UR 1952/124-128

LEASE NO. 58M/48 (50 AC) - G.W.S. & W.C.CLARK, ZEEHAN

INTRODUCTION

The leaseholders recently applied for assistance to examine a prospect in their lease. Subsequently the Director of Mines ordered a survey to be made, which was carried out between 1st and 8th December, 1952.

LEASE

The lease was applied for in 1948. In previous years the lease formed parts of leases held by various companies. Until 1910 by Zeehan Western Ltd.
M.L. 756/87M - 40, and 199/87M - 40
1910 by Zeehan Western Ltd. and Zeehan Montana Ltd.
Consolidated Lease 3990/M (419 Ac)
1911 -'13 by Zeehan Western Ltd. Consolidated Lease 4127/M (240 Ac) Zeehan Montana Ltd. Consolidated Lease 3990/M (419 Ac). On 4th November, 1952, a prospecting area of 50 acres west and adjoining this lease was pegged in the name of W.C.Clark.

During the investigation of the workings the leaseholders' attention was drawn to the fact that the portal of Clark's Adit is situated at approximately 55ft. south of the southwest corner-peg of the lease.

LOCATION AND ACCESS

The lease is situated at approximately ¾ mile north-north-west from the old recreation grounds of Zeehan. The area is easily accessible by following the old Dunkley's Tramway.

TOPOGRAPHY

The lease forms a part of the hilly country between the Corinna Road and the old Dunkley's Tramway. Some hilltops are estimated to be at least 150 ft. above the creeklevel. The hill flanks are steep and covered by buttongrass and scrub. The Valley of the Despatch Creek (also called Main Creek) runs in a ENE direction through the southern part of the lease; it has a gentle slope and is in general swampy.

DESCRIPTION OF WORKINGS

Surface and underground workings which have been investigated are all situated north of the Despatch Creek. Certain portions of the workings which were considered as unsafe have not been surveyed. The workings can be divided into two groups: (1) Old workings dating back from the beginning of the century; (2) Recent workings which have been put in by the present lease holders.

To the first group belong:

No.1 Adit: according to Mr. Clark Sr. originally driven along the northern extension of the Simson's Lode. A branch is running northeast. Total underground length is 100 ft.

Another adit has been driven from a point at 90ft. ENE from No. 1 Adit, but its roof has collapsed at the portal, preventing access.

No.2 Adit, 40ft. long and driven in a WSW direction.

No.3 Adit, of which 165 ft. have been surveyed, was originally driven along the McDermott's Lode.

Evidence of stoping in this drive was found in the presence of the two ore chutes. The northern portion of the drive, partly blocked by dirt accumulation from the roof, preventing proper drainage and access of air, was considered unsafe and consequently the survey was not continued.

Great Western Tunnel: this is the most extensive underground working of the area. A total of 462 ft. have been surveyed. The northwesterly extension of the adit and the northeasterly extension of the eastern branch have not been examined on account of bad air.

Old Shaft: according to Mr. Clark sunk on a gossanous capping. The shaft is now full of water.

The recent workings, put in by the lease holders in the last four years are:

Clark's Shaft: sunk to a depth of 35ft. to test mineralised ground, but is now full of water.

Water Race: has a total length of 1646 ft. including 262ft. of tail race. Portion of the race which cuts through the dumpheap of the Great Western Tunnel is 238 ft. long. Flumes will carry the water over this section.

It was the original intention of the lease holders that the water should drive a waterwheel at Clark's Shaft f pumping purposes. However, this plan has been abandonned for the time being and the lease holders have turned their attention to a prospect in the vicinity of the SW lease corner.

Clark's Adit: This adit has been commenced only recently for the purpose of intersecting possible extensions of the Jenkin's and Simson's Lodes. At the time of investigation the adit had attained a length of 6ft. in a NNW direction.

GENERAL GEOLOGY

The lease forms part of a wedge-shaped area which has been strongly affected by regional faults. The area is limited in the west by a major regional fault running NNW and roughly parallel to the Corinna Road. In addition there are two regional faults striking ENE; one of these runs through the lease. On the east the area is bordered by the western limb of the Zeehan Syncline. The main rock types are shales and slates belonging to the Dundas Series.

