

830504

GEOLOGICAL REPORT
ON THE
CHAPLEAU CREEK GOLD PROPERTIES

Lemon Creek Area
Slocan Mining Division
British Columbia

NTS: 82F/11W, 14W
Latitude: 49°44' North
Longitude: 117°22' West

FOR
SKYLARK-RANGER RESOURCES INC.

BY
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July 4, 1994

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SUMMARY

Skylark-Ranger Resources Inc. ^{holds} ~~is acquiring~~ title to the Chapleau Creek property which consists of ⁵⁰ ~~41~~ contiguous mineral claims located in the Slocan Mining Division of southeastern British Columbia. The property is situated 10 km east of Provincial highway 6 and is accessible by a network of secondary roads.

The Chapleau Creek property includes a number of gold (+ silver) veins, many of which have been investigated since the turn of the century. Earlier work included underground development and limited production from six vein structures totalling 2618 tonnes (2885 tons) with average recovered grades of 23.32 g/t (0.676 oz/ton) gold and 241.4 g/t (7.0 oz/ton) silver. (Note: metric units of measurement are used in this report; grams/tonne (g/t) x 0.029 = oz/ton).

Exploratory work between 1984 and 1993 by other companies on mineral claims comprising the present property has included geological, geochemical and geophysical surveys, rehabilitation of underground workings, detailed surface and underground sampling and 5045 metres of underground and surface diamond drilling. Cumulative previous expenditures exceed \$650,000.

Most of the recent exploratory work has been directed to a number of fissure-filling, gold-bearing quartz veins hosted

by porphyritic granitic rocks of the Nelson batholith. Two other styles of mineralization identified on the property include a precious and base metal skarn zone developed in a roof pendant of older volcanic rocks within granitic rocks and large quartz-breccia zones with reported alteration mineral assemblages typical of epithermal environments.

An analysis of previous work indicates that while known quartz vein structures on the Chapleau Creek property have narrow (less than 1 metre) widths, they are persistent along strike. At least four of these structures are considered to have potential for the development of reserves containing gold grades which may be sufficient to warrant mining and shipment to nearby milling and/or smelting and refining facilities.

A program of additional exploratory work is warranted for the Chapleau Creek property. It is recommended that the major part of the proposed program be directed ^{to} further investigation of ~~four~~ ^{six} of the known gold-bearing vein structures by way of excavator trenching, some underground rehabilitation and surface diamond drilling. Additional geological and geochemical investigation of the of the skarn zone and the quartz-breccia zones is also recommended as part of the proposed exploratory program which is estimated to cost ~~\$232,600.00.~~ ~~242,400~~ ^{305,100.}

INTRODUCTION

Skylark-Ranger Resources Inc. is entering into *has entered into several agts.*
for the acquisition of agreements to acquire title to ⁵⁰ 41 mineral claims (¹⁰⁵ 94 units)
 in the south Slocan area of southeastern British Columbia. The property, referred to collectively as Chapleau Creek, is well located with respect to existing infrastructure and includes a number of gold (+ silver) veins. Properties which have yielded past production within and immediately adjacent to the current property holdings include the Kilo, Skylark-Ranger, Chapleau, Goldstream, King Jack, Joan-Duplex, Howard Fraction and Meteor.

This report, prepared at the request of Mr. Thomas E. Kirk, president of Skylark-Ranger Resources Inc., *is a revision of* is based *a report dated July 4 1994. which was then the previous report is based* on several personal examinations of some of the subject properties in the mid 1980's and in October of 1993 and on previous reports prepared by the writer on the results of exploration programs carried out between 1984 and 1986 by Kilo Gold Mines Ltd. Numerous reports detailing results of exploration programs conducted by International King Jack Resources Ltd. between 1985 and 1991 were also reviewed for purposes of this report.

LOCATION AND ACCESS

The Chapleau Creek property is situated 30 km northwest of Nelson in southeastern British Columbia (Figure 1). The mineral claims are centred on Chapleau Creek, a tributary of Lemon Creek, 7 km southeast of the municipality of Slocan (Figure 2). The geographic centre of the property is at latitude $49^{\circ}44'$ North and longitude $117^{\circ}22'$ West in NTS map-areas 82F/11W and 14W.

