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PROPERTY SUMMARY

of the

NIC Group

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FILE NO:		

Latitude 50° 12'N Longitude 120° 36'W

Kamloops Mining District

92 I 2E

for

LORD RIVER GOLD MINES LIMITED 400 - 1199 West Hastings Street Vancouver, B.C. V6E 3T5

September 1991

Ken McNaughton, M.A. Sc., P.Eng

GEOLOGICAL BRANCH ASSESSMENT REPORT

G/NIÇ

22,445

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1. Location and Access

The NIC Group are located about twenty-three kilometres northeast of Merritt, British Columbia. The property is easily accessible by a gravel road going northward from the town of Nicola on old Highway 5.

Elevations vary between 1,200 and 1,700 m.

2. Claims

The NIC property comprises four claims which total 59 claim units.

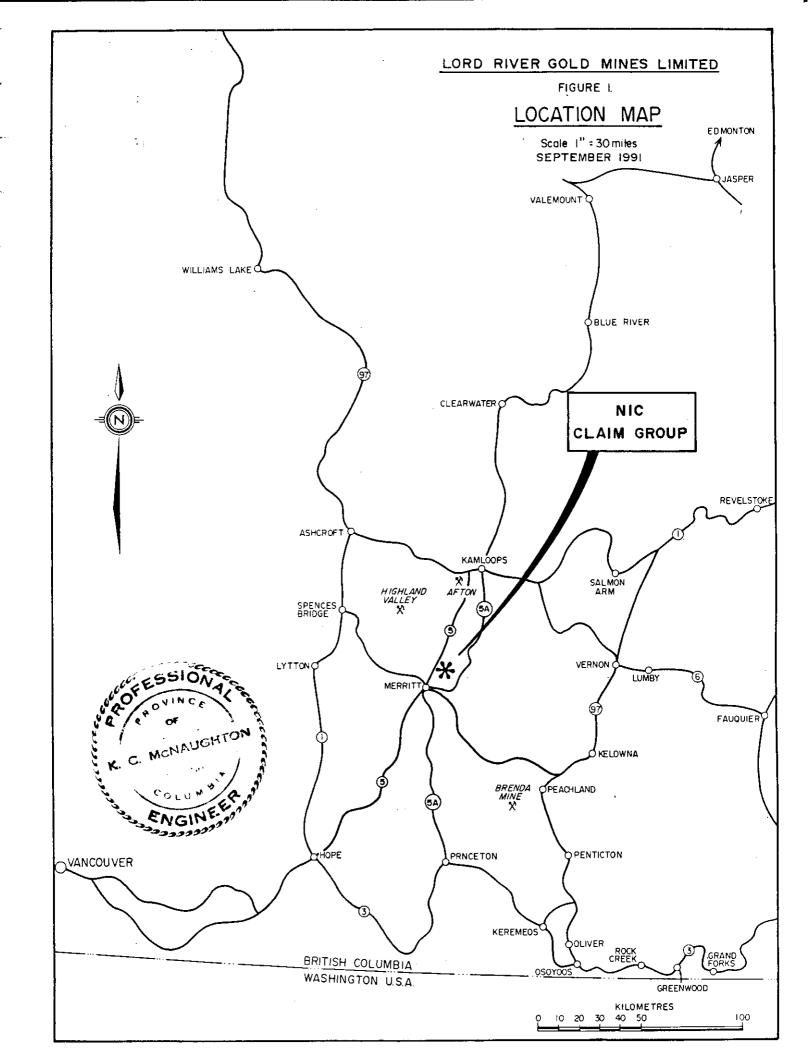
Claim Name	Record No.	No. of Units
Riva	302699	20
Claim Name	Tag. No.	No. of Units
NL 1	210411	9
NL 2	210412	12
NL 3	210413	18

