

521043

IVA FERN

Visit by Jack Denny  
Nelson, B.C.

Jan 20/82

82F7

- ① Group of Claims - Trout Lake Area - N. of Ferguson  
Silver Hoard  
Silver Treasure  
Ellsmere  
Morgan

82K14

Deal - 4 combined \$15,000 down  
to \$400,000 total  
+ work commitment & possible royalty  
Also would consider separate.

Both bedded & vein type units Pb/Zn/Ag (100 oz)  
replacement

Both carb & shale hosted (Badshot L.S.)

MacKenzie Mt type country

Logging road getting close - now helicopter

- ② Bisniak Near Kaslo - feasible distance Ainsworth mill  
Road & cabin built 1981

82F 14 Stocan sedo - lode system or systems 4 mi long

Pb Zn Ag 100 oz

(957 tons out of one small stope - gave 1 m in Ag by \$1/price)

\* Norcen was going to take this one but dropped out when their  
mining dept. shut down. Deal \$10,000 down  
Total \$300,000 + work

- ③ Iva Fern (Ymir Area)

Pb Zn Ag (Cu) paddy but long

Cu not assayed for but Denny think signif.

Cominco seemed to like it in 30's.

Denny currently trying to package all the claims


82F7

# IVA FERN

TRACED FROM M.R. MAP - 87300

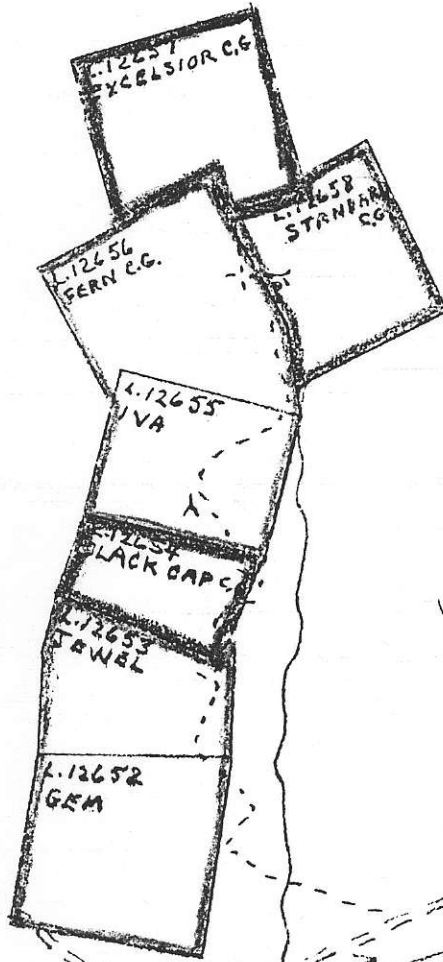
SCALE - 1 INCH = 1500 FEET

E. + J. DENNY 

W. JORGENSEN 

E. WEAVER 

82F7  
NTS 82F7



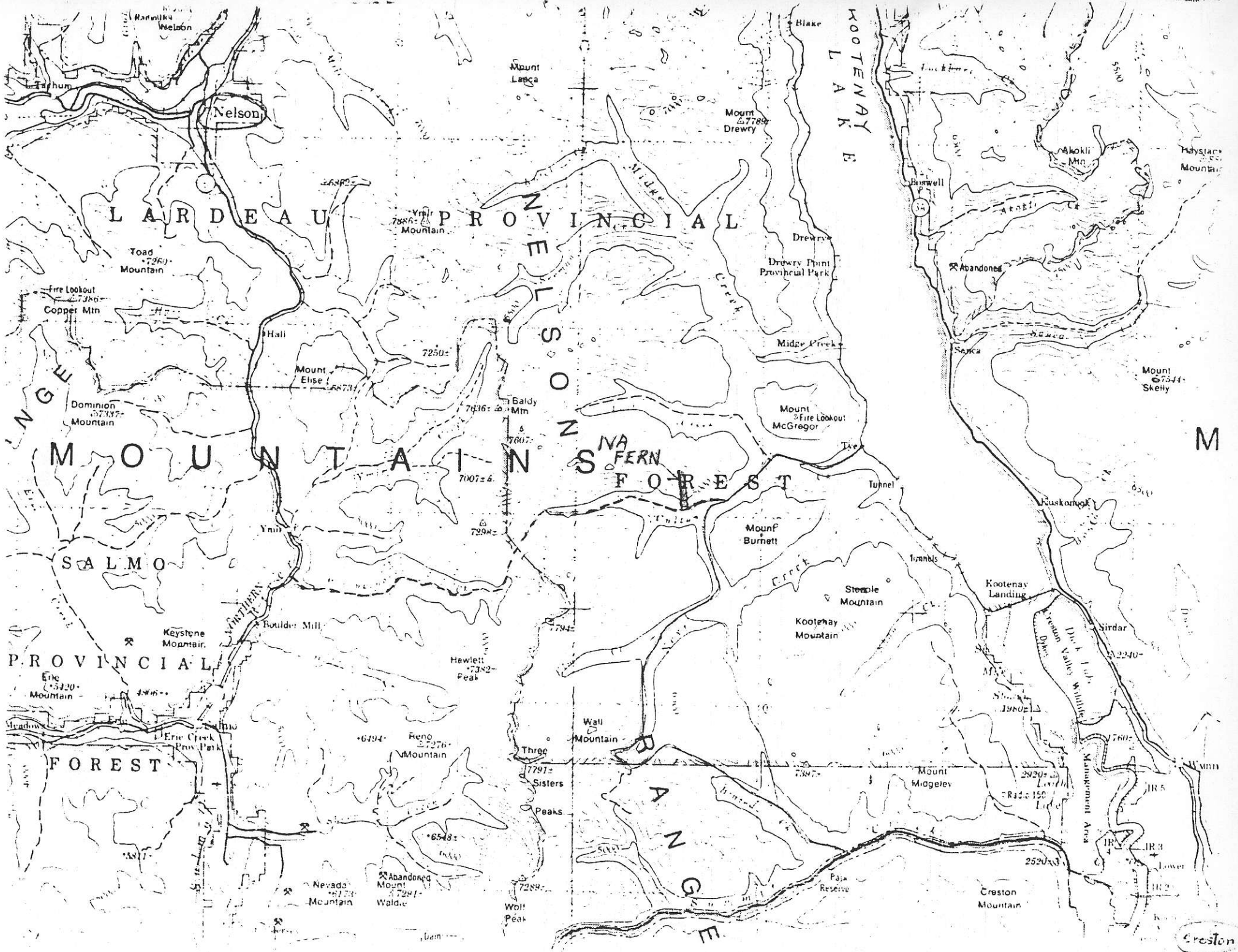
ROAD TO YMIR

CULTUS CREEK

TO KOOTENAY LAKE

TO SALMO - CRESTON HIGHWAY





FROM MAP 82 F

ROUTES TO IVA FERN SHOWN IN RED - BEST - - -

