



### Location/Identification

|                           |   |   |  |
|---------------------------|---|---|--|
| <b>MINFILE Number:</b>    | 093M 015  | <b>National Mineral Inventory Number:</b> | 093M7 Ag2                                |
| <b>Name(s):</b>           | <b>FRENCH PEAK</b><br>UTE, RIO, HEMATITE  |   |  |
| <b>Status:</b>            | Developed Prospect  | <b>Mining Division:</b>                   | Omineca                                  |
| <b>Mining Method</b>      | Underground   | <b>Electoral District:</b>                | Nechako Lakes                            |
| <b>Regions:</b>           | British Columbia  | <b>Resource District:</b>                 | Skeena Stikine Natural Resource District |
| <b>BCGS Map:</b>          | 093M037   |   |  |
| <b>NTS Map:</b>           | 093M07W   | <b>UTM Zone:</b>                          | 09 (NAD 83)                              |
| <b>Latitude:</b>          | 55 19 58 N  | <b>Northing:</b>                          | 6134054                                  |
| <b>Longitude:</b>         | 126 47 12 W   | <b>Easting:</b>                           | 640397                                   |
| <b>Elevation:</b>         | 1377 metres   |   |  |
| <b>Location Accuracy:</b> | Within 500M   |   |  |
| <b>Comments:</b>          | Open cuts on the Ute vein system, 10 kilometres west of Nilkitkwa and Babine lakes, 1.5 kilometres north of Tsezakwa Creek, and approximately 100 kilometres north of the community of Houston (Assessment Report 19142). |   |  |

### Mineral Occurrence

**Commodities:** Silver, Copper, Gold, Lead, Zinc

|                 |                             |  |                          |
|-----------------|-----------------------------|--|--------------------------|
| <b>Minerals</b> | <b>Significant:</b>         | Tetrahedrite, Galena, Chalcopyrite, Sphalerite                                       |                          |
|                 | <b>Associated:</b>          | Quartz, Carbonate, Siderite, Pyrite, Hematite, Chalcedony                            |                          |
|                 | <b>Alteration:</b>          | Silica, Clay, Sericite, Hematite, Carbonate  |                          |
|                 | <b>Alteration Comments:</b> | Manganese staining.  |                          |
|                 | <b>Alteration Type:</b>     | Silicific'n, Argillic, Sericitic, Oxidation, Carbonate                               |                          |
|                 | <b>Mineralization Age:</b>  | Unknown  |                          |
| <b>Deposit</b>  | <b>Character:</b>           | Vein, Shear  |                          |
|                 | <b>Classification:</b>      | Epigenetic, Hydrothermal   |                          |
|                 | <b>Type:</b>                | I05: Polymetallic veins Ag-Pb-Zn+/-Au, G06: Noranda/Kuroko massive sulphide Cu-Pb-Zn |                          |
|                 | <b>Shape:</b>               | Tabular  | <b>Modifier:</b> Faulted |
|                 | <b>Dimension:</b>           | 457x1x0 metres   |                          |
|                 | <b>Comments:</b>            | Ute vein system.   |                          |

### Host Rock

**Dominant Host Rock:** Volcanic

| Stratigraphic Age | Group   | Formation   | Igneous/Metamorphic/Other |
|-------------------|---------|-------------|---------------------------|
| Lower Cretaceous  | Skeena  | Rocky Ridge | -----                     |
| Cretaceous        | Kasalka | -----       | -----                     |

| Isotopic Age | Dating Method | Material Dated |
|--------------|---------------|----------------|
| -----        | -----         | -----          |
| -----        | -----         | -----          |

**Lithology:** Andesitic Tuff, Dacitic Tuff, Rhyolite Tuff, Andesite, Rhyolite, Dacite, Rhyolitic Flow, Andesite Flow, Rhyodacite

