2012

EXPLORATION REPORT

for

JURASSIC MINERALS™

Western Division

EAGLE EYE GEM PROJECT

(PHASE ONE)

On Seventeen Contiguous Mineral Tenures

Eagle Pass Mountain, B.C.

Revelstoke Mining Division
Map Sheet 082M

Claim Group Central Coordinate
Latitude 51° 04' N - Longitude 116° 34' W

Report Prepared

for

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by

William Larry Amey
FMC 145191

July 25. 2012

INDEX

Note: Unless otherwise referenced, map submissions are enhanced excerpts from the BC Ministry's Provincial Mapping System. Scale as that shown.

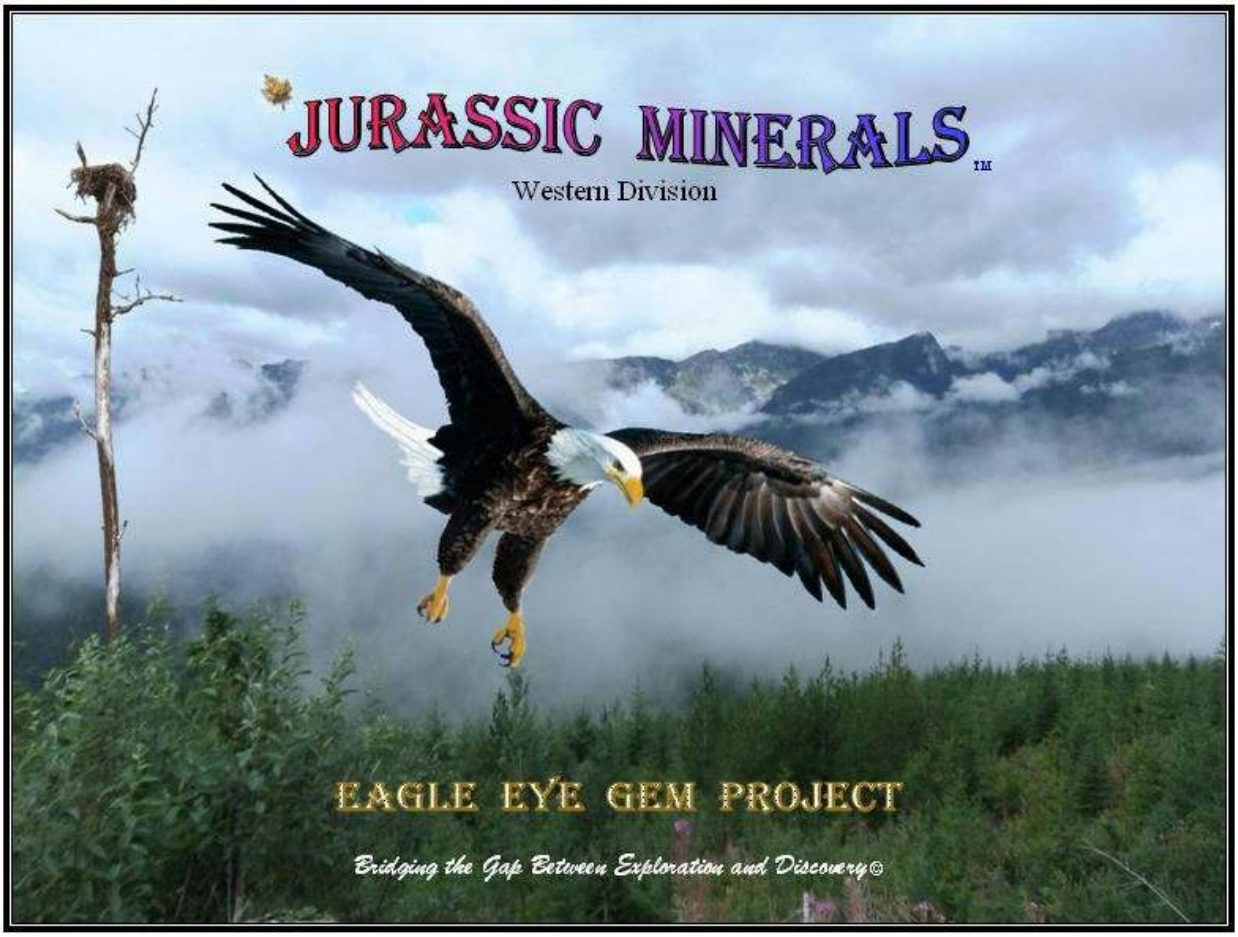


fig 1

INTRODUCTION:

The Eagle Eye Gem Project is a collaborative effort by a party of five, assembled to conduct explorations over the tenured region. Phase I of the Project is a regional approach to gemstone and exotic mineral exploration, centered on the Eagle Pass Mountain area, located approximately 27 km to the west-northwest of Revelstoke BC.

An extensive claim staking program was carried out to secure a mixed assemblage of bedrock types that could be conducive to the deposition of gemstones and rare earth mineralization.

While twenty-five mineral tenures in total have been staked for the Project, only seventeen of those forming this contiguous group are applicable to this Report. In following, please see Appendix A and associated mapping *(fig 2)* for the claims comprised in this group listing:

…… Introduction continued

APPENDIX A:

852726	EAGLE EYE 1	852727	EAGLE EYE 2
852728	EAGLE EYE 3	852729	EAGLE EYE 4
852730	EAGLE EYE 5	852731	EAGLE EYE 6
852732	EAGLE EYE 7	852733	EAGLE EYE 8
852734	EAGLE EYE 9	852735	EAGLE EYE 10
852736	EAGLE EYE 11	852737	EAGLE EYE 12
852738	EAGLE EYE 13	852739	EAGLE EYE 14
853648	EAGLE EYE 15	856384	EAGLE EYE 18
856386	EAGLE EYE 19		

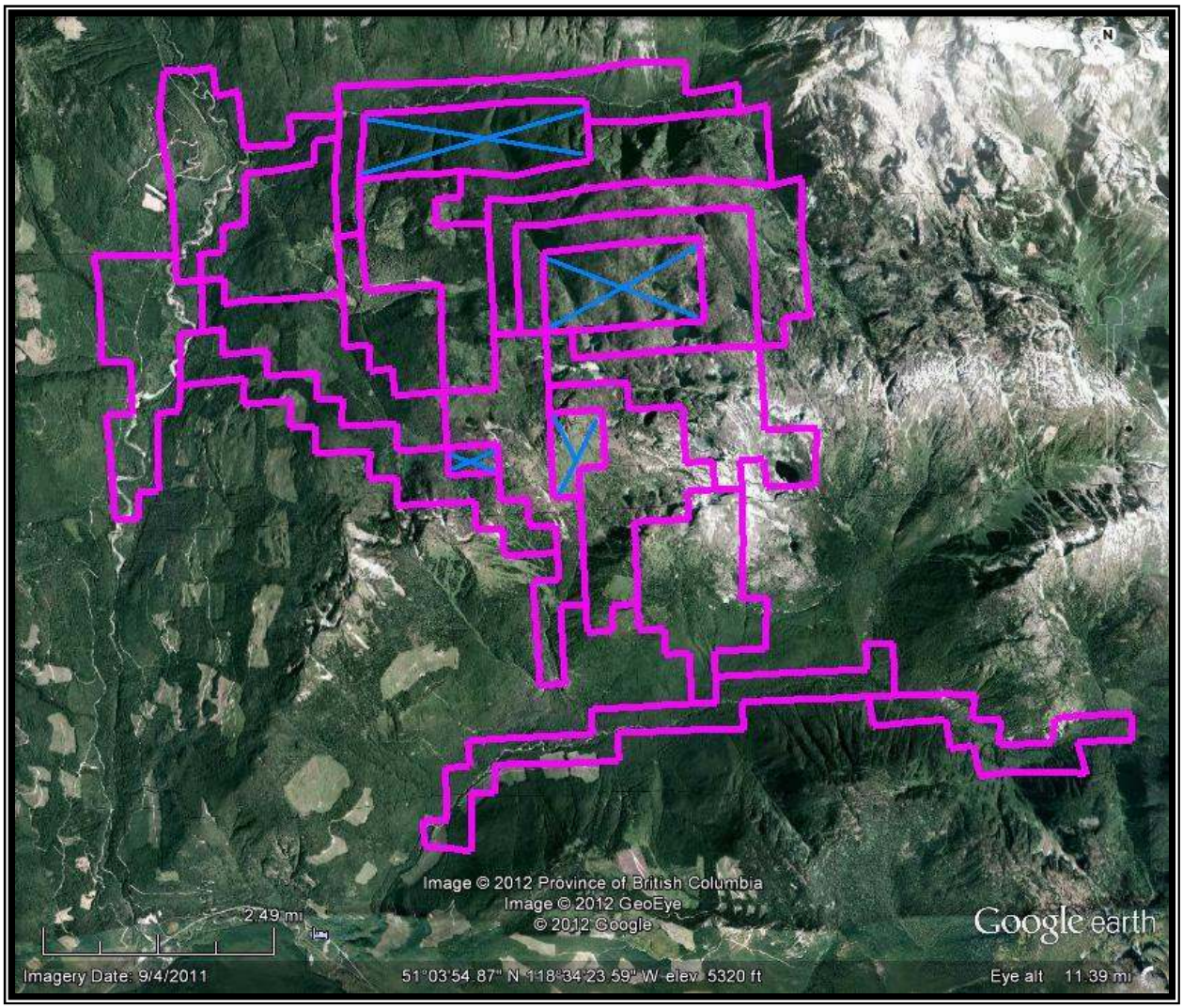


fig 2

……. Introduction continued

Collectively, the aforementioned *(and illustrated)* seventeen mineral tenures comprise 8,235.46 hectares *(over 20,340 acres or 31.78 square miles)*, fundamentally covering the majority of Eagle Pass Mountain, the Crazy Creek region, a portion of the Perry River and the Bews Creek area. The properties are in good standing with expiry dates of April and May, 2013. There are no encumbrances or liabilities against the tenure group.

Interest was initially vested in this area several years ago, and came about as a result of tracing a crystal-bearing mineral belt from the International Border in the south, to the emerald beryl occurrence along the Yukon / BC Border, while extending through the known sapphire deposit of the Blu Star in the Passmore region.

Over the period covering July 27, 2011 to October 27, 2011, selected samples were taken from drainages coming out of the claim block, along with grab and chip samples being taken from road-cuts and outcrops, to begin narrowing the search for targeted mineralogy with the aim of maintaining an open mind for serendipitous discovery.

From experience gained from diamond exploration in Canada, a heavy mineral survey is underway for the entire project area. The diamond exploration approach of taking a regional view and then selected sampling of heavy minerals to close in the search area, is a primary exploration approach for this early stage of exploration.

This report details the exploration and, evaluation of samples thus far examined. Based on the results to date, we have identified certain mineralogy that will be used in the next phase of exploration.

LOCATION & INFRASTRUCTURE:

The Eagle Eye properties are situate north of, yet accessible from, BC Highway #1, in the Monashee Mountain Range, approximately 27 *(air)* kilometres west-northwest of the City of Revelstoke, B.C., or otherwise 61 *(air)* kilometres northeast of Salmon Arm, B.C., and approximately 640 *(road)* kilometers northeast of Vancouver, BC. The property group is centrally located at 11U390377.83mE 5658155.82mN (51 3.866). Five Forest Service Roads serve as primary access to the property group, three of which extend northward from Highway #1. Other spur roads and trails branch from the main routes, to ascend the mountain terrain for penetrating deeper into the tenured interior. The properties may also be accessed by way of a ten to fifteen minute helicopter flight from either Three Valley Gap or from Revelstoke. Food, fuel, accommodations and most conveniences are within easy commute of the tenured area. Revelstoke is located on the Trans-Canada Highway and is also an important regional center for the Canadian Pacific Railway. The population of Revelstoke is approximately 7,500 with an economy based on service industries, forestry and increasingly, tourism.

EAGLE EYE
TENURE GROUP LOCATION

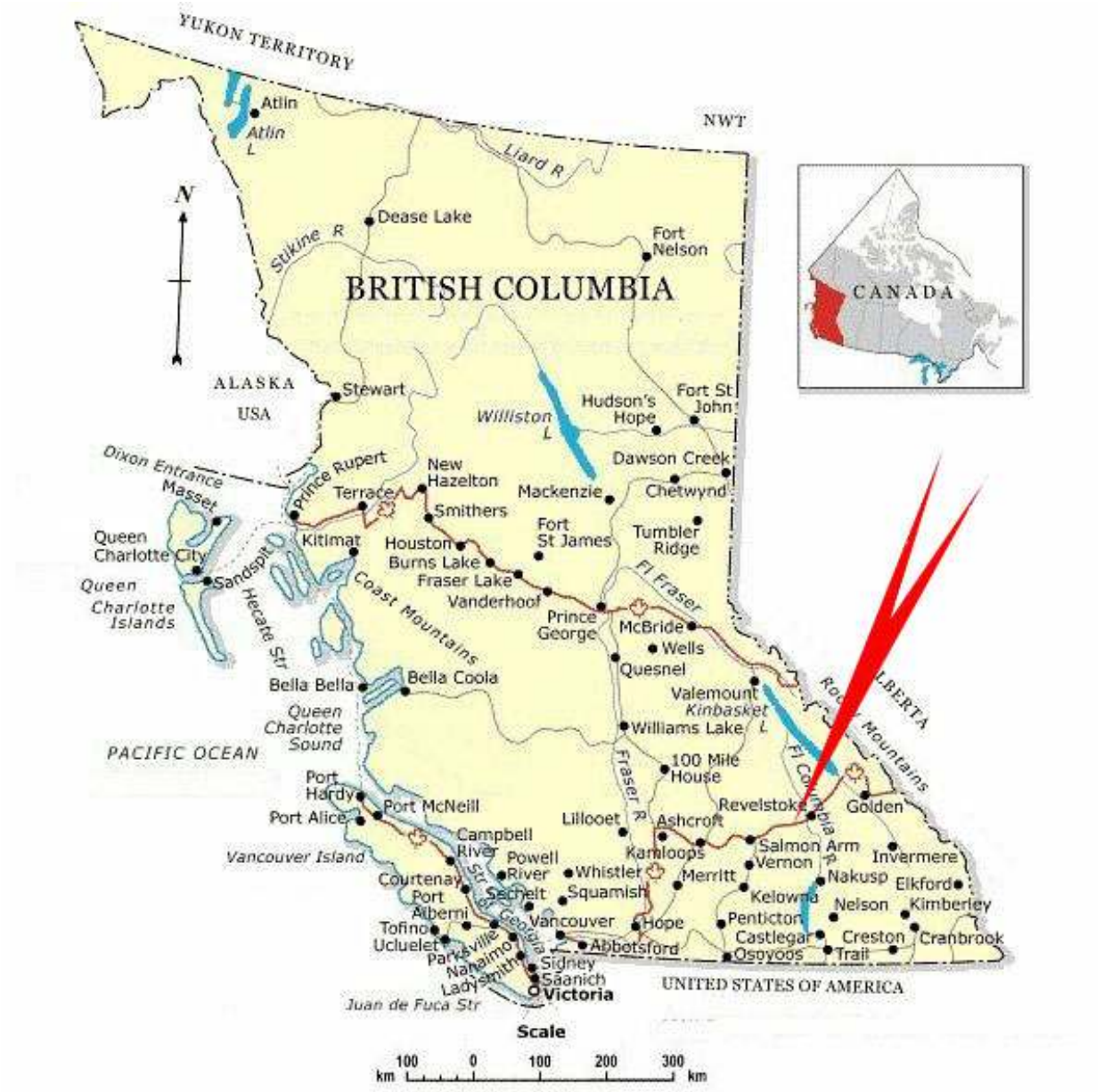
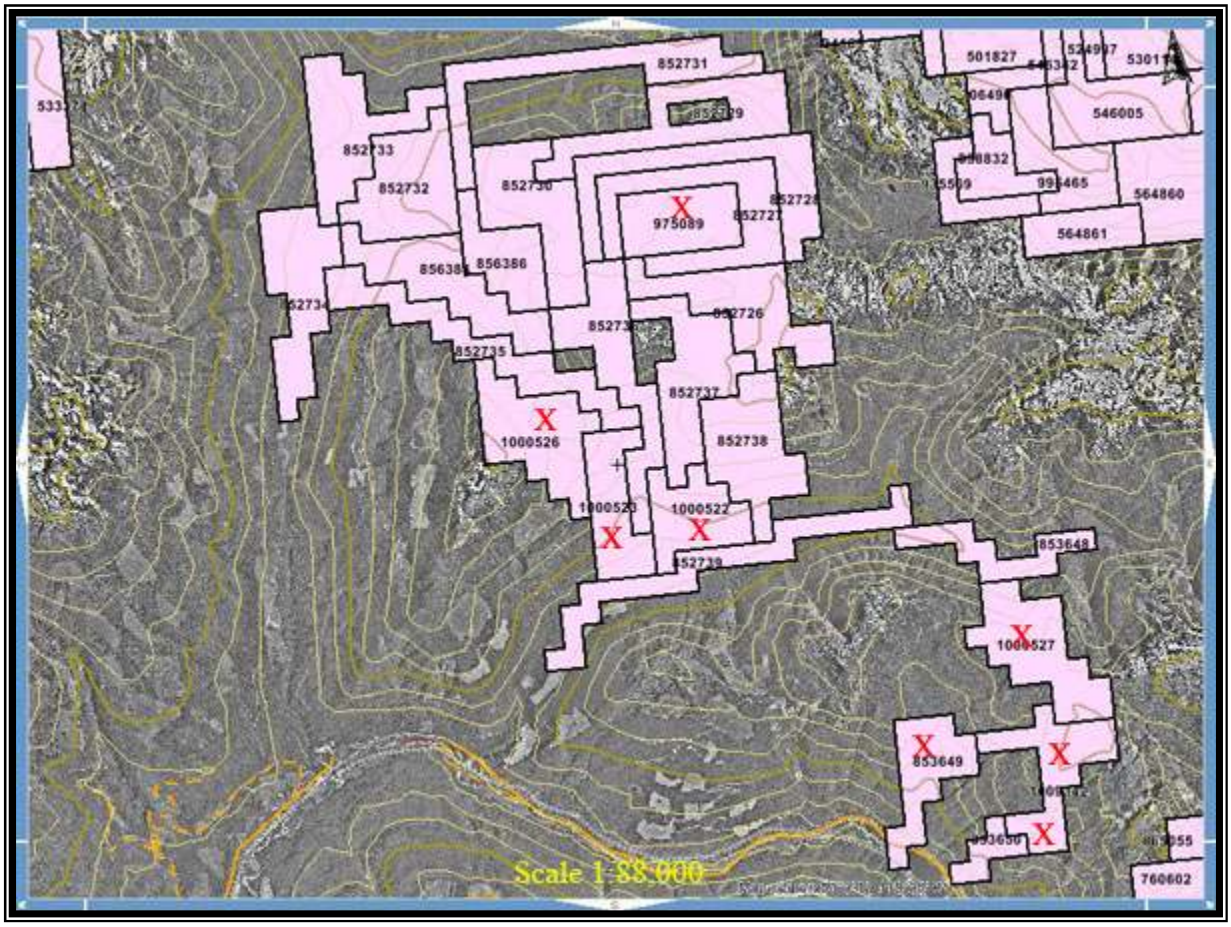


fig 3

Contour Map of Eagle Eye Tenure Group



Scale 1:88,000

Note: Though the claims marked with an "X" are now held by the title holder, hereto, they were at the time, not part of the Group of Seventeen Tenures applicable to this Report.

ACCESS:

Depending on the location within the tenure group, access to the Eagle Eye Tenures may be achieved from either of three Forest Service Roads extending northward from BC Highway #1which range from between 40.5 and 43.3 road kilometres west of Revelstoke, BC. For accessing those properties situate along the southern portion of the claim block, the Crazy Creek FSR would be that taken at coordinate 51° 00’ 07.8” N, 118° 39’ 56.2” W. If desiring points more to the interior of the claim group, the East Perry FSR would be taken, which intersects with Highway #1 at coordinate 51° 00’ 09.0” N, 118° 40’ 27.5” W, 0.64 kilometre west of the Crazy Creek FSR turnoff. This roadway parallels northward along Perry River, from which various spur roads may be taken to gain access to selected parts of the tenure area. If accessing those claim areas situate on, or accessible from, the west side of Perry River, the West Perry FSR is that taken from Highway #1 at coordinate 50° 59’ 32.1” N, 118° 42’ 02.9” W. For visual correlation of the tenure block with access roads, please view Figure 4 *(fig 4)* below.

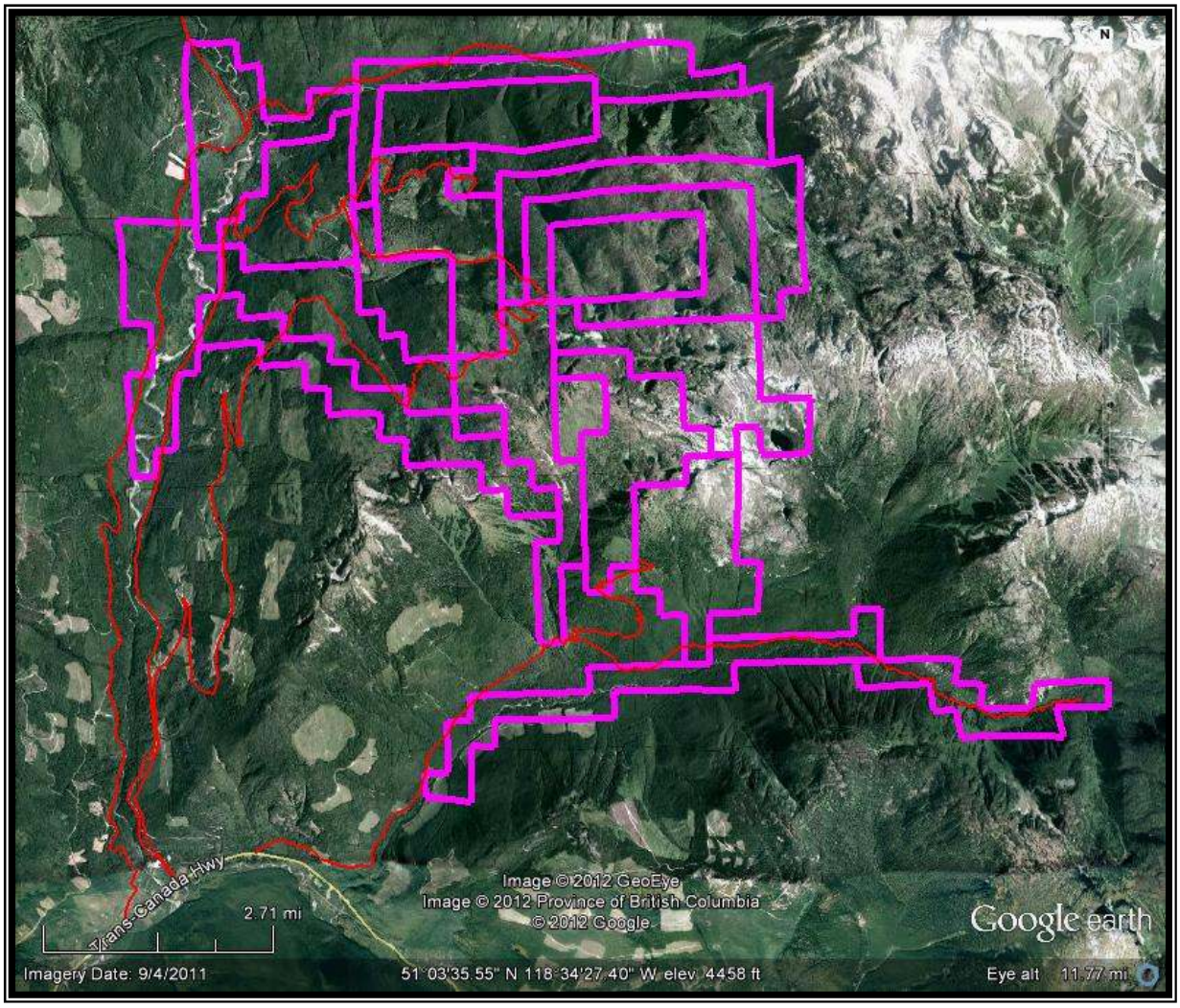


fig 4

PHYSIOGRAPHY AND CLIMATE:

The tenured area is characterized by high mountain ridges and alpine meadows, with *(in places)* steep-walled valleys, and hosts an abundance of varied-sized water bodies *(33 in number).* and numerous drainages, the major of which, includes Crazy Creek in the South, Perry River in the West, Bews Creek in the North and an unnamed north-flowing drainage to the East. All of which serves as tributaries to Eagle River and offer good drainage to all claim localities.

