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Title ..... Ann. Rept. - Skeena M.D.  
Author ..... NCC  
Date and Typist ..... April 15, 1969      bm      1

Monarch, Silver Bar, Silver Bell, Silver, Etc.      by N. C. Carter

LOCATION: (55° 129° N.E.) 13 miles east of Alice Arm, at the headwaters of the Illiance River, between elevations of 3,000 and 4,000 feet

CLAIMS: 38 recorded claims including: Monarch, 6 claims; Silver Bar, 10 claims; Silver Lot claim; Silver Bell claim; Grey Goose claim; Silver, 3 claims; Pork Chop group, 12 claims; Ponder group, 4 claims; also 2 Crown-granted claims, Lots 3508 and 3509

ACCESS: By helicopter from Alice Arm

OWNER: Gunn Fiva of Alice Arm and Stanley Uruski of Courtenay

OPERATOR: Ponder Oils Ltd., 806 Lancaster Building, Calgary 2, Alta.

METALS: Silver, lead, zinc

WORK DONE: Thirty-one holes totalling 2,899 feet were diamond drilled. Some hand trenching was done and surface workings were mapped by planetable. Four men were employed for three months under the supervision of J. S. Falconer.

REFERENCES: Minister of Mines, B.C., Ann. Repts., 1965, pp. 66-68; 1967, pp. 44-50

DESCRIPTION:

Recent descriptions of most of the individual mineral showings are contained in the Minister of Mines and Petroleum Resources Annual Reports for 1965 and 1967. Several days during the 1968 field season were spent traversing the area shown on Figure and examining drill core recovered by Ponder Oils Ltd. during the past two field seasons.

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The accompanying sketch map (Fig. ) illustrates the regional geology and the locations of the known mineral deposits. The map should be regarded as preliminary. Since no accurate topographic maps are available for this area, the topography shown is based mainly on elevations obtained by the writer during the course of geological traverses run east and west of the Illiance River. A forest inventory planimetric map showing drainage and air photo centres provided a base for plotting.

Early access to the area was by horse trail up the Illiance River from Alice Arm. Most of the showings had been located by 1916 and considerable prospecting and development work was done during the 1920's. From 1930 the area was dormant until 1951 when Transcontinental Resources Ltd. optioned several of the properties and carried out six weeks work. Sporadic work was performed by individuals in subsequent years until Ponder Oils Ltd. optioned the properties in 1967.

Most of the mineral showings are situated a short distance south of the divide between the Illiance and Tchitin Rivers. Here, the Illiance flows due south through a broad valley in which elevations range from 2,500 feet to in excess of 6,000 feet at the summits of Tchitin Peak and Illiance Mountain. The tree line is at an elevation of 4,000 feet.

The oldest rocks in the area shown on Figure include coarse green pyroclastic rocks, mainly augite andesite tuffs and breccias, in the southeastern part of the area, and sedimentary rocks as exposed on the east slope of Illiance Mountain. A cherty sedimentary horizon, up to 500 feet thick, and intercalated with dark grey to black siltstones, underlies the summit of Illiance Mountain.

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Overlying these rocks more or less conformably and interbedded with them locally along the Illiance River are red and green well-stratified volcano-sedimentary rocks including volcanic conglomerates, sandstones, and siltstones. Coarse varieties predominate, in which rounded fragments range in size from one-quarter inch to 1 foot, the most common size range being between 1 and 3 inches. Local intercalations of red and green breccias characterized by angular fragments and a poor degree of sorting suggest a pyroclastic origin for some of the material. The fragments, which in both varieties are closely packed and best seen on weathered surfaces, consist of andesite crystal tuffs and porphyritic andesites. The matrix is generally of sand-size material with hematite dust providing the reddish colouration. The volcanic conglomerates are found in 6-inch to 3-foot thick beds, separated by 1- to 5-inch beds of red volcanic sandstone and siltstone in which graded and crossbedding structures are commonly displayed. Fossil impressions were noted in a pebble conglomerate horizon on the west slope of Illiance Mountain.