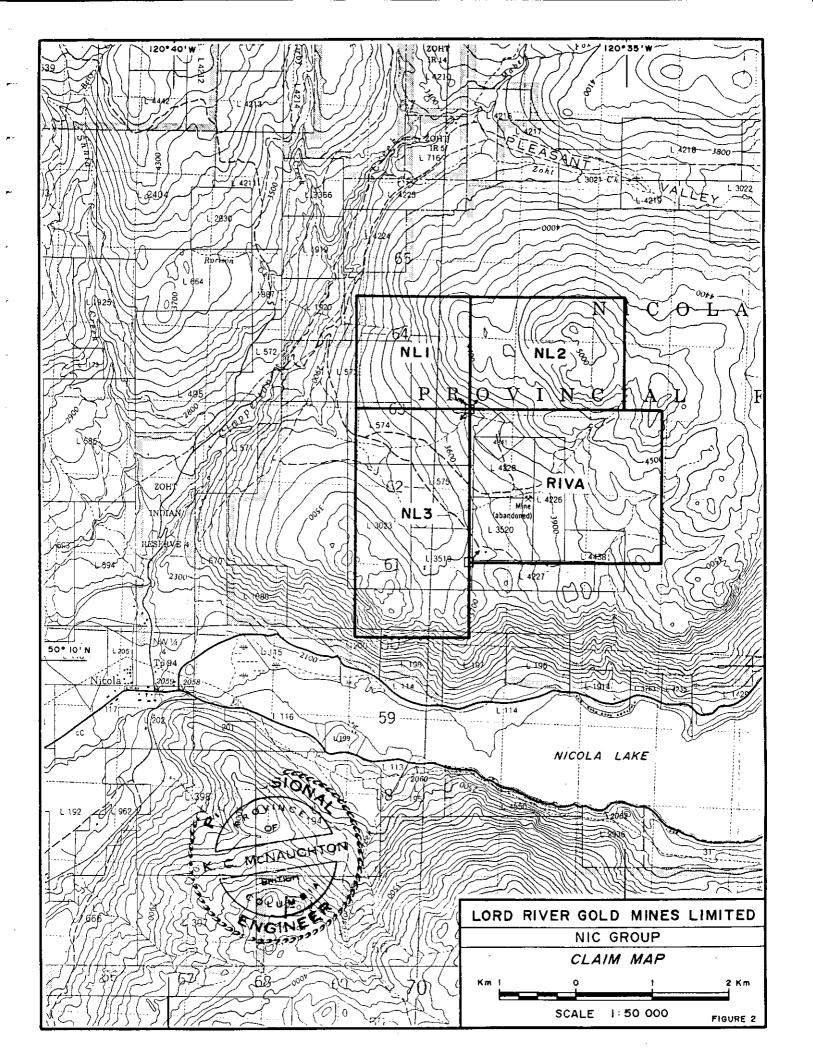
A single Crown-granted claim in the centre of the block does not belong to the Group.

3. <u>History</u>

About the year 1920, a high-grade quartz-chalcopyrite vein was discovered north of Nicola Lake on ground that later became known as the Turlight group of claims. The mineralized vein occupied a strong shear zone which was trenched and subsequently developed by a tunnel and later by a decline shaft to about sixty feet in the period 1928-1929. A small body of copper-gold-silver ore was indicated from this work.

Turlight Mines Ltd. held the property until 1947 when it was acquired by the Guichon Mine Limited.





Anaconda Copper Mining Company optioned the claims and did 2,578 feet of diamond drilling (Figure 5) before relinquishing the ground in 1948. At this time, the property became known as the Copperado Mine when additional diamond drilling and deepening of the shaft to 270 feet, including lateral work on the 200-foot level, was done. In 1950-1951, the decline shaft had been sunk to the 450-foot level with drifting and cross-cutting amounting to 615 feet done on the 100, 325 and 425-foot levels. Some 150-200 tons of copper ore, reported to average 5% copper content per ton, was shipped at that time to the smelter at Tacoma, Washington.

Some geophysical surveying was done on the claims in 1951 and a company named Copperstar Mine Ltd. had acquired an interest in the property about this time.

By 1956, Western Copperado Mining Corporation had acquired control of the Guichon Mine property and dewatered the shaft. This company drilled some 2,000 feet of diamond drill holes on the 200-foot level and shipped about 45 tons of ore said to grade 6.91% copper to the Tacoma smelter. In 1957 and 1963, a geophysical survey was done over the property by Shield Mining Surveys Limited of Ottawa and 20 diamond drill holes totalling 9.962 feet were drilled to test several anomalous zones. About a mile north of the Turlight shaft a short adit was driven and several short holes were drilled in a mineralized zone.

Toluma Mining and Development Co. Ltd. optioned the property in 1960 and did extensive surface exploration work including induced polarization (McPhar) and geochemical surveys as well as bulldozer trenching of the resulting anomalous zones. A spontaneous polarization survey was carried out over the ground and developed two mineralized zones of interest in the northwest and southeast sectors of the property. The

southeast area of the property was given special attention and tested with six diamond drill holes and trenching.

Rio Tinto Canadian Exploration Limited did a magnetometer survey under an option agreement over the northwest and southeast zones in 1965.

Great Slave Mines Ltd. optioned the property in 1966 and did magnetometer, photogeological and geochemical studies of the ground in 1967. During this period a joint British Columbia-Federal Government aeromagnetic survey was done over the region.

