

PRODUCT PRODUIT	ZINC	PROVINCE OR TERRITORY	PROVINCE OU TERRITOIRE	British Columbia	N.T.S. AREA 82 F/3 RÉGION DU S.N.R.C.	REF. ZN 8 RÉF.
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NAME OF PROPERTY
NOM DE LA PROPRIÉTÉ

ASPEN, BELL

OBJECT LOCATED - northern mineralized zone.
OBJET LOCALISÉ

UNCERTAINTY 300 m FACTEUR D'INCERTITUDE	Lat. 49°11'20"	Long. 117°11'15"
Mining Division Nelson Division minière	District District	Kootenay
County Comté	Township or Parish Canton ou paroisse	
Lot Lot	Concession or Range Concession ou rang	
Sec Sect.	Tp. Cr.	R. R.

OWNER OR OPERATOR/PROPRIÉTAIRE OU EXPLOITANT

DESCRIPTION OF DEPOSIT/DESCRIPTION DU GISEMENT

Mineralization occurs in dolomite breccia in the Lower Cambrian Reeves Formation on the southwest limb of an isoclinally folded syncline. Three distinctive zones have been identified: a zinc zone, a lead-zinc-silver zone and a silver zone; the latter representing an unusual example of metal zonation in an otherwise typical "Mississippi Valley-type" deposit.

Associated minerals or products - Silver, gold, lead.
Minéraux ou produits associés

HISTORY OF EXPLORATION AND DEVELOPMENT
HISTORIQUE DE L'EXPLORATION ET DE LA MISE EN VALEUR

The property is located at elevations of 4,500 to 5,000 feet on the east side of, and near the head of, Deer Creek, a southerly flowing tributary of Sheep Creek, 4 miles east-southeast of Salmo. The HB mine is located about 2 miles to the south.

The Aspen group, owned by H.M. Billings and Percy Horton, was under development from about 1912 when a crosscut adit was being driven. By 1917 the property comprised 8 claims owned by Mrs. W.H. Billings, of Salmo, P. Horton and E.W. Rawson. Six claims, the Caroline, Silverton Fraction, Emma, Aspen, Mohawk, and International (Lots 12468-12473 respectively) were Crown-granted to Agnes Billings in 1917. In 1918 and 1920 Horton shipped silver ore from a near surface zone extending south from No. 1 adit. Intermittent exploration activity apparently ceased in 1920 or shortly thereafter. Work resumed in 1926 when R.J. White, of Wallace Idaho, secured an option on the property which at that time included, in addition to the Crown-grants, the Broken Hill and Aspen 1-4 claims. A new discovery of replacement mineralization on the Mohawk claim was made during the year and the "H" adit was begun.

Salmo-Malartic Mines, Limited was incorporated in Ontario in May 1927 to acquire the property and development work began in the fall of that year. During the 1927-1929 period the company carried out about 2,000 feet of drifting and crosscutting in the No. 2 (A), No. 4 (B), and H (G) adits, and 2,000 feet of diamond drilling; an electrical survey was carried out by the Radiore Company of Canada early in 1929, and development work was suspended in November of that same year. Crown-grants were subsequently acquired for the Aspen 3 and 4, and Salmo Malartic 1-4 claims (Lots 14459-14464).

Arntfield Mining Syndicate Limited during the 1933-1937 period financed further work on the property, thereby acquiring some 600,000 shares of Salmo-Malartic. By 1935 the workings included the following: No. 1 adit, 97' in length; 733' of drifts and crosscuts in No. 2 adit; 435' of work in No. 3 adit and 734 feet in No. 4 adit; the "H" adit, an irregular working in the form of a distorted letter H with two portals 135' apart comprised some 810 feet of crosscut and drift; a raise was driven from No. 3 to No. 2 adit and continued to surface; an

see Card 2

HISTORY OF PRODUCTION/HISTORIQUE DE LA PRODUCTION

Recorded production for the period 1918-1934 totals 32 tons of ore. From this ore 1 ounce of gold, 1,169 ounces of silver, 951 pounds of lead, and 804 pounds of zinc were recovered.

REFERENCES/BIBLIOGRAPHIE

Reports of Minister of Mines, British Columbia:
 1912, p. 155; 1913, p. 131; 1914, p. 329; 1915
 p. 162; 1917, pp. 170, 195, 452; 1918, pp. 173,
 198; 1920, p. 133; 1926, p. 278; 1927, p. 308;
 1928, p. 348; 1929, p. 353; 1933, p. 232; 1934,
 p. E 22; 1935, p. G 50; 1936, p. E 42; 1937,
 p. E 53; 1951, p. 139; 1959, p. 62.

Walker, J.F.; Mineral Developments in Salmo Map-Area,
 British Columbia; Summary Report 1929, Pt. A,
 p. 266, Geol. Surv. of Canada.

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 Map-Area, British Columbia; Memoir 172, p. 65, Geol.
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 Structure of the Salmo Lead-Zinc Area; Bulletin 41,
 p. 89, British Columbia Dept. of Mines, 1959.

Mineral Policy Sector; Corporation Files: "Salmo-
 Malartic Mines, Limited"; "Sheep Creek Gold Mines,
 Limited"; "Pennaque Mining Corporation Limited";
 "Extotal Resources Inc."; "Auckland Explorations Ltd".

De Quadros, A.M.; The Aspen Mine: A Dolomite-Breccia-
 Hosted Silver Deposit near Salmo, B.C.; Paper 49,
 CIM District 6 Meeting, Victoria, October 1981,
 Abstract in CIM Bulletin September 1981.