Relief over the tenure area ranges from approximately 2,400 metres in the northeast sector of the Eagle Eye 13 claim *(Tenure # 852738),* to approximately 500 metres above sea level along Perry River at the southern boundary of the Eagle Eye 9 claim *(Tenure # 852734)*.

There are three primary mountain FSR on the East side of Perry River, offering 4WD access to the west-central and central portions of the claim areas. Two of which are accessible from the East Perry FSR, which extends upstream along Perry River from BC Highway #1 to a point close to Bews Creek, where one of the said mountain FSRs commences its ascent. Another leaves the East Perry FSR at a point much closer to the Highway #1 intersect. The third mountain access road, though much shorter in length than aforesaid, advances upslope in a northerly direction from the west-central portion of the Crazy Creek FSR, and leads to a staging area more or less facilitating a vehicular parking location for those individuals desiring to hike the mountain trail. A fourth FSR is that which more or less parallels Crazy Creek to its eastern terminus *(the Crazy Creek FSR).* Crazy Creek flows westward along the valley floor, through claims 853648 and 852739, situate along the base of the south-facing slopes of the Eagle Pass Mountain region. A fifth FSR *(the West Perry FSR)* offers access up along the west side of Perry River to the tenures located there, and to points beyond. And old woods road *(with the bridge now deactivated)* extends from the West Perry FSR, eastward along the north side of Bews Creek. Augmenting the aforementioned access to the upper mountain levels via the inner East Perry mountain FSR, there exists an old, partially bushed-in woods road which facilitates off-road ATV access to the alpine meadows situate north and northwest of Eagle Pass Mountain's peaks.

The claim areas occupy mostly the sub-alpine, whereas the lower regions *(generally below 1500 metres)* are densely treed with fir, cedar, spruce and pine. Un-treed areas are covered with thick alder and scrub brush. Elevation ranges to over 2400 metres at the taller mountain peak within the tenure group, however, the alpine regions average 1800 to 2000 metres, are thinly treed, and, comprise pleasant alpine meadows. Active logging is taking place, particularly in the west-central regions of the claim block.

The Eagle Pass and surrounding mountainous areas lie within a temperate climatic zone. Mean annual precipitation ranges between 100 to 250 centimetres. January temperatures generally hovers between -10° to -15° Celsius, while July temperatures vary between 18° to 20° Celsius. Snow levels in the higher elevations can be extensive, particularly in alpine regions, with exploration access not effective until into July.

REGIONAL GEOLOGY:

The regional geological setting is a mixed assemblage of sedimentary, metavolcanic, and metasedimentary rocks.

Eagle Eye Gems became interested in the region for its potential to host gemstones and rare earth minerals. Early prospecting results have proven favourable and based on these results, a more detailed examination will be carried out in Phase II of the Project.

The exploration group chose to take a regional approach for the initial exploration stage and has concentrated their early work primarily on sampling drainages coming out of selected localities in the exploration area, and securing grab and chip samples from road-cuts and outcrops.

In result of the 2011 Work Program, a variety of interesting minerals have been identified, of which supports the potential for gemstones and exotic mineralogy like rare earth minerals.

Regional Bedrock Map With Property Group Centered

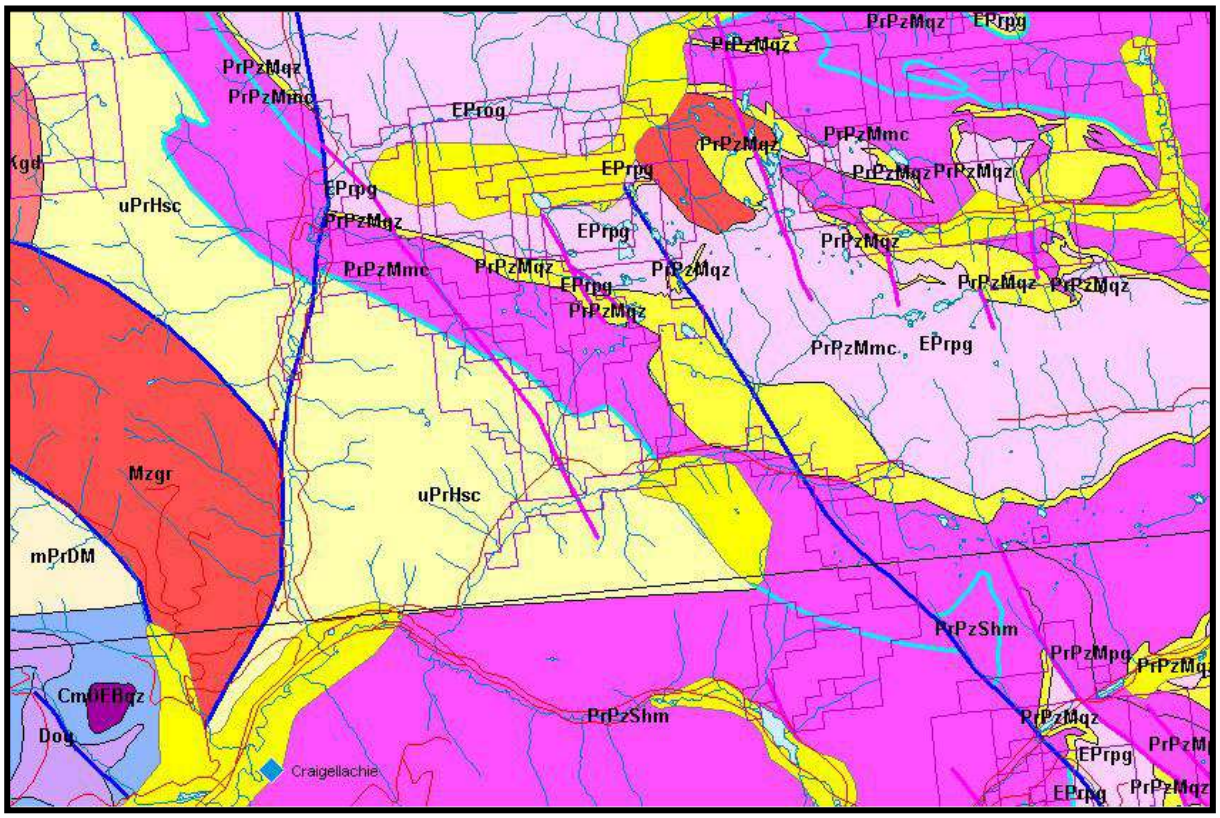


fig 5

AREA HISTORY:

The area was first explored in the late 1800's, after the discovery of placer gold in the Jordan River. Further exploration lead to the discovery of lead-zinc-silver in the Mt. Copeland area to the east of the Eagle Eye Claims. The deposit had been evaluated through surface trenching, thereafter, drilling was carried out on it in 1963 and 1965.

Also on Mt. Copeland, and to the west of the lead-zinc-silver occurrence, a commercially viable deposit of molybdenite was discovered in 1964. That deposit was mined underground and reached a production rate of 200 tpd from 1970 to 1973. The ore graded on average 1.58% molybdenum over 188,602 tonnes of ore.

Sporadic exploration in the area failed to turn up any new deposits of lead –zinc – silver or molybdenum.

In 1990 Equinox Resources Ltd. carried out exploration over the King Fissure lead-zinc-silver deposit on Mt. Copeland, for First Standard Mining Ltd. They found a light rare earth bearing carbonatite (Laird and MacGillivray,1990).

They also reported several occurrences of specimen and potential gem-quality crystals in the King Fissure area, including emerald-green gahnite spinel, red almandine garnets, black schorl tourmaline, blue kyanite, scapolite and quartz.

In 1994 the area around the historic molybdenite mine was evaluated by the Phoenix Syndicate for industrial mineral potential with nepheline syenite as the main target (http://aris.empr.gov.bc.ca/ArisReports/24328.PDF).

In 1995, the Riley group of claims were staked on Mt. Copeland as part of a regional exploration program by Canadian Sapphire Corporation. They felt that the area had geologic similarity to their Blu Starr Sapphire Property, located about 175 kilometres south at the Passmore Gneiss Dome in the Slocan Valley.

In 1996, Dr. George Simandl of the B.C. Geological Survey announced a discovery of sapphire hosted in calcareous metamorphic rocks located in the vicinity of Eagle Pass Mountain several kilometres southwest of the Riley Property boundary.

In 1997 the area near Mt. Copeland became the focus of gemstone exploration by Canadian Sapphire Corporation, a member of the Anglo Swiss Group of Companies. They submitted an assessment report on the Riley Claims that detailed a helicopter supported exploration program to assess the potential for gemstone deposits on six claims on Mt. Copeland. (http://aris.empr.gov.bc.ca/ArisReports/30627.PDF)

Area History continued……

…….. area history continued

In their report they gave the following summary of the gemstone potential along with the results of their work:

"A summary of identified minerals includes;

Biotite, phlogopite, muscovite and green micas; orthoclase and plagioclase feldspar; smokey, rose and clear crystalline quartz; grey nepheline; black and fibrous blue amphibole; scapolite; red garnet; black schorl tourmaline; tremolite; diopside; augite; sphene or titanite; zircon; purple fluorite; calcite; ankerite; magnetite, molybdenite, pyrite; pyrrhotite, chalcopyrite, and specular hematite.

No corundum(sapphire) mineralization was identified during this program but it remains a strong exploration target for the 1998 field season. Several areas of coarse tremolite phlogopite marble were located within Unit 3 rocks, and could host metamorphic corundum (sapphire) mineralization, particularly when in contact with silica-depleted phases of the nephelines syenite intrusives, or perhaps associated with younger intrusive events. In addition, carbonate layers or aluminous metamorphic rocks within Units 5 and 6 could potentially host sapphires. The occurrence of gem-quality green spinels in Unit 5

At the King Fissure deposit, often geologically associated with corundum mineralization, and notable for its occurrence with blue sapphire in calcareous rocks at the Spinner property in the Slocan Valley, confirms the potential of these rocks. Although the nearby Eagle Pass sapphire occurrence has not yet been explored in detail, the gem stones have been stated to occur in a micaceous marble unit, and is likely correlative with similar rocks found in the Mt. Copeland area.

Other potential gemstone crystals known to occur on or near the property are multi-coloured tourmaline, beryl, sphene or titanite, garnet, zircon, various types of quartz, and moonstone feldspar. Additionally, the high nepheline content of the syenite and the significant tremolite content of the metamorphic marbles could result in an economic industrial mineral deposit."

Deep snow hampered their 1997 exploration program and no further work has been recorded.

Notable gemstone occurrences in the district include the 1996 discovery of sapphire in the Eagle Pass Mountain area by the B.C. Geological Survey (Dr. George Simandl). From personal communication with he, it was learned black Sapphires were observed during his *(near-dusk*) return to his vehicle while on a reconnaissance traverse in search of a reported Andalusite showing. At the time, he did not have opportunity to investigate the occurrence in depth, however, the location indicated, would place the showing within The Eagle Eye claim block.

Multi-coloured tourmaline and beryl in pegmatites are found on Mt. Begbie near Revelstoke; and emerald green spinel is found in the King Fissure lead-zinc-silver deposit on Mt. Copeland adjoining the Riley Property.

While a half dozen or so properties have been staked in the Eagle Eye tenure area in more recent years, such were only held for the one term, then either abandoned or forfeited.

GENERAL STATEMENT:

The following report describes the nature of, and results obtained from, Phase I of the 2011 regional reconnaissance survey program conducted on the Eagle Eye Tenure Group

The property group is located within the Mining Division of Revelstoke, with its central point located 27.5 kilometres west-northwest of the west end of the bridge-deck at Revelstoke.

The author and varied associates attended the tenure group and conducted explorations based on sampling select drainages, and, the gathering of hand and chip samples from outcrops and road-cuts, where available. These were acquired primarily from points along the primary and secondary Forest Service Roads, which penetrate into the varied tenured areas. Samples were bagged, and tagged with coordinates, for later correlation and map plotting. The focus was not on exploring the more likely bedrock areas for isolated pockets of targeted gemstones and rare earth minerals, but rather concentrated on determining what was present and in what abundance, to better evaluate the property group from a regional perspective. A considerable number of samples were gathered during the 2011 Fiscal Program,

Within the exploration group two of the senior partners operate their own lab facility, analysis of the specimens collected during the 2011 program, has been and continues to be, evaluated by E. L. Goldsmith, Esq. With his strong analytical background and nearly a half century expertise in the Mining Industry, Mr. Goldsmith is more than qualified to conduct in-house mineral analysis.

Collection points from where samples were secured, are hereto plotted on mapping, according to the logged coordinates. The breakdown of work performed on the tenure group will be followed with the Analytical Report by E. L. Goldsmith.

In that a considerable amount of material had been collected for analysis, by comparison, only a small fraction of that assemblage has thus far been examined. However, analysis of the 2011 specimen-lot remains an ongoing task. In the event that a significant find is made *(beyond that of the Eagle Crew's discovery of the rare element Eucryptite on the properties),* either an Amendment to this Report will be filed, or, same will be included within the next fiscal report.

In short note, the unearthing of Eucryptite on the Eagle Eye Tenure Group, now places BC on the map as one of the few places on earth where the exotic mineral has been discovered.

PROPERTY PREAMBLE:

After several years of research into the Eagle Pass Mountain region, it was concluded the area holds a mixed bag of most interesting geology, which may host semi-precious to precious gemstones and in addition, an array of exotic minerals. This early work lead to the eventual acquisition of the Eagle Eye Tenure Group. In total, twenty-five properties have been staked to cover areas of interest, however, only seventeen of those are applicable to this Exploration Report. The area offers an array of logging roads which penetrate into or through most tenures, offering not only ideal access but also excellent staging points from which to more easily reach the alpine regions, without the rigors of rugged mountain climbing.

SUMMARY PREAMBLE:

Included within this Report, are varied maps generated from both the Ministry's website and then plotted on Google Earth imagery. In that the Ministry's mapping is somewhat outdated and fails to show more current logging roads, cut areas and other helpful features for visual correlation, including colour, locations where sample were obtained from is therefore plotted on the Google Earth *(GE)* imagery. Where imperative for certain definition which GE does not provide, such as contour lines to show elevations, the Ministry's mapping will supersede.

While a considerable amount of sample had been obtained from the tenured areas during the 2011 fiscal program, their locations of recovery are hereto plotted on GE by using small, square, white icon markers bordered by black. Each of these has been assigned a 'WP' (*waypoint)* number, of which the Lat/Long coordinates, and other pertinent information, are retained in our log for future in-house and/or field referencing. Those locations where samples were obtained and which have been analyzed by our skilled in-house lab expert, have been affixed with a blue *(inverted teardrop)* icon marker.

It should be noted, particularly of drainage samples, that, due to the volume of specimen matter collected within one lot *(bucket)* at the same location, or the numbers of individual *(yet different in geology, or feature)* rock specimens collected from the same given area, mapping hereto will carry only one icon for that location. However, greater detail *(such as exacting coordinates & etc*) is afforded within the text of the Optical Mineralogy Report by Elmar L. Goldsmith, incorporated herein.

While the tenured area covers such a massive region, for the convenience of the examiner, the mapping area which carries crucial data or referencing, is divided into three sections, so as to offer the same imagery but in a more decipherable scale.

2011, PHASE I EXPLORATION PROGRAM

Work commenced on the Eagle Eye Tenure Group on July 27, 2011 and completed on October 27, 2011.

The Eagle Eye 2011 Exploration Program was spread over five visits to the tenured area, those being: (a) July 27th to July 29th; (b) August 18th to August 20th *(inclusive)*; (c) September 7th to September 9th *(inclusive)*; (d) September 20th to September 21st and (e) October 25th to October 27th *(inclusive)*. In all cases, the primary objective was not so much to search for actual gemstone or rare earth element deposits, but rather to conduct a 'regional' survey of the tenured area through reconnaissance prospecting and drainage sampling, thereafter, analyzing the results. A considerable volume of sample matter had been recovered from mountain drainages, streams, outcrops and road-cuts. Onsite visual studies of terrain physiology had also been conducted and photographed, the majority of which images, were captured from neighboring mountain points. For example, observations were made cross-valley from one mountain sector to another. This offers a better awareness of the more prominent geological features to target for subsequent fiscal programs.

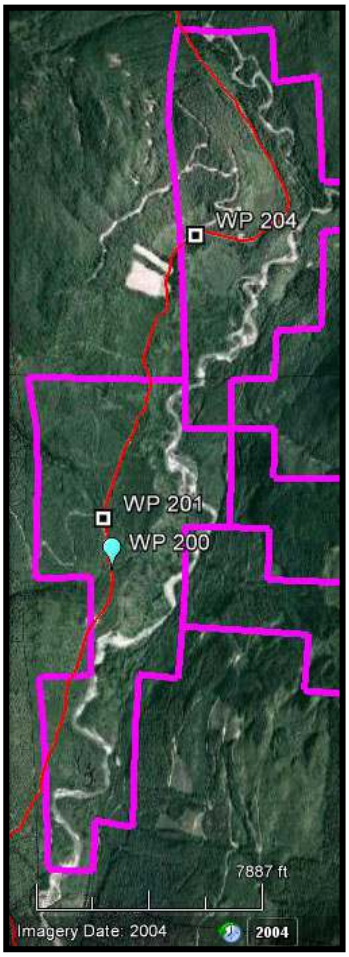


fig 6

SUMMARY – July 2011:

On **July 27, 2011**, the first date of a three-day exploration program was engaged by two Eagle Eye Party members, whom conducted reconnaissance prospecting along the **West Perry FSR**, examining *(within tenure boundaries)* all drainages, large and small. Samples were secured at three of those locations **WP 200, WP 201 & WP 204** as illustrated in **"*fig 6*"** *(to the left)* by two square, black and white icons and one blue icon, identified on said mapping as **WP 200**. Of the specimens collected along the West Perry FSR, only the drainage sample secured from the small creek at location **WP 200**, bearing the blue, inverted teardrop icon, has thus far been examined by our qualified expert. For the analytical results of select specimens from that sample lot, please see "**Sample 3-001-01 West Perry 1"** of the Optical Mineralogy Report by Elmar L. Goldsmith, presented later in this Report. The remaining two samples were rock specimens, and have not yet been examined.

In selecting which specimens within a sample lot to analyze, preference is commonly extended to those which on the surface, appear to bear one or more unique characteristics worthy of a closer examination. The remaining specimens collected then find their placement for follow-up analysis when time permits.

The surrounding terrain's physiology was also studied and photographed for future referencing.

Summary continued

…… continuation of Summary

On **July 28, 2011**, the second date of the July segment of the 2011 Program, focused on sampling drainages and, examining outcrops and road-cuts along *(firstly)* the **East Perry FSR**. In continuance, the reconnaissance prospecting then carried upslope via the *(so dubbed)* **Mountain Road**, also taking in the north-bound spur road *(so dubbed*) **Logging Road**. Roads have been marked with red lines for easy correlation. A similar arrangement was employed in using waypoint 'icons' to pinpoint locations where samples were acquired. For 'Part Two' of this day's segment of the 2011 program, please also see illustration labeled **"fig 7b."**.