The Iva Fern is presently held by the following: - Mrs. E. Weaver, 1315 Robertson Ave., Nelson owns the Excelsior L.12657 C.G. and the Black Cap L.12654 C.G. W.B. Jorgenson owns the Standard L.12658 C.G. and Eric Denny and Jack Denny own the Fern L.12656 C.G. and the three reverted Crown grants Iva L.12655, Gem L.12652, Jewel L.12653 or a total of 7 claims altogether.

No work of any importance has been done on these claims since 1930 at which time they were accessible from Tye on Kootenay Lake by 3 miles of trail only. Until 1931 when the railway between Procter and Kootenay Landing was completed the only connection that Tye had with the rest of the world was by paddle wheel steamer or smaller boats on the lake. Today a road from Ymir goes up Porcupine Creek and down Cultus Creek to Tye and passes beside the south boundary of the Gem (the most southerly and lowest claim of the group. A branch road goes within a mile of the three upper claims where most of the development has taken place. Surface rights to the ground are held by Darkwoods Forestry Ltd. Distance from the highway just south of Ymir is approximately 13 miles by good logging road. The claims are shown on Nat. Top. Map 82F/7W. They extend from 4100 ft. up to 6400 ft. on the north side of Cultus Creek so they face south and should be bare of snow to the top of the hill by June 15. Parts of the old trail are still in fair shape but the old cabins at the mine are beyond repair. Both portals are caved and many of the open cuts are partially sloughed in. No shipments were ever made as transportation was a severe problem at the time the claims were worked. The Great Depression was in full swing when work ceased.

