

THE MONTANA SILVER - LEAD MINE - ZEEHAN  
( THIRD REPORT )

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DEPARTMENT OF MINES - TASMANIA

( THIRD REPORT )

INTRODUCTION

A comprehensive investigation of the Montana Silver-Lead Mine was undertaken between May and July 1951 and a report accompanied by five plans was furnished dated 16th November 1951. Early in January 1952, additional field and survey work was undertaken and a second report detailing the results of this investigation was furnished on 18th January, 1952.

Since that time, a considerable amount of ore extraction and developmental work has been carried out and, following representations by the Chairman of Directors of the Company, the Director of Mines issued instructions for a further investigation to be made. This work was carried out during the early part of June 1953.

SURVEY

Additional survey work was undertaken during the second and third investigations using the same methods as for the first investigation. In the latest survey work additional shaft plumbing was necessary between the 150 ft level and the 270 ft level in order to carry the bearing to the latter level.

Co-ordinates of stations put in subsequent to the first investigation are shown in the following table:-

Station	Latitude	Departure
A/19	390.25	327.44
A/20	427.00	318.08
A/21	440.44	329.91
A/22	468.59	354.03
A/23	507.57	381.61
A/24	565.78	371.62
B/47	227.40	314.65
B/48	188.25	294.09
B/49	747.43	513.22
B/50	761.10	529.76
B/51	514.47	445.21
B/52	501.49	422.72
B/53	500.16	401.10
C/19	615.03	542.15
C/20	580.56	506.27
C/21	540.80	496.69
C/22	471.67	488.43
C/23	451.70	477.02
C/24	467.77	486.08
C/25	458.74	481.78
C/26	426.09	439.88
C/27	801.25	601.28
C/28	825.02	661.82
C/29	856.09	715.82
C/30	869.29	730.72
E/1	667.74	536.34
E/2	688.21	628.31

R.L. of B.M. at 270 level (located at northeast corner of middle compartment on plat set) = 725.39 ft  
(based on assumed R.L. of 100 ft level B.M. = 900.00 ft

#### ADDITIONAL WORKINGS

Since January 1952, the following additional openings have been made underground.

#### Adit Level

(1) The north drive has been connected through to the Eastern Adit and additional stripping of the walls have been carried out in the vicinity of No. 2 Prospect Shaft and the Eastern Adit. Between A/23 and A/16, a stope has been put through to the surface. Between stations A/22 and A/19, extensive stoping has been carried out above the level, and breakthroughs to the surface have been made. Rails have been laid in the new drive and all ore won above the adit level is now trucked direct to the bins and does not travel via the shaft. In this, the management has followed recommendation "Lateral Development No. 4" of the first report.

(2) Approximately 20 ft of south drive on the tillite lode has been put in from opposite station A/3

#### 100 ft Level

(1) The north drive has been put in another 72 ft making a total of 114 ft of drive north from station B/1.

(2) Considerable stripping has been carried out in the vicinity of the connection between the Bypass Drive and the No. 2 W Crosscut North Drive in preparation for the erection of timbers for stoping.

(3) From station B/53 a rise has been put approximately 30 ft towards the Adit Level but has been temporarily abandoned.

(4) The winze between B/14 and B/15 has been deepened to approximately 15 feet and temporarily abandoned.

(5) The south stope between B/52 and the rise to the surface has provided a large quantity of ore. It has a maximum width of 25 ft and it is probable that ore extends over a greater width. At the present time the stope is difficult to work and has been temporarily abandoned pending the emplacement of new timbers and ore passes.

(6) The north stope between the rise to the surface and a point 12 ft south of B/23 is not being worked. A second stope started at a point midway between B/7 and B/9 connected to the north stope. These two connected stopes reach a point much lower than the top of the south stope and at present the former is being carried to the rise, the intention being to draw the mullock from the south stope.

150 ft Level

- (1) North drive has been driven a further 153 ft. along the course of the lode and temporarily abandoned.
- (2) South drive has been put on a further 45 feet south of C/23 and work is still proceeding.
- (3) An almost vertical rise connection has been made from 150 ft level meeting the floor of the 100 ft level at a point 9 ft south from station B/9.
- (4) South stope extends from C/25 to the rise above C/12. The top of the stope is within 8 ft of the floor of 100 ft level.
- (5) North stope extends from a point 10 ft north of C/8 to the rise above C/12 and reaches a point approximately 27 ft from the floor of 100 ft level.