**Comments:** Hostrocks belong to the informal subdivision of the Kasalka Group known as the French Peak volcanics.

### Geological Setting

|                       |              |                            |                 |
|-----------------------|--------------|----------------------------|-----------------|
| <b>Tectonic Belt:</b> | Intermontane | <b>Physiographic Area:</b> | Nechako Plateau |
| <b>Terrane:</b>       | Stikine      |                            |                 |

## Inventory

**Ore Zone:** FRENCH PEAK  
**Category:** Unclassified  
**Quantity:** 2,630 tonnes

**Year:** 1983  
**Report On:** Y  
**NI 43-101:** N

| Commodity | Grade                    |
|-----------|--------------------------|
| Silver    | 411.0000 grams per tonne |
| Gold      | 2.4000 grams per tonne   |
| Copper    | 5.0000 per cent          |
| Lead      | 14.0000 per cent         |

**Comments:**

**Reference:** CIM Special Volume 37, page 185.

## Summary Production

|          |         | Metric          | Imperial      |
|----------|---------|-----------------|---------------|
|          | Mined:  | 52 tonnes       | 57 tons       |
|          | Milled: | 52 tonnes       | 57 tons       |
| Recovery | Silver  | 388,415 grams   | 12,488 ounces |
|          | Gold    | 124 grams       | 4 ounces      |
|          | Lead    | 8,940 kilograms | 19,709 pounds |
|          | Copper  | 1,250 kilograms | 2,756 pounds  |
|          | Zinc    | 754 kilograms   | 1,662 pounds  |

## Capsule Geology

The French Peak occurrence is located on the southeast side of French Peak Mountain, north of the Suskwa Pass, 57 kilometres east of the community of Hazelton.

Regionally, dacite, andesite and rhyolite subaerial to subaqueous tuffs and flows of the French Peak volcanics (Geological Survey of Canada Open File 2322), an informal subdivision of the Upper Cretaceous Kasalka Group have been subjected to complex block faulting and some low angle faulting. Recent government geological compilations indicate the deposit may be hosted in the Lower Cretaceous Rocky Ridge Formation (Skeena Group).

The French Peak occurrence area is predominantly underlain by bedded purple andesitic to dacitic lapilli, lithic and crystal tuffs. The southern portions of the property are underlain by andesite and rhyolite flows and tuffs, and rhyodacite. Generally, bedding strikes east-northeast with moderate (10-30 degree) northwest dips. The property covers an area of intersecting north-northwest and east-striking faults.

Mineralization consists of steep and low angle quartz-carbonate (siderite) veins and shear zones hosting tetrahedrite, argentiferous galena, chalcopyrite, sphalerite, and pyrite. The Ute vein system, containing coarse-grained galena and tetrahedrite, is located in shear zones in the bedded volcanic rocks. The main vein strikes east and dips steeply north to vertical. The vein system, apparently related to a major fault, has been exposed over a strike length of 457 metres and is of variable width. The system varies from a simple unmineralized break to broadly sheared areas, 1.5 to 4.5 metres wide, containing several veins and sulphide stringers with disseminated mineralization between them. Massive tetrahedrite, galena and chalcopyrite with disseminated pyrite was confirmed at depth along the vein structure which lies in a subaerial to subaqueous sequence of rhyolitic and andesitic flows and tuffs. Mineralized vein sections vary in width from less than 2 centimetres up to 1 metre. Rhyolitic rocks, in general, display considerable carbonate and sericite alteration and the matrix is highly clouded with hematitic(?) particles.

The Rio vein system, located 122 metres south of the Ute vein system, consists of massive, banded chalcopyrite, tetrahedrite and pyrite within a bedded rhyolite tuff unit. The vein system is essentially conformable with the tuff beds but appears to be controlled by bedding plane shearing. The vein strikes northeast and dips moderately northwest towards the Ute vein system.

The mineralized vein systems are surrounded by an alteration zone, from 1 to more than 30 metres in width, which consist of bleaching, manganese staining, silicification and clay alteration.

