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# REPORT ON THE EAST KOOTENAY CLAIMS FORT STEELE MINING DIVISION, CRANBROOK, B.C.

FOR

FENWAY RESOURCES LTD. 6 - 10th Avenue South Cranbrook, B.C.

by

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Vancouver, B.C.

April 11, 1984

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### Summary and Conclusions

Fenway Resources Ltd., has been working for the past nine months on an optioned claim group consisting of 123 units in the Old Baldy Mountain area, west of Cranbrook, British Columbia in the Fort Steele Mining Division. Past work on the property has consisted of driving two short adits and sinking two shallow winzes, or pits, on a vein strocture located on the old Crowngranted Prospectors Dream claim. There are no written records of past sampling on this showing. There are no other areas known to have been worked in the past, nor is there evidence of prior prospecting.

The writer examined the property on April 5th, 1984 and had the disadvantage of a heavy snow blanket over the complete claims area. Structurally with the various quertz veins and mineralized shear zones uncovered by the company in its recent operation, the property has merit. It is primarily a precious metals possibility as evidenced by the numerous sample results taken by the company's field operators. To date with less than two-thirds of the property examined, there has been located six areas of major interest. No priority of the showings can be made until the remaining portion of the ground has been investigated.

It is the writer's contention that additional showings could exist on the unexplored portion of the claims as no apparent effort appears to have been made in the past to prospect the area. The initial recommended phase of this program is organized to explore the potential of this unexamined section. The second phase of the program tests the showings on a priority basis by means of shallow air track drill holes.

It is intended to fully explore by means of geochemical sampling of soils, sediments and rock chip the remaining portion of the property. In addition, geophysics in the form of an EM 16 program to delineate shears and faults coupled with routine prospecting and localized mapping should identify areas of further interest. As an extension to target identification the writer recommends trenching and thorough sampling. The follow-up phase would be air track drilling on a priority target basis of all zones discovered to date.

This two-phase success-contingent program is recommended for the East Kootenay claims of Fenway Resources Ltd. with the total cost being \$100,400 (say \$100,000) over a 4 month operational period.

# Cost Estimates

2½ months

Phase I

Salaries Geologist 4½ months @ \$3,200 Assistants (2) 2½ months @ \$2,500 14,400 12,500 Benefits (10%) 2,200 29,100 Machinery & Equipment Rental Back hoe & operator 8,000 Vehicle rental or charges 1,200 EM 16 Unit 1,000 10,200 Miscellaneous Laboratory sample analysis 4,500 Sample freight 500 Transportation, lodgings 2,800 Report preparation, drafting 2,500 10,300 Total Phase I 49,600 Contingency 10% 4,900 54,500 Phase II 1½ months Air track rental 20,000 Sample Analysis & freight 5,000 25,000 Fees Management 12,000 Professional 12 days @ \$400/day 4,800 16,800 Total Phase II 41,800 Contingency 10% 4,100 45,900 Total Phase I & II \$100,400 Say \$100,000

Phase III

This would be a success-contingent phase with the amount of drilling required being dependant upon the proceeding phase. No cost estimate can be advanced at this present time. The East Kootenay property of Fenway Resources Limited consisting of 123 units is located approximately 24 kilometers (15 miles) southwest of the city of Cranbrook, B.C. Examination of the claims took place April 5, 1984 at the request of Mr. Wm. Inverarity, President of Fenway Resources Ltd. Deep snow covered the claims during the examination period with the result major points of interest could not be visited.

The topography is quite rugged within the area with the claims extending from a low of 1,400 meters (4,600 feet) to a high elevation of 2,395 meters (7,860 feet). Old logging roads allow access to specific areas whereas the company during 1983 cut in excess of 18,000 meters (11.5 miles) of new roadway.

Mineralization occurs as the normal type of fissure filling along previously weakened structures. Gold and silver values are the prime targets of the project but lead and zinc sulphides are occasionally evident.

There has been no major underground exploration efforts in the past although shallow winzes and trenches attest to historical interest in the area.

