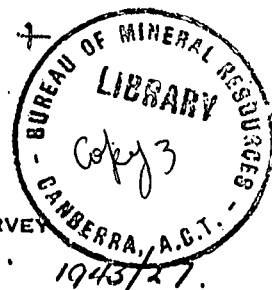


TELEPHONE:
CANBERRA 982.TELEGRAMS:
GARE "MINPROD" CANBERRA.MINERAL RESOURCES SURVEY
CENSUS BUILDING,
CITY, CANBERRA.

IN REPLY PLEASE QUOTE.....

PHOSPHATE DEPOSITS.

phosphate deposits in the vicinity of Canowindra, Molong, Wellington and Borenore were examined in company with members of the Joint Parliamentary Committee on Rural Industries on the 27th and 28th February, 1943.

Two slightly different types of deposit occur in these localities.

(a) As at Canowindra and Wellington where the walls of the deposit are formed of limestone and where the cave origin of the deposit is clearly demonstrable.

(b) As at Molong where workings have revealed phosphate deposits in the form of veins and nodules close to edge of outcropping limestone, but where the wall rock is shale or slate.

In type (a) residuals of cave deposits have been worked in narrow excavations whose length extends parallel to the strike of the limestone. It is apparent that in these deposits, phosphate-bearing solutions have interacted with the wall rock to form narrow and irregular deposits of phosphate rock and that large scale open cut work could not be seriously considered because of the low percentage of phosphate rock present relative to limestone. The mining of such deposits is essentially for the gouger and future production depends upon discovery of new outcrops.

In these localities there is a large proportion of limestone outcrop, so that the areas within which phosphate rock can occur are somewhat restricted. It is also very probable that the man who formerly worked these deposits carried out prospecting work at least for several miles around the workings.

In type (b) it is possible that the bodies of phosphate rock may be more continuous than in (a), since phosphate-bearing solutions may have moved along suitable bedding planes in the shaly sediments. However because of the essentially clayey lithology of these sediments it is unlikely that there will be any noteworthy amounts of phosphate rock present low in alumina. At Canboola and Mandillyan the workings consist of small isolated openings, suggesting that while theoretical considerations indicate that continuity of phosphate deposition is possible, in practice it has been found that the phosphate-bearing zones are lenticular.

CONCLUSIONS & RECOMMENDATIONS.

Study of the field evidence and of the results of past prospecting and development lead to the conclusion that small production can be expected in the areas examined and occurrences of phosphate rock suitable for the manufacture of superphosphate may be restricted to bodies found within limestone, the other ore being unsuitable for this purpose because of the high percentage of alumina (and possibly other impurities) present.

However, in view of the necessity for exhausting all possibilities in the search for phosphate rock during the present period of serious deficiency, it may be considered desirable to carry out the following work:-

(1) At the point considered most promising by those at present interested in the development of phosphate deposits at Molong:-
(a) Sink a shaft 30 feet deep. (b) Drive each way for say 15 feet from the shaft on any promising vein or veins of phosphate rock.
(c) Cross-cut from the shaft to the limestone contact. Estimated cost about £200.

It is further recommended that this work be done irrespective of results obtained in recent sampling, with the object of finally determining whether or not phosphate-bearing bodies of economic importance occur. It appears to be desirable to do this since some use may be found for the rock (if it is present in noteworthy amount) even if high in alumina.

(2) prospect along the limestone belt commencing at the phosphatic rock deposit formerly worked near the Canomadne road for say 1 mile and test the most promising discoveries by costeaning or pit sinking. An initial sum of £50 should cover surface prospecting. A decision as to whether sinking would be justified should be determined by the results of surface prospecting, but a sum of £200 would be sufficient to cover any work contemplated as in (1).

prospecting recommended in the foregoing should be done under the close supervision of the Government Geologist of New South Wales, who would keep the Director, Mineral Resources Survey, Department of Supply & Shipping, Canberra, advised of developments.

DIRECTOR, MINERAL RESOURCES SURVEY
Department of Supply & Shipping,
CANBERRA, A.C.T.

Geological Surveyor, Department
of Mines,
SYDNEY, N.S.WALES.