

Q55 N624

541001

REPORT ON
THE COMET - MAESTRIES MINE
DUNDAS - TAS

44-091

Report on Comet - Maestries Mine, Dundas
by
K. J. Faucaux
11/6/47.

541

003

COPY OF LETTER RECEIVED FROM - KELVIN J. FINUCANE

1950

541002

P.O. Box 340,
KALGOORLIE.

11th June, 1947.

M. Mawby Esq.,
Australian Mining and Smelting Coy. Ltd.,
Collins House,
360-6 Collins Street,
MELBOURNE.

Dear Sir,

Herewith please find report on the Comet-Maestries Mine at Dundas, Tasmania.

All present available information concerning the property has been summarised in the report and a tentative diamond drilling programme has been laid out to test the downward extension of the lode below the existing workings. A final decision as to whether the diamond drilling programme should be carried out or abandoned should be dependent on -

- (a) A substantial reduction of the terms of the existing option agreement, and
- (b) A final appraisalment of ore prospects in the remainder of the area.

The Comet-Maestries Mine itself offers a prospect of about 250 tons per vertical foot below the 335 feet level, the ore occurring in shoots up to 250 feet in length and from 2 to 8 feet in width. On the basis of past production the crude ore might possibly average 15% Pb and 8 to 9 ozs. Ag. per ton. On Zeehan history a critical depth could be expected at 1000 to 1400 feet. Water up to 50,000 gallons per hour was handled during the life of the mine.

Yours faithfully,

(Signed) K.J. Finucane

24

REPORT

on

THE COMET - MAESTRIES MINE :DUNDAS - TASMANIAINTRODUCTION:

The examination of the Comet-Maestries Mine on which the following report is based was carried out in conjunction with an appraisal of ore prospects of a special prospecting area of 1640 acres, embracing a number of silver-lead mines in the Dundas Field. The prospecting area has been made the subject of a separate report and the district generally will be referred to herein only insofar as it affects the ore prospects of the mine.

None of the underground workings were accessible and the actual work of examination comprised surveying, mapping and sampling a line of open cuts marking the outcrop of the ore deposit and in obtaining information regarding the underground workings from available plans, and reports.

Field work extended from April 10th to May 6th. All survey work was carried out by Mr. A. Hargreaves.

LOCATION AND ACCESS:

The mine is located in rugged country one mile east of the former townsite of Dundas and is accessible by road from Zeehan the total distance from the latter townsite being seven miles. The last mile of the present road follows the old Zeehan-Dundas tramway to Maestrie Station, the former terminus of the line.

An old road from Dundas to the Comet Shaft is now largely overgrown but was cleared as far as the West Comet Mine during the course of the examination.

OWNERSHIP:

The property comprises an 80 acre section held under lease by Dr. C. Loftus Hills. It embraces the former workings of the Comet Maestrie Mine. Details of the option agreement between Dr. Loftus Hills and Australian Mining and Smelting Coy. Ltd., are discussed in a later section.

The lease was surveyed by a Government Surveyor during the examination. Dr. Hill's application was numbered 75M/46 but the number of the lease was not ascertained.

PLANS:

Plans accompanying this report comprise:

MISSING
NOT RECEIVED

- | | | |
|---|-----------|--|
| | Plate (1) | Plan showing position of lease in relationship to special prospecting area. Scale 1" - 20 chns. |
| " | Plate (2) | Plan of surface workings showing geology, sampling results and diamond drill layout. Scale 1" - 40 feet. |
| " | Plate (3) | Plan of 160 feet and 260 feet levels. Scale 1" - 40 feet. |
| " | Plate (4) | Plan of 335 ft. and 400 ft. levels. Scale 1" - 40 feet. |

u Plate (5) Cross Sections showing proposed diamond drill bores. Scale 1" - 40 feet.

Available details of geological structure, lode widths, etc., have been incorporated in the underground plans where possible.

The plan of the surface workings was oriented to conform with a composite plan of the underground workings and was swung between the Comet and Joint Shafts, as the old lease pegs could not be located. There is a relatively small error but this is insufficient to affect the diamond drill layout.

PREVIOUS REPORTS:

Published reports on the Comet-Maestries Mine include the following:-

- | | |
|----------------|--|
| Montgomery, A. | "Report on the Progress of the Mineral Fields of the Country of Montague" 1893 pp. 22 to 25. |
| Montgomery, A. | "Report on the Zeehan-Dundas Mineral Fields in February 1896" p. xxviii. |
| Reid, A.M. | Tasmanian Geological Survey Bulletin No. 36 "The Dundas Mineral Field" 1925 pp. 73 to 76. |

In addition the files of the "Zeehan-Dundas Herald" from 1891 to 1904 contain numerous manager's weekly progress reports. The files for the years 1894 to 1896 inclusive were not available but the gap is bridged to some extent by Montgomery's reports and the total information regarding the mine is quite appreciable.

A typed statement on the property was prepared by the vendor, Dr. Loftus Hills.