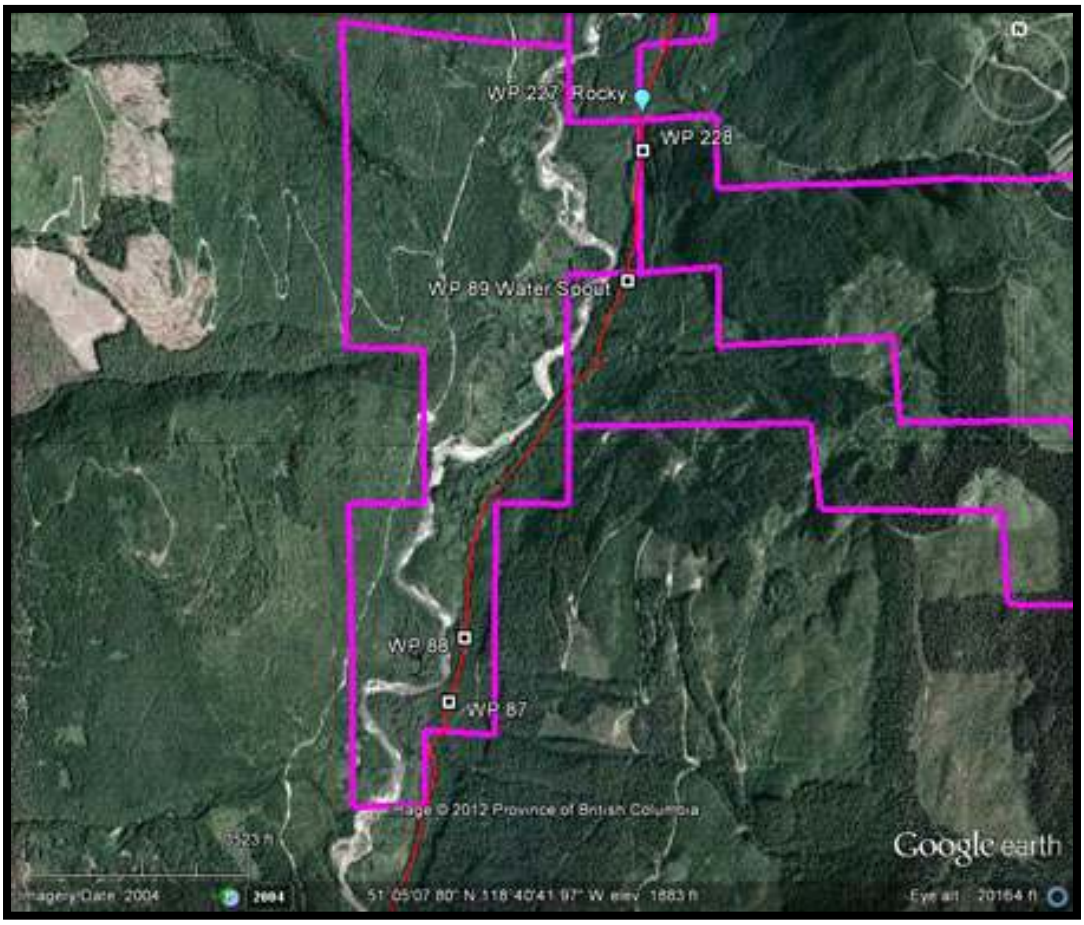


fig 7a - - Tenures 852734, 852732, 856384 & 852735 (part of 16 in a contiguous group)

Grab samples were taken along East Perry FSR from locations **WP 87, WP 88** and **WP 288**, with drainage samples taken from locations **WP 89** and **WP 212**,. Location **WP 89** was rather amazing, in that a natural 4cm water-spout was forcefully shooting a constant flow of water from the clay-based embankment ***(see "fig 8" below).*** The second location where a drainage sample had been taken, came from Rocky Creek, and labeled as **WP 227** on map ***"fig 7a***" above. This comprised two, one kilogram samples of gravels taken from accumulation points alongside the flowing water. Samples were bagged and tagged accordingly.

Summary continued

……. continuation of Summary

In continuation of the July 28, 2011, Regional Survey Program, the mountain slope was ascended via the *(so dubbed)* **Mountain Road**, accessible from close to the inner extremity of the East Perry FSR. This roadway weaves its way up the mountain slope, and hosts several outcrops and road-cuts. During the ascent, many of these exposures were examined, with samples being taken from some while others deemed insignificant, were not.

The spur road on the upper levels of the mountain, *(so dubbed as)* "**Logging Road**" is being actively logged. Though large machinery has somewhat rutted up the roadway in the inner extremities, which denies reasonable vehicular travel, the sector that was accessible was explored for interesting specimens. Numerous photographs were also taken of the area's geology. Both aforesaid roadways are highlighted on the below mapping ***(fig 7b)*** with red line marking.

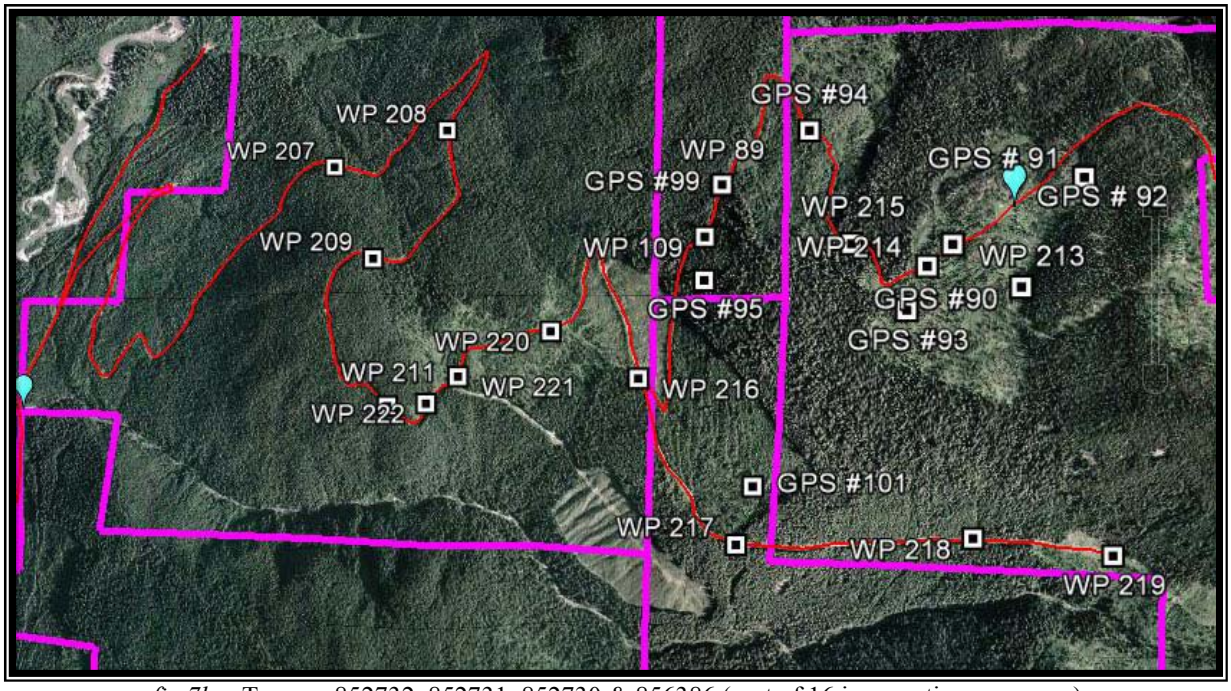


fig 7b - Tenures 852732, 852731, 852730 & 856386 (part of 16 in a contiguous group)

A large number and variety of specimens were secured from the various Waypoints along the **Mountain Road** and **Logging Road**. At many of these locations, several samples were taken from in or around the same deposit. All of which were bagged, and tagged with reference to acquisition locations.

At this time of writing, only the one sample from location GPS #92, has thus far been examined and identified. The results may be found later in this Report, under **Sample 6-001-01 High Road Red Rock A** in the Optical Mineralogy Report by Elmar L. Goldsmith.

Summary continued

……. continuation of Summary

Icon placements on mapping signify locations where samples had been collected, however, only those bearing the blue inverted teardrop icons have received Optical Mineralogy Analysis.

fig 8

To the immediate left *(fig 8)* is a photo of the embankment water-spout located along the East Perry FSR, just south of the bridge over Rocky Creek. While intriguing, due to tight time constraints, the source area was not sought out. Though in appearance nothing special was noticeable, a sample of the finer material *(5mm and less)* was taken from the spout's drainage. This has not yet been analyzed.

On **July 29, 2011**, the final date of the three-day July 2011 exploration program, reconnaissance prospecting was carried out along **Crazy Creek** and the **Crazy Creek FSR**, including the spur road which ascends the mountain slope to a landing where it then serves as a staging point for those who enjoy hiking up to Eagle Pass Mountain.

Samples were acquired from most available drainages, whereby material had been both panned to save the medium and heavies, with smaller-sized bulk samples also being secured. Grab and chip specimens were also collected at most outcrops and road-cuts. Fifteen locations in total were visited, where from a few to many specimens were collected at each site – see mapping **"fig 9"** on the following page for visual correlation of tenure layout and points of sample collection. Those location sites are marked with either small, square, black and white icons, or blue inverted-teardrop icons (as was previously used in other areas prospected) – the latter said signifying the three areas where one or more of the specimens from that area have thus far received Optical Analysis. Similarly, as in other sections of this Report, samples from those locations bearing the black and white icons, have not yet been analyzed. For available analytical results, please see the accompanying Optical Mineralogy Report by Elmar L. Goldsmith.

Summary continued

……. continuation of Summary

Crazy Creek Explorations

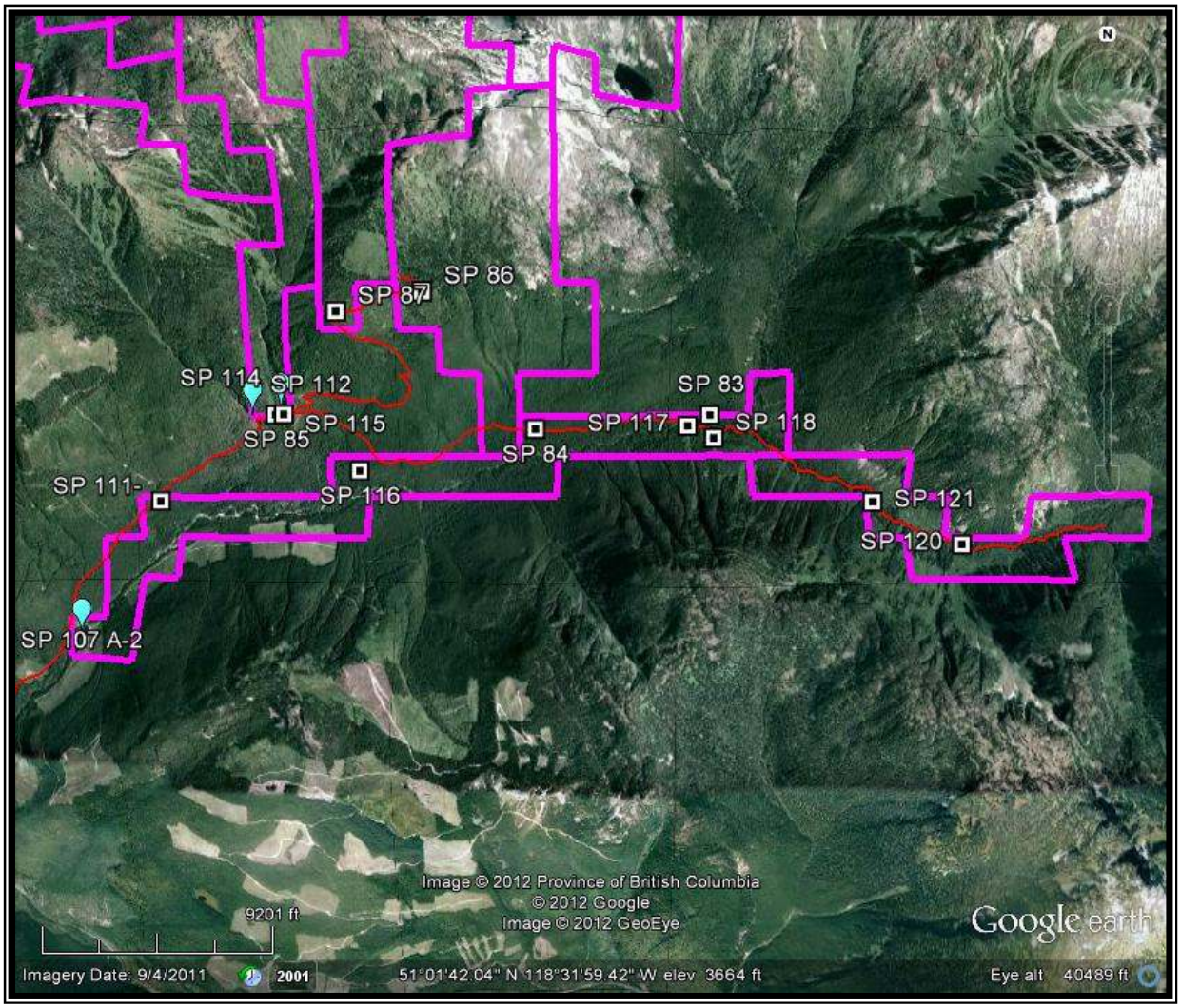


fig 9 – Tenures 852736, 852737, 852738, 852739 & 853648 (part of 16 in a contiguous group)

Summary continued

……. continuation of Summary

Eagle Pass Mountain Group

The following illustration ***(fig 10)*** outlines the group of seventeen tenures, including marker-points where work had been performed. Also charted are all primary Forest Service Roads. Trails applicable to off-road vehicles, such as ATVs, are not entered, hereon.

July 2011 Areas of Exploration

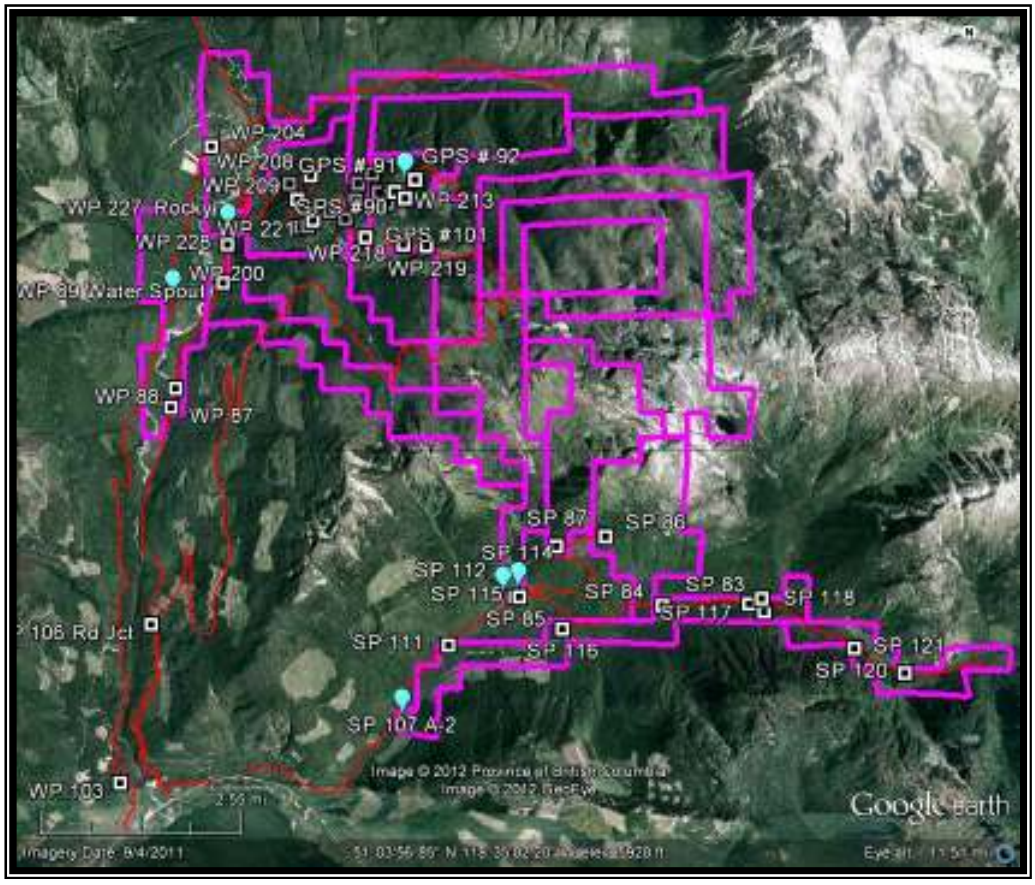


fig 10

Summary Discussion on the July Segment

For conducting a preliminary ***Regional Mineral Survey*** for gemstone and rare earth mineralization on the Eagle Pass Mountain area, Jurassic Minerals officially launched its ***Phase I*** initiative of the **Eagle Eye Gem Project** in July 2011. Over a three day field trip, the ***'Eagle Eye Team'*** collected a large number of drainage samples and rock specimens from forty-five noteworthy locations. These were tagged and logged as to their location of acquisition, thence transferred to the private laboratory of expert member, Elmar L. Goldsmith, for eventual Optical Mineralogy Analysis.

Summary continued

…… continuation of Summary

2011, PHASE I EXPLORATION PROGRAM

SUMMARY – August 2011:

Exploration on the Eagle Eye Gem Project was again engaged by a party of two, over the dates August 18th to August 20th, 2011. The Mountain Road and Logging Road areas, along with that of Crazy Creek FSR, was prospected to obtain further samples, from both previously prospected localities and new locations. Similar to the process employed during the July 2011 segment, black and white icons were used on mapping to pinpoint the general areas of sample recovery. In that the GPS waypoints infer specific locations, as used in this case, such references only those locations where the vehicle had been parked. Whereas exposed road-cuts can run a considerable distance, in exploring the full length of these, would logically create a slight deviance when referring to the actual coordinates where samples had been recovered.

On **August 18, 2011**, the first date of this 'second' segment of the 2011 exploration program, focus had been placed on reexamining the 'general vicinity' of some of the previously visited road-cuts along the **Mountain FSR**. Many of those cuts extend for quite some distance, oft times for hundreds of feet (metres). However, during the previous visit, sample had been taken from only one specific area within, due to the rest appearing *(from within the vehicle)* to host similar geology. as that already sampled a short distance down the road. Therefore, on this occasion, a more meticulous examination of these areas were felt warranted. Further sampling was carried out at locations bearing Marker Points **MP 101** through to **MP 107**, as illustrated in ***"fig 11"*** in following, with numerous specimens being secured..

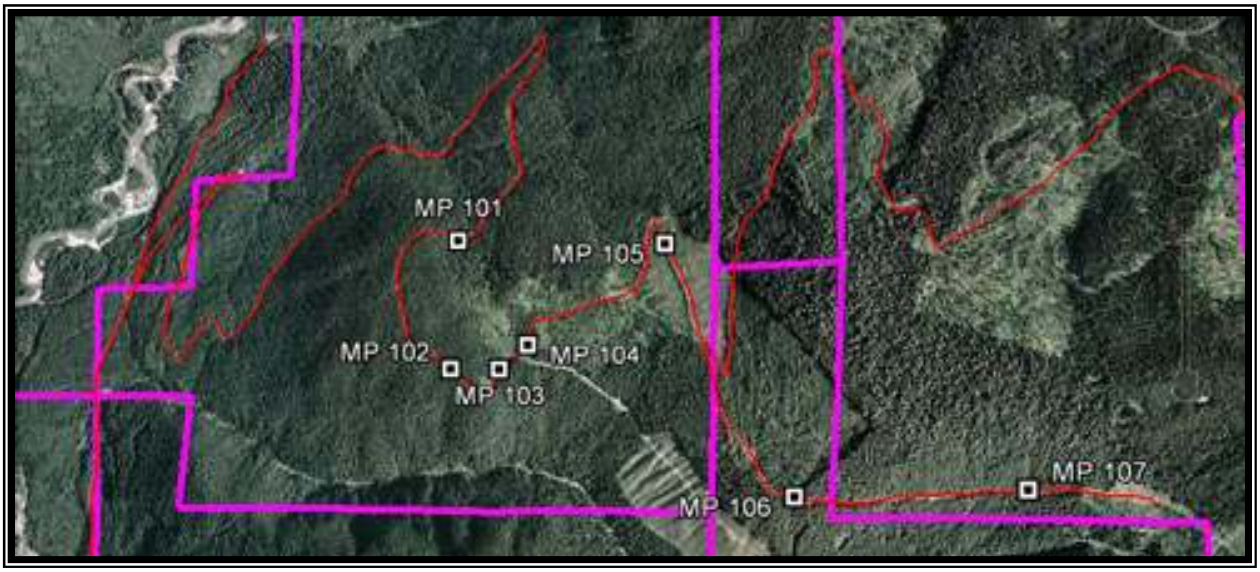


fig 11 – Tenures 852732, 856386 & 852730 (part of 16 in a contiguous group)

Summary continued

……. continuation of Summary

On **August 19, 2011**, the second day of this 'second' segment of the 2011 exploration program, similar to that in the preceding paragraph, focus had been placed on reexamining the 'general vicinity' of some of the previously visited road-cuts along the **Logging Road FSR**. And likewise, many of these cuts and exposed outcroppings were only given a cursory examination during the previous visit, due to demanding time constraints. Therefore, a more meticulous examination was conducted of these areas, whereby many rock samples were taken at the following Marker Point locations - **MP 108** through to **MP 113**, as illustrated in ***"fig 12"*** in following.

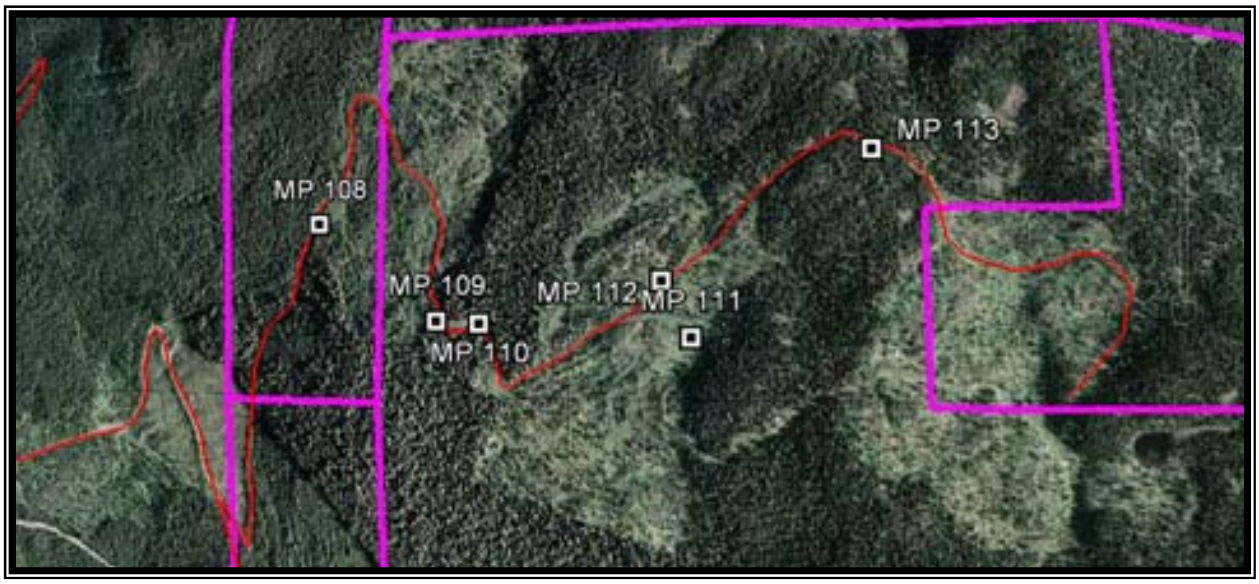


fig 12 – Tenures 852731 & 852730 (part of 16 in a contiguous group)

On **August 20, 2011**, the last day of the August segment of the 2011 exploration program, four locations along Crazy Creek and Crazy Creek FSR were examined, one of which had been previously sampled ***(MP 115)***. See ***"fig 13"*** below. All four were of drainage samples.

The first area tested was at marker point **MP 114**, at the bridge which crosses Crazy Creek, being slightly upstream from the previous ***SP 107 A-2*** location. Water levels had receded since the prior visit, thus allowing greater access to creek gravels. Panning was conducted at various locations along the upstream-side of the bridge, saving the mediums and heavies. Two, 20 litre pails of panned gravels were secured, which would be later refined to isolate and preserve the important mineralogy.

