



DICKENSON MINES LIMITED

Silvana Division

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082FNW050

002128

April 21, 1989.

Ministry of Energy Mines and Petroleum Resources
Geological Survey Branch
c/o MINFILE
541 Superior Street
Room 247
Victoria, B. C.
V8V 1X4

Att'n : Larry Jones

Dear Larry;

Sorry I haven't got back to you. I finally got a "MINFILE" look-a-like copy done of our Silvana Mine as we discussed early in January. It's not perfect but it should add to the accuracy of our MINFILE data. If there are any problems with it, other than English measurements [that's all we use], don't hesitate to phone. I am going to a new job as of April 24 but any of the staff here could probably help you. I could also be reached at my new company : ABM Gold Corp, suite 206, 595 Howe Street, Vancouver, V6C 2T5, phone 669-1814.

I was unable to finish the other MINFILE report. The BOSS FRACTION-C+K, MASCOT, SILMONAC, MINFILE # 082FNW228 [NMI # 82F14 AG2, 82F14 A] is the Silvana Mine, no need for a separate file. If you could upgrade the other two reports that you sent me from the Mineral Policy Sector of the Department of Energy, Mines and Resources, Ottawa, I would appreciate it. The "Minnie-Ha-Ha" does not connect with the Carnation workings to the west. It is a separate lode, 1500 true feet in the hangingwall of the Main Lode. The Carnation Lode is part of the Main Lode ie same as the Silvana Mine. The "SILVANA (SILMONAC) (MASCOT)" Report should be updated. The Mascot Mine still is not accepted as being the surface expression of the Silvana Ore Body. There is no mineralization let alone a lode that we have found so far to link the Mascot to the Silvana but it probably does exist [?]. I hope this will do for now. Call me if you need more info.

Sincerely

David K. Makepeace
Chief Geologist
Silvana Division

MINFILE NO. : 082FNW050

NATIONAL MINERAL INVENTORY NO. : 82F14 AG 2,58

NAME(S) : SILVANA, [Silmonac]

STATUS : Producer -Underground

MINING DIVISION : Slocan

N.T.S. : 082F14W

LATITUDE : 49° 58' 18"

UTM ZONE : 11

LONGITUDE : 117° 15' 12"

UTM NORTHING : 5535400

ELEVATION : 1372 meters

UTM EASTING : 482000

COMMENTS : See also National Inventory Card 082F/14 Ag 2. The property is located between the east fork and west fork of Tributary Creek. It is 9 Km at 105° Az. from New Denver and 2 Km at 240° Az. from Sandon. The mine has 4 portals : 4000 Portal (old Ruth #5 portal)[main ore/waste haul level], 4625 Portal [main portal], the old Mascot Portal [main exhaust portal] and the old Silversmith #10 Portal [main vent portal].

LOCATION ACCURACY : ± 50 meters

COMMODITIES : Silver Lead Zinc

SIGNIFICANT MINERALS : Galena Sphalerite Tetrahedrite Native Silver

Pyrargyrite Stephanite Argentopyrite Acanthite

ASSOCIATED MINERALS : Siderite Calcite Quartz Feldspars Pyrrhotite

Pyrite Chalcopyrite Tourmaline Chlorites

Clay minerals Laumontite Arsenopyrite Graphite

ALTERATION TYPE(S) : Silicification Graphitization

AGE OF MINERALIZATION : Cretaceous 169±3Ma

DEPOSIT CHARACTER : Vein/lode fault structure

DEPOSIT CLASS : Intracrustal vein/replacement [flow and vein type breccias]

DOMINANT HOST ROCK : Sedimentary

GROUP : Slocan Series Sediments

STRATIGRAPHIC AGE : Late Triassic

LITHOLOGY : Argillite

Argillaceous quartzites

Argillaceous limestones

Silicified sediments

Chlorite/sericite altered aphanitic dykes

Quartz diorite to diorite intrusive

Biotite lamprophyre dykes

TECTONIC BELT : Omineca

TERRANE : Quesnellia

PHYSIOGRAPHIC AREA : Selkirk (Columbia) Mountains - Slocan (Kokanee) Range - Silver Ridge

RESERVES :

CLASSIFICATION : Proven + Drill Indicated [no inferred, probable, or possible]

DATE : August 28, 1988.

QUANTITY : 42869 tonnes

COMMODITY

GRADE

Silver

430 grams per tonne

[15.0 oz/t]

Lead

4.98 per cent

Zinc

5.78 per cent

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CONTINUED...

PRODUCTION: ** All metric values are in kilograms except precious metals which are in grams**
 ** All Imperial values are in pounds except precious metals which are in ounces**

YEAR	TONS MINED	MILLED	Silver oz	Lead lb	Zinc lb	Cadmium lb
1988	30,412	30,412	413,856	3,675,307	4,332,544	
1987	28,149	28,149	490,303	5,266,131	3,297,834	
1986	24,174	24,174	475,613	4,782,431	3,458,564	
1985	25,418	25,418	480,644	4,763,576	3,350,938	
1984	8,137	8,137	174,217	1,736,268	1,006,275	
1983	31,123	31,123	282,592	1,879,970	2,011,742	10,948
1982	28,868	28,868	345,799	2,084,070	1,661,507	110
1981	30,502	30,502	381,990	2,545,999	2,117,379	9,125
1980	31,110	31,110	268,560	1,996,137	1,882,467	9,722
1979	21,633	21,633	303,074	2,117,136	1,950,195	10,937
1978	17,600	17,600	261,168	2,043,914	1,527,736	8,209
1977	17,504	17,504	333,238	2,502,545	2,113,927	8,807
1976	18,402	18,402	245,777	1,953,114	1,789,277	10,236
1975	12,045	12,045	226,639	1,364,687	1,153,653	6,482
1974	12,034	12,034	158,422	345,153	1,012,970	5,915
1973	14,015	14,015	202,504	1,513,201	1,517,227	9,533
1972	27,429	27,429	450,841	3,187,325	3,629,037	23,882
1971	39,184	39,184	698,272	5,002,521	5,154,762	33,722
1970	12,930	12,930	252,940	940,999	1,744,998	11,676
1913	1	0	51	612		
Total	430,669	430,669	6,446,449	49,700,484	44,713,032	159,304