HISTORY:

The mine was discovered as a large gossan outcrop some time prior to 1890 and was worked by two companies. The Maestries Broken Hill Company operated the southern section from 1891 to 1893 and sold 9,000 tons of ore during that period. In addition 1,000 tons of second grade ore had been stacked. The Comet Silver Mining Company commenced operations in 1891 and began to prospect the northern and downward extensions of the Maestries lode. Several adits were driven to intersect the ore body and a Main Shaft was sunk from the top of the east-west ridge across which the outcrop passes. The Company pursued an active and progressive policy throughout the whole of its operational career and developed the mine at four main levels, viz., 160 ft., 260 ft., 335 ft., and 400 ft. No development work was done at the 400 feet level after 1899; the general results at that horizon were low, up to the cessation of development.

In February, 1900, the Comet Company purchased the Maestries property, which it had held on tribute, and from that time onwards operations were confined principally to stoping above the Nos. 2 and 3 levels. However, the southern extension of the lode was developed at the 260 ft. and 335 ft. levels and a considerable amount of work was carried out north and east of the shaft at these horizons. The Company ceased operations in June, 1904, after which the mine was let on tribute. Underground mining by tributors continued until 1907. During the

period 1905 to 1913 a large tonnage of ferro-manganese gossan was mined by open cut and sold as flux to the Zeehan Smelters.

A bush fire which occurred in February, 1898, did appreciable damage to the property and burned the shaft to 30 feet below surface. In February, 1903, the mine was flooded to within 50 feet of No. 1 level by a flood with which the fluming over Comet Creek was unable to cope. This latter event was a contributory cause to the ultimate cessation of operations by the Comet Company. However, production continued until June, 1904. The tributors who continued underground mining until 1907 were obliged to cease operations owing to high costs and low prices of lead and silver.

GEOLOGY:

Rocks occurring in the district consist of grey and black slates and quartzites, which resemble similar rocks occurring at Rosebery and Mt. Bischoff, and a series of slates, tuffs and breccias usually referred to as the "Dundas Series". The latter are of Cambro-Ordovician age.

The sedimentary and tuffaceous rocks are intruded by a series of serpentine dykes some portions of which appear to have been dolomitised. The dolomitisation is possibly due to carbonate solutions which accompanied the formation of the lodes.

At the surface the Comet-Maestries lode consists of a gossanous outcrop which strikes N 30° W and dips south west. Two types of gossan occur, one being a soft chocolate coloured, earthy ferro-manganese variety of no value and the other a harder ferro-manganese type which was mined as a flux and sold to the Zeehan Smelters. Widths of gossan mined by open cut vary from 15 to 60 ft.

On the hanging wall of the lode where it crosses the Comet Creek there is an outcrop of dolomite. A similar outcrop is reported to occur in a creek north of the old concentrating plant but I was unable to locate it.

Rocks on the western side of the line of lode consist of black and grey slates and quartzites which strike north and south and dip west at angles ranging from 67° to 85°. There is only one good exposure on the eastern side of the lode and this consists of an outcrop of Dundas slates occurring near the plant site. Approximately twenty chains east of the Comet Shaft there is an outcrop of thin bedded slates and quartzites on the track to Moore's Pimple. Beds of slate occur at intervals on a logging track extending north-east from Maestries Station and Pre-Cambrian quartz-mica schists outcrop along this track at approximately one mile from the Station.

It will be evident from the above that rock exposures in the immediate vicinity of the mine are limited and they provide little information regarding the structural conditions governing the occurrence of the ore body.

Evidence afforded by the published reports and by specimens lying near the old main shaft indicates that the main Comet-Maestrie lode occurs as a replacement of a shear zone occurring in a wide band of dolomite. In addition to the Main Lode there are subsidiary lodes, and, possibly, some irregular formations. In view of other occurrences in the district it is probable that the dolomite is not of sedimentary origin but that it is a band of dolomitised serpentine. The lode itself consists of pyrite and galena in a gangue of mangano-siderite. Some sphalerite is stated to have been found in the lower levels but is not mentioned in the reports. Average ore widths in the lower levels of the mine varied between 2 and 8 feet.

004

The lode strikes N 30° W to N 40° W and dips south-west at 65° to 70°. In this it resembles other lode formations occurring in the district, viz., the Kosminsky and Great South Comet ore bodies.

There is nothing in any of the Government Reports or in the Manager's Weekly Progress Reports to suggest that the whole of the dolomite band in which the lode occurs is mineralised.

THE MINE:

The surface and underground workings are shown on Plates 11, 111, and 1V.

Surface Workings: At the surface the lode may be traced from the Dundas Tramway cutting to Maestries open cut, a distance of 1850 feet. Drives at No. 3 level show an extension of 320 feet south beyond Maestries cut and this gives a total length for the line of 2,170 feet. Plate 11 shows all surface details.

