

Bilag 10

6.2 Mercury

6.2.1 Mercury as a contaminant in component steel

Mean values for mercury content in the samples are shown installation-wise in Table 6.2.1 where both the arithmetic mean and the geometric mean values are given. The Standard Error of the Mean is given as the uncertainty estimate together with the arithmetic mean. The results (Table 6.2.1) show that all lines are to some extent mercury contaminated. There are however large differences in mercury content between the different installations. There are also large within-installation differences as seen from the relatively large Standard Error of the Mean values for all installations.

The difference between the arithmetic and the geometric mean for a data set gives an indication of how much the data set is influenced by "extreme" values. Assessing the data in Table 6.2.1 it is apparent that especially for Albuskjell 1/6A, Albuskjell 2/4F and Edda the difference between the two mean estimators is large.

Table 6.2.1: Mean values for mercury content in the production lines of the Category 2 installations. The values are calculated as arithmetic mean values. The Standard Error of the Mean is used as uncertainty estimator.

Installation	Number of samples	Mean mercury content (mg/kg)	
		Arithmetic Mean	Geometric Mean
Cod 7/11A	22	729 ± 174	398
Albuskjell 1/6A	22	5 673 ± 2 160	1 327
Albuskjell 2/4F	18	5 246 ± 2 173	974
Edda 2/7C	23	3 784 ± 1 093	1 110
Tommeliten (upper deck)	6	1 415 ± 591	791
West Ekofisk 2/4D	4	623 ± 426	342
Ekofisk 2/4R	16	1 821 ± 451	818
Booster 36/22A	4	1 ± 1	0.1
Booster 37/4A	2	330 ± 330	330

It is likely that the mercury contamination is contained in a thin layer on the inner surfaces in the lines. At present this layer is either loosely attached to the inner steel walls or has already fallen off to form the Debris material.

The mercury concentration in Debris material on Albuskjell 1/6A, Albuskjell 2/4F, Edda including the Tommeliten module and Ekofisk 2/4R (Table 6.2.1) is above the threshold level of 1000 mg/kg and should (as waste) therefore be classified according to Waste Code 16 01 08 or 17 09 01.

6.2.2 Chemical form of mercury in Debris material

Examination of mercury rich areas on Debris material particles and flakes (SEM analyses as documented in Tables 5.2.4, 5.3.4 and 5.4.4. indicated that the mercury is found in the form of mercury sulphide.