Explorations continued to location, **MP 115**, the same location as previously visited. Again, the lower flow of water permitted greater access along the smaller drainage, with a subsequent recovery of approximately 15 litres of selective panned gravels. From there, attention moved to

…… continuation of Summary

location **MP 116**, where a further 10 litre pail of (this time) bank-run material was recovered from a hardly discernable, drainage-flow. Thereafter, it was decided to return to the bridge crossing Crazy Creek, thence navigate the FSR on the southeast side of Crazy Creek, for a distance of approximately 2 kilometres to a drainage coming in from the southern mountain slope ***(MP 117)***. See ***fig 13*** below. The slope to Crazy Creek was navigated, whereafter panning was engaged, recovering two further 20 litre buckets of heavy to medium weight material. This material was later processed and prepared for forwarding to Mr. Goldsmith, our Optical Mineralogy Analysis Expert.

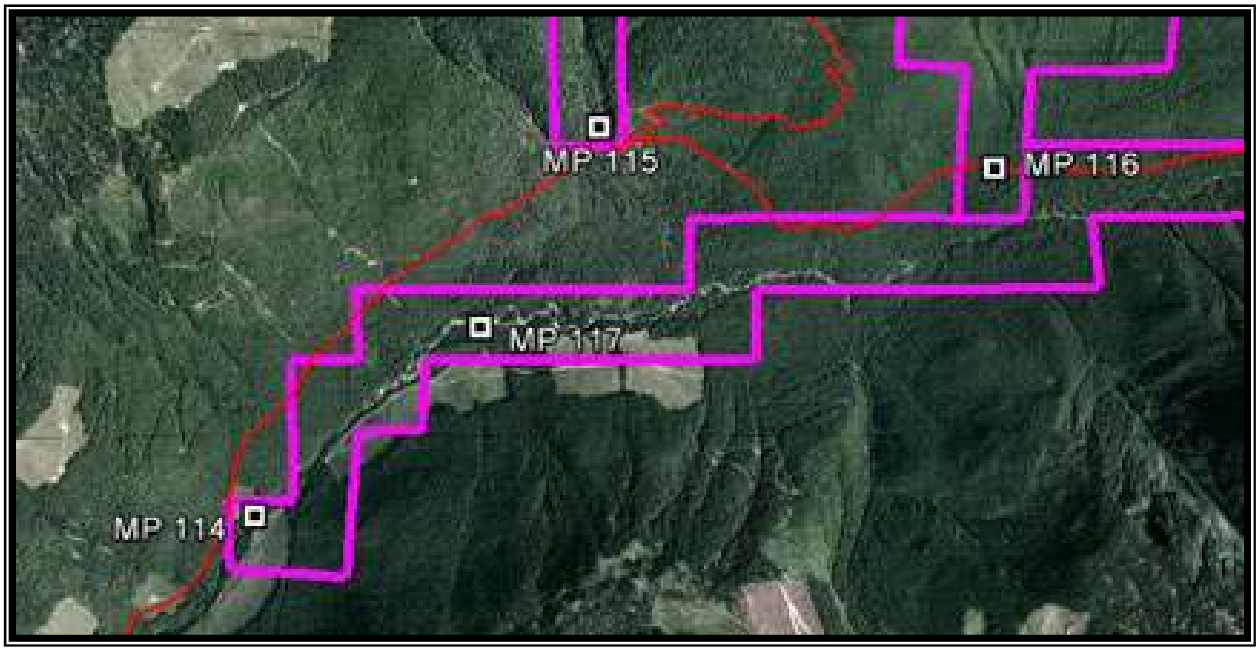


fig 13 – Tenures 852736, 852738 & 852739 (part of 16 in a contiguous group)

Summary Discussion on the August Segment

The second segment of the ***Regional Mineral Survey*** for gemstone and rare earth mineralization on the Eagle Pass Mountain area, was conducted over a three-day fieldtrip during August 2011. The ***'Eagle Eye Team'*** collected numerous rock specimens and, 4¾ - 20 litre buckets and 1-10 litre bucket of drainage gravels, acquired from seventeen locations over the tenure group. The gravel samples had been reduced to medium and heavy weight material through hand panning. The prepared concentrates and rock specimens were tagged and logged as to their location of acquisition, thence transferred to the private laboratory of expert member, Elmar L. Goldsmith for eventual Optical Mineralogy Analysis.

Summary continued

……. continuation of Summary

2011, PHASE I EXPLORATION PROGRAM

SUMMARY – September 2011:

The September 2011, segment of the 'Phase I' exploration program on the Eagle Eye Gem Project was carried out between the dates September 7, 2011 to September 21, 2011. Jurassic's objective for the initial Phase, was to conduct a regional survey over the tenured area through reconnaissance prospecting, sampling drainages and securing rock specimens from outcrops and road-cuts, for detailed analysis by our Optical Mineralogy Expert.

As used elsewhere in this Report, sample locations are identifiable by the small, square, black and white icons placed on mapping.

On **September 7th and 8th, 2011**, the Exploration Team prospected along the inner-most section of Crazy Creek. **September 7th** involved panning the watercourse of Crazy Creek, at locations ***CP 101*** to ***CP 104***, as illustrated in ***"fig 14".***.

fig 14 – Tenures 852739 & 853648 (part of 16 in a contiguous group)

……. continuation of Summary

At the first location to be panned, that at marker ***CP 101***, it was suspected that seasonal flow from the mountain drainage entering from the south may have transported material to combine with that along Crazy Creek's banks. Therefore, to ensure sample matter would not then be skewed with inaccurate information, panning was engaged both above the bridge and significantly below, so as to better aid in mineral tracing. The material was firstly classified to grade out the larger rocks, then carefully scanned to ensure no important lighter-weight minerals were overlooked, thereafter, the material was panned, saving the medium to heavy-weight material, thence preserved for further analysis by our Optical Mineralogy Expert. Three, 10 litre pails of material were recovered, one from above the bridge, and two from below.

Similar panning approach was then carried out at location ***CP 102***, along the base of a major watershed entering into Crazy Creek from the slope to the north. Panning span from approximately 100 metres upstream from said in-flow, to approximately 200 metres downstream from the icon placement *(so as to potentially take in minerals that would have entered the watercourse from said drainage)*. Approximately ¾ of a 20 litre pail of select material was taken from the downstream location, with a 10 litre pail of material secured from the upstream point.

Locations ***CP 103*** and ***CP 104***, also being subject to seasonal deposition from the mountain to the south, were likewise panned below the icon placements, with panning occurring upstream from location ***CP 104***. Three further 10 litre pails were filled with sample material.

On **September 8th, 2011**, drainage sampling continued along the upstream extremities of Crazy Creek, at locations bearing markers ***CP 105*** to ***CP 107***, as further illustrated in ***fig 15*** below.

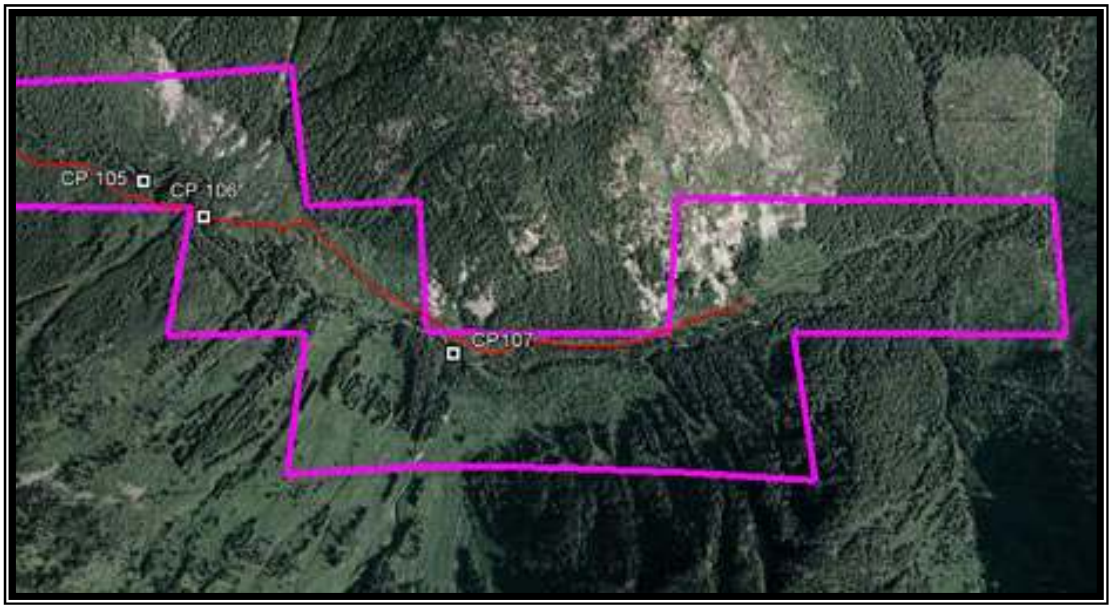


fig 15 – Tenure 853648 (part of 16 in a contiguous group)

……. continuation of Summary

A major drainage from the mountain slope to the south, enters the Crazy Creek Valley at locations ***CP 105*** and ***CP 106***. Historically, a slide had created a fan which buried the former course of the Creek's flowage, altering that section to take on an inverted "Boxed U" shape of approximately 180 metres breadth. At the described location, a similar 'above and below' panning approach was employed for sample gathering. Panning of the gravels somewhat downstream from the fan *(location **CP 105**)* for the medium to heavy fraction, resulted in a 20 litre pail of material being collected for subsequent examination.

fig 16 - Eagle Pass Mountain from Upper Crazy Creek

Further sampling of creek-bed gravels was engaged upstream from the bridge crossing Crazy Creek, at location ***CP 106***, where a 10 litre pail of select gravels had also been collected.

At location ***CP 107***, the inner-most section along Crazy Creek visited thus far, two individual mountain drainages from the southern mountains merge at approximately 200 metres before entering the Crazy Creek system. Again, the gravels were panned both above an below this mergence, recovering a 10 litre bucket of material from each.

Summary continued

…… continuation of Summary

On **September 9, 2011**, exploration focused once again on the properties along the West Perry FSR. On this occasion, attention was placed primarily on gathering rock samples from along the spur roads, with the exception of one location, where placer sample was gathered to check for indicators of gemstones and/or rare earth minerals. For a map of the area, please see ***fig 17***, hereto in following. Branching left onto a spur road from the main W. Perry FSR at Latitude co-ordinate 51° 05' 51.35", then ascending the slope for approximately 1 kilometre, four rock samples were gathered at location **WP 101**. These were bagged and tagged with the co-ordinate where gotten.

Returning to the main FSR, thence traveling northward (inbound on West Perry Road), the next spur road branching left, at Latitude co-ordinate 51° 07' 14.5" is taken, thence ascending the slope to the road-cut at **WP 102**, where three rock samples were selected for optical analysis.

Carrying onward upslope to location marker **WP 103**, another road-cut offered a further five rock specimens worthy of microscopic examination. Continuing onward and taking a sharp right bend to follow this segment of the spur road to location **WP 104**, another four grab samples were collected – thereafter, returning to the main W. Perry FSR.

On previous occasions when exploring the West Perry FSR, the exact access point to the old Bews Creek Road turn-off escaped detection, therefore, to locate same was a primary objective during this visit to the properties. Through following the co-ordinate shown on mapping, to Latitude 51° 07' 24.30" its location was identified. The old bushed-in road was followed on foot for approximately 300 metres to marker point **WP 105**, where it emerged on the bank of Perry River, however, the former bridge *(if it did indeed have one*) was not evident. Three bags of panned gravel were recovered from the bank material, each weighing approximately two kilograms.

Over the dates **September 20, 2011** and **September 21, 2011**, a reconnaissance road mapping program was carried out over passable Forest Service Roads and Spur Roads on the tenure group, so as to better serve the Project's continuing objectives. Transportation for this mapping program was effected through the use of two 4x4 Quads (ATVs), namely a Kawasaki 750 Brute Force and a 550 Bombardier *CANAM* Outlander. A Lowrance iFinder GPS was used to log way-point co-ordinates of road junctions, object blocking normal vehicular passage, trails, concerning wildlife localities (identifying game trails and areas of roadway travel), and, points-of-interest, such as outcrops, drainages and other areas of interest which would be recommended for follow-up explorations.

……. continuation of Summary

Day 'one' focused on the areas along and associated to, the East Perry FSR, including, the South Mountain Road and its array of roadwork, with similar for the Mountain Road, and the Logging Road, and all spur roads leading there from. This resulted in 114 waypoints being logged, covering the full spectrum of interest. Day 'two' centered around mapping along the West Perry FSR (claim area), thence the Crazy Creek FSR, and adjoining roads, where 79 various points-of-interest were logged, bringing the total to 193.

Upon completion, 125.3 kilometers were logged on each Quad, with a fuel cost of $43.00. An overlay of the waypoints with co-ordinates has not yet been generated onto mapping.

Summary Discussion on the September Segment

Segment Three of the ***Regional Mineral Survey*** for gemstone and rare earth mineralization on the Eagle Pass Mountain area, was effected over a three-day fieldtrip during September 2011. The ***'Eagle Eye Team'*** examined over thirty rock specimens, saving fourteen. The drainage sample had been reduced to a two kilogram sample of medium and heavy weight material All specimens were tagged and logged as to their location of acquisition, thence transferred to the private lab of expert member, Elmar L. Goldsmith for eventual Optical Mineralogy Analysis.

2011, PHASE I EXPLORATION PROGRAM

SUMMARY – October 2011:

The October 2011, portion of the 'Phase I' exploration program on the Eagle Eye Gem Project was carried out over the dates October 25, 2011 to October 27, 2011. Phase I of Jurassic's exploration program on the Eagle Eye Gem Project focused on conducting a regional sampling survey over the tenure group. Reconnaissance prospecting and the recovery of drainage samples for detailed Optical Mineralogy analysis, comprised the embodiment of work performed on the Eagle Eye properties during the month of October, 2011. As used elsewhere in this Report, sampled locations are identifiable by small, black and white icons placed on mapping.

Summary continued

……. continuation of Summary

October 25, 2011, was slated for an early morning meet with a field associate at the claim area, however, due to miscommunication, the individual did not arrive. Nevertheless, the author attended East Perry FSR to further sample Rocky Creek *(map location **EP 300**),* as illustrated in ***fig 17***. Approximately 6 kilograms of concentrates were recovered. Due to inclement weather *(heavy rains),* the efforts were discontinued. On the way out a sample was taken at a small drainage at map location **EP 301**, where another 2 kilogram bag of concentrates were collected. Upon the mid-afternoon return to Revelstoke, flurries commenced – that, coupled with the lack of having the associate in attendance, plans to stay over were aborted. Upon the mid evening arrival at the home-site, communication was effected with the associate, whom erred on the date of meet, feeling it was October 26th during his scheduled trip from Abbotsford to Saskatchewan. Plans were therefore slated to connect early the next morning *(26th)* at Eagle Pass.

On **October 26, 2011**, though the FSR had approximately 8 centimetres of snow above the 850 metre level, onward, Crazy Creek was revisited. Further sampling was carried out at the former **CP 102** location *(see September 7, 2011 work program)*, with a 10 litre bucket of concentrates being recovered. Thereafter, while attempting to navigate a long, steep grade, the snow level became much deeper, which resulted in the decision to discontinue work on the inner sector of Crazy Creek FSR. Upon returning to the lower elevations where snow cover was less, a further two kilogram bag of concentrates had been recovered from the former **MP 114** location.

On **October 27, 2011**, the West Perry FSR was found to be passable, however, when reaching the inner extremities, snow squalls commenced, therefore, before terminating the season's Exploration Program, two further 10 litre pails of bank-run material had been collected, one from each of the bridge locations at Latitude co-ordinates *51° 05' 47.7" N*, and *51° 05' 31.8" N*.

……. continuation of Summary

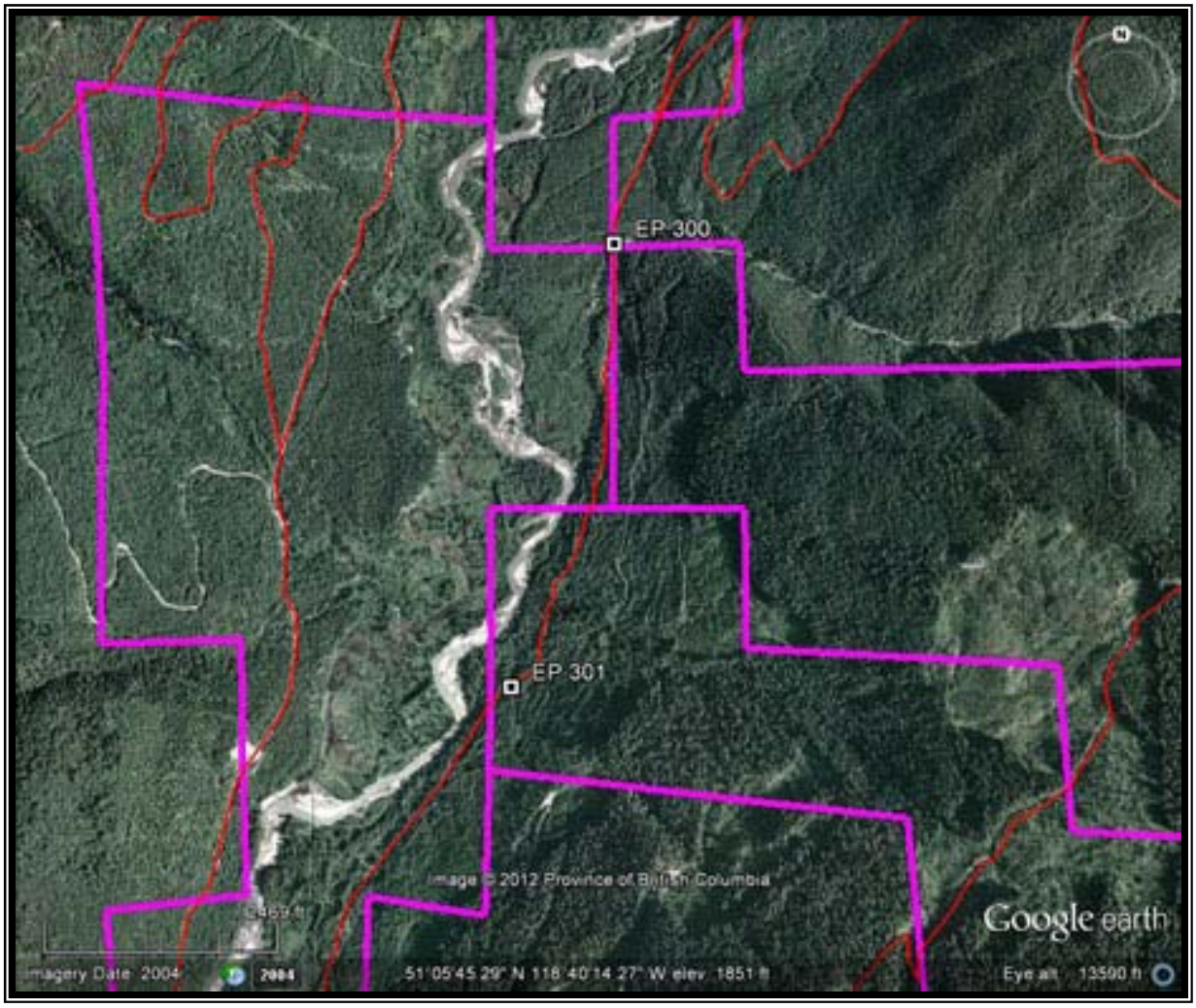


fig 17

Summary Discussion on the October Segment

The ***Regional Mineral Survey*** for gemstone and rare earth mineralization on the Eagle Pass Mountain area was concluded following a three-day fieldtrip October 27, 2011. A total of six locations were visited over three, three-day trips made to the tenured area during October 2011, which resulted in a total recovery of 4-2kg bags and 3-10 litre buckets of concentrates panned to preserve the medium and heavy materials, plus, 2-10 litre buckets of bank-run material, all from creek gravels. No rock specimens were acquired during this phase of the Project.

Summary Completed

Exploration Summation

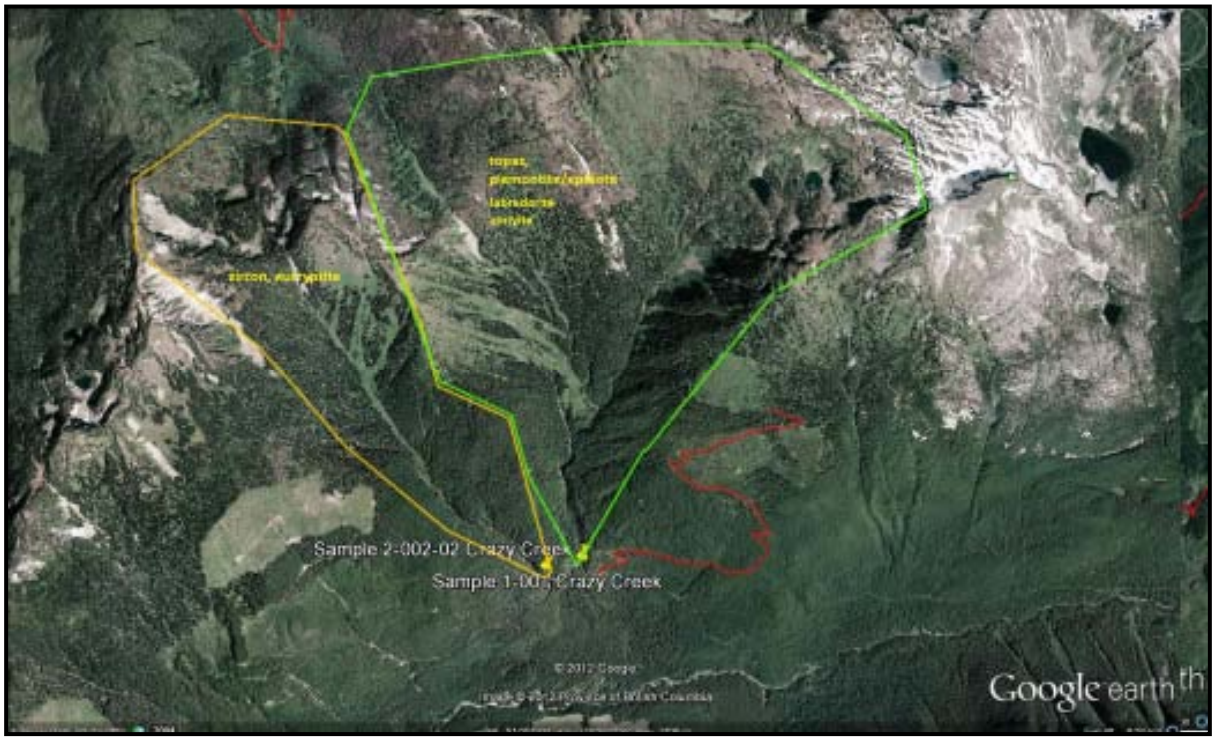
The ***2011 Phase I*** of the ***Eagle Eye Gem Project***, an initiative engaged by four individuals in partnership, revolved around conducting a regional survey on seventeen contiguous Mineral properties, located on and around the Eagle Pass Mountain region of British Columbia. A few associates were also involved in the explorations. The Phase I segment of the Project involved four, three-day trips to the tenured areas, between July 2011 and October 2011, primarily to conduct drainage sampling and prospect for rock specimens, that would shed light on the region's localized geology.