270 ft Level

- (1) During 1952 arrangements were made to pump out the shaft and to open the lowest level. It was found that approximately 48 ft of east crosscut had been previously put in at this level. A horizontal diamond drill hole was put in along the same bearing as the crosscut and in continuation of it eastwards. This bore is said to have intersected a fairly wide zone of mineralisation but that the grade of the lode was quite low. Unfortunately complete records of this bore are not obtainable nor were any assays of the lode material made. Subsequent to the drilling the crosscut was continued for a further 72 ft making a total of 120 ft from the shaft. At this point a little ore was met and a drive commenced in a S.S.E. direction. At the time of investigation this had reached 11 ft and was being proceeded with.
- (2) The re-opening of the shaft has revealed that a plat has been partially cut at approximately the 200 ft level. No further work has been done on this.

GEOLOGY OF ADDITIONAL WORKINGSAdit Level

- (1) North Drive - This extension connects the drive with the Eastern Adit. During the previous investigations it was expected that the hanging wall would follow a trend, slightly east of north as strikes of the hanging wall at that time suggested such a direction. Between stations A/22 and A/23 the hanging wall strikes northeast, which changes to north rather suddenly near station A/23, to continue along a west-north-west trend towards the Eastern Adit. The dips decrease from 62° near A/22 to 40° near A/16. There is no distinct footwall. Mineralisation appears to become less pronounced north of A/22. A slight zinc mineralisation occurs in a small crosscut in the footwall.
- (2) Stopes - The main stope between A/19 and A/22 is highly irregular in outline. From the exposures in the walls it is concluded that the stope was one large area with irregular mineralisation in the form of rich pockets and shoots within a poorer mass. At the time of this investigation, a narrow

rich shoot was being followed in the southwestern portion of the stope.

A small stope between A/23 and A/16 reached the surface. It is stated that a fair amount of milling ore was extracted from this stope. There does not appear to be any more ore left in this vicinity.

(3) Tillite Drive - This exploratory work was undertaken during 1952. It was found that the lode material was very poor in metal content and the drive was abandoned.

#### 100 ft Level

(1) North Drive - The extension is 72 ft and the hanging wall appears to have been followed closely. The lode filling is similar to that in the older part of the drive. The hanging wall is generally well developed, but the footwall becomes indistinct. No metal occurs in this part of the drive but it is reported that a few splashes were met with in the latter part during driving. Dips of the hanging wall show little variation and are between  $54^{\circ}$  and  $60^{\circ}$ .

(2) Bypass Drive - Stripping has been carried out along both walls in the southern part of this drive. Mineralisation continues into No. 2 West Crosscut North Drive, but its nature is erratic although small pockets of highgrade ore occur. From the present exposures it appears that commercial ore in the east walls of these two drives does not extend south of the partially completed rise.

(3) Rise from Station B/53 - This is inaccessible at the present time.

(4) Winze between B/14 and B/15 - This is inaccessible at the present time.

(5) South Stope - The horizontal length of this stope is about 70 ft. Fault planes occur mainly along the irregular hanging wall. They are grouped in three places; at the bottom end, in the central part, and at the top of the stope. The group in the southern part is well developed. One of the faults at the top appears to link up with one at the bottom. Dips vary from  $38^{\circ}\text{E}$  to  $57^{\circ}\text{E}$  and strikes from N.N.E. to N.W. A number of isolated patches of mineralisation occur, the largest one being in the northern portion of the stope.

(6) North Stope - This is 53 ft long. Only the hanging wall has exposed fault planes. At its southern corner, three fault planes occur with dips varying from  $52^{\circ}\text{E}$  to  $75^{\circ}\text{E}$ . The principal plane also shows striations pitching  $48^{\circ}\text{N}$ . Some mineralisation occurs at the southern extremity of the stope and as a small area on the footwall side.

#### 150 ft Level

(1) North Drive - This has been extended for 153 ft. The main lode is generally well defined in this part of the drive. There is a well pronounced hanging and footwall. Horizontal width

of the lode varies from 2 to 5 ft. The general trend in the extension is E.N.E., while towards the end of the drive there seems to develop a N.E. trend. These trends differ considerably from those in the older portion of the drive north of the shaft, where the trend is N.N.E. In the extension, the dips of the hanging wall vary from  $58^{\circ}\text{SE}$  to  $89^{\circ}\text{SE}$ . The bulk of the lode filling consists of broken and brecciated quartzite fragments cemented by quartz. Small lenses occur containing narrow veins of quartz, calcite, siderite. Near the end of the drive some pyrite occurs and traces of sphalerite. The lode filling exposed in the face is rather soft. The footwall country consists of quartzite, its strike being nearly parallel to the lode. A small fault striking east occurs 17 ft east of station C/27.