GEOLOGY OF INVESTIGATED AREA

Water Race: exposures along the first section, between the intake and the dump heap of the Great Western Tunnel, consist mainly of dark slate. Their attitude is fairly regular; general trend of strike is ENE to ESE while dips vary from 75N to vertical. Near point 13 a fault occurs, striking NE. The second part of the race, between the dumpheap and Clark's Shaft, shows intermittent outcrops of faulted and in places strongly contorted shales. Small quartz veins and pyrite are associated with the fault occurring in the exposure near point 6.

The tailrace cuts through strongly sheared dark slates. Trend of shearing is ENE. As there are no sharply defined walls, it is concluded that there exists a shearing zone of considerable width rather than a well pronounced fault. No doubt this shearing zone was greatly responsible for the valley of the Despatch Creek in this area.

No.1 Adit: Tunnels have been driven along two faults. The major one trends NW and has formed at the portal a 4ft. wide zone of relatively soft brecciated material dipping at 56°E. It consists of fault pug, slickensided shale fragments, some irregular quartz veins, and small amounts of pyrite along the hanging wall. A lode consisting of faultpug and some galena, two inches wide, occurs at about 20ft. S. from the portal. Mr. Clark claims that this is the northern extension of the Simson's Lode, one of the lodes worked in the Zeehan Western.

Following the adit the brecciated zone soon peters out into a vein of faultpug 1 to 2 inches wide in the northwestern drive. It appears that the fault is running parallel to the bedding of the shale and probably dies out within a few yards from the present face. The fault which branches off to the NE is well developed only for the first thirty feet, then it becomes irregular and rather vague while very little faultpug occurs. The country rock in this area consists of shale.

No.2 Adit: has been driven in dark slates. No lode formation has been intersected.

No.3 Adit: two faults have been exposed in this tunnel, one running WNW and the other NW. They intersect near the portal. The fault running WNW has developed into a lode formation of four feet width containing slickensided shale and slate fragments, but no metal was visible. The north wall of this formation consists of strongly contorted shale. At 35ft. from the portal a crosscut was driven to explore the second fault. Evidently a small ore pocket was located and stoped over a length of 27ft. This lode is known as the McDermott's Lode. Traces of metal are found in the face of a small crosscut driven in westerly direction. The country rock is shale, in places highly contorted.

Great Western Tunnel: the first 305ft. has been driven through fairly regularly bedded shales. Only slight folding occurs, the general trend is WNW with dips varying from 72° S. to vertical. At 150ft. from the portal a 4ft. wide sandstone band occurs. Three faults have been exposed in the tunnel. The first at the portal, striking WNW, while the second and the third form the limits of a wedge of spilite. The latter two are striking WNW and WSW respectively. The tunnel is now turning westward but this portion has not been examined for safety reasons. A branch running NE penetrates regularly bedded shale country over a length of at least 106 ft. beyond which no further survey was made.

Old Shaft: As this shaft is full of water, exposures could not be examined. The dumpheap shows fragments of slates and gossanous material.

Clark's Shaft: the waterlevel is now close to the collar. Mr. Clark claims that a 4 ft. wide mineralised zone, striking N, occurs at the bottom of the shaft. East from the shaft occurs a small shearing zone containing traces of pyrite and galena. At a distance of 25 ft. SE from the shaft Mr. Clark located a small vein containing ½ to 1 inch of metal, striking NE, but exposures of this vein are now covered by dirt or water.

Clark's Adit: contorted shale is exposed at its portal, immediately followed by a well pronounced fault, which has produced a 4ft. wide zone of sheared black slate. The material is slightly pyritic with small amounts of quartz and traces of sphalerite and galena.

4.