During the early stages of exploration, a large volume of reduced stream material *(not then being measured due to collected material being placed in a variety of bag sizes)* estimated to weigh in excess of 75 kilograms, along with 117 rock specimens, were collected. Over the latter portion of the survey, another 14 rock specimens, plus, 6-2 kilogram bags, 4¾ -20 litre buckets and 4-10 litre buckets of gravels reduced to just the medium to heavy weight material were recovered, along with 3-10 litre buckets of bank-run gravels. In total, though investigations probed many more unmentioned road-cuts and outcrops, 83 locations were recorded where samples had been acquired.

Off-site work had also been performed in processing the stream samples to a more refined state for Optical Mineralogy Analysis. Samples and specimens were transferred to the private lab of Elmar. L. Goldsmith, and select specimens transferred to the private lab of Tom Bryant, for further analysis. However, a large volume of material has been archived and remains to be examined. Of that receiving Optical Mineralogy Analysis thus far, the results thereof, are contained within the embodiment of this Report. Similar analysis remains ongoing.

Metamorphic Geology of the Region

Implied Areas of Influence



Implied Areas of Influence continued

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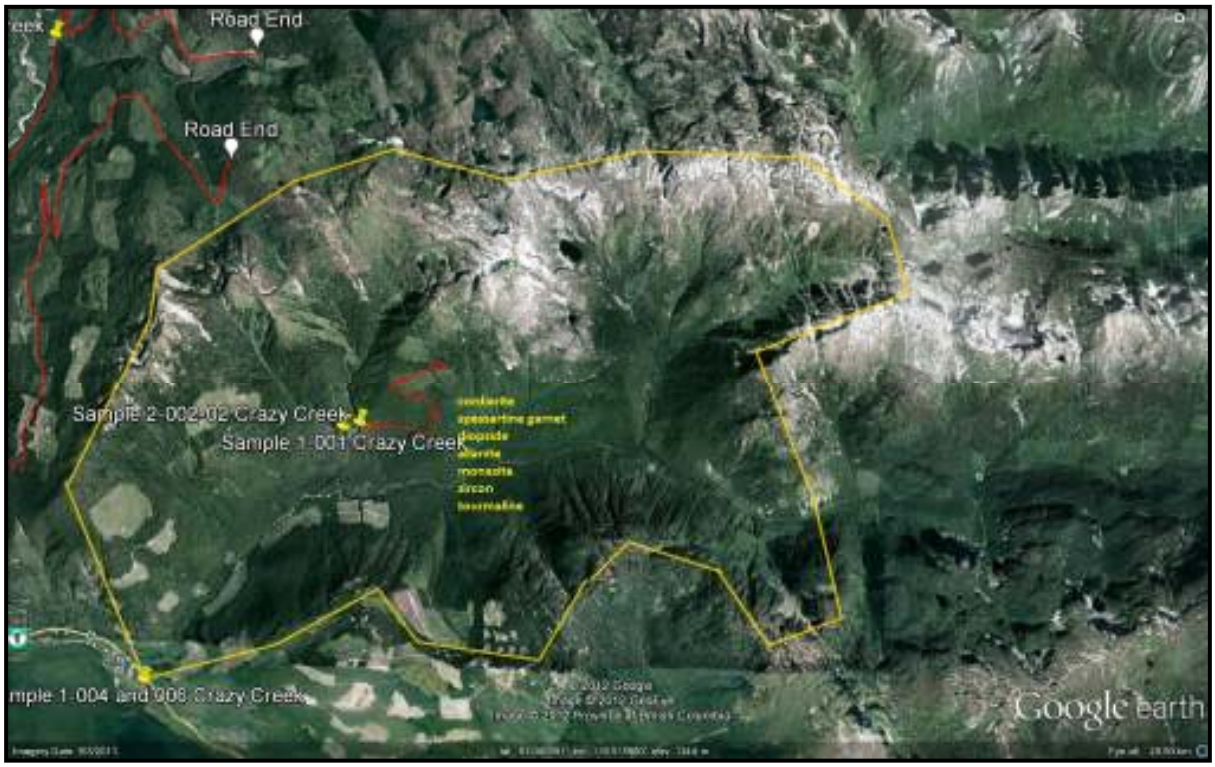

Implied Areas of Influence continued

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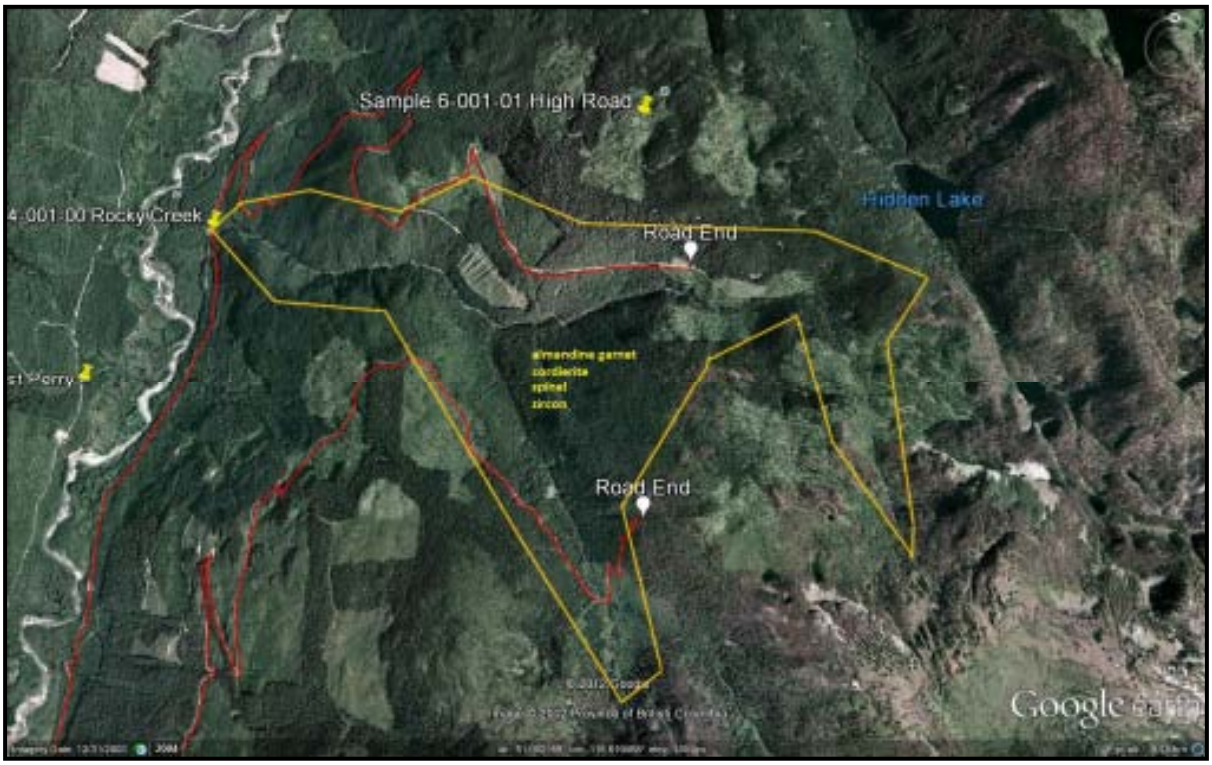
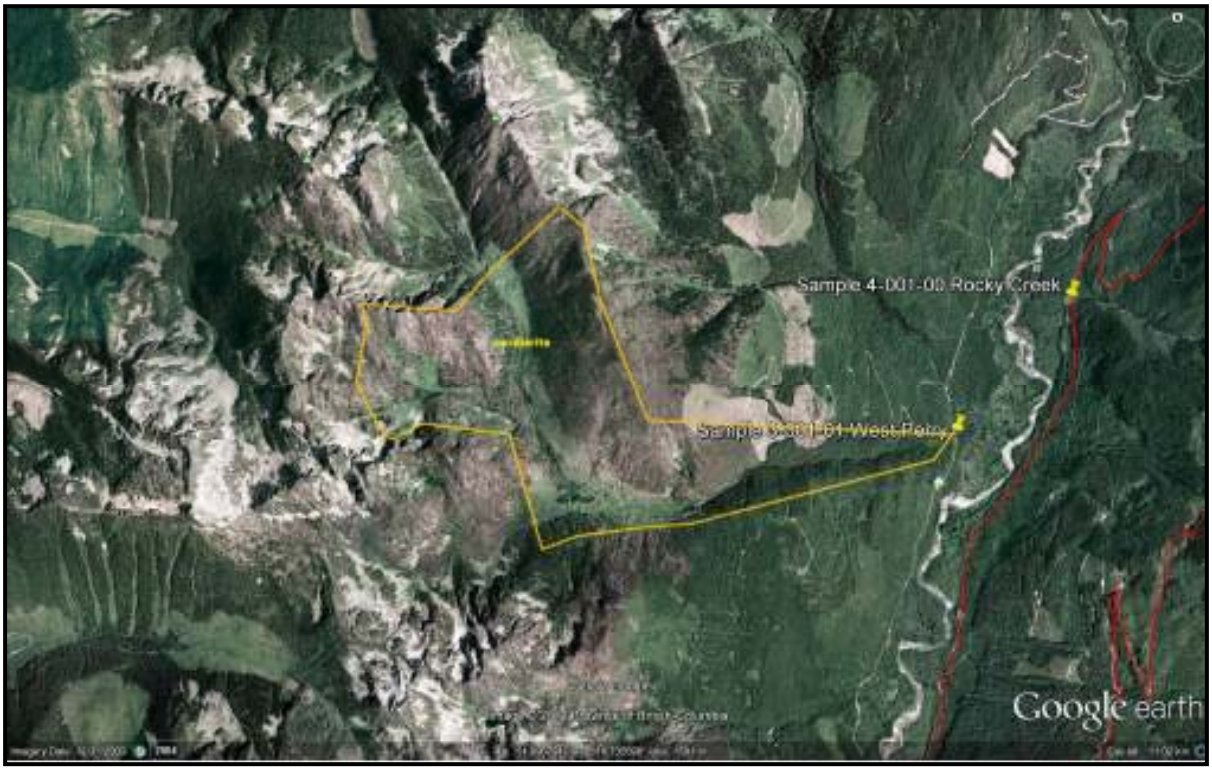




Optical Mineralogy

Eagle Pass Mountain Area

Jurassic Minerals
Eagle Eye Gem Project

By Elmar L. Goldsmith
May, 2012

Introduction and Summary

This optical mineralogy report contains descriptions of optical mineralogical analyses of various rocks selected from sediment samples from tenures of Jurassic Minerals located in the vicinity of Eagle Pass Mountain, near Revelstoke, British Columbia. This work is a preliminary reconnaissance examination of the minerals in the placer deposits in drainage in the sample area and from exposed outcrops and the like accessible by various roads in the area. Much additional work remains to be done on samples from the area to assess the potential of the tenures for gemstones and other possible valuable mineralization.

Grain mount slides were used with both a binocular compound microscope and a trinocular polarizing petrographic microscope for mineral identification.

In addition to common, widespread, ubiquitous minerals such as quartz, various feldspars, various micas and hornblende, several minerals of much greater interest were identified. These include garnet, cordierite (iolite), diopside, allanite, monazite, zircon, tourmaline, actinolite, eucryptite, chlorite, piemontite, topaz, zunyite, labradorite, omphacite, spinel, stilpnomelane, and sillimanite.

Of these, the obvious potential gemstones such as tourmaline, iolite, zircon, labradorite, garnet, spinel and garnet require further follow-up.

Eucryptite, if verified in further sampling and analyses, would represent the first known occurrence of this mineral in British Columbia (at least as reported in the readily available literature). In sufficient quantity and quality eucryptite is a potential commercial source of lithium.

The rare earth element minerals allanite and monazite are interesting. The number of radioactive rocks identified is worthy of more study to more closely identify possible host rocks.

Identifying the minerals, both singly and in combinations is only one element of assessing the potential of the area. Placing the mineralogy in a geologic setting and identifying target areas for further prospecting and evaluation is required to direct further work.

Optical Mineralogy

Equipment

The author has a home-based optical mineralogy laboratory with the following equipment:

- Binocular Compound Microscope
    - 4 objective lens turret
    - Built in sub-stage transmitted lighting
    - External reflected light lighting system
    - Mechanical stage
    - Digital cameral built in
- Trinocular Transmitted / Reflected Light Polarizing Petrographic Microscope
    - 4 objective lens turret
    - Built in lighting for both transmitted and reflected light
    - Conoscope capability (Bertrand Lens)
    - Mechanical stage
    - 1 wave plate insert, ¼ wave plate insert, Quartz wedge insert
    - Digital camera built in
- Refractive Index (R.I.) Liquids (Cargille) – 37 liquids ranging from 1.460 to 2.00
- Immersion oil (R.I. = 1.52)
- Ludlum Measurements Inc. Model 3 Radiation Survey Meter
- Ludlum Measurement Inc Model 44-9 Pancake Geiger Mueller Radiation Detector
- Ultraviolet lights – long wave and short wave.
- Rare earth magnets
- Various lamps and digital cameras
- Screens 4 mesh to 200 mesh
- Mortar and pestle (2)
- Streak plates
- Glass slides, slide cover slips
- Computer for on-screen viewing of microscope images and photo retention
- Software to acquire digital images from microscopes
- Software to “stack” multiple images into one composite image

Procedure

The following systematic procedure is used to identify and describe minerals and rocks ("rocks" is used in this report to denote fragments made up of more than one mineral) in samples (based on recommendations by Nesse (2004) and Kerr (1977)).

1. Examine (eye, loupe, hand lens, etc.) a hand sample of the mineral or rock to determine as many of the following characteristics as possible: number of minerals present, transparent or opaque, colour, luster, streak, hardness, cleavage, fracture, specific gravity, mineral habit. Also note any associations between minerals.
2. If the hand sample of the mineral or rock is too large for the binocular compound microscope (say larger than 4 mesh), carefully break off a fragment of the proper size for further examination.
3. Examine a fragment of the mineral or rock with the binocular compound microscope with reflected lighting to get a better/closer view of the characteristics as in 1 above. Take a picture of the fragment. For fragments that are too large to be entirely in focus (depth of field issue), take a series of pictures at different focus points and use stacking software to combine them into one in-focus picture.
4. If the fragment is relatively large (too large to fit in the field of view) gently crush the fragment into smaller fragments (say smaller than about 12 mesh), and examine the smaller fragments with reflected light and the binocular compound microscope to gain as much information about the characteristics as possible.
5. Prepare a grain mount of the fragment. The author uses grain mounts instead of thin sections as they are much, much quicker to prepare and they are better for determining refractive index, birefringence, and related optical properties. The following procedure is used to prepare the grain mounts.
    a. Crush a sample of the unknown mineral or rock in a mortar and pestle.
    b. Screen the crushed sample so that it passes a 100 mesh screen and does not pass a 150 mesh screen.
    c. Sprinkle a few grains of the unknown mineral or rock on a microscope slide and cover with a piece of cover slip.
    d. Place a small amount of immersion oil (R.I. = 1.52) next to the cover slip so that capillary action draws the oil under the slip and immerses the grains.
    e. Place the slide on the microscope stage and examine.
6. Scan the slide to observe as many of the following properties of the unknown mineral(s) as possible: colour, pleochroism, relief relative to the immersion oil, whether isotropic or anisotropic, nature of twinning if present, nature of cleavage and fracture, alteration.
7. If isotropic, compare the refractive indices of the oil and grain using the Becke line method. Prepare additional grain mounts using different R.I. liquids until a match with the mineral is found.

8. If anisotropic:
    a. Scan the slide to find a desired grain with the lowest interference colour. Conoscopically determine whether the grain is uniaxial or biaxial.
        i. Uniaxial. Obtain an interference figure and determine the optic sign. Compare R.I. liquid to the R.I. grain using the Becke line method.
        ii. Biaxial. Obtain an interference figure and determine the optic sign, 2V and dispersion characteristics, if any. Compare R.I. liquid to the R.I. grain using the Becke line method.
    b. Scan the slide to find the desired grain with the highest interference colour.
        i. If the grain forms elongate fragments due to cleavage, measure the extinction angle and determine the sign of elongation.
        ii. Compare R.I. liquid to the R.I. grain using the Becke line method. Use the accessory plates to determine the vibration direction.
    c. Prepare additional grain mounts to find R.I. values of the various axes.
9. Using all of the above information use identification table available in many sources to identify the unknown mineral.

Results

<u>Sample 1-004-00 Crazy Creek A-2</u> (51° 00’ 53.2”N 118° 37’ 05.5”W)
A sediment sample (unclassified silt, sand, gravel, including rocks up to about 10 cm across) taken by shoveling material from the edge of the flowing stream into a pail and decanting off any excess water. The sample was dried, weighed, labeled and stored for further examination. Total dry weight was 1.4 kg. Figure 1 shows the entire sample. This sample is typical of the type of sediment material taken in sampling streams and gravels from the tenures, so no additional examples will be shown unless specifically indicated by some special feature.

Figure 1. 1-004-00 Crazy Creek Sample

Sample 1-004-01 Crazy Creek A-2 (51° 00’ 53.2”N 118° 37’ 05.5”W)
The bulk sample 1-004-00 was examined and an amber coloured rock about 0.6 cm in diameter was selected for analysis (labeled 1-004-01). It was lightly crushed and a picture (Figure 2) was taken with the binocular compound microscope with reflected light. Note that the blue items in the lower right-hand part of the photo are reflections from the external lights, not blue grains. The rock was then crushed and screened to -100 +150 mesh for analysis.

Figure 2. 1-004-01 Amber Rock

Analysis with the petrographic microscope revealed **biotite** (stained with **limonite**?), **garnet** (spessartine), **quartz**, and **cordierite**.

Cordierite [($Mg_2Al_3(Si_5AlO_{18})$)] is of significant interest as its gemstone form (**iolite**). When associated with garnet, cordierite usually originates in mafic metamorphic rocks. Other associated minerals may include chlorite, andalusite, kyanite, sillimanite, staurolite, muscovite, chloritoid, as well as quartz and biotite as in this sample.

Many of the biotite grains were stained red with a very fine grained mineral coating. This coating is tentatively identified as limonite which is proper term to apply to aggregates of very fine-grained Fe oxides and hydroxides whose mineralogy is not known.

Spessartine garnet [$Mn_3Al_2(SiO_4)_3$] was identified by its refractive index and isotropic nature. The presence of spessartine suggests a Mn-rich metamorphic rock host.

Sample 1-004-02 Crazy Creek A-2 (51° 00’ 53.2”N 118° 37’ 05.5”W)
The bulk sample 1-004-00 was examined and a green coloured rock about 0.6 cm in diameter was selected for analysis (labeled 1-004-02). Figures 3 and 4 show the rock and a close up in reflected light.

Figure 3. 1-004-02 Green Rock

Figure 4. 1-004-02

Analysis with the petrographic microscope revealed major constituents were **plagioclase feldspar** and **diopside**.

Plagioclase feldspar exists in a continuous solid solution from albite (Ab) [$NaAlSi_3O_8$] to anorthite (An) [$CaAl_2Si_2O_8$]. While it is possible with careful determination of optical properties to determine where in the solid solution composition the sample lies, this was not done for this sample. It is a widespread mineral found in both igneous and metamorphic rocks.

Expanding on the description of diopside above, it is the magnesium-rich end member of a solid solution series of the pyroxene group that contains hedenbergite and augite. Careful determination of refractive index of the sample strongly suggests diopside as opposed to other members of the solid solution. Many specimens of diopside are cut for gemstones if found in sufficiently large size, colour and quality.

Sample 1-006-00 Crazy Creek A-2 (51° 00’ 53.2”N 118° 37’ 05.5”W)
A sediment sample (unclassified silt, sand, gravel, including rocks up to about 10 cm across) taken by shoveling material from the edge of the flowing stream into a pail and decanting off any excess water. The sample was dried, weighed, labeled and stored for further examination. Total dry weight was 15.0 kg.

Sample 1-006-01 Crazy Creek A-2 (51° 00’ 53.2”N 118° 37’ 05.5”W)
The bulk sample 1-006-00 was examined and a brown, specked rock about 5.3 cm long was chosen for analysis. A rock hammer was used to break the rock open into several smaller pieces for examination (Figure 5). One of the fragments was further crushed for view with the binocular compound microscope with reflected light (Figure 6). The rock was visibly layered with dark brown bands interspersed with lighter ones.

Figure 5. 1-006-01 Brown Speckled Rock


Figure 6. 1-006-01 Reflected Light Fragments

Analysis with the petrographic microscope revealed 4 major mineral constituents: **feldspar** (60%). **hornblende** (20%), **quartz** (10%), and **allanite** (10%).

Hornblende [$Ca_2(Mg, Fe, Al)_5 (Al, Si)_8O_{22}(OH)_2$] is the name given to a series of related inosilicates of the amphibole group minerals that are difficult to distinguish by typical optical means. Hornblende is a common component of many igneous and metamorphic rocks. Associated minerals include quartz, feldspars, augite, magnetite, micas and many others including allanite as seen in this sample.
Allanite is a very interesting find in this sample. Allanite [$(Ca, Ce, La, Y)_2(Al, Fe)_3(SiO_4)_3(OH)$] is a rare earth aluminum iron silicate hydroxide. It is one of the most common of the rare earth ore minerals in which up to 20% of the weight of the rock could be the rare earth elements (REE) cerium, lanthanum, and/or yttrium. Chemical analyses would be required to determine the specific rare earth elements contained in this allanite. Allanite is found as an accessory mineral in several igneous rocks and in metamorphosed clay-rich sediments.

One of the elements commonly included in allanite is thorium which can cause the mineral to be slightly radioactive. Consequently, the rock was tested with a Ludlum Model 3 radiation Survey Meter fitted with a Ludlum Model 44-9 Pancake Geiger Mueller Radiation Detector with the following results:

- Background reading 25-40 counts per minute (cpm)
- 1-006-01 Brown Speckled rock 70-80 cpm

The slight radioactivity confirms the presence of a radioactive element – almost certainly thorium, although uranium is a lesser likely element that could be present.

Sample 1-006-03 Crazy Creek A-2 (51° 00’ 53.2”N 118° 37’ 05.5”W)
To further determine the presence of REEs another rock containing brown mineral specks was chosen. Figure 7 is a photograph of the rock. It was lightly crushed and examined under reflected light. Figure 8 is a representative view of the fragments. There appeared to be 4 major minerals present and a few minor ones.

