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To File		
From D. P. Ebright		

GE-AEC BUSINESS RECORD

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D. P. Ebright	D P Ebright	3-19-53			
B. G. Lindberg	B G Lindberg	11-18-53			

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Classification Cancelled (Change to DECLASSIFIED 12-29-60)
By Authority of HAPO Specialist
Classification-Declassification
By W. R. Davis Date 8-11-64

March 9, 1953

To File:

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RADIOLOGICAL SCIENCES DEPARTMENT INVESTIGATION
RADIATION INCIDENT, CLASS I, NO. 245

Nature of Incident

Contamination spread outside of Plant limited areas from process tank coil leak during August, September and October, 1952.

Description of Incident

Investigation of an "off scale" reading on the 207-S retention pond HM Chamber on October 3, 1952 led to the discovery that considerable radioactivity was being discharged to the Redox swamp via the process cooling water system. Subsequent tests and observations within the Redox building indicated that the source of the contamination was a coil leak in the D-12 waste concentrator.

Radiation surveys of the swamp revealed the area to be generally contaminated as shown by the attached map. Though an exact determination of the quantity of activity released to the swamp is not possible it is estimated that activity in the order of several curies of fission product has been discharged.

As there has been no reported unmonitored exposure to this contamination it is believed that no significant personnel exposure was associated with this incident. A potential does exist however for limited intake of activity by personnel as a result of contamination spread by migratory waterfowl, but it is very improbable that any one individual would ever come into contact with enough contaminated ducks or geese to result in any significant internal exposure.(1)(2)

Comments on the Incident

A review of all information indicates that the first contamination released to the Redox swamp probably occurred during the week ending August 22, 1952. In retrospect, it appears that the significance and potential of this information was not fully appreciated at the time.

(1) Reference: an unpublished report by H. V. Clukey entitled "Reducks".

(2) Based on the assumption that no waterfowl spend more than a few days at most on the contaminated pond.

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Subsequent to this incident the H-4, the replaced D-12, and the D-4 process tanks have also developed coil leaks resulting in release of additional activity to the swamp.

As it now appears that we may expect to continue to develop such process tank leaks and as the present method for disposing of the five to ten million gallons of water per day associated with the contamination is recognized as being substandard it is evident that considerable attention must be given to developing a better means of controlling the contamination or of disposing of the combined waste and water.

Cause of Incident

Process equipment failure.

D. P. Ebright
RADIOLOGICAL SCIENCES DEPARTMENT

DPE:bwe

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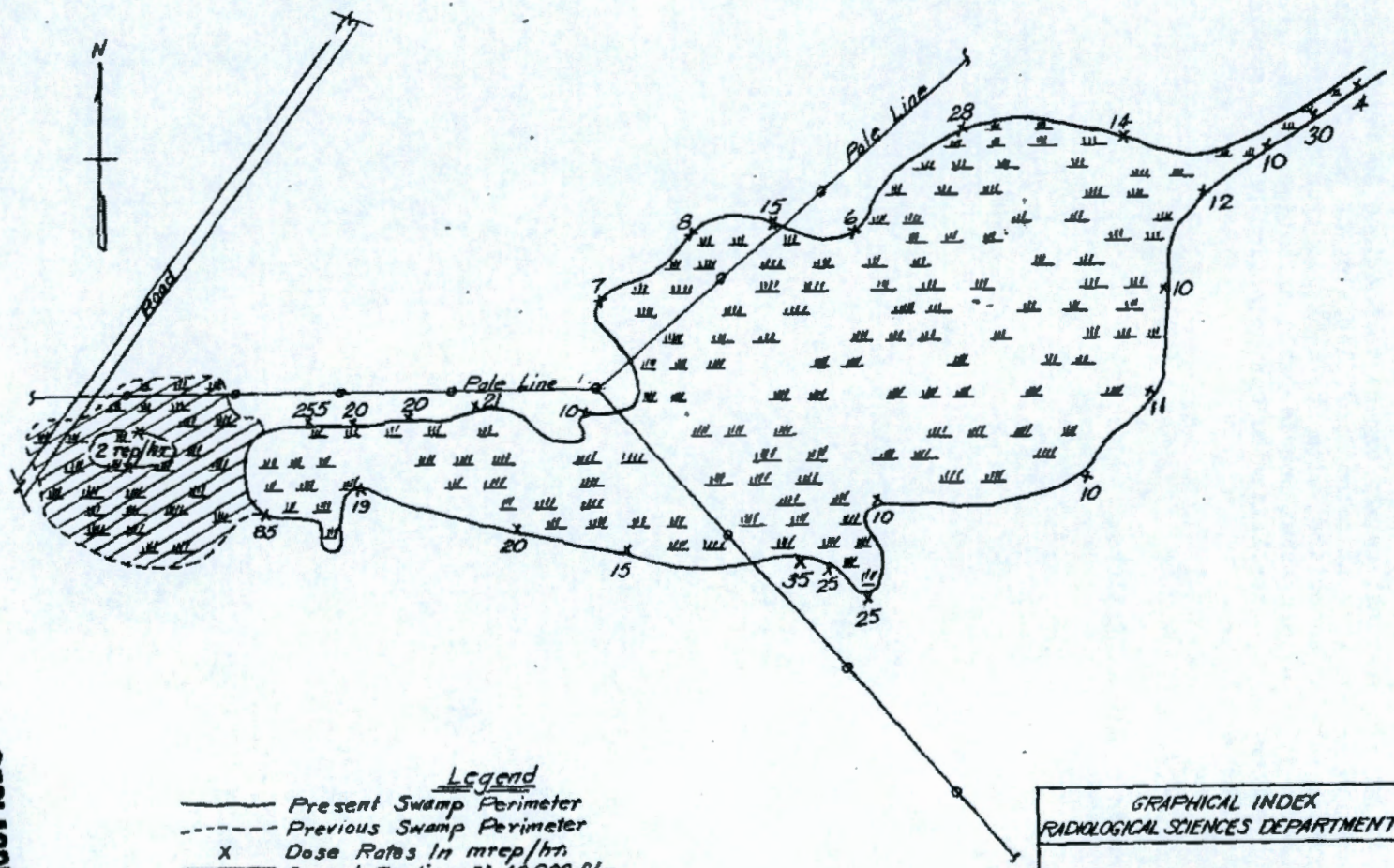