Geology : The Silvana Mine lies in the Slocan Series sediments of late Triassic age. Generally the sediments are predominantly interbedded black argillites and medium to dark grey quartzites. Limestones and slates are also found in varying proportions in the sequence. The Kaslo Series volcanic formation is to the north of the sediments and is early Triassic in age. The Nelson Batholith of Jurassic age is immediately south of the Slocan Series and is the cause of the granitic/pegmatitic sills and dykes in the sediments. Late stage lamprophyre dykes intrude the metamorphosed sediments.

The Slocan sediments have been severally folded, fractured and faulted. The regional northwest-southeast trending asymmetric "Slocan Syncline" is thought to be Middle Jurassic and is the first recognizable deformation in the sediments. The Nelson Batholith probably caused most of the pre-lode faulting in the area. The lode structures themselves are faults. Some of the structures appear to have normal-type faulting while others appear to have thrust-type faulting. The "Main" lode, where most of the production of the Slocan Mining Camp has come from, appears to have both types of faulting. The lodes strike east-west or northeast-southwest and crosscut the synclinal axis. The Nelson Batholith is thought to be the heat engine used to inject themineralized hydrothermal fluids into these lode-faults. The source of the mineralization itself is not known. Late stage faulting and shearing chopped up, deformed and remobilized the lode structures to their present state.

The sediments have been metamorphosed to a chlorite grade regional greenschist facies. Silicification is present in the sediments and the lodes. Graphitization from the late stage shearing mentioned above is present throughout the lode structures.

The lode structures are hydrothermal in origin. There are two types of breccia found in the lodes. The first type is the "fragmental" or "vein" breccia. This breccia contains very angular fragments of country rock with a calcite, siderite and minor quartz matrix. The fragments have a varying degree of coarseness. The second type is the "sheared" or "flow" breccia. This breccia is characterized by elongated, mylonitic-style argillaceous-quartzite fragments in a graphite/groundmass matrix with or without calcite and siderite. This type of breccia is derived from the late stage shearing deformation mentioned above. This post-depositional shearing deformed "fragmental" breccia and previously non-brecciated material into new "flow/sheared" breccia. This deformed breccia-type not only altered the texture of the rocks but shredded and boudinaged the ore minerals. Lode structures are less than 50 feet [15.24 m] wide and most are approximately 2 to 10 feet [0.61 to 3.05 m] wide. Within the lode structure there can be up to 4 mineralized veins present.

The main ore mineralization consists of argentiferous galena and sphalerite. There are minor amounts of chalcopyrite, tetrahedrite, native silver, pyrargyrite and very minor amounts of stephanite, argentopyrite and acanthite. Other metallic minerals present in varying amounts are pyrite, pyrrhotite and arsenopyrite. The gangue minerals are calcite, quartz, orthoclase feldspar, siderite, tourmaline, chlorites, clay minerals and laumontite. Other minerals that have been identified in the area include smithsonite, anglesite, chrysocolla, malachite, manganese wad, ilmonite and hematite.

The Silvana Mine is on the Main Lode and not on the Minnie-Ha-Ha Lode. The Silvana property hosts several lode structures, one of which is the Minnie-Ha-Ha Lode. This lode is 1500 feet into the footwall of the Main Lode. The Main Lode is a five mile long structure and hosts most of the largest producing mines in the Slocan Mining Camp. The strike is roughly east-west and has a variable dip of 13° to 68°. Within a stope, the structure can be very erratic tending to pinch and swell both in the strike and dip direction. The thickness of the lode is 10 to 50 feet wide of which there can be up to four economic mineralized veins. The lode is cut by several post-depositional faults. The horizontal displacement can be several feet to over three hundred feet in length. Drag features are present in the lode. Most of the faults identified are normal faults. Recently thrust faults have been identified in the west. The Carnation Basin Fault strikes north-south and dips 30-35° to the east. It comes to surface in the Carnation workings [5480-7000 feet elevation] and cuts off the west end of the Silvana ore body [4500-4690 feet elevation]. The Wakefield Lode in the west end of the Silvana property may have been mis-interpreted as a lode instead of a thrust fault. This structure would also cut the west end of the Silvana ore body further to the west. There is a post-depositional shear zone that is sub-parallel to the lode structure. Two thirds of the strike length of the Silvana Mine, this shear zone is within the lode structure, making the geology and mining much more difficult.

The mine is both track and trackless. The mining method is side-swipe room and pillar using jacklegs and slushers. The 4000 level is the old Ruth No. 5 level and is the main tramming level. The 4625 Level is the main entrance to the mine. The ore is trucked down to the mill facilities in Sandon. Crushing and flotation circuits create a lead and zinc concentrate acceptable for the smelter in Trail. The capacity of the mill is 100-125 tons per day.

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FIELD CHECK : **NO**
FIELD CHECK : **NO**