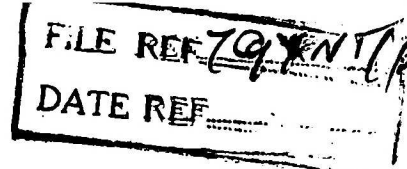


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PRELIMINARY REPORT ON CLAY AND GYPSUM DEPOSITS.

LEANYER SWAMP, DARWIN, N.T.

by

W.F. McQueen



PRELIMINARY REPORT ON CLAY AND GYPSUM DEPOSITS,
LEANYER SWAMP, DARWIN, N.T.

INTRODUCTION:

Two visits were made to this area to assess and inspect the deposit of Gypsum.

The area lies 9 miles north east of Darwin and can be reached by turning left off the Stuart Highway at Berrimah and following a gravel road and then a track to the swamp. This forms part of the R.A.A.F. Bombing Range. See Plate 1.

GEOLOGY:

The gypsum deposit occurs at or near the base of a bed of blue clay. No evidence exists as to the extent or thickness of the deposit but quantities of gypsum crystals are found around the margins of all large bomb craters. The crystals showed inclusions of clay and some arrow-head twinning was seen.

From observations of material around the bomb craters and a few hand auger holes the stratigraphic sequence in the area appears to be:-

A bed of brown clay 6' - 15' thick with pebbles of laterite gravel overlying a thick bed 25' - 40' of blue clay containing a layer, or scattered crystals, of gypsum near the base.

Outside the swamp area but close to the gypsum deposit porcellanite and leached shales of lower Cretaceous age crop out. On the edges of these there are some traces of travertine but no limestones are present.

The gypsum, on present evidence, does not appear to be an economic proposition but the thick deposit of blue clay may be of use in cement manufacture. Samples have been sent to the C.S.I.R.O. for a report on their suitability.

The brown clay may be suitable for brickmaking but further tests are needed.

CONCLUSIONS AND RECOMMENDATIONS:

As both visits to this area were made during the "wet", it is suggested that a more detailed examination be made in the "dry".

The chances of using the blue or brown clay for cement or brickmaking respectively depend on the results of tests and the provision or development of an adequate market in and around Darwin.

If an economic use is found for the clays then the recovery of the gypsum may be possible but at present it is definitely uneconomic.

I would recommend that the area be further tested by hand auger or other means to determine the thickness and extent of the brown clay, blue clay and gypsum.

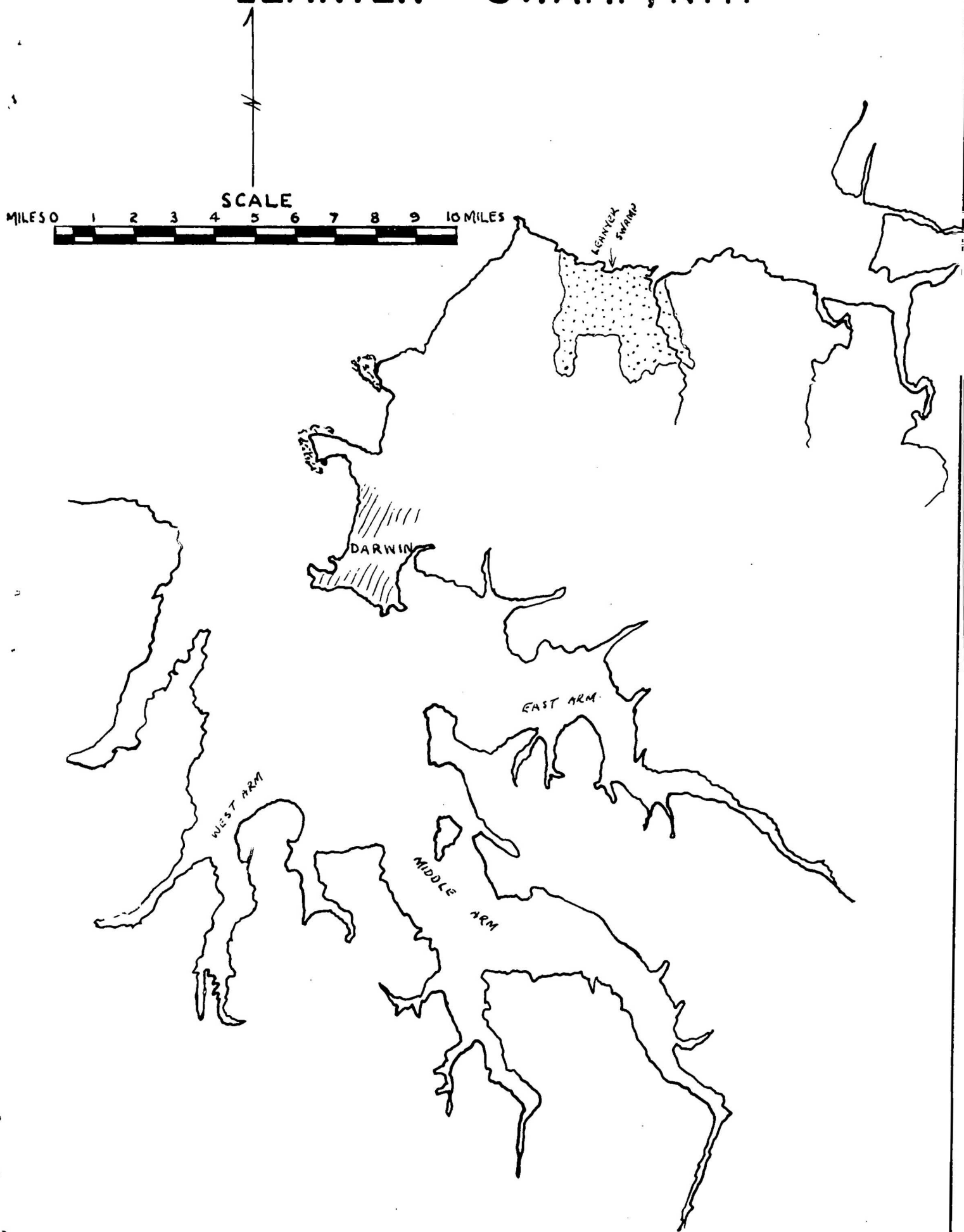
CONCLUSIONS AND
RECOMMENDATIONS (contd.)

As the swamp is tidal for king tides, care would have to be exercised in mining the clays to prevent flooding, and some form of pumping system would be needed during the "wet".

Discussions were held with the interested parties and these opinions expressed to them. They are prepared to carry out further testing.

2nd April, 1957.

MAP SHOWING LOCATION OF LEANYER SWAMP, N.T.



BUREAU OF MINERAL RESOURCES
RESIDENT GEOLOGISTS' OFFICE
DARWIN, N.T. APRIL 1957.