In 1973, Danstar Mines Ltd. dewatered the Turlight shaft again and a program of surveying, geological mapping and sampling was carried out. Evidence on the property shows a program of percussion drilling was done at this time but the results of this work are not known to the writer. A reserve of 2,500 tons grading 2.4% copper was defined on the old working above the 100 foot level. At least nine other quartz veins were uncovered on the Star claim which averaged six inches to two feet in width. Unlike the Turlight vein, most of these contained 0.3 to 1.1 ounces of gold per ton.

The showings were restaked in the early 1980's as the Mike, Star, Sue and GC claims which were held by four separate owners. During the next two years, geochemical and magnetometer surveys were completed over most of the Sue and Mike claims, and isolated grids on the GC claims. Just over 600 m of drilling was competed mostly on the old Turlight workings and the eastern trenches. This drilling intersected ore grade copper and molybdenum values across narrow (1 to 5 m) widths.

No further work has been recorded on the claims.

4. Regional Geology

The regional geology is dominated by three north-south trending batholiths; the eastern Wildhorse Mountain, central Nicola and western Guichon Creek batholith. The batholiths are Jurassic in age and compositionally zoned from an exterior rim of diorite through to a core of quartz monzonite. The intrusives are hosted by Nicola Group rocks which are principally volcanic rocks with minor amounts of limestone, argillite and conglomerate.

The Guichon Creek batholith hosts several world class porphyry deposits including the Valley Copper, Bethlehem, Lornex Highmount and Craigmont mines. At the northern end of the Nicola batholith is located the alkalic Iron Mash Batholith host to numerous deposits including the Afton and Ajax mines.

5. <u>Local Geology</u>

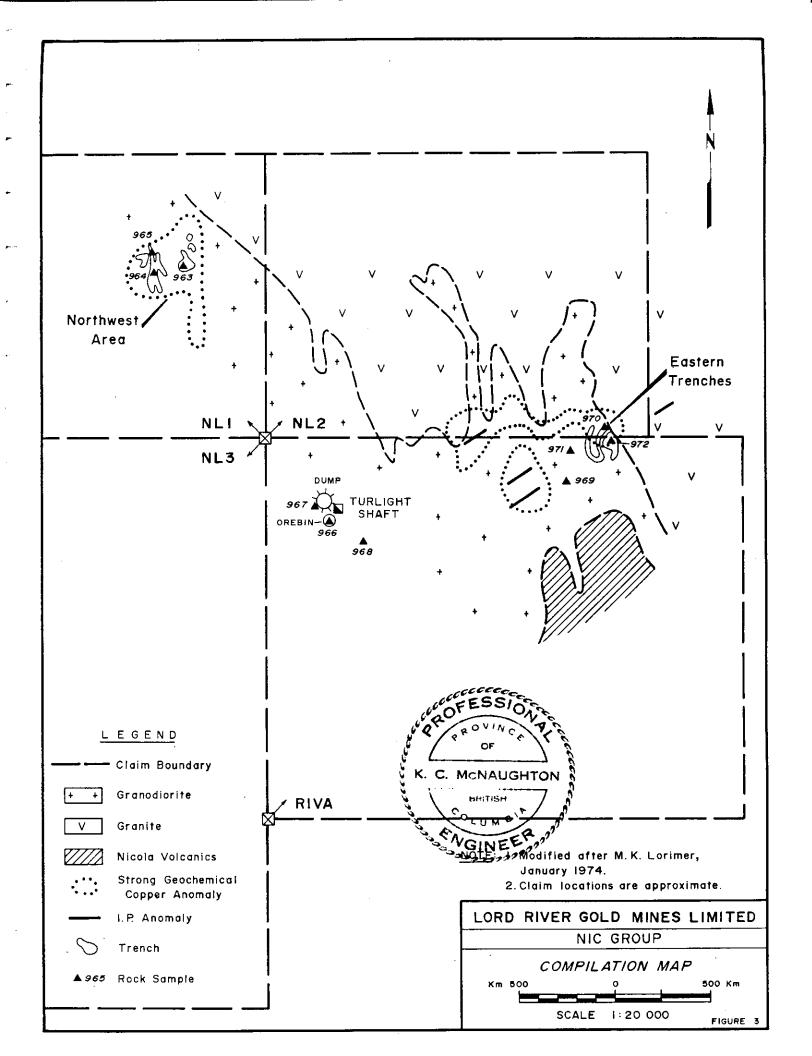
The NIC Group is located at the south end of the central Nicola batholith which composes fine to medium grained granite and diorites. Enclosing a portion of this end of the batholith is a foliated granodiorite which is up to 1 km wide and porphyritic in places. There is evidence of considerable shearing that strikes northwesterly. Quartz stringers locally colless into veins up to 2 m wide and are mineralized with pyrite, chalcopyrite, bornite and secondary azurite and malachite.

