



General information

Lithostrat. unit	COOK FM
NPDID lithostrat. unit	24
Level	FORMATION
Lithostrat. unit, parent	DUNLIN GP

Level below

Lithostrat. unit

Description

Cook Formation

Name

Named by Deegan and Scull (1977) who gave it "sub-unit" status.

Well type section

UK well 211/29-3 (Shell) from 2887 m to 2950.5 m, coord N 61°08'06", E 01°43'36.5" ([Fig 3.10](#)).

Well reference sections

Norwegian wells [33/9-1](#) (Mobil) from 2715 m to 2801 m, coord N 61°15'07.5", E 01°50'25.8" ([Fig 3.11](#)). [30/6-7](#) (Norsk Hydro) from 2975 m to 3023 m, coord N 60°38'39.49" E 02°45'21.74" ([Fig 3.12](#)). [31/2-1](#) (Shell) from 2093 m to 2134 m, coord N 60°46'19.16" E 03°33'15.87" ([Fig 3.13](#)). and [30/7-7](#) (Norsk Hydro) from 4735 m to 4801 m, coord N 60°16'19.30" E 02°16'07.30" ([Fig 3.14](#)).

Thickness

63.5 m in the type well, 86 m in [33/9-1](#), 66 m in [30/7-7](#), 48 m in [30/6-7](#) and 41 m in [31/2-1](#).

Lithology

In the type well section the formation is dominantly a marine siltstone with minor grey, silty claystone intercalations. The siltstones and claystones may contain sandy streaks, becoming more prominent away from the type well, especially in Norwegian waters. On the Horda Platform and along its western margin, sandstones are the dominant lithology in the formation. The sands are white to greyish brown, very fine to fine grained, subangular to subrounded and well sorted. Occasionally thin layers of medium to coarse grained sandstones are found. The sandstones are hard to friable. Silica is the most common cement. Mica, glauconite, carbonaceous material and calcareous cement may be present.

Boundaries

The formation can be distinguished from the more uniform and more argillaceous sediments above and below by a decrease in gamma ray response and an increase in velocity.

Distribution

The formation appears to be present throughout the East Shetland Basin and on the northern part of the Horda Platform.



Age

Pliensbachian to Toarcian.

Depositional environment

The sandstones can be divided into three types, related to depositional environment and basin geometry. In the [Stafford Field](#) area the sandstones are believed to represent marine shoal sands (e.g. ref. well [33/9-1](#)). On the Horda Platform and along its western margin the sandstones represent prograding shelf sands and several cycles can be identified within the formation (ref. [31/2-1](#) and [30/6-1](#)). In the graben area the sands are thinner bedded, and the shale intercalations show no gradations into the sands (ref. [30/7-7](#)). These sandstones are believed to represent redeposited sands from the edge of the shelf (the Horda Platform and East Shetland Basin west of the graben area).

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.

Wellbores penetrating

Wellbore name	Wellbore completion date	Top depth [m]	Bottom depth [m]
15/6-11 A	13.03.2011	4286	4291
15/6-11 S	19.12.2010	3947	3970
25/2-4	20.10.1975	3927	3965
25/2-5	04.08.1976	3513	3605
25/2-12	12.11.1988	3800	3876
25/2-13	25.01.1990	3565	3645
29/3-1	15.09.1986	4046	4147
29/6-1	09.05.1982	4546	4607
29/9-1	24.02.1984	4487	4530
30/2-1	12.10.1982	3962	4000
30/2-3	05.10.1992	4161	4199
30/3-1 R	26.04.1982	4081	4162
30/3-2 R	16.02.1981	2982	3121
30/3-3	30.05.1983	3241	3288
30/3-4	12.06.1985	3079	3128
30/3-4 R	18.11.2001	3081	3130
30/3-5 S	19.06.1992	4424	4494
30/3-6 S	06.03.1994	5823	5897
30/3-7 B	04.08.1998	4378	4439
30/3-7 B	04.08.1998	5897	5970
30/3-7 BR	17.11.2001	4378	4439
30/3-7 BR	17.11.2001	5897	5970
30/3-7 S	12.12.1995	4966	5056



