

ADAMS RIVER OSMIRIDIUM FIELD

The mining field of Adams River District lies in a broad glacier valley between Ragged Mountain and Sawback Range two north-trending sharply defined ridges occupied by Cambrian Conglomerates and quartzites. Evidences of glacier sculpture are noticeable in every direction; in many places the younger and softer Palaeozoic formation have been completely removed. The sediments now occupying the bottoms of the broad valleys are sandstones and consolidated gravels of Upper Tertiary to Recent age, for they could not, if older, have survived the effects of Pleistocene glaciation.

These broad valleys serve as an indication of the nature of the rock formations at their bases as the glaciers would naturally become most effective in those parts where the softer rocks existed. So, at the base of all the valleys, if found the comparatively soft rocks limestone, serpentine, slate and sandstone. These rocks all provide suitable material for the arrest and retention of osmiridium as it is carried by streams from its home in the serpentine.

Adams River Field presents features peculiar to that part. The development of these features are not clearly understood by miners accustomed to the conditions of formations in the Savage and Wilson River districts. Here as there the basic serpentinitised rocks bronzitite and peridotite are the sources of the osmiridium. In some places these rocks are quite fresh and unaltered; in others their conversion to serpentine has been complete. The richest deposits of osmiridium had their origin in the completely serpentinitised rocks. Whether that is due to causes affecting alteration or whether to the nature of that section of the basic rocks has not yet been determined.

Actually the most productive rocks are pale green sandstones formed from the waste of quartzites and serpentines. The sand grains cemented by serpentinous material form compact, thickly bedded sandstones, the gradual disintegration of which has produced the richest and most easily worked concentrations of metal. The age of these sandstones has not been determined, but they are of either Permo-Carboniferous or Tertiary formation. Being even-grained they are not of glacial formation, but represent strata formed by the action of flowing waters. Now the waters playing upon the quartzites and serpentines carried with them osmiridium and deposited the metal with the sands in the old valleys now occupied by green sandstone. Whether the beds of sandstone can be profitably operated or not remains to be proved in later years after more thorough investigation.

The miner is advised to pay particular attention to these soft pale green sandstones for they contain the resources most easily open to attack. When the field becomes more accessible the parent rock (serpentine) will receive due attention. It should be remembered, however, that rich concentrations are confined to narrow lines in the serpentine.

In the open plain country concentrations are not likely to prove as rich, and the boulder clay and gravel occupying it will be more difficult and costly to work.

The present rate of production, variously computed

at £3,000 to £5,000 per week, can be maintained until summer then owing to shortage of water many claims will not be workable. Again, the output will be governed largely by the market price. If the output exceed the world demand for "point metal" (12,500 ounces per annum) the value of osmiridium will be reduced in proportion to the supply.

The Adams River belt of serpentine and bronzitite has been proved to extend from the western slopes of Mt. Bowes along the west flank of Sawback Range and the Thumbs to a point near Gordon River. The general trend suggests its continuation in the direction of Denison Range and not towards Boyes River where another belt of osmiridium-bearing serpentine is known. Very little exploratory work has been performed in the Denison Range area, but unauthenticated reports suggest the possibility of its extension to that point. It is probable that the Boyes River area, which has not been carefully prospected, extends southward in the direction of Wings Look-out. Osmiridium bearing serpentine is exposed in the bed of Styx River where the younger overlying Permo-Carboniferous rocks have been removed by erosion. North and south this parallel belt is covered with younger rocks.

On the flanks of Jubilee Range and in the valley of Weld River are other serpentine outcrops which have not been prospected nor carefully examined. All these are potential sources of metal, but their value will not be known until the present investigation has been completed.

Westward in the Serpentine River area osmiridium has not been found, but serpentine has been reported at the end of Wilmot Range and it is possible that the broad valley of this tortuous river may be cut in serpentine.

In the valley of Florentine River osmiridium has been found at widely separated points, where not occupied by young rocks this valley may prove another source of metal.