The only government geological mapping of this area was by H.M.A. Rice from 1936 to 1938 and published in 1940 (reprinted in 1956) and accompanying Memoir 228 Nelson Map-Area-East Half - at a scale of 1 inch equals 4 miles. Rice places the Iva Fern in the Horse thief Creek Series which consists of "green, argillaceous quartzite; blue-grey limestone, arkose, pebble conglomerate." Granitic rocks outcrop to the east and lamprophyre dykes accompany the mineralization in places. Some of the ore is brecciated. The old reports in the Annual Reports of the Minister of Mines appear accurate as far as the writer has been able to determine. These reports together with the copy of the Miners Western underground plans (compiled from C.M. & S. plans of 1920, 1929 & 1930) give a good idea of the values, widths and types of mineralization encountered in the surface workings and underground. Apparently there has been no stopping done. This plan shows the main drift as having continuous mineralization of tunnel width for 600 ft. and is open at both ends with several open cuts on surface proving the upward continuation of the ore.

The 500 ton pile of sorted ore is still there together with small piles at many of the open cuts and some lower grade ore scattered through the various dumps.

Similar mineralization shows on the southside of Cultus Creek and near Low Pass. The writer staked approximately 130 claims along the trend of this mineralization for a Vancouver company about 1969 but they ran out of funds before accomplishing anything. There is practically no outcrop in the entire area so there is a possibility of a considerable tonnage of ore. Detailed mapping together with soil sampling and followed by the most suitable geophysical methods over a grid could very likely provide some very worthwhile targets for diamond drilling and to confirm obvious drilling targets already in existence.

For further information, a look at some samples, and arrangements for a tour of the property please contact Eric Denny, R.R.#1, Nelson, pn. 325-4480 or Jack Denny, ph. 352-7726 who each have a 4 wheel drive truck. The fastest way to see it is by helicopter. It is just over 20 miles by air from Nelson. The main dump was a good heliport a few years ago, and one can also land in a logged area 3/4 of a mile to the north.

Resident  
Engineer

1917-page 167 - This group, consisting of seven claims, is situated on the north side of Cultus Creek, at a distance of about seven miles from Kootenay lake. The property is owned by J. Mulholland, of Sirdar, B. C. In the vicinity of the

workings the hillside has a fairly uniform slope which is covered with overburden, and on which there is ample timber for all requirements. The workings are situated near the top of the hill at an elevation of 5,735 feet, or 1,870 feet above Cultus creek, where there is abundant water-power available.

The formation is of sedimentary origin, composed of shales and schists, and is cut by intrusive dykes which are said to run parallel to the formation, but the short time that the writer had on the property did not allow a surface reconnaissance to be made in order to trace the geology or to identify the various surface showings of ore with the vein system.

The work done consisted of a number of open-cuts, which in every case showed a width of ore from 1 to 6 feet, but on account of the heavy covering of overburden it was difficult to definitely determine the nature of the walls and the dip and strike of the strata, which latter, as far as could be ascertained, was approximately north and south. However, with only the cursory examination that was made, it was quite evident that the surface showings and general conditions were encouraging and fully warranted the further exploitation of the property.

At the lowest exposure the ore consisted of a mixture of galena, a little chalcopyrite, and iron pyrites occurring in oxidized ledge-matter; at the upper workings the ore was principally galena. A sample taken at the lowest showing, across a width of 6 feet, gave the following returns: Gold, trace; silver, 3.50 oz.; lead, 5 per cent. Farther up the hill a sample across a width of 2.5 feet gave: Gold, 0.02 oz.; silver, 3.40 oz.; lead, 22 per cent.; while at a short distance from this, on the summit of the hill, a sample across a width of 2 feet gave: Gold, trace; silver, 1.80 oz.; lead, 10 per cent.

During the summer development-work was carried on, and according to recent reports the property has now been bonded by the Consolidated Mining and Smelting Company.