Access to the properties is by way of 12 km of main and secondary logging roads which leave Provincial highway 6 eight km south of Slocan and extend up Lemon and Chapleau Creeks (Figure 3). Most of the principal mineral showings are accessible by road.

The Chapleau Creek properties are approximately 100 km by secondary road and highway from Cominco Ltd.'s smelting and refining operations at Trail (Figure 2). A milling facility on Springer Creek, east of the municipality of Slocan, is 23 km by road from the properties.

MINERAL PROPERTY

Mineral claims held on behalf of Skylark - Ranger^x Resources Inc. in the Chapleau Creek area, Slocan Mining Division, consist of ¹²~~10~~ full and fractional Crown granted^x mineral claims, ³⁵~~26~~ two-post mineral claims (some of which are

a relocation of reverted Crown grants), and ⁴~~5~~ four-post mineral claims comprising ⁵⁶~~58~~ mineral claim units (Figure 3). These holdings include properties previously worked by Kilo Gold Mines Ltd. which consist of the Kilo property of one full and three fractional Crown granted mineral claims and two Crown granted claims comprising the Skylark-Ranger property, details of which are as follows:

<u>Property</u>	<u>Mineral Claim Name</u>	<u>Lot Number</u>
Kilo	Kilo <i>No?</i>	9328
	Violet Fr. #3 Fr.	9329
	Kilo No.2 Fr.	9330
	Wedge Fr.	9331
Skylark-Ranger	Ranger	9332
	Skylark	9333

Other mineral claims held by record and previously worked by Kilo Gold Mines Ltd. include the following:

<u>Name of Claim</u>	<u>Record Number</u>	<u>Lot Number</u>	<u>Units</u>	<u>Exp. Date</u>
Legal	255668	1512	1	
Rita	255669	1513	1	
Louise Fr.	255670	1514	1	
Goldstream #1	255900		1	
Goldstream #2	255901		1	
Goldstream #3	255902		1	
Goldstream #4	255903		1	
Den	256130		12	
Kirk 1	256263		1	
Kirk 2	256264		1	
Time	256445	6515	1	
Kilo III	314333		1	

Mineral claims subject to an option agreement between *Skylark-Ranger Res.* ~~Thomas E. Kirk~~ and International King Jack Resources Ltd. x

include the following Crown granted mineral claims:

<u>Property</u>	<u>Mineral Claim Name</u>	<u>Lot Number</u>
Chapleau	Chapleau	4963
	Seattle No.3	4965
	Corker No.2	5494
King Jack	Fourth of July No.6 <i>Skylark-Ranger and</i>	7295

Also included in the ~~Kirk~~ - International King Jack

Resources agreement are the following mineral claims held by record:

<u>Mineral Claim</u>	<u>Record Number</u>	<u>Units</u>	<u>Date of Record</u>
King Jack	255423	4	August 11, 1975 <i>1998</i>
J Creek #2	256037	2	July 13, 1984
L. Jack	256043	1	July 27, 1984
Full House	256238	20	August 22, 1986 <i>196</i>
(M.S.	319153	1	June 30, 1993)

A number of other claims, held on behalf of the Company, were located by Thomas E. Kirk in 1993. These are additional to two mineral claims recorded in the name of Robert M. Mackenzie (BR 1 and 2) and include the following:

<u>Mineral Claim</u>	<u>Record Number</u>	<u>Units</u>	<u>Date of Record</u>
BR 1	305998	1	Oct. 23, 1991
BR 2	305999	1	Oct. 23, 1991
HG 1	319151	1	July 15, 1993
HG 2	319152	1	July 15, 1993
MS 2	320714	1	Sept. 3, 1993
BR 3	320889	1	Sept. 8, 1993
BR 4	320890	1	Sept. 8, 1993
BR 5	320891	1	Sept. 8, 1993
FSB	320892	20	Sept. 14, 1993
HG 3	320927	1	Sept. 18, 1993
ARLO	321715	1	Oct. 18, 1993
SUSAN	321716	1	Oct. 18, 1993
TRURO	321722	1	Oct. 18, 1993
J LONG	321723	1	Oct. 18, 1993

HOLE

BOULDER 1-5.