30/3-7 S	12.12.1995	5138	5197
30/3-10 S	29.04.2009	3871	3905
30/4-2	16.05.1980	4127	4208
30/6-1	22.09.1979	2537	2589
30/6-2	11.12.1979	2431	2445
30/6-3	07.03.1980	2689	2768
30/6-4	11.05.1981	2855	2893
30/6-5	15.08.1981	3071	3123
30/6-6	24.03.1982	3152	3225
30/6-7	24.08.1982	2975	3023
30/6-8	06.08.1982	3350	3405
30/6-9	16.12.1982	2821	2878
30/6-9 R	12.05.1990	2819	2876
30/6-11	30.03.1983	3752	3768
30/6-14	08.02.1984	2679	2696
30/6-15	05.09.1984	3101	3109
30/6-16	21.01.1985	2920	2946
30/6-17 A	18.03.1986	2460	2488
30/6-17 R	04.02.1986	2402	2441
30/6-19	21.06.1986	3103	3159
30/6-19 R	25.05.1994	3102	3158
30/6-20	13.04.1986	2747	2792
30/6-21	09.04.1987	2854	2922
30/6-22	13.07.1988	3122	3170
30/6-22 R	02.06.1994	3121	3169
30/6-23	01.07.1990	3016	3065
30/6-29 S	03.03.2015	5534	5592
30/7-7	01.07.1979	4735	4801
30/7-8 R	29.01.1982	4325	4366
30/8-1 S	01.03.1995	4450	4464
30/8-1 SR	01.03.1996	4450	4464
30/9-3 A	20.05.1984	3455	3466
30/9-4 S	30.03.1985	3924	3991
30/9-5 S	19.07.1985	2447	2466
30/9-6	21.04.1987	2835	2845
30/9-7	23.12.1988	3288	3387
30/9-9	06.11.1989	2575	2591
30/9-10	21.09.1990	3404	3424
30/9-12	09.05.1991	2944	2994
30/9-13 S	11.10.1991	3758	3826
30/9-13 SR	17.07.2002	3762	3830



30/9-15	05.01.1994	2461	2489
30/9-16	08.08.1994	3073	3140
30/9-28 S	26.02.2016	3488	3515
30/10-5	01.05.1975	4967	5010
30/11-3	14.03.1983	4218	4279
30/11-4	24.07.1984	4210	4273
30/12-1	07.03.1994	3409	3417
31/1-1	15.02.2008	2691	2767
31/1-2 A	29.01.2021	3859	3876
31/1-2 S	12.01.2021	3446	3494
31/2-1	09.11.1979	2093	2134
31/2-1 R	09.11.1981	2094	2135
31/2-2 R	06.10.1980	2162	2202
31/2-3	20.07.1980	2010	2055
31/2-4 R	06.04.1981	2008	2107
31/2-4 R2	12.11.1982	2008	2107
31/2-5	21.12.1980	2201	2277
31/2-5 R	20.07.1981	2194	2270
31/2-5 R2	22.04.1984	2194	2270
31/2-8	18.08.1982	2825	2896
31/2-21 S	04.06.2014	3123	3217
31/3-1	13.10.1983	1945	1992
31/4-2	15.11.1979	2479	2533
31/4-3	11.05.1980	2448	2470
31/4-4	17.02.1981	2935	2956
31/4-5	29.07.1981	2482	2521
31/4-7	11.09.1984	2236	2283
31/4-8	11.05.1986	2222	2255
31/4-11	12.09.2000	2957	2985
31/5-2	11.11.1983	2176	2194
31/5-2 R	30.08.1984	2176	2194
31/5-7	06.03.2020	2638	2695
31/6-1	28.10.1983	1962	1981
31/6-8	25.05.1985	2025	2138
31/6-8 R	22.09.1985	2025	2138
31/7-1	22.06.2016	2598	2618
31/11-1 S	28.06.2021	2898	2906
32/4-1	04.12.1996	1733	1783
33/5-2	18.11.1981	4340	4391
33/6-1	06.07.1979	3697	3731
33/6-2	02.01.1997	3815	3856