(2) South Drive - The drive has been extended for 48 ft, following the hanging wall of the Main Lode. A few feet south of station C/23 a wall develops which joins the hanging wall at 23 ft from the station. Towards the end of the drive two parallel walls are exposed, one of them forming the west wall of the drive. The hanging wall country consists of dark shale. Narrow streaks of metal, one inch wide, occur all along the hanging wall, but near the face mineralisation is showing over a wider area. The lode filling is similar to that in the more northern parts of the drive. There are two phenomena which deserve consideration; (a) a rather sharp westerly turn in the general trend of the hanging wall. Between the stations C/21 and C/22 it is slightly west of south, while between C/23 and C/26 the hanging wall strikes WSW. (b) Considerable increase in the dip of the hanging wall. Between stations C/22 and C/23 the dip is  $53^{\circ}\text{E}$ , while past the latter station it increases to  $77^{\circ}\text{E}$  and reaches  $82^{\circ}$  at the face.

(3) Rise to 100 ft Level - This is at present inaccessible.

(4) South Stope - This has a horizontal length of approximately 140 ft. The hanging wall of the stope appears to be very prominent and for a distance of 108 ft from the south end there do not appear to be any other planes parallel to it. However, in the last 30 ft at the top end of the stope there is evidence of three parallel walls running closely together. The hanging wall of the stope generally corresponds to the hanging wall of the lode. Dips vary considerably; they are between  $51^{\circ}\text{E}$  and vertical, while in places they are even steep to the west. Striations occur pitching  $32^{\circ}\text{N}$ . The northern portion of the stope shows a well pronounced fault plane as footwall with dips varying from steep to the east to steep to the west and striations pitching  $30^{\circ}\text{N}$ . This plane seems to be the fault plane exposed in the west wall of the south drive below the stope. The bulk of the mineralisation of the stope is apparently concentrated in an irregular body 45 ft long in the northern half of the stope. The position of this mineralisation occurs vertically between the previously recorded ore occurrences on the 100 ft and 150 ft levels. The ore shoot in the stope appears to have a northerly pitch. The southern half of the stope has exposed only small areas of mineralisation. However, in this portion developmental work has only been carried out for a maximum of 20 feet above the

floor of the drive. It is possible that further ore exists above this portion of the stope.

(5) North Stope - This has a horizontal length of 50 ft. Fault planes are exposed in foot and hanging walls of the stope. The hanging wall of the stope is partly within the hanging wall of the lode. At the north end of the stope there occur two fault planes joining in the roof of the stope. Dips vary from  $47^{\circ}\text{E}$  to  $77^{\circ}\text{E}$ . An irregular mineralised zone several feet wide and twenty feet long occurs in the top part of the stope. Two narrow ore streaks occur along the hanging wall in the central part and in the northern corner of the stope.

#### 270 ft Level

(1) Drive and Crosscut.-- Driven over a length of 120 ft from the shaft, the crosscut has penetrated three sections of country, each with its own geological characteristics. The first section, 38 ft long, is situated in a shear zone which has as eastern limit a fairly well pronounced fault striking E.N.E. The material in the shear zone consists of slickensided shattered and contorted dark slates and shales. The second section, approximately 50 ft long, consists of well bedded sediments, mainly grey quartzite containing some bands of dark shale. The quartzite and shale beds are from 2" to 6" thick. The bedding is wavy and the general strike is E.N.E. with northerly dips of  $62^{\circ}$  to  $75^{\circ}$ . In plan, these quartzite and shale beds appear as a broad sigmoidal fold. For the first 35 feet of the second section, the crosscut almost parallels the strike of the beds. Over the latter 15 feet of this section, the strike of the beds become more northerly and they appear to swing away into the northern wall of the crosscut. It appears that the beds cut out against a fault exposed in the third section. In the second section, silicification occurs in the form of narrow quartz veins across the bedding. An increase in silicification is noticeable towards the eastern limit of this section. The third section is 32 ft long. It is not clearly separated from the second, as the quartzite beds become more and more broken and shattered towards the eastern end of the crosscut. Three faults are exposed in this section; one in the northern wall, striking east and dipping north at  $63^{\circ}$  to  $72^{\circ}$ , and two in the east wall striking E.N.E. and dipping south at  $48^{\circ}$  to  $55^{\circ}$ . This section can be considered at the footwall portion of the main lode formation. The material consists of brecciated and silicified quartzite. Some pyrite was noticed, while material from this section lying on the dump heap contains small amounts of galena, sphalerite and siderite.