PHYSICAL FEATURES

The Chapleau Creek mineral properties are situated on moderate to steep north- and south-facing slopes marginal to Lemon and Chapleau Creeks (Figure 3). Elevations range from 790 metres (2,600 feet) above sea level within the BR claims along Lemon Creek to more than 2100 metres (+7,000 feet) within the Full House claim on the divide between Chapleau and Springer Creeks.

Much of the original tree cover of fir, spruce, pine and cedar has been removed by past and current logging operations.

Most of the property area is snow free between June and October.

PREVIOUS WORK

Initial work on the Chapleau Creek gold (+ silver) prospects now held by Skylark-Ranger Resources Inc. was carried out prior to the turn of the century. Principal periods of activity were the early 1900's and the 1930's.

Eight of the prospects within the present holdings were partially developed by more than 1200 metres of underground workings prior to 1940. Six of these prospects (Chapleau, Kilo, Goldstream, King Jack, Joan-Duplex and Skylark-Ranger) have recorded past production as follows:

No Right.

<u>Property</u>	<u>Tonnes Shipped</u>	<u>Au(grams)</u>	<u>Silver(grams)</u>
Kilo	2120	29642	27060
Skylark-Ranger	2.7	124	10326
Chapleau	296	29455	407611
Goldstream	36	684	715
King Jack	154	902	166185
Joan-Duplex	<u>9</u>	<u>249</u>	<u>20000</u>
Totals	2618	61056	631897

Approximately half of the documented underground work was directed to the Kilo property and consisted of drifting on six main levels and two sub-levels plus raising and stoping. Work in recent years, conducted by Kilo Gold Mines Ltd., has included prospecting, detailed soil sampling and geological mapping in 1984-85 and the completion of four inclined diamond drill holes (176 metres) in 1993.

The nearby Skylark-Ranger property was investigated by several short adits prior to 1934 and by geochemical surveys, geological mapping and detailed surface sampling of vein structures by Kilo Gold Mines Ltd. in 1985 and 1986.

Exploratory work on most of the other gold-bearing zones shown on Figure 4 was carried out by International King Jack Resources Ltd. between 1985 and 1991 and consisted of road repairs, rehabilitation of a number of underground workings, soil geochemistry, geophysics, geological mapping and surface and underground sampling. Several diamond drilling programs resulted in the completion of 44 surface holes totalling 4064 metres and 39 underground holes totalling 981 metres.

Cumulative expenditures incurred by Kilo Gold Mines Ltd. and International King Jack Resources Ltd. between 1984 and 1993 on property now held by Skylark-Ranger Resources Inc. totals more than \$650,000.

*Lumped Work by S-L in 1984 on behalf of S-L Res
in 1984 consisted of prospecting and some excavation
including on selected parts of the property.*

REGIONAL GEOLOGICAL SETTING

The Lemon Creek - Chapleau Creek area is near the northwestern margin of the middle to late Jurassic Nelson batholith which is comprised of porphyritic granitic rocks and associated dykes. In the area of the Chapleau Creek properties, these granitic rocks are characterized by prominent pink feldspar phenocrysts. Narrow pegmatite and aplite dykes are common. Screens or roof pendants of older, Rossland Group volcanic rocks are contained within the granitic rocks in several areas of the property.

The Chapleau Creek property includes a number of gold (+ silver) prospects which are typical of numerous similar showings situated between the south end of Slocan Lake and Kokanee Glacier Park. Gold and silver values are contained in narrow, fissure-filling quartz veins developed in Nelson porphyritic granitic rocks and to a lesser extent, screens or roof pendants within the granitic rocks. Sulphide content within the quartz veins rarely exceeds 10% and consists mainly of pyrite with lesser chalcopyrite, galena and

sphalerite. These are the Slocan "dry ores" as opposed to the silver-rich near-massive sulphide lodes and veins of the main Slocan camp to the north.

Granitic rocks marginal to gold (+ silver)-bearing quartz veins are variably altered with locally abundant sericite and pyrite.

PROPERTY GEOLOGY AND MINERALIZATION

The distribution and attitudes of known gold-bearing vein structures on the Chapleau Creek property are shown on Figure 4. Most strike northwesterly and dip at shallow to moderate angles to the north. Known vein structures have widths of less than 1 metre but are persistent along strike, in some cases for several hundred metres. Geochemical and geophysical surveys and diamond drilling programs (87 surface and underground holes - 5220 metres) over the past 10 years indicate potential strike extensions to many of the vein structures.

