

COMMONWEALTH OF AUSTRALIA

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DEPARTMENT OF NATIONAL DEVELOPMENT  
BUREAU OF MINERAL RESOURCES  
GEOLOGY AND GEOPHYSICS

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RECORDS:

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CANCELLED  
1955/23

WHITE CLAY DEPOSITS, JERVIS BAY.

by

J.M. DICKINS.

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### INTRODUCTION

The report is a result of a two day visit to the area on the second and third of March, 1955, in the company of Mr. J. Morrow, Superintendent, Agricultural Land and Stock, A.C.T. Seventeen holes were drilled with a 4-inch post-hole digger and 2½ in. auger to a maximum depth of 5 ft. to investigate clay east of the aerodrome. As only the occurrence of clay was required, the clay was not penetrated to determine thickness. The post-hole digger was found to be the most satisfactory instrument. The co-operation of the surveying party in drilling the holes was appreciated.

### PREVIOUS INVESTIGATIONS

The deposits have been previously investigated by the Bureau of Mineral Resources (Smith et al. 1948). Smith et al. reported three occurrences of clay, two small deposits inside the boundaries of the aerodrome and a third near the west side of the aerodrome and mainly outside the aerodrome fence, which was being worked at that time by Newbold General Refractories Ltd. This last deposit was investigated by hand-drilling and a plane table survey was made. The total reserves were estimated at 1,270,000 tons. During the present reconnaissance, another deposit was investigated east of the aerodrome near the headwaters of Telegraph Creek (see accompanying sketch map, No. ACT 18A/4).

### INVESTIGATION OF CLAY EAST OF AERODROME

White clay is exposed at about 4 ft. below the surface in an elongated pit immediately south of the old lighthouse road, several chains west of the first creek crossing east of the junction of the road with the Steamer Beach road. An examination of aerial photographs confirmed by field examination showed that the possible occurrence of clay was limited on all sides by sandstone outcrop. Eight holes were put down in the vicinity of the pit and these showed white clay was present at 4 ft. to 4 ft. 6 ins. in an area about 30 yds. wide and 50 yds. long extending towards the west branch of Telegraph Creek. There is a possibility that the band of clay extends towards the west branch of the creek farther than shown by the holes, but it must be limited in extent as sandstone out crops in this branch of the creek.

Nine holes were put down on a 50 yd. grid in the area north-east of the Steamer Beach road, between the two branches of Telegraph Creek. All bottomed in sandstone at shallow depths.

The investigation showed that no extensive clay deposits are present in this area. White clay was shown to occur only in a small area about 30 yds. wide, west of the west branch of Telegraph Creek.

/ECONOMIC

### ECONOMIC IMPORTANCE

From an economic point of view only the clay deposit near the western side of the aerodrome is of significance. When it is realized that the total recorded production of White Clays (Kaolin, Ball and White Refractory Clays) in N.S.W. between 1925 and 1949 was 316,390 tons valued at \$289,740 (Joplin, 1953, p.14) the significance of a deposit estimated at 1,270,000 tons can be appreciated. The depth of overburden is small, 3 - 6 ft. over most of the area of the deposit, and it is readily accessible, being only a little more than 1 mile from the Jervis Bay-Nowra Highway. The only difficulty likely to be met in removing the clay would be due to ground water seepage which would require pumping. There is, however, no shortage of white clay in N.S.W. (Joplin 1953).

### CONCLUSIONS

Only a small area of white clay was shown to occur on the east side of the aerodrome and a more detailed survey would not be warranted in this area unless it was shown that a small deposit could be of use for some particular purpose, e.g., in the case of the need of a clay of particular composition or purity.

The large clay deposit examined by Smith et al. is of considerable potential economic importance.

With regard to the general organization of the trip, it is suggested that it would have been desirable for the officers of the Department of the Interior to have had geological advice prior to the visit.

### REFERENCES

- JOPLIN, G.A. (1953) : Clay. Bur. Min. Resour. Aust. Summ. Rep., 37, (unpublished).
- SMITH, W.C., BELFORD, D.J., HAWTHORNE, and ROBERTSON, A.V. (1948) : Geological Report on the Jervis Bay Firebrick Clay Deposit and Jervis Bay Aerodrome. Bur. Min. Resour. Aust. Rec., 1948/21 (unpublished).