# Location and Access

The claim group lies some 24 kilometers (15 miles) to the southwest of the city of Cranbrook, B.C. Access to the claims is south from Cranbrook on Highway #3 for 13 kilometers (8 miles) to a small village, Lumberton; a gravel road runs west from here to Negro Creek, at which point the road forks with the western portion continuing along the north side of the Moyie River to its junction with Weaver Creek. Here two old logging roads leave the Moyie River road with one carrying north to the Prospectors Dream showing while the other heads in a more north western direction into the claims. From Cranbrook to the central part of the claims is a distance of 30 kilometers (19 miles).

The Fenway Resources property is within the Fort Steele Mining Division with the claims centering on north 49°25' latitude and west 116°05' longitude. Its National Topographic System location is 82/F/8 East.



Property

The East Kootenay property of Fenway Resources Ltd. is within the Mining Division of Fort Steele, British Columbia.

The property consists of 17 claims which total 123 units, with an east-west arrangement of some 7 kilometers (4.3 miles) and a north-south length of 4 kilometers (2.5 miles). In total the property occupies approximately 2,917 hecatres (7,200 acres) with the southeast corner post of the claim block being at an elevation of 1,400 meters (4,600 feet) rising to 2,200 meters (7,200 feet) along the north central boundary line.

# The Claims

Name N	lo. of Upits	Record No.	Expiry Date
Weaver #2	20	1411	May 12, 1984
Weaver #3	12	1412	May 12, 1985
Weaver #4	12	1413	May 12, 1984
Weaver #5	8 (4 overl	ap) 1414	May 12, 1985
Weaver #7	20	1456	June 9, 1984
Weaver #8	20	1457	June 9, 1984
Ken #1 to #8	1 each	1144 to 1151 incl.	Nov. 5, 1987
<b>Prospectors</b> Drea	um 1	581	Nov. 5, 1986
Old Abe	1	582	Nov. 5, 1986
Ben d'Or	1	583	Nov. 5, 1986
Weaver #1	20	· 2076	Feb. 1985

Weaver #1 was allowed to lapse with a restake completed and recorded at the Cranbrook Recorder's office in February 1984.

Assessment work was registered with the Mining Recorder in September 1983. As a result there is one assessment year pending, upon approval, to record numbers 1411, 1413, 1456 and 1457.



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The area was first introduced to mining through placer operations on several large local creeks and rivers in the late 1880's. Lode mining gradually put in an appearance and took over from placer in the early 1900's. Placer mining is sporadic in operation and location today.

In the Old Baldy Mountain area where Fenway's present operation is located, one of the first mineral claims recorded was the Prospectors Dream. This particular section saw a modest spurt of activity on this and several of the surrounding claims in the mid 1890's. Trenching and limited inclined tunnel work was the extent of the operations. There is no record of production or shipment.

In April of 1983, Fenway under its president, Wm. Inverarity, completed a transaction to acquire a group including the Prospectors Dream claim, now a reverted Crowngrant, plus several contiguous claim blocks west of this claim all of which straddled the Old Baldy Mountain ridge. Forming a joint venture with a group of Calgary people, work was initiated on the ground in mid summer of 1983. The work was directed by Mr. Inverarity, working with a geological consultant, Mr. G. Mason of Kimberly, a well known and respected Cominco geologist.

Claims to the northeast and several kilometers south are held by Falconbridge Copper. Other large claims blocks in the vicinity belong to Cominco.

# **Previous Exploration**

Until Fenway Resources acquired the property there has been no major exploration work recorded on the ground. Sporatic investigation, particularily on the Prospectors Dream claim, attests to past individual efforts. As reported this particular claim has 2 short adits while 2 shallow winzes or pits have been put down on the adjoining claim.

Logging operation on the hillside during 1970-1975 accounted for several open areas and numerous good access roads. Fenway and partners utilized these roads to extensively prospect the open areas along the east slope of the ridge. The roads were similarily used for soil sampling guidance wherever interesting areas were observed. A local contracting firm ran in some 18,500 meters (11.5 miles) of new road. Trenching with a backhoe was carried out on the Prospectors vein, the Hill vein, a fault paralleling the Hill vein and other isolated areas of mineralization-quartz interest.