As noted previously, six of the known gold-bearing zones yielded a cumulative production of 61056 grams gold (1,963 oz.) and 631897 grams silver (20,316 oz.) from 2618 tonnes (2,885 tons) shipped. Average recovered grades were 23.3 g/t (0.68 oz/ton) gold and 241.4 g/t (7 oz/ton) silver.

Descriptions of the principal mineral zones on the

Chapleau Creek property are as follows:

Skylark-Ranger

The Skylark-Ranger property includes a persistent gold-silver bearing quartz vein which has been traced by geochemical surveys and old adits (caved) and trenches over an apparent strike length of 900 metres within the boundaries of the claims plus an additional 600 metres extending east and west into the surrounding Den claim which is also owned by the Company (Kregosky, 1986; Figure 5).

The quartz vein is mainly restricted to a linear roof pendant of altered Slocan Group sediments within Nelson granitic rocks and consequently may be considered to be stratabound. The vein strikes east-northeast and dips moderately to the north over much of its strike length within the Skylark and Ranger Crown granted claims. Near its apparent eastern limits on the adjacent Den claim, the vein system strikes northerly and dips steeply west (Figure 5). Exposed vein widths vary from 15 cm to more than 1 metre.

Encouraging gold and silver values were obtained by sampling of available bedrock exposures (Kregosky, 1986) over 300 metres of vein strike length. Some of the sampling results are shown on Figure 5; weighted average grades calculated by the writer from Kregosky sampling results include four chip samples over a 40 metre strike length

extending east of Trench 7 (Figure 5) which averaged 24.7 g/t gold and 354.2 g/t silver over an average width of 36 cm. In the vicinity of Adit 1, some 150 metres east, four chip samples over a 60 metre strike length yielded weighted average grades of 4.6 g/t gold and 2201.1 g/t silver over an average width of 23 cm. Two grab samples, collected from an area between Trench 7 and Adit 1 yielded values of 15-16.5 g/t gold and 345.6-848.2 g/t silver.

Beyond the sampled area, anomalous geochemical values in soils (Kregosky, 1986) indicate a continuity of altered sediments and contained quartz vein structures over a strike length of at least 1000 metres. Good gold and silver values were obtained in grab samples at a caved adit 200 metres west of the Crown granted claim boundary on the Den claim (Figure 5) and an apparent parallel zone with anomalous silver, lead and zinc values in soils was identified in the northwestern part of the Skylark claim.

Kilo

On the Kilo property, a northwest-striking, moderately northeast-dipping quartz vein has been partially developed by underground workings over a strike length of more than 100 metres and a vertical range of 70 metres (Figure 6). Where exposed in No.3 adit (the only currently accessible working), the quartz vein has a width of 30 to 60 cm and near the adit

face, two parallel quartz veins with widths of 16 and 38 cm are separated by 0.6 metres of intensely sericitized and pyritized granite. Partially oxidized pyrite is the dominant sulphide mineral with lesser galena and sphalerite.

Limited sampling by the writer in 1982 (Figure 6) yielded gold values ranging from trace to 21.8 g/t over 55 cm. Character samples of dump material and the vein exposed in No.3 adit, collected by others over the past 10 years, have returned values of between 2.2 and 65.5 g/t gold and 4.8 and 96.3 g/t silver. Recovered values from ore shipments from the property are 14 g/t gold and 12.8 g/t silver.

Detailed soil geochemical sampling in the vicinity of the Kilo adits in 1984-85 indicated anomalous gold values (65 - 1750 ppb) over a distance of 150 metres northwest of the uppermost workings. Several sloughed trenches in this area attest to the probable strike extension of the vein structure in this direction.

Four inclined diamond drill holes completed in 1993 (Figure 6) demonstrated structural continuity of the Kilo vein between the Nos. 1,2 and 3 adits. Gold values obtained from this drilling program were low, but detailed sampling of No. 3 level (above the drill hole vein intercepts) indicates that better gold values within the vein are restricted to several 5 - 10 metre wide shoots.

