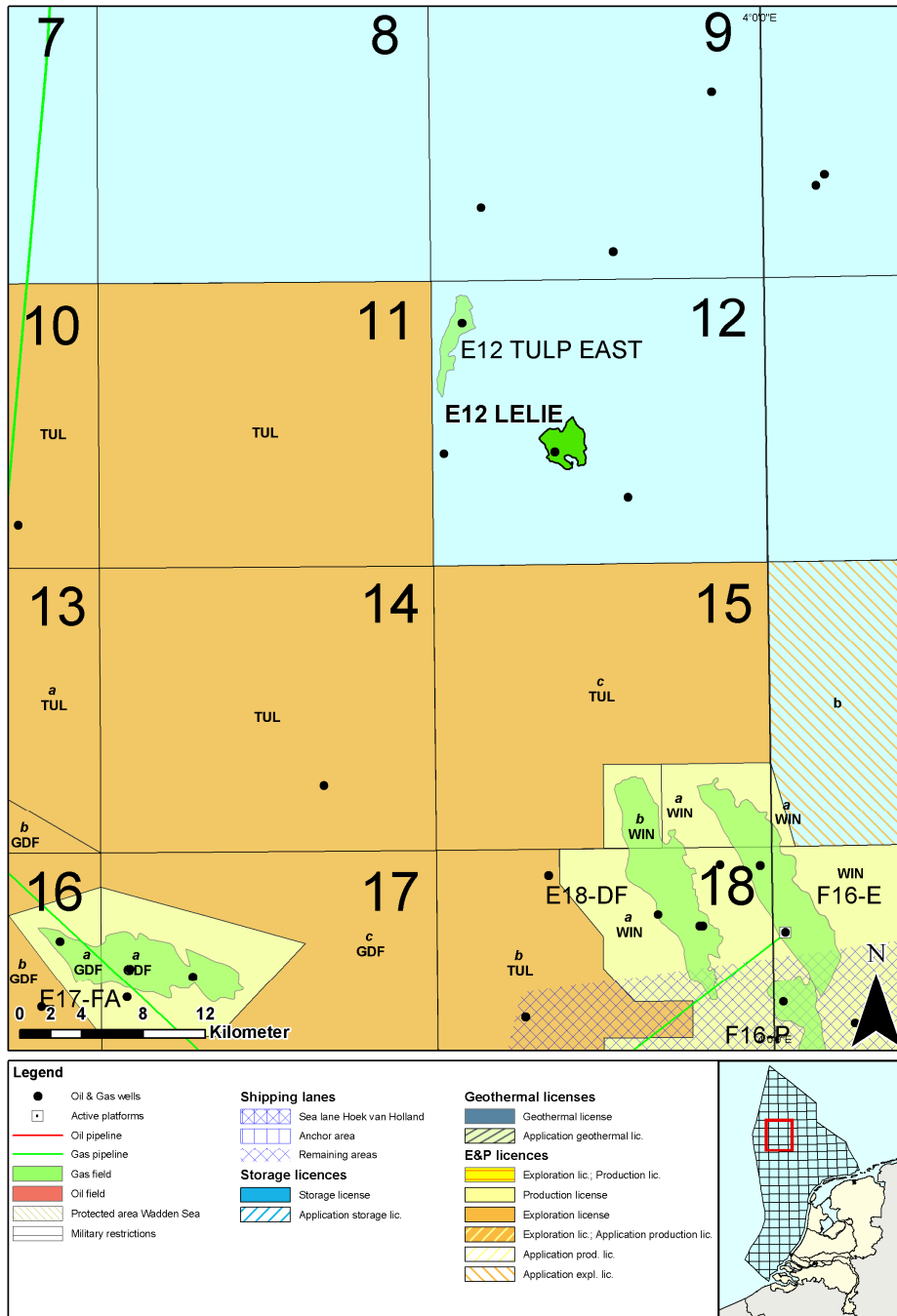




Fact sheet E12-Lelie

Stranded fields - Q4 2009



Location map of the E12-Lelie gas field

General information

The E12-Lelie gas field (E12-LE) was discovered in 1995 by Elf Petroland with exploration well E12-04. The gas is contained in the sandstones of the Slochteren Formation (ROSL) and the Millstone Grit Formation (DCGM). The field has not been developed and currently lies in the exploration license of GDF.

Data presented in this fact sheet are partly taken from an evaluation study on the former E12a block. This study was compiled by TNO-NITG on behalf of the MEA in 1999.

