JR 1928A/38-42

NOTES ON RINGAROOMA TIN (ALLUVIAL) LTD.

(Formerly, Mutual Hill Mine)

Mineral Leases charted in the name of J.F. Ockerby:-

123P/M 71 ac., 124P/M 80 ac., 110P/M 10 ac., 10214/M 16 ac., 10197/M 80 ac., 10196/M 80 ac., 9785/M 9 ac., 9930/M 6 ac., 10363 /M 4 ac., 10048/M 5 ac., Total 361 acs.

Situation and Access

This group of leases is situated in the mineral district of Derby. Mineral Chart K.2 comprises the leased areas of this Company.

They are situated on the eastern side of Main Creek at its junction with the Ringarooma River abutting to the south bank of the latter. Access to the property is by road from the township of Derby, the first portion being on the Main East Coast Road for about a mile, thence a branch road is followed for about 2 miles in a south easterly direction crossing the Ringarooma River by bridge, a short distance leads to the mine crossing Main Creek en route. By road the total distance from Derby is roughly 3 miles. The last 1½ miles section of the road is rough but can be negotiated by car as far as Main Creek.

Topography

The ropographical features of the chief portion of the property are very favourable for adopting the gravitational system of alluvial mining.

Mutual Hill is the general designation of the area, which is dome shaped and when viewed from the west it presents an appearance resembling that of an inverted bowl. The summit rises to an altitude of 400 feet above the level of the Ringarooma River, or a total of 900 feet above sea level.

The southerly extension of the hill is connected by a ridge or saddle with the more elevated country extending to the south east, south, and southwest of the property. The hill slopes are moderately steep.

The area generally speaking is cleared farm land, the superficial earth consisting of rich basaltic soil.

The valley of Main Creek is within a few hundred feet of the western portion of the southern end of the workings; the valley of the Ringarooma River is similarly adjacent to the northerly portion of the former workings.

Both streams are well silted with debris from sluicing works in their drainage areas, they afford however an effective means of disposing of tailings from sluicing operations in the locality.

Economic Geology

The leases as stated are situated at the junction of Main Creek with the Ringarooma River, the latter being the main drainage channel extending through the Branxholm-Derby tin fields and beyond through Morina, Bradshaw's

Creek, South Mt. Cameron and other tin producing areas between these and the sea coast.

Main Creek has it s source in the hilly country extending for several miles south of its junction with the Ringarooma River. It traverses tin bearing granite country throughout its course and with its tributary streams has carried drift material eroded from the granite to the lower lying country in the Ringarooma River Valley. Evidence of this can be seen along the banks of the streams where considerable quantities of tin bearing drift has found lodgment and which for many years past has been worked for tin with well payable results.

There is little doubt but that the deposit of drift on the leases was derived from Main Creek area. The valley of the Ringarooma River where Main Creek joins it was at a considerably higher altitude than it is today. The upper portion of the deposit being more than 200 feet above the present River Level. Subsequent to the period of deposition successive basalt flows have occurred covering the drift, or what is probably the eastern portion of it, to a depth varying from a thin covering to 10 or 15 feet or more. The basalt flows probably altered the course of the streams that of Main Creek cutting a new channel through the basalt covering to the west of its original channel prior to the flow of basalt.

The tin bearing drifts are exposed along the foot of the hill in the old workings 50 to 70 feet above River level over a distance of about 30 chains. From the level of the former workings two tunnels six hundred feet apart have been driven into the hill in a general north easterly direction and have penetrated the drifts for distances up to 600 feet. This work was carried out many years ago, the openings are now inaccessible.

These tunnels go to prove that considerable quantities of alluvial material have been deposited to the East of the former workings. The direction of the tunnels is apparently not at right angles to the course of the lead, making it difficult to define its lateral extent with the data available.

Information concerning the average tin content of the drift material passed through in the tunnel, or, if it is a portion of a gutter extending below the level of former workings, along the fringe of the deposit is not forthcoming. A good exposure of the deposit can be seen in the southern part of the property where active sluicing operations are now in progress.

Approaching this face from the lower ground for working purposes, a channel has been cut through the superficial covering consisting of basaltic soil and heavy rubble basalt rock. This material on the lower slopes attains a depth of 20 feet or more gradually lessening towards the summit of the hill to 6 or 8 feet of soil and boulders. Underlying the basaltic covering is a depth of 12 to 15 feet of soft granitic drift, the basal drift consists of water worn shingle, individual pieces being up to 6 inches in diameter.

The component pieces are softened and easily broken. The deposit, which ranges up to a depth of 10 feet, is well consolidated, being somewhat difficult

to remove by the nozzle pressure at present available. The underlying rock is granite, the upper portion of which in contact with the drift is softened through weathering

So far as this lead of drift at the south end of workings has been worked the bed rock indicates a progressive rise from west to east. To the most easterly point worked it there indicates a tendency to dip away in that direction, but as the bed rock has not an even sufface it would not be safe to predict that any local tendency to dip in any particular direction would be maintained. It is only by actual work or by boring that the true direction of dip can be ascertained.

The question as to the direction of the southerly extension of this lead of drift is somewhat obscure; some remnants of granite rising above the general level of the country are to be seen a short distance from the workings. To the south again are old workings known as the Sarah Ann Mine, these are on the contact of the granite and sedimentary series of rocks. The drift material in the south end of the Mutual Hill Mine workings is made up of boulders of Cambro-Ordovician rocks similar to those outcropping in the Sarah Ann workings. To the east of the latter granite outcrops well above the workings, falling away again on the eastern side, thus forming what has probably been an eastern channel from the direction of Main Creek. It is quite possible that this eastern channel was at some former period the valley of Main Creek, whence were derived the tin drifts of Mutual Hill. More data is necessary before this theory can be definitely established.

