





# **NOTICE**

**CERTAIN DATA  
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PRODUCTS.**

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HW-24055

RECORD CENTER FILE

HW-24055

Declassified  
per Dec 1973

By [redacted] 5/11/92  
f.m. Eck 5-14-92

SPECIAL RE-REVIEW

FINAL DETERMINATION

DECLASSIFICATION CONFIRMED

BY [redacted] DATE 5/15/81

BY [redacted] DATE 5/20/81

- #1 - JM Atwood
- #2 - JT Baker
- #3 - CW Botsford
- #4 - RG Clough
- #5 - WR Conley
- #6 - EJ Filip
- #7 - A Frew
- #8 - OH Greager
- #9 - CN Gross
- #10 - JA Haaga
- #11 - TW Hauff
- #12 - PC Jerman
- #13 - EP Lee
- #14 - DS Lewis
- #15 - JE Maider
- #16 - GE McCullough
- #17 - RO Meham
- #18 - HD Middel
- #19 - SL Nelson
- #20 - PH Reinker
- #21 - FAR Stainken
- #22 - P Thompson
- #23 - JH Warren
- #24 - EE Weyerts
- #25 - 700
- #26 - 300
- #27 - Pink
- #28 - Yellow

RECEIVED

JUN 19 1955

300 AREA  
CLASSIFIED FILES

Richland, Washington  
April 8, 1952

This document consists of

pages.

Serial

To: File

PRODUCTION TEST - 105-3-MR

THE USE OF DICALITE DIATOMACEOUS EARTH AS A PURGE MATERIAL IN THE  
100 AREAS

COPY 1 OF 1. SERIES MA

OBJECT:

The object of this test is to obtain operating information concerning the use of substitute purge materials, the standard purge material being currently unavailable.

BASIS AND JUSTIFICATION:

The only material so far used for purging at Hanford has been Johns-Manville Super-Cel. When Super-Cel was available there was no incentive to find substitute purge materials. However, recent labor difficulties at the Johns-Manville plants threaten to cut off the Hanford supply, making it highly desirable to find other diatomaceous earths acceptable for purging.

The Dicalite Corporation processes calcined diatomaceous earth of approximately the same properties as Super-Cel. From the standpoint of listed physical properties, their Dicalite Special Speedflow promises to be as effective as Super-Cel for purging. No unusual operating problems are anticipated. However, several normal purges must be made before this can be assured.

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BASIS AND JUSTIFICATION: (Continued)

Another calcined diatomaceous earth produced by the Dicalite Corporation, #4200, contains a higher percentage of coarse material (over 40 microns) and a lower percentage of fine material (less than 6 microns). The Dicalite #4200 should have less tendency to agglomerate and plug screens than Super-Cel. The Dicalite product should also be more effective as a purge material because of the greater impact of the larger (40 micron) particles. It is proposed to try one purge with Dicalite #4200.

Typical particle size analyses of standard purge material, together with those of two possible substitutes to be evaluated under this test, follow:

| <u>Material</u>            | <u>Particle Size Distribution</u> |              |              |             |            |
|----------------------------|-----------------------------------|--------------|--------------|-------------|------------|
|                            | <u>Average Size in Microns</u>    |              |              |             |            |
|                            | <u>Over 40</u>                    | <u>40-20</u> | <u>20-10</u> | <u>10-6</u> | <u>6-0</u> |
| Johns-Manville Super-Cel   | -                                 | 4            | 17           | 31          | 49         |
| Dicalite Special Speedflow | 4                                 | 7            | 24           | 33          | 32         |
| Dicalite #4200             | 24                                | 34           | 28           | 9           | 5          |

SCHEDULE:Starting Date

The first scheduled purge in any 100 Area after approval of this test.

Duration

For four purges or until in the opinion of the Reactor Section Operations' Superintendent the continued use of Dicalite diatomaceous earth constitutes a pile hazard.

Areas

Any one of the 100 Areas where a purge is scheduled.

COST:

Cost Code: None

Reactivity Loss: None

Shutdown Time: None

**DISCLAIMER**

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DESCRIPTIVE DETAILS:

Pile Facilities Required: No additional pile facilities will be required.

Other Facilities Required: No other facilities will be required.

PROCEDURE:

Dicalite Special Speedflow diatomaceous earth will be used as a purge material in the normal manner at the first area having a scheduled purge after approval of this test. After completion of three purges with Dicalite Special Speedflow, one purge will be given with Dicalite #4200. Data will be obtained on purge efficiency as measured by the normal criteria of pressure drop, Panellit readings, and water flow rates. Any abnormalities in preparing, pumping or screening the slurry will be noted.

RESPONSIBILITY:

The Operations Unit, Reactor Section will be responsible for all scheduling and for the operational safety and production continuity of the pile. The Power and Maintenance Unit, Reactor Section will be responsible for water treatment operations. The Process Unit, Reactor Section will be responsible for the evaluation of all data and for the preparation of reports.

The Operating Standards for the Reactor Section specify as a Normal Limit that Johns-Manville Standard Super-Cel, or the equivalent, be used for purging. Since the available information on the proposed trial materials indicates that they are equivalent to that specified in the Operating Standards, approvals outside the Reactor Section are not required for this test.

W. R. Conley  
W. R. Conley  
Process Unit  
REACTOR SECTION

WRC:rf

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APPROVALS

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E. P. Lee

E. P. Lee, Manager  
Reactor Section

Date of issue:

4-15-52

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700 AREA  
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S-E-C-R-E-T

**DATE**

**FILMED**

3 / 18 / 94

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