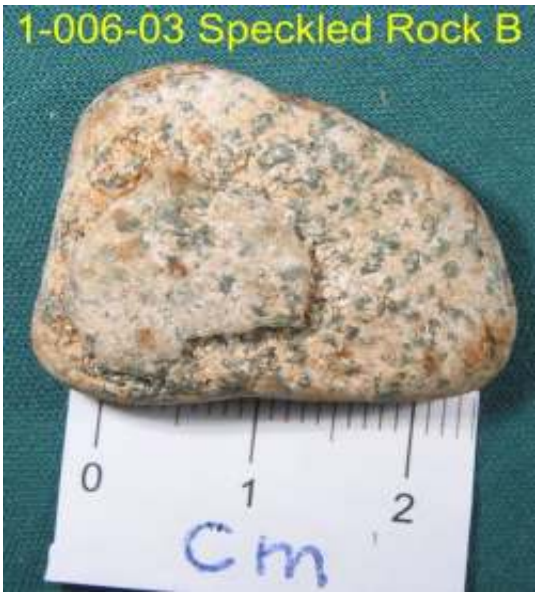


Figure 7. 1-006-03 Brown Fleck Rock

Figure 8. 1-006-03 Reflected Light Fragment

Analysis with the petrographic microscope revealed **feldspar**, **hornblende**, **allanite** and **monazite**. In addition, there were minor amounts of **quartz** and opaques.

The crushed rock was tested with the radiation counter and found to be slightly radioactive (30-40 cpm above background)

Monazite [$(Ce, La, Nd, Y, Th)PO_4$] is a primary ore of several REEs, particularly thorium, cerium and lanthanum. Sometimes uranium is a trace element in monazite. Monazite is typically radioactive, sometimes quite radioactive. The chemical makeup of this specimen could only be determined by chemical analyses. Figure 9 shows one of the grains of monazite isolated from this rock in plane polarized light (PPL). It shows a typical prismatic crystal form of monazite and clearly shows radiation damage to the crystal lattice (metamict). It is distinguished by high birefringence, high relief, pale yellow colour, and biaxial (+) nature.

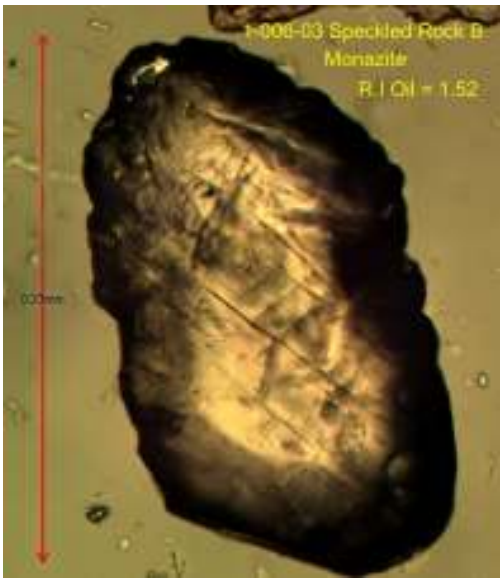


Figure 9. 1-006-03 Monazite

Monazite is an accessory mineral in granitic rocks, syenite, granitic pegmatites and carbonatites. It is also formed in metamorphosed dolomites and mica schists, gneiss, and granulites.

Monazite is relatively resistant to weathering and so may be found as detrital grains in clastic sediments.

<u>Sample 1-006-04 Crazy Creek A-2</u> (51° 00’ 53.2”N 118° 37’ 05.5”W)

Due to the radioactive rocks identified as having allanite and monazite minerals in them a number of additional rocks were hand picked from 1-006-00 Bulk sample as shown in Figure 10. All of these rocks are radioactive to some degree, with the most radioactive measuring about 50 cpm above background.

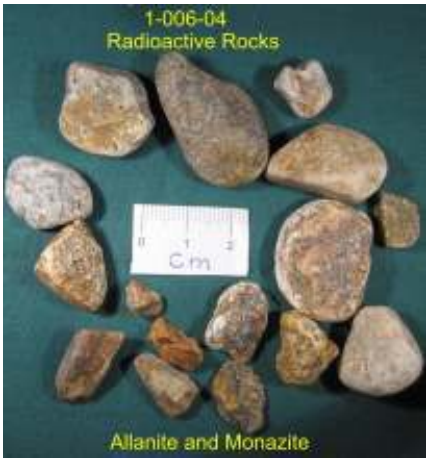


Figure 10. 1-006-04 Radioactive Rocks

A portion of 1-006-00 Bulk sample was screened to –4+12 mesh and run through a “bucket sluice” the dried, heavy fraction was tested with the radiation detection equipment and gave readings up to 120 cpm above background. It is obvious that this sediment sample contains significant rocks containing radioactive minerals, most likely allanite and monazite. Other REE-containing minerals are possible, but have not been positively identified.

Sample 1-006-07 Crazy Creek A-2 (51° 00’ 53.2”N 118° 37’ 05.5”W)
A white - pink rock with black elongated crystals in it was hand picked from 1-006-00 Bulk sample (see Figure 11). The rock was examined in reflected light to more closely evaluate the black crystals. Figures 12 and 13 show close up images of the crystals taken with the binocular compound microscope. The long crystals (acicular) appear quite black and probably hexagonal in cross section.

Figures 14 and 15 show a grain mount slide in PPl and with crossed polars (XPL). This shows the high birefringence of certain grains and the high order interference colours.

Figure 11. 1-006-07 Black Fibrous Crystal in Rock

Figure 12. 1-006-07 Black Acicular Crystal

Figure 13. 1-006-07 Black Acicular Crystal

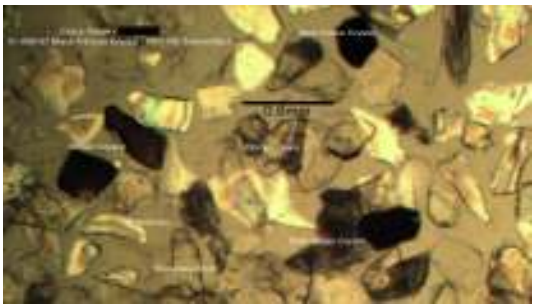


Figure 14. 1-006-07 Grain Mount PPL

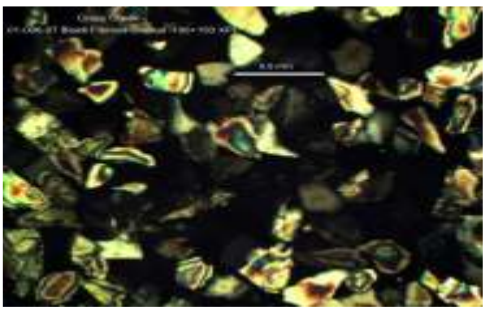


Figure 15. 1-006-07 Grain Mount XPL

Analysis with the petrographic microscope and accessories revealed **plagioclase** feldspar (An30) as the major matrix mineral with the black acicular crystals being black **tourmaline**. In addition, both green **actinolite** and **asbestiform actinolite** were present.
Figure 16 is an extreme close-up of asbestiform actinolite from this sample. Actinolite $[Ca_2(Mg,Fe)_5Si_8O_{22}(OH)_2]$ is found in metamorphosed mafic and ultramafic rocks and in glaucophane schist and associated rocks. The combination of plagioclase, actinolite, and tourmaline is not particularly unusual. It is also not unusual to find columnar, bladed, acicular and fibrous or asbestiform crystals in close proximity with one another.

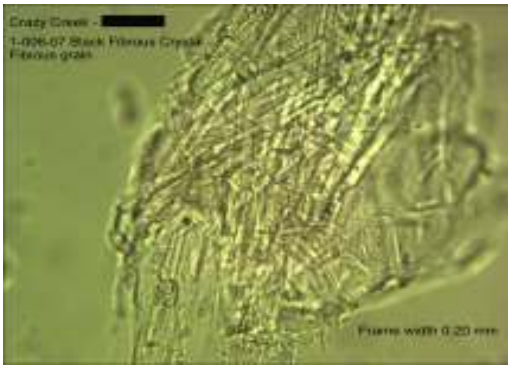


Figure 16. 1-006-07 Asbestiform Actinolite

Tourmaline $[Na(Mg,Fe,Li,Al)_3Al_6(Si_6O_{18})(BO_3)_3(OH,F)_4]$ is a ring silicate and, in appropriate sizes is known as a semi-precious gemstone. It is a characteristic mineral in granitic pegmatites and an accessory mineral in granite, granodiorite, and in alteration zones associated with these rocks. It is also common as an accessory mineral in schist, gneiss, and phyllite. Black tourmaline is usually the "schorl" variety of tourmaline and is typically iron-rich. Figures 17 and 18 show the distinct pleochroism found in this mineral. It changes from brownish-black translucent to black nearly opaque black on rotation of the stage in PPL.

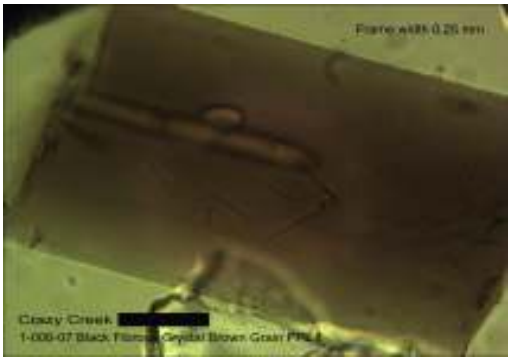


Figure 17. 1-006-07 Pleochroic Tourmaline

Figure 18. 1-006-07 Pleochroic Tourmaline

Sample 1-001-01 Crazy Creek (51° 02’ 15.1”N 118° 35’ 19.0”W)
Sediment sample 1-001-00 was exposed to short wave ultraviolet light and grains that fluoresced yellow, blue and red were hand selected. As with previously examined samples from these tenures, the yellow fluorescent grains were **zircon**. Figures 19 and 20 show the blue and red fluorescent grains.

Figure 19. 1-001-01 Crazy Creek Blue Fluorescent Grains

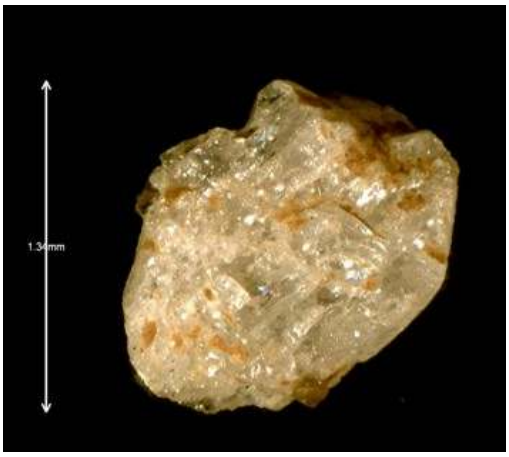


Figure 20. 1-001-01 Red Fluorescent Grains

Grains of the blue fluorescing rocks were crushed and screened to -100+150 mesh and analyzed with the petrographic microscope. The predominant mineral turned out to be **albite**. Grains of the red fluorescing mineral were crushed and screened to -100+150 mesh and analyzed. The predominant mineral was found to be **eucryptite**. **Quartz** was abundant throughout.

As described earlier, albite is a member of the plagioclase feldspar family.

Eucryptite [$LiAlSiO_4$]. It typically occurs in lithium-rich pegmatites in association with albite, spodumene, petalite, amblygonite, lepidolite, and quartz. While eucryptite can be difficult to distinguish from spodumene, its red fluorescence under short wave ultraviolet light is a determining factor. There are few significant occurrences of eucryptite in the world and no occurrences could be found in the readily available literature related to minerals in British Columbia.

Sample 2-002-02 West Crazy – N. Ravine (51° 02’ 17.7”N 118° 35’ 03.2”W)

Figure 21. 2-002-02 W. Crazy White and Green Rock

Sediment sample 2-002-02 was examined and a white and green rock was selected for analysis. Figure 21 shows the rock in reflected light with the binocular compound microscope. There were cloudy white-to-grey mineral grains, dark green grains, and a few tiny, rusty-red particles.

The rock was crushed and screened to -100+150 mesh and analyzed with the petrographic microscope and accessories. Figures 22 and 23 show the grains in reflected light and transmitted light, respectively.

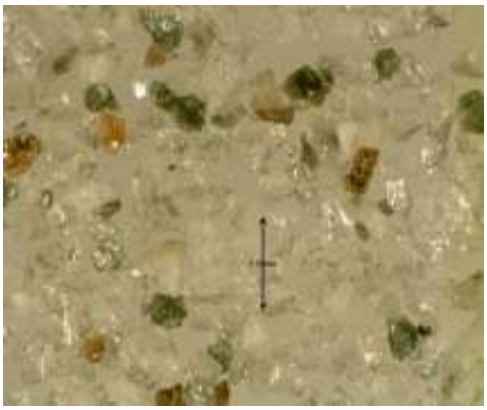


Figure 22. 2-002-02 Grains in Reflected Light

Figure 23. 2-002-02 Grains in Transmitted Light

Analyses of the grains revealed abundant **quartz**, **plagioclase** feldspar (An3), isotropic **biotite**, and isotropic **chlorite**.

The most interesting and informative result is that both the biotite and chlorite are isotropic. Normally both would be expected to be anisotropic.

The green mineral in this rock, chlorite [$(Mg,Al,Fe)_3(Si,Al)_4O_{10}(OH)_2 \cdot (Mg,Al,Fe)_3(OH)_6$], is commonly found as plates or scales similar to the micas. Commonly, chlorite is found in contact and regional metamorphic rocks of low to medium grade. It is found with biotite, garnet, staurolite, andalusite, muscovite, chloritoid and cordierite. The hydrothermal alteration of almost any rock type may result in production of chlorite.

Optical Mineralogy continued

Some of the green chlorite grains in this sample were found to be hexagonal in shape and were essentially isotropic. It has been reported in the literature that certain quartzite gneisses have been found with garnet replaced by fine grained isotropic chlorite.

Many of the biotite grains were also totally or partially transformed to an isotropic form. It has been reported that under extreme pressure biotite can transform to optically isotropic "glass" with many inclusions as seen in this rock.

The inference is that the minerals in this rock have been exposed to high pressure (temperature?) and transformed from typical anisotropic form to near-isotropic, particularly in gneisses.

Sample 2-002-03 West Crazy – N. Ravine (51° 02' 17.7"N 118° 35' 03.2"W)
Sediment sample 2-002-00 was examined and an orange rock was selected for analysis. Figure 24 shows a portion of the rock in reflected light with the binocular compound microscope.

The rock was crushed and screened to -100+150 mesh and grain mount slides prepared for petrographic analysis. Figure 25 shows this fraction in reflected light and Figure 26 shows the grains in transmitted light. In particular, the light brown to light grey grains showed considerable needle-like crystals.

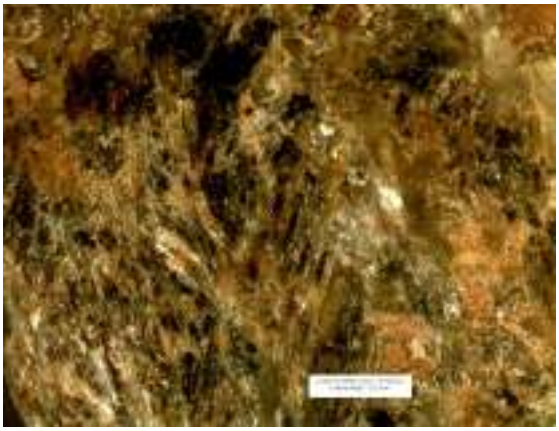


Figure 24. 2-002-03 Orange Rock

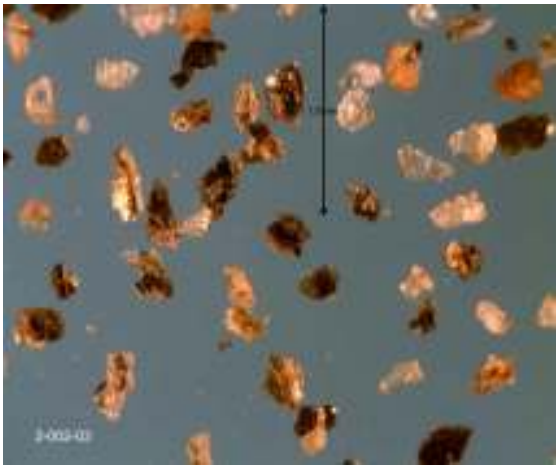


Figure 25. 2-002-03 Reflected Light Grains

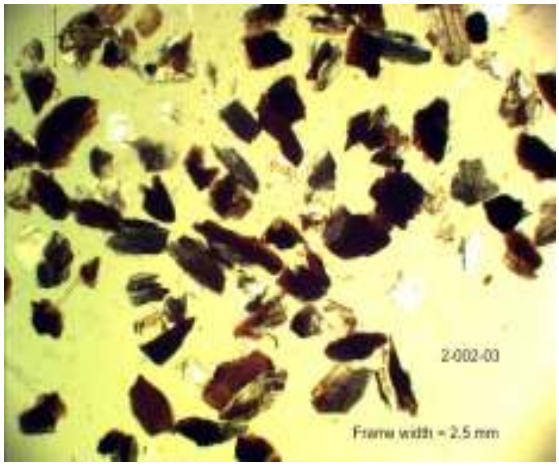


Figure 26. 2-002-03 Transmitted PPL

Analysis revealed **quartz**, **biotite** (some altered to isotropic), **orthoclase** feldspar and **actinolite**.

Biotite altered to the isotropic form has been described earlier in this report and was previously found in this sediment sample. Actinolite was present entirely in its asbestiform needle-like crystal shape. Actinolite and biotite, with minor quartz and orthoclase suggests a low grade (280 – 320° C) hydrothermal metamorphism (alteration) caused by some "nearby" geothermal heat source (stock?).

Sample 2-002-04 West Crazy – N. Ravine (51° 02' 17.7"N 118° 35' 03.2"W)
Sediment sample 2-002-00 was examined and a white and light green rock was selected for analysis. Figure 27 shows a photo-macrograph of the rock.

This rock was lightly crushed and Figure 28 shows some of the grains in reflected light.

Figure 27. 2-002-04 White/Green Rock

Figure 28. 2-002-04 Lightly Crushed

The rock was crushed and screened to -100+150 mesh and grain mount slides prepared for petrographic analysis. The analysis revealed **quartz** (55%), **albite** feldspar (35%), **chlorite** (5%), **biotite** (3%), and other minerals (2%). This is essentially the same composition as 2-002-02.

Sample 2-002-05 West Crazy – N. Ravine (51° 02’ 17.7”N 118° 35’ 03.2”W)
Sediment sample 2-002-00 was examined and a black rock white mottling was selected for analysis. Figure 29 shows a photo-macrograph of the rock.

Figure 29. 2-002-05 Black Rock

The rock was lightly crushed and examined with the binocular compound microscope in reflected light. Figure 30 shows a fragment.

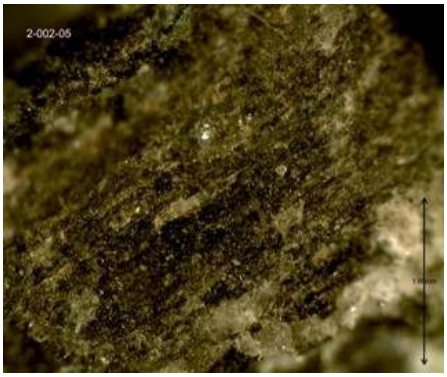


Figure 30. 2-002-05 reflected Light

Figure 31 shows some of the grains in transmitted light with Refractive Index oil = 1.54 (quartz) after crushing and screening to -100+150 mesh. There are many transparent dark green fragments and many clear, almost invisible grains. Analyses showed the rock to be composed of **hornblende** (75%), isotropic **chlorite** (10%), **quartz** (10%), **plagioclase** feldspar (4-5%), and less than 1% other minerals. There were no observed opaques.

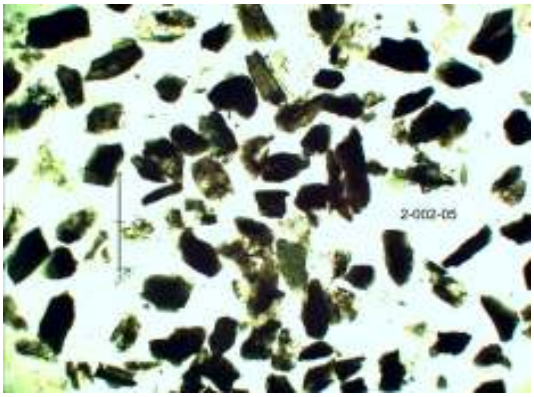


Figure 31. 2-002-05 Transmitted PPL

The black colour of the rock was due to the high percentage of very dark green (almost black) translucent hornblende. The medium grained, parallel structure and the composition suggest this rock is a hornblende-chlorite-schist from a medium grade metamorphism. The chlorite has been transformed to isotropic form.

Sample 2-002-06 West Crazy – N. Ravine (51° 02’ 17.7”N 118° 35’ 03.2”W)
Sediment sample 2-002-00 was examined and two similar brownish-orange rocks were selected for analysis. Figure 32 shows a photo-macrograph of the rocks.

Figure 32. 2-002-06 Brownish-Orange Rocks

The larger rock has a “black” coating on one side. Both rocks were naturally flat on two opposite sides (natural cleavage?). The larger rock shows bedding or layering on the thin edge. The layering is not clearly continuous, so this may be a “schist”. The larger rock was cracked open and the interior was found to be much lighter in colour than the exterior. The brownish-orange colour appears to be a “skin effect”. The dark black coating was found to be non-magnetic, and not attracted to a magnet.

The rock was crushed and screened to -100+150 mesh for analysis. Petrographic study revealed **albite** feldspar (mostly), **hornblende** (significant), with minor **topaz, piemontite**, and black opaques.

Topaz [$Al_2(SiO_4)(F,OH)_2$] is usually found in both volcanic and intrusive felsic igneous rocks. It also may be found in high-temperature hydrothermal deposits associated with tungsten, tin, molybdenum, or gold mineralization, or in hydrothermally altered rocks adjacent to granitic intrusions. It is occasionally found in metamorphic quartzites and schists. Of course, if found in sufficient size and quality, topaz is a valuable gemstone.
Piemontite [$Ca_2(Al,Fe,Mn)_3O(Si_2O_7)(SiO_4)(OH)$] is a member of the epidote group. It can be distinguished from other members of the epidote group by its distinctive reddish colour and pleochroism (both of which this sample showed in the petrographic analysis. Figures 33 and 34 show highly magnified grains of peimontite in transmitted PPL.