Some 179 soil samples from the "B" horizon were taken from various locations adjoining the roadside. Of this number 114 were obtained along the road lying south of Weaver Creek while another 22 were gathered in the vicinity of the Hill vein.

A total of 56 rock samples were collected from the various showings with 30 of the samples being taken from the three Baldy Shear extension trenches while 7 were obtained from the Hill Vein, 5 from the Prospectors Dream and 2 from the Baldy Vein.

A magnetometer survey was run along the south Weaver Creek road resulting in an anomalously high section near the junction with the Moyie River road.

# Geology

The area is underlain by late Precambrian sediments of Purcell age. The series is characterized by a great thickness of conformable sediments and has been subdivided into two sections -Upper and Lower. In addition various formations, particularily the Aldridge and Creston, have similarily been subdivided. The Helikian sediments of these formations have been classified into Upper, Middle and Lower groupings. On the Fenway property the predominating formations are the Middle to Upper Aldridge overlain by the lower Creston series, both formations demonstrating a northeasterly trend with the Aldridge having a flat easterly dip and the Creston a moderate westerly dip. The sediments are mainly composed of variable argillites with scattered beds of siltstone and fine-grained quartzites.

Intrusive into these formations are sills and dykes generally classified as Purcell or Moyie intrusives. The sills of this period are in greater number and of greater economic consequence than the dykes. The sills vary in thickness from thin sheets to tabular bodies exceeding 200 meters (650 feet) and often exhibit a multiple overlap arrangement. Mineralization is often associated with these sills.

The area displays two major north-easterly trending faults. The Perry Creek fault lies to the west of the Fenway property within the sculptured valley of Perry Creek. Trending through the claims on a north-northeast bearing is the Old Baldy Fault. This structure lying along the prominent ridge of the property has an apparent offset to the Aldridge formation of some 2 miles. Radiating.from it are scattered tensional faults or shears of varying intensity and direction. Occurrences of this nature are the Weaver Shear and the Baldy Shear both associated with precious metal deposition.

Mineralization on the claims is normally auriferous pyrite, visible gold and occassionally sulphides of lead and zinc enclosed in a quartz matrix within a fissure vein or sheared stockwork structure. Showings

To date there has been established four showings and two mineralized shears of interest on the property.

# Prospectors Dream Vein \*

This is the original find of the Old Baldy Mountain area, going back into the early 1890's. The relatively flatlying quartz vein conforming with the country rock trend lies within a diorite sill. On surface the five foot quartz-rubble thickness shows the effect of weathering but an early inclined adit exposed a more solid structure at depth but one which pinched with deeper penetration.

Fenway 1983 exploration work unearthed two adits in the southern portion of the property and two pits close to the north boundary. Vein deflections in dip were apparent as the structure was traced out of the sill into Aldridge sediments then back into the sill.

Five rock samples were taken from the Prospectors vein. At the south end a four foot chip from gossanous material by the adits yielded 3.6 ounces gold per ton and 2.94 ounces silver per ton. At the north end four grab samples were taken from the muck pile which averaged 0.156 ounces gold per ton and 0.87 ounces silver per ton.

Fenway located an old trench 60 meters (200 feet) east of the adits which contained sulphides within a quartz structure. However when a new trench was sank there was no evidence of a vein possibly due to non-recognition of the weathering effect.

#### Hill Vein -

This structure was opened by Fenway while driving a new road through the property.

This quartz fissure vein is somewhat similar structurally to the Prospectors Vein in that it has a weathered residual appearance, agrees with the formational strike, is hosted by both the Aldridge sediments and the gabbro sill and was traced for 450 meters (1,500 feet) of strike length.