The open cut workings consist of two main groups. The northern or Comet group extend over a length of 830 feet and gossan has been mined in them over widths ranging from 15 to 30 feet. On the crest of the hill 80 feet south of the open cuts there is a hard gossan outcrop from 20 to 25 feet wide and below this a shallow adit crosscut has been driven; the last 25 feet of this has penetrated the gossan formation. Some 500 feet north of the comet open cuts there is an outcrop of hard ferro-manganese gossan exposed near the old tramway. These constitute the principal exposures of the northern section. Mining in the northern open cuts has not been continuous and the hard gossan has been worked selectively; the softer gossanous material has been discarded.

The southern or Maestries open cut is 150 feet long and reaches a maximum width of 90 feet. A band of hard ferruginous gossan, 40 feet wide, occurs on the east side of the cut and this is separated by 25 feet of quartzite from another band extending along the west side of the cut. A smaller lens of ferruginous material, 2 feet wide, occurs 25 feet further west. As far as can be ascertained the average width of gossanous material mined in this cut was 60 feet, though this included some bands of country.

Maestries open cut is slightly west of the general trend of the northern line of workings.

Details of surface sampling results are shown on Plate 11. Owing to the condition of the workings it was impossible to sample the whole of the line at regular intervals, but trenches were cut where possible. With one exception all samples were taken over widths of 5 feet.

The two most northerly trenches showed practically no lead and a very low silver content (0.1 to 0.7 ozs per ton) over outcrop widths of 35 feet and 30 feet respectively; and forty feet of soft gossan located about 80 feet south of the prospecting shaft averaged only 0.15% Pb and 0.7 Ag. The next four trenches were in the old open cuts and returned results ranging from Nil to 5.6% Pb and 0.6 to 2.5 ozs. Ag. per ton. The outcrop on top of the ridge averaged 2% Pb and 0.3 ozs Ag. per ton over 20 feet and the gossan in the adit below this averaged 5.6% Pb. and 1.9 ozs Ag. per ton over a width of 27 ft; two samples from gossanous material near the mouth of this adit returned 1.9% and 5.9% Pb. and 0.7 and 0.3 ozs Ag. The north face of Maestries open cut averaged 2.2% Pb. and 0.7 ozs Ag. per ton over a width of 35 ft.

005

Gossan mined as flux is stated by A.M. Reid to have averaged 5% Pb. and 2.5 ozs Ag. per ton.

Underground Workings: The Comet Main Shaft has collapsed below the collar and all adits have collapsed near their portals so that none of the underground workings are accessible. The following description of the mine workings has been compiled from published reports.

Maestries Workings - These are located north of Comet Creek and, according to Montgomery, comprised the main tunnel level, the intermediate level and the lower level. The tunnel level was driven from the south side of the hill and split into two branches, the western branch connecting with a prospecting shaft and then continuing through to the north slope of the hill. The southern entrance of the tunnel was in lode consisting of iron and manganese oxides with galena and cerussite occurring fairly freely. This section was stoped for 65 feet length from the mouth of the tunnel and at 20 feet in a winze was sunk to 47 feet depth. At 90 feet from the mouth a vein of galena from $\frac{1}{2}$ " to 24" wide was driven on to the south east for 60 feet and was stoped for 12 feet above the level. Three other small seams were intersected in the tunnel level; one occurred in the north-east branch and consisted of two to five feet of ferro-manganese gossan containing a little silver while the other two occurred in the northwest drive and consisted of "canary ore" (Massicot).

The intermediate level was only 14 feet below the main tunnel and Maestries Level was 33 feet below it. The principal drive at the latter horizon was one trending N 30° W and extending almost to the Comet Boundary. According to Montgomery it followed a shoot of galena which "was over 12 feet wide at first and perhaps averaged 2 feet". This level is only 4 feet above the Comet Intermediate (210 feet) level and the shoot of ore is continuous with that worked in the Comet.

Throughout the Maestries workings the galena occurred in gossan which formed the walls of the lodes.

Only portion of Maestries workings are shown on the accompanying plans.

Comet Workings - 160 ft. Level; This corresponds with the horizon of No. 2 Adit which was driven through slates and quartzites. A shear or break striking N 25° W and dipping south-west was intersected in the adit at a point corresponding generally with the northern extension of the Comet Lode. The main east crosscut was driven off the adit and connected later with the Comet Shaft. In the crosscut, soft gossan and clay was intersected at 110 feet from the shaft and hard gossan occurred over the last 60 to 70 feet near Maestries boundary. Two drives are stated by Montgomery to have been extended north from the east crosscut; one of these, located 295 feet from No. 2 adit, was driven 183 feet through nice looking gossan and then entered slate; the other was driven from the end of the crosscut through gossanous lode material containing cerussite and a little pyromorphite. Another drive was extended southwards close to the boundary for 130 feet and intersected cerussite and canary ore at 50 feet; this shoot of ore was 3 feet wide and was regarded as an extension of the lode worked in Maestries section. I was unable to reconcile Montgomery's description of the north and south drives with the mine plant in our possession, but as the plans were only partially complete the discrepancy is not important.