In connection with the occurrence of sedimentary rocks in this section, it may be of interest to note that this belt of schists and slates, bounded by the granite formation on the east and west, extends southward across Cultus creek and apparently forms the saddle of the Low Pass divide; and, further, it has been reported that the same character of ore has been found in the vicinity of the Low pass on a group of claims owned by C. O. Woodward, R. J. Elliot, and others, of Nelson.

1918-page 198 - This group situated on Cultus Creek, seven miles from Kootenay Lake, was staked by J. W. Mulholland. It consists of fifteen claims. Considerable stripping was done by the locators, discovering large bodies of silver-lead ore, and a bond was taken on November 10th, 1917, by the Consolidated Mining and Smelting Co. of Trail, for a considerable sum. This company has done several thousand feet of stripping with good results and is at present driving a long crosscut tunnel to tap the veins at depth. It gives promise of being one of our large shippers. Mr. Mulholland has other claims in the vicinity that show good values.

By A.G. Langley.

1919 -page 155 - This property, consisting of seven Crown-granted claims, is situated on Cultus Creek at an approximate distance of seven miles from Kootenay Lake. There is a good trail from the lake-shore to the mine, and the camp can be reached comfortably either on foot or horseback in about three hours. The claims are staked in a northerly direction along the strike of the veins from the valley of Cultus creek to the summit of the rounded ridge lying between the North and South forks of the creek. J. Mulholland, the original owner, bonded the property to the Consolidated Mining and Smelting Company in 1918, under which bond he accepted a contract to drive a crosscut tunnel and altogether do some 700 or 800 feet of underground work. The mine cabins consist of a bunk-house and cook-house with accommodation for about eight men; there is also a small blacksmith-shop at the tunnel and another cabin on the creek at the foot of the mountain trail which is used as a storehouse.

The surface of the mountain in the vicinity of the workings is covered with a depth of from 3 to 6 feet of overburden and few rock-exposures are visible. The formation in which the ore has been found, consisting of steeply tilted and highly metamorphosed rocks of sedimentary origin, has been intruded in the vicinity of the veins by a basic lamprophyre dyke, which may be genetically connected with the ore-deposits.

The surface work has so far been confined to an area near the summit of the ridge, and although the vein is said to have been traced down the hill, little work has been done at lower altitudes. Long shallow trenches dug across the strike of the formation disclose the rock in-place, which near the surface has been subjected to highly oxidizing agencies; the dyke-rock is decomposed and there are wide zones of broken material stained with oxide of iron. Besides oxidized and decomposed ledge material, small quartz stringers carrying ore are the only indications of the vein or veins in these trenches.

Near the summit of the ridge, at an elevation of about 6,300 feet, a 10-foot shaft has been sunk on the No. 2 vein. At this point there is a wide exposure of oxidized and decomposed material in which ore occurs in streaks and bunches. On the foot-wall side at the bottom of the shaft the ore shows a width of 2 feet, but the shattered condition of the enclosing rocks is not convincing as to its continuity. The vein conforms to the stratification of the formation, the dip being almost vertical and strike north and south. From this shaft 3 or 4 tons of ore has been extracted, a grab sample of which ran: Gold, 0.04 oz.; silver, 4.2 oz.; copper, 35 per cent.; lead, 26 per cent.; zinc, 9 per cent.

Farther down the hill and in an easterly direction from the No. 2 vein a 20-foot shaft has been sunk on what is known as the No. 1 vein. At the top of this shaft the vein shows a width of about 6 feet, but the fact that the shaft was caved and partly filled prevented an examination of the bottom. A grab-sample of a few tons of ore extracted from this shaft ran: Gold, 0.02 oz.; silver, 5.2 oz.; lead, 35 per cent.; zinc, 4 per cent.

It is interesting to note the difference between the ore from these two veins. That from the No. 2 vein consists of a fairly coarse-grained galena, with which is associated chalcopyrite and zinc-blende. The ore from the No. 1 vein is a steel-grain galena and carries no copper. The gangue material in both cases is composed of lime and silica.