Eight samples are recorded from this showing. At the north end, a one meter (3 foot) chip sample assayed 0.044 ounces gold per ton and 0.06 ounces silver per toh. Seven grab samples were taken wherever possible over the 450 meter length with five random grab samples running from a low of 0.024 ounces gold per ton to a high of 0.204 ounces gold per ton while two select grabs averaged 2.967 ounces gold per ton and 0.35 ounces silver per ton. Showing - Cont'd.

#### Galena Vein

This quartz vein structure was identified over a 15 meter (50 feet) surface exposure. Coincident with the Upper Aldridge formational trend the vein dipped steeply to the northwest. Two samples cut across the sulphide rich vein, assayed 0.079 and 0.410 ounces gold per ton across respective widths of one meter (3 feet) and a third of a meter (1 foot). Trenching along the road did not show a northern projection.

# Baldy Shear -

This is presumably the southern shear extension of the Galena vein. It is a shear structure traced over 1,220 meters (4,000 feet) which displayed either quartz veinlet stockworks or strong quartz saturations reaching widths of 7.5 meters (25 feet). The zone penetrates both the sediments and the sills. Two 7.5 meters (25 feet) grab samples along the strike ran 0.010 and 0.034 ounces gold per ton.

#### Baldy Vein Extension -

This extension lies some 1,220 meters (4,000 feet) south of the Baldy Shear projection. The shear is observed with the Baldy Vein, composed of a massive 2 meter (6 foot) quartz vein buttressing 9 meters (30 feet) of quartz veinlets, lying to the north of the Baldy Shear.

No sampling was carried out.

# Weaver Shear -

This shear, traced over 240 meters (800 feet), is a tensional structure displaying minor mineralization in a quartz infiltrated zone. Three trenches aggregating 80 meters (270 feet) were excavated along the strike by the company. Sampling of the trenches revealed a 25 meters (80 feet) section assaying 0.023 ounces gold per ton and 0.026 ounces silver per ton.

#### Recommendations

There has been interest shown in the property in the past but presumabley only in one location - Prospectors Dream claim. Past operations thought enough of the structure to run two adits and two winzes, or deep trenches, on the vein structure. Little information is available in past records to show the results of their efforts.

Fenway Resources Ltd. has spent one field season on the East Kootenay claims and has identified an additional five target areas. All the target areas have undergone preliminary examination. Sampling of the areas has shown gold with minor silver mineralization to be present.

The prime commodity of the claims is precious metals, principally gold, which has been demonstrated to be present in variable amounts within quartz veins, stockworks or shear structures. Lead, zinc aod copper are of minor concern.

In the one field season approximately 65% of the claims were investigated.

It is recommended that the remaining claim area be investigated by a well organized soil and stream sediment program with the analysis being run for gold, silver, lead and zinc.

As the quartz veins are often associated with shear or fault zones, it is recommended that investigation for these structures be carried out utilizing a VLF electromagnetic system such as an EM 16 unit.

The remaining claims should also be thoroughly prospected.

New zones revealed by the above approaches should be opened up by trench excavation with mapping and sampling being carried out on this trench work.

All of the above recommendations are surface investigations of the remaining property claims and should add to the target inventory. This would constitute Phase I ef the recommended program.

Phase II would be a more investigative approach of the targets revealed to this point. This phase would involve shallow sub-surface analysis by means of a air-track drill reaching below the weathering horizon. Samples should be collected from the full depth of the holes not just specific areas.

Drilling of the targets can be determined by the priority system which should have built up a good geological and surface sampling knowledge of the zones.

Phase III would be a major diamond drill program depending upon the results of the previous phase.

Respectfully submitted,

W.G. Hainsworth, P. Eng.