Historical work on the group has been intermittent and uncoordinated. Most of the geophysics was completed prior to 1970. Recent soil geochemistry on the Sue and Mike claims did confirm the existence of the margins of the historical anomalies however the bulk of zones has been extrapolated from the 1967 survey. The later sampling does show that the soil anomalies have values which range between 200 and 3,000 ppm Cu.

Previous drilling, as with all of the other field work, was focused on defining additional reserves at the Turlight Mine or locating a similar type of deposit elsewhere. The majority of the drilling was focused in three areas; Turlight Mines, eastern trenches and the southern GC showings. No work has been documented which addressed the bulk tonnage potential of the claims.

During the property examination, 10 samples were collected at various trenches on the property (Figure 3). The mineralization observed was generally 0.3 to 0.6 m wide quartz veins with pyrite, chalcopyrite and bornite. Broader halos of disseminated copper oxides and weak quartz stock work extended up to 30 m from the veins. At several trenches, only copper oxides were observed. Mineralized float or outcrop was found throughout the property indicating that a very large copper system was active in the area.

Of the ten samples, eight contained over 1% copper, the highest being greater than 10% copper from the relict ore bin at the Turlight Mine. Silver values were also high, averaging 7 to 8 grams with a high of 122 grams. Gold values showed a strong correlation with silver and ranged up to 860 ppb Au. Molybdenum was elevated in only one sample.



6. **Discussions**

The NIC Group of claims cover an area which has been intermittently explored for over 70 years. In the past, work focused exclusively on developing reserves for a highgrade, vein deposit. Drilling and trenching were only completed on exposed veins resulting in an apparent bias of the exposure against any disseminating or breccia hosted mineralization.

The NIC Group has significant potential for hosting copper-gold porphyry-style mineralization. The claims are located at the southern end of a major batholith which is area at least 4 km by 1.5 km and is coincident with soil anomalies which range up to 300 by 1200 m with values up to 3,000 ppm Cu. The data compiler: coverage indicates several areas with chargeability highs underlying the soil anomalies.

Indications are that a large copper, silver and gold system was active in the area. This system covered a broad area and was sufficiently rich to produce the highgrade quartz vein deposits. Only quartz veins have been uncovered to date even though a breccia host is indicated by the lateral extend of the geochemistry. The mechanics of emplacing the Nicola batholith would be more than adequate to develop a significant breccia body. If this breccia were flooded by the same solution that deposited the Turlight Veins then there is excellent potential for developing a significant bulk tonnage resource.

7. Recommendations

The NIC Group warrant further investigation including full compilation of the existing data and field work divided into a staged program comprising a Phase I grid and soil sampling program followed by the Phase II trenching program

In the first phase, a four kilometre north-south baseline would be established through the centre of the area. East-west survey line should be spaced at 200 m with 50 m sample spacings for an approximate total of 55 km of grid and 1,000 soil samples. This grid would also be used as a base for VLF-MAG surveys and geological mapping. Total cost of the program is estimated to be \$50,000.

The Phase II trenching program would use a combination of bulldozer and backhoe for a total of 80 machine hours. Adding supervision and assaying this phase has an estimated budget of \$20,000.

8. Statement of Qualifications

I, Ken McNaughton, of #111 - 3788 West 8th Avenue, Vancouver, British Columbia, V6R 1Z3 state that:

- 1. I am a 1981 graduate of the University of Windsor, Windsor, Ontario, with a B.A.Sc. Degree in Geological Engineering.
- 2. I am a 1983 graduate of the University of Windsor, Windsor, Ontario with a M.A.Sc. Degree in Geological Engineering.
- 3. I am a Professional Engineer, registered at the Province of British Columbia.
- 4. I have been employed in the mining industry prior to my graduation and that I have practised my profession since April, 1983.
- 5. I am presently employed as Exploration Manager of Silver Standard Resources Inc., 400 1199 West Hastings Street, Vancouver, British Columbia, V6E 3T5.
- 6. That I am the author of this report which is based on public and property reports plus on site investigations.
- 7. That I have no interest in the property discussed in this report.
- 8. That this report may be used for the development of the property provided that nor portion may be used out of context in such a manner as to convey meanings different from that set out in the whole.
- 9. Consent is hereby given to Lord River Gold Mines Limited to reproduced this report or any part of it for the purposes of development of the property, or facts relating to the raising of funds by way of a prospectus and/or statement of material facts.