George Cross News Letter: 31/10/83; 25/01/85.

Exploration in British Columbia; British Columbia Dept.
 of Mines: 1980, p. 55.

Taylor, D.P.; Report on the Aspen Silver Property,
 20/12/84, in Auckland Explorations Ltd Prospectus,
 11/06/85.

MAP REFERENCES/RÉFÉRENCES CARTOGRAPHIQUES

Geological Map of the Salmo Lead-Zinc Area, Sc. 1":2,000',
 Fig. 3, Sheet C - accomp. Bulletin 41, B.C. Dept. of
 Mines.

Map 299 A, Salmo, (Geol.), Sc. 1":1 mile - accomp. Memoir 172.

#Geological Map of the Aspen property, Sc. 1":400', Bulletin 41,
 p. 90.

Map 8479 G, Salmo, (Aeromag.), Sc. 1":1 mile.

*Map 82 F/3, Salmo, (Topo.), Sc. 1:50,000.

REMARKS/REMARQUES

Comp./Rev. By Comp./rév. par	DMacR	DMacR	DMacR				
Date Date	04-81	11-83	01-86				

DESCRIPTION OF DEPOSIT/DESCRIPTION DU GISEMENT (continued)

dolomite. The bands are as much as 10 feet thick and range in grade from 3 to 15 per cent zinc.

The Lerwick zone consists of sphalerite, pyrite, and pyrrhotite in a uniformly west-dipping dolomite zone. The zone is extensively oxidized at surface and in diamond-drill holes as much as 300 feet below surface. Sulphide layers, more massive than those in the East zone, strike northward and appear to dip westward parallel to the attitude of the dolomite. Mineralized bands as much as 10 feet wide, alternating with wider bands of barren dolomite, outcrop over a width of 250 feet and have been traced on strike for about 500 feet. Individual sulphide bands are not known to continue for more than 100 feet on strike.

The Main zone minerals include sphalerite, pyrite, pyrrhotite, and minor galena in somewhat serpentized dolomite. Tremolite and diopside are locally abundant in the mineralized dolomite. Sulphide minerals appear to follow banding in the dolomite, which dips gently southward on the average but is locally steep and complexly folded. The zone, as outlined by diamond drilling, plunges south 25 degrees west at a low angle, parallel to the plunge of complex minor folds seen on surface.

The West zone is exposed in trenches for about 450 feet along strike. The zone strikes northeast and probably dips southeast parallel to the dip of the enclosing dolomite and of the limestone to the south. Mineralization is near the base of the dolomite along the northwest margin of a large, gently dipping mass of limestone. In the mineralized zone sphalerite and pyrite occur in banded serpentized dolomite, and locally sphalerite and minor galena are found in a skarn composed mainly of diopside. The zone has a maximum width of about 8 feet. A row of diamond-drill holes about 200 feet southeast of the showings intersected dolomite but encountered only sparse mineralization.

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HISTORY OF EXPLORATION AND DEVELOPMENT (continued)
HISTORIQUE DE L'EXPLORATION ET DE LA MISE EN VALEUR

inclined shaft in the vicinity of No. 4 adit was sunk 225 feet on the northeast dip of the mineralized zone; a further 1,500 feet of crosscutting and drifting, 200 feet of sinking, and 1,700 feet of diamond drilling was done in 1937. Indicated reserves were estimated at 32,000 tons at \$9/ton in gold and silver, and approximately 100,000 tons in the low-grade zinc zone (Northern Miner, March 11, 1937). In 1937 the Arntfield Mining Syndicate assets were sold to Pennaque Mining Corporation Limited.

Sheep Creek Gold Mines, Limited optioned the Bell group of claims, adjoining to the south, from L.A. Bell, of Fruitvale, in 1950, and the Aspen property from Salmo-Malartic in 1951. Work included 1,696 feet of diamond drilling in 8 holes on the Bell group, and 3,019 feet in 11 holes on the Aspen. This work failed to indicate a mineable grade although a considerable tonnage of marginal material was indicated. The option was dropped in 1951.

The Consolidated Mining and Smelting Company of Canada Limited optioned the Aspen property from Salmo-Malartic in 1959. Work included 1,775 feet of surface and 1,596 feet of underground diamond drilling; the option was dropped in November of that same year. Drill indicated reserves in the Zinc Zone were reported as 40,000 tons at 3.16% Zn (Spence, 1959, as reported in Auckland Expl L Prospectus, 11/06/85, Report by D.P. Taylor, p. 12). Salmo-Malartic Mines was dissolved in 1969.

The reverted Crown-grants were acquired in 1979 by John Mirko of Vancouver, and associates. The surrounding area was staked as The Crunch and The Rock claims (18 units each).

Total Resources Inc purchased the claims from Mirko by an agreement dated February 1980; the company name was changed in December 1980 to Extotal Resources Inc. Work by the company in 1980-81 included geological mapping, sampling, petrological studies and 6,820' of underground diamond drilling in 74 holes. Based on this work the Silver Zone contains drill proven: 54,146 tons at 6.85 oz/t Ag with minor PB-ZN; drill indicated:

13,428 tons at similar grade (A.M. de Quadros, 1981, as reported in Auckland Expl L Prospectus, 11/06/85, Report by D.P. Taylor, p. 15).

In 1983 former owners, Mirko & assoc, optioned a 60% interest in the property from Extotal. In Nov.-Dec. 1983 Chopper Mines Ltd., under an agreement with Mirko, carried out rehabilitation of the B adit and bulk sampling.

In November 1984 Mirko & associates formed Auckland Exploration Ltd to continue work under the option agreement with Extotal.