The crosscut tunnel which is being driven by the Consolidated Mining and Smelting Company to intersect these veins is now in 252 feet, and will gain a depth of about 200 feet on the No. 2 and 125 feet on the No. 1 vein. At a distance of 200 feet from the portal two quartz stringers carrying galena were cut. The wall-rocks at this point are hard, massive slate. The last 50 feet of the tunnel is in the same material, but, judging by surface indications, softer ground will be encountered as the No. 2 vein is approached.

The No. 2 vein is the strongest and is of particular interest on account of its copper content, which possibly owes its origin to pneumatolytic processes created during the intrusions of the hornblende dyke-rock. More surface prospecting might be done to advantage on this vein, while the continuation of the crosscut tunnel will demonstrate the possibilities at depth.

The property is still a prospect and its future depends upon the development of sufficient ore to warrant the erection of a concentrator. The indications for finding ore are favourable, but at present the probabilities of its becoming an important producer are still problematical.

1919-page 159-This group, situated on Cultus Creek, is under development bond to the Consolidated Mining & Smelting Co. Ltd., and consists of 15 claims, seven of which have been Crown granted. A comprehensive plan of development has been initiated, but owing to the scarcity of miners the contemplated long crosscut tunnel, started to cut all veins, was only driven 225 feet, and work was closed down during the winter, the intention being to install machinery as soon as weather conditions permit in the spring. Several hundred feet of surface-trenching was done, disclosing a series of parallel veins of economic width and value, and from all indications the property promises to be a large producer. The values are in lead-silver-copper-gold. J.W. Mulholland, the locator and owner, has been retained as manager.

1919-page 370-

Iva, etc. Nelson Div. J.W. Mulholland Lot 12655G.1 39.07 acres Dec. 9  
7 crown grants

1922- page 209- At the Iva Fern on Cultus Creek, driving the crosscut was continued by the Standard Silver Lead Mining Co. of Silverton, with Jack Mulholland in charge of the work.

1923- page 219- At the Iva Fern, on Cultus Creek, work was proceeded with during the greater part of the year by the Standard Silver Lead Co. under option from the owner, J. Mulholland. According to recent advice the company has stopped work at this property.

1925- page 251- By B.T. O'Grady Assistant Engineer.

As numerous references have been made to this property in previous Annual Reports, it is only intended to give a short summary here of the work done since the property was last described in the Annual Report for 1919. The Iva Fern, owned by Jack Mulholland, who staked it originally, and A. B. C. Dando, who has recently acquired an interest, is situated on Cultus creek, about 7 miles from Kootenay lake. The ore contains values in silver, lead, zinc, and copper. The property was bonded by the Consolidated Mining and Smelting Company in November, 1917, and developed by them in 1918 and 1919. Work done by this company included a considerable amount of surface-trenching and the driving of some 250 feet of tunnel to crosscut at depth the veins, of which there are three. Work was discontinued before the objective was reached, however, and the property was shut down during the following two years. In 1922 the Standard Silver Lead Mining Company continued the crosscut tunnel for a further 250 feet to its intersection with the principal vein, which was then drifted on northerly for 120 feet. A short tunnel was also driven lower down the hill on the Iva claim. In 1923 work was discontinued by this company and nothing of importance has been done since.

All the development-work done on the Iva Fern property is localized towards the summit of the ridge. The claims cover a large area, and although the mineralized zone has been traced for a long distance little work has been done at lower altitudes and much ground remains to be prospected. The drift on the main vein off the crosscut tunnel was stopped before reaching a point vertically below the strong surface showing exposed in the shaft and the trench just south of it.

1926- page 275- On Cultus Cr. the Iva Fern chiefly owned by J. W. Mulholland, who discovered the property, was bonded by him late in the fall to A. E. Place, of Los ANGELES. An initial payment was made and development work is due to start in the spring of 1927.

