

ANNEXURE-IX
SECONDARY DATA FOR RISK ANALYSIS

1.0 Secondary Data Collected on Blowout Frequency and Failure Rate Analysis

1.1 Blowout Frequency

The analysis of the database for the US GoM OCS/North Sea for the period 1980-92 by Scandpower (1995) for the blowout frequency is given in **Table-1**. These are also presented by E&P Forum (1996).

TABLE-1
BLOWOUT FREQUENCIES BY PHASE OF OPERATION

Phase	Blowouts 1980-92	Exposure 1980-92	Blowout Frequency
Exploration drilling	43	5781 wells	7.5×10^{-3} per well drilled

Source: SCANDPOWER 1995

1.2 Blowout Frequencies Based on Fluid Released

Table-2 gives deep and shallow gas blowout frequencies from the analysis by Scandpower (1995) of the database. These are also presented by E&P Forum (1996).

TABLE-2
DRILLING BLOWOUT FREQUENCIES BY FLUID RELEASED

Phase	Fluid Type	Blowout Frequency (per well drilled)
Exploration drilling	Shallow gas	4.7×10^{-3}
	Deep	2.8×10^{-3}
	Total	7.5×10^{-3}

Source: SCANDPOWER 1995

1.3 Blowouts in Individual Drilling Operations

The contributions of the individual operations to the total blowout frequency for exploration and development drilling are given in **Table-3**.

TABLE-3
CONTRIBUTION OF INDIVIDUAL OPERATIONS TO BLOWOUT FREQUENCIES (SCANDPOWER 1995)

Operation	Exploration Drilling (%)	Development Drilling (%)
Before installing BOP		
Drilling	20.9	9.1
Tripping	14.0	24.2
Running casing	7.0	15.2
Other	20.9	9.1
After installing BOP		
Drilling	16.3	9.1
Tripping	7.0	15.2
Running casing	2.3	6.1
Other	11.6	12.1
TOTAL	100	100