260 ft. Level: The gossanous formation in which the lodes occur was intersected in the main east crosscut at

006

approximately 100 feet from the shaft and the lode itself at 190 feet. The principal shoot of ore mined above this horizon was about 250 feet long and extended between No. 1 and No. 4 winzes; its width varied from 3 to 16 feet and it consisted of ferruginous gossan with solid veins, slugs and small seams of galena. Of the four winzes sunk below this shoot, details are available only of No. 4 which was sunk for 17 feet on lode consisting of one to four feet of second class ore which then became poor. The winze was continued to 65 feet and showed a slight improvement from 54 to 61 feet.

From No. 4 winze south for a distance of 100 feet the lode is described in the Manager's reports as being poor though widths of 3 feet of first and second class ore occurred in some places.

During the years 1901 and 1902 a new shoot of ore was developed near the south boundary of the Company's Leases. It is difficult to obtain a clear picture of this from the reports but it appears to have been about 225 feet long and to have varied in width from 4 to 10.5 feet. Two winzes were sunk on it. The north or No. 1 Winze was 59 feet deep and showed more than 6 feet of second class ore. The south winze reached a depth of 76 feet and bottomed in dolomite but the first 46 feet contained from 3 to 5 feet of ore.

Another shoot also appears to have been found on the east side of No. 2 level south drive.

The drives north-east of the shaft at No. 2 level appear to have been mainly in gossan sections of which contained slugs of galena and some thin seams but nothing definite. A winze sunk to a depth of 63 feet passed through gossan containing galena and lead carbonates.

335 ft. Level: No particulars are available regarding the development of No. 3 level from the shaft to 376 feet south-east of it though the three winzes described below give some idea of the size and value of the lode. From 376 to 416 feet from the shaft, corresponding with a section from 60 to 100 feet south of No. 2 winze, the lode was poor. For the next 13 feet it carried second class ore but over the remainder of the drive as far as No. 4 winze from No. 2 level it varied from 2 to 4 feet in width and was too poor to mill.

The three winzes sunk on the northern section of the No. 3 level drive are distributed over 200 feet length. The North-East winze was sunk to the horizon of No. 4 level on a lode 4 to 5 feet wide consisting of pyrite and galena which was described as "good seconds". No. 1 winze reached 52 feet depth, the lode being from 2 to 4 feet wide and consisting principally of "seconds"; short sections were poor and broken. No. 2 winze reached 33 feet depth on 3 to 5 feet of seconds. It was then stopped and an intermediate drive commenced. The north drive off the main crosscut, from which the North-East winze was sunk, contained a pyrite-galena ore body from 4 to 6 feet wide. This persisted to 54 feet from the crosscut.

Records concerning the southern shoot of ore at No. 3 level are incomplete but reports of 140 feet of driving indicate that the lode was from 6 to 8 feet wide and contained some 1st class ore, but consisted mainly of seconds. A winze was commenced on this shoot but the ore pitched south and work was suspended. The southern end of the drive extended towards the Kosminsky Hill and was in ferruginous gossan with

slugs of galena. A west crosscut intersected dolomite.

The north-east crosscut at No. 3 level was commenced on a cross lode which is described as being poor and broken. Later it was continued and a drive from it was extended to connect with the winze from No. 2 level. The lode consisted of gossan about 6 feet wide containing streaks of canary ore.

The north-west trending drive at the northern end of No. 3 level was apparently in gossan, as a report dated January 24th, 1903, states that gossan stopes were being mined above No. 3 level over a length of 100 feet and a width of 13 feet. The location is given as 520 feet north-west of the shaft but should, I think, be north-east.

400 ft. level: Development reports concerning this level are clear and concise. In sinking the shaft below No. 3 level a lode was intersected at 51'6" from the level. This was reported to be 30 feet wide and to consist of iron carbonate and galena. It's strike was N.W. and its dip S.W. In the main east crosscut it was passed through at 15 feet from the shaft. Subsequently it was driven on to the north west and intersected a cross fault; the work generally gave poor results. From 15 to 84 feet from the shaft the main east crosscut was in dolomite, no mineralisation being reported. The Comet-Maestries main lode was intersected at 84 feet and the drive was then turned south along it and connected with the North-East winze at 133 feet. Over this section the ore body consisted of pyrite and galena in a mangano-siderite or siderite gangue and carried from 2 to 3 feet of second class ore which persisted for 26 feet south of the winze, giving a total length of ore shoot of 75 feet. Driving was continued and a connection made with No. 1 winze but the lode is described as being poor except for a section 6 feet long where it carried 8 feet of 'seconds'. The drive was extended 50 feet beyond No. 1 winze but showed little improvement and was eventually abandoned owing to the hard ground. Subsequently stoping above No. 4 level was poor and the lode was mined from intermediate drives below No. 3 level.

Other Prospecting Work: In addition to the work described above a considerable amount of prospecting and development was carried out in other portions of the property.

Towards the northern end of the property a prospecting shaft was sunk to 70 feet depth and crosscuts were extended 252 feet east and 122 feet west. From the shaft to 44 feet east there was a considerable amount of ironstone in the crosscut and from 44 feet to 252 feet it was in slate. The west crosscut showed country with bands of iron from 0 to 46 and sediments with iron from 46 to 122 feet. No galena was reported from this work.