By → 1928- page 351 - This group consists of the seven Crown-granted claims; Excelsior, Lot 12657; Fern, Lot 12656; Standard, Lot 12658; Iva, Lot 12655; Black Cap, Lot 12654; Jewel, Lot 12653; and Gem, Lot 12652. The property is situated on the northern side of Cultus creek, about 7 or 8 miles by trail from Kootenay Lake, on which transportation is afforded by steamers of the Canadian Pacific Railway Company. Cultus Creek flows into the western side of the lake at a point 9 miles north-westerly from Kootenay Landing. There is a good wide trail on an easy grade from the lake-shore to the foot of the hill a distance of about 5½ miles, from the end of which a switchback trail leads to the mine. The claims are staked in a northerly direction along the strike of the veins from the valley of Cultus creek to the summit of the rounded ridge separating the North fork from the main creek. The mine buildings include a bunk-house to accommodate about 10 men, a combined dining-room and

kitchen to accommodate about twenty men, blacksmith-shop, etc. At the lake-shore there is a convenient cabin to accommodate men and supplies in transit.

There is little information available on the geology of the area, which has not yet been mapped with any accuracy. On the provisional West Kootenay sheet of the Geological Survey the area in which the property is situated is shown as entirely consisting of granite. This is not correct, however, and the formation in which the deposits are found consists of steeply tilted metamorphosed rocks, chiefly of sedimentary origin. Some distance east of this formation, however, there is a belt of granite several miles wide. These sedimentaries, which consist of banded argillites, schists, silicified dolomites, and quartzites, resemble the rocks of the Summit series, shown along the eastern margin of the Geological Survey map of the Ymir camp (Map 175A) and tentatively referred to the Cambrian or Pre-Cambrian period.

On the South fork of Porcupine creek the *Howard*, where new discoveries of importance have been made recently, is probably situated in a roof-pendant of the Summit series and farther south these rocks contain the deposits of the Sheep Creek gold camp. The mineral-belt in which the *Iva-Fern* is situated has been traced at intervals for several miles in a southerly direction, and during recent years a number of claims have been staked southerly from Cultus creek. The mineralization in the southern extension of the *Iva-Fern* mineral-belt consists of copper sulphides containing low values in gold and silver.

On the *Iva-Fern* two different types of mineralization were noted, one consisting of a fairly coarse galena, with which is associated chalcopyrite and zinc-blende, the other consisting of disseminated sulphides of lead and zinc without any copper. The gangue contains lime and silica and in places a considerable development of siderite was noted. In general the mineralization is of a character requiring concentration.

There are two veins exposed in the surface workings examined, which consist of numerous long shallow trenches dug across the strike of the formation and two shafts, 10 and 30 feet down respectively. These veins apparently coincide with the trend of the enclosing argillaceous rocks (slates), the strike of which is about N. 10° E. The dip of the veins is steeply to the west, apparently cutting the dip of the country-rocks, which is about 40° to the west. Basic lamprophyre dykes accompany the veins in places, but their possible connection with the ore-deposits has not yet been determined.

Most of the work has been done on the No. 2 vein, which is the most westerly or farthest up the hill. This vein is traced at short intervals on the surface by long shallow trenches and a shaft for a total length of about 600 feet of outcrop. The No. 2 tunnel, hereinafter described, develops the same vein a considerable distance farther south, so that altogether the No. 2 vein outcrop is traced over 2,000 feet in length. The elevation of the northern end of these workings at the summit is about 6,340 feet. At this point a trench shows iron-stained siliceous ledge-matter impregnated with galena over a width of several feet.

Farther south, at an elevation of 6,300 feet, there is a shaft, caved and inaccessible, at the southerly end of a trench about 36 feet long. On the dump of this shaft there are several tons of partially oxidized ore, heavily impregnated with galena and some chalcopyrite. Going south from the shaft for about 40 feet there is a trench at the easterly end, of which there is exposed a width of 10 feet of ore which is well mineralized with disseminated galena throughout. Some 70 feet farther south a trench 15 feet long exposes some ledge-matter containing disseminated galena. In this trench the full width of the mineralization is not exposed. The next trench to the south is off to one side of the strike of the vein. Continuing in the same direction, two more trenches expose oxidized ledge-matter only. The next two trenches, which are about 120 feet apart, were not accessible for debris, but the dumps show siliceous material well mineralized with galena. Therefore the strongest mineralization seen on the surface was in the trenches at the southern end of the outcrop workings and, farther north, at the shaft and trench just south of it.