Signed at Vancouver, British Columbia this $\frac{4}{7}$ day of $\frac{\cancel{SEPTENBER}}{\cancel{SEPTENBER}}$, 1991.

K. C. MCNAUGHTO

Ken McNaughton, M.A.Sc. P.Eng

9. References

- B.C. Reports of the Minister of Mines for the years: 1929 p. C246; 1947 p. 136; 1948 p. 120; 1949 p. 115-120, 121-124; 1950 p. 112/ 1951 p. 128; 1952 p. 119; 1956 p. 47; 1957 p. 29; 1961 p. 45-46; 1962 p. 56; 1963 p. 54; 1964 p. 96;
- Geological Survey of Canada Memoir 249 p. 130-31.
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- Reports on the Copperado Mines Property, Nicola Mining Division, for Danstar Mines Ltd., by M.K. Lorimer, P.Eng. dated 18 December 1973 and 17 January 1974.
- Geological Report on the Turlight Property for Toluma M. & Development Co. Ltd., by R.W. Phendler, P.Eng., dated June 1973.
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Rio Tinto Canadian Explorations Ltd., map of Guichon Mine mineral claims and assembled data dated January 1965.

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Report on a Geochemical Survey on the Copperado Mine Property by W.B. Montgomery, P.Eng., dated June 1962.

Self Potential Reading Map - Copperado Mines by G. Bernios (undated).

Geological Appraisal of the Guichon Mine Property by R.E. Renshaw dated December 16, 1960.

1.___,504;____-1:



GEOCHEMICAL ANALYSIS CERTIFICATE

Silver Standard Resources Inc. PROJECT NIC CLAIMS
400 - 1199 W. Hastings St. Vancouver SC V6E 315

File # 91-3077

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb	Bi ppm	V ppm	Ca X	P	La ppm	Cr ppm	Mg X	Ba ppm	Ti %	B ppm	Al %	Na X	K :	ppm	Au* ppb
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STANDARD C/AU-R	18	63	36	133	7.3	70	33	1066	4.00	43	16	7	39	53	18.8	17	19	56	.49	.091	41	59	.87	179	.09	33	1.95	.07	.15	11	510

1CP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM. ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB - SAMPLE TYPE: ROCK AUP ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

ATE RECEIVED: JUL 31 1991 DATE REPORT MAILED: Aug 8 91.

STATEMENT OF EXPENDITURES

Ken McNaughton - Geologist 5.5 days @ \$350.00	\$1,925.00
Randy Hogg - Prospector 1 day @ \$300.00	300.00
Report Preparations	300.00
Drafting	220.00
Assaying	175.00
Transportation	105.00
Meals	70.00 \$3,095.00

NIC PROPERTY

SAMPLE DESCRIPTION

963	2 m CAIP sample, bitotite rich foliated granodite, heavy malachite staining on fracture surfaces.
964	.3 m chip sample, flat lying quartz vein mineralized with 2 - 5% pyrite, chalcopyrite and bornite.
965	.6 m chip sample, 50 m along strike of nump quartz vein mineralized with pyrite, chalcopyrite and bornite. Copper oxides along with malachite as facture filling halos up to 30 m from vein. Veins hosted by foliated granodiorite. Oxide mineralization may be more extensive, however exposure is limited.
966	Bornite rich quartz veir material remaining in the bottom of an old ore bin. Sample continued greater than 50% bornite with minor chalcopyrite and pyrite. Host rock comprized mainly quartz vein material and less than 25% foliated granodiorite.
967	30 m channel sample cut half way down the side off the main waste pile. Mostly foliated granodiorite with 2 - 3% quartz vein material. Malachite staining preferred on both rock types.
968	0.3 m chip sample. Quartz vein, southern extension of Turlight vein mineralized 2 - 3% bornite and minor chalcopyrite. Minor malchite only on the vein margins.
969	Float, 2 foot angular boulder of foliated granodiorite with several 1 to 2 cm quartz veins. Mineralized with 2 - 3% chalcopyrite and 1 - 2% pyrite.
970	1 m chip sample, several 2 - 5 cm quartz veins in foliated granodiorite. 1% chalcopyrite forming course bleby Weak to moderate malchite mineralization as fracture coatings in granodiorite.
971	Biotite rich foliated granodiorite on margin of diorite intrusives. Pervasive malachite stain on fracture and foliation. Malachite staining variable from nil to .5%.
972	.1 m quartz vein in foliated granodiorite mineralized .15% molybdenite and 1 - 2% chalcopyrite . Malchite stain on margins of vein extending up to 3 feet into host rock.

