

gold being the exception, since it is as a rule fairly disseminated through the stone which, in the oxidised zone, generally carries a considerable quantity of oxide of iron and sometimes copper stains, whilst below this, which is never at a great distance from the surface, sulphides are principally met with, which point must not be lost sight of in the selection of plant for ore treatment.

Another feature of the field is that large reefs are the exception, and therefore it is necessary that they should be rather above the average in rich ores to make profitable mines.

Very little work has been done considering the length of time that these leases have been held, but this is only what is to be expected considering that the work of development has been left entirely to working miners or small syndicates without capital, whilst the cost of shipping and treating ore from the field, is too great to yield a return from even two-ounce stone, therefore the owners have had to exercise a waiting policy until a battery was erected upon the field. This may now be said to be almost an accomplished fact since two are in the course of erection, whilst foundations for the third is being prepared, and therefore in a short time it is expected that the true value of the various leases will be determined, when it is to be hoped that many of the promising ones will attract the attention of persons or companies that are in a position to work them properly for the benefit of themselves and the State.

This naturally brings us to the water question, which is going to be a difficult problem, since the rainfall is small and light, spread over many months, so that the creeks rarely run except after thunderstorms (in fact there is no appearance of this having taken place for many years); the ground is bad for holding, and the water level and underground supply very variable and very uncertain, whilst the water is generally salt. Up to the present neither of the companies that are erecting batteries have a drop of water, whilst the third—where the foundations are being prepared—has a water supply, but no battery. Timber will also be a serious item since the local marlock, etc., although good enough for prospecting, will be of little use in opening up mines, since both it and the salmon gum do not stand well in the ground, although making excellent firewood.

Carting too is a serious item, added to which the cost of shipping to the miserable little port where there are no facilities for landing timber or machinery, will render the preliminary working of this field extremely expensive. Taken as a whole the field is a very promising one, since there are a number of well defined fair and large-sized gold lodes which are of apparently paying value, whilst the copper lodes have been proved to be decidedly so, for in several cases, in spite of the large costs in connection with the treatment of the ore, they have not only paid all expense, but repaid the purchase money and something over.

What these mines need is a smelter on the ground, so that the ores could be matted up to a high percentage; such a smelter would be able to utilise some of the rich ironstone lode caps, and all the concentrates from the batteries, and should be an exceedingly profitable undertaking, since there is abundance of ore in sight to keep a 30-ton furnace going.

NORSEMAN GOLD MINES, LIMITED.—As alluded to in my report of last year,* financial assistance was rendered to this company, to enable them to explore the deep levels by sinking the Viking shaft from 450 feet to 700 feet. The following table gives the particulars of assays made in the Departmental Laboratory as the work proceeded:—

Lab. No.	Depth in feet.	Assays.
3020	460	Gold, 20 grs. per ton; silver, 2 dwts. 11 grs. per ton.
3021	470	Gold, trace; silver, 2dwts. 11grs per ton.
3022	480	Gold, trace; silver, <i>nil</i> .
3023	490	Gold, trace; silver, 2dwts. 11grs. per ton.
3024	500	Gold, 1oz. 16dwts. 18grs. per ton; silver, 3ozs. 19dwts. 5grs. per ton.
3025	510	Gold, 2dwts. 11grs. per ton; silver, 15dwts. 12grs. per ton.
3026	520	Gold, 20grs. per ton; silver, 1oz. 3dwts. 16grs. per ton.
3268	530	Gold, 20grs. per ton; silver, 20grs. per ton.
3269	540	Gold, 20grs. per ton; silver, trace.
3270	550	Gold, 3dwts. 6grs. per ton; silver, 4dwts. 22grs. per ton.
3271	560	Gold, trace; silver, <i>nil</i> .
3272	574	Gold, 20grs. per ton; silver, 20grs. per ton.

ALLUVIAL DEPOSITS, SIBERIA.—In February, 1901, the Assistant Geologist, Mr. W. D. Campbell, in accordance with instructions, submitted the following report upon the occurrence of deep alluvial ground at Waverley (Siberia):—

For several years sinking for deep leads has been tried to a limited extent with poor results, the deepest shaft has been from 92 to 93 feet by Hornby's and Gregory's party. In September last, application was made by the Siberia Progress Committee, to the Hon. the Minister for Mines, for testing the ground by means of bores. Alluvial gold was found in November near the Majestic Gold Mine by means of prospecting shafts at a depth of 26 feet. This lead is about three-quarters of a mile due East of the hilly ground on which the Invincible and Camperdown Gold Mines are situated, where some rich lodes are being worked, from which this gold may have been derived. There have been also several patches of surface alluvial gold found adjacent to these lodes. Boring would materially facilitate operations, as there are no surface indications of the deep lead, it being across the toe of the hill slope. The yield of the workings so far has been about 8dwt. of gold per man per week; just sufficient to pay for food and encourage further prospecting. The area of the lead can only be of small extent. The material sunk through is a compact, dry, ferruginous sand, resting on a diorite bottom.

* Annual Progress Report of the Geological Survey for the year 1900. Perth: By Authority: 1901, pp. 25-26.