Chapleau

The principal, currently accessible, underground working on the Chapleau property consists of one drift adit driven in an easterly direction to explore and develop a west-northwest striking, shallowly north-dipping quartz vein in foliated, porphyritic Nelson granitic rocks (Figure 7).

The granitic rocks are cut by several 1 - 2 metres wide pegmatite dykes which apparently post-date quartz veining. Vein widths range from 0.15 to 1.4 metres with an overall average width of about 0.60 metre. Wider sections of vein commonly contain 0.45 metre wide selvages of silicified and pyritized granitic wallrock. As noted on Figure 7, the vein is offset in the drift adit by up to 6 metres by cross faults in at least two places.

Sulphide minerals include streaks of massive, coarse-grained pyrite with lesser sphalerite, argentite and tetrahedrite (Santos, 1989). Samples collected at 6 localities within the adit by the writer in 1985 and across widths of between 0.34 and 1.25 metres yielded gold values ranging from 0.60 to 7.82 grams/tonne and between 10.0 and 160.0 grams/tonne silver. 295 tonnes of material, mined from raises and stopes above the adit level (Figure 7), returned average recovered grades of 100 g/t gold (2.90 oz/ton) and 1378 g/t silver (40.2 oz/ton).

The Chapleau vein was tested by one surface and 39 underground diamond drill holes totalling 1080.7 metres by International King Jack Resources Ltd. in 1987 and 1988. Better gold results (+ 5 g/t) were obtained from 12 underground holes, all of which reportedly contained coarse gold (Santos,1989). Results are as follows:

<u>Drill Hole</u>	<u>Inclination, Azimuth</u>	<u>Interval(m)</u>	<u>Au(g/t)</u>	<u>Ag(g/t)</u>
CH87-4	-25 @ 015	11.0-12.6	56.57	1028.6
CH88-5	-25 @ 345	23.8-24.1	10.49	349.7
CH88-10	-15 @ 110	11.6-12.6	105.6	7728.0
CH88-15	0 @ 160	10.1-10.7	7.71	16.8
CH88-16	-25 @ 345	23.8-24.1	10.49	349.7
CH88-19	-20 @ 345	30.5-30.9	12.03	480.0
CH88-21	+40 @ 195	1.5- 2.3	14.74	713.1
CH88-22	-25 @ 203	2.1- 2.4	12.89	334.6
CH88-23	-25 @ 287	3.8- 4.3	15.60	247.5
CH88-25	-33 @ 340	7.9- 9.1	71.49	3838.3
CH88-26	-33 @ 032	14.6-16.2	6.75	35.3
CH88-35	-15 @ 344	45.7-47.5	10.42	118.9

Six of the above holes (CH87-4, CH88-5, -16, -25, -26, -35 - Figure 7) intersected an 80 metre strike length of the vein structure north of, and at distances of between 10 and 50 metres down-dip below the adit level. Intervals or core lengths in the foregoing table do not reflect true widths since most of the holes were almost parallel to the dip of the structure and consequently cut the vein at shallow angles of between 10 and 15 degrees. In addition, many hole azimuths are oblique, rather than normal to the vein strike. True widths of the structure are estimated to be in the order of 0.40 to 0.60 metre.

A soil geochemical survey (30 metre sample intervals along 50 metre spaced lines - Santos, 1989)) indicated a multi-element anomaly (Au, Ag, Zn, Pb) 200 metres southeast of the main workings which may represent a faulted extension of the main structure.

King Jack

The principal King Jack vein structure has been traced on surface and by diamond drilling over a strike length of approximately 400 metres. The vein has an overall northwesterly strike and dips at moderate angles to the northeast. Vein widths range from 0.30 to 1.0 metre.

The 75 metre long King Jack adit (Figure 8) exposes an easterly trending vein which dips 30 degrees north. Eight samples collected by Santos (1985) over 40 metres of strike length returned weighted average grades of 11.55 g/t gold and 350.1 g/t silver over an average vein width of 0.36 metre.