The Hematite zone, located 1100 metres southeast of the Rio and Ute vein systems, comprises a strong hematite-pyrite-clay altered zone containing several banded siderite-pyrite-quartz-chalcedony stringer veins within an andesitic tuff. Minor chalcopyrite-pyrite- tetrahedrite occurs. Drill core

assayed 1.38 grams per tonne gold and 12.7 grams per tonne silver (Assessment Report 13834).

Small amounts of selected ore from open cuts was shipped from the property in 1964-65 and 1974. An adit was collared in the fall of 1976. Assays obtained from the four best diamond-drill holes yielded 199.5 grams per tonne silver over 0.42 metre, 292.4 grams per tonne silver over 0.20 metre, 120.4 grams per tonne over 0.15 metre and 24.1 grams per tonne over 0.15 metre (Property File Chevron - Simpson).

Unclassified reserves are 2630 tonnes grading 411.0 grams per tonne silver, 14 per cent lead, 5 per cent copper, and 2.4 grams per tonne gold (CIM Special Volume 37, page 185).

The showings were discovered in 1955 by Rio Canadian Exploration Ltd. and 24 claims were staked. During 1956, the mineralized structures were investigated over a length of 366 metres by about 1370 linear metres of bulldozer trenching and 528.8 metres of diamond drilling. The company name was changed in 1958 to Rio Tinto Canadian Exploration Limited. No further activity was reported on the showings until 1964 when the Rio Nos. 1-4 claims were leased from the company by S.Homenuke, of Hazelton, and A.F. Claussen. During 1964-65, a small amount of selected ore was shipped from open cuts.

By 1974, the property consisted of the Ute 1-16 claims owned by S. Homenuke, D. Homenuke and J. Sargent. A further 30 tonnes of sorted ore were shipped during the year. By an agreement of August 1974, the owners gave an option to acquire a 100 per cent interest in the property to Can-Ex Resources Ltd. In October 1974, Renniks Resources Ltd. agreed to carry out exploration work on the property in consideration for the assignment by Can-Ex of all its rights, title, and interest in the August agreement. Work by the company in the latter part of 1974 included geological, geochemical, and electromagnetic surveys, and trenching.

In March 1976, Aalenian Resources Ltd. optioned the Ute 5-8 claims from Homenuke and Sargent. Adjacent ground was staked as the Silverado, Eldoradom, Mag Hi and Silver Iron claims totalling 30 units. Work by the company included geological mapping, a magnetometer survey and approximately 806 metres of diamond drilling in 29 holes; hole 76-14 contained a 2.4-metre section assaying 291.43 grams per tonne silver, 1.47 grams per tonne gold, 0.13 per cent copper, 0.32 per cent lead, 0.23 per cent zinc (Northern Miner - July 22, 1976); an adit was collared in the fall of 1976. The company name (Aalenian) was changed in July 1977 to Silverado Mines Ltd.

Mohawk Oil Co. Ltd. held a sub-option on the property from 1977 until 1980; petrological studies were reported. Further work by Silverado included an electromagnetic survey over 36 kilometres and a geochemical soil survey comprising 747 samples in 1981 and a geochemical rock survey (40 samples) and diamond drilling 137.5 metres in seven IEX holes in 1985.

In 2000, the property was staked by R. Day on behalf of Valley Gold Ltd. and a reconnaissance prospecting program was initiated. During this time some geological evidence was found to support the idea that the property may indeed be favourable to host a bulk tonnage volcanogenic massive sulphide (VMS) deposit.

In 2004, APEX Geoscience Ltd. (APEX) personnel visited the property to evaluate and confirm the existence of historical mineralization. This was followed by a multi-phased exploration program conducted by APEX on the property in June and July of 2005. This program consisted of prospecting, rock grab sampling, stream sediment sampling, geological mapping, and surveying of historical grids and existing trenches. APEX was retained by Grizzly Diamonds Ltd. to explore the property in 2006, 2007, and 2008. In total, 33 holes were drilled at the property amounting to a total of 3739.34 metres. Two separate ground geophysical surveys were conducted at the property, a ground UTEM electromagnetic survey totalling 11.102 line-kilometres and a ground induced polarization survey totalling 5.975 line-kilometres. Sampling on the property included the collection of 27 heavy mineral concentrate stream samples, 255 soil samples (including 23 duplicate soil samples) and 5 rock grab samples.

