PRODUCT GOLD | TERRITORY | N.T.S. AREA 94 E/6 | REF. AU 2

NAME OF PROPERTY CHAPPELLE (BAKER)

OBJECT LOCATED - Adit.

UNCERTAINTY IN METRES 1,000. Lat. 57°17'20" Long. 127°06'40"

Mining Division Omineca District Cassiar

County Township or Parish

Lot Concession or Range

Sec Tp. R.

OWNER OR OPERATOR AND ADDRESS

DESCRIPTION OF DEPOSIT

Rocks on the property include crystalline limestone belonging to the Asitka Group of Permian age and Takla Group volcanic rocks of Upper Triassic age, intruded by granitic rocks of the Omineca Intrusions. The Takla Group on the property comprises tremolite andesite porphyry, fine-grained andesite, pyroclastic breccia and porphyritic feldspar andesite. These rocks have been subjected to extensive normal block faulting and by thrusting of the Asitka Group rocks over the Takla Group rocks. Attitudes are rarely determinable. Limited observations indicate the units strike north in the southwest part of the property and northeasterly in the eastern part, with steep to moderate dips. The main portion of the quartz-feldspar porphyry intrusive lies at the fault contact between Asitka Group and Takla Group rocks near the western end of the A Vein. Highly altered quartz-feldspar porphyry occurs immediately to the north of the A Vein. Near the vein it is altered to quartz, sericite, and clay minerals.

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Associated minerals or products of value - Silver, copper.

HISTORY OF EXPLORATION AND DEVELOPMENT

The property is located between elevations of 4,000 and 7,000 feet about 17 miles northwest of Thutade Lake and 170 miles north of Smithers.

Kennco Explorations, (Western) Limited staked the Chappelle 1-6 claims in 1968 on a molybdenum-silver anomaly obtained in a regional geochemical soil reconnaissance survey. During follow up work on the property in 1969 rich gold-silver-bearing float fragments were discovered. Further exploration work during 1970-1972 resulted in the discovery of quartz veins near the mineralized talus and at six other locations within the general area. This work included geochemical soil surveys, silt and rock geochemistry, 2,200 feet of machine trenching, 2,000 feet of hydraulic trenching, and 300 feet of diamond drilling in 3 holes. Additional claims were staked in 1970 and 1971 to a total of 262. The only significant precious-metal mineralization located by this work occurs in the A Vein, near the site of the original discovery of gold-silver bearing float.

In January 1973 Conwest Exploration Company Limited and associated companies (Conwest Group) optioned the property from Kennco. Conwest drove a crosscut adit 530 feet to intersect the downward extension of A Vein 150 feet below the surface. The vein was drifted on for about 170 feet and from these workings 1,703 feet of diamond drilling was done in 11 holes. Percussion drilling was done in 20 holes totalling 500 feet on Chappelle 3 and 4. Conwest terminated its option at the end of 1973.

In 1974 Du Pont of Canada Exploration Limited optioned the property and began a program to explore the extensions of the A Vein system, and further evaluation of other quartz veins in the area. During the year a magnetometer survey was carried out over 1.6 line-miles on Chappelle 6, and 7,467 feet of surface diamond drilling in 20 holes on Chappelle 3, 4, and 6. Work during 1975 included geological mapping, a magnetometer survey over 48 line-kilometres, a geochemical soil survey (150 samples) over 0.8 line-kilometre covering Chappelle 6, and surface diamond drilling in 24 holes totalling 2,600 metres. During 1976 development work on the shoot in the A Vein included 186 metres of drifting and raising, 59 metres of

see Card 2 ....

Mineral Development Sector, Department of Energy, Mines and Resources, Ottawa.

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## HISTORY OF PRODUCTION

In the period 1981-83 a total of 77,596 tonnes were milled. From this ore 1 196 168 grams gold and 23 084 969 grams silver were recovered.

## MAP REFERENCES

#Geology of Part of the Chappelle Claims, Sc. 1":2,000 ft., Fig. 3, Geology, Exploration and Mining 1971, British Columbia Dept. of Mines.

Geology of Part of the Chappelle Claims, Sc. 1":100 m, Fig. G-35, Geology, Exploration and Mining, 1975, British Columbia Dept. of Mines.

Map 94 E, Toodoggone River, (Topo.), Sc. 1:250,000.

*Map 94 E/6, Moosehorn Creek, (Topo.), Sc. 1:50,000.

#Geology between Toodoggone and Sturdee Rivers, Fig. 45, Geological Fieldwork, 1982, p. 142, BCDM.

## REMARKS

The property partially surrounds the Castle Mountain Crown-grants (94 E/6, CU 1).

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| Comp./Rev. By | DMacR | DMacR | DMacR | DMacR | | | |
| Date | 2-78 | 04-81 | 08-86 | 03-87 | | | |

## REFERENCES


+Barr, D.A.; Chappelle Gold-Silver Deposit, British Columbia; Canadian Institute of Mining & Metallurgy, Bulletin, Vol. 71, No. 790, Feb., 1978, pp. 66-79.

Geology, Exploration and Mining; British Columbia Dept. of Mines: 1969, p. 103; 1970, p. 188; 1971, pp. 65-70 ++ ; 1972, p. 484; 1973, p. 459; 1974, p. 312; 1975, p. E 165; 1976, p. E 175; 1977, p. E 216; 1978, p. E 246.

Mineral Policy Sector; Corporation Files: "Kennco Explorations, (Western) Limited"; "Conwest Exploration Company Limited"; "Du Pont of Canada Exploration Limited"; "Kennecott Corporation".