Diamond drilling in 1987 and 1988 consisted of 22 inclined and vertical surface holes totalling 1846 metres. Best results (+5 g/t gold) were obtained from five holes as follows:

<u>Drill Hole</u>	<u>Inclination, Azimuth</u>	<u>Interval(m)</u>	<u>Au(g/t)</u>	<u>Ag(g/t)</u>
KJ87-12	-60 @ 220	56.08-56.39	13.03	0.3
KJ87-15	-60 @ 220	46.18-46.48	6.51	627.4
KJ87-16	-90	51.82-52.12	8.09	339.1
KJ87-17	-60 @ 220	40.54-41.45	19.37	41.1
KJ88-20	-90	73.00-73.30	11.66	145.0

These holes include one (KJ87-12) 150 metres southwest of the King Jack adit, three (KJ87-15,-16,-17) in the vicinity of the adit and one vertical hole (KJ88-20) 150 metres northwest which may have intersected a different structure at depth.

All holes were drilled normal to the vein structure and reported intercepts would be very close to true widths.

Joan - Duplex

The Joan and Duplex zones, between 700 and 800 metres southeast of the King Jack adit (Figure 8), are two parallel, northwest striking, moderately northeast dipping vein structures.

The Joan vein, which has been traced by a drift adit and surface trenches over a 100 metre strike length, has widths of between 0.30 and 0.90 metre. Sulphide minerals within the quartz vein consist of pyrite, chalcopyrite, galena, sphalerite and lesser argentite and tetrahedrite. Six samples collected over the last 34 metres of strike length in the 56 metres long adit by Santos(1985) returned weighted average grades of 3.77 g/t gold and 366.5 g/t silver over an average vein width of 0.60 metre.

The shallow, 20 metre long drift adit on the Duplex vein (Figure 8) exposes 1.3 metre widths of oxidized vein material which reportedly contains free gold (Santos,1985).

The Joan and Duplex vein structures were tested by four inclined and four vertical diamond drill holes totalling 631 metres in 1987. No significant results were encountered.

Goldstream

The Goldstream veins, situated midway between the King Jack and Joan-Duplex vein structures (Figure 8), were initially explored prior to 1938. Maconachie(1938) reported quartz veins containing pyrite, galena, sphalerite and some free gold. Surface sampling of this northwest striking, moderately northeast dipping structure (Santos,1987) yielded values ranging from 0.31 to 29.14 g/t gold and 6.9 to 113.1 g/t silver over vein widths of between 0.15 and 0.46 metre.

An apparent eastern extension of the Goldstream vein system yielded results from surface sampling of between 0.79 and 4.15 g/t gold and 28.1 to 582.9 g/t silver over similar vein widths.

Some 200 metres of apparent strike length was tested in 1988 by nine inclined and vertical holes totalling 613 metres. No significant results were obtained.

Hollinger

The Hollinger veins, situated south of the Kilo property (Figure 4), are distributed in two areas. Maconachie(1938) describes one of these areas as consisting of northwest striking, shallowly dipping quartz veins exposed in a number

of pits, shallow shafts and short adits over an apparent strike length of 160 metres. Recent surface sampling of veins in this area (Santos,1987) yielded low results.

A second area, 450 metres to the southeast, consists of a numerous open cuts directed to north trending, relatively steeply dipping, quartz veins exposed over a 250 x 200 metre area. Grab samples from several dumps (Santos,1987) returned gold values of up to 17.49 g/t and silver values of up to 105.9 g/t.

Morning Star

The Morning Star zone, south of Chapleau Creek (Figure 4), represents a second style of mineralization on the Chapleau Creek property. Massive base metal sulphides containing precious metals values are contained in a skarn zone developed in a screen of Rossland volcanics within the Nelson granitic rocks. This easterly trending, steeply dipping zone, exposed in a short adit, consists of massive pyrrhotite with stringers of galena, sphalerite and chalcopyrite from which a grab sample (Santos,1989) returned 0.07 g/t gold and 92.9 g/t silver.

Soil geochemistry (sample intervals of 50 metres along 100 metre spaced lines) indicates coincident anomalous values for Ag,As,Cu,Pb and Zn in both the main showings area and in a second area between 300 and 400 metres east (Figure 9)

which may represent an extension or a repetition of the zone. A VLF-EM anomaly and a coincident magnetic low extend between the two areas identified by soil geochemistry.

For Sure

A third style of mineralization is represented by the For Sure zones north of Lemon Creek (Figure 4) which consist of two parallel, northeast striking quartz veins with widths of up to 15 metres. The vein structures are exposed over strike lengths of up to 900 metres.