Legend

Present Swamp Perimeter

Previous Swamp Perimeter

X Dose Rates In mrep/hr.

General Reading Of 40,000 c/m

GRAPHICAL INDEX
RADIOLOGICAL SCIENCES DEPARTMENT

Radiation Survey Of Redox Swamp
10/6/52

Dwg. By E. N. Olsen Dwg. No. HW-27446

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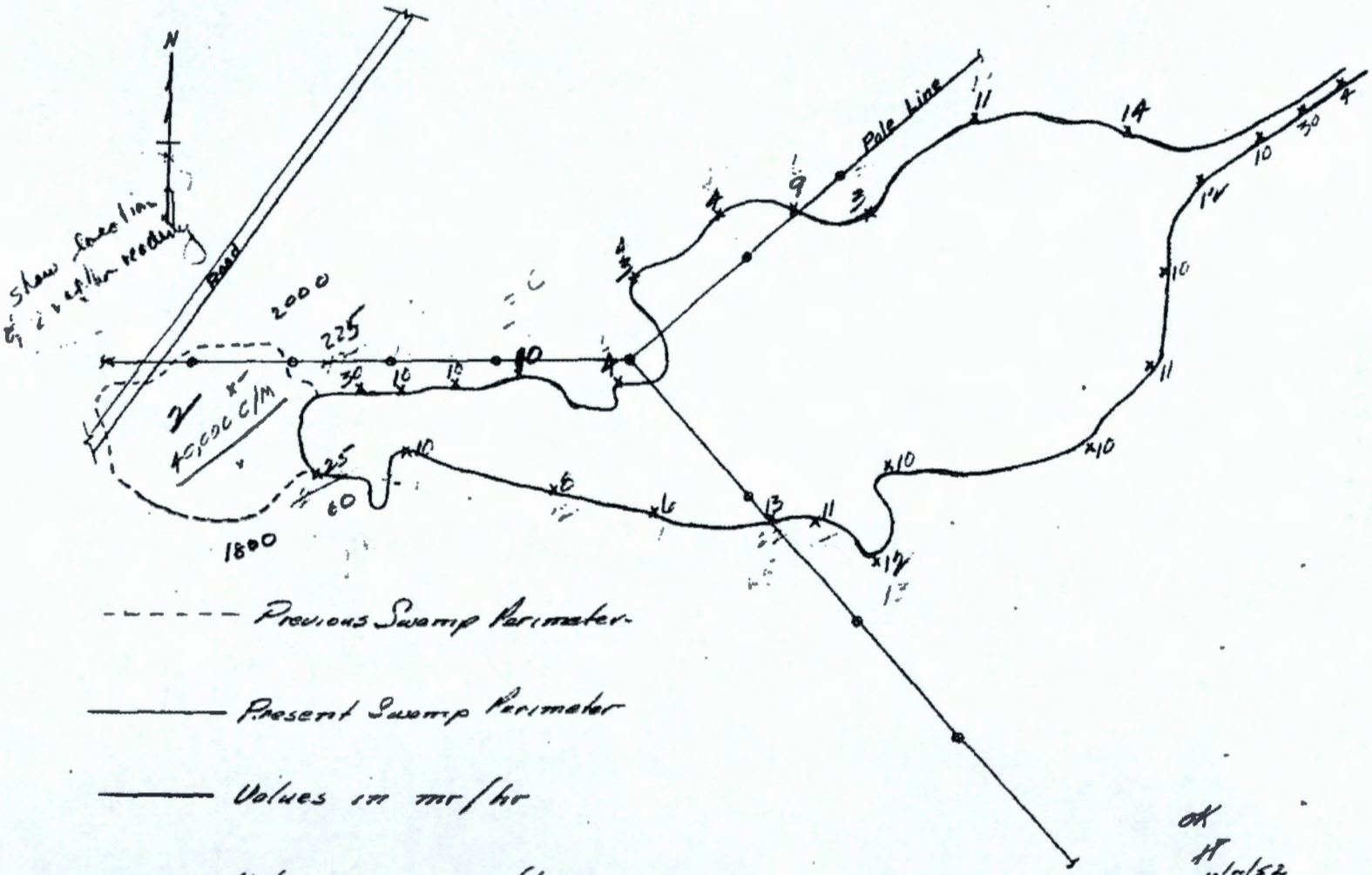
Survey of Cedar Swamp Area
October 6 - 1952
Regional Survey Group.



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See Clk.

N.E. Dixon to JM Smith dtd 8-5-52,
dwg. showing Redox swamp disposal
enlargement (plus recent overflow)

File:

Waste Facilities, 200-W

also, see maps of swamps in Cas File
dtd 10-3-62

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