It is the intention of the Geological Survey after the investigations of the known fields to carry the survey to the region westward of Frankland Range. This work will be undertaken during next summer and each succeeding summer one party will be engaged there. By this means it is hoped that the resources of that little known region will soon be discovered. One of the chief barriers to progress in that direction has been the lack of means of communication.

Now, Adams River settlement will provide suitable headquarters for expeditions in that and other directions and the difficulties of communication will be lessened.

One aspect of importance of this field has not been stressed in Press reports, that is, its immediate value to the community. The metal can be mined and marketed readily, little outlay is necessary for implements, production is immediate and the value of the product is distributed among large numbers. This in truth is a "poor man" field.

It is a truism that the history of an industry may be written in terms of transportation. At this stage the necessary provisions and equipment are packed on horses

at high cost to the miner while the value of the return cargo can stand the heaviest transportation charges. And so during this bonanza period osmiridium mining at Adams River is profitable in spite of transportation difficulties. When, however, the time arrives for the need of heavy equipment the cost of transport will become the deciding factor in the economic development of the district. No one can foresee the life of this field, but one can count on at least five years of prosperous mining on the basis of its known extent.

This discovery is important also in the establishment of a new settlement, which will serve as a base for expeditions farther westward and to the unexplored region beyond the Frankland Range.

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ADAM'S RIVER OSMIRIDIUM FIELD

Situation and Access

Adam's River Osmiridium Field lies 15 miles west of Fitzgerald, the terminus of the Tyenna Railway. It is accessible by way of the South Gordon Track and by the Great Western Railway route. As regards distance there is little to choose between these routes, but the latter is generally favoured because of its easier gradients. Moreover, that is the one now undergoing repair by the Public Works Department. Within a month the almost impassable sections of the track between Fitzgerald and Florentine River will have been corded and made convenient for horse and foot traffic. Many complaints have been made about the condition of this track; but it should be remembered that 50 horses have passed over the track daily during the winter and certain unprotected parts have suffered damage. Between Florentine and Adam's River a new route has recently been marked by the Public Works Department. The new route runs parallel to the old track almost two miles and is not an improvement on it. The old route should be followed to a point within half a mile of the foot of the Thumbs, then a deviation southwards should be made to a low saddle and there join Inspector Wilson's line. The old track is through clear country almost all the way and the removal of the button-grass reveals a solid foundation of quartzite gravel.

It has been suggested that a tramway be laid down on the track connecting with Holmes line three miles north of Fitzgerald. The cost of a wooden-rail tramway with steel guard rails at curves capable of withstanding heavy traffic would be not less than £18,000. Although a very considerable revenue would be derived thereby it is doubtful, at this stage of development, whether such a large expenditure is warranted. The cost of packing to Adam's River is now 11½d. per pound; when the track is completed the cost will be 6d. per pound. By tramway the cost could be reduced to 2d. per pound. If the price of osmiridium remain at the present figure and if the present output could be maintained for 5 years, then the improved means of transport might be worthy of further consideration. However, foreign stocks of osmiridium will soon be replenished and the market rate will then fall. If the production of iridium should unexpectedly rise much above the present world output of 2,500 oz. the price of iridium would fall below that of platinum and even palladium, for iridium is scarcely used for anything but pen-points except for its use in alloying with platinum. The Adam's River Field at present rate of production can supply the demand.

Under the circumstances the expenditure of large sums on other transport facilities does not appear to be justified at present.

The proposal of Mr. Alexander to erect a storehouse at The Thumbs is not regarded with favour. The stores at Florentine River are quite sufficient for present requirements. Again, the extra distance to the Thumbs would prove too severe a strain on the pack-horses. It is proposed to pack to Florentine one day, to Adams River and return to Florentine the next, and from Florentine to Fitzgerald the third day.

At the recent meeting of diggers at Adam's River it was pointed out that the provision of a track was all that was required.

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