33/6-3 S	24.07.2012	4154	4198
33/9-1	04.06.1974	2715	2801
33/9-3	14.11.1974	2644	2655
33/9-6	31.08.1976	3200	3250
33/9-9	17.11.1977	2528	2558
33/9-12	03.08.1987	2609	2667
33/9-13 S	24.12.1987	2855	2919
33/9-19 A	09.08.1996	3171	3194
33/9-19 S	23.07.1996	2939	2975
33/12-6	21.06.1976	3397	3440
33/12-7	27.04.1989	3387	3472
33/12-8 S	26.04.2002	3285	3429
34/2-2 R	08.05.1981	3619	3683
34/2-4	11.06.1985	3821	3933
34/3-1 A	30.10.2008	3954	4067
34/3-1 S	10.09.2008	3866	3958
34/3-2 S	30.12.2009	4012	4104
34/3-3 A	03.01.2012	4809	4968
34/3-3 S	19.11.2011	3908	3996
34/3-4 A	13.02.2015	4370	4486
34/3-5	16.04.2015	4140	4222
34/4-3	30.03.1982	4226	4257
34/4-5	06.04.1984	3416	3520
34/4-10 R	18.04.2000	4066	4186
34/4-14 S	19.05.2015	4494	4519
34/5-1 A	10.04.2010	4274	4356
34/5-1 S	13.03.2010	3629	3696
34/5-2 S	04.07.2018	3588	3674
34/6-1 S	28.08.2002	3807	3932
34/6-2 A	12.12.2012	3702	3974
34/6-2 S	05.11.2012	3654	3777
34/6-3 A	01.11.2014	3603	3717
34/6-3 S	24.09.2014	3851	4001
34/6-4	02.03.2016	3952	4067
34/6-5 S	08.06.2021	3654	3772
34/7-5	16.03.1985	2696	2768
34/7-12	17.12.1987	2462	2518
34/7-13	13.04.1988	2670	2742
34/7-14	02.12.1989	2543	2629
34/7-16	13.08.1990	2603	2660
34/7-16 R	15.10.1990	2604	2661



34/7-16 R2	05.07.1994	2603	2660
34/7-17	07.04.1991	2789	2818
34/7-19	27.12.1991	2740	2800
34/7-19 R	12.07.1994	2747	2807
34/7-20	27.08.1992	2882	2919
34/8-1	08.03.1986	3044	3163
34/8-2	17.11.1986	2923	2934
34/8-3	14.09.1988	3007	3118
34/8-3 A	31.10.1988	3227	3230
34/8-5	01.04.1991	3122	3186
34/8-7	16.07.1992	4808	4953
34/8-7 R	10.02.1993	4808	4953
34/8-8	24.08.1992	3123	3260
34/8-8 R	09.03.1993	3122	3260
34/8-9 S	28.12.1992	3009	3113
34/8-10 S	09.12.1993	2932	2939
34/8-11	08.02.1994	3072	3140
34/8-13 A	13.05.2009	3495	3593
34/8-13 S	26.06.2009	3972	4085
34/8-17 S	14.03.2014	4098	4199
34/8-19 S	20.06.2018	3671	3943
34/8-19 S	20.06.2018	5582	5672
34/8-19 S	20.06.2018	5738	5893
34/10-1	08.09.1978	2023	2081
34/10-2	08.12.1978	3172	3200
34/10-3	07.06.1979	2201	2326
34/10-3 R	10.10.1987	2198	2323
34/10-4	15.10.1979	2025	2165
34/10-5	02.01.1980	2240	2381
34/10-7	23.03.1980	1810	1937
34/10-7 R	14.07.1983	1807	1934
34/10-8	25.05.1980	2133	2214
34/10-9	09.05.1980	2083	2200
34/10-9 R	03.07.1980	2083	2203
34/10-12	12.09.1981	2350	2470
34/10-14	19.03.1982	2159	2203
34/10-15	12.12.1982	1870	2034
34/10-16	11.04.1983	3556	3602
34/10-16 R	27.09.1983	3553	3599
34/10-17	08.07.1983	3108	3220
34/10-18	30.08.1983	2688	2785