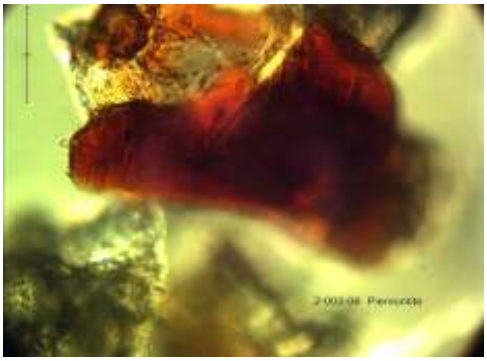


Figure 33. 2-002-06 Piemontite PPL

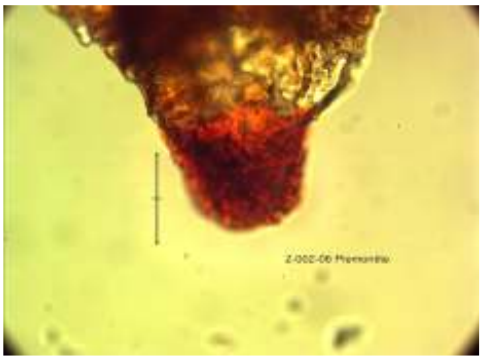


Figure 34. 2-002-06 Peimontite PPL

Piemontite is not particularly common, but is found in low- to medium-grade regional metamorphic rocks such as phyllite, chlorite schist, or glaucophane schist. It is also found in low-temperature hydrothermal veins in altered volcanic rock. Associated minerals include epidote, tremolite, glaucophane, orthoclase, quartz and calcite.

The presence of topaz with peimontite (epidote) is noted in the literature. For example, topaz deposits in South Carolina are mainly schists that contain epidote as well as topaz, and many other minerals. Certainly the co-existence of topaz with an epidote mineral tends to reinforce the probability this rock is a schist.

<u>Sample 2-002-07 West Crazy – N. Ravine</u> (51° 02’ 17.7”N 118° 35’ 03.2”W)
Sediment sample 2-002-00 was examined and a brown rock was selected for analysis. The rock, shown in figure 35, contained black flecks, dark brown grains and grey grains. This rock was further examined with the binocular compound microscope and the picture shown in Figure 36 (below) was taken with reflected light. After light crushing, the reflected light microscope revealed almost no actual black grains, but mostly potential, brown biotite? and hornblende?

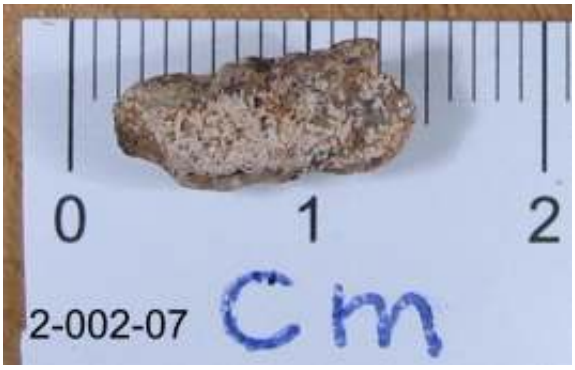


Figure 35. 2-002-07 Brown Rock

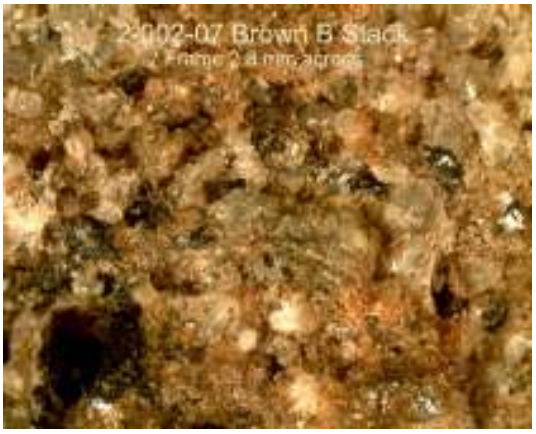


Figure 36. 2-002-07 Reflected Light

The lightly crushed sample was exposed to a strong rare earth magnet and a small number of grains were attracted to the magnet. It is estimated this was less than 3% of the sample. Figure 37 (below) shows the grains attracted to the magnet. Analyses revealed paramagnetic **biotite** with a few grains of opaques, possibly **magnetite**(?). One grain of biotite was found with an embedded **zircon**(?) surrounded by a radiation damage halo as shown in Figure 38.

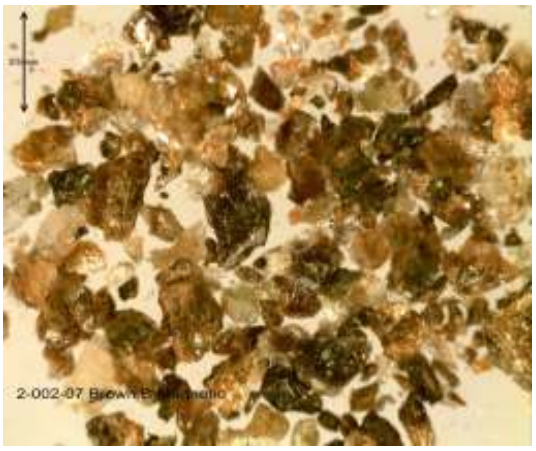


Figure 37. 2-002-07 Attracted to a Magnet

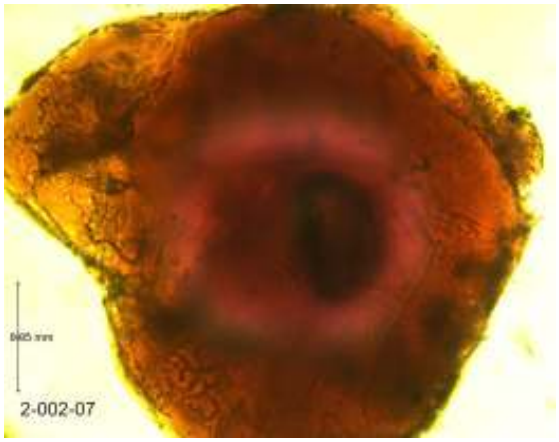


Figure 38. 2-002-07 Radiation Damage Halo in Biotite

The green grains attracted to the magnet turned out to be paramagnetic **chlorite**. Additionally, **hematite**, and magnetic **plagioclase** (Labradorite) were identified.

Petrographic analyses of the fraction not attracted to the magnet revealed **biotite**, **muscovite**, **albite**, **hematite**, **chlorite** and **zunyite**.

Paramagnetic biotite is relatively common and owes its attraction to a powerful magnet to enrichment with iron. Paramagnetic chlorite is found in various metasediments from low to high grade metamorphism; for example in the Quetico metasedimentary schists of NW Ontario.

Hematite [FeO_3] is a common alteration product of other mafic minerals and appears in many clastic sedimentary rocks. It is also a common mineral in some hydrothermal mineral deposits.

Labradorite is an intermediate member of the plagioclase feldspars (An 50-60). It was identified by its extinction angle. If found in sufficient quality Labradorite can be a gemstone called **spectrolite**. It was a minor constituent of this rock.

Muscovite [$KAl_2(AlSi_3O_{10})(OH)_2$] is the most common mica mineral and is found in a wide variety of metamorphic rocks including slate, schist, phyllite, gneiss, hornfels and quartzite.

Zunyite [$Al_{13}Si_5O_{20}(OH,F)_{18}Cl$] is a sorosilicate mineral that occurs in metamorphosed highly aluminous shales and hydrothermally altered volcanic rocks. It is commonly associated with pyrophyllite, kaolinite, alunite, diaspore, rutile,pyrite, hematite and quartz. It is relatively easy to identify with a petrographic microscope as it is isotropic with a refractive index of 1.59-1.60. While considered relatively rare, it is known in collectable amounts in Arizona and Colorado. It is also found in Northern Vancouver Island, for example in large alteration zones on the north side of Holberg Inlet.

Sample 3-001-01 West Perry 1 (51° 05’ 31.4”N 118° 41’ 09.9”W)
Sediment sample 3-001-00 was examined and a reddish-brown rock was selected for analysis. Figure 39 is a macro view of the rock. One area of the rock was a lighter tan colour.

The rock was lightly crushed and examined with the reflected light microscope. Figure 40 is a picture in reflected light.

Figure 39. 3-001-01 Reddish-Brown Rock

Figure 40. 3-001-01 Reflected Light

The rock was crushed and screened to -100+150 mesh and grin mounts were prepared for analysis. Two major constituents were identified: **quartz** and **cordierite**. There was a minor amount of opaques.

Cordierite (described more fully previously in this report) is typically quite pleochroic in colourless, blue, green, yellow hues. Figures 41 and 42 show the pleochroism in this sample. Note that the black lines in Figure 42 point to the same grains in as in Figure 41 after the stage has been rotated 90 degrees. Once again, if cordierite is found in sufficient size and quality it is the gemstone **iolite**.

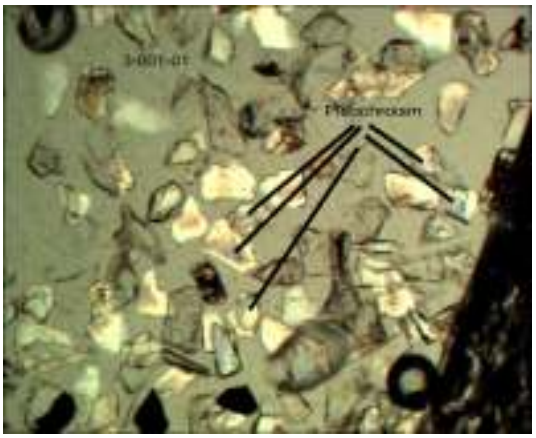


Figure 41. 3-001-01 Pleochroism

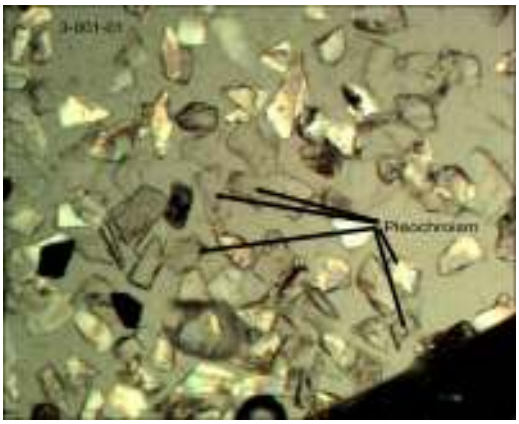


Figure 42. 3-001-01 Pleochroism

Sample 4-001-00 Rocky Creek (51° 06’ 15.1”N 118° 40’ 11.1”W)

This small sediment sample was subjected to the rare earth magnet and all the material attracted to the magnet was separated. Figure 43 shows the entire sample with the portion attracted to the magnet separated to the side. The portion attracted to the magnet was estimated to be less than 5% of the bulk sample. The finest grains are most likely **magnetite**.

Figure 43. 4-001-00 Bulk Sample

Magnetite [Fe_3O_4] is a very common mineral occurring in almost all igneous and metamorphic rocks as well as many sedimentary rocks.

Sample 4-001-01 Rocky Creek (51° 06’ 15.1”N 118° 40’ 11.1”W)

A small white rock with tiny green inclusions was chosen for petrographic analyses. It is shown in Figure 44. It was crushed and screened to -100+150 mesh for grain mounts. Analyses with the petrographic microscope revealed the rock was predominantly **quartz** and the green inclusions were tiny grains of **actinolite**. Figure 45 is a close-up view of a tiny actinolite grain in transmitted light.

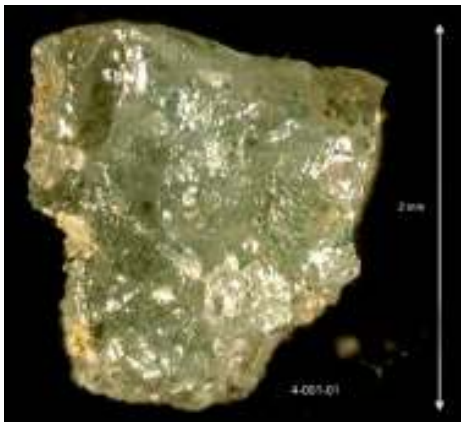


Figure 44. 4-001-01 White with Green Inclusions

Figure 45. 4-001-01 Actinolite

Sample 4-001-01a Rocky Creek (51° 06’ 15.1”N 118° 40’ 11.1”W)

A small rock with many red grains in it was chosen from 4-001-00 Bulk sample for petrographic analyses. In macro view (Figure 46) the rock appears to be mostly red grains with significant black opaque (?) grains, a few grey grains and even fewer dark olive green grains. Figure 47 shows the grains in transmitted light after crushing the rock.

Figure 46. 4-001-01a Orange-Red with Opaques

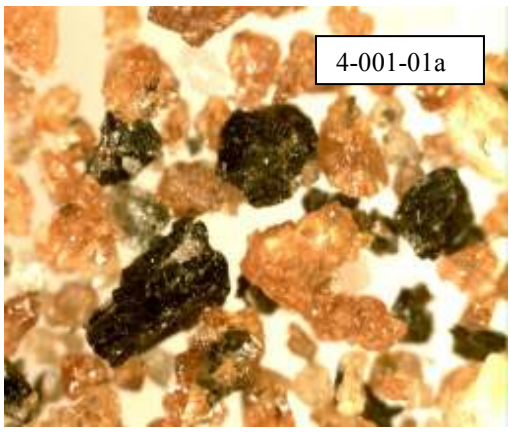


Figure 47. 4-001-01a Transmitted PPL

Petrographic analyses revealed almandine **garnet** (60%), **hornblende** (20%), **orthoclase** feldspar (10%), and black, non-magnetic opaques (10%).

Almandine garnet [$Fe_3Al_2Si_3O_{12}$] is the iron rich end-member of the garnet series with the other end-member being pyrope. Almandine is the common garnet found in most mica schists and gneisses. It is also found in pegmatites, granite, and felsic volcanic rocks.

This combination of minerals is not uncommon in the contact zone between differing rock layers and can sometimes be related to contact metamorphism (typically a rise in temperature caused by an intrusion of hot magma into cooler country rock).

Sample 4-001-02 Rocky Creek (51° 06’ 15.1”N 118° 40’ 11.1”W)
Bulk sample 4-001-00 was exposed to short wave ultraviolet light and a rock that fluoresced dark cherry red was chosen for petrographic analyses. The rock was mostly white with a few dark flecks as seen in figure 48.

The rock was lightly crushed and examined with the binocular compound microscope with reflected light. Figure 49 is a view of some of the grains in reflected light. The grains are predominantly transparent colourless, with a few red and opaque grains.

Figure 48. 4-001-02 Red Fluorescent Rock

Figure 49. 4-001-02 Reflected Light

The sample was crushed and screened to -100+150 mesh and grain mounts were made for petrographic analyses. Figures 50 and 51 show the grains in PPL and with crossed polars (XPL), respectively. The view in XPL shows the high birefringence and first and second order interference colours.

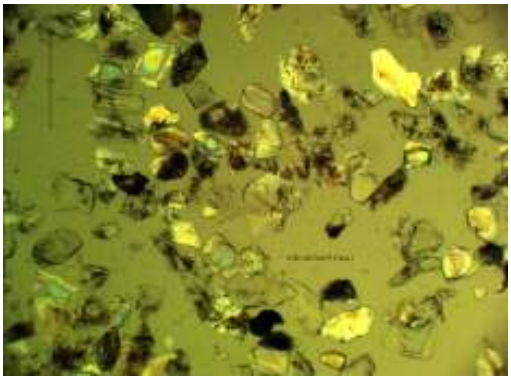


Figure 50. 4-001-02 Transmitted PPL

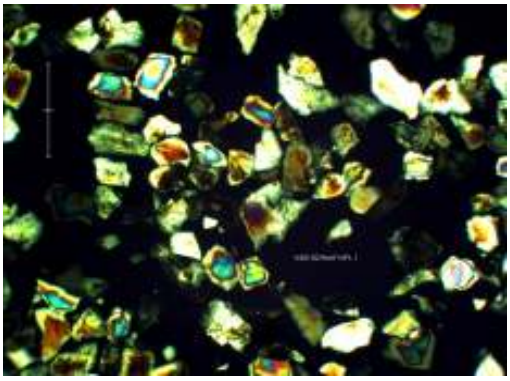


Figure 51. 4-001-02 Transmitted

Analyses with the petrographic microscope revealed **microcline feldspar** and **cordierite** as the major minerals with minor **garnet** and **hornblende** (??). There were no opaques.

Microcline [$KAlSi_3O_8$] is a common feldspar mineral. High quality microcline is used as a gemstone under the names Amazonite (green microcline) and Perthite (green microcline mixed with orthoclase). Microcline imparted the cherry red fluorescence to this rock.

The combination of microcline and cordierite with minor garnet and the rock appearance strongly suggest this is a feldspar cordierite gneiss, which in not uncommon.

Sample 4-001-02a Rocky Creek (51° 06’ 15.1”N 118° 40’ 11.1”W)
Bulk sample 4-001-00 was examined and some small (about 2 mm) translucent light green grains were selected for analyses. They were crushed and screened to -150+200 mesh. Figure 52 shows the grains in reflected light. Light green grains and grey grains are apparent. Analyses with the petrographic microscope revealed **omphacite** and **spinel**.

Figure 52. 4-001-02a Light Green Grains

Omphacite [(Ca,Na)(Mg,Fe,Al)Si_2O_6] is a member of the pyroxene group of minerals and is typically dark to light green to colourless. Omphacite is found in high pressure metamorphic rocks. Low order interference colours help to distinguish Omphacite from other members of the pyroxene group.

Spinel [$MgAl_2O_4$] is the magnesium aluminum member of the larger spinel group. It was identified in this sample by its refractive Index=1.72 and its colourless form.

The co-occurrence of omphacite and spinel could be indicators for a kimberlite host rock.

Sample 4-001-04 Rocky Creek (51° 06' 15.1"N 118° 40' 11.1"W)
A reddish-brown rock was chosen from 4-001-00 for analyses. Figure 53 shows a portion of the rock in reflected light taken with the binocular compound microscope. There appears to be at least two minerals present: a clear, colourless mineral (about 5% of the rock) and a predominant reddish-orange mineral that is about 80% of the rock. The remaining 15% of the rock appears to be a darker reddish brown, but could be the same mineral as the predominant one.

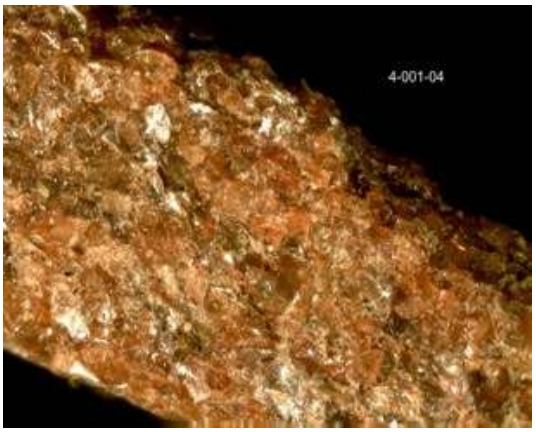


Figure 53. 4-001-04 Reddish-Brown Rock

The rock was crushed and screened to -150+200 mesh and grain mounts were prepared for analysis with the petrographic microscope.

The predominant reddish brown mineral was found to be **stilpnomelane**. Based on the refractive index (1.58-1.60), the stilpnomelane is likely Mg-rich. The most abundant secondary mineral was **quartz**.

Stilpnomelane [$K(Fe,Mg)_6)Si_8Al)(O,OH)_{27}\cdot 2\text{-}4H_2O$] is a phyllosilicate mineral of the mica group. It is fairly common in low-grade metamorphic rocks derived from greywacke and related sediments. It is also common in metamorphosed iron formations; however, the Mg-rich character of this sample makes that less likely. Stilpnomelane is commonly associated with quartz, chlorite, muscovite, garnet, actinolitic amphibole, glaucophane, calcite, epidote group, and pumpellyite.

Sample 4-001-06 Rocky Creek (51° 06’ 15.1”N 118° 40’ 11.1”W)
Bulk sample 4-001-00 was screened to -20 mesh and the material was scanned using the binocular compound microscope. This was done by covering a slide with dry -20 mesh material and the scanning the entire slide for grains to analyze. Figure 54 shows a reddish-orange grain that appeared to be fibrous.

The grain was isolated, crushed and screened to -100+150 mesh and analyzed with the petrographic microscope. The grain was found to be 100% **sillimanite**.

Sillimanite [Al_2SiO_5] in the thin fibrous form seen here is called **fibrolite**. Both the fibrous form and the prismatic crystal form are common in medium- and high-grade mica schist, gneiss, hornfels, and related rocks. It is commonly associated with kyanite, andalusite, staurolite, muscovite, biotite,K-feldspar, cordierite, corundum and garnet. Sillimanite in sufficient quality can be used as the raw material for the manufacture of high alumina refractories.

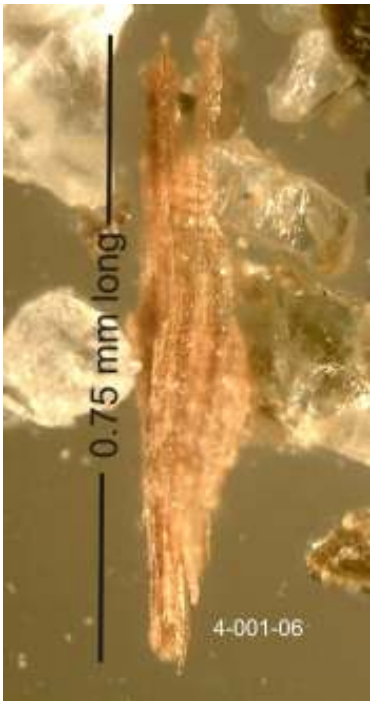


Figure 54. 4-001-06 Sillimanite (Fibrolite)

Sample 4-001-07 Rocky Creek (51° 06’ 15.1”N 118° 40’ 11.1”W)
A reddish-brown, fibrous-appearing rock was chosen from 4-001-00 for analyses. Figure 55 is a reflected-light view of a portion of the surface of the rock. The rock was lightly crushed and the fragments examined with the binocular compound microscope with reflected light. Figure 56 is a picture of one of the fragments clearly showing the fibrous form.

Figure 55. 4-001-07 Reddish-Brown Fibrous Rock

Figure 56. 4-001-07 Fibrous Grain

The rock was crushed and screened to -100+150 mesh and examined with the petrographic microscope. There are 2 major mineral components apparent; a fibrous brown mineral and a non-fibrous brown mineral. Analysis showed the fibrous grain to be **sillimanite** and the non-fibrous mineral to be **biotite**. Figure 57 is a photomicrograph showing the 2 minerals. Figure 58 shows sillimanite in extreme magnification.