According to the study of TNO-NITG, the gas is contained in fluvial conglomerates of the basal parts of the Slochteren Formation (ROSL) of the Upper Rotliegend Group. However, recent insights in the stratigraphy result that the conglomerate is presumably assigned to the Carboniferous strata. Below these reservoir rocks fluvial sandstones of the Millstone Grit Formation (DCGM) are present and contain gas in the western parts of the field. In addition to the traditional Westphalian source rock, the deeper situated Namurian claystones are considered to be the hydrocarbon source rocks for this reservoir.

The E12-LE field is defined by an NNW-SSE elongated high block and situated below a salt structure. The structure is closed in the dip direction to the west. The field is situated on the eastern flanks of the Cleaver Bank High that was strongly influenced by extension faulting and salt tectonics during the Jurassic. The salt structure follows the direction of the fault block.

In 1993 3D seismic data was gathered by Elf Petroland. A full suite of well logs is available; density and neutron logs only from the top of the reservoir.

Sequence of events

Date	Event
14-06-1978	Award exploration license E12 to NAM
14-06-1884	Relinquishment of areas E12b and E12c by NAM
14-06-1988	Expiration of exploration license E12a of NAM
29-12-1988	Exploration license application E12a by Elf Petroland
17-11-1989	Award exploration license E12a to Elf Petroland
16-01-1990	Exploration license E12a effective
20-12-1991	Production license application E12a by Elf Petroland
28-11-1995	Spud date well E12-04 (Elf Petroland)
09-02-1996	RFT3 3842.5-3857.2 (m ah)
26-02-1996	Completion date well E12-04
1999	Withdrawal of production license application and subsequent expiration of exploration license E12a
22-04-2009	Exploration license E12 effective (GDF)

Reservoir data

Geological unit	Top m TVD/MSL	Base m TVD/MSL	Gross m	Net m	N/G %	Porosity %	Gas sat %
RGD & NOGPA (1993)							
Lower Silverpit Claystone (ROCL)	3792,7	3796,5	3,8	1,7	0,447	5,2	10,6
Lower Slochteren Sst (ROSL) above GWC	3796,5	3802,0	5,5	4,4	0,800	11,5	29,2
Lower Slochteren Sst (ROSL) below GWC	3802,0	3823,7	21,7	16,7	0,770	11,5	
Millstone Grit Fm (DCGM)	3823,7	3980,0	156,3	60,0	0,384	8,7	

Plug data

Depth m ah	Porosity %	Horizontal permeability mD	Grain Density g/cm ³
3854.08	11.4	0.84	2.7
3854.22	9.4	0.95	2.68
3854.44	14.3	2.54	2.66
3854.69	14.9	9.15	2.65
3854.84	13.4	2.49	2.65
3855.02	14.4	2.64	2.68
3855.24	9.4	0.63	2.67
3855.41	4.6	0.41	2.69
3855.55	15.5	22.45	2.64
3855.89	13.9	19.83	2.65
3856.05	17	25.6	2.66
3856.23	13.4	4.94	2.66

Further plug data is available up to 3869,73 meters.

Contacts

Reservoir	Top structure m TVD/MSL	GWC m TVD/MSL
RO (top)	Approx. 3700	No data

Hydrocarbon specifications

Reservoir	CH ₄ %	CO ₂ %	N ₂ %	H ₂ S %	GHV MJ/m ³
Slochteren (ROSL)	31,7	3,2	64,6	-	12,93

Volumes

GIP 10 ⁹ m ³ st			Reserves 10 ⁹ m ³ st		
P90	Exp.	P10	P90	Exp.	P10
1,86	2,54	3,28	1,38	1,91	2,48

Productivity

Reservoir	Q well production at s.c. m ³ /d
No test data	100000

Well status

E12-04: Closed-in.

Infrastructure

The nearest platform is: F16-A at 34 km. The nearest pipeline is also located at this platform.

Public References

RGD & NOGEPa 1993, Stratigraphic nomenclature of the Netherlands, Mededelingen Rijks Geologische Dienst, Nr. 50

SodM 1991, Proces-Verbaal nr. 6139. (Official Report of the State Supervision of the Mines on the proven occurrence of gas/oil in a well)

TNO-NITG 1998, Advies Winningsvergunningaanvraag E12a, Report NITG 98-149-C (Advice production license application E12a. *Screened version on open file.*)

ELF Petroland 1997: Composite well log, E12-04. *On open file*

For more information stranded Oil&Gas fields in the Netherlands:

<http://www.nlog.nl/nl/reserves/reserves/stranded.html>

For released Well data and Seismic data contact DINOloket:

<http://www.dinoloket.nl>

For geological maps of the deep subsurface of the Netherlands:

http://www.nlog.nl/nl/pubs/maps/geologic_maps/NCP1.html

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