# Bibliography

G.S.C. Memoir 228 - Nelson Map Area, East Half, British Columbia, H.N. Rice 1941

B.C. Department of Mines Report: 1898, Page 1013G.S.C. Map - Grassy Mountain Sheet, J.E. Reesor, 1981

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# Certificate

I, W.G. Hainsworth, P. Eng., of Vancouver, B.C. do hereby certify:

- 1) That I am a Consulting Geologist residing at #4-4100 Salish Drive, Vancouver, B.C.
- 2) That I am a graduate of the University of Western Ontario, Bachelor of Science Degree, Honours Geology.
- 3) That I have practiced my profession for some 30 years.
- 4) That I have been a continuous member of the Association of Professional Engineers of British Columba since 1965 and am a Professional Geologist registered with the Association of Professional Engineers, Geologists and Geophysicists of Alberta since 1979.
- 5) That I have no financial interest, direct or indirect, in Fenway Resources Ltd., and do not expect to obtain any such interest.
- 6) That the information contained in this report is based on a visit to the East Kootenay property on April 5, 1984 and perusal of all pertinent information available.
- 7) That consent is herewith given to Fenway Resources Ltd. to use any or all material from this report in information circulars, offerings er shareholders' brochures.

W.G. Hainsworth, P. Eng. (B.C.) P. Geol. (Alta.)

To accompany: Report on the East Kootenay Claims Fort Steele Mining Division Cranbrook, B.C. for Fenway Resources Ltd. 6 - 10th Avenue South Cranbrook, B.C.

April 11, 1984



#### ADDENDUM

In the summer and early fall of 1984, following the issuing of the author's report of April 11, 1984 a survey incorporating soil sampling, minor rock sampling and reconnaissance geological mapping was undertaken by Morris Geological Co. Ltd., of Fernie, B.C. The surveys were carried out on specific targets within the 123 claim unit held by Fenway Resources Ltd.,

The writer on October 5 1984 visited the field operation while it was underway. After reviewing the assessment report concerning this program, a letter report was issued on "ebruary 21, 1985 stating that the requirements and recommendations of Phase I of the report had been carried out. The letter also recommended the company proceed into Phase II.

A review of the 1984 field program follows.

#### Soil Sampling

A total of 25 man days were spent on the property collecting soil samples and doing minor prospecting and mapping. The mapping was confined to the areas of interest.

A total of 415 soil and stream samples were collected as well as 10 rock chip samples. Acme Analytical Laboratories Ltd. of Vancouver did the majority of the soil analysis with some soils and all the rock chips being analyized by Loring Laboratories of Calgary. The soil samples were run through an I.C.P. analysis for 31 elements including gold and silver.

There were 5 areas of interest namely Weaver No. 2 Shear, Galena Vein, Prospectors Dream veins, Hill Vein and the Baldy Shear. Reference should be made to Figure 3.

The writer ran statistics on the gold analysis of the different areas plus the total program collection for comparison purposes. Of interest is that the 408 soil samples representing all the five areas showed an arithmetic mean of 28 parts per billion (ppb) with a high standard deviation of 103.5 ppb gold.

In the statistical analysis, a possible anomaly is considered as the sum of the mean plus one standard deviation while a probable anomaly is the mean plus twice the standard deviation.

#### WEAVER NO. 2 ZONE

This shear structure had been exposed in 1983 by trenching. Geologically this area shows the zone being underlain by highly altered sediments with intense quartz veining paralleling the bedding. The host rock is altered white and is very rusty containing up to 5% pyrite.

The 1984 program consisted of laying out a grid centering on

the shear and collecting some 46 soil samples from this grid. Statistically the grid shows a mean of 93.9 ppb gold (three times higher than the average) with a standard deviation of 241 ppb gold. There is one anomalous reading in both the possible and probable category. These two anomalies lie within 30 meters of each other with modest values lying alongside the high readings. These anomalies lie immediately south of the trench and should be investigated in Phase II.

#### GALENA VEIN

During the writers visit in October 1984 two random samples were chipped from this exposed sulphide structure. The fire assays returned 2.008 and 0.040 ounces gold per ton. Host rock for the sulphide-quartz vein is the Aldridge sediments.

Some 18 soil samples collected along the roadside coupled with 8 additional soils taken from a short line 300 meters to the east, presented a mean average of 14.4 ppb gold with a low 15.4 ppb standard deviation. Three of the 26 samples are in the possible category while two are in the probable classification. The probable values form a contiguous group along with one possible value in the eastern line while the remaining two possible anomalies were located in close relationship to the roadside trench.