Immediately south west of the S.W. corner peg of old section 2356-87M a shaft was sunk under the joint auspices of the Comet, Maestries and Kosminsky Companies. For 90 feet the shaft was in slate and then passed into cellular quartz which, according to Montgomery, resembled siliceous sinter; water made at the rate of 18,000 gallons an hour. At 120 feet depth the shaft entered dolomite and a soft pug. No further records concerning it could be found.

Other development work consisted of cross-cutting from the Air Shaft and exploratory crosscuts at Nos. 1 and 2 levels. Mention is made of "boulders" of dolomite

003

being intersected in crosscuts in the upper levels. The mine generally was well prospected and the development work generally was carried out on sound lines.

Water and Gas: Water and gas (CO₂) were a source of constant trouble in the Comet Mine. The pump equipment was capable of handling 60,000 gallons per hour and the diameter of the pump column was 20 inches. The reports do not state the average pumping rate per day, but up to 50,000 gallons per hour was handled.

CO₂ gas was encountered on numerous occasions during development.

PRODUCTION:

As far as can be ascertained the Comet Company produced ore from 1894 to 1904 and the Maestries Broken Hill Coy. from 1891 to 1893. From 1904 to 1913 the property was worked by tributors.

Statistics regarding the total amount of ore produced from the mine could not be obtained from the Tasmanian Mines Department, as there were no records available. Details of sulphide ore produced for the years 1902 to 1905 and treated at the Zeehan Smelters, were obtained from the old record books in the possession of Mr. M. Howard, but records prior to 1902 were not available.

Particulars from 1902 to 1905 are as follows:-

Comet Sulphide Ore treated at Zeehan Smelters.

YEAR	DRY TONS	ASSAY		CONTENTS		REMARKS
		Pb%	Ag. ozs.	Pb.	Ag. Ozs.	
1902	1825.45	62.6	38.8	1080.15	64,310	
1903	1578.35	62	39.7	963.35	60,894	
1904	785.25	52.7	26.7	424	25,516	Jan. to June
	91.25	53.4	30.1	50.1	2,544	July to August
1905	964.1	58.3	27.7	556.25	29,564	Aug. 1904 to June 1905
5244.4		58.6	34.8	3073.85	182,828	

The ore produced from August, 1904, to June, 1905, was from tributors.

According to A. McIntosh Reid (Bulletin 36) the Maestries Company sold 9,000 tons of crude ore and stacked 1,000 tons of second grade assaying 35% Pb and 27 ozs. Ag. per ton.

The Comet Company's production, including tributors ore, is given as 9,000 tons of lump galena and 12,000 tons of concentrate. The former assayed 65% Pb and 41 oz. Ag. per ton; the latter 60% Pb and 37 oz. Ag.

In addition the gossan mined as flux amounted to 90,000 tons containing 5% Pb and 2.5 ozs. Ag. per ton. The greater part of this was mined by tributors from 1907 to 1913.

Details of ore production obtained from the "Zeehan Dundas Herald" are listed in Appendix 1. These are incomplete but give some idea of the average monthly output and of the grade of ore milled. On the basis of these figures and of the returns from the Zeehan Smelters the average annual output of galena and concentrate would be in the vicinity of 1,600 tons during normal years, and was probably about 2,400 tons in 1897.

The total production would, I think, be close to A.M. Reid's figure of 21,000 tons of lump galena and concentrate, though this average value for the concentrate is high.

The crude ore milled appears to have averaged about 5,000 to 6,000 tons per annum in normal years with a total of approximately 60,000 to 70,000 tons exclusive of gossan. At an approximate estimate the average lead content of this would be 12% Pb. (See Appendix I).

An analysis of the production tables in appendix I shows that the head value of the crude ore milled varied from 9.7% in 1900 to 13.1% Pb in 1897; other years indicate a head value of about 12% Pb. The general conclusion to be drawn from the above is that ore down to an average lower limit of 10% to 12% Pb was mined and treated.

The Comet Company paid no dividends during its productive life, that is from 1894 to 1904.

THE OPTION AGREEMENT:

The principal conditions provided for in the option agreement are as follows:-

- Clause (3) A cash consideration of £500 paid on 16th November, 1946, for a six months option of purchase i.e. to 16th May, 1947.
- (4) The right of extension for a further six months i.e. to 16th November, 1947, on payment of a further £500, payable 16th May, 1947.
- (5) The right of extension for a further six months i.e. to 16th May, 1948, on payment of a further £1,000, payable 16th November, 1947.
- (6) An expenditure of £1,000 on investigations and development work during the first and second six months and an expenditure of not less than £3,000 during the third period of six months.
- (7) This provides for:-
 - (a) A purchase price of £12,000
 - (b) Payment of a royalty of 5% of the nett profits per annum.

It is not stipulated in the option agreement whether the interim payments of £500, £500, and £1,000 should form part of the final purchase price of £12,000.