A prominent feature of the volcanic sandstones and conglomerates is a pronounced schistosity striking slightly west of north and dipping vertically to steeply east or west. This schistosity is best developed near the Illiance River where originally rounded fragments in the rocks are elongated in the plane of shearing.

Basic dykes, not more than 5 feet wide and post-dating the quartz-sulphide veins and mineralized zones, have been intruded mainly along shear planes. Three varieties of dykes were noted, the most common being hornblende andesite, which weathers light green and in which 1- to 2-millimetre phenocrysts of chloritized hornblende make up 10 per cent

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of the rock. Biotite lamprophyres, usually 1 foot wide and dark green in colour, occur in a dyke swarm near the United Metals showings. Grey andesite dykes, noted in a few locations, are characterized by the presence of 1- to 2-millimetre amygdules of carbonate in a light grey matrix.

The red and green volcano-sedimentary rocks are contained within a broad, southerly plunging syncline, the axial trace of which parallels the Illiance River. Moderate dips prevail along both limbs of the fold and minor cross-folds were noted on the east slopes of Tchitin Peak. Minor movement has occurred along the axial plane cleavage developed during folding of the rocks, giving rise to the penetrative schistosity prevalent throughout the area. The numerous parallel northerly trending draws east and west of the Illiance River are the surface expression of the shear zones near the axial region of the fold.

The accompanying sketch map shows the locations of most of the known mineral showings with the exception of those of the Belleview group which are covered by several Crown-granted claims immediately south of the claim groups described.

Silver-lead-zinc mineralization occurs in two forms; the most common type being quartz-carbonate-sulphide veins which contain fine pyrite, galena, sphalerite with tetrahedrite, and in some places, chalcopyrite. Mineralization occurs to a lesser extent in zones in which stringers and fine disseminations of pyrite and galena occur in wallrocks altered to light grey schists.

The veins and mineralized zones occur along shear planes near the river or the axial region of the synclinal structure and consequently are of variable width and horizontal continuity, the longest continuously

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exposed vein structure being 200 feet. The Silver Bar showings are perhaps typical, with veins pinching out and recurring at intervals along the same draw or shear zone over a distance of 3,000 feet. South of the Silver Bar showings, along the same trend, are the Horsecut, United Metals, and Grey Goose mineralized structures.

A prominent feature of the deposits is the alteration of the red and green volcano-sedimentary wallrocks to light grey schists. The widths of these zones of alteration, which represent intense quartz-carbonate-sericite-pyrite alteration, range from between 10 to 30 feet outward from a single vein to an envelope several hundred feet wide adjacent to a number of closely spaced parallel veins. Intensity of alteration increases inward from narrow bands of quartz-carbonate-sericite-pyrite along cleavage planes through a mottled red and grey rock in which the original fragments are barely visible to a uniform light grey schist.

Basic dykes may also provide a useful guide to mineralized structures in that while clearly post-dating the veins, in many cases they have been intruded along the same planes of weakness. Good examples are the numerous dykes in close spatial relationship with the mineralized structures at the United Metals and the northernmost Silver Bar showings.

Detailed descriptions of the properties may be found in the Minister of Mines and Petroleum Resources Annual Reports for 1965 and 1967. The following descriptions are revised earlier reports and review more recent work by Ponder Oils Ltd. Table I includes assay results of samples collected by the writer during the past few field seasons. The locations are indicated by sample numbers on Figure .

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The Monarch showing is east of the divide between the Illiance and Tchitin Rivers at an elevation of 3,800 feet. The principal showing as exposed in a trench is a north-striking quartz-carbonate-barite-sulphide vein, terminated sharply at the north and south ends by faults. Copper content is higher here than in other veins of the area, occurring both as chalcopyrite and tetrahedrite along with galena, sphalerite, and some specularite. Drilling in 1967 failed to indicate any appreciable depth or width of the mineralized zone.

Northeast of the Monarch showing at an elevation of 4,250 feet, a 3-foot wide quartz-carbonate-barite vein containing small amounts of galena, sphalerite, and tetrahedrite is exposed over a distance of 10 feet.