The No. 1 vein lies a few hundred feet to the east of the main No. 2 vein, which it parallels at a slightly lower elevation. Surface workings seen on this vein consist of some eight or nine trenches and a shaft. Going south from the crest of the ridge, five trenches, distributed over a total length of around 180 feet, expose oxidized ledge-matter with some disseminated galena in places. Some 30 feet south of the last of these trenches there is a shaft, which was inaccessible for caving, on the dump of which are a few tons of good lead ore. A grab sample of this



ore assayed: Silver, 15 oz. to the ton; lead, 65 per cent. Some trenches south of the shaft show oxidized ledge-matter, no galena being noted.

The elevation of the upper tunnel and camp is about 5,950 feet. (All elevations herein are relative only, being based on aneroid readings.) This tunnel, which gains a depth of about 200 feet on the outcrop of the No. 2 vein, is driven westerly as a crosscut for about 500 feet. A drift to the north then extends along the No. 2 vein for about 120 feet. A basic lamprophyre dyke follows the hanging-wall side of the vein, but crosses to the foot-wall side of the vein at its intersection in the crosscut.

In the main crosscut, 22 feet east of the No. 2 vein, a 6-foot vein was cut, a sample across 4 feet of which assayed: Silver, 4.1 oz. to the ton; lead, 12.1 per cent.; zinc, 11.9 per cent. Continuing along the crosscut and a short distance beyond the main vein, there is, according to reliable report, a short drift developing a copper-silver showing which the writer missed seeing. A cursory inspection of the 120-foot drift showed milling-ore in places through the first 100 feet of the tunnel, with continuous mineralization throughout the last 20 feet. A sample across 4 feet, 20 feet back from the face, assayed: Silver, 2.9 oz. to the ton; lead, 11.5 per cent.; zinc, 8.2 per cent.; and a sample across 4 feet in the face of the drift assayed: Silver, 2.5 oz. to the ton; lead, 5.9 per cent.; zinc, 15 per cent. A short distance back from the face a narrow stringer of massive galena and chalcopryite is visible in the west wall of the drift.

According to the plans seen by the writer, the face of the drift is about 80 feet short of reaching a point vertically below the shaft and about 40 feet short of a point vertically below the trench just south of it, in which surface workings strong showings are developed. The drift, therefore, would only have to be extended a short distance to prove the downward continuation of the ore-body indicated on the surface. The No. 1 vein is cut in the main crosscut where it shows well-defined lines of fracturing but no appreciable mineralization.

The No. 2 tunnel, developing the No. 2 vein at an elevation of about 5,650 feet, has only been driven a short distance. Just inside the portal mineralization was encountered consisting of a width of 6 feet of disseminated galena, zinc-blende, and chalcopryite, in a gangue of siderite and altered silicified country-rock. The dip of the vein in this working is apparently about 60° to the west. The hanging-wall of the vein is well defined, but the foot-wall is somewhat indefinite.

A short length of this ore is exposed near the portal of the tunnel, which continues for a short distance in a semicircular direction towards the west, but does not show any further appreciable mineralization. The ore at the portal has the appearance of being the apex of an ore-shoot to explore which it will be necessary to gain further depth. On the dump of this tunnel there are a few tons of ore which is heavily impregnated with galena and chalcopryite. The above workings comprise the area examined by the writer, but there are, it is understood, other showings, and also areas where considerable amounts of float-ore have been found.

Some preliminary work was done on the *Iva-Fern* by the Consolidated Mining and Smelting Company in 1918 and 1919. Work done by this company included most of the surface-trenching and the driving of the first 237 feet, approximately, of the crosscut tunnel. In 1922 the Standard Silver Lead Mining Company bonded the property and continued the crosscut to the intersection with the main vein, which was drifted on 120 feet to the north. In 1923 work was discontinued by this company and no work has been done since.

The position is that, for various reasons not detrimental to the property, work done on the *Iva-Fern* has not been brought to full conclusions. By extending the drift a few hundred feet the downward continuation of the shaft ore-body will be tested and information gained which will be of value in developing the numerous other showings on the property.

