

BITUMEN AT KING ISLAND.

On 6th April, 1943, I visited the Pass River beach, King Island, in company with Mrs. Alice J. Adams. Mrs. Adams has for many years been endeavouring to interest various bodies, both Governmental and commercial, in the possible occurrence of native bitumen or petroleum on King Island. The only substantial evidence she has to produce in support of her theories is an area of bitumen-splashed rocks on the beach near Pass River, the environs of which are described in some detail by F. Blake in a report dated 25th February, 1929.

The rocks in question are of a coarse porphyritic granite, closely jointed and in part sheared. Xenolithic inclusions are common and the rock is traversed by quartz veins. The felspar phenocrysts are frequently orientated in the direction of shearing, and in some parts have been affected by the shearing stresses to such an extent that their resistance to weathering has been appreciably lowered. There is an unusually large proportion of felspar in the rock, and differential weathering of the various constituents has resulted in the development of an irregular hackly surface. The bitumen occurs embedded in this rough surface, and in the bottoms of two or three of the joint crevices. There are now only scant remnants of the original occurrence, but as careful as practicable an examination revealed that the deposit is essentially an incrustation and does not penetrate into the rock.

It is noteworthy that, due to the set of the current, driftwood and other marine debris accumulate on this particular beach. There is, therefore, no reason to assume that the bitumen could not also be sea-borne. Such occurrences are common on various parts of the Australian coast, the unusual feature in this case merely being that the nature of the shore rocks gave rise to the impression that the bitumen was oozing from the crevices. This impression appears to have been wilfully fostered.

Dr. G. B. Pritchard, one of Australia's most experienced geologists, saw the occurrence soon after its discovery some sixteen years ago. I discussed the matter with him while in Melbourne recently. He is quite satisfied that the material is sea-borne, and inclines to the view that it is commercial bitumen lost from a boat. From its nature, original distribution, and quantity, Dr. Pritchard considers it probable that a barrel of bitumen was cast up during a storm and burst on the rocks.

An alternative to this theory lies in the possibility of the material having been shed from a submarine seam, or even from a subterranean coastal deposit. There is a tendency to associate many of these occurrences with earth movements, which could dislodge masses of bitumen and set them adrift on the ocean currents.

In this case the only value of such conjecturing lies in the localization of possible sources from which the bitumen could have originated. There is no evidence to support or to discount any contention that the source lies on or in the immediate vicinity of King Island. Mrs. Adams informed me that a piece of bitumen similar to that on the beach was found inland about twenty years ago, but since no details are available as to the locality or geological surroundings of the find, this cannot be regarded as relevant evidence.

In the area surrounding the beach occurrence, the granite is overlain by dune sands and dune limestones of Tertiary to Recent age, while nowhere on the island is there any great thickness of Tertiary sediments. There is a prevailing association of intrusive rocks with metamorphosed Palaeozoic sedimentaries which provides an unfavourable set up for any probable accumulation of oil, although it does not eliminate the possibility of the existence of a bituminous residuum from such an occurrence.

Mrs. Adams would like the Mines Department to bore for oil in a limestone deposit on her property, approximately eight miles from the beach. There would be no more merit in this than in boring for oil in any other locality where its occurrence was merely a geological possibility. There appears to be no useful action which the Department can take in the matter at present, and the incurring of any expenditure could not be recommended.

Mrs. Adams should, therefore, be informed that, under existing circumstances, the expenditure of public money on prospecting work would not be justified on the basis of any evidence or proposals she has submitted. It could be added that the Department would be interested to hear of any fresh discoveries, particularly if they should occur away from the beach.

*J. R. Dickinson*  
EXTENSION OFFICER.

Department of Mines,  
HOBART.  
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