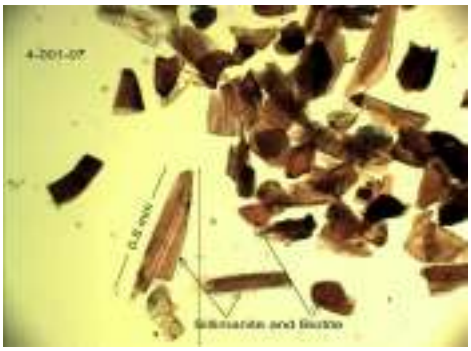
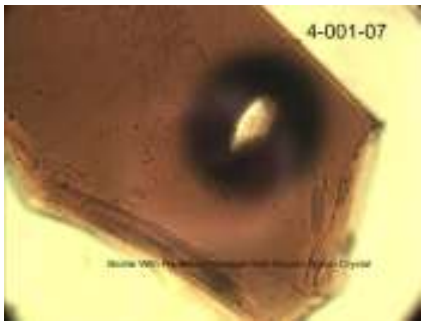


Figure 57. 4-001-07 Sillimanite and Biotite PPL

Figure 58. 4-001-07 Highly Magnified Sillimanite PPL



Several biotite grains were seen with embedded **zircon** (???) that had caused radiation halos in the biotite as shown in Figure 59. These halos, also called radiohalos or pleochroic halos are zones of damage caused by the emission of alpha particles as the radioactive elements (thorium or uranium) decay in minerals such as zircon, allanite, monazite, titanite, etc.

Figure 59. 4-001-07 Biotite with Radiation Halo

Sample 6-001-01 High Road Red Rock A (51° 06’ 39.5”N 118° 36’ 56.7”W)
A dark red rock was chosen for analysis. Figure 60 shows the rock. A small piece was broken from the end for analyses.

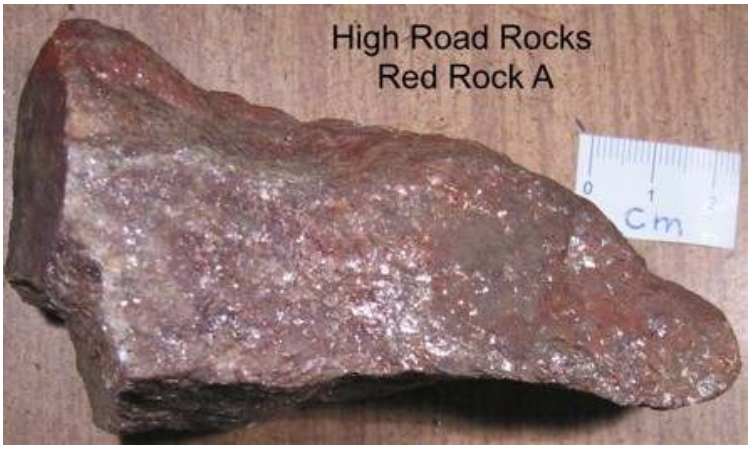


Figure 60. 6-001-01 Red Rock A

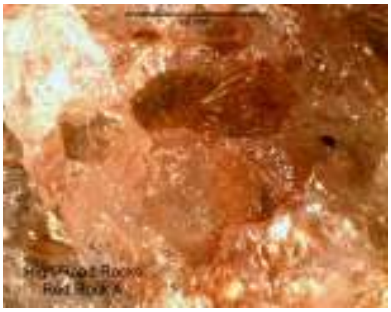


Figure 61. 6-001-01 Reflected Light

Figure 61 shows the surface of a fragment of the rock as taken with the binocular compound microscope. The red colour in this rock appeared to be from “plate-like grains that were very dark red. They gave the appearance of red “mica”. The fragments were crushed finer and photographed with reflected light as shown if Figure 62.

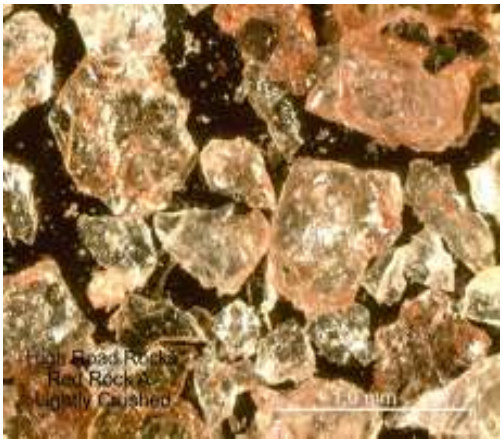


Figure 62. 6-001-01 Crushed Reflected Light

In this view the red colour appears to be a coating on a substrate crystal.

The fragments were crushed and screened to -100+150 mesh and analyzed with the petrographic microscope. Figure 63 shows one grain mount in transmitted light with immersion oil R.I.=1.52. There were colourless grains with low relief, colourless grains with medium relief, colourless grains with very high relief, red grains with uneven colouration, and a few opaques.

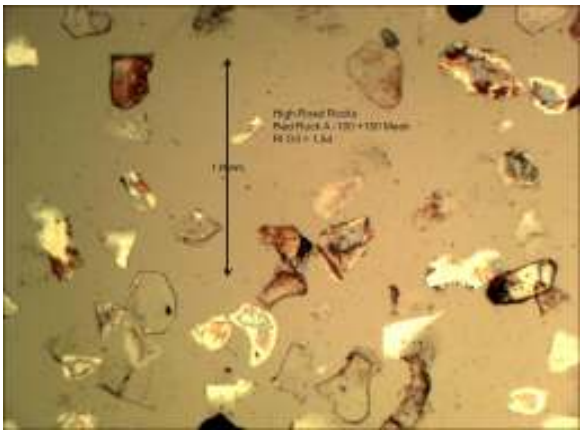


Figure 63. 6-001-01 Transmitted PPL

An examination of the various uneven red-coloured rocks revealed that they were **quartz** and **muscovite** grains with a layer of flattened, very tiny grains of **garnet** spread unevenly on the surface. Figures 64, 65, and 66 show pictures of these grains in transmitted light.

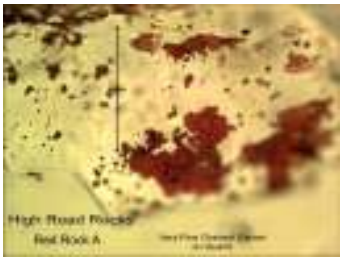


Figure 64. 6-001-01 Garnet on Quartz PPL

Figure 65. 6-001-01 Garnet on Muscovite PPL

Figure 66. 6-001-01 Garnet on Muscovite PPL

Additionally, there were very nicely shaped small crystals of **tourmaline**. Some of these also had very fine grained garnet coating on them. Figure 67 shows a few tourmaline grains in transmitted PPL and Figure 68 shows the same grains with crossed polar (XPL).

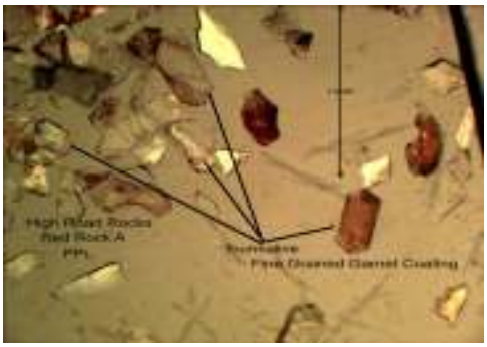


Figure 67. 6-001-01 Tourmaline PPL

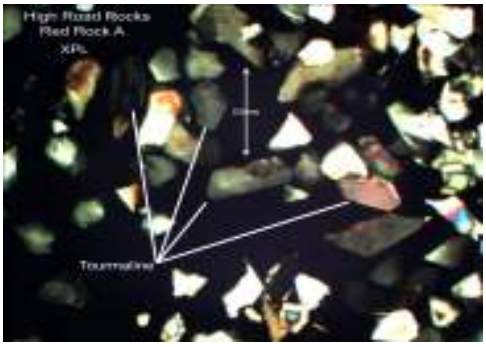


Figure 68. 6-001-01 Tourmaline XPL

Optical Mineralogy continued

The literature reports several places where very fine-grained garnet appears on other mineral grains as a coating. In the Sleitat Mountains of southwestern Alaska biotite can be found coated with garnet and is associated with light-blue topaz and tourmaline. Also, very fine-grained garnet is found on quartz and between sheets of muscovite in pegmatites in the Pine Spruce District of North Carolina, and near the Goldstream River in the North Selkirk Mountains. The combination quartz-tourmaline-muscovite-garnet is reported for various locations.

Figure 69 is a further high magnification example of this garnet coating on quartz. It was possible to determine that the garnet grains were isotropic with the appropriate refractive index.

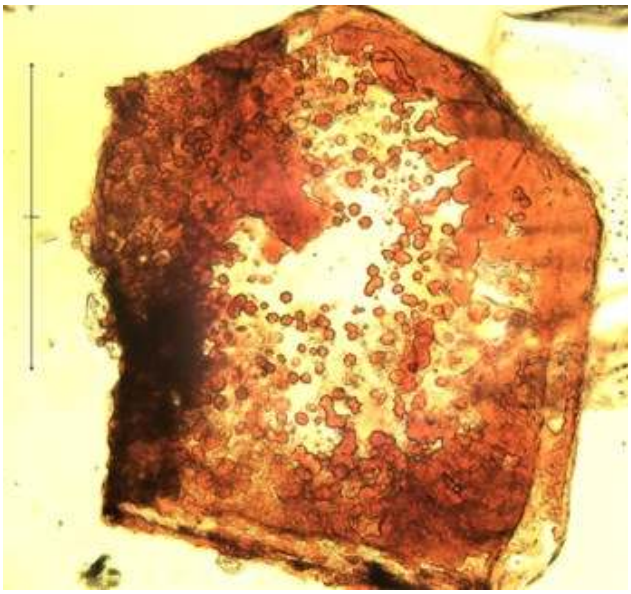


Figure 69. 6-001-01Very Fine-Grained Garnet on Quartz

References:

Kerr, Paul F., 1977, *Optical Mineralogy*: McGraw-Hill, Inc. New York

Nesse, William D, 2004, *Introduction to Optical Mineralogy*: Oxford University Press, New York

Elmar L. Goldsmith

CONCLUSION:

While considerable work had been performed during the 2011 Phase I Exploration Program of the Eagle Eye Gem Project, the endeavor thus far, however, represents but a starting point for mapping the geology of the region which may host gem and rare earth potential. Once patterns evolve, exploration might then focus in greater detail on the more prime locations to identify and isolate specific mineral regimes and their source. Base on the limited scope of Optical Mineralogy Analysis thus far attained, the results are more than encouraging. The tenure group was renewed to facilitate further exploration in the region.

PROFESSIONAL PERSPECTIVE by Tom Bryant:

A discussion of the exploration results to date.

Earlier exploration in the Mt. Copeland area by Canadian Sapphire Inc. established that the geology of the area offers potential for gemstone occurrences. The Eagle Pass Mountain and Mt. Copeland areas host a mixed assemblage of rock types that are conducive to gemstone and other mineral deposits.

The discovery of sapphire in the area of the Eagle Eye claims by the Geological Survey of BC lends credibility to the proposal that gemstone deposits could exist.

The short exploration season and the difficulty in moving around on the upper reaches of the claims without helicopter support makes exploration a challenge. Our experience with diamond exploration techniques suggests that a good first step in this case is to begin a mineral sampling and study program for the entire area with the intent of establishing zones of likelihood for further work. Assuming that the lower and more easily accessed portions of various drainages should have representative mineralogy for the entire length of drainage above it Jurassic can begin the search at lower elevations and along established trails and roads. This opens up access and also extends the exploration season.

Some key notes from this early phase exploration:
The link with radioactivity that can be detected with relative ease indicates the potential for a field expedient method to locate certain minerals of interest and their host rocks.

From certain samples we can see that rare earth element potential exists. There are several potential source rocks known in the area including carbonatites, pegmatites, and several of the metamorphic rock types as well.

The discovery of some exotic mineralogy ie. Eucryptite indicates that the use of detailed optical mineralogy analysis is an important tool and will be expanded in co-operation with mineral grain picking and sediment sample rock type/percentage study as exploration continues.

Professional Perspective continued

……. continuation of Professional Perspective

An Inferred Area of Influence has been plotted for each sample group. While by no means definitive it does give some idea on the general area that may be contributing to the sediments in the sample. The idea is to begin to create a picture of the mineral potential within each IAI and a catalogue of rock types that can help guide further work.

More work remains to be done on all samples so far collected. Further examination of the larger rocks from each sample and mineral picking through screened fractions of the sediment samples is ongoing.
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Gemstone or gemstone potential minerals noted in this study
Topaz – 2-002-06
Cordierite – 1-004-01, 3-001-01, 4-001-02
Diopside – 1-004-02, 1-002-04 B&B,
Spessartine Garnet – 1-004-01
Almandine Garnet – 4-001-01a
"Red" Garnet (not yet classed) - 1-002-00 B&B
Tourmaline - 1-006-07
Zircon - 1-001-01, 1-002-03 B&B,
Epidote/Piemontite - 2-002-06,
Spinel - 4-001-02a,
Labradorite/Spectrolite - 2-002-07

Rare earth minerals noted
Allanite - 1-006-01, 1-006-03, 1-001-01,
Monazite - 1-006-03,

Minerals of special note
Eucryptite - 1-001-01
Zunyite - 2-002-07
Garnet crusts on muscovite mica and quartz grains- 6-001-01

……. continuation of Professional Perspective

FUTURE WORK - (RECOMMENDATIONS):

Work is ongoing on the samples referred to in this report. That work entails:
More optical mineralogy of polymineralic samples

Discrete mineral grain picking from sized fractions and referral of same to optical mineralogy or in some cases perhaps microprobe analysis

Plotting of rock types in sediment samples including type, size, transport erosion character and percentage of sample.

Future field work will be directed to move up drainage on targeted Inferred Areas of Influence and to obtain samples from the main drainage and from drainages that feed into known IAI to further define potential contribution areas while expanding our understanding of the mineral potential of the area. Samples will be from sediment and from outcrop especially from rock types that have co-relation to rock types that have indicated interest from the optical mineralogy research.

Samples will be taken from new drainages that have a mappable Inferred Area of Influence.

Tom Bryant

Work Evaluation & Cost Statement:

July 2011 Explorations

Larry Amey - Supervisor
Jul 27, 2011 to Jul 29, 2011 (2 days)

Prospecting	3 days @ $500 day	$ 1,500.00
Accommodations	(2 nights)	$ 212.20
Meals		$ 194.50
Vehicle	covered below	$ .00

Elmar Goldsmith – Professional Assistant
Jul 27, 2011 to Jul 29, 2011 (2 days)

Prospecting	3 days @ $1,200 day	$ 3,600.00
Accommodations	covered above	$ .00
Meals	covered above	$ .00
Vehicle	1,047 km @ $1.60 all in	$ 1,622.40
Sub Total		**$ 5,304.90**

August 2011 Explorations

Larry Amey - Supervisor
Aug 18, 2011 to Aug 20, 2011 (3 days)

Prospecting	3 days @ $500 day	$ 1,500.00
Accommodations	(2 nights)	$ 212.20
Meals		$ 204.30
Vehicle 1	1,122 km @ $1.60 all in	$ 1,795.20

Matt Fletcher – Field Assistant
Aug 18, 2011 to Aug 20, 2011 (3 days)

Prospecting	3 days @ $375 day	$ 1,125.00
Accommodations	covered above	$ .00
Meals	covered above	$ .00
Vehicle 2	937 km @ $1.60 all in	$ 1,499.20
Sub Total		**$ 6,335.70**

September 2011 Explorations

Larry Amey - Supervisor
Sep 7, 2011 to Sep 9, 2011

Prospecting	3 days @ $500 day	$ 1,500.00
Accommodations		$ 212.00
Meals		$ 189.70
Vehicle 1	1,014 km @ $1.60 all in	$ 1,622.40

Matt Fletcher – Field Assistant
Sep 7, 2011 to Sep 9, 2011

Prospecting	3 days @ $375 day	$ 1,125.00
Accommodations	covered above	$ .00
Meals	covered above	$ .00
Vehicle 2	982 km @ $1.60 all in	$ 1,571.20
Sub Total		**$ 6,220.30**

Larry Amey - Supervisor

Sep 20, 2011 to Sep 21, 2011

Prospecting 2 days @ $500 day		$ 1,000.00
Accommodations		$ 212.00
Meals		$ 132.54
Vehicle 1	1,087 km @ $1.60 all in	$ 1,739.20

Dave Chamberlain – Field Assistant

Sep 20, 2011 to Sep 21, 2011

Prospecting 2 days @ $400 day		$ 800.00
Accommodations	covered above	$ .00
Meals	covered above	$ .00
Vehicle	covered above	$ .00
Sub Total		**$ 3,883.74**

October 2011 Explorations

Larry Amey - Supervisor

Oct 25, 2011 to Oct 27, 2011

Prospecting 3 days @ $500 day		$ 1,500.00
Accommodations		$ 110.00
Meals		$ 191.90
Vehicle 1	1,037 km @ $1.60 all in	$ 1,659.20

Mike Ziegleganberger – Field Assistant

Oct 26, 2011 to Oct 27, 2011

Prospecting 2 days @ $400 day		$ 800.00
Accommodations		$ .00
Meals	covered above	$ .00
Vehicle 2	507 km @ $1.60 all in	$ 811.20
Sub Total for Trip		**$ 5,080.30**

Sub Total Of All Above **$ 26,824.94**

Liaise to Evaluate Program Progress

Last day of each month (August, September & October)

E. Goldsmith	3 meetings x 3 hrs @ $150.00 hr	$ 1,350.00	
L. Amey	3 meetings x 3 hrs @ $62.50 hr	$ 562.50	
	Sub Total	**$ 1,912.50>**	**$ 1,912.50**

Optical Mineralogy Lab Services

Elmar L. Goldsmith 135.67 hours @ $ 150.00 per hour **$ 20,350.50**

Sub Total **$ 49,087.94**

Exploration & Analytical Consulting:

Tom Bryant		**$ 16,200.00**

Mineral Picking & Sample Shipment Preparation:

Larry Amey	6 hours @ $ 62.50 per hour	**$ 375.00**

Miscellaneous:

Mineral sample shipment		**$ 30.50**

Report Preparation:……		**$ 1,500.00**
	Total	**$ 67,193.44**

Financial Footnote:

At the time of tenure renewals, the financials for the Sept 20th & 21st use of the Quads (ATVs) for the GPS Mapping Program were overlooked. If otherwise calculated, this would have added another $ 643.00 to the total noted above.

ATV Rental – each at $150 per day ($150 x 2 x 2) plus the $43 for fuel.

Eagle Eye Gem Project
2011 Mineral Exploration Consulting Invoice
Tom Bryant

ACTIVITY	HRS	RATE	TOTAL
Preliminary examination of available data	12	$ 120	$ 1,440
Compilation of photographs, imagery and reports	22	120	2,640
Imagery review for access and sample sites	4	120	480
Consult to field crew prior to July 27 field program	4	120	480
Consultation with field crew during July 27 field program	3	120	360
Consult on archive and processing first samples	4	120	480
Consult with microscopy lab re minerals found and next steps	8	120	960
Consult with Program Lead on first sample results	2	120	240
Using imagery lay out next sample series	7	120	840
Consult with field crew prior to Aug 18 program	3	120	360
Consult with field crew during Aug 18 program	3	120	360
Consult with Western Diamex re type samples for our program	2	120	240
Consult with microscopy and Program Lead macro mineral samples	3	120	360
Layout of program for Sept 7	2	120	240
Consult with field crew prior to Sept 7 program	4	120	480
Consult with microscopy lab re minerals found and exploration focus	2	120	240
Consult with field crew during Sept 7 program	3	120	360
Post program consult on sample handling and need to do macro mineral pick	2	120	240
Consult Microscopy lab on early results from Sept 7 program	2	120	240
Layout of Oct 25 program	6	120	720
Pre- program briefing with exploration crew	4	120	480
Consult with field crew during Oct 25 program	6	120	720
Post program consult on sample results	1	120	120
Consult with Program Lead on late season exploration	1	120	120
Preliminary layout for potential late season exploration program	2	120	240
Consult with Microscopy and Project Lead re results to date	3	120	360
Consult with Project lead re: late season program potential	2	120	240
Selected Sample Prep	8	120	960
Preliminary examination and sorting of selected samples for macro mineral pick	10	120	1,200
Total			$ 16,200

Attending Parties, Credentials & Experience:

Matt Fletcher ***(Temporary 2011 Field Assistant)***

an ardent placer prospector having 5 years exploration experience for precious metals, with several years lab experience in the jewellery trade, fashioning settings, selecting, grading and setting gemstones for a high-end jewellery manufacturer.

Mike Zieglegansberger ***(Temporary 2011 Field Assistant)***

12 years prospecting experience for precious metals, 23 years experience in Rock and Fossil Collecting throughout the western provinces. Mike is also an avid outdoorsman and alpine hiker.

Dave Chamberlain

6 years prospecting experience for precious metals and gemstones, self-employed masonry contractor, web designer, cartography, extensive researcher, avid outdoorsman and alpine hiker

Tom Bryant

former VP Explorations with Micrex Development Corp., and a mineral exploration professional with over 33 years experience in all phases of the industry, holds Honor Degrees in Cartography and Thematic Cartographic Technology, with leadership accreditation in gemstone (diamond) prospecting. Tom has also authored numerous publications, including his ever popular Modern Goldseekers Manual.

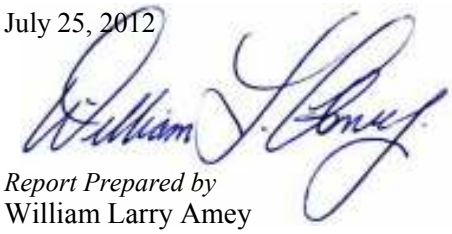
Elmar L. Goldsmith

- Bachelor's Degree in Mathematics
- 49 years mining experience in various professional capacities for a major international mining company, including:
    - 3 years as a chemical lab technician
    - Several years progressively as a Research Technician, Research Supervisor, Research Manger, during which time training in, and application of microscopy and optical mineralogy were important responsibilities
    - Several years as Technical Services Manager in charge of certain aspects of chemical analytical laboratories, geology, geotechnical and quality assurance activities
    - Several years as Vice President of Technical Services for an entire mining division of the company with mines in Canada and the United States, responsible for all aspects of analytical laboratories, research, geology and geotechnical services.
    - The past 10 years as a consultant to the mining industry.
- Many publications, patents, and papers published.

Larry Amey

31 years placer and hardrock exploration experience – extensive *(in-depth)* research into mineralogy and deposit profiles. Post glacial terrain physiology, geological formations, and comparative geosciences modeling. Intermediate studies in atmogeology; biogeology & hydrology. Advanced skills in cartography and digital data analysis.

July 25, 2012



Prepared for and on behalf of,
Dave R. Chamberlain FMC 206188

Report Prepared by
William Larry Amey
FMC 145191