The drift material in the north portion of the Mutual Hill workings is quite unlike that described as occurring in the south where work is now in progress. In the former it is composed as a rule of fine pebbly wash derived from granitic rocks, the deposit, moreover, is of much greater depth.

Method of Working

At the time of the writer's visit sluicing work under a pressure head of about 100 feet was in progress at the southern part of the workings. The basaltic overburden consisting of loose soil and boulders offers no difficulty in removal. The boulders range in size to a foot or more in diameter, after being sluiced down from the face and freed of the finer material, which is carried away by water in the sluices, the boulders are removed by hand labour. The granitic drift overlying the basal material is said to carry tin. It is not difficult to remove by sluicing, under nozzle pressure it is broken to a fine state and readily carried away to the sluice boxes.

The basal drift consists of shingle, individual pieces being on the average 3" to 4" in diameter. The fine material associated with the drift contains what tin is present. All drift material that is capable of being carried away by water in the inclined gutter leading to the sluice boxes is passed over a barred screen at the head of the latter to cut out over size pieces.

The larger pieces are removed by hand labour and dumped.

From the existing water supply by race from Main Creek, the pressure available in the working face is not more than 100 feet. The water race is 210 feet above the River level.. The pressure is not sufficient for effective work

in sluicing the ground being operated on. The incoherent superficial surface covering consisting of loose basaltic soil associated with boulders of basalt makes it necessary for the nozzle to be kept at a distance from the face, which renders the work not so effective as would be the case under conditions where the full use of the pressure could be utilised closer to the work.

It would be difficult to estimate the tin content of the drift or any portion of it in the working of face. The best means to ascertain this under the existing conditions is by actual working results on a measured portion of the face and the quantity of tin recovered from it together with loss in tailings.

The general system adopted for working the drift is quite satisfactory providing the returns of tin are sufficiently payable to warrant a continuance until the officers of the Company are able to formulate and carry into effect a more comprehensive scheme of dealing with the deposit.

Future Work

Regarding the question of the ultimate development of the property to a stage which will ensure a continuity of operations on a larger scale, it appears to the writer that the obvious procedure is to forthwith arrange for productive work to be commenced at the northern part of the deposit, known as Wilson's cut, particularly so with the object in view of taking advantage of the increased water pressure available owing to the bedrock being at a much lower elevation at that part of the deposit.

The facilities for working are more favourable than those at the southern end. The old excavation from the Ringarooma River to the face, with the channel for placing sluice boxes could be made serviceable with little expense. By concentrating work on this portion of the drift the development of the property would be carried out on a portion of it that offers the best inducements at the present time.

The general character of the drift at the northern end is more favourable for working than that of the South face. Dish prospects taken from various places where the wash is exposed show a very encouraging tin content.

In the old workings here, a little to the south of Wilson cut a face of wash 10 ft. to 12 ft. in depth is exposed, the upper part of it has been removed by former operators. Dish washings from the material composing this face gave very good prospects of tin. This portion of the workings is worthy of a thorough investigation as both quality and quantity of the material are sufficiently promising to justify it.

In the face known as Wilson cut a bed of drift 60 to 70 ft. in depth is exposed. The most easterly point to which work has extended is within less than 100 feet of the north westerly cross-cut of the exploratory tunnel workings in the drift.

The quantity of superficial basaltic covering is lighter than that on the south face and the general facilities for working and removal of overburden are more favourable than those occurring elsewhere on the property.

Water Supply

Through the wet season of the year the water supply is sufficient for continuous work, but as several months are comparatively dry, it is essential to make provision for an adequate supply in the dry periods. With this object in view the Company's engineer (Mr. St. John Dixon) is investigating possible dam sites suitable for storage of water on Main Creek valley. Preliminary surveys, including contour lines, have been made, indicating that a satisfactory scheme for water storage at reasonable cost can be put into effect.

Main Creek channel falls somewhat steeply from its source towards its junction with the Ringarooma River so that each successive dam site will make the water available at a higher level on the mine workings which will be most advantageous for sluicing purposes.

Conclusion

These notes have been written as a result of a brief examination of the workings accompanied by Mr. St. John Dixon on 9th inst.

Dredging claims - The Company hold leases of dredging claims on the Ringarooma River adjacent to the mineral leases as follows:- 762/DC 11 ac. 763/DC 5 ac. 764/DC 11ac 767/DC 11 acres. The value of these claims lies on their position and on the assumption, which is a reasonable one, that a certain concentration of tin occurs along the bed of the River. No data is available respecting the depth or value of the drift.

Water rights - In all the Company hold 56 sluice heads made up of several separate rights on Main Creek and its tributaries. A Tasmanian sluice head is equal to approximately 24 cubic feet per minute.

The property is in an undeveloped state so far as proving the full extent and value of the deposit is concerned. It possesses good prospects, but until the main portion of the lead of drift is tested no definite statement concerning its potential value can be made.

The prospects obtained by dish sampling of the drift along the fringe of the deposit where previously worked are distinctly encouraging. Its general situation and facilities available are favourable for carrying out developmental and productive operations on a comparatively inexpensive scale.

J.B. Scott.
STATE MINING ENGINEER

Mines Department,
HOBART

24th November, 1928