



MINFILE Detail Report  
BC Geological Survey  
Ministry of Energy, Mines and Petroleum Resources

### Location/Identification

|                           |  |   |                                   |
|---------------------------|--|---|-----------------------------------|
| <b>MINFILE Number:</b>    | 082FSW146  | <b>National Mineral Inventory Number:</b> | 082F4 Pb                          |
| <b>Name(s):</b>           | <u>MAYFLOWER (L.799)</u><br>OLLA PORIDA, ROSSLAND  |   |                                   |
| <b>Status:</b>            | Past Producer  | <b>Mining Division:</b>                   | Nelson, Trail Creek               |
| <b>Mining Method</b>      | Underground  | <b>Electoral District:</b>                | Kootenay West                     |
| <b>Regions:</b>           |  | <b>Resource District:</b>                 | Selkirk Natural Resource District |
| <b>BCGS Map:</b>          | 082F002  |   |                                   |
| <b>NTS Map:</b>           | 082F04W  | <b>UTM Zone:</b>                          | 11 (NAD 83)                       |
| <b>Latitude:</b>          | 49 03 34 N   | <b>Northing:</b>                          | 5434369                           |
| <b>Longitude:</b>         | 117 47 44 W  | <b>Easting:</b>                           | 441881                            |
| <b>Elevation:</b>         | 1287 metres  |   |                                   |
| <b>Location Accuracy:</b> | Within 500M  |   |                                   |
| <b>Comments:</b>          | Located approximately 1.5 kilometres south of Rossland on the east side of Gopher Creek. |   |                                   |

### Mineral Occurrence

|                     |                                   |  |         |
|---------------------|-----------------------------------|--|---------|
| <b>Commodities:</b> | Silver, Gold, Lead, Zinc, Cadmium |  |         |
| <b>Minerals</b>     | <b>Significant:</b>               | Sphalerite, Galena, Arsenopyrite, Boulangerite, Tetrahedrite, Pyrrhotite, Ruby Silver, Pyrite, Magnetite, Pyrrargyrite |         |
|                     | <b>Associated:</b>                | Quartz, Carbonate  |         |
|                     | <b>Alteration:</b>                | Sericite, Epidote, Hornblende  |         |
|                     | <b>Alteration Type:</b>           | Sericitic, Epidote   |         |
|                     | <b>Mineralization Age:</b>        | Unknown  |         |
| <b>Deposit</b>      | <b>Character:</b>                 | Vein, Disseminated, Shear, Massive   |         |
|                     | <b>Classification:</b>            | Hydrothermal, Epigenetic   |         |
|                     | <b>Type:</b>                      | I05: Polymetallic veins Ag-Pb-Zn+/-Au  |         |
|                     |                                   | <b>Strike/Dip:</b>   | 110/80N |
|                     | <b>Comments:</b>                  | Main mineralized vein.   |         |

### Host Rock

|                            |   |                       |                                  |
|----------------------------|---|-----------------------|----------------------------------|
| <b>Dominant Host Rock:</b> | Plutonic  |                       |                                  |
| <b>Stratigraphic Age</b>   | <b>Group</b>  | <b>Formation</b>      | <b>Igneous/Metamorphic/Other</b> |
| Lower Jurassic             | Rossland  | Elise                 | -----                            |
| Lower Jurassic             | -----   | -----                 | Rossland Monzonite               |
| <b>Isotopic Age</b>        | <b>Dating Method</b>  | <b>Material Dated</b> |                                  |
| -----                      | -----   | -----                 |                                  |
| 190 Ma                     | Uranium/Lead  | Zircon                |                                  |
| <b>Lithology:</b>          | Augite Porphyry Sill, Augite Porphyry, Monzonite, Biotite Hornblende Augite Monzonite, Lamprophyre Dike, Dioritic Porphyry, Breccia |                       |                                  |
| <b>Comments:</b>           | Monzonite dated March 1991 (Andrew, K.P.E., personal communication, March 1991). Augite porphyry is also known as Rossland sill.    |                       |                                  |

### Geological Setting

|                       |                   |                            |                   |
|-----------------------|-------------------|----------------------------|-------------------|
| <b>Tectonic Belt:</b> | Omineca           | <b>Physiographic Area:</b> | Selkirk Mountains |
| <b>Terrane:</b>       | Quesnel, Kootenay |                            |                   |

## Inventory

No inventory data

## Summary Production

|                 |                | Metric           | Imperial       |
|-----------------|----------------|------------------|----------------|
|                 | <b>Mined:</b>  | 884 tonnes       | 974 tons       |
|                 | <b>Milled:</b> | 617 tonnes       | 680 tons       |
| <b>Recovery</b> | Silver         | 376,780 grams    | 12,114 ounces  |
|                 | Gold           | 4,136 grams      | 133 ounces     |
|                 | Zinc           | 49,390 kilograms | 108,886 pounds |
|                 | Lead           | 25,785 kilograms | 56,846 pounds  |
|                 | Cadmium        | 139 kilograms    | 306 pounds     |

## Capsule Geology

The old Mayflower mine workings are hosted by the Lower Jurassic Rossland Group (Elise Formation) augite porphyry, known as the Ross- land sill. The porphyry is dark green with phenocrysts of dark augite which are partly altered to hornblende. The rock is commonly brecciated with preferential epidote alteration. The sill is intrud- ed by the Early Jurassic Rossland monzonite which is comprised of a biotite-hornblende-augite monzonite. The sill lies within the zone of thermal metamorphism. Diorite porphyry and lamprophyre dykes crosscut these older rocks striking 015 degrees and dipping 50 to 60 degrees eastward. A sample from a crosscutting lamprophyre dyke on the Mayflower claim gave a potassium-argon date from biotite as 49.4 plus or minus 1.4 million years (Bulletin 74, page 54).