The mineral-belt in which the *Iva-Fern* is situated presents very interesting exploratory possibilities, chiefly on account of the numerous indications of copper-deposits. The veins can be developed to a considerable depth by tunnelling, while conditions for timber-supply, water-power development, and aerial-tram location are favourable. All the development-work done on this property is localized towards the summit and much ground remains to be prospected. The interesting possibilities of exploration along the vein extensions at lower altitudes is indicated by the recent discoveries of gold-silver-copper ore in the continuation of the same belt south of Cultus creek.

Since the above report was written the *Iva Fern Mines, Limited*, was formed, but up to the end of the year no work resulted owing, it is reported, to disagreement among the principals.

1928-page 354

News has just come to hand to the effect that the property has been taken under a development bond by the Consolidated Mining and Smelting Company.

1929-page 359 - This group owned by the Iva Fern Mines, Ltd. is situated on the northern side of Cultus Creek, about 7 or 8 miles by road and trail from Kootenay Lake. The property was taken under a development bond by Consolidated Mining and Smelting Co. early in 1929, since when exploratory work has been carried on continuously. The Iva Fern deposits are described in detail in the Annual Report for 1928. Since the new operations were initiated a large amount of trenching and 834 feet of underground work have been done. The surface work indicated an ore-body to the south of the main tunnel, but subsequent drifting and crosscutting in this direction failed to prove the continuity of the ore to that depth. The northerly drift was also advanced without any appreciable results. Sinking has recently been started on the north side of the main crosscut. As the vein apparently dips steeper than the argillite country-rock, with which it coincides in strike, it is possible that at further depth conditions will be found more favourable for deposition in the underlying strata, which includes a band of dolomitic limestone.

By B.T.O. Grady

1930- page 278- This group, owned by Iva Fern Mines, Ltd., is situated on the northern side of Cultus Creek, about 7 miles by road and trail from the western shore of Kootenay Lake. Exploration, started by the Consolidated Mining and Smelting Co. of Canada in 1929, was continued until May 1930, when work was suspended. Since the company's operations were initiated a large amount of trenching and 1,416 feet of underground work have been done. On this, 457 feet of tunnel was driven and a winze 125 feet deep was sunk during 1930. The Consolidated Mining and Smelting Company of Canada has acquired control of the holdings by purchase of most of the issued stock of the Iva Fern Mines, Ltd., Descriptions of the deposits are contained in past Annual Reports.

IVA FERN ASSAYS. - A - BY B.T.O'GRADY - 1928.  
 B - BY C.M. & S. (MINERS WESTERN PLAN)

WIDTH	SAMPLE NO.	SILVER	LEAD	ZINC	COPPER	REMARKS
GRAB	A	15 oz.	65%			FROM SHAFT DUMP
4 FT.	A	4.1 oz.	12.1%	11.9%		6 FT. VEIN IN MAIN X-CUT
4 FT.	A	2.9 oz.	11.5%	8.2%		20 FT. BACK FROM FACE
4 FT.	A	2.5 oz.	5.9%	15%		AT FACE OF DRIFT.
3 FT.	1501 B	4.4 oz.	4.4%	.03%	2.4%	FROM 3 PLACES IN 105 FT. LONG TRENCH FOLLOWING VEIN.
2'2"	1502 B	6.6 oz.	15.7%			
2'1"	1503 B		3.1%	1.1%		
FLOAT	1504 B	6.8 oz.	5.5%	4.6%		IN OPEN CUT
DUMP	1505 B	5.9 oz.	32%			DUMP OF OPEN CUT
7.2 FT	1506 B	1.5 oz.	1.4%	1.6%		MAIN DRIFT ON FERN
3 FT.	1507 B	7.5 oz.	.4%	1.6%		" " " "
SAMPLE	1515 B	3.4 oz.	9.6%	4.4%		SELECT SAMPLE 500 TON FROM ORE PILE
		AVERAGE OF 11 SAMPLES 3.69 OZS. @ \$13./OZ. \$47.97	AVERAGE OF 12 SAMPLES 13.8% 276 LBS./TON @ \$40*/LB. \$110.40	AVERAGE OF 9 SAMPLES 5.3% 106 LBS./TON @ \$40*/LB. \$42.40		TOTAL = \$200./TON.