Drilling suggests that the Rio vein occurs as pods or lenses of semi-conformable massive pyrite+tetrahedrite+/-chalcopyrite mineralization within an interlayered sequence of bedded felsic ash-lapilli tuffs and amygdaloidal andesite-basalt flows. Drillholes where massive mineralization was not intersected reveal a broad zone of locally silicified, variably quartz-sericite and/or propylitic-argillic altered bedded felsic tuff or feldspar porphyritic flows associated with coarse disseminated pyrite+/-tetrahedrite. Two drillholes targeted the mineralized Heterolithic Breccia Zone that was identified in the 2006 drilling campaign. Drillhole PK07-14 was collared in pinkish grey crystal tuff and intersected various facies of felsic tuff, multiple porphyritic feldspathic dikes, and the heterolithic breccia unit. A zone of layered quartz-carbonate veins with chalcopyrite occurring as vein laminations was intersected at 18.26 to 18.62 metres. As follow up to the successful drilling of the polymetallic Ute vein during the 2006 drill program, the goal in the 2007 campaign was to test the strike extent of the structure, to find high-grade pockets within the structure, and to identify any secondary structures or new zones at the Ute. Several holes successfully intersected the zone and are summarized in Assessment Report 30424.

Assay highlights from the drill core samples include intersections of 1410.0 grams per tonne silver over 0.24 metre, 1035.0 grams per tonne silver over 0.85 metre, 19.14 grams per tonne gold over 1 metre, and 9.98 grams per tonne gold over 0.50 metre (Assessment Report 30424).

The 2008 ground induced polarization geophysical survey (5.9 kilometres) yielded a chargeability anomaly that is consistent with a historically reported chargeability anomaly. The anomaly corresponds to a zone of thick successions of brecciated tuff with disseminated sulphide mineralization that was identified during 2006 and 2007 drilling. The anomaly suggests that this mineralized zone extends to the west of previous drilling and is a priority target for future drilling.

## Bibliography

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EMPR FIELDWORK 1974, p. 82; 2000, pp. 253-268  
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EMPR PF (Memorandum on Production at the French Peak property, 1976; Schroeter, T. (1976): Monthly Report; Statement of Material Facts, Silverado Mines Ltd. July 8, 1987)  
EMPR PF Chevron (J.W. Simpson (unknown): Report on Property Submission - French Peak)  
EMPR PFD 840121, 15995, 15996, 880177, 880179, 880180, 880181, 880182, 880183, 880184, 880185, 880186, 880187, 886324, 886325, 886326, 886327, 886328, 886329, 672137, 674148, 674169, 674171, 674172, 674174, 674177, 674180, 674182, 830838, 520843, 520844  
EMR MIN BULL MR 223 B.C. 246  
EMR MP CORPFILE (Renniks Resources Ltd.)  
GSC BULL 270  
GSC MAP 971A  
GSC OF 215; 720; 2322  
GCNL #84,#98,#103,#110,#115,#119,#122,#123,#127, 1976; Mar.22, 1977  
PR REL Matador Exploration Inc. Nov.24, 2004; Grizzly Diamonds Ltd. Feb.\*4,\*8, Jun.\*15, Jul.\*21, Aug.\*16, 2005, Apr.24, Sept.11, Nov.\*29, Dec.\*14, 2006, Jan.\*22, 2009  
CMJ Apr.24, 2006

|                      |            |                    |                             |                     |   |
|----------------------|------------|--------------------|-----------------------------|---------------------|---|
| <b>Date Coded:</b>   | 1985/07/24 | <b>Coded By:</b>   | BC Geological Survey (BCGS) | <b>Field Check:</b> | Y |
| <b>Date Revised:</b> | 2020/09/28 | <b>Revised By:</b> | George Owsiacki (GO)        | <b>Field Check:</b> | Y |