From the end of the crosscut, a drive has been commenced, heading in a southerly direction. At the time of the investigation, only eleven feet had been driven. The first seven feet is situated in well-bedded quartzite, showing a small anticlinal structure, which is cut out by a fault heading north-south and dipping west at  $35^{\circ}$ . South of this fault, the drive enters broken and silicified country.

STRUCTURAL FEATURES OF THE MAIN LODE

In the report dated 16th November 1951, it was stated that the lode shows unusual features which are repeated in three sections of the mine. It was deduced that the unusual features are associated with the presence of a broad crush zone or "slide" crossing the main lode fissure at an angle (pages 20 to 24)

The subsequent developmental work in the mine has served to substantiate this theory of the localisation of ore deposition and it is now possible to examine the structure of the portion of the lode within the slide zone in more detail and to draw more definite conclusions regarding the behaviour of the lode. In this matter, the recent connecting of the Adit Level North Drive with the Eastern Adit has given valuable information.

On each of the levels now opened up, it can be seen that the lode does not follow a straight course, but is rather sinuous. It is possible to identify the bends on one level with those on the others. On the Adit Level, between A/24 and A/16, the lode is trending slightly west of south. Near A/16 it bends sharply to east of south as far as A/23 at which point it curves to trend west of south again. Between A/22 and A/21, there is a further gradual change more towards the south. On the 100 ft Level this sharp bend appears again from B/2 to B/6, B/7 and B/9. Again on the 150 ft Level, the same trends are noted from C/2 to C/11. It is a notable feature that, on each of the three levels, the lode is relatively poor north of the point at which the change in trend from west of south to east of south occurs, viz. at A/16, B/2 and C/2, this relative poorness continuing for some thirty feet south of the points mentioned. However, at approximately the points where the trend changes from east of south to west of south, viz. approximately A/23, B/6 and C/8 three phenomena occur:-

- (a) The lode widens considerably to approximately thirty feet at B/6, 20 ft at C/8 and 10 ft to 20 ft at A/23.
- (b) The metal content of the lode increases considerably
- (c) A number of false walls occur within the lode zone.

On the 100 ft Level, good ore occurs for at least 110 ft south of B/6 and on 150 ft Level for at least 160 ft south of C/8. Within the two zones just mentioned are located the four main stopes, which have been operating during the past two years.

The bend just described appears to be the northern limit of the slide zone and, as such, it is, perhaps, the most important feature of the lode. It shows both the "Bending" or "Drag" and the "Splintering" of the lode noted by Twelvetrees and Ward (pages 83 to 85) as being characteristic features of the intersection of a slide zone with a lode fissure.

In the report dated 16th November 1951, it was stated that the slide zone appeared to be about 150 ft wide, have a strike a little north of west and was probably dipping at a steep angle to the north. It is now possible to be more definite regarding these matters.

(1) The strike of west of north given above is incorrect. As northern limit on each of the three levels may be taken the points A/16, B/2 and C/2. In general, the line joining these strikes approximately north east. However, in plan it is seen that these three points do not occur on a straight line, but as points on the perimeter of a very large circle. The bearing from A/16 to B/2 is  $52^{\circ} 24'$ , and from B/2 to C/2 is  $66^{\circ} 54'$ . A similar curvature is noted between the points south of which good ore occurs i.e. bearing from A/23 to B/6 is  $52^{\circ} 36'$ , and from B/6 to C/8 is  $65^{\circ} 24'$ .

(2) It has been established that the zone is dipping to the north but not at a steep angle. In long section, it is seen that the points marking the northern limit on the three levels again lie on the perimeter of a large circle, the curve joining the three points being convex towards the north. The following table shows the angle of depression calculated between various points:-

<u>From</u>	<u>To</u>	<u>Angle of Depression</u>
A/16	B/2	$38^{\circ} 43'$
B/2	C/2	$42^{\circ} 45'$
A/23	B/6	$37^{\circ} 00'$
B/6	C/8	$43^{\circ} 56'$

The two calculations between Adit and 100 ft Levels give an average value of  $37^{\circ} 50'$  and the two between 100 ft and 150 ft Levels give an average value of  $43^{\circ} 20'$ . It is deduced, therefore, that the northern limit of the zone is dipping towards the north, but is steepening with depth.