In view of the facts put forward concerning the property, the condition of the workings and also of the fact that it is impossible to enter the mine and examine the ore distributions at first hand, I am of the opinion that the terms of the option are particularly onerous.

DIAMOND DRILLING:

It is considered that the only feasible method of testing the ore body at a reasonable cost would be by diamond drilling.

Five diamond drill bores have been laid out to intersect the downward extension of the lode at approximately 100 feet below the horizon of No. 4 level. The location, direction and dip of the bores is shown on the accompanying plans and sections. They should be drilled to penetrate the eastern limit of the band of dolomite with which the lode is associated. Three of the proposed bores have been laid out to intersect the lode below the main Comet Maestries shoot, one to cut it below the south shoot and one to test the country below the gossan stopes north-east of the Main Shaft.

Further drilling would depend on the results obtained.

The lode is thoroughly leached and oxidised to the horizon of No. 3 level and from some distance below it and drilling above 400 feet depth would have little chance of success.

SUMMARY AND RECOMMENDATIONS:

The most productive portion of the Comet-Maestries lode is that extending for a distance of 800 feet south-east of the Comet Main Shaft. The northern section of the property was mined principally for flux.

The southern section reached its maximum development of ore at the No. 2 (280 ft.) level where two shoots aggregated from 350 to 400 tons per foot. At No. 3 level the width and value of the lode showed a marked decrease and the aggregate of the two shoots would be between 160 and 200 tons per foot, the average lead content being lower than that at No. 2 level and the silver somewhat higher. Over a developed length of 220 feet at the No. 4 level (400 feet), the lode varies in width from 2 to 8 feet and is described as being poor, presumably lower in value than the corresponding section of No. 3 level. The shoot of galena at No. 4 level was about 75 feet long and from 2 to 4 feet wide. It was stoped over a length of 60 feet and the stoping is described as being poor.

It is probable that the ore shoots within the mine were lenticular in habit and this agrees with other ore occurrences in the area e.g. the Kosminsky and Great South Comet Lodes. In view of this there would be a reasonable chance of a recurrence of other shoots in the southern section below the horizon of the 335 ft. level. If the average tons per vertical foot of the Nos. 2 and 3 levels is accepted as a basis of estimation the aggregate scale of possible repetition of shoots might be in order of 250 tons per foot. On Zeehan history a critical depth might be expected at 1,000 to 1,400 feet.

It is extremely difficult to form any real opinion as to what grade of ore might be expected. The head value of the second grade ore milled averaged about 12% Pb and 6 to 7 ozs. of silver per ton. To this must be added the percentage of hand picked galena which was bagged during mining operations. If A.M. Reid's production ratio of 9 tons of hand picked galena to 12 tons of concentrate is accepted then the average grade of the whole of the crude ore sent to the surface would be in the vicinity of 20% Pb. Estimates made on the data obtained from the Zeehan-Dundas Herald indicate an overall head value of 16% to 19% Pb. Evidence from the weekly reports suggests that the ore shoots were mined selectively to some

011

extent and in view of this a lower average grade could be anticipated. After weighing the various factors I am of the opinion that a reasonable anticipation might be 15% Pb and 8 to 9 ozs. Ag. per ton.

Ore prospects in the sulphide zone below the northern gossan stopes are problematical.

In view of the ascertained facts concerning the mine, its history and production it is recommended that testing of the deposit should not be proceeded with under the terms of the original option agreement and that an appreciable reduction of these terms should be obtained pending completion of the assessment of ore prospects in the remainder of the area.

(Signed) K.J. FINUCANE.

KALGOORLIE.
11th June, 1947.

APPENDIX IPRODUCTION
1897

DATE	HAND PICKED TONS	TONS MILLED	TONS CONS.	ASSAY Pb. % Ag. Ozs.	REMARKS
Feb. 25	34	246	53		Sold 34 tons 1sts; 24 tons cons.
Mar. 4		256	60		Sold 67 tons cons?
" 11		267	85		Sold 60.9 tons
" 19		300	50		Sold 60.5 tons
" 26		285?	45		Tonnage milled reported as 885
Apr. 1		277	40		Sold 77 tons
" 9		277	72		Sold 57.25 tons
" 15		323	61		Sold 56.4 tons
" 22		320	69		Sold 68.6 tons
" 30		250	45		Sold 69 tons
May 6					Sold 60.75 tons
" 21		330	61		Sold 81 tons
" 28		500	53		Sold 75 tons 26.0
June 4	37.4	284			Cons. not stated sold 26.6
" 10		259	37		Sold 72 tons
" 17		409	38		Sold 57 tons
" 24		241	47		
" 30		171	35		
July 9	53				
" 15	58	122	25		
" 23		123	28		
" 30		140	30		
Aug. 5		119	28		
" 14		127	30		
" 20		114	38		
" 26	55	123	25		Sold 55 tons 1sts.
Sept. 2		122	45		
" 13		95	20		
" 16		130	30		Sold 51 tons
" 23		127	25		Sold 52 tons
" 30		127	28		
Oct. 6			51		
" 15			36		
" 20			50		
" 28			40		
Nov. 3		100	18		
" 12		123	20		
" 19		140	14		
Dec. 2		133	15		Sold 45 tons
" 10		65	10		Sold 37 tons
" 15	36		10		
	273.4	7025	1467		Totals incomplete

Excluding the figures for March, 26th and periods when either the tons milled or the concentrates produced have been omitted from the reports, the production amounts to 1235 tons of concentrates from 6456 tons of second class ore milled. On the assumption that the concentrates contained 55% Pb., the amount of lead would be equivalent to 679 tons or 10.5% of the tons milled. Assuming a recovery of 80% the head value of the crude ore milled would be 13.1% Pb.