The For Sure zones include a central quartz vein system bordered by a breccia zone consisting of angular rock fragments in a vuggy quartz matrix which is in turn enveloped a peripheral zone of sericite + clay mineral alteration plus minor quartz veining (Hall,1991). Petrographic studies (Siems,1989) indicate a mineralogical assemblage typical of epithermal environments.

Limited drilling in 1988 and 1989 (four inclined holes - 1055 metres - Figure 10) intersected only background gold and silver values. Subsequent surface sampling (Hall,1991) yielded only background gold values. Soil geochemistry indicates an area with coincident anomalous lead and zinc values near the apparent northeastern limits of the eastern quartz-breccia zone (Figure 10).

CONCLUSIONS

While of relatively narrow widths, the quartz vein structures on the Chapleau Creek property have demonstrated strike continuity and locally contain appreciable gold and silver grades.

Work to date has indicated tonnage and grade potential for several of the known vein structures including, in summary:

<u>Vein</u>	<u>Potential Tonnes</u>	<u>Potential Average Gold Grade</u>
Kilo	28500 (31407 tons)	10 g/t (0.290 oz/ton)
Skylark- Ranger	68000 (74936 tons)	12 g/t (0.348 oz/ton)
Chapleau	31000 (34162 tons)	8 g/t (0.232 oz/ton)
King Jack	37000 (40774 tons)	8 g/t (0.232 oz/ton)

The foregoing have been derived as follows:

Kilo - that portion of the vein system which has been developed by underground workings has the potential, as determined by the writer, to contain 28500 tonnes of material based on a strike length of 110 metres, a down-dip extent of 160 metres, a width of 60 cm and an average specific gravity of 2.7. Assuming an average grade of 10.3 g/t gold (0.30 oz/ton), this tonnage may contain 9,400 oz. gold.

A similar exercise by Evans (1986) for the Skylark-Ranger property suggested a potential of 68000 tonnes assuming a strike length of 610 metres, a down-dip extent of 90 metres, an average width of 45 cm and a specific gravity of 2.7. Evans projected a potential 26,000 oz. gold within

the vein system based on an assumed average grade of 12 g/t (0.35 oz/ton).

Estimated tonnages and grades for the Chapleau and King Jack properties are reported by Santos(1989) although no back-up data is provided for these estimates. It is thought that these estimates incorporate diluted gold grades.

Vein structures on the Chapleau Creek properties, as noted, are relatively narrow (less than 1 metre) and have moderate dips, both characteristics which could lead to the conclusion that they have limited potential. The Elk gold property of Fairfield Minerals Ltd., situated about midway between Merritt and Kelowna in south-central British Columbia, provides an interesting comparison with the Kilo and Skylark-Ranger properties. Gold values on the Elk property are contained principally in narrow quartz veins hosted by late Jurassic Osprey Lake porphyritic granitic rocks which are of similar age, composition and texture as the Nelson granitic rocks which host the Kilo and Skylark-Ranger vein systems.

Gold-bearing quartz veins on the Elk property rarely exceed 30 cm and vein mineralogy (pyrite, chalcopyrite, galena, free gold) and wallrock alteration (narrow selvages of sericite and pyrite) are similar to the Kilo and Skylark-Ranger properties. Drill-indicated reserves are contained in

six shoots within one vein system and total 300000 tonnes grading 22.2 g/t gold (0.647 oz/ton). Reported grades are over a diluted width of 2 metres reflecting the high grade nature of the mineralized shoots within the 30 cm wide quartz vein. Further attesting to the high grade nature of the property are results of a 1992 2,000 ton bulk sample which yielded 8,650 oz. gold.

Nearly half of the drill-indicated gold resource (96,000 oz.) is contained in one shoot which significantly has a shallow dip (25 degrees) for a down-dip distance of 100 metres before steepening to 65 degrees.

There is evidence of steepening of the vein structure along strike immediately east of the Skylark-Ranger property on the Den claim and in some of the Hollinger veins. Other, similar gold bearing veins in the south Slocan district are known to have fairly steep dips.