Approximately 210 ft south of the northern limit of the zone as defined above, there occurs on each of the three levels another bend in the lode where the trend changes from almost south to more west of south. This bend is prominent on the Adit and 150 ft Levels, but slightly less so on the 100 ft Level. The following stations are taken on each of the three levels as marking the eastern limit of this bend - A/8, B/12 and C/24.

The bearing between A/8 and B/12 is  $46^{\circ} 18'$ , and that between B/12 and C/24 is  $65^{\circ} 06'$ . These bearing are of the same order as those occurring between points taken as marking the northern limit of the zone and they show a corresponding curvature in plan. The angle of depression between A/8 and B/12 is  $35^{\circ} 48'$  and that between B/12 and C/24 is  $37^{\circ} 36'$ . These angles of depression show a steepening with depth although the steepening is not so marked as that observed on the northern limit.

On the Adit Level, good ore occurs for a distance of eighty feet south of A/8. South of this point, the lode narrows rapidly to 2 to 3 feet and consists of very soft material with very little metal content. On the 100 ft Level, good ore occurs in the vicinity of B/12 and, although little is showing in the drive south of this point, good ore has been worked in the stopes above and on the Intermediate Level.

The southern limit of this good ore dips north and strikes the 100 ft Level Drive at a point about 80 ft south of B/12. The inclination of this southern limit is most noticeable in the internal winze below A/9. The upper two-thirds of this winze, as far down as the Intermediate Level shows good ore while the lower third is very poor. This puts the southern limit of the well-mineralised zone on the 100 ft Level about 10 ft north of B/15. South of B/15, there is approximately 200 ft of drive which has proved to be extremely poor. The only recorded mineralisation is a small patch in the vicinity of B/37. It is therefore concluded that this point of 80 ft south of the eastern limit of the bend under consideration (10 feet north of B/15) marks the southern limit of the slide zone on this level. This southern limit is regarded as being 10 ft south of A/6 on the Adit Level and 10 ft north of B/15 on the 100 ft Level. On the 150 ft Level the southern limit of the slide zone has not yet been reached.

(3) With regard to the width of the zone, on the Adit Level and on the 100 ft Level, the apparent width i.e. the distance along the level along which the zone is intersected, is 280 to 290 ft. As the zone trends about north east, the actual horizontal width reduces to approximately 150 ft. The true width of the zone, i.e. the shortest distance between northern and southern limits is approximately 95 ft.

#### FUTURE PROSPECTS.

It has been shown that enrichments of the lode occur only within the slide zone.

##### (1) Adit Level

This has now penetrated right through the zone. The southern 30 ft of the drive is outside the zone and has shown very poor mineralisation. It is not recommended that this drive be pushed further south. In any case the southern end is within 250 ft of the lease boundary.

##### (2) 100 ft Level

This also has penetrated the slide zone, and 210 ft further south, the latter portion being extremely poor. The southern end of this drive is within 180 ft of the lease boundary. It is not recommended that this drive be put further south.

##### (3) 150 ft Level

On this level, the northern limit of the zone is showing, but the southern limit has not been reached. It is deduced that the southern limit will be reached within the next 30 to 50 ft. When this point is reached, it is not recommended that the drive be put any further south.

Viewing the mine as a whole down to the 150 ft Level, it has been shown that the commercial mineralisation extends over a length of up to 290 ft along the lode. The whole of this length is opened on the 100 ft and Adit Levels and all but 30 to 50 ft along the 150 ft Level. It is considered, then, that the main shoot of ore has been almost blocked out down to 150 ft Level and a considerable amount of stoping in this shoot has already been carried out.

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Future operations in this portion of the mine should, therefore, be directed towards the extraction of all ore in this shoot by the most economical methods.

(4) 270 ft Level

On this level the immediate problem is to deduce the position of the slide zone with reference to the present crosscut. As the level is 120 ft below the lowest present exposure, the problem does not admit of a ready solution.