Total production for the year would probably be in the order of 2,400 tons of galena and lead concentrate of which 400 tons would be galena and 2000 tons concentrate.

PRODUCTION
1898

DATE	HAND PICKED TONS	TONS MILLED	TONS CONS.	ASSAY Pb. % Ag. Ozs.	REMARKS
Jan. 19		80	21		
Feb. 2					Exported 115 tons for £580
Feb. 22		75	10		Fire destroyed part of plant
Dec. 20					200 tons of Gossan sold

Output of ore from 1st December, 1897, to
date of fire 321 tons 6 cwt. for £1,647:
16: 8.

PRODUCTION
1899

DATE	HAND PICKED TONS	SECONDS TONS	GOSSAN	REMARKS
Jan. 14			26	
Feb. 24			110	Gossan output 100 tons per week
Mar. 11			100	
16	15		100	
22	18		130	
29	30		30	
Apr. 8			70	Gossan output 70 tons per week
14			100	Estimated 1700 tons of gossan to date
May 6			130	
20			100	
29			90	
July 8		180?	80	
12		70	100	
19		160	111	
Sept. 6	60			
" 15	31.5	100		
" 19		80		
Nov. 3				Output 33 tons per fortnight
14	30			
Dec. 5	24			
Total	208.5	590	1277	Totals incomplete for year

A contract was made with the Tasmanian Smelting Coy. in July, 1898, for the supply of gossan flux and this represented the greater part of the output for 1899. Most of the gossan was mined above No. 2 level. The assay of one parcel of 49½ tons was 19.6% Pb. and 8 ozs. Ag. and of another 93 tons 22% Pb. and 10.5 ozs. Ag. One weekly report stated that second class ore was mixed with the gossan. The total amount of gossan sold was probably 2,500 to 3,000 tons.

PRODUCTION
1900

ORE MILLED						ORE SOLD		
	TONS MILLED	TONS CONS.	ASSAY Pb.% Ag.Ozs.		TONS GOSSAN	TONS GALENA	TONS CONS.	
Mar. 27						21.75		
July 10					90	12		
17					36	16.3		
Aug. 11					60	12		
15	120	14.5	57	36	45		19	
31	128	21.0	55	42	70		17	
Sept. 5	128	20	54	40				
Nov. 28	735?	15	58	38		5.5	12.5	
Dec. 28	119	15	54	36		14.75	19.5	

The concentrators were started in July, 1900, after being idle since February, 1898. During the latter portion of 1900 about 20 tons of concentrates and bagged ore were produced each week. Excluding the figure for Nov. 28, the tonnage for which appears excessive, the tons milled total 495 for 70.5 tons of concentrates assaying 55% lead. This is equivalent to 38.8 tons of lead or 7.8% representing a head value of 9.7% Pb. based on 80 recovery.

The total quantity of ore sold in 1900 was 1595 tons valued at £17,571. It is not stated whether the tonnage included gossan.

015

PRODUCTION
1901

DATE	ORE MILLED				ORE SOLD			SUNDRY ORE TONS
	TONS MILLED	TONS CONS.	ASSAY Pb.% Ag. Ozs.		TONS GOSSAN	TONS GALENA	TONS CONS.	
Jan. 5	83	10	56	31			16.5	
17	106	18	59	36		5	12.0	
Feb. 15	45	23.5	60	36		6.75	18.0	
Apr. 2	125	24	60	36		12	12	2.5
12	135	24	55	34		18.5	18	
17	106	18	57	34		16	18	
May 21	188	25	60	36		18.25	11.5	4.5
27	123	23					40	
28	132.5	23	60	35		17	24	
June 21	138	31	56	35		17.25	15	
July 9	120	20	55	35		5.5	18	
29	128	20	57	34		5	23.75	54.0
Aug. 7	123	19	54	34		17.5	11.50	
17	134	21	57	32		5.5	23.	
22	110	21	60	28		17	12	
Sept. 4	134	16	60	34		17.5	12.25	5.25
Oct. 25	106	22	55	31		5.5	16.25	
29	123.5	25	55	36	66	10.75	16.50	
Nov. 14	115	21	54	27	74	15	11.50	
21	119	20	50	26	50	6.5	21.50	
Dec. 4	137	23	48	30	40	6.25	17.0	
12	136	23	51	27	70	12	11.5	
24	124.5	23	58	27	55	11	12.75	

	2791.5	493.5	56	32	355	245.75	392.50	66.25

The total output for the year is not available but on the basis of the above figures it would be in the vicinity of 1600 tons of galena and concentrates. The available figures for crude ore milled are 2791.5 tons for 493.5 tons of concentrates assaying 56% Pb. equal to 276.4 tons of lead or 9.9%. Based on 80% recovery the head value is 12.4%.