Du Pont of Canada's Major Mining Venture; Western Miner, June 1980, p. 17.

Geology in British Columbia; BCDM: 1975, p. G 79; 1976, p.107.

Mining in British Columbia, Vol. 1, 1975-80, p. 22, BCDM.

Geological Fieldwork; BCDM: 1980, p. 129; 1981, p. 129.

Northern Miner, August 15, 1985, p. 1.

George Cross News Letters: 1985, Nos. 141, 162, 192; 1986, No. 151, 160, 171, 183, 191.

Exploration in British Columbia: 1982, p. 333; 1983, p. 479.

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NAME OF PROPERTY CHAPPELLE (BAKER)

DESCRIPTION OF DEPOSIT (continued)

On the property seven quartz vein systems cutting Takla Group rocks have been investigated. These are: Veins A, B, C, D, North Quartz Zone, West Chappelle and Black Creek gossan. The veins occupy two principal trends, northeast and east-southeast.

The quartz vein system is cut by numerous cross-faults which offset portions of individual veins, commonly for 1 to 15 m and in one instance for an inferred plan offset of 30 m in a small graben structure. Most of the faults are northwesterly trending normal and reverse faults dipping to the northeast and dip-slip strike faults dipping at shallow angles, generally to the southeast.

Gold-silver values are generally associated with highly fractured and occasionally brecciated white to grey, vuggy quartz veins containing 1 to 10 per cent pyrite, and to a lesser extent occur in silicified wall-rock. Xenoliths of altered andesite and dacite frequently occur in the veins. The only other common gangue mineral is carbonate, which fills fractures.

Higher-grade mineralization is associated with grey quartz, which occasionally contains visible argentite, commonly associated with disseminated grains of pyrite, chalcopyrite and very minor sphalerite.

Mineralogical studies indicate that pyrite is the dominant mineral, constituting about 90 per cent of sulphide mineralization. It occurs as euhedral grains and includes blebs of chalcopyrite, electrum, argentite, bornite and sphalerite.

Electrum occurs as grains up to 50 microns in diameter frequently associated with argentite and as blebs 5 to 10 microns in diameter in pyrite. High grade gold-silver values occasionally occur in narrow (1-5 cm) cross-cutting silicified shears. Visible gold is exceedingly rare. The volcanic rocks adjacent to quartz veins commonly contain 3 to 15 g Ag/tonne (0.1 to 0.48 oz/ton).

Vein A is part of a fault-controlled quartz vein system composed of two or more subparallel veins which trend northeasterly and dip from 80 degrees southeast to about 70 degrees northwest. The quartz vein system has been traced for a strike length of 435 m and across a width varying from 10 to 70 m. Individual veins within the system vary from0.5 to 10 m. in

continued reverse Card 2 ....

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)

underground diamond drilling, and bulk sampling. A feasibility study was carried out.

Reserves in the 'A' Vein were estimated at about 52,000 tons averaging 1.07 ounces gold and 23.2 ounces silver per ton with 20% dilution (Barr, D.A.; Chapelle Gold-Silver Deposit; C.I.M. Bulletin, Feb. 1978, p. 75).

A feasibility study was carried out in 1977. Mineable reserves were reported as 100,000 short tons at 0.9 oz/ton gold, and 19 ozs/ton silver (Western Miner, June 1980, p. 20). Mining plans call for production to be about 25% from an open pit and 75% from underground, over a mine life of approximately 3 years. The mine was given the name "Baker", in honour of A.H. Baker, a former President of Du Pont of Canada Exploration Limited. Construction of a 120 ton per day cyanidation mill began in 1980, with the materials being air lifted to the property due to the lack of an access road. The mill was put into operation early in 1981. Under the terms of the lease agreement Kennecott Minerals Company, a division of Kennecott Corporation, will receive 50% of the profit after Du Pont recovers its investment. Du Pont of Canada Exploration is a wholly-owned subsidiary of Du Pont Canada. Reserves were depleted and the mine closed December 31, 1983.

In mid 1985 Multinational Resources Inc, an associate of Teck Corporation, acquired from Du Pont an option to purchase about 180 claims, and also the right to purchase the existing mill. Work in 1985 included induced potential and geochemical stream sediment surveys and 2,000' of diamond drilling. Drilling continued in 1986 in 33 holes ( ). Work to date indicates some 50,000 tonnes grading 17 to 20 g/mt Au and 140 g/mt Ag within the B zone (The Northern Miner Magazine, March 1987, p. 81).

DESCRIPTION OF DEPOSIT (continued)

width. Drilling indicates that the vein system persists for at least 150 m vertically from surface. Vein A is the most southeasterly of the two principal veins in the vein system and, where both veins have been intersected in drill holes, they generally lie about 15 m apart.

Throughout most of its length, Vein A lies within altered Takla Group tremolite andesite porphyry and dacite, which are intensely silicified on vein walls. At intervals, it lies partly along a contact between quartz-feldspar porphyry on the northwest and Takla Group volcanic rocks on the southeast.

Detailed surface sampling on Vein A showed a common concentration of higher-grade precious-metal values along the hanging wall of the vein, with a relatively abrupt decrease of values on the hanging-wall side and a gradual drop in values toward the footwall.

Drilling data indicate that the higher-grade mineralization occurs over a strike length of 200 m, across an average width of about 3 m and to an average depth of about 40 m below surface in one continuous shoot.

Two isolated drill intercepts indicate the possible existence of another shoot apexing about 60 m below the base of the present shoot.