34/10-19	06.12.1983	1779	1830
34/10-21	22.10.1984	3632	3763
34/10-23	13.10.1985	4413	4515
34/10-30	12.05.1986	2950	2983
34/10-32	13.07.1987	3236	3286
34/10-32 R	10.08.1987	3236	3286
34/10-33	15.12.1988	3514	3629
34/10-34	31.05.1991	2357	2410
34/10-35	01.07.1992	3965	4048
34/10-36	13.07.1992	3565	3640
34/10-38 S	29.05.1995	3112	3211
34/10-39 S	20.06.1995	2900	2985
34/10-41 S	28.08.1997	3000	3099
34/10-42 S	19.09.1999	4485	4520
34/10-43 S	11.04.2001	3434	3544
34/10-48 A	15.02.2005	4891	5008
34/10-48 S	22.12.2004	4891	5008
34/10-49 B	21.05.2006	2740	2925
34/10-49 B	21.05.2006	3482	3618
34/10-49 B	21.05.2006	3747	3935
34/10-49 S	08.05.2006	2740	2925
34/10-53 S	24.03.2011	4065	4234
34/10-54 A	18.04.2014	4238	4299
34/10-54 S	11.02.2014	4177	4230
34/10-55 S	26.03.2017	7223	7240
34/11-1	25.10.1994	4289	4338
34/11-2 S	17.05.1996	4433	4478
34/11-3	16.01.1997	4261	4304
34/11-4	14.04.1999	4410	4438
34/12-1	30.04.2008	4607	4713
35/1-1	18.07.2002	3970	4087
35/1-2 S	19.12.2010	3923	3961
35/3-2	26.10.1980	3920	3946
35/3-4	06.06.1981	3963	4069
35/3-5	31.03.1982	3999	4052
35/4-1	24.05.1997	4434	4515
35/4-3	17.05.2022	4614	4707
35/7-1 S	15.08.2011	4669	4771
35/8-1	24.01.1981	3831	3982
35/8-2	21.05.1982	3932	4064
35/9-6 S	07.12.2010	3624	3691



35/9-9	18.11.2013	3128	3171
35/9-11 A	21.05.2014	3624	3701
35/9-11 S	15.04.2014	3624	3701
35/10-1	16.01.1992	3509	3649
35/10-2	22.08.1996	4368	4450
35/10-4 S	10.10.2018	3845	4010
35/10-7 A	27.12.2021	3584	3605
35/10-7 S	11.12.2021	3489	3545
35/11-1	06.08.1984	2648	2684
35/11-2	04.12.1987	3615	3712
35/11-3 S	09.09.1989	3693	3764
35/11-4	29.12.1990	2825	2918
35/11-4 R	27.01.1992	2835	2928
35/11-5	03.11.1991	3467	3533
35/11-6	20.04.1992	3773	3864
35/11-7	29.09.1992	2592	2687
35/11-10	23.06.1997	2818	2950
35/11-17	01.05.2014	2847	2889
35/11-18	27.09.2015	3711	3759
35/11-18 A	16.12.2015	3808	3928
35/11-20 B	15.09.2016	4900	5075
35/11-21 A	17.10.2018	2897	2931
35/11-21 S	05.09.2018	2771	2800
35/11-22 S	02.02.2019	3495	3565
35/11-23	06.11.2019	2911	2977
35/12-1	24.04.1992	2921	3003
35/12-4 S	26.06.2011	3324	3534

Wellbores with cores

Wellbore name	Wellbore completion date	Core length [m]
30/3-2 R	16.02.1981	47
30/3-4	12.06.1985	42
30/3-5 S	19.06.1992	17
30/6-2	11.12.1979	3
30/6-11	30.03.1983	12
30/6-16	21.01.1985	23
30/6-17 A	18.03.1986	22
30/6-17 R	04.02.1986	24
30/6-22	13.07.1988	28



30/6-23	01.07.1990	27
30/7-7	01.07.1979	9
30/9-5 S	19.07.1985	11
31/4-2	15.11.1979	5
31/5-7	06.03.2020	52
34/2-2 R	08.05.1981	10
34/2-4	11.06.1985	11
34/3-1 S	10.09.2008	61
34/3-2 S	30.12.2009	27
34/3-3 S	19.11.2011	80
34/4-5	06.04.1984	58
34/5-1 S	13.03.2010	48
34/6-2 S	05.11.2012	54
34/6-3 S	24.09.2014	75
34/6-5 S	08.06.2021	103
34/8-1	08.03.1986	21
34/10-7	23.03.1980	54
34/10-9	09.05.1980	37
34/10-15	12.12.1982	36
34/10-19	06.12.1983	2
34/10-35	01.07.1992	66
34/10-38 S	29.05.1995	0
34/10-54 A	18.04.2014	14
34/10-54 S	11.02.2014	20
34/11-2 S	17.05.1996	16
35/3-2	26.10.1980	2
35/4-1	24.05.1997	28
35/9-6 S	07.12.2010	12
35/9-11 A	21.05.2014	41
35/10-1	16.01.1992	84