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MATHEMATICAL BALANCE FLOWSHEET

REDOX PRODUCTION PLANT

Project: 0-187-9 - Redox Production Plant No. 1

Prepared by: R. E. Tomlinson

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The attached material balance flowsheet for the proposed Redox Production plant is based on the two chemical flowsheets submitted by R. B. Richards of the Technical Division in HW 13,320 (INDC-3130) and HW 13,452 (INDC 3176).

Production rates for the plant have been assumed as 2.5 short tons U per day (including a maximum of 0.75 short tons of U from stored Bi PO₄ waste) and 19 kg. Pu per month (633 gms/day) as established by the Redox Committee.

The flowsheets for preparation of solvent extraction feed from Bi PO₄ waste, as well as the waste treatment systems will be covered in a future document.
NOTES:

1. BASIS FOR STREAM COMPOSITIONS TAKEN FROM TECHNICAL DIVISION LETTERS.
   (Graph not shown.)

2. CHEMICAL COMPOSITION OF THE ELUATE 4 IS NOT IN ADDITION TO THE
   MAIN STREAM ELUATE, BUT IS TO BE CONSIDERED AS REPLACING PART OF THE
   DEPROPANT FEED TO THE ELUATE 4.

3. G3 ELUATE 4 AS-uneluted in profile of figure.

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