The northern limit of the zone has a curved outline, both in plan and in vertical section. It has been assumed that these curves are arcs of circles. The point which is required is the eastern limit of the prominent bend shown to occur near the northern limit of the zone, i.e. the point on the 270 ft level which corresponds to A/23, B/6 and C/8.

Two methods have been adopted in determining the position of this point:-

- (1) by calculation and (2) by graphical methods.

The positions of the two points thus determined agree fairly closely. In view of the variables involved, it is considered advisable to specify as a target, not a single point but an area 20 ft x 20 ft within which the required point should occur. The central point of this target area is located 62 ft on a bearing of  $129^{\circ} 30'$  from station E/2. It is recommended that the present south drive on the 270 ft Level be discontinued and a fresh drive commenced along the bearing given above.

Two objects will be achieved by putting in the projected drive.

- (1) Reaching the northern limit of mineralisation on this level.

(2) The crosscutting of the lode at an angle. The total width of the lode in this vicinity will thus be revealed by this drive.

The planning of future development on this level must await the completion of the projected drive. In view, however, of the conditions existing on the three known levels, it is extremely likely that conditions on the 270 ft Level will be similar. At this stage, therefore, it is considered that, after reaching the desired point, driving south along the hanging wall should be undertaken and the slide zone penetrated. Plans should be evolved for stoping through to the 150 ft Level to proceed concurrently with this driving.

PROSPECTING NORTH OF PRESENT MINE LIMITS

In the report dated 16th November 1951, it was stated (page 37) that:-

"Evidence has been adduced that the No. 1 slide of the Zeehan-Montana No. 1 Mine persists northwards from that mine and crosses the access road to the present mine between the shaft and the Corinna Road. From the known behaviour of

lodes at the intersections of fractures, it is deduced that a make of ore will be encountered some 300 ft north of the shaft. In this connection, it may be noted that the end of the north drive on the 150 ft Level shows a swing to the east which may indicate that it is approaching the slide. It is strongly recommended that this drive be continued. The slide, if present, will be met with between 100 ft and 200 ft. The drive should be put right through the slide."

Following this recommendation, the company extended the 150 ft Level north drive for a distance of 153 ft but, as no slide zone was intersected in that distance, the project was abandoned. It is now necessary to consider what further steps, if any, should be taken.

Although an actual length of 153 ft of drive has been put in, the lode over this section has shown a distinct change of direction and over the new portion the bearing is approximately  $62^{\circ}$ . Actually the drive has only gained an additional 95 ft along the direction of the main course of the lode, i.e. towards the theoretical position of the slide. The results of this driving are therefore inconclusive and it has not by any means been proved that a slide zone does not exist. In fact, the change in trend of the lode can be considered as strong presumptive evidence that the zone is being approached. While it is admitted that the lode in the new portion of the drive is almost barren, towards the northern end there is a slight increase in the content of calcite, siderite and pyrite, and a few specks of sphalerite were noted.

It is, therefore, considered advisable for this exploratory work to be continued and the question arises as to the best means of accomplishing this.

The regional geology indicates that the zone should occur between the present end of the north drive and the Corinna Road. The shortest distance between these is 165 ft. It is not known what the trend of the lode will be between these points. If it continues on its present trend, it will reach the road at 175 ft. If it should swing towards the north again to parallel its main course as opened on the 150 ft Level, it will reach the road at 180 ft. This gives a triangle within which the lode should occur and the maximum amount of driving required to reach a point under the road is therefore 180 ft. At a cost of £7 per foot, this project would cost between £1150 and £1260. It is considered worth while for this amount to be spent in exploration.

The only other alternative would be a diamond drilling campaign. The following details are given for a hole from the surface to cut the lode at 150 ft Level, halfway between the present north end of the drive and the Corinna Road. Two angles of depression are considered and the costs given are based on an estimated £2 per foot. The maximum and minimum lengths of hole correspond to the extreme possible positions of the lode as given above.

Angle of Depression	Co-ordinates of Site		Bearing of Hole	Length of Hole	Cost.
	Lat.	Dep.			
45°	833N	893E	311°	170 ft - 240 ft	£340 - £480
60°	872N	845E	311°	168 ft - 210 ft	£336 - £420

To reach the same point by driving would cost between £560 and £620. It is stressed that, after the drilling has been done, it would still be necessary to carry out this driving should ore be shown to exist. Should a second drill hole be required, it could be drilled from a point 10 ft to 15 ft southwest from the road to parallel the first hole.

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