



**ENVIRONMENTAL DEPARTMENT
CORNWALL AREA**



NRA

FINAL DRAFT REPORT

**RED RIVER EC DANGEROUS
SUBSTANCE DIRECTIVE FAILURE -
1993**

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RED RIVER EC DANGEROUS SUBSTANCE DIRECTIVE FAILURE

1. INTRODUCTION

1.1. Background

The Red River at R23A005 failed for total cadmium in 1993. R23A005 is the downstream site for Dolcoath Adit from South Crofty Ltd.

1.2. Objective

To identify the cause of EC dangerous substance directive failure at R23A005.

2. METHODS

Review of water quality and background data.

3. RESULTS

Failure was due to a one-off high value of 150 ug/l total cadmium on the 15 September 1993 (standard = five ug/l). Results of samples taken on the same day at R23A095, R23A004 and R23A003 suggested the source of pollution to have been downstream of Dolcoath Adit.

On the 14 September 1993 a temporary diversion of the Red River between Dolcoath Adit and R23A005 (undertaken by contractors for Kerrier Groundwork Trust) resulted in discolouration of the Red River. However, the total cadmium result of a sample taken at R23A005 did not exceed the five ug/l standard. On the morning of the 15 September 1993 the Red River was returned to its original channel. This resulted in significant discolouration of the Red River and the timing coincided with the taking of the EC dangerous substance directive sample at R23A005 (A. Blewitt pers. comm.). The high suspended solids result of the sample corroborates this.

4. DISCUSSION

Kerrier Groundwork Trust were considered to have been negligent in their appreciation of pollution prevention (R. Waite pers. comm.). The alluvial material of the Red River is contaminated with heavy metals. This is due to historic and present mining activities. Any disturbance of this material is likely to cause pollution. Therefore, it was probable that the return of the Red River to its original channel caused a flush of metal contaminated water.

5. CONCLUSIONS

1. Failure was due to a one-off high value of 150 ug/l total cadmium on the 15 September 1993.
2. Engineering work in the Red River for Kerrier Groundwork Trust was the most probable cause.



6. ACTIONS

1. **Consultations with the Water Quality section from external and internal bodies need to be tightened up to prevent recurrence.**

Action - Senior Water Quality Officer (West)