It is recommended that further soil sampling plus air track drilling and sampling should be organized for this area in Phase II.

#### PROSPECTORS DREAM

This structure is a series of related vein or mineralized shear zones extending across the three crown granted claims. The area is underlain by Middle Aldridge sediments and Moyie intrusives. The latter is confined primarily to the eastern side of a major north-south high angle fault which cuts through the claims. The west side of the fault is dominatly sediments though a thin gabbro sill was observed between the northern and southern sections.

The area was subdivided into 3 sections A, B and C for easier field work and identification. Areas A and B were located in the southern portion of CG 3772 in the vicinity of the shallow adits while area C, in CG 3773, covered the shaft location in the north area.

Areas A and B covered a gridded area of 180 by 30 meters and localized a narrow 50 meter anomaly and two spike anomalies in the southern portion of the grid. From 95 soils collected a mean of 12.2 ppb gold with a deviation of 25.7 ppb gold was calculated. Detailed soils are warranted in the lengthy anomalous section as is follow-up air track drilling.

Area C forms a 135 by 35 meter grid from which 56 soil samples covering the shaft and trenched area were taken. Two zoned anomalies, closeby the trenches, were identified running in the high resolution area. Further sampling and possible trench work or air track drilling should be considered for the area.

#### HILL VEIN

A total of 23 samples were collected from alongside the road which parallels the Hill Vein exposures. A major fault was observed just east of the trenches which seperated a gabbro knoll on the east from the Aldridge sediments which host the quartz vein system.

Statistically the average mean at 43 ppb gold ran 65% higher than the property mean while the standard deviation ran up to 121 ppb gold. Only one healthy anomaly exceeded the probable anomaly total and this value lay close to a grouping of trenches in the southern part of the claim group. During the October 1984 examination by the writer, 3 chip samples were cut from three of the trench showings with gold results of 0.222, 0.120 and 0.046 ounces of gold per ton.

The area of soil and rock geochemistry sampling should be expanded into a larger area with more broad and detailed samples being taken.

#### BALDY SHEAR

It should be noted that Old Baldy Fault which runs north northeast through the western claims seperates the Creston Formation on the west from the Aldridge Formations on the east. The areas designated as the Baldy Shear are east of the Old Baldy Fault but possibly lie within its influence. All the areas host a stockwork of quartz veining with abundant pyrite. In addition the alteration, quartz vein stockworks and gossans may indicate a structural control within the north northeast quadrant.

The Baldy Shear zone was soil sampled in three particular localities. The main shear zone was sampled alongside the road which follows the structure for over 1250 meters by some 54 soils and by two right angle sample lines to the ridge of the hill and then along the ridge. A total of 83 samples were collected in this manner with a mean average of 12.7 ppb gold and a dispersion effect of 18.7 ppb gold. Anomalous results were registered in the southwest corner of the road close to a gossanous zone. More detailed sampling plus air track drilling is warranted for this particular area.

Some 500 meters southwest of the Weaver No. 2 zone, further soils were collected in a section designated the Baldy Shear South. Here sampling was undertaken at the roads edge every ten meters. The results were extremely weak and it is recommended no further work be planned for this area. Two soils were collected midway between the Baldy Shear South and the Weaver No. 2 Zone. Both samples were highly anomalous. Gridding and further sampling in this area is recommended with air track drilling being dependent upon the outcome.

# Recommendations

Individual recommendations on the various showings were made in the proceeding pages.

It is recommended that Fenway Resources Ltd., advance into a Phase II operation based on the favourable results of the recent Phase I field proceedings.

The Phase II operation has cost estimates of \$45,900 involved in air track drilling and sampling. There are sufficient targets outlined from the Phase I operation to carry this type of drilling plus additional soil sampling into a possible Phase III position.

Respectfully submitted,

Vancouver, B.C. January 27,1986 W.G. Hainsworth P.Eng.