Results of previous work on the Chapleau Creek properties suggest the possibility of higher grade shoots within the vein structures. Encouraging results to date, coupled with ease of access and proximity to existing infrastructure including a nearby inactive milling facility and smelting and refining facilities at Trail, render the vein structures on the Chapleau Creek properties attractive prospects for the development of mineable tonnages with

reasonably good gold grades.

RECOMMENDED PROGRAM

Based on results to date, the Chapleau property is considered to have the best potential for the delineation of tonnages containing significant gold grades.

As noted previously, underground holes drilled to date were virtually parallel to the vein structure. Drilling from surface will be required to more properly assess the down-dip and strike potential of the main Chapleau vein. This will involve the drilling of at least four +100 metre vertical and/or inclined drill holes from sites on the fairly steep hillside immediately north of the Chapleau adit which is at an elevation of 1725 metres. Some surface work is also recommended to more thoroughly investigate the area of anomalous soil geochemistry southeast of the adit.

Work on the Kilo property is recommended to include excavator trenching along the possible strike extension of the vein structure northwest of the underground workings. Rehabilitation of the Nos. 1 and 2 adits to permit detailed underground sampling of the vein structure should be carried out prior to the drilling an additional four holes from surface.

A program of excavator trenching is proposed for the

Skylark-Ranger vein system to allow for detailed mapping and sampling prior to an initial program of drill testing by way of ~~six~~^{ten} short holes.

One of the better drill holes on the King Jack property, 150 metres northwest of the adit, may have intersected the strike extension of the King Jack vein or an entirely new structure. ~~Two~~^{Four} additional inclined holes are recommended to initially test the potential of this area.

John Duplex → The potential of the Morning Star skarn zone and the For Sure quartz veins and associated breccias remains largely unknown. Additional surface work, consisting of detailed geological mapping and rock and soil geochemistry is recommended preparatory to diamond drilling.

The recently acquired Boulder 1 to 5 claims surround ~~Crown grant~~ the Crusader Crown granted claim ~~1550~~ (Fig. 3) which includes a Au-Ag bearing vein structure. Prospecting is recommended for these claims.

Boulder

For Sure, Morning Star Properties

Properting

Geological Mapping	\$10,000.00
Soil and rock geochemistry -	5,000.00
Grid - 30 km @ \$200/km	\$6,000.00
Sample collection - 600 samples	\$4,500.00
Analytical Costs - 600 samples @ \$16/sample	\$9,600.00
Supervision, reporting	\$2,000.00
Miscellaneous travel	\$2,000.00
Contingencies	\$3,500.00 4,000.00
Total	\$37,600.00 43,100.00

GRAND TOTAL - RECOMMENDED PROGRAM

~~\$232,600.00~~
242,400.00

N.C. Carter, Ph.D. P.Eng.

Goldsboro, Joan-Duplex

D.D. - 100 m. @ \$100/m	10,000.00
Analytical	1,000.00
Grid investigation	3,000.00
Sup. reporting	2,000.00
Misc. travel	2,000.00
Cont.	2,700.00 3,000.00
	23,000.00
	26,700.00

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\$ 305,100

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CERTIFICATE

I, NICHOLAS C. CARTER, of 1410 Wende Road, Victoria, British Columbia, do hereby certify that:

1. I am a Consulting Geologist registered with the Association of Professional Engineers and Geoscientists of British Columbia since 1966.
2. I am a graduate of the University of New Brunswick with B.Sc.(1960), Michigan Technological University with M.S.(1962) and the University of British Columbia with Ph.D.(1974).
3. I have practised my profession in eastern and western Canada and in parts of the United States for more than 30 years.
4. The foregoing report is based on personal examinations of certain of the Chapleau Creek mineral properties, on previous reports prepared by the writer dealing with the geology and mineral deposits of the Chapleau Creek area properties and on a review of published and unpublished information pertaining to the subject mineral properties.
5. I hold no interest, directly or indirectly, in the mineral properties comprising the Chapleau Creek property or in any adjacent mineral properties or in the securities of Skylark-Ranger Resources Inc. nor do I expect to receive any such interest.
6. Permission is granted to Skylark-Ranger Resources Inc. to use this report, as presented, in support of any necessary filings with the Alberta Securities Commission and the Alberta Stock Exchange.

N.C. Carter, Ph.D. P.Eng.

Victoria, B.C.
July 4, 1994

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