The mine is hosted by the Bluebird-Mayflower shear zone which strikes 120 to 130 degrees and dips from 50 to 65 degrees to the northeast, and is traceable for 600 metres. The Mayflower zone, located about 200 metres east of the Blue Bird zone (082FSW145) on the same structure, is similar in most respects to the Blue Bird zone but differs in its higher gold to silver ratio. Exploration has been carried out to a depth of 60 metres at which level the mineralization is still present. Limited drilling between the Blue Bird and Mayflower zones, to a depth of 45 metres, has confirmed continuity of the mineralized structure, but grades have been low. At the western extent of the shear zone, near the Hattie Brown shaft (082FSW359), the structure is cut by a 12.2 metre wide monzonite dyke of the Middle Eocene Coryell Intrusions. Surface work and drilling has suggested that the structure continues to the west of the dyke and is mineralized.

The main vein strikes 110 degrees and dips 70 to 80 degrees north. The earliest work was on the South vein; later develop- ment work proceeded on the North and Main veins which all strike east-west and dip steeply north. The main portal, at elevation 877 metres intersects 5 main ore shoots of 56 metres in length. Mineral- ization consists of sulphides replacing wallrock along well-defined fracture and faults and infilling fractures. The ore shoots end abruptly against dykes or cross structures.

The ore is composed of fine-grained, disseminated or rudely banded massive sulphides in a gangue consisting of thoroughly serici- tized rock with minor carbonate and quartz. The mineralization is of the South Belt-type which contains pyrite, pyrrhotite, arseno- pyrite, sphalerite, galena, and boulangerite (Bulletin 74, pages 39-40). Microscopic examination of the ore suggests that pyrrhotite was the earliest mineral to form, followed by and partly replaced by pyrite and arsenopyrite. Tetrahedrite is generally, closely associ- ated with the galena. Silver assays of ore from the Mayflower prop- erty suggests that the tetrahedrite contains perhaps 10 per cent silver (Thorpe, 1967). Ruby silver, probably pyrargyrite is reported to occur in the ore as well as magnetite which is associated with the arsenopyrite.

A total of 876 tonnes of ore was mined from the workings between 1907 to 1910, 1929, 1935, 1937, 1948 and 1949. Recovered from this ore were 4,136 grams of gold, 376,780 grams of silver, 25,785 kilograms of lead, 49,390 kilograms of zinc and 139 kilograms of cadmium.

## Bibliography

EMPR AR 1896-17,23,560; 1897-537; 1899-599; 1902-300; 1907-107,214;  
 1908-105; 1910-244; 1916-116; 1929-284,363,502; 1935-A28,E31;  
 1936-E49; 1937-A39,E49; 1939-92; 1940-71; 1941-63; 1946-138;  
 1947-236; 1948-128; \*1949-158-163; 1965-178; 1966-208; 1967-236;  
 1968-237  
 EMPR ASS RPT 24, \*16751, 19601  
 EMPR BC METAL MM00683  
 EMPR BULL \*74; 109  
 EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;

1990, pp. 9-31  
 EMPR GEM 1969-315; 1972-49; 1973-60; 1974-70  
 EMPR MINING Vol.1, p. 37  
 EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16  
 EMPR PF (Westoll, N.D. and Associates: Geological Report on the  
 Rossland Property in British Columbia, Aug.18, 1987, in Prospectus  
 for Antelope Resources Limited, effective date Mar.10, 1988 (in  
 Homestake file - 082FSW123); Filing Statement, Antelope Resources  
 Inc., Feb. 3, 1989 (in Homestake file))  
 GSC MAP 1004; 1090A; 1504A; 1518  
 GSC MEM 77, p. 168; 308, p. 134  
 GSC OF 1195  
 GSC P 79-26  
 ECON GEOL Vol.68, 1973, pp. 1337-1346  
 GCNL #10, 1991  
 PERS COMM Andrew, K., March 1991  
 \*Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland,  
 British Columbia, Ph.D. Thesis, University of Wisconsin  
 Howard, A.E. (2018-04-09): Technical Report on the Rossland Project

EMPR PFD 752388, 752389, 752390, 905555, 750202, 750203, 750204, 750629, 908124, 822469, 822474, 822475, 823127, 822572, 822573,  
 822931, 822934, 822935, 600422, 600423, 600424, 600425, 600427, 600428, 600429, 600430, 600433, 674434

|                      |            |                    |                             |                     |   |
|----------------------|------------|--------------------|-----------------------------|---------------------|---|
| <b>Date Coded:</b>   | 1985/07/24 | <b>Coded By:</b>   | BC Geological Survey (BCGS) | <b>Field Check:</b> | N |
| <b>Date Revised:</b> | 2020/08/04 | <b>Revised By:</b> | Karl A. Flower (KAF)        | <b>Field Check:</b> | N |