The Silver Bar showings are situated west of the Illiance River between elevations of 3,400 and 3,800 feet. Quartz-carbonate-sulphide veins are exposed in a series of open cuts along a major draw or shear zone parallel to the river. Vein widths vary between 1 and 5 feet and the longest continuously exposed mineralized structure is 200 feet. Horseshoe country rock occur in wider parts of the veins. The veins, which contain galena, sphalerite, and tetrahedrite, are controlled by shear zones which cut grey pyritic schists. Narrow andesite dykes parallel the veins in several open cuts. Ten angle holes, drilled near the northernmost showings in 1967, intersected only narrow sections of vein material.

The Horsecut showing is exposed in a 75-foot long trench near the Illiance River at 3,250 feet elevation. A northerly trending 4-foot wide quartz-carbonate vein, offset slightly by a northeast striking fault halfway along its exposed length, contains stringers of galena

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and sphalerite. Seven short angle drill holes failed to trace the vein north or south of that length exposed in the trench. Down dip beneath the trench, vein widths of between 2 and 4 feet were intersected, enveloped by a 15- to 40-foot core of bleached schist.

The United Metals showings are situated on the Illiance River at an elevation of 3,100 feet. Old workings include several open cuts and six short adits driven east and west from the river bank, which expose narrow quartz-carbonate-sulphide veins cutting bleached fragmental rocks. Open cutting in 1968 exposed a number of zones 2 to 5 feet wide over a distance of 1,000 feet to the north of the old workings. The mineralized zones consist of narrow bands and stringers of galena and sphalerite occurring along shear planes in light grey bleached schists. Drilling in 1967 and 1968 in the vicinity of the old workings indicated a zone of alteration at least 300 feet wide and bracketed on the east and west by basic dykes. Fifty-foot wide sections of sheared, graphitic siltstone were intersected near the Illiance River and these were seen to contain 1-inch beds of coarse carbonate with 1-millimetre grains of pyrrhotite.

The Grey Goose showing is situated 1,500 feet south of the United Metals workings. A 20-foot trench exposes a northwest-striking zone of variable width in which small massive lenses of galena and sphalerite are contained in light grey schist. Some drilling was done here late in the season.

The Silver showings are located south and east of the United Metals workings at an elevation of 3,300 feet. Original workings include a 200-foot long adit driven northwesterly from a creek bank along a vein in a shear zone. A parallel vein structure exposed in a small creek

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100 feet west, is 4 feet wide and contains stringers of pyrite, galena, and sphalerite. Angle holes intersected 2-foot wide zones of bleached schist containing stringers and disseminations of galena and sphalerite.



TABLE I

Sample No.	Location	Width (feet)	Gold (oz/ton)	Silver (oz/ton)	Copper Per Cent	Lead Per Cent	Zinc Per Cent
2153	Monarch	10	trace	2.5	2.92	0.48	1.7
2178	Silver	8	trace	12.9	40.05	1.31	0.31
2179	Silver	Dump	0.01	113.2	0.92	10.08	14.4
7474	Silver	4	trace	16.6	0.16	2.63	2.15
7475	Silver	2	trace	5.0	0.02	2.93	0.27
7476	United Metals	5	trace	22.3	0.32	11.60	7.00
7477	Horsecut	4	trace	6.8	0.06	1.38	0.65
7478	Grey Goose	6	trace	2.8	0.04	0.59	1.41
7479	Silver Bar	3	trace	42.2	0.30	18.33	7.2
7480	Silver Bar	1	trace	3.2	0.03	0.84	0.43
7481	Silver Bar	1	trace	13.5	0.24	3.80	2.46
7482	Silver Bar	5	trace	36.1	0.09	1.95	3.04
7483	Silver Bar	3	trace	25.5	0.53	2.05	2.96
7484	Silver Bar	3	trace	8.2	0.13	4.43	3.06
7485	Silver Bar	3	trace	4.7	0.12	3.35	1.72
7486	Silver Bar	Dump	trace	23.0	0.77	17.82	9.1