113
33/5-1	18.10.1979	2692	3220
33/5-2	18.11.1981	4455	4520
33/6-1	06.07.1979	3862	3900
33/6-3 S	24.07.2012	4377	4444
33/12-1	18.04.1974	2960	3060

33/12-2	23.08.1974	2951	3749
33/12-5	21.02.1976	2735	3747
34/2-3	13.08.1981	3344	3742
34/2-5 S	31.03.2018	3568	3680
34/4-1	16.12.1979	2508	2834
34/4-2	24.05.1980	2697	3599
34/4-3	30.03.1982	4410	4460
34/4-4	03.02.1983	2425	3143
34/4-5	06.04.1984	3599	3917
34/4-6	27.03.1986	2577	3153
34/4-7	12.05.1987	2502	2950
34/4-8	21.06.1994	2913	3110
34/4-9 S	15.02.1997	2513	3440
34/4-11	10.01.2010	4224	4327
34/4-12 A	18.02.2010	2563	2761
34/4-12 S	25.01.2010	2738	3066
34/4-13 S	02.01.2011	4905	5010
34/4-14 S	19.05.2015	4754	4822
34/6-1 S	28.08.2002	4313	4360
34/6-2 S	05.11.2012	4252	4335
34/7-1	24.07.1984	2392	2905
34/7-2	10.10.1984	2271	2475
34/7-3	02.01.1985	2513	3414
34/7-4	16.01.1985	2628	3115
34/7-5	16.03.1985	3010	3146
34/7-6	30.05.1985	2654	3539
34/7-7	16.12.1985	2678	3526
34/7-8	11.04.1986	2373	2766
34/7-9	12.06.1986	2443	3240
34/7-10	29.10.1986	2683	3000
34/7-12	17.12.1987	2763	2784
34/7-13	13.04.1988	2962	2994
34/7-16 R	15.10.1990	2945	2980
34/7-16 R2	05.07.1994	2944	2979
34/7-17	07.04.1991	3085	3115
34/7-20	27.08.1992	3128	3177
34/7-34	10.03.2009	2584	2701
34/7-34 A	20.03.2009	2972	3022
34/8-1	08.03.1986	3417	3610
34/8-2	17.11.1986	3051	3240
34/8-4 A	27.05.1992	3143	3567

34/8-4 AR	07.03.2003	3151	3574
34/8-4 S	09.06.1991	2950	3947
34/8-5	01.04.1991	3484	3540
34/8-7	16.07.1992	5208	5460
34/8-7 R	10.02.1993	5208	5460
34/8-8	24.08.1992	3474	3625
34/8-8 R	09.03.1993	3474	3624
34/8-9 S	28.12.1992	3245	3530
34/8-10 S	09.12.1993	3125	3470
34/8-12 S	09.12.2001	3253	3347
34/8-13 S	26.06.2009	4282	4442
34/8-16 S	15.11.2015	3116	3437
34/8-17 S	14.03.2014	4485	4587
34/8-18 S	22.02.2019	6001	6068
34/10-1	08.09.1978	2367	2460
34/10-2	08.12.1978	3540	3729
34/10-3	07.06.1979	2715	2802
34/10-3 R	10.10.1987	2712	2799
34/10-4	15.10.1979	2481	2600
34/10-5	02.01.1980	2764	2780
34/10-7	23.03.1980	2180	2250
34/10-7 R	14.07.1983	2177	2247
34/10-11	05.03.1981	2089	2155
34/10-16	11.04.1983	4010	4042
34/10-16 R	27.09.1983	4007	4039
34/10-30	12.05.1986	3375	3785
34/10-32	13.07.1987	3538	3753
34/10-32 R	10.08.1987	3538	3742
34/10-38 S	29.05.1995	3844	3940
34/10-43 S	11.04.2001	4370	4950
34/10-44 S	08.07.2001	4200	4865
34/10-48 A	15.02.2005	3657	4645
34/10-48 S	22.12.2004	3657	4645
34/10-55 S	26.03.2017	7390	7811
35/1-1	18.07.2002	4476	4540
35/9-6 S	07.12.2010	3710	3740
6201/11-1	06.11.1987	2678	3532
6201/11-2	11.03.1991	3697	3726
6201/11-3 R	20.10.2012	2703	2783

Brønnbaner med kjerner

Brønnbane navn	Dato for boreslutt	Kjernelengde [m]
30/3-2 R	16.02.1981	9
30/5-3 S	12.04.2009	55
31/4-8	11.05.1986	13
33/2-2 S	10.06.2015	30
33/5-1	18.10.1979	10
34/2-3	13.08.1981	39
34/4-1	16.12.1979	90
34/4-4	03.02.1983	182
34/4-5	06.04.1984	48
34/4-6	27.03.1986	54
34/4-7	12.05.1987	183
34/4-9 S	15.02.1997	208
34/4-12 A	18.02.2010	54
34/4-12 S	25.01.2010	52
34/4-13 S	02.01.2011	11
34/7-1	24.07.1984	223
34/7-3	02.01.1985	52
34/7-6	30.05.1985	39
34/7-7	16.12.1985	103
34/7-8	11.04.1986	5
34/7-9	12.06.1986	243
34/8-1	08.03.1986	9
34/8-4 A	27.05.1992	79
34/8-4 S	09.06.1991	327
34/8-7	16.07.1992	8
34/8-8	24.08.1992	22
34/8-10 S	09.12.1993	32
34/8-16 S	15.11.2015	53
34/10-30	12.05.1986	189
34/10-32	13.07.1987	16
6201/11-1	06.11.1987	151
6201/11-2	11.03.1991	14
6201/11-3 R	20.10.2012	7