Lode North of Clark's Adit: A number of small outcrops north of Clark's Adit, suggests the presence of a lode. The outcrops consist of hard, silicified, brecciated material, slightly ironstained. They extend over a length of 170 ft. on the hill flank, trending north-easterly, with a dip of 73° E at the northern end. The outcrops are not of a gossanous nature and no sign of metal was observed. According to Mr. Clark this lode is a possible northern extension of Jenkin's Lode which had been worked in the Zeehan Western. He also claims that the Jenkin's Lode was exposed in the drain due south of Clark's Adit. Silicified rock containing galena can still be found there, but actual outcrop is now covered under old tailings. If this position is correct the formation now cut in Clark's Adit should be the northern extension of Jenkin's lode and not the lode on the hill flank which strikes southwesterly.

SAMPLING

Two samples have been assayed by the Mines Department Laboratory, Launceston.

Table 1

No	Locality	Ozs Ag/ton	% Pb	Zn
964	Chip Sample from face in Clark's Adit, 4ft. wide	0.1	Trace	0.1
965	From parcel representing about ten ton of ore collected from dumpheaps	23.0	28.6	29.6

In addition a number of samples have been washed in the dish.

Table 2

Locality	Results
Black pug from a 2 inches wide seam at 20ft. south from portal of No. 1 Adit	Estimated several ounces of galena in dish concentrate.
Two samples from hanging wall of lode formation inside No.1 Adit	Very small amounts of pyrite and only specs of galena.
Vicinity Clark's Shaft sheared material immediately E from shaft	Small amount of pyrite and traces of galena.
Dumpheap of Old Shaft	Fair amounts of galena were recovered.

CONCLUSIONS

(1) The structural set-up of this part of the lease can be summarised as follows:-

With a ENE trending regional shearing zone is associated a number of minor faults. Although their orientation does not show a well pronounced pattern, it appears that one group of faults has a WNW to NNW and another a N to ENE trend

(2) A very feeble silver-lead-zinc mineralisation occurs in the investigated area, associated with these faults. Occurrence of commercial ore is erratic and only in small quantities. These small concentrations seem to be situated in areas which havebeen cut by several faults for instance No.1 Adit, No.3 Adit and vicinity Clark's Shaft. The small orebody on which the Old Shaft has been sunk, should be considered as an isolated lens in the main shearing zone.

RECOMMENDATIONS

(1) The presence of two faults suggests that an enrichment of the mineralisation may be found in the area immediately north of Clark's Adit; it is therefore recommended to continue this Adit. Driving northwesterly it should intersect the lode outcropping on the hill flank within the next thirty feet. From the intersection the lode should be followed in NE direction for about 42 ft. to a point where the intersection can be expected with the lode exposed at the portal. This point and its immediately surroundings are situated practically vertically under the SW-corner peg. If no commercial ore is found within 20ft. from that point, the prospect should be abandonned.

(2) The chance that by extending Clark's Adit in NW direction commercial ore will be found in the extension of the NE branch of Simson's Lode seems remote. As shown in No.1 Adit the fault becomes very vague at the end of the NE drive and probably dies out. To test that area an additional 80 to 90 ft. of adit would be necessary and financial assistance for this part of the prospect is considered as unwarranted.

(3) Resumption of prospecting work at the bottom of Clark's Shaft should not be considered for the following reasons:

(a) Construction of 238 ft. of flumes (2ft. by 1ft.) will be an expensive item as already admitted by Mr. Clark ,
(b) A considerable infiltration of water can be expected in the shaft. The bottom of the 35ft. deep shaft is well below the swampy flat of the Despatch Creek, which, as is shown in the tailrace, has a bedrock of sheared slate.
(c) Mineralisationin and near the shaft is feeble. Although a narrow galena vein was located, its outcrop is only a few feet above groundwater level.

(4) As it appears that the dump of the Old Shaft contains a fair amount of galena, it is suggested to recover this either by handpicking or by treatment in a small sluicebox. However total tonnage is considered to be small; half a ton may be expected as the dumpheap is small. Small parcels of handpicked specimens can probably be collected from other dumps in the area. It should be kept in mind that this is a slow job, as Mr. Clark admits that it took him three months to collect ten ton.

(Sgd.) D. Burger,
A.M.Aus.I.M.M.
Geologist.

Zeehan, 18th Dec. 1952.

The Director of Mines,

HOBART.