APPENDIX

BORE LOGS

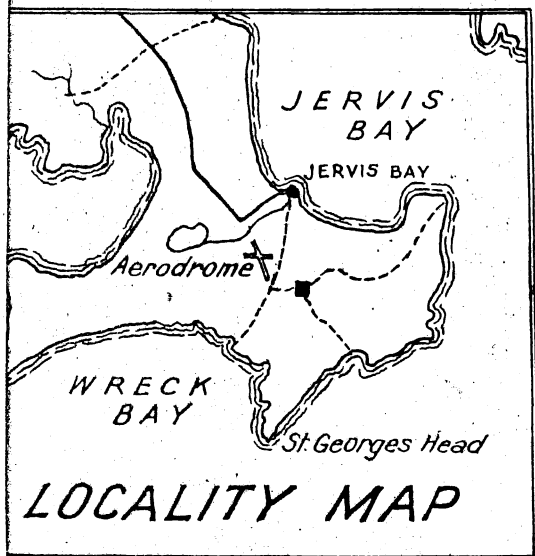
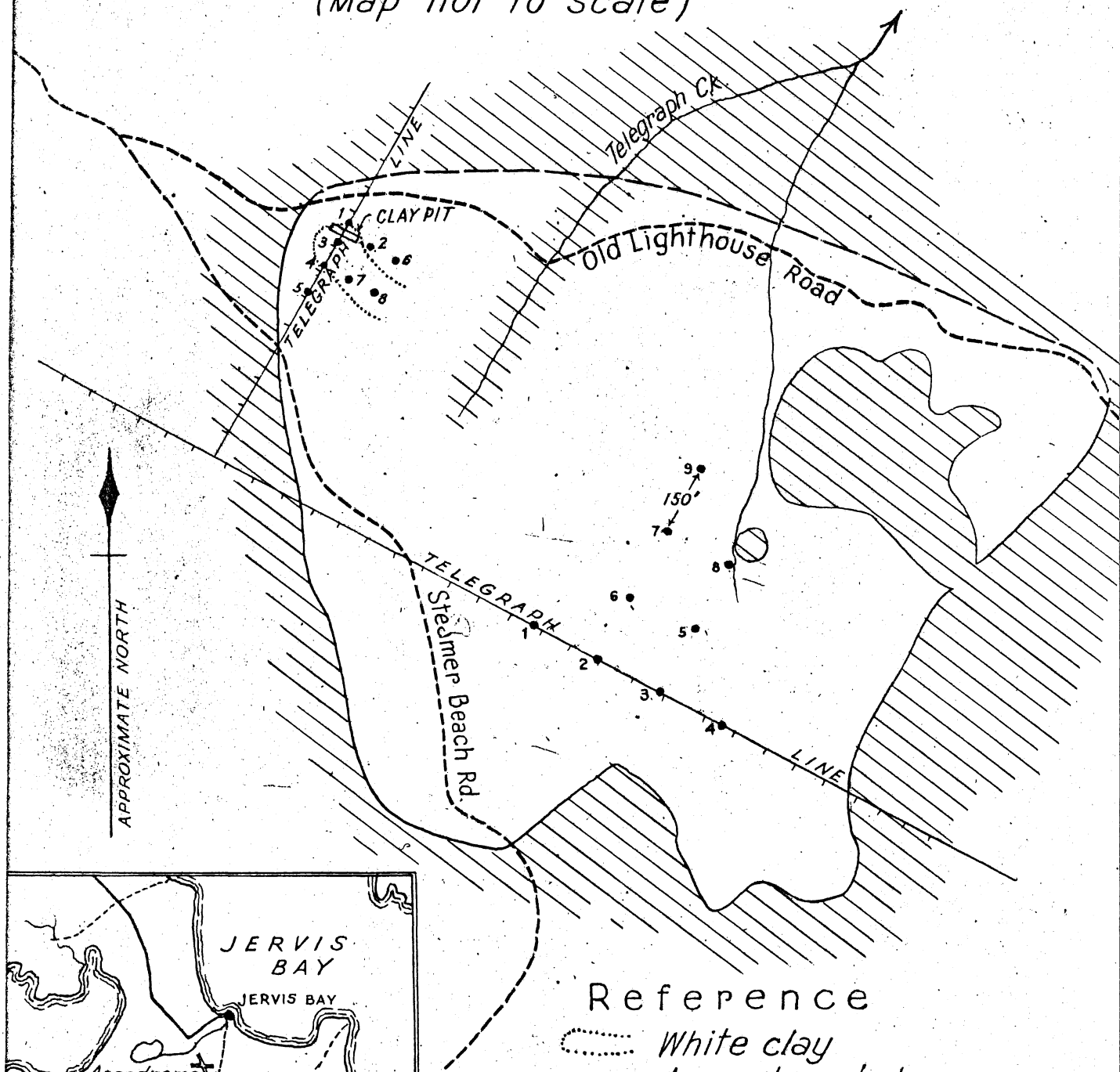
	Bore No.	Location	Description
Area near Clay Pit	1	On Telegraph Line 6 ft. north of pit	1 ft. Top soil 3 ft. Sandy subsoil Sandstone at 4 ft.
	2	40 ft. east of pit	3 ft. 6 ins. Soil and subsoil Sandstone at 3 ft. 6 in.
	3	On Telegraph Line 20 ft. approx. south of pit	White clay at 4 ft. Bottomed at 4 ft. 6 in. in white clay
	4	On Telegraph Line 20 yds. from No. 3	White clay at 4 ft. 6 in.
	5	On Telegraph Line 27 yds. from No. 4	Sandstone at 3 ft.
	6	20 yds. from No. 2	Sandstone at 4 ft.
	7	20 yds. from No. 4	White clay at 4 ft.
	8	20 yds. from No. 7	2 ft. soil and subsoil 2 ft. stiff grey clay White clay at 4 ft.
Area between Two Branches of Telegraph Creek	1	On Telegraph Line 12 yds. eastward of 1st pde east of Steamer Beach Rd.	Sandstone at 6 in.
	2	On Telegraph Line 50 yds. eastward of No. 1	Sandstone at 3 ft. 6 in.
	3	On Telegraph Line 50 yds eastward of No. 2	Sandstone at 5 ft.
	4	On Telegraph Line 50 yds. eastward of No. 3	2 ft. black soil and subsoil 3 ft. brown sandy clay Sandstone at 5 ft.
	5	50 yds. northward of No. 3 at right angles to Telegraph Line	Sandstone at 3 ft.
	6	50 yds. northward of No. 2 at right angles to Telegraph Line	Sandstone at 3 ft.
	7	50 yds. northward of No. 6	Sandstone at 3 ft.
	8	50 yds. northward of No. 5	Sandstone at 2 ft. 6 in.
	9	50 yds. northward of No. 7	Sandstone at 2 ft. 6 in.

# JERVIS BAY

## CLAY DEPOSIT

### EAST OF AERODROME

(Map not to scale)



#### Reference

- White clay
- Auger bore holes
- Sandstone outcrops
- Tracks

(RECORDS 1955-23)

ACT 18A-4