

PDR WM-34



UNION CARBIDE CORPORATION
METALS DIVISION

137 47TH STREET, P.O. BOX 97, NIAGARA FALLS, N.Y. 14302
TELEPHONE: 716-278-3000
CABLE: TWIX NO. 710-524-1664

TECHNOLOGY DEPARTMENT
- ENGINEERING

April 14, 1980



Mr. Albert J. Hazle, Director
Radiation and Hazardous Wastes Control Division
Colorado Department of Health
4210 East 11th Avenue
Denver, Colorado 80220

Subject: Uravan Tailings Pond

Dear Mr. Hazle:

Attached are 5 copies of "Tailings Ponds 1 and 2 Depth - Capacity Data" which you requested in your letter of March 20, 1980.

Very truly yours,

T. J. Kagetsu
Assistant Director - Technology

TJK:sd

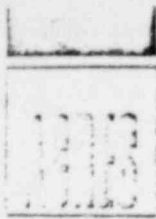
cc: Mr. A. E. Pearson
Dr. L. Person ✓
Dr. G. Castro



16077

8005270069

12-11/107



April 14, 1980
P5387.01

Union Carbide Corporation
Metals Division
P.O. Box 97
Niagara Falls, New York 14302

Attention: Mr. Ralph Brown

Gentlemen: Tailings Ponds 1 and 2
Depth-Capacity Data

Reference is made to Mr. Albert Hazle, Colorado Department of Health's letter of March 20, 1980 to Mr. Robert G. Beverly and specifically to items 4, 5 and 6 of that letter.

Figure 1 presents depth-capacity relationships for Ponds 1, 2 and 1 and 2 for various water elevations. The plots are based on a 2% beaching slope condition.

Pond 1 has sufficient storage to contain a 24-hour PMP storm event which equates to 8.2 inches of (runoff) over a drainage area of 35 acres, which includes the area for Pond 1. The water level in Pond 1 will rise 3.8 feet and allowing 0.8 feet for wave action, a 4.6 feet freeboard will be adequate.

As a comparison, the one in a thousand year 36-hour storm event produces 15.5 acre-feet of runoff compared to 23.9 acre-feet for the 24-hour PMP event in Pond 1.

The PMF series (72 hours PMP + 40% of 72 hour PMP 4 to 5 days earlier, plus 100 year flood, preceeding/succeeding), equates to 20.3 inches of runoff over a drainage area of 35 acres or 59.2 acre-feet of water.

Allowing the water level in Pond 1 to rise 4.2 feet and allowing 0.8 feet for wave action, an excess of 31 acre-feet of water will be discharged to Pond. Since the PMF series will occur over at least a 10 day interval; this excess water can be safely discharged into Pond 2, by utilizing a spillway.

ACRES AMERICAN INCORPORATED

Consulting Engineers

The Liberty Bank Building, Main at Court
Buffalo, New York 14202

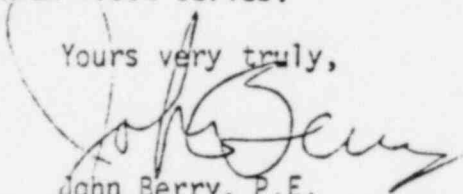
Telephone 716-853-7525 Telex 91-6423 ACRES BUF

Other Offices: Columbia, MD; Pittsburgh, PA; Raleigh, NC; Washington, DC

As documented in our transmittal of January 4, the PMF series will raise the water level in Ponds 1 and 2 by about 4 feet. Thus, if Pond 1 has a water level rise of 4 feet, the water level rise in Pond 2 (15 acres) will not exceed 4 feet.

Thus, there is sufficient storage available at all times to contain surface runoff from a probable maximum flood series.

Yours very truly,



John Berry, P.E.
Manager - Industrial Projects

JB:pm
Enc.

cc: Mr. A.E. Pearson
Dr. Leroy Person
Dr. G. Castro