The total tonnage milled for the year is estimated as 6300 tons.

Individual monthly outputs were:-

Jan.	107	tons	value	£1391
Feb.	109	tons	"	£1404
Sept.	112.5	tons	"	£1108
Oct.	125	tons	"	£1259
Dec.	370	tons	"	£1415

PRODUCTION
1902

DATE	ORE MILLED				ORE SOLD			SUNDRY ORE
	TONS MILLED	TONS CONS.	ASSAY Pb. %	ASSAY Ag. Ozs.	TONS GOSSAN	TONS GALENA	TONS CONS.	
Jan. 7	204	20	47	23	40	16	5.75	
17	131	21	50	28	64	6.25	16.5	
24	130	25	50	28	50	15	11.5	
Feb. 4	125	25	50	28	50	12	22	5.5
6	132	28	50	28	55	16.5	17	
12	114.5	23	52	30	90	18.75	22	9.75 Pb CO ₃
20	116	24	54	32	75	18	18	5.25 Pb CO ₃
27	107	21	50	30	70	23.25	17	
Mar. 20	119	25	50	30	60	12	29	
21	117	21				18.75	17.25	
Apr. 22		21			60	17.75	20.95	
29		20			63	16.2		
May 7		13			60	28.7		
21	126	24	60	32	54	15.75	18	
29	125.5	25	60	30	58	17.5	17.5	
June 12	112	24	57	27	62	16.5	11.5	5.5 Pb CO ₃
16	112	20	60	31	53	12.5	24	
20					58	12.5	23.5	
July 2	128	23	60	32	55	18.0	30.25	
7	125.5	25	60	32	51	17.75	17.5	
16	119	23	60	30	75	23.75	17.75	
19	120	22	57	30	50	17.5	17.5	
30	134	24	57	30	42	13.25	23	
Aug. 5	123	23	57	30	70	16.5	17.5	
22	120	21	60	34	50	17.5	16.75	
28	130	23	60	35	55	18.5	11.5	
Sep. 4	103	..	60	32	30	12.25	15.5	3.75
12	108	22	57	30	70	16.25	21.75	
20	114	22	60	28	43	18.25	11.75	
Oct. 1	119	20	62	30	47	14.50	12.5	
16	112.5	21	62	34	53	23	16.75	
22	126.5	22	60	37	47	23.75	11.25	
Nov. 10	125	16	64	38	44	23.75	12.75	
14	125	16	64	38	70	22.75	12.25	
20	131	20	63	37	50	18.25	15.0	
Dec. 6	115	17	65	55	56	23.5	11.5	
17	118	23	64	35	44	16	24.0	
<hr/>								
4067.5		763	57.6 32		2024	648.90	608.20	29.75

Excluding 54 tons of concentrate for which the tons milled are not given and 103 tons for which the concentrate is not given the 1902 figures available total 3964.5 tons for 709 tons of 57.6% concentrate or 408.4 tons of lead equal to 10.3%. Based on 80% recovery the head value would be 12.9%.

PRODUCTION
1903

DATE	ORE MILLED				ORE SOLD		
	TONS MILLED	TONS CONS.	Pb. %	Ag. Ozs.	TONS GOSSAN	TONS GALENA	TONS CONS.
Jan. 8	66	13	63	34	65	25.75	13
29	112		62	33	100	24.5	22
Feb. 22							Flood
May 6							
June 17	107	22	56	34	92	27.5	11
25	115	23	58	34	100	26.5	21.75
July 29							
Aug. 7	102	19	58	32	57	24.5	11.5
17	100	20	62	35		20.85	21.7
Sep. 3					112	24	18
9		17.5	58	37		27	
17		19	60	38	67	27	
23		13	62	37	96	22	
Nov. 21					85	27.15	12.85
28	106	19	60	35			

Sales for half year to May 31st were 3,072.5 tons value £4,587/8/4 Treatment of 2,348.5 tons produced 381.5 tons of 60% concentrate equivalent to 228.9 tons of lead or 9.7%. Based on 80% recovery the head value is 12%.

Receipt of sales of ore for the half year ended November, 30th, amounted to £7,623. Other details are not stated. Profit for the half year was £1,737.

=====

Jan.	Average output per week 100 tons milled for 17 to 20 tons of concentrates and 100 tons of gossan.
Feb.	Output 130 tons of galena and concentrates, value £630:15:0 and 412 tons gossan £278:18:0.
March	Output 174 tons of galena and concentrates, value £933:12:0 and 407 tons gossan £288:12:0
May	Output 148½ tons of galena and concentrates value £696:0:0
June	Output 105½ tons of galena and